Appendix J.3

Human Health and Ecological Risk Assessment

Human Health and Ecological Risk Assessment

Goldboro Gold Project

Anaconda Mining Inc.

May 26, 2022

The Power of Commitment

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Executive summary

GHD was retained by Anaconda Mining Inc. (Anaconda) to carry out a human health and ecological risk assessment (HHERA) to support the development of a Provincial Class 1 Environmental Assessment Registration Document (EARD) for the Goldboro Gold Project (the Project) located in Guysborough County, Nova Scotia (NS). The purpose of the HHERA is to assess the potential risks to human health and ecological receptors from exposure to chemicals in various media associated with the Project.

The Project is located approximately 175 kilometres (km) northeast of Halifax, 75 km southeast of Antigonish, and 1.6 km northeast of the community of Goldboro on the eastern shore of Isaac's Harbour, in Guysborough County, NS, Canada (figure 1). All weather Highway 316 links the community of Goldboro to Antigonish. Access to the Project Area (PA) is via a secondary unmaintained gravel road (Goldbrook Road) from Highway 316 which passes near the historic Boston Richardson shaft and exploration decline. Smaller logging roads and trails provide good access to most areas of the PA. The ground surface is gently rolling with an elevation ranging from 65 to 80 metres above sea level (masl). The Project is centered at coordinates N 5007200, E 606900 (UTM Zone 20 NAD83 CSRS) (45° 12' 2.6" N latitude and 61° 39' 2.0" W longitude).

Anaconda proposes to develop the Project as a 4,000-tonne per day (tpd) mine and processing facility. The mine plan includes two surface extraction areas (open pits), an ore processing facility, a tailings management facility (TMF), four waste rock storage areas (WRSAs), overburden and organic stockpiles, support buildings, employee accommodations, and associated infrastructure. Ore mined and milled at the Project site will also be processed at the site to produce gold dorée. The total PA is approximately 1,055 hectares (ha), which includes the ore extraction open pits (approximately 68 ha), materials storage (WRSA and overburden/organic stockpiles; approximately 168 ha), TMF (approximately 134 ha), mill area (approximately 15 ha), and mine site haul/access roads (approximately 27 ha). The PA includes the infrastructure associated with the mine site plus a buffer of 100 – 200 m, as shown in figure 1. The anticipated mine life for extraction of ore is approximately 11 years. Following ore extraction, the mine facilities (ore processing facility, TMF, support buildings, employee accommodations and associated infrastructure) will be removed and the disturbed lands will be rehabilitated in accordance with approved reclamation plans.

The PA will require the use of both provincial crown and privately owned land for development. The crown land parcel (PID 35094366) is a large (38,173 ha), mainly forested tract of land and currently provides natural resource, recreational, and potential protected areas. The PA requirements are approximately 1 % of the total crown parcel. Bordering properties to the PA are mainly residential/forested lands. A former gas fractionation plant was located on the southeast boundary and further developments for this location include a proposed natural gas liquefaction plant. Two Maritimes & Northeast Pipeline natural gas pipelines are located adjacent to west side of the PA: the mainline and the Point Tupper line which runs to the northeast.

In preparation of the EARD, soil, air, surface water, sediment and biological tissue samples in the PA and surrounding area were collected between 2018 and 2021. The purpose of the sampling programs was to establish existing or "baseline" concentrations of specific chemicals in various media associated with the Project. Further detail on baseline sampling program can be found in section 2.6.

To carry out a Project related HHERA, predicted chemical concentrations in environmental media including soil, air, surface water, sediment, vegetation tissue, and animal tissue, at different locations associated with each phase of the Project were needed. Project phases included Construction, Operation, and Closure Phase. The Closure Phase is further defined by the Reclamation Stage, and Post-Closure Stage. The Exposure Point Concentrations (EPCs) estimated for each phase were based on methodologies developed by the United States Environmental Protection Agency (USEPA, 2005), involving derivation of EPCs in environmental media based on deposition of particulate from an anthropogenic process (in this case, the proposed Project) across the environment in a receiving area (in this case, the Assessment Area (AA)). GHD completed Project specific air modelling for the various activities expected to occur with each phase of the Project with the modeling results used as input into the USEPA equations for calculated EPCs. The air modelling was supplemented by the surface water modelling and water balance evaluation for the AA, as

prepared by GHD (GHD, 2022b, 2022c and 2022d), the baseline environmental sampling described in Section 2.6, and USEPA (2005) default values were utilized.

The modelling proceeded in four phases:

– The estimation of metal concentrations in dust generated by the Project.
– The estimation of metal concentrations in soil due to dust deposition, which were then used to determine. exposure/intake estimates for the surface soil exposure pathway for human and ecological receptors.
– The estimation of metal concentrations within terrestrial plants, terrestrial invertebrates, prey animals, and wildlife, which were then used to determine exposure/intake estimates for ingestion of these organisms by human and ecological receptors.
– The estimation of metal concentrations within surface water, sediment, fish, aquatic plants, and benthic invertebrates, which were then used to determine exposure/intake estimates for human and ecological receptors such as benthic invertebrates and freshwater aquatic life.

At each phase, when concentrations of metals in environmental media were estimated, the results (the sum of baseline and incremental) were compared to an upper bound estimate of baseline (90^{th} percentile or maximum baseline concentrations in those media or 95^{th} percentile in the case of surface water) to determine whether predicted concentrations differed from baseline. Baseline concentrations were used as predicted concentrations in cases where predicted concentrations were equal to or below baseline. The model used to evaluate current and predicted concentrations of constituents in various media is provided in Appendices B.1 to B.6.

Human Health Risk Assessment (HHRA)

The HHRA portion of the study assessed the potential for predicted changes to the environment due to the Project having the potential to result in metals accumulation in or on vegetation or other selected country foods that may be consumed by humans. In addition, the HHRA also provided an assessment of other exposure pathways for humans, including inhalation of Project related emissions in air, incidental ingestion and dermal contact with soil, sediment, and surface water. The HHRA evaluated risks through these exposure pathways to residents, Indigenous people, recreational visitors and workers from exposure to contaminants of potential human concern (COPHCs) in various media associated with the Project. The potential for non-carcinogenic health effects from exposure to a COPHC was evaluated by comparing the total exposure dose to the selected Reference Dose (RfD) and/or Reference Concentration (RfC) to derive a hazard quotient (HQ) according to Health Canada (2010) guidance. Incremental HQs were compared to a target of 0.2. Incremental risk estimates less than this target were assumed to indicate that potential health risks due to the presence of the Project may be ruled out, and that no further assessment is required.

The COPHCs carried through the HHRA based on the results of the human health screening are summarized in Table ES.1 and presented in detail in Appendix C.

Table ES.1 Summary of contaminants of potential human concern

Selected based on surface soil	Selected based on outdoor air	Selected based on surface water	Selected based on sediment
Aluminum	Chromium, lithium, PM2.5, PM10, TSP and NO_x	Lithium	Aluminum

None of the incremental HQs estimated for any receptors during any of the phases of mine life as represented by the five exposure Scenarios exceeded their target of 0.2, which indicates that the non-carcinogenic risks related to the Project are negligible for the COPHCs. Total HQs for workers did not exceed their target of 0.2. In addition, ILCRs for all receptors do not exceed their target of 1E-05 (also expressed as 1 in 100,000), which indicates that the carcinogenic risks related to the Project are negligible for the COPHCs. Based on the findings of the HHRA, concentrations of COPHCs from Project related activities do not pose an incremental risk to human health and further evaluation or risk management is not considered warranted.

However, the predicted Total Suspended Particulates (TSP) concentration at the south and west PA boundary exceeded the Maximum Permissible Ground Level Concentration (MPGLC) associated with visibility (this is not a

human health related guideline). In addition, the number of days per year exceeding the MPGLC during the operation phase was limited to 19 days and the concentrations are elevated near the PA boundaries only. Elevated concentrations of TSP exceeding the MPGLC do not extend to the property boundary which is proposed to extend further to the south and the west of the PA and the compliance point for the Project will be the property boundary. Concentrations of TSP are predicated to be within the MPGLC at the property boundary and will be confirmed through future compliance monitoring. A Fugitive Dust Best Management Practice Plan will be implemented for the Project to mitigate risks associated with fugitive dust including TSP and further action or risk management with respect to human health is not considered warranted.

Ecological Risk Assessment (ERA)

The ERA portion of the study assessed the potential for emissions from the PA, released via Project related activities, have the potential to result in adverse effects to immobile ecological receptors such as vegetation and invertebrates or upper trophic level organisms that may use the habitats in the vicinity of the Project as a food source. The ERA also evaluated potential incremental increases in risk to aquatic ecological receptors compared to current conditions.

The contaminants of potential ecological concern (COPECs) carried through the ERA based on the results of the ecological screening are summarized in Table ES.2 and presented in detail in Appendix F.

Table ES.2 Summary of contaminants of potential ecological concern

Selected based on soil	Selected based on surface water	Selected based on sediment
Lithium and Vanadium	Boron	Beryllium

The ERA evaluated the risks to valued components (VCs) including at the community level for terrestrial and aquatic plants, terrestrial and benthic invertebrates, pelagic invertebrates and fish, at the population level for mammals and birds, and at the individual level for wildlife species identified as endangered, threatened, extirpated, or species of scientific interest. Risks to VCs were assessed from exposure to COPECs in various media associated with the Project. Quantitative estimates of potential ecological risk (Exposure Ratios, ERs; and HQs) were estimated for all of the selected VCs at each phase of the Project and incremental risk estimates between each phase were compared to baseline, representing the increase in potential health risks due to the presence of the Project. The incremental ERs and HQs were compared to a value of one. Incremental risk estimates less than this target were assumed to indicate that potential health risks due to the presence of the Project may be ruled out, and that no further assessment is required.

No incremental ERs exceed their target of 1, which indicates that the risks related to the Project are negligible for the COPECs. As such, potential risks to ecological health for the two exposure areas (Gold Brook Lake and its watershed, and Gold Brook and its watershed) due to the presence of the Project can be ruled out, and no further assessment is required.

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1. Introduction

1.1 Purpose of this report

GHD was retained by Anaconda Mining Inc. (Anaconda) to carry out a human health and ecological risk assessment (HHERA) to support the development of a Provincial Class 1 Environmental Assessment Registration Document (EARD) for the Goldboro Gold Project (the Project) located in Guysborough County, Nova Scotia (NS). The purpose of the HHERA is to assess the potential risks to human health and ecological receptors from exposure to chemicals in various media associated with the Project.

Anaconda proposes to develop the Project as a 4,000-tonne per day (tpd) mine and processing facility. The mine plan includes two surface extraction areas (open pits), an ore processing facility, a tailings management facility (TMF), four waste rock storage areas (WRSAs), overburden and organic stockpiles, support buildings, employee accommodations, and associated infrastructure. Ore mined and milled at the Project site will also be processed at the site to produce gold dorée. The total Project Area (PA) is approximately 1,055 hectares (ha), which includes the ore extraction open pits (approximately 68 ha), materials storage (WRSA and overburden/organic stockpiles; approximately 168 ha), TMF (approximately 134 ha), mill area (approximately 15 ha), and mine site haul/access roads (approximately 27 ha). The PA includes the infrastructure associated with the mine site plus a buffer of 100 – 200 m, as shown in figure 1. The anticipated mine life for extraction of ore is approximately 11 years. Following ore extraction, the mine facilities (ore processing facility, TMF, support buildings, employee accommodations and associated infrastructure) will be removed and the disturbed lands will be rehabilitated in accordance with approved reclamation plans.

Baseline environmental assessments for the Project commenced in 2017 and an EARD is expected to be submitted to the Province of Nova Scotia in May of 2022. This technical report is prepared to support the EARD as it specifically relates to the potential for human health and ecological impacts from contaminants released during Project activities or mine operations in both aquatic and terrestrial environments. In particular, this HHERA focuses on the following:

– Potential changes in air quality, particularly associated with ore, waste rock or road dust as well as vehicle emissions (noise and vibration will be assessed in a separate report).
– Potential impacts to soils and vegetation associated with dust deposition, in order to evaluate the potential for impacts to country foods (human health) or ecological receptor food sources.
– Potential impacts to sediment and surface water quality (recreational or cultural uses as well as fish consumption and ecological receptors like benthic and freshwater aquatic life).

As part of the mine planning process, GHD has predicted future releases to air, groundwater and surface water related to the Project (GHD, 2022a to 2022e). These modelling studies provide future or predictive values on air and water quality during Construction, Operations (Ops), Reclamation, and Post Closure (PC) in the receiving environment of the PA and surrounding environment. As potential chemical releases to air and water associated with the Project could extend outside of the PA, the predictive modelling and assessment area specific to this HHERA was expanded to include the Gold Brook Lake and Gold Brook watersheds (see figure 1), which are anticipated to also receive the atmospheric deposition or effluent releases associated with the Project. This expanded assessment area (AA) included the nearest residential receptors as well as forested and aquatic areas directly adjacent to the PA potentially used for foraging/fishing/hunting activities by humans as well as habitat for ecological receptors. In addition, specific air modeling was completed by GHD for the HHERA to evaluate the maximum or “worst case” scenario with respect to air emissions including dust generation and subsequent deposition during Project operations. An overview of the predictive air modeling completed specific to the HHERA is provided in Section 3.3.

A detailed description of the PA and surrounding AA as well as baseline environmental conditions are presented in Section 2. Details of the Project including temporal and spatial boundaries, along with the predictive modelling completed to assess Project related effects, is presented in Section 3. The Human Health Risk Assessment (HHRA) and Ecological Risk Assessment (ERA), which each include a problem formulation, an exposure assessment, a

toxicity assessment, and a risk characterization, as well as analyses of uncertainties, are presented in Sections 4 and 5, respectively. Conclusions and References are provided in Sections 6 and 7, respectively.

1.2 Scope of the Study

The HHRA portion of the study assesses the potential for emissions from the PA, released via Project related activities, to change the chemistry of air, water and soils in the PA and surrounding AA, and whether the predicted changes have the potential to result in metals accumulation in or on vegetation or other selected country foods that may be consumed by humans. In addition, this report also provides an assessment of other exposure pathways for humans, such as recreational activities (fishing, hunting and harvesting), inhalation and incidental ingestion of metals on dusts in air and soil or inhalation of Project related emissions. The predictive models used in the HHRA, specifically air and water quality, allow for an evaluation of incremental changes in potential risk to human health from Project related activities compared to current conditions. This HHRA is conducted in accordance with current guidance for conducting HHRAs developed by Health Canada, the Nova Scotia Department of Environment and/or the Canadian Council of Ministers of the Environment (CCME). In particular, this HHRA was completed consistent with the following documents:

– Health Canada (2019), Guidance for Evaluating Human Health Impacts in Environmental Assessments: Human Health Risk Assessment, June 2019.
– Health Canada (2016), Guidance for Evaluating Human Health Impacts in Environmental Assessments: Air Quality, December 2016.
– Health Canada (2021), Federal contaminated site risk assessment in Canada: Guidance on Human Health Preliminary Quantitative Risk Assessment (PQRA). Version 3.0. March 2021.
– Health Canada (2021), Federal contaminated site risk assessment in Canada: Toxicological reference values (TRVs). Version 3.0. March 2021.
– Health Canada (2010), Federal Contaminated Site Risk Assessment in Canada, Part V: Guidance on Human Health Detailed Quantitative Risk Assessment for Chemicals (DQRACHEM), 2010.
– Health Canada (2017), Federal Contaminated Site Risk Assessment in Canada, Supplemental Guidance on Human Health Risk Assessment of Contaminated Sediments: Direct Contact Pathway, March 2017.

Similarly, the ERA portion of the study assesses the potential for emissions from the PA, released via Project related activities, to change the chemistry of air, water and soils in the PA and surrounding AA, and whether the predicted changes have the potential to result in adverse effects to immobile ecological receptors such as vegetation and invertebrates or upper trophic level organisms that may use these habitats as a food source. The ERA also evaluated predicted releases to the aquatic environment in and adjacent to the PA associated with the Project, specifically Gold Brook Lake and Gold Brook, and potential incremental increases in risk to aquatic ecological receptors compared to current conditions. This ERA is conducted according to various Environment and Climate Change Canada (ECCC), CCME and Federal Contaminated Sites Action Plan (FCSAP) guidance documents (CCME, 2020, 1996, 1997; Government of Canada, 2012).

Based on the results of the HHRA and ERA, conclusions on potential incremental risks and total (baseline plus incremental) risks to human health and ecological receptors is provided along with recommendations for receptors/pathways requiring additional evaluation or risk management as part of Project related activities (if applicable).

2. Project Area Description

2.1 Location

The Project is located approximately 175 kilometres (km) northeast of Halifax, 75 km southeast of Antigonish, and 1.6 km northeast of the community of Goldboro on the eastern shore of Isaac's Harbour, in Guysborough County, NS, Canada (figure 1). All weather Highway 316 links the community of Goldboro to Antigonish. Access to the PA is via a secondary unmaintained gravel road (Goldbrook Road) from Highway 316 which passes near the historic Boston Richardson shaft and exploration decline. Smaller logging roads and trails provide good access to most areas of the PA. The ground surface is gently rolling with an elevation ranging from 65 to 80 metres above sea level (masl). The Project is centered at coordinates N 5007200, E 606900 (UTM Zone 20 NAD83 CSRS) (45° 12' 2.6" N latitude and 61° 39' 2.0" W longitude).

The PA encompasses the immediate area in which Project activities may occur and are likely to cause direct and indirect effects to Valued Components (VCs). The PA includes the infrastructure associated with the proposed mine site plus a buffer of 100 – 200 m, as shown in figure 1. As indicated in the previous section, the AA included in the HHERA expands on the PA to evaluate potential Project related effects to humans or ecological receptors outside of active mine site operations.

The PA will require the use of both provincial crown and privately owned land for development. The crown land parcel (PID 35094366) is a 38,173 ha mainly forested tract of land and currently provides natural resource, recreational, and potential protected areas. The PA requirements are approximately 1 % of the total crown parcel. Anaconda will purchase/apply for a lease for private and crown lands. This area to be purchased or leased is the proposed property boundary. Bordering properties to the PA are mainly residential/forested lands. A former gas fractionation plant was located on the southeast boundary and further developments for this location include a proposed natural gas liquefaction plant. Two Maritimes & Northeast Pipeline natural gas pipelines are located adjacent to west side of the PA: the mainline and the Point Tupper line which runs to the northeast.

The region is known for its historic gold deposits and about half of the crown parcel is currently under mineral exploration licenses including the Goldboro (Upper Seal Harbour), Isaacs Harbour, Forest Hill, and Lower Seal Harbour deposits. Forestry operations in the northern section are evident from aerial photos and confirmed by the Nova Scotia Forestry database. Roads (public and resource) cut the parcel.

Approximately 85 residential dwellings are located on Goldbrook Road and Highway 316 (Marine Drive), between 1.0 to 1.5 km southwest and west of the proposed mine related infrastructure. A cemetery, on the east side of Goldbrook Road, is approximately 1.5 km south of the PA. The surface rights are held by various private landowners and by the Province of Nova Scotia.

In 2017, Membertou Geomatics Solutions (MGS) conducted a Mi'kmaq Ecological Knowledge Study (MEKS) for Anaconda, with reference to the Goldboro area. According to this report, the PA would be within the Mi'kmaq Political District of *Eskikewa'kik* of the Eastern Shore from Sheet Harbour to Canso (MGS, 2017). MGS noted that some Mi'kmaq use in the area of the PA was reported, the most common activities being deer hunting and trout fishing (MGS, 2017). However, fishing for subsistence purposes is not known to occur in Goldbrook Lake or Gold Brook.

2.2 Topography

The PA is in an area of low topographic relief of 65-80 masl located at the southern end of Gold Brook Lake. In general, in northern portions of the Project Area, north of Goldbrook Road, topography slopes towards Gold Brook Lake from the eastern and western extents.

2.3 Geology

Surficial geology in the area is described as ground moraine and streamlined drift (Stea *et al.*, 1992). Ground moraine is a non-linear, smooth to hummocky glacial drift cover, mostly composed of subglacial lodgment or melt out till (unsorted boulders, sand and mud). Streamlined drift is an assemblage of elongate hills, molded by ice erosion, including drumlins. The moraine in this area is subdivided as stony till plain which is developed over the Cambro-Ordivician Meguma Supergroup (Halifax and Goldenville Groups) metawacke and slate.

The Stony Till Plain is, typically 2-20 m thick and primarily comprised of a stony and sandy matrix material derived from local bedrock sources. The terrane is flat to rolling, with many surface boulders, and moderate limitations to crop use including stoniness, rapid drainage, and erodibility. The factors affecting use of the till for construction include shallowness, stoniness and high water table, and poor buffering capacity for acid rain.

Goldboro is located in the Meguma Zone on the Atlantic Coast of Nova Scotia. Meguma is a good example of a terrane; i.e., a fault-bounded rock body of regional extent, characterized by a geological history different from that of adjoining terrane.

2.3.1 Historic Tailings

Historical mining activity in the area between 1893 and the 1950s resulted in tailings slurried directly into Gold Brook ("historic tailings"). Investigations completed by the Geological Survey of Canada to evaluate tailings, sediments and surface waters of historical gold mining districts in Nova Scotia (Parsons *et al.*, 2012) included the Upper Seal Harbour Gold District. Results of this investigation identified visible tailings on the Gold Brook floodplain for approximately 4 km downstream of Gold Brook Lake (see figure 2). The evaluation completed by Parsons *et al.* (2012) identified elevated concentrations of arsenic in the sediments and surface waters of Gold Brook. Elevated concentrations of mercury were also identified in the sediments of Gold Brook. Dissolved concentrations of mercury recorded in surface water samples collected from Gold Brook were not significantly elevated above background mercury concentrations in Gold Brook Lake. In addition, the study identified significant seasonal fluctuations in arsenic and mercury concentrations in surface water. In general, the concentrations of both arsenic and mercury at most locations sampled by the Geological Survey of Canada are higher during the summer months as compared to the spring and fall (Parsons *et al.*, 2012). The median dissolved concentrations of arsenic and mercury were 3.6 and 1.4 times higher, respectively, in August as compared to May and November (Parsons *et al.*, 2012).

The work completed by Parsons *et al.* (2012) also included sequential extraction analysis (SEA) of the historic tailings to identify the mineralogical fractions that are primary contributors to release of arsenic and mercury from the historic tailings. The SEA demonstrated at most 3% of the arsenic in arsenopyrite, the original host for most of the arsenic in the tailings, is associated with the following phases: adsorbed/exchangeable elements, carbonates, amorphous iron/aluminum (Fe/Al) oxides, scorodite-like, and crystalline Fe/Al oxides. Similarly, at most 3% of the mercury in samples of tailings comprised of cinnabar mixed with granite is associated with the following phases: adsorbed/exchangeable elements, carbonates, amorphous Fe/Al oxides, crystalline Fe/Al oxides, and non-labile organics.

For arsenic, more than 97% of arsenic in arsenopyrite was released during an *aqua regia* extraction indicating that the arsenopyrite-like phase would be the primary contributor to arsenic leaching in that solvent. Similarly, samples of pure cinnabar and cinnabar mixed with granite released 100% and 97% of their mercury during the *aqua regia* step.

The majority of arsenic in scorodite and yukonite, two of the main weathering-related secondary minerals identified in the tailings, was released during other stages of the extraction. 87% of arsenic in scorodite and 86% of arsenic in yukonite was released during the 4M HCl and amorphous Fe-oxyhydroxide steps (0.25 M $NH_2OH{\cdot}HCl$ in 0.25 M HCl). Approximately 10% of arsenic in both scorodite and yukonite was released during the crystalline Fe-oxide leach (1.0 M NH_2OH in 25% acetic acid).

We do not expect any of these leaching conditions to be present in the Gold Brook system during baseline or operations, closure, and post-closure phases of the Project. We therefore expect the majority of the arsenic and mercury in the historic tailings to be unavailable for environmental transport, exposure, and incremental risk to human

health or ecological receptors. The assessment of risk due to arsenic and mercury in historic tailings associated with Gold Brook is expected to be overly conservative for this reason. Furthermore, as described in studies such as Saunders *et al.* (2011), the bioavailability of arsenic in the historic tailings is expected to be less than the 100% assumed in this risk assessment, depending on the form of arsenic in the tailings and its oxidation state. The HHERA is therefore expected to be conservative in this regard.

2.4 Hydrology/Hydrogeology

The PA is located in the Gold Brook Lake sub-watershed. Gold Brook Lake covers 79.6 ha of the sub-watershed, draining south to Gold Brook, eventually discharging to Seal Harbour Lake and then to the Atlantic Ocean. Several unnamed watercourses discharge into Gold Brook Lake and Gold Brook. As part of Project related activities, Gold Brook Lake and Gold Brook will receive treated effluent from the TMF, WRSAs and open pits. Additional information on the treated effluent discharge associated with Project related activities is provided in Section 3 (below).

Recharge in the PA to the hydrogeological system is likely to occur through the overburden, since no preferential recharge zones seem to be present. However, the regional topography shows a slight slope towards the south, which indicate a possible regional flow in the bedrock from north to south.

The groundwater located in the till usually follows the topography and is delineated by the extent of the catchment area. The lower till appears to be less permeable than the upper till and seems to act as a semi-confining layer for the bedrock aquifer, which can be artesian locally.

The direction of the hydraulic gradient in the bedrock aquifer is oriented to the south-east, which indicates a general tendency of the groundwater flow direction. Note that in some cases the fracture orientations, dip of bedding planes and hydraulic conductivity can have a major influence on the groundwater flow direction (for which detailed information is not available). In addition, many fault zones are known to be present at the PA, which may also have a localized influence on the groundwater flow network.

2.5 Ecological Setting

2.5.1 Wetlands

Several wetlands have been surveyed within the PA that have high functionality in native plant habitat; phosphorus retention; and pollinator habitat. Tree and shrub swamps combined represent the most abundant wetland type, followed by bogs. Over half of the wetlands are isolated, with no connectivity. Further details on wetlands are provided in Section 5.1.4.1.

2.5.2 Aquatic Habitat

The headwaters of Gold Brook Lake originate from two systems: Oak Hill Lake, located to the north, and the Rocky Lakes, located east of Gold Brook Lake. Gold Brook was the only watercourse categorized as high-quality habitat. Gold Brook was evaluated as the only stream system that could support spawning based on suitable substrate, flow, and in-stream habitat features for species included in the fish habitat quality assessment. Gold Brook also has the habitat and flow complexity to support all life stages of all species included in fish habitat quality assessment. The fish community is dominated by yellow perch, and lesser but significant brook trout both within Gold Brook Lake and various unnamed tributaries to the lake.

2.5.3 Terrestrial Habitat and Flora

The PA lies in two Ecodistricts – the Eastern Interior and the Eastern Shore. These Ecodistricts are within the Eastern and Atlantic Coastal Ecoregion, respectively. In general, the PA is disturbed by primarily historical and current mining activities and timber harvesting. Soils are generally nutrient poor and acidic, which supports softwood stand types such as Spruce and Balsam Fir. Herbaceous layers are often dominated by ericaceous shrubs and bryophytes

representing nutrient poor soils such as Schreber's moss. Areas located within close proximity to Gold Brook generally consist of mature undisturbed conifer dominant stands.

2.5.4 Fauna

The presence of moose (NSESA Endangered) has been confirmed within 50 km of the PA (Atlantic Canada Conservation Data Centre, ACCDC, 2017; cited in Gemtec, 2017). Other species identified in the area were black bear, marten, porcupine, red fox, red squirrel, snowshoe hare, white-tailed deer and woodchuck. Evidence of historic bat roosting was found in the existing warehouse building. Bat surveys were completed, and no current hibernacula were identified.

Evidence for possible breeding owls (i.e. calling males) was detected in the area and accounts of owls includes a great horned owl, a northern saw-whet, and a boreal owl.

Previous assessments have identified: One Species-At-Risk: Canada Warbler (SARA: Threatened; NSESA: Endangered); and 13 Species of Conservation Interest (SOCI) were observed that included: American kestrel (S3), boreal chickadee (S3), gray jay (S3), red-breasted nuthatch (S3), gray catbird (S3B), Wilson's warbler (S3B), greater yellowlegs (S3B, S3S4M), fox sparrow (S3S4B), northern harrier (S3S4B), ruby-crowned kinglet (S3S4B), spotted sandpiper (S3S4B), Swainson's thrush (S3S4B) and yellow-bellied flycatcher (S3S4B).

2.6 Baseline Chemical Concentrations

In anticipation of the EARD, soil, air, surface water, sediment and biological tissue samples in the PA and surrounding area were collected between 2018 and 2021. The purpose of the sampling programs was to establish existing or "baseline" concentrations of specific chemicals in various media associated with the Project. The following sections provide an overview of the previous sampling programs and the corresponding analytical data is provided in Appendix A.

2.6.1 Surface Soil

Surface soil samples were collected at 24 locations within the AA in 2021 and 2022 to provide baseline soil quality conditions. Samples were collected by McCallum Environmental Limited (MEL) between August 17 and September 1, 2021, by Anaconda on October 14, 2021 and by GHD on March 10, 2022. Collected soil samples (26 including field duplicates) were placed in coolers with ice/cold packs until delivery to Bureau Veritas (BV Labs) in Bedford, NS, where they were analyzed for metals, mercury, and polycyclic aromatic hydrocarbons (PAHs). Baseline soil results are shown in Table A.1 of Appendix A and sample locations are shown on figure 3. A summary of the baseline soil sampling program is provided in **Error! Reference source not found.**.1. Of note, concentrations of PAHs in baseline soil samples collected were below laboratory detection limits.

Table 2.1 Baseline surface soil sampling program

Sample ID	Company	Sample Depth (meters below ground surface [mbgs])	Analyses		
			Metals/Inorganics (EPA method 6020B R2)	Mercury (EPA method 6020B R2)	PAHs (EPA method 8270E R6)
SOIL SAMPLE 1 SG	MEL	0 – 0.25	●	●	●
SOIL SAMPLE 2 SG	MEL	0 – 0.25	●	●	●
SOIL SAMPLE 3 SG	MEL	0 – 0.25	●	●	●
SOIL SAMPLE 4 EH	MEL	0 – 0.25	●	●	●
SOIL SAMPLE 5 EH	MEL	0 – 0.25	●	●	●
SOIL SAMPLE 6 ZS	MEL	0 – 0.25	●	●	●

Table 2.1 Baseline surface soil sampling program

Sample ID	Company	Sample Depth (meters below ground surface [mbgs])	Analyses		
			Metals/Inorganics (EPA method 6020B R2)	Mercury (EPA method 6020B R2)	PAHs (EPA method 8270E R6)
SOIL SAMPLE 7 EH	MEL	0 – 0.25	●	●	●
SOIL SAMPLE 8 EH	MEL/Anaconda	0 – 0.25	●	●	●
SOIL SAMPLE 9 EH	MEL/Anaconda	0 – 0.25	●	●	●
SOIL SAMPLE 10 EH	MEL/Anaconda	0 – 0.25	●	●	●
SOIL SAMPLE 11 EH	MEL/Anaconda	0 – 0.25	●	●	●
SOIL SAMPLE 12 EH	MEL/Anaconda	0 – 0.25	●	●	●
SOIL SAMPLE 13 EH (Field duplicate of SOIL SAMPLE 8 EH)	MEL/Anaconda	0 – 0.25	●	●	●
22-SS01	GHD	0 – 0.25	●	●	●
22-SS02	GHD	0 – 0.25	●	●	●
22-SS03	GHD	0 – 0.25	●	●	●
22-SS04	GHD	0 – 0.25	●	●	●
22-SS05	GHD	0 – 0.25	●	●	●
22-SS06	GHD	0 – 0.25	●	●	●
22-SS07	GHD	0 – 0.25	●	●	●
22-SS08	GHD	0 – 0.25	●	●	●
22-SS09	GHD	0 – 0.25	●	●	●
22-SS10	GHD	0 – 0.25	●	●	●
22-SS11	GHD	0 – 0.25	●	●	●
22-SS12	GHD	0 – 0.25	●	●	●
22-SSDUP (Field duplicate of 22-SS08)	GHD	0 – 0.25	●	●	●

Historic tailings previously identified by Parsons *et al.* (2012) in the AA were also assessed as part of previous and on-going environmental assessments associated with the Project. Samples of historic tailings material and surrounding soils collected by Anaconda in 2017 and 2021, WSP in 2019, and GHD in 2021. A total of 173 samples of the historic tailings were collected between 2017 and 2021 as part of the previous investigation programs but the historic tailings samples were not included in the baseline soil concentration calculations since most of the soil impacted by historic tailings in the AA will be relocated to and managed in the TMF during the construction phase, resulting in lower concentrations of chemicals in the soil, to which human and ecological receptors would be exposed, once the Project is underway.

Human and ecological receptors may also be exposed to chemicals in several locations of the AA under current conditions (and future Project-related activities). In particular, for the HHRA, baseline concentrations of chemicals were calculated for different areas of the AA and included the PA, the employee accommodations (specific area within the PA), the community of Goldboro (the village) and the area south of the PA. Similarly, the baseline concentrations for the ERA included the catchments of Gold Brook Lake and Gold Brook within the AA. As there were at least ten distinct soil samples collected from each of these specific areas being evaluated, the 90th percentile value of the available chemical data at the surface (<1.5 m) was used in this study to characterize baseline surface soil conditions.

If more than one sample was taken at any location (field duplicates), only the sample with higher concentration was used in the percentile calculation. This upper bound on the baseline soil data set is expected to be conservative because the resulting incremental risk estimates are likely to be higher than those that would be estimated using 95th or 98th percentiles for baseline. Available risk assessment guidance does not identify a specific statistical approach to use for determining baseline or background concentrations but percentiles and upper confidence levels of the mean are two commonly used approaches. The 90th percentile value was selected to represent baseline for this risk assessment as it provides a lower or more conservative value than the 95th or 98th percentile for comparison to Project related impacts and calculation of incremental risks. The 90th percentiles are shown in Table A.1 of Appendix A. Note that when a chemical was not detected in a sample, half of the detection limit was used in the calculation.

The dataset of soil samples is robust and is considered adequate to characterize soil quality in the AA appropriately. The soil data are therefore considered sufficient for the completion of a HHERA with respect to the number of available sample results.

2.6.2 Outdoor Air

Baseline air data (3 samples) were collected at three residential properties located in Goldboro by GHD in July 2018 (GHD, 2018). These sample points are located approximately 1.0 km from the primary mine infrastructure and operations and are the nearest residential dwellings to the PA. The baseline air data evaluation included monitoring for particulate matter ≤10 µm (PM10) and metals over a 24-hour period, followed by monitoring for total suspended particulates (TSP) for an additional 24 hours at each location.

Results of the baseline air quality data are shown in Table A.2 of Appendix A and sample locations are shown on figure 4. A summary of the baseline air sampling program is provided in table 2.2.

Table 2.2 Baseline outdoor air sampling program

Sample ID	Location	Analyses		
		PM10 (EPA method 5)	Metals (SM 3125 and NIOSH 7303)	TSP (EPA method 5)
A1	13348 Highway 316	●	●	●
A2	19 Irvings Lane	●	●	●
A3	99 Goldbrook Road	●	●	●

The concentrations selected for use in characterizing baseline are the maximum values, since the number of samples collected was limited to three and a minimum number of samples typically required in risk assessments for completing statistical analysis such as percentiles is ten. These maximum values are presented in Table A.2 of Appendix A.

The baseline outdoor air quality data evaluation did not include several metals such as bismuth, lithium, mercury, rubidium and selenium. These metals are typically not included in standard analytical packages for soils (dust). As such, based on an assumption that particulates in air at baseline are due to entrainment of soil particles in the air, baseline concentrations for each of these metals was estimated by assuming that the concentration of these metals in particulate are proportional to concentrations in soil, as characterized by baseline soil concentrations consistent with Health Canada methodologies (Health Canada, 2021a).

Since the outdoor air sampling program did not include particulate matter less then 2.5 µm (PM2.5), sulfur oxides (SO_x) and nitrogen oxides (NO_x), data from the National Air Pollution Surveillance (NAPS) Program (ECCC, 2022) were used to determine baseline outdoor air concentrations for these parameters. The data from Port Hawkesbury (station 030201, 50 km from Goldboro), recorded in 2019, were used (table 2.3).

Table 2.3 Baseline outdoor air concentrations for PM2.5, SO_2 and NOx

Parameters	Units	90th percentiles 1-hour	90th percentiles 24-hour	Average annual values
PM2.5	µg/m³	9	8	5
SO_2	µg/m³	2.4	3.1	1.6
NO_x	µg/m³	17	19	8

Although some uncertainties are indicated as the number of samples available to determine baseline concentrations of PM10, TSP and metals are low (3 samples) and some chemicals present in the surface soil were not analysed in the baseline outdoor air samples, the supplementation of the data with conservative approaches is considered an acceptable approach for this HHERA.

2.6.3 Surface Water

Baseline surface water data (107 samples) were collected by Anaconda between 2018 and 2021 at two stations in Gold Brook (Station #7 and SW-11-21) and two stations in Gold Brook Lake (Station #4 and SW-12-21) and as part of a wider sampling program to characterize surface water in the area. Therefore, the surface water dataset characterizes two distinct exposure areas, Gold Brook and Gold Brook Lake. The chemical analysis focused on inorganics, such as metals, as shown in Table 2.4. Results are shown in Table A.3 of Appendix A and sample locations are shown on figure 5.

Table 2.4 Baseline surface water sampling program

Station ID	Location	Analyses		
		Calculated parameters	Metals/Inorganics (EPA 6020B R2)	Mercury (EPA 245..1 R3)
SW-11-21 (9 samples)	Gold Brook	●	●	●
Station #7 (64 samples)	Gold Brook	●	●	●
SW-12-21 (12 samples)	Gold Brook Lake	●	●	●
Station #4 (22 samples)	Gold Brook Lake	●	●	●

To characterize two baseline surface water concentrations (one for Gold Brook Lake and one for Gold Brook), the 95th percentile value of stations #7 and SW-11-21 and the 95th percentile value of stations #4 and SW-12-21 were used in this study, since these values were used as a Site-Specific Water Quality Guidelines for the predictive water quality analysis (Section 3.3.4). Given the seasonal fluctuations in surface water quality data, the 95th percentile values recorded within the last 3 years were used for the purposes of the HHERA. 95th percentile concentrations are shown in Table A.3 of Appendix A. When a chemical was not detected in a sample, half of the detection limit was used.

The dataset of surface water samples is robust and is considered adequate to characterize the water quality in the Gold Brook Lake and Gold Brook system appropriately. As such, the dataset is considered acceptable for conducting a HHERA with respect to the number of available sample results.

2.6.4 Sediment

Baseline sediment samples were collected at 12 locations in the Gold Brook Lake watershed. Samples (12) were collected by GHD on September 1 and 2, 2021. The samples were collected from 0 to 0.20 m below the sediment-water interface using a petite-ponar grab-sampler deployed from a boat and/or a stainless-steel trowel depending on sediment location. Collected samples were placed in coolers with ice/cold packs until delivery to BV Labs in Bedford,

NS. Sediments within Gold Brook are expected to have been influenced by historic tailings, but are not expected to be relocated to, and managed in, the TMF during the construction phase. Chemical analysis focused on inorganics, specifically metals. Baseline sediment results are shown in Table A.4 of Appendix A and sample locations are shown on figure 6. A summary of the baseline sediment sampling program is provided in **Error! Reference source not found.**.

Table 2.5 Baseline sediment sampling program

Sample ID	Location	Analyses	
		Metals/Inorganics (EPA method 6020B R2)	Mercury (EPA method 6020B R2)
RA-SED-1	WC 49	●	●
RA-SED-2	Gold Brook Lake	●	●
RA-SED-3	Gold Brook Lake	●	●
RA-SED-4	Gold Brook Lake	●	●
RA-SED-5	Gold Brook Lake	●	●
RA-SED-6	Gold Brook Lake	●	●
RA-SED-7	Gold Brook	●	●
RA-SED-8	Gold Brook	●	●
RA-SED-9	WC 64	●	●
RA-SED-10	Gold Brook	●	●
RA-SED-11	Gold Brook	●	●
RA-SED-12	Gold Brook	●	●

The sediment dataset characterizes two distinct exposure areas, Gold Brook and Gold Brook Lake, and as shown in Table A.4 of Appendix A, the sediments in Gold Brook generally have higher metal concentrations than those in Gold Brook Lake because of the presence of historic tailings associated with Gold Brook. For this reason, risks to human health and ecological receptors will be estimated separately for Gold Brook and Gold Brook Lake.

Since the number of samples collected was limited to characterize baseline sediment concentrations, maximum values were calculated for the two distinct exposure areas, Gold Brook Lake (5 samples) and Gold Brook (6 samples, including RA-SED-9 located at the location WC64), separately. RA-SED-1 was not included in the calculations since its location is outside Gold Brook Lake and Gold Brook. When a chemical was not detected in a sample, half of the detection limit was used. Maximum values are shown in Table A.4 of Appendix A.

These baseline samples are considered sufficient for the completion of a HHERA.

2.6.5 Terrestrial Vegetation Tissue

Baseline blueberry and blackberry samples were collected at 12 locations within the PA in 2021. Samples were collected by MEL between August 17 and September 2, 2021. Collected unwashed samples were frozen at -20ºC until delivery to BV Labs in Bedford, NS, where they were analyzed for metals and mercury. Baseline berry results are shown in Table A.5 of Appendix A and sample locations are shown on figure 7. A summary of the baseline berry sampling program is provided in **Error! Reference source not found.**.

Table 2.6 Baseline berry sampling program

Sample ID	Species	Analyses	
		Metals/Inorganics (EPA method 6020B/200.3 or R2)	Mercury (Health Canada method or EPA method 245.6 R2)
BB SAMPLE 1 SG	Blueberries	●	●
BB SAMPLE 2 SG	Blueberries	●	●
BB SAMPLE 3 SG	Blueberries	●	●
BBSAMPLE4EH	Blueberries and blackberries	●	●
BBSAMPLE5EH	Blueberries	●	●
BBSAMPLE6ZS	Blackberries	●	●
BBSAMPLE7ZS	Blueberries	●	●
BB SAMPLE 8 EH	Blueberries and blackberries	●	●
BB SAMPLE 9 EH	Blueberries and blackberries	●	●
BB SAMPLE 10 EH	Blueberries and blackberries	●	●
BB SAMPLE 11 EH	Blueberries and blackberries	●	●
BB SAMPLE 12 EH	Blueberries and blackberries	●	●
BB SAMPLE 13 EH (Field duplicate of BB SAMPLE 9 EH)	Blueberries and blackberries	●	●

To characterize baseline berry concentrations, the 90th percentile was used in the HHERA. The exception is for bismuth, calcium, cesium, magnesium, phosphorus, potassium, sodium, tin and titanium as these metals were only analyzed in three of the samples collected, and the maximum concentration was therefore used instead. The 90th percentile and maximum values are shown in Table A.5 of Appendix A. When a chemical was not detected in a sample, half of the detection limit was used.

2.6.6 Terrestrial Invertebrate Tissue

Baseline terrestrial invertebrate samples were collected at 24 locations within the PA in 2021. Invertebrates collected generally included slugs, worms, beetles, and spiders and were composited into seven samples to achieve the mass required for analysis. Samples were composited according to geographic area. Samples were collected by MEL between August 23 and September 8, 2021. Samples were initially placed in a clean container with a sheet of damp paper towel at room temperature to allow the invertebrates' digestive systems to be purged of soil (depurated). Samples were frozen at -20ºC approximately 3-4 days following collection until delivery to BV Labs in Bedford, NS, where they were analyzed for metals and mercury. Baseline terrestrial invertebrate results are shown in Table A.6 of Appendix A and sample locations are shown on figure 8. A summary of the baseline terrestrial invertebrate sampling program is provided in Table 2.7.

Table 2.7 Baseline terrestrial invertebrate sampling program

Sample ID	Analyses	
	Metals/Inorganics (EPA 6020B/200.3 or R2)	Mercury (Health Canada method or EPA 245.6 R2)
INVERTSAMPLE1EH	●	●
INVERTSAMPLE2EH	●	●
INVERT SAMPLE 3 EH	●	●
INVERT SAMPLE 4 EH	●	●
INVERT SAMPLE 5 EH	●	●
INVERTSAMPLE625	●	●
INVERTSAMPLE725	●	●

To characterize baseline terrestrial invertebrate concentrations, the maximum value was used in this study since the number of samples collected was limited to seven and a minimum number of samples typically required in risk assessments for completing statistical analysis such as percentiles is ten. Maximum concentrations are shown in Table A.6 of Appendix A. When a chemical was not detected in a sample, half of the detection limit was used.

2.6.7 Fish Tissue

Baseline fish samples (7 brook trout and 4 yellow perch) were collected at 10 locations from Gold Brook Lake and Gold Brook within the PA in 2021. Samples were collected by MEL between August 24 and 30, 2021. Collected fish were frozen at -20ºC until delivery to BV Labs in Bedford, NS, where they were analyzed for metals and total mercury. Two or three fish were composited for each sample analyzed to ensure sufficient sample mass. Fish sampling focused on species mostly likely to be consumed by Indigenous and local people (brook trout and yellow perch) from local waterbodies. Analysis was completed on fish fillets and fish remains from each sample submitted.

Baseline fish results are shown in Tables A.7 and A.8 of Appendix A and sample locations are shown on figure 9. A summary of the baseline fish sampling program is provided in **Error! Reference source not found.**.

Table 2.8 Baseline fish sampling program

Sample ID	Location	Species	Analyses	
			Metals/Inorganics (EPA 6020B/200.3 or R2)	Total mercury (EPA 245.6 R2)
1-WC14 R2 – BKT	WC 14	Brook trout	●	●
2-GOLDBROOK LAKE NORTH – BKT	Gold Brook Lake	Brook trout	●	●
3-WC20 – BKT	WC 20	Brook trout	●	●
4-WC22 R2- BKT	WC 22	Brook trout	●	●
5- GOLDBROOK REACH 2 – BKT	Gold Brook	Brook trout	●	●
6-GOLDBROOK LAKE 1 – YLP	Gold Brook Lake	Yellow perch	●	●
7-GOLDBROOK – BKT	Gold Brook	Brook trout	●	●
8-WC43 R1 – BKT	WC 43	Brook trout	●	●
9-GOLDBROOK LAKE 2 – YLP	Gold Brook Lake	Yellow perch	●	●
10-GOLDBROOK LAKE 3 – YLP	Gold Brook Lake	Yellow perch	●	●
11-GOLDBROOK LAKE 3	Gold Brook Lake	Yellow perch	●	●

To characterize baseline fish concentrations, the 90th percentile value of fish fillet was used in the HHRA. For the ERA, the baseline fish concentration of the offal or fillets (highest) was used. When a chemical was not detected in a sample, half of the detection limit was used. Tables A.7 and A.8 of Appendix A present the 90th percentiles.

Some chemicals (bismuth, magnesium, rubidium and titanium,) detected in surface water or sediment were not analysed in the baseline fish samples as these parameters are not standard constituents in laboratory analysis of metals in tissue samples and these parameters were not identified as constituents of concern in sediment or surface water.

2.6.8 Benthic Invertebrate Tissue

Baseline benthic invertebrate samples (5) were collected at five locations within the PA in 2021. Samples were collected by GHD between August 31 and September 1, 2021 and consisted primarily of spiders, beetles, and worms. Collected samples were placed in coolers with ice/cold packs until delivery to BV Labs in Bedford, NS, where they were analyzed for metals and mercury. Three samples (RA-TIS-7, RA-TIS-8, and RA-TIS-9) were composited due to low sample mass. Baseline benthic invertebrate results are shown in Table A.9 of Appendix A and sample locations are shown on figure 10. A summary of the baseline benthic invertebrate sampling program is provided in table 2.9.

Table 2.9 Baseline benthic invertebrate sampling program

Sample ID	Location	Analyses	
		Metals/Inorganics (EPA method 6020B/200.3 or R2)	Mercury (EPA method 245.6 R2)
RA-TIS-1	WC 49	●	●
RA-TIS-6	Gold Brook	●	●
RA-TIS-7	Gold Brook	●	●
RA-TIS-8	Gold Brook	●	●
RA-TIS-9	WC 64	●	●

To characterize baseline benthic invertebrate concentrations, the maximum value was used in this study, since the number of samples is low and a minimum number of samples typically required in risk assessments for completing statistical analysis such as percentiles is ten. Maximum values are shown in Table A.9 of Appendix A. When a chemical was not detected in a sample, half of the detection limit was used.

The number of samples available to determine baselines concentrations are low (3 samples) and some samples are composites.

2.6.9 Terrestrial Mammal and Aquatic Vegetation Tissue

No baseline terrestrial mammal and aquatic vegetation data were collected because these environmental media concentrations were modelled with equations from the United States Environmental Protectional Agency (USEPA, 2005) and results are presented in Tables B.2, B.3, B.4, and B.5 of Appendices B.1 to B.6. Equations use chemical uptake from food, surface water and soil for the terrestrial mammals and biota-sediment accumulation factors for the aquatic vegetation.

3. Project Description

3.1 Temporal Boundaries

The scope of the Project includes activities associated with construction, operation, and closure of a surface mine operation. The operation is a conventional surface mine involving drilling, blasting, hauling, crushing and processing of ore in sequence.

The anticipated mine life is approximately 11 years. The Project follows the following timescale:

– Construction Phase (2023 and 2024, years -2 and -1)
– Operation Phase (2025 through 2035, year 1 through year 11)
– Closure Phase:
  - Reclamation Stage (2036 through 2038, year 12 through year 14)
  - Post-Closure Stage (2039 and beyond, years, 15+)

Activities associated with the Project are anticipated to occur year-round until the activity has been completed, with the exception of tree clearing for Construction Phase which will be completed during specific timing windows. Additional scheduling requirements may be issued by the regulatory agencies through the EARD Approval or Industrial Approval(s) processes.

3.1.1 Construction

General preparation of the PA for the Project would include tree cutting, topsoil removal and storage, excavation, grading, establishment of drainage ditches and finishing surfaces to provide slopes and collect surface water. Construction activities would begin with construction of erosion and sediment control measures, clearing and grubbing the overburden/waste rock storage, pit, plant, and TMF area. Once this is accomplished, the first waste extracted from the pit will likely be used as building materials for the initial lift of the TMF, and areas such as the plant site, secondary access roads, construction laydowns, Run-of-Mine (ROM) pad, and other site infrastructure. Waste rock not used for construction will be stockpiled in the WRSAs until needed or reclaimed. Stripped overburden and organics will be stockpiled near the open pits and will be utilized for closure activities during and at the end of the Project. Surface water management infrastructure as well as sediment and erosion control measures will be constructed to manage any run-off from the site during construction. Construction is anticipated to be 18 months.

3.1.2 Operation

Conventional open pit mining methods will be used to extract ore from the Goldboro Gold Deposit (Deposit). Drilling, blasting, loading, and hauling will be used to mine the ore material and meet the mine production schedule.

Progressive clearing, grubbing, grading, and stockpiling of vegetation, topsoil, and till in the pit area will be conducted prior to accessing bedrock for mining purposes, to minimize erosion. Host rock material will be drilled and blasted to access the ore. Ore will be loaded and trucked to the ROM pad to feed the mill. ROM ore will go straight to the crusher while stockpiled high-grade and low-grade ore will be progressively processed throughout the mine life. Waste rock, not used for construction or backfill, will be stockpiled at its final disposal point, managed, and reclaimed in place. Tailings from the mill circuit will be sent to the TMF.

All site contact water will be managed to meet the regulatory discharge requirements prior to discharge into the natural environment. The Mine Water Management Plan consists of a series of surface water ditches, culverts and settling ponds to collect stormwater runoff. Clean water ditching will direct non-contact water away from the site. Water discharged from the TMF will be treated via a polishing pond and water treatment plant prior to discharge into Gold Brook Lake. Mine contact water from the east pit, west pit, northwest WRSA, and northeast WRSA will be collected in settling ponds and treated as required prior to being discharged to Gold Brook Lake. Runoff from the southwest and

southeast WRSAs will be collected in settling ponds and discharged to Gold Brook. Approximate discharge locations are presented on figure 12. Development of the east and west pits is expected to result in a groundwater drawdown cone extending a maximum of 500 m from the edge of the pits at full extraction.

The operational life of the mine is anticipated to be 11 years. End-of-Mine (EOM) will represent the conditions at the end of the operations life. The pits, WRSAs, and TMF will be developed to the maximum extent.

3.1.3 Closure

3.1.3.1 Reclamation

The reclamation concept can be generally described as the removal of all infrastructure not needed at the PA, re-contouring of areas to promote natural drainage patterns, re-filling of the pits with water to create aquatic and wetland edge habitat, select re-vegetation programs and encouraging natural revegetation throughout the PA. The reclamation measures are designed to enable eventual return of the PA to a physically safe, stable and vegetated state.

3.1.3.2 Post-Closure

PA reclamation will require approximately three years after EOM for active earthworks, demolition of infrastructure, and other related activities after which monitoring will continue until deemed no longer necessary. A period of post-closure monitoring will occur, and it is anticipated that the monitoring program will be a minimum of 14 years after closure but will be determined through the permitting process and site specifics. Surface water management infrastructure will be maintained until the monitoring demonstrates that water quality is acceptable for discharge to the receiving environment and approval is granted by the relevant federal and provincial authorities.

It is currently intended that the area will be returned to its previous land use after mining: recreation and forestry. The final disposition of the Project will come from consultation with all stakeholders and rightsholders throughout the course of the Project life and adherence to applicable legislation.

3.2 Spatial Boundaries

The spatial boundaries represent anticipated geographic limits that could be potentially affected by the Project. The PA encompasses the immediate area in which Project activities will occur and are likely to cause direct and indirect effects to the environment. The PA includes the infrastructure associated with the mine site plus a buffer of 100 – 200 m. Figure 1 outlines the PA. As indicated in Section 1, potential chemical releases to outdoor air, surface soil, surface water, sediment, vegetation and animal (terrestrial and aquatic) associated with the Project could extend outside of the PA so the predictive modelling and assessment area specific to this HHERA was expanded to include the nearest residential receptors as well as forested and aquatic areas directly adjacent to the PA potentially used for foraging/fishing/hunting activities by humans as well as habitat for ecological receptors.

For the HHRA, the human receptors will be mostly exposed to contaminants of potential human concern (COPHCs) in the PA (mine and employee accommodations) and areas adjacent to the PA which include the residential community of Goldboro (the village) (Goldbrook Road and Highway 316) and the forested/aquatic areas located within 2 km south of the PA. Section 4.1.3 of this Report provides additional details on the land use and locations anticipated to be frequented by the human receptors that could be directly or indirectly affected by Project related activities. For the purposes of the ERA, it was assumed ecological receptors (aquatic and terrestrial) are present or could use habitat in the PA for foraging or nesting, which is considered to be a conservative assumption. The AA of this study incorporates the PA, the residential village of Goldboro and Gold Brook Lake and Gold Brook watersheds. Figure 1 outlines the AA.

3.3 Predicted Chemical Concentrations

To carry out a Project related HHERA, predicted chemical concentrations in environmental media at different locations associated with each phase of the Project are needed. These Exposure Point Concentrations (EPCs) were estimated based on methodologies developed by the United States Environmental Protection Agency (USEPA, 2005), involving derivation of EPCs in environmental media based on deposition of particulate from an anthropogenic process (in this case, the proposed Project) across the environment in a receiving area (in this case, the AA). This guidance was primarily intended to be applied to industrial facilities undertaking combustion, but is applicable to the proposed Project due to its expected emissions of particulate. As previously indicated, GHD completed Project specific air modelling for the various activities expected to occur to evaluate worst case year of operation dust and other air emissions (GHD, 2022e). In addition to this modeling, GHD completed additional air dispersion using the USEPA air dispersion model AERMOD version 19191. Contaminants assessed in the air dispersion modeling conducted for this assessment included TSP, PM10, and PM2.5, NOx, SO2, and CO. The model scenario selected to support the HHERA is considered worst case to be protective of both human and ecological health. The scenario included all equipment and air emission sources operating at their maximum capacity simultaneously. During the Project operations, not all equipment is expected operate simultaneously or sources will not be at their maximum capacity resulting in this scenario being overly protective of human and ecological health. As such, the modeling completed specifically for the HHERA was used to predict worst case emissions, including dust generation and associated deposition. Further details on the air modeling completed for the HHERA is outlined in Section 3.3.1 below. These maximum predicted modeling results were used as input into the USEPA equations for calculated EPCs.

The USEPA (2005) methodology utilized in this risk assessment was limited to evaluation of fate and transport mechanisms and the evaluation of risk associated with these modelled results followed Canadian guidance, specifically Health Canada (2019), CCME (2020) and FCSAP (Government of Canada, 2012). The air modelling was supplemented by the surface water modelling and water balance evaluation for the AA, as prepared by GHD (GHD 2022b to 2022d), the baseline environmental sampling described in Section 2.6 above, and USEPA (2005) default values where required.

The modelling proceeded in four phases:

– The estimation of metal concentrations in dust generated by the Project.
– The estimation of metal concentrations in soil due to deposition, which were used to determine exposure/intake estimates for the surface soil exposure pathway for human and ecological receptors.
– The estimation of metal concentrations within terrestrial plants, terrestrial invertebrates, prey animals, and wildlife, which were used to determine exposure/intake estimates for ingestion of these organisms by human and ecological receptors.
– The estimation of metal concentrations within surface water, sediment, fish, aquatic plants, and benthic invertebrates, which were used to determine exposure/intake estimates for human and ecological receptors like benthic and freshwater aquatic life.

At each stage, when concentrations of metals in environmental media were estimated, the results (baseline plus incremental) were compared to 90th percentile or maximum baseline concentrations in those media (or 95th percentile in the case of surface water). Any predictions that were less than the measured baseline condition were replaced with baseline concentrations so that concentrations in environmental media were not predicted to decrease over the lifespan of the Project, ensuring that incremental estimates of risk would be at least zero (not negative). Note that predicted (baseline plus incremental) concentrations that were greater than baseline concentrations were not replaced in this way. Further, if the 90th percentile baseline concentration was a detection limit, half of that detection limit was used in this comparison; chemicals that were not detected at baseline were therefore assumed to be present at half their detection limit.

A detailed description of the model used to evaluate current and predicted concentrations of constituents in various media is provided in Appendix B.

3.3.1 Particulates

Atmospheric dispersion modelling was completed by GHD in 2021 to fulfill the requirements of the EARD and support the HHERA for assessing Project related activities with respect to potential adverse effects to human health or the environment. To fulfill this requirement, GHD conducted air dispersion modelling using USEPA's multi source dispersion model AERMOD, following the methods prescribed by Ontario Regulation 419/05 (O. Reg. 419/05). There is currently no guidance on the use of air models in Nova Scotia, and therefore the O. Reg. 419/05 requirements were used as a basis. AERMOD is an advanced steady state plume model that has the ability to incorporate building cavity downwash, actual source parameters, emission rates, terrain and historical meteorological information to predict ground level concentrations (GLCs) and deposition rates at specified locations. As indicated in Section 3.3 above, the model scenario selected to support the HHERA is considered worst case to be protective of both human and ecological health and assumed all equipment and air emission sources would be operating at their maximum capacity simultaneously (which is highly conservative and not expected to occur during the Project operation). As such, the modeling completed specifically for the HHERA was used to predict worst case emissions, including dust and associated deposition.

The following mining processes were assumed as potential sources of dust emissions:

– Haul/access routes from the pits to the mill, waste storage areas, and tailings management facility.
– Pit emissions composed of: surface road dust from vehicle operations; and exhaust emissions from haul trucks, loading operations, dozers, graders, excavators and other support vehicles.
– Primary, secondary and tertiary crushing operations.
– Loading, unloading and handling emissions from the ROM stockpiles.

Vehicle road and tailpipe emissions were calculated using the USEPA Motor Vehicle Emissions Simulator version 3 (MOVES3) in conjunction with the number of vehicle trips, types of vehicles, and length of routes travelled. Mining pit emissions were calculated using a mix of USEPA AP-42 and MOVES3 emission factors for non-road emission rates. Material handling and processing emissions were calculated using USEPA AP-42 emission factors for crushed stone and pulverized mineral processing.

Potential air dispersion modelling scenarios were developed by qualitatively evaluating the types and intensity of the various activities necessary to complete the Project, considering the proximity of the activities to the receptors, and considering the contaminants potentially released from each activity. From these potential scenarios, worst case scenarios were selected such that each of the potential exposure pathways identified for Project related activities were modelled. In essence, the air dispersion modelling was completed to evaluate the maximum site operations (most material being handled) in a given year. The results of this scenario took the form of estimated annual deposition rates for TSP (including diesel particulate matter [DPM]), PM2.5 and PM10 at the maximum point of impingement in each of the Gold Brook Lake and Gold Brook catchment areas, the village of Golboro and the area south of the PA (Figure 11). Concentrations of TSP, PM10, PM2.5 and DPM in air at the maximum point of impingement of each of the locations presented in Section 3.3.3 were also developed. The annual deposition rates (maximums) are presented in Table 3.1 below.

Table 3.1 Predicted TSP, PM10 and PM2.5 annual deposition rates

Parameter	Location			
	Gold Brook catchment ($g/m^2/y$)	Gold Brook Lake catchment and PA ($g/m^2/y$)	Area south of the PA ($g/m^2/y$)	Village of Goldboro ($g/m^2/y$)
TSP	769	769	50	8.0
PM10	95	95	Not available	Not available
PM2.5	0.33	0.45	Not available	Not available

Metal concentrations in particulates during the Construction, Operations, and Reclamation phases were estimated by first assuming that the majority of the dust generated within the PA by the Project would be best characterized by

waste rock, since most of the roads in the PA are proposed to be constructed from that material, and model results indicate a majority of dust is related to vehicle traffic. As such, the particulates were assumed to have the same chemical composition as the waste rock (90th percentile, 110 samples). The waste rock results are shown in Table A.12 of Appendix A. The analyses included four-acid and aqua regia extractions. The highest 90th percentile from the two extractions was conservatively used. Where waste rock concentrations were not available for specific metals, 90th percentile soil baseline concentrations in the AA were used as a surrogate. Equations and results are presented in Table B.6 of Appendices B.1 to B.6.

Metal concentrations in particulates during the Post-Closure phase were assumed to be the same as baseline.

3.3.2 Surface Soil

The particles emitted during the Construction, Operations, and Reclamation phases of the proposed Project are expected to deposit on surface soil in the AA. The predicted (baseline plus incremental) metal concentrations in surface soil were therefore calculated using the annual dust deposition rates provided by the AERMOD model, the dust deposition model presented by the USEPA (2005) as indicated above, and a soil mixing depth of 2 cm was incorporated (Table B.11). Equations and results are presented in Tables B.7 and B.11 through B.16 of Appendices B.1 to B.6.

The time periods chosen for the modelling of soil concentrations were chosen conservatively, as follows:

– Construction: 2 years after beginning work, to account for maximum deposition over time.
– Operations: 13 years after Construction begins, representing 2 years of Construction and 11 years of mine life, to account for maximum deposition over time.
– Reclamation: 16 years after starting, representing 13 years of Construction and Operations and 3 years of reclamation of the PA, again to account for maximum deposition over time.
– Post-Closure: 16 years after starting, because deposition is expected to cease at this time and concentrations of metals in the soil are expected to decline after this time.

These estimates used the non-carcinogenic approach in the USEPA (2005) guidance, which aims to predict peak concentrations of chemicals rather than amortizing concentrations over time (USEPA 2005). Concentration estimates predicted at the above times are therefore expected to be conservative for carcinogens, since they are not averaged over time. This approach represents a deviation from the USEPA (2005) guidance but is considered unlikely to underestimate potential health risks.

3.3.3 Outdoor Air

As previously indicated, atmospheric dispersion modelling was completed to assess the potential risks to human health associated with Project related activities during Construction, Operation, Reclamation and Post-Closure phases. Predicted future PM2.5, PM10, TSP, DPM, NOx and SO_2 concentrations (1 hr, 24 hr and annual) were calculated based on air emission rates for the various mine related operations and processes during their peak operational phase, including proposed site conditions and layouts during that phase, as described in Section 3.3.1.

The 99.9th percentiles predicted TSP, PM10, PM2.5, DPM, NO_x and SO_2 at the maximum point of impingement of each location (PA, south of the PA and west of the PA (east of the village of Goldboro)) (Figure 11) were conservatively assumed to be present and constant during the Construction, Operation, and Reclamation phases of the Project for evaluation of risk to human health. The predicted TSP, PM10, PM2.5, DPM, NO_x and SO_2 were assumed to return to baseline during the Post-Closure phase once gas emissions and dust emissions and deposition cease. Results are presented in **Error! Reference source not found.**. It is noted that the maximum results reported below for the area of south of the PA and west of the PA are at the PA boundary which is the maximum point of impingement for these areas.

Table 3.2 TSP, PM10, PM2.5, DPM, NO_x and SO_2 concentrations in outdoor air during the peak operational phase

Parameter	Period	**Baseline** concentrations (µg/m³)	Incremental concentrations (µg/m³)			Total concentrations (µg/m³)		
			PA	South of the PA	West of the PA (east of the Village of Goldboro residents)	PA	South of the PA	West of the PA (east of the Village of Goldboro residents
TSP	1 hr	NA	1833	774	752	NA	NA	NA
	24hr	8.1	681	225	171	689	233	179
	Annual	NA	240	33	23	NA	NA	NA
PM10	1 hr	NA	643	189	184	NA	NA	NA
	24hr	12	167	55	42	179	67	54
	Annual	NA	60	8.1	5.7	NA	NA	NA
PM2.5	1 hr	8.0	253	19	24	261	27	32
	24hr	8.0	65	5.6	4.9	73	14	13
	Annual	5.0	16	0.85	0.67	21	5.9	5.7
DPM	1 hr	NA	48	1.9	2.0	NA	NA	NA
	24hr	NA	13	0.53	0.51	NA	NA	NA
	Annual	NA	2.7	0.11	0.080	NA	NA	NA
NO_x	1 hr	17	590	25	28	607	42	45
	24hr	19	155	7.6	6.9	174	27	26
	Annual	8.0	33	1.4	1.1	41	9.4	9.1
SO_2	1 hr	2.4	0.93	0.14	0.13	3.3	2.5	2.5
	24hr	3.1	0.25	0.040	0.030	3.4	3.1	3.1
	Annual	1.6	0.063	0.0060	0.0040	1.7	1.6	1.6

NA: Not available.

The predicted outdoor air concentrations for metals were conservatively estimated from the maximum of the TSP, PM10 and PM2.5 predictions by assuming that the dust had the same composition as waste rock for the Construction, Operations, and Reclamation phases of the Project, and the same composition as baseline for the Post-Closure phase of the Project, as discussed above in Section 3.3.1. Equations and results are presented in Table B.6 of Appendices B.1 to B.6.

3.3.4 Surface Water

The Project has the potential to cause direct effects on surface quality by the discharge of treated effluent in Gold Brook Lake and Gold Brook. GHD completed a predictive water quality analysis (PWQA) in GoldSIM software. The PWQA was performed on a yearly basis with monthly reporting time steps (average and 90th percentiles) from years 8, 12, 21, 37 and 50, which are the years were the surface water concentrations are the highest in every phase of the Project and year 50 is representative of concentrations into perpetuity. Surface water concentrations were modelled for 25 constituents.

Concentrations of constituents in surface water were predicted at different locations in Gold Brook Lake and Gold Brook with the predicted concentrations at one location in Gold Brook Lake to account for the 5 discharge points in the lake and three locations in Gold Brook selected for inclusion in the HHERA (see Figure 1). Constituents that are predicted to be present in Gold Brook Lake and Gold Brook assume full mixing of the mine effluent and the receiving water body. To determine the mixing zone for each mine discharge location, a mixing zone for the PA was developed in CORMIX model. The mixing zone model indicated the predicted mixing zones for each discharge location are less

than 100 m downstream of each discharge point. For each year (8, 12, 21, 37 and 50), the maximum annual concentrations (maximum of the monthly 90th percentiles) were calculated. The following results were chosen as the predicted concentrations for the risk assessment:

– Construction phase: baseline concentrations (see Section 2.6.3).
– Operations phase: maximum annual concentrations of year 8.
– Reclamation phase: maximum annual concentrations of year 12.
– Post-Closure phase: maximum annual concentrations between year 21, 37 and 50.

Since predicted concentrations in Gold Brook were modelled at three locations, the spatial maximum concentrations of those locations were chosen to represent the surface water of Gold Brook.

It was assumed that constituents in Project related effluent (specifically from the TMF, pits and waste rock areas) which are predicted to exceed regulatory limits will be treated to a point where they meet the appropriate regulatory limit (NSE, 2021; CCME, 2021; and Metal and Diamond Mining Effluent Regulations limits, MDMER) or Site-Specific Water Quality Guidelines (SSWQG) once treated and mixed in the receiving water body (GHD, 2022d). This approach is also expected to include Total Suspended Solids (TSS).

The model used inputs from the PA water balance (developed in GoldSIM), geochemical source terms from each material type within the PA as provided by Lorax Environmental (Lorax, 2022) and predicted concentrations from the TMF provided by Knight Piesold Limited (KP) (KP, 2022). Predicted concentrations for each discharge location were calculated based on a mass-balance approach, assuming no degradation of source terms over time (GHD, 2022b and GHD, 2022c).

The results of the PWQA are presented in Table B.8 of Appendices B.1 to B.6.

GHD notes that metals in historic tailings located near Gold Brook that will not be managed in the TMF may have the potential to oxidize and leach contaminants into surface water bodies because of the predicted water quantities in the PA. This contamination source has not been considered quantitatively in this HHERA and is an uncertainty in the conclusions. However, based on the sequential leach extraction data presented by Parsons *et al.* (2012), and the conservatism assumed in arsenic bioavailability, the risk assessment is expected to be overly conversative with respect to exposure to arsenic and mercury associated with historic tailings.

3.3.5 Sediment

Chemicals in suspended sediment or precipitated from Project related effluent discharging to the surface water of Gold Brook Lake and Gold Brook have the potential to deposit in the sediment of these aquatic systems. In addition, sediments of these aquatic systems have the potential to receive deposition from particulates emitted from the Project, although as stated above, TSS will be managed, based on regulatory requirements set by the MDMER. As such, predicted concentrations of metals in sediment at specific locations of Gold Brook Lake and Gold Brook were modelled for all four Project phases using an approach based on sediment-water partition coefficients, with equations (USEPA, 2005) and results that are presented in Tables B.30 through B.47 of Appendices B.1 to B.6. Values for these partition coefficients were obtained from the USEPA (2005) and the Risk Assessment Information System (RAIS) (ORNL, 2020). Following USEPA (2005) defaults, the TSS concentration in Gold Brook Lake and in Gold Brook was assumed to be 10 mg/L.

3.3.6 Potable Groundwater

Dewatering of the open pit during the Project is anticipated to have an influence on the groundwater regime in the PA. The influence of dewatering on the PA would be represented by a depressed water table and pressure head and redirected groundwater flow towards the mine. The drawdown radius of influence of the proposed pit dewatering is predicted to not have an effect on identified existing potable groundwater wells as wells in the nearby community are outside of the drawdown radius (GHD, 2022).

Since the Project is not expected to affect existing potable groundwater wells, the predicted potable groundwater concentrations during and after the Project are considered to be the same as the baseline potable groundwater concentrations and not further evaluated as part of this HHERA. Should the addition of potable wells be proposed within the AA in the future, groundwater will need to be sampled and analyzed to confirm compliance with Health Canada's drinking water quality guidelines (Health Canada, 2020), as is standard practice for potable water supplies.

Predicted concentrations were calculated for the non-potable groundwater in the PA that has the potential to discharge to surface water in the PA and was included in the PWQA completed by GHD.

However, metals in historic tailings near Gold Brook that will not be managed in the TMF will have the potential to oxidize and leach into the non-potable groundwater because of the dewatering in the PA. This transport mechanism was not considered in this HHERA and this represents a source of uncertainty. However, based on the leachability data presented by Parsons *et al.* (2012), the risk assessment is expected to be overly conversative with respect to exposure to arsenic and mercury associated with historic tailings.

3.3.7 Terrestrial Vegetation Tissue

There is the potential for metal impacted dust particles to be emitted during the Project and deposited on or taken up by terrestrial vegetation. Terrestrial vegetation will also take up chemicals deposited on surface soil (see Section 3.3.1).

As such, consumption of plants grown in soils where metals could be deposited were assessed assuming existing native plants growing in the PA could be consumed in the future by local residents, Indigenous communities and/or wildlife. The predicted concentrations of contaminants in terrestrial plant tissue within the PA and AA were modelled based on the air quality modelling results and predicted soil concentrations along with uptake equations (USEPA, 2005) and results are presented in Tables B.19 through B.24 of Appendices B.1 to B.6. Equations consider the deposition of dust on vegetation, transfer of volatiles (such as mercury) in the air, and uptake from the roots, which was estimated using a biotransfer factor approach.

In accordance with the assumptions made in Section 3.3.1, and that model results indicate a majority of dust is related to vehicle traffic during Construction, Operation, and Reclamation phases of the Project, metal concentrations in particulates during the Post-Closure phase were assumed to be the same as baseline. As such, particulate deposition onto vegetation was not incorporated into the estimation of vegetative tissue concentrations at the Post-closure phase.

3.3.8 Terrestrial Invertebrate Tissue

Similar to vegetation, terrestrial invertebrates in soils of the PA and AA have the potential to be exposed to and accumulate constituents in tissue from dust deposited on surface soil related to the Project (see Section 3.3.1). The predicted concentrations of contaminants in terrestrial invertebrate tissue within the PA and AA were modelled based on the air quality modelling results and predicted soil concentrations along with uptake equations and inputs from the USEPA Eco Soil Screening Level (SSL) guidance (USEPA, 2007). An uptake factor for aluminum was taken from the validation data set presented in Table C.1 of Appendix A of Sample et al. (1998b); the median uptake factor from that data set (0.043) was selected for use in this assessment. Details on the methodology to predict concentrations of constituents in terrestrial invertebrates are provided in Table B.17 of Appendices B.1 to B.6.

3.3.9 Terrestrial Mammal Tissue

Terrestrial animals have the potential to accumulate chemicals present in surface soil, surface water, sediment, vegetation, invertebrates, fish and small prey. The predicted terrestrial mammal concentrations were modelled with uptake from the USEPA (2005) for white-tailed deer and snowshoe hare flesh that could be consumed by human receptors and USEPA (2007) for generic prey mammals that could be consumed by upper trophic level wildlife. An aluminum uptake factor for generic mammals was obtained from Table C.1 in Appendix C of Sample et al. (1998a); the median uptake factor of 0.0263 from this data set was selected for use in this assessment. The equations used to model constituent concentrations in white-tailed deer and snowshoe hare were based on chemical uptake from food,

surface water, and surface soil, as well as a biotransfer factor based on beef cattle. The equations used to model constituent concentrations in prey mammals were based on chemical uptake from soil and terrestrial invertebrates. Details on the methodology to predict concentrations of constituents in terrestrial mammal tissue are provided in Tables B.18 and B.25 through B.29 of Appendices B.1 to B.6.

3.3.10 Fish Tissue

Fish have the potential to accumulate chemicals from surface water (see Section 3.3.4) and sediment (see Section 3.3.5) in aquatic habitats of Gold Brook Lake and Gold Brook. The predicted fish tissue concentrations of constituents were modelled with uptake equations from the USEPA (2005). These equations used bioconcentration factors from surface water, which was assumed to be the dominant exposure pathway for the fish. Details on the methodology to predict concentrations of constituents in fish tissue are provided in Table B.48 of Appendices B.1 to B.6.

3.3.11 Benthic Invertebrate Tissue

Aquatic invertebrates have to the potential to accumulate chemicals from sediment (see Section 3.3.5). The predicted benthic invertebrate concentrations of constituents were modelled with equations specific to benthic invertebrates (Bechtel Jacobs, 1998) based on sediment concentrations. Details on the methodology to predict concentrations of constituents in benthic invertebrate tissue are provided in Table B.50 of Appendices B.1 to B.6.

3.3.12 Aquatic Vegetation Tissue

Aquatic vegetation have the potential to accumulate take up chemicals from sediment (see Section 3.3.5). The predicted aquatic vegetation concentrations of constituents were modelled with equations (USEPA, 2007), on the assumption that aquatic plants (macrophytes) will take up chemicals from sediment in the same way that terrestrial plants will take up chemicals from soil. Equation for aluminum was not available and an uptake factor approach was selected, for which the median soil to plant uptake factor of 0.00287 was selected from the dataset summarized in Table D.1 of Appendix D of Bechtel Jacobs (1998). Details on the methodology to predict concentrations of constituents in aquatic vegetation tissue are provided in Table B.49 of Appendices B.1 to B.6.

4. Human Health Risk Assessment

4.1 Problem Formulation

Problem formulation is an information gathering and interpretation step that focuses on the primary areas and activities of concern. The problem formulation step defines the nature and scope of the risk assessment, places practical boundaries on the overall scope of work and ensures that the assessment is directed at the key areas and issues of concern related to Project activities. The purpose of this HHRA is to evaluate the potential for adverse effects to occur to human receptors as a result of exposure to concentrations of contaminants of potential human concern (COPHCs) in environmental media within the AA. The HHRA process follows a recognized framework that progresses from a qualitative initial phase (i.e., problem formulation), through exposure and toxicity (effects) analysis, and culminates in a quantitative risk characterization. Following this framework, the limitations and uncertainties inherent to the HHRA process, and the relevance of these limitations and uncertainties to the conclusions stemming from the assessment, are discussed.

4.1.1 Site Management Goal

The framework used for this HHRA was based on Health Canada's *Guidance for Evaluating Human Health Impacts in Environmental Assessments: Human Health Risk Assessment* (HC, 2019), and uses modeling to predict future

chemical or contaminant exposures to humans related to Project activities. The objective of the HHRA was to determine if the future Project activities have the potential to pose an unacceptable risk to humans through exposure to contaminants in various media in accordance with Health Canada frameworks and guidance (HC, 2010, 2013, 2017, 2019 and 2021). The HHRA includes analysis of risk to human health through the various phases of the Project as well as several different human receptors (different age classes and demographics). If an unacceptable risk to human health was identified from Project related activities, the site management goal includes identification of the primary risk driver (e.g. pathway and contaminant) along with potential risk management or mitigation measures required to reduce the risk to an acceptable level for protection of human health.

4.1.2 Exposure Scenarios

As indicated in Section 3.2, the spatial boundary of the HHRA included the PA associated with the primary mine related activities and infrastructure, such as employee accommodations, as well as the AA which expands on the PA to include Gold Brook watershed south of the PA as well as the village of Goldboro west and south-west of the PA. The anticipated mine life for extraction of ore is approximately 11 years followed by site reclamation and post-closure. Outlined below were the distinct Project phases and temporal period scenarios assessed as part of the HHRA:

– Scenario 1 – Current situation: potential health risks associated with the baseline concentrations without influence from the Project (baseline conditions).
– Scenario 2 – Construction: potential health risks associated with the predicted concentrations during the construction phase of the Project. Construction of Project related infrastructure is expected to occur year-round over a 2-year period.
– Scenario 3 – Operation: potential health risks associated with the predicted concentrations during the operation phase of the Project. Operation of the mine and associated infrastructure is expected to occur year-round over a 11-year period.
– Scenario 4 – Reclamation: potential health risks associated with the predicted concentrations during the reclamation phase of the Project. Decommissioning of Project related infrastructure and reclamation of the PA is expected to occur year-round over a 3-year period.
– Scenario 5 – Post-closure: potential health risks associated with the predicted concentrations during the post-closure phase of the Project. Post-closure monitoring of the PA following reclamation is expected to occur for a minimum of 12 years following reclamation (15 years following cessation of operational activities). Monitoring activities are expected to be less frequent compared to other Project phases and performed seasonally.

4.1.3 Receptor Identification

Paq'tnkek Mi'kmaw Nation as the nearest Mi'kmaq community located 75 km from the Project. Based on the historical review and data documented from the MEKS, it was concluded that historic records show past Mi'kmaq occupation in the vicinity of the Project for recreation, fishing, hunting, and gathering. Evidence is available to demonstrate traditional hunting territories and encampments, and Census records from the early 1900s show a population identifying themselves as Mi'kmaq (Membertou, 2017). Overlap between Project activities and Mi'kmaq land and resource use is minimal in comparison to the surrounding areas. Indigenous people were included in the study as receptors for all the scenarios and conservative assumptions were applied in the HHRA as the area is not known to be used for subsistence purposes related to country food collection and consumption. There are currently no residences or potable groundwater use within the PA. However, residences are located in the AA to the west and south-west of the PA and have the potential to be exposed to Project related COPHCs. The atmospheric dispersion and deposition of releases from the mine related activities may impact outdoor air and surface soil within the residential areas surrounding the PA, specifically the residential area of Goldboro. Therefore, residents of the Goldboro, and Indigenous people, were included in the HHRA as receptors for all Project-related scenarios for conservatism.

Local residents, Indigenous people and recreational visitors currently have the opportunity to use the AA for recreational activities such as fishing in Gold Brook Lake and Gold Brook or hunting and country food gathering in

terrestrial and wetland areas (Scenario 1). However, during Construction, Operation and Reclamation phases of the Project (Scenarios 2 to 4), the PA will have restricted public access, including restricted access to Gold Brook Lake. As such, exposure to COPHCs in the PA during Scenarios 2, 3 and 4 will be limited to construction and industrial workers. Following Reclamation activities (Scenario 5), it is expected that the PA would be returned to lands for recreational and Indigenous usage. Although the PA will have restricted access during Scenarios 2, 3 and 4, the undeveloped areas surrounding the PA could still be accessed by local residents, Indigenous people or recreational visitors for recreational activities including food gathering, hunting and fishing (this includes Gold Brook).

Construction workers were included in the HHRA as receptors within the PA associated with the mine Construction and Reclamation phases (Scenarios 2 and 4, respectively). Industrial workers were included in the HHRA as receptors within the PA associated with the mine Operation phase (Scenario 3). As employee accommodations are being provided on the southeastern portion of the PA, modified residential exposure for construction and industrial workers living in the employee accommodations was included in the HHRA for Scenarios 2 and 3. However, worker exposures during their working days at the mine was not included in the HHRA because the working conditions will be covered by the Nova Scotia and Canada Occupational Health and Safety Regulations (OHSR).

The following list summarizes the human receptors, Project scenarios and associated spatial boundaries that were evaluated as part of the HHRA:

- Residential Receptors and Indigenous People, included in all Project phases (Scenarios 1 to 5) in the AA:
  - Current situation:
    - Scenario 1A: spatially limited to the residential properties in Goldboro (Goldbrook Road and Highway 316) and the PA.
    - Scenario 1B: spatially limited to the residential properties in Goldboro (Goldbrook Road and Highway 316) and the area south of the PA since the PA will not be accessible during scenarios 2 and 4.
  - Operation and Reclamation phases of the Project (Scenarios 2 to 4): spatially limited to the residential properties in Goldboro (Goldbrook Road and Highway 316) and the area south of the PA since the PA will not be accessible during those scenarios.
  - Post-closure phase of the Project (Scenario 5): spatially limited to the residential properties in Goldboro (Goldbrook Road and Highway 316) and the PA.
- Recreational Visitors, included in all Project phases (Scenarios 1 to 5) in the AA:
  - Current situation:
    - Scenario 1A: spatially limited to the residential properties in Goldboro (Goldbrook Road and Highway 316) and the PA.
    - Scenario 1B: spatially limited to the residential properties in Goldboro (Goldbrook Road and Highway 316) and the area south of the PA since the PA will not be accessible during scenarios 2 and 4.
  - Operation and Reclamation phases of the Project (Scenarios 2 to 4): spatially limited to the residential properties in Goldboro (Goldbrook Road and Highway 316) and the area south of the PA since the PA will not be accessible during those scenarios.
  - Post-closure phase of the Project (Scenario 5): spatially limited to the residential properties in Goldboro (Goldbrook Road and Highway 316) and the PA.
- Construction Workers, included in Construction and Reclamation Project phases (Scenarios 2 and 4) and includes construction workers temporarily living within the PA (employee accommodations).
- Industrial Workers, included in Operation Project phase (Scenario 3) and includes industrial workers temporarily living within the PA (employee accommodations).

4.1.4 Selection of Contaminants of Potential Human Concern

To select the COPHCs for the HHRA, predicted chemical concentrations (baseline plus incremental of all scenarios and locations) in each environmental medium were compared to screening benchmarks for that medium that were

protective of human health and baseline concentrations of all locations. If a chemical was selected as a COPHC in one medium, it was carried through the HHRA for all media. The screening values and selected COPHCs for each environmental medium are presented in the Sections below.

4.1.4.1 Surface Soil

To select the COPHCs in soil, the predicted soil concentrations (baseline plus incremental of all scenarios and locations) were compared to soil screening benchmarks protective of human health and baseline concentrations of all locations. These benchmarks were the following guidelines (in order of preference):

– Pathway-Specific Standards (PSS) of Nova Scotia Environment (NSE, 2021). The PSS for agricultural soil were used since these guidelines are the most conservative and are suitable for rural and natural areas. PSS are a compilation of guidelines from several Canadian jurisdictions, including the CCME. The PSS for soil contact and ingestion were selected to assess human health risks. Since the Project is not expected to affect existing potable groundwater wells (Section 3.3.6), the PSS associated with potable groundwater were not used.
– Regional screening levels (RSLs) Generic Tables from the USEPA (2021c). The RSLs for resident soil were used since these guidelines are the most conservative. The RSL for soil ingestion for lithium was selected to assess human health risks. Lithium is a non-carcinogenic compound and the RSL included in the USEPA document has been divided by a factor of 5 as the USEPA use a target hazard quotient of 1 in their derivation process, whereas the standard approach within NSE, CCME and other Canadian jurisdictions is to use a default hazard quotient of 0.2 in the development of human health-based soil quality guidelines.

The screening benchmarks are shown in Table C.1 of Appendix C. Based on the analysis shown in the same table, the only chemical present above its human health screening value or baseline concentration was aluminum. This element was therefore identified as a COPHC in soil.

Human health-based screening benchmarks were not available in the literature cited above for bismuth and rubidium. Bismuth and rubidium have insufficient toxicological information available in literature (no oral TRV) to assess potential human health risks and, as such, neither of these chemicals were carried forward as COPHCs in the HHRA.

4.1.4.2 Outdoor Air

To select the COPHCs in outdoor air, the predicted outdoor air concentrations (baseline plus maximum incremental of all the scenarios) were compared to human health-based outdoor air screening benchmarks and baseline concentrations. These benchmarks corresponded to the following guidelines (in order of preference):

– Air Quality Regulations from the Government of Nova Scotia (NS, 2020a).
– Canadian Ambient Air Quality Standards from the CCME (2022).
– RSLs from the USEPA (2021c). The RSLs for non-carcinogenic compounds for resident air were used since these guidelines are the most conservative. The RSLs included in the USEPA documents have been divided by a factor of 5 as the USEPA use a target hazard quotient of 1 in their derivation process, whereas the standard approach within NSE, CCME and other Canadian jurisdictions is to use a default hazard quotient of 0.2 in the development of human health-based soil quality guidelines. RSLs for carcinogenic compounds were not used in the screening evaluation.
– Ambient Air Quality Criteria (AAQC) from the Ontario Ministry of the Environment (OME, 2020). Guidelines for an averaging time period of 24 hours were selected.

The screening benchmarks are shown in Table C.2 of Appendix C. Based on the analysis shown in the same table, concentrations of only five parameters in predicted air quality exceeded their respective screening values or baseline concentrations: chromium, PM2.5, PM10, TSP and NO_x. These parameters have been identified as COPHCs in outdoor air.

Human health-based screening benchmarks were not available in the literature cited above for lithium, rubidium and thallium and these elements were above detection limits in baseline or predicted outdoor air concentrations. Thallium and rubidium do not have sufficient toxicological information available in literature (no oral or inhalation TRV from the

sources cited in Section 4.3) to assess potential human health risks and, therefore, these metals were not carried forward as COPHCs. It is noted that USEPA (2021b) have derived an oral TRV for screening of thallium in soil but the guidance document indicates insufficient toxicological data is available to conduct a human health risk assessment, specifically related to the inhalation pathway. In addition, TRVs for thallium are not available from Health Canada and, therefore, guidance and a thallium TRV specific to inhalation is not available thallium exposure through the inhalation pathway was not carried forward (see Section 4.2.5.6). Lithium has sufficient toxicological information and was carried forward as a COPHC in the HHRA.

4.1.4.3 Surface Water

To select the COPHCs in surface water, the predicted surface water concentrations (baseline plus maximum incremental of all the scenarios) were compared to surface water screening benchmarks and baseline concentrations. These benchmarks were the following guidelines (in order of preference):

– PSS from NSE (2021). PSS are a compilation of guidelines from several jurisdictions, including the CCME. The PSS for potable drinking groundwater were used to assess human health risks, since there are no human-health based surface water guidelines. The screening guidelines based on potable drinking water were multiplied by a factor of 10, consistent with the approach outlined in World Health Organization (WHO, 2003), since the activities in surface water (fishing and working) will only result in incidental ingestion of surface water.
– Guidelines for Canadian Drinking Water Quality from Health Canada (2020). These screening guidelines were also multiplied by a factor of 10 consistent with WHO (2003) recommendations.

The screening benchmarks are shown in Table C.3 of Appendix C. Based on the analysis shown in the same table, no concentrations in predicted surface water quality exceeded their respective screening values and baseline concentrations.

Ammonia, bismuth, calcium, phosphorus, potassium, lithium and titanium do not have screening benchmarks. Calcium, phosphorus and potassium are not considered toxic to humans. Ammonia, bismuth and titanium do not have sufficient toxicological information available in literature (no oral TRV) to assess potential human health risks and, as such, these metals were not carried forward as COPHCs. Lithium has sufficient toxicological information to assess potential human health risks and was therefore selected as a COPHC.

4.1.4.4 Sediment

To select the COPHCs in sediment, the predicted sediment concentrations (baseline plus maximum incremental of all the scenarios) were compared to screening benchmarks and baseline concentrations. There were no human health-based guidelines for sediment, so human health-based guidelines for residential soil (soil contact and ingestion pathway only) were used to identify potential chemicals of potential concern in sediment, as recommended by Health Canada (2017). The sources of these guidelines are presented in Section 4.1.4.1.

The screening benchmarks are shown in Table C.4 of Appendix C. Based on the analysis shown in the same table, concentrations of aluminum predicted in sediment quality exceeded their screening value and baseline concentration. This chemical has been identified as a COPHC in sediment.

Bismuth and rubidium do not have screening benchmarks and do not have sufficient toxicological information available in the literature (no oral TRV) to assess potential human health risks. As such, these metals were not carried forward as COPHCs.

4.1.4.5 Summary of Contaminants of Potential Human Concern

The COPHCs carried through the HHRA based on the results of the human health screening are presented below.

Table 4.1 Summary of contaminants of potential human concern

Selected based on surface soil	Selected based on outdoor air	Selected based on surface water	Selected based on sediment
Aluminum	Chromium, lithium, PM2.5, PM10, TSP and NO_x	Lithium	Aluminum

If a chemical was selected as a COPHC in one medium, it was carried through the HHRA for all media, except PM2.5, PM10, TSP and NO_x which are only present in air. The final COPHCs carried through the HHRA are aluminum, chromium, lithium, NO_x (in outdoor air), PM2.5 (in outdoor air), PM10 (in outdoor air) and TSP (in outdoor air).

4.1.5 Exposure Pathway Analysis and Conceptual Site Model

The following sections outline the potential human health exposure pathways for each of the scenarios and which pathways have the potential to pose unacceptable risk to human health that require additional evaluation as part of the HHRA. Figure 13 shows the human health conceptual site model (CSM). The CSM illustrates contaminant fate and transport mechanisms, complete exposure pathways, and primary and secondary receptors. This Figure schematically represents the interactions between the receptors and the COPHCs, via the exposure pathways identified in previous elements of the Problem Formulation phase of the assessment.

4.1.5.1 Scenario 1 – Current Situation

For Scenario 1, health risks associated with baseline concentrations of COPHCs will be assessed for residential receptors, Indigenous people and recreational visitors. Construction and industrial worker exposure is excluded from this Project scenario, since Project workers are not currently present in the PA or AA. **Error! Reference source not found.** presents a summary of identified human health exposure pathways.

Table 4.2 Summary of exposure pathways for human health – Scenario 1

Potential exposure pathway	Pathway carried through HHRA quantitatively?	
	Resident and Indigenous people **Scenario 1A: at the village of Goldboro and in the PA** **Scenario 1B: at the village of Goldboro and south of the PA**	**Recreational visitor** **Scenario 1A: in the PA** **Scenario 1B: south of the PA**
Inhalation of outdoor air (vapours)	Yes. Receptors have the potential to inhale outdoor air with baseline concentrations of vapours. The only parameter that will be assessed is NO_x, since the Project has the potential to increase outdoor air concentrations of this parameter.	
Inhalation of outdoor air (particles)	Yes. Receptors have the potential to inhale outdoor air with baseline concentrations of airborne particles.	
Inhalation of indoor air (vapours)	No. Volatile chemicals are not expected to be present in soil beneath on or off-site houses or buildings. So, there will be no vapour intrusion through the foundations. Vapours, specifically NO_x, has the potential to be transported from outdoor air to indoor air (through open doors or windows) but indoor air concentrations are considered to be negligible compared to the exposure in outdoor air.	
Inhalation of indoor air (particles)	No. Airborne particulate has the potential to be transported from outdoor air to indoor air (through open doors or windows) but exposure to particles in indoor air are considered negligible compared to the exposure in outdoor air.	

Table 4.2 Summary of exposure pathways for human health – Scenario 1

Potential exposure pathway	Pathway carried through HHRA quantitatively?	
	Resident and Indigenous people **Scenario 1A: at the village of Goldboro and in the PA** **Scenario 1B: at the village of Goldboro and south of the PA**	**Recreational visitor** **Scenario 1A: in the PA** **Scenario 1B: south of the PA**
Incidental soil ingestion and dermal contact	Yes. Receptors have the potential to be exposed to soil with baseline concentrations by incidental ingestion and dermal contact.	
Incidental surface water ingestion and dermal contact	Yes. Receptors have the potential to be exposed to surface water in Gold Brook Lake or Gold Brook with baseline concentrations during recreational or traditional activities like fishing.	
Incidental sediment ingestion and dermal contact	Yes. Receptors have the potential to be exposed to sediment in Gold Brook Lake or Gold Brook with baseline concentrations during recreational or traditional activities like fishing.	
Ingestion of country foods (berries, wild game and fish)	Yes. Receptors have the potential to be exposed to country food with baseline concentrations. Based on a Mi'kmaq Ecological Knowledge Study (MEKS), fishing, hunting and harvesting are potentially traditional uses of the AA but the AA is not known to be used for subsistence country foods collection and consumption.	

4.1.5.2 Scenarios 2 and 4 – Construction and Reclamation

For Scenarios 2 and 4, health risks associated with predicted concentrations will be assessed for residential receptors, Indigenous people, recreational visitors, and construction workers. Industrial worker exposure is excluded from this Project scenario. **Error! Reference source not found.** presents a summary of identified human health exposure pathways.

Table 4.3 Summary of exposure pathways for human health – Scenarios 2 and 4

Potential exposure pathway	Pathway carried through HHRA quantitatively?		
	Resident and Indigenous people at the village of Goldboro and in the area south of the PA	**Recreational visitor in the area south of the PA**	**Construction worker at the employee accommodations**
Inhalation of outdoor air (vapours)	Yes. The Project has the potential to increase outdoor air concentrations of NO_x during the construction and reclamation phases. The receptors may be exposed to vapours by inhalation.		
Inhalation of outdoor air (particles)	Yes. The Project has the potential to increase outdoor air concentrations of particles during the construction and reclamation phases at the PA including the employee accommodations, the village of Goldboro and the area south of the PA. The receptors may be exposed to the Project-related air emissions by inhalation.		
Inhalation of indoor air (vapours)	No. Volatile chemicals are not expected to be present in soil under the houses and buildings. So, there will be no vapour intrusion through the foundations. Vapours, specifically NO_x, has the potential to be transported from outdoor air to indoor air (through open doors or windows) but indoor air concentrations are considered to be negligible compared to the exposure in outdoor air.		
Inhalation of indoor air (particles)	No. Airborne particulate has the potential to be transported from outdoor air to indoor air (through open doors or windows) but exposure to particles in indoor air are considered negligible compared to the exposure in outdoor air.		
Incidental soil ingestion and dermal contact	Yes. Dust particles potentially generated during construction and reclamation activities could settle on the ground surface and increase concentrations of COPHCs in the village of Goldboro and the area south of the mine. The receptors will be exposed to soil influenced by Project activities by incidental ingestion and dermal contact.		No. The employee accommodations ground will be covered with a gravel layer and soil underneath will not be accessible.

Table 4.3 Summary of exposure pathways for human health – Scenarios 2 and 4

Potential exposure pathway	Pathway carried through HHRA quantitatively?		
	Resident and Indigenous people at the village of Goldboro and in the area south of the PA	Recreational visitor in the area south of the PA	Construction worker at the employee accommodations
Incidental surface water ingestion and dermal contact	Yes. Construction and reclamation activities have the potential to impact surface water quality of Gold Brook with residents, Indigenous people or recreational visitors exposed to this surface water when fishing (or completing similar activities) south of the mine. However, residents, Indigenous people and recreational visitors will not be exposed to the surface water in Gold Brook Lake as the mine property will have restricted access during this Project phase.		No. There is no surface water at the employee accommodations.
Incidental sediment ingestion and dermal contact	Yes. Construction and reclamation activities have the potential to impact sediment quality of Gold Brook with residents, Indigenous people or recreational visitors exposed to this sediment when fishing (or completing similar activities) south of the mine. However, residents, Indigenous people and recreational visitors will not be exposed to the sediment in Gold Brook Lake as the mine property will have restricted access during this Project phase.		No. There is no sediment at the employee accommodations.
Ingestion of country foods (berries, wild game and fish)	Yes. Construction and reclamation activities have the potential to release COPHCs in outdoor air, soil, surface water and sediment that may bioaccumulate in vegetation and animals like berries and fish. Residents, Indigenous people and recreational visitors may collect country foods, fish and hunt in areas outside of the mine and be exposed to COPHCs in country foods but the AA is not known to be used for subsistence country foods collection and consumption. Access to the mine property will be restricted during construction and reclamation activities so ingestion of country foods is limited to the area outside of the mine site.		No. Fishing, hunting and harvesting are not activities that will be practiced by workers.

4.1.5.3 Scenario 3 – Operation

For Scenario 3, health risks associated with predicted concentrations will be assessed for residential receptors, Indigenous people, recreational visitors, and industrial workers. Construction worker exposure is excluded from this Project scenario. **Error! Reference source not found.** presents a summary of identified human health exposure pathways.

Table 4.4 Summary of exposure pathways for human health – Scenario 3

Potential exposure pathway	Pathway carried through HHRA quantitatively?		
	Resident and Indigenous people at the village of Goldboro and in the area south of the PA	Recreational visitor in the area south of the PA	Industrial worker at the employee accommodations
Inhalation of outdoor air (vapours)	Yes. The Project has the potential to increase outdoor air concentrations of NO_x during the operation phase. The receptors may be exposed to vapours by inhalation.		
Inhalation of outdoor air (particles)	Yes. The Project has the potential to increase outdoor air concentrations of particles during the operation phase at the PA including the employee accommodations, the village of Goldboro and the area south of the PA. The receptors may be exposed to the Project-related air emissions by inhalation.		
Inhalation of indoor air (vapours)	No. Volatile chemicals are not expected to be present in soil under the houses and buildings. So, there will be no vapour intrusion through the foundations. Vapours, specifically NO_x, has the potential to be transported from outdoor air to indoor air (through open doors or windows) but indoor air concentrations are considered to be negligible compared to the exposure in outdoor air.		

Table 4.4 Summary of exposure pathways for human health – Scenario 3

Potential exposure pathway	Pathway carried through HHRA quantitatively?		
	Resident and Indigenous people at the village of Goldboro and in the area south of the PA	Recreational visitor in the area south of the PA	Industrial worker at the employee accommodations
Inhalation of indoor air (particles)	No. Airborne particulate has the potential to be transported from outdoor air to indoor air (through open doors or windows) but exposure to particles in indoor air are considered negligible compared to the exposure in outdoor air.		
Incidental soil ingestion and dermal contact	Yes. Dust particles potentially generated during operation activities could settle on the ground surface and increase concentrations of COPHCs in the village of Goldboro and the area south of the PA. The receptors will be exposed to soil influenced by Project activities by incidental ingestion and dermal contact.		No. The employee accommodations ground will be covered with a gravel layer and soil underneath will not be accessible.
Incidental surface water ingestion and dermal contact	Yes. Operation activities have the potential to impact surface water quality of Gold Brook with residents, Indigenous people or recreational visitors exposed to this surface water when fishing (or completing similar activities) south of the mine. However, residents, Indigenous people and recreational visitors will not be exposed to the surface water in Gold Brook Lake as the mine property will have restricted access during these Project phases.		No. There is no surface water at the employee accommodations.
Incidental sediment ingestion and dermal contact	Yes. Operation activities have the potential to impact sediment quality of Gold Brook with residents, Indigenous people or recreational visitors exposed to this sediment when fishing (or completing similar activities) south of the mine. However, residents, Indigenous people and recreational visitors will not be exposed to the sediment in Gold Brook Lake as the mine property will have restricted access during this Project phase.		No. There is no sediment at the employee accommodations.
Ingestion of country foods (berries, wild game and fish)	Yes. Operation activities have the potential to release COPHCs in outdoor air, soil, surface water and sediment that may bioaccumulate in vegetation and animals like berries and fish. Residents, Indigenous people and recreational visitors may collect country foods, fish and hunt in areas outside of the mine and be exposed to COPHCs in country foods but the AA is not known to be used for subsistence country foods collection and consumption. Access to the mine property will be restricted during operation activities so ingestion of country foods is limited to the area outside of the mine site.		No. Fishing, hunting and harvesting are not activities that will be practiced by workers.

4.1.5.4 Scenario 5 – Post-closure

For Scenario 5, health risks associated with predicted concentrations will be assess for the residents, indigenous people and recreational visitors. Construction and industrial worker exposure is excluded from this Project scenario. **Error! Reference source not found.** presents a summary of identified human health exposure pathways.

Table 4.5 Summary of exposure pathways for human health – Scenario 5

Potential exposure pathway	Pathway carried through HHRA quantitatively?	
	Resident and Indigenous people at the village of Goldboro and in the PA	Recreational visitor in the PA
Inhalation of outdoor air (vapours)	No. No Project-related emissions will occur during the post-closure phase.	
Inhalation of outdoor air (particles)	Yes. No Project-related emissions will occur during the post-closure phase. However, the receptors may be exposed to outdoor air with baseline concentrations of airborne particles by inhalation.	

Table 4.5 Summary of exposure pathways for human health – Scenario 5

Potential exposure pathway	Pathway carried through HHRA quantitatively?	
	Resident and Indigenous people at the village of Goldboro and in the PA	Recreational visitor in the PA
Inhalation of indoor air (volatiles)	No. No Project-related emissions will occur during the post-closure phase.	
Inhalation of indoor air (particles)	No. No Project-related emissions will occur during the post-closure phase.	
Incidental soil ingestion and dermal contact	Yes. Dust particles potentially generated could settle on the ground surface and increase concentrations of COPHCs in the PA and the village of Goldboro during the previous phases of the Project. The receptors will be exposed to soil influenced by the previous Project activities by incidental ingestion and dermal contact.	
Incidental surface water ingestion and dermal contact	Yes. The Project activities during the previous and post-closure phases have the potential to impact surface water quality of Gold Brook Lake or Gold Brook during the post-closure phase with residents, Indigenous people or recreational visitors exposed to this surface water when fishing (or completing similar activities) in the PA.	
Incidental sediment ingestion and dermal contact	Yes. The Project activities during the previous and post-closure phases have the potential to impact sediment quality of Gold Brook Lake or Gold Brook during the post-closure phase with residents, Indigenous people or recreational visitors exposed to this sediment when fishing (or completing similar activities) in the PA.	
Ingestion of country foods (berries, wild game and fish)	Yes. The Project activities during the previous phases have the potential to release COPHCs in outdoor air, soil, surface water and sediment that may bioaccumulate in vegetation and animals like berries and fish during the post-closure phase. Residents, Indigenous people and recreational visitors may collect country foods, fish and hunt in in the PA and be exposed to COPHCs in country foods but the AA is not known to be used for subsistence country foods collection and consumption.	

4.2 Exposure Assessment

Exposure is defined as the contact of a receptor with a chemical or physical agent. The exposure assessment is the estimation of the magnitude, frequency, duration, and routes of potential exposure. An exposure assessment provides a systematic analysis of the potential exposure mechanism by which a receptor may be exposed to chemical or physical agents at or originating from a source. The objectives of an exposure assessment are as follows:

– Characterization of receptor.
– Identification of potential exposure pathways.
– Quantification of potential exposure.

The human receptors that were evaluated as part of the COPHC screening included residents, Indigenous people, recreational visitors, and construction/industrial workers, and the primary exposure pathways include the following:

– Inhalation of outdoor air (particles and vapours).
– Incidental ingestion and dermal contact with soil, sediment and surface water.
– Ingestion of country foods.

The exposure assessment is an estimation of the potential exposure doses of the receptors in contact with COPHCs. These potential exposure doses are calculated using exposure point concentrations (EPCs) and exposure parameters as discussed in the following sections.

4.2.1 Receptor Characteristics

As previously indicated, the residents of Goldboro as well as Indigenous people and recreational visitors that use the PA or surrounding area were used in the HHRA to represent humans that have the potential to be exposed to Project related COPHCs. Different age classes for each of these potential receptors such as infants, toddlers, children, teens, and adults were also included in the risk assessment. Adult women are also modeled as a specific human receptor as several COPHCs have specific mechanisms of toxicity to pregnant women. It is assumed that they are exposed via all the pathways selected in Section 4.1.5.

Receptor characteristics are primarily drawn from Health Canada (2021a; 2017) and Richardson and Stantec Consulting (2013). Country foods consumption patterns and ingestion rates associated with Indigenous people were primarily obtained from Chan et al. (2017). The values for heavy consumers were used. All the characteristics are presented in Tables E.8 (residents), E.16 (Indigenous people), E.24 (recreational visitors) and E.32 (workers) from Appendix E and the assumptions are in the following table:

Table 4.6 Receptor characteristics

Characteristics	Assumptions			
	Scenario 1A	Scenario 1B	Scenarios 2, 3 and 4	Scenario 5
Daily proportion of hours exposed to outdoor air in the PA (employee accommodations only for workers)	10hr/24hr for residents, Indigenous people and recreational visitors. Workers are not exposed in this scenario.	Receptors are not exposed in the PA in this scenario.	2hr/24hr for construction and or industrial workers. Other receptors not exposed in the PA in these scenarios.	10hr/24hr for residents and Indigenous people and recreational visitors. Workers are not exposed in these scenarios.
Hours per day exposed to surface water in the PA (employee accommodations only for workers)	See Table 8.1 from Richardson and Stantec Consulting (2013). Values equal to the number of hr/d doing outdoor activities away from home. Workers are not exposed in this scenario.	Receptors are not exposed in the PA in this scenario.	No surface water at the employee accommodations. Other receptors not exposed in the PA in these scenarios.	See Table 8.1 from Richardson and Stantec Consulting (2013). Values equal to the number of hr/d doing outdoor activities away from home. Workers are not exposed in this scenario.
Annual proportion of days exposed to soil, surface water and sediment in the PA (employee accommodations only for workers)	2d/7d and 32w/52w for residents and Indigenous people and 7d/7d and 2w/52w for recreational visitors. Workers are not exposed in this scenario.	Receptors are not exposed in the PA in this scenario.	Workers not exposed to soil, surface water and sediment at the employee accommodations. Other receptors not exposed in the PA in these scenarios.	2d/7d and 32w/52w for residents and Indigenous people and 7d/7d and 2w/52w for recreational visitors. Workers are not exposed in this scenario.
Annual proportion of days exposed to outdoor air in the PA (employee accommodations only for workers)	2d/7d and 32w/52w for residents and Indigenous people and 7d/7d and 2w/52w for recreational visitors. Workers are not exposed in this scenario.	Receptors are not exposed in the PA in this scenario.	5d/7d and 48w/52w for construction or industrial workers. Other receptors not exposed in the PA in these scenarios.	2d/7d and 32w/52w for residents and Indigenous people and 7d/7d and 2w/52w for recreational visitors. Workers are not exposed in this scenario.

Table 4.6 Receptor characteristics

Characteristics	Assumptions			
	Scenario 1A	**Scenario 1B**	**Scenarios 2, 3 and 4**	**Scenario 5**
Annual proportion of days exposed to country food in the PA (employee accommodations only for workers)	Residents and Indigenous people freeze their country food and eat it 365d/365d; recreational visitors eat country food during their hunting/fishing trip of 14d/365d only. Workers are not exposed in this scenario.	Receptors are not exposed in the PA in this scenario.	Construction and industrial workers are not fishing/hunting. Other receptors can't hunt/fish in the PA during these scenarios.	Residents and Indigenous people freeze their country food and eat it 365d/365d; recreational visitors eat country food during their hunting/fishing trip of 14d/365d only. Workers are not exposed in this scenario.
Daily proportion of hours exposed to outdoor air in the village	See Table 8.1 from Richardson and Stantec Consulting (2013). Values equal to the number of hr/d outdoor at home. Recreational visitors and workers do not live at the village.			
Annual proportion of days exposed to soil and outdoor air in the village	Residents and Indigenous people potentially living in the Goldboro area are exposed to soil and outdoor air in the village every day. Recreational visitors and workers do not live in the village.			
Daily proportion of hours exposed to outdoor air south of the PA	Receptors are not exposed south of the PA in this scenario.	10hr/24hr for residents, Indigenous people and recreational visitors. Workers are not exposed in this scenario.	10hr/24hr for residents, Indigenous people and recreational visitors. Workers are not exposed south of the PA.	10hr/24hr for residents, Indigenous people and recreational visitors. Workers are not exposed in this scenario.
Hours per day exposed to surface water south of the PA	Receptors are not exposed south of the PA in this scenario.	See Table 8.1 from Richardson and Stantec Consulting (2013). Values equal to the number of hr/d doing outdoor activities away from home. Workers are not exposed south of the PA.	See Table 8.1 from Richardson and Stantec Consulting (2013). Values equal to the number of hr/d doing outdoor activities away from home. Workers are not exposed south of the PA.	Receptors are not exposed south of the PA in this scenario.
Annual proportion of days exposed to soil, outdoor air, surface water and sediment south of the PA	Receptors are not exposed south of the PA in this scenario.	2d/7d and 32w/52w for residents and Indigenous people and 7d/7d and 2w/52w for recreational visitors. Workers are not exposed south of the PA.	2d/7d and 32w/52w for residents and Indigenous people and 7d/7d and 2w/52w for recreational visitors. Workers are not exposed south of the PA.	Receptors are not exposed south of the PA in this scenario.
Annual proportion of days exposed to country food south of the PA	Receptors are not exposed south of the PA in this scenario.	Residents and Indigenous people freeze their country food and eat it 365d/365d; recreational visitors eat country food during their hunting/fishing trip of 14d/365d only. Workers are not exposed south of the PA.	Residents and Indigenous people freeze their country food and eat it 365d/365d; recreational visitors eat country food during their hunting/fishing trip of 14d/365d only. Workers are not exposed south of the PA.	Receptors are not exposed south of the PA in this scenario.

Table 4.6 Receptor characteristics

Characteristics	Assumptions			
	Scenario 1A	Scenario 1B	Scenarios 2, 3 and 4	Scenario 5
Lifetime proportion of years exposed (cancer)	Values equal to the number of years of each age group. Workers are not exposed in this scenario.	Values equal to the number of years of each age group. Workers are not exposed in this scenario.	Values equal to the duration of the scenario (except for the infant whose value corresponds to the number of years of the age group) divided by a lifetime of 80y.	Values equal to the number of years of each age group. Workers are not exposed in this scenario.
Frequency of dermal exposure to soil and sediment in the PA (employee accommodations only for workers)	Values equal to 1 as recommended by Health Canada (2021a). Workers are not exposed in this scenario.	Receptors are not exposed south of the PA in this scenario.	Workers not exposed to soil and sediment at the employee accommodations. Other receptors not exposed in the PA in these scenarios.	Values equal to 1 as recommended by Health Canada (2021a). Workers are not exposed in this scenario.
Frequency of dermal exposure to soil in the village	Values equal to 1 as recommended by the Health Canada (2021a). Recreational visitors and workers do not live in the village.			
Frequency of dermal exposure to soil and sediment south of the PA	Receptors are not exposed south of the PA in this scenario.	Values equal to 1 as recommended by Health Canada (2021a). Workers are not exposed in this scenario.	Values equal to 1 as recommended by Health Canada (2021a). Workers are not exposed south of the PA.	Receptors are not exposed south of the PA in this scenario.
Body weight	See Appendix E from Health Canada (2021a).			
Soil ingestion rate	See Appendix E from Health Canada (2021a).			
Sediment ingestion rate	Values from Health Canada (2021a) (Appendix E) are multiplied by the number of hours exposed to surface water.			
Berry ingestion rate	See Table 9b from Chan et al. (2017). For the Indigenous people, values chosen are for heavy consumers. For residents and recreational visitors, values are half the values for Indigenous people. All the berries ingested are from the PA or south of the PA.			
Fish fillet ingestion rate	See Table 9b from Chan et al. (2017). For the Indigenous people, values chosen are for heavy consumers which is considered to be very conservative as Goldbrook Lake and Gold Brook are not known to be used for subsistence purposes. For residents and recreational visitors, values are half the values for Indigenous people which is also considered to be conservative. All the fish ingested are from the PA or south of the PA. In addition, the Province of Nova Scotia has issued a fish consumption advisory due to mercury, and actual fish ingestion rates are therefore expected to be lower than those assumed in this assessment.			
Hare meat ingestion rate	See Table 9b from Chan et al. (2017). For the Indigenous people, values chosen are for heavy consumers. For residents and recreational visitors, values are half the values for Indigenous people. All the hare meat ingested are from the PA or south of the PA.			
Deer meat ingestion rate	See Table 9b from Chan et al. (2017). For the Indigenous people, values chosen are for heavy consumers. For residents and recreational visitors, values are half the values for Indigenous people. All the deer meat ingested are from the PA or south of the PA.			
Surface water ingestion rate	See Table 3-5 from USEPA (2003). Values chosen are for non-competitive swimmers. Swimming is not practiced in the AA, but the surface water ingestion rate during fishing is assumed to be equal to the ingestion rate during swimming for this study.			
Inhalation rate	See Appendix E from Health Canada (2021a)			

Table 4.6 Receptor characteristics

Characteristics	Assumptions			
	Scenario 1A	Scenario 1B	Scenarios 2, 3 and 4	Scenario 5
Skin surface area				
- hands, arms, legs and feet	See Appendix E from Health Canada (2021a).			
- forearms	See Table 2 from Health Canada (2017).			
Soil loading to exposed skin – hands, arms and legs	See Appendix E from Health Canada (2021a).			
Sediment loading to exposed skin – hands, forearms, legs, and feet	See Table 3 from Health Canada (2017). The value for children without shoes exposed to sand was chosen.			
Interim age-dependent adjustment factors for cancer effects via a mutagenic mode of action	See Table on page 2 of Health Canada (2013).			

NA: not applicable

4.2.2 Exposure Point Concentrations

The human health screening values for residential receptors (infant to adult) utilized in the COPHC screening in Section 4.1.4 are typically the most conservative, and usually based on an exposure period of 24 hours per day, 7 days per week, for 52 weeks per year for an entire lifetime. Although recreational visitors are typically exposed for a short and intermittent period (14 days every year), screening levels are not available for these receptors and therefore human health screening levels based on residential chronic exposure are typically used as a conservative approach. As indicated above, EPCs for COPHCs in various media identified to exceed these conservative screening guidelines were determined for the current baseline conditions based on 90th percentiles, the 95th percentiles or the maximum values selected in Section 2.6. To evaluate risk to human health from Project related activities, EPCs for predicted concentrations (baseline plus incremental) of COPHCs in these media as described in Section 3.3 were used. Baseline EPCs and Project related predicted EPCs for each COPHC in the various media are provided in Appendix E:

– Table E.1 presents the baseline EPCs at each of the following locations:
  - Concentrations in the PA:
    – Surface soil (90th percentile; see Section 2.6.1)
    – Outdoor air (maximum; see Section 2.6.2)
    – Surface water (95th percentile from Gold Brook; see Section 2.6.3)
    – Sediment (maximum from Gold Brook; see Section 2.6.4)
    – Berries (90th percentile when N ≥ 10 and maximum when N < 10; see Section 2.6.5)
    – Fish fillets (90th percentile; see Section 2.6.7)
    – Hare and deer meat (modelled; see Section 2.6.9)
  - Concentrations in the village of Goldboro:
    – Surface soil (90th percentile; see Section 2.6.1)
    – Outdoor air (maximum; see Section 2.6.2)

- Concentrations south of the PA:
  - Surface soil (90th percentile; see Section 2.6.1)
  - Outdoor air (maximum; see Section 2.6.2)
  - Surface water (95th percentile from Gold Brook; see Section 2.6.3)
  - Sediment (maximum from Gold Brook; see Section 2.6.4)
  - Berries (90th percentile when N ≥ 10 and maximum when N < 10; see Section 2.6.5)
  - Fish fillets (90th percentile; see Section 2.6.7)
  - Hare and deer meat (modelled; see Section 2.6.9)

– Table E.1 also present the predicted EPCs (modelled baseline plus incremental concentrations) and Table E.2 present the incremental only EPCs (modelled) at each of the following locations for each scenario:
  - Concentrations in the PA:
    - Surface soil (see Section 3.3.2)
    - Outdoor air (see Section 3.3.3)
    - Surface water (see Section 3.3.4)
    - Sediment (see Section 3.3.5)
    - Berries (see Section 3.3.7)
    - Fish fillets (see Section 3.3.10)
    - Hare and deer meat (see Section 3.3.9)
  - Concentrations in the village of Goldboro:
    - Surface soil (see Section 3.3.2)
    - Outdoor air (see Section 3.3.3)
  - Concentrations south of the mine:
    - Surface soil (see Section 3.3.2)
    - Outdoor air (see Section 3.3.3)
    - Surface water (see Section 3.3.4)
    - Sediment (see Section 3.3.5)
    - Berries (see Section 3.3.7)
    - Fish fillets (see Section 3.3.10)
    - Hare and deer meat (see Section 3.3.9)

The receptors are also exposed to NO_x, TSP, PM2.5 and PM10 in outdoor air. However, risks will be assessed qualitatively for these parameters.

4.2.3 Exposure Doses

Exposure doses for each exposure pathway selected in Section 4.1.5 are calculated using models presented in Section 4.2.5. Appendix E presents the exposure doses for each scenario.

– Tables E.9 and E.10 present the following exposure doses for the residents (infant, toddler, children, teen, adult and woman):
  - Ingestion doses from surface soil, surface water, sediment, berries, fish fillets, hare meat and deer meat in the PA for Scenarios 1A and 5. The mine is inaccessible during Scenarios 2, 3 and 4.
  - Ingestion doses from surface soil in the village of Goldboro for all the scenarios.
  - Ingestion doses from surface soil, surface water, sediment, berries, fish fillets, hare meat and deer meat south of the PA for Scenarios 1B, 2, 3 and 4, since the PA is inaccessible during these phases.

- Total ingestion doses, representing the sum of each of the previous doses.
- Inhalation of outdoor air in the PA for Scenarios 1A and 5. The PA is inaccessible during Scenarios 2, 3 and 4.
- Inhalation of outdoor air in the village of Goldboro for all the scenarios.
- Inhalation of outdoor air south of the mine for Scenarios 1B, 2, 3 and 4 since the PA is inaccessible during these phases.
- Total inhalation doses, representing the sum of each of the previous inhalation doses.
- Dermal contact with surface soil, surface water and sediment in the PA for Scenarios 1A and 5. The PA is inaccessible during Scenarios 2, 3 and 4.
- Dermal contact with surface soil in the village for all the scenarios.
- Dermal contact with surface soil, surface water and sediment south of the PA for Scenarios 1B, 2, 3 and 4. since the PA is inaccessible during these phases.
- Total dermal doses, representing the sum of each of the previous dermal doses.
- Oral equivalent doses.

– Tables E.17 and E.18 present the exposure doses for Indigenous people. The list of exposure doses is the same as those applied for the resident (see above).
– Tables E.25 and E.26 present the exposure doses for the recreational visitors (infant, toddler, children, teen, adult and woman):
  - Ingestion doses from surface soil, surface water, sediment, berries, fish fillets, hare meat and deer meat in the PA for Scenarios 1A and 5. The PA is inaccessible during Scenarios 2, 3 and 4.
  - Ingestion doses from surface soil, surface water, sediment, berries, fish fillets, hare meat and deer meat south of the PA for Scenarios 1B, 2, 3 and 4, since the PA is inaccessible during these phases.
  - Total ingestion doses, representing the sum of each of the previous doses.
  - Inhalation of outdoor air in the PA for Scenarios 1A and 5. The PA is inaccessible during Scenarios 2, 3 and 4.
  - Inhalation of outdoor air south of the PA for Scenarios 1B, 2, 3 and 4 since the PA is inaccessible during these phases.
  - Total inhalation doses, representing the sum of each of the previous inhalation doses.
  - Dermal contact with surface soil, surface water and sediment in the PA for Scenarios 1A and 5. The PA is inaccessible during Scenarios 1B, 2, 3 and 4.
  - Dermal contact with surface soil, surface water and sediment south of the PA for Scenarios 1B, 2, 3 and 4. since the PA is inaccessible during these phases.
  - Total dermal doses, representing the sum of each of the previous dermal doses.
  - Oral equivalent doses for non-carcinogenic risks.
– Tables E.33 and E.34 present the exposure doses for construction and industrial workers:
  - Inhalation of outdoor air in the PA (employee accommodations).

4.2.4 Average daily air concentrations

Average daily air concentrations for each exposure pathway involving inhalation selected in Section 4.1.5 are calculated using models presented in Section 4.2.5. Appendix E presents the average daily concentrations for each scenario:

– Tables E.11 and E.12 present the average daily air concentrations for residents (infant, toddler, children, teen, adult and woman):

- Time-adjusted average daily outdoor air concentration in the PA for Scenarios 1A and 5. The PA is inaccessible during Scenarios 2, 3 and 4.
- Time-adjusted average daily outdoor air concentration in the village for all the scenarios.
- Time-adjusted average daily outdoor air concentration south of the PA for Scenarios 1B, 2, 3 and 4, since the PA is inaccessible during these phases.
- Total time-adjusted average daily outdoor air concentration, representing the sum of each of the previous concentrations.

– Tables E.19 and E.20 present the average daily air concentrations for Indigenous people. The list of concentrations is the same as those applied for the resident (see above).
– Tables E.27 and E.28 present the average daily air concentrations for recreational visitors (infant, toddler, children, teen, adult and woman):
  - Time-adjusted average daily outdoor air concentration in the PA for Scenarios 1A and 5. The PA is inaccessible during Scenarios 2, 3 and 4.
  - Time-adjusted average daily outdoor air concentration south of the PA for Scenarios 1B, 2, 3 and 4, since the PA is inaccessible during these phases.
  - Total time-adjusted average daily outdoor air concentration, representing the sum of each of the previous concentrations.
– Tables E.35 and E.36 present the average daily air concentrations for construction and industrial workers:
  - Time-adjusted average daily outdoor air concentration in the PA (employee accommodations).

4.2.5 Exposure equations

In the HHRA, the magnitude of exposure reflects the chemical concentration, contact rate, exposure time, and body weight. This section outlines the approach for determining the amount of the identified COPHCs to which the selected receptors may be exposed, via the respective exposure pathway. The exposure equations that were used to calculate potential exposure are summarized below.

4.2.5.1 Ingestion doses

The equation for calculating chemical intake from ingestion is from Health Canada (2021a):

$$D_{oral,i} = \frac{C_i \times IR_i \times RAF_{oral} \times D_2 \times D_3}{BW}$$

Where:

$D_{oral,i}$: Oral dose from the ingestion of medium i (mg/kg$_{BW}$-day)

C_i: Concentration of COPHC in medium i (mg/kg or mg/L)

IR_i: Ingestion rate of medium i (kg/d or L/d)

RAF_{oral}: Oral relative absorption factor (unitless)

D_2: Days per week exposed/7 days; for non-carcinogenic hazards, equal to 1 for recreational visitor for short-term exposure

D_3: Weeks per year exposed/52 weeks; for non-carcinogenic hazards, equal to 1 for recreational visitor for short-term exposure

BW: Body weight (kg$_{BW}$)

Note that for ease of calculation, the time-based terms D_2 and D_3 were combined into a single term in the exposure calculations appearing in Appendix E.

4.2.5.2 Inhalation doses

The equation for calculating chemical exposure from the inhalation of outdoor air is from Health Canada (2021a):

$$D_{inh,i} = \frac{C_i \times IR \times RAF_{inh} \times D_1 \times D_2 \times D_3}{BW}$$

Where:

$D_{inh,i}$: Dose from inhalation of outdoor air at location i (mg/kg_{BW}-day)

C_i: Concentration of COPHC in outdoor air at location i (mg/m^3)

IR: Receptor air intake (inhalation) rate (m^3/day)

RAF_{inh}: Relative absorption factor for inhalation (unitless)=

D_1: Hours per day exposed/24 hours

D_2: Days per week exposed/7 days; for non-carcinogenic hazards, equal to 1 for recreational visitor for short-term exposure

D_3: Weeks per year exposed/52 weeks; for non-carcinogenic hazards, equal to 1 for recreational visitor for short-term exposure

BW: Body weight (kg_{BW})

Note that for ease of calculation, the time-based terms D_2 and D_3 were combined into a single term in the exposure calculations appearing in Appendix E.

4.2.5.3 Doses from dermal contact with surface soil

The equation for calculating chemical intake from dermal exposure to soil is from Health Canada (2021a):

$$Dderm_{s.i} = \frac{[(Cs_i \times SAh \times SLh)+(Cs_i \times SAo \times SLo)] \times nEv \times RAFderm \times D_2 \times D_3}{BW}$$

Where:

$Dderm_{s.i}$: Dose from dermal contact with surface soil from location i (mg/kg_{BW}-day)

Cs_i: Concentration of COPHC in surface soil from location i (mg/kg)

SAh: Surface area of hands exposed for soil loading (cm^2)

SLh: Soil loading rate to exposed skin of hands (kg/cm^2-event)

SAo: Surface area exposed other than hands (cm^2)

SLo: Soil loading rate to exposed skin other than hands (kg/cm^2-event)

nEv: Number of dermal exposure events/day (assumed to be 1 event/day)

RAFderm: Relative dermal absorption factor (unitless)

D_2: Days per week exposed/7 days; for non-carcinogenic hazards, equal to 1 for recreational visitor for short-term exposure

D_3: Weeks per year exposed/52 weeks, equal to 1 for recreational visitor for short-term exposure

BW: Body weight (kg_{BW})

Note that for ease of calculation, the time-based terms D_2 and D_3 were combined into a single term in the exposure calculations appearing in Appendix E.

4.2.5.4 Doses from dermal contact with surface water

The equation for calculating chemical intake from dermal exposure to water is derived from USEPA (2004):

$$Dderm_{w.i} = \frac{(Kp_w \times Cw_i \times t_{event}) \times EV \times EF \times D_2 \times D_3 \times SA \times 0.001}{BW \times AAForal}$$

Where:

$Dderm_{w.i}$: Dose from dermal contact with water from location i (mg/kg-day)

Kp_w: Water permeability coefficient (cm/hr)

Cw_i: Concentration of COPHC in water at location i (mg/L)

T_{event}: Event duration (hr/event)

EV: Event frequency (events/day)

EF: Exposure frequency (days/year)

D_2: Days per week exposed/7 days; for non-carcinogenic hazards, equal to 1 for recreational visitor for short-term exposure

D_3: Weeks per year exposed/52 weeks; for non-carcinogenic hazards, equal to 1 for recreational visitor for short-term exposure

SA: Skin surface area available for contact (cm^2)

BW: Body weight (kg)

AAForal: Oral absolute absorption factor (unitless)

Note that for ease of calculation, the time-based terms D_2 and D_3 were combined into a single term in the exposure calculations appearing in Appendix E.

4.2.5.5 Doses from dermal contact with sediment

The equation for calculating chemical intake from dermal exposure to sediment is from Health Canada (2017):

$$Dderm_{sed.i} = \frac{Csed_i \times (SAh \times SedLh + SAfo \times SedLfo + SAl \times SedLl + SAfe \times SedLfe) \times RAFderm \times D_2 \times D_3}{BW}$$

Where:

$Dderm_{sed.i}$: Dose from dermal contact with sediment from location i (mg/kg-day)

$Csed_i$: Concentration of COPHC in sediment at location i (mg/kg)

SAh: Skin surface area available for contact – hands (cm^2)

SedLh: Sediment loading to exposed skin – hands (kg/cm^2/event)

SAfo: Skin surface area available for contact – forearms (cm^2)

SedLfo: Sediment loading to exposed skin – forearms (kg/cm²/event)

SAl: Skin surface area available for contact – legs (cm²)

SedLl: Sediment loading to exposed skin – legs (kg/cm²/event)

SAfe: Skin surface area available for contact – feet (cm²)

SedLfe: Sediment loading to exposed skin – feet (kg/cm²/event)

RAFderm: Relative dermal absorption factor (unitless)

D_2: Days per week exposed/7 days; for non-carcinogenic hazards, equal to 1 for recreational visitor for short-term exposure

D_3: Weeks per year exposed/52 weeks; for non-carcinogenic hazards, equal to 1 for recreational visitor for short-term exposure

BW: Body weight (kg_{BW})

Note that for ease of calculation, the time-based terms D_2 and D_3 were combined into a single term in the exposure calculations appearing in Appendix E.

4.2.5.6 Oral equivalent doses

When a TRV is available for only one or two of the three exposure pathways (ingestion, inhalation and dermal contact), the exposure doses for each pathway can be added to be compared to the TRV.

$$D_{eq} = (D_{ing,tot} + D_{inh,tot} + D_{derm,tot}) \text{ or } (D_{ing,tot} + D_{inh,tot})$$

Where:

D_{eq}: Oral equivalent dose (mg/kg-d)

$D_{ing,tot}$: Total ingestion dose (mg/kg-d)

$D_{inh,tot}$: Total inhalation dose (mg/kg-d)

$D_{derm,tot}$: Total dose from dermal contact (mg/kg-d)

4.2.5.7 Lifetime average daily doses for cancer risks

The cancer risk assessment consists of amortizing the exposure period of each receptor over its entire lifespan to calculate the lifetime average daily dose. The equation is from Health Canada (2013):

LADD = [ER x ED]/Lifetime

Where:

LADD: Lifetime average daily dose for cancer risks (mg/kg-d)

ER: Exposure rate equivalent to Deq (mg/kg-d)

ED: Exposure duration (years)

Lifetime: years in a lifetime (years)

4.2.5.8 Average daily outdoor air concentrations corrected as a function of time

The risks associated to inhalation of outdoor air can also be estimated by calculating an average daily outdoor air concentration corrected as a function of time. The equation is from Health Canada (2010):

$$TAADCoa_i = Coa_i \times RAFinh \times D_1 \times D_2 \times D_3$$

Where:

$TAADCoa_i$: Time-adjusted average daily outdoor air concentration at location i (mg/m³)

Coa_i: Concentration of COPHC in outdoor air at location i (mg/m³)

RAFinh: Relative absorption factor by inhalation (unitless)

D_1: Hours per day exposed/24 hours

D_2: Days per week exposed/7 days, equal to 1 for recreational visitor for short-term exposure

D_3: Weeks per year exposed/52 week, equal to 1 for recreational visitor for short-term exposure

Note that for ease of calculation, the time-based terms D_2 and D_3 were combined into a single term in the exposure calculations appearing in Appendix E.

4.2.5.9 Lifetime-adjusted average daily outdoor air concentration for cancer risks

The cancer risk assessment consists of amortizing the exposure period of each receptor over its entire lifespan to calculate the lifetime average daily concentration. The equation is from Health Canada (2013):

$$LAADCoatot = TAADCoatot \times Ty$$

Where:

LAADCoatot: Lifetime-adjusted average daily outdoor air concentration (mg/m³)

TAADCoatot: Total time-adjusted average daily outdoor air concentration (mg/m³)

Ty: Lifetime proportion of years exposed to the COPHC (unitless)

4.2.6 Bioavailability Assessment

COPHCs can be absorbed at different rates through different exposure pathways (i.e., oral, dermal, and inhalation). The relative absorption factor (RAF) by ingestion and inhalation for all COPHCs was set to 1, consistent with Health Canada (2021a).

Few TRVs exist specifically for the dermal exposure pathways. Therefore, dermal exposure were routinely added to the oral dose, following adjustment for RAF, for subsequent comparison to the oral TRV. RAF values from the literature (ex. Health Canada, 2021b) were used and are presented in Table E.3 of Appendix E.

4.3 Toxicity Assessment

The toxicity assessment weighs the available information regarding the potential for a particular COPHCs to cause adverse effects in exposed individuals and estimates the extent of exposure and possible severity of adverse effects. To develop TRVs, two steps are taken: hazard identification and dose response assessment. The hazard identification

determines the potential adverse effects associated with exposure to a COPHC. In the dose response assessment, numerical TRVs are determined or selected from the available toxicity data.

TRVs were drawn from the following sources, listed in order of preference:

– Health Canada (2021b)
– Integrated Risk Information System (IRIS) (USEPA, 2021a)
– WHO (2021)
– RIVM (Rijksinstituut voor Volksgezondheid en Milieu) (2001, 2009)
– Agency for Toxic Substances and Disease Registry (ATSDR, 2021)
– California Environmental Protection Agency (Cal/EPA, 2021)
– Provisional Peer Reviewed Toxicity Values for Superfund (PPRTV) (USEPA, 2021b)
– Health Effects Assessment - Summary Tables (USEPA, 1997)

No TRVs are available for the following chemicals: ammonia, bismuth, rubidium, thallium and titanium. Therefore, a quantitative risk characterization cannot be completed for those COPHCs. This is a source of uncertainty.

4.3.1 Non-carcinogenic Hazards

Chemicals may cause adverse non-carcinogenic health effects such as reduced weight gain, irritant effects, effects on various organs or systems, etc. Most often these are noted in laboratory animal studies at dose levels much higher than those encountered in the environment. From a review of all available studies, a critical study, often that of the most sensitive species (the species showing a toxic effect at the lowest administered dose or concentration) is selected for derivation of a reference does (RfD) for oral and dermal exposures or reference concentration (RfC) for inhalation exposures. This is based on the concept that there is a threshold concentration, below which, there are no apparent adverse health effects. A RfD or RfC is derived using a dose or concentration level that resulted in no adverse effects (NOAEL) or only minimal effects (LOAEL). Various uncertainty factors are then applied to the NOAEL or LOAEL to derive an RfD or RfC. The uncertainty factors (UFs) utilize, as needed, a factor of 10 to extrapolate a LOAEL to a NOAEL, a factor of 10 to extrapolate from a shorter than lifetime sub chronic study to a chronic lifetime study, a factor of 10 to extrapolate from animals to humans, and a factor of 10 to protect sensitive populations. A modifying factor (MF) typically of 3 or so may also be included to address datasets lacking certain key studies. These factors are multiplied together and act as the denominator to the NOAEL or LOAEL in the calculation of the RfD or RfC.

The TRVs used to assess non-carcinogenic risks for residents, Indigenous people and workers were chronic TRVs since these receptors would be exposed to the contamination for a long period. However, the recreational visitors would be exposed to the contamination for a short period of time (14 days). The TRVs used for these receptors were acute or subchronic TRVs when they were available. For COPHCs without acute or subchronic TRVs, a chronic TRV was used by default.

Table E.4 of Appendix E presents the chronic TRVs that were used to evaluate the non cancer oral, inhalation and dermal exposures for all the receptors. The critical effects of each TRV are presented in Appendix D. Table E.5 of Appendix E presents the subchronic or acute TRVs that were used to evaluate the non cancer oral, inhalation and dermal exposures for the recreational visitors.

4.3.2 Carcinogenic Risks

Slope Factors (SFs) for oral and dermal exposures and inhalation unit risk (URs) are quantitative estimates of carcinogenic potency. Slope factors and URs relate the lifetime probability of cancer to the lifetime exposure dose/concentration of a substance. SFs and URs are estimated using mathematical extrapolation models, and are presented as risk per dose or mg/(kg bw day) (i.e., mg carcinogen per kg body weight per day) for oral SFs and risk per concentration or mg/m^3 for inhalation URs. The mathematical extrapolation models assume low dose linearity and thus may not be appropriate for some suspect carcinogens, in particular those that function as promoters. In addition,

the body's natural repair processes and defense mechanisms may decrease cancer risk at low exposure levels. Thus, the risks at lower exposure levels are likely overestimated using linear low dose modelling.

When adequate human epidemiology data are available, maximum likelihood estimates (MLEs) are used to generate a SF or UR. However, when animal data are used to derive a SF or UR, the upper 95% confidence limit on the MLE is used. Therefore, the true risk to humans, while not identified, is not likely to exceed the upper bound estimate. This is a conservative estimate, and in some cases the true slope may be zero (i.e., no carcinogenic risk).

Table E.4 of Appendix E presents the SFs and URFs that were used to evaluate the carcinogenic oral, inhalation and dermal exposures. The critical effects of each TRV and toxicological profile of each COPHC are presented in Appendix D.

4.4 Risk Characterization

The objective of risk characterization is to integrate information developed in the exposure and toxicity assessments for complete exposure pathways and COPHCs. The methods used in this risk characterization were based on Health Canada and USEPA guidance.

The potential for non-carcinogenic health effects from exposure to a COPHC was evaluated by comparing the total exposure dose to the RfD and or RfC. This hazard quotient (HQ) is calculated according to the following equations from Health Canada (2010).

$$HQ = \frac{Deq}{RfDoral} \quad \text{or} \quad \frac{TAADCoa_{tot}}{CfDinh}$$

Where:

HQ: Hazard quotient (unitless)

Deq: Oral equivalent dose (mg/kg-d)

RfDoral: Oral reference dose (mg/kg-d)

$TAADCoa_{tot}$: Total time-adjusted average daily outdoor air concentration (mg/m³)

CfDinh: Inhalation reference concentration for inhalation (mg/m³)

Incremental HQs, which represent the contribution of the Project to potential health risks, were derived by subtracting the baseline HQ (Scenario 1) from the total HQ derived for each other Scenario. A HQ target of 0.2 was used for the incremental risks associated with the Project only.

Incremental lifetime cancer risks (ILCR) are also calculated utilizing the following equations.

$$ILCRoral = \sum_i LADD \times SForal \times ADAF$$

$$ILCRinh = \sum_i LAADCoa_{tot} \times RUinh \times ADAF$$

Where:

ILCRoral: Incremental lifetime cancer risk from ingestion (unitless)

LADD: Lifetime average daily dose for cancer risks (mg/kg-d)

SForal: oral slope factor

ADAF: Interim age-dependent adjustment factors for cancer effects via a mutagenic mode of action (unitless). The mutagenic COPHCs are listed in Table E.3 of Appendix E.

$LAADCoa_{tot}$: Lifetime-adjusted average daily outdoor air concentration (mg/m^3)

RUinh: Inhalation unit risk (mg/m^3)[1]

The ILCR due to the Project only was calculated using the incremental concentrations. A target ILCR of 1 in one hundred thousand (1E-5) was used for these risk estimates.

Risks were deemed negligible when the estimated incremental HQ and ILCR are less or equal to the targets. Total and incremental HQs are presented in Tables E.13 and E.14 (residents), E.21 and E.22 (Indigenous people), E.29 and E.30 (recreational visitors) and E.37 (workers) from Appendix E and ILCRs are presented in Tables E.15 (residents), E.23 (Indigenous people), E.31 (recreational visitors) and E.38 (workers) from the same appendix.

4.4.1 Interpretation of Health Risks for Residents

Residents included several age groups (infants, toddlers, children, teens, adults and women). HQ results for all age groups are shown in Appendix E. However, the non-carcinogenic hazards presented in the following tables are for toddlers only since this age group is expected to be the most sensitive. ILCR results are presented for lifetime residents. HQ and ILCR results are presented for ingestion and dermal pathways that include ingestion and dermal contact with surface soil, surface water and sediment, as well as ingestion of berries, fish fillets, hare and deer meat. The estimated intake rate for fish fillets is expected to be a conservative overestimate because of the Provincial fish consumption advisory. HQ and ILCR results are also presented for the inhalation pathway that includes inhalation of outdoor air when a TRV for this pathway is available.

4.4.1.1 Scenario 1A – Current Situation with Exposure in the Village and the PA

In this scenario, health risks are associated with baseline concentrations in the village of Goldboro and the PA without influence from the Project. The HQs for a toddler resident are presented in the following table.

Table 4.7 HQs for residents – Scenario 1A

COPHC	HQ for a toddler resident	
	Ingestion and dermal pathway	Inhalation pathway
Aluminum	8E-02	1E-03
Chromium	3E-01	1E-03
Lithium	2E-01	NA
Critical Organ/System		
Gastrointestinal toxicity	6E-01	NA
Neurologic toxicity	4E-01	1E-03
Respiratory system toxicity	NA	1E-03

NA: Not applicable

Since these total HQs represented baseline, they were not compared to a target HQ. The primary contributor to these HQs was ingestion of fish fillets in the PA (contribution of 63 and 66% for chromium and lithium, respectively). However, chromium and lithium in fish fillets were undetected and the HQs were calculated with values equal to half the detection limits. As such, it is considered unlikely that concentrations of chromium and lithium in fish tissue below standard laboratory detection limits pose a significant risk to human health through the consumption pathway. In addition, the total risk estimates generated are conservative in nature specifically considering that the Province of

Nova Scotia has a fish consumption advisory that recommends limiting (or excluding) the consumption of freshwater fish like brook trout and perch.

4.4.1.2 Scenario 1B – Current Situation with Exposure in the Village and South of the PA

In this scenario, health risks are associated with baseline concentrations in the village of Goldboro and south of the PA without influence from the Project. The HQs for a toddler resident are presented in the following table.

Table 4.8 HQs for residents – Scenario 1B

COPHC	HQ for a toddler resident	
	Ingestion and dermal pathway	Inhalation pathway
Aluminum	8E-02	1E-03
Chromium	3E-01	1E-03
Lithium	2E-01	NA
Critical Organ/System		
Gastrointestinal toxicity	6E-01	NA
Neurologic toxicity	4E-01	1E-03
Respiratory system toxicity	NA	1E-03

NA: Not applicable

Since these total HQs represented baseline, they were not compared to a target HQ. The primary contributor to these HQs was ingestion of fish fillets south of the PA (contribution of 63 and 66% for chromium and lithium, respectively). However, chromium, and lithium in fish fillets are undetected and the HQs were calculated with values equal to half the detection limits. These total risk estimates are therefore considered to be highly uncertain, especially considering the fish consumption advisory current in effect in Nova Scotia.

4.4.1.3 Scenario 2 – Construction

In Scenario 2, the risk calculations are associated with the construction phase of the Project. The HQs for a toddler resident and the ILCRs for a resident are presented in the following table. In this table, the total HQ represents the sum of the HQs associated with the construction phase of the Project and the HQs associated with baseline concentrations without influence from the Project. In addition to the total HQ, the incremental HQ, which is the HQ specifically associated with the construction phase of the Project, is also presented in this table.

Table 4.9 HQs and ILCRs for residents – Scenario 2

COPHC	HQ for a toddler resident				ILCR for a resident	
	Ingestion and dermal pathway		Inhalation pathway		Ingestion and dermal pathway	Inhalation pathway
	Total HQ	Incr. HQ*	Total HQ	Incr. HQ*	ILCR	ILCR
Aluminum	8E-02	1E-03	1E-03	5E-05	NA	NA
Chromium	4E-01	1E-03	1E-03	3E-06	2.E-07	7E-09
Lithium	3E-01	1E-02	NA	NA	NA	NA

Table 4.9 HQs and ILCRs for residents – Scenario 2

COPHC	HQ for a toddler resident				ILCR for a resident	
	Ingestion and dermal pathway		Inhalation pathway		Ingestion and dermal pathway	Inhalation pathway
	Total HQ	Incr. HQ*	Total HQ	Incr. HQ*	ILCR	ILCR
Critical Organ/System						
Gastrointestinal toxicity	6E-01	1E-02	NA	NA	NA	NA
Neurologic toxicity	4E-01	2E-03	1E-03	5E-05	NA	NA
Respiratory system toxicity	NA	NA	1E-03	3E-06	NA	NA
Lung cancer	NA	NA	NA	NA	NA	7E-09
Bowel cancer	NA	NA	NA	NA	2E-07	NA

NA: Not applicable
Incremental values in bold exceed the target value.
*Incremental HQ = Total HQ from Scenario 2 – Baseline HQ from Scenario 1B.

The incremental HQs for Scenario 2 were less than 0.2, which indicates that the non-carcinogenic risks related to the construction phase of the Project are negligible for the COPHCs. The ILCRs of chromium did not exceed the target ILCR of 1E-05, which indicates that the carcinogenic risks are also negligible.

4.4.1.4 Scenario 3 – Operation

In Scenario 3, the risk calculations are associated with the operation phase of the Project. The HQs for a toddler resident and the ILCRs for a resident are presented in the following table. Similar to the summary of risks for the construction phase, the table below presents total HQs and incremental HQs, to differentiate between the HQs associated with the baseline concentrations (current situation) and the HQs associated with the operation phase of the Project.

Table 4.10 HQs and ILCRs for residents – Scenario 3

COPHC	HQ for a toddler resident				ILCR for a resident	
	Ingestion and dermal pathway		Inhalation pathway		Ingestion and dermal pathway	Inhalation pathway
	Total HQ	Incr. HQ*	Total HQ	Incr. HQ*	ILCR	ILCR
Aluminum	8E-02	1E-03	1E-03	5E-05	NA	NA
Chromium	3E-01	≤0E+00	1E-03	3E-06	≤0E+00	2E-08
Lithium	3E-01	2E-02	NA	NA	NA	NA
Critical Organ/System						
Gastrointestinal toxicity	6E-01	1E-02	NA	NA	NA	NA
Neurologic toxicity	4E-01	≤0E+00	1E-03	5E-05	NA	NA

Table 4.10 HQs and ILCRs for residents – Scenario 3

COPHC	HQ for a toddler resident				ILCR for a resident	
	Ingestion and dermal pathway		Inhalation pathway		Ingestion and dermal pathway	Inhalation pathway
	Total HQ	Incr. HQ*	Total HQ	Incr. HQ*	ILCR	ILCR
Respiratory system toxicity	NA	NA	1E-03	3E-06	NA	NA
Lung cancer	NA	NA	NA	NA	NA	2E-08
Bowel cancer	NA	NA	NA	NA	≤0E+00	NA

NA: Not applicable
Incremental values in bold exceed the target value.
*Incremental HQ = Total HQ R from Scenario 3 – Baseline HQ from Scenario 1B.

The incremental HQs were less than 0.2, which indicates that the non-carcinogenic risks related to the operation phase of the Project are negligible for the COPHCs. The ILCRs of chromium did not exceed the target ILCR of 1E-05 which indicates that the carcinogenic risks are also negligible. Note that the oral incremental HQ and ILCR for chromium are negative because the chromium concentration in surface water was predicted to decrease resulting from attenuation during the discharge of treated water in Gold Brook.

4.4.1.5 Scenario 4 – Reclamation

In Scenario 4, the risks calculations are associated with the reclamation phase of the Project. The HQs for a toddler resident and the ILCRs for a resident are presented in the following table. Similar to the summary of risks for the above scenarios, the table below presents total HQs and incremental HQs, to differentiate between the HQs associated with the baseline concentrations (current situation) and the HQs associated with the reclamation phase of the Project.

Table 4.11 HQs and ILCRs for residents – Scenario 4

COPHC	HQ for a toddler resident				ILCR for a resident	
	Ingestion and dermal pathway		Inhalation pathway		Ingestion and dermal pathway	Inhalation pathway
	Total HQ	Incr. HQ*	Total HQ	Incr. HQ*	ILCR	ILCR
Aluminum	8E-02	1E-03	1E-03	5E-05	NA	NA
Chromium	3E-01	≤0E+00	1E-03	3E-06	≤0E+00	1E-08
Lithium	3E-01	2E-02	NA	NA	NA	NA
Critical Organ/System						
Gastrointestinal toxicity	6E-01	1E-02	NA	NA	NA	NA
Neurologic toxicity	4E-01	≤0E+00	1E-03	5E-05	NA	NA
Respiratory system toxicity	NA	NA	1E-03	3E-06	NA	NA

Table 4.11 HQs and ILCRs for residents – Scenario 4

COPHC	HQ for a toddler resident				ILCR for a resident	
	Ingestion and dermal pathway		Inhalation pathway		Ingestion and dermal pathway	Inhalation pathway
	Total HQ	Incr. HQ*	Total HQ	Incr. HQ*	ILCR	ILCR
Lung cancer	NA	NA	NA	NA	NA	1E-08
Bowel cancer	NA	NA	NA	NA	≤0E+00	NA

NA: Not applicable
Incremental values in bold exceed the target value.
*Incremental HQ = Total HQ from Scenario 4 – Baseline HQ from Scenario 1B.

The incremental HQs were less than 0.2, which indicates that the non-carcinogenic risks related to the reclamation phase of the Project are negligible for the COPHCs. The ILCRs of chromium did not exceed the target ILCR of 1E-05 which indicates that the carcinogenic risks are also negligible. Note that the oral incremental HQ and ILCR of chromium were negative because the chromium concentration in surface water was predicted to decrease resulting from attenuation during the discharge of treated water in Gold Brook.

4.4.1.6 Scenario 5 – Post-Closure

In Scenario 5, the risks calculations are associated with the post-closure phase of the Project. The HQs for a toddler resident and the ILCRs for a resident are presented in the following table. Similar to the summary of risks for the above scenarios, the table below presents total HQs and incremental HQs, to differentiate between the HQs associated with the baseline concentrations (current situation) and the HQs associated with the post-closure phase of the Project.

Table 4.12 HQs and ILCRs for residents – Scenario 5

COPHC	HQ for a toddler resident				ILCR for a resident	
	Ingestion and dermal pathway		Inhalation pathway		Ingestion and dermal pathway	Inhalation pathway
	Total HQ	Incr. HQ*	Total HQ	Incr. HQ*	ILCR	ILCR
Aluminum	1E-01	4E-02	1E-03	≤0E+00	NA	NA
Chromium	3E-01	≤0E+00	1E-03	≤0E+00	≤0E+00	≤0E+00
Lithium	3E-01	2E-02	NA	NA	NA	NA
Critical Organ/System						
Gastrointestinal toxicity	6E-01	2E-02	NA	NA	NA	NA
Neurologic toxicity	5E-01	4E-02	1E-03	≤0E+00	NA	NA
Respiratory system toxicity	NA	NA	1E-03	≤0E+00	NA	NA
Lung cancer	NA	NA	NA	NA	NA	≤0E+00
Bowel cancer	NA	NA	NA	NA	≤0E+00	NA

NA: Not applicable
Incremental values in bold exceed the target value.
*Incremental HQ = Total HQ from Scenario 5 – Baseline HQ from Scenario 1A.

The incremental HQs were less than 0.2, which indicates that the non-carcinogenic risks related to the post-closure phase of the Project are negligible for the COPHCs. The ILCRs of chromium did not exceed the target ILCR of 1E-05 which indicates that the carcinogenic risks are also negligible. Note that the oral incremental HQ and ILCR of chromium were negative because the chromium concentration in surface water was predicted to decrease resulting from attenuation during the discharge of treated water in Gold Brook.

4.4.2 Interpretation of Health Risks for Indigenous People

Indigenous people include several age groups (infants, toddlers, children, teens, adults and women). HQ results for all those age groups are shown in Appendix E. However, the non-carcinogenic hazards presented in the following tables are for toddlers only since this age group is usually the most sensitive. HQ and ILCR results are presented for ingestion and dermal pathways that include ingestion and dermal contact with surface soil, surface water and sediment, as well as ingestion of berries, fish fillets, hare and deer meat. The estimated intake rate for fish fillets is expected to be a conservative overestimate because of the Provincial fish consumption advisory. HQ and ILCR results are also presented for the inhalation pathway that include inhalation of outdoor air when a TRV for this pathway is available.

4.4.2.1 Scenario 1A – Current Situation with Exposure in the Village and the PA

In this scenario, the risk calculations are associated with baseline concentrations in the village of Goldboro and the PA without influence from the Project. The HQs for Indigenous toddlers are presented in the following table.

Table 4.13 HQs for Indigenous people – Scenario 1A

COPHC	HQ for an Indigenous toddler	
	Ingestion and dermal pathway	Inhalation pathway
Aluminum	9E-02	1E-03
Chromium	5E-01	1E-03
Lithium	4E-01	NA
Critical Organ/System		
Gastrointestinal toxicity	1E+00	NA
Neurologic toxicity	6E-01	1E-03
Respiratory system toxicity	NA	1E-03

NA: Not applicable

Since these total HQs represented baseline, they were not compared to a target HQ. The primary contributor to these HQs was ingestion of fish fillets in the PA (contribution of 68 and 71% for chromium and lithium, respectively). However, chromium and lithium in fish fillets were undetected and the HQs were calculated with values equal to half the detection limits, so these total risk estimates are considered to be uncertain, especially considering the fish consumption advisory currently in effect in Nova Scotia.

4.4.2.2 Scenario 1B – Current Situation with Exposure in the Village and South of the PA

In this scenario, the risk calculations are associated with baseline concentrations in the village of Goldboro and south of the PA without influence from the Project. The HQs for Indigenous toddlers are presented in the following table.

Table 4.14 HQs for Indigenous people – Scenario 1B

COPHC	HQ for an Indigenous toddler	
	Ingestion and dermal pathway	Inhalation pathway
Aluminum	8E-02	1E-03
Chromium	5E-01	1E-03
Lithium	4E-01	NA
Critical Organ/System		
Gastrointestinal toxicity	1E+00	NA
Neurologic toxicity	6E-01	1E-03
Respiratory system toxicity	NA	1E-03

NA: Not applicable

Since these total HQs represented baseline, they were not compared to a target HQ. The primary contributor to these HQs was ingestion of fish fillets south of the PA (contribution of 68 and 71% for chromium and lithium, respectively). However, chromium, and lithium in fish fillets were undetected and the HQs were calculated with values equal to half the detection limits, so these total risk estimates are considered to be uncertain, especially considering the fish consumption advisory currently in effect in Nova Scotia.

4.4.2.3 Scenario 2 – Construction

In Scenario 2, the risk calculations are associated with the construction phase of the Project. The HQs for Indigenous toddlers and the ILCRs for Indigenous people are presented in the following table. Similar to the summary of risks for the resident, the table below presents total HQs and incremental HQs, to differentiate between the HQs associated with the baseline concentrations (current situation) and the HQs associated with the construction phase of the Project.

Table 4.15 HQs and ILCRs for Indigenous people – Scenario 2

COPHC	HQ for an Indigenous toddler				ILCR for Indigenous people	
	Ingestion and dermal pathway		Inhalation pathway		Ingestion and dermal pathway	Inhalation pathway
	Total HQ	Incr. HQ*	Total HQ	Incr. HQ*	ILCR	ILCR
Aluminum	9E-02	3E-03	1E-03	5E-05	NA	NA
Chromium	5E-01	1E-03	1E-03	3E-06	2E-07	7E-09
Lithium	5E-01	2E-02	NA	NA	NA	NA
Critical Organ/System						
Gastrointestinal toxicity	1E+00	2E-02	NA	NA	NA	NA
Neurologic toxicity	6E-01	4E-03	1E-03	5E-05	NA	NA
Respiratory system toxicity	NA	NA	1E-03	3E-06	NA	NA

Table 4.15 HQs and ILCRs for Indigenous people – Scenario 2

COPHC	HQ for an Indigenous toddler				ILCR for Indigenous people	
	Ingestion and dermal pathway		Inhalation pathway		Ingestion and dermal pathway	Inhalation pathway
	Total HQ	Incr. HQ*	Total HQ	Incr. HQ*	ILCR	ILCR
Lung cancer	NA	NA	NA	NA	NA	7E-09
Bowel cancer	NA	NA	NA	NA	2E-07	NA

NA: Not applicable
Incremental values in bold exceed the target value.
*Incremental HQ = Total HQ from Scenario 2 – Baseline HQ from Scenario 1B.

The incremental HQs were less than 0.2, which indicates that the non-carcinogenic risks related to the construction phase of the Project are negligible for the COPHCs. The ILCRs of chromium did not exceed the target ILCR of 1E-05 which indicates that the carcinogenic risks are also negligible.

4.4.2.4 Scenario 3 – Operation

In Scenario 3, the risk calculations are associated with the operation phase of the Project. The HQs for Indigenous toddlers and the ILCRs for Indigenous people are presented in the following table. Similar to the summary of risks for the resident, the table below presents total HQs and incremental HQs, to differentiate between the HQs associated with the baseline concentrations (current situation) and the HQs associated with the operation phase of the Project.

Table 4.16 HQs and ILCRs for Indigenous people – Scenario 3

COPHC	HQ for an Indigenous toddler				ILCR for Indigenous people	
	Ingestion and dermal pathway		Inhalation pathway		Ingestion and dermal pathway	Inhalation pathway
	Total HQ	Incr. HQ*	Total HQ	Incr. HQ*	ILCR	ILCR
Aluminum	9E-02	3E-03	1E-03	5E-05	NA	NA
Chromium	5E-01	≤0E+00	1E-03	3E-06	≤0E+00	2E-08
Lithium	5E-01	3E-02	NA	NA	NA	NA
Critical Organ/System						
Gastrointestinal toxicity	1E+00	2E-02	NA	NA	NA	NA
Neurologic toxicity	6E-01	7E-04	1E-03	5E-05	NA	NA
Respiratory system toxicity	NA	NA	1E-03	3E-06	NA	NA
Lung cancer	NA	NA	NA	NA	NA	2E-08
Bowel cancer	NA	NA	NA	NA	≤0E+00	NA

NA: Not applicable
Incremental values in bold exceed the target value.
*Incremental HQ = Total HQ from Scenario 3 – Baseline HQ from Scenario 1B.

The incremental HQs were less than 0.2, which indicates that the non-carcinogenic risks related to the operation phase of the Project are negligible for the COPHCs. The ILCRs of chromium did not exceed the target ILCR of 1E-05 which indicates that the carcinogenic risks are also negligible. Note that the oral incremental HQ and ILCR of

chromium were negative because the chromium concentration in surface water was predicted to decrease resulting from attenuation during the discharge of treated water in Gold Brook.

4.4.2.5 Scenario 4 – Reclamation

In Scenario 4, the risk calculations are associated with the reclamation phase of the Project. The HQs for Indigenous toddlers and the ILCRs for Indigenous people are presented in the following table. Similar to the summary of risks for the resident, the table below presents total HQs and incremental HQs, to differentiate between the HQs associated with the baseline concentrations (current situation) and the HQs associated with the reclamation phase of the Project.

Table 4.17 HQs and ILCRs for Indigenous people – Scenario 4

COPHC	HQ for an Indigenous toddler				ILCR for Indigenous people	
	Ingestion and dermal pathway		Inhalation pathway		Ingestion and dermal pathway	Inhalation pathway
	Total HQ	Incr. HQ*	Total HQ	Incr. HQ*	ILCR	ILCR
Aluminum	9E-02	3E-03	1E-03	5E-05	NA	NA
Chromium	5E-01	≤0E+00	1E-03	3E-06	≤0E+00	1E-08
Lithium	5E-01	3E-02	NA	NA	NA	NA
Critical Organ/System						
Gastrointestinal toxicity	1E+00	2E-02	NA	NA	NA	NA
Neurologic toxicity	6E-01	≤0E+00	1E-03	5E-05	NA	NA
Respiratory system toxicity	NA	NA	1E-03	3E-06	NA	NA
Lung cancer	NA	NA	NA	NA	NA	1E-08
Bowel cancer	NA	NA	NA	NA	≤0E+00	NA

NA: Not applicable
Incremental values in bold exceed the target value.
*Incremental HQ = Total HQ from Scenario 4 – Baseline HQ from Scenario 1B.

The incremental HQs were less than 0.2, which indicates that the non-carcinogenic risks related to the reclamation phase of the Project are negligible for the COPHCs. The ILCRs of chromium did not exceed the target ILCR of 1E-05 which indicates that the carcinogenic risks are also negligible. Note that the oral incremental HQ and ILCR of chromium were negative because the chromium concentration in surface water was predicted to decrease resulting from a attenuation during the discharge of treated water in Gold Brook.

4.4.2.6 Scenario 5 – Post-Closure

In Scenario 5, the risk calculations are associated with the post-closure phase of the Project. The HQs for Indigenous toddlers and the ILCRs for Indigenous people are presented in the following table. Similar to the summary of risks for the resident, the table below presents total HQs and incremental HQs, to differentiate between the HQs associated with the baseline concentrations (current situation) and the HQs associated with the post-closure phase of the Project.

Table 4.18 HQs and ILCRs for Indigenous people – Scenario 5

COPHC	HQ for an Indigenous toddler				ILCR for Indigenous people	
	Ingestion and dermal pathway		Inhalation pathway		Ingestion and dermal pathway	Inhalation pathway
	Total HQ	Incr. HQ*	Total HQ	Incr. HQ*	ILCR	ILCR
Aluminum	1E-01	4E-02	1E-03	≤0E+00	NA	NA
Chromium	5E-01	≤0E+00	1E-03	≤0E+00	≤0E+00	≤0E+00
Lithium	5E-01	3E-02	NA	NA	NA	NA
Critical Organ/System						
Gastrointestinal toxicity	1E+00	3E-02	NA	NA	NA	NA
Neurologic toxicity	7E-01	4E-02	1E-03	≤0E+00	NA	NA
Respiratory system toxicity	NA	NA	1E-03	≤0E+00	NA	NA
Lung cancer	NA	NA	NA	NA	NA	≤0E+00
Bowel cancer	NA	NA	NA	NA	≤0E+00	NA

NA: Not applicable
Incremental values in bold exceed the target value.
*Incremental HQ = Total HQ from Scenario 5 – Baseline HQ or ILCR from Scenario 1A.

The incremental HQs were less than 0.2, which indicates that the non-carcinogenic risks related to the post-closure phase of the Project are negligible for the COPHCs. The ILCRs of chromium did not exceed the target ILCR of 1E-05 which indicates that the carcinogenic risks are also negligible. Note that the oral incremental HQ and ILCR of chromium were negative because the chromium concentration in surface water was predicted to decrease resulting from attenuation during the discharge of treated water in Gold Brook.

4.4.3 Interpretation of Health Risks for Recreational Visitors

Recreational visitors include several age groups (infants, toddlers, children, teens, adults and women). HQs were calculated for all those age groups by comparing acute exposure doses to chronic TRVs and acute or subchronic TRVs. Those HQs are shown in Appendix E. However, the following tables only present HQs for toddlers, since this age group is usually the most sensitive, and HQs calculated with acute or subchronic TRVs. ILCR results are presented for lifetime recreational visitors. HQ and ILCR results are presented for ingestion and dermal pathways that include ingestion and dermal contact with surface soil, surface water and sediment, as well as ingestion of berries, fish fillets, hare and deer meat. The estimated intake rate for fish fillets is expected to be a conservative overestimate because of the Provincial fish consumption advisory. HQ and ILCR results are also presented for the inhalation pathway that include inhalation of outdoor air when a TRV for this pathway is available.

4.4.3.1 Scenario 1A – Current Situation with Exposure in the Village and the PA

In this scenario, the risk calculations are associated with the baseline concentrations in the village of Goldboro and the PA without influence from the Project. The HQs for a toddler visitor are presented in the following table.

Table 4.19 HQs for recreational visitors – Scenario 1A

COPHC	HQ for a toddler visitor
	Ingestion, inhalation and dermal pathway
Aluminum	2E-01
Chromium	4E-01
Lithium	3E-01
Critical Organ/System	
Neurologic and neurodevelopmental toxicity	2E-01
Haematological toxicity	4E-01
Systemic toxicology	4E-01

NA: Not applicable

Since these total HQs represented baseline, they were not compared to a target HQ. The primary contributors to these HQs were dermal contact with sediments in the PA for chromium (contribution of 72%) and ingestion of fish fillets in the PA for lithium (contribution of 45%). However, lithium in fish fillets is undetected and the HQs were calculated with values equal to half the detection limit, so the resulting HQ is considered to be uncertain, especially considering the fish consumption advisory currently in effect in Nova Scotia. As for chromium, the assumption that the recreational visitors have contact with sediment every day of their fishing trip is expected to be conservative.

4.4.3.2 Scenario 1B – Current Situation with Exposure in the Village and south of the PA

In this scenario, the risk calculations are associated with the baseline concentrations in the village of Goldboro and south of the PA without influence from the Project. The HQs for a toddler visitor are presented in the following table.

Table 4.20 HQs for recreational visitors – Scenario 1B

COPHC	HQ for a toddler visitor
	Ingestion, inhalation and dermal pathway
Aluminum	2E-01
Chromium	4E-01
Lithium	3E-01
Critical Organ/System	
Neurologic and neurodevelopmental toxicity	2E-01
Haematological toxicity	4E-01
Systemic toxicology	3E-01

NA: Not applicable

Since these total HQs represented baseline, they were not compared to a target HQ. The primary contributors to these HQs were dermal contact with sediments south of the PA for chromium (contribution of 72%) and ingestion of fish fillets south of the PA for lithium (contribution of 45%). However, lithium in fish fillets was undetected and the HQs were calculated with values equal to half the detection limit, so the lithium HQ is considered to be uncertain, especially

considering the fish consumption advisory currently in effect in Nova Scotia. As for chromium, the assumption that the recreational visitors have contact with sediment every day of their fishing trip is expected to be conservative.

4.4.3.3 Scenario 2 – Construction

In Scenario 2, the risk calculations are associated with the construction phase of the Project. The HQs for a toddler visitor and the ILCRs for a recreational visitor are presented in the following table. Similar to the summary of risks for other receptors, the table below presents total HQs and incremental HQs, to differentiate between the HQs associated with the baseline concentrations (current situation) and the HQs associated with the construction phase of the Project.

Table 4.21 HQs and ILCRs for recreational visitors – Scenario 2

COPHC	HQ for a toddler visitor		ILCR for a visitor	
	Ingestion, inhalation and dermal pathway		Ingestion and dermal pathway	Inhalation pathway
	Total HQ	Incr. HQ*	ILCR	ILCR
Aluminum	2E-01	1E-03	NA	NA
Chromium	4E-01	1E-07	≤0E+00	2E-09
Lithium	3E-01	1E-02	NA	NA
Critical Organ/System				
Neurologic and neurodevelopmental toxicity	2E-01	1E-03	NA	NA
Haematological toxicity	4E-01	1E-07	NA	NA
Systemic toxicology	3E-01	1E-02	NA	NA
Lung cancer	NA	NA	NA	2E-09
Bowel cancer	NA	NA	≤0E+00	NA

NA: Not applicable
Incremental values in bold exceed the target value.
*Incremental HQ = Total HQ from Scenario 2 – Baseline HQ from Scenario 1B.

The incremental HQs were less than 0.2, which indicates that the non-carcinogenic risks related to the construction phase of the Project are negligible for the COPHCs. The ILCRs of chromium did not exceed the target ILCR of 1E-05 which indicates that the carcinogenic risks are also negligible.

4.4.3.4 Scenario 3 - Operation

In Scenario 3, the risk calculations are associated with the operation phase of the Project. The HQs for a toddler visitor and the ILCRs for a recreational visitor are presented in the following table. Similar to the summary of risks for other receptors, the table below presents total HQs and incremental HQs, to differentiate between the HQs associated with the baseline concentrations (current situation) and the HQs associated with the operation phase of the Project.

Table 4.22 HQs and ILCRs for recreational visitors – Scenario 3

COPHC	HQ for a toddler visitor		ILCR for a visitor	
	Ingestion, inhalation and dermal pathway		Ingestion and dermal pathway	Inhalation pathway
	Total HQ	Incr. HQ*	ILCR	ILCR
Aluminum	2E-01	≤0E+00	NA	NA
Chromium	4E-01	≤0E+00	≤0E+00	4E-09

Table 4.22 HQs and ILCRs for recreational visitors – Scenario 3

COPHC	HQ for a toddler visitor		ILCR for a visitor	
	Ingestion, inhalation and dermal pathway		Ingestion and dermal pathway	Inhalation pathway
	Total HQ	Incr. HQ*	ILCR	ILCR
Lithium	4E-01	4E-02	NA	NA
Critical Organ/System				
Neurologic and neurodevelopmental toxicity	2E-01	≤0E+00	NA	NA
Haematological toxicity	4E-01	≤0E+00	NA	NA
Systemic toxicology	4E-01	4E-02	NA	NA
Lung cancer	NA	NA	NA	4E-09
Bowel cancer	NA	NA	≤0E+00	NA

NA: Not applicable
Incremental values in bold exceed the target value.
*Incremental HQ differential = Total HQ from Scenario 3 – Baseline HQ from Scenario 1B.

The incremental HQs were less than 0.2, which indicates that the non-carcinogenic risks related to the operation phase of the Project are negligible for the COPHCs. The ILCRs of chromium did not exceed the target ILCR of 1E-05 which indicates that the carcinogenic risks are also negligible. Note that the oral incremental HQ and ILCR of aluminum and chromium were negative because their concentrations in surface water were predicted to decrease resulting from attenuation during the discharge of treated water in Gold Brook.

4.4.3.5 Scenario 4 – Reclamation

In Scenario 4, the risk calculations are associated with the reclamation phase of the Project. The HQs for a toddler visitor and the ILCRs for a recreational visitor are presented in the following table. Similar to the summary of risks for other receptors, the table below presents total HQs and incremental HQs, to differentiate between the HQs and ILCRs associated with the baseline concentrations (current situation) and the HQs and ILCRs associated with the reclamation phase of the Project.

Table 4.23 HQs and ILCRs for recreational visitors – Scenario 4

COPHC	HQ for a toddler visitor		ILCR for a visitor	
	Ingestion, inhalation and dermal pathway		Ingestion and dermal pathway	Inhalation pathway
	Total HQ	Incr. HQ*	ILCR	ILCR
Aluminum	2E-01	2E-05	NA	NA
Chromium	4E-01	≤0E+00	≤0E+00	2E-09
Lithium	4E-01	4E-02	NA	NA
Critical Organ/System				
Neurologic and neurodevelopmental toxicity	2E-01	2E-05	NA	NA
Haematological toxicity	4E-01	≤0E+00	NA	NA
Systemic toxicology	4E-01	4E-02	NA	NA
Lung cancer	NA	NA	NA	2E-09

Table 4.23 HQs and ILCRs for recreational visitors – Scenario 4

COPHC	HQ for a toddler visitor		ILCR for a visitor	
	Ingestion, inhalation and dermal pathway		Ingestion and dermal pathway	Inhalation pathway
	Total HQ	Incr. HQ*	ILCR	ILCR
Bowel cancer	NA	NA	≤0E+00	NA

NA: Not applicable
Incremental values in bold exceed the target value.
*Incremental HQ differential = Total HQ from Scenario 4 – Baseline HQ from Scenario 1B.

The incremental HQs were less than 0.2, which indicates that the non-carcinogenic risks related to the reclamation phase of the Project are negligible for the COPHCs. The ILCRs of chromium did not exceed the target ILCR of 1E-05 which indicates that the carcinogenic risks are also negligible. Note that the oral incremental HQ and ILCR of chromium were negative because the chromium concentration in surface water was predicted to decrease resulting from attenuation during the discharge of treated water in Gold Brook.

4.4.3.6 Scenario 5 – Post-closure

In Scenario 5, the risk calculations are associated with the post-closure phase of the Project. The HQs for a toddler visitor and the ILCRs for a recreational visitor are presented in the following table. Similar to the summary of risks for other receptors, the table below presents total HQs and incremental HQs, to differentiate between the HQs and ILCRs associated with the baseline concentrations (current situation) and the HQs associated with the post-closure phase of the Project.

Table 4.24 HQs and ILCRs for recreational visitors – Scenario 5

COPHC	HQ for a toddler visitor		ILCR for a visitor	
	Ingestion, inhalation and dermal pathway		Ingestion and dermal pathway	Inhalation pathway
	Total HQ	Incr. HQ*	ILCR	ILCR
Aluminum	4E-01	2E-01	NA	NA
Chromium	4E-01	≤0E+00	≤0E+00	≤0E+00
Lithium	4E-01	9E-02	NA	NA
Critical Organ/System				
Neurologic and neurodevelopmental toxicity	4E-01	2E-01	NA	NA
Haematological toxicity	4E-01	≤0E+00	NA	NA
Systemic toxicology	4E-01	9E-02	NA	NA
Lung cancer	NA	NA	NA	≤0E+00
Bowel cancer	NA	NA	≤0E+00	NA

NA: Not applicable
Incremental values in bold exceed the target value.
*Incremental HQ = Total HQ from Scenario 5 – Baseline HQ from Scenario 1A.

The incremental HQs for all the COPHCs were less than 0.2, which indicates that the non-carcinogenic risks related to the post-closure phase of the Project are negligible. The ILCRs of chromium did not exceed the target ILCR of 1E-05 which indicates that the carcinogenic risks are also negligible. Note that the oral incremental HQ and ILCR of chromium were negative because the chromium concentration in surface water was predicted to decrease resulting from attenuation during the discharge of treated water in Gold Brook.

4.4.4 Interpretation of Health Risks for Construction and Industrial Workers

The following section present the HQs and ILCRs for construction and industrial workers exposed during Scenarios 2, 3 and 4 only. HQ and ILCR results are presented for the inhalation of outdoor air pathway. Since the predicted concentrations in outdoor air are the same in Scenarios 2, 3 and 4, the estimated HQs are the same for those three scenarios.

Table 4.25 HQs and ILCRs for workers

COPHC	HQ for a construction and an industrial worker	ILCR for a construction worker	ILCR for an industrial worker
	Inhalation pathway	Inhalation pathway	Inhalation pathway
	Scenarios 2, 3 and 4	Sum of Scenarios 2 and 4	Scenario 3
Aluminum	1E-03	NA	NA
Chromium	9E-04	1E-12	3E-12
Lithium	1E-06	NA	NA
Critical Organ/System			
Neurologic and developmental toxicity	3E-04	NA	NA
Respiratory system toxicity	1E-05	NA	NA
Lung cancer	NA	1E-12	3E-12

NA: Not applicable
Values in bold exceed the target value.

These HQs and cancer risks are total and not incremental. Since no baseline risk estimates are available to derive incremental risk estimates because no workers will be present in the PA in the absence of the Project, these total risk estimates were conservatively compared to the same targets as the incremental risk estimates, a HQ of 0.2 and an ILCR of 1E-5. None of the COPHCs had HQs and ILCRs above the target of 0.2 and 1E-05 for construction and industrial workers.

4.4.5 Interpretation of Health Risks associated with inhalation of NO_x, PM2.5, PM10 and TSP

Since NOx (1 hr), PM2.5 (24 hr and annual), PM10 (24 hr) and TSP (24 hr) are COPHCs in outdoor air, risks were assessed qualitatively for these parameters.

For NOx, risks were assessed by comparing the predicted concentrations of NOx over an average period of 1 hour during the peak operational phase of the Project (see Section 3.3.3) to the Maximum Permissible Ground Level Concentration (MPGLC) of nitrogen dioxide (NO_2) of 400 µg/m³ in NS (2020b). Risks are deemed negligible when the predicted concentrations do not exceed the MPGLC. The predicted NO_x concentrations are presented in table 4.26.

Table 4.26 Predicted concentrations of NOx in outdoor air during the peak operational phase

Location	Predicted concentrations over an average period of 1 hour (µg/m³)	Exceed the MPGLC over an average period of 1 hour of 400 µg/m³?
PA	607	Yes
South of the PA	42	No
Village	45	No

The predicted concentration in the PA exceeds the MPGLC. However, this modelled concentration is not located at the employee accommodations but near the pits. The predicted concentrations at the employee accommodations have a maximum value of 30 µg/m³, which is less than the MPGLC, and health risks are therefore expected to be negligible for workers temporarily living in the PA. Protection of workers from exposure to NO_x will be addressed through a site-specific health and safety plan.

Based on Table 4.26, risks are expected to be negligible for residents, Indigenous people and recreational visitors exposed to NO_x when completing recreational or traditional activities south of the PA. Access to the PA will be restricted during operation phase so inhalation of NO_x in outdoor air is limited to the area outside of the mine site for these receptors. Risks are also negligible for residents and Indigenous people exposed at the village.

For PM2.5, risks were assessed by comparing the predicted concentrations over an average period of 24 hour and of a year during the peak operational phase of the Project (see Section 3.3.3) to the Canadian Ambient Air Quality Standards (CAAQS) of 27 (24 hr) and 8.8 (annual) µg/m³ in CCME (2022). Risks are deemed negligible when the predicted concentrations do not exceed the CAAQS. The predicted PM2.5 concentrations are presented in the following table.

Table 4.27 Predicted concentrations of PM2.5 in outdoor air during the peak operational phase

Location	Predicted concentrations (µg/m³)	Exceed the CAAQS?
24-hour period		
PA	73	Yes
South of the PA	14	No
Village	13	No
Annual period		
PA	21	Yes
South of the PA	5.9	No
Village	5.7	No

The predicted concentration in the PA exceeds the CAAQS. However, this modelled concentration is not located at the employee accommodations but near the plant. The predicted concentrations at the employee accommodations have maximum values of 5 µg/m³ (24-hr) and 0.8 µg/m³ (annual), less than the respective applicable CAAQS. Risks are therefore expected to be negligible for workers temporarily living in the PA. Protection of workers from exposure to PM2.5 will be addressed through a site-specific health and safety plan.

Risks are negligible for residents, Indigenous people and recreational visitors exposed to PM2.5 when completing recreational or traditional activities south of the PA. Access to the PA will be restricted during operation phase so inhalation of PM2.5 in outdoor air is limited to the area outside of the mine site for these receptors. Risks are also negligible for residents and Indigenous people exposed at the village.

For PM10, risks were assessed by comparing the predicted concentrations over an average period of 24 hour during the peak operational phase of the Project (see Section 3.3.3) to the Ambient Air Quality Criteria (AAQC) of 50 µg/m³ in OME (2020). Risks are deemed negligible when the predicted concentrations do not exceed the AAQC. The predicted PM10 concentrations are presented in the following table.

Table 4.28 Predicted concentrations of PM10 in outdoor air during the peak operational phase

Location	Predicted concentrations over an average period of 24 hour (µg/m³)	Exceed the AAQC over an average period of 24 hour of 50 µg/m³?
PA	179	Yes
South of the PA	67	No
Village	54	No

The predicted concentration in the PA exceeds the AAQC. However, this modelled concentration is not located at the employee accommodations, but near the pits and the plant. The predicted concentrations at the employee accommodations have a maximum value of 50 µg/m³, equal to the AAQC. Risks are therefore expected to be negligible for workers temporarily living in the PA. Protection of workers from exposure to PM10 will be addressed through a site-specific health and safety plan.

For TSP, concentrations were evaluated by comparing the predicted concentrations over an average period of 24 hour during the peak operational phase of the Project (see Section 3.3.3) to the MPGLC of 120 µg/m³ in NS (2020b) for visibility considerations. Guidelines are unavailable for TSP with respect to potential human health related effects. Visibility issues are deemed negligible when the predicted concentrations do not exceed the MPGLC. The predicted TSP concentrations are presented in the following table.

Table 4.29 Predicted concentrations of TSP in outdoor air during the peak operational phase

Location	Predicted concentrations over an average period of 24 hour (µg/m³)	Exceed the MPGLC over an average period of 24 hour of 120 µg/m³?
PA	689	Yes
South of the PA (at the PA boundary)	233	Yes
Village (at the west PA boundary)	179	Yes

The predicted maximum concentration in the PA exceeds the MPGLC. However, this modelled concentration is not located at the employee accommodations, but near the pits. The predicted concentrations at the employee accommodations have a maximum value of 120 µg/m³, which is equal to the MPGLC. Visibility issues are therefore expected to be negligible for workers.

The predicted concentration in the at the west boundary of the PA towards the village of Goldboro also exceeds the MPGLC. However, this modelled concentration is not estimated where the houses are located but is estimated in the area of the vacant properties (wooded areas) at the PA boundaries. The properties at the west PA boundary are a mix of crown owned land and private properties (private properties are intended for purchase/lease by Anaconda) and are within the proposed property boundary. The predicted TSP concentrations at the property boundary are within the MPGLC and are well below the MPGLC at the residential dwellings located on Goldbrook Road and Highway 316 (Marine Drive) (GHD, 2022e). Concentrations of TSP generated by the Project are therefore expected to be negligible for residents and Indigenous people.

For residents, Indigenous people and recreational visitors completing recreational or traditional activities south of the PA, the predicted concentration exceeds the MPGLC. Access to the mine property will be restricted during the Operation phase and visibility issues is limited to the area outside of the mine site for these receptors. However, the number of days per year exceeding the MPGLC during the operation phase is only 19 days and the concentrations are elevated near the PA boundaries only. In addition, the predicted TSP concentrations at the property boundary directly south of the PA are within the MPGLC and, therefore, concentrations of TPS generated by the Project are expected to be negligible for residents and Indigenous people.

4.4.6 Summary of Risk Characterization

The HHRA evaluated the risks to residents, Indigenous people, recreational visitors and workers from exposure to chemicals in various media associated with the Goldboro Gold Project.

None of the incremental HQs estimated for any receptors during any of the phases of mine life as represented by the five exposure Scenarios exceeded their target of 0.2, which indicates that the non-carcinogenic risks related to the Project are negligible for the COPHCs. Total HQs for workers did not exceed their target of 0.2. In addition, ILCRs for all receptors did not exceed their target of 1E-05, which indicates that the carcinogenic risks related to the Project are negligible for the COPHCs.

For residents, Indigenous people and recreational visitors completing recreational or traditional activities south of the PA, the predicted TSP concentration exceeded the MPGLC associated to visibility issues. However, the number of days per year exceeding the MPGLC during the operation phase was limited to 19 days and the concentrations are elevated near the PA boundaries only. However, the compliance point for the Project will be the property boundary which is proposed to extend to the south. Concentrations of TSP are predicated to be within the MPGLC at the boundary. A Fugitive Dust Management Plan will also be implemented for the Project to mitigate risks associated with dust (GHD, 2022f). Based on the results of the HHRA, predictive modeling and mitigation measures being proposed, further evaluation of risk or risk management associated with Project activities is not considered warranted.

4.5 Uncertainties

Risk estimates normally include an element of uncertainty, and generally these uncertainties are addressed by incorporating conservative assumptions in the analysis. As a result, risk assessments tend to overstate the actual risk. Although many factors are considered in preparation of a risk analysis, analysis results are generally only sensitive to very few of these factors. The uncertainty analysis is included to demonstrate that assumptions used are conservative, or that the analysis result is not sensitive to the key assumptions.

A risk assessment containing a high degree of confidence will be based on:

– Conditions where the problem is defined with a high level of certainty based on data and physical observations
– An acceptable and reasonable level of conservatism in assumptions which will ensure that risks are overstated
– An appreciation of the bounds and limitations of the final solution

The exposure assessment performed as part of this study was based on:

– Current data to describe existing soil, outdoor air, surface water, and sediment conditions.
– Collection of actual tissue data for various berries, invertebrates and fish where possible to reduce the uncertainty associated with predicting tissue concentrations using uptake factors.
– Conservative assumptions for certain parameters, as required.
– Well understood and generally accepted methods for risk prediction.

Multiple sampling programs have been conducted in the Project area, and through these sampling programs, the presence of COPHCs has been characterized. The sources of uncertainty to estimate the baseline concentrations are:

– Low number of outdoor air and aquatic invertebrate samples (N = 3). The maximum values have been used to be conservative.
– Several samples are composites because of low mass of tissue available to perform analysis.
– Several COPHCs were not analysed in all the matrices.
– For the purposes of calculating summary statistics to represent baseline concentrations (90^{th} percentile), where a chemical was not detected in a sample, half of the detection limit was used in the calculations. This is a standard approach. However, it represents an area of uncertainty due to the absence of an actual detected concentration.

Models to predict future concentrations have been used and are a source of uncertainty:

– Metals in historic tailings located near Gold Brook that will not be managed in the TMF may have the potential to oxidize and leach contaminants into surface water bodies because of the predicted water quantities in the PA. This contamination source has not been considered quantitatively in this HHERA and is an uncertainty in the conclusions. However, based on the data from Parsons et. al. (2012), for arsenic and mercury the risk assessment is expected to be overly conversative.
– Uptake equations and bioaccumulation factors were used to predict COPHC concentrations in country food. The actual future concentrations in these biological tissues are uncertain, but they have been estimated using best available information and standard methods.
– Atmospheric dust dispersion and deposition was modelled. Modelling is a source of uncertainty, but worst-case scenarios were selected to be conservative.

4.5.1 Uncertainties in Toxicity Assessment

There is a very limited amount of toxicological information on the effects associated with human exposures to levels of chemicals in the environment. What human information is available is generally based on epidemiological studies of occupationally exposed workers. These studies are generally limited in scope and provide results that may not be applicable to chronic or continuous exposures to levels of chemicals in the environment. Because human toxicological information is limited, reference doses and cancer potency estimates for many chemicals are based on the results of dose response assessment studies using animals. The use of experimental animal data to estimate potential biological effects in humans introduces uncertainties into the evaluation of potential human health effects. These estimations require that a number of assumptions be made:

– The toxicological effect reported in animals is relevant and could occur in humans.
– The assumption that extrapolation from work exposure to environmental exposures adequately represents the shape of the dose response curve.
– Short term exposures used in animal studies can be extrapolated to chronic exposures in humans.
– The uptake of a chemical from a test vehicle (drinking water, food, etc.) in animals will be the same as the uptake of the chemical from environmental media in humans.
– The pharmacokinetic processes that occur in the test animals also occur in humans.

There are clearly a number of uncertainties associated with extrapolating from experimental animal data to humans. In order to address these weaknesses, regulatory agencies, such as Health Canada and the USEPA incorporate a large number of conservative assumptions to try and account for the uncertainties associated with this process. The uncertainties are accounted for by the use of UFs that are used to lower the reference dose well below the level at which adverse health effects have been reported in the test species. The magnitude of the uncertainty factors applied by the various regulatory agencies provides an indication of the level of confidence that should be placed in the reference value. Uncertainty factors typically range between 100 and 10,000, although some can be lower than 10. The latter values are found for a few chemicals where sound and substantial human toxicological information is available to enable the setting of toxicological end point solely on the basis of human epidemiological information. The application of uncertainty factors is intended to introduce a high degree of conservatism into the risk assessment process and to ensure, as far as possible, that limited exposures that exceed the reference concentrations will not result in adverse human health effects. Because risk assessments that use these regulatory limits incorporate the conservatism used in the development of the toxicological information, the results can generally be viewed as being extremely conservative.

However, no TRV are available for the following COPHCs (see Section 4.3): Ammonia, bismuth, rubidium, thallium and titanium. These are sources of uncertainty.

4.5.2 Uncertainties in the Problem Formulation, Exposure Assessment and Risk Characterization

Error! Reference source not found.4.30 contains a summary of the assumptions used in the problem formulation, exposure assessment and risk characterization, providing an evaluation for each assumption and an opinion as to whether the assumption is acceptable.

Table 4.30 Uncertainty analysis in the problem formulation, exposure assessment and risk characterization

Risk assessment study factor and assumption	Justification	Analysis likely to over or underestimate the risk	Acceptable?
Problem formulation			
COPHCs were appropriately selected	Used predicted concentrations for screening.	Neutral	Yes
The receptors were assumed to be residents, Indigenous people, recreational visitors, construction and industrial workers.	Based on the current and foreseeable future land use of the PA, the selected receptors are considered appropriate.	Neutral	Yes
The exposure pathways selected are representative.	Other exposure pathways are expected to produce negligible risks or were deemed incomplete exposure pathways.	Neutral	Yes
Exposure assessment			
EPCs are representative	Used maximum and 90th percentile baseline concentrations. Used models to predict future concentrations that tend to overestimate.	Overestimate	Yes
Modelled exposure doses to COPHCs are representative.	Conservative estimate of exposure doses over the subject area.	Overestimate	Yes
Parameters such as ingestion rates and exposure time	Used appropriate published values. When values were specific to the Project, conservative to neutral decision were made.	Overestimate to neutral	Yes
Risk characterization			
Modelled risks to COPHCs are representative	Conservative estimate of risks over the subject area.	Overestimate	Yes

5. Ecological Risk Assessment

5.1 Problem Formulation

The purpose of this ERA is to evaluate the potential for adverse effects to occur to ecological receptors as a result of exposure to concentrations of Contaminants of Potential Ecological Concern (COPECs) in environmental media within the AA. As with the HHRA, the ERA process follows a recognized framework that progresses from a qualitative initial phase (i.e., problem formulation), through exposure and toxicity (effects) analysis, and culminates in a quantitative risk characterization. Following this framework, the limitations and uncertainties inherent to the ERA process, and the relevance of these limitations and uncertainties to the conclusions stemming from the assessment, are discussed.

5.1.1 Site Management Goal and Specific Assessment Goals

The framework used for this ERA considered effects at the community level for common plants, terrestrial and benthic invertebrates, and fish, at the population level for mammals and birds, and at the individual level for wildlife species identified as endangered, threatened, or extirpated (*at risk*) under the Species at Risk Act (SARA; Government of Canada, 2002), Committee on the Status of Endangered Wildlife in Canada (COSEWIC, 2021), and Nova Scotia Endangered Species Act (NSESA; NS, 1998), as well as wildlife species of conservation interest (SOCI) under the Atlantic Canada Conservation Data Centre (ACCDC, 2021). For these species, the individual level of protection is applied to the representative indicator species for appropriate protection of these valued components (VCs).

5.1.2 Regulatory Context

This ERA has been conducted in a manner consistent with accepted ERA methodologies and guidance published by regulatory agencies, including CCME (2020; 1996; 1997), and the FCSAP (Government of Canada; 2012). Further guidance from NSE and Atlantic RBCA has also been incorporated where appropriate.

5.1.3 Selection of Contaminants of Potential Ecological Concern

Baseline and predicted concentrations of chemicals in soil, surface water, and sediment were screened against available regulatory guidelines to identify COPECs in those media. A chemical was identified as a COPEC if it was present at a concentration above a screening value in at least one of these media.

5.1.3.1 Surface soil

To select the COPECs in soil, the maximum predicted soil (90 percentile baseline soil concentration with modelled deposition) concentrations from all scenarios were compared to soil screening benchmarks protective of ecological health. Where predicted concentrations exceeded benchmarks but did not exceed baseline, they were not selected as COPECs. These benchmarks were the following guidelines (in order of preference):

– Pathway-Specific Standards (PSS) of Nova Scotia Environment (NSE, 2021) and Atlantic RBCA (2021). The PSS for agricultural soil were used since these guidelines are the most conservative and are suitable for rural and natural areas. PSS are a compilation of guidelines from several jurisdictions, including the CCME. The most conservative between PSS for soil contact or for soil and food ingestion was selected to select COPECs in soil.
– Region 4 soil screening values for hazardous waste sites from the USEPA (2018). The most conservative value between soil contact (plants and soil invertebrates) or soil and food ingestion (mammalian and avian) was selected to screen COPECs in soil.

The selected screening benchmarks are shown in Tables F.1 and F.2 of Appendix F.

As shown in Table F.1 and F.2 in Appendix F, the chemicals present above their screening values were lithium and vanadium. These elements have been identified as COPECs in soil. None of the concentrations of the remaining metals exceeded the screening values, so these elements have not been carried forward as COPECs in soil.

For aluminum, bismuth, calcium, cerium, gold, indium, iron, potassium, lanthanum, lithium, magnesium, rubidium, titanium, tungsten, and zirconium, no screening values were available. Calcium, potassium, and magnesium are considered non-deleterious in soil and were not carried forward as COPECs in soil. Insufficient information was available to assess potential ecological risks to bismuth, cerium, gold, indium, lanthanum, rubidium, strontium, titanium, tungsten, and zirconium through a quantitative approach, and none of these chemicals have been carried forward as COPECs in soil, which is an uncertainty in the ERA. Aluminum was present in soils which were below the pH solubility threshold and was therefore not carried forward. Arsenic, iron, and selenium predicted concentrations did not exceed the baseline soil concentrations, and therefore were not carried forward as COPECs in soil.

5.1.3.2 Surface water

To select the chemicals of potential concern in surface water, the maximum predicted surface water (95th percentile baseline surface water concentration with modelled deposition and runoff) concentrations from all scenarios were compared to surface water screening benchmarks. Where predicted concentrations exceeded benchmarks but did not exceed baseline, they were not selected as COPECs. These benchmarks were the following guidelines (in order of preference):

– PSS from NSE (2021). PSS are a compilation of guidelines from several jurisdictions, including the CCME. The PSS for freshwater were used to select COPECs.
– Canadian Water Quality Guidelines for the Protection of Aquatic Life from the CCME (2021). The guidelines for freshwater (long term) were used to select COPECs.
– Region 4 soil screening values for hazardous waste sites from the USEPA (2018). The freshwater guidelines (chronic) were selected to select COPECs.

The selected screening benchmarks are shown in Tables F.3 and F.4 of Appendix F.

Based on the analysis shown in Table F.3 and F.4 in Appendix F, concentrations of only total boron in predicted surface water exceeded its respective screening value. Boron was therefore identified as a COPEC in surface water. Aluminum, ammonia, arsenic, beryllium, iron and zinc in the Lake and Creek area, and mercury in the Creek area exceeded screening values but did not exceed baseline values and were therefore not carried forward as COPECs in surface water. None of the remaining elements were present at predicted future concentrations in excess of the surface water screening values, and no other chemicals were selected as COPECs in surface water.

5.1.3.3 Sediment

To select the chemicals of potential concern in sediment, the maximum predicted sediment (maximum baseline sediment concentration with modelled deposition) concentrations from all scenarios are compared to sediment screening benchmarks. Where predicted concentrations exceeded benchmarks but did not exceed baseline, they were not selected as COPECs. These benchmarks are the following guidelines (in order of preference):

– PSS from NSE (2021). PSS are a compilation of guidelines from several jurisdictions, including the CCME. The PSS for freshwater sediment were used to select COPECs in sediment.
– Sediment standards from the OME (2011) were used to select COPECs in sediment.
– Region 4 sediment screening values for hazardous waste sites from the USEPA (2018). The freshwater sediment guidelines were selected to select COPECs in sediment.
– ARCS from the USDE (1997). ARCS are Assessment and Remediation of Contaminated Sediment benchmarks. The probable effect concentrations were selected to select COPECs in sediment.
– Maximum permissible and negligible concentrations for metals and metalloids in the Netherlands (Crommentuijn et al., 2000).

The selected screening benchmarks are shown in Tables F.5 and F.6 of Appendix F.

As shown in Table F.5 and F.6 in Appendix F, the only chemical present or predicted to be present at concentrations above their respective screening values was beryllium in the Lake area, and it has been designated as a COPEC in sediment. Although beryllium was not detected in sediment, the detection limit exceeded the screening value, so beryllium was carried forward as a COPEC in sediment. Bismuth, lithium, rubidium, and strontium were detected in sediment, but no sediment screening values were available; not enough toxicological information is available to assess potential ecological risks to these elements, so they were excluded as COPECs in the ERA, which is an uncertainty. Antimony, arsenic, barium, beryllium (Creek area only), bismuth, boron, cobalt, iron, lead, lithium, nickel, rubidium, selenium, silver, and strontium (Creek area only) did not exceed baseline concentrations and were therefore not carried forward as COPECs in sediment.

5.1.3.4 Summary of COPECs

The COPECs carried through the ERA based on the results of the ecological screening are presented below.

Table 5.1 Summary of contaminants of potential ecological concern

Selected based on soil	Selected based on surface water	Selected based on sediment
Lithium and vanadium	Boron	Beryllium

If a chemical was selected as a COPEC in one medium, it was carried through the ecological risk analysis for all media, so the final COPECs carried through the ERA are: beryllium, boron, lithium, and vanadium.

5.1.4 Valued Components

In order to characterize VCs, GHD consulted the results of ecological baseline studies that were undertaken from 2017 to 2019, which encompassed:

– Wetland delineation and functional assessments
– Aquatic habitat assessment
– Vegetation and rare flora surveys
– Wildlife and rare fauna survey (including a mainland moose survey)
– Bird surveys

5.1.4.1 Wetlands

The 29 delineated wetlands ranging in size from 0.03 hectares to 47.19 hectares account for 85 ha of the PA or 29% of the site preconstruction (see Figure 14). However, several wetlands continued beyond the boundary of the PA and thus the sizes noted do not reflect the full extent of some wetlands. In general, in northern portions of the AA, north of Goldbrook Road, topography slopes towards Gold Brook Lake from the eastern and western extents of the AA. Within this portion of the AA water flows from headwater wetlands and watercourses into Gold Brook Lake. Wetland 1 (see Figure 14) is comprised of larger wetland areas (i.e., Sphagnum bogs, historic tailing ponds, and forested swamp wetlands) that are connected via vegetated wetland channels. Many of these channels contain flowing surface water with a riparian fringe. Some channels have been reduced to culverts under Goldbrook Road that may limit a persistent outflow connection. In general, the encountered wetlands have high functionality in native plant habitat; phosphorus retention; and pollinator habitat. Treed and shrub swamps combined represent the most abundant wetland type, accounting for 55% of all wetlands, followed by bogs, which represent 24% of all wetlands. Over half of the wetlands are isolated – no connectivity.

5.1.4.2 Aquatic Habitat

The headwaters of Gold Brook Lake originate from two systems: Oak Hill Lake, located to the north, and the Rocky Lakes, located east of Gold Brook Lake. Gold Brook was the only watercourse categorized as high-quality habitat. Gold Brook was evaluated as the only stream system that could support spawning based on suitable substrate, flow, and in-stream habitat features for species included in the fish habitat quality assessment. Gold Brook also has the habitat and flow complexity to support all life stages of all species included in fish habitat quality assessment.

Three wetlands have been evaluated to provide and support potential fish habitat (see Figure 14**Error! Reference source not found.**). These wetlands provide habitat that supports rearing (wetland associated with surface water systems of moderate flows, riffle-run and pool-type habitats, and cover associated with aquatic vegetation, woody debris, and larger substrate), overwintering (wetland associated with waterbodies and deep open water features on site), foraging, refuge, and passage within and through surface water systems. The fish community in Gold Brook Lake is dominated by yellow perch, and brook trout are also known to be present in the lake. The presence of brook trout was confirmed in Gold Brook and various unnamed tributaries to the lake.

5.1.4.3 Habitat and Flora

The AA lies in two Ecodistricts – the Eastern Interior and the Eastern Shore. These Ecodistricts are within the Eastern and Atlantic Coastal Ecoregion, respectively. In general, the AA is primarily disturbed by historical and current mining activities and timber harvesting. Soils are generally nutrient poor, acidic which supports softwood stand types such as Spruce and Balsam Fir. Herbaceous layers are often dominated by ericaceous shrubs and bryophytes representing nutrient poor soils such as Schreber's moss. Areas located in the southern portion of the AA and in close proximity to Gold Brook generally consist of mature undisturbed conifer dominant stands.

Two rare species (S3 Secure) were identified during the surveys:

– – Variegated Horsetail (*Equisetum variegatum*)

– – Southern Twayblade (*Listera australis*)

Southern Twayblade plants were found in a single forested swamp (see Figure 14). The specific location was predominantly free of competing herb vegetation and the hydrology appeared to be stable. The populations of Variegated Horsetail were found in isolated to wet, disturbed areas at the southern end of Gold Brook Lake and adjacent to Gold Brook. The plants formed colonies and appeared to be isolated to historic tailings ponds.

Five lichen species found on the PA were determined to be priority species including one Species at Risk (SAR): Blue Felt Lichen (*Pectenia plumbea syn. Degelia plumbea*) and four SOCI: Slender Monk's Hood Lichen (*Hypogymnia vittata*), Corrugated Shingles Lichen (*Fuscopannaria cf. ahlneri*), A shingle Lichen (*Fuscopannaria cf. sorediata*) and Appressed Jellyskin Lichen (*Leptogium subtile*).

The lichen community consisted of primarily epiphytic species associated with mature conifer and hardwood stands, as well as terricolous and saxicolous lichens usually observed along trails, clearings and open woodlands. Sphagnum dominant swamps with mature Red Maples and Balsam Fir provided suitable habitat for *Fuscopannaria cf. sorediata*, *F. cf. ahlneri* and *Degelia plumbea* as well as other species with an affinity towards mature hardwood and softwood stands. Mature conifer swamps were present, however, they primarily consisted of an intermixing of Spruce and Balsam Fir surrounded by disturbances (i.e. historical mining and forestry) and lacked Blue Felt Lichen indicator species (i.e. *Coccocarpia palmicola* and *Lobaria spp.* on Balsam Fir.

5.1.4.4 Fauna and Birds

The presence of moose (NSESA Endangered) has been confirmed in the area. Other species identified in the area were black bear, marten, porcupine, red fox, red squirrel, snowshoe hare, white-tailed deer and woodchuck. Evidence of historic bat roosting was found in the existing warehouse building. Bat surveys were completed and no current hibernacula were identified.

Evidence for possible breeding owls (i.e. calling males) was detected in the area and accounts of owls includes a great horned owl, a northern saw-whet, and a boreal owl.

Fourteen priority species of birds have been identified: One Species-At-Risk: Canada Warbler (SARA: Threatened; NSESA: Endangered); and 13 Species of Conservation Interest (SOCI) were observed that included: American kestrel (S3), boreal chickadee (S3), gray jay (S3), red-breasted nuthatch (S3), gray catbird (S3B), Wilson's warbler (S3B), greater yellowlegs (S3B, S3S4M), fox sparrow (S3S4B), northern harrier (S3S4B), ruby-crowned kinglet (S3S4B), spotted sandpiper (S3S4B), Swainson's thrush (S3S4B) and yellow-bellied flycatcher (S3S4B).

During breeding surveys passerines comprised 92% of all individuals observed. Other landbirds (such as woodpeckers, grouse, etc.) were the next most abundant bird group representing 4.5% of individuals observed, followed by waterfowl (2% of individuals), diurnal raptors (1 % of individuals) and other waterbirds (less than 1%). The most abundant species observed was the white throated sparrow, common yellowthroat and magnolia warbler. All observations were of single birds or groups of two. No obvious concentration of waterfowl or shorebirds were observed.

During the Fall migration survey, passerines comprised 97% of all individuals observed. Other landbirds comprised of 2% of individuals observed and diurnal raptors comprised 1%. The most abundant species is the black-capped chickadee and golden-crowned kinglet.

All species identified during these surveys are native in this region of Nova Scotia, and the province in general. Typical and common habitat to support these species is present within the AA and surrounding landscape.

5.1.4.5 Receptor Identification

For the purpose of the ERA, it is not practical or necessary to individually assess each species that may potentially visit or occupy the PA. Instead, the potential for adverse effects imposed on a selected subset of receptors exposed to COPECs in the AA was evaluated. The receptors or VCs were selected for the ERA by focusing on ecological species that:

– Are indigenous to the area (taking into consideration the habitat types and areas available within the PA)
– Are likely to be highly exposed to COPECs due to their habitat preference, behavioural traits and home range
– Are representative of various feeding guilds or trophic levels (e.g., herbivore, insectivore, carnivore)
– Are of cultural, economic or social importance

Receptors identified by on-site field surveys include a list of species which are considered VCs and presented in Table G.1. Some of the identified VCs herein have adequate species characteristics data available in literature (Government of Canada, 2012; USEPA, 1993) to accurately calculate exposure to COPECs from various pathways. These species include: moose (*Alces alces*), white-tailed deer (*Odocoileus virginianus*), black bear (*Ursus americanus*), snowshoe hare (*Lepus americanus*), red fox (*Vulpes vulpes*), spotted sandpiper (*Actitis macularia*), and American kestrel (*Falco sparverius*).

However, in many cases the complete species characteristics data for the identified VCs was not available in literature, in which case a surrogate species with adequate data was utilized herein as a substitute. Broadly, surrogate species were selected to best represent their respective VC species based on trophic level, feeding guild (insectivore, piscivore, omnivore, etc.), likely exposure pathways (habitat, diet, and behaviour), and body mass.

The surrogate selected for the American marten (*Martes americana*) was the American mink (*Mustela vison*) as they share the *Mustelidae* taxonomic family and a similar mass. As a semi-aquatic carnivorous mammal, the mink occupies the same trophic level and feeding guild consuming both aquatic and terrestrial invertebrates, fish, small mammals, bird eggs, reptiles and amphibians. The American mink's diet and behaviours result in identical exposure pathways as the American marten.

The selected surrogate for the woodchuck (*Marmota monax*) was the meadow vole (*Microtus pennsylvanicus*) due to their similar habitats where they occupy meadows, grassland, and lowland fields. Additionally, as herbivorous rodents they both occupy a similar feeding guild, consuming grasses, flowers, berries and fruits.

The North American porcupine (*Erethizon dorsatum*) and American red squirrel (*Sciurus vulgaris*) are rodents whose diets consist of predominantly leaves and seeds, respectively. As a mammalian rodent for which 45% of it's diet is composed of seeds and grasses, the deer mouse (*Peromyscus maniculatus*) was selected as a surrogate for the two aforementioned species. As such, exposure pathways resulting from these feeding habits (water, soil, and terrestrial plants) are represented.

The greater yellowlegs (*Tringa melanoleuca*) was represented by the surrogate spotted sandpiper (*Actitis macularia*) due to their similar size, habitat, diet, and foraging habits. Both shorebird species are within the same taxonomic order (*Charadriiformes*) and their diets consist of predominantly terrestrial and aquatic invertebrates, and to a lesser degree, fish and aquatic vegetation. The similar habitat and diet of the spotted sandpiper adequately represents all aquatic and terrestrial exposure pathways likely present for the greater yellowlegs.

The four identified carnivorous raptors, the northern saw-whet (*Aegolius acadicus*), boreal owl (*Aegolius funereus*), great horned owl (*Bubo virginianus*) and northern harrier (*Circus hudsonius*) are represented by the red-tailed hawk (*Buteo jamaicensis*). This is due to the relatively similar size of these species, that they all prey predominantly on small

to medium-sized mammals and birds, and all occupy the same trophic level as avian apex predators. The red-tailed hawk encounters the same exposure pathways as these identified species with very similar dietary exposure proportions and potential biomagnification of COPECs.

The Canada warbler (*Cardellina canadensis*), Wilson's warbler (*Cardellina pusilla*), magnolia warbler (*Setophaga magnolia*), golden-crowned kinglet (*Regulus satrapa*), ruby-crowned kinglet (*Corthylio calendula*), boreal chickadee (*Poecile hudsonicus*), red-breasted nuthatch (*Sitta canadensis*), common yellowthroat (*Geothlypis trichas*), and yellow-bellied flycatcher (*Empidonax flaviventris*) are all small-bodied passerine species that subsist almost exclusively on terrestrial invertebrates with a very minor subsistence on seeds and berries. Due to these species' predominant insectivorous nature, the barn swallow (*Hirundo rustica*) was selected as a surrogate species as its diet is 99% terrestrial invertebrates and 1% berries and fruits. The similar size and feeding habits between the aforementioned VCs and the surrogate suggest representative exposure estimates.

The white-throated sparrow (*Zonotrichia albicollis*), fox sparrow (*Passerella iliaca*), black-capped chickadee (*Poecile atricapillus*), Swainson's thrush (*Catharus ustulatus*), gray catbird (*Dumetella carolinensis*), and gray jay (*Perisoreus canadensis*) are all represented by the surrogate American robin (*Turdus migratorius*). As an omnivorous avian passerine species with a diet consisting of 60% fruits and 40% terrestrial invertebrates, the American robin adequately encompasses the aforementioned identified species' dietary exposure pathways in similar proportions. The similar size, trophic level, and behaviors (nesting, low-migratory, and arboreal and ground foraging) between the VCs and surrogate species further justify the selection of the American robin as a surrogate.

The species identified in the ecological screening are presented in Table G.1, which presents species' exposure pathways and the assessment approach using their respective indicator species.

5.1.4.6 Protection Levels

VCs are not always identified at the species level; rather, VCs can represent communities deemed to be important. The following VCs were identified based on the results of the ecological screening and presented in figure 15 which illustrates the likely dietary food web interactions based on feeding guild:

– Terrestrial Plant community
– Soil Invertebrate community
– Terrestrial Wildlife (Mammal and Bird) populations – thirteen indicator species for terrestrial ecosystems were selected to evaluate the potential for risk, consistent with guidance from FCSAP (Government of Canada, 2012):
    - American mink (*Mustela vison*, mammalian riparian carnivore)
    - Meadow vole (*Microtus pennsylvanicus*, mammalian herbivore)
    - Deer mouse (*Peromyscus maniculatus*, mammalian omnivore)
    - Moose (*Alces alces*, mammalian herbivore), see Section 5.1.4.6.1 below
    - White-tailed deer (*Odocoileus virginianus*, mammalian herbivore)
    - Black bear (*Ursus americanus*, mammalian omnivore)
    - Snowshoe hare (*Lepus americanus*, mammalian herbivore)
    - Red fox (*Vulpes vulpes*, mammalian carnivore)
    - Spotted sandpiper (*Actitis macularia*, avian riparian omnivore)
    - Red-tailed hawk (*Buteo jamaicensis*, avian carnivore)
    - Barn swallow (*Hirundo rustica*, avian omnivore)
    - American robin (*Turdus migratorius*, avian omnivore).
    - American kestrel (*Falco sparverius*, avian carnivore)
– Benthic Invertebrate community
– Fish community

– Aquatic Wildlife (mammal and bird) populations – three indicator species for riparian ecosystems were selected to evaluate the potential for risk following guidance from FCSAP (Government of Canada, 2012):
    - American mink (*Mustela vison*, mammalian riparian carnivore)
    - Spotted sandpiper (*Actitis macularia*, avian riparian omnivore)
    - Red-tailed hawk (*Buteo jamaicensis*, avian omnivore)

There is insufficient toxicological literature and inadequate development of toxicological models for assessing exposure and risks to aquatic plants, amphibians, and reptiles exposure to surface water and sediment to support their generic consideration in the ERA. Furthermore, it is expected that the quantitative assessment of benthic invertebrates, fish, and aquatic wildlife will provide surrogate analysis for potential risks to aquatic plants, amphibians, and reptiles such that a separate assessment of these receptors is not required.

5.1.4.6.1 Species at Risk and Species of Conservation Interest

The at-risk species identified herein under SARA and NSESA are blue felt lichen (SARA, special concern; NSESA, vulnerable), moose (NSESA, endangered), and the Canada warbler (SARA, threatened; NSESA, endangered). Species identified in the ERA as SOCI are slender monk's hood lichen, corrugated shingles lichen, shingle lichen, appressed jellyskin lichen, American kestrel, boreal chickadee, gray jay, red-breasted nuthatch, gray catbird, Wilson's warbler, greater yellowlegs, fox sparrow, northern harrier, ruby-crowned kinglet, spotted sandpiper, Swainson's thrush, and yellow-bellied flycatcher.

The lichen species identified are typically threatened by logging activities, acid rain, and climate change, and the Project is unlikely to contribute to these threats. However, we recognize that lichen form an important part of the ecosystem, therefore, a community level assessment of terrestrial vegetation was deemed appropriate to determine risk to vegetation including lichen species in the assessment area.

Individual levels of protection were considered appropriate for wildlife species identified as SAR or SOCI, which included the moose and the Canada warbler in the former category, and the American kestrel, boreal chickadee, gray jay, red-breasted nuthatch, gray catbird, Wilson's warbler, greater yellowlegs, fox sparrow, northern harrier, ruby-crowned kinglet, spotted sandpiper, Swainson's thrush, and yellow-bellied flycatcher in the latter category.

The mainland moose in Nova Scotia has been listed as endangered, due to the presence of small, isolated subpopulations, their decrease in population size over the past three decades, and reduction in distribution over the past two centuries (NS, 2021). The moose's decline can be linked to biotic factors such as a parasitic brainworm and virus, and habitat competition with white-tailed deer, as well as anthropogenic factors such as illegal hunting, overhunting, cobalt deficiencies, and high cadmium levels (NS, 2021). The moose has been directly assessed as a VC in the ERA.

The Canada warbler is listed as threatened nationally (SARA) and endangered provincially (NSESA). It inhabits wet swamps, fens and forests for nesting in Canada during breeding, and population declines have been observed for more than three decades and although their decline is not fully understood it has been linked to climate change (NS, 2021). The barn swallow has been used as a surrogate species for the Canada warbler in this ERA due to the similarity in diet and ecological niche.

The American kestrel (*Falco sparverius*) resides in a variety of habitats which are partly open with scattered trees. Northern populations migrate to the southern United States or Mexico for winter. It is classified by the ACCDC as a vulnerable breeding population in Nova Scotia (ACCDC, 2021). Although populations are declining in South America, populations in Canada appear to be stable or increasing (ACCDC, 2021). The American kestrel has been assessed directly in this ERA.

The boreal chickadee (*Poecile hudsonicus*) has a habitat range encompassing Canada and the northern U.S. states, where it lives mainly in forested wetlands and mixed and conifer forests. Nova Scotia is at the species' southern breeding range making it susceptible to climate change, and it is listed by the ACCDC as a vulnerable species due to population declines associated with loss of coniferous forest (ACCDC, 2021). The barn swallow has been used as a surrogate species for the boreal chickadee in this ERA due to the similarity in diet and ecological niche.

The gray jay is identified by the ACCDC as a vulnerable population because of the few populations that exist in the province (ACCDC, 2021). Its range extends across Canada and south into the western United States where it inhabits mixed to coniferous forests (ACCDC, 2021). Declines in the Nova Scotia population are largely due to habitat loss, and this species southern breeding range limit may be threatened by climate change (CWF, 2021a) The American robin has been used as a surrogate species for the gray jay in this ERA due to the similarity in diet and ecological niche.

The red-breasted nuthatch (*Sitta canadensis*) is listed by ACCDC as a vulnerable species in Nova Scotia. It is a non-migratory passerine which typically inhabits mixed, coniferous, deciduous, and open woodland. As climate change shifts weather patterns, it may be difficult for this bird to find food and reproduce (CWF, 2021b). The barn swallow has been used as a surrogate species for the red-breasted nuthatch in this ERA due to the similarity in diet and ecological niche.

The gray catbird (*Dumetella carolinensis*) is a migratory passerine that lives in dense brush, forest edge undergrowth, orchards, and suburban gardens. It migrates during northern winter to southern U.S. states and South America (ACCDC, 2021). Although classified by the ACCDC as a vulnerable breeding population, the ACCDC also identifies that the United States and Canadian populations are relatively stable (ACCDC, 2021). The American robin has been used as a surrogate species for the gray catbird in this ERA due to the similarity in diet and ecological niche.

The Wilson's warbler is a non-migratory passerine that lives in semi-open areas with moist woodland (ACCDC, 2021). Its population has undergone a decline of 10-30% in the past decade, due mainly to habitat changes likely caused by destruction of habitat (ACCDC, 2021). The barn swallow has been used as a surrogate species for the Wilson's warbler in this ERA due to the similarity in diet and ecological niche.

The greater yellowlegs (*Tringa melanoleuca*) is identified as a vulnerable breeding population and vulnerable to secure migratory population by ACCDC in Nova Scotia. This long-distance migratory shorebird inhabits lagoons, tidal flats and wetlands to mixed woodlands and grasslands (ACCDC, 2021). Population declines have been linked to competition by piscivorous fish, but habitat loss, hunting and climate change have also implicated (ACCDC, 2021; ECCC, 2018). The spotted sandpiper has been used as a surrogate species for the greater yellowlegs in this ERA due to the similarity in diet and ecological niche.

The fox sparrow (*Passerella iliaca*) is identified in Nova Scotia as a vulnerable breeding population and vulnerable to secure migratory population by ACCDC. The fox sparrow is a local to long-distance migratory passerine, that inhabits woodlands, shrubland, suburbs and riparian habitats (ACCDC, 2021). The American robin has been used as a surrogate species for the fox sparrow in this ERA due to the similarity in diet and ecological niche.

The northern harrier (*Circus hudsonius*) inhabits wide open areas including grasslands, tundra, fields and marshes. Although the species is relatively common and widespread, population declines in some areas have led to the classification as vulnerable breeding population and vulnerable to secure migratory population by ACCDC in Nova Scotia (ACCDC, 2021). The red-tailed hawk has been used as a surrogate species for the northern harrier in this ERA due to the similarity in diet and ecological niche.

The ruby-crowned kinglet (*Corthylio calendula*) is a passerine with local to long-distance migratory populations that travel south in winter. This species typically nests in coniferous forests during breeding and can be found in fields, gardens, parks and deciduous woodlands during migration and winter at lower latitudes (ACCDC, 2021). Short-term population declines have been associated with exceptionally cold winters (ACCDC, 2021). Nova Scotia populations are listed as having vulnerable breeding populations and vulnerable to secure migratory populations by ACCDC. The barn swallow has been used as a surrogate species for the ruby-crowned kinglet in this ERA due to the similarity in diet and ecological niche.

The ACCDC has identified the spotted sandpiper (*Actitis macularius*) as vulnerable breeding population and vulnerable to secure migratory populations in Nova Scotia. The spotted sandpiper is a long-distance migratory shorebird that inhabits shrub and herbaceous wetlands to tidal flats. Reproductive success can be considerably threatened by predators such as mink (ACCDC, 2021). The spotted sandpiper has been assessed directly in this ERA.

The Swainson's thrush (*Catharus ustulatus*) inhabits a variety of woodland types and shrublands and is a long-distance migratory passerine (ACCDC, 2021). It is classified by the ACCDC as vulnerable breeding population and vulnerable to secure migratory populations due to the slow rate of population decline over the past few decades (ACCDC, 2021). The declines in population, which are primarily in Canada, are mainly the result of habitat loss and fragmentation (ACCDC, 2021). The American Robin has been used as a surrogate species for the Swainson's thrush in this ERA due to the similarity in diet and ecological niche.

The yellow-bellied flycatcher (*Empidonax flaviventris*) is a passerine that inhabits forested wetlands and hardwood, coniferous, and mixed forests (ACCDC, 2021). For northern winter it migrates long-distance to lower latitudes throughout the United States, Mexico, and Panama. In Nova Scotia it is identified by the ACCDC as a vulnerable breeding population and vulnerable to secure migratory populations. Declines in population have been associated with climate change and habitat loss (ACCDC, 2021). The barn swallow has been used as a surrogate species for the yellow-bellied flycatcher in this ERA due to the similarity in diet and ecological niche.

5.1.5 Exposure Pathways

In order for chemicals to have deleterious effects, they need to gain access to the organism or receptor. The means by which a receptor is exposed to a COPEC is referred to as an exposure pathway and is dependent on the nature of both the chemical and receptor. A complete exposure pathway is one that meets the following criteria (CCME, 2020):

– A COPEC must be present.
– A route of exposure exists by which an ecological receptor comes into contact with the COPEC.

The relevant exposure pathways are summarized below, which includes the qualitative evaluation of each pathway and a justification for the likelihood of exposure assigned. Those hazard-exposure-receptor combinations considered to have the highest likelihood to contribute to an ecological health risk were carried forward in the quantitative ERA.

Table 5.2 Ecological exposure pathways

Exposure Pathway Description	Likelihood of Exposure	Carried Forward for Analysis?	Justification
Direct exposure to soil	Likely (plants and terrestrial invertebrates) Unlikely (all other VCs)	Yes (plants and terrestrial invertebrates) No (all other VCs)	Soil COPECs were identified in the ecological screening. Although terrestrial wildlife may come into contact with chemicals identified in soil, direct dermal contact is considered unlikely due to the presence of fur or feathers. However, ecological receptors may ingest soil through grooming or other related behaviours. As such, the ingestion of soil containing COPECs was considered further for wildlife within this ERA.
Ingestion of soil	Likely	Yes	
Ingestion of terrestrial plants terrestrial invertebrates, or small animal prey living within the AA and exposed to soil influenced by Project activities	Likely	Yes	Terrestrial receptors may ingest terrestrial invertebrates, terrestrial vegetation, and animals/prey that have been exposed to the impacts in the soil. As such, ingestion of invertebrates, plants, and prey was considered further within this ERA.
Direct exposure to surface water	Likely	Yes	Surface water COPECs were identified in the ecological screening, therefore, potential direct exposure to aquatic plants, benthic invertebrates, and fish was considered further within this ERA.
Ingestion of surface water	Likely	Yes	Terrestrial and aquatic receptors may ingest surface water by direct consumption, therefore, potential exposure to surface water requires further assessment in this ERA.

Table 5.2 Ecological exposure pathways

Exposure Pathway Description	Likelihood of Exposure	Carried Forward for Analysis?	Justification
Direct exposure to sediment	Likely	Yes	Sediment COPECs were identified in the ecological screening, therefore, potential direct exposure to aquatic plants, benthic invertebrates, and fish was considered further within this ERA.
Ingestion of aquatic plants, benthic invertebrates, and fish living within the AA and exposed to sediment influenced by Project activities	Likely	Yes	Terrestrial receptors may ingest benthic invertebrates, aquatic vegetation, fish that have been exposed to the impacts in the sediment, and therefore, ingestion of these organisms was considered further within this ERA.

5.1.6 Exposure Scenarios

Potential ecological health risks were assessed according to the following scenarios:

– Scenario 1 – Current situation: health risks associated with the baseline concentrations without influence from the Project.
– Scenario 2 – Construction: health risks associated with the predicted concentrations during the construction phase of the Project.
– Scenario 3 – Operation: health risks associated with the predicted concentrations during the operation phase of the Project.
– Scenario 4 – Reclamation: health risks associated with the predicted concentrations during the reclamation phase of the Project.
– Scenario 5 – Post-closure: health risks associated with the predicted concentrations during the post-closure phase of the Project.

Receptors were assumed to be exposed to COPECs in one of two exposure areas within the AA: the Gold Brook Lake watershed, or the Gold Brook watershed. These locations are considered the most conservative in terms of COPEC exposure, since they are inside and in the vicinity of the PA.

5.1.7 Conceptual Site Model

The ecological CSM (Figure 16) illustrates contaminant fate and transport mechanisms, complete exposure pathways, and primary and secondary receptors. This Figure schematically represents the interactions between the receptors and the COPECs, via the exposure pathways identified in previous elements of the Problem Formulation phase of the assessment. In figure 16, the relevant exposure pathways are designated by arrows leading from the contaminant source media to each receptor. The pathway is considered to be complete (i.e., functioning) for a receptor when the exposure pathway box is marked with a "✓" symbol.

Based on the ecological health screening, receptor identification, and pathway identification, the CSM developed for ecological receptors is:

– Direct exposure/uptake of soil COPECs by terrestrial plant communities
– Direct exposure/uptake of soil COPECs by soil invertebrate communities
– Ingestion of soil COPECs by terrestrial wildlife (birds and mammals)
– Ingestion of terrestrial plants, soil invertebrates, and terrestrial animals/prey that have accumulated COPECs by terrestrial wildlife (birds and mammals)
– Direct exposure/ingestion/uptake of sediment COPECs by benthic invertebrate communities

– Direct exposure/uptake of sediment COPECs by aquatic plant communities
– Direct contact/ingestion/uptake of sediment COPECs by fish
– Ingestion of aquatic plants, benthic invertebrates, and fish that have accumulated COPECs by fish
– Ingestion of sediment COPECs by aquatic wildlife (birds and mammals)
– Ingestion of aquatic plants, benthic invertebrates, and fish that have accumulated COPECs by aquatic wildlife (birds and mammals)
– Direct exposure/uptake of surface water COPECs by aquatic plants
– Direct exposure/uptake of surface water COPECs by benthic invertebrate communities
– Direct exposure/uptake of surface water COPECs by fish and pelagic invertebrates
– Ingestion of surface water COPECs by terrestrial wildlife (birds and mammals)

Note that dermal and inhalation exposure pathways were not evaluated as CCME (2020) considers these pathways negligible and rarely necessary when estimating total dose such as that conducted herein.

5.1.8 Assessment and Measurement Endpoints

Endpoints in ERAs define ecological attributes that are to be protected (assessment endpoints) and a measurable characteristic of those attributes (measurement endpoints) that can be used to gauge the degree of impact that has occurred or may occur. Assessment endpoints most often relate to attributes of biological populations or communities. They contain an entity (e.g., benthic invertebrates) and an attribute of that entity (e.g., survival rate). The entity in the assessment endpoint is typically an individual species or community, often referred to as an indicator species or indicator community, respectively. Measurement endpoints are related to the assessment endpoint and are the effects that can be measured or observed (e.g., toxicity in invertebrate bioassays). Measurement endpoints are most often used as surrogates for assessment endpoints since in most cases the assessment endpoint itself cannot be readily measured or observed (Suter, 2006).

The assessment and measurement endpoints for this ERA are presented below.

Table 5.3 Assessment and measurement endpoints for the ERA

Assessment Endpoint	Measurement Endpoint
– Sustainability (diversity and abundance) of local communities of terrestrial plants and soil invertebrates exposed to soil.	a. Comparison of soil concentrations to ecological soil quality benchmarks.
– Maintenance of the populations of terrestrial wildlife.	a. Comparison of the daily ingested COPEC dose for the indicator species to a dose-based TRV resulting in toxicological effects (reproduction, growth, and survival).
– Sustainability (diversity and abundance) of local communities of aquatic plants and benthic invertebrates exposed to sediment.	a. Site Characterization - comparison of sediment concentrations to sediment quality guidelines protective of aquatic plants and benthic invertebrates and assessing the extent of the observed or inferred impacts compared to other similar habitats in the area.
– Sustainability (diversity and abundance) of local communities of fish and pelagic invertebrates.	a. Comparison of predicted fish tissue concentrations to whole body tissue concentrations resulting in toxicological effects (reproduction, growth, and survival). b. Comparison of surface water concentrations to surface quality guidelines protective of freshwater aquatic life.
– Maintenance of the populations of riparian wildlife.	a. Comparison of the daily ingested COPEC dose for the indicator species to a dose-based TRV resulting in toxicological effects (reproduction, growth, and survival).

5.2 Exposure Assessment

Based on the ecological CSM, the following exposure pathways require further assessment in the ERA:

– Direct contact/ingestion/uptake of soil COPECs by terrestrial plant and soil invertebrate communities
– Ingestion of soil COPECs by terrestrial wildlife (birds and mammals) and ingestion of terrestrial plants, soil invertebrates, and terrestrial animals/prey that have accumulated COPECs by terrestrial wildlife (birds and mammals)
– Direct contact/ingestion/uptake of sediment COPECs by benthic invertebrate communities
– Direct contact/ingestion/uptake of sediment COPECs by fish communities
– Ingestion of sediment COPECs by aquatic wildlife (birds and mammals) and ingestion of aquatic plants, benthic invertebrates, and fish that have accumulated COPECs by aquatic wildlife (birds and mammals)

The following COPECs were carried through the ERA for further assessment: arsenic, ammonia nitrogen, beryllium, boron, lithium, titanium, vanadium, and zinc.

5.2.1 Assessment of Terrestrial Plants and Soil Invertebrates

The primary routes for exposure to COPECs for terrestrial plants and soil invertebrates are direct contact, uptake, and ingestion.

To assess terrestrial plants and soil invertebrates, which were to be protected at the community level, measured (90^{th} percentile baseline) and predicted concentrations in soil were compared to benchmark concentrations protective of terrestrial plants and soil invertebrates (see Section 5.3) to derive Exposure Ratios (ERs).

5.2.2 Assessment of Terrestrial Life (Birds and Mammals)

For terrestrial birds and mammals, the thirteen indicator species identified above were selected to evaluate the potential for risk: American mink, meadow vole, deer mouse, moose, white-tailed deer, black bear, snowshoe hare, red fox, spotted sandpiper, red-tailed hawk, barn swallow, American robin, and American kestrel. FCSAP (Government of Canada, 2012) was the source for all input parameters and exposure factors with the exception of the American kestrel, for which the source was USEPA (1993), and all receptor characteristics have been summarized in Table G.1. Simple food chain models were used to evaluate the potential risk to upper trophic level receptors.

5.2.2.1 Exposure Point Concentrations

To evaluate exposure of a wildlife receptor to a COPEC, it is necessary to estimate the concentration of the COPECs in soil and the food items (terrestrial plants, soil invertebrates, terrestrial animals/prey) that are consumed. Measured (90^{th} percentile baseline) and predicted concentrations of COPECs in soil were used to calculate soil ingestion exposure and to calculate concentrations of COPECs in terrestrial plants, soil invertebrates, and terrestrial animals/prey.

For terrestrial plants, soil invertebrates, and terrestrial animals/prey, the concentrations of COPECs were predicted using either regression equations or uptake factors (UFs) from the literature. Regression equations from literature sources, such as Bechtel Jacobs (1998) for the relationships between benthic invertebrates and sediment, and USEPA (2007) for relationships between terrestrial plants and soil, terrestrial invertebrates and soil, and terrestrial animals/prey and soil as well as invertebrates, were used where available.

The UF refers to the accumulation of a COPEC in an organism or biological tissue (e.g., soil invertebrates) from a source medium (e.g., soil). The generalized equation used to calculate a COPEC concentration in biological tissue (e.g., terrestrial invertebrates) from the concentration in a surrounding medium (e.g., soil) using an UF approach is as follows:

$$EPC_j = EPC_i \times UF_{ij}$$

Where: EPC_j = exposure point concentration in biological compartment *j* (e.g., mg/kg wet weight terrestrial invertebrate tissue)

EPC_i = exposure point concentration in environmental medium *i* (e.g., mg/kg dry soil)

UF_{ij} = uptake factor from surrounding medium *i* (in this case soil) to the target biological tissue *j* (e.g., mg/kg wet tissue/mg/kg dry soil).

An aluminum UF for terrestrial invertebrates was taken from the validation data set presented in Table C.1 of Appendix A of Sample et al. (1998b); the median UF from that data set (0.043) was selected for use in this assessment. Similarly, an aluminum UF for prey (small mammals) was obtained from Table C.1 in Appendix C of Sample et al. (1998a); the median UF of 0.0263 was selected for use in this assessment. For all COPECs, for which there are no UFs available for terrestrial plants, soil invertebrates, or terrestrial animals/prey, a default UF of 1 was assumed.

The tissue concentrations calculated using the regression equations and/or UFs for terrestrial plants, soil invertebrates, and terrestrial animals/prey are reported in dry weight units (i.e., mg/kg dry weight plant/mg/kg dry weight soil) and subsequently converted to wet weight assuming that terrestrial plants, soil invertebrates, and terrestrial animals/prey typically have approximately 85%, 84%, and 68% water content, respectively (Sample et al., 1994). The conversion to wet-weight is accomplished by multiplying the estimated concentrations derived from the regression equations by the dry solids fraction of 0.15 for terrestrial plants, 0.16 for soil invertebrates, and 0.32 for terrestrial animals/prey.

Equations for calculating EPCs for terrestrial plants, soil invertebrates, and terrestrial animals/prey using UFs or regression equations are identified in Appendices B.1 to B.6.

5.2.2.2 Estimating Daily Dose

For representative wildlife receptors, exposure to a COPEC was calculated as the average daily dose (ADD) ingested. The ADD is the amount of a COPEC a modelled species might be exposed to, expressed as mg/kg-body weight (bw)/day. For each modelled species and COPEC combination, the ADD was calculated by summing the intake from each applicable exposure pathway.

For exposure pathway *j*, the generalized equation for ADD is:

$$ADD_j = (IR_j \times AF_j \times EPC_j)/BW$$

Where:

ADD_j = average daily dose for exposure pathway *j* (mg/kg – bw/day)

IR_j = ingestion rate (kg medium/day)

AF_j = absorption factor (default value of 1; most conservative)

EPC_j = exposure point concentration (mg COPEC/kg medium)

BW = receptor body weight (kg)

The AF relates to the potential for COPECs to be absorbed across the gut wall following ingestion. Trace elements are part of the natural environment and exist in many different forms, having potentially differing relative bioavailability. In this ERA, the AF is conservatively assumed to have a value of 1, or 100% of the COPEC is bioavailable, for all ingested food items. In addition, for the purposes of this ERA, it is conservatively assumed that wildlife receptors obtain all their food from either the Lake area or the Creek area.

For calculation of soil exposures, the soil ingestion rate (kg dw/kg ww/day) was calculated using data presented in FCSAP (Government of Canada, 2012) and USEPA (1993). These data were converted from a percentage to a proportion of soil ingested as a function of the dry food ingestion rate (kg dw/kg BW/day). Where incidental ingestion rates for soil were presented in literature as a percentage range, for conservative estimates, the highest ingestion rate in the range was selected. Where no value was presented, a 2% of dry food ingestion rate was assumed.

For derivation of contaminant exposure to receptors from food, receptor diet proportions (percentages) were retrieved from FCSAP (Government of Canada, 2012) and USEPA (1993). Diet proportions were collated into six diet groups (aquatic plants, benthic invertebrates, fish, terrestrial plants, terrestrial invertebrates, and prey) based on their trophic level, habitat, and broadly by phylum (presence/absence of vertebrae). Terrestrial chordates were presented in the Prey diet group, which consisted of small mammals, birds, reptiles and amphibians. However, salamanders (newts) were placed into the Fish diet group due to their association with aquatic habitats. For those organisms which were listed in the literature as “other” food types, the sum percentage of organisms listed was distributed in equal proportions across all diet groups which they represented.

For standardization of units for exposure calculations, some food ingestion rates were converted from kg dry food to kg of wet food consumed. For each species, this required deriving total food wet weights based on the proportional moisture content from each diet group. Moisture content for the six diet groups was retrieved from Sample et al. (1994), and represent the arithmetic mean of the moisture content from each organism in the respective diet group. In cases where a range and no mean were presented, the median value from the range was selected and utilized in calculating the diet group mean.

Where an indicator species contained data from similar species or disparate populations, those data from populations in Nova Scotia or closest geographical proximity to Nova Scotia were selected. In some cases, species’ body weight was presented in literature across sexes and life-stages. In these cases, the arithmetic mean of male and female body weights was derived from the adult life-stage.

5.2.2.3 Estimating Exposure Proportion

An exposure proportion was derived to estimate the relationship between a receptors potential exposure area compared to its home range. A species’ appropriate exposure area was calculated as the area within the Project area which constituted suitable habitat, as described in GC (2012) and USEPA (1993) receptor characteristics. These were areas calculated for total open water area, total terrestrial land area, and total riparian areas within the Gold Brook Lake watershed and Gold Brook watershed separately. To calculate the exposure proportion, the exposure area was divided by the home range of each receptor. The receptors’ home ranges were provided by GC (2012) and USEPA (1993), where forage range was selected only when a home range value was absent. If home range was a smaller area than the appropriate exposure area, a dose adjustment factor (DAF) of 1 was applied to the total exposed dose. Where a home range was larger than the exposure area the exposure area proportion (exposure area ÷ home range) was applied to the total exposed dose. This was to account for the likelihood that a species with a sufficiently large home range, spends some of its time outside the contaminated area, and therefore, is only exposed to Project COPECs as a proportion of its range. The degree to which a species spends time outside the exposure area is unknown and therefore it was assumed that it spends an equal amount of time throughout its entire home range.

5.2.3 Assessment of Benthic Invertebrates

To assess benthic invertebrates, measured (maximum baseline) and predicted concentrations in sediment were compared to benchmark concentrations protective of benthic invertebrates (see Section 5.3) to derive ERs for benthic invertebrates.

5.2.4 Assessment of Fish and Pelagic Invertebrates

The primary route for exposure to COPECs for fish is generally considered to be through exposure to bioaccumulative COPECs via direct contact with and ingestion of surface water and ingestion of benthic invertebrates that have accumulated COPECs from sediment.

The level to which contaminants accumulate in fish is a function of the physicochemical properties of the COPEC, the rate of uptake into food and water and subsequently into fish, and the ability of the COPEC to be sequestered, metabolized, or otherwise eliminated. Potential risk to fish from exposure to COPECs was evaluated based on measured (90^{th} percentile baseline) and predicted fish tissue concentrations (body burden) and associated potential adverse effects. These fish tissue concentrations were compared to fish tissue concentrations protective of survival, growth, and reproduction (see Section 5.3.3) to derive ERs for fish. Additionally, potential risk to fish and pelagic invertebrates from COPECs was evaluated based on measured (90^{th} percentile baseline) and predicted surface water concentrations and compared to benchmark concentrations protective of freshwater aquatic life (see Section 5.3.3).

In cases where COPECs predicted for surface water did not increase from baseline, whole fish tissue concentrations were set to baseline concentrations. The same approach was used for sediment, where predicted sediment COPEC concentrations did not increase from baseline, benthic invertebrate tissue concentrations were set to baseline concentrations.

5.2.5 Assessment of Aquatic Wildlife (Birds and Mammals)

For birds and mammals, three indicator species were selected to evaluate the potential for risk: American mink, spotted sandpiper, and red-tailed hawk. Module 3 of FCSAP (Government of Canada, 2012) is the source for all input parameters and exposure factors, and these have been summarized in Table G.1. Simple food chain models were used to evaluate the potential risk to upper trophic level receptors.

5.2.5.1 Exposure Point Concentrations

To evaluate exposure of a wildlife receptor to a COPEC, it is necessary to estimate the concentration of the COPECs in sediment, surface water, and the food items (aquatic plants, benthic invertebrates, fish) that are consumed.

For aquatic plants, benthic invertebrates, and fish, the concentrations of COPECs in the food items were predicted using measured (90^{th} percentile baseline) and predicted sediment concentrations. Predicted concentrations were derived using regression equations or an UF approach. Regression equations were used for aquatic plants (USEPA 2007, assuming that aquatic plants take up COPECs from sediment in the same way as terrestrial plants take up COPECs from soil) and benthic invertebrates (Bechtel Jacobs 1998) where available, and a UF approach was used otherwise. The UF refers to the accumulation of a COPEC in an organism or biological tissue (e.g., benthic invertebrates) from a source medium (e.g., sediment).

The generalized equation used to calculate a COPEC concentration in biological tissue (e.g., benthic invertebrates) from the concentration in a surrounding medium (e.g., sediment) is as follows:

$$EPC_j = EPC_i \times UF_{ij}$$

Where:
- EPC_j = exposure point concentration in biological compartment j (*e.g.,* mg/kg wet weight benthic invertebrate tissue)
- EPC_i = exposure point concentration in environmental medium i (*e.g.,* mg/kg dry sediment)
- UF_{ij} = uptake factor from surrounding medium (in this case sediment) to the target biological tissue (*e.g.,* mg/kg wet tissue/mg/kg dry sediment).

For metals, the UFs for aquatic plants, benthic invertebrates, and fish are based on the following:

– Fish Bioconcentration Factors (BCFs) and Bioaccumulation Factors (BAFs; mercury only) provided by USEPA (2005) and RAIS (ORNL, 2020).
– Soil to plant uptake factors provided by USEPA (2007).
– A value of 1 where no other information was available.

The tissue concentrations calculated using the regression equations for aquatic plants and benthic invertebrates are reported in dry weight units (i.e., mg/kg dry weight plant/mg/kg dry weight sediment) and subsequently converted to wet weight assuming that aquatic plants and benthic invertebrates typically have approximately 85% and 79% water content, respectively (Sample et al., 1994). The conversion to wet-weight is accomplished by multiplying the estimated concentrations derived from the regression equations by the dry solids fraction of 0.15 for aquatic plants and 0.21 for benthic invertebrates.

Equations for calculating EPCs for aquatic plants, benthic invertebrates, and fish using UFs or regression equations are identified in Appendices B.1 to B.6.

5.2.5.2 Estimating Daily Dose

For representative wildlife receptors, exposure to a COPEC was calculated as the ADD ingested. The ADD is the amount of a COPEC a modelled species might be exposed to, expressed as mg/kg-body weight (bw)/day. For each modelled species and COPEC combination, the ADD was calculated by summing the intake from each applicable exposure pathway.

For exposure pathway *j*, the generalized equation for ADD is:

$$ADD_j = (IR_j \times AF_j \times EPC_j)/BW$$

Where:

ADD_j = average daily dose for exposure pathway *j* (mg/kg – bw/day)

IR_j = ingestion rate (kg medium/day)

AF_j = absorption factor (default value of 1; most conservative)

EPC_j = exposure point concentration (mg COPEC/kg medium)

BW = receptor body weight (kg)

The AF relates to the potential for COPECs to be absorbed across the gut wall following ingestion. Trace elements are part of the natural environment and exist in many different forms, having potentially differing relative bioavailability. In this ERA, the AF is conservatively assumed to have a value of 1, or 100% of the COPEC is bioavailable, for all ingested food items. In addition, for the purposes of this ERA, it is conservatively assumed that wildlife receptors obtain all their food from the Lake area or the Creek area.

For calculation of sediment exposures, the sediment ingestion rate (kg dw/kg ww/day) was calculated using data presented in FCSAP (Government of Canada, 2012) and USEPA (1993). These data were converted from a percentage to a proportion of sediment ingested as a function of the dry food ingestion rate (kg dw/kg BW/day). Where incidental ingestion rates for sediment were presented in literature as a percentage range, for conservative estimates, the highest ingestion rate in the range was selected. Where no value was presented, a 2% of dry food ingestion rate was assumed.

For derivation of contaminant exposure to receptors from food, receptor diet proportions (percentages) were retrieved from FCSAP (Government of Canada, 2012) and USEPA (1993). Diet proportions were collated into six diet groups (aquatic plants, benthic invertebrates, fish, terrestrial plants, terrestrial invertebrates, and prey) based on their trophic level, habitat, and broadly by phylum (presence/absence of vertebrae). Terrestrial chordates were presented in the Prey diet group, which consisted of small mammals, birds, reptiles and amphibians. However, salamanders (newts) were placed into the Fish diet group due to their association with aquatic habitats. For those organisms which were listed in the literature as “other” food types, the sum percentage of organisms listed was distributed in equal proportions across all diet groups which they represented.

For standardization of units for exposure calculations, some food ingestion rates had to be converted from kg dry food to kg of wet food consumed. For each species, this required deriving total food wet weights based on the proportional moisture content from each diet group. Moisture content for the six diet groups was retrieved from Sample et al. (1994), and represent the arithmetic mean of the moisture content from each organism in the respective diet group. In

cases where a range and no mean were presented, the median value from the range was selected and utilized in calculating the diet group mean.

Where an indicator species contained data from similar species or disparate populations, those data from populations in Nova Scotia or closest geographical proximity to Nova Scotia were selected. In some cases, species' body weight was presented in literature across sexes and life-stages. In these cases, the arithmetic mean of male and female body weights was derived from the adult life-stage.

5.2.5.3 Estimating Exposure Proportion

An exposure proportion was derived to estimate the relationship between a receptors potential exposure area compared to its home range and applied to the total exposed dose as a DAF (previously described in section 5.2.2.3).

5.3 Effects Assessment

This step in the ERA involves identifying appropriate contaminant exposure levels that represent conservative thresholds for adverse ecological effects. These conservative thresholds are referred to as TRVs. The TRVs that are applied in this ERA for assessing terrestrial plants and soil invertebrates, benthic invertebrates, fish, and wildlife are discussed in the sections below.

5.3.1 Assessment of Terrestrial Plants and Terrestrial Invertebrates

The soil TRVs that were used to assess terrestrial plants and soil invertebrates are summarized in Table G.2 in Appendix G. These TRVs are the screening values protective of plants and soil invertebrates that were utilized in the ecological screening for soil presented above.

5.3.2 Assessment of Aquatic Plants and Benthic Invertebrates

The sediment TRVs that were used to assess aquatic plants and benthic invertebrates are summarized in Table G.3 in Appendix G. These TRVs are the sediment screening values utilized in the ecological screening presented above.

5.3.3 Assessment of Fish and Pelagic Invertebrates

Potential adverse effects on the fish were evaluated using data relating tissue concentrations of the COPECs with toxicological effects on aquatic organisms as provided by the USEPA (Jarvinen and Ankley, 1999; Linkage of effects to tissue residues: development of a comprehensive database for aquatic organisms exposed to inorganic and organic chemicals, SETAC Technical Publication Series), where available. The fish tissue TRVs obtained from the USEPA are based on whole body tissue concentrations associated with effects on survival, mortality, and reproduction. For COPECs with greater than 10 data points in the literature cited, the 25th percentile was calculated and applied as the fish tissue TRV. The 25th percentile is a statistic that is used by CCME to develop soil quality guidelines protective of agricultural/residential/parkland land uses, which CCME chose based on Norberg-King (1988) as cited in CCME (2006). For COPECs with less than 10 data points, the minimum of the range of tissue concentrations associated within an effect was applied as the fish tissue TRV, which is a conservative approach.

The fish tissue TRVs that were used to assess fish are summarized in Table G.4 in Appendix G. Where fish tissue TRVs were not available, screening values protective of aquatic health were used as TRVs, and these values are summarized in Table G.5.

The surface water TRVs that were used to assess fish and pelagic invertebrates are summarized in Table G.5 in Appendix G. These TRVs are the screening values protective of freshwater aquatic life that were utilized in the ecological screening for surface water presented above.

5.3.4 Assessment of Terrestrial and Aquatic Wildlife (Birds and Mammals)

The toxicological database supporting a TRV preferably includes a number of chronic or multi-generational exposure studies involving exposure of relevant test species (i.e., the ecological receptor of interest or a phylogenetically similar species) to appropriate chemical forms of the COPEC of interest. Ideally, one or more relevant biological endpoints such as growth, reproductive effects, or survival were measured in the study. Databases that meet this requirement are available for some chemicals, but in most cases, available toxicity data are limited to studies conducted with laboratory animals (e.g., mammals: mice, rats, rabbits; birds: quail, chicken, ducks).

As indicated previously, species at risk were not carried through the ERA directly. For species with no conservation status, the geometric mean of Lowest Observed Adverse Effect Level (LOAELs) for survival, growth and reproduction endpoints are typically used to derive a TRV. The LOAEL-based benchmark represents a threshold level at which adverse effects are likely to become evident (Sample et al., 1996).

Risks based on the LOAELs were calculated for all receptors. The LOAELs were based on studies used to develop the USEPA Eco-SSLs (USEPA, 2005b). If not available in a USEPA Eco-SSL source document, the LOAEL identified in Sample et al. (1996) was selected as the TRV. If multiple LOAELs were identified in Sample et al. (1996), the lowest of the LOAELs was selected as the TRV. If a LOAEL was not identified in Sample et al. (1996), it was calculated as 10 times the NOAEL, consistent with the approach identified in Sample et al. (1996).

Wildlife TRVs used for this ERA are summarized in Table G.6 in Appendix G.

5.4 Risk Characterization

The risk characterization for this ERA was conducted on the basis of incremental risk due to the presence of the Project over baseline conditions.

First, quantitative estimates of potential ecological risk, specifically Exposure Ratios (ERs) and Hazard Quotients (HQs), were estimated for all of the selected VCs at baseline (Scenario 1), at each phase of the Project (Scenarios 2, 3, and 4), and post-closure (Scenario 5). Incremental risk estimates between each of Scenarios 2, 3, 4, and 5 and Scenario 1, representing the increase in potential health risks due to the presence of the Project, were then derived. The incremental ERs and HQs were compared to a value of one.

Incremental risk estimates less than this target were assumed to indicate that potential health risks due to the presence of the Project may be ruled out, and that no further assessment is required. An incremental risk estimate above one does not automatically indicate that health risks will occur if the Project proceeds, but does indicate that potential for health impacts cannot ruled out, and this information could be used to focus future efforts in preserving ecological health. Generally, the higher the ER or HQ, the greater the confidence that adverse effects will occur, but at values close to one, the confidence that adverse effects will actually occur is low.

For further comparison across scenarios, incremental predicted media concentrations are presented in Table B.55 in Appendices B.1 to B.6. These values represent the predicted media concentration with the baseline values removed to present the change in concentration from baseline due to the respective scenario. It is important to note that the values presented in Table B.55 do not indicate a level of risk, but only predicted concentrations.

5.4.1 Lake Exposure Area

5.4.1.1 Terrestrial Plants and Invertebrates

The potential for risk to terrestrial plants and soil invertebrates was calculated by dividing exposure, represented by measured (Scenario 1) or predicted (Scenarios 2 through 5) soil concentrations, by the appropriate soil TRV to estimate an Exposure Ratio (ER). Incremental ERs were calculated by subtracting the Scenario 1 ER from the each of the remaining ERs, and compared to a value of one.

As shown in Table G.7, none of the estimated incremental ERs for the COPECs exceeded 1, and no potential ecological risks to terrestrial plants and invertebrates in the Lake exposure area due to the Project are therefore expected.

5.4.1.2 Aquatic Plants and Benthic Invertebrates

The potential for risk to aquatic plants and benthic invertebrates was calculated by dividing exposure, represented by measured (Scenario 1) or predicted (Scenarios 2 through 5) sediment concentrations, by the appropriate sediment TRV to estimate an Exposure Ratio (ER). Incremental ERs were calculated by subtracting the Scenario 1 ER from the each of the remaining ERs and compared to a value of one. The risk to aquatic plants was primarily addressed by comparison to sediment TRVs which are specific to benthic invertebrates, however, assessment of the aquatic plant community was further evaluated by comparison to the surface water guidelines conducted for fish and pelagic invertebrates below.

As shown in Table G.8, none of the estimated incremental hazard quotients for the COPECs exceeded 1, and no potential ecological risks are expected to aquatic plants and benthic invertebrates in the Lake exposure area due to the Project based on sediment ERs.

5.4.1.3 Fish and Pelagic Invertebrates

The potential for risk to fish was assessed in two ways. First, for those COPECs, for which tissue TRVs were available, ERs were calculated by dividing measured (Scenario 1) or predicted (Scenarios 2 through 5) fish tissue concentrations by the appropriate fish tissue TRV. Incremental ERs were calculated by subtracting the Scenario 1 ER from the each of the remaining ERs and compared to a value of one. The results of this analysis are presented in Table G.9.

Secondly, to assess fish and pelagic invertebrates, ERs based on surface water were calculated by dividing measured (Scenario 1) or predicted (Scenarios 2 through 5) surface water concentrations by the appropriate aquatic health TRV. Incremental ERs were calculated by subtracting the Scenario 1 ER from the each of the remaining ERs and compared to a value of one. The results of this second analysis are presented in Table G.10.

As shown in Table G.9, none of the estimated incremental fish tissue ERs for the COPECs exceeded 1, and no potential ecological risks to fish are expected for the Lake exposure area due to the Project based on fish tissue ERs.

As shown in Table G.10, none of the estimated incremental surface water ERs for the COPECs exceeded 1and no potential ecological risks to fish and pelagic invertebrates are expected for the Lake exposure area due to the Project based on surface water ERs.

5.4.1.4 Wildlife (Birds and Mammals)

5.4.1.4.1 American Mink

The selected TRVs for the American mink are based on LOAELs to ensure protection at the population level.

As shown in Table G.11, none of the estimated incremental hazard quotients for the COPECs exceeded 1, and no potential ecological risks to mink in the Lake exposure area due to the Project are expected.

5.4.1.4.2 Meadow Vole

The selected TRVs for the meadow vole are based on LOAELs to ensure protection at the population level.

As shown in Table G.12, none of the estimated incremental hazard quotients for the COPECs exceeded 1, and no potential ecological risks to the meadow vole due to the Project in the Lake exposure area are expected.

5.4.1.4.3 Deer Mouse

The selected TRVs for the deer mouse are based on LOAELs to ensure protection at the population level.

As shown in Table G.13, none of the estimated incremental hazard quotients for the COPECs exceeded 1, and no potential ecological risks to the deer mouse in the Lake exposure area due to the Project are expected.

5.4.1.4.4 Moose

The selected TRVs for moose are based on NOAELs to ensure an individual level of protection, given the status of moose as a SAR.

As shown in Table G.14, none of the estimated incremental hazard quotients for the COPECs exceeded 1, and no potential ecological risks to the moose in the Lake exposure area due to the Project are expected.

5.4.1.4.5 White-tailed Deer

The selected TRVs for the white-tailed deer are based on LOAELs to ensure protection at the population level.

As shown in Table G.15, none of the estimated incremental hazard quotients for the COPECs exceeded 1, and no potential ecological risks to due to the Project in the Lake exposure area are therefore expected.

5.4.1.4.6 Black Bear

The selected TRVs for the black bear are based on LOAELs to ensure protection at the population level.

As shown in Table G.16, none of the estimated incremental hazard quotients for the COPECs exceeded 1, and therefore, no potential ecological risks to the bear in the Lake exposure area due to the Project are expected.

5.4.1.4.7 Snowshoe Hare

The selected TRVs for the snowshoe hare are based on LOAELs to ensure protection at the population level.

As shown in Table G.17, none of the estimated incremental hazard quotients for the COPECs exceeded 1, and therefore, no potential ecological risks to the hare in the Lake exposure are due to the Project are expected.

5.4.1.4.8 Red Fox

The selected TRVs for the red fox are based on LOAELs to ensure protection at the population level.

As shown in Table G.18, none of the estimated incremental hazard quotients for the COPECs exceeded 1, and no potential ecological risks to the fox in the Lake exposure area due to the Project are therefore expected.

5.4.1.4.9 Spotted Sandpiper and Greater Yellowlegs

The selected TRVs for the spotted sandpiper are based on NOAELs to ensure an individual level of protection, given the status of the sandpiper as a SOCI and given the status of the greater yellowlegs, for which the sandpiper is a surrogate, as a SOCI.

As shown in Table G.19, none of the estimated incremental hazard quotients for the COPECs exceeded 1, and no potential ecological risks to the spotted sandpiper and greater yellowlegs in the Lake exposure area due to the Project are expected.

5.4.1.4.10 Red-tailed Hawk, Northern Saw-Whet, Boreal Owl, Great Horned Owl, and Northern Harrier

The risk characterization for the red-tailed hawk was conducted twice. First, the selected TRVs for the red-tailed hawk, northern saw-whet, boreal owl, and great horned owl are based on LOAELs to ensure a population level of protection. However, given the status of the northern harrier, for which the hawk is a surrogate, as a SOCI, a characterization of risk for this receptor using NOAEL TRVs is also presented.

As shown in Table G.20, none of the estimated incremental hazard quotients for the COPECs using the LOAEL TRV exceeded 1, and therefore, no potential ecological risks to the red-tailed hawk northern saw-whet, boreal owl, and great horned owl in the Lake exposure area due to the Project are expected.

As shown in Table G.21, none of the estimated incremental hazard quotients for the COPECs using the NOAEL TRV exceeded 1, and therefore, no potential ecological risks to the northern harrier in the Lake exposure area due to the Project are expected.

5.4.1.4.11 Barn Swallow, Magnolia Warbler, Golden-Crowned Kinglet, Common Yellowthroat, Canada Warbler, Wilson's Warbler, Ruby-Crowned Kinglet, Boreal Chickadee, Red-Breasted Nuthatch, and Yellow-Bellied Flycatcher

The risk characterization for the barn swallow was conducted twice. First, the selected TRVs for the barn swallow, as well as the magnolia warbler, golden-crowned kinglet, and common yellowthroat, are based on LOAELs to ensure a population level of protection. However, given the status of the Canada Warbler as a SAR, and Wilson's warbler, ruby-crowned kinglet, boreal chickadee, red-breasted nuthatch, and yellow-bellied flycatcher as SOCIs, for which the swallow is a surrogate, a characterization of risk for the barn swallow using NOAEL TRVs is also presented.

As shown in Table G.22, none of the estimated incremental hazard quotients for the COPECs using the LOAEL TRV exceeded 1, and therefore, no potential ecological risks to the barn swallow, magnolia warbler, golden-crowned kinglet, or common yellowthroat in the Lake exposure area are expected due to the Project.

As shown in Table G.23, none of the estimated incremental hazard quotients for the COPECs using the NOAEL TRV exceeded 1, and no potential ecological risks to the barn swallow, Wilson's warbler, ruby-crowned kinglet, boreal chickadee, red-breasted nuthatch, or yellow-bellied flycatcher due to the Project in the Lake exposure area are expected.

5.4.1.4.12 American Robin, White-Throated Sparrow, Black-Capped Chickadee, Fox Sparrow, Swainson's Thrush, Gray Catbird, and Gray Jay

The risk characterization for the American robin was conducted twice. First, the selected TRVs for the robin itself, as well as the white-throated sparrow and the black-capped chickadee, are based on LOAELs to ensure a population level of protection for these receptors. However, given the status of the fox sparrow, Swainson's thrush, gray catbird, and gray jay as SOCIs, for which the robin is a surrogate, a characterization of risk for the American robin using NOAEL TRVs is also presented.

As shown in Table G.24, none of the estimated incremental hazard quotients for the COPECs using the LOAEL TRV exceeded 1, and no potential ecological risks to the American robin, white-throated sparrow, or black-capped chickadee in the Lake exposure area are expected.

As shown in Table G.25, none of the estimated incremental hazard quotients for the COPECs using the NOAEL TRV exceeded 1, and no potential ecological risks to the American robin, fox sparrow, Swainson's thrush, gray catbird, or gray jay are expected in the Lake exposure area due to the Project.

5.4.1.4.13 American Kestrel

The selected TRVs for the American kestrel are based on NOAELs to ensure an individual level of protection, given the status of the kestrel as a SOCI.

As shown in Table G.26, none of the estimated incremental hazard quotients for the COPECs exceeded 1. For the remaining COPECs, no potential ecological risks to the American kestrel in the Lake exposure area due to the Project are expected.

5.4.2 Creek Exposure Area

5.4.2.1 Terrestrial Plants and Invertebrates

As shown in Table G.27, none of the estimated incremental ERs for the COPECs exceeded 1, and no potential ecological risks to terrestrial plants and invertebrates in the Creek exposure area due to the Project are therefore expected.

5.4.2.2 Aquatic Plants and Benthic Invertebrates

As shown in Table G.28, none of the estimated incremental ERs for the COPECs exceeded 1, and no potential ecological risks to aquatic plants and benthic invertebrates in the Creek exposure area due to the Project are therefore expected.

5.4.2.3 Fish and Pelagic Invertebrates

As shown in Table G.29, none of the estimated incremental fish tissue ERs for the COPECs exceeded 1, and no potential ecological risks to fish are expected due to the Project based on fish tissue ERs.

As shown in Table G.30, none of the estimated incremental surface water ERs for the COPECs exceeded 1, and no potential ecological risks to fish and pelagic invertebrates are expected in the Creek exposure area due to the Project based on surface water ERs.

5.4.2.4 Wildlife (Birds and Mammals)

5.4.2.4.1 American Mink

The selected TRVs for the American mink are based on LOAELs to ensure protection at the population level.

As shown in Table G.31, none of the estimated incremental hazard quotients for the COPECs exceeded 1, and no potential ecological risks to the mink in the Creek exposure area are expected.

5.4.2.4.2 Meadow Vole

The selected TRVs for the meadow vole are based on LOAELs to ensure protection at the population level.

As shown in Table G.32, none of the estimated incremental hazard quotients for the COPECs exceeded 1, and no potential ecological risks to the meadow vole in the Creek exposure area are expected.

5.4.2.4.3 Deer Mouse

The selected TRVs for the deer mouse are based on LOAELs to ensure protection at the population level.

As shown in Table G.33, none of the estimated incremental hazard quotients for the COPECs exceeded 1, and no potential ecological risks to the deer mouse in the Creek exposure area are expected.

5.4.2.4.4 Moose

The selected TRVs for moose are based on NOAELs to ensure an individual level of protection, given the status of moose as a SAR.

As shown in Table G.34, none of the estimated incremental hazard quotients for the COPECs exceeded 1, and no potential ecological risks to the moose in the Creek exposure area are expected.

5.4.2.4.5 White-tailed Deer

The selected TRVs for the white-tailed deer are based on LOAELs to ensure protection at the population level.

As shown in Table G.35, none of the estimated incremental hazard quotients for the COPECs exceeded 1, and no potential ecological risks to the moose in the Creek exposure area are expected.

5.4.2.4.6 Black Bear

The selected TRVs for the black bear are based on LOAELs to ensure protection at the population level.

As shown in Table G.36, none of the estimated incremental hazard quotients for the COPECs exceeded 1, and no potential ecological risks to the bear in the Creek exposure area are therefore expected.

5.4.2.4.7 Snowshoe Hare

The selected TRVs for the snowshoe hare are based on LOAELs to ensure protection at the population level.

As shown in Table G.37, none of the estimated incremental hazard quotients for the COPECs exceeded 1, and no potential ecological risks to the hare in the Creek exposure area are therefore expected.

5.4.2.4.8 Red Fox

The selected TRVs for the red fox are based on LOAELs to ensure protection at the population level.

As shown in Table G.38, none of the estimated incremental hazard quotients for the COPECs exceeded 1, and no potential ecological risks to the fox in the Creek exposure area due to the Project are expected.

5.4.2.4.9 Spotted Sandpiper and Greater Yellowlegs

The selected TRVs for the spotted sandpiper are based on NOAELs to ensure an individual level of protection, given the status of the sandpiper as a SOCI and given the status of the greater yellowlegs, for which the sandpiper is a surrogate, as a SOCI.

As shown in Table G.39, none of the estimated incremental hazard quotients for the COPECs exceeded 1, and no potential ecological risks to the spotted sandpiper and greater yellowlegs in the Creek area due to the Project are expected.

5.4.2.4.10 Red-tailed Hawk, Northern Saw-Whet, Boreal Owl, Great Horned Owl, and Northern Harrier

The risk characterization for the red-tailed hawk was conducted twice. First, the selected TRVs for the red-tailed hawk, northern saw-whet, boreal owl, and great horned owl are based on LOAELs to ensure a population level of protection. However, given the status of the northern harrier, for which the hawk is a surrogate, as a SOCI, a characterization of risk for this receptor using NOAEL TRVs is also presented.

As shown in Table G.40, none of the estimated incremental hazard quotients for the COPECs using the LOAEL TRV exceeded 1, and no potential ecological risks to the red-tailed hawk, northern saw-whet, boreal owl, and great horned owl in the Creek exposure area due to the Project are therefore expected.

As shown in Table G.41, none of the estimated incremental hazard quotients for the COPECs using the NOAEL TRV exceeded 1, and no potential ecological risks to northern harrier in the Creek exposure area due to the Project are therefore expected.

5.4.2.4.11 Barn Swallow, Magnolia Warbler, Golden-Crowned Kinglet, Common Yellowthroat, Canada Warbler, Wilson's Warbler, Ruby-Crowned Kinglet, Boreal Chickadee, Red-Breasted Nuthatch, and Yellow-Bellied Flycatcher

The risk characterization for the barn swallow was conducted twice. First, the selected TRVs for the barn swallow, as well as the magnolia warbler, golden-crowned kinglet, and common yellowthroat, are based on LOAELs to ensure a population level of protection. However, given the status of the Canada Warbler as a SAR, and Wilson's warbler, ruby-crowned kinglet, boreal chickadee, red-breasted nuthatch, and yellow-bellied flycatcher as SOCIs, for which the swallow is a surrogate, a characterization of risk for the barn swallow using NOAEL TRVs is also presented.

As shown in Table G.42, none of the estimated incremental hazard quotients for the COPECs using the LOAEL TRV exceeded 1and no potential ecological risks to the barn swallow, magnolia warbler, golden-crowned kinglet, or common yellowthroat in the Creek exposure area due to the Project are therefore expected.

As shown in Table G.43, none of the estimated incremental hazard quotients for the COPECs using the NOAEL TRV exceeded 1, and therefore, no potential ecological risks to the barn swallow, Wilson's warbler, ruby-crowned kinglet, boreal chickadee, red-breasted nuthatch, or yellow-bellied flycatcher in the Creek exposure are due to the Project are expected.

5.4.2.4.12 American Robin, White-Throated Sparrow, Black-Capped Chickadee, Fox Sparrow, Swainson's Thrush, Gray Catbird, and Gray Jay

The risk characterization for the American robin was conducted twice. First, the selected TRVs for the robin itself, as well as the white-throated sparrow and the black-capped chickadee, are based on LOAELs to ensure a population level of protection for these receptors. However, given the status of the fox sparrow, Swainson's thrush, gray catbird, and gray jay as SOCIs, for which the robin is a surrogate, a characterization of risk for the American robin using NOAEL TRVs is also presented.

As shown in Table G.44, none of the estimated incremental hazard quotients for the COPECs exceeded 1, and no potential ecological risks to the American robin, white-throated sparrow, or black-capped chickadee in the Creek exposure area due to the Project are therefore expected.

As shown in Table G.45, none of the estimated incremental hazard quotients for the COPECs exceeded 1, and no potential ecological risks to the American robin, fox sparrow, Swainson's thrush, gray catbird, or gray jay in the Creek area due to the Project are therefore expected.

5.4.2.4.13 American Kestrel

The selected TRVs for the American kestrel are based on NOAELs to ensure an individual level of protection, given the status of the kestrel as a SOCI.

As shown in Table G.46, none of the estimated incremental hazard quotients for the COPECs exceeded 1, and therefore, no potential ecological risks to the American kestrel in the Lake exposure area due to the Project are expected.

5.4.3 Summary

For the Lake exposure area, no COPECs were identified as presenting a risk to any receptors for all pathways, and therefore, no potential ecological risks are likely present due to the Project.

For the Creek exposure area, no COPECs were identified as presenting a risk to any receptors for all pathways, and therefore, no potential ecological risks are likely present due to the Project.

5.5 Uncertainties

The results for the ERA present a reasonable evaluation of the risk to ecological receptors potentially exposed to COPECs in the vicinity of Gold Brook Lake and Gold Brook. Where uncertainty or lack of information were encountered in the development of the risk estimates, reasonable assumptions were made, or data were selected, in order to ensure that risks were neither grossly underestimated nor overestimated. Uncertainties are inherent in every aspect of the risk assessment process, as discussed in this section.

5.5.1 Data Limitations

The uncertainty of a risk assessment calculation often depends on the sample size, extent of contamination and variability of the data set. A larger sample size generally reduces uncertainty. The age of the data also plays an important factor since Lake and Creek use and conditions change over time, and natural burial of sediments may occur. Representative environmental media data have been collected as part of GHD's 2021 investigations and these data have been used to supplement the existing data set. Using recent data has reduced the uncertainty associated with the measured concentrations used in the assessment.

Tissue samples from plants, invertebrates, and fish were collected in the AA as part of the baseline sampling campaign for analysis of metals, and these data were used in the food chain models. However, future concentrations of COPECs in tissues and other environmental media were predicted using food chain models as well as fate and transport models. Uptake equations and bioaccumulation factors were thus used to predict COPEC concentrations in

plants, invertebrates, and fish. The actual future concentrations in these biological tissues are uncertain, but they have been estimated using best available information and standard methods.

5.5.2 Wildlife Exposure Factors

Virtually every factor incorporated into dose calculations for wildlife species possesses a site-specific component. Validity of each exposure factor is dependent on consideration of the site-specific nature of these factors. In the absence of site-specific validation, exposure factors are incorporated based on validations performed elsewhere for other cases and sometimes for other species. Considerations such as food ingestion rates, water ingestion rates, incidental sediment ingestion rates, dietary composition, home range, and time spent at the site were collected from the scientific literature based on other sites and locations.

5.5.3 Bioavailability

Bioavailability is the extent to which a substance can be absorbed or otherwise ingested by a living organism, potentially causing an adverse response. Factors such as TOC, pH, and oxygen may affect the bioavailability of COPECs in soil. Assumptions about bioavailability are made in each step of the food chain model: from medium to prey, from prey to predator, and from medium directly to predator via incidental ingestion. Bioavailability of COPECs in each step of the food chain also depends on an organism's ability to metabolize and eliminate COPECs. For many species, this information is not available, thus the food chain models assume 100 percent bioavailability so as not to underestimate risk. In some cases, this assumption leads to a risk conclusion that is overly conservative given the uncertainties involved.

5.5.4 Toxicity Reference Values

There is uncertainty associated with the extrapolation of literature-derived toxicity endpoints to measurement endpoint receptors because of differences in exposure conditions. The majority of the literature-based toxicity data evaluated in the ERA were derived from laboratory studies. Laboratory settings do not necessarily represent field conditions and exposures, and typically are designed to control various factors in order to isolate one parameter in particular.

5.5.5 Use of Receptors as Sentinels to Represent Other Organisms

The use of receptors as sentinels is intended to limit the number of ecological receptors evaluated. The terrestrial and aquatic habitats were examined to identify relevant species, and to support the selection of appropriate receptors. Therefore, the receptors that were selected are known to be present or can reasonably be expected to be present at their respective exposure areas (Lake or Creek). These receptors are also known to be reasonably or conservatively representative of other species that may be present at the Lake or Creek and exposed to COPECs. Therefore, it is reasonable to assume that conclusions that are reached in respect of the modelled receptor organisms can be generalized to other biota that might use the Lake or Creek areas.

6. Conclusion and recommendations

The HHRA evaluated the risks to residents, Indigenous people, recreational visitors and workers from exposure to chemicals in various media associated with the Goldboro Gold Project.

None of the incremental HQs estimated for any receptors during any of the stages of mine life as represented by the five exposure Scenarios exceeded their target of 0.2, which indicates that the non-carcinogenic risks related to the Project are negligible for the COPHCs. Total HQs for workers did not exceed their target of 0.2. In addition, ILCRs for all receptors do not exceed their target of 1E-05, which indicates that the carcinogenic risks related to the Project are negligible for the COPHCs. Based on the findings of the HHRA, concentrations of COPHCs from Project related

activities do not pose an incremental risk to human health and further evaluation or risk management is not considered warranted.

However, the predicted Total Suspended Particulates (TSP) concentration at the south and west PA boundary exceeded the Maximum Permissible Ground Level Concentration (MPGLC) associated with visibility (this is not a human health related guideline). In addition, the number of days per year exceeding the MPGLC during the operation phase was limited to 19 days and the concentrations are elevated near the PA boundaries only. Elevated concentrations of TSP exceeding the MPGLC do not extend to the property boundary which is proposed to extend further to the south and the west of the PA and the compliance point for the Project will be the property boundary. Concentrations of TSP are predicated to be within the MPGLC at the property boundary and will be confirmed through future compliance monitoring. A Fugitive Dust Best Management Practice Plan will be implemented for the Project to mitigate risks associated with fugitive dust including TSP and further action or risk management with respect to human health is not considered warranted.

For the ERA, GHD estimated potential incremental ecological risks to the terrestrial plant and soil invertebrate communities, the aquatic plant and benthic invertebrate communities, the fish and pelagic invertebrate communities, and populations and individuals of wildlife species representing the birds and mammals living in the AA due to the presence of the Project. Potential health risk estimates were derived for two exposure areas: Gold Brook Lake and its watershed, and Gold Brook and its watershed.

For the Gold Brook Lake exposure area, no potential ecological risks were identified due to the presence of the Project.

For the Gold Brook Creek exposure area, no potential ecological risks were identified due to the presence of the Project.

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8. Limitations

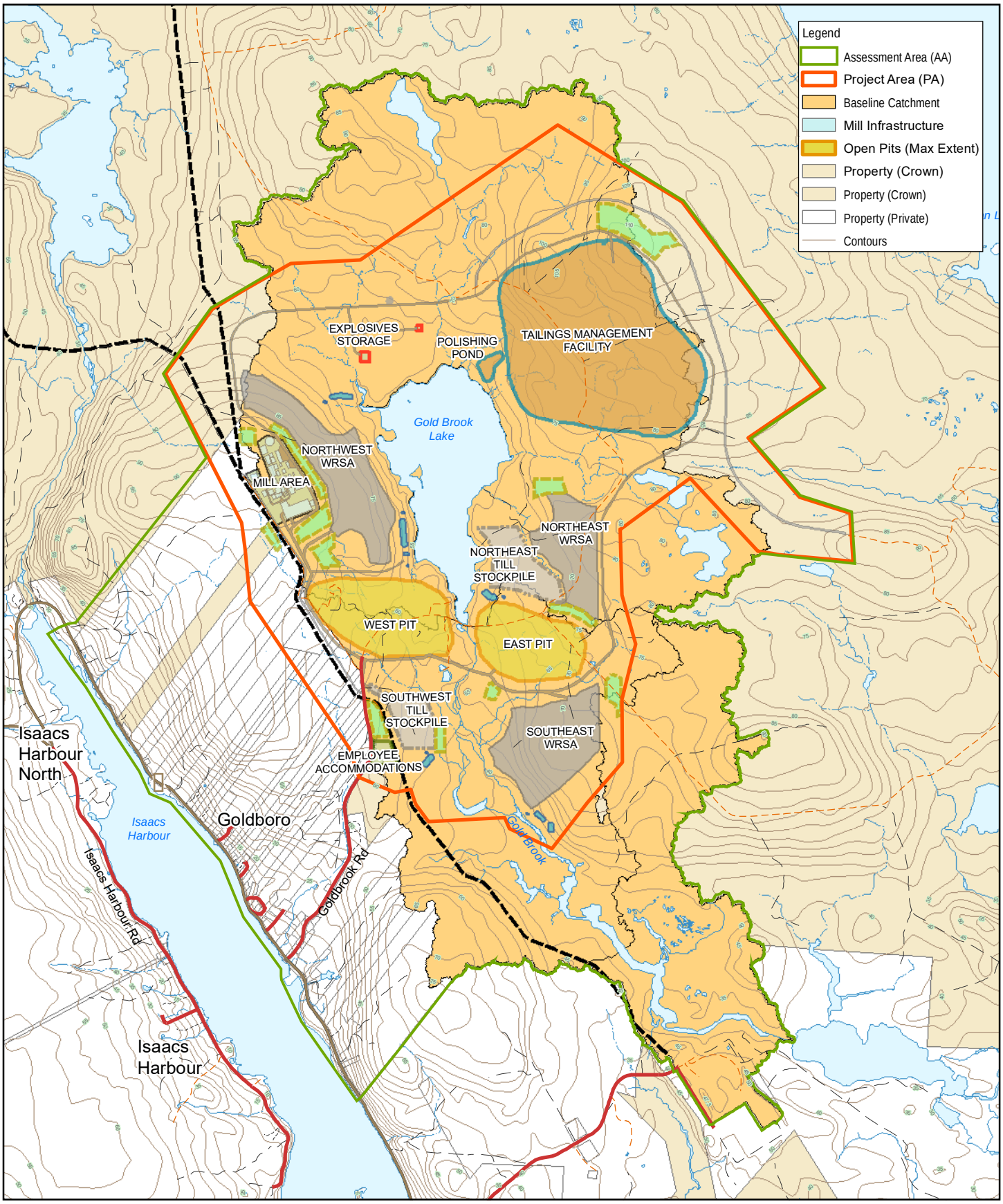
This report: has been prepared by GHD for Anaconda Mining Inc. and may only be used and relied on by Anaconda Mining Inc. for the purpose agreed between GHD and Anaconda Mining Inc. as set out in Section 1 of this report.

GHD otherwise disclaims responsibility to any person other than Anaconda Mining Inc. arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.



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ANACONDA MINING INC
GOLDBORO GOLD PROJECT
HHERA AND BASELINE SAMPLING PROGRAM

SITE PLAN

Project No. 11222385
Revision No. -
Date 19/05/2022

FIGURE 1

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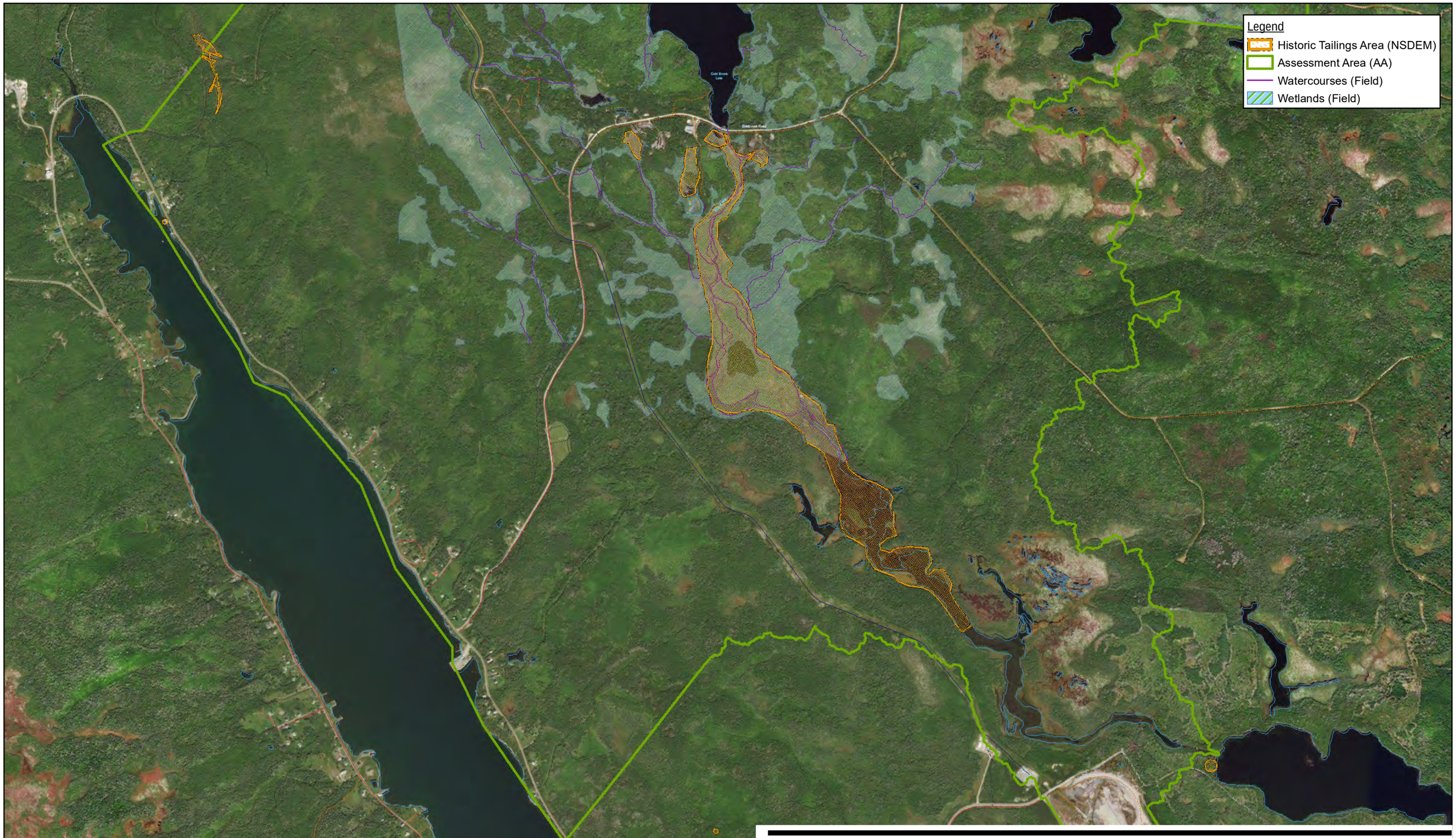

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GHD

ANACONDA MINING INC
GOLDBORO GOLD PROJECT
HHERA AND BASELINE SAMPLING PROGRAM

HISTORIC TAILINGS LOCATIONS

Project No. 11222385
Revision No. -
Date 19/05/2022

FIGURE 2

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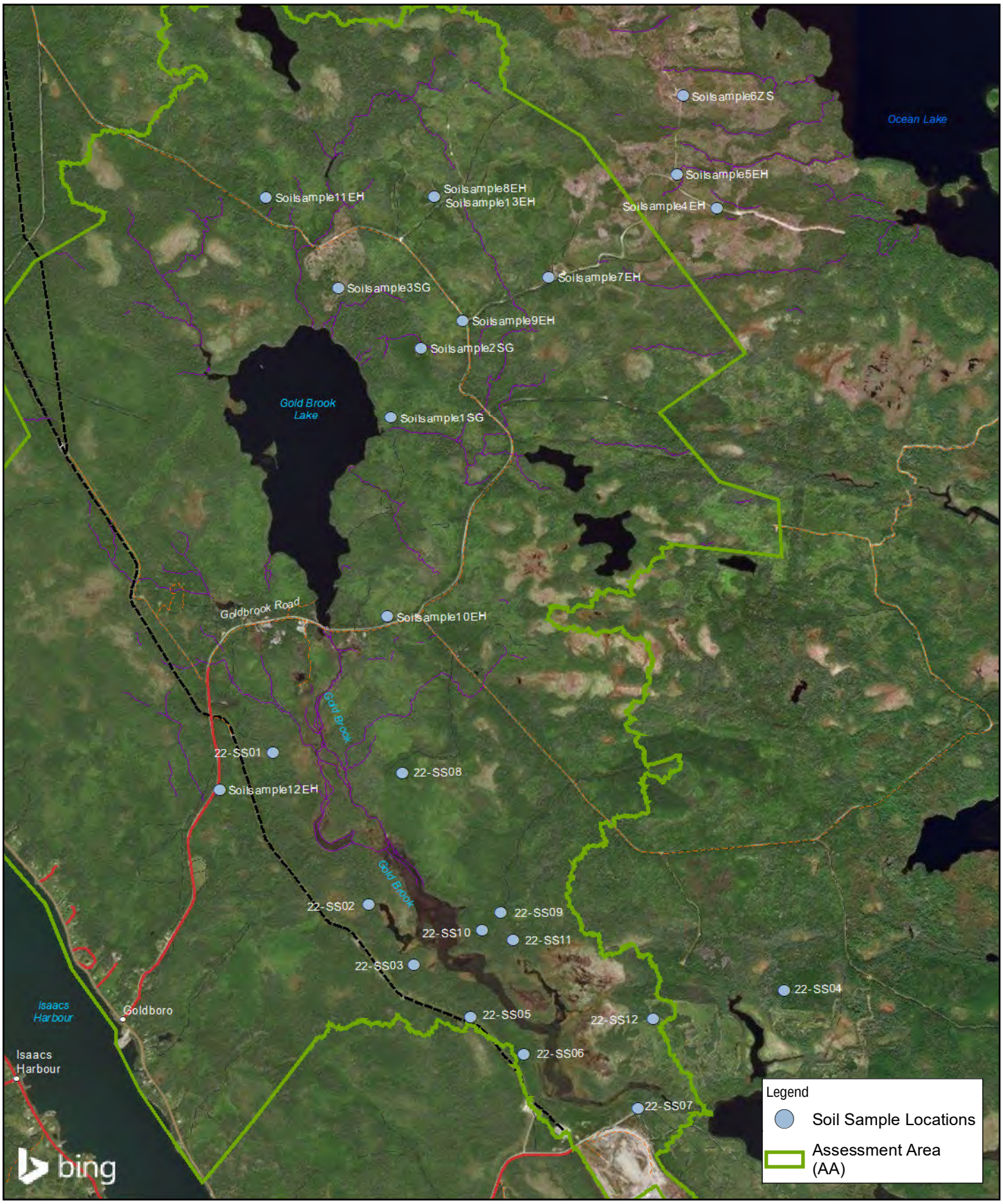

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ANACONDA MINING INC
GOLDBORO GOLD PROJECT
HHERA AND BASELINE SAMPLING PROGRAM

SOIL SAMPLE LOCATIONS

Project No. 11222385
Revision No. -
Date 19/05/2022

FIGURE 3

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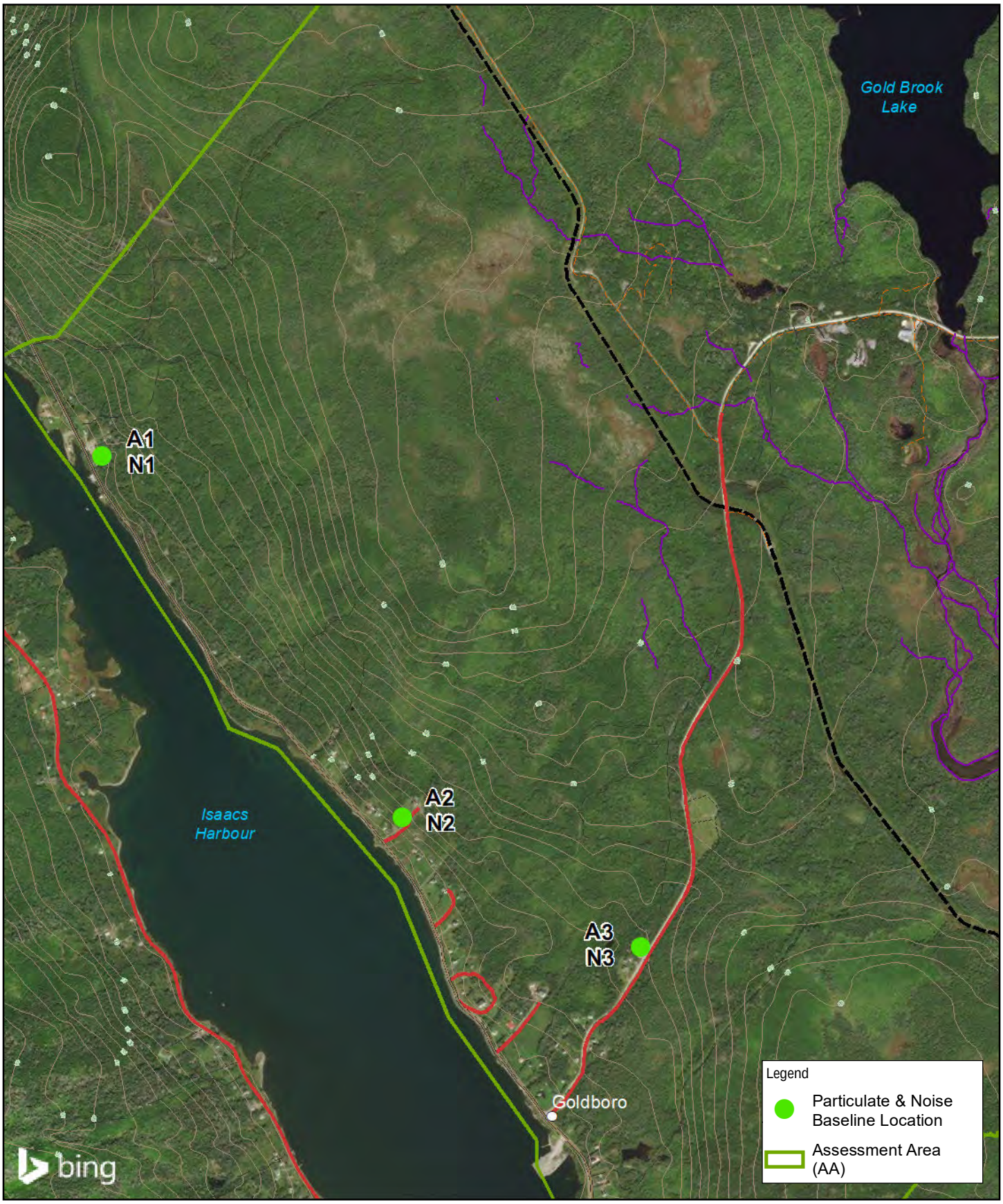

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ANACONDA MINING INC
GOLDBORO GOLD PROJECT
HHERA AND BASELINE SAMPLING PROGRAM

AIR QUALITY
SAMPLE LOCATIONS

Project No. 11222385
Revision No. -
Date 19/05/2022

FIGURE 4

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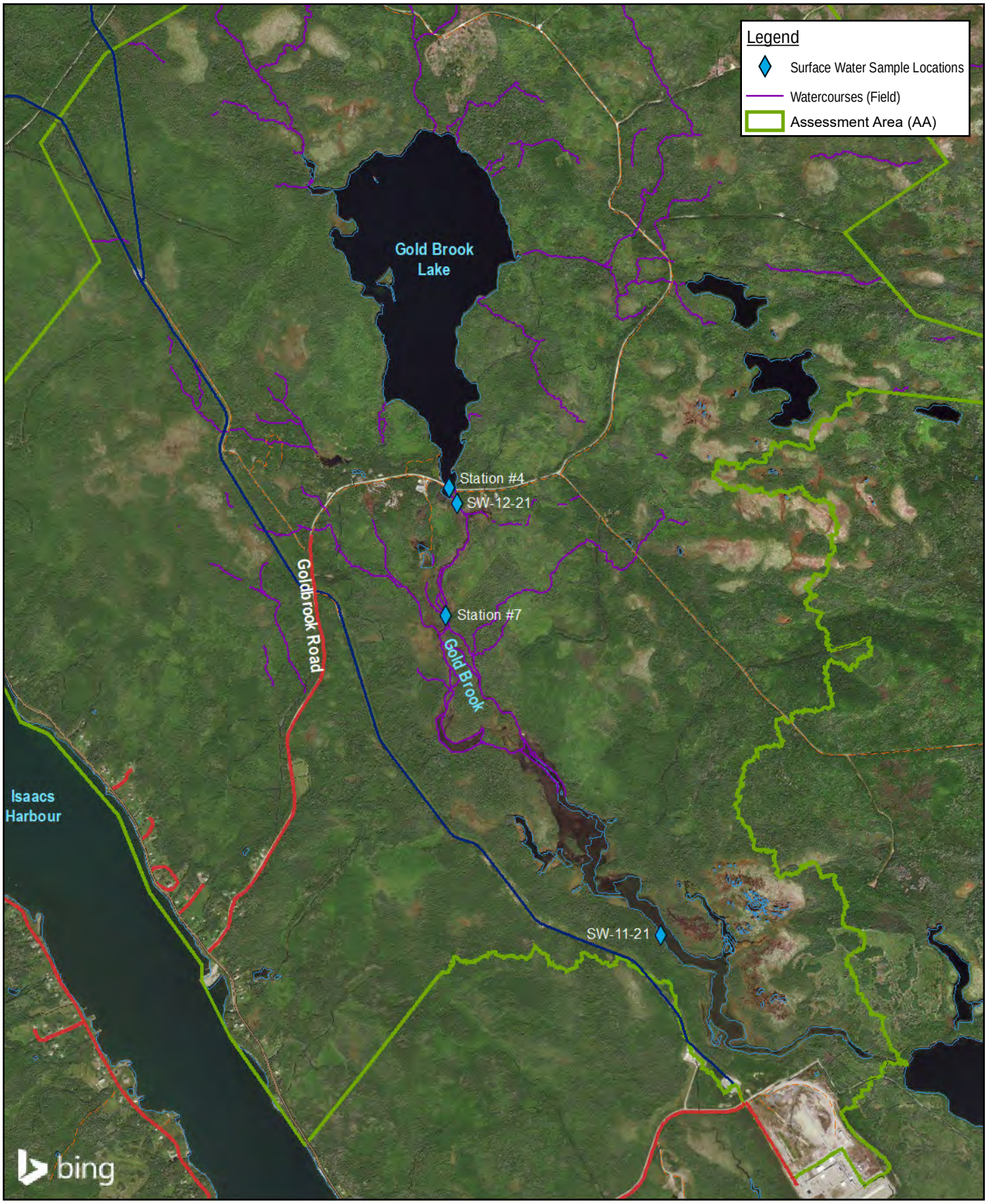

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ANACONDA MINING INC.
GOLDBORO GOLD PROJECT
HHERA AND BASELINE SAMPLING PROGRAM

SURFACE WATER SAMPLE LOCATIONS

Project No. 11222385
Revision No. -
Date 19/05/2022

FIGURE 5

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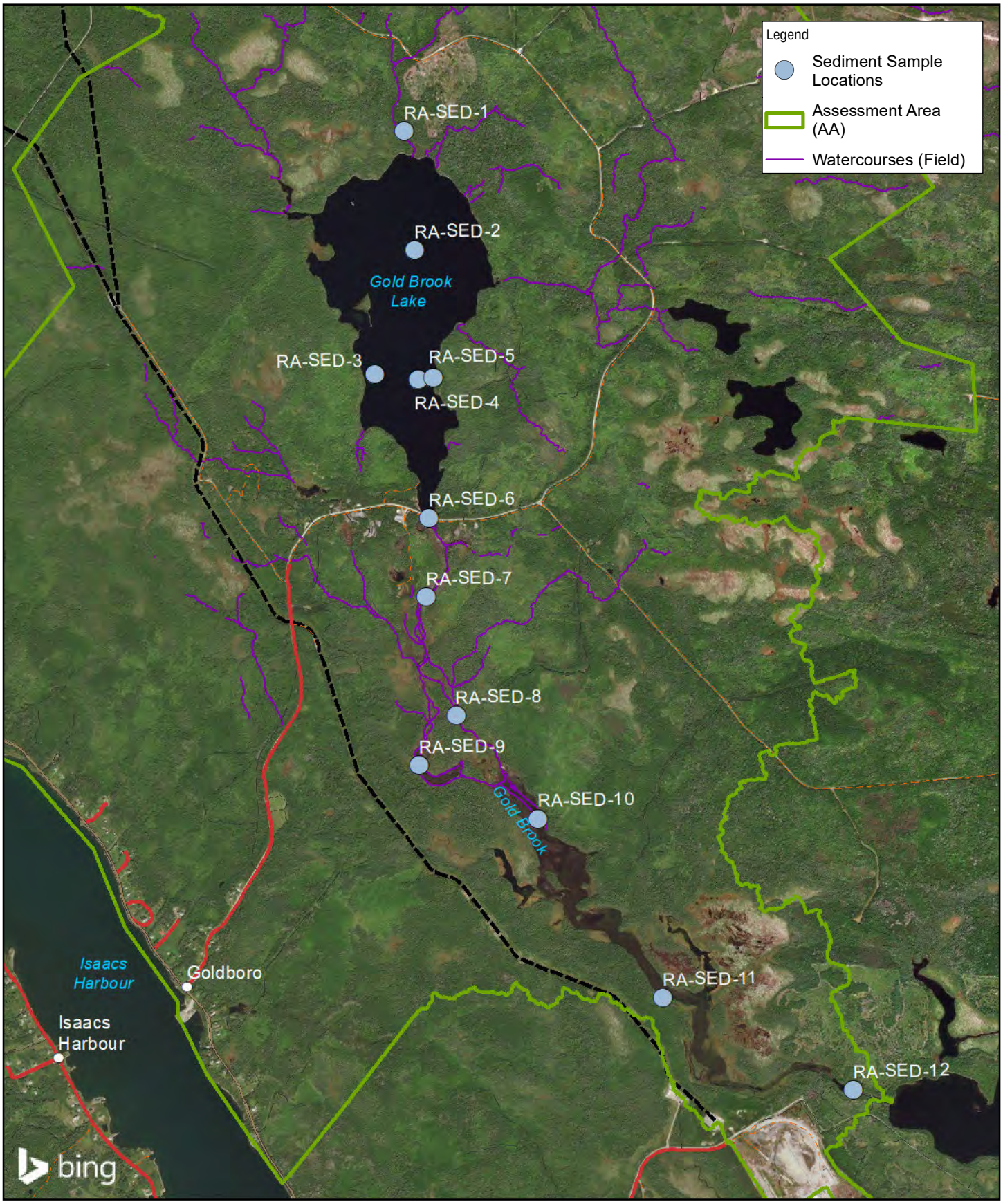

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ANACONDA MINING INC
GOLDBORO GOLD PROJECT
HHERA AND BASELINE SAMPLING PROGRAM

SEDIMENT SAMPLE LOCATIONS

Project No. 11222385
Revision No. -
Date 19/05/2022

FIGURE 6

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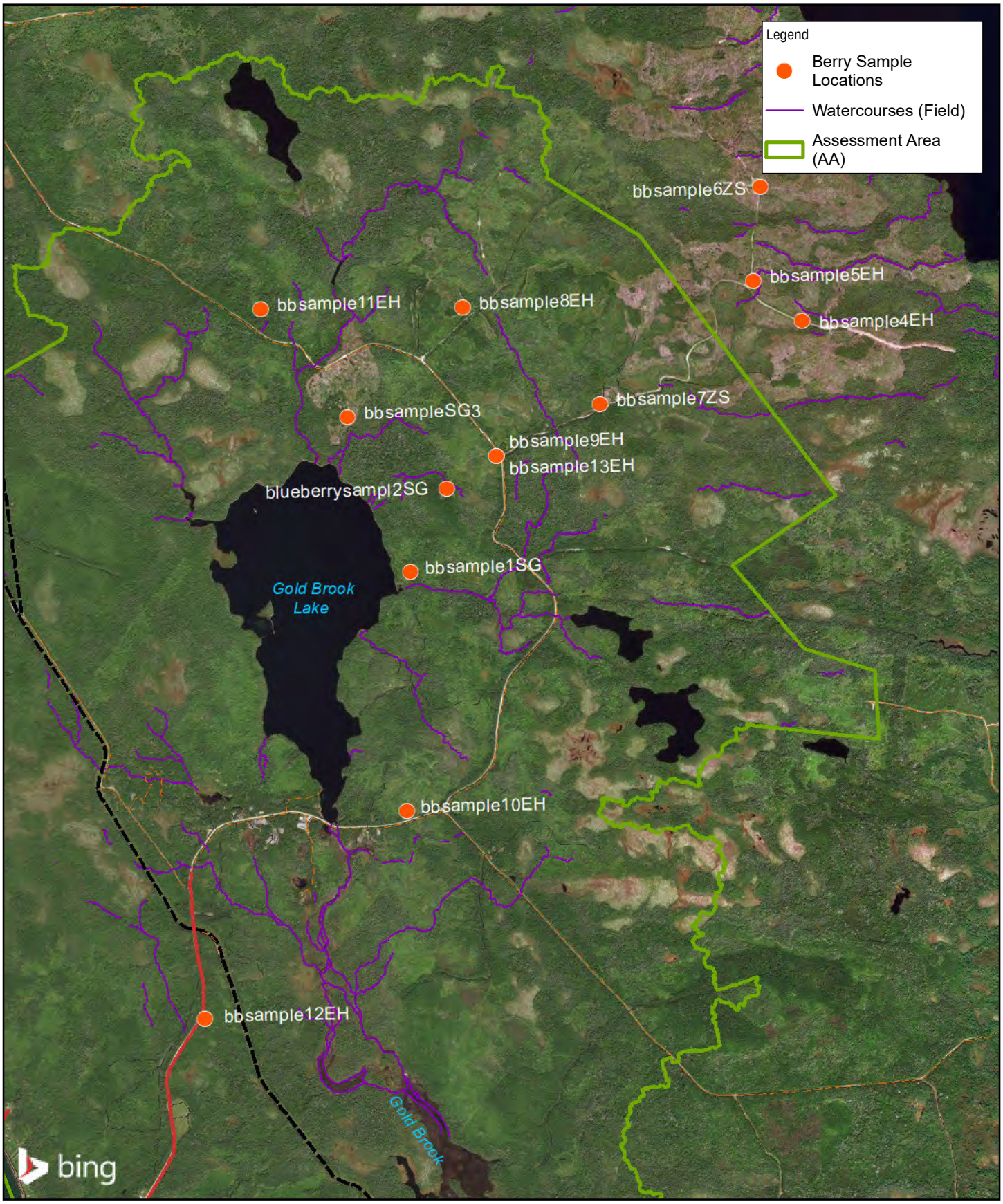

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ANACONDA MINING INC
GOLDBORO GOLD PROJECT
HHERA AND BASELINE SAMPLING PROGRAM

BERRY SAMPLE LOCATIONS

Project No. 11222385
Revision No. -
Date 19/05/2022

FIGURE 7

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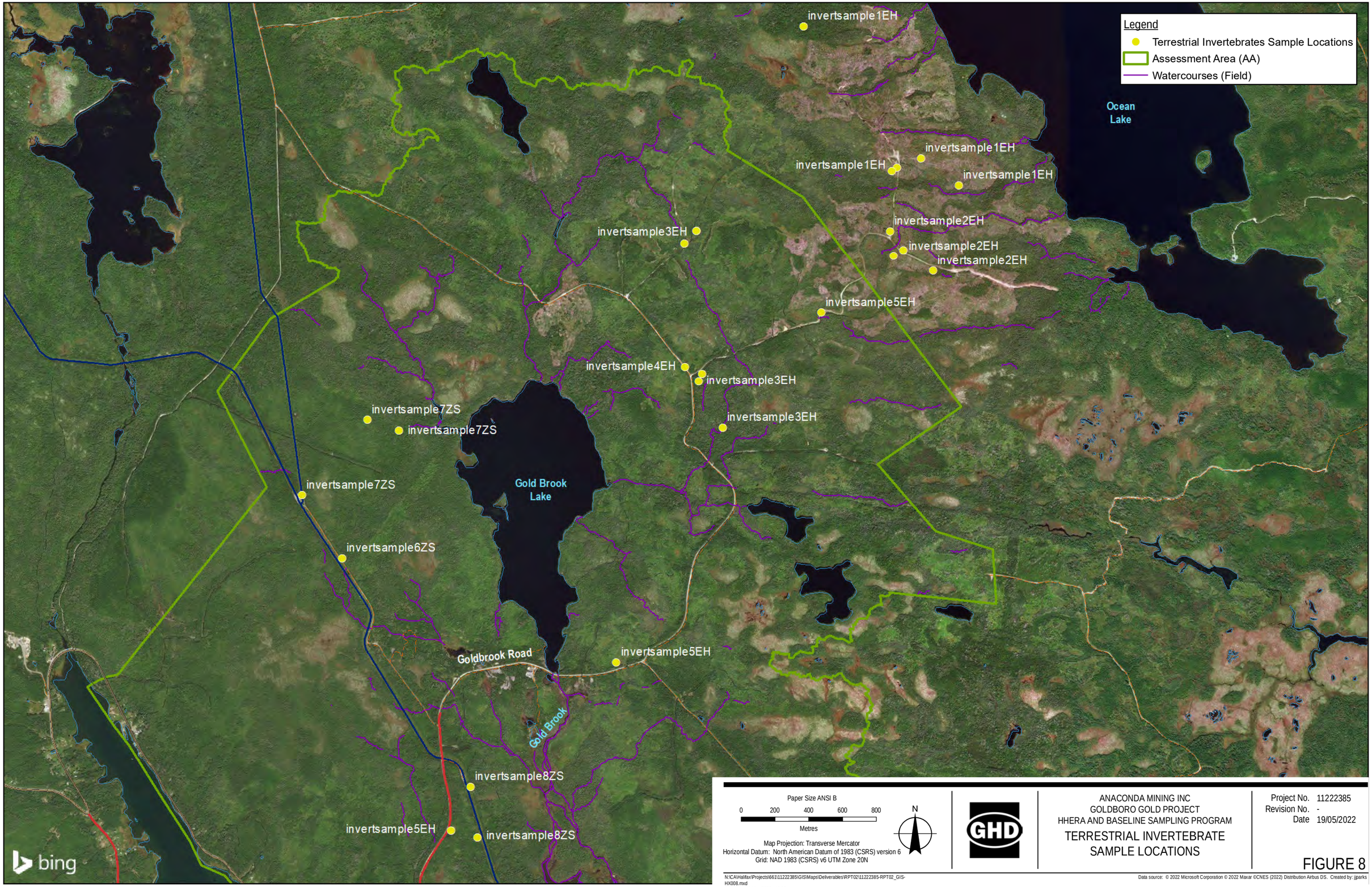

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ANACONDA MINING INC
GOLDBORO GOLD PROJECT
HHERA AND BASELINE SAMPLING PROGRAM

TERRESTRIAL INVERTEBRATE SAMPLE LOCATIONS

Project No. 11222385
Revision No. -
Date 19/05/2022

FIGURE 8

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ANACONDA MINING INC
GOLDBORO GOLD PROJECT
HHREA AND BASELINE SAMPLING PROGRAM

FISH SAMPLE LOCATIONS

Project No. 11222385
Revision No. -
Date 19/05/2022

FIGURE 9

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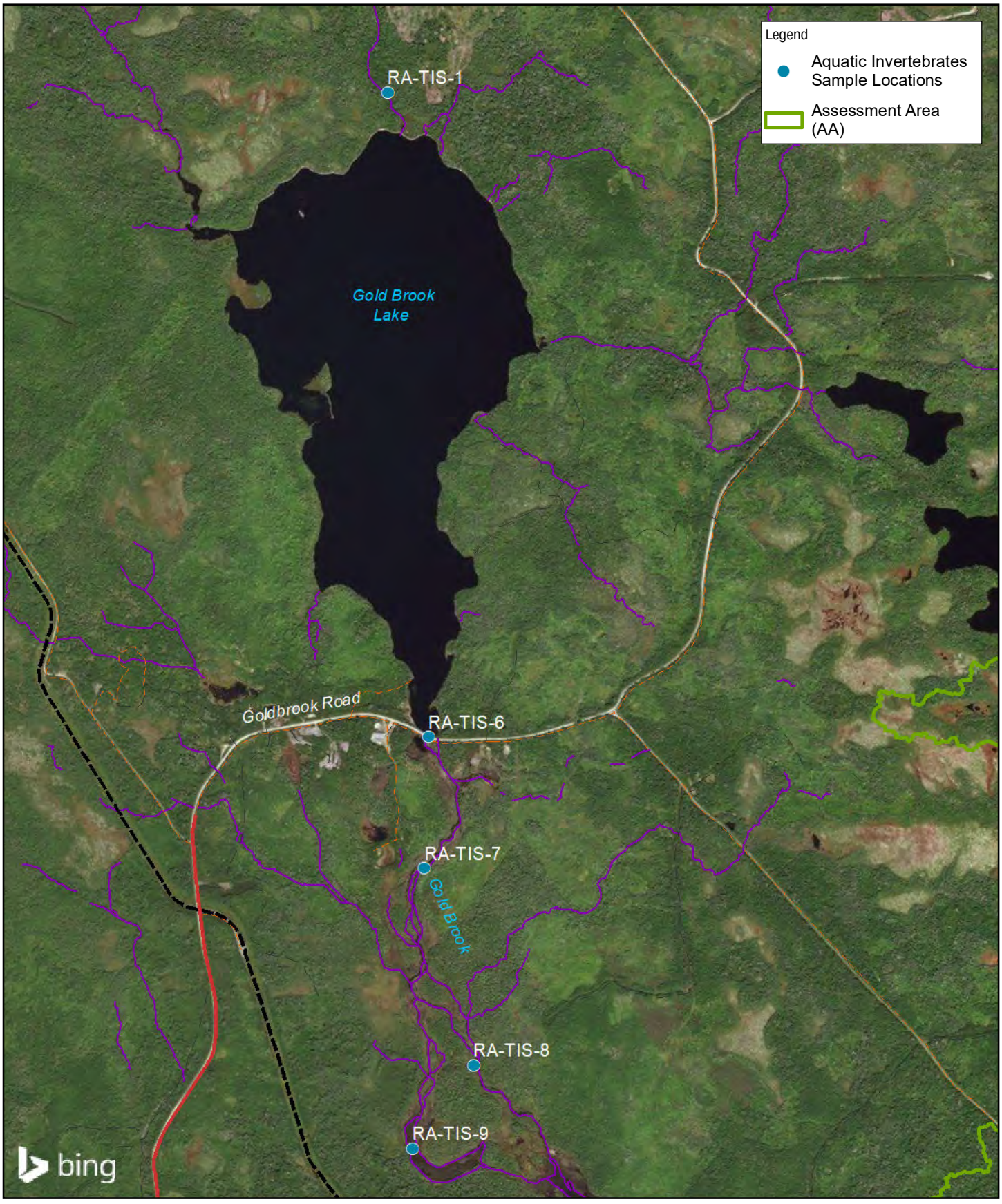

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ANACONDA MINING INC
GOLDBORO GOLD PROJECT
HHERA AND BASELINE SAMPLING PROGRAM

AQUATIC INVERTEBRATE SAMPLE LOCATIONS

Project No. 11222385
Revision No. -
Date 19/05/2022

FIGURE 10

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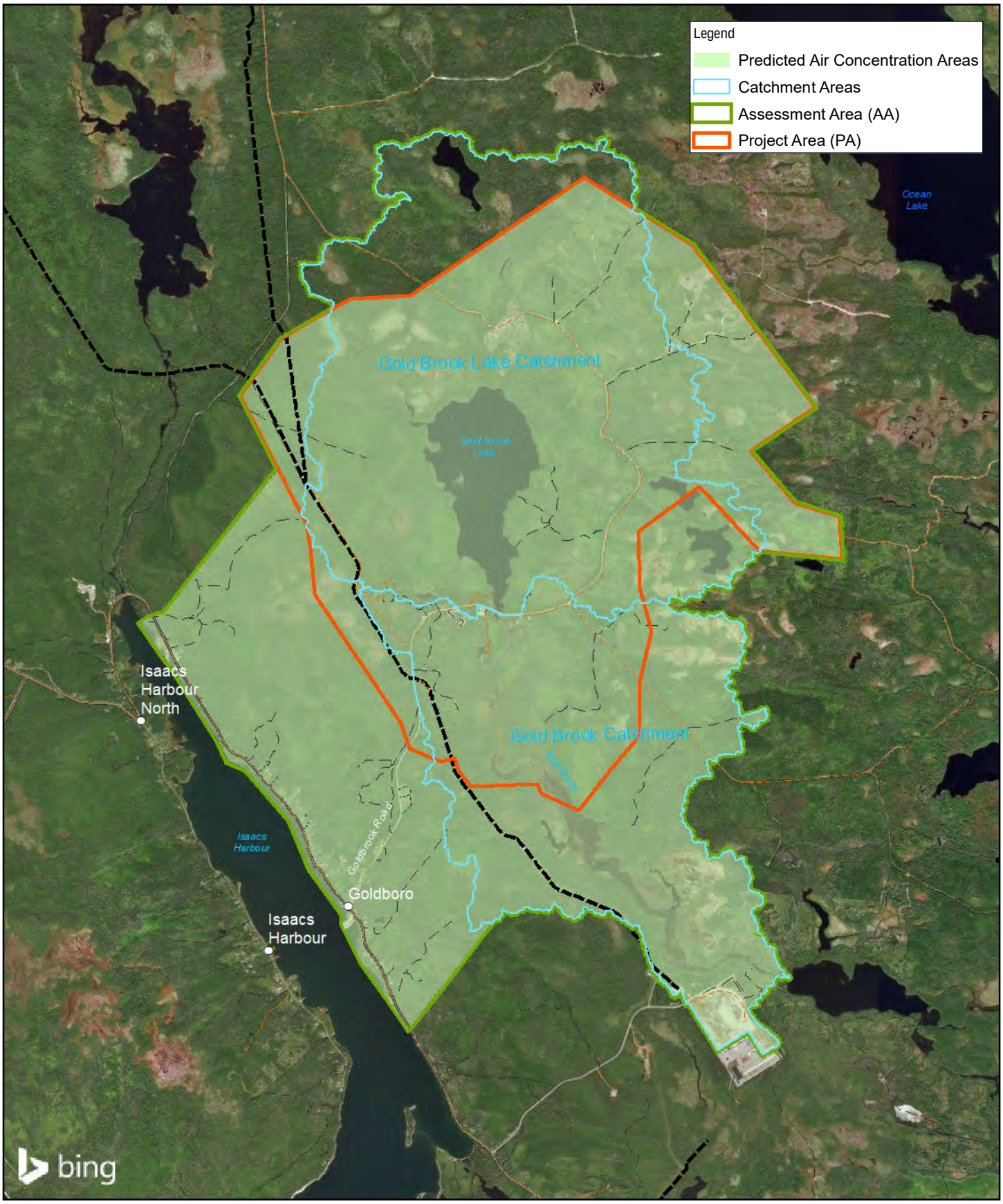

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GHD

ANACONDA MINING INC
GOLDBORO GOLD PROJECT
HHERA AND BASELINE SAMPLING PROGRAM

PREDICTED AIR CONCENTRATION LOCATIONS

Project No. 11222385
Revision No. -
Date 19/05/2022

FIGURE 11

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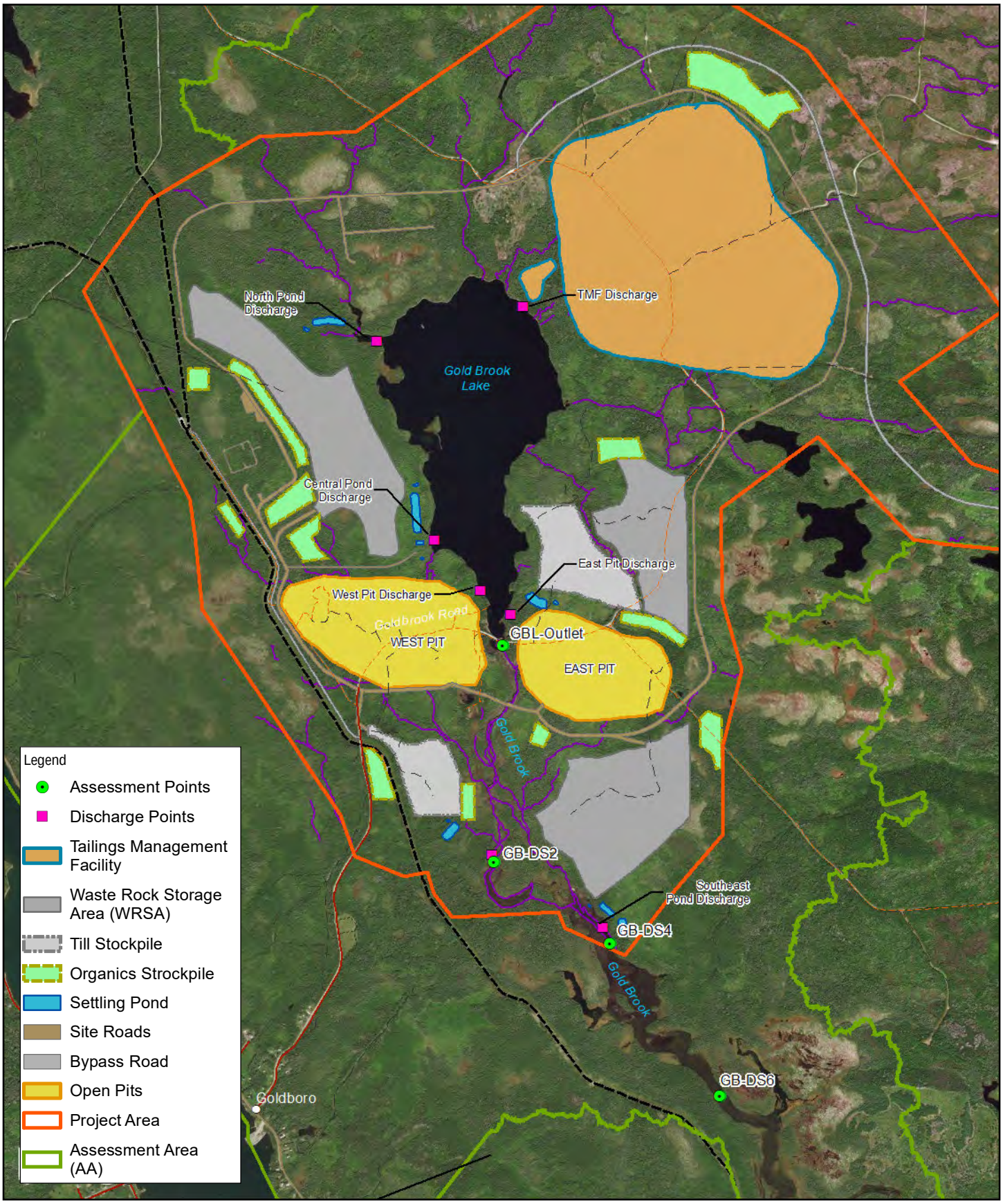

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ANACONDA MINING INC
GOLDBORO GOLD PROJECT
HHERA AND BASELINE SAMPLING PROGRAM

PREDICTED SURFACE WATER LOCATIONS

Project No. 11222385
Revision No. -
Date 19/05/2022

FIGURE 12

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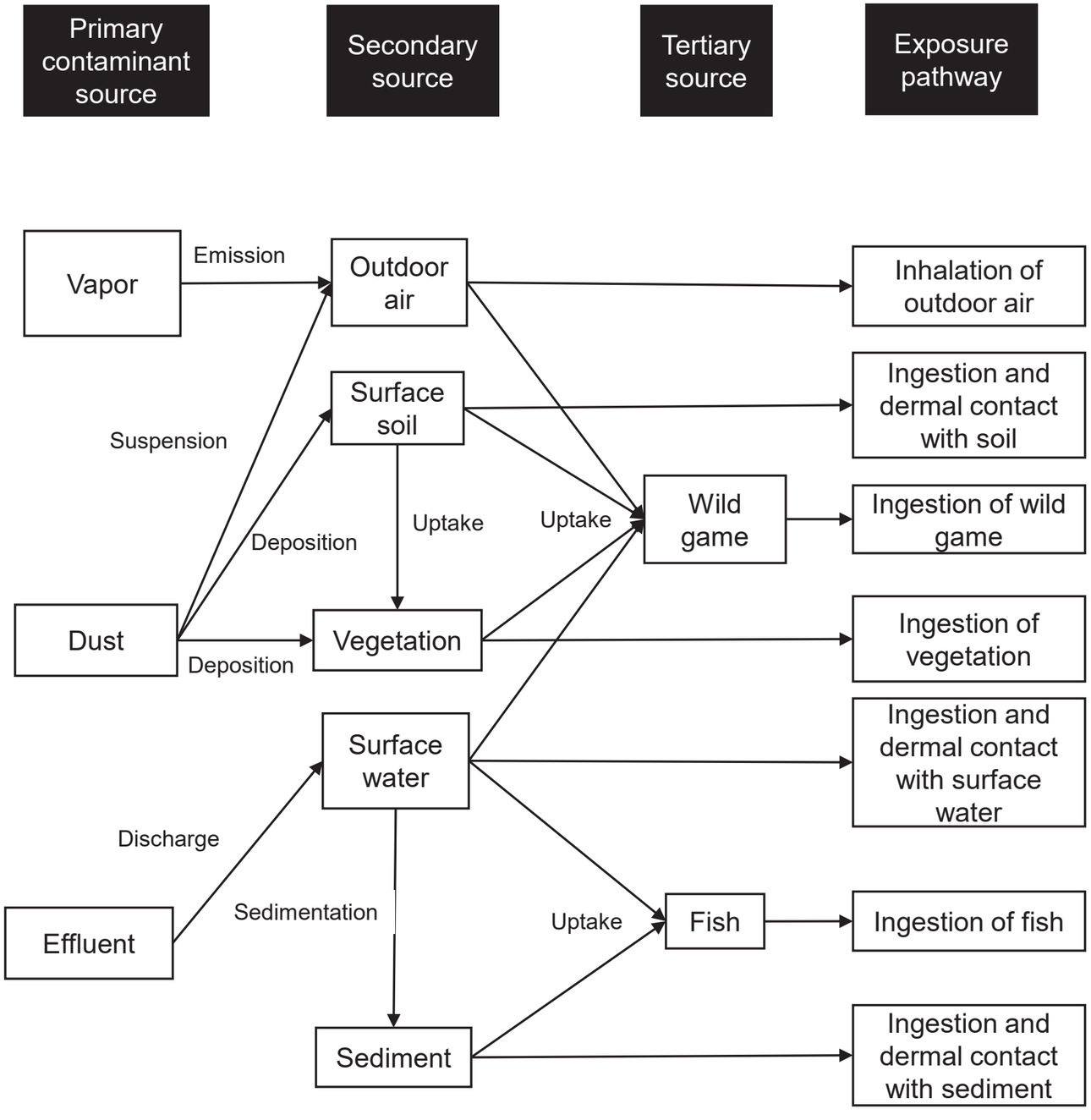
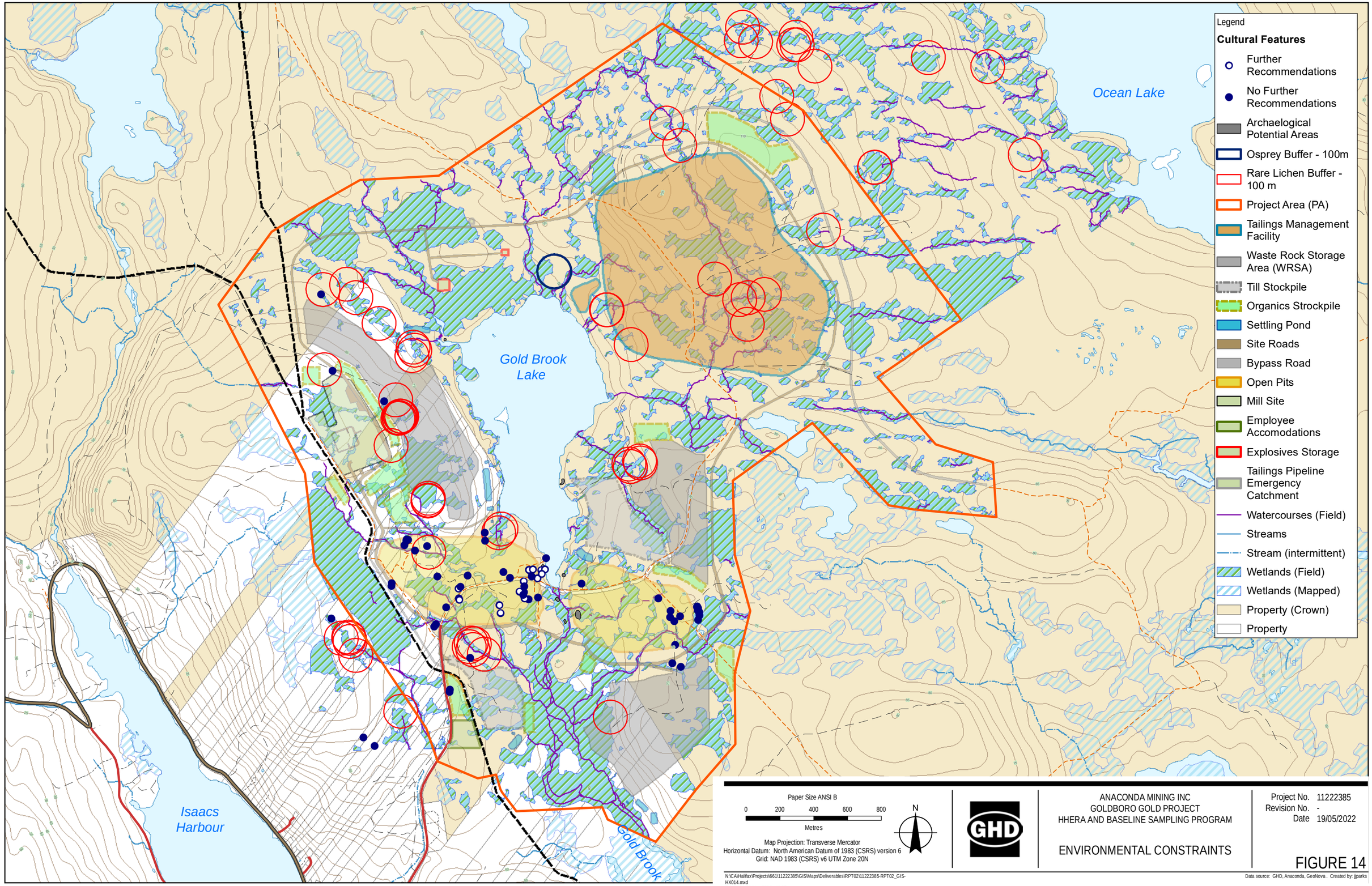


Receptor				
Resident	Indigenous people	Recreational visitor	Construction worker	Industrial worker
Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	No	No
Yes	Yes	Yes	No	No
Yes	Yes	Yes	No	No
Yes	Yes	Yes	No	No
Yes	Yes	Yes	No	No
Yes	Yes	Yes	No	No

Figure 13 Human Health Conceptual Site Model



Paper Size ANSI B

0 200 400 600 800

Metres

N

Map Projection: Transverse Mercator
Horizontal Datum: North American Datum of 1983 (CSRS) version 6
Grid: NAD 1983 (CSRS) v6 UTM Zone 20N

GHD

ANACONDA MINING INC
GOLDBORO GOLD PROJECT
HHERA AND BASELINE SAMPLING PROGRAM

ENVIRONMENTAL CONSTRAINTS

Project No. 11222385
Revision No. -
Date 19/05/2022

FIGURE 14

N:\CA\Halifax\Projects\661\11222385\GIS\Maps\Deliverables\RPT02\11222385-RPT02_GIS-HX014.mxd
Print date: 19 May 2022 - 13:07

Data source: GHD, Anaconda, GeoNova . Created by: jjparks

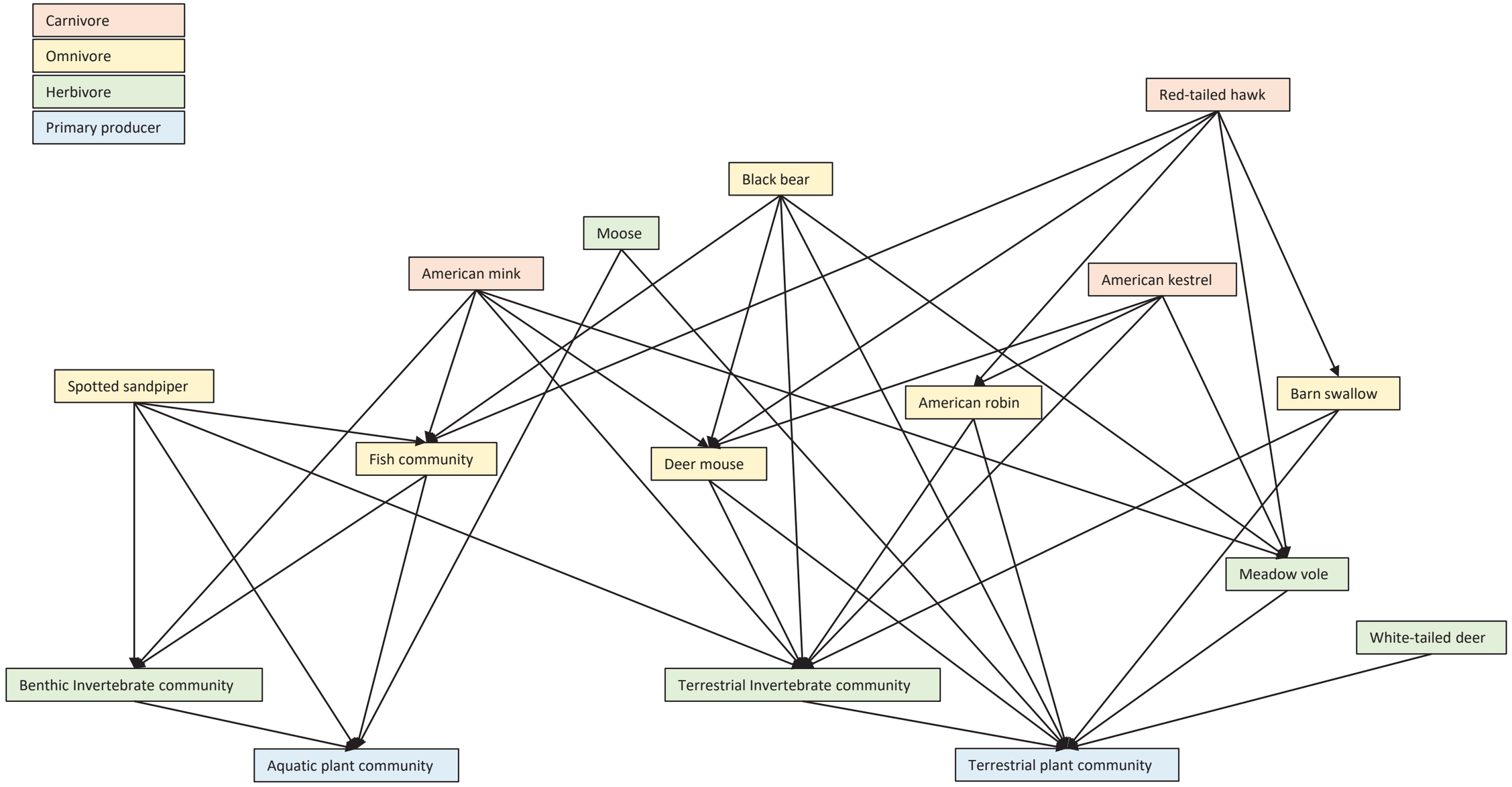


Figure 15 Ecological Food Web

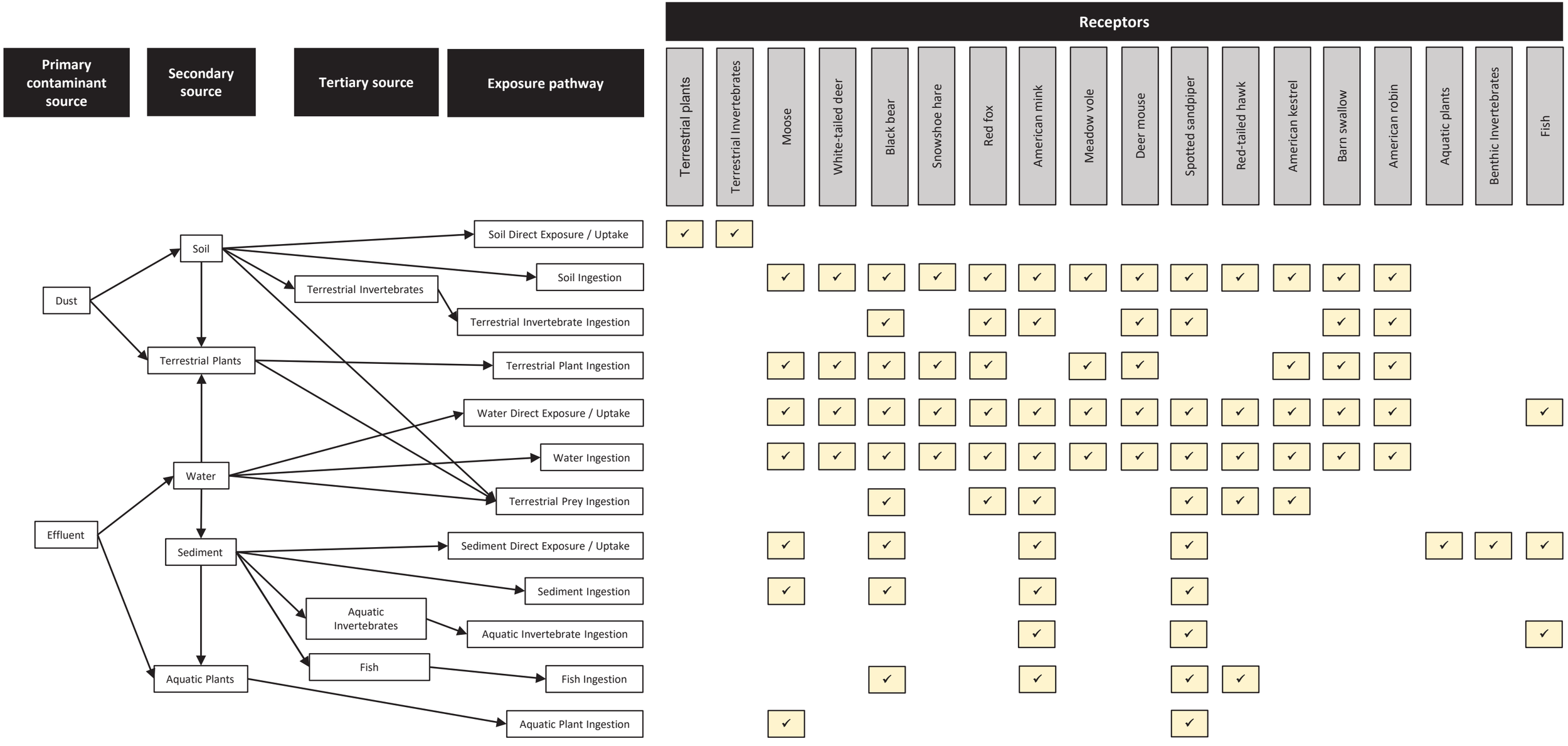


Figure 16 Ecological Conceptual Site Model

Appendices

Appendix A

Baseline Analytical Results

Table A.1 Results in Surface Soil

Parameters	Units	Guidelines for residents, recreational visitors and Indigenous people	Pathways for residents, recreational visitors and Indigenous people	References for residents, recreational visitors and Indigenous people	Pathways for terrestrial invertebrates and plants	References for terrestrial invertebrates and plants	Guidelines for birds and mammals	Pathways for birds and mammals	References for birds and mammals	Sample IDs	SOIL SAMPLE 1 SG	SOIL SAMPLE 2 SG	SOIL SAMPLE 3 SG	SOILSAMPLE4EH	SOILSAMPLE5EH	SOILSAMPLE6ZS	SOILSAMPLE7EH	SOIL SAMPLE 8 EH/SOIL SAMPLE 13 EH (Duplicate)	SOIL SAMPLE 9 EH	SOIL SAMPLE 10 EH	SOIL SAMPLE 11 EH	SOIL SAMPLE 12 EH
										Depths (m)	0 - 0,25	0 - 0,25	0 - 0,25	0 - 0,25	0 - 0,25	0 - 0,25	0 - 0,25	0 - 0,25	0 - 0,25	0 - 0,25	0 - 0,25	0 - 0,25
										Sampling dates	8/17/2021	8/18/2021	8/19/2021	8/23/2021	8/24/2021	8/25/2021	8/26/2021	8/30/2021	8/31/2021	9/1/2021	9/2/2021	9/2/2021
										Samples included in the baseline concentration calculation*	1A, 1B, 1C and 2A	1A, 1B, 1C and 2A	1A, 1B, 1C and 2A	1A, 1B, 1C and 2A	1A, 1B, 1C and 2A	1A, 1B, 1C and 2A	1A, 1B, 1C and 2A	1A, 1B, 1C and 2A	1A, 1B, 1C and 2A	1A, 1B, 1C and 2A	1A, 1B, 1C and 2A	1A, 1B, 1C and 2B
Metals																							
Aluminum (Al)	mg/kg	15400	Soil contact/Ingestion	NSE (2021)	-	-	-	-	-		550	2900	2000	2200	11000	4400	13000	630	6000	7000	5700	2300
Antimony (Sb)	mg/kg	7.5	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	25	Soil and food ingestion	Atlantic RBCA (2021)		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Arsenic (As)	mg/kg	31	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	380	Soil and food ingestion	Atlantic RBCA (2021)		<2.0	2.5	<2.0	<2.0	5.8	6.1	5.9	<2.0	4.4	6.5	<2.0	<2.0
Barium (Ba)	mg/kg	6800	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	400	Soil and food ingestion	Atlantic RBCA (2021)		49	16	6.3	7	24	9.1	16	<5.0	10	16	43	5.8
Beryllium (Be)	mg/kg	75	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	13	Soil and food ingestion	Atlantic RBCA (2021)		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Bismuth (Bi)	mg/kg	-	-	-	-	-	-	-	-		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Boron (B)	mg/kg	4300	Soil contact/Ingestion	NSE (2021)	-	-	120	Soil and food ingestion	Atlantic RBCA (2021)		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Cadmium (Cd)	mg/kg	1.4	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	3.8	Soil and food ingestion	Atlantic RBCA (2021)		<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	0.36	<0.30
Chromium (Cr)	mg/kg	220	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	160	Soil and food ingestion	Atlantic RBCA (2021)		<2.0	4.4	4.1	3.5	14	6.3	15	<2.0	7.2	8.2	3.1	<2.0
Cobalt (Co)	mg/kg	22	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	180	Soil and food ingestion	Atlantic RBCA (2021)		<1.0	<1.0	1.2	<1.0	3.4	<1.0	2.6	<1.0	1.2	1.5	1.3	<1.0
Copper (Cu)	mg/kg	1100	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	300	Soil and food ingestion	Atlantic RBCA (2021)		5.3	2.2	<2.0	<2.0	7.1	<2.0	4.7	<2.0	2.7	3.1	9.7	<2.0
Iron (Fe)	mg/kg	11000	Soil contact/Ingestion	NSE (2021)	-	-	-	-	-		600	8400	3500	2300	15000	10000	17000	970	12000	13000	3200	830
Lead (Pb)	mg/kg	140	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	70	Soil and food ingestion	Atlantic RBCA (2021)		11	16	1.4	3.1	7	3.8	7.9	8.1	5.9	7.7	40	7.4
Lithium (Li)	mg/kg	32	Soil ingestion	USEPA (2021)	-	-	-	-	-		<2.0	<2.0	3.6	2.9	13	4.2	10	<2.0	3.1	4.7	<2.0	<2.0
Manganese (Mn)	mg/kg	360	Soil contact/Ingestion	NSE (2021)	Soil contact	USEPA (2018)	4000	Soil and food ingestion	USEPA (2018)		91	30	31	38	130	55	99	13	64	64	32	11
Mercury (Hg)	mg/kg	6.6	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	20	Soil and food ingestion	Atlantic RBCA (2021)		0.18	0.12	<0.10	<0.10	<0.10	<0.10	0.11	<0.10	<0.10	0.11	0.23	<0.10
Molybdenum (Mo)	mg/kg	110	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	6.9	Soil and food ingestion	Atlantic RBCA (2021)		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Nickel (Ni)	mg/kg	200	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	528	Soil and food ingestion	Atlantic RBCA (2021)		<2.0	2.5	4.8	<2.0	8.2	2.6	7.3	<2.0	3.8	5.5	6	<2.0
Rubidium (Rb)	mg/kg	-	-	-	-	-	-	-	-		3.6	3.5	2.6	2.8	11	4.2	6.9	<2.0	4.2	5.4	2	<2.0
Selenium (Se)	mg/kg	80	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	4.5	Soil and food ingestion	Atlantic RBCA (2021)		<0.50	0.67	<0.50	<0.50	0.83	<0.50	0.85	<0.50	<0.50	0.61	1	<0.50
Silver (Ag)	mg/kg	77	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	4.2	Soil and food ingestion	USEPA (2018)		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Strontium (Sr)	mg/kg	9400	Soil contact/Ingestion	NSE (2021)	-	-	-	-	-		26	11	11	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	23	<5.0
Thallium (Tl)	mg/kg	1	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	1	Soil and food ingestion	Atlantic RBCA (2021)		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Tin (Sn)	mg/kg	9400	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	-	-	-		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	<1.0
Uranium (U)	mg/kg	23	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	33	Soil and food ingestion	Atlantic RBCA (2021)		<0.10	0.35	0.34	0.4	0.67	0.51	0.77	0.66	0.5	0.45	0.64	0.42
Vanadium (V)	mg/kg	39	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	18	Soil and food ingestion	Atlantic RBCA (2021)		<2.0	14	4.7	5.5	19	18	23	2.3	17	17	5.9	<2.0
Zinc (Zn)	mg/kg	10000	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	640	Soil and food ingestion	Atlantic RBCA (2021)		39	18	14	<5.0	20	5.6	15	6.2	9.4	17	13	<5.0

Exceed guidelines for human receptors
Exceed guidelines for ecological receptors

*Sample included in the baseline concentration calculation for area number:
HHRA:
(1A) PA
(1B) Employee accommodations
(1C) AA and Village of Goldboro
(1D) South of the PA
ERA:
(2A) Gold Brook Lake catchment
(2B) Gold Brook catchment

Table A.1 Results in Surface Soil

Parameters	Units	Guidelines for residents, recreational visitors and Indigenous people	Pathways for residents, recreational visitors and Indigenous people	References for residents, recreational visitors and Indigenous people	Pathways for terrestrial invertebrates and plants	References for terrestrial invertebrates and plants	Guidelines for birds and mammals	Pathways for birds and mammals	References for birds and mammals	Sample IDs	22-SS01	22-SS08/22-SSDUP (duplicate)	22-SS02	22-SS03	22-SS04	22-SS05	22-SS06	22-SS07	22-SS09	22-SS10	22-SS11	22-SS12
										Depths (m)	0 - 0,25	0 - 0,25	0 - 0,25	0 - 0,25	0 - 0,25	0 - 0,25	0 - 0,25	0 - 0,25	0 - 0,25	0 - 0,25	0 - 0,25	0 - 0,25
										Sampling dates	3/10/2022	3/10/2022	3/10/2022	3/10/2022	3/10/2022	3/10/2022	3/10/2022	3/10/2022	3/10/2022	3/10/2022	3/10/2022	3/10/2022
										Samples included in the baseline concentration calculation*	1A, 1B, 1C and 2B	1A, 1B, 1C and 2B	1C, 1D and 2B	1C, 1D and 2B	1C, 1D and 2B	1C, 1D and 2B	1C, 1D and 2B	1C, 1D and 2B	1C, 1D and 2B	1C, 1D and 2B	1C, 1D and 2B	1C, 1D and 2B
Metals																						
Aluminum (Al)	mg/kg	15400	Soil contact/Ingestion	NSE (2021)	-	-	-	-	-		2400	4400	500	4300	21000	960	1200	1500	7400	3400	1300	2200
Antimony (Sb)	mg/kg	7.5	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	25	Soil and food ingestion	Atlantic RBCA (2021)		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Arsenic (As)	mg/kg	31	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	380	Soil and food ingestion	Atlantic RBCA (2021)		2.3	4.6	2.9	6.7	23	12	4.3	7.6	7.4	96	7	6
Barium (Ba)	mg/kg	6800	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	400	Soil and food ingestion	Atlantic RBCA (2021)		9.7	12	29	38	12	31	9.4	46	13	13	20	6.3
Beryllium (Be)	mg/kg	75	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	13	Soil and food ingestion	Atlantic RBCA (2021)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bismuth (Bi)	mg/kg	-	-	-	-	-	-	-	-		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Boron (B)	mg/kg	4300	Soil contact/Ingestion	NSE (2021)	-	-	120	Soil and food ingestion	Atlantic RBCA (2021)		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Cadmium (Cd)	mg/kg	1.4	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	3.8	Soil and food ingestion	Atlantic RBCA (2021)		<0.30	<0.30	0.57	0.48	<0.30	<0.30	<0.30	0.39	<0.30	<0.30	<0.30	<0.30
Chromium (Cr)	mg/kg	220	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	160	Soil and food ingestion	Atlantic RBCA (2021)		2.9	5.3	<2.0	<2.0	22	<2.0	2.8	<2.0	12	6.9	<2.0	3.6
Cobalt (Co)	mg/kg	22	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	180	Soil and food ingestion	Atlantic RBCA (2021)		<1.0	<1.0	<1.0	1.2	1.9	<1.0	<1.0	1.6	2.7	<1.0	<1.0	<1.0
Copper (Cu)	mg/kg	1100	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	300	Soil and food ingestion	Atlantic RBCA (2021)		<2.0	<2.0	3.9	6.1	4.8	3.8	<2.0	3	3.9	2.1	2.1	<2.0
Iron (Fe)	mg/kg	11000	Soil contact/Ingestion	NSE (2021)	-	-	-	-	-		3700	4200	610	1500	32000	1200	920	2500	14000	13000	1100	5200
Lead (Pb)	mg/kg	140	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	70	Soil and food ingestion	Atlantic RBCA (2021)		11	8	32	23	15	24	8.3	14	6.3	7.1	15	7.5
Lithium (Li)	mg/kg	32	Soil ingestion	USEPA (2021)	-	-	-	-	-		<2.0	3	<2.0	<2.0	15	<2.0	<2.0	<2.0	7.7	<2.0	<2.0	<2.0
Manganese (Mn)	mg/kg	360	Soil contact/Ingestion	NSE (2021)	Soil contact	USEPA (2018)	4000	Soil and food ingestion	USEPA (2018)		20	38	13	24	87	37	13	23	87	29	4.9	31
Mercury (Hg)	mg/kg	6.6	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	20	Soil and food ingestion	Atlantic RBCA (2021)		0.12	0.12	0.48	0.3	0.18	0.25	0.11	0.27	<0.10	<0.10	0.17	<0.10
Molybdenum (Mo)	mg/kg	110	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	6.9	Soil and food ingestion	Atlantic RBCA (2021)		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Nickel (Ni)	mg/kg	200	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	528	Soil and food ingestion	Atlantic RBCA (2021)		<2.0	2.5	<2.0	4.2	5.6	2.1	<2.0	3.3	7.7	2.4	2.3	<2.0
Rubidium (Rb)	mg/kg	-	-	-	-	-	-	-	-		<2.0	4.3	2.3	<2.0	5.9	<2.0	<2.0	<2.0	6	4.2	<2.0	<2.0
Selenium (Se)	mg/kg	80	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	4.5	Soil and food ingestion	Atlantic RBCA (2021)		<0.50	<0.50	1	1.8	1.7	1	<0.50	4.6	0.5	<0.50	0.98	<0.50
Silver (Ag)	mg/kg	77	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	4.2	Soil and food ingestion	USEPA (2018)		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Strontium (Sr)	mg/kg	9400	Soil contact/Ingestion	NSE (2021)	-	-	-	-	-		<5.0	<5.0	38	63	<5.0	49	<5.0	60	<5.0	6.7	18	<5.0
Thallium (Tl)	mg/kg	1	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	1	Soil and food ingestion	Atlantic RBCA (2021)		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Tin (Sn)	mg/kg	9400	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	-	-	-		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Uranium (U)	mg/kg	23	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	33	Soil and food ingestion	Atlantic RBCA (2021)		0.24	0.52	<0.10	0.32	0.64	<0.10	0.29	0.75	0.44	0.26	0.1	0.32
Vanadium (V)	mg/kg	39	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	18	Soil and food ingestion	Atlantic RBCA (2021)		7	8.5	3.2	4.5	37	2.5	5.1	3.7	19	28	2.5	18
Zinc (Zn)	mg/kg	10000	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	640	Soil and food ingestion	Atlantic RBCA (2021)		<5.0	7	39	13	18	25	<5.0	8.1	15	5.2	5.5	<5.0

Exceed guidelines for human receptors
Exceed guidelines for ecological receptors

*Sample included in the baseline concentration calculation for area number:

HHRA:
(1A) PA
(1B) Employee accommodations
(1C) AA and Village of Goldboro
(1D) South of the PA
ERA:
(2A) Gold Brook Lake catchment
(2B) Gold Brook catchment

Table A.1 Results in Surface Soil

Parameters	Units	Guidelines for residents, recreational visitors and Indigenous people	Pathways for residents, recreational visitors and Indigenous people	References for residents, recreational visitors and Indigenous people	Pathways for terrestrial invertebrates and plants	References for terrestrial invertebrates and plants	Guidelines for birds and mammals	Pathways for birds and mammals	References for birds and mammals	Sample IDs Depths (m) Sampling dates Samples included in the baseline concentration calculation*	Maximum values at areas 1A and 1B*	Average values at areas 1A and 1B*	90th percentiles at areas 1A and 1B*	Maximum values at area 1D*	Average values at area 1D*	90th percentiles at area 1D*	Maximum values at areas 1C*	Average values at areas 1C*	90th percentiles at areas 1C*	Maximum values at areas 2A*	Average values at areas 2A*	90th percentiles at areas 2A*	Maximum values at areas 2B*	Average values at areas 2B*	90th percentiles at areas 2B*
Metals																									
Aluminum (Al)	mg/kg	15400	Soil contact/Ingestion	NSE (2021)	-	-	-	-	-		13000	5082	9890	21000	4376	8760	21000	4788	9920	13000	5641	11000	21000	4066	6800
Antimony (Sb)	mg/kg	7.5	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	25	Soil and food ingestion	Atlantic RBCA (2021)		<2.0	1.0	1.0	<2.0	1.0	1.0	<2.0	1.0	1.0	<2.0	1.0	1.0	<2.0	1.0	1.0
Arsenic (As)	mg/kg	31	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	380	Soil and food ingestion	Atlantic RBCA (2021)		6.5	3.5	6.0	96	17	30	96	9.2	11	6.5	3.7	6.1	96	14	21
Barium (Ba)	mg/kg	6800	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	400	Soil and food ingestion	Atlantic RBCA (2021)		49	17	37	46	22	39	49	19	42	49	19	43	46	19	37
Beryllium (Be)	mg/kg	75	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	13	Soil and food ingestion	Atlantic RBCA (2021)		1.0	0.93	1.0	<1.0	0.50	0.50	1.0	0.75	1.0	<2.0	1.0	1.0	1.0	0.54	0.50
Bismuth (Bi)	mg/kg	-	-	-	-	-	-	-	-		<2.0	1.0	1.0	<2.0	1.0	1.0	<2.0	1.0	1.0	<2.0	1.0	1.0	<2.0	1.0	1.0
Boron (B)	mg/kg	4300	Soil contact/Ingestion	NSE (2021)	-	-	120	Soil and food ingestion	Atlantic RBCA (2021)		<50	25	25	<50	25	25	<50	25	25	<50	25	25	<50	25	25
Cadmium (Cd)	mg/kg	1.4	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	3.8	Soil and food ingestion	Atlantic RBCA (2021)		0.36	0.17	0.15	0.57	0.25	0.49	0.57	0.20	0.38	0.36	0.17	0.15	0.57	0.23	0.46
Chromium (Cr)	mg/kg	220	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	160	Soil and food ingestion	Atlantic RBCA (2021)		15	6.1	13	22	5.2	13	22	5.8	13	15	7.0	14	22	4.7	11
Cobalt (Co)	mg/kg	22	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	180	Soil and food ingestion	Atlantic RBCA (2021)		3.4	1.2	2.3	2.7	1.0	2.0	3.4	1.1	2.4	3.4	1.3	2.6	2.7	0.9	1.8
Copper (Cu)	mg/kg	1100	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	300	Soil and food ingestion	Atlantic RBCA (2021)		9.7	3.2	6.6	6.1	3.2	4.9	9.7	3.2	5.9	9.7	3.8	7.1	6.1	2.7	4.6
Iron (Fe)	mg/kg	11000	Soil contact/Ingestion	NSE (2021)	-	-	-	-	-		19000	8052	16400	32000	7203	15800	32000	7698	16400	19000	9455	17000	32000	6212	13800
Lead (Pb)	mg/kg	140	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	70	Soil and food ingestion	Atlantic RBCA (2021)		40	10	15	32	15	25	40	12	24	40	11	16	32	14	24
Lithium (Li)	mg/kg	32	Soil ingestion	USEPA (2021)	-	-	-	-	-		13	3.8	8.4	15	3.1	8.4	15	3.5	9.3	13	4.4	10	15	2.7	6.8
Manganese (Mn)	mg/kg	360	Soil contact/Ingestion	NSE (2021)	Soil contact	USEPA (2018)	4000	Soil and food ingestion	USEPA (2018)		130	57	97	87	35	87	130	48	91	130	66	99	87	32	77
Mercury (Hg)	mg/kg	6.6	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	20	Soil and food ingestion	Atlantic RBCA (2021)		0.23	0.10	0.16	0.48	0.19	0.32	0.48	0.14	0.26	0.23	0.10	0.18	0.48	0.17	0.29
Molybdenum (Mo)	mg/kg	110	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	6.9	Soil and food ingestion	Atlantic RBCA (2021)		<2.0	1.0	1.0	<2.0	1.0	1.0	<2.0	1.0	1.0	<2.0	1.0	1.0	<2.0	1.0	1.0
Nickel (Ni)	mg/kg	200	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	528	Soil and food ingestion	Atlantic RBCA (2021)		8.2	3.7	6.9	7.7	3.1	5.8	8.2	3.4	6.9	8.2	4.2	7.3	7.7	2.7	5.3
Rubidium (Rb)	mg/kg	-	-	-	-	-	-	-	-		11	4.0	6.45	6.0	2.4	5.9	11	3.4	6.0	11	4.6	6.9	6.0	2.4	5.6
Selenium (Se)	mg/kg	80	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	4.5	Soil and food ingestion	Atlantic RBCA (2021)		1.0	0.49	0.86	4.6	1.2	2.1	4.6	0.80	1.5	1.0	0.55	0.87	4.6	1.0	1.8
Silver (Ag)	mg/kg	77	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	4.2	Soil and food ingestion	USEPA (2018)		<0.50	0.25	0.25	<0.50	0.25	0.25	<0.50	0.25	0.25	<0.50	0.25	0.25	<0.50	0.25	0.25
Strontium (Sr)	mg/kg	9400	Soil contact/Ingestion	NSE (2021)	-	-	-	-	-		26	7.1	19	63	24	60	63	14	46	26	8.4	23	63	19	58
Thallium (Tl)	mg/kg	1	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	1	Soil and food ingestion	Atlantic RBCA (2021)		<0.10	0.050	0.050	<0.10	0.050	0.050	<0.10	0.050	0.050	<0.10	0.050	0.050	<0.10	0.050	0.050
Tin (Sn)	mg/kg	9400	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	-	-	-		1.4	0.56	0.50	<1.0	0.50	0.50	1.4	0.54	0.50	1.4	0.58	0.50	<1.0	0.50	0.50
Uranium (U)	mg/kg	23	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	33	Soil and food ingestion	Atlantic RBCA (2021)		0.77	0.47	0.67	0.75	0.32	0.65	0.77	0.41	0.67	0.77	0.49	0.67	0.75	0.34	0.62
Vanadium (V)	mg/kg	39	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	18	Soil and food ingestion	Atlantic RBCA (2021)		23	12	22	37	12	29	37	12	23	23	13	23	37	11	26
Zinc (Zn)	mg/kg	10000	Soil contact/Ingestion	NSE (2021)	Soil contact	Atlantic RBCA (2021)	640	Soil and food ingestion	Atlantic RBCA (2021)		39	13	20	39	13	26	39	13	24	39	16	20	39	11	24

Exceed guidelines for human receptors
Exceed guidelines for ecological receptors

*Sample included in the baseline concentration calculation for area number:

HHRA:
(1A) PA
(1B) Employee accommodations
(1C) AA and Village of Goldboro
(1D) South of the PA
ERA:
(2A) Gold Brook Lake catchment
(2B) Gold Brook catchment

Table A.2 Results in Outdoor Air

Parameters	Units	Periods	Guidelines for residents, recreational visitors and Indigenous people	Pathways for residents, recreational visitors and Indigenous people	References for residents, recreational visitors and Indigenous people	Sample IDs	A1 13348 HIGHWAY 316	A2 19 IRVINGS LANE	A3 99 GOLDBROOK LANE	Maximum values	Average values	90th percentiles
						Sampling dates	11/17-18/2021	11/17-18/2021	11/17-18/2021			
Metals												
Total Aluminum	µg/m³	24-hour	1.04	Inhalation	USEPA (2021)		8.52E-02	7.84E-02	5.18E-02	8.52E-02	7.18E-02	8.39E-02
Total Antimony	µg/m³	24-hour	0.0062	Inhalation	USEPA (2021)		1.54E-05	1.51E-05	1.56E-05	1.56E-05	1.54E-05	1.55E-05
Total Arsenic	µg/m³	24-hour	0.0032	Inhalation	USEPA (2021)		3.40E-04	1.51E-04	1.06E-04	3.40E-04	1.99E-04	3.02E-04
Total Barium	µg/m³	24-hour	0.26	Inhalation	USEPA (2021)		6.30E-02	7.35E-02	8.83E-02	8.83E-02	7.50E-02	8.54E-02
Total Beryllium	µg/m³	24-hour	0.0042	Inhalation	USEPA (2021)		1.54E-05	1.51E-05	1.56E-05	1.56E-05	1.54E-05	1.55E-05
Total Boron	µg/m³	24-hour	4.2	Inhalation	USEPA (2021)		3.09E-05	3.01E-05	3.11E-05	3.11E-05	3.07E-05	3.11E-05
Total Cadmium	µg/m³	24-hour	0.002	Inhalation	USEPA (2021)		5.62E-05	3.98E-05	5.35E-05	5.62E-05	4.98E-05	5.57E-05
Total Chromium	µg/m³	24-hour	0.00015	Inhalation	USEPA (2021)		1.41E-03	9.82E-04	1.55E-03	1.55E-03	1.31E-03	1.52E-03
Total Cobalt	µg/m³	24-hour	0.00126	Inhalation	USEPA (2021)		3.09E-05	3.01E-05	3.11E-05	3.11E-05	3.07E-05	3.11E-05
Total Copper	µg/m³	24-hour	50	Inhalation	OME (2020)		2.69E-01	1.49E-01	3.39E-01	3.39E-01	2.52E-01	3.25E-01
Total Iron	µg/m³	24-hour	4	Inhalation	OME (2020)		7.53E-02	7.33E-02	1.02E-01	1.02E-01	8.34E-02	9.64E-02
Total Lead	µg/m³	24-hour	0.03	Inhalation	USEPA (2021)		1.54E-05	1.51E-05	1.56E-05	1.56E-05	1.54E-05	1.55E-05
Total Manganese	µg/m³	24-hour	0.0104	Inhalation	USEPA (2021)		1.06E-03	1.32E-03	1.58E-03	1.58E-03	1.32E-03	1.53E-03
Total Molybdenum	µg/m³	24-hour	0.42	Inhalation	USEPA (2021)		3.09E-05	3.01E-05	3.11E-05	3.11E-05	3.07E-05	3.11E-05
Total Nickel	µg/m³	24-hour	0.003	Inhalation	USEPA (2021)		7.91E-04	1.80E-03	1.08E-03	1.80E-03	1.22E-03	1.66E-03
Total Silver	µg/m³	24-hour	1	Inhalation	OME (2020)		1.25E-04	6.39E-05	1.48E-04	1.48E-04	1.12E-04	1.43E-04
Total Strontium	µg/m³	24-hour	120	Inhalation	OME (2020)		3.09E-04	4.82E-04	4.98E-04	4.98E-04	4.30E-04	4.95E-04
Total Thallium	µg/m³	24-hour	-	-	-		9.26E-06	9.04E-06	9.33E-06	9.33E-06	9.21E-06	9.32E-06
Total Tin	µg/m³	24-hour	10	Inhalation	OME (2020)		1.48E-03	9.94E-04	1.85E-03	1.85E-03	1.44E-03	1.77E-03
Total Titanium	µg/m³	24-hour	120	Inhalation	OME (2020)		8.28E-04	1.25E-03	1.08E-03	1.25E-03	1.05E-03	1.21E-03
Total Uranium	µg/m³	24-hour	0.0084	Inhalation	USEPA (2021)		9.26E-06	9.04E-06	9.33E-06	9.33E-06	9.21E-06	9.32E-06
Total Vanadium	µg/m³	24-hour	0.02	Inhalation	USEPA (2021)		2.47E-04	3.01E-04	3.11E-04	3.11E-04	2.86E-04	3.09E-04
Total Zinc	µg/m³	24-hour	120	Inhalation	OME (2020)		9.15E-03	1.89E-02	1.80E-02	1.89E-02	1.54E-02	1.87E-02
Others												
Particulate Matter ≤10 µm (PM10)	µg/m³	24-hour	50	Inhalation	OME (2020)		8.03E+00	1.15E+01	9.33E+00	1.15E+01	9.60E+00	1.10E+01
Total Suspended Particulate (TSP)	µg/m³	24-hour	120	Visibility	NS (2020)		7.41E+00	6.17E+00	8.12E+00	8.12E+00	7.23E+00	7.98E+00

Exceed guidelines

Table A.3 Results in Surface Water

Parameters	Units	Guidelines for residents, recreational visitors and Indigenous people	Pathways for residents, recreational visitors and Indigenous people	References for residents, recreational visitors and Indigenous people	Guidelines for aquatic plants, invertebrates and fishes	Pathways for aquatic plants, invertebrates and fishes	References for aquatic plants, invertebrates and fishes	Sample IDs	SW-11-21	SW-11-21	SW-11-21	SW-11-21	SW-11-21	SW-11-21	SW-11-21	SW-11-21	SW-11-21	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7
								Sampling dates	4/1/2021	5/21/2021	6/22/2021	7/20/2021	8/20/2021	9/22/2021	10/22/2021	11/21/2021	12/6/2021	8/31/2018	9/7/2018	9/13/2018	9/22/2018	9/28/2018	10/9/2018	10/14/2018	10/20/2018	10/28/2018	11/3/2018
								Locations	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook
Calculated Parameters																											
Hardness (CaCO3)	mg/L	Not toxic	-	HC (2020)	-	-	-		4.2	6.4	7.4	5.8	7.3	7.2	6.1	18.4	5.9	11	12	7.2	28	13	21	7.2	5.7	6.8	7.2
Nitrate (N)	mg/L	100	Water drinking	HC (2020)	13	Water direct contact	NSE (2021)		<0.050	0.054	<0.050	<0.050	<0.050	<0.050	<0.050	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nitrite (N)	mg/L	10	Water drinking	HC (2020)	0.06	Water direct contact	NSE (2021)		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.05	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	0.016	Water direct contact	CCME (2021)		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.03	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Organic Carbon (C)	mg/L	-	-	-	-	-	-		11	9.1	12	12	26	29		22	15										
pH	pH	7-10,5	Water drinking	HC (2020)	6,5-9	Water direct contact	NSE (2021)		5.42	6.33	6.24	6.07	5.56	5.76	6.17	5.37	5.14	6.81	7.15	6.69	7.63	7.08	7.31	6.48	6.11	5.43	6.23
Total metals																											
Total Aluminum (Al)	mg/L	1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)		0.219	0.243	0.257	0.854	0.488	0.494	0.302	0.831	0.336	0.293	0.157	0.187	0.0703	0.141	0.174	0.244	0.294	0.309	0.298
Total Antimony (Sb)	mg/L	0.06	Water drinking	NSE (2021)	0.009	Water direct contact	NSE (2021)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Arsenic (As)	mg/L	0.1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)		0.031	0.126	0.333	0.524	0.156	0.0866	0.102	0.01	0.0211	0.572	0.498	0.744	0.565	0.824	0.17	0.0982	0.0479	0.0475	0.0626
Total Barium (Ba)	mg/L	10	Water drinking	NSE (2021)	1	Water direct contact	NSE (2021)		0.0027	0.0034	0.0034	0.0071	0.0041	0.0036	0.0033	<0.0050	0.0035	0.0044	0.0021	0.002	0.0029	0.0021	0.0024	0.002	0.0024	0.003	0.0026
Total Beryllium (Be)	mg/L	0.04	Water drinking	NSE (2021)	0.00015	Water direct contact	NSE (2021)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00010	<0.00010	<0.0020	<0.00010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Bismuth (Bi)	mg/L	-	-	-	-	-	-		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Boron (B)	mg/L	50	Water drinking	NSE (2021)	1.5	Water direct contact	NSE (2021)		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.107	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Cadmium (Cd)	mg/L	0.05	Water drinking	NSE (2021)	0.00009	Water direct contact	NSE (2021)		0.000011	<0.000010	0.000012	0.000029	0.000012	0.000014	<0.000010	<0.000090	0.000018	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000015	0.00001	0.000013	0.000021	0.000011
Total Calcium (Ca)	mg/L	Not toxic	-	HC (2020)	116	Water direct contact	USEPA (2018)		0.9	1.5	1.74	1.72	1.96	1.59	1.48	0.0059	1.29	3	3.5	1.83	9.05	3.8	6.75	1.97	1.3	1.64	1.95
Total Chromium (Cr)	mg/L	0.5	Water drinking	NSE (2021)	0.0089	Water direct contact	NSE (2021)		<0.0010	<0.0010	<0.0010	0.0013	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Cobalt (Co)	mg/L	0.038	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.0010	<0.00040	0.00048	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Total Copper (Cu)	mg/L	20	Water drinking	NSE (2021)	0.002	Water direct contact	NSE (2021)		<0.00050	<0.00050	<0.00050	0.00171	0.00055	0.00053	<0.00050	<0.0010	<0.00050	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Iron (Fe)	mg/L	3	Water drinking	NSE (2021)	0.3	Water direct contact	NSE (2021)		0.359	1.07	1.51	3.3	1.29	1.09	0.897	0.511	0.629	1.69	0.952	0.971	0.899	0.95	0.819	0.629	0.574	0.575	0.57
Total Lead (Pb)	mg/L	0.05	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		<0.00050	<0.00050	0.00055	0.00356	0.00067	<0.00050	<0.00050	0.0009	<0.00050	0.00053	0.00025	0.00051	<0.00050	<0.00050	0.0005	<0.00050	0.00052	0.00057	0.0006
Total Magnesium (Mg)	mg/L	Not toxic	-	HC (2020)	82	Water direct contact	USEPA (2018)		0.46	0.64	0.65	0.79	0.81	0.76	0.72	0.0009	0.73	0.79	0.77	0.64	1.27	0.79	0.96	0.56	0.59	0.64	0.56
Total Manganese (Mn)	mg/L	1.2	Water drinking	NSE (2021)	0.43	Water direct contact	NSE (2021)		0.0304	0.0395	0.0346	0.036	0.0468	0.0988	0.0302	0.071	0.0693	0.0835	0.046	0.0562	0.0861	0.0562	0.0356	0.0234	0.0224	0.0235	0.0201
Total Mercury (Hg)	mg/L	0.01	Water drinking	NSE (2021)	0.000026	Water direct contact	NSE (2021)		<0.000013	0.000017	<0.000013	0.00021	0.000015	<0.000013	0.000026	<0.000013	<0.000013										
Total Molybdenum (Mo)	mg/L	0.7	Water drinking	NSE (2021)	0.073	Water direct contact	NSE (2021)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Nickel (Ni)	mg/L	1	Water drinking	NSE (2021)	0.025	Water direct contact	NSE (2021)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Phosphorus (P)	mg/L	-	-	-	1	Water direct contact	USEPA (2018)		<0.10	<0.10	<0.10	0.16	<0.10	<0.10	<0.10	<0.00020	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Potassium (K)	mg/L	-	-	-	53	Water direct contact	USEPA (2018)		0.44	0.39	0.43	0.51	0.57	0.54	0.49	0.0004	0.38	1.13	0.63	0.68	1.33	0.88	0.78	0.43	0.35	0.41	0.41
Total Selenium (Se)	mg/L	0.5	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Silver (Ag)	mg/L	Not required	Water drinking	NSE (2021)	0.00025	Water direct contact	NSE (2021)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Sodium (Na)	mg/L	2000	Water drinking	NSE (2021)	680	Water direct contact	USEPA (2018)		3.98	4.49	4.79	4.99	5.28	5.08	5.45	0.0058	5.5	6.29	5.14	4.96	6.98	5.54	5.44	4.14	4.27	4.5	3.91
Total Strontium (Sr)	mg/L	24	Water drinking	NSE (2021)	21	Water direct contact	NSE (2021)		0.0074	0.0109	0.0127	0.0121	0.0145	0.0127	0.0116	0.022	0.0101	0.0212	0.0235	0.0134	0.0599	0.0257	0.0486	0.0174	0.0114	0.0139	0.0164
Total Thallium (Tl)	mg/L	0.02	Water drinking	NSE (2021)	0.0008	Water direct contact	NSE (2021)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Tin (Sn)	mg/L	24	Water drinking	NSE (2021)	0.18	Water direct contact	USEPA (2018)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Titanium (Ti)	mg/L	-	-	-	0.1	Water direct contact	BC (2021)		0.0028	0.0081	0.0051	0.0507	0.0077	0.006	0.0046	0.012	0.0065	0.0118	0.0029	0.0047	0.0024	0.0029	0.0035	0.0035	0.0046	0.0035	0.0039
Total Uranium (U)	mg/L	0.2	Water drinking	NSE (2021)	0.015	Water direct contact	NSE (2021)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Vanadium (V)	mg/L	0.062	Water drinking	NSE (2021)	0.12	Water direct contact	NSE (2021)		<0.0020	<0.0020	<0.0020	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Zinc (Zn)	mg/L	50	Water drinking	NSE (2021)	0.007	Water direct contact	NSE (2021)		<0.0050	<0.0050	<0.0050	0.0058	<0.0050	<0.0050	<0.0050	0.081	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved metals																											
Dissolved Aluminum (Al)	mg/L	1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)		0.21	0.19	0.27	0.2	0.57	0.5	0.3	0.352	0.3										
Dissolved Antimony (Sb)	mg/L	0.06	Water drinking	NSE (2021)	0.009	Water direct contact	NSE (2021)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010										
Dissolved Arsenic (As)	mg/L	0.1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)		0.026	0.11	0.2	0.23	0.12	0.092	0.1	0.011	0.0099										
Dissolved Barium (Ba)	mg/L	10	Water drinking	NSE (2021)	1	Water direct contact	NSE (2021)		0.0022	0.0029		0.0022	0.0038	0.0036	0.0033	<0.0050	0.0031										
Dissolved Beryllium (Be)	mg/L	0.04	Water drinking	NSE (2021)	0.00015	Water direct contact	NSE (2021)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00010	<0.00010	<0.0020	<0.00010										
Dissolved Bismuth (Bi)	mg/L	-	-	-	-	-	-		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020										
Dissolved Boron (B)	mg/L	50	Water drinking	NSE (2021)	1.5	Water direct contact	NSE (2021)		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050										
Dissolved Cadmium (Cd)	mg/L	0.05	Water drinking	NSE (2021)	0.00009	Water direct contact	NSE (2021)		0.000012	0.00001	0.000012	<0.000010	0.000018	0.000013	<0.000010	<0.00009	0.000018										
Dissolved Calcium (Ca)	mg/L	Not toxic	-	HC (2020)	116	Water direct contact	USEPA (2018)		0.95	1.5	1.8	1.4	1.7	1.6	1.3		1.2										
Dissolved Chromium (Cr)	mg/L	0.5	Water drinking	NSE (2021)	0.0089	Water direct contact	NSE (2021)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010										
Dissolved Cobalt (Co)	mg/L	0.038	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.0010	<0.00040										
Dissolved Copper (Cu)	mg/L	20	Water drinking	NSE (2021)	0.002	Water direct contact	NSE (2021)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0020	<0.00050										
Dissolved Iron (Fe)	mg/L	3	Water drinking	NSE (2021)	0.3	Water direct contact	NSE (2021)		0.3	0.81	0.86	0.85	1	1.1	0.76	0.435	0.46										
Dissolved Lead (Pb)	mg/L	0.05	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		<0.00050	<0.00050	<0.00050	<0.00050	0.00063	<0.00050	<0.00050	0.0006	<0.00050										
Dissolved Magnesium (Mg)	mg/L	Not toxic	-	HC (2020)	82	Water direct contact	USEPA (2018)		0.45	0.64	0.69	0.57	0.77	0.8	0.67		0.69										
Dissolved Manganese (Mn)	mg/L	1.2	Water drinking	NSE (2021)	0.43	Water direct contact	NSE (2021)		0.03	0.039	0.032	0.014	0.039	0.1	0.027	0.064	0.063										
Dissolved Mercury (Hg)	mg/L	0.01	Water drinking	NSE (2021)	0.000026	Water direct contact	NSE (2021)		<0.000013	<0.000013	<0.000013	<0.000013	<0.000013	0.000013	<0.000013	0.000025	<0.000013										
Dissolved Molybdenum (Mo)	mg/L	0.7	Water drinking	NSE (2021)	0.073	Water direct contact	NSE (2021)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020										
Dissolved Nickel (Ni)	mg/L	1	Water drinking	NSE (2021)	0.025	Water direct contact	NSE (2021)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020										
Dissolved Phosphorus (P)	mg/L	-	-	-	1	Water direct contact	USEPA (2018)		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1										
Dissolved Potassium (K)	mg/L	-	-	-	53	Water direct contact	USEPA (2018)		0.46	0.43	0.47	0.4	0.51	0.55	0.47		0.32										
Dissolved Selenium (Se)	mg/L	0.5	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050										
Dissolved Silver (Ag)	mg/L	Not required	Water drinking	NSE (2021)	0.00025	Water direct contact	NSE (2021)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010										
Dissolved Sodium (Na)	mg/L	2000	Water drinking	NSE (2021)	680	Water direct contact	USEPA (2018)		4.1	4.9	5	4.9	5.4	5.2	5.2		5.3										
Dissolved Strontium (Sr)	mg/L	24	Water drinking	NSE (2021)	21	Water direct contact	NSE (2021)		0.0075	0.011	0.012	0.0089	0.013	0.013	0.011	0.01	0.0096										
Dissolved Thallium (Tl)	mg/L	0.02	Water drinking	NSE (2021)	0.0008	Water direct contact	NSE (2021)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010										
Dissolved Tin (Sn)	mg/L	24	Water drinking	NSE (2021)	0.18	Water direct contact	USEPA (2018)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020										
Dissolved Titanium (Ti)	mg/L	-	-	-	0.1	Water direct contact	BC (2021)		<0.0020	0.0024	0.0051	0.003	0.0076	0.0049	0.0035	0.004	0.0036										
Dissolved Uranium (U)	mg/L	0.2	Water drinking	NSE (2021)	0.015	Water direct contact	NSE (2021)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010										
Dissolved Vanadium (V)	mg/L	0.062	Water drinking	NSE (2021)	0.12	Water direct contact	NSE (2021)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020										
Dissolved Zinc (Zn)	mg/L	50	Water drinking	NSE (2021)	0.007	Water direct contact	NSE (2021)		<0.0050	<0.0050	0.014	0.0068	0.0072	0.0068	0.022	0.005	<0.0050										

Exceed guidelines for human receptors

Exceed guidelines for ecological receptors

Table A.3 Results in Surface Water

Parameters	Units	Guidelines for residents, recreational visitors and Indigenous people	Pathways for residents, recreational visitors and Indigenous people	References for residents, recreational visitors and Indigenous people	Guidelines for aquatic plants, invertebrates and fishes	Pathways for aquatic plants, invertebrates and fishes	References for aquatic plants, invertebrates and fishes	Sample IDs	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7
								Sampling dates	11/11/2018	11/19/2018	11/24/2018	12/1/2018	12/9/2018	12/16/2018	12/19/2018	12/29/2018	1/8/2019	1/12/2019	1/18/2019	1/26/2019	1/30/2019	2/7/2019	3/1/2019	3/8/2019	3/14/2019	3/21/2019	3/28/2019
								Locations	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook
Calculated Parameters																										
Hardness (CaCO3)	mg/L	Not toxic	-	HC (2020)	-	-	-		7.1	4.6	4.3	8	4.3	17	16	15	9.5	7	9.3	8.9	5.2	4.7	3.3	3.4	4.3	3	2.7
Nitrate (N)	mg/L	100	Water drinking	HC (2020)	13	Water direct contact	NSE (2021)		<0.050	<0.050	<0.050	0.083	0.078	0.85	0.77	0.74	0.24	0.12	0.23	0.12	0.1	0.056	<0.050	<0.050	<0.050	<0.050	<0.050
Nitrite (N)	mg/L	10	Water drinking	HC (2020)	0.06	Water direct contact	NSE (2021)		<0.010	<0.010	<0.010	<0.010	<0.010	0.019	0.024	0.019	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	0.016	Water direct contact	CCME (2021)		<0.050	<0.050	<0.050	0.085	<0.050	0.45	0.47	0.54	0.22	0.086	0.15	0.15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Organic Carbon (C)	mg/L	-	-	-	-	-	-																				
pH	pH	7-10,5	Water drinking	HC (2020)	6,5-9	Water direct contact	NSE (2021)		6.17	5.98	5.57	6.29	5.42	6.99	7	6.95	6.56	6.61	6.61	6.48	5.91	5.96	5.59	5.59	5.25	5.95	6
Total metals																										
Total Aluminum (Al)	mg/L	1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)		0.314	0.332	0.337	0.261	0.357	0.222	0.235	0.223	0.251	0.257	0.24	0.198	0.181	0.218	0.209	0.199	0.205	0.173	0.153
Total Antimony (Sb)	mg/L	0.06	Water drinking	NSE (2021)	0.009	Water direct contact	NSE (2021)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Arsenic (As)	mg/L	0.1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)		0.0507	0.0288	0.0293	0.0331	0.0179	0.046	0.061	0.0507	0.0429	0.0246	0.0306	0.0382	0.0191	0.032	0.0281	0.0315	0.0455	0.0353	0.0266
Total Barium (Ba)	mg/L	10	Water drinking	NSE (2021)	1	Water direct contact	NSE (2021)		0.0026	0.0025	0.0027	0.0021	0.0029	0.0026	0.0027	0.0027	0.0025	0.0025	0.0029	0.0022	0.002	0.0024	0.0022	0.0022	0.0025	0.0019	0.0016
Total Beryllium (Be)	mg/L	0.04	Water drinking	NSE (2021)	0.00015	Water direct contact	NSE (2021)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Bismuth (Bi)	mg/L	-	-	-	-	-	-		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Boron (B)	mg/L	50	Water drinking	NSE (2021)	1.5	Water direct contact	NSE (2021)		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Cadmium (Cd)	mg/L	0.05	Water drinking	NSE (2021)	0.00009	Water direct contact	NSE (2021)		0.000019	0.000015	0.000016	0.000012	0.000014	<0.000010	0.00001	0.000013	0.000012	0.000014	0.000019	<0.000010	0.000012	0.000014	0.000015	0.000013	0.000056	0.000015	0.00001
Total Calcium (Ca)	mg/L	Not toxic	-	HC (2020)	116	Water direct contact	USEPA (2018)		1.89	1.04	0.89	2.32	0.88	5.42	4.89	4.9	2.72	1.89	2.63	2.64	1.3	1.09	0.58	0.63	0.9	0.58	0.53
Total Chromium (Cr)	mg/L	0.5	Water drinking	NSE (2021)	0.0089	Water direct contact	NSE (2021)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Cobalt (Co)	mg/L	0.038	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Total Copper (Cu)	mg/L	20	Water drinking	NSE (2021)	0.002	Water direct contact	NSE (2021)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.00050	<0.00050	0.0006	<0.00050	0.0006
Total Iron (Fe)	mg/L	3	Water drinking	NSE (2021)	0.3	Water direct contact	NSE (2021)		0.532	0.516	0.541	0.477	0.504	0.442	0.52	0.447	0.434	0.376	0.397	0.396	0.25	0.34	0.337	0.355	0.372	0.264	0.214
Total Lead (Pb)	mg/L	0.05	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		0.00065	0.00056	0.00081	<0.00050	0.00052	<0.00050	0.00065	0.00062	0.00051	<0.00050	0.00057	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Total Magnesium (Mg)	mg/L	Not toxic	-	HC (2020)	82	Water direct contact	USEPA (2018)		0.59	0.49	0.5	0.54	0.5	0.89	0.82	0.75	0.64	0.56	0.66	0.57	0.47	0.48	0.44	0.46	0.49	0.38	0.32
Total Manganese (Mn)	mg/L	1.2	Water drinking	NSE (2021)	0.43	Water direct contact	NSE (2021)		0.0215	0.0213	0.0238	0.0177	0.0228	0.0241	0.0219	0.0249	0.0233	0.0218	0.026	0.0232	0.0175	0.0237	0.0261	0.0295	0.0375	0.0231	0.0185
Total Mercury (Hg)	mg/L	0.01	Water drinking	NSE (2021)	0.000026	Water direct contact	NSE (2021)																				
Total Molybdenum (Mo)	mg/L	0.7	Water drinking	NSE (2021)	0.073	Water direct contact	NSE (2021)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Nickel (Ni)	mg/L	1	Water drinking	NSE (2021)	0.025	Water direct contact	NSE (2021)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Phosphorus (P)	mg/L	-	-	-	1	Water direct contact	USEPA (2018)		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Potassium (K)	mg/L	-	-	-	53	Water direct contact	USEPA (2018)		0.56	0.31	0.31	0.4	0.31	0.84	0.7	0.74	0.47	0.37	0.44	0.44	0.3	0.29	0.21	0.2	0.3	0.25	0.25
Total Selenium (Se)	mg/L	0.5	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Silver (Ag)	mg/L	Not required	Water drinking	NSE (2021)	0.00025	Water direct contact	NSE (2021)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Sodium (Na)	mg/L	2000	Water drinking	NSE (2021)	680	Water direct contact	USEPA (2018)		4.26	3.4	3.57	3.99	3.7	6.02	5.3	5.34	4.67	4.15	4.91	4.38	3.66	3.66	3.61	3.74	3.89	3.14	2.65
Total Strontium (Sr)	mg/L	24	Water drinking	NSE (2021)	21	Water direct contact	NSE (2021)		0.0166	0.0111	0.0088	0.0201	0.0085	0.0487	0.0455	0.0441	0.0242	0.0173	0.0247	0.0235	0.0125	0.0105	0.0062	0.0068	0.0082	0.006	0.0051
Total Thallium (Tl)	mg/L	0.02	Water drinking	NSE (2021)	0.0008	Water direct contact	NSE (2021)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Tin (Sn)	mg/L	24	Water drinking	NSE (2021)	0.18	Water direct contact	USEPA (2018)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Titanium (Ti)	mg/L	-	-	-	0.1	Water direct contact	BC (2021)		0.005	0.0045	0.0048	0.0038	0.0058	0.0035	0.0035	0.0038	0.0037	0.0047	0.0045	0.0033	0.0027	0.0035	0.0021	0.0029	0.0042	0.0025	<0.0020
Total Uranium (U)	mg/L	0.2	Water drinking	NSE (2021)	0.015	Water direct contact	NSE (2021)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Vanadium (V)	mg/L	0.062	Water drinking	NSE (2021)	0.12	Water direct contact	NSE (2021)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Zinc (Zn)	mg/L	50	Water drinking	NSE (2021)	0.007	Water direct contact	NSE (2021)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0052	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved metals																										
Dissolved Aluminum (Al)	mg/L	1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)																				
Dissolved Antimony (Sb)	mg/L	0.06	Water drinking	NSE (2021)	0.009	Water direct contact	NSE (2021)																				
Dissolved Arsenic (As)	mg/L	0.1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)																				
Dissolved Barium (Ba)	mg/L	10	Water drinking	NSE (2021)	1	Water direct contact	NSE (2021)																				
Dissolved Beryllium (Be)	mg/L	0.04	Water drinking	NSE (2021)	0.00015	Water direct contact	NSE (2021)																				
Dissolved Bismuth (Bi)	mg/L	-	-	-	-	-	-																				
Dissolved Boron (B)	mg/L	50	Water drinking	NSE (2021)	1.5	Water direct contact	NSE (2021)																				
Dissolved Cadmium (Cd)	mg/L	0.05	Water drinking	NSE (2021)	0.00009	Water direct contact	NSE (2021)																				
Dissolved Calcium (Ca)	mg/L	Not toxic	-	HC (2020)	116	Water direct contact	USEPA (2018)																				
Dissolved Chromium (Cr)	mg/L	0.5	Water drinking	NSE (2021)	0.0089	Water direct contact	NSE (2021)																				
Dissolved Cobalt (Co)	mg/L	0.038	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)																				
Dissolved Copper (Cu)	mg/L	20	Water drinking	NSE (2021)	0.002	Water direct contact	NSE (2021)																				
Dissolved Iron (Fe)	mg/L	3	Water drinking	NSE (2021)	0.3	Water direct contact	NSE (2021)																				
Dissolved Lead (Pb)	mg/L	0.05	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)																				
Dissolved Magnesium (Mg)	mg/L	Not toxic	-	HC (2020)	82	Water direct contact	USEPA (2018)																				
Dissolved Manganese (Mn)	mg/L	1.2	Water drinking	NSE (2021)	0.43	Water direct contact	NSE (2021)																				
Dissolved Mercury (Hg)	mg/L	0.01	Water drinking	NSE (2021)	0.000026	Water direct contact	NSE (2021)																				
Dissolved Molybdenum (Mo)	mg/L	0.7	Water drinking	NSE (2021)	0.073	Water direct contact	NSE (2021)																				
Dissolved Nickel (Ni)	mg/L	1	Water drinking	NSE (2021)	0.025	Water direct contact	NSE (2021)																				
Dissolved Phosphorus (P)	mg/L	-	-	-	1	Water direct contact	USEPA (2018)																				
Dissolved Potassium (K)	mg/L	-	-	-	53	Water direct contact	USEPA (2018)																				
Dissolved Selenium (Se)	mg/L	0.5	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)																				
Dissolved Silver (Ag)	mg/L	Not required	Water drinking	NSE (2021)	0.00025	Water direct contact	NSE (2021)																				
Dissolved Sodium (Na)	mg/L	2000	Water drinking	NSE (2021)	680	Water direct contact	USEPA (2018)																				
Dissolved Strontium (Sr)	mg/L	24	Water drinking	NSE (2021)	21	Water direct contact	NSE (2021)																				
Dissolved Thallium (Tl)	mg/L	0.02	Water drinking	NSE (2021)	0.0008	Water direct contact	NSE (2021)																				
Dissolved Tin (Sn)	mg/L	24	Water drinking	NSE (2021)	0.18	Water direct contact	USEPA (2018)																				
Dissolved Titanium (Ti)	mg/L	-	-	-	0.1	Water direct contact	BC (2021)																				
Dissolved Uranium (U)	mg/L	0.2	Water drinking	NSE (2021)	0.015	Water direct contact	NSE (2021)																				
Dissolved Vanadium (V)	mg/L	0.062	Water drinking	NSE (2021)	0.12	Water direct contact	NSE (2021)																				
Dissolved Zinc (Zn)	mg/L	50	Water drinking	NSE (2021)	0.007	Water direct contact	NSE (2021)																				

Exceed guidelines for human receptors

Exceed guidelines for ecological receptors

Table A.3 Results in Surface Water

Parameters	Units	Guidelines for residents, recreational visitors and Indigenous people	Pathways for residents, recreational visitors and Indigenous people	References for residents, recreational visitors and Indigenous people	Guidelines for aquatic plants, invertebrates and fishes	Pathways for aquatic plants, invertebrates and fishes	References for aquatic plants, invertebrates and fishes	Sample IDs	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7
								Sampling dates	4/4/2019	4/11/2019	4/18/2019	4/25/2019	5/3/2019	5/8/2019	5/16/2019	5/24/2019	5/31/2019	6/12/2019	6/20/2019	6/27/2019	7/5/2019	7/10/2019	7/16/2019	7/27/2019	8/2/2019	8/8/2019	8/16/2019
								Locations	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook
Calculated Parameters																										
Hardness (CaCO3)	mg/L	Not toxic	-	HC (2020)	-	-	-		3.8	3	3	2.8	2.7	2.8	3.2	2.3	3.1	3	2.8	3.3	4.4	2.2	2.7	5.5	4.7	2.9	3
Nitrate (N)	mg/L	100	Water drinking	HC (2020)	13	Water direct contact	NSE (2021)		0.051	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.079
Nitrite (N)	mg/L	10	Water drinking	HC (2020)	0.06	Water direct contact	NSE (2021)		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	0.016	Water direct contact	CCME (2021)		0.064	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.055	<0.050	0.06	0.056	<0.050	<0.050	<0.050	0.074	0.063	0.084	<0.050	<0.050
Dissolved Organic Carbon (C)	mg/L	-	-	-	-	-	-																			
pH	pH	7-10,5	Water drinking	HC (2020)	6,5-9	Water direct contact	NSE (2021)		5.76	5.95	6.1	6.04	5.76	5.7	5.87	5.94	6.34	5.37	5.86	6.08	6.44	5.93	5.96	6.38	6.19	5.93	6.27
Total metals																										
Total Aluminum (Al)	mg/L	1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)		0.165	0.154	0.215	0.161	0.172	0.163	0.194	0.199	0.215	0.264	0.257	0.223	0.213	0.274	0.227	0.196	0.215	0.216	0.207
Total Antimony (Sb)	mg/L	0.06	Water drinking	NSE (2021)	0.009	Water direct contact	NSE (2021)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Arsenic (As)	mg/L	0.1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)		0.0646	0.0429	0.0861	0.0418	0.048	0.0877	0.077	0.0037	0.101	0.117	0.0987	0.123	0.131	0.0327	0.259	0.417	0.541	0.533	0.552
Total Barium (Ba)	mg/L	10	Water drinking	NSE (2021)	1	Water direct contact	NSE (2021)		0.0018	0.0018	0.0021	0.0018	0.0022	0.002	0.0021	0.0019	0.0019	0.0019	0.0021	0.002	0.0019	0.0018	0.0021	0.0023	0.0024	0.0018	0.0015
Total Beryllium (Be)	mg/L	0.04	Water drinking	NSE (2021)	0.00015	Water direct contact	NSE (2021)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Bismuth (Bi)	mg/L	-	-	-	-	-	-		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Boron (B)	mg/L	50	Water drinking	NSE (2021)	1.5	Water direct contact	NSE (2021)		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Cadmium (Cd)	mg/L	0.05	Water drinking	NSE (2021)	0.00009	Water direct contact	NSE (2021)		0.000015	0.000011	0.000014	0.000015	0.000019	0.000012	0.000011	0.000015	0.000018	0.000013	0.000013	0.000013	0.00001	0.00001	0.00001	0.000012	<0.000010	<0.000010	<0.000010
Total Calcium (Ca)	mg/L	Not toxic	-	HC (2020)	116	Water direct contact	USEPA (2018)		0.89	0.56	0.62	0.54	0.51	0.57	0.71	0.39	0.63	0.67	0.6	0.78	1.14	0.39	0.54	1.51	1.16	0.64	0.65
Total Chromium (Cr)	mg/L	0.5	Water drinking	NSE (2021)	0.0089	Water direct contact	NSE (2021)		0.0012	0.001	0.0011	0.0012	0.0014	0.0011	0.0015	0.0013	0.0012	0.0011	0.0012	<0.0010	0.001	0.0011	0.0013	0.0012	0.001	<0.0010	<0.0010
Total Cobalt (Co)	mg/L	0.038	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Total Copper (Cu)	mg/L	20	Water drinking	NSE (2021)	0.002	Water direct contact	NSE (2021)		0.00062	<0.00050	0.00065	0.00069	0.00079	<0.00050	0.00103	<0.00050	<0.00050	<0.00050	0.00179	0.00052	0.00055	0.00061	0.00132	<0.00050	<0.00050	0.00403	0.00091
Total Iron (Fe)	mg/L	3	Water drinking	NSE (2021)	0.3	Water direct contact	NSE (2021)		0.298	0.236	0.475	0.224	0.256	0.301	0.317	0.265	0.35	0.396	0.415	0.398	0.371	0.443	0.494	0.659	0.827	0.691	0.768
Total Lead (Pb)	mg/L	0.05	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		<0.00050	<0.00050	0.00067	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00073	<0.00050	<0.00050	0.0006	0.00051	<0.00050	<0.00050	<0.00050	0.00054
Total Magnesium (Mg)	mg/L	Not toxic	-	HC (2020)	82	Water direct contact	USEPA (2018)		0.38	0.37	0.36	0.34	0.35	0.34	0.35	0.33	0.36	0.33	0.32	0.33	0.37	0.31	0.32	0.43	0.44	0.33	0.34
Total Manganese (Mn)	mg/L	1.2	Water drinking	NSE (2021)	0.43	Water direct contact	NSE (2021)		0.0237	0.0214	0.0265	0.0187	0.0215	0.0232	0.0212	0.0161	0.0248	0.0176	0.0215	0.0267	0.0231	0.016	0.0263	0.0556	0.0751	0.0252	0.0269
Total Mercury (Hg)	mg/L	0.01	Water drinking	NSE (2021)	0.000026	Water direct contact	NSE (2021)																				
Total Molybdenum (Mo)	mg/L	0.7	Water drinking	NSE (2021)	0.073	Water direct contact	NSE (2021)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Nickel (Ni)	mg/L	1	Water drinking	NSE (2021)	0.025	Water direct contact	NSE (2021)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Phosphorus (P)	mg/L	-	-	-	1	Water direct contact	USEPA (2018)		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Potassium (K)	mg/L	-	-	-	53	Water direct contact	USEPA (2018)		0.28	0.25	0.43	0.45	0.51	0.37	0.37	0.32	0.32	0.25	0.71	0.28	0.23	0.26	0.5	0.29	0.32	0.47	0.41
Total Selenium (Se)	mg/L	0.5	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.00050	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.00050	<0.00050
Total Silver (Ag)	mg/L	Not required	Water drinking	NSE (2021)	0.00025	Water direct contact	NSE (2021)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Sodium (Na)	mg/L	2000	Water drinking	NSE (2021)	680	Water direct contact	USEPA (2018)		3.26	3.09	2.99	3	3.08	2.88	2.97	2.75	3.19	2.77	3.35	2.61	2.93	2.81	3.06	3.3	3.63	3.32	3.27
Total Strontium (Sr)	mg/L	24	Water drinking	NSE (2021)	21	Water direct contact	NSE (2021)		0.0073	0.0064	0.0069	0.0054	0.0054	0.0065	0.0066	0.0045	0.0063	0.0071	0.0059	0.0082	0.0118	0.0043	0.0052	0.0148	0.0111	0.0063	0.0059
Total Thallium (Tl)	mg/L	0.02	Water drinking	NSE (2021)	0.0008	Water direct contact	NSE (2021)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Tin (Sn)	mg/L	24	Water drinking	NSE (2021)	0.18	Water direct contact	USEPA (2018)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Titanium (Ti)	mg/L	-	-	-	0.1	Water direct contact	BC (2021)		0.003	<0.0020	0.0055	0.0028	0.0024	0.003	0.0043	0.0037	0.0043	0.006	0.0042	0.0031	0.0024	0.0048	0.003	0.0028	0.0032	0.0039	0.0036
Total Uranium (U)	mg/L	0.2	Water drinking	NSE (2021)	0.015	Water direct contact	NSE (2021)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Vanadium (V)	mg/L	0.062	Water drinking	NSE (2021)	0.12	Water direct contact	NSE (2021)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Zinc (Zn)	mg/L	50	Water drinking	NSE (2021)	0.007	Water direct contact	NSE (2021)		<0.0050	<0.0050	<0.0050	<0.0050	0.0124	<0.0050	<0.0050	0.0068	<0.0050	<0.0050	0.008	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved metals																										
Dissolved Aluminum (Al)	mg/L	1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)																				
Dissolved Antimony (Sb)	mg/L	0.06	Water drinking	NSE (2021)	0.009	Water direct contact	NSE (2021)																				
Dissolved Arsenic (As)	mg/L	0.1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)																				
Dissolved Barium (Ba)	mg/L	10	Water drinking	NSE (2021)	1	Water direct contact	NSE (2021)																				
Dissolved Beryllium (Be)	mg/L	0.04	Water drinking	NSE (2021)	0.00015	Water direct contact	NSE (2021)																				
Dissolved Bismuth (Bi)	mg/L	-	-	-	-	-	-																				
Dissolved Boron (B)	mg/L	50	Water drinking	NSE (2021)	1.5	Water direct contact	NSE (2021)																				
Dissolved Cadmium (Cd)	mg/L	0.05	Water drinking	NSE (2021)	0.00009	Water direct contact	NSE (2021)																				
Dissolved Calcium (Ca)	mg/L	Not toxic	-	HC (2020)	116	Water direct contact	USEPA (2018)																				
Dissolved Chromium (Cr)	mg/L	0.5	Water drinking	NSE (2021)	0.0089	Water direct contact	NSE (2021)																				
Dissolved Cobalt (Co)	mg/L	0.038	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)																				
Dissolved Copper (Cu)	mg/L	20	Water drinking	NSE (2021)	0.002	Water direct contact	NSE (2021)																				
Dissolved Iron (Fe)	mg/L	3	Water drinking	NSE (2021)	0.3	Water direct contact	NSE (2021)																				
Dissolved Lead (Pb)	mg/L	0.05	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)																				
Dissolved Magnesium (Mg)	mg/L	Not toxic	-	HC (2020)	82	Water direct contact	USEPA (2018)																				
Dissolved Manganese (Mn)	mg/L	1.2	Water drinking	NSE (2021)	0.43	Water direct contact	NSE (2021)																				
Dissolved Mercury (Hg)	mg/L	0.01	Water drinking	NSE (2021)	0.000026	Water direct contact	NSE (2021)																				
Dissolved Molybdenum (Mo)	mg/L	0.7	Water drinking	NSE (2021)	0.073	Water direct contact	NSE (2021)																				
Dissolved Nickel (Ni)	mg/L	1	Water drinking	NSE (2021)	0.025	Water direct contact	NSE (2021)																				
Dissolved Phosphorus (P)	mg/L	-	-	-	1	Water direct contact	USEPA (2018)																				
Dissolved Potassium (K)	mg/L	-	-	-	53	Water direct contact	USEPA (2018)																				
Dissolved Selenium (Se)	mg/L	0.5	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)																				
Dissolved Silver (Ag)	mg/L	Not required	Water drinking	NSE (2021)	0.00025	Water direct contact	NSE (2021)																				
Dissolved Sodium (Na)	mg/L	2000	Water drinking	NSE (2021)	680	Water direct contact	USEPA (2018)																				
Dissolved Strontium (Sr)	mg/L	24	Water drinking	NSE (2021)	21	Water direct contact	NSE (2021)																				
Dissolved Thallium (Tl)	mg/L	0.02	Water drinking	NSE (2021)	0.0008	Water direct contact	NSE (2021)																				
Dissolved Tin (Sn)	mg/L	24	Water drinking	NSE (2021)	0.18	Water direct contact	USEPA (2018)																				
Dissolved Titanium (Ti)	mg/L	-	-	-	0.1	Water direct contact	BC (2021)																				
Dissolved Uranium (U)	mg/L	0.2	Water drinking	NSE (2021)	0.015	Water direct contact	NSE (2021)																				
Dissolved Vanadium (V)	mg/L	0.062	Water drinking	NSE (2021)	0.12	Water direct contact	NSE (2021)																				
Dissolved Zinc (Zn)	mg/L	50	Water drinking	NSE (2021)	0.007	Water direct contact	NSE (2021)																				

Exceed guidelines for human receptors

Exceed guidelines for ecological receptors

Table A.3 Results in Surface Water

Parameters	Units	Guidelines for residents, recreational visitors and Indigenous people	Pathways for residents, recreational visitors and Indigenous people	References for residents, recreational visitors and Indigenous people	Guidelines for aquatic plants, invertebrates and fishes	Pathways for aquatic plants, invertebrates and fishes	References for aquatic plants, invertebrates and fishes	Sample IDs	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	Station #7	SW-12-21	SW-12-21	SW-12-21
								Sampling dates	8/23/2019	8/30/2019	9/3/2019	9/12/2019	9/21/2019	9/25/2019	10/3/2019	12/12/2019	3/19/2020	6/10/2020	9/2/2020	11/23/2020	2/9/2021	6/28/2021	9/20/2021	11/29/2021	3/31/2021	5/21/2021	6/22/2021
								Locations	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake
Calculated Parameters																										
Hardness (CaCO3)	mg/L	Not toxic	-	HC (2020)	-	-	-		3.1	3.4	4.4	5.2	3.5	4.3	4.2	5.2	3.9	2.7	3.3	4.7	3.5	5.5	3.9	4.9	2.9	2.5	2.4
Nitrate (N)	mg/L	100	Water drinking	HC (2020)	13	Water direct contact	NSE (2021)		0.099	0.055	<0.055	<0.050	<0.050	<0.050	<0.050	<0.050	0.064	<0.050	<0.050	<0.050	0.057	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nitrite (N)	mg/L	10	Water drinking	HC (2020)	0.06	Water direct contact	NSE (2021)		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	0.016	Water direct contact	CCME (2021)		<0.050	0.097	<0.050	0.062	<0.050	<0.050	0.086	<0.050	<0.050	<0.050	0.051	0.092	<0.050	<0.050	0.051	<0.050	<0.050	<0.050	<0.050
Dissolved Organic Carbon (C)	mg/L	-	-	-	-	-	-																		10	10	8.2
pH	pH	7-10,5	Water drinking	HC (2020)	6,5-9	Water direct contact	NSE (2021)		5.58	6.38	6.2	5.9	5.88	6.18	6.46	4.8	5.86	5.75	5.71	5.41	4.8	6.47	5.67	4.72	4.99	5.59	5.18
Total metals																											
Total Aluminum (Al)	mg/L	1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)		0.185	0.207	0.206	0.204	0.198	0.183	0.185	0.327	0.229	0.18	0.237	0.379	0.3	0.326	0.349	0.392	0.292	0.248	0.26
Total Antimony (Sb)	mg/L	0.06	Water drinking	NSE (2021)	0.009	Water direct contact	NSE (2021)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Arsenic (As)	mg/L	0.1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)		0.818	0.632	0.777	0.353	0.218	0.353	0.231	0.0293	0.0295	0.0956	0.223	0.0652	0.0227	0.273	0.222	0.0439	0.0056	0.0202	0.0094
Total Barium (Ba)	mg/L	10	Water drinking	NSE (2021)	1	Water direct contact	NSE (2021)		0.0016	0.0017	0.0023	0.0024	0.002	0.0021	0.0017	0.0033	0.0023	0.0017	0.0019	0.0033	0.0025	0.0027	0.0025	0.0036	0.002	0.0019	0.0019
Total Beryllium (Be)	mg/L	0.04	Water drinking	NSE (2021)	0.00015	Water direct contact	NSE (2021)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00010	<0.00010	<0.0010	<0.0010	<0.0010
Total Bismuth (Bi)	mg/L	-	-	-	-	-	-		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Boron (B)	mg/L	50	Water drinking	NSE (2021)	1.5	Water direct contact	NSE (2021)		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Cadmium (Cd)	mg/L	0.05	Water drinking	NSE (2021)	0.00009	Water direct contact	NSE (2021)		<0.000010	<0.000010	<0.000010	0.00001	<0.000010	<0.000010	<0.000010	0.000018	0.000015	<0.000010	0.000011	0.000016	0.000014	0.000038	<0.000010	0.000022	<0.000010	<0.000010	<0.000010
Total Calcium (Ca)	mg/L	Not toxic	-	HC (2020)	116	Water direct contact	USEPA (2018)		0.68	0.76	1.01	1.1	0.67	0.88	0.83	0.88	0.69	0.57	0.65	0.86	0.59	1.63	0.81	0.86	0.5	0.44	0.45
Total Chromium (Cr)	mg/L	0.5	Water drinking	NSE (2021)	0.0089	Water direct contact	NSE (2021)		<0.0010	<0.0010	<0.0010	0.001	<0.0010	0.0012	0.0015	0.0012	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Cobalt (Co)	mg/L	0.038	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Total Copper (Cu)	mg/L	20	Water drinking	NSE (2021)	0.002	Water direct contact	NSE (2021)		<0.00050	<0.00050	<0.00050	0.00056	<0.00050	<0.00050	0.00137	<0.00050	<0.00050	<0.00050	<0.00050	0.002	<0.00050	0.00455	<0.00050	0.00053	<0.00050	<0.00050	<0.00050
Total Iron (Fe)	mg/L	3	Water drinking	NSE (2021)	0.3	Water direct contact	NSE (2021)		0.866	0.776	1.05	0.751	0.701	0.701	0.689	0.482	0.313	0.282	0.507	0.653	0.379	0.369	0.954	0.636	0.323	0.349	0.323
Total Lead (Pb)	mg/L	0.05	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		0.0005	<0.00050	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00061	0.00063	0.00162	0.00061	0.00069	<0.00050	<0.00050	<0.00050
Total Magnesium (Mg)	mg/L	Not toxic	-	HC (2020)	82	Water direct contact	USEPA (2018)		0.34	0.37	0.45	0.6	0.45	0.51	0.51	0.72	0.53	0.31	0.41	0.63	0.5	0.36	0.45	0.66	0.39	0.33	0.33
Total Manganese (Mn)	mg/L	1.2	Water drinking	NSE (2021)	0.43	Water direct contact	NSE (2021)		0.0304	0.0259	0.0782	0.04	0.0227	0.031	0.0325	0.0276	0.0254	0.0219	0.0247	0.0337	0.0218	0.0273	0.0944	0.0388	0.0163	0.0151	0.0127
Total Mercury (Hg)	mg/L	0.01	Water drinking	NSE (2021)	0.000026	Water direct contact	NSE (2021)																		<0.000013	0.000015	<0.000013
Total Molybdenum (Mo)	mg/L	0.7	Water drinking	NSE (2021)	0.073	Water direct contact	NSE (2021)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Nickel (Ni)	mg/L	1	Water drinking	NSE (2021)	0.025	Water direct contact	NSE (2021)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0028	0.005	<0.0020	<0.0020	<0.0020	<0.0020
Total Phosphorus (P)	mg/L	-	-	-	1	Water direct contact	USEPA (2018)		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.11	<0.10	<0.10	<0.10	<0.10	<0.10
Total Potassium (K)	mg/L	-	-	-	53	Water direct contact	USEPA (2018)		0.36	0.36	0.4	0.49	0.38	0.44	0.36	0.34	0.32	0.39	0.34	0.36	0.3	0.74	0.36	0.37	0.28	0.27	0.3
Total Selenium (Se)	mg/L	0.5	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Total Silver (Ag)	mg/L	Not required	Water drinking	NSE (2021)	0.00025	Water direct contact	NSE (2021)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Sodium (Na)	mg/L	2000	Water drinking	NSE (2021)	680	Water direct contact	USEPA (2018)		3.27	3.32	3.72	4.87	4.2	4.27	4.22	4.96	4.35	2.95	3.82	4.61	3.98	1.66	3.79	4.55	3.55	3.07	3.23
Total Strontium (Sr)	mg/L	24	Water drinking	NSE (2021)	21	Water direct contact	NSE (2021)		0.0071	0.007	0.0094	0.0103	0.0072	0.0089	0.0075	0.0101	0.0078	0.0062	0.0065	0.0103	0.0074	0.0051	0.0081	0.009	0.0054	0.005	0.0049
Total Thallium (Tl)	mg/L	0.02	Water drinking	NSE (2021)	0.0008	Water direct contact	NSE (2021)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Tin (Sn)	mg/L	24	Water drinking	NSE (2021)	0.18	Water direct contact	USEPA (2018)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Titanium (Ti)	mg/L	-	-	-	0.1	Water direct contact	BC (2021)		0.0031	0.0031	0.0038	0.0039	0.0035	0.0028	0.004	0.0043	0.0031	0.0022	0.0032	0.0054	0.004	0.0112	0.0064	0.0053	0.004	0.0036	0.0039
Total Uranium (U)	mg/L	0.2	Water drinking	NSE (2021)	0.015	Water direct contact	NSE (2021)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Vanadium (V)	mg/L	0.062	Water drinking	NSE (2021)	0.12	Water direct contact	NSE (2021)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Zinc (Zn)	mg/L	50	Water drinking	NSE (2021)	0.007	Water direct contact	NSE (2021)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0128	0.0293	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved metals																											
Dissolved Aluminum (Al)	mg/L	1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)																		0.24	0.24	0.22
Dissolved Antimony (Sb)	mg/L	0.06	Water drinking	NSE (2021)	0.009	Water direct contact	NSE (2021)																		<0.0010	<0.0010	<0.0010
Dissolved Arsenic (As)	mg/L	0.1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)																		0.0054	0.018	0.01
Dissolved Barium (Ba)	mg/L	10	Water drinking	NSE (2021)	1	Water direct contact	NSE (2021)																		0.0022	0.002	0.0021
Dissolved Beryllium (Be)	mg/L	0.04	Water drinking	NSE (2021)	0.00015	Water direct contact	NSE (2021)																		<0.0010	<0.0010	<0.0010
Dissolved Bismuth (Bi)	mg/L	-	-	-	-	-	-																		<0.0020	<0.0020	<0.0020
Dissolved Boron (B)	mg/L	50	Water drinking	NSE (2021)	1.5	Water direct contact	NSE (2021)																		<0.050	<0.050	<0.050
Dissolved Cadmium (Cd)	mg/L	0.05	Water drinking	NSE (2021)	0.00009	Water direct contact	NSE (2021)																		0.000012	<0.000010	<0.000010
Dissolved Calcium (Ca)	mg/L	Not toxic	-	HC (2020)	116	Water direct contact	USEPA (2018)																		0.5	0.45	0.45
Dissolved Chromium (Cr)	mg/L	0.5	Water drinking	NSE (2021)	0.0089	Water direct contact	NSE (2021)																		<0.0010	<0.0010	<0.0010
Dissolved Cobalt (Co)	mg/L	0.038	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)																		<0.00040	<0.00040	<0.00040
Dissolved Copper (Cu)	mg/L	20	Water drinking	NSE (2021)	0.002	Water direct contact	NSE (2021)																		<0.00050	<0.00050	<0.00050
Dissolved Iron (Fe)	mg/L	3	Water drinking	NSE (2021)	0.3	Water direct contact	NSE (2021)																		0.27	0.32	0.25
Dissolved Lead (Pb)	mg/L	0.05	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)																		<0.00050	<0.00050	<0.00050
Dissolved Magnesium (Mg)	mg/L	Not toxic	-	HC (2020)	82	Water direct contact	USEPA (2018)																		0.39	0.34	0.32
Dissolved Manganese (Mn)	mg/L	1.2	Water drinking	NSE (2021)	0.43	Water direct contact	NSE (2021)																		0.016	0.016	0.012
Dissolved Mercury (Hg)	mg/L	0.01	Water drinking	NSE (2021)	0.000026	Water direct contact	NSE (2021)																		<0.000013	<0.000013	<0.000013
Dissolved Molybdenum (Mo)	mg/L	0.7	Water drinking	NSE (2021)	0.073	Water direct contact	NSE (2021)																		<0.0020	<0.0020	<0.0020
Dissolved Nickel (Ni)	mg/L	1	Water drinking	NSE (2021)	0.025	Water direct contact	NSE (2021)																		<0.0020	<0.0020	<0.0020
Dissolved Phosphorus (P)	mg/L	-	-	-	1	Water direct contact	USEPA (2018)																		<0.1	<0.1	<0.1
Dissolved Potassium (K)	mg/L	-	-	-	53	Water direct contact	USEPA (2018)																		0.29	0.29	0.3
Dissolved Selenium (Se)	mg/L	0.5	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)																		<0.00050	<0.00050	<0.00050
Dissolved Silver (Ag)	mg/L	Not required	Water drinking	NSE (2021)	0.00025	Water direct contact	NSE (2021)																		<0.00010	<0.00010	<0.00010
Dissolved Sodium (Na)	mg/L	2000	Water drinking	NSE (2021)	680	Water direct contact	USEPA (2018)																		3.8	3.3	3.2
Dissolved Strontium (Sr)	mg/L	24	Water drinking	NSE (2021)	21	Water direct contact	NSE (2021)																		0.0051	0.0049	0.005
Dissolved Thallium (Tl)	mg/L	0.02	Water drinking	NSE (2021)	0.0008	Water direct contact	NSE (2021)																		<0.00010	<0.00010	<0.00010
Dissolved Tin (Sn)	mg/L	24	Water drinking	NSE (2021)	0.18	Water direct contact	USEPA (2018)																		<0.0020	<0.0020	<0.0020
Dissolved Titanium (Ti)	mg/L	-	-	-	0.1	Water direct contact	BC (2021)																		0.0025	0.0038	0.0022
Dissolved Uranium (U)	mg/L	0.2	Water drinking	NSE (2021)	0.015	Water direct contact	NSE (2021)																		<0.00010	<0.00010	<0.00010
Dissolved Vanadium (V)	mg/L	0.062	Water drinking	NSE (2021)	0.12	Water direct contact	NSE (2021)																		<0.0020	<0.0020	<0.0020
Dissolved Zinc (Zn)	mg/L	50	Water drinking	NSE (2021)	0.007	Water direct contact	NSE (2021)																		<0.0050	<0.0050	0.0065

Exceed guidelines for human receptors

Exceed guidelines for ecological receptors

Table A.3 Results in Surface Water

Parameters	Units	Guidelines for residents, recreational visitors and Indigenous people	Pathways for residents, recreational visitors and Indigenous people	References for residents, recreational visitors and Indigenous people	Guidelines for aquatic plants, invertebrates and fishes	Pathways for aquatic plants, invertebrates and fishes	References for aquatic plants, invertebrates and fishes	Sample IDs	SW-12-21	SW-12-21	SW-12-21	SW-12-21	SW-12-21	SW-12-21	SW-12-21	SW-12-21	SW-12-21	Station #4	Station #4	Station #4	Station #4	Station #4	Station #4	Station #4	Station #4	Station #4	Station #4
								Sampling dates	7/20/2021	8/19/2021	9/22/2021	10/22/2021	10/22/2021	11/21/2021	11/21/2021	12/6/2021	12/6/2021	8/22/2018	9/22/2018	9/28/2018	10/14/2018	10/28/2018	11/24/2018	12/16/2018	1/27/2019	10/17/2019	12/11/2019
								Locations	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake
Calculated Parameters																											
Hardness (CaCO3)	mg/L	Not toxic	-	HC (2020)	-	-	-		2.9	2.9	3.2	4	3.8	7.4	15.6	4.3	4.2	3.3	3	3	3.7	4.3	3.3	3.6	3.2	3.9	5.2
Nitrate (N)	mg/L	100	Water drinking	HC (2020)	13	Water direct contact	NSE (2021)		<0.050	<0.050	<0.050	<0.050	<0.050	<0.05	<0.05	<0.050	0.078	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nitrite (N)	mg/L	10	Water drinking	HC (2020)	0.06	Water direct contact	NSE (2021)		<0.010	<0.010	<0.010	<0.010	<0.010	<0.05	<0.05	<0.010	0.011	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	0.016	Water direct contact	CCME (2021)		<0.050	<0.050	<0.050	<0.050	<0.050	<0.03	<0.03	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.1
Dissolved Organic Carbon (C)	mg/L	-	-	-	-	-	-		9.2	9	11				10	17	17										
pH	pH	7-10,5	Water drinking	HC (2020)	6,5-9	Water direct contact	NSE (2021)		5.49	5.78	5.82	5.87	5.56	4.76	4.4	4.68	4.62	5.75	5.74	5.95	5.8	5.13	5.18	5.71	5.13	5.79	4.85
Total metals																											
Total Aluminum (Al)	mg/L	1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)		0.263	0.448	0.329	0.38	0.402	0.608	0.848	0.37	0.377	0.242	0.227	0.236	0.272	0.352	0.343	0.328	0.247	0.233	0.367
Total Antimony (Sb)	mg/L	0.06	Water drinking	NSE (2021)	0.009	Water direct contact	NSE (2021)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Arsenic (As)	mg/L	0.1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)		0.0499	0.0554	0.013	0.0152	0.0151	0.006	0.006	0.0064	0.0103	0.0324	0.0234	0.0435	0.0086	0.0049	0.0136	0.0332	0.0017	0.0107	0.0232
Total Barium (Ba)	mg/L	10	Water drinking	NSE (2021)	1	Water direct contact	NSE (2021)		0.0023	0.0029	0.0024	0.0029	0.003	<0.0050	0.005	0.0033	0.0033	0.002	0.0021	0.0019	0.0025	0.0032	0.0026	0.0026	0.0022	0.0022	0.0035
Total Beryllium (Be)	mg/L	0.04	Water drinking	NSE (2021)	0.00015	Water direct contact	NSE (2021)		<0.0010	<0.0010	<0.00010	<0.00010	<0.00010	<0.0020	<0.0020	<0.00010	<0.00010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Bismuth (Bi)	mg/L	-	-	-	-	-	-		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Boron (B)	mg/L	50	Water drinking	NSE (2021)	1.5	Water direct contact	NSE (2021)		<0.050	<0.050	<0.050	<0.050	<0.050	0.025	0.106	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Cadmium (Cd)	mg/L	0.05	Water drinking	NSE (2021)	0.00009	Water direct contact	NSE (2021)		<0.000010	0.000022	0.000013	0.000014	0.000015	<0.000090	<0.000090	0.000019	0.000017	0.000011	0.000013	<0.000010	0.000012	0.000033	0.000013	0.000015	0.000015	0.000011	0.00002
Total Calcium (Ca)	mg/L	Not toxic	-	HC (2020)	116	Water direct contact	USEPA (2018)		0.52	0.53	0.57	0.71	0.76	0.0018	0.0051	0.71	0.75	0.64	0.52	0.51	0.64	0.71	0.56	0.62	0.53	0.67	0.83
Total Chromium (Cr)	mg/L	0.5	Water drinking	NSE (2021)	0.0089	Water direct contact	NSE (2021)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.001
Total Cobalt (Co)	mg/L	0.038	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.0010	<0.0010	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Total Copper (Cu)	mg/L	20	Water drinking	NSE (2021)	0.002	Water direct contact	NSE (2021)		<0.00050	0.00083	<0.00050	0.00056	<0.00050	<0.0010	<0.0010	<0.00050	<0.00050	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.00066
Total Iron (Fe)	mg/L	3	Water drinking	NSE (2021)	0.3	Water direct contact	NSE (2021)		0.471	0.825	0.576	0.642	0.648	0.57	0.622	0.529	0.547	0.457	0.543	0.525	0.496	0.546	0.51	0.513	0.373	0.527	0.546
Total Lead (Pb)	mg/L	0.05	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		0.00051	0.00142	0.00056	0.00063	0.00066	0.0009	0.0011	0.00064	0.00064	<0.00050	<0.00050	0.00052	<0.00050	0.00063	0.00075	0.00059	<0.00050	<0.00050	0.00054
Total Magnesium (Mg)	mg/L	Not toxic	-	HC (2020)	82	Water direct contact	USEPA (2018)		0.36	0.43	0.42	0.52	0.54	0.0007	0.0007	0.61	0.63	0.41	0.42	0.41	0.5	0.6	0.46	0.49	0.45	0.55	0.76
Total Manganese (Mn)	mg/L	1.2	Water drinking	NSE (2021)	0.43	Water direct contact	NSE (2021)		0.0099	0.0114	0.0143	0.0189	0.0194	0.022	0.024	0.0247	0.025	0.0165	0.0181	0.018	0.0204	0.0263	0.021	0.023	0.0231	0.0208	0.0262
Total Mercury (Hg)	mg/L	0.01	Water drinking	NSE (2021)	0.000026	Water direct contact	NSE (2021)		<0.000013	<0.000013	<0.000013	<0.000013	<0.000013	2.6E-08	2.6E-08	<0.000013	<0.000013										
Total Molybdenum (Mo)	mg/L	0.7	Water drinking	NSE (2021)	0.073	Water direct contact	NSE (2021)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Nickel (Ni)	mg/L	1	Water drinking	NSE (2021)	0.025	Water direct contact	NSE (2021)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Phosphorus (P)	mg/L	-	-	-	1	Water direct contact	USEPA (2018)		<0.10	<0.10	<0.10	<0.10	<0.10	<0.00020	<0.00020	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Potassium (K)	mg/L	-	-	-	53	Water direct contact	USEPA (2018)		0.33	0.41	0.27	0.3	0.32	0.0004	0.0003	0.34	0.36	0.33	0.32	0.31	0.36	0.92	0.27	0.26	0.2	0.34	0.34
Total Selenium (Se)	mg/L	0.5	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.0010	<0.00050	<0.00050	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.00050
Total Silver (Ag)	mg/L	Not required	Water drinking	NSE (2021)	0.00025	Water direct contact	NSE (2021)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Sodium (Na)	mg/L	2000	Water drinking	NSE (2021)	680	Water direct contact	USEPA (2018)		3.51	3.52	3.71	4	4.17	0.0049	0.0043	4.43	4.34	3.79	3.99	3.87	3.98	4.65	3.36	3.52	3.76	4.39	5.3
Total Strontium (Sr)	mg/L	24	Water drinking	NSE (2021)	21	Water direct contact	NSE (2021)		0.0058	0.0055	0.0063	0.0073	0.008	0.01	0.019	0.0078	0.0083	0.0059	0.0058	0.0055	0.0066	0.0079	0.0064	0.0066	0.0057	0.0071	0.0092
Total Thallium (Tl)	mg/L	0.02	Water drinking	NSE (2021)	0.0008	Water direct contact	NSE (2021)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Tin (Sn)	mg/L	24	Water drinking	NSE (2021)	0.18	Water direct contact	USEPA (2018)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Titanium (Ti)	mg/L	-	-	-	0.1	Water direct contact	BC (2021)		0.0043	0.0176	0.0043	0.0065	0.0056	0.007	0.012	0.005	0.0055	0.0029	0.0041	0.0056	0.0042	0.0049	0.004	0.0057	0.0035	0.0041	0.0049
Total Uranium (U)	mg/L	0.2	Water drinking	NSE (2021)	0.015	Water direct contact	NSE (2021)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	<0.00020	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Vanadium (V)	mg/L	0.062	Water drinking	NSE (2021)	0.12	Water direct contact	NSE (2021)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Zinc (Zn)	mg/L	50	Water drinking	NSE (2021)	0.007	Water direct contact	NSE (2021)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.017	0.092	<0.0050	<0.0050	0.0089	<0.0050	<0.0050	<0.0050	0.009	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved metals																											
Dissolved Aluminum (Al)	mg/L	1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)		0.25	0.25	0.31	0.39	0.38	0.412	0.398	0.35	0.35										
Dissolved Antimony (Sb)	mg/L	0.06	Water drinking	NSE (2021)	0.009	Water direct contact	NSE (2021)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0020	<0.0010	<0.0010										
Dissolved Arsenic (As)	mg/L	0.1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)		0.04	0.025	0.013	0.015	0.014	0.006	0.006	0.0069	0.0068										
Dissolved Barium (Ba)	mg/L	10	Water drinking	NSE (2021)	1	Water direct contact	NSE (2021)		0.002	0.002	0.0022	0.003	0.003	<0.005	<0.005	0.0033	0.0032										
Dissolved Beryllium (Be)	mg/L	0.04	Water drinking	NSE (2021)	0.00015	Water direct contact	NSE (2021)		<0.0010	<0.0010	<0.00010	<0.00010	<0.00010	<0.0020	<0.0020	<0.00010	<0.00010										
Dissolved Bismuth (Bi)	mg/L	-	-	-	-	-	-		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020										
Dissolved Boron (B)	mg/L	50	Water drinking	NSE (2021)	1.5	Water direct contact	NSE (2021)		<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.0050	<0.050	<0.050										
Dissolved Cadmium (Cd)	mg/L	0.05	Water drinking	NSE (2021)	0.00009	Water direct contact	NSE (2021)		<0.000010	0.000013	0.000012	0.000014	0.000012	<0.00009	<0.00009	0.000018	0.000022										
Dissolved Calcium (Ca)	mg/L	Not toxic	-	HC (2020)	116	Water direct contact	USEPA (2018)		0.54	0.55	0.6	0.74	0.66			0.73	0.71										
Dissolved Chromium (Cr)	mg/L	0.5	Water drinking	NSE (2021)	0.0089	Water direct contact	NSE (2021)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010										
Dissolved Cobalt (Co)	mg/L	0.038	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.0010	<0.0010	<0.00040	<0.00040										
Dissolved Copper (Cu)	mg/L	20	Water drinking	NSE (2021)	0.002	Water direct contact	NSE (2021)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0020	<0.0020	<0.00050	<0.00050										
Dissolved Iron (Fe)	mg/L	3	Water drinking	NSE (2021)	0.3	Water direct contact	NSE (2021)		0.33	0.34	0.43	0.56	0.53	0.476	0.521	0.47	0.47										
Dissolved Lead (Pb)	mg/L	0.05	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		<0.00050	<0.00050	0.00054	0.0006	0.00059	0.001	0.0011	0.00058	0.00058										
Dissolved Magnesium (Mg)	mg/L	Not toxic	-	HC (2020)	82	Water direct contact	USEPA (2018)		0.38	0.37	0.42	0.53	0.51			0.6	0.59										
Dissolved Manganese (Mn)	mg/L	1.2	Water drinking	NSE (2021)	0.43	Water direct contact	NSE (2021)		0.0084	0.0066	0.014	0.019	0.019	0.022	0.022	0.024	0.024										
Dissolved Mercury (Hg)	mg/L	0.01	Water drinking	NSE (2021)	0.000026	Water direct contact	NSE (2021)		<0.000013	<0.000013	<0.000013	<0.000013	<0.000013	0.000025	0.000025	<0.000013	<0.000013										
Dissolved Molybdenum (Mo)	mg/L	0.7	Water drinking	NSE (2021)	0.073	Water direct contact	NSE (2021)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020										
Dissolved Nickel (Ni)	mg/L	1	Water drinking	NSE (2021)	0.025	Water direct contact	NSE (2021)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020										
Dissolved Phosphorus (P)	mg/L	-	-	-	1	Water direct contact	USEPA (2018)		<0.1	<0.1	<0.1	<0.1	<0.1			<0.1	<0.1										
Dissolved Potassium (K)	mg/L	-	-	-	53	Water direct contact	USEPA (2018)		0.31	0.3	0.3	0.31	0.34			0.35	0.34										
Dissolved Selenium (Se)	mg/L	0.5	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.0010	<0.00050	<0.00050										
Dissolved Silver (Ag)	mg/L	Not required	Water drinking	NSE (2021)	0.00025	Water direct contact	NSE (2021)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010										
Dissolved Sodium (Na)	mg/L	2000	Water drinking	NSE (2021)	680	Water direct contact	USEPA (2018)		3.5	3.6	3.8	4.2	4			4.1	4.2										
Dissolved Strontium (Sr)	mg/L	24	Water drinking	NSE (2021)	21	Water direct contact	NSE (2021)		0.0049	0.0055	0.0063	0.0075	0.0074	0.008	0.008	0.008	0.0078										
Dissolved Thallium (Tl)	mg/L	0.02	Water drinking	NSE (2021)	0.0008	Water direct contact	NSE (2021)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010										
Dissolved Tin (Sn)	mg/L	24	Water drinking	NSE (2021)	0.18	Water direct contact	USEPA (2018)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020										
Dissolved Titanium (Ti)	mg/L	-	-	-	0.1	Water direct contact	BC (2021)		0.0024	0.0028	0.0037	0.0044	0.0036	0.004	0.004	0.0035	0.0041										
Dissolved Uranium (U)	mg/L	0.2	Water drinking	NSE (2021)	0.015	Water direct contact	NSE (2021)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010										
Dissolved Vanadium (V)	mg/L	0.062	Water drinking	NSE (2021)	0.12	Water direct contact	NSE (2021)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020										
Dissolved Zinc (Zn)	mg/L	50	Water drinking	NSE (2021)	0.007	Water direct contact	NSE (2021)		0.0062	0.0051	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050										

Exceed guidelines for human receptors

Exceed guidelines for ecological receptors

Table A.3 Results in Surface Water

Parameters	Units	Guidelines for residents, recreational visitors and Indigenous people	Pathways for residents, recreational visitors and Indigenous people	References for residents, recreational visitors and Indigenous people	Guidelines for aquatic plants, invertebrates and fishes	Pathways for aquatic plants, invertebrates and fishes	References for aquatic plants, invertebrates and fishes	Sample IDs	Station #4	Station #4	Station #4	Station #4	Station #4	Station #4	Station #4	Station #4	Station #4	Station #4	Station #4
								Sampling dates	3/19/2020	3/19/2020	6/10/2020	9/2/2020	11/23/2020	2/9/2021	2/9/2021	6/28/2021	6/28/2021	9/20/2021	9/20/2021	11/29/2021
								Locations	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake
Calculated Parameters																			
Hardness (CaCO3)	mg/L	Not toxic	-	HC (2020)	-	-	-		3.2	3.4	2.1	2.9	4.5	3.7	3.8	2.7	2.6	3.2	3.2	4.5
Nitrate (N)	mg/L	100	Water drinking	HC (2020)	13	Water direct contact	NSE (2021)		<0.050	<0.050	<0.050	<0.050	<0.050	0.076	0.055	<0.050	<0.050	<0.050	<0.050	<0.050
Nitrite (N)	mg/L	10	Water drinking	HC (2020)	0.06	Water direct contact	NSE (2021)		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	0.016	Water direct contact	CCME (2021)		<0.050	<0.050	0.055	0.056	<0.050	<0.050	<0.050	<0.050	0.063	<0.050	<0.050	0.07
Dissolved Organic Carbon (C)	mg/L	-	-	-	-	-	-													
pH	pH	7-10,5	Water drinking	HC (2020)	6,5-9	Water direct contact	NSE (2021)		4.78	5.43	5.15	5.29	4.94	4.75	4.89	5.59	5.74	5.22	5.56	4.63
Total metals																				
Total Aluminum (Al)	mg/L	1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)		0.243	0.253	0.198	0.254	0.379	0.317	0.327	0.257	0.245	0.334	0.324	0.388
Total Antimony (Sb)	mg/L	0.06	Water drinking	NSE (2021)	0.009	Water direct contact	NSE (2021)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Arsenic (As)	mg/L	0.1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)		0.0133	0.0153	0.0038	0.0164	0.0049	0.0063	0.0065	0.0079	0.0209	0.0737	0.0748	0.006
Total Barium (Ba)	mg/L	10	Water drinking	NSE (2021)	1	Water direct contact	NSE (2021)		0.0024	0.0025	0.0016	0.002	0.0028	0.0027	0.0026	0.002	0.0019	0.002	0.0023	0.0032
Total Beryllium (Be)	mg/L	0.04	Water drinking	NSE (2021)	0.00015	Water direct contact	NSE (2021)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00010	<0.00010	<0.00010
Total Bismuth (Bi)	mg/L	-	-	-	-	-	-		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Boron (B)	mg/L	50	Water drinking	NSE (2021)	1.5	Water direct contact	NSE (2021)		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Cadmium (Cd)	mg/L	0.05	Water drinking	NSE (2021)	0.00009	Water direct contact	NSE (2021)		0.000015	0.000018	<0.000010	<0.000010	0.000015	0.000013	0.000016	0.000011	<0.000010	0.000012	0.00001	0.000017
Total Calcium (Ca)	mg/L	Not toxic	-	HC (2020)	116	Water direct contact	USEPA (2018)		0.52	0.56	0.37	0.52	0.75	0.63	0.62	0.48	0.46	0.62	0.62	0.75
Total Chromium (Cr)	mg/L	0.5	Water drinking	NSE (2021)	0.0089	Water direct contact	NSE (2021)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Cobalt (Co)	mg/L	0.038	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Total Copper (Cu)	mg/L	20	Water drinking	NSE (2021)	0.002	Water direct contact	NSE (2021)		0.00054	0.0023	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00056	0.00054	0.00053
Total Iron (Fe)	mg/L	3	Water drinking	NSE (2021)	0.3	Water direct contact	NSE (2021)		0.291	0.311	0.245	0.413	0.535	0.405	0.431	0.351	0.355	0.697	0.699	0.555
Total Lead (Pb)	mg/L	0.05	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		<0.00050	0.00053	<0.00050	<0.00050	0.00059	0.00056	0.00052	<0.00050	<0.00050	0.00067	0.00063	0.00062
Total Magnesium (Mg)	mg/L	Not toxic	-	HC (2020)	82	Water direct contact	USEPA (2018)		0.45	0.48	0.28	0.4	0.64	0.52	0.55	0.36	0.35	0.4	0.41	0.64
Total Manganese (Mn)	mg/L	1.2	Water drinking	NSE (2021)	0.43	Water direct contact	NSE (2021)		0.02	0.0215	0.0145	0.0168	0.0242	0.0199	0.0203	0.0118	0.0103	0.0158	0.0154	0.0251
Total Mercury (Hg)	mg/L	0.01	Water drinking	NSE (2021)	0.000026	Water direct contact	NSE (2021)													
Total Molybdenum (Mo)	mg/L	0.7	Water drinking	NSE (2021)	0.073	Water direct contact	NSE (2021)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Nickel (Ni)	mg/L	1	Water drinking	NSE (2021)	0.025	Water direct contact	NSE (2021)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Phosphorus (P)	mg/L	-	-	-	1	Water direct contact	USEPA (2018)		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Potassium (K)	mg/L	-	-	-	53	Water direct contact	USEPA (2018)		0.3	0.3	0.28	0.3	0.35	0.33	0.31	0.35	0.34	0.31	0.32	0.36
Total Selenium (Se)	mg/L	0.5	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Total Silver (Ag)	mg/L	Not required	Water drinking	NSE (2021)	0.00025	Water direct contact	NSE (2021)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Sodium (Na)	mg/L	2000	Water drinking	NSE (2021)	680	Water direct contact	USEPA (2018)		3.9	4.07	2.8	3.82	4.81	4.21	4.27	3.5	3.37	3.68	3.61	4.4
Total Strontium (Sr)	mg/L	24	Water drinking	NSE (2021)	21	Water direct contact	NSE (2021)		0.006	0.006	0.0043	0.0055	0.0086	0.0072	0.0074	0.0054	0.005	0.0064	0.006	0.0084
Total Thallium (Tl)	mg/L	0.02	Water drinking	NSE (2021)	0.0008	Water direct contact	NSE (2021)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Tin (Sn)	mg/L	24	Water drinking	NSE (2021)	0.18	Water direct contact	USEPA (2018)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Titanium (Ti)	mg/L	-	-	-	0.1	Water direct contact	BC (2021)		0.0025	0.0035	0.0029	0.0029	0.0049	0.0033	0.0039	0.0037	0.003	0.0053	0.0047	0.0051
Total Uranium (U)	mg/L	0.2	Water drinking	NSE (2021)	0.015	Water direct contact	NSE (2021)		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Vanadium (V)	mg/L	0.062	Water drinking	NSE (2021)	0.12	Water direct contact	NSE (2021)		<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Total Zinc (Zn)	mg/L	50	Water drinking	NSE (2021)	0.007	Water direct contact	NSE (2021)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved metals																				
Dissolved Aluminum (Al)	mg/L	1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)													
Dissolved Antimony (Sb)	mg/L	0.06	Water drinking	NSE (2021)	0.009	Water direct contact	NSE (2021)													
Dissolved Arsenic (As)	mg/L	0.1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)													
Dissolved Barium (Ba)	mg/L	10	Water drinking	NSE (2021)	1	Water direct contact	NSE (2021)													
Dissolved Beryllium (Be)	mg/L	0.04	Water drinking	NSE (2021)	0.00015	Water direct contact	NSE (2021)													
Dissolved Bismuth (Bi)	mg/L	-	-	-	-	-	-													
Dissolved Boron (B)	mg/L	50	Water drinking	NSE (2021)	1.5	Water direct contact	NSE (2021)													
Dissolved Cadmium (Cd)	mg/L	0.05	Water drinking	NSE (2021)	0.00009	Water direct contact	NSE (2021)													
Dissolved Calcium (Ca)	mg/L	Not toxic	-	HC (2020)	116	Water direct contact	USEPA (2018)													
Dissolved Chromium (Cr)	mg/L	0.5	Water drinking	NSE (2021)	0.0089	Water direct contact	NSE (2021)													
Dissolved Cobalt (Co)	mg/L	0.038	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)													
Dissolved Copper (Cu)	mg/L	20	Water drinking	NSE (2021)	0.002	Water direct contact	NSE (2021)													
Dissolved Iron (Fe)	mg/L	3	Water drinking	NSE (2021)	0.3	Water direct contact	NSE (2021)													
Dissolved Lead (Pb)	mg/L	0.05	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)													
Dissolved Magnesium (Mg)	mg/L	Not toxic	-	HC (2020)	82	Water direct contact	USEPA (2018)													
Dissolved Manganese (Mn)	mg/L	1.2	Water drinking	NSE (2021)	0.43	Water direct contact	NSE (2021)													
Dissolved Mercury (Hg)	mg/L	0.01	Water drinking	NSE (2021)	0.000026	Water direct contact	NSE (2021)													
Dissolved Molybdenum (Mo)	mg/L	0.7	Water drinking	NSE (2021)	0.073	Water direct contact	NSE (2021)													
Dissolved Nickel (Ni)	mg/L	1	Water drinking	NSE (2021)	0.025	Water direct contact	NSE (2021)													
Dissolved Phosphorus (P)	mg/L	-	-	-	1	Water direct contact	USEPA (2018)													
Dissolved Potassium (K)	mg/L	-	-	-	53	Water direct contact	USEPA (2018)													
Dissolved Selenium (Se)	mg/L	0.5	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)													
Dissolved Silver (Ag)	mg/L	Not required	Water drinking	NSE (2021)	0.00025	Water direct contact	NSE (2021)													
Dissolved Sodium (Na)	mg/L	2000	Water drinking	NSE (2021)	680	Water direct contact	USEPA (2018)													
Dissolved Strontium (Sr)	mg/L	24	Water drinking	NSE (2021)	21	Water direct contact	NSE (2021)													
Dissolved Thallium (Tl)	mg/L	0.02	Water drinking	NSE (2021)	0.0008	Water direct contact	NSE (2021)													
Dissolved Tin (Sn)	mg/L	24	Water drinking	NSE (2021)	0.18	Water direct contact	USEPA (2018)													
Dissolved Titanium (Ti)	mg/L	-	-	-	0.1	Water direct contact	BC (2021)													
Dissolved Uranium (U)	mg/L	0.2	Water drinking	NSE (2021)	0.015	Water direct contact	NSE (2021)													
Dissolved Vanadium (V)	mg/L	0.062	Water drinking	NSE (2021)	0.12	Water direct contact	NSE (2021)													
Dissolved Zinc (Zn)	mg/L	50	Water drinking	NSE (2021)	0.007	Water direct contact	NSE (2021)													

Exceed guidelines for human receptors

Exceed guidelines for ecological receptors

Table A.3 Results in Surface Water

Parameters	Units	Guidelines for residents, recreational visitors and Indigenous people	Pathways for residents, recreational visitors and Indigenous people	References for residents, recreational visitors and Indigenous people	Guidelines for aquatic plants, invertebrates and fishes	Pathways for aquatic plants, invertebrates and fishes	References for aquatic plants, invertebrates and fishes	Sample IDs Sampling dates Locations	Maximum values in Gold Brook	Average value in Gold Brook	95th percentiles in Gold Brook	Maximum values in Gold Brook Lake	Average values in Gold Brook Lake	95th percentiles in Gold Brook Lake
Calculated Parameters														
Hardness (CaCO3)	mg/L	Not toxic	-	HC (2020)	-	-	-		28	6.2	16	16	3.9	6.0
Nitrate (N)	mg/L	100	Water drinking	HC (2020)	13	Water direct contact	NSE (2021)		0.85	0.072	0.23	0.078	0.029	0.062
Nitrite (N)	mg/L	10	Water drinking	HC (2020)	0.06	Water direct contact	NSE (2021)		0.025	0.0059	0.011	<0.050	0.0064	0.016
Nitrogen (Ammonia Nitrogen)	mg/L	-	-	-	0.016	Water direct contact	CCME (2021)		0.54	0.059	0.18	0.10	0.031	0.065
Dissolved Organic Carbon (C)	mg/L	-	-	-	-	-	-		29	17	28	17	11	17
pH	pH	7-10,5	Water drinking	HC (2020)	6,5-9	Water direct contact	NSE (2021)		7.6	6.0	7.0	6.0	5.3	5.8
Total metals														
Total Aluminum (Al)	mg/L	1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)		0.85	0.26	0.43	0.85	0.33	0.50
Total Antimony (Sb)	mg/L	0.06	Water drinking	NSE (2021)	0.009	Water direct contact	NSE (2021)		<0.0020	0.00051	0.00050	<0.0020	0.00053	0.00067
Total Arsenic (As)	mg/L	0.1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)		0.82	0.18	0.68	0.075	0.019	0.062
Total Barium (Ba)	mg/L	10	Water drinking	NSE (2021)	1	Water direct contact	NSE (2021)		0.0071	0.0025	0.0036	0.0050	0.0025	0.0034
Total Beryllium (Be)	mg/L	0.04	Water drinking	NSE (2021)	0.00015	Water direct contact	NSE (2021)		<0.0020	0.00048	0.00050	<0.0020	0.00042	0.00067
Total Bismuth (Bi)	mg/L	-	-	-	-	-	-		<0.0020	0.0010	0.0010	<0.0020	0.0010	0.0010
Total Boron (B)	mg/L	50	Water drinking	NSE (2021)	1.5	Water direct contact	NSE (2021)		0.11	0.026	0.025	0.11	0.027	0.025
Total Cadmium (Cd)	mg/L	0.05	Water drinking	NSE (2021)	0.00009	Water direct contact	NSE (2021)		0.000056	0.000013	0.000025	0.000045	0.000015	0.000037
Total Calcium (Ca)	mg/L	Not toxic	-	HC (2020)	116	Water direct contact	USEPA (2018)		9.1	1.5	4.9	0.83	0.56	0.75
Total Chromium (Cr)	mg/L	0.5	Water drinking	NSE (2021)	0.0089	Water direct contact	NSE (2021)		0.0015	0.00070	0.0013	0.0010	0.00051	0.00050
Total Cobalt (Co)	mg/L	0.038	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		<0.0010	0.00021	0.00020	<0.0010	0.00022	0.00030
Total Copper (Cu)	mg/L	20	Water drinking	NSE (2021)	0.002	Water direct contact	NSE (2021)		0.0046	0.00079	0.0017	0.0023	0.00057	0.0010
Total Iron (Fe)	mg/L	3	Water drinking	NSE (2021)	0.3	Water direct contact	NSE (2021)		3.3	0.62	1.2	0.83	0.49	0.70
Total Lead (Pb)	mg/L	0.05	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		0.0036	0.00045	0.00076	0.0014	0.00051	0.00097
Total Magnesium (Mg)	mg/L	Not toxic	-	HC (2020)	82	Water direct contact	USEPA (2018)		1.3	0.52	0.81	0.76	0.44	0.64
Total Manganese (Mn)	mg/L	1.2	Water drinking	NSE (2021)	0.43	Water direct contact	NSE (2021)		0.099	0.033	0.080	0.026	0.019	0.025
Total Mercury (Hg)	mg/L	0.01	Water drinking	NSE (2021)	0.000026	Water direct contact	NSE (2021)		0.00021	0.000033	0.00014	0.000015	0.0000061	0.000010
Total Molybdenum (Mo)	mg/L	0.7	Water drinking	NSE (2021)	0.073	Water direct contact	NSE (2021)		<0.0020	0.0010	0.0010	<0.0020	0.0010	0.0010
Total Nickel (Ni)	mg/L	1	Water drinking	NSE (2021)	0.025	Water direct contact	NSE (2021)		0.0050	0.0011	0.0010	<0.0020	0.0010	0.0010
Total Phosphorus (P)	mg/L	-	-	-	1	Water direct contact	USEPA (2018)		0.16	0.052	0.050	<0.10	0.047	0.050
Total Potassium (K)	mg/L	-	-	-	53	Water direct contact	USEPA (2018)		1.3	0.44	0.80	0.92	0.31	0.38
Total Selenium (Se)	mg/L	0.5	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		<0.0010	0.00040	0.00050	<0.0010	0.00032	0.00050
Total Silver (Ag)	mg/L	Not required	Water drinking	NSE (2021)	0.00025	Water direct contact	NSE (2021)		<0.00010	0.000050	0.000050	<0.00010	0.000050	0.000050
Total Sodium (Na)	mg/L	2000	Water drinking	NSE (2021)	680	Water direct contact	USEPA (2018)		7.0	4.0	5.5	5.3	3.7	4.7
Total Strontium (Sr)	mg/L	24	Water drinking	NSE (2021)	21	Water direct contact	NSE (2021)		0.060	0.013	0.045	0.019	0.0069	0.0095
Total Thallium (Tl)	mg/L	0.02	Water drinking	NSE (2021)	0.0008	Water direct contact	NSE (2021)		<0.00010	0.000050	0.000050	<0.00010	0.000050	0.000050
Total Tin (Sn)	mg/L	24	Water drinking	NSE (2021)	0.18	Water direct contact	USEPA (2018)		<0.0020	0.0010	0.0010	<0.0020	0.0010	0.0010
Total Titanium (Ti)	mg/L	-	-	-	0.1	Water direct contact	BC (2021)		0.051	0.0048	0.0093	0.018	0.0050	0.0087
Total Uranium (U)	mg/L	0.2	Water drinking	NSE (2021)	0.015	Water direct contact	NSE (2021)		<0.00020	0.000051	0.000050	<0.00020	0.000053	0.000067
Total Vanadium (V)	mg/L	0.062	Water drinking	NSE (2021)	0.12	Water direct contact	NSE (2021)		0.0020	0.0010	0.0010	<0.0020	0.0010	0.0010
Total Zinc (Zn)	mg/L	50	Water drinking	NSE (2021)	0.007	Water direct contact	NSE (2021)		0.081	0.0044	0.0098	0.092	0.0059	0.012
Dissolved metals														
Dissolved Aluminum (Al)	mg/L	1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)		0.57	0.32	0.54	0.41	0.32	0.40
Dissolved Antimony (Sb)	mg/L	0.06	Water drinking	NSE (2021)	0.009	Water direct contact	NSE (2021)		<0.0020	0.00056	0.00080	<0.0020	0.00058	0.0010
Dissolved Arsenic (As)	mg/L	0.1	Water drinking	NSE (2021)	0.005	Water direct contact	NSE (2021)		0.23	0.10	0.22	0.040	0.014	0.032
Dissolved Barium (Ba)	mg/L	10	Water drinking	NSE (2021)	1	Water direct contact	NSE (2021)		0.0038	0.0030	0.0037	0.0033	0.0025	0.0032
Dissolved Beryllium (Be)	mg/L	0.04	Water drinking	NSE (2021)	0.00015	Water direct contact	NSE (2021)		<0.0020	0.00041	0.00080	<0.0020	0.00040	0.0010
Dissolved Bismuth (Bi)	mg/L	-	-	-	-	-	-		<0.0020	0.0010	0.0010	<0.0020	0.0010	0.0010
Dissolved Boron (B)	mg/L	50	Water drinking	NSE (2021)	1.5	Water direct contact	NSE (2021)		<0.050	0.023	0.025	<0.050	0.021	0.025
Dissolved Cadmium (Cd)	mg/L	0.05	Water drinking	NSE (2021)	0.00009	Water direct contact	NSE (2021)		0.000045	0.000015	0.000034	0.000045	1.73E-05	0.000045
Dissolved Calcium (Ca)	mg/L	Not toxic	-	HC (2020)	116	Water direct contact	USEPA (2018)		1.8	1.4	1.8	0.74	0.59	0.74
Dissolved Chromium (Cr)	mg/L	0.5	Water drinking	NSE (2021)	0.0089	Water direct contact	NSE (2021)		<0.0010	0.00050	0.00050	<0.0010	0.00050	0.00050
Dissolved Cobalt (Co)	mg/L	0.038	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		<0.0010	0.00023	0.00038	<0.0010	0.00025	0.00050
Dissolved Copper (Cu)	mg/L	20	Water drinking	NSE (2021)	0.002	Water direct contact	NSE (2021)		<0.0020	0.00033	0.00070	<0.0020	0.00038	0.0010
Dissolved Iron (Fe)	mg/L	3	Water drinking	NSE (2021)	0.3	Water direct contact	NSE (2021)		1.1	0.73	1.1	0.56	0.41	0.54
Dissolved Lead (Pb)	mg/L	0.05	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		0.00063	0.00033	0.00062	0.0011	0.00052	0.0010
Dissolved Magnesium (Mg)	mg/L	Not toxic	-	HC (2020)	82	Water direct contact	USEPA (2018)		0.80	0.66	0.79	0.60	0.45	0.60
Dissolved Manganese (Mn)	mg/L	1.2	Water drinking	NSE (2021)	0.43	Water direct contact	NSE (2021)		0.10	0.045	0.086	0.024	0.017	0.024
Dissolved Mercury (Hg)	mg/L	0.01	Water drinking	NSE (2021)	0.000026	Water direct contact	NSE (2021)		0.000025	0.0000089	0.000020	0.000025	9.58E-06	0.000025
Dissolved Molybdenum (Mo)	mg/L	0.7	Water drinking	NSE (2021)	0.073	Water direct contact	NSE (2021)		<0.0020	0.0010	0.0010	<0.0020	0.0010	0.0010
Dissolved Nickel (Ni)	mg/L	1	Water drinking	NSE (2021)	0.025	Water direct contact	NSE (2021)		<0.0020	0.0010	0.0010	<0.0020	0.0010	0.0010
Dissolved Phosphorus (P)	mg/L	-	-	-	1	Water direct contact	USEPA (2018)		<0.10	0.050	0.050	<0.10	0.050	0.050
Dissolved Potassium (K)	mg/L	-	-	-	53	Water direct contact	USEPA (2018)		0.55	0.45	0.54	0.35	0.31	0.35
Dissolved Selenium (Se)	mg/L	0.5	Water drinking	NSE (2021)	0.001	Water direct contact	NSE (2021)		<0.0010	0.00028	0.00040	<0.0010	0.00029	0.00050
Dissolved Silver (Ag)	mg/L	Not required	Water drinking	NSE (2021)	0.00025	Water direct contact	NSE (2021)		<0.00010	0.000050	0.000050	<0.00010	0.000050	0.000050
Dissolved Sodium (Na)	mg/L	2000	Water drinking	NSE (2021)	680	Water direct contact	USEPA (2018)		5.4	5.0	5.4	4.2	3.8	4.2
Dissolved Strontium (Sr)	mg/L	24	Water drinking	NSE (2021)	21	Water direct contact	NSE (2021)		0.013	0.011	0.013	0.0080	0.0065	0.0080
Dissolved Thallium (Tl)	mg/L	0.02	Water drinking	NSE (2021)	0.0008	Water direct contact	NSE (2021)		<0.00010	0.000050	0.000050	<0.00010	0.000050	0.000050
Dissolved Tin (Sn)	mg/L	24	Water drinking	NSE (2021)	0.18	Water direct contact	USEPA (2018)		<0.0020	0.0010	0.0010	<0.0020	0.0010	0.0010
Dissolved Titanium (Ti)	mg/L	-	-	-	0.1	Water direct contact	BC (2021)		0.0076	0.0039	0.0066	0.0044	0.0034	0.0042
Dissolved Uranium (U)	mg/L	0.2	Water drinking	NSE (2021)	0.015	Water direct contact	NSE (2021)		<0.00010	0.000050	0.000050	<0.00010	0.000050	0.000050
Dissolved Vanadium (V)	mg/L	0.062	Water drinking	NSE (2021)	0.12	Water direct contact	NSE (2021)		<0.0020	0.0010	0.0010	<0.0020	0.0010	0.0010
Dissolved Zinc (Zn)	mg/L	50	Water drinking	NSE (2021)	0.007	Water direct contact	NSE (2021)		0.022	0.0077	0.019	0.0065	0.0036	0.0063

Exceed guidelines for human receptors
Exceed guidelines for ecological receptors

Table A.4 Results in Sediment

Parameters	Units	Guidelines for all the receptors	Pathways for all the receptors	References for all the receptors	Guidelines for aquatic plants, invertebrates and fishes	Pathways for aquatic plants, invertebrates and fishes	References for aquatic plants, invertebrates and fishes	Sample IDs	RA-SED-2	RA-SED-3	RA-SED-4	RA-SED-5	RA-SED-6	RA-SED-7	RA-SED-8	RA-SED-9	RA-SED-10	RA-SED-11	RA-SED-12	Maximum values in Gold Brook Lake	Average values in Gold Brook Lake	90th percentiles in Gold Brook Lake	Maximum values in Gold Brook	Average values in Gold Brook	90th percentiles in Gold Brook
								Depths (m)	0 - 0.15	0 - 0.15	0 - 0.15	0 - 0.15	0 - 0.15	0 - 0.15	0 - 0.15	0 - 0.15	0 - 0.15	0 - 0.15	0 - 0.15						
								Sampling dates	9/1/2021	9/1/2021	9/1/2021	9/1/2021	8/31/2021	9/1/2021	9/1/2021	9/1/2021	9/1/2021	9/2/2021	9/2/2021						
								Samples included in the baseline concentration calculation*	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook Lake	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook	Gold Brook						
Metals																									
Aluminum (Al)	mg/kg	15400	Sediment contact/Ingestion	NSE (2021)	58030	Sediment direct contact	USDE (1997)		7700	2500	8300	9500	9800	7200	8900	9600	10000	15000	9100	9800	7560	9680	15000	9967	12500
Antimony (Sb)	mg/kg	7.5	Sediment contact/Ingestion	NSE (2021)	25	Sediment direct contact	NSE (2021)		<2.0	<2.0	<2.0	<2.0	5.3	73	81	<2.0	<2.0	<2.0	<2.0	5.3	1.9	3.6	81	26	77
Arsenic (As)	mg/kg	31	Sediment contact/Ingestion	NSE (2021)	17	Sediment direct contact	NSE (2021)		20	12	9.1	19	15000	99000	110000	920	570	1000	140	15000	3012	9008	110000	35272	104500
Barium (Ba)	mg/kg	6800	Sediment contact/Ingestion	NSE (2021)	20	Sediment direct contact	USEPA (2018)		27	7	23	27	71	50	64	67	59	96	21	71	31	53	96	60	82
Beryllium (Be)	mg/kg	75	Sediment contact/Ingestion	NSE (2021)	1.2	Sediment direct contact	Crommentuijn et al. (2000)		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	1.0	1.0	<2.0	1.0	1.0
Bismuth (Bi)	mg/kg	-	-	-	-	-	-		<2.0	<2.0	<2.0	<2.0	<2.0	3.3	5.4	<2.0	<2.0	<2.0	<2.0	<2.0	1.0	1.0	5.4	2.1	4.35
Boron (B)	mg/kg	4300	Sediment contact/Ingestion	NSE (2021)	-	-	-		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	25	25	<50	25	25
Cadmium (Cd)	mg/kg	14	Sediment contact/Ingestion	NSE (2021)	3.5	Sediment direct contact	NSE (2021)		<0.30	<0.30	<0.30	<0.30	<0.30	0.32	0.56	<0.30	<0.30	<0.30	<0.30	<0.30	0.15	0.15	0.56	0.25	0.44
Chromium (Cr)	mg/kg	220	Sediment contact/Ingestion	NSE (2021)	90	Sediment direct contact	NSE (2021)		12	4	13	13	16	13	15	17	18	24	11	16	12	15	24	16	21
Cobalt (Co)	mg/kg	22	Sediment contact/Ingestion	NSE (2021)	50	Sediment direct contact	OME (2011)		2.6	1.1	2.4	3.8	4.1	110	130	2.3	1.2	1.8	<1.0	4.1	2.8	4.0	130	41	120
Copper (Cu)	mg/kg	1100	Sediment contact/Ingestion	NSE (2021)	197	Sediment direct contact	NSE (2021)		4.6	<2.0	5.7	4.8	15	25	36	11	6.6	11	3.8	15	6.2	11	36	16	31
Iron (Fe)	mg/kg	11000	Sediment contact/Ingestion	NSE (2021)	43766	Sediment direct contact	NSE (2021)		6400	3500	6600	12000	37000	93000	120000	17000	18000	30000	6000	37000	13100	27000	120000	47333	106500
Lead (Pb)	mg/kg	140	Sediment contact/Ingestion	NSE (2021)	91.3	Sediment direct contact	NSE (2021)		12	4.5	13	10	49	88	120	28	10	43	14	49	18	35	120	51	104
Lithium (Li)	mg/kg	32	Sediment ingestion	USEPA (2021)	-	-	-		10	4.3	9.9	11	17	13	18	20	22	31	5.1	17	10	15	31	18	27
Manganese (Mn)	mg/kg	360	Sediment contact/Ingestion	NSE (2021)	1100	Sediment direct contact	NSE (2021)		84	51	87	110	210	160	210	250	270	400	78	210	108	170	400	228	335
Mercury (Hg)	mg/kg	6.6	Sediment contact/Ingestion	NSE (2021)	0.486	Sediment direct contact	NSE (2021)		0.63	0.2	0.89	0.49	2.7	11	6.4	1.4	0.54	1.5	0.46	2.7	1.0	2.0	11	3.6	8.7
Molybdenum (Mo)	mg/kg	110	Sediment contact/Ingestion	NSE (2021)	250	Sediment direct contact	Crommentuijn et al. (2000)		<2.0	<2.0	<2.0	<2.0	<2.0	4.3	2.8	<2.0	<2.0	<2.0	<2.0	<2.0	1.0	1.0	4.3	1.9	3.6
Nickel (Ni)	mg/kg	200	Sediment contact/Ingestion	NSE (2021)	75	Sediment direct contact	NSE (2021)		7.8	2.8	7.5	9.1	13	170	210	8.6	7.2	11	3.9	13	8.0	11	210	68	190
Rubidium (Rb)	mg/kg	-	-	-	-	-	-		10	3.3	10	11	21	20	14	30	34	39	6.9	21	11	17	39	24	37
Selenium (Se)	mg/kg	80	Sediment contact/Ingestion	NSE (2021)	2	Sediment direct contact	NSE (2021)		1	<0.50	1.1	1.1	<0.50	1.3	2.5	<0.50	<0.50	<0.50	2.4	1.1	0.74	1.1	2.5	1.2	2.5
Silver (Ag)	mg/kg	77	Sediment contact/Ingestion	NSE (2021)	0.5	Sediment direct contact	NSE (2021)		<0.50	<0.50	<0.50	<0.50	<0.50	2.1	3.4	<0.50	<0.50	<0.50	<0.50	<0.50	0.25	0.25	3.4	1.1	2.8
Strontium (Sr)	mg/kg	9400	Sediment contact/Ingestion	NSE (2021)	-	-	-		<5.0	<5.0	<5.0	<5.0	13	8.9	26	9.7	13	14	6	13	4.6	8.8	26	13	20
Thallium (Tl)	mg/kg	1	Sediment contact/Ingestion	NSE (2021)	2.6	Sediment direct contact	Crommentuijn et al. (2000)		<0.10	<0.10	<0.10	0.12	0.17	0.25	0.3	0.24	0.23	0.28	<0.10	0.17	0.088	0.15	0.30	0.23	0.29
Tin (Sn)	mg/kg	9400	Sediment contact/Ingestion	NSE (2021)	22000	Sediment direct contact	Crommentuijn et al. (2000)		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	<1.0	<1.0	<1.0	<1.0	<1.0	0.50	0.50	1.4	0.65	0.95
Uranium (U)	mg/kg	23	Sediment contact/Ingestion	NSE (2021)	100	Sediment direct contact	USEPA (2018)		0.57	0.25	0.6	0.55	0.44	0.39	1.7	0.44	0.44	0.59	1.5	0.60	0.48	0.59	1.7	0.84	1.6
Vanadium (V)	mg/kg	39	Sediment contact/Ingestion	NSE (2021)	56	Sediment direct contact	Crommentuijn et al. (2000)		14	4.8	13	18	18	13	16	17	19	27	8.3	18	14	18	27	17	23
Zinc (Zn)	mg/kg	10000	Sediment contact/Ingestion	NSE (2021)	315	Sediment direct contact	NSE (2021)		25	8	20	39	32	31	64	32	32	48	10	39	25	36	64	36	56

Exceed guidelines for human receptors

Exceed guidelines for ecological receptors

Table A.5 Results in Berries

Parameters	Units	Sample IDs	BB SAMPLE 1 SG	BB SAMPLE 2 SG	BB SAMPLE 3 SG	BBSAMPLE4 EH	BBSAMPLE5 EH	BBSAMPLE6 ZS	BBSAMPLE7 ZS	BB SAMPLE 8 EH	BB SAMPLE 9 EH	BB SAMPLE 10 EH	BB SAMPLE 11 EH	BB SAMPLE 12 EH	BB SAMPLE 13 EH	Maximum values	Average values	90th percentiles
		Sampling dates	8/17/2021	8/18/2021	8/19/2021	8/23/2021	8/24/2021	8/25/2021	8/26/2021	8/30/2021	8/31/2021	9/1/2021	9/2/2021	9/2/2021	8/31/2021			
Metals																		
Mercury (Hg)	mg/kg FW*		<0.005	<0.005	<0.005	<0.0016	<0.0020	<0.0016	<0.0016	<0.0016	<0.0016	<0.0048	<0.0048	<0.0016		<0,005	0.0015	0.0025
Aluminum (Al)	mg/kg FW*					2.1	2.2	<1.6	3.2	1.8	1.8	2.2	10	2.1	<2.2	10	2.8	3.9
Arsenic (As)	mg/kg FW*		<0.1	<0.1	<0.1	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.45	<0.45	0.14	0.16
Antimony (Sb)	mg/kg FW*		<0.05	<0.05	<0.05	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.45	<0.45	0.13	0.16
Barium (Ba)	mg/kg FW*		1.8	2.0	4.0	0.88	1.6	<0.8	1.8	1.2	<0.8	1.9	3.8	<0.8	<1.1	4.0	1.6	3.5
Beryllium (Be)	mg/kg FW*		<0.05	<0.05	<0.05	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.45	<0.45	0.13	0.16
Bismuth (Bi)	mg/kg FW*		<0.05	<0.05	<0.05											<0.05	0.025	0.025
Boron (B)	mg/kg FW*		1.1	1	1	1.2	1.1	2.1	0.93	1.0	1.5	1.3	1.9	1.6	1.4	2.1	1.3	1.9
Cadmium (Cd)	mg/kg FW*		<0.01	<0.01	<0.01	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	<0.048	0.075	<0.048	<0.067	0.075	0.024	0.032
Calcium (Ca)	mg/kg FW*		190	190	930											930	437	782
Cesium (Cs)	mg/kg FW*		0.082	0.054	0.04											0.082	0.059	0.076
Chromium (Cr)	mg/kg FW*		<0.3	<0.3	<0.3	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.45	<0.45	0.16	0.16
Cobalt (Co)	mg/kg FW*		<0.005	<0.005	<0.005	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.22	<0.22	0.064	0.080
Copper (Cu)	mg/kg FW*		0.6	1.3	0.7	0.48	0.45	0.91	0.54	0.42	0.90	0.69	0.66	1.1	0.91	1.3	0.74	1.1
Iron (Fe)	mg/kg FW*		<3	<3	5	<8	<8	<8	<8	<8	<8	<8	<8	<8	<11	<11	3.8	4.8
Lead (Pb)	mg/kg FW*		<0.03	<0.03	0.13	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.11	0.13	0.044	0.052
Lithium (Li)	mg/kg FW*					<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.45	<0.45	0.17	0.17
Magnesium (Mg)	mg/kg FW*		<100	<100	<100											<100	50	50
Manganese (Mn)	mg/kg FW*		50	28	64	21	66	59	27	30	45	58	22	7	43	66	40	63
Molybdenum (Mo)	mg/kg FW*		<0.05	<0.05	<0.05	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.45	<0.45	0.13	0.16
Nickel (Ni)	mg/kg FW*		0.08	0.05	0.07	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.45	<0.45	0.14	0.16
Phosphorus (P)	mg/kg FW*		130	150	160											160	147	158
Potassium (K)	mg/kg FW*		860	710	790											860	787	846
Selenium (Se)	mg/kg FW*		<0.04	<0.04	<0.04	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.45	<0.45	0.13	0.16
Silver (Ag)	mg/kg FW*		<0.05	<0.05	<0.05	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.11	<0.11	0.038	0.040
Sodium (Na)	mg/kg FW*		<50	<50	<50											<50	25	25
Strontium (Sr)	mg/kg FW*		<0.5	<0.5	1	<0.8	<0.8	1.9	<0.8	<0.8	2.1	<0.8	2.2	<0.8	2.2	2.2	1.0	2.2
Thallium (Tl)	mg/kg FW*		<0.003	<0.003	<0.003	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.022	<0.022	0.0067	0.0080
Tin (Sn)	mg/kg FW*		<0.3	<0.3	1.2											1.2	0.50	0.99
Titanium (Ti)	mg/kg FW*		<0.5	<0.5	<0.5											<0,5	0.25	0.25
Uranium (U)	mg/kg FW*		0.008	<0.005	<0.005	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.022	<0.022	0.0074	0.0080
Vanadium (V)	mg/kg FW*		<0.05	<0.05	<0.05	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.45	<0.45	0.13	0.16
Zinc (Zn)	mg/kg FW*		<2	<2	<2	1.0	1.1	1.8	0.91	0.98	2.1	1.8	8.6	2.1	1.9	8.6	1.9	2.1

*Results from the laboratory certificate for samples BBSAMPLE4 to 13 are based on dry weight and were converted in fresh weight using a water content of 84 %.

Table A.6 Results in Terrestrial Invertebrates

Parameters	Units	Sample IDs	INVERTSAMPLE1EH	INVERTSAMPLE2EH	INVERT SAMPLE 3 EH	INVERT SAMPLE 4 EH	INVERT SAMPLE 5 EH	INVERTSAMPLE625	INVERTSAMPLE725	Maximum values	Average values	90th percentiles
		Sampling dates	8/25/2021	8/23/2021	8/31/2021	8/31/2021	9/2/2021	9/7/2021	9/8/2021			
Metals												
Mercury (Hg)	mg/kg FW*		0.018	0.035	0.012	0.0082	0.0058	0.014	<0.010	0.035	0.014	0.025
Aluminum (Al)	mg/kg FW		420	340	16	11	25	5.5	4.8	420	117	372
Antimony (Sb)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.25	0.25
Arsenic (As)	mg/kg FW		5	8	<0.50	<0.50	<0.50	<0.50	<0.50	8.0	2.0	6.2
Barium (Ba)	mg/kg FW		24	17	22	15	6	2.6	<1.5	24	12	23
Beryllium (Be)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.25	0.25
Boron (B)	mg/kg FW		2.3	2	<1.5	<1.5	<1.5	2.1	<1.5	2.3	1.3	2.2
Cadmium (Cd)	mg/kg FW		0.76	1.5	1.6	0.88	0.66	0.091	0.32	1.6	0.83	1.5
Chromium (Cr)	mg/kg FW		0.58	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.58	0.30	0.38
Cobalt (Co)	mg/kg FW		0.21	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.21	0.12	0.14
Copper (Cu)	mg/kg FW		9	8.1	16	15	11	15	16	16	13	16
Iron (Fe)	mg/kg FW		600	380	23	16	36	<15	16	600	154	468
Lead (Pb)	mg/kg FW		0.56	0.3	<0.18	<0.18	<0.18	<0.18	<0.18	0.56	0.19	0.40
Lithium (Li)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.25	0.25
Manganese (Mn)	mg/kg FW		640	1200	890	790	220	55	38	1200	548	1014
Molybdenum (Mo)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.69	0.69	0.31	0.43
Nickel (Ni)	mg/kg FW		1.1	<0.50	<0.50	<0.50	0.53	0.91	1	1.1	0.61	1.0
Selenium (Se)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.25	0.25
Silver (Ag)	mg/kg FW		0.59	1.8	0.26	0.13	0.26	<0.12	<0.12	1.8	0.45	1.1
Strontium (Sr)	mg/kg FW		9.2	10	8.6	5.9	7.9	2.1	2.2	10	6.6	9.5
Thallium (Tl)	mg/kg FW		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.010	0.010
Tin (Sn)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.25	0.25
Uranium (U)	mg/kg FW		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.010	0.010
Vanadium (V)	mg/kg FW		0.93	0.62	<0.50	<0.50	<0.50	<0.50	<0.50	0.93	0.40	0.74
Zinc (Zn)	mg/kg FW		72	64	79	75	38	45	48	79	60	77

*Hg results from the laboratory certificate for samples INVERT SAMPLE 3 to 5 are based on dry weight and were converted in fresh weight using a water content of 84 %.

Table A.7 Results in Fish Fillets

Parameters	Units	Sample IDs	1-WC14 R2 - BKT	2-GOLDBROOK LAKE NORTH - BKT	3-WC20 - BKT	4-WC22 R2- BKT	5- GOLDBROOK REACH 2 - BKT	6-GOLDBROOK LAKE 1 - YLP	7-GOLDBROOK - BKT	8-WC43 R1 - BKT	9-GOLDBROOK LAKE 2 - YLP	10-GOLDBROOK LAKE 3 - YLP	11-GOLDBROOK LAKE 3	Maximum values	Average values	90th percentiles
		Sampling dates	8/24/2021	8/25/2021	8/27/2021	8/26/2021	8/29/2021	8/27/2021	8/30/2021	8/30/2021	8/30/2021	8/30/2021	8/30/2021			
Metals																
Mercury (Hg)	mg/kg FW		0.11	0.23	0.11	0.097	0.25	1.6	0.47	0.14	1.8	1.9	1.1	1.9	0.71	1.8
Aluminum (Al)	mg/kg FW		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	2.7	<2.5	<2.5	<2.5	2.7	1.4	1.3
Antimony (Sb)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.25	0.25
Arsenic (As)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	0.55	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.55	0.28	0.25
Barium (Ba)	mg/kg FW		<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	0.75	0.75
Beryllium (Be)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.25	0.25
Boron (B)	mg/kg FW		<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	0.75	0.75
Cadmium (Cd)	mg/kg FW		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.025	0.025
Chromium (Cr)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.25	0.25
Cobalt (Co)	mg/kg FW		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.10	0.10
Copper (Cu)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.1	<0.50	<0.50	<0.50	1.1	0.33	0.25
Iron (Fe)	mg/kg FW		<15	<15	<15	<15	<15	<15	<15	17	<15	<15	<15	17	8.4	7.5
Lead (Pb)	mg/kg FW		<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	0.090	0.090
Lithium (Li)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.25	0.25
Manganese (Mn)	mg/kg FW		0.79	<0.50	0.68	0.8	0.78	3	<0.50	3.3	2.9	3.1	2	3.3	1.6	3.1
Molybdenum (Mo)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.25	0.25
Nickel (Ni)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.25	0.25
Selenium (Se)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	0.51	0.75	0.83	<0.50	0.65	0.68	0.73	0.83	0.49	0.75
Silver (Ag)	mg/kg FW		<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	0.060	0.060
Strontium (Sr)	mg/kg FW		5	5.4	6	6.8	5.7	51	4.5	24	43	44	16	51	19	44
Thallium (Tl)	mg/kg FW		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.010	0.010
Tin (Sn)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.25	0.25
Uranium (U)	mg/kg FW		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.010	0.010
Vanadium (V)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.25	0.25
Zinc (Zn)	mg/kg FW		11	8.9	11	11	11	14	9.6	25	11	14	12	25	13	14

Table A.8 Results in Fish Remains

Parameters	Units	Sample IDs	1- WC14 R2 - BKT	2-GOLDBROOK LAKE NORTH - BKT	3-WC20 - BKT	4-WC22 R2 - BKT	5-GOLDBROOK REACH 2 - BKT	6-GOLDBROOK LAKE 1 - YLP	7-GOLDBROOK - BKT	8-WC43 R1 - BKT	9-GOLDBROOK LAKE 2 - Y	10-GOLDBROOK LAKE 3 - YLP	11-GOLDBROOK LAKE 3	Maximum values	Average values	90th percentiles
		Sampling dates	8/24/2021	8/25/2021	8/27/2021	8/26/2021	8/29/2021	8/27/2021	8/30/2021	8/30/2021	8/30/2021	8/30/2021	8/30/2021			
Metals																
Mercury (Hg)	mg/kg FW		0.095	0.14	0.098	0.074	0.18	1.4	0.37	0.16	1.6	1.1	0.94	1.6	0.56	1.4
Aluminum (Al)	mg/kg FW		2.6	12	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	12	2.4	2.6
Antimony (Sb)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.25	0.25
Arsenic (As)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	2.4	<0.50	0.53	<0.50	<0.50	<0.50	<0.50	2.4	0.47	0.53
Barium (Ba)	mg/kg FW		1.9	2.5	1.9	<1.5	3.6	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	3.6	1.4	2.5
Beryllium (Be)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.25	0.25
Boron (B)	mg/kg FW		<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	0.75	0.75
Cadmium (Cd)	mg/kg FW		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.058	<0.050	<0.050	<0.050	<0.050	0.058	0.028	0.025
Chromium (Cr)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.25	0.25
Cobalt (Co)	mg/kg FW		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.10	0.10
Copper (Cu)	mg/kg FW		0.91	1.2	0.71	0.84	1.5	<0.50	0.89	1.3	<0.50	<0.50	<0.50	1.5	0.76	1.3
Iron (Fe)	mg/kg FW		20	33	21	20	23	17	25	<15	<15	17	15	33	19	25
Lead (Pb)	mg/kg FW		<0.18	0.22	<0.18	<0.18	0.27	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	0.27	0.12	0.22
Lithium (Li)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.25	0.25
Manganese (Mn)	mg/kg FW		6.1	3.7	2.9	3	6.8	3.4	1.3	<0.50	3.9	5.4	6.4	6.8	3.9	6.4
Molybdenum (Mo)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.25	0.25
Nickel (Ni)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.25	0.25
Selenium (Se)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	0.5	0.73	0.77	<0.50	0.53	0.71	0.63	0.77	0.47	0.73
Silver (Ag)	mg/kg FW		<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	0.060	0.060
Strontium (Sr)	mg/kg FW		48	54	36	23	72	44	14	2.1	41	61	48	72	40	61
Thallium (Tl)	mg/kg FW		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.010	0.010
Tin (Sn)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.25	0.25
Uranium (U)	mg/kg FW		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.010	0.010
Vanadium (V)	mg/kg FW		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.25	0.25
Zinc (Zn)	mg/kg FW		30	24	21	26	36	18	19	15	15	22	17	36	22	30

Table A.9 Results in Benthic Invertebrates

Parameters	Units	Sample IDs	RA-TIS-1	RA-TIS-6	RA-TIS-7,8 & 9 COMPOSITE	Maximum values	Average values	90th percentiles
		Sampling dates	8/31/2021	8/31/2021	9/1/2021			
Metals								
Mercury (Hg)	mg/kg FW		0.06	0.19	0.13	0.19	0.13	0.18
Aluminum (Al)	mg/kg FW		43	180	110	180	111	166
Antimony (Sb)	mg/kg FW		<1.1	<0.70	<1.1	<1.1	0.48	0.55
Arsenic (As)	mg/kg FW		<1.1	10	170	170	60	138
Barium (Ba)	mg/kg FW		<3.3	<2.1	<3.2	<3.3	1.4	1.6
Beryllium (Be)	mg/kg FW		<1.1	<0.70	<1.1	<1.1	0.48	0.55
Boron (B)	mg/kg FW		<3.3	<2.1	<3.2	<3.3	1.4	1.6
Cadmium (Cd)	mg/kg FW		<0.11	0.088	0.17	0.17	0.10	0.15
Chromium (Cr)	mg/kg FW		<1.1	<0.70	<1.1	<1.1	0.48	0.55
Cobalt (Co)	mg/kg FW		<0.44	<0.28	<0.42	<0.44	0.19	0.22
Copper (Cu)	mg/kg FW		5.1	3.8	2.4	5.1	3.8	4.8
Iron (Fe)	mg/kg FW		160	470	1100	1100	577	974
Lead (Pb)	mg/kg FW		0.43	0.94	0.67	0.94	0.68	0.89
Lithium (Li)	mg/kg FW		<1.1	<0.70	<1.1	<1.1	0.48	0.55
Manganese (Mn)	mg/kg FW		4	4.3	33	33	14	27
Molybdenum (Mo)	mg/kg FW		<1.1	<0.70	<1.1	<1.1	0.48	0.55
Nickel (Ni)	mg/kg FW		<1.1	<0.70	<1.1	<1.1	0.48	0.55
Selenium (Se)	mg/kg FW		<1.1	<0.70	<1.1	<1.1	0.48	0.55
Silver (Ag)	mg/kg FW		<0.26	<0.17	<0.25	<0.26	0.11	0.13
Strontium (Sr)	mg/kg FW		<3.3	<2.1	<3.2	<3.3	1.4	1.6
Thallium (Tl)	mg/kg FW		<0.044	<0.028	<0.042	<0.044	0.019	0.022
Tin (Sn)	mg/kg FW		<1.1	<0.70	<1.1	<1.1	0.48	0.55
Uranium (U)	mg/kg FW		<0.044	<0.028	<0.042	<0.044	0.019	0.022
Vanadium (V)	mg/kg FW		<1.1	<0.70	<1.1	<1.1	0.48	0.55
Zinc (Zn)	mg/kg FW		45	17	16	45	26	39

Table A.10 Results in Waste Rocks

Parameters	Units	Samples IDs	GB-2020-001	GB-2020-003	GB-2020-010	GB-2020-011	GB-2020-013	GB-2020-014	GB-2020-016	GB-2020-017	GB-2020-018	GB-2020-019	GB-2020-020	GB-2020-021	GB-2020-022	GB-2020-023	GB-2020-024	GB-2020-025	GB-2020-026	GB-2020-027	GB-2020-031
Metals (Four acid extraction)																					
Silver (Ag)	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aluminum (Al)	mg/kg		81000	56000	61000	66000	51000	110000	45000	64000	69000	50000	74000	57000	69000	62000	70000	74000	65000	71000	42000
Arsenic (As)	mg/kg		52	15	29	18	130	89	330	15	230	44	130	15	1000	380	25	140	39	130	89
Barium (Ba)	mg/kg		790	400	440	440	370	1300	430	530	530	370	730	430	590	440	540	620	560	610	260
Beryllium (Be)	mg/kg		2.1	1.3	1.5	1.5	1.1	3	1.5	1.8	2	1.2	2.1	1.4	2.5	1.6	1.9	2.1	1.9	2.2	1
Bismuth (Bi)	mg/kg		0.25	<0.09	<0.09	0.13	0.1	0.27	0.24	<0.09	0.15	0.11	0.11	<0.09	0.15	0.09	0.18	0.27	0.71	0.35	0.16
Calcium (Ca)	mg/kg		9500	9500	10000	11000	8000	5300	9300	8600	16000	7400	10000	6700	13000	9000	8900	9100	8800	8100	6600
Cadmium (Cd)	mg/kg		0.1	0.06	0.03	0.12	0.06	0.07	0.04	0.12	0.06	0.03	0.06	0.04	0.12	0.03	0.03	0.07	0.08	0.06	0.04
Cobalt (Co)	mg/kg		14	8.2	9.4	10	6.8	23	9.2	9.9	15	7.5	13	7.9	14	9.7	12	14	12	12	5.1
Chromium (Cr)	mg/kg		27	18	23	26	24	52	40	28	41	21	36	24	38	31	36	58	36	40	22
Copper (Cu)	mg/kg		16	14	20	9.3	15	28	18	20	28	35	18	8.6	48	11	17	17	23	32	11
Iron (Fe)	mg/kg		37000	25000	28000	29000	25000	50000	22000	27000	40000	22000	34000	24000	42000	28000	35000	35000	30000	37000	18000
Potassium (K)	mg/kg		33000	17000	20000	21000	17000	55000	20000	24000	24000	18000	32000	19000	29000	20000	26000	30000	25000	28000	12000
Lithium (Li)	mg/kg		54	36	39	41	36	79	29	33	56	30	49	36	61	37	52	50	46	53	27
Magnesium (Mg)	mg/kg		13000	8600	9100	9300	7600	17000	7400	9100	13000	6800	11000	8000	16000	8600	12000	12000	11000	13000	5800
Manganese (Mn)	mg/kg		720	650	620	690	650	800	560	540	870	450	640	590	1400	550	700	760	800	750	510
Molybdenum (Mo)	mg/kg		0.4	0.3	0.6	0.4	0.7	0.2	0.5	0.5	0.3	0.6	0.4	0.7	0.5	0.6	0.3	0.4	2.3	0.4	0.4
Sodium (Na)	mg/kg		14000	18000	19000	21000	17000	7400	6500	17000	16000	16000	16000	16000	8900	19000	16000	15000	13000	12000	13000
Nickel (Ni)	mg/kg		35	19	22	24	16	51	20	23	34	17	31	19	33	23	30	32	28	30	12
Phosphorus (P)	mg/kg		600	510	570	640	600	660	490	580	630	410	660	500	440	560	600	600	560	530	430
Lead (Pb)	mg/kg		22	15	13	30	16	30	20	11	22	9.5	12	30	40	9.5	17	21	61	27	18
Antimony (Sb)	mg/kg		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	1.9	<0.8	1.4	0.9	1	<0.8	1.6	1.4	<0.8	<0.8	<0.8	0.9	<0.8
Selenium (Se)	mg/kg		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
Tin (Sn)	mg/kg		<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	9.1	<6	<6	<6	<6	<6	<6	<6
Strontium (Sr)	mg/kg		170	170	190	200	140	110	130	170	230	130	210	140	180	180	170	180	160	170	130
Titanium (Ti)	mg/kg		4100	2900	3200	3800	3700	5400	2300	3400	3900	2400	3900	3000	3300	3300	3600	3900	3400	3400	2400
Thallium (Tl)	mg/kg		0.72	0.39	0.44	0.46	0.38	1.2	0.43	0.52	0.67	0.46	0.72	0.49	0.75	0.45	0.64	0.69	0.64	0.74	0.32
Uranium (U)	mg/kg		1.7	1.1	1.2	1.4	1.4	2.3	0.94	1.3	1.6	0.99	1.6	1.1	1.4	1.4	1.6	1.5	1.4	1.4	0.98
Vanadium (V)	mg/kg		78	47	48	61	49	100	44	50	60	37	64	44	63	51	58	66	56	59	32
Yttrium (Y)	mg/kg		13	11	12	12	11	20	11	13	16	7.9	19	10	15	12	13	12	12	12	8.3
Zinc (Zn)	mg/kg		81	40	47	78	45	110	37	47	70	40	72	40	99	43	58	70	81	81	35
Metals (Aqua regia extraction)																					
Silver (Ag)	mg/kg		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Aluminum (Al)	mg/kg		20000	14000	15000	16000	14000	26000	11000	16000	21000	12000	19000	14000	23000	14000	21000	19000	17000	21000	10000
Arsenic (As)	mg/kg		52	34	50	33	160	85	650	34	360	78	240	29	1300	590	53	200	75	280	170
Barium (Ba)	mg/kg		160	120	120	140	110	190	67	110	170	83	120	110	130	77	150	150	110	140	70
Beryllium (Be)	mg/kg		0.39	0.26	0.2	0.22	0.19	0.67	0.3	0.34	0.38	0.27	0.38	0.31	0.62	0.36	0.32	0.4	0.44	0.47	0.26
Bismuth (Bi)	mg/kg		0.43	0.1	<0.09	0.16	0.1	0.29	0.27	<0.09	0.15	0.09	0.12	<0.09	0.16	0.12	0.21	0.28	0.72	0.38	0.15
Calcium (Ca)	mg/kg		3000	3300	2900	3600	3500	2100	6400	2800	7200	4200	4000	2600	8900	4500	2900	3000	4000	2700	3100
Cadmium (Cd)	mg/kg		0.11	0.07	0.03	0.12	0.05	0.07	0.05	0.08	0.05	0.03	0.04	0.04	0.1	0.04	0.02	0.05	0.1	0.07	0.05
Cobalt (Co)	mg/kg		15	9.1	9.8	12	7.8	22	9.5	10	15	7.5	14	8.7	15	11	14	14	13	14	5.8
Chromium (Cr)	mg/kg		40	32	33	41	35	40	18	34	45	24	43	27	35	35	39	36	33	36	23
Copper (Cu)	mg/kg		17	15	22	10	16	32	21	26	27	38	21	9.1	54	12	19	18	27	36	12
Iron (Fe)	mg/kg		32000	22000	24000	26000	21000	43000	19000	24000	34000	19000	30000	22000	37000	26000	33000	30000	27000	33000	16000
Potassium (K)	mg/kg		13000	7000	9700	11000	8700	17000	5300	11000	12000	7300	12000	8300	13000	6500	13000	12000	9500	12000	5000
Lithium (Li)	mg/kg		37	26	29	32	29	50	20	25	41	21	36	27	47	29	41	37	34	42	20
Magnesium (Mg)	mg/kg		10000	7200	7200	7800	6200	12000	5500	7400	10000	5200	9000	6300	13000	7000	10000	9100	8700	10000	4700
Manganese (Mn)	mg/kg		550	510	460	530	450	620	490	420	680	370	530	440	1300	420	550	560	640	580	380
Molybdenum (Mo)	mg/kg		0.2	0.3	0.6	0.5	0.5	0.2	0.3	0.4	0.3	0.6	0.4	0.5	0.4	0.6	0.3	0.3	2	0.3	0.4
Sodium (Na)	mg/kg		540	680	1000	850	700	420	290	760	610	780	690	610	500	660	610	490	480	480	610
Nickel (Ni)	mg/kg		36	21	23	27	18	51	20	25	34	18	34	20	36	26	34	32	29	34	14
Phosphorus (P)	mg/kg		600	500	540	610	590	640	490	540	580	390	640	540	440	580	620	600	550	550	430
Lead (Pb)	mg/kg		9.6	13	4.8	22	12	18	17	5.9	10	5	5.1	23	37	6	6.9	13	51	17	13
Antimony (Sb)	mg/kg		<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
Selenium (Se)	mg/kg		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
Tin (Sn)	mg/kg		0.6	0.6	0.5	0.8	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5
Strontium (Sr)	mg/kg		22	17	18	19	17	18	31	20	26	17	21	18	29	19	18	19	20	18	15
Titanium (Ti)	mg/kg		1700	1200	1700	1800	1700	2600	880	1900	1900	1300	2000	1500	1400	1300	1800	1800	1400	1600	900
Thallium (Tl)	mg/kg		0.51	0.27	0.36	0.37	0.32	0.78	0.21	0.41	0.46	0.35	0.47	0.35	0.59	0.26	0.53	0.51	0.42	0.57	0.21
Uranium (U)	mg/kg		0.77	0.62	0.68	0.76	0.88	1	0.5	0.69	0.74	0.54	0.77	0.7	0.64	0.92	0.88	0.76	0.74	0.69	0.63
Vanadium (V)	mg/kg		43	35	34	46	38	45	20	36	47	27	45	31	38	37	43	40	36	39	26
Yttrium (Y)	mg/kg		8.7	7.5	7.4	7.6	8.3	13	7.3	8.2	9.3	5.2	9.5	7.5	10	7.7	9.3	8.4	8	7.9	5.4
Zinc (Zn)	mg/kg		80	42	46	80	44	110	35	47	65	39	73	40	98	43	58	65	84	83	35

Table A.10 Results in Waste Rocks

Parameters	Units	Samples IDs	GB-2020-032	GB-2020-034	GB-2020-035	GB-2020-036	GB-2020-038	GB-2020-039	GB-2020-041	GB-2020-042	GB-2020-043	GB-2020-045	GB-2020-047	GB-2020-049	GB-2020-052	GB-2020-054	GB-2020-056	GB-2020-058	GB-2020-059	GB-2020-060	GB-2020-061
Metals (Four acid extraction)																					
Silver (Ag)	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aluminum (Al)	mg/kg		77000	68000	49000	82000	52000	52000	59000	84000	79000	60000	410	54000	19000	79000	59000	85000	76000	87000	64000
Arsenic (As)	mg/kg		79	36	2600	230	18	390	23	45	71	41	3.7	100	790	98	12	180	37	57	60
Barium (Ba)	mg/kg		610	610	510	860	310	310	460	810	670	390	3.7	390	120	630	430	890	580	790	500
Beryllium (Be)	mg/kg		2.3	1.8	1.4	3	1.2	1.2	1.3	2.4	2.1	1.4	<0.02	1.4	0.54	2.3	1.5	2.6	2.3	3	1.7
Bismuth (Bi)	mg/kg		0.13	<0.09	0.39	0.14	0.14	0.35	<0.09	0.14	0.62	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	0.17	0.1	0.19	<0.09
Calcium (Ca)	mg/kg		10000	6500	10000	7400	6500	7800	8700	7200	12000	9400	290	5800	4200	9500	6600	6400	14000	9900	8300
Cadmium (Cd)	mg/kg		0.09	0.09	0.21	0.1	<0.02	0.09	<0.02	0.04	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02
Cobalt (Co)	mg/kg		17	11	8.9	17	6.7	6.7	8.7	16	15	9.1	0.11	7.1	2.6	15	8.1	22	16	18	11
Chromium (Cr)	mg/kg		46	43	34	69	24	27	40	33	32	21	5.1	29	8.1	33	22	55	67	43	29
Copper (Cu)	mg/kg		35	19	20	22	13	12	9.4	34	42	9.6	2.1	14	2.6	12	11	50	38	43	14
Iron (Fe)	mg/kg		45000	34000	25000	47000	21000	22000	23000	39000	39000	25000	2400	21000	8700	37000	22000	43000	39000	42000	28000
Potassium (K)	mg/kg		28000	25000	22000	42000	14000	13000	17000	32000	27000	16000	180	17000	5400	30000	16000	33000	26000	30000	20000
Lithium (Li)	mg/kg		70	54	36	67	30	32	37	56	54	38	2.2	30	11	51	33	67	57	63	48
Magnesium (Mg)	mg/kg		15000	12000	8700	16000	6300	8000	7800	13000	14000	8000	38	7000	2400	12000	7100	15000	13000	14000	9300
Manganese (Mn)	mg/kg		910	700	960	800	470	920	630	740	960	600	46	530	200	740	540	800	960	850	780
Molybdenum (Mo)	mg/kg		0.3	0.3	0.4	0.3	0.4	0.5	0.4	0.3	0.4	0.6	0.7	0.5	0.9	0.2	0.6	0.3	0.3	0.3	0.3
Sodium (Na)	mg/kg		15000	15000	4300	7600	19000	20000	18000	15000	16000	20000	120	17000	6900	14000	18000	7600	15000	12000	18000
Nickel (Ni)	mg/kg		38	28	21	43	16	15	20	37	38	21	0.6	17	5.6	36	19	45	37	42	23
Phosphorus (P)	mg/kg		630	590	850	660	530	470	510	630	670	580	15	500	180	660	520	600	620	690	590
Lead (Pb)	mg/kg		27	11	18	19	12	97	5.6	20	40	5.7	<0.05	8.1	4.7	12	12	17	23	40	20
Antimony (Sb)	mg/kg		<0.8	<0.8	6.5	<0.8	<0.8	<0.8	<0.8	<0.8	0.9	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	0.8	<0.8	<0.8	<0.8
Selenium (Se)	mg/kg		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
Tin (Sn)	mg/kg		<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
Strontium (Sr)	mg/kg		200	130	98	160	160	150	170	150	220	180	1	120	48	180	150	120	230	190	180
Titanium (Ti)	mg/kg		3900	3800	2800	4400	2500	2600	2500	3900	3600	2800	17	2400	880	3500	2600	3700	3300	3900	3000
Thallium (Tl)	mg/kg		0.79	0.62	0.49	1.2	0.25	0.28	0.36	0.72	0.59	0.34	<0.02	0.39	0.08	0.7	0.3	0.77	0.64	0.7	0.45
Uranium (U)	mg/kg		1.7	1.7	1.2	2	1.2	1.2	1.1	1.7	1.6	1.2	<0.002	1.2	0.42	1.7	1.2	1.8	1.6	1.9	1.5
Vanadium (V)	mg/kg		68	57	44	76	46	49	48	75	74	50	<1	44	16	68	45	80	72	80	53
Yttrium (Y)	mg/kg		15	12	15	18	10	13	10	14	17	11	0.16	9.6	3.7	16	7.4	10	11	12	15
Zinc (Zn)	mg/kg		110	100	69	110	35	76	39	66	110	36	0.7	38	14	68	41	86	76	91	51
Metals (Aqua regia extraction)																					
Silver (Ag)	mg/kg		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Aluminum (Al)	mg/kg		25000	19000	10000	26000	11000	10000	14000	21000	22000	15000	120	12000	4000	22000	13000	24000	25000	24000	14000
Arsenic (As)	mg/kg		150	51	4800	310	14	390	18	73	62	42	5.1	190	1300	95	16	190	35	68	84
Barium (Ba)	mg/kg		180	120	62	160	89	31	130	150	170	140	0.83	94	26	160	120	150	210	160	54
Beryllium (Be)	mg/kg		0.54	0.49	0.52	0.93	0.22	0.28	0.17	0.36	0.25	0.17	<0.02	0.37	0.13	0.23	0.24	0.4	0.33	0.45	0.44
Bismuth (Bi)	mg/kg		0.21	<0.09	0.41	0.14	0.15	0.5	<0.09	0.22	0.63	<0.09	<0.09	<0.09	<0.09	<0.09	0.12	0.25	0.23	0.31	0.14
Calcium (Ca)	mg/kg		3000	2600	9800	3300	1500	5700	2500	2100	3600	2200	280	2900	2800	2000	1800	1900	4700	2600	4100
Cadmium (Cd)	mg/kg		0.09	0.09	0.21	0.11	0.02	0.1	<0.02	0.03	0.09	0.02	<0.02	0.04	0.04	0.04	0.04	0.06	0.04	0.07	0.07
Cobalt (Co)	mg/kg		18	12	10	18	6.9	6.8	9.1	16	16	9.2	0.11	8	2.8	16	8.3	20	16	18	11
Chromium (Cr)	mg/kg		50	36	19	41	30	22	29	40	45	37	4.1	26	11	41	29	41	49	44	39
Copper (Cu)	mg/kg		37	21	21	25	16	13	11	35	46	11	2.2	14	2.6	12	11	53	36	40	15
Iron (Fe)	mg/kg		40000	31000	21000	41000	19000	19000	21000	34000	35000	23000	2100	20000	8100	35000	20000	38000	36000	37000	26000
Potassium (K)	mg/kg		14000	9800	5000	17000	6000	2000	8300	12000	13000	8900	55	6600	2400	15000	8100	14000	16000	13000	2900
Lithium (Li)	mg/kg		54	42	22	49	24	24	30	45	45	33	<2	24	8	40	27	53	47	52	42
Magnesium (Mg)	mg/kg		12000	9200	6400	13000	5500	6500	6500	9900	11000	7100	26	5800	2000	10000	6300	12000	12000	11000	8000
Manganese (Mn)	mg/kg		730	510	900	660	330	770	460	510	740	420	45	400	150	600	350	610	740	600	550
Molybdenum (Mo)	mg/kg		0.3	0.4	0.4	0.3	0.5	0.4	0.3	0.3	0.3	0.5	0.4	0.5	0.7	0.3	0.4	0.3	0.2	0.3	0.3
Sodium (Na)	mg/kg		530	640	190	280	580	540	470	410	570	580	62	470	350	440	720	320	870	460	610
Nickel (Ni)	mg/kg		41	30	23	45	17	15	21	36	39	22	0.5	19	6.2	38	20	45	39	42	25
Phosphorus (P)	mg/kg		630	620	920	700	490	440	480	590	610	540	<3	480	160	640	480	560	620	690	600
Lead (Pb)	mg/kg		17	5.4	17	11	5.8	96	1.6	8	26	3.7	<0.05	4.9	3.1	3.1	3.6	6.4	5.2	15	12
Antimony (Sb)	mg/kg		<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
Selenium (Se)	mg/kg		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
Tin (Sn)	mg/kg		0.6	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	0.7	<0.5	<0.5
Strontium (Sr)	mg/kg		29	24	43	38	13	16	16	15	20	15	1.1	15	7.1	14	10	10	27	17	15
Titanium (Ti)	mg/kg		2000	1400	690	2300	1100	430	1300	1700	1900	1400	3.7	1200	410	2400	1100	1700	1800	1700	1100
Thallium (Tl)	mg/kg		0.63	0.43	0.22	0.83	0.2	0.1	0.31	0.56	0.52	0.31	<0.02	0.28	0.1	0.57	0.27	0.61	0.6	0.55	0.11
Uranium (U)	mg/kg		0.74	0.87	0.5	1	0.72	0.57	0.52	0.68	0.74	0.78	<0.002	0.57	0.21	0.82	0.58	0.84	0.8	0.91	0.87
Vanadium (V)	mg/kg		52	38	18	43	34	29	32	40	48	41	<1	28	11	43	33	41	53	47	39
Yttrium (Y)	mg/kg		8.6	8.7	13	13	6.6	8.7	6.7	7.4	10	7.5	0.17	6.6	2.5	12	4.9	7.4	8.3	8	11
Zinc (Zn)	mg/kg		100	100	66	110	35	72	38	60	110	37	<0.7	37	13	67	39	81	74	82	49

Table A.10 Results in Waste Rocks

Parameters	Units	Samples IDs	GB-2020-062	GB-2020-063	GB-2020-070	GB-2020-071	GB-2020-073	GB-2020-078	GB-2020-079	GB-2020-082	GB-2020-084	GB-2020-085	GB-2020-086	GB-2020-087	GB-2020-089	GB-2020-090	GB-2020-091	GB-2020-092	GB-2020-093	GB-2020-094	GB-2020-095
Metals (Four acid extraction)																					
Silver (Ag)	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aluminum (Al)	mg/kg		66000	62000	86000	90000	89000	69000	51000	76000	70000	63000	50000	50000	76000	71000	62000	46000	54000	79000	54000
Arsenic (As)	mg/kg		26	28	240	120	190	33	50	140	26	17	120	41	33	42	27	48	440	210	34
Barium (Ba)	mg/kg		450	520	790	700	770	580	360	720	540	480	320	310	610	610	500	260	330	720	440
Beryllium (Be)	mg/kg		1.7	1.6	3	2.9	3	1.9	1.2	2.4	2	1.6	1.4	1.1	2.2	1.9	1.6	0.94	1.2	2.6	1.4
Bismuth (Bi)	mg/kg		<0.09	<0.09	<0.09	<0.09	0.24	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	0.13	0.14	0.1	<0.09	<0.09	<0.09	<0.09
Calcium (Ca)	mg/kg		10000	9000	7700	12000	8200	8900	5100	9600	10000	8900	9400	7100	9600	8500	7900	8000	8000	7500	6000
Cadmium (Cd)	mg/kg		0.03	0.04	0.04	0.06	0.09	<0.02	<0.02	0.07	0.05	0.05	0.05	0.09	0.08	0.05	0.03	0.05	0.07	0.16	0.64
Cobalt (Co)	mg/kg		12	10	18	19	20	13	7.2	16	13	9.6	8.5	7.6	14	13	11	6.4	7.9	16	8.9
Chromium (Cr)	mg/kg		32	29	51	56	48	47	27	27	24	24	24	34	30	23	20	14	21	37	25
Copper (Cu)	mg/kg		13	20	27	16	26	14	16	25	13	16	22	14	15	24	12	9.3	10	8.7	18
Iron (Fe)	mg/kg		30000	25000	41000	44000	42000	31000	21000	40000	36000	27000	25000	21000	38000	33000	30000	19000	23000	36000	23000
Potassium (K)	mg/kg		18000	20000	38000	33000	36000	23000	15000	32000	23000	20000	15000	13000	27000	26000	22000	12000	14000	30000	19000
Lithium (Li)	mg/kg		45	39	59	61	66	48	38	58	62	41	38	31	52	44	40	25	30	52	35
Magnesium (Mg)	mg/kg		9600	8700	14000	15000	15000	11000	6600	13000	13000	8800	8300	6500	12000	11000	9200	5700	7100	13000	7900
Manganese (Mn)	mg/kg		730	710	740	880	870	720	540	760	940	660	690	510	800	630	580	410	610	760	580
Molybdenum (Mo)	mg/kg		0.4	0.4	0.2	0.3	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.2	0.4
Sodium (Na)	mg/kg		19000	14000	11000	16000	13000	17000	18000	11000	16000	17000	14000	18000	17000	14000	14000	17000	21000	14000	14000
Nickel (Ni)	mg/kg		25	24	42	40	40	29	17	36	31	23	21	17	32	30	24	14	19	34	20
Phosphorus (P)	mg/kg		610	530	660	670	590	580	480	660	580	600	450	520	660	600	510	470	500	610	450
Lead (Pb)	mg/kg		18	13	14	22	23	17	21	16	23	13	12	11	34	15	12	3.3	5.7	37	100
Antimony (Sb)	mg/kg		<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	1.1	<0.8	<0.8	<0.8	<0.8	1.1	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Selenium (Se)	mg/kg		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
Tin (Sn)	mg/kg		<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
Strontium (Sr)	mg/kg		180	170	150	220	170	200	130	160	220	170	150	140	190	160	140	140	150	160	110
Titanium (Ti)	mg/kg		3000	2600	3800	3800	3800	3200	2600	4300	3600	3500	2600	3000	4400	3800	3200	2500	3000	4000	2800
Thallium (Tl)	mg/kg		0.41	0.43	0.9	0.86	0.86	0.49	0.36	0.85	0.61	0.5	0.38	0.28	0.76	0.56	0.49	0.24	0.33	0.7	0.49
Uranium (U)	mg/kg		1.5	1.2	2	2	1.9	1.5	1.5	1.8	1.4	1.5	1.1	1.3	1.9	1.5	1.3	0.99	1.2	1.7	1.1
Vanadium (V)	mg/kg		56	49	77	81	79	60	43	72	61	55	40	45	72	63	50	37	45	73	40
Yttrium (Y)	mg/kg		10	11	15	18	19	11	11	15	12	9.3	9.4	8.5	12	11	9.6	6.9	9.9	12	10
Zinc (Zn)	mg/kg		55	50	74	81	85	54	42	82	61	51	42	41	82	64	54	34	37	140	280
Metals (Aqua regia extraction)																					
Silver (Ag)	mg/kg		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Aluminum (Al)	mg/kg		18000	15000	24000	26000	23000	19000	11000	22000	20000	16000	15000	12000	22000	19000	20000	12000	13000	21000	14000
Arsenic (As)	mg/kg		22	22	280	110	140	36	70	150	25	22	220	39	24	65	32	65	490	230	49
Barium (Ba)	mg/kg		160	120	170	210	170	160	49	160	130	130	97	79	160	140	140	85	92	150	100
Beryllium (Be)	mg/kg		0.23	0.25	0.41	0.33	0.49	0.36	0.35	0.7	0.41	0.21	0.35	0.24	0.47	0.35	0.28	0.19	0.25	0.75	0.47
Bismuth (Bi)	mg/kg		<0.09	0.11	0.14	0.1	0.46	0.12	0.09	0.1	0.12	<0.09	0.1	<0.09	0.23	0.16	0.12	<0.09	<0.09	<0.09	<0.09
Calcium (Ca)	mg/kg		3000	3900	2300	2400	2200	3100	2800	4900	3000	2200	5100	3500	2100	2900	2300	4500	4200	2600	3500
Cadmium (Cd)	mg/kg		0.06	0.08	0.09	0.12	0.15	<0.02	0.04	0.06	0.04	0.03	0.06	0.1	0.04	0.03	0.02	0.04	0.05	0.16	0.68
Cobalt (Co)	mg/kg		11	10	21	20	18	13	7.5	17	14	10	10	7.4	13	14	13	7.6	8.7	17	9.7
Chromium (Cr)	mg/kg		39	30	39	51	41	39	30	41	46	34	33	30	48	37	36	30	34	42	27
Copper (Cu)	mg/kg		14	23	31	15	26	15	17	27	12	19	26	16	16	27	14	12	13	10	21
Iron (Fe)	mg/kg		26000	23000	39000	42000	37000	28000	20000	36000	32000	24000	25000	19000	34000	29000	30000	19000	21000	34000	23000
Potassium (K)	mg/kg		10000	8100	18000	19000	16000	11000	2800	15000	9400	10000	7200	5300	13000	12000	13000	6100	6600	12000	7900
Lithium (Li)	mg/kg		36	30	47	49	46	38	30	45	50	34	35	25	45	38	40	24	27	45	29
Magnesium (Mg)	mg/kg		8500	7300	12000	13000	12000	9100	6000	10000	11000	7300	7800	5600	10000	9100	8400	5500	6500	11000	7000
Manganese (Mn)	mg/kg		520	510	620	790	720	560	390	630	680	470	580	340	650	460	490	330	490	630	540
Molybdenum (Mo)	mg/kg		0.4	0.3	0.2	0.2	0.3	0.3	0.5	0.2	0.3	0.3	0.3	0.4	0.2	0.2	0.4	0.4	0.4	0.2	0.3
Sodium (Na)	mg/kg		620	630	350	490	500	630	580	370	520	530	810	660	620	470	680	600	590	400	380
Nickel (Ni)	mg/kg		26	24	47	42	40	30	18	38	33	25	24	18	33	32	29	17	20	38	23
Phosphorus (P)	mg/kg		620	500	660	690	560	580	530	640	550	590	500	500	660	590	540	510	520	630	470
Lead (Pb)	mg/kg		5.3	4.9	4.8	7	13	8.4	20	7.3	12	3.7	6.4	7.3	19	4.6	3.4	1.6	2.8	34	88
Antimony (Sb)	mg/kg		<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
Selenium (Se)	mg/kg		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
Tin (Sn)	mg/kg		0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	1.3
Strontium (Sr)	mg/kg		13	16	15	16	12	17	13	30	15	14	20	14	16	19	14	14	14	16	16
Titanium (Ti)	mg/kg		1400	1200	2600	2800	2400	1600	1000	2100	1400	1500	1100	1000	1800	1500	1600	1100	1400	1600	1500
Thallium (Tl)	mg/kg		0.39	0.34	0.72	0.75	0.65	0.41	0.13	0.62	0.38	0.38	0.28	0.18	0.52	0.47	0.45	0.22	0.25	0.48	0.32
Uranium (U)	mg/kg		0.75	0.71	0.89	0.89	0.74	0.65	0.83	0.85	0.7	0.77	0.74	0.69	0.77	0.72	0.64	0.66	0.64	0.79	0.53
Vanadium (V)	mg/kg		45	31	44	56	44	43	34	42	48	39	35	31	53	40	38	34	40	44	28
Yttrium (Y)	mg/kg		7.3	7.7	11	12	12	7.4	8.1	9.7	8.1	6.4	7.9	5.9	7.9	8	6.5	5.8	7.4	7.6	5.8
Zinc (Zn)	mg/kg		53	49	72	80	77	50	41	80	58	50	46	41	78	62	58	37	39	140	320

Table A.10 Results in Waste Rocks

Parameters	Units	Samples IDs	GB-2020-096	GB-2020-097	GB-2020-098	GB-2020-099	GB-2020-100	GB-2020-101	GB-2020-102	GB-2020-103	GB-2020-107	GB-2020-109	GB-2020-110	GB-2020-111	GB-2020-113	GB-2020-114	GB-LX2021-01	GB-LX2021-03	GB-LX2021-04	GB-LX2021-05	GB-LX2021-06
Metals (Four acid extraction)																					
Silver (Ag)	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aluminum (Al)	mg/kg		65000	87000	94000	53000	67000	55000	59000	64000	55000	55000	57000	79000	80000	54000	100000	130000	94000	140000	120000
Arsenic (As)	mg/kg		23	59	53	95	270	39	130	26	150	320	89	50	86	17	350	610	63	160	46
Barium (Ba)	mg/kg		480	820	810	360	600	380	420	540	400	500	490	740	700	370	600	820	790	750	830
Beryllium (Be)	mg/kg		1.6	2.5	2.8	1.1	2	1.2	1.4	1.6	1.8	1.8	1.6	2.2	2.3	1.2	2	3	3	3	2
Bismuth (Bi)	mg/kg		<0.09	0.14	0.13	0.12	0.24	0.1	<0.09	0.1	0.24	0.11	0.12	<0.09	0.27	<0.09	0.09	0.26	0.43	<0.09	<0.09
Calcium (Ca)	mg/kg		9900	7200	8900	9900	6800	5900	7600	7700	8000	6800	7200	10000	8000	8300	15000	14000	11000	19000	15000
Cadmium (Cd)	mg/kg		0.02	<0.02	0.07	0.15	0.06	0.06	0.03	<0.02	0.03	<0.02	0.07	0.02	0.17	0.05	0.08	0.07	0.08	0.09	0.04
Cobalt (Co)	mg/kg		11	16	22	8.1	12	7.9	9.2	9.3	7.7	13	9.3	16	16	7.7	14	15	17	15	16
Chromium (Cr)	mg/kg		39	41	56	41	44	36	43	44	49	51	34	50	53	53	160	240	200	190	120
Copper (Cu)	mg/kg		19	28	55	15	19	12	4.9	12	17	16	22	16	39	18	21	35	39	13	16
Iron (Fe)	mg/kg		30000	43000	58000	24000	30000	23000	26000	27000	27000	28000	25000	39000	43000	22000	36000	42000	44000	42000	43000
Potassium (K)	mg/kg		20000	29000	32000	17000	27000	17000	18000	22000	18000	23000	23000	30000	28000	15000	21000	17000	16000	14000	14000
Lithium (Li)	mg/kg		40	53	62	32	40	32	35	39	38	39	39	52	59	34	45	51	54	56	53
Magnesium (Mg)	mg/kg		9800	14000	18000	7200	10000	7100	8500	9000	9100	10000	9200	13000	15000	7100	13000	15000	15000	16000	15000
Manganese (Mn)	mg/kg		670	680	910	540	700	550	610	650	620	550	670	850	840	570	850	910	780	1000	850
Molybdenum (Mo)	mg/kg		0.3	0.1	0.3	0.6	0.5	0.6	1	0.5	0.7	0.7	0.5	0.4	0.3	0.7	0.7	0.6	2	0.7	0.3
Sodium (Na)	mg/kg		18000	13000	11000	17000	12000	19000	19000	16000	14000	6500	14000	14000	11000	18000	16000	9800	14000	13000	14000
Nickel (Ni)	mg/kg		25	38	51	19	28	19	21	25	21	27	23	37	39	19	32	37	40	35	38
Phosphorus (P)	mg/kg		590	590	650	480	530	480	470	530	500	380	500	620	650	500	660	650	690	780	730
Lead (Pb)	mg/kg		11	15	38	11	20	33	7.7	9.4	26	19	29	34	20	11	13	17	28	25	9
Antimony (Sb)	mg/kg		<0.8	<0.8	1.2	2.5	0.9	<0.8	<0.8	<0.8	<0.8	0.9	<0.8	<0.8	<0.8	<0.8	1.2	1.8	<0.8	<0.8	0.8
Selenium (Se)	mg/kg		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
Tin (Sn)	mg/kg		<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
Strontium (Sr)	mg/kg		190	150	160	130	140	140	160	160	160	130	160	220	170	170	220	180	170	270	210
Titanium (Ti)	mg/kg		3700	4400	5100	3200	3600	3100	3000	3300	2900	2800	2900	4400	4200	3000	3800	3700	4000	4200	4200
Thallium (Tl)	mg/kg		0.49	0.73	0.96	0.37	0.66	0.38	0.42	0.5	0.52	0.56	0.77	0.79	0.71	0.38	0.69	0.75	0.75	0.79	0.77
Uranium (U)	mg/kg		1.5	1.8	2.1	1.4	1.6	1.2	1.2	1.3	1.2	1.2	1.2	1.8	1.7	1.3	1.6	1.7	1.8	1.8	1.7
Vanadium (V)	mg/kg		55	75	89	46	59	43	42	54	43	48	44	74	72	39	70	81	93	73	80
Yttrium (Y)	mg/kg		10	12	16	12	13	8.9	9.7	8.7	11	12	12	13	16	9.9	21	24	14	25	20
Zinc (Zn)	mg/kg		44	71	120	39	64	56	37	46	46	45	63	65	100	34	89	77	93	110	69
Metals (Aqua regia extraction)																					
Silver (Ag)	mg/kg		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1					
Aluminum (Al)	mg/kg		18000	22000	29000	12000	17000	12000	15000	16000	14000	16000	13000	23000	20000	12000					
Arsenic (As)	mg/kg		23	90	74	100	270	38	150	27	220	460	74	59	62	17					
Barium (Ba)	mg/kg		160	120	160	37	100	72	140	120	84	91	55	160	91	83					
Beryllium (Be)	mg/kg		0.25	0.32	0.7	0.34	0.53	0.27	0.16	0.21	0.57	0.49	0.64	0.33	0.5	0.29					
Bismuth (Bi)	mg/kg		<0.09	0.19	0.16	0.15	0.28	0.13	<0.09	0.11	0.2	0.11	0.11	<0.09	0.33	<0.09					
Calcium (Ca)	mg/kg		2900	1900	3000	8100	3100	2300	1800	2200	4400	2900	4000	2600	2900	4300					
Cadmium (Cd)	mg/kg		<0.02	<0.02	0.1	0.23	0.05	0.07	<0.02	<0.02	0.02	<0.02	0.08	<0.02	0.13	0.04					
Cobalt (Co)	mg/kg		12	18	23	8.4	12	8.2	10	10	8.4	12	9.8	18	16	8.5					
Chromium (Cr)	mg/kg		40	40	64	60	51	240	55	54	56	58	53	58	46	58					
Copper (Cu)	mg/kg		19	29	60	15	22	17	5.5	14	19	20	24	19	39	19					
Iron (Fe)	mg/kg		27000	36000	50000	22000	27000	22000	24000	24000	24000	25000	24000	37000	35000	20000					
Potassium (K)	mg/kg		11000	10000	15000	2400	9200	7000	10000	9700	6700	9300	4600	14000	8100	5800					
Lithium (Li)	mg/kg		36	43	51	29	32	26	31	34	31	31	34	45	48	28					
Magnesium (Mg)	mg/kg		8500	11000	14000	6100	8500	5800	7600	7600	7400	7900	7900	12000	11000	5900					
Manganese (Mn)	mg/kg		490	490	700	440	580	430	490	470	470	410	610	650	580	440					
Molybdenum (Mo)	mg/kg		0.4	0.1	0.2	0.5	0.4	2.7	0.5	0.4	0.5	0.5	0.6	0.3	0.2	0.4					
Sodium (Na)	mg/kg		620	300	320	460	310	380	320	310	320	270	330	400	200	350					
Nickel (Ni)	mg/kg		27	39	52	21	29	28	23	27	24	28	23	41	40	20					
Phosphorus (P)	mg/kg		600	570	630	520	540	510	470	530	490	400	490	660	630	500					
Lead (Pb)	mg/kg		3.6	6.5	18	10	17	30	2.2	2.4	15	7.6	21	16	9.9	8.1					
Antimony (Sb)	mg/kg		<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6					
Selenium (Se)	mg/kg		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7					
Tin (Sn)	mg/kg		<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5					
Strontium (Sr)	mg/kg		16	12	19	21	19	13	10	10	25	22	28	18	24	22					
Titanium (Ti)	mg/kg		1600	1500	2200	740	1200	1200	1700	1400	1000	1200	1200	2000	1300	1200					
Thallium (Tl)	mg/kg		0.42	0.51	0.61	0.08	0.4	0.26	0.37	0.41	0.33	0.41	0.21	0.58	0.39	0.24					
Uranium (U)	mg/kg		0.74	0.73	0.71	0.81	0.6	0.51	0.54	0.74	0.51	0.53	0.61	0.81	0.61	0.68					
Vanadium (V)	mg/kg		44	38	56	34	35	35	34	36	32	28	35	50	39	32					
Yttrium (Y)	mg/kg		6.7	6.8	7.4	7.3	8.2	6	7.6	6.2	7.7	8.6	7.2	10	10	7.5					
Zinc (Zn)	mg/kg		43	66	120	42	62	57	37	46	43	43	61	65	88	32					

Table A.10 Results in Waste Rocks

Parameters	Units	Samples IDs	GB-LX2021-08	GB-LX2021-09	GB-LX2021-10	GB-LX2021-11	GB-LX2021-12	GB-LX2021-13	GB-LX2021-14	GB-LX2021-15	GB-LX2021-16	GB-LX2021-17	GB-LX2021-18	GB-LX2021-19	GB-LX2021-20	GB-LX2021-22	GB-LX2021-24	GB-LX2021-25	GB-LX2021-26	GB-LX2021-28	GB-LX2021-29
Metals (Four acid extraction)																					
Silver (Ag)	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aluminum (Al)	mg/kg		98000	100000	110000	110000	120000	68000	63000	82000	100000	55000	77000	110000	63000	73000	65000	62000	91000	70000	54000
Arsenic (As)	mg/kg		380	260	400	80	78	52	28	270	49	16	160	33	63	540	17	17	44	38	25
Barium (Ba)	mg/kg		750	820	590	750	830	570	360	750	800	330	500	780	430	490	370	390	860	530	380
Beryllium (Be)	mg/kg		2	3	2	3	3	2	1	2	3	1	2	2	1	2	1	1	3	2	1.2
Bismuth (Bi)	mg/kg		0.21	0.31	0.18	0.09	0.16	0.72	0.1	0.19	0.49	<0.09	<0.09	0.17	<0.09	0.13	<0.09	0.22	0.17	0.17	0.1
Calcium (Ca)	mg/kg		10000	9800	16000	12000	13000	12000	9400	6700	11000	8400	14000	11000	8300	11000	9800	9800	10000	12000	6900
Cadmium (Cd)	mg/kg		0.17	0.1	0.21	0.11	0.09	0.1	0.06	0.15	0.08	0.05	0.06	0.05	0.04	0.05	0.02	0.03	0.09	0.05	0.04
Cobalt (Co)	mg/kg		15	20	14	15	16	14	8	15	17	7	12	15	8	11	9	8	18	13	7
Chromium (Cr)	mg/kg		97	83	130	78	180	230	100	120	77	110	94	110	160	250	91	87	93	26	16
Copper (Cu)	mg/kg		33	42	20	31	31	31	14	24	41	14	16	20	10	14	11	12	47	16	11
Iron (Fe)	mg/kg		42000	49000	39000	41000	41000	35000	26000	35000	44000	21000	33000	41000	25000	29000	26000	24000	44000	36000	22000
Potassium (K)	mg/kg		11000	17000	13000	12000	13000	15000	13000	13000	13000	8100	8600	11000	9200	16000	11000	11000	16000	23000	17000
Lithium (Li)	mg/kg		59	53	44	52	54	49	27	47	56	26	40	56	33	33	30	29	60	54	29
Magnesium (Mg)	mg/kg		14000	17000	14000	15000	15000	13000	7600	13000	16000	7300	11000	15000	8000	9600	8300	7600	16000	12000	6600
Manganese (Mn)	mg/kg		840	980	760	720	900	860	550	710	860	510	790	930	560	580	630	620	930	720	500
Molybdenum (Mo)	mg/kg		0.5	0.4	0.4	0.5	0.8	0.4	0.5	3.2	0.9	0.8	0.6	0.9	0.8	0.7	0.9	0.7	0.6	0.4	0.6
Sodium (Na)	mg/kg		13000	12000	19000	15000	12000	14000	20000	9200	14000	18000	21000	11000	17000	18000	20000	20000	14000	18000	20000
Nickel (Ni)	mg/kg		36	46	33	38	37	32	22	35	40	18	28	37	21	27	23	22	43	30	17
Phosphorus (P)	mg/kg		640	720	730	700	710	610	580	610	700	480	680	640	510	530	560	560	690	580	500
Lead (Pb)	mg/kg		38	33	16	22	16	17	11	28	21	8	9	16	9	19	6	11	24	19	24
Antimony (Sb)	mg/kg		1.2	1.4	0.9	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	1.2	<0.8	<0.8	<0.8	<0.8	<0.8
Selenium (Se)	mg/kg		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7
Tin (Sn)	mg/kg		<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
Strontium (Sr)	mg/kg		170	140	210	180	190	160	150	110	170	140	200	160	150	180	160	170	180	210	150
Titanium (Ti)	mg/kg		4000	4400	4000	4200	4100	3500	3100	3500	4100	2600	3600	3700	2700	3100	3000	3100	4200	3500	2600
Thallium (Tl)	mg/kg		0.68	0.87	0.56	0.68	0.6	0.57	0.39	0.69	0.68	0.3	0.5	0.68	0.39	0.44	0.34	0.35	0.8	0.61	0.36
Uranium (U)	mg/kg		1.7	1.9	1.7	1.8	1.8	1.5	1.2	1.5	1.8	1.1	1.5	1.6	1.1	1.3	1.3	1.4	1.8	1.6	1.1
Vanadium (V)	mg/kg		77	88	72	81	86	75	46	67	78	38	60	68	42	61	45	48	80	61	44
Yttrium (Y)	mg/kg		25	20	23	14	11	9	9	13	18	9.3	14	20	11	12	13	10	14	15	8.7
Zinc (Zn)	mg/kg		81	100	77	79	73	75	40	110	83	35	55	69	43	54	39	48	84	65	42
Metals (Aqua regia extraction)																					
Silver (Ag)	mg/kg																				
Aluminum (Al)	mg/kg																				
Arsenic (As)	mg/kg																				
Barium (Ba)	mg/kg																				
Beryllium (Be)	mg/kg																				
Bismuth (Bi)	mg/kg																				
Calcium (Ca)	mg/kg																				
Cadmium (Cd)	mg/kg																				
Cobalt (Co)	mg/kg																				
Chromium (Cr)	mg/kg																				
Copper (Cu)	mg/kg																				
Iron (Fe)	mg/kg																				
Potassium (K)	mg/kg																				
Lithium (Li)	mg/kg																				
Magnesium (Mg)	mg/kg																				
Manganese (Mn)	mg/kg																				
Molybdenum (Mo)	mg/kg																				
Sodium (Na)	mg/kg																				
Nickel (Ni)	mg/kg																				
Phosphorus (P)	mg/kg																				
Lead (Pb)	mg/kg																				
Antimony (Sb)	mg/kg																				
Selenium (Se)	mg/kg																				
Tin (Sn)	mg/kg																				
Strontium (Sr)	mg/kg																				
Titanium (Ti)	mg/kg																				
Thallium (Tl)	mg/kg																				
Uranium (U)	mg/kg																				
Vanadium (V)	mg/kg																				
Yttrium (Y)	mg/kg																				
Zinc (Zn)	mg/kg																				

Table A.10 Results in Waste Rocks

Parameters	Units	Samples IDs	GB-LX2021-30	GB-LX2021-31	GB-LX2021-32	GB-LX2021-33	GB-LX2021-35	GB-NM2021-08	GB-NM2021-19	GB-NM2021-23	GB-NM2021-28	GB-NM2021-29	GB-NM2021-30	GB-NM2021-31	GB-NM2021-32	GB-NM2021-33	GB-NM2021-34	Maximum values	Average values	90th percentiles
Metals (Four acid extraction)																				
Silver (Ag)	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.25	0.25
Aluminum (Al)	mg/kg		58000	56000	73000	58000	61000	93000	84000	110000	24000	52000	42000	8500	51000	51000	48000	140000	69408	100000
Arsenic (As)	mg/kg		76	21	33	16	38	850	370	1100	160	60	120	66	34	140	140	2600	164	380
Barium (Ba)	mg/kg		400	400	700	410	440	690	690	860	420	350	350	400	370	370	330	1300	547	810
Beryllium (Be)	mg/kg		1.6	1	2	1	1	2.4	2.4	3.3	1	1	1	1	1	1	1	3.3	1.8	3.0
Bismuth (Bi)	mg/kg		<0.09	<0.09	0.11	<0.09	0.16	0.42	0.5	0.23	<0.09	0.11	<0.09	<0.09	0.11	0.18	<0.09	0.72	0.14	0.27
Calcium (Ca)	mg/kg		12000	6800	4800	9900	8300	13000	9300	14000	8500	8700	7500	8400	8000	8800	6900	19000	9172	13000
Cadmium (Cd)	mg/kg		0.05	0.06	0.05	0.03	0.15	0.16	0.08	1.8	0.09	0.03	0.04	<0.02	0.03	0.05	0.04	1.8	0.082	0.12
Cobalt (Co)	mg/kg		9	8	11	9	10	14	16	17	10	7	6	8	7	8	6	23	12	17
Chromium (Cr)	mg/kg		20	23	29	31	22	100	110	110	54	47	37	41	44	44	38	250	57	111
Copper (Cu)	mg/kg		13	15	26	12	15	25	32	36	16	9.6	9.8	12	13	9.2	16	55	20	36
Iron (Fe)	mg/kg		28000	26000	34000	26000	28000	41000	42000	48000	28000	22000	19000	21000	22000	24000	21000	58000	31555	43000
Potassium (K)	mg/kg		20000	17000	26000	18000	21000	26000	20000	40000	19000	14000	14000	15000	14000	16000	15000	55000	20604	32000
Lithium (Li)	mg/kg		41	38	45	30	31	62	63	97	29	27	24	22	28	32	28	97	44	61
Magnesium (Mg)	mg/kg		9100	8000	11000	7600	8300	14000	14000	19000	3700	6500	4400	2700	6100	7100	6200	19000	10519	15000
Manganese (Mn)	mg/kg		970	580	570	560	600	880	750	1500	640	460	440	460	450	620	430	1500	702	921
Molybdenum (Mo)	mg/kg		0.5	0.3	0.2	0.4	0.4	1.5	0.5	1.6	0.4	0.7	0.4	0.8	0.6	0.8	0.7	3.2	0.55	0.80
Sodium (Na)	mg/kg		16000	18000	12000	18000	18000	13000	13000	20000	17000	19000	17000	18000	19000	17000	16000	21000	15089	19000
Nickel (Ni)	mg/kg		22	21	32	21	23	34	37	41	22	17	14	18	16	19	15	51	27.55	40
Phosphorus (P)	mg/kg		540	540	580	550	670	720	600	710	600	520	490	370	550	520	480	850	572	690
Lead (Pb)	mg/kg		20	11	15	9	51	47	17	190	15	11	13	12	13	11	8	190	22	37
Antimony (Sb)	mg/kg		<0.8	<0.8	1.7	<0.8	<0.8	1.5	<0.8	5.4	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	6.5	0.69	1.2
Selenium (Se)	mg/kg		<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	<0.7	0.35	0.35
Tin (Sn)	mg/kg		<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	9.1	3.1	3.0
Strontium (Sr)	mg/kg		150	160	93	160	150	180	150	250	160	170	130	150	150	170	130	270	163	210
Titanium (Ti)	mg/kg		2900	3300	3500	3400	3800	3800	3600	3900	3400	2900	2500	2500	2800	2800	2500	5400	3355	4200
Thallium (Tl)	mg/kg		0.51	0.44	0.59	0.42	0.44	0.76	0.72	0.99	0.46	0.34	0.36	0.34	0.32	0.4	0.34	1.2	0.56	0.79
Uranium (U)	mg/kg		1.4	1.3	1.5	1.4	1.7	1.8	1.81	2.15	1.5	1.3	1.1	1.2	1.2	1.2	1.2	2.3	1.5	1.8
Vanadium (V)	mg/kg		51	51	66	53	58	77	75	96	64	51	44	48	48	51	44	100	59	80
Yttrium (Y)	mg/kg		14	10	13	11	12	21	14	20	1.4	9.7	5.1	0.9	10.9	8.4	8.6	25	13	19
Zinc (Zn)	mg/kg		45	44	68	41	130	140	83	450	51	38	34	35	34	39	34	450	69	110
Metals (Aqua regia extraction)																				
Silver (Ag)	mg/kg																	<1	0.50	0.50
Aluminum (Al)	mg/kg																	29000	17114	24000
Arsenic (As)	mg/kg																	4800	227	390
Barium (Ba)	mg/kg																	210	120	170
Beryllium (Be)	mg/kg																	0.93	0.37	0.57
Bismuth (Bi)	mg/kg																	0.72	0.16	0.33
Calcium (Ca)	mg/kg																	9800	3394	4900
Cadmium (Cd)	mg/kg																	0.68	0.070	0.12
Cobalt (Co)	mg/kg																	23	12	18
Chromium (Cr)	mg/kg																	240	41	55
Copper (Cu)	mg/kg																	60	22	37
Iron (Fe)	mg/kg																	50000	27637	37000
Potassium (K)	mg/kg																	19000	9754	15000
Lithium (Li)	mg/kg																	54	35	49
Magnesium (Mg)	mg/kg																	14000	8434	12000
Manganese (Mn)	mg/kg																	1300	538	720
Molybdenum (Mo)	mg/kg																	2.7	0.42	0.50
Sodium (Na)	mg/kg																	1000	509	700
Nickel (Ni)	mg/kg																	52	29	41
Phosphorus (P)	mg/kg																	920	550	640
Lead (Pb)	mg/kg																	96	13	23
Antimony (Sb)	mg/kg																	<6	3.0	3.0
Selenium (Se)	mg/kg																	0.35	0.35	0.35
Tin (Sn)	mg/kg																	1.3	0.35	0.60
Strontium (Sr)	mg/kg																	43	18	27
Titanium (Ti)	mg/kg																	2800	1494	2100
Thallium (Tl)	mg/kg																	0.83	0.40	0.61
Uranium (U)	mg/kg																	1.0	0.70	0.88
Vanadium (V)	mg/kg																	56	38	48
Yttrium (Y)	mg/kg																	13	8.0	11
Zinc (Zn)	mg/kg																	320	64	100

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Appendix B

Baseline and Predicted Future Exposure Point Concentrations Models and Results

Appendix B.1

Project Area: Baseline and Predicted Future Exposure Point Concentration Models and Result

Table B.1

Summary of Measured and Estimated Background Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

	Measured Baseline Concentration									Estimated Baseline Concentration			
Contaminant	**Surface soil (Cs) (mg/kg)**	**Outdoor air (Coa) (mg/m³)**	**Surface water (Cw) (mg/L)**	**Sediment (Csed) (mg/kg)**	**Berries (Cfru) (mg/kg FW)**	**Fish fillets (Cff) (mg/kg FW)**	**Fish remains (Cfr) (mg/kg FW)**	**Terrestrial invertebrates (Cti) (mg/kg FW)**	**Aquatic invertebrates (Cai) (mg/kg FW)**	**Hare Flesh (Ch) (mg/kg FW) (refer to table B.3)**	**Deer Flesh (Cd) (mg/kg FW) (refer to table B.2)**	**Prey Flesh (Cp) (mg/kg FW) (refer to table B.4)**	**Aquatic Plants (Cap) (mg/kg FW) (refer to table B.5)**
Metals													
Aluminum	9.89E+03	8.52E-05	4.30E-01	1.50E+04	3.90E+00	1.30E+00	2.60E+00	4.20E+02	1.80E+02	7.60E-02	7.58E-01	8.32E+01	6.46E+00
Antimony	1.00E+00	1.56E-08	5.00E-04	8.10E+01	<0.32	<0.5	<0.5	<0.5	<1.1	8.82E-05	2.45E-03	4.00E-03	3.65E-01
Arsenic	6.04E+00	3.40E-07	6.77E-01	1.10E+05	<0.32	2.50E-01	5.30E-01	8.00E+00	1.70E+02	4.02E-04	1.14E-02	1.10E-02	6.19E+02
Barium	3.73E+01	8.83E-05	3.60E-03	9.60E+01	3.50E+00	<1.5	2.50E+00	2.40E+01	<3.3	3.01E-04	8.13E-03	5.76E-02	2.25E+00
Beryllium	1.00E+00	1.56E-08	5.00E-04	<2	<0.32	<0.5	<0.5	<0.5	<1.1	8.82E-05	2.45E-03	4.00E-03	8.78E-02
Bismuth	1.00E+00	--	1.00E-03	5.40E+00	<0.05	--	--	--	--	7.22E-06	1.70E-04	3.20E-01	8.10E-01
Boron	2.50E+01	3.11E-08	2.50E-02	<50	1.90E+00	<1.5	<1.5	2.30E+00	<3.3	8.91E-04	2.38E-02	8.00E+00	3.75E+00
Cadmium	1.50E-01	5.62E-08	2.48E-05	5.60E-01	3.20E-02	<0.05	2.50E-02	1.60E+00	1.70E-01	2.09E-06	5.84E-05	3.72E-02	6.80E-02
Calcium	--	--	4.89E+00	--	9.30E+02	--	--	--	--	--	--	--	--
Chromium	1.27E+01	1.55E-06	1.30E-03	2.40E+01	<0.32	<0.5	<0.5	5.80E-01	<1.1	8.02E-04	1.64E-02	4.80E-01	1.48E-01
Cobalt	2.27E+00	3.11E-08	2.00E-04	1.30E+02	<0.16	<0.2	<0.2	2.10E-01	<0.44	1.06E-03	2.61E-02	1.07E-02	1.46E-01
Copper	6.56E+00	3.39E-04	1.74E-03	3.60E+01	1.10E+00	2.50E-01	1.30E+00	1.60E+01	5.10E+00	6.04E-03	1.68E-01	3.24E+00	1.20E+00
Iron	1.64E+04	1.02E-04	1.17E+00	1.20E+05	<9.6	7.50E+00	2.50E+01	6.00E+02	1.10E+03	1.66E+00	1.63E+01	5.25E+03	1.80E+04
Lead	1.48E+01	1.56E-08	7.62E-04	1.20E+02	5.20E-02	<0.18	2.20E-01	5.60E-01	9.40E-01	3.00E-05	4.35E-04	1.14E+00	5.83E-01
Lithium	8.41E+00	--	--	3.10E+01	<0.34	<0.5	<0.5	<0.5	<1.1	--	--	2.69E+00	4.65E+00
Magnesium	--	--	8.14E-01	--	<100	--	--	--	--	--	--	--	--
Manganese	9.66E+01	1.58E-06	8.03E-02	4.00E+02	6.30E+01	3.10E+00	6.40E+00	1.20E+03	3.30E+01	1.33E-02	3.80E-01	6.34E-01	4.74E+00
Mercury	1.62E-01	--	1.36E-04	1.10E+01	<0.005	2.50E-03	1.40E+00	3.50E-02	1.90E-01	2.11E-03	4.54E-02	5.18E-02	1.65E+00
Mercury, divalent	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, methyl	--	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	1.00E+00	3.11E-08	1.00E-03	4.30E+00	<0.32	<0.5	<0.5	6.90E-01	<1.1	5.29E-04	1.47E-02	3.20E-01	6.45E-01
Nickel	6.91E+00	1.80E-06	1.00E-03	2.10E+02	<0.32	<0.5	<0.5	1.10E+00	<1.1	7.04E-04	1.63E-02	6.16E-01	1.55E+00
Phosphorus	--	--	5.00E-02	--	1.60E+02	--	--	--	--	--	--	--	--
Potassium	--	--	8.04E-01	--	8.60E+02	--	--	--	--	--	--	--	--
Rubidium	6.45E+00	--	--	3.90E+01	--	--	--	--	--	--	--	2.06E+00	5.85E+00
Selenium	8.64E-01	--	5.00E-04	2.50E+00	<0.32	7.50E-01	7.30E-01	<0.5	<1.1	2.01E-04	5.61E-03	2.00E-01	2.10E-01
Silver	2.50E-01	1.48E-07	5.00E-05	3.40E+00	<0.08	<0.12	<0.12	1.80E+00	<0.26	6.61E-05	1.83E-03	3.20E-04	7.14E-03
Sodium	--	--	5.52E+00	--	<50	--	--	--	--	--	--	--	--
Strontium	1.94E+01	4.98E-07	4.47E-02	2.60E+01	2.20E+00	4.40E+01	6.10E+01	1.00E+01	<3.3	3.74E-04	1.02E-02	6.21E+00	3.90E+00
Thallium	5.00E-02	9.33E-09	5.00E-05	3.00E-01	<0.022	<0.02	<0.02	<0.02	<0.044	2.39E-04	6.70E-03	1.60E-02	4.50E-02
Tin	5.00E-01	1.85E-06	1.00E-03	1.40E+00	1.20E+00	<0.5	<0.5	<0.5	<1.1	6.27E-04	1.80E-02	1.60E-01	2.10E-01
Titanium	--	1.25E-06	9.34E-03	--	<0.5	--	--	--	--	--	--	--	--
Uranium	6.70E-01	9.33E-09	5.00E-05	1.70E+00	<0.016	<0.02	<0.02	<0.02	<0.044	1.49E-06	3.01E-05	2.14E-01	2.55E-01
Vanadium	2.18E+01	3.11E-07	1.00E-03	2.70E+01	<0.32	<0.5	<0.5	9.30E-01	<1.1	4.76E-04	8.46E-03	8.58E-02	1.96E-02
Zinc	1.97E+01	1.89E-05	9.76E-03	6.40E+01	2.10E+00	1.40E+01	3.00E+01	7.90E+01	4.50E+01	1.07E-04	2.92E-03	5.03E-03	7.26E+00
Inorganics													
Cyanide	--	--	0.00E+00	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	2.34E-01	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	1.06E-02	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	1.78E-01	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	6.94E-03	--	--	--	--	--	--	--	--	--	--

Table B.2

Deer Baseline Concentration Due to Plant and Soil Ingestion
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal (F) (refer to Table B.9) (unitless)	Quantity of Forage Ingested by the Animal per day (1) (Qp_f) (refer to Table B.9) (kg DW/day)	Baseline Concentration in Forage Ingested (P_f) (refer to Table B.1) (mg/kg DW)	Quantity of Soil Ingested by the Animal (Qs) (refer to Table B.9) (kg/day)	Baseline Soil Concentration (Cs) (refer to Table B.1) (mg/kg)	Soil Bioavailability Factor (Bs) (unitless)	Quantity of Surface Water Ingested by the Animal (Qw) (refer to Table B.9) (L/day)	Baseline Surface Water Concentration (Cw) (refer to Table B.1) (mg/L)	Biotransfer Factor for Beef (Ba_{beef}) (refer to Table B.10) (day/kg FW tissue)	Biotransfer Factor for Wildlife ($Ba_{wildlife}$) (day/kg FW tissue)	Metabolism Factor (MF) unitless	Baseline Concentration in Deer (Cd) (mg/kg FW tissue)
Particulate Matter												
Total Particulate Matter	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	--	--	1.00E+00	--
Particulate Matter (PM10)	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	--	--	1.00E+00	--
Particulate Matter (PM2.5)	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	--	--	1.00E+00	--
Metals												
Aluminum	1.00E+00	2.25E+00	2.60E+01	4.50E-02	9.89E+03	1.00E+00	4.50E+00	4.30E-01	1.50E-03	1.50E-03	1.00E+00	7.58E-01
Antimony	1.00E+00	2.25E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	4.50E+00	5.00E-04	1.00E-03	1.00E-03	1.00E+00	2.45E-03
Arsenic	1.00E+00	2.25E+00	1.07E+00	4.50E-02	6.04E+00	1.00E+00	4.50E+00	6.77E-01	2.00E-03	2.00E-03	1.00E+00	1.14E-02
Barium	1.00E+00	2.25E+00	2.33E+01	4.50E-02	3.73E+01	1.00E+00	4.50E+00	3.60E-03	1.50E-04	1.50E-04	1.00E+00	8.13E-03
Beryllium	1.00E+00	2.25E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	4.50E+00	5.00E-04	1.00E-03	1.00E-03	1.00E+00	2.45E-03
Bismuth	1.00E+00	2.25E+00	1.67E-01	4.50E-02	1.00E+00	1.00E+00	4.50E+00	1.00E-03	4.00E-04	4.00E-04	1.00E+00	1.70E-04
Boron	1.00E+00	2.25E+00	1.27E+01	4.50E-02	2.50E+01	1.00E+00	4.50E+00	2.50E-02	8.00E-04	8.00E-04	1.00E+00	2.38E-02
Cadmium	1.00E+00	2.25E+00	2.13E-01	4.50E-02	1.50E-01	1.00E+00	4.50E+00	2.48E-05	1.20E-04	1.20E-04	1.00E+00	5.84E-05
Calcium	1.00E+00	2.25E+00	6.20E+03	4.50E-02	--	1.00E+00	4.50E+00	4.89E+00	7.00E-04	7.00E-04	1.00E+00	--
Chromium Total	1.00E+00	2.25E+00	1.07E+00	4.50E-02	1.27E+01	1.00E+00	4.50E+00	1.30E-03	5.50E-03	5.50E-03	1.00E+00	1.64E-02
Cobalt	1.00E+00	2.25E+00	5.33E-01	4.50E-02	2.27E+00	1.00E+00	4.50E+00	2.00E-04	2.00E-02	2.00E-02	1.00E+00	2.61E-02
Copper	1.00E+00	2.25E+00	7.33E+00	4.50E-02	6.56E+00	1.00E+00	4.50E+00	1.74E-03	1.00E-02	1.00E-02	1.00E+00	1.68E-01
Iron	1.00E+00	2.25E+00	3.20E+01	4.50E-02	1.64E+04	1.00E+00	4.50E+00	1.17E+00	2.00E-02	2.00E-02	1.00E+00	1.63E+01
Lead	1.00E+00	2.25E+00	3.47E-01	4.50E-02	1.48E+01	1.00E+00	4.50E+00	7.62E-04	3.00E-04	3.00E-04	1.00E+00	4.35E-04
Lithium	1.00E+00	2.25E+00	1.13E+00	4.50E-02	8.41E+00	1.00E+00	4.50E+00	--	1.00E-02	1.00E-02	1.00E+00	--
Magnesium	1.00E+00	2.25E+00	3.33E+02	4.50E-02	--	1.00E+00	4.50E+00	8.14E-01	5.00E-03	5.00E-03	1.00E+00	--
Manganese	1.00E+00	2.25E+00	4.20E+02	4.50E-02	9.66E+01	1.00E+00	4.50E+00	8.03E-02	4.00E-04	4.00E-04	1.00E+00	3.80E-01
Mercury, element	1.00E+00	2.25E+00	1.67E-02	4.50E-02	1.62E-01	1.00E+00	4.50E+00	1.36E-04	1.00E+00	1.00E+00	1.00E+00	4.54E-02
Mercury, divalent	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	5.20E-03	5.20E-03	1.00E+00	--
Mercury, methyl	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	7.80E-04	7.80E-04	1.00E+00	--
Molybdenum	1.00E+00	2.25E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	4.50E+00	1.00E-03	6.00E-03	6.00E-03	1.00E+00	1.47E-02
Nickel	1.00E+00	2.25E+00	1.07E+00	4.50E-02	6.91E+00	1.00E+00	4.50E+00	1.00E-03	6.00E-03	6.00E-03	1.00E+00	1.63E-02
Phosphorus	1.00E+00	2.25E+00	1.07E+03	4.50E-02	--	1.00E+00	4.50E+00	5.00E-02	5.50E-02	5.50E-02	1.00E+00	--
Potassium	1.00E+00	2.25E+00	5.73E+03	4.50E-02	--	1.00E+00	4.50E+00	8.04E-01	2.00E-02	2.00E-02	1.00E+00	--
Rubidium	1.00E+00	2.25E+00	--	4.50E-02	6.45E+00	1.00E+00	4.50E+00	--	1.50E-02	1.50E-02	1.00E+00	--
Selenium	1.00E+00	2.25E+00	1.07E+00	4.50E-02	8.64E-01	1.00E+00	4.50E+00	5.00E-04	2.30E-03	2.30E-03	1.00E+00	5.61E-03
Silver	1.00E+00	2.25E+00	2.67E-01	4.50E-02	2.50E-01	1.00E+00	4.50E+00	5.00E-05	3.00E-03	3.00E-03	1.00E+00	1.83E-03
Sodium	1.00E+00	2.25E+00	1.67E+02	4.50E-02	--	1.00E+00	4.50E+00	5.52E+00	5.50E-02	5.50E-02	1.00E+00	--
Strontium	1.00E+00	2.25E+00	1.47E+01	4.50E-02	1.94E+01	1.00E+00	4.50E+00	4.47E-02	3.00E-04	3.00E-04	1.00E+00	1.02E-02
Thallium	1.00E+00	2.25E+00	7.33E-02	4.50E-02	5.00E-02	1.00E+00	4.50E+00	5.00E-05	4.00E-02	4.00E-02	1.00E+00	6.70E-03
Tin	1.00E+00	2.25E+00	8.00E+00	4.50E-02	5.00E-01	1.00E+00	4.50E+00	1.00E-03	1.00E-03	1.00E-03	1.00E+00	1.80E-02
Titanium	1.00E+00	2.25E+00	1.67E+00	4.50E-02	--	1.00E+00	4.50E+00	9.34E-03	3.00E-02	3.00E-02	1.00E+00	--
Uranium	1.00E+00	2.25E+00	5.33E-02	4.50E-02	6.70E-01	1.00E+00	4.50E+00	5.00E-05	2.00E-04	2.00E-04	1.00E+00	3.01E-05
Vanadium	1.00E+00	2.25E+00	1.07E+00	4.50E-02	2.18E+01	1.00E+00	4.50E+00	1.00E-03	2.50E-03	2.50E-03	1.00E+00	8.46E-03
Zinc	1.00E+00	2.25E+00	1.40E+01	4.50E-02	1.97E+01	1.00E+00	4.50E+00	9.76E-03	9.00E-05	9.00E-05	1.00E+00	2.92E-03

Equation: $Cwildlife = F \times Qp_f \times P_f + Qs \times Cs \times Bs + Qw \times Cw \times Ba_{wildlife} \times MF$

where: $Ba_{wildlife} = Ba_{beef}$ refer to Table B-10 for Ba_{beef}

Table B.3

Hare Baseline Concentration Due to Plant and Soil Ingestion
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal (F) (refer to Table B.9) (unitless)	Quantity of Forage Ingested by the Animal per day (1) (Qp_f) (refer to Table B.9) (kg DW/day)	Baseline Concentration in Forage Ingested (P_f) (refer to Table B.1) (mg/kg DW)	Quantity of Soil Ingested by the Animal (Qs) (refer to Table B.9) (kg/day)	Baseline Soil Concentration (Cs) (refer to Table B.1) (mg/kg)	Soil Bioavailability Factor (Bs) (unitless)	Quantity of Surface Water Ingested by the Animal (Qw) (refer to Table B.9) (L/day)	Baseline Surface Water Concentration (Cw) (refer to Table B.1) (mg/L)	Biotransfer Factor for Beef (Ba_{beef}) (refer to Table B.10) (day/kg FW tissue)	Biotransfer Factor for Wildlife ($Ba_{wildlife}$) (day/kg FW tissue)	Metabolism Factor (MF) unitless	Baseline Concentration in Hare (Ch) (mg/kg FW tissue)
Particulate Matter												
Particulate Matter (PM10)	1.00E+00	7.80E-02	--	4.91E-03	--	1.00E+00	1.30E-01	--	--	--	1.00E+00	--
Particulate Matter (PM2.5)	1.00E+00	7.80E-02	--	4.91E-03	--	1.00E+00	1.30E-01	--	--	--	1.00E+00	--
Metals												
Aluminum	1.00E+00	7.80E-02	2.60E+01	4.91E-03	9.89E+03	1.00E+00	1.30E-01	4.30E-01	1.50E-03	1.50E-03	1.00E+00	7.60E-02
Antimony	1.00E+00	7.80E-02	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.30E-01	5.00E-04	1.00E-03	1.00E-03	1.00E+00	8.82E-05
Arsenic	1.00E+00	7.80E-02	1.07E+00	4.91E-03	6.04E+00	1.00E+00	1.30E-01	6.77E-01	2.00E-03	2.00E-03	1.00E+00	4.02E-04
Barium	1.00E+00	7.80E-02	2.33E+01	4.91E-03	3.73E+01	1.00E+00	1.30E-01	3.60E-03	1.50E-04	1.50E-04	1.00E+00	3.01E-04
Beryllium	1.00E+00	7.80E-02	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.30E-01	5.00E-04	1.00E-03	1.00E-03	1.00E+00	8.82E-05
Bismuth	1.00E+00	7.80E-02	1.67E-01	4.91E-03	1.00E+00	1.00E+00	1.30E-01	1.00E-03	4.00E-04	4.00E-04	1.00E+00	7.22E-06
Boron	1.00E+00	7.80E-02	1.27E+01	4.91E-03	2.50E+01	1.00E+00	1.30E-01	2.50E-02	8.00E-04	8.00E-04	1.00E+00	8.91E-04
Cadmium	1.00E+00	7.80E-02	2.13E-01	4.91E-03	1.50E-01	1.00E+00	1.30E-01	2.48E-05	1.20E-04	1.20E-04	1.00E+00	2.09E-06
Calcium	1.00E+00	7.80E-02	6.20E+03	4.91E-03	--	1.00E+00	1.30E-01	4.89E+00	7.00E-04	7.00E-04	1.00E+00	--
Chromium Total	1.00E+00	7.80E-02	1.07E+00	4.91E-03	1.27E+01	1.00E+00	1.30E-01	1.30E-03	5.50E-03	5.50E-03	1.00E+00	8.02E-04
Cobalt	1.00E+00	7.80E-02	5.33E-01	4.91E-03	2.27E+00	1.00E+00	1.30E-01	2.00E-04	2.00E-02	2.00E-02	1.00E+00	1.06E-03
Copper	1.00E+00	7.80E-02	7.33E+00	4.91E-03	6.56E+00	1.00E+00	1.30E-01	1.74E-03	1.00E-02	1.00E-02	1.00E+00	6.04E-03
Iron	1.00E+00	7.80E-02	3.20E+01	4.91E-03	1.64E+04	1.00E+00	1.30E-01	1.17E+00	2.00E-02	2.00E-02	1.00E+00	1.66E+00
Lead	1.00E+00	7.80E-02	3.47E-01	4.91E-03	1.48E+01	1.00E+00	1.30E-01	7.62E-04	3.00E-04	3.00E-04	1.00E+00	3.00E-05
Lithium	1.00E+00	7.80E-02	1.13E+00	4.91E-03	8.41E+00	1.00E+00	1.30E-01	--	1.00E-02	1.00E-02	1.00E+00	--
Magnesium	1.00E+00	7.80E-02	3.33E+02	4.91E-03	--	1.00E+00	1.30E-01	8.14E-01	5.00E-03	5.00E-03	1.00E+00	--
Manganese	1.00E+00	7.80E-02	4.20E+02	4.91E-03	9.66E+01	1.00E+00	1.30E-01	8.03E-02	4.00E-04	4.00E-04	1.00E+00	1.33E-02
Mercury, element	1.00E+00	7.80E-02	1.67E-02	4.91E-03	1.62E-01	1.00E+00	1.30E-01	1.36E-04	1.00E+00	1.00E+00	1.00E+00	2.11E-03
Mercury, divalent	1.00E+00	7.80E-02	--	4.91E-03	--	1.00E+00	1.30E-01	--	5.20E-03	5.20E-03	1.00E+00	--
Mercury, methyl	1.00E+00	7.80E-02	--	4.91E-03	--	1.00E+00	1.30E-01	--	7.80E-04	7.80E-04	1.00E+00	--
Molybdenum	1.00E+00	7.80E-02	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.30E-01	1.00E-03	6.00E-03	6.00E-03	1.00E+00	5.29E-04
Nickel	1.00E+00	7.80E-02	1.07E+00	4.91E-03	6.91E+00	1.00E+00	1.30E-01	1.00E-03	6.00E-03	6.00E-03	1.00E+00	7.04E-04
Phosphorus	1.00E+00	7.80E-02	1.07E+03	4.91E-03	--	1.00E+00	1.30E-01	5.00E-02	5.50E-02	5.50E-02	1.00E+00	--
Potassium	1.00E+00	7.80E-02	5.73E+03	4.91E-03	--	1.00E+00	1.30E-01	8.04E-01	2.00E-02	2.00E-02	1.00E+00	--
Rubidium	1.00E+00	7.80E-02	--	4.91E-03	6.45E+00	1.00E+00	1.30E-01	--	1.50E-02	1.50E-02	1.00E+00	--
Selenium	1.00E+00	7.80E-02	1.07E+00	4.91E-03	8.64E-01	1.00E+00	1.30E-01	5.00E-04	2.30E-03	2.30E-03	1.00E+00	2.01E-04
Silver	1.00E+00	7.80E-02	2.67E-01	4.91E-03	2.50E-01	1.00E+00	1.30E-01	5.00E-05	3.00E-03	3.00E-03	1.00E+00	6.61E-05
Sodium	1.00E+00	7.80E-02	1.67E+02	4.91E-03	--	1.00E+00	1.30E-01	5.52E+00	5.50E-02	5.50E-02	1.00E+00	--
Strontium	1.00E+00	7.80E-02	1.47E+01	4.91E-03	1.94E+01	1.00E+00	1.30E-01	4.47E-02	3.00E-04	3.00E-04	1.00E+00	3.74E-04
Thallium	1.00E+00	7.80E-02	7.33E-02	4.91E-03	5.00E-02	1.00E+00	1.30E-01	5.00E-05	4.00E-02	4.00E-02	1.00E+00	2.39E-04
Tin	1.00E+00	7.80E-02	8.00E+00	4.91E-03	5.00E-01	1.00E+00	1.30E-01	1.00E-03	1.00E-03	1.00E-03	1.00E+00	6.27E-04
Titanium	1.00E+00	7.80E-02	1.67E+00	4.91E-03	--	1.00E+00	1.30E-01	9.34E-03	3.00E-02	3.00E-02	1.00E+00	--
Uranium	1.00E+00	7.80E-02	5.33E-02	4.91E-03	6.70E-01	1.00E+00	1.30E-01	5.00E-05	2.00E-04	2.00E-04	1.00E+00	1.49E-06
Vanadium	1.00E+00	7.80E-02	1.07E+00	4.91E-03	2.18E+01	1.00E+00	1.30E-01	1.00E-03	2.50E-03	2.50E-03	1.00E+00	4.76E-04
Zinc	1.00E+00	7.80E-02	1.40E+01	4.91E-03	1.97E+01	1.00E+00	1.30E-01	9.76E-03	9.00E-05	9.00E-05	1.00E+00	1.07E-04

Equation: $C_{wildlife} = F \times Qp_f \times P_f + Qs \times Cs \times Bs + Qw \times Cw \times Ba_{wildlife} \times MF$

where: $Ba_{wildlife} = Ba_{beef}$ refer to Table B-10 for Ba_{beef}

Table B.4

Baseline Prey Concentration Due to Terrestrial Invertebrates or Soil Ingestion
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Baseline Soil Concentration (Cs) (refer to Table B.1) (mg/kg)	Baseline Terrestrial Invertebrate Concentration (Cti) (refer to Table B.1) (mg/kg FW)	Baseline Prey Concentration (Cp) (mg/kg FW)
Particulate Matter			
Total Particulate Matter	--	--	--
Particulate Matter (PM10)	--	--	--
Particulate Matter (PM2.5)	--	--	--
Metals			
Aluminum	9.89E+03	4.20E+02	8.32E+01
Antimony	1.00E+00	2.50E-01	4.00E-03
Arsenic	6.04E+00	8.00E+00	1.10E-02
Barium	3.73E+01	2.40E+01	5.76E-02
Beryllium	1.00E+00	2.50E-01	4.00E-03
Bismuth	1.00E+00	--	3.20E-01
Boron	2.50E+01	2.30E+00	8.00E+00
Cadmium	1.50E-01	1.60E+00	3.72E-02
Calcium	--	--	--
Chromium Total	1.27E+01	5.80E-01	4.80E-01
Cobalt	2.27E+00	2.10E-01	1.07E-02
Copper	6.56E+00	1.60E+01	3.24E+00
Iron	1.64E+04	6.00E+02	5.25E+03
Lead	1.48E+01	5.60E-01	1.14E+00
Lithium	8.41E+00	2.50E-01	2.69E+00
Magnesium	--	--	--
Manganese	9.66E+01	1.20E+03	6.34E-01
Mercury, element	1.62E-01	3.50E-02	5.18E-02
Mercury, divalent	--	--	--
Mercury, methyl	--	--	--
Molybdenum	1.00E+00	6.90E-01	3.20E-01
Nickel	6.91E+00	1.10E+00	6.16E-01
Phosphorus	--	--	--
Potassium	--	--	--
Rubidium	6.45E+00	--	2.06E+00
Selenium	8.64E-01	2.50E-01	2.00E-01
Silver	2.50E-01	1.80E+00	3.20E-04
Sodium	--	--	--
Strontium	1.94E+01	1.00E+01	6.21E+00
Thallium	5.00E-02	1.00E-02	1.60E-02
Tin	5.00E-01	2.50E-01	1.60E-01
Titanium	--	--	--
Uranium	6.70E-01	1.00E-02	2.14E-01
Vanadium	2.18E+01	9.30E-01	8.58E-02
Zinc	1.97E+01	7.90E+01	5.03E-03

Note:
The baseline prey concentrations were modelled with uptake factors from the USEPA (2007). An aluminum uptake factor was obtained from Table C.1 in Appendix C of Sample et al. (1998a); the median uptake factor of 0.0263 from this data set was selected.

Table B.5

Baseline Aquatic Plants Concentration Due to Sediment Uptake
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Baseline Sediment Concentration (Csed) (refer to table B.1) (mg/kg)	Baseline Aquatic Plant Concentration (Cap) (1) (mg/kg FW)
Particulate Matter		
Total Particulate Matter	--	--
Particulate Matter (PM10)	--	--
Particulate Matter (PM2.5)	--	--
Metals		
Aluminum	1.50E+04	6.46E+00
Antimony	8.10E+01	3.65E-01
Arsenic	1.10E+05	6.19E+02
Barium	9.60E+01	2.25E+00
Beryllium	1.00E+00	8.78E-02
Bismuth	5.40E+00	8.10E-01
Boron	2.50E+01	3.75E+00
Cadmium	5.60E-01	6.80E-02
Calcium	--	--
Chromium Total	2.40E+01	1.48E-01
Cobalt	1.30E+02	1.46E-01
Copper	3.60E+01	1.20E+00
Iron	1.20E+05	1.80E+04
Lead	1.20E+02	5.83E-01
Lithium	3.10E+01	4.65E+00
Magnesium	--	--
Manganese	4.00E+02	4.74E+00
Mercury, element	1.10E+01	1.65E+00
Mercury, divalent	--	--
Mercury, methyl	--	--
Molybdenum	4.30E+00	6.45E-01
Nickel	2.10E+02	1.55E+00
Phosphorus	--	--
Potassium	--	--
Rubidium	3.90E+01	5.85E+00
Selenium	2.50E+00	2.10E-01
Silver	3.40E+00	7.14E-03
Sodium	--	--
Strontium	2.60E+01	3.90E+00
Thallium	3.00E-01	4.50E-02
Tin	1.40E+00	2.10E-01
Titanium	--	--
Uranium	1.70E+00	2.55E-01
Vanadium	2.70E+01	1.96E-02
Zinc	6.40E+01	7.26E+00

Note:
(1) The baseline aquatic plant concentrations were modelled with equations from the USEPA (2007). Where the equation for aluminum was not available, an uptake factor approach was selected for aluminum, for which the median soil to plant uptake factor of 0.00287 was selected from the dataset summarized in Table D.1 of Appendix D of Bechtel Jacobs (1998).

Table B.6

Summary of Annual Air Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Selected Predicted Annual Air Concentration PA (Coa) (µg/m³)	Predicted Annual Air Concentrations PA (Coa) (µg/m³)	South (Coa) (µg/m³)	Employee Accommodations (Coa) (µg/m³)	Village (Coa) (µg/m³)	Measured Baseline Air Concentration (refer to Tables A.2 and B.1) (Coa) (mg/m³)	Measured and Calculated Baseline Air Concentration (Using Soil Concentration for the Calculated Concentration) (Coa) (µg/m³)	Predicted Dust Concentration (Using Waste Rock Concentration) (Cdust) (mg/kg)
Particulate Matter								
Total Particulate Matter	2.40E+02	2.40E+02	3.30E+01	2.40E+02	2.25E+01	8.12E-03	8.12E+00	--
Particulate Matter (PM10)	6.05E+01	6.05E+01	8.11E+00	6.05E+01	5.67E+00	1.15E-03	1.15E+00	--
Particulate Matter (PM2.5)	1.57E+01	1.57E+01	8.47E-01	1.57E+01	6.65E-01	8.00E-03	8.00E+00	--
Metals								
Antimony	1.63E-05	1.63E-05	1.57E-05	1.63E-05	1.56E-05	1.56E-08	1.56E-05	3.00E+00
Arsenic	4.33E-04	4.33E-04	3.53E-04	4.33E-04	3.48E-04	3.40E-07	3.40E-04	3.90E+02
Barium	8.85E-02	8.85E-02	8.84E-02	8.85E-02	8.84E-02	8.83E-05	8.83E-02	8.10E+02
Beryllium	1.63E-05	1.63E-05	1.57E-05	1.63E-05	1.56E-05	1.56E-08	1.56E-05	3.00E+00
Bismuth	8.20E-06	8.20E-06	8.13E-06	8.20E-06	8.13E-06	--	8.12E-06	3.30E-01
Boron	3.71E-05	3.71E-05	3.19E-05	3.71E-05	3.17E-05	3.11E-08	3.11E-05	2.50E+01
Cadmium	5.62E-05	5.62E-05	5.62E-05	5.62E-05	5.62E-05	5.62E-08	5.62E-05	1.20E-01
Calcium	--	--	--	--	--	--	--	1.30E+04
Chromium Total	1.58E-03	1.58E-03	1.55E-03	1.58E-03	1.55E-03	1.55E-06	1.55E-03	1.11E+02
Chromium VI	--	--	--	--	--	--	--	--
Cobalt	3.54E-05	3.54E-05	3.17E-05	3.54E-05	3.15E-05	3.11E-08	3.11E-05	1.80E+01
Copper	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-04	3.39E-01	3.70E+01
Iron	1.12E-01	1.12E-01	1.03E-01	1.12E-01	1.03E-01	1.02E-04	1.02E-01	4.30E+04
Lead	2.44E-05	2.44E-05	1.68E-05	2.44E-05	1.64E-05	1.56E-08	1.56E-05	3.70E+01
Lithium	9.02E-05	9.02E-05	7.76E-05	9.02E-05	7.70E-05	--	7.56E-05	6.10E+01
Magnesium	--	--	--	--	--	--	--	1.50E+04
Manganese	1.80E-03	1.80E-03	1.61E-03	1.80E-03	1.60E-03	1.58E-06	1.58E-03	9.21E+02
Mercury, element	2.21E-06	2.21E-06	2.15E-06	2.21E-06	2.15E-06	--	2.14E-06	2.64E-01
Mercury, divalent	--	--	--	--	--	--	--	--
Mercury, methyl	--	--	--	--	--	--	--	--
Molybdenum	3.13E-05	3.13E-05	3.11E-05	3.13E-05	3.11E-05	3.11E-08	3.11E-05	8.00E-01
Nickel	1.81E-03	1.81E-03	1.80E-03	1.81E-03	1.80E-03	1.80E-06	1.80E-03	4.10E+01
Phosphorus	--	--	--	--	--	--	--	6.90E+02
Potassium	--	--	--	--	--	--	--	3.20E+04
Rubidium	4.99E-05	4.99E-05	4.87E-05	4.99E-05	4.86E-05	--	4.85E-05	5.97E+00
Selenium	1.22E-05	1.22E-05	1.21E-05	1.22E-05	1.21E-05	--	1.21E-05	3.50E-01
Silver	1.48E-04	1.48E-04	1.48E-04	1.48E-04	1.48E-04	1.48E-07	1.48E-04	5.00E-01
Sodium	--	--	--	--	--	--	--	1.90E+04
Strontium	5.48E-04	5.48E-04	5.05E-04	5.48E-04	5.02E-04	4.98E-07	4.98E-04	2.10E+02
Thallium	9.52E-06	9.52E-06	9.36E-06	9.52E-06	9.35E-06	9.33E-09	9.33E-06	7.90E-01
Tin	1.85E-03	1.85E-03	1.85E-03	1.85E-03	1.85E-03	1.85E-06	1.85E-03	3.00E+00
Titanium	2.26E-03	2.26E-03	1.39E-03	2.26E-03	1.34E-03	1.25E-06	1.25E-03	4.20E+03
Uranium	9.76E-06	9.76E-06	9.39E-06	9.76E-06	9.37E-06	9.33E-09	9.33E-06	1.80E+00
Vanadium	3.30E-04	3.30E-04	3.14E-04	3.30E-04	3.13E-04	3.11E-07	3.11E-04	8.00E+01
Zinc	1.90E-02	1.90E-02	1.89E-02	1.90E-02	1.89E-02	1.89E-05	1.89E-02	1.10E+02

Table B.7

Summary of Annual Predicted Deposition Rates
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Selected Predicted Annual Deposition Rate (Dr) PA (g/m^2-yr)	Predicted Annual Deposition Rate (Dr) PA (g/m^2-yr)	South (g/m^2-yr)	Employee Accommodations (g/m^2-yr)	Village (g/m^2-yr)	Creek (g/m^2-yr)
Particulate Matter						
Total Particulate Matter	7.69E+02	7.69E+02	5.00E+01	7.69E+02	8.00E+00	7.69E+02
Particulate Matter (PM10)	9.49E+01	9.49E+01		9.49E+01		9.49E+01
Particulate Matter (PM2.5)	4.46E-01	4.46E-01		4.46E-01		3.33E-01
Metals						
Aluminum	7.69E+01	7.69E+01	5.00E+00	7.69E+01	8.00E-01	7.69E+01
Antimony	2.31E-03	2.31E-03	1.50E-04	2.31E-03	2.40E-05	2.31E-03
Arsenic	3.00E-01	3.00E-01	1.95E-02	3.00E-01	3.12E-03	3.00E-01
Barium	6.23E-01	6.23E-01	4.05E-02	6.23E-01	6.48E-03	6.23E-01
Beryllium	2.31E-03	2.31E-03	1.50E-04	2.31E-03	2.40E-05	2.31E-03
Bismuth	2.54E-04	2.54E-04	1.65E-05	2.54E-04	2.64E-06	2.54E-04
Boron	1.92E-02	1.92E-02	1.25E-03	1.92E-02	2.00E-04	1.92E-02
Cadmium	9.23E-05	9.23E-05	6.00E-06	9.23E-05	9.60E-07	9.23E-05
Calcium	1.00E+01	1.00E+01	6.50E-01	1.00E+01	1.04E-01	1.00E+01
Chromium Total	8.54E-02	8.54E-02	5.55E-03	8.54E-02	8.88E-04	8.54E-02
Cobalt	1.38E-02	1.38E-02	9.00E-04	1.38E-02	1.44E-04	1.38E-02
Copper	2.85E-02	2.85E-02	1.85E-03	2.85E-02	2.96E-04	2.85E-02
Iron	3.31E+01	3.31E+01	2.15E+00	3.31E+01	3.44E-01	3.31E+01
Lead	2.85E-02	2.85E-02	1.85E-03	2.85E-02	2.96E-04	2.85E-02
Lithium	4.69E-02	4.69E-02	3.05E-03	4.69E-02	4.88E-04	4.69E-02
Magnesium	1.15E+01	1.15E+01	7.50E-01	1.15E+01	1.20E-01	1.15E+01
Manganese	7.09E-01	7.09E-01	4.61E-02	7.09E-01	7.37E-03	7.09E-01
Mercury, element	2.03E-04	2.03E-04	1.32E-05	2.03E-04	2.11E-06	2.03E-04
Mercury, divalent	--	--	--	--	--	--
Mercury, methyl	--	--	--	--	--	--
Molybdenum	6.16E-04	6.16E-04	4.00E-05	6.16E-04	6.40E-06	6.16E-04
Nickel	3.15E-02	3.15E-02	2.05E-03	3.15E-02	3.28E-04	3.15E-02
Phosphorus	5.31E-01	5.31E-01	3.45E-02	5.31E-01	5.52E-03	5.31E-01
Potassium	2.46E+01	2.46E+01	1.60E+00	2.46E+01	2.56E-01	2.46E+01
Rubidium	4.59E-03	4.59E-03	2.99E-04	4.59E-03	4.78E-05	4.59E-03
Selenium	2.69E-04	2.69E-04	1.75E-05	2.69E-04	2.80E-06	2.69E-04
Silver	3.85E-04	3.85E-04	2.50E-05	3.85E-04	4.00E-06	3.85E-04
Sodium	1.46E+01	1.46E+01	9.50E-01	1.46E+01	1.52E-01	1.46E+01
Strontium	1.62E-01	1.62E-01	1.05E-02	1.62E-01	1.68E-03	1.62E-01
Thallium	6.08E-04	6.08E-04	3.95E-05	6.08E-04	6.32E-06	6.08E-04
Tin	2.31E-03	2.31E-03	1.50E-04	2.31E-03	2.40E-05	2.31E-03
Titanium	3.23E+00	3.23E+00	2.10E-01	3.23E+00	3.36E-02	3.23E+00
Uranium	1.38E-03	1.38E-03	9.00E-05	1.38E-03	1.44E-05	1.38E-03
Vanadium	6.16E-02	6.16E-02	4.00E-03	6.16E-02	6.40E-04	6.16E-02
Zinc	8.46E-02	8.46E-02	5.50E-03	8.46E-02	8.80E-04	8.46E-02

Table B.8

Predicted Concentrations in Surface Water using GoldSIM software
Anaconda Goldboro
Goldboro, Nova Scotia

		Selected Predicted Surface Water Concentration (Cw)					Gold Brook Lake Surface Water Predicted Concentration (Cw)					Gold Brook Surface Water Predicted Concentration (Cw)					Maximum Surface Water Predicted Concentration (Cw)			
Contaminant	**Units**	**Construction**	**Operations**	**Reclamation**	**Post-Closure**	**Baseline**	**Construction**	**Operations**	**Reclamation**	**Post-Closure**	**Baseline**	**Construction**	**Operations**	**Reclamation**	**Post-Closure**	**Construction**	**Operations**	**Reclamation**	**Post-Closure**
Calculated Parameters																			
Nitrate (N)	mg/L	2.34E-01	4.82E+00	1.45E+00	7.77E-01	6.23E-02	6.23E-02	4.93E+00	1.37E+00	8.62E-01	2.34E-01	2.34E-01	4.82E+00	1.45E+00	7.77E-01	2.34E-01	4.93E+00	1.45E+00	8.62E-01
Inorganics																			
Nitrite (N)	mg/L	1.06E-02	5.94E-02	2.94E-02	6.00E-02	1.59E-02	1.59E-02	6.00E-02	5.84E-02	6.00E-02	1.06E-02	1.06E-02	5.94E-02	2.94E-02	6.00E-02	1.59E-02	6.00E-02	5.84E-02	6.00E-02
Ammonia	mg/L	1.78E-01	6.83E-02	6.95E-02	3.02E-02	6.55E-02	6.55E-02	6.50E-02	6.50E-02	3.35E-02	1.78E-01	1.78E-01	6.83E-02	6.95E-02	3.02E-02				
Un-ionized ammonia	mg/L	6.94E-03	1.87E-02	5.02E-04	1.68E-04	2.55E-03	2.55E-03	1.90E-02	4.38E-04	1.86E-04	6.94E-03	6.94E-03	1.87E-02	5.02E-04	1.68E-04	6.94E-03	1.90E-02	5.02E-04	1.86E-04
Cyanide	mg/L	0.00E+00	4.91E-03	4.51E-03	1.22E-04	0.00E+00	0.00E+00	5.00E-03	5.00E-03	1.35E-04	0.00E+00	0.00E+00	4.91E-03	4.51E-03	1.22E-04	0.00E+00	5.00E-03	5.00E-03	1.35E-04
Total metals																			
Total Aluminum (Al)	mg/L	4.30E-01	1.99E-01	2.66E-01	3.61E-01	5.04E-01	5.04E-01	2.08E-01	2.96E-01	4.00E-01	4.30E-01	4.30E-01	1.99E-01	2.66E-01	3.61E-01	5.04E-01	2.08E-01	2.96E-01	4.00E-01
Total Antimony (Sb)	mg/L	5.00E-04	4.39E-03	3.27E-03	2.20E-03	6.75E-04	6.75E-04	4.51E-03	3.54E-03	2.26E-03	5.00E-04	5.00E-04	4.39E-03	3.27E-03	2.20E-03	6.75E-04	4.51E-03	3.54E-03	2.26E-03
Total Arsenic (As)	mg/L	6.77E-01	5.48E-02	5.21E-02	5.12E-02	6.18E-02	6.18E-02	5.54E-02	5.54E-02	5.33E-02	6.77E-01	6.77E-01	5.48E-02	5.21E-02	5.12E-02	6.77E-01	5.54E-02	5.54E-02	5.33E-02
Total Barium (Ba)	mg/L	3.60E-03	7.09E-03	7.05E-03	5.73E-03	3.37E-03	3.37E-03	7.17E-03	7.48E-03	6.12E-03	3.60E-03	3.60E-03	7.09E-03	7.05E-03	5.73E-03	3.60E-03	7.17E-03	7.48E-03	6.12E-03
Total Beryllium (Be)	mg/L	5.00E-04	4.61E-04	4.71E-04	4.76E-04	6.75E-04	6.75E-04	4.68E-04	5.17E-04	5.15E-04	5.00E-04	5.00E-04	4.61E-04	4.71E-04	4.76E-04	6.75E-04	4.68E-04	5.17E-04	5.15E-04
Total Bismuth (Bi)	mg/L	--	--	--	--	1.00E-03	--	--	--	--	1.00E-03	--	--	--	--	--	--	--	--
Total Boron (B)	mg/L	--	--	--	--	2.50E-02	--	--	--	--	2.50E-02	--	--	--	--	--	--	--	--
Total Cadmium (Cd)	mg/L	2.48E-05	1.98E-05	2.41E-05	3.70E-05	3.72E-05	3.72E-05	1.98E-05	2.53E-05	4.00E-05	2.48E-05	2.48E-05	1.98E-05	2.41E-05	3.70E-05	3.72E-05	1.98E-05	2.53E-05	4.00E-05
Total Calcium (Ca)	mg/L	--	--	--	--	7.54E-01	--	--	--	--	4.89E+00	--	--	--	--	--	--	--	--
Total Chromium (Cr)	mg/L	1.30E-03	8.58E-04	6.87E-04	8.60E-04	5.00E-04	5.00E-04	8.66E-04	7.18E-04	9.28E-04	1.30E-03	1.30E-03	8.58E-04	6.87E-04	8.60E-04	1.30E-03	8.66E-04	7.18E-04	9.28E-04
Total Cobalt (Co)	mg/L	2.00E-04	9.91E-04	9.35E-04	9.61E-04	3.05E-04	3.05E-04	1.00E-03	1.00E-03	1.00E-03	2.00E-04	2.00E-04	9.91E-04	9.35E-04	9.61E-04	3.05E-04	1.00E-03	1.00E-03	1.00E-03
Total Copper (Cu)	mg/L	1.74E-03	1.96E-03	1.86E-03	9.20E-04	1.00E-03	1.00E-03	1.99E-03	2.00E-03	1.01E-03	1.74E-03	1.74E-03	1.96E-03	1.86E-03	9.20E-04	1.74E-03	1.99E-03	2.00E-03	1.01E-03
Total Iron (Fe)	mg/L	1.17E+00	3.55E-01	4.55E-01	4.28E-01	6.98E-01	6.98E-01	3.59E-01	4.99E-01	4.78E-01	1.17E+00	1.17E+00	3.55E-01	4.55E-01	4.28E-01	1.17E+00	3.59E-01	4.99E-01	4.78E-01
Total Lead (Pb)	mg/L	7.62E-04	8.22E-04	7.06E-04	9.27E-04	9.70E-04	9.70E-04	8.18E-04	7.14E-04	1.00E-03	7.62E-04	7.62E-04	8.22E-04	7.06E-04	9.27E-04	9.70E-04	8.22E-04	7.14E-04	1.00E-03
Total Lithium (Li)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Magnesium (Mg)	mg/L	--	--	--	--	6.40E-01	--	--	--	--	8.14E-01	--	--	--	--	--	--	--	--
Total Manganese (Mn)	mg/L	8.03E-02	7.56E-02	4.92E-02	1.19E-01	2.55E-02	2.55E-02	7.75E-02	5.24E-02	1.28E-01	8.03E-02	8.03E-02	7.56E-02	4.92E-02	1.19E-01	8.03E-02	7.75E-02	5.24E-02	1.28E-01
Total Mercury (Hg)	mg/L	1.36E-04	6.88E-06	7.05E-06	9.69E-06	1.03E-05	1.03E-05	6.92E-06	7.59E-06	1.06E-05	1.36E-04	1.36E-04	6.88E-06	7.05E-06	9.69E-06	1.36E-04	6.92E-06	7.59E-06	1.06E-05
Total Mercury, divalent (Hg2+)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Mercury, methyl (MeHg)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Molybdenum (Mo)	mg/L	--	--	--	--	1.00E-03	--	--	--	--	1.00E-03	--	--	--	--	--	--	--	--
Total Nickel (Ni)	mg/L	1.00E-03	1.42E-02	6.10E-03	1.13E-02	1.00E-03	1.00E-03	1.46E-02	6.39E-03	1.18E-02	1.00E-03	1.00E-03	1.42E-02	6.10E-03	1.13E-02	1.00E-03	1.46E-02	6.39E-03	1.18E-02
Total Phosphorus (P)	mg/L	--	--	--	--	5.00E-02	--	--	--	--	5.00E-02	--	--	--	--	--	--	--	--
Total Potassium (K)	mg/L	--	--	--	--	3.78E-01	--	--	--	--	8.04E-01	--	--	--	--	--	--	--	--
Total Rubidium (Rb)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Selenium (Se)	mg/L	5.00E-04	4.88E-04	4.68E-04	5.58E-04	5.00E-04	5.00E-04	4.95E-04	5.00E-04	6.06E-04	5.00E-04	5.00E-04	4.88E-04	4.68E-04	5.58E-04	5.00E-04	4.95E-04	5.00E-04	6.06E-04
Total Silver (Ag)	mg/L	5.00E-05	7.90E-05	7.04E-05	7.48E-05	5.00E-05	5.00E-05	8.10E-05	7.64E-05	8.04E-05	5.00E-05	5.00E-05	7.90E-05	7.04E-05	7.48E-05	5.00E-05	8.10E-05	7.64E-05	8.04E-05
Total Sodium (Na)	mg/L	--	--	--	--	4.71E+00	--	--	--	--	5.52E+00	--	--	--	--	--	--	--	--
Total Strontium (Sr)	mg/L	--	--	--	--	9.48E-03	--	--	--	--	4.47E-02	--	--	--	--	--	--	--	--
Total Thallium (Tl)	mg/L	5.00E-05	7.31E-05	6.61E-05	8.48E-05	5.00E-05	5.00E-05	7.47E-05	7.11E-05	9.14E-05	5.00E-05	5.00E-05	7.31E-05	6.61E-05	8.48E-05	5.00E-05	7.47E-05	7.11E-05	9.14E-05
Total Tin (Sn)	mg/L	--	--	--	--	1.00E-03	--	--	--	--	1.00E-03	--	--	--	--	--	--	--	--
Total Titanium (Ti)	mg/L	--	--	--	--	8.75E-03	--	--	--	--	9.34E-03	--	--	--	--	--	--	--	--
Total Uranium (U)	mg/L	5.00E-05	9.50E-04	8.52E-04	5.76E-04	6.75E-05	6.75E-05	9.77E-04	9.26E-04	5.97E-04	5.00E-05	5.00E-05	9.50E-04	8.52E-04	5.76E-04	6.75E-05	9.77E-04	9.26E-04	5.97E-04
Total Vanadium (V)	mg/L	1.00E-03	2.12E-03	1.49E-03	2.01E-03	1.00E-03	1.00E-03	2.16E-03	1.56E-03	2.14E-03	1.00E-03	1.00E-03	2.12E-03	1.49E-03	2.01E-03	1.00E-03	2.16E-03	1.56E-03	2.14E-03
Total Zinc (Zn)	mg/L	9.76E-03	7.28E-03	7.18E-03	7.27E-03	1.18E-02	1.18E-02	6.90E-03	6.86E-03	8.11E-03	9.76E-03	9.76E-03	7.28E-03	7.18E-03	7.27E-03	1.18E-02	7.28E-03	7.18E-03	8.11E-03

Table B.9

Physical Properties and Constants
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Symbol	Unit	Value	Reference
General Parameters				
Deposition Time Period, Construction	tD	(yr)	2	Project length
Deposition Time Period, Operation	tD	(yr)	13	Project length
Deposition Time Period, Reclamation	tD	(yr)	16	Project length
Deposition Time Period, Post-Closure	tD	(yr)	16	Project length
Time Period at Start of Combustion	T_1	(yr)	0	USEPA, 2005
Soil Mixing Zone Depth (untilled)	Z_s	(cm)	2	USEPA, 2005
Soil Mixing Zone Depth (tilled)	Z_s	(cm)	20	USEPA, 2005
Soil Bulk Density	BD	(g/cm^3)	1.5	USEPA, 2005
Average Annual Surface Runoff	RO	(cm/yr)	78.92	GHD Water Balance
Soil Volume Water Content	θ_{sw}	(ml/cm^3)	0.2	USEPA, 2005
Average Annual Precipitation	P	(cm/yr)	140.92	GHD Water Balance
Average Annual Evapotranspiration	E_v	(cm/yr)	44.68	GHD Water Balance
Average Annual Recharge	q	(cm/yr)	17.32	GHD Water Balance
Universal Gas Constant	R	($atm\text{-}m^3/mol\text{-}K$)	8.21E-05	USEPA, 2005
Ambient Air Temperature	T_a	(K)	279.75	Stillwater Sherbrooke Station, Annual Mean
Solids Particle Density	ρ_s	(g/cm^3)	2.7	USEPA, 2005
COC loss, biotic and abiotic degradation	ksg	(yr^{-1})	0	USEPA, 2005
COC loss, soil erosion	kse	(yr^{-1})	0	USEPA, 2005
Solid Void Fraction	θ_v	(cm^3/cm^3)	0.17	USEPA, 2005
Soil Enrichment Ratio	ER	-	1	USEPA, 2005
Hydrology Parameters				
Water body surface area	A_W	(m^2)	2.95E+05	Surface area of Gold Brook, 6.2 m mean transect width (McCallum) by 3 km
Drag coefficient	C_d	-	1.10E-03	USEPA, 2005
Average annual wind speed	W	(m/s)	3.90E+00	USEPA, 2005
Density of air	ρ_a	(g/cm^3)	1.20E-03	USEPA, 2005
Density of water	ρ_w	(g/cm^3)	1.00E+00	USEPA, 2005
von Karman's constant	k	-	4.00E-01	USEPA, 2005
Dimensionless viscous sublayer thickness	λ_z	-	4.00E+00	USEPA, 2005
Viscosity of water corresponding to water temperature	μ_w	(g/cm-s)	1.69E-02	USEPA, 2005
Impervious watershed area receiving COPC	A_I	(m^2)	2.95E+05	Assumption: water body is only impervious area
Total watershed area receiving COPC	A_L	(m^2)	3.79E+06	Watershed area, Gold Brook GB6 minus Lake
Total watershed area receiving COPC	A_L	(sq miles)	1.46E+00	GHD Water Balance
Depth of Water Column	d_{wc}	(m)	2.79E-01	Mean of maximum depths along Gold Brook (McCallum)
USLE erodibility factor	K	(ton/acre)	3.90E-01	USEPA, 2005
USLE rainfall factor	RF	(yr^{-1})	153.4	Table R-2 of RUSLEFAC
USLE length slope factor	LS	-	1.5	USEPA, 2005
Average volumetric flow rate through water body	Vf_x	(m^3/yr)	1.25E+07	GHD Water Balance
Current velocity	μ	(m/s)	2.76E-01	Mean of maximum velocities along Gold Brook (McCallum)
USLE cover management factor	C	-	0.1	USEPA, 2005
USLE Supporting practice factor	P	-	1	USEPA, 2005
Empirical Intercept Coefficient	a	-	1.4	USEPA, 2005
Empirical Slope Coefficient	b	-	0.125	USEPA, 2005
Gas phase transfer coefficient	KG	(m/yr)	36500	USEPA, 2005
Depth of Upper Benthic Sediment Layer	d_{bs}	(m)	0.03	USEPA, 2005
Total Suspended Solids	TSS	mg/L	10	USEPA, 2005
Bed Sediment Concentration	C_{BS}	(kg/L)	1	USEPA, 2005
Bed Sediment Porosity	θ_{bs}	(Lwat/Lsed)	0.6	USEPA, 2005
Fraction of Organic Carbon in Bed Sediment	OC_{sed}	-	0.07	(4)
Water Body Temperature	T_{WK}	(K)	282.55	(5)
Average Annual Surface Runoff Pervious Areas	RO	(cm/yr)	78.92	GHD Water Balance
Vegetation Uptake Parameters				
Fraction Wet Deposition Adhere to Plant	Fw	-	0.6	USEPA, 2005
Interception Fraction Edible Plant Portion - Vegetable	Rp	-	0.982	USEPA, 2005
Interception Fraction Edible Plant Portion - Fruit	Rp	-	0.053	USEPA, 2005
Interception Fraction Edible Plant Portion - Forage	Rp	-	0.5	USEPA, 2005
Interception Fraction Edible Plant Portion - Silage	Rp	-	0.46	USEPA, 2005
Plant Surface Loss Coefficient	kp	(yr^{-1})	18	USEPA, 2005
Length of Plant Exposure to Deposition per Harvest of Edible Plant	Tp	(yrs)	0.164	USEPA, 2005
Length of Plant Exposure to Deposition per Harvest of Edible Plant - Forage	Tp	(yrs)	0.12	USEPA, 2005
Length of Plant Exposure to Deposition per Harvest of Edible Plant - Silage	Tp	(yrs)	0.16	USEPA, 2005
Yield of Edible Portion of Plant - Vegetable	Yp	(kg DW/m^2)	5.66	USEPA, 2005
Yield of Edible Portion of Plant - Fruit	Yp	(kg DW/m^2)	0.252	USEPA, 2005
Yield of Edible Portion of Plant - Forage	Yp	(kg DW/m^2)	0.325	USEPA, 2005
Yield of Edible Portion of Plant - Silage	Yp	(kg DW/m^2)	0.8	USEPA, 2005
Density of Air	pa	(g/m^3)	1200	USEPA, 2005
Correction Factor for Aboveground Produce	VG_{aq}	-	1	USEPA, 2005
Correction Factor for Forage	VG_{aq}	-	1	USEPA, 2005
Correction Factor for Silage	VG_{aq}	-	0.5	USEPA, 2005
Correction Factor for Belowground Produce	$VG_{rootveg}$	-	1	USEPA, 2005
Terrestrial Plant Moisture Content		-	0.85	
Soil Invertebrate (Earthworm) Moisture Content		-	0.84	
Prey (Small Mammal) Moisture Content		-	0.68	
Aquatic Plant Moisture Content		-	0.85	
Benthic Invertebrate Moisture Content		-	0.79	

Table B.9

Physical Properties and Constants
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Symbol	Unit	Value	Reference
Crops Uptake Parameters				
Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal	F	-	1	USEPA, 2005
Soil Bioavailability Factor	Bs	-	1	USEPA, 2005
Metabolism Factor	MF	-	1	USEPA, 2005
Quantity of Forage Ingested by the Animal per day - Cattle	Qp_f	(kg DW/day)	8.8	USEPA, 2005
Quantity of Silage Ingested by the Animal per day - Cattle	Qp_s	(kg DW/day)	2.5	USEPA, 2005
Quantity of Grain Ingested by the Animal per day - Cattle	Qp_g	(kg DW/day)	0.47	USEPA, 2005
Quantity of Soil Ingested by the Animal per day - Cattle	Qs	(kg/day)	0.5	USEPA, 2005
Quantity of Forage Ingested by the Animal per day - Dairy Cattle	Qp_f	(kg DW/day)	13.2	USEPA, 2005
Quantity of Silage Ingested by the Animal per day - Dairy Cattle	Qp_s	(kg DW/day)	4.1	USEPA, 2005
Quantity of Grain Ingested by the Animal per day - Dairy Cattle	Qp_g	(kg DW/day)	3	USEPA, 2005
Quantity of Soil Ingested by the Animal per day - Dairy Cattle	Qs	(kg/day)	0.4	USEPA, 2005
Quantity of Silage Ingested by the Animal per day - Swine	Qp_s	(kg DW/day)	1.4	USEPA, 2005
Quantity of Grain Ingested by the Animal per day - Swine	Qp_g	(kg DW/day)	3.3	USEPA, 2005
Quantity of Soil Ingested by the Animal per day - Swine	Qs	(kg/day)	0.37	USEPA, 2005
Quantity of Grain Ingested by the Animal per day - Eggs/ Chicken	Qp_g	(kg DW/day)	0.2	USEPA, 2005
Quantity of Soil Ingested by the Animal per day - Eggs/ Chicken	Qs	(kg/day)	0.022	USEPA, 2005
Quantity of Forage Ingested by the Animal per day - White Tailed Deer	Qp_f	(kg DW/day)	2.25	FCSAP, 2012
Quantity of Soil Ingested by the Animal per day - White Tailed Deer	Qs	(kg/day)	0.05	FCSAP, 2012
Quantity of Water Ingested by the Animal per day - White Tailed Deer	Qw	(L/day)	4.50	FCSAP, 2012
Quantity of Forage Ingested by the Animal per day - Snowshoe Hare	Qp_f	(kg DW/day)	0.08	FCSAP, 2012
Quantity of Soil Ingested by the Animal per day - Snowshoe Hare	Qs	(kg/day)	0.005	FCSAP, 2012
Quantity of Water Ingested by the Animal per day - Snowshoe Hare	Qw	(L/day)	0.13	FCSAP, 2012

Notes:

(1) Conservatively assumed to 2.5 cm/yr.
(2) Conservatively assumed to 5 cm/yr.
(3) Converted from temperature of 7.4°C.
(4) Based on Lake Ontario sediments.
(5) Converted from average temperature of 9.4°C. Based on data from Ganaraska River during April to October 2011,
Available at http://www.ontario.ca/environment-and-energy/provincial-stream-water-quality-monitoring-network-pwqmn-data.
(6) Based on Environment Canada climate normals for Port Hope (P = 832 mm yearly precipitation).
RO = P - (0.15) P - Ev
= 0.85 P - Ev
where Evapotranspiration (Ev) = 61 cm/year; National Atlas of Canada, Available at
http://atlas.nrcan.gc.ca/site/english/maps/archives/4thedition/environment/climate/049_50
(7) Qp_f for wildgame value not directly available in the preferred sources was calculated for a whitetailed doe using the following equation derived by Nagy (1987) consistent with USEPA (1993):
Qp_f = (0.577 x BW^0.727) / 1,000
where whitetailed doe BW = 60,000 g (Alberta Government, 2009)
(8) The percent soil in the diet for the Whitetailed deer was assumed as 2% of diet (quantity of forage ingested) as estimated by Beyer et al. (1994). Although Beyer et al. (1994) estimated a value of less than 2%, a value of 2% was used here as a conservative approach.

References:

Beyer, W.N., S. Gerould and E.E. Connor. 1994. Estimates of Soil Ingestion by Wildlife. Journal of Wildlife Management, 58, 375 382.
MOE, 2011: Rationale for the Development of Soil and Ground Water Standards for Use at Contaminated Sites in Ontario, April 15, 2011.
Nagy, K.A. 1987. Field metabolic rate and food requirement scaling in mammals and birds. Ecological Monographs 57: 111 128.
USEPA, 2005: Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities, EPA/530-R-05-006, September 2005.
USEPA, 1993: Wildlife Exposure Factors Handbook. U.S. Environmental Protection Agency, Washington, D.C., EPA/600/R-93/187, December 1993.

Table B.10

Summary of Chemical Properties [1]

Anaconda Goldboro

Goldboro, Nova Scotia

Contaminant	Henry's Law Constant (H) (atm-m^3/mol)	Reference	Diffusivity of COPC in Air (Da) (cm^2/s)	Reference	Diffusivity of COPC in Water (Dw) (cm^2/s)	Reference	Soil-water Partition Coefficient (Kds) (mL/g)	Reference	Suspended Sediments - Surface Water Partition Coefficient (Kdsw) (L/kg)	Reference	Bed Sediments - Sediment Pore Water Partition Coefficient (Kdbs) (L/kg)	Reference	Organic Carbon Water Partition Coefficient (Koc) (mL/g)	Reference	Octanol Water Partition Coefficient (log Kow) -	Reference	Fraction of Air Concentration in Vapour Phase (Fv) -	Reference	Air to Plant Biotransfer Factor (Bv_{ag}) mg/kg)/(µg/g	Reference	Soil to Plant Bioconcentration Factor for Aboveground Produce (Br_{ag}) (µg/g)/(µg/g)	Reference	Soil to Plant Bioconcentration Factor for Aboveground Fruits ($Br_{ag(fruit)}$) (µg/g)/(µg/g)	Soil to Plant Bioconcentration Factor for Aboveground Vegetables ($Br_{ag(veg)}$) (µg/g)/(µg/g)	Soil to plant Bioconcentration Factor for Belowground Vegetables ($Br_{root(veg)}$) (µg/g)/(µg/g)	Reference	Soil to plant Bioconcentration Factor for forage (Br_{forage}) (µg/g)/(µg/g)	Reference	Biotransfer Factor for Beef (Ba_{beef}) (day/kg FW)	Reference	Water to Fish Bioconcentration/ Bioaccumulation Factor (BCF/BAF) (L/kg)	Reference
Particulate Matter																																	
Total Particulate Matter	--		--		--		--		--		--		--		--		--		--		--				--		--		--		--		
Particulate Matter (PM10)	--		--		--		--		--		--		--		--		--		--		--				--		--		--		--		
Particulate Matter (PM2.5)	--		--		--		--		--		--		--		--		--		--		--				--		--		--		--		
Metals																																	
Antimony	--		--		--		4.50E+01	USEPA	4.50E+01	USEPA	4.50E+01	USEPA	--		--		0.00E+00		--		5.16E-02	USEPA	3.00E-02	7.25E-02	3.00E-02	USEPA	2.00E-01	USEPA	1.00E-03	USEPA	4.00E+01	USEPA	
Arsenic	--		--		--		2.90E+01	USEPA	2.90E+01	USEPA	2.90E+01	USEPA	--		--		0.00E+00		--		6.30E-03	USEPA			8.00E-03	USEPA	3.60E-02	USEPA	2.00E-03	USEPA	1.14E+02	USEPA	
Barium	--		--		--		4.10E+01	USEPA	4.10E+01	USEPA	4.10E+01	USEPA	--		--		0.00E+00		--		3.22E-02	USEPA	1.50E-02	4.88E-02	1.50E-02	USEPA	1.50E-01	USEPA	1.50E-04	USEPA	6.33E+02	USEPA	
Beryllium	--		--		--		7.90E+02	USEPA	7.90E+02	USEPA	7.90E+02	USEPA	--		--		0.00E+00		--		2.58E-03	USEPA	1.50E-03	3.63E-03	1.50E-03	USEPA	1.00E-02	USEPA	1.00E-03	USEPA	6.20E+01	USEPA	
Bismuth	--		--		--		--		--		--		--		--		0.00E+00		--		8.81E-03	(17)	5.00E-03	1.25E-02	5.00E-03	(16)	3.50E-02	(15)	4.00E-04	Baes et al.	--		
Boron	--		--		--		3.00E+00	RAIS	3.00E+00	RAIS	3.00E+00	RAIS	--		--		0.00E+00		--		2.25E+00	(17)	2.00E+00	2.50E+00	2.00E+00	(16)	4.00E+00	(15)	8.00E-04	RAIS	--		
Cadmium	--		--		--		7.50E+01	USEPA	7.50E+01	USEPA	7.50E+01	USEPA	--		--		0.00E+00		--		1.20E-01	USEPA			6.40E-02	USEPA	3.60E-01	USEPA	1.20E-04	USEPA	9.07E+02	USEPA	
Calcium	--		--		--		--		--		--		--		--		0.00E+00		--		7.50E-01	(17)	3.50E-01	1.14E+00	3.50E-01	(16)	3.50E+00	(15)	7.00E-04	Baes et al.	--		
Chromium Total	--		--		--		1.90E+01	USEPA	1.90E+01	USEPA	1.90E+01	USEPA	--		--		0.00E+00		--		4.88E-03	USEPA	4.50E-03	5.25E-03	4.50E-03	USEPA	7.50E-03	USEPA	5.50E-03	USEPA	1.90E+01	USEPA	
Cobalt	--		--		--		4.50E+01	RAIS	4.50E+01	RAIS	4.50E+01	RAIS	--		--		0.00E+00		--		8.65E-03	(17)	7.00E-03	1.03E-02	7.00E-03	(16)	2.00E-02	(15)	2.00E-02	RAIS	3.00E+02	RAIS	
Copper	--		--		--		3.50E+01	RAIS	3.50E+01	RAIS	3.50E+01	RAIS	--		--		0.00E+00		--		2.69E-01	(17)	2.50E-01	2.88E-01	2.50E-01	(16)	4.00E-01	(15)	1.00E-02	RAIS	2.00E+02	RAIS	
Iron	--		--		--		2.50E+01	RAIS	2.50E+01	RAIS	2.50E+01	RAIS	--		--		0.00E+00		--		1.38E-03	(17)	1.00E-03	1.75E-03	1.00E-03	(16)	4.00E-03	(15)	2.00E-02	RAIS	2.00E+02	RAIS	
Lead	--		--		--		9.00E+02	USEPA	9.00E+02	USEPA	9.00E+02	USEPA	--		--		0.00E+00		--		1.36E-02	USEPA	9.00E-03	1.80E-02	9.00E-03	USEPA	4.50E-02	USEPA	3.00E-04	USEPA	9.00E-02	USEPA	
Lithium	--		--		--		3.00E+02	RAIS	3.00E+02	RAIS	3.00E+02	RAIS	--		--		0.00E+00		--		6.67E-03	(17)	4.00E-03	9.25E-03	4.00E-03	(16)	2.50E-02	(15)	1.00E-02	RAIS	--		
Magnesium	--		--		--		--		--		--		--		--		0.00E+00		--		6.07E-01	(17)	5.50E-01	6.63E-01	5.50E-01	(16)	1.00E+00	(15)	5.00E-03	RAIS	--		
Manganese	--		--		--		6.50E+01	RAIS	6.50E+01	RAIS	6.50E+01	RAIS	--		--		0.00E+00		--		7.54E-02	(17)	5.00E-02	1.00E-01	5.00E-02	(16)	2.50E-01	(15)	4.00E-04	RAIS	4.00E+02	RAIS	
Mercury, element	1.15E-02	MOE	3.07E-02	MOE	6.30E-06	MOE	3.30E+03	(3)	4.95E+04	(3)	2.64E+04	(3)	6.60E+05	MOE	6.20E-01	MOE	1.00E+00	USEPA	1.00E+00	USEPA	0.00E+00	USEPA			0.00E+00	USEPA	0.00E+00	USEPA	1.00E+00	USEPA	0.00E+00	USEPA	
Mercury, divalent (2)	7.10E-10	USEPA	4.50E-02	USEPA	5.20E-06	USEPA	3.30E+03	(3)	4.95E+04	(3)	2.64E+04	(3)	6.60E+05	MOE	6.20E-01	MOE	8.50E-01	USEPA	1.80E+03	USEPA	1.40E-02	USEPA			3.60E-02	USEPA	1.00E+00	USEPA	5.20E-03	USEPA	1.00E+00	USEPA	
Mercury, methyl	7.22E-03	USEPA	5.30E-02	USEPA	6.10E-06	USEPA	2.00E+01	(3)	3.00E+02	(3)	1.60E+02	(3)	4.00E+03	MOE	8.00E-02	MOE	0.00E+00	USEPA	1.00E+00	USEPA	2.90E-02	USEPA			9.90E-02	USEPA	1.00E+00	USEPA	7.80E-04	USEPA	6.80E+06	USEPA	
Molybdenum	--		--		--		2.00E+01	RAIS	2.00E+01	RAIS	2.00E+01	RAIS	--		--		0.00E+00		--		8.42E-02	(17)	6.00E-02	1.08E-01	6.00E-02	(16)	2.50E-01	(15)	6.00E-03	RAIS	1.00E+01	RAIS	
Nickel	--		--		--		6.50E+01	USEPA	6.50E+01	USEPA	6.50E+01	USEPA	--		--		0.00E+00		--		9.30E-03	USEPA			8.00E-03	USEPA	3.20E-02	USEPA	6.00E-03	USEPA	7.80E+01	USEPA	
Phosphorus	--		--		--		3.50E+00	RAIS	3.50E+00	RAIS	3.50E+00	RAIS	--		--		0.00E+00		--		3.50E+00	(17)	3.50E+00	3.50E+00	3.50E+00	(16)	3.50E+00	(15)	5.50E-02	RAIS	--		
Potassium	--		--		--		5.50E+00	RAIS	5.50E+00	RAIS	5.50E+00	RAIS	--		--		0.00E+00		--		6.07E-01	(17)	5.50E-01	6.63E-01	5.50E-01	(16)	1.00E+00	(15)	2.00E-02	RAIS	--		
Rubidium	--		--		--		--		--		--		--		--		0.00E+00		--		1.00E+00	Default			1.00E+00	Default	1.00E+00	Default	1.50E-02	Baes et al.	--		
Selenium	--		--		--		5.00E+00	USEPA	5.00E+00	USEPA	5.00E+00	USEPA	--		--		0.00E+00		--		2.00E-02	USEPA			2.20E-02	USEPA	1.60E-02	USEPA	2.30E-03	USEPA	1.29E+02	USEPA	
Silver	--		--		--		8.30E+00	USEPA	8.30E+00	USEPA	8.30E+00	USEPA	--		--		0.00E+00		--		1.38E-01	USEPA	1.00E-01	1.75E-01	1.00E-01	USEPA	4.00E-01	USEPA	3.00E-03	USEPA	8.77E+01	USEPA	
Sodium	--		--		--		1.00E+02	RAIS	1.00E+02	RAIS	1.00E+02	RAIS	--		--		0.00E+00		--		5.75E-02	(17)	5.50E-02	6.00E-02	5.50E-02	(16)	7.50E-02	(15)	5.50E-02	RAIS	2.00E+01	RAIS	
Strontium	--		--		--		3.50E+01	RAIS	3.50E+01	RAIS	3.50E+01	RAIS	--		--		0.00E+00		--		5.36E-01	(17)	2.50E-01	8.13E-01	2.50E-01	(16)	2.50E+00	(15)	3.00E-04	RAIS	6.00E+01	RAIS	
Thallium	--		--		--		7.10E+01	USEPA	7.10E+01	USEPA	7.10E+01	USEPA	--		--		0.00E+00		--		8.58E-04	USEPA	4.00E-04	1.30E-03	4.00E-04	USEPA	4.00E-03	USEPA	4.00E-02	USEPA	1.00E+04	RAIS	
Tin	--		--		--		2.50E+02	RAIS	2.50E+02	RAIS	2.50E+02	RAIS	--		--		0.00E+00		--		9.05E-03	(17)	6.00E-03	1.20E-02	6.00E-03	(16)	3.00E-02	(15)	1.00E-03	RAIS	3.00E+03	RAIS	
Titanium	--		--		--		1.00E+03	RAIS	1.00E+03	RAIS	1.00E+03	RAIS	--		--		0.00E+00		--		3.32E-03	(17)	3.00E-03	3.63E-03	3.00E-03	(16)	5.50E-03	(15)	3.00E-02	RAIS	--		
Uranium	--		--		--		4.50E+02	RAIS	4.50E+02	RAIS	4.50E+02	RAIS	--		--		0.00E+00		--		1.00E+00	Default			1.00E+00	Default	1.00E+00	Default	2.00E-04	Baes et al.	--		
Vanadium	--		--		--		1.00E+03	RAIS	1.00E+03	RAIS	1.00E+03	RAIS	--		--		0.00E+00		--		3.32E-03	(17)	3.00E-03	3.63E-03	3.00E-03	(16)	5.50E-03	(15)	2.50E-03	RAIS	--		
Zinc	--		--		--		6.20E+01	USEPA	6.20E+01	USEPA	6.20E+01	USEPA	--		--		0.00E+00		--		9.70E-02	USEPA			9.00E-01	USEPA	2.50E-01	USEPA	9.00E-05	USEPA	2.06E+03	USEPA	

Table B.10

Summary of Chemical Properties [1]

Anaconda Goldboro

Goldboro, Nova Scotia

Notes:

(1) Order of selection for chemical-specific properties:

1. MOE
2. RSL
3. USEPA or RAIS
4. Other

(2) When there was a lack of available data, the following were used as surrogates:

COPC		Surrogate
Mercury, divalent	-	Mercuric chloride
Benzo(a)fluorene	-	Benzo(a)pyrene
Benzo(b)fluorene	-	Benzo(a)pyrene
Benzo(e)pyrene	-	Benzo(a)pyrene
Benzo(g,h,i)perylene	-	Benzo(a)pyrene
Dibenzo(a,c)anthracene	-	Benzo(a)pyrene
Perylene	-	Benzo(a)pyrene
O-Terphenyl	-	Benzo(a)pyrene

(3) Kd values calculated using the following fraction organic carbon (foc) correlation equation A-2-10 provided in Appendix A-2, USEPA (2005):

Kds = foc x Koc; where foc = 5.00E-03 (MOE, 2011)

Kdsw = foc x Koc; where foc = 7.50E-02 (USEPA, 2005)

Kdbs = foc x Koc; where foc = 4.00E-02 (USEPA, 2005)

(4) Due to a lack of available data, assumed value of 1.

(5) Bv_{aq} values not directly available in the preferred sources were calculated using the following equation A-2-20 provided in Appendix A-2, USEPA (2005):

$$Bv_{aq} = \frac{P_{air} \times B_{vcl}}{(1-f_{water}) \times P_{forage}}$$

where: $B_{vcl} = 1.065 \times \log Kow - \log (H/RT) - 1.654$

$P_{air} = 1.19$ (g/L)

$f_{water} = 8.50E\text{-}01$

$P_{forage} = 770$ (g/L)

(6) Br_{aq} values for organics not directly available in the preferred sources were calculated using the following equation A-2-17 provided in Appendix A-2, USEPA (2005):

$\log Br_{aq} = 1.588 - 0.578 (\log Kow)$

(7) Brrootveg values for organics not directly available in the preferred sources were calculated using the following equation A-2-16 provided in Appendix A-2, USEPA (2005):

$$Br_{rootveg} = \frac{RCF}{Kds}$$

where: $\log Kow > 2$; $\log (RCF) = 0.77 \log Kow - 1.52$

$\log Kow < 2$; $\log (RCF) -0.82 = 0.77 \log Kow - 1.52$

wet wt. to dry wt. conversion = 8.70E-01

(8) Br_{forage} values for organics not directly available in the preferred sources were calculated using the following equation A-2-18 provided in Appendix A-2, USEPA (2005):

$\log Br_{forage} = 1.588 - 0.578 (\log Kow)$

(9) Ba_{beef} values not directly available in the preferred sources were calculated using the following equation A-2-23 provided in Appendix A-2, USEPA (2005):

$Ba_{beef} = 10^{\log Ba\ fat} \times 0.19$ where log Ba fat = $-0.099 (\log Kow)^2 + 1.07 \log Kow - 3.56$

(10) Ba_{milk} values not directly available in the preferred sources were calculated using the following equation A-2-22 provided in Appendix A-2, USEPA (2005):

$Ba_{milk} = 10^{\log Ba\ fat} \times 0.04$ where log Ba fat = $-0.099 (\log Kow)^2 + 1.07 \log Kow - 3.56$

(11) Ba_{pork} values not directly available in the preferred sources were calculated using the following equation A-2-26 provided in Appendix A-2, USEPA (2005):

$Ba_{pork} = 10^{\log Ba\ fat} \times 0.23$ where log Ba fat = $-0.099 (\log Kow)^2 + 1.07 \log Kow - 3.56$

(12) Ba_{eqq} values not directly available in the preferred sources were calculated using the following equation A-2-28 provided in Appendix A-2, USEPA (2005):

$Ba_{eqq} = 10^{\log Ba\ fat} \times 0.08$ where log Ba fat = $-0.099 (\log Kow)^2 + 1.07 \log Kow - 3.56$

(13) $Ba_{chicken}$ values not directly available in the preferred sources were calculated using the following equation A-2-27 provided in Appendix A-2, USEPA (2005):

$Ba_{chicken} = 10^{\log Ba\ fat} \times 0.14$ where log Ba fat = $-0.099 (\log Kow)^2 + 1.07 \log Kow - 3.56$

(14) BCF values not directly available in the preferred sources were calculated using the following equation A-2-28 provided in Appendix A-2, USEPA (2005):

$\log BCF = 0.77 \log Kow - 0.7$; for log Kow of 1 to 7

(15) B_v values obtained from Baes et al. (1984) were applied as the Br_{forage} values, consistent with the methodology presented in Appendix A, USEPA (2005).

(16) B_r values obtained from Baes et al. (1984) were applied as the Br_{grain} and $Br_{rootveg}$ values, consistent with the methodology presented in Appendix A, USEPA (2005).

(17) Br_{ag} values were derived from B_r and B_v values obtained from Baes et al. (1984), consistent with the methodology presented in Appendix A, USEPA (2005).

References:

Baes, C.F., R.D. Sharp, A.L. Sjoreen, and R.W. Shor. 1984. Review and Analysis of Parameters and Assessing Transport of Environmentally Released Radionuclides through Agriculture. Oak Ridge National Laboratory. Oak Ridge, Tennessee.

EPI, 2012: Estimation Programs Interface Suite™ for Microsoft® Windows, v 4.11, November 2012 (http://www.epa.gov/oppt/exposure/pubs/episuitedl.htm).

MOE, 2011: Rationale for the Development of Soil and Ground Water Standards for Use at Contaminated Sites in Ontario, April 15, 2011.

RAIS, 2014: Risk Assessment Information System database, February 2014 (http://rais.ornl.gov/).

RSL, 2013: Regional Screening Level (RSL) Chemical-Specific Parameters Supporting Table, November 2013.

USEPA, 2005: Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities (USEPA), Appendix A-2: Human Health Risk Assessment Protocol, EPA520-R-05-006, September 2005.

Table B.11

Deposition Term Calculation
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Unit Conversion Factor (CF) ($mg\text{-}m^2/kg\text{-}cm^2$)	Annual Deposition Rate (Dr) (refer to table B.7) ($g/m^2\text{-}yr$)	Soil Mixing Zone Depth Untilled (Zs) (refer to table B.9) (cm)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	Deposition Term Mercury (Ds, mercury) (mg/kg-yr)	Deposition Term Untilled (Ds) (mg/kg-yr)
Particulate Matter						
Total Particulate Matter	1.00E+02	7.69E+02	2.00E+00	1.50E+00	--	2.56E+04
Particulate Matter (PM10)	1.00E+02	9.49E+01	2.00E+00	1.50E+00	--	3.16E+03
Particulate Matter (PM2.5)	1.00E+02	4.46E-01	2.00E+00	1.50E+00	--	1.49E+01
Metals						
Aluminum	1.00E+02	7.69E+01	2.00E+00	1.50E+00	--	2.56E+03
Antimony	1.00E+02	2.31E-03	2.00E+00	1.50E+00	--	7.69E-02
Arsenic	1.00E+02	3.00E-01	2.00E+00	1.50E+00	--	1.00E+01
Barium	1.00E+02	6.23E-01	2.00E+00	1.50E+00	--	2.08E+01
Beryllium	1.00E+02	2.31E-03	2.00E+00	1.50E+00	--	7.69E-02
Bismuth	1.00E+02	2.54E-04	2.00E+00	1.50E+00	--	8.46E-03
Boron	1.00E+02	1.92E-02	2.00E+00	1.50E+00	--	6.41E-01
Cadmium	1.00E+02	9.23E-05	2.00E+00	1.50E+00	--	3.08E-03
Calcium	1.00E+02	1.00E+01	2.00E+00	1.50E+00	--	3.33E+02
Chromium Total	1.00E+02	8.54E-02	2.00E+00	1.50E+00	--	2.85E+00
Cobalt	1.00E+02	1.38E-02	2.00E+00	1.50E+00	--	4.62E-01
Copper	1.00E+02	2.85E-02	2.00E+00	1.50E+00	--	9.49E-01
Iron	1.00E+02	3.31E+01	2.00E+00	1.50E+00	--	1.10E+03
Lead	1.00E+02	2.85E-02	2.00E+00	1.50E+00	--	9.49E-01
Lithium	1.00E+02	4.69E-02	2.00E+00	1.50E+00	--	1.56E+00
Magnesium	1.00E+02	1.15E+01	2.00E+00	1.50E+00	--	3.85E+02
Manganese	1.00E+02	7.09E-01	2.00E+00	1.50E+00	--	2.36E+01
Mercury, element	1.00E+02	2.03E-04	2.00E+00	1.50E+00		0.00E+00
Mercury, divalent	1.00E+02	--	2.00E+00	1.50E+00	3.25E-03	3.19E-03
Mercury, methyl	1.00E+02	--	2.00E+00	1.50E+00		6.50E-05
Molybdenum	1.00E+02	6.16E-04	2.00E+00	1.50E+00	--	2.05E-02
Nickel	1.00E+02	3.15E-02	2.00E+00	1.50E+00	--	1.05E+00
Phosphorus	1.00E+02	5.31E-01	2.00E+00	1.50E+00	--	1.77E+01
Potassium	1.00E+02	2.46E+01	2.00E+00	1.50E+00	--	8.21E+02
Rubidium	1.00E+02	4.59E-03	2.00E+00	1.50E+00	--	1.53E-01
Selenium	1.00E+02	2.69E-04	2.00E+00	1.50E+00	--	8.98E-03
Silver	1.00E+02	3.85E-04	2.00E+00	1.50E+00	--	1.28E-02
Sodium	1.00E+02	1.46E+01	2.00E+00	1.50E+00	--	4.87E+02
Strontium	1.00E+02	1.62E-01	2.00E+00	1.50E+00	--	5.39E+00
Thallium	1.00E+02	6.08E-04	2.00E+00	1.50E+00	--	2.03E-02
Tin	1.00E+02	2.31E-03	2.00E+00	1.50E+00	--	7.69E-02
Titanium	1.00E+02	3.23E+00	2.00E+00	1.50E+00	--	1.08E+02
Uranium	1.00E+02	1.38E-03	2.00E+00	1.50E+00	--	4.62E-02
Vanadium	1.00E+02	6.16E-02	2.00E+00	1.50E+00	--	2.05E+00
Zinc	1.00E+02	8.46E-02	2.00E+00	1.50E+00	--	2.82E+00

Equation:

$$Ds = \frac{CF \times Hg_{factor} \times Dr}{Zs \times BD}$$

Where:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.98), and methylmercury (0.48*0.02)

Table B.12

COPC Loss Constant Due To Runoff
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Average Annual Surface Runoff (RO) (refer to table B.9) (cm/yr)	Soil Volume Water Content (θsw) (refer to table B.9) (ml/cm^3)	Soil Mixing Zone Depth Untilled (Z_s) (refer to table B.9) (cm)	Soil-Water Partition Coefficient (Kd_s) (refer to table B.14) (ml/g)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	COPC Loss Surface Runoff Untilled (ksr) (yr^{-1})
Particulate Matter						
Total Particulate Matter	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Particulate Matter (PM10)	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Particulate Matter (PM2.5)	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Metals						
Aluminum	7.89E+01	2.00E-01	2.00E+00	1.50E+03	1.50E+00	1.75E-02
Antimony	7.89E+01	2.00E-01	2.00E+00	4.50E+01	1.50E+00	5.83E-01
Arsenic	7.89E+01	2.00E-01	2.00E+00	2.90E+01	1.50E+00	9.03E-01
Barium	7.89E+01	2.00E-01	2.00E+00	4.10E+01	1.50E+00	6.40E-01
Beryllium	7.89E+01	2.00E-01	2.00E+00	7.90E+02	1.50E+00	3.33E-02
Bismuth	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Boron	7.89E+01	2.00E-01	2.00E+00	3.00E+00	1.50E+00	8.40E+00
Cadmium	7.89E+01	2.00E-01	2.00E+00	7.50E+01	1.50E+00	3.50E-01
Calcium	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Chromium Total	7.89E+01	2.00E-01	2.00E+00	1.90E+01	1.50E+00	1.37E+00
Cobalt	7.89E+01	2.00E-01	2.00E+00	4.50E+01	1.50E+00	5.83E-01
Copper	7.89E+01	2.00E-01	2.00E+00	3.50E+01	1.50E+00	7.49E-01
Iron	7.89E+01	2.00E-01	2.00E+00	2.50E+01	1.50E+00	1.05E+00
Lead	7.89E+01	2.00E-01	2.00E+00	9.00E+02	1.50E+00	2.92E-02
Lithium	7.89E+01	2.00E-01	2.00E+00	3.00E+02	1.50E+00	8.76E-02
Magnesium	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Manganese	7.89E+01	2.00E-01	2.00E+00	6.50E+01	1.50E+00	4.04E-01
Mercury, element	7.89E+01	2.00E-01	2.00E+00	3.30E+03	1.50E+00	7.97E-03
Mercury, divalent	7.89E+01	2.00E-01	2.00E+00	3.30E+03	1.50E+00	7.97E-03
Mercury, methyl	7.89E+01	2.00E-01	2.00E+00	2.00E+01	1.50E+00	1.31E+00
Molybdenum	7.89E+01	2.00E-01	2.00E+00	2.00E+01	1.50E+00	1.31E+00
Nickel	7.89E+01	2.00E-01	2.00E+00	6.50E+01	1.50E+00	4.04E-01
Phosphorus	7.89E+01	2.00E-01	2.00E+00	3.50E+00	1.50E+00	7.24E+00
Potassium	7.89E+01	2.00E-01	2.00E+00	5.50E+00	1.50E+00	4.67E+00
Rubidium	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Selenium	7.89E+01	2.00E-01	2.00E+00	5.00E+00	1.50E+00	5.12E+00
Silver	7.89E+01	2.00E-01	2.00E+00	8.30E+00	1.50E+00	3.12E+00
Sodium	7.89E+01	2.00E-01	2.00E+00	1.00E+02	1.50E+00	2.63E-01
Strontium	7.89E+01	2.00E-01	2.00E+00	3.50E+01	1.50E+00	7.49E-01
Thallium	7.89E+01	2.00E-01	2.00E+00	7.10E+01	1.50E+00	3.70E-01
Tin	7.89E+01	2.00E-01	2.00E+00	2.50E+02	1.50E+00	1.05E-01
Titanium	7.89E+01	2.00E-01	2.00E+00	1.00E+03	1.50E+00	2.63E-02
Uranium	7.89E+01	2.00E-01	2.00E+00	4.50E+02	1.50E+00	5.84E-02
Vanadium	7.89E+01	2.00E-01	2.00E+00	1.00E+03	1.50E+00	2.63E-02
Zinc	7.89E+01	2.00E-01	2.00E+00	6.20E+01	1.50E+00	4.23E-01

Equation:

$$ksr = \frac{RO}{\theta_{sw} \times Z_s} \times \frac{1}{1 + (Kd_s \times BD/\theta_{sw})}\}$$

Table B.13

COPC Loss Constant Due To Leaching
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Average Annual Recharge (q) (refer to table B.9) (cm/yr)	Soil Volume Water Content (θsw) (refer to table B.9) (ml/cm^3)	Soil Mixing Zone Depth Untilled (Z_s) (refer to table B.9) (cm)	Soil-Water Partition Coefficient (Kd_s) (refer to table B.14) (ml/g)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	COPC Loss Leaching Untilled (ksl) (yr^{-1})
Particulate Matter						
Total Particulate Matter	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Particulate Matter (PM10)	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Particulate Matter (PM2.5)	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Metals						
Aluminum	1.73E+01	2.00E-01	2.00E+00	1.50E+03	1.50E+00	3.85E-03
Antimony	1.73E+01	2.00E-01	2.00E+00	4.50E+01	1.50E+00	1.28E-01
Arsenic	1.73E+01	2.00E-01	2.00E+00	2.90E+01	1.50E+00	1.98E-01
Barium	1.73E+01	2.00E-01	2.00E+00	4.10E+01	1.50E+00	1.40E-01
Beryllium	1.73E+01	2.00E-01	2.00E+00	7.90E+02	1.50E+00	7.31E-03
Bismuth	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Boron	1.73E+01	2.00E-01	2.00E+00	3.00E+00	1.50E+00	1.84E+00
Cadmium	1.73E+01	2.00E-01	2.00E+00	7.50E+01	1.50E+00	7.68E-02
Calcium	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Chromium Total	1.73E+01	2.00E-01	2.00E+00	1.90E+01	1.50E+00	3.02E-01
Cobalt	1.73E+01	2.00E-01	2.00E+00	4.50E+01	1.50E+00	1.28E-01
Copper	1.73E+01	2.00E-01	2.00E+00	3.50E+01	1.50E+00	1.64E-01
Iron	1.73E+01	2.00E-01	2.00E+00	2.50E+01	1.50E+00	2.30E-01
Lead	1.73E+01	2.00E-01	2.00E+00	9.00E+02	1.50E+00	6.41E-03
Lithium	1.73E+01	2.00E-01	2.00E+00	3.00E+02	1.50E+00	1.92E-02
Magnesium	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Manganese	1.73E+01	2.00E-01	2.00E+00	6.50E+01	1.50E+00	8.86E-02
Mercury, element	1.73E+01	2.00E-01	2.00E+00	3.30E+03	1.50E+00	1.75E-03
Mercury, divalent	1.73E+01	2.00E-01	2.00E+00	3.30E+03	1.50E+00	1.75E-03
Mercury, methyl	1.73E+01	2.00E-01	2.00E+00	2.00E+01	1.50E+00	2.87E-01
Molybdenum	1.73E+01	2.00E-01	2.00E+00	2.00E+01	1.50E+00	2.87E-01
Nickel	1.73E+01	2.00E-01	2.00E+00	6.50E+01	1.50E+00	8.86E-02
Phosphorus	1.73E+01	2.00E-01	2.00E+00	3.50E+00	1.50E+00	1.59E+00
Potassium	1.73E+01	2.00E-01	2.00E+00	5.50E+00	1.50E+00	1.02E+00
Rubidium	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Selenium	1.73E+01	2.00E-01	2.00E+00	5.00E+00	1.50E+00	1.12E+00
Silver	1.73E+01	2.00E-01	2.00E+00	8.30E+00	1.50E+00	6.85E-01
Sodium	1.73E+01	2.00E-01	2.00E+00	1.00E+02	1.50E+00	5.77E-02
Strontium	1.73E+01	2.00E-01	2.00E+00	3.50E+01	1.50E+00	1.64E-01
Thallium	1.73E+01	2.00E-01	2.00E+00	7.10E+01	1.50E+00	8.12E-02
Tin	1.73E+01	2.00E-01	2.00E+00	2.50E+02	1.50E+00	2.31E-02
Titanium	1.73E+01	2.00E-01	2.00E+00	1.00E+03	1.50E+00	5.77E-03
Uranium	1.73E+01	2.00E-01	2.00E+00	4.50E+02	1.50E+00	1.28E-02
Vanadium	1.73E+01	2.00E-01	2.00E+00	1.00E+03	1.50E+00	5.77E-03
Zinc	1.73E+01	2.00E-01	2.00E+00	6.20E+01	1.50E+00	9.29E-02

Equation:

$$ksl = \frac{q}{\theta_{sw} \times Z_s \times [1.0 + (BD \times Kd_s/\theta_{sw})]}$$

Table B.14

COPC Loss Constant Due To Volatilization
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Equilibrium Coefficient Untilled (Ke) (s/yr-cm)	Gas Phase Mass Transfer Coefficient Untilled (K_t) (cm/s)	Units Conversion Factor (CF) (s/year)	Henry's Law Constant (H) (refer to table B.10) (atm-m^3/mol)	Soil Mixing Zone Depth Untilled (Z_s) (refer to table B.9) (cm)	Soil-water Partition Coefficient (Kd_s) (refer to table B.10) (mL /g)	Universal Gas Constant (R) (refer to table B.9) (atm-m^3/mol-K)	Ambient Air Temperature (T_a) (refer to table B.9) (K)	Soil Bulk Density (BD) (refer to table B.9) (g/ cm^3)	Diffusivity of COPC in Air (Da) (refer to table B.10) (cm^2/s)	Solid Void Fraction (θv) (cm^3/cm^3)	Solids Particle Density (ρ_s) (refer to table B.9) (g/cm^3)	Volumetric Soil Water Content (θsw) (refer to table B.9) (cm^3/cm^3)	Soil Loss Constant Due t Volatilization Untilled (Ksv) (yr^{-1})
Particulate Matter														
Total Particulate Matter	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Particulate Matter (PM10)	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Particulate Matter (PM2.5)	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Metals														
Aluminum	--	--	3.15E+07	--	2.00E+00	1.50E+03	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Antimony	--	--	3.15E+07	--	2.00E+00	4.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Arsenic	--	--	3.15E+07	--	2.00E+00	2.90E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Barium	--	--	3.15E+07	--	2.00E+00	4.10E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Beryllium	--	--	3.15E+07	--	2.00E+00	7.90E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Bismuth	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Boron	--	--	3.15E+07	--	2.00E+00	3.00E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Cadmium	--	--	3.15E+07	--	2.00E+00	7.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Calcium	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Chromium Total	--	--	3.15E+07	--	2.00E+00	1.90E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Cobalt	--	--	3.15E+07	--	2.00E+00	4.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Copper	--	--	3.15E+07	--	2.00E+00	3.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Iron	--	--	3.15E+07	--	2.00E+00	2.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Lead	--	--	3.15E+07	--	2.00E+00	9.00E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Lithium	--	--	3.15E+07	--	2.00E+00	3.00E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Magnesium	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Manganese	--	--	3.15E+07	--	2.00E+00	6.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Mercury, element	1.60E+03	3.75E-03	3.15E+07	1.15E-02	2.00E+00	3.30E+03	8.21E-05	2.80E+02	1.50E+00	3.07E-02	2.44E-01	2.70E+00	2.00E-01	5.99E+00
Mercury, divalent	9.85E-05	5.50E-03	3.15E+07	7.10E-10	2.00E+00	3.30E+03	8.21E-05	2.80E+02	1.50E+00	4.50E-02	2.44E-01	2.70E+00	2.00E-01	5.42E-07
Mercury, methyl	1.65E+05	6.48E-03	3.15E+07	7.22E-03	2.00E+00	2.00E+01	8.21E-05	2.80E+02	1.50E+00	5.30E-02	2.44E-01	2.70E+00	2.00E-01	1.07E+03
Molybdenum	--	--	3.15E+07	--	2.00E+00	2.00E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Nickel	--	--	3.15E+07	--	2.00E+00	6.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Phosphorus	--	--	3.15E+07	--	2.00E+00	3.50E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Potassium	--	--	3.15E+07	--	2.00E+00	5.50E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Rubidium	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Selenium	--	--	3.15E+07	--	2.00E+00	5.00E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Silver	--	--	3.15E+07	--	2.00E+00	8.30E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Sodium	--	--	3.15E+07	--	2.00E+00	1.00E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Strontium	--	--	3.15E+07	--	2.00E+00	3.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Thallium	--	--	3.15E+07	--	2.00E+00	7.10E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Tin	--	--	3.15E+07	--	2.00E+00	2.50E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Titanium	--	--	3.15E+07	--	2.00E+00	1.00E+03	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Uranium	--	--	3.15E+07	--	2.00E+00	4.50E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Vanadium	--	--	3.15E+07	--	2.00E+00	1.00E+03	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Zinc	--	--	3.15E+07	--	2.00E+00	6.20E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--

Equations: $ksv = Ke \times K_t$ where, $Ke = \frac{CF \times H}{Z_s \times Kd_s \times R \times T_a \times BD}$ $K_t = \frac{Da \times \theta_v}{Z_s}$ $\theta_v = 1 - (BD/\rho_s) - \theta_{sw}$

Table B.15

COPC Soil Loss Constant
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Biotic and Abiotic Degradation (ksg) (refer to table B.9) (yr^{-1})	Soil Erosion (kse) (refer to table B.9) (yr^{-1})	Surface Runoff Untilled (ksr) (refer to table B.12) (yr^{-1})	Leaching Untilled (ksl) (refer to table B.13) (yr^{-1})	Volatilization Untilled (ksv) (refer to table B.14) (yr^{-1})	Constant All Processes Untilled (ks) (yr^{-1})
Particulate Matter						
Total Particulate Matter	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Particulate Matter (PM10)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Particulate Matter (PM2.5)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Metals						
Aluminum	0.00E+00	0.00E+00	1.75E-02	3.85E-03	0.00E+00	2.14E-02
Antimony	0.00E+00	0.00E+00	5.83E-01	1.28E-01	0.00E+00	7.11E-01
Arsenic	0.00E+00	0.00E+00	9.03E-01	1.98E-01	0.00E+00	1.10E+00
Barium	0.00E+00	0.00E+00	6.40E-01	1.40E-01	0.00E+00	7.80E-01
Beryllium	0.00E+00	0.00E+00	3.33E-02	7.31E-03	0.00E+00	4.06E-02
Bismuth	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Boron	0.00E+00	0.00E+00	8.40E+00	1.84E+00	0.00E+00	1.02E+01
Cadmium	0.00E+00	0.00E+00	3.50E-01	7.68E-02	0.00E+00	4.27E-01
Calcium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chromium Total	0.00E+00	0.00E+00	1.37E+00	3.02E-01	0.00E+00	1.68E+00
Cobalt	0.00E+00	0.00E+00	5.83E-01	1.28E-01	0.00E+00	7.11E-01
Copper	0.00E+00	0.00E+00	7.49E-01	1.64E-01	0.00E+00	9.13E-01
Iron	0.00E+00	0.00E+00	1.05E+00	2.30E-01	0.00E+00	1.28E+00
Lead	0.00E+00	0.00E+00	2.92E-02	6.41E-03	0.00E+00	3.56E-02
Lithium	0.00E+00	0.00E+00	8.76E-02	1.92E-02	0.00E+00	1.07E-01
Magnesium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Manganese	0.00E+00	0.00E+00	4.04E-01	8.86E-02	0.00E+00	4.93E-01
Mercury, element	0.00E+00	0.00E+00	7.97E-03	1.75E-03	5.99E+00	6.00E+00
Mercury, divalent	0.00E+00	0.00E+00	7.97E-03	1.75E-03	5.42E-07	9.72E-03
Mercury, methyl	0.00E+00	0.00E+00	1.31E+00	2.87E-01	1.07E+03	1.07E+03
Molybdenum	0.00E+00	0.00E+00	1.31E+00	2.87E-01	0.00E+00	1.59E+00
Nickel	0.00E+00	0.00E+00	4.04E-01	8.86E-02	0.00E+00	4.93E-01
Phosphorus	0.00E+00	0.00E+00	7.24E+00	1.59E+00	0.00E+00	8.83E+00
Potassium	0.00E+00	0.00E+00	4.67E+00	1.02E+00	0.00E+00	5.69E+00
Rubidium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Selenium	0.00E+00	0.00E+00	5.12E+00	1.12E+00	0.00E+00	6.25E+00
Silver	0.00E+00	0.00E+00	3.12E+00	6.85E-01	0.00E+00	3.80E+00
Sodium	0.00E+00	0.00E+00	2.63E-01	5.77E-02	0.00E+00	3.20E-01
Strontium	0.00E+00	0.00E+00	7.49E-01	1.64E-01	0.00E+00	9.13E-01
Thallium	0.00E+00	0.00E+00	3.70E-01	8.12E-02	0.00E+00	4.51E-01
Tin	0.00E+00	0.00E+00	1.05E-01	2.31E-02	0.00E+00	1.28E-01
Titanium	0.00E+00	0.00E+00	2.63E-02	5.77E-03	0.00E+00	3.21E-02
Uranium	0.00E+00	0.00E+00	5.84E-02	1.28E-02	0.00E+00	7.13E-02
Vanadium	0.00E+00	0.00E+00	2.63E-02	5.77E-03	0.00E+00	3.21E-02
Zinc	0.00E+00	0.00E+00	4.23E-01	9.29E-02	0.00E+00	5.16E-01

Equation: $ks = ksg + kse + ksr + ksl + ksv$

Notes:

COPC loss due to soil erosion (kse) is assumed to be zero.
COPC loss due to biotic and abiotic degradation (ksg) is assumed only for organics.

Table B.16

Predicted Soil Concentrations Due to Deposition - Non-Carcinogens
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

		Deposition Time Period						Existing Soil Concentration at Time tD				Deposition Soil Concentration at Time tD				Predicted Soil Concentration at Time tD			
	Deposition Term					COPC Soil Loss Constant All Processes	Baseline												
	Untilled	Construction	Operations	Reclamation	Post-Closure	Untilled	Soil Concentration	Construction	Operations	Reclamation	Post-Closure	Construction	Operations	Reclamation	Post-Closure	Construction	Operations	Reclamation	Post-Closure
	(Ds)	(tD)	(tD)	(tD)	(tD)	(ks)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)
	(refer to table B.11)	(refer to table B.9)	(refer to table B.9)	(refer to table B.9)	(refer to table B.9)	(refer to table B.15)	(refer to table B.1)												
Contaminant	(mg/kg-yr)	(yr)	(yr)	(yr)	(yr)	(yr^{-1})	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Particulate Matter																			
Total Particulate Matter	2.56E+04	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	3.16E+03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	1.49E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																			
Aluminum	2.56E+03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	2.14E-02	9.89E+03	9.48E+03	7.49E+03	7.02E+03	7.02E+03	5.02E+03	2.91E+04	3.48E+04	3.48E+04	14497.3	36598.1	41776.6	41776.6
Antimony	7.69E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	7.11E-01	1.00E+00	2.41E-01	9.71E-05	1.15E-05	1.15E-05	8.21E-02	1.08E-01	1.08E-01	1.08E-01	1.0	1.0	1.0	1.0
Arsenic	1.00E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.10E+00	6.04E+00	6.68E-01	3.67E-06	1.35E-07	1.35E-07	8.08E+00	9.08E+00	9.08E+00	9.08E+00	8.7	9.1	9.1	9.1
Barium	2.08E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	7.80E-01	3.73E+01	7.84E+00	1.47E-03	1.42E-04	1.42E-04	2.10E+01	2.66E+01	2.66E+01	2.66E+01	37.3	37.3	37.3	37.3
Beryllium	7.69E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.06E-02	1.00E+00	9.22E-01	5.90E-01	5.22E-01	5.22E-01	1.48E-01	7.77E-01	9.05E-01	9.05E-01	1.1	1.4	1.4	1.4
Bismuth	8.46E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	--	--	--	--	--	--	--	--
Boron	6.41E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.02E+01	2.50E+01	3.20E-08	3.93E-57	1.80E-70	1.80E-70	6.26E-02	6.26E-02	6.26E-02	6.26E-02	25.0	25.0	25.0	25.0
Cadmium	3.08E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.27E-01	1.50E-01	6.39E-02	5.83E-04	1.62E-04	1.62E-04	4.14E-03	7.18E-03	7.20E-03	7.20E-03	0.15	0.15	0.15	0.15
Calcium	3.33E+02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	2.85E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.68E+00	1.27E+01	4.44E-01	4.35E-09	2.84E-11	2.84E-11	1.64E+00	1.70E+00	1.70E+00	1.70E+00	12.7	12.7	12.7	12.7
Cobalt	4.62E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	7.11E-01	2.27E+00	5.48E-01	2.20E-04	2.61E-05	2.61E-05	4.93E-01	6.49E-01	6.49E-01	6.49E-01	2.3	2.3	2.3	2.3
Copper	9.49E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	9.13E-01	6.56E+00	1.06E+00	4.59E-05	2.97E-06	2.97E-06	8.72E-01	1.04E+00	1.04E+00	1.04E+00	6.6	6.6	6.6	6.6
Iron	1.10E+03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.28E+00	1.64E+04	1.28E+03	1.02E-03	2.22E-05	2.22E-05	7.97E+02	8.64E+02	8.64E+02	8.64E+02	16400.0	16400.0	16400.0	16400.0
Lead	9.49E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.56E-02	1.48E+01	1.38E+01	9.31E+00	8.37E+00	8.37E+00	1.83E+00	9.87E+00	1.16E+01	1.16E+01	15.6	19.2	19.9	19.9
Lithium	1.56E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.07E-01	8.41E+00	6.79E+00	2.10E+00	1.52E+00	1.52E+00	2.82E+00	1.10E+01	1.20E+01	1.20E+01	9.6	13.1	13.5	13.5
Magnesium	3.85E+02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	2.36E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.93E-01	9.66E+01	3.61E+01	1.60E-01	3.65E-02	3.65E-02	3.01E+01	4.79E+01	4.79E+01	4.79E+01	96.6	96.6	96.6	96.6
Mercury, element	0.00E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	6.00E+00	1.62E-01	9.99E-07	2.21E-35	3.39E-43	3.39E-43	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.16	0.16	0.16	0.16
Mercury, divalent	3.19E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	9.72E-03	--	--	--	--	--	6.31E-03	3.89E-02	4.72E-02	4.72E-02	0.0	0.0	0.0	0.0
Mercury, methyl	6.50E-05	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.07E+03	--	--	--	--	--	6.06E-08	6.06E-08	6.06E-08	6.06E-08	0.0	0.0	0.0	0.0
Molybdenum	2.05E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.59E+00	1.00E+00	4.13E-02	1.01E-09	8.47E-12	8.47E-12	1.23E-02	1.29E-02	1.29E-02	1.29E-02	1.0	1.0	1.0	1.0
Nickel	1.05E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.93E-01	6.91E+00	2.58E+00	1.14E-02	2.61E-03	2.61E-03	1.34E+00	2.13E+00	2.13E+00	2.13E+00	6.9	6.9	6.9	6.9
Phosphorus	1.77E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	8.83E+00	--	--	--	--	--	2.00E+00	2.00E+00	2.00E+00	2.00E+00	2.0	2.0	2.0	2.0
Potassium	8.21E+02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	5.69E+00	--	--	--	--	--	1.44E+02	1.44E+02	1.44E+02	1.44E+02	144.1	144.1	144.1	144.1
Rubidium	1.53E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	6.45E+00	6.45E+00	6.45E+00	6.45E+00	6.45E+00	--	--	--	--	--	--	--	--
Selenium	8.98E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	6.25E+00	8.64E-01	3.22E-06	4.51E-36	3.25E-44	3.25E-44	1.44E-03	1.44E-03	1.44E-03	1.44E-03	0.86	0.86	0.86	0.86
Silver	1.28E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.80E+00	2.50E-01	1.24E-04	8.35E-23	9.23E-28	9.23E-28	3.37E-03	3.37E-03	3.37E-03	3.37E-03	0.25	0.25	0.25	0.25
Sodium	4.87E+02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.20E-01	--	--	--	--	--	7.20E+02	1.50E+03	1.51E+03	1.51E+03	719.6	1497.4	1512.0	1512.0
Strontium	5.39E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	9.13E-01	1.94E+01	3.12E+00	1.36E-04	8.77E-06	8.77E-06	4.95E+00	5.90E+00	5.90E+00	5.90E+00	19.4	19.4	19.4	19.4
Thallium	2.03E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.51E-01	5.00E-02	2.03E-02	1.42E-04	3.67E-05	3.67E-05	2.67E-02	4.48E-02	4.49E-02	4.49E-02	0.05	0.05	0.05	0.05
Tin	7.69E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.28E-01	5.00E-01	3.87E-01	9.44E-02	6.42E-02	6.42E-02	1.36E-01	4.87E-01	5.23E-01	5.23E-01	0.52	0.58	0.59	0.59
Titanium	1.08E+02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.21E-02	--	--	--	--	--	2.09E+02	1.15E+03	1.35E+03	1.35E+03	208.7	1145.1	1348.1	1348.1
Uranium	4.62E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	7.13E-02	6.70E-01	5.81E-01	2.65E-01	2.14E-01	2.14E-01	8.61E-02	3.91E-01	4.41E-01	4.41E-01	0.67	0.67	0.67	0.67
Vanadium	2.05E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.21E-02	2.18E+01	2.04E+01	1.44E+01	1.30E+01	1.30E+01	3.97E+00	2.18E+01	2.57E+01	2.57E+01	24.4	36.2	38.7	38.7
Zinc	2.82E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	5.16E-01	1.97E+01	7.01E+00	2.40E-02	5.09E-03	5.09E-03	3.52E+00	5.46E+00	5.46E+00	5.46E+00	19.7	19.7	19.7	19.7

Equation: $Cs_{tD} = \frac{Ds \times [1 - exp(-ks \times tD)]}{ks}$

Table B.17

Predicted Soil Invertebrate Concentrations Due to Deposition - Non-Carcinogens
Soil Invertebrate Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Soil Concentration at Time tD				Baseline Soil Invertebrate Concentration	Predicted Soil Invertebrate Concentration at Time tD				Final Soil Invertebrate Concentration at Time tD			
Contaminant	Construction (Cs) (refer to table B.16) (mg/kg)	Operations (Cs) (refer to table B.16) (mg/kg)	Reclamation (Cs) (refer to table B.16) (mg/kg)	Post-Closure (Cs) (refer to table B.16) (mg/kg)	(Cti) (refer to table B.1) (mg/kg FW)	Construction (Cti) (1) (mg/kg FW)	Operations (Cti) (1) (mg/kg FW)	Reclamation (Cti) (1) (mg/kg FW)	Post-Closure (Cti) (1) (mg/kg FW)	Construction (Cti) (1) (mg/kg FW)	Operations (Cti) (1) (mg/kg FW)	Reclamation (Cti) (1) (mg/kg FW)	Post-Closure (Cti) (1) (mg/kg FW)
Particulate Matter													
Total Particulate Matter	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals													
Aluminum	1.45E+04	3.66E+04	4.18E+04	4.18E+04	4.20E+02	9.97E+01	2.52E+02	2.87E+02	2.87E+02	4.20E+02	4.20E+02	4.20E+02	4.20E+02
Antimony	1.00E+00	1.00E+00	1.00E+00	1.00E+00	2.50E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Arsenic	8.75E+00	9.08E+00	9.08E+00	9.08E+00	8.00E+00	1.79E-01	1.83E-01	1.83E-01	1.83E-01	8.00E+00	8.00E+00	8.00E+00	8.00E+00
Barium	3.73E+01	3.73E+01	3.73E+01	3.73E+01	2.40E+01	5.43E-01	5.43E-01	5.43E-01	5.43E-01	2.40E+01	2.40E+01	2.40E+01	2.40E+01
Beryllium	1.07E+00	1.37E+00	1.43E+00	1.43E+00	2.50E-01	7.70E-04	9.84E-04	1.03E-03	1.03E-03	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Bismuth	--	--	--	--	--	--	--	--	--	--	--	--	--
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.30E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00
Cadmium	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.60E+00	2.93E-01	2.93E-01	2.93E-01	2.93E-01	1.60E+00	1.60E+00	1.60E+00	1.60E+00
Calcium	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	1.27E+01	1.27E+01	1.27E+01	1.27E+01	5.80E-01	6.22E-01	6.22E-01	6.22E-01	6.22E-01	6.22E-01	6.22E-01	6.22E-01	6.22E-01
Cobalt	2.27E+00	2.27E+00	2.27E+00	2.27E+00	2.10E-01	4.43E-02	4.43E-02	4.43E-02	4.43E-02	2.10E-01	2.10E-01	2.10E-01	2.10E-01
Copper	6.56E+00	6.56E+00	6.56E+00	6.56E+00	1.60E+01	5.41E-01	5.41E-01	5.41E-01	5.41E-01	1.60E+01	1.60E+01	1.60E+01	1.60E+01
Iron	1.64E+04	1.64E+04	1.64E+04	1.64E+04	6.00E+02	2.62E+03	2.62E+03	2.62E+03	2.62E+03	2.62E+03	2.62E+03	2.62E+03	2.62E+03
Lead	1.56E+01	1.92E+01	1.99E+01	1.99E+01	5.60E-01	1.18E+00	1.40E+00	1.44E+00	1.44E+00	1.18E+00	1.40E+00	1.44E+00	1.44E+00
Lithium	9.61E+00	1.31E+01	1.35E+01	1.35E+01	2.50E-01	1.54E+00	2.09E+00	2.16E+00	2.16E+00	1.54E+00	2.09E+00	2.16E+00	2.16E+00
Magnesium	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	9.66E+01	9.66E+01	9.66E+01	9.66E+01	1.20E+03	1.61E+00	1.61E+00	1.61E+00	1.61E+00	1.20E+03	1.20E+03	1.20E+03	1.20E+03
Mercury, element	1.62E-01	1.62E-01	1.62E-01	1.62E-01	3.50E-02	2.59E-02	2.59E-02	2.59E-02	2.59E-02	3.50E-02	3.50E-02	3.50E-02	3.50E-02
Mercury, divalent	6.31E-03	3.89E-02	4.72E-02	4.72E-02	--	1.01E-03	6.22E-03	7.55E-03	7.55E-03	1.01E-03	6.22E-03	7.55E-03	7.55E-03
Mercury, methyl	6.06E-08	6.06E-08	6.06E-08	6.06E-08	--	9.70E-09	9.70E-09	9.70E-09	9.70E-09	9.70E-09	9.70E-09	9.70E-09	9.70E-09
Molybdenum	1.00E+00	1.00E+00	1.00E+00	1.00E+00	6.90E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01	6.90E-01	6.90E-01	6.90E-01	6.90E-01
Nickel	6.91E+00	6.91E+00	6.91E+00	6.91E+00	1.10E+00	1.11E+00	1.11E+00	1.11E+00	1.11E+00	1.11E+00	1.11E+00	1.11E+00	1.11E+00
Phosphorus	2.00E+00	2.00E+00	2.00E+00	2.00E+00	--	3.21E-01	3.21E-01	3.21E-01	3.21E-01	3.21E-01	3.21E-01	3.21E-01	3.21E-01
Potassium	1.44E+02	1.44E+02	1.44E+02	1.44E+02	--	2.31E+01	2.31E+01	2.31E+01	2.31E+01	2.31E+01	2.31E+01	2.31E+01	2.31E+01
Rubidium	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	8.64E-01	8.64E-01	8.64E-01	8.64E-01	2.50E-01	1.33E-01	1.33E-01	1.33E-01	1.33E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Silver	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.80E+00	8.18E-02	8.18E-02	8.18E-02	8.18E-02	1.80E+00	1.80E+00	1.80E+00	1.80E+00
Sodium	7.20E+02	1.50E+03	1.51E+03	1.51E+03	--	1.15E+02	2.40E+02	2.42E+02	2.42E+02	1.15E+02	2.40E+02	2.42E+02	2.42E+02
Strontium	1.94E+01	1.94E+01	1.94E+01	1.94E+01	1.00E+01	3.10E+00	3.10E+00	3.10E+00	3.10E+00	1.00E+01	1.00E+01	1.00E+01	1.00E+01
Thallium	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.00E-02	8.00E-03	8.00E-03	8.00E-03	8.00E-03	1.00E-02	1.00E-02	1.00E-02	1.00E-02
Tin	5.23E-01	5.81E-01	5.87E-01	5.87E-01	2.50E-01	8.36E-02	9.30E-02	9.39E-02	9.39E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Titanium	2.09E+02	1.15E+03	1.35E+03	1.35E+03	--	3.34E+01	1.83E+02	2.16E+02	2.16E+02	3.34E+01	1.83E+02	2.16E+02	2.16E+02
Uranium	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.00E-02	1.07E-01	1.07E-01	1.07E-01	1.07E-01	1.07E-01	1.07E-01	1.07E-01	1.07E-01
Vanadium	2.44E+01	3.62E+01	3.87E+01	3.87E+01	9.30E-01	1.64E-01	2.43E-01	2.60E-01	2.60E-01	9.30E-01	9.30E-01	9.30E-01	9.30E-01
Zinc	1.97E+01	1.97E+01	1.97E+01	1.97E+01	7.90E+01	3.64E+01	3.64E+01	3.64E+01	3.64E+01	7.90E+01	7.90E+01	7.90E+01	7.90E+01

Note:
(1) Uptake equations and inputs from the USEPA Eco Soil Screening Level (SSL) guidance (USEPA, 2007). An uptake factor for aluminum was taken from the validation data set presented in Table C.1 of Appendix A of Sample et al. (1998b); the median uptake factor from that data set (0.043) was selected.

Table B.18

Predicted Prey Concentrations Due to Deposition - Non-Carcinogens
Prey Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Soil Concentration at Time tD				Prey Concentration at Time tD			
Contaminant	Construction (Cs) (refer to table B.16) (mg/kg)	Operations (Cs) (refer to table B.16) (mg/kg)	Reclamation (Cs) (refer to table B.16) (mg/kg)	Post-Closure (Cs) (refer to table B.16) (mg/kg)	Construction (Cp) (1) (mg/kg FW)	Operations (Cp) (1) (mg/kg FW)	Reclamation (Cp) (1) (mg/kg FW)	Post-Closure (Cp) (1) (mg/kg FW)
Particulate Matter								
Total Particulate Matter	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--
Metals								
Aluminum	1.45E+04	3.66E+04	4.18E+04	4.18E+04	1.22E+02	3.08E+02	3.52E+02	3.52E+02
Antimony	1.00E+00	1.00E+00	1.00E+00	1.00E+00	4.00E-03	4.00E-03	4.00E-03	4.00E-03
Arsenic	8.75E+00	9.08E+00	9.08E+00	9.08E+00	1.48E-02	1.53E-02	1.53E-02	1.53E-02
Barium	3.73E+01	3.73E+01	3.73E+01	3.73E+01	5.76E-02	5.76E-02	5.76E-02	5.76E-02
Beryllium	1.07E+00	1.37E+00	1.43E+00	1.43E+00	4.00E-03	4.00E-03	4.00E-03	4.00E-03
Bismuth	--	--	--	--	--	--	--	--
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	8.00E+00	8.00E+00	8.00E+00	8.00E+00
Cadmium	1.50E-01	1.50E-01	1.50E-01	1.50E-01	3.72E-02	3.72E-02	3.72E-02	3.72E-02
Calcium	--	--	--	--	--	--	--	--
Chromium Total	1.27E+01	1.27E+01	1.27E+01	1.27E+01	4.80E-01	4.80E-01	4.80E-01	4.80E-01
Cobalt	2.27E+00	2.27E+00	2.27E+00	2.27E+00	1.07E-02	1.07E-02	1.07E-02	1.07E-02
Copper	6.56E+00	6.56E+00	6.56E+00	6.56E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00
Iron	1.64E+04	1.64E+04	1.64E+04	1.64E+04	5.25E+03	5.25E+03	5.25E+03	5.25E+03
Lead	1.56E+01	1.92E+01	1.99E+01	1.99E+01	1.16E+00	1.28E+00	1.30E+00	1.30E+00
Lithium	9.61E+00	1.31E+01	1.35E+01	1.35E+01	3.07E+00	4.19E+00	4.32E+00	4.32E+00
Magnesium	--	--	--	--	--	--	--	--
Manganese	9.66E+01	9.66E+01	9.66E+01	9.66E+01	6.34E-01	6.34E-01	6.34E-01	6.34E-01
Mercury, element	1.62E-01	1.62E-01	1.62E-01	1.62E-01	5.18E-02	5.18E-02	5.18E-02	5.18E-02
Mercury, divalent	6.31E-03	3.89E-02	4.72E-02	4.72E-02	2.02E-03	1.24E-02	1.51E-02	1.51E-02
Mercury, methyl	6.06E-08	6.06E-08	6.06E-08	6.06E-08	1.94E-08	1.94E-08	1.94E-08	1.94E-08
Molybdenum	1.00E+00	1.00E+00	1.00E+00	1.00E+00	3.20E-01	3.20E-01	3.20E-01	3.20E-01
Nickel	6.91E+00	6.91E+00	6.91E+00	6.91E+00	6.16E-01	6.16E-01	6.16E-01	6.16E-01
Phosphorus	2.00E+00	2.00E+00	2.00E+00	2.00E+00	6.41E-01	6.41E-01	6.41E-01	6.41E-01
Potassium	1.44E+02	1.44E+02	1.44E+02	1.44E+02	4.61E+01	4.61E+01	4.61E+01	4.61E+01
Rubidium	--	--	--	--	--	--	--	--
Selenium	8.64E-01	8.64E-01	8.64E-01	8.64E-01	2.00E-01	2.00E-01	2.00E-01	2.00E-01
Silver	2.50E-01	2.50E-01	2.50E-01	2.50E-01	3.20E-04	3.20E-04	3.20E-04	3.20E-04
Sodium	7.20E+02	1.50E+03	1.51E+03	1.51E+03	2.30E+02	4.79E+02	4.84E+02	4.84E+02
Strontium	1.94E+01	1.94E+01	1.94E+01	1.94E+01	6.21E+00	6.21E+00	6.21E+00	6.21E+00
Thallium	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.60E-02	1.60E-02	1.60E-02	1.60E-02
Tin	5.23E-01	5.81E-01	5.87E-01	5.87E-01	1.67E-01	1.86E-01	1.88E-01	1.88E-01
Titanium	2.09E+02	1.15E+03	1.35E+03	1.35E+03	6.68E+01	3.66E+02	4.31E+02	4.31E+02
Uranium	6.70E-01	6.70E-01	6.70E-01	6.70E-01	2.14E-01	2.14E-01	2.14E-01	2.14E-01
Vanadium	2.44E+01	3.62E+01	3.87E+01	3.87E+01	9.61E-02	1.42E-01	1.52E-01	1.52E-01
Zinc	1.97E+01	1.97E+01	1.97E+01	1.97E+01	5.03E-03	5.03E-03	5.03E-03	5.03E-03

Note:
The predicted prey concentrations were modelled with uptake factors from the USEPA (2007). An aluminum uptake factor was obtained from Table C.1 in Appendix C of Sample et al. (1998a); the median uptake factor of 0.0263 from this data set was selected.

Table B.19

Aboveground Produce Predicted Concentrations Due to Direct Deposition
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Units Conversion Factor (CF) (mg/g)	Annual Deposition Rate (Dr) (g/m^2-yr)	Fraction of Air Concentration In Vapor Phase (Fv) (refer to table B.10) -	Fraction Wet Deposition Adhere to Plant (Fw) (refer to table B.9) -	Interception Fraction Edible Produce Portion: Vegetable (Rp) (refer to table B.9) -	Interception Fraction Edible Produce Portion: Fruit (Rp) (refer to table B.9) -	Produce Surface Loss Coefficient: Vegetable (kp) (refer to table B.9) (1/yr)	Produce Surface Loss Coefficient: Fruit (kp) (refer to table B.9) (1/yr)	Length of Produce Exposure to Deposition per Harvest of Edible Produce: Vegetable (Tp) (refer to table B.9) (yrs)	Length of Produce Exposure to Deposition per Harvest of Edible Produce: Fruit (Tp) (refer to table B.9) (yrs)	Yield of Edible Portion of Produce: Vegetable (Yp) (refer to table B.9) ($kg\ DW/m^2$)	Yield of Edible Portion of Produce: Fruit (Yp) (refer to table B.9) ($kg\ DW/m^2$)	Predicted Produce Concentration Due to Direct Deposition: Vegetable (Pd) (mg/kg DW)	Predicted Produce Concentration Due to Direct Deposition: Fruit (Pd) (mg/kg DW)
Particulate Matter														
Total Particulate Matter	1.00E+03	7.69E+02	--	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	--	--
Particulate Matter (PM10)	1.00E+03	9.49E+01	--	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	--	--
Particulate Matter (PM2.5)	1.00E+03	4.46E-01	--	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	--	--
Metals														
Aluminum	1.00E+03	7.69E+01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	4.22E+02	5.11E+02
Antimony	1.00E+03	2.31E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.27E-02	1.53E-02
Arsenic	1.00E+03	3.00E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.64E+00	1.99E+00
Barium	1.00E+03	6.23E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.42E+00	4.14E+00
Beryllium	1.00E+03	2.31E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.27E-02	1.53E-02
Bismuth	1.00E+03	2.54E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.39E-03	1.69E-03
Boron	1.00E+03	1.92E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.05E-01	1.28E-01
Cadmium	1.00E+03	9.23E-05	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	5.06E-04	6.13E-04
Calcium	1.00E+03	1.00E+01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	5.48E+01	6.65E+01
Chromium Total	1.00E+03	8.54E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	4.68E-01	5.67E-01
Cobalt	1.00E+03	1.38E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	7.59E-02	9.20E-02
Copper	1.00E+03	2.85E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.56E-01	1.89E-01
Iron	1.00E+03	3.31E+01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.81E+02	2.20E+02
Lead	1.00E+03	2.85E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.56E-01	1.89E-01
Lithium	1.00E+03	4.69E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	2.57E-01	3.12E-01
Magnesium	1.00E+03	1.15E+01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	6.33E+01	7.67E+01
Manganese	1.00E+03	7.09E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.88E+00	4.71E+00
Mercury, element	1.00E+03	2.03E-04	1.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	0.00E+00	0.00E+00
Mercury, divalent	1.00E+03	--	8.50E-01	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	7.86E-05	9.52E-05
Mercury, methyl	1.00E+03	--	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.07E-05	1.30E-05
Molybdenum	1.00E+03	6.16E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.37E-03	4.09E-03
Nickel	1.00E+03	3.15E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.73E-01	2.10E-01
Phosphorus	1.00E+03	5.31E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	2.91E+00	3.53E+00
Potassium	1.00E+03	2.46E+01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.35E+02	1.64E+02
Rubidium	1.00E+03	4.59E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	2.52E-02	3.05E-02
Selenium	1.00E+03	2.69E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.48E-03	1.79E-03
Silver	1.00E+03	3.85E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	2.11E-03	2.56E-03
Sodium	1.00E+03	1.46E+01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	8.01E+01	9.71E+01
Strontium	1.00E+03	1.62E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	8.86E-01	1.07E+00
Thallium	1.00E+03	6.08E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.33E-03	4.04E-03
Tin	1.00E+03	2.31E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.27E-02	1.53E-02
Titanium	1.00E+03	3.23E+00	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.77E+01	2.15E+01
Uranium	1.00E+03	1.38E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	7.59E-03	9.20E-03
Vanadium	1.00E+03	6.16E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.37E-01	4.09E-01
Zinc	1.00E+03	8.46E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	4.64E-01	5.62E-01

Equation:

$$Pd = \frac{CF \times Hg_{factor} \times Dr \times (1 - Fv) \times Fw \times Rp \times [1.0 - \exp(-kp \times Tp)]}{Yp \times kp}$$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.78), and methylmercury (0.48*0.22)

Table B.20

Aboveground Produce Predicted Concentrations Due to Air-to-Plant Transfer
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Air Concentration In Vapor Phase (Fv) (refer to table B.10) -	Annual Air Predicted Concentration (Coa) (refer to table B.6) (µg/m^3)	Air -to-Plant Biotransfer Factor (Bv_{ag}) (refer to table B.10) (mg/kg DW)/(µg/g air)	Correction Factor for Above Ground Vegetation (VG_{ag}) (refer to table B.9) -	Density of Air (pa) (refer to table B.9) (g/m^3)	Predicted Produce Concentration Due to Air-to-Plant Transfer (Pv) (mg/kg DW)
Particulate Matter						
Total Particulate Matter	--	2.40E+02	--	1.00E+00	1.20E+03	--
Particulate Matter (PM10)	--	6.05E+01	--	1.00E+00	1.20E+03	--
Particulate Matter (PM2.5)	--	1.57E+01	--	1.00E+00	1.20E+03	--
Metals						
Aluminum	0.00E+00	1.09E-01	--	1.00E+00	1.20E+03	--
Antimony	0.00E+00	1.63E-05	--	1.00E+00	1.20E+03	--
Arsenic	0.00E+00	4.33E-04	--	1.00E+00	1.20E+03	--
Barium	0.00E+00	8.85E-02	--	1.00E+00	1.20E+03	--
Beryllium	0.00E+00	1.63E-05	--	1.00E+00	1.20E+03	--
Bismuth	0.00E+00	8.20E-06	--	1.00E+00	1.20E+03	--
Boron	0.00E+00	3.71E-05	--	1.00E+00	1.20E+03	--
Cadmium	0.00E+00	5.62E-05	--	1.00E+00	1.20E+03	--
Calcium	0.00E+00	--	--	1.00E+00	1.20E+03	--
Chromium Total	0.00E+00	1.58E-03	--	1.00E+00	1.20E+03	--
Cobalt	0.00E+00	3.54E-05	--	1.00E+00	1.20E+03	--
Copper	0.00E+00	3.39E-01	--	1.00E+00	1.20E+03	--
Iron	0.00E+00	1.12E-01	--	1.00E+00	1.20E+03	--
Lead	0.00E+00	2.44E-05	--	1.00E+00	1.20E+03	--
Lithium	0.00E+00	9.02E-05	--	1.00E+00	1.20E+03	--
Magnesium	0.00E+00	--	--	1.00E+00	1.20E+03	--
Manganese	0.00E+00	1.80E-03	--	1.00E+00	1.20E+03	--
Mercury, element	1.00E+00	2.21E-06	1.00E+00	1.00E+00	1.20E+03	1.84E-09
Mercury, divalent	8.50E-01	--	1.80E+03	1.00E+00	1.20E+03	--
Mercury, methyl	0.00E+00	--	1.00E+00	1.00E+00	1.20E+03	--
Molybdenum	0.00E+00	3.13E-05	--	1.00E+00	1.20E+03	--
Nickel	0.00E+00	1.81E-03	--	1.00E+00	1.20E+03	--
Phosphorus	0.00E+00	--	--	1.00E+00	1.20E+03	--
Potassium	0.00E+00	--	--	1.00E+00	1.20E+03	--
Rubidium	0.00E+00	4.99E-05	--	1.00E+00	1.20E+03	--
Selenium	0.00E+00	1.22E-05	--	1.00E+00	1.20E+03	--
Silver	0.00E+00	1.48E-04	--	1.00E+00	1.20E+03	--
Sodium	0.00E+00	--	--	1.00E+00	1.20E+03	--
Strontium	0.00E+00	5.48E-04	--	1.00E+00	1.20E+03	--
Thallium	0.00E+00	9.52E-06	--	1.00E+00	1.20E+03	--
Tin	0.00E+00	1.85E-03	--	1.00E+00	1.20E+03	--
Titanium	0.00E+00	2.26E-03	--	1.00E+00	1.20E+03	--
Uranium	0.00E+00	9.76E-06	--	1.00E+00	1.20E+03	--
Vanadium	0.00E+00	3.30E-04	--	1.00E+00	1.20E+03	--
Zinc	0.00E+00	1.90E-02	--	1.00E+00	1.20E+03	--

Equation: $Pv = Fv \times \frac{Coa \times Bv_{ag} \times VG_{ag} \times Hg_{factor}}{pa}$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.78), and methylmercury (0.48*0.22)

Table B.21

Aboveground Produce Predicted Concentrations Due to Root Uptake
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Soil Concentration: Construction (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration: Operations (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration: Reclamation (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration: Post-Closure (Cs) (refer to table B.16) (mg/kg)	Plant-Soil Bioconcentration Factor Aboveground Produce (Br_{ag}) (refer to table B.10) (µg/g DW)/(µg/g soil)	Aboveground Produce Predicted Concentration Due to Root Uptake: Construction (Cag) (mg/kg DW)	Aboveground Produce Predicted Concentration Due to Root Uptake: Operations (Cag) (mg/kg DW)	Aboveground Produce Predicted Concentration Due to Root Uptake: Reclamation (Cag) (mg/kg DW)	Aboveground Produce Predicted Concentration Due to Root Uptake: Post-Closure (Cag) (mg/kg DW)
Particulate Matter									
Total Particulate Matter	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--
Metals									
Aluminum	1.45E+04	3.66E+04	4.18E+04	4.18E+04	1.08E-03	1.56E+01	3.94E+01	4.49E+01	4.49E+01
Antimony	1.00E+00	1.00E+00	1.00E+00	1.00E+00	5.16E-02	5.16E-02	5.16E-02	5.16E-02	5.16E-02
Arsenic	8.75E+00	9.08E+00	9.08E+00	9.08E+00	6.30E-03	5.51E-02	5.72E-02	5.72E-02	5.72E-02
Barium	3.73E+01	3.73E+01	3.73E+01	3.73E+01	3.22E-02	1.20E+00	1.20E+00	1.20E+00	1.20E+00
Beryllium	1.07E+00	1.37E+00	1.43E+00	1.43E+00	2.58E-03	2.76E-03	3.53E-03	3.68E-03	3.68E-03
Bismuth	--	--	--	--	8.81E-03	--	--	--	--
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.25E+00	5.64E+01	5.64E+01	5.64E+01	5.64E+01
Cadmium	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.20E-01	1.80E-02	1.80E-02	1.80E-02	1.80E-02
Calcium	--	--	--	--	7.50E-01	--	--	--	--
Chromium Total	1.27E+01	1.27E+01	1.27E+01	1.27E+01	4.88E-03	6.20E-02	6.20E-02	6.20E-02	6.20E-02
Cobalt	2.27E+00	2.27E+00	2.27E+00	2.27E+00	8.65E-03	1.96E-02	1.96E-02	1.96E-02	1.96E-02
Copper	6.56E+00	6.56E+00	6.56E+00	6.56E+00	2.69E-01	1.77E+00	1.77E+00	1.77E+00	1.77E+00
Iron	1.64E+04	1.64E+04	1.64E+04	1.64E+04	1.38E-03	2.27E+01	2.27E+01	2.27E+01	2.27E+01
Lead	1.56E+01	1.92E+01	1.99E+01	1.99E+01	1.36E-02	2.12E-01	2.60E-01	2.71E-01	2.71E-01
Lithium	9.61E+00	1.31E+01	1.35E+01	1.35E+01	6.67E-03	6.41E-02	8.73E-02	9.01E-02	9.01E-02
Magnesium	--	--	--	--	6.07E-01	--	--	--	--
Manganese	9.66E+01	9.66E+01	9.66E+01	9.66E+01	7.54E-02	7.29E+00	7.29E+00	7.29E+00	7.29E+00
Mercury, element	1.62E-01	1.62E-01	1.62E-01	1.62E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, divalent	6.31E-03	3.89E-02	4.72E-02	4.72E-02	1.40E-02	8.83E-05	5.45E-04	6.61E-04	6.61E-04
Mercury, methyl	6.06E-08	6.06E-08	6.06E-08	6.06E-08	2.90E-02	1.76E-09	1.76E-09	1.76E-09	1.76E-09
Molybdenum	1.00E+00	1.00E+00	1.00E+00	1.00E+00	8.42E-02	8.42E-02	8.42E-02	8.42E-02	8.42E-02
Nickel	6.91E+00	6.91E+00	6.91E+00	6.91E+00	9.30E-03	6.43E-02	6.43E-02	6.43E-02	6.43E-02
Phosphorus	2.00E+00	2.00E+00	2.00E+00	2.00E+00	3.50E+00	7.02E+00	7.02E+00	7.02E+00	7.02E+00
Potassium	1.44E+02	1.44E+02	1.44E+02	1.44E+02	6.07E-01	8.75E+01	8.75E+01	8.75E+01	8.75E+01
Rubidium	--	--	--	--	1.00E+00	--	--	--	--
Selenium	8.64E-01	8.64E-01	8.64E-01	8.64E-01	2.00E-02	1.73E-02	1.73E-02	1.73E-02	1.73E-02
Silver	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.38E-01	3.45E-02	3.45E-02	3.45E-02	3.45E-02
Sodium	7.20E+02	1.50E+03	1.51E+03	1.51E+03	5.75E-02	4.14E+01	8.62E+01	8.70E+01	8.70E+01
Strontium	1.94E+01	1.94E+01	1.94E+01	1.94E+01	5.36E-01	1.04E+01	1.04E+01	1.04E+01	1.04E+01
Thallium	5.00E-02	5.00E-02	5.00E-02	5.00E-02	8.58E-04	4.29E-05	4.29E-05	4.29E-05	4.29E-05
Tin	5.23E-01	5.81E-01	5.87E-01	5.87E-01	9.05E-03	4.73E-03	5.26E-03	5.31E-03	5.31E-03
Titanium	2.09E+02	1.15E+03	1.35E+03	1.35E+03	3.32E-03	6.92E-01	3.80E+00	4.47E+00	4.47E+00
Uranium	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.00E+00	6.70E-01	6.70E-01	6.70E-01	6.70E-01
Vanadium	2.44E+01	3.62E+01	3.87E+01	3.87E+01	3.32E-03	8.10E-02	1.20E-01	1.28E-01	1.28E-01
Zinc	1.97E+01	1.97E+01	1.97E+01	1.97E+01	9.70E-02	1.91E+00	1.91E+00	1.91E+00	1.91E+00

Equation: $Cag = Cs \times Br_{ag}$

Table B.22

Aboveground Produce Predicted Concentrations Due to Deposition, Vapour Transfer, and Root Uptake
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Produce Concentration Due to Direct Deposition		Predicted Produce Concentration Due to Air-to-Plant Transfer	Aboveground Produce Predicted Concentration Due to Root Uptake				Aboveground Produce (Vegetable) Predicted Concentration				Baseline Berry Concentration	Aboveground Produce (Fruit) Predicted Concentration			
	Vegetable (Pd) (refer to table B.19)	Fruit (Pd) (refer to table B.19)	Transfer (Pv) (refer to table B.20)	Construction (Cag) (refer to table B.21)	Operations (Cag) (refer to table B.21)	Reclamation (Cag) (refer to table B.21)	Post-Closure (Cag) (refer to table B.21)	Construction (Cv)	Operations (Cv)	Reclamation (Cv)	Post-Closure (Cv)	(Cfru) (refer to table B.1)	Construction (Cfru)	Operations (Cfru)	Reclamation (Cfru)	Post-Closure (Cfru) (1)
Contaminant	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)
Particulate Matter																
Total Particulate Matter	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--
Metals																
Aluminum	4.22E+02	5.11E+02	0.00E+00	1.56E+01	3.94E+01	4.49E+01	4.49E+01	4.37E+02	4.61E+02	4.67E+02	4.67E+02	2.60E+01	5.27E+02	5.51E+02	5.56E+02	4.49E+01
Antimony	1.27E-02	1.53E-02	0.00E+00	5.16E-02	5.16E-02	5.16E-02	5.16E-02	6.43E-02	6.43E-02	6.43E-02	6.43E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Arsenic	1.64E+00	1.99E+00	0.00E+00	5.51E-02	5.72E-02	5.72E-02	5.72E-02	1.70E+00	1.70E+00	1.70E+00	1.70E+00	1.07E+00	2.05E+00	2.05E+00	2.05E+00	1.07E+00
Barium	3.42E+00	4.14E+00	0.00E+00	1.20E+00	1.20E+00	1.20E+00	1.20E+00	4.62E+00	4.62E+00	4.62E+00	4.62E+00	2.33E+01	2.33E+01	2.33E+01	2.33E+01	2.33E+01
Beryllium	1.27E-02	1.53E-02	0.00E+00	2.76E-03	3.53E-03	3.68E-03	3.68E-03	1.54E-02	1.62E-02	1.63E-02	1.63E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Bismuth	1.39E-03	1.69E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.39E-03	1.39E-03	1.39E-03	1.39E-03	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01
Boron	1.05E-01	1.28E-01	0.00E+00	5.64E+01	5.64E+01	5.64E+01	5.64E+01	5.65E+01	5.65E+01	5.65E+01	5.65E+01	1.27E+01	5.65E+01	5.65E+01	5.65E+01	5.64E+01
Cadmium	5.06E-04	6.13E-04	0.00E+00	1.80E-02	1.80E-02	1.80E-02	1.80E-02	1.85E-02	1.85E-02	1.85E-02	1.85E-02	2.13E-01	2.13E-01	2.13E-01	2.13E-01	2.13E-01
Calcium	5.48E+01	6.65E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.48E+01	5.48E+01	5.48E+01	5.48E+01	6.20E+03	6.20E+03	6.20E+03	6.20E+03	6.20E+03
Chromium Total	4.68E-01	5.67E-01	0.00E+00	6.20E-02	6.20E-02	6.20E-02	6.20E-02	5.30E-01	5.30E-01	5.30E-01	5.30E-01	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Cobalt	7.59E-02	9.20E-02	0.00E+00	1.96E-02	1.96E-02	1.96E-02	1.96E-02	9.56E-02	9.56E-02	9.56E-02	9.56E-02	5.33E-01	5.33E-01	5.33E-01	5.33E-01	5.33E-01
Copper	1.56E-01	1.89E-01	0.00E+00	1.77E+00	1.77E+00	1.77E+00	1.77E+00	1.92E+00	1.92E+00	1.92E+00	1.92E+00	7.33E+00	7.33E+00	7.33E+00	7.33E+00	7.33E+00
Iron	1.81E+02	2.20E+02	0.00E+00	2.27E+01	2.27E+01	2.27E+01	2.27E+01	2.04E+02	2.04E+02	2.04E+02	2.04E+02	3.20E+01	2.42E+02	2.42E+02	2.42E+02	3.20E+01
Lead	1.56E-01	1.89E-01	0.00E+00	2.12E-01	2.60E-01	2.71E-01	2.71E-01	3.68E-01	4.17E-01	4.27E-01	4.27E-01	3.47E-01	4.01E-01	4.50E-01	4.60E-01	3.47E-01
Lithium	2.57E-01	3.12E-01	0.00E+00	6.41E-02	8.73E-02	9.01E-02	9.01E-02	3.21E-01	3.45E-01	3.47E-01	3.47E-01	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00
Magnesium	6.33E+01	7.67E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.33E+01	6.33E+01	6.33E+01	6.33E+01	3.33E+02	3.33E+02	3.33E+02	3.33E+02	3.33E+02
Manganese	3.88E+00	4.71E+00	0.00E+00	7.29E+00	7.29E+00	7.29E+00	7.29E+00	1.12E+01	1.12E+01	1.12E+01	1.12E+01	4.20E+02	4.20E+02	4.20E+02	4.20E+02	4.20E+02
Mercury, element	0.00E+00	0.00E+00	1.84E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.84E-09	1.84E-09	1.84E-09	1.84E-09	1.67E-02	1.67E-02	1.67E-02	1.67E-02	1.67E-02
Mercury, divalent	7.86E-05	9.52E-05	0.00E+00	8.83E-05	5.45E-04	6.61E-04	6.61E-04	1.67E-04	6.23E-04	7.39E-04	7.39E-04	--	1.84E-04	6.40E-04	7.56E-04	6.61E-04
Mercury, methyl	1.07E-05	1.30E-05	0.00E+00	1.76E-09	1.76E-09	1.76E-09	1.76E-09	1.07E-05	1.07E-05	1.07E-05	1.07E-05	--	1.30E-05	1.30E-05	1.30E-05	1.76E-09
Molybdenum	3.37E-03	4.09E-03	0.00E+00	8.42E-02	8.42E-02	8.42E-02	8.42E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Nickel	1.73E-01	2.10E-01	0.00E+00	6.43E-02	6.43E-02	6.43E-02	6.43E-02	2.37E-01	2.37E-01	2.37E-01	2.37E-01	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Phosphorus	2.91E+00	3.53E+00	0.00E+00	7.02E+00	7.02E+00	7.02E+00	7.02E+00	9.93E+00	9.93E+00	9.93E+00	9.93E+00	1.07E+03	1.07E+03	1.07E+03	1.07E+03	1.07E+03
Potassium	1.35E+02	1.64E+02	0.00E+00	8.75E+01	8.75E+01	8.75E+01	8.75E+01	2.22E+02	2.22E+02	2.22E+02	2.22E+02	5.73E+03	5.73E+03	5.73E+03	5.73E+03	5.73E+03
Rubidium	2.52E-02	3.05E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.52E-02	2.52E-02	2.52E-02	2.52E-02	--	3.05E-02	3.05E-02	3.05E-02	0.00E+00
Selenium	1.48E-03	1.79E-03	0.00E+00	1.73E-02	1.73E-02	1.73E-02	1.73E-02	1.88E-02	1.88E-02	1.88E-02	1.88E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Silver	2.11E-03	2.56E-03	0.00E+00	3.45E-02	3.45E-02	3.45E-02	3.45E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	2.67E-01	2.67E-01	2.67E-01	2.67E-01	2.67E-01
Sodium	8.01E+01	9.71E+01	0.00E+00	4.14E+01	8.62E+01	8.70E+01	8.70E+01	1.22E+02	1.66E+02	1.67E+02	1.67E+02	1.67E+02	1.67E+02	1.83E+02	1.84E+02	1.67E+02
Strontium	8.86E-01	1.07E+00	0.00E+00	1.04E+01	1.04E+01	1.04E+01	1.04E+01	1.13E+01	1.13E+01	1.13E+01	1.13E+01	1.47E+01	1.47E+01	1.47E+01	1.47E+01	1.47E+01
Thallium	3.33E-03	4.04E-03	0.00E+00	4.29E-05	4.29E-05	4.29E-05	4.29E-05	3.37E-03	3.37E-03	3.37E-03	3.37E-03	7.33E-02	7.33E-02	7.33E-02	7.33E-02	7.33E-02
Tin	1.27E-02	1.53E-02	0.00E+00	4.73E-03	5.26E-03	5.31E-03	5.31E-03	1.74E-02	1.79E-02	1.80E-02	1.80E-02	8.00E+00	8.00E+00	8.00E+00	8.00E+00	8.00E+00
Titanium	1.77E+01	2.15E+01	0.00E+00	6.92E-01	3.80E+00	4.47E+00	4.47E+00	1.84E+01	2.15E+01	2.22E+01	2.22E+01	1.67E+00	2.22E+01	2.53E+01	2.59E+01	4.47E+00
Uranium	7.59E-03	9.20E-03	0.00E+00	6.70E-01	6.70E-01	6.70E-01	6.70E-01	6.78E-01	6.78E-01	6.78E-01	6.78E-01	5.33E-02	6.79E-01	6.79E-01	6.79E-01	6.70E-01
Vanadium	3.37E-01	4.09E-01	0.00E+00	8.10E-02	1.20E-01	1.28E-01	1.28E-01	4.18E-01	4.57E-01	4.66E-01	4.66E-01	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Zinc	4.64E-01	5.62E-01	0.00E+00	1.91E+00	1.91E+00	1.91E+00	1.91E+00	2.37E+00	2.37E+00	2.37E+00	2.37E+00	1.40E+01	1.40E+01	1.40E+01	1.40E+01	1.40E+01

Equation: Cv and Cfru = Pd + Pv +Cag

Table B.23

Belowground Produce Predicted Concentrations Due to Root Uptake
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Soil Concentration: Construction (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration: Operations (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration: Reclamation (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration: Post-Closure (Cs) (refer to table B.16) (mg/kg)	Plant-Soil Bioconcentration Factor Belowground Produce ($Br_{rootveg}$) (refer to table B.10) (µg/g DW)/(µg/g soil)	Correction Factor For Belowground Produce $VG_{rootveg}$ (refer to table B.9) -	Belowground Produce Predicted Concentration Due to Root Uptake: Construction (Cr) (mg/kg DW)	Belowground Produce Predicted Concentration Due to Root Uptake: Operations (Cr) (mg/kg DW)	Belowground Produce Predicted Concentration Due to Root Uptake: Reclamation (Cr) (mg/kg DW)	Belowground Produce Predicted Concentration Due to Root Uptake: Post-Closure (Cr) (mg/kg DW)
Particulate Matter										
Total Particulate Matter	--	--	--	--	--	1.00E+00	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	1.00E+00	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	1.00E+00	--	--	--	--
Metals										
Aluminum	1.45E+04	3.66E+04	4.18E+04	4.18E+04	6.50E-04	1.00E+00	9.42E+00	2.38E+01	2.72E+01	2.72E+01
Antimony	1.00E+00	1.00E+00	1.00E+00	1.00E+00	3.00E-02	1.00E+00	3.00E-02	3.00E-02	3.00E-02	3.00E-02
Arsenic	8.75E+00	9.08E+00	9.08E+00	9.08E+00	8.00E-03	1.00E+00	7.00E-02	7.27E-02	7.27E-02	7.27E-02
Barium	3.73E+01	3.73E+01	3.73E+01	3.73E+01	1.50E-02	1.00E+00	5.60E-01	5.60E-01	5.60E-01	5.60E-01
Beryllium	1.07E+00	1.37E+00	1.43E+00	1.43E+00	1.50E-03	1.00E+00	1.60E-03	2.05E-03	2.14E-03	2.14E-03
Bismuth	--	--	--	--	5.00E-03	1.00E+00	--	--	--	--
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.00E+00	1.00E+00	5.00E+01	5.00E+01	5.00E+01	5.00E+01
Cadmium	1.50E-01	1.50E-01	1.50E-01	1.50E-01	6.40E-02	1.00E+00	9.60E-03	9.60E-03	9.60E-03	9.60E-03
Calcium	--	--	--	--	3.50E-01	1.00E+00	--	--	--	--
Chromium Total	1.27E+01	1.27E+01	1.27E+01	1.27E+01	4.50E-03	1.00E+00	5.72E-02	5.72E-02	5.72E-02	5.72E-02
Cobalt	2.27E+00	2.27E+00	2.27E+00	2.27E+00	7.00E-03	1.00E+00	1.59E-02	1.59E-02	1.59E-02	1.59E-02
Copper	6.56E+00	6.56E+00	6.56E+00	6.56E+00	2.50E-01	1.00E+00	1.64E+00	1.64E+00	1.64E+00	1.64E+00
Iron	1.64E+04	1.64E+04	1.64E+04	1.64E+04	1.00E-03	1.00E+00	1.64E+01	1.64E+01	1.64E+01	1.64E+01
Lead	1.56E+01	1.92E+01	1.99E+01	1.99E+01	9.00E-03	1.00E+00	1.41E-01	1.73E-01	1.79E-01	1.79E-01
Lithium	9.61E+00	1.31E+01	1.35E+01	1.35E+01	4.00E-03	1.00E+00	3.84E-02	5.23E-02	5.40E-02	5.40E-02
Magnesium	--	--	--	--	5.50E-01	1.00E+00	--	--	--	--
Manganese	9.66E+01	9.66E+01	9.66E+01	9.66E+01	5.00E-02	1.00E+00	4.83E+00	4.83E+00	4.83E+00	4.83E+00
Mercury, element	1.62E-01	1.62E-01	1.62E-01	1.62E-01	0.00E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, divalent	6.31E-03	3.89E-02	4.72E-02	4.72E-02	3.60E-02	1.00E+00	2.27E-04	1.40E-03	1.70E-03	1.70E-03
Mercury, methyl	6.06E-08	6.06E-08	6.06E-08	6.06E-08	9.90E-02	1.00E+00	6.00E-09	6.00E-09	6.00E-09	6.00E-09
Molybdenum	1.00E+00	1.00E+00	1.00E+00	1.00E+00	6.00E-02	1.00E+00	6.00E-02	6.00E-02	6.00E-02	6.00E-02
Nickel	6.91E+00	6.91E+00	6.91E+00	6.91E+00	8.00E-03	1.00E+00	5.53E-02	5.53E-02	5.53E-02	5.53E-02
Phosphorus	2.00E+00	2.00E+00	2.00E+00	2.00E+00	3.50E+00	1.00E+00	7.02E+00	7.02E+00	7.02E+00	7.02E+00
Potassium	1.44E+02	1.44E+02	1.44E+02	1.44E+02	5.50E-01	1.00E+00	7.93E+01	7.93E+01	7.93E+01	7.93E+01
Rubidium	--	--	--	--	1.00E+00	1.00E+00	--	--	--	--
Selenium	8.64E-01	8.64E-01	8.64E-01	8.64E-01	2.20E-02	1.00E+00	1.90E-02	1.90E-02	1.90E-02	1.90E-02
Silver	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.00E-01	1.00E+00	2.50E-02	2.50E-02	2.50E-02	2.50E-02
Sodium	7.20E+02	1.50E+03	1.51E+03	1.51E+03	5.50E-02	1.00E+00	3.96E+01	8.24E+01	8.32E+01	8.32E+01
Strontium	1.94E+01	1.94E+01	1.94E+01	1.94E+01	2.50E-01	1.00E+00	4.85E+00	4.85E+00	4.85E+00	4.85E+00
Thallium	5.00E-02	5.00E-02	5.00E-02	5.00E-02	4.00E-04	1.00E+00	2.00E-05	2.00E-05	2.00E-05	2.00E-05
Tin	5.23E-01	5.81E-01	5.87E-01	5.87E-01	6.00E-03	1.00E+00	3.14E-03	3.49E-03	3.52E-03	3.52E-03
Titanium	2.09E+02	1.15E+03	1.35E+03	1.35E+03	3.00E-03	1.00E+00	6.26E-01	3.44E+00	4.04E+00	4.04E+00
Uranium	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.00E+00	1.00E+00	6.70E-01	6.70E-01	6.70E-01	6.70E-01
Vanadium	2.44E+01	3.62E+01	3.87E+01	3.87E+01	3.00E-03	1.00E+00	7.33E-02	1.09E-01	1.16E-01	1.16E-01
Zinc	1.97E+01	1.97E+01	1.97E+01	1.97E+01	9.00E-01	1.00E+00	1.77E+01	1.77E+01	1.77E+01	1.77E+01

Equation: $Cr = Cs \times Br_{rootveg} \times VG_{rootveg}$

Table B.24

Predicted Produce Concentrations
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Aboveground Produce (Vegetable) Predicted Concentration				Aboveground Produce (Fruit) Predicted Concentration				Belowground Produce Predicted Concentration			
Contaminant	Construction (Cv) (refer to table B.22) (mg/kg FW)	Operations (Cv) (refer to table B.22) (mg/kg FW)	Reclamation (Cv) (refer to table B.22) (mg/kg FW)	Post-Closure (Cv) (refer to table B.22) (mg/kg FW)	Construction (Cfru) (refer to table B.22) (mg/kg FW)	Operations (Cfru) (refer to table B.22) (mg/kg FW)	Reclamation (Cfru) (refer to table B.22) (mg/kg FW)	Post-Closure (Cfru) (refer to table B.22) (mg/kg FW)	Construction (Cr) (refer to table B.23) (mg/kg FW)	Operations (Cr) (refer to table B.23) (mg/kg FW)	Reclamation (Cr) (refer to table B.23) (mg/kg FW)	Post-Closure (Cr) (refer to table B.23) (mg/kg FW)
Particulate Matter												
Total Particulate Matter	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--	--	--	--
Metals												
Aluminum	6.56E+01	6.92E+01	7.00E+01	7.00E+01	7.90E+01	8.26E+01	8.34E+01	6.74E+00	1.41E+00	3.57E+00	4.07E+00	4.07E+00
Antimony	9.64E-03	9.64E-03	9.64E-03	9.64E-03	1.60E-01	1.60E-01	1.60E-01	1.60E-01	4.50E-03	4.50E-03	4.50E-03	4.50E-03
Arsenic	2.55E-01	2.55E-01	2.55E-01	2.55E-01	3.07E-01	3.08E-01	3.08E-01	1.60E-01	1.05E-02	1.09E-02	1.09E-02	1.09E-02
Barium	6.92E-01	6.92E-01	6.92E-01	6.92E-01	3.50E+00	3.50E+00	3.50E+00	3.50E+00	8.39E-02	8.39E-02	8.39E-02	8.39E-02
Beryllium	2.31E-03	2.43E-03	2.45E-03	2.45E-03	1.60E-01	1.60E-01	1.60E-01	1.60E-01	2.41E-04	3.08E-04	3.21E-04	3.21E-04
Bismuth	2.09E-04	2.09E-04	2.09E-04	2.09E-04	2.50E-02	2.50E-02	2.50E-02	2.50E-02	--	--	--	--
Boron	8.47E+00	8.47E+00	8.47E+00	8.47E+00	8.47E+00	8.47E+00	8.47E+00	8.45E+00	7.50E+00	7.50E+00	7.50E+00	7.50E+00
Cadmium	2.78E-03	2.78E-03	2.78E-03	2.78E-03	3.20E-02	3.20E-02	3.20E-02	3.20E-02	1.44E-03	1.44E-03	1.44E-03	1.44E-03
Calcium	8.22E+00	8.22E+00	8.22E+00	8.22E+00	9.30E+02	9.30E+02	9.30E+02	9.30E+02	--	--	--	--
Chromium Total	7.95E-02	7.95E-02	7.95E-02	7.95E-02	1.60E-01	1.60E-01	1.60E-01	1.60E-01	8.58E-03	8.58E-03	8.58E-03	8.58E-03
Cobalt	1.43E-02	1.43E-02	1.43E-02	1.43E-02	8.00E-02	8.00E-02	8.00E-02	8.00E-02	2.38E-03	2.38E-03	2.38E-03	2.38E-03
Copper	2.88E-01	2.88E-01	2.88E-01	2.88E-01	1.10E+00	1.10E+00	1.10E+00	1.10E+00	2.46E-01	2.46E-01	2.46E-01	2.46E-01
Iron	3.06E+01	3.06E+01	3.06E+01	3.06E+01	3.64E+01	3.64E+01	3.64E+01	4.80E+00	2.46E+00	2.46E+00	2.46E+00	2.46E+00
Lead	5.52E-02	6.25E-02	6.40E-02	6.40E-02	6.02E-02	6.74E-02	6.90E-02	5.20E-02	2.11E-02	2.59E-02	2.69E-02	2.69E-02
Lithium	4.82E-02	5.17E-02	5.21E-02	5.21E-02	1.70E-01	1.70E-01	1.70E-01	1.70E-01	5.77E-03	7.85E-03	8.11E-03	8.11E-03
Magnesium	9.49E+00	9.49E+00	9.49E+00	9.49E+00	5.00E+01	5.00E+01	5.00E+01	5.00E+01	--	--	--	--
Manganese	1.68E+00	1.68E+00	1.68E+00	1.68E+00	6.30E+01	6.30E+01	6.30E+01	6.30E+01	7.25E-01	7.25E-01	7.25E-01	7.25E-01
Mercury, element	2.76E-10	2.76E-10	2.76E-10	2.76E-10	2.50E-03	2.50E-03	2.50E-03	2.50E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, divalent	2.50E-05	9.35E-05	1.11E-04	1.11E-04	2.75E-05	9.60E-05	1.13E-04	9.91E-05	3.41E-05	2.10E-04	2.55E-04	2.55E-04
Mercury, methyl	1.60E-06	1.60E-06	1.60E-06	1.60E-06	1.94E-06	1.94E-06	1.94E-06	2.64E-10	9.00E-10	9.00E-10	9.00E-10	9.00E-10
Molybdenum	1.31E-02	1.31E-02	1.31E-02	1.31E-02	1.60E-01	1.60E-01	1.60E-01	1.60E-01	9.00E-03	9.00E-03	9.00E-03	9.00E-03
Nickel	3.56E-02	3.56E-02	3.56E-02	3.56E-02	1.60E-01	1.60E-01	1.60E-01	1.60E-01	8.29E-03	8.29E-03	8.29E-03	8.29E-03
Phosphorus	1.49E+00	1.49E+00	1.49E+00	1.49E+00	1.60E+02	1.60E+02	1.60E+02	1.60E+02	1.05E+00	1.05E+00	1.05E+00	1.05E+00
Potassium	3.34E+01	3.34E+01	3.34E+01	3.34E+01	8.60E+02	8.60E+02	8.60E+02	8.60E+02	1.19E+01	1.19E+01	1.19E+01	1.19E+01
Rubidium	3.78E-03	3.78E-03	3.78E-03	3.78E-03	4.58E-03	4.58E-03	4.58E-03	0.00E+00	--	--	--	--
Selenium	2.81E-03	2.81E-03	2.81E-03	2.81E-03	1.60E-01	1.60E-01	1.60E-01	1.60E-01	2.85E-03	2.85E-03	2.85E-03	2.85E-03
Silver	5.50E-03	5.50E-03	5.50E-03	5.50E-03	4.00E-02	4.00E-02	4.00E-02	4.00E-02	3.75E-03	3.75E-03	3.75E-03	3.75E-03
Sodium	1.82E+01	2.49E+01	2.51E+01	2.51E+01	2.50E+01	2.75E+01	2.76E+01	2.50E+01	5.94E+00	1.24E+01	1.25E+01	1.25E+01
Strontium	1.69E+00	1.69E+00	1.69E+00	1.69E+00	2.20E+00	2.20E+00	2.20E+00	2.20E+00	7.28E-01	7.28E-01	7.28E-01	7.28E-01
Thallium	5.06E-04	5.06E-04	5.06E-04	5.06E-04	1.10E-02	1.10E-02	1.10E-02	1.10E-02	3.00E-06	3.00E-06	3.00E-06	3.00E-06
Tin	2.61E-03	2.69E-03	2.69E-03	2.69E-03	1.20E+00	1.20E+00	1.20E+00	1.20E+00	4.70E-04	5.23E-04	5.28E-04	5.28E-04
Titanium	2.76E+00	3.23E+00	3.33E+00	3.33E+00	3.32E+00	3.79E+00	3.89E+00	6.71E-01	9.39E-02	5.15E-01	6.07E-01	6.07E-01
Uranium	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.01E-01	1.01E-01	1.01E-01	1.01E-01	1.01E-01
Vanadium	6.28E-02	6.86E-02	6.99E-02	6.99E-02	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.10E-02	1.63E-02	1.74E-02	1.74E-02
Zinc	3.56E-01	3.56E-01	3.56E-01	3.56E-01	2.10E+00	2.10E+00	2.10E+00	2.10E+00	2.66E+00	2.66E+00	2.66E+00	2.66E+00

Table B.25

Predicted Forage Concentration Due to Direct Deposition
Animal Product Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Units Conversion Factor (CF) (mg/g)	Annual Deposition Rate (Dr) (refer to table B.7) (g/m^2-yr)	Fraction of Air Concentration In Vapor Phase (Fv) (refer to table B.10) -	Fraction Wet Deposition Adhere to Plant (Fw) (refer to table B.9) -	Interception Fraction Edible Plant Portion Forage (Rp) (refer to table B.9) -	Plant Surface Loss Coefficient Forage (kp) (refer to table B.9) (yr^{-1})	Length of Plant Exposure to Deposition per Harvest of Edible Plant Forage (Tp) (refer to table B.9) (yrs)	Yield of Edible Portion of Plant Forage (Yp) (refer to table B.9) (kg DW/m^2)	Forage Concentration Due to Direct Deposition Forage (Pd) (mg/kg DW)
Particulate Matter									
Total Particulate Matter	1.00E+03	7.69E+02	--	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Particulate Matter (PM10)	1.00E+03	9.49E+01	--	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Particulate Matter (PM2.5)	1.00E+03	4.46E-01	--	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Metals									
Aluminum	1.00E+03	7.69E+01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	3.49E+03
Antimony	1.00E+03	2.31E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.05E-01
Arsenic	1.00E+03	3.00E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.36E+01
Barium	1.00E+03	6.23E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.83E+01
Beryllium	1.00E+03	2.31E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.05E-01
Bismuth	1.00E+03	2.54E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.15E-02
Boron	1.00E+03	1.92E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	8.73E-01
Cadmium	1.00E+03	9.23E-05	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	4.19E-03
Calcium	1.00E+03	1.00E+01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	4.54E+02
Chromium Total	1.00E+03	8.54E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	3.87E+00
Cobalt	1.00E+03	1.38E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	6.28E-01
Copper	1.00E+03	2.85E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.29E+00
Iron	1.00E+03	3.31E+01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.50E+03
Lead	1.00E+03	2.85E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.29E+00
Lithium	1.00E+03	4.69E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.13E+00
Magnesium	1.00E+03	1.15E+01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	5.24E+02
Manganese	1.00E+03	7.09E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	3.21E+01
Mercury, element	1.00E+03	2.03E-04	1.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Mercury, divalent	1.00E+03	--	8.50E-01	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Mercury, methyl	1.00E+03	--	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Molybdenum	1.00E+03	6.16E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.79E-02
Nickel	1.00E+03	3.15E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.43E+00
Phosphorus	1.00E+03	5.31E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.41E+01
Potassium	1.00E+03	2.46E+01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.12E+03
Rubidium	1.00E+03	4.59E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.08E-01
Selenium	1.00E+03	2.69E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.22E-02
Silver	1.00E+03	3.85E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.75E-02
Sodium	1.00E+03	1.46E+01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	6.63E+02
Strontium	1.00E+03	1.62E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	7.33E+00
Thallium	1.00E+03	6.08E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.76E-02
Tin	1.00E+03	2.31E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.05E-01
Titanium	1.00E+03	3.23E+00	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.47E+02
Uranium	1.00E+03	1.38E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	6.28E-02
Vanadium	1.00E+03	6.16E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.79E+00
Zinc	1.00E+03	8.46E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	3.84E+00

Equation:

$$Pd = \frac{CF \times Hg_{factor} \times Dr \times (1 - Fv) \times Fw \times Rp \times [1.0 - \exp(-kp \times Tp)]}{Yp \times kp}$$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.78), and methylmercury (0.48*0.22)

Table B.26

Forage Predicted Concentration Due to Air-to-Plant Transfer
Animal Product Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Air Concentration In Vapor Phase (Fv) (refer to table B.25) -	Annual Air Predicted Concentration (Coa) (refer to table B.6) (µg/m^3)	Air -to-Plant Biotransfer Factor (Bv_{ag}) (refer to table B.10) (mg/kg DW)/(µg/g air)	Correction Factor for Above Ground Vegetation (1) Forage (VG_{ag}) (refer to table B.9) -	Density of Air (pa) (refer to table B.9) (g/m^3)	Predicted Forage Concentration Due to Air-to-Plant Transfer Forage (Pv) (mg/kg DW)
Particulate Matter						
Total Particulate Matter	--	2.40E+02	--	1.00E+00	1.20E+03	0.00E+00
Particulate Matter (PM10)	--	6.05E+01	--	1.00E+00	1.20E+03	0.00E+00
Particulate Matter (PM2.5)	--	1.57E+01	--	1.00E+00	1.20E+03	0.00E+00
Metals						
Aluminum	0.00E+00	1.09E-01	--	1.00E+00	1.20E+03	0.00E+00
Antimony	0.00E+00	1.63E-05	--	1.00E+00	1.20E+03	0.00E+00
Arsenic	0.00E+00	4.33E-04	--	1.00E+00	1.20E+03	0.00E+00
Barium	0.00E+00	8.85E-02	--	1.00E+00	1.20E+03	0.00E+00
Beryllium	0.00E+00	1.63E-05	--	1.00E+00	1.20E+03	0.00E+00
Bismuth	0.00E+00	8.20E-06	--	1.00E+00	1.20E+03	0.00E+00
Boron	0.00E+00	3.71E-05	--	1.00E+00	1.20E+03	0.00E+00
Cadmium	0.00E+00	5.62E-05	--	1.00E+00	1.20E+03	0.00E+00
Calcium	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Chromium Total	0.00E+00	1.58E-03	--	1.00E+00	1.20E+03	0.00E+00
Cobalt	0.00E+00	3.54E-05	--	1.00E+00	1.20E+03	0.00E+00
Copper	0.00E+00	3.39E-01	--	1.00E+00	1.20E+03	0.00E+00
Iron	0.00E+00	1.12E-01	--	1.00E+00	1.20E+03	0.00E+00
Lead	0.00E+00	2.44E-05	--	1.00E+00	1.20E+03	0.00E+00
Lithium	0.00E+00	9.02E-05	--	1.00E+00	1.20E+03	0.00E+00
Magnesium	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Manganese	0.00E+00	1.80E-03	--	1.00E+00	1.20E+03	0.00E+00
Mercury, element	1.00E+00	2.21E-06	1.00E+00	1.00E+00	1.20E+03	1.84E-09
Mercury, divalent	8.50E-01	--	1.80E+03	1.00E+00	1.20E+03	0.00E+00
Mercury, methyl	0.00E+00	--	1.00E+00	1.00E+00	1.20E+03	0.00E+00
Molybdenum	0.00E+00	3.13E-05	--	1.00E+00	1.20E+03	0.00E+00
Nickel	0.00E+00	1.81E-03	--	1.00E+00	1.20E+03	0.00E+00
Phosphorus	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Potassium	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Rubidium	0.00E+00	4.99E-05	--	1.00E+00	1.20E+03	0.00E+00
Selenium	0.00E+00	1.22E-05	--	1.00E+00	1.20E+03	0.00E+00
Silver	0.00E+00	1.48E-04	--	1.00E+00	1.20E+03	0.00E+00
Sodium	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Strontium	0.00E+00	5.48E-04	--	1.00E+00	1.20E+03	0.00E+00
Thallium	0.00E+00	9.52E-06	--	1.00E+00	1.20E+03	0.00E+00
Tin	0.00E+00	1.85E-03	--	1.00E+00	1.20E+03	0.00E+00
Titanium	0.00E+00	2.26E-03	--	1.00E+00	1.20E+03	0.00E+00
Uranium	0.00E+00	9.76E-06	--	1.00E+00	1.20E+03	0.00E+00
Vanadium	0.00E+00	3.30E-04	--	1.00E+00	1.20E+03	0.00E+00
Zinc	0.00E+00	1.90E-02	--	1.00E+00	1.20E+03	0.00E+00

Equation: $Pv = Fv \times \frac{Coa \times Bv_{ag} \times VGag \times Hg_{factor}}{pa}$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.78), and methylmercury (0.48*0.22)

Table B.27

Forage Predicted Concentration Due to Root Uptake
Animal Product Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Forage Concentration Due to Direct Deposition (Pd) (refer to table B.25) (mg/kg DW)	Predicted Forage Concentration Due to Air-to-Plant Transfer (Pv) (refer to table B.26) (mg/kg DW)	Predicted Soil Concentration				Plant-Soil Bioconcentration Factor	Berry Concentration Dry Weight	Forage Predicted Concentration Dry Weight				Berry Concentration Wet Weight	Forage Predicted Concentration Wet Weight			
			Construction (Cs) (refer to table B.16) (mg/kg)	Operations (Cs) (refer to table B.16) (mg/kg)	Reclamation (Cs) (refer to table B.16) (mg/kg)	Post-Closure (Cs) (refer to table B.16) (mg/kg)	Forage (Br_{forage}) (refer to table B.10) (µg/g DW)/(µg/g soil)	Baseline (Cfru) (refer to table B.1) (mg/kg DW)	Construction (Cfo) (mg/kg DW)	Operations (Cfo) (mg/kg DW)	Reclamation (Cfo) (mg/kg DW)	Post-Closure (Cfo) (mg/kg DW)	Baseline (Cfru) (refer to table B.1) (mg/kg FW)	Construction (Cfo) (mg/kg FW)	Operations (Cfo) (mg/kg FW)	Reclamation (Cfo) (mg/kg FW)	Post-Closure (Cfo) (mg/kg FW)
Particulate Matter																	
Total Particulate Matter	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Aluminum	3.49E+03	0.00E+00	1.45E+04	3.66E+04	4.18E+04	4.18E+04	4.00E-03	2.60E+01	3.55E+03	3.64E+03	3.66E+03	3.66E+03	3.90E+00	5.32E+02	5.46E+02	5.49E+02	5.49E+02
Antimony	1.05E-01	0.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	2.00E-01	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Arsenic	1.36E+01	0.00E+00	8.75E+00	9.08E+00	9.08E+00	9.08E+00	3.60E-02	1.07E+00	1.39E+01	1.39E+01	1.39E+01	1.39E+01	1.60E-01	2.09E+00	2.09E+00	2.09E+00	2.09E+00
Barium	2.83E+01	0.00E+00	3.73E+01	3.73E+01	3.73E+01	3.73E+01	1.50E-01	2.33E+01	3.39E+01	3.39E+01	3.39E+01	3.39E+01	3.50E+00	5.08E+00	5.08E+00	5.08E+00	5.08E+00
Beryllium	1.05E-01	0.00E+00	1.07E+00	1.37E+00	1.43E+00	1.43E+00	1.00E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Bismuth	1.15E-02	0.00E+00	--	--	--	--	3.50E-02	1.67E-01	--	--	--	--	2.50E-02	--	--	--	--
Boron	8.73E-01	0.00E+00	2.50E+01	2.50E+01	2.50E+01	2.50E+01	4.00E+00	1.27E+01	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.90E+00	1.51E+01	1.51E+01	1.51E+01	1.51E+01
Cadmium	4.19E-03	0.00E+00	1.50E-01	1.50E-01	1.50E-01	1.50E-01	3.60E-01	2.13E-01	2.13E-01	2.13E-01	2.13E-01	2.13E-01	3.20E-02	3.20E-02	3.20E-02	3.20E-02	3.20E-02
Calcium	4.54E+02	0.00E+00	--	--	--	--	3.50E+00	6.20E+03	--	--	--	--	9.30E+02	--	--	--	--
Chromium Total	3.87E+00	0.00E+00	1.27E+01	1.27E+01	1.27E+01	1.27E+01	7.50E-03	1.07E+00	3.97E+00	3.97E+00	3.97E+00	3.97E+00	1.60E-01	5.96E-01	5.96E-01	5.96E-01	5.96E-01
Cobalt	6.28E-01	0.00E+00	2.27E+00	2.27E+00	2.27E+00	2.27E+00	2.00E-02	5.33E-01	6.74E-01	6.74E-01	6.74E-01	6.74E-01	8.00E-02	1.01E-01	1.01E-01	1.01E-01	1.01E-01
Copper	1.29E+00	0.00E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	4.00E-01	7.33E+00	7.33E+00	7.33E+00	7.33E+00	7.33E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
Iron	1.50E+03	0.00E+00	1.64E+04	1.64E+04	1.64E+04	1.64E+04	4.00E-03	3.20E+01	1.57E+03	1.57E+03	1.57E+03	1.57E+03	4.80E+00	2.35E+02	2.35E+02	2.35E+02	2.35E+02
Lead	1.29E+00	0.00E+00	1.56E+01	1.92E+01	1.99E+01	1.99E+01	4.50E-02	3.47E-01	1.99E+00	2.15E+00	2.19E+00	2.19E+00	5.20E-02	2.99E-01	3.23E-01	3.28E-01	3.28E-01
Lithium	2.13E+00	0.00E+00	9.61E+00	1.31E+01	1.35E+01	1.35E+01	2.50E-02	1.13E+00	2.37E+00	2.46E+00	2.47E+00	2.47E+00	1.70E-01	3.55E-01	3.68E-01	3.70E-01	3.70E-01
Magnesium	5.24E+02	0.00E+00	--	--	--	--	1.00E+00	3.33E+02	--	--	--	--	5.00E+01	--	--	--	--
Manganese	3.21E+01	0.00E+00	9.66E+01	9.66E+01	9.66E+01	9.66E+01	2.50E-01	4.20E+02	4.20E+02	4.20E+02	4.20E+02	4.20E+02	6.30E+01	6.30E+01	6.30E+01	6.30E+01	6.30E+01
Mercury, element	0.00E+00	1.84E-09	1.62E-01	1.62E-01	1.62E-01	1.62E-01	0.00E+00	1.67E-02	1.67E-02	1.67E-02	1.67E-02	1.67E-02	2.50E-03	2.50E-03	2.50E-03	2.50E-03	2.50E-03
Mercury, divalent	0.00E+00	0.00E+00	6.31E-03	3.89E-02	4.72E-02	4.72E-02	1.00E+00	--	--	--	--	--	--	--	--	--	--
Mercury, methyl	0.00E+00	0.00E+00	6.06E-08	6.06E-08	6.06E-08	6.06E-08	1.00E+00	--	--	--	--	--	--	--	--	--	--
Molybdenum	2.79E-02	0.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	2.50E-01	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Nickel	1.43E+00	0.00E+00	6.91E+00	6.91E+00	6.91E+00	6.91E+00	3.20E-02	1.07E+00	1.65E+00	1.65E+00	1.65E+00	1.65E+00	1.60E-01	2.48E-01	2.48E-01	2.48E-01	2.48E-01
Phosphorus	2.41E+01	0.00E+00	2.00E+00	2.00E+00	2.00E+00	2.00E+00	3.50E+00	1.07E+03	1.07E+03	1.07E+03	1.07E+03	1.07E+03	1.60E+02	1.60E+02	1.60E+02	1.60E+02	1.60E+02
Potassium	1.12E+03	0.00E+00	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.00E+00	5.73E+03	5.73E+03	5.73E+03	5.73E+03	5.73E+03	8.60E+02	8.60E+02	8.60E+02	8.60E+02	8.60E+02
Rubidium	2.08E-01	0.00E+00	--	--	--	--	1.00E+00	--	--	--	--	--	--	--	--	--	--
Selenium	1.22E-02	0.00E+00	8.64E-01	8.64E-01	8.64E-01	8.64E-01	1.60E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Silver	1.75E-02	0.00E+00	2.50E-01	2.50E-01	2.50E-01	2.50E-01	4.00E-01	2.67E-01	2.67E-01	2.67E-01	2.67E-01	2.67E-01	4.00E-02	4.00E-02	4.00E-02	4.00E-02	4.00E-02
Sodium	6.63E+02	0.00E+00	7.20E+02	1.50E+03	1.51E+03	1.51E+03	7.50E-02	1.67E+02	7.17E+02	7.76E+02	7.77E+02	7.77E+02	2.50E+01	1.08E+02	1.16E+02	1.16E+02	1.16E+02
Strontium	7.33E+00	0.00E+00	1.94E+01	1.94E+01	1.94E+01	1.94E+01	2.50E+00	1.47E+01	5.58E+01	5.58E+01	5.58E+01	5.58E+01	2.20E+00	8.37E+00	8.37E+00	8.37E+00	8.37E+00
Thallium	2.76E-02	0.00E+00	5.00E-02	5.00E-02	5.00E-02	5.00E-02	4.00E-03	7.33E-02	7.33E-02	7.33E-02	7.33E-02	7.33E-02	1.10E-02	1.10E-02	1.10E-02	1.10E-02	1.10E-02
Tin	1.05E-01	0.00E+00	5.23E-01	5.81E-01	5.87E-01	5.87E-01	3.00E-02	8.00E+00	8.00E+00	8.00E+00	8.00E+00	8.00E+00	1.20E+00	1.20E+00	1.20E+00	1.20E+00	1.20E+00
Titanium	1.47E+02	0.00E+00	2.09E+02	1.15E+03	1.35E+03	1.35E+03	5.50E-03	1.67E+00	1.48E+02	1.53E+02	1.54E+02	1.54E+02	2.50E-01	2.22E+01	2.29E+01	2.31E+01	2.31E+01
Uranium	6.28E-02	0.00E+00	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.00E+00	5.33E-02	7.33E-01	7.33E-01	7.33E-01	7.33E-01	8.00E-03	1.10E-01	1.10E-01	1.10E-01	1.10E-01
Vanadium	2.79E+00	0.00E+00	2.44E+01	3.62E+01	3.87E+01	3.87E+01	5.50E-03	1.07E+00	2.93E+00	2.99E+00	3.01E+00	3.01E+00	1.60E-01	4.39E-01	4.49E-01	4.51E-01	4.51E-01
Zinc	3.84E+00	0.00E+00	1.97E+01	1.97E+01	1.97E+01	1.97E+01	2.50E-01	1.40E+01	1.40E+01	1.40E+01	1.40E+01	1.40E+01	2.10E+00	2.10E+00	2.10E+00	2.10E+00	2.10E+00

Equation: $Cfo = Pd + Pv + Cs \times Br_{forage}$

Table B.28

Predicted Deer Concentrations Due to Plant and Soil Ingestion
Animal Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal (F) (refer to table B.9) (unitless)	Quantity of Forage Ingested by the Animal per day (1) (Qp_i) (refer to table B.9) (kg DW/day)	Predicted Concentration in Forage Ingested: Construction (Cfo) (refer to table B.27) (mg/kg DW)	Operations (Cfo) (refer to table B.27) (mg/kg DW)	Reclamation (Cfo) (refer to table B.27) (mg/kg DW)	Post-Closure (Cfo) (refer to table B.27) (mg/kg DW)	Quantity of Soil Ingested by the Animal (Qs) (refer to table B.9) (kg/day)	Predicted Soil Concentrations: Construction (Cs) (refer to table B.16) (mg/kg)	Operations (Cs) (refer to table B.16) (mg/kg)	Reclamation (Cs) (refer to table B.16) (mg/kg)	Post-Closure (Cs) (refer to table B.16) (mg/kg)	Soil Bioavailability Factor (Bs) (unitless)	Quantity of Water Ingested by the Animal (Qw) (refer to table B.9) (L/day)	Predicted Total Surface Water Concentrations: Construction (Cw) (refer to table B.45) (mg/L)	Operations (Cw) (refer to table B.45) (mg/L)	Reclamation (Cw) (refer to table B.45) (mg/L)	Post-Closure (Cw) (refer to table B.45) (mg/L)	Biotransfer Factor for Beef Ba_{beef} (refer to table B.10) (day/kg FW tissue)	Biotransfer Factor for Wildlife $Ba_{wildlife}$ (day/kg FW tissue)	Metabolism Factor (MF) (unitless)	Background Concentration in Deer (Cd) (refer to table B.6) (mg/kg FW tissue)	Predicted Concentrations in Deer: Construction (Cd) (mg/kg FW tissue)	Operations (Cd) (mg/kg FW tissue)	Reclamation (Cd) (mg/kg FW tissue)	Post-Closure (Cd) (mg/kg FW tissue)
Particulate Matter																										
Total Particulate Matter	1.00E+00	2.25E+00	--	--	--	--	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	--	--	1.00E+00	--	--	--	--	--	
Particulate Matter (PM10)	1.00E+00	2.25E+00	--	--	--	--	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	--	--	1.00E+00	--	--	--	--	--	
Particulate Matter (PM2.5)	1.00E+00	2.25E+00	--	--	--	--	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	--	--	1.00E+00	--	--	--	--	--	
Metals																										
Aluminum	1.00E+00	2.25E+00	5.27E+02	5.51E+02	5.56E+02	4.49E+01	4.50E-02	1.45E+04	3.66E+04	4.18E+04	4.18E+04	1.00E+00	4.50E+00	4.30E-01	1.99E-01	2.66E-01	3.61E-01	1.50E-03	1.50E-03	1.00E+00	7.58E-01	2.76E+00	4.33E+00	4.70E+00	2.97E+00	
Antimony	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	4.50E+00	5.00E-04	4.39E-03	3.27E-03	2.20E-03	1.00E-03	1.00E-03	1.00E+00	2.45E-03	2.45E-03	2.46E-03	2.46E-03	2.45E-03	
Arsenic	1.00E+00	2.25E+00	2.05E+00	2.05E+00	2.05E+00	1.07E+00	4.50E-02	8.75E+00	9.08E+00	9.08E+00	9.08E+00	1.00E+00	4.50E+00	6.77E-01	5.48E-02	5.21E-02	5.12E-02	2.00E-03	2.00E-03	1.00E+00	1.14E-02	1.61E-02	1.14E-02	1.14E-02	1.14E-02	
Barium	1.00E+00	2.25E+00	2.33E+01	2.33E+01	2.33E+01	2.33E+01	4.50E-02	3.73E+01	3.73E+01	3.73E+01	3.73E+01	1.00E+00	4.50E+00	3.60E-03	7.09E-03	7.05E-03	5.73E-03	1.50E-04	1.50E-04	1.00E+00	8.13E-03	8.13E-03	8.13E-03	8.13E-03	8.13E-03	
Beryllium	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	1.07E+00	1.37E+00	1.43E+00	1.43E+00	1.00E+00	4.50E+00	5.00E-04	4.61E-04	4.71E-04	4.76E-04	1.00E-03	1.00E-03	1.00E+00	2.45E-03	2.45E-03	2.46E-03	2.47E-03	2.47E-03	
Bismuth	1.00E+00	2.25E+00	1.67E-01	1.67E-01	1.67E-01	1.67E-01	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	4.00E-04	4.00E-04	1.00E+00	1.70E-04	--	--	--	--	
Boron	1.00E+00	2.25E+00	5.65E+01	5.65E+01	5.65E+01	5.64E+01	4.50E-02	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.00E+00	4.50E+00	1.96E+00	1.96E+00	1.96E+00	1.96E+00	8.00E-04	8.00E-04	1.00E+00	2.38E-02	1.10E-01	1.10E-01	1.10E-01	1.09E-01	
Cadmium	1.00E+00	2.25E+00	2.13E-01	2.13E-01	2.13E-01	2.13E-01	4.50E-02	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.00E+00	4.50E+00	2.48E-05	1.98E-05	2.41E-05	3.70E-05	1.20E-04	1.20E-04	1.00E+00	5.84E-05	5.84E-05	5.84E-05	5.84E-05	5.84E-05	
Calcium	1.00E+00	2.25E+00	6.20E+03	6.20E+03	6.20E+03	6.20E+03	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	7.00E-04	7.00E-04	1.00E+00	--	--	--	--	--	
Chromium Total	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	1.27E+01	1.27E+01	1.27E+01	1.27E+01	1.00E+00	4.50E+00	1.30E-03	8.58E-04	6.87E-04	8.60E-04	5.50E-03	5.50E-03	1.00E+00	1.64E-02	1.64E-02	1.64E-02	1.64E-02	1.64E-02	
Cobalt	1.00E+00	2.25E+00	5.33E-01	5.33E-01	5.33E-01	5.33E-01	4.50E-02	2.27E+00	2.27E+00	2.27E+00	2.27E+00	1.00E+00	4.50E+00	2.00E-04	9.91E-04	9.35E-04	9.61E-04	2.00E-02	2.00E-02	1.00E+00	2.61E-02	2.61E-02	2.61E-02	2.61E-02	2.61E-02	
Copper	1.00E+00	2.25E+00	7.33E+00	7.33E+00	7.33E+00	7.33E+00	4.50E-02	6.56E+00	6.56E+00	6.56E+00	6.56E+00	1.00E+00	4.50E+00	1.74E-03	1.96E-03	1.86E-03	9.20E-04	1.00E-02	1.00E-02	1.00E+00	1.68E-01	1.68E-01	1.68E-01	1.68E-01	1.68E-01	
Iron	1.00E+00	2.25E+00	2.42E+02	2.42E+02	2.42E+02	3.20E+01	4.50E-02	1.64E+04	1.64E+04	1.64E+04	1.64E+04	1.00E+00	4.50E+00	1.17E+00	3.55E-01	4.55E-01	4.28E-01	2.00E-02	2.00E-02	1.00E+00	1.63E+01	2.58E+01	2.57E+01	2.57E+01	1.63E+01	
Lead	1.00E+00	2.25E+00	4.01E-01	4.50E-01	4.60E-01	3.47E-01	4.50E-02	1.56E+01	1.92E+01	1.99E+01	1.99E+01	1.00E+00	4.50E+00	7.62E-04	8.22E-04	7.06E-04	9.27E-04	3.00E-04	3.00E-04	1.00E+00	4.35E-04	4.83E-04	5.64E-04	5.81E-04	5.04E-04	
Lithium	1.00E+00	2.25E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	4.50E-02	9.61E+00	1.31E+01	1.35E+01	1.35E+01	1.00E+00	4.50E+00	1.11E-02	1.43E-02	1.47E-02	1.47E-02	1.00E-02	1.00E-02	1.00E+00	--	3.03E-02	3.20E-02	3.22E-02	3.22E-02	
Magnesium	1.00E+00	2.25E+00	3.33E+02	3.33E+02	3.33E+02	3.33E+02	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	5.00E-03	5.00E-03	1.00E+00	--	--	--	--	--	
Manganese	1.00E+00	2.25E+00	4.20E+02	4.20E+02	4.20E+02	4.20E+02	4.50E-02	9.66E+01	9.66E+01	9.66E+01	9.66E+01	1.00E+00	4.50E+00	8.03E-02	7.56E-02	4.92E-02	1.19E-01	4.00E-04	4.00E-04	1.00E+00	3.80E-01	3.80E-01	3.80E-01	3.80E-01	3.80E-01	
Mercury, element	1.00E+00	2.25E+00	1.67E-02	1.67E-02	1.67E-02	1.67E-02	4.50E-02	1.62E-01	1.62E-01	1.62E-01	1.62E-01	1.00E+00	4.50E+00	1.36E-04	6.88E-06	7.05E-06	9.69E-06	1.00E+00	1.00E+00	1.00E+00	4.54E-02	4.54E-02	4.54E-02	4.54E-02	4.54E-02	
Mercury, divalent	1.00E+00	2.25E+00	1.84E-04	6.40E-04	7.56E-04	6.61E-04	4.50E-02	6.31E-03	3.89E-02	4.72E-02	4.72E-02	1.00E+00	4.50E+00	2.53E-07	1.56E-06	1.89E-06	1.89E-06	5.20E-03	5.20E-03	1.00E+00	--	3.63E-06	1.66E-05	1.99E-05	1.88E-05	
Mercury, methyl	1.00E+00	2.25E+00	1.30E-05	1.30E-05	1.30E-05	1.76E-09	4.50E-02	6.06E-08	6.06E-08	6.06E-08	6.06E-08	1.00E+00	4.50E+00	6.01E-13	6.01E-13	6.01E-13	6.01E-13	7.80E-04	7.80E-04	1.00E+00	--	2.27E-08	2.27E-08	2.27E-08	5.21E-12	
Molybdenum	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	4.50E+00	1.23E-02	1.23E-02	1.23E-02	1.23E-02	6.00E-03	6.00E-03	1.00E+00	1.47E-02	1.50E-02	1.50E-02	1.50E-02	1.50E-02	
Nickel	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	6.91E+00	6.91E+00	6.91E+00	6.91E+00	1.00E+00	4.50E+00	1.00E-03	1.42E-02	6.10E-03	1.13E-02	6.00E-03	6.00E-03	1.00E+00	1.63E-02	1.63E-02	1.66E-02	1.64E-02	1.66E-02	
Phosphorus	1.00E+00	2.25E+00	1.07E+03	1.07E+03	1.07E+03	1.07E+03	4.50E-02	2.00E+00	2.00E+00	2.00E+00	2.00E+00	1.00E+00	4.50E+00	1.63E-01	1.63E-01	1.63E-01	1.63E-01	5.50E-02	5.50E-02	1.00E+00	--	1.32E+02	1.32E+02	1.32E+02	1.32E+02	
Potassium	1.00E+00	2.25E+00	5.73E+03	5.73E+03	5.73E+03	5.73E+03	4.50E-02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.00E+00	4.50E+00	7.58E+00	7.58E+00	7.58E+00	7.58E+00	2.00E-02	2.00E-02	1.00E+00	--	2.59E+02	2.59E+02	2.59E+02	2.59E+02	
Rubidium	1.00E+00	2.25E+00	3.05E-02	3.05E-02	3.05E-02	0.00E+00	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	1.50E-02	1.50E-02	1.00E+00	--	--	--	--	--	
Selenium	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	8.64E-01	8.64E-01	8.64E-01	8.64E-01	1.00E+00	4.50E+00	5.00E-04	4.88E-04	4.68E-04	5.58E-04	2.30E-03	2.30E-03	1.00E+00	5.61E-03	5.61E-03	5.61E-03	5.61E-03	5.62E-03	
Silver	1.00E+00	2.25E+00	2.67E-01	2.67E-01	2.67E-01	2.67E-01	4.50E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.00E+00	4.50E+00	5.00E-05	7.90E-05	7.04E-05	7.48E-05	3.00E-03	3.00E-03	1.00E+00	1.83E-03	1.83E-03	1.83E-03	1.83E-03	1.83E-03	
Sodium	1.00E+00	2.25E+00	1.67E+02	1.83E+02	1.84E+02	1.67E+02	4.50E-02	7.20E+02	1.50E+03	1.51E+03	1.51E+03	1.00E+00	4.50E+00	2.59E+00	4.57E+00	4.61E+00	4.61E+00	5.50E-02	5.50E-02	1.00E+00	--	2.30E+01	2.75E+01	2.77E+01	2.55E+01	
Strontium	1.00E+00	2.25E+00	1.47E+01	1.47E+01	1.47E+01	1.47E+01	4.50E-02	1.94E+01	1.94E+01	1.94E+01	1.94E+01	1.00E+00	4.50E+00	1.46E-01	1.46E-01	1.46E-01	1.46E-01	3.00E-04	3.00E-04	1.00E+00	1.02E-02	1.04E-02	1.04E-02	1.04E-02	1.04E-02	
Thallium	1.00E+00	2.25E+00	7.33E-02	7.33E-02	7.33E-02	7.33E-02	4.50E-02	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.00E+00	4.50E+00	5.00E-05	7.31E-05	6.61E-05	8.48E-05	4.00E-02	4.00E-02	1.00E+00	6.70E-03	6.70E-03	6.70E-03	6.70E-03	6.71E-03	
Tin	1.00E+00	2.25E+00	8.00E+00	8.00E+00	8.00E+00	8.00E+00	4.50E-02	5.23E-01	5.81E-01	5.87E-01	5.87E-01	1.00E+00	4.50E+00	6.80E-04	7.43E-04	7.50E-04	7.50E-04	1.00E-03	1.00E-03	1.00E+00	1.80E-02	1.80E-02	1.80E-02	1.80E-02	1.80E-02	
Titanium	1.00E+00	2.25E+00	2.22E+01	2.53E+01	2.59E+01	4.47E+00	4.50E-02	2.09E+02	1.15E+03	1.35E+03	1.35E+03	1.00E+00	4.50E+00	2.19E-01	5.32E-01	6.00E-01	6.00E-01	3.00E-02	3.00E-02	1.00E+00	--	1.81E+00	3.32E+00	3.65E+00	2.20E+00	
Uranium	1.00E+00	2.25E+00	6.79E-01	6.79E-01	6.79E-01	6.70E-01	4.50E-02	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.00E+00	4.50E+00	5.00E-05	9.50E-04	8.52E-04	5.76E-04	2.00E-04	2.00E-04	1.00E+00	3.01E-05	3.12E-04	3.13E-04	3.12E-04	3.08E-04	
Vanadium	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	2.44E+01	3.62E+01	3.87E+01	3.87E+01	1.00E+00	4.50E+00	1.00E-03	2.12E-03	1.49E-03	2.01E-03	2.50E-03	2.50E-03	1.00E+00	8.46E-03	8.76E-03	1.01E-02	1.04E-02	1.04E-02	
Zinc	1.00E+00	2.25E+00	1.40E+01	1.40E+01	1.40E+01	1.40E+01	4.50E-02	1.97E+01	1.97E+01	1.97E+01	1.97E+01	1.00E+00	4.50E+00	9.76E-03	7.28E-03	7.18E-03	7.27E-03	9.00E-05	9.00E-05	1.00E+00	2.92E-03	2.92E-03	2.92E-03	2.92E-03	2.92E-03	

Equation: $Cd = F \times Qp_i \times Cfo + Qs \times Cs \times Bs + Qw \times Cw \times Ba_{wildlife} \times MF$ where: $Ba_{wildlife} = Ba_{beef}$

Table B.29

Hare Concentrations Due to Plant and Soil Ingestion
Animal Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal (F) (refer to table B.9) unitless	Quantity of Forage Ingested by the Animal per day (1) (Qp_h) (refer to table B.9) (kg DW/day)	Concentration in Forage Ingested: Construction (Cfo) (refer to table B.27) (mg/kg DW)	Concentration in Forage Ingested: Operations (Cfo) (refer to table B.27) (mg/kg DW)	Concentration in Forage Ingested: Reclamation (Cfo) (refer to table B.27) (mg/kg DW)	Concentration in Forage Ingested: Post-Closure (Cfo) (refer to table B.27) (mg/kg DW)	Quantity of Soil Ingested by the Animal (Qs) (refer to table B.9) (kg/day)	Predicted Soil Concentrations: Construction (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentrations: Operations (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentrations: Reclamation (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentrations: Post-Closure (Cs) (refer to table B.16) (mg/kg)	Soil Bioavailability Factor (Bs) (unitless)	Quantity of Water Ingested by the Animal (Qw) (refer to table B.9) (L/day)	Predicted Total Surface Water Concentrations: Construction (Cw) (refer to table B.45) (mg/L)	Predicted Total Surface Water Concentrations: Operations (Cw) (refer to table B.45) (mg/L)	Predicted Total Surface Water Concentrations: Reclamation (Cw) (refer to table B.45) (mg/L)	Predicted Total Surface Water Concentrations: Post-Closure (Cw) (refer to table B.45) (mg/L)	Biotransfer Factor for Beef Ba_{beef} (refer to table B.10) (day/kg FW tissue)	Biotransfer Factor for Wildlife $Ba_{wildlife}$ (day/kg FW tissue)	Metabolism Factor (MF) (unitless)	Baseline Concentration in Hare (Ch) (refer to table B.7) (mg/kg FW tissue)	Predicted Concentrations in Hare: Construction (Cd) (mg/kg FW tissue)	Predicted Concentrations in Hare: Operations (Cd) (mg/kg FW tissue)	Predicted Concentrations in Hare: Reclamation (Cd) (mg/kg FW tissue)	Predicted Concentrations in Hare: Post-Closure (Cd) (mg/kg FW tissue)
Particulate Matter																										
Total Particulate Matter	1.00E+00	7.80E-02	--	--	--	--	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	--	--	1.00E+00	--	--	--	--	--	--
Particulate Matter (PM10)	1.00E+00	7.80E-02	--	--	--	--	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	--	--	1.00E+00	--	--	--	--	--	--
Particulate Matter (PM2.5)	1.00E+00	7.80E-02	--	--	--	--	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	--	--	1.00E+00	--	--	--	--	--	--
Metals																										
Aluminum	1.00E+00	7.80E-02	5.27E+02	5.51E+02	5.56E+02	4.49E+01	4.91E-03	1.45E+04	3.66E+04	4.18E+04	4.18E+04	1.00E+00	1.30E-01	4.30E-01	1.99E-01	2.66E-01	3.61E-01	1.50E-03	1.50E-03	1.00E+00	7.60E-02	1.69E-01	3.34E-01	3.73E-01	3.13E-01
Antimony	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.30E-01	5.00E-04	4.39E-03	3.27E-03	2.20E-03	1.00E-03	1.00E-03	1.00E+00	8.82E-05	8.82E-05	8.87E-05	8.85E-05	8.84E-05
Arsenic	1.00E+00	7.80E-02	2.05E+00	2.05E+00	2.05E+00	1.07E+00	4.91E-03	8.75E+00	9.08E+00	9.08E+00	9.08E+00	1.00E+00	1.30E-01	6.77E-01	5.48E-02	5.21E-02	5.12E-02	2.00E-03	2.00E-03	1.00E+00	4.02E-04	5.82E-04	4.23E-04	4.23E-04	4.02E-04
Barium	1.00E+00	7.80E-02	2.33E+01	2.33E+01	2.33E+01	2.33E+01	4.91E-03	3.73E+01	3.73E+01	3.73E+01	3.73E+01	1.00E+00	1.30E-01	3.60E-03	7.09E-03	7.05E-03	5.73E-03	1.50E-04	1.50E-04	1.00E+00	3.01E-04	3.01E-04	3.01E-04	3.01E-04	3.01E-04
Beryllium	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	1.07E+00	1.37E+00	1.43E+00	1.43E+00	1.00E+00	1.30E-01	5.00E-04	4.61E-04	4.71E-04	4.76E-04	1.00E-03	1.00E-03	1.00E+00	8.82E-05	8.85E-05	9.00E-05	9.03E-05	9.03E-05
Bismuth	1.00E+00	7.80E-02	1.67E-01	1.67E-01	1.67E-01	1.67E-01	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	4.00E-04	4.00E-04	1.00E+00	7.22E-06	--	--	--	--
Boron	1.00E+00	7.80E-02	5.65E+01	5.65E+01	5.65E+01	5.64E+01	4.91E-03	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.00E+00	1.30E-01	1.96E+00	1.96E+00	1.96E+00	1.96E+00	8.00E-04	8.00E-04	1.00E+00	8.91E-04	3.83E-03	3.83E-03	3.83E-03	3.82E-03
Cadmium	1.00E+00	7.80E-02	2.13E-01	2.13E-01	2.13E-01	2.13E-01	4.91E-03	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.00E+00	1.30E-01	2.48E-05	1.98E-05	2.41E-05	3.70E-05	1.20E-04	1.20E-04	1.00E+00	2.09E-06	2.09E-06	2.09E-06	2.09E-06	2.09E-06
Calcium	1.00E+00	7.80E-02	6.20E+03	6.20E+03	6.20E+03	6.20E+03	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	7.00E-04	7.00E-04	1.00E+00	--	--	--	--	--
Chromium Total	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	1.27E+01	1.27E+01	1.27E+01	1.27E+01	1.00E+00	1.30E-01	1.30E-03	8.58E-04	6.87E-04	8.60E-04	5.50E-03	5.50E-03	1.00E+00	8.02E-04	8.02E-04	8.02E-04	8.02E-04	8.02E-04
Cobalt	1.00E+00	7.80E-02	5.33E-01	5.33E-01	5.33E-01	5.33E-01	4.91E-03	2.27E+00	2.27E+00	2.27E+00	2.27E+00	1.00E+00	1.30E-01	2.00E-04	9.91E-04	9.35E-04	9.61E-04	2.00E-02	2.00E-02	1.00E+00	1.06E-03	1.06E-03	1.06E-03	1.06E-03	1.06E-03
Copper	1.00E+00	7.80E-02	7.33E+00	7.33E+00	7.33E+00	7.33E+00	4.91E-03	6.56E+00	6.56E+00	6.56E+00	6.56E+00	1.00E+00	1.30E-01	1.74E-03	1.96E-03	1.86E-03	9.20E-04	1.00E-02	1.00E-02	1.00E+00	6.04E-03	6.04E-03	6.04E-03	6.04E-03	6.04E-03
Iron	1.00E+00	7.80E-02	2.42E+02	2.42E+02	2.42E+02	3.20E+01	4.91E-03	1.64E+04	1.64E+04	1.64E+04	1.64E+04	1.00E+00	1.30E-01	1.17E+00	3.55E-01	4.55E-01	4.28E-01	2.00E-02	2.00E-02	1.00E+00	1.66E+00	1.99E+00	1.99E+00	1.99E+00	1.66E+00
Lead	1.00E+00	7.80E-02	4.01E-01	4.50E-01	4.60E-01	3.47E-01	4.91E-03	1.56E+01	1.92E+01	1.99E+01	1.99E+01	1.00E+00	1.30E-01	7.62E-04	8.22E-04	7.06E-04	9.27E-04	3.00E-04	3.00E-04	1.00E+00	3.00E-05	3.24E-05	3.88E-05	4.02E-05	3.75E-05
Lithium	1.00E+00	7.80E-02	1.13E+00	1.13E+00	1.13E+00	1.13E+00	4.91E-03	9.61E+00	1.31E+01	1.35E+01	1.35E+01	1.00E+00	1.30E-01	1.11E-02	1.43E-02	1.47E-02	1.47E-02	1.00E-02	1.00E-02	1.00E+00	--	1.37E-03	1.55E-03	1.57E-03	1.57E-03
Magnesium	1.00E+00	7.80E-02	3.33E+02	3.33E+02	3.33E+02	3.33E+02	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	5.00E-03	5.00E-03	1.00E+00	--	--	--	--	--
Manganese	1.00E+00	7.80E-02	4.20E+02	4.20E+02	4.20E+02	4.20E+02	4.91E-03	9.66E+01	9.66E+01	9.66E+01	9.66E+01	1.00E+00	1.30E-01	8.03E-02	7.56E-02	4.92E-02	1.19E-01	4.00E-04	4.00E-04	1.00E+00	1.33E-02	1.33E-02	1.33E-02	1.33E-02	1.33E-02
Mercury, element	1.00E+00	7.80E-02	1.67E-02	1.67E-02	1.67E-02	1.67E-02	4.91E-03	1.62E-01	1.62E-01	1.62E-01	1.62E-01	1.00E+00	1.30E-01	1.36E-04	6.88E-06	7.05E-06	9.69E-06	1.00E+00	1.00E+00	1.00E+00	2.11E-03	2.11E-03	2.11E-03	2.11E-03	2.11E-03
Mercury, divalent	1.00E+00	7.80E-02	1.84E-04	6.40E-04	7.56E-04	6.61E-04	4.91E-03	6.31E-03	3.89E-02	4.72E-02	4.72E-02	1.00E+00	1.30E-01	2.53E-07	1.56E-06	1.89E-06	1.89E-06	5.20E-03	5.20E-03	1.00E+00	--	2.36E-07	1.25E-06	1.51E-06	1.48E-06
Mercury, methyl	1.00E+00	7.80E-02	1.30E-05	1.30E-05	1.30E-05	1.76E-09	4.91E-03	6.06E-08	6.06E-08	6.06E-08	6.06E-08	1.00E+00	1.30E-01	6.01E-13	6.01E-13	6.01E-13	6.01E-13	7.80E-04	7.80E-04	1.00E+00	--	7.89E-10	7.89E-10	7.89E-10	3.39E-13
Molybdenum	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.30E-01	1.23E-02	1.23E-02	1.23E-02	1.23E-02	6.00E-03	6.00E-03	1.00E+00	5.29E-04	5.38E-04	5.38E-04	5.38E-04	5.38E-04
Nickel	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	6.91E+00	6.91E+00	6.91E+00	6.91E+00	1.00E+00	1.30E-01	1.00E-03	1.42E-02	6.10E-03	1.13E-02	6.00E-03	6.00E-03	1.00E+00	7.04E-04	7.04E-04	7.14E-04	7.08E-04	7.12E-04
Phosphorus	1.00E+00	7.80E-02	1.07E+03	1.07E+03	1.07E+03	1.07E+03	4.91E-03	2.00E+00	2.00E+00	2.00E+00	2.00E+00	1.00E+00	1.30E-01	1.63E-01	1.63E-01	1.63E-01	1.63E-01	5.50E-02	5.50E-02	1.00E+00	--	4.58E+00	4.58E+00	4.58E+00	4.58E+00
Potassium	1.00E+00	7.80E-02	5.73E+03	5.73E+03	5.73E+03	5.73E+03	4.91E-03	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.00E+00	1.30E-01	7.58E+00	7.58E+00	7.58E+00	7.58E+00	2.00E-02	2.00E-02	1.00E+00	--	8.98E+00	8.98E+00	8.98E+00	8.98E+00
Rubidium	1.00E+00	7.80E-02	3.05E-02	3.05E-02	3.05E-02	0.00E+00	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	1.50E-02	1.50E-02	1.00E+00	--	--	--	--	--
Selenium	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	8.64E-01	8.64E-01	8.64E-01	8.64E-01	1.00E+00	1.30E-01	5.00E-04	4.88E-04	4.68E-04	5.58E-04	2.30E-03	2.30E-03	1.00E+00	2.01E-04	2.01E-04	2.01E-04	2.01E-04	2.01E-04
Silver	1.00E+00	7.80E-02	2.67E-01	2.67E-01	2.67E-01	2.67E-01	4.91E-03	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.00E+00	1.30E-01	5.00E-05	7.90E-05	7.04E-05	7.48E-05	3.00E-03	3.00E-03	1.00E+00	6.61E-05	6.61E-05	6.61E-05	6.61E-05	6.61E-05
Sodium	1.00E+00	7.80E-02	1.67E+02	1.83E+02	1.84E+02	1.67E+02	4.91E-03	7.20E+02	1.50E+03	1.51E+03	1.51E+03	1.00E+00	1.30E-01	2.59E+00	4.57E+00	4.61E+00	4.61E+00	5.50E-02	5.50E-02	1.00E+00	--	9.28E-01	1.22E+00	1.23E+00	1.16E+00
Strontium	1.00E+00	7.80E-02	1.47E+01	1.47E+01	1.47E+01	1.47E+01	4.91E-03	1.94E+01	1.94E+01	1.94E+01	1.94E+01	1.00E+00	1.30E-01	1.46E-01	1.46E-01	1.46E-01	1.46E-01	3.00E-04	3.00E-04	1.00E+00	3.74E-04	3.77E-04	3.77E-04	3.77E-04	3.77E-04
Thallium	1.00E+00	7.80E-02	7.33E-02	7.33E-02	7.33E-02	7.33E-02	4.91E-03	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.00E+00	1.30E-01	5.00E-05	7.31E-05	6.61E-05	8.48E-05	4.00E-02	4.00E-02	1.00E+00	2.39E-04	2.39E-04	2.39E-04	2.39E-04	2.39E-04
Tin	1.00E+00	7.80E-02	8.00E+00	8.00E+00	8.00E+00	8.00E+00	4.91E-03	5.23E-01	5.81E-01	5.87E-01	5.87E-01	1.00E+00	1.30E-01	6.80E-04	7.43E-04	7.50E-04	7.50E-04	1.00E-03	1.00E-03	1.00E+00	6.27E-04	6.27E-04	6.27E-04	6.27E-04	6.27E-04
Titanium	1.00E+00	7.80E-02	2.22E+01	2.53E+01	2.59E+01	4.47E+00	4.91E-03	2.09E+02	1.15E+03	1.35E+03	1.35E+03	1.00E+00	1.30E-01	2.19E-01	5.32E-01	6.00E-01	6.00E-01	3.00E-02	3.00E-02	1.00E+00	--	8.35E-02	2.30E-01	2.62E-01	2.12E-01
Uranium	1.00E+00	7.80E-02	6.79E-01	6.79E-01	6.79E-01	6.70E-01	4.91E-03	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.00E+00	1.30E-01	5.00E-05	9.50E-04	8.52E-04	5.76E-04	2.00E-04	2.00E-04	1.00E+00	1.49E-06	1.13E-05	1.13E-05	1.13E-05	1.11E-05
Vanadium	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	2.44E+01	3.62E+01	3.87E+01	3.87E+01	1.00E+00	1.30E-01	1.00E-03	2.12E-03	1.49E-03	2.01E-03	2.50E-03	2.50E-03	1.00E+00	4.76E-04	5.08E-04	6.53E-04	6.84E-04	6.84E-04
Zinc	1.00E+00	7.80E-02	1.40E+01	1.40E+01	1.40E+01	1.40E+01	4.91E-03	1.97E+01	1.97E+01	1.97E+01	1.97E+01	1.00E+00	1.30E-01	9.76E-03	7.28E-03	7.18E-03	7.27E-03	9.00E-05	9.00E-05	1.00E+00	1.07E-04	1.07E-04	1.07E-04	1.07E-04	1.07E-04

Equation: $Ch = F \times Qp_h \times Cfo + Qs \times Cs \times Bs + Qw \times Cw \times Ba_{wildlife} \times MF$ where: $Ba_{wildlife} = Ba_{beef}$

Table B.30

Deposition to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Annual Deposition Rate (Dr) (refer to table B.7) (g/m^2-yr)	Water Body Surface Area (A_w) (refer to table B.9) (m^2)	Total Wet & Dry Particle and Wet Vapor Direct Deposition to Water (L_{DEP}) (g/yr)
Particulate Matter			
Total Particulate Matter	7.69E+02	2.95E+05	2.27E+08
Particulate Matter (PM10)	9.49E+01	2.95E+05	2.80E+07
Particulate Matter (PM2.5)	4.46E-01	2.95E+05	1.32E+05
Metals			
Aluminum	7.69E+01	2.95E+05	2.27E+07
Antimony	2.31E-03	2.95E+05	6.81E+02
Arsenic	3.00E-01	2.95E+05	8.85E+04
Barium	6.23E-01	2.95E+05	1.84E+05
Beryllium	2.31E-03	2.95E+05	6.81E+02
Bismuth	2.54E-04	2.95E+05	7.49E+01
Boron	1.92E-02	2.95E+05	5.67E+03
Cadmium	9.23E-05	2.95E+05	2.72E+01
Calcium	1.00E+01	2.95E+05	2.95E+06
Chromium Total	8.54E-02	2.95E+05	2.52E+04
Cobalt	1.38E-02	2.95E+05	4.09E+03
Copper	2.85E-02	2.95E+05	8.40E+03
Iron	3.31E+01	2.95E+05	9.76E+06
Lead	2.85E-02	2.95E+05	8.40E+03
Lithium	4.69E-02	2.95E+05	1.38E+04
Magnesium	1.15E+01	2.95E+05	3.40E+06
Manganese	7.09E-01	2.95E+05	2.09E+05
Mercury, element	2.03E-04	2.95E+05	5.87E+01
Mercury, divalent	--	2.95E+05	--
Mercury, methyl	--	2.95E+05	--
Molybdenum	6.16E-04	2.95E+05	1.82E+02
Nickel	3.15E-02	2.95E+05	9.31E+03
Phosphorus	5.31E-01	2.95E+05	1.57E+05
Potassium	2.46E+01	2.95E+05	7.26E+06
Rubidium	4.59E-03	2.95E+05	1.36E+03
Selenium	2.69E-04	2.95E+05	7.94E+01
Silver	3.85E-04	2.95E+05	1.13E+02
Sodium	1.46E+01	2.95E+05	4.31E+06
Strontium	1.62E-01	2.95E+05	4.77E+04
Thallium	6.08E-04	2.95E+05	1.79E+02
Tin	2.31E-03	2.95E+05	6.81E+02
Titanium	3.23E+00	2.95E+05	9.53E+05
Uranium	1.38E-03	2.95E+05	4.09E+02
Vanadium	6.16E-02	2.95E+05	1.82E+04
Zinc	8.46E-02	2.95E+05	2.50E+04

Equation: $L_{DEP} = Hg_{factor} \times Dr \times A_W$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.48), and methylmercury (0)

Table B.31

Liquid Phase Transfer Coefficient
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

		Creek			Lake								Liquid Phase
Contaminant	Diffusivity in Water (Dw) (refer to table B.10) (cm^2/s)	Current Velocity (μ) (refer to table B.9) (m/s)	Total Water Body Depth (d_{wc}) (refer to table B.9) (m)	Units Conversion Factor (CF1) (m^2/cm^2)	Drag Coefficient (C_d) (refer to table B.9) -	Average Annual Wind Speed (W) (refer to table B.9) (m/s)	Density of Air (ρ_a) (refer to table B.9) (g/cm^3)	Density of Water (ρ_w) (refer to table B.9) (g/cm^3)	von Karman's Constant (k) (refer to table B.9) -	Dimensionless Viscous Sublayer Thickness (λ_z) (refer to table B.9) -	Viscosity of Water at Water Temperature (μ_w) (refer to table B.9) (g/cm-s)	Units Conversion Factor (CF2) (s/yr)	Transfer Coefficient Creek K_L (m/yr)
Particulate Matter													
Total Particulate Matter	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Particulate Matter (PM10)	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Particulate Matter (PM2.5)	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Metals													
Aluminum	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Antimony	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Arsenic	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Barium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Beryllium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Bismuth	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Boron	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Cadmium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Calcium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Chromium Total	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Cobalt	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Copper	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Iron	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Lead	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Lithium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Magnesium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Manganese	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Mercury, element	6.30E-06	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	7.88E+02
Mercury, divalent	5.20E-06	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	7.16E+02
Mercury, methyl	6.10E-06	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	7.75E+02
Molybdenum	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Nickel	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Phosphorus	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Potassium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Rubidium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Selenium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Silver	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Sodium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Strontium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Thallium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Tin	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Titanium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Uranium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Vanadium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Zinc	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--

Equation: For the Creek, K_L = [Square Root of (($CF1 \times D_w \times \mu$) / d_{wc})] x CF2

Table B.32

Overall Transfer Rate Coefficient
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

		Lake													
Contaminant	Liquid Phase Transfer Coefficient Creek (K_{Li}) (refer to table B.31) (m/yr)	Drag Coefficient (C_d) (refer to table B.9) -	Average Annual Wind Speed (W) (refer to table B.9) (m/s)	Density of Air (ρ_a) (refer to table B.9) (g/cm^3)	von Karman's Constant (k) (refer to table B.9) -	Dimensionless Viscous Sublayer Thickness (λ_v) (refer to table B.9) -	Viscosity of Air (μ_a) (refer to table B.9) (g/cm-s)	Diffusivity in Air (Da) (refer to table B.10) (cm^2/s)	Units Conversion Factor (CF1) (s/yr)	Gas Phase Transfer Coefficient Creek (K_G) (m/yr)	Henry's Law Constant (H) (refer to table B.10) (atm-m^3/mol)	Universal Gas Constant (R) (refer to table B.9) (atm-m^3/mol-K)	Water Body Temperature (T_a) (refer to table B.9) (k)	Temperature Correction Factor θ -	Overall Transfer Rate Coefficient K_v (m/yr)
Particulate Matter															
Total Particulate Matter	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Particulate Matter (PM10)	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Particulate Matter (PM2.5)	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Metals															
Aluminum	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Antimony	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Arsenic	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Barium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Beryllium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Bismuth	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Boron	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Cadmium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Calcium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Chromium Total	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Cobalt	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Copper	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Iron	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Lead	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Lithium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Magnesium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Manganese	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Mercury, element	7.88E+02	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	3.07E-02	3.15E+07	3.65E+04	1.15E-02	8.21E-05	2.80E+02	1.03E+00	5.37E+02
Mercury, divalent	7.16E+02	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	4.50E-02	3.15E+07	3.65E+04	7.10E-10	8.21E-05	2.80E+02	1.03E+00	8.04E-04
Mercury, methyl	7.75E+02	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	5.30E-02	3.15E+07	3.65E+04	7.22E-03	8.21E-05	2.80E+02	1.03E+00	5.17E+02
Molybdenum	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Nickel	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Phosphorus	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Potassium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Rubidium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Selenium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Silver	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Sodium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Strontium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Thallium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Tin	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Titanium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Uranium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Vanadium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Zinc	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--

Equation: $K_v = [K_L^{-1} + (K_G \times H/(R \times T_a))^{-1}]^{-1} \times \theta^{(Ta - 293)}$

For the Creek K_G = 36500 refer to Table B-9 for K_G

Table B.33

Diffusion Load to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Overall Transfer Rate Coefficient (K_v) (refer to table B.33) (m/yr)	Predicted Air Concentration (Coa) (refer to table B.6) ($\mu g/m^3$)	Water Body Surface Area A_W (refer to table B.30) (m^2)	Henry's Law Constant (H) (refer to table B.10) ($atm\text{-}m^3/mol$)	Universal Gas Constant (R) (refer to table B.9) ($atm\text{-}m^3/mol\text{-}K$)	Water Body Temperature T_a (refer to table B.9) (K)	Units Conversion Factor (CF) (g/ug)	Dry Vapor Phase Diffusion Load to Water Body (L_{dif}) (g/yr)
Particulate Matter								
Total Particulate Matter	--	2.40E+02	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Particulate Matter (PM10)	--	6.05E+01	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Particulate Matter (PM2.5)	--	1.57E+01	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Metals								
Aluminum	--	1.09E-01	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Antimony	--	1.63E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Arsenic	--	4.33E-04	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Barium	--	8.85E-02	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Beryllium	--	1.63E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Bismuth	--	8.20E-06	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Boron	--	3.71E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Cadmium	--	5.62E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Calcium	--	--	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Chromium Total	--	1.58E-03	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Cobalt	--	3.54E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Copper	--	3.39E-01	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Iron	--	1.12E-01	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Lead	--	2.44E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Lithium	--	9.02E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Magnesium	--	--	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Manganese	--	1.80E-03	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Mercury, element	5.37E+02	2.21E-06	2.95E+05	1.15E-02	8.21E-05	2.80E+02	1.00E-06	6.84E-04
Mercury, divalent	8.04E-04	--	2.95E+05	7.10E-10	8.21E-05	2.80E+02	1.00E-06	--
Mercury, methyl	5.17E+02	--	2.95E+05	7.22E-03	8.21E-05	2.80E+02	1.00E-06	--
Molybdenum	--	3.13E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Nickel	--	1.81E-03	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Phosphorus	--	--	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Potassium	--	--	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Rubidium	--	4.99E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Selenium	--	1.22E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Silver	--	1.48E-04	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Sodium	--	--	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Strontium	--	5.48E-04	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Thallium	--	9.52E-06	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Tin	--	1.85E-03	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Titanium	--	2.26E-03	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Uranium	--	9.76E-06	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Vanadium	--	3.30E-04	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Zinc	--	1.90E-02	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--

Equation:

$$L_{DIF} = \frac{(K_v \times Hg_{factor} \times Coa \times A_w \times CF) \times (R \times T_a)}{H}$$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.48), and methylmercury (0)

Table B.34

Impervious Runoff Load to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Annual Deposition Rate (Dr) (refer to table B.7) (g/m^2-yr)	Impervious Watershed Area (A_I) (refer to table B.9) (m^2)	Runoff Load Impervious Surfaces (L_{RI}) (g/yr)
Particulate Matter			
Total Particulate Matter	7.69E+02	2.95E+05	2.27E+08
Particulate Matter (PM10)	9.49E+01	2.95E+05	2.80E+07
Particulate Matter (PM2.5)	4.46E-01	2.95E+05	1.32E+05
Metals			
Aluminum	7.69E+01	2.95E+05	2.27E+07
Antimony	2.31E-03	2.95E+05	6.81E+02
Arsenic	3.00E-01	2.95E+05	8.85E+04
Barium	6.23E-01	2.95E+05	1.84E+05
Beryllium	2.31E-03	2.95E+05	6.81E+02
Bismuth	2.54E-04	2.95E+05	7.49E+01
Boron	1.92E-02	2.95E+05	5.67E+03
Cadmium	9.23E-05	2.95E+05	2.72E+01
Calcium	1.00E+01	2.95E+05	2.95E+06
Chromium Total	8.54E-02	2.95E+05	2.52E+04
Cobalt	1.38E-02	2.95E+05	4.09E+03
Copper	2.85E-02	2.95E+05	8.40E+03
Iron	3.31E+01	2.95E+05	9.76E+06
Lead	2.85E-02	2.95E+05	8.40E+03
Lithium	4.69E-02	2.95E+05	1.38E+04
Magnesium	1.15E+01	2.95E+05	3.40E+06
Manganese	7.09E-01	2.95E+05	2.09E+05
Mercury, element	2.03E-04	2.95E+05	5.87E+01
Mercury, divalent	--	2.95E+05	--
Mercury, methyl	--	2.95E+05	--
Molybdenum	6.16E-04	2.95E+05	1.82E+02
Nickel	3.15E-02	2.95E+05	9.31E+03
Phosphorus	5.31E-01	2.95E+05	1.57E+05
Potassium	2.46E+01	2.95E+05	7.26E+06
Rubidium	4.59E-03	2.95E+05	1.36E+03
Selenium	2.69E-04	2.95E+05	7.94E+01
Silver	3.85E-04	2.95E+05	1.13E+02
Sodium	1.46E+01	2.95E+05	4.31E+06
Strontium	1.62E-01	2.95E+05	4.77E+04
Thallium	6.08E-04	2.95E+05	1.79E+02
Tin	2.31E-03	2.95E+05	6.81E+02
Titanium	3.23E+00	2.95E+05	9.53E+05
Uranium	1.38E-03	2.95E+05	4.09E+02
Vanadium	6.16E-02	2.95E+05	1.82E+04
Zinc	8.46E-02	2.95E+05	2.50E+04

Equation: $L_{RI} = Hg_{factor} \times Dr \times A_I$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.48), and methylmercury (0)

Table B.35

Pervious Runoff Load to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Average Annual Surface Runoff Pervious Areas (RO) (refer to table B.9) (cm/yr)	Total Watershed Area Receiving Deposition (A_L) (refer to table B.9) (m^2)	Impervious Watershed Area (A_I) (refer to table B.34) (m^2)	Predicted Soil Concentration Construction (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Operations (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Reclamation (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Post-Closure (Cs) (refer to table B.16) (mg/kg)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	Soil Volumetric Water Content (θ_{sw}) (refer to table B.9) (ml/cm^3)	Soil-Water Partition Coefficient (Kds) (refer to table B.10) (cm^3/g)	Unit Conversion Factor (CF) ($kg\text{-}cm^2/mg\text{-}m^2$)	Runoff Load Pervious Surfaces Construction (L_R) (g/yr)	Runoff Load Pervious Surfaces Operations (L_R) (g/yr)	Runoff Load Pervious Surfaces Reclamation (L_R) (g/yr)	Runoff Load Pervious Surfaces Post-Closure (L_R) (g/yr)
Particulate Matter															
Total Particulate Matter	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Particulate Matter (PM10)	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Particulate Matter (PM2.5)	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Metals															
Aluminum	7.89E+01	3.79E+06	2.95E+05	1.45E+04	3.66E+04	4.18E+04	4.18E+04	1.50E+00	2.00E-01	1.50E+03	1.00E-02	2.67E+07	6.74E+07	7.69E+07	7.69E+07
Antimony	7.89E+01	3.79E+06	2.95E+05	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E+00	2.00E-01	4.50E+01	1.00E-02	6.12E+04	6.12E+04	6.12E+04	6.12E+04
Arsenic	7.89E+01	3.79E+06	2.95E+05	8.75E+00	9.08E+00	9.08E+00	9.08E+00	1.50E+00	2.00E-01	2.90E+01	1.00E-02	8.29E+05	8.61E+05	8.61E+05	8.61E+05
Barium	7.89E+01	3.79E+06	2.95E+05	3.73E+01	3.73E+01	3.73E+01	3.73E+01	1.50E+00	2.00E-01	4.10E+01	1.00E-02	2.50E+06	2.50E+06	2.50E+06	2.50E+06
Beryllium	7.89E+01	3.79E+06	2.95E+05	1.07E+00	1.37E+00	1.43E+00	1.43E+00	1.50E+00	2.00E-01	7.90E+02	1.00E-02	3.74E+03	4.78E+03	4.99E+03	4.99E+03
Bismuth	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Boron	7.89E+01	3.79E+06	2.95E+05	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.50E+00	2.00E-01	3.00E+00	1.00E-02	2.20E+07	2.20E+07	2.20E+07	2.20E+07
Cadmium	7.89E+01	3.79E+06	2.95E+05	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.50E+00	2.00E-01	7.50E+01	1.00E-02	5.51E+03	5.51E+03	5.51E+03	5.51E+03
Calcium	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Chromium Total	7.89E+01	3.79E+06	2.95E+05	1.27E+01	1.27E+01	1.27E+01	1.27E+01	1.50E+00	2.00E-01	1.90E+01	1.00E-02	1.83E+06	1.83E+06	1.83E+06	1.83E+06
Cobalt	7.89E+01	3.79E+06	2.95E+05	2.27E+00	2.27E+00	2.27E+00	2.27E+00	1.50E+00	2.00E-01	4.50E+01	1.00E-02	1.39E+05	1.39E+05	1.39E+05	1.39E+05
Copper	7.89E+01	3.79E+06	2.95E+05	6.56E+00	6.56E+00	6.56E+00	6.56E+00	1.50E+00	2.00E-01	3.50E+01	1.00E-02	5.16E+05	5.16E+05	5.16E+05	5.16E+05
Iron	7.89E+01	3.79E+06	2.95E+05	1.64E+04	1.64E+04	1.64E+04	1.64E+04	1.50E+00	2.00E-01	2.50E+01	1.00E-02	1.80E+09	1.80E+09	1.80E+09	1.80E+09
Lead	7.89E+01	3.79E+06	2.95E+05	1.56E+01	1.92E+01	1.99E+01	1.99E+01	1.50E+00	2.00E-01	9.00E+02	1.00E-02	4.79E+04	5.89E+04	6.12E+04	6.12E+04
Lithium	7.89E+01	3.79E+06	2.95E+05	9.61E+00	1.31E+01	1.35E+01	1.35E+01	1.50E+00	2.00E-01	3.00E+02	1.00E-02	8.84E+04	1.20E+05	1.24E+05	1.24E+05
Magnesium	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Manganese	7.89E+01	3.79E+06	2.95E+05	9.66E+01	9.66E+01	9.66E+01	9.66E+01	1.50E+00	2.00E-01	6.50E+01	1.00E-02	4.10E+06	4.10E+06	4.10E+06	4.10E+06
Mercury, element	7.89E+01	3.79E+06	2.95E+05	1.62E-01	1.62E-01	1.62E-01	1.62E-01	1.50E+00	2.00E-01	3.30E+03	1.00E-02	1.33E+02	1.33E+02	1.33E+02	1.33E+02
Mercury, divalent	7.89E+01	3.79E+06	2.95E+05	6.31E-03	3.89E-02	4.72E-02	4.72E-02	1.50E+00	2.00E-01	3.30E+03	1.00E-02	1.06E-01	6.51E-01	7.90E-01	7.90E-01
Mercury, methyl	7.89E+01	3.79E+06	2.95E+05	6.06E-08	6.06E-08	6.06E-08	6.06E-08	1.50E+00	2.00E-01	2.00E+01	1.00E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Molybdenum	7.89E+01	3.79E+06	2.95E+05	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E+00	2.00E-01	2.00E+01	1.00E-02	1.37E+05	1.37E+05	1.37E+05	1.37E+05
Nickel	7.89E+01	3.79E+06	2.95E+05	6.91E+00	6.91E+00	6.91E+00	6.91E+00	1.50E+00	2.00E-01	6.50E+01	1.00E-02	2.93E+05	2.93E+05	2.93E+05	2.93E+05
Phosphorus	7.89E+01	3.79E+06	2.95E+05	2.00E+00	2.00E+00	2.00E+00	2.00E+00	1.50E+00	2.00E-01	3.50E+00	1.00E-02	1.52E+06	1.52E+06	1.52E+06	1.52E+06
Potassium	7.89E+01	3.79E+06	2.95E+05	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.50E+00	2.00E-01	5.50E+00	1.00E-02	7.06E+07	7.06E+07	7.06E+07	7.06E+07
Rubidium	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Selenium	7.89E+01	3.79E+06	2.95E+05	8.64E-01	8.64E-01	8.64E-01	8.64E-01	1.50E+00	2.00E-01	5.00E+00	1.00E-02	4.65E+05	4.65E+05	4.65E+05	4.65E+05
Silver	7.89E+01	3.79E+06	2.95E+05	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.50E+00	2.00E-01	8.30E+00	1.00E-02	8.19E+04	8.19E+04	8.19E+04	8.19E+04
Sodium	7.89E+01	3.79E+06	2.95E+05	7.20E+02	1.50E+03	1.51E+03	1.51E+03	1.50E+00	2.00E-01	1.00E+02	1.00E-02	1.98E+07	4.13E+07	4.17E+07	4.17E+07
Strontium	7.89E+01	3.79E+06	2.95E+05	1.94E+01	1.94E+01	1.94E+01	1.94E+01	1.50E+00	2.00E-01	3.50E+01	1.00E-02	1.52E+06	1.52E+06	1.52E+06	1.52E+06
Thallium	7.89E+01	3.79E+06	2.95E+05	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.50E+00	2.00E-01	7.10E+01	1.00E-02	1.94E+03	1.94E+03	1.94E+03	1.94E+03
Tin	7.89E+01	3.79E+06	2.95E+05	5.23E-01	5.81E-01	5.87E-01	5.87E-01	1.50E+00	2.00E-01	2.50E+02	1.00E-02	5.77E+03	6.41E+03	6.48E+03	6.48E+03
Titanium	7.89E+01	3.79E+06	2.95E+05	2.09E+02	1.15E+03	1.35E+03	1.35E+03	1.50E+00	2.00E-01	1.00E+03	1.00E-02	5.76E+05	3.16E+06	3.72E+06	3.72E+06
Uranium	7.89E+01	3.79E+06	2.95E+05	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.50E+00	2.00E-01	4.50E+02	1.00E-02	4.11E+03	4.11E+03	4.11E+03	4.11E+03
Vanadium	7.89E+01	3.79E+06	2.95E+05	2.44E+01	3.62E+01	3.87E+01	3.87E+01	1.50E+00	2.00E-01	1.00E+03	1.00E-02	6.74E+04	9.99E+04	1.07E+05	1.07E+05
Zinc	7.89E+01	3.79E+06	2.95E+05	1.97E+01	1.97E+01	1.97E+01	1.97E+01	1.50E+00	2.00E-01	6.20E+01	1.00E-02	8.76E+05	8.76E+05	8.76E+05	8.76E+05

Equation:

$$L_R = RO \times (A_L - A_I) \times \frac{Cs \times BD}{\theta_{sw} + Kds \times BD} \times CF \times Hg_{factor}$$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.48), and methylmercury (0)

Table B.36

Universal Soil Loss Equation (USLE)
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	USLE Rainfall Factor (RF) (refer to table B.9) (1/yr)	USLE Erodibility Factor K (refer to table B.9) (ton/acre)	USLE Length-Slope Factor (LS) (refer to table B.9) -	USLE Cover Management Factor (C) (refer to table B.9) -	USLE Supporting Practice Factor (P) (refer to table B.9) -	Unit Conversion Factor (CF1) (kg/ton)	Unit Conversion Factor (CF2) (m^2/acre)	Unit Soil Loss X_e (kg/m^2-yr)
Particulate Matter								
Total Particulate Matter	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Particulate Matter (PM10)	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Particulate Matter (PM2.5)	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Metals								
Aluminum	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Antimony	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Arsenic	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Barium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Beryllium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Bismuth	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Boron	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Cadmium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Calcium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Chromium Total	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Cobalt	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Copper	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Iron	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Lead	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Lithium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Magnesium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Manganese	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Mercury, element	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Mercury, divalent	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Mercury, methyl	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Molybdenum	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Nickel	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Phosphorus	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Potassium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Rubidium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Selenium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Silver	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Sodium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Strontium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Thallium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Tin	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Titanium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Uranium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Vanadium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Zinc	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00

Equation: X_e = RF x K x LS x C x P x CF1/CF2

Table B.37

Sediment Delivery Ratio
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Empirical Intercept Coefficient (a) (refer to table B.9) -	Total Watershed Area Receiving Deposition (A_L) (refer to table B.35) (m^2)	Empirical Slope Coefficient (b) (refer to table B.9) -	Watershed Sediment Delivery Ratio (SD) -
Particulate Matter				
Total Particulate Matter	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Particulate Matter (PM10)	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Particulate Matter (PM2.5)	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Metals				
Aluminum	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Antimony	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Arsenic	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Barium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Beryllium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Bismuth	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Boron	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Cadmium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Calcium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Chromium Total	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Cobalt	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Copper	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Iron	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Lead	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Lithium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Magnesium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Manganese	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Mercury, element	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Mercury, divalent	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Mercury, methyl	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Molybdenum	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Nickel	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Phosphorus	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Potassium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Rubidium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Selenium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Silver	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Sodium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Strontium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Thallium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Tin	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Titanium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Uranium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Vanadium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Zinc	1.40E+00	3.79E+06	1.25E-01	2.11E-01

Equation: $SD = a \times (A_L)^{-b}$

Table B.38

Erosion Load to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Unit Soil Loss (X_e) (refer to table B.36) (kg/m^2-yr)	Total Watershed Area Receiving Deposition (A_L) (refer to table B.35) (m^2)	Impervious Watershed Area (A_I) (refer to table B.35) (m^2)	Watershed Sediment Delivery Ratio (SD) (refer to table B.37) -	Soil Enrichment Ratio (ER) -	Predicted Soil Concentration: Construction (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration: Operations (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration: Reclamation (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration: Post-Closure (Cs) (refer to table B.16) (mg/kg)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	Soil Volumetric Water Content (θ_{sw}) (refer to table B.9) (ml/cm^3)	Soil-Water Partition Coefficient (Kds) (refer to table B.35) (cm^3/g)	Unit Conversion Factor (CF) ((g/kg)/(mg/kg))	Erosion Load to Water Body: Construction (L_E) (g/yr)	Operations (L_E) (g/yr)	Reclamation (L_E) (g/yr)	Post-Closure (L_E) (g/yr)
Particulate Matter																	
Total Particulate Matter	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Particulate Matter (PM10)	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Particulate Matter (PM2.5)	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Metals																	
Aluminum	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.45E+04	3.66E+04	4.18E+04	4.18E+04	1.50E+00	2.00E-01	1.50E+03	1.00E-03	2.15E+07	5.43E+07	6.20E+07	6.20E+07
Antimony	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E+00	2.00E-01	4.50E+01	1.00E-03	1.48E+03	1.48E+03	1.48E+03	1.48E+03
Arsenic	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	8.75E+00	9.08E+00	9.08E+00	9.08E+00	1.50E+00	2.00E-01	2.90E+01	1.00E-03	1.29E+04	1.34E+04	1.34E+04	1.34E+04
Barium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	3.73E+01	3.73E+01	3.73E+01	3.73E+01	1.50E+00	2.00E-01	4.10E+01	1.00E-03	5.51E+04	5.51E+04	5.51E+04	5.51E+04
Beryllium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.07E+00	1.37E+00	1.43E+00	1.43E+00	1.50E+00	2.00E-01	7.90E+02	1.00E-03	1.59E+03	2.03E+03	2.12E+03	2.12E+03
Bismuth	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Boron	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.50E+00	2.00E-01	3.00E+00	1.00E-03	3.55E+04	3.55E+04	3.55E+04	3.55E+04
Cadmium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.50E+00	2.00E-01	7.50E+01	1.00E-03	2.22E+02	2.22E+02	2.22E+02	2.22E+02
Calcium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Chromium Total	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.27E+01	1.27E+01	1.27E+01	1.27E+01	1.50E+00	2.00E-01	1.90E+01	1.00E-03	1.87E+04	1.87E+04	1.87E+04	1.87E+04
Cobalt	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.27E+00	2.27E+00	2.27E+00	2.27E+00	1.50E+00	2.00E-01	4.50E+01	1.00E-03	3.36E+03	3.36E+03	3.36E+03	3.36E+03
Copper	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	1.50E+00	2.00E-01	3.50E+01	1.00E-03	9.69E+03	9.69E+03	9.69E+03	9.69E+03
Iron	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.64E+04	1.64E+04	1.64E+04	1.64E+04	1.50E+00	2.00E-01	2.50E+01	1.00E-03	2.42E+07	2.42E+07	2.42E+07	2.42E+07
Lead	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.56E+01	1.92E+01	1.99E+01	1.99E+01	1.50E+00	2.00E-01	9.00E+02	1.00E-03	2.32E+04	2.85E+04	2.96E+04	2.96E+04
Lithium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	9.61E+00	1.31E+01	1.35E+01	1.35E+01	1.50E+00	2.00E-01	3.00E+02	1.00E-03	1.42E+04	1.94E+04	2.00E+04	2.00E+04
Magnesium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Manganese	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	9.66E+01	9.66E+01	9.66E+01	9.66E+01	1.50E+00	2.00E-01	6.50E+01	1.00E-03	1.43E+05	1.43E+05	1.43E+05	1.43E+05
Mercury, element	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.62E-01	1.62E-01	1.62E-01	1.62E-01	1.50E+00	2.00E-01	3.30E+03	1.00E-03	2.40E+02	2.40E+02	2.40E+02	2.40E+02
Mercury, divalent	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	6.31E-03	3.89E-02	4.72E-02	4.72E-02	1.50E+00	2.00E-01	3.30E+03	1.00E-03	9.36E+00	5.77E+01	7.00E+01	7.00E+01
Mercury, methyl	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	6.06E-08	6.06E-08	6.06E-08	6.06E-08	1.50E+00	2.00E-01	2.00E+01	1.00E-03	8.93E-05	8.93E-05	8.93E-05	8.93E-05
Molybdenum	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E+00	2.00E-01	2.00E+01	1.00E-03	1.47E+03	1.47E+03	1.47E+03	1.47E+03
Nickel	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	6.91E+00	6.91E+00	6.91E+00	6.91E+00	1.50E+00	2.00E-01	6.50E+01	1.00E-03	1.02E+04	1.02E+04	1.02E+04	1.02E+04
Phosphorus	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.00E+00	2.00E+00	2.00E+00	2.00E+00	1.50E+00	2.00E-01	3.50E+00	1.00E-03	2.86E+03	2.86E+03	2.86E+03	2.86E+03
Potassium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.50E+00	2.00E-01	5.50E+00	1.00E-03	2.09E+05	2.09E+05	2.09E+05	2.09E+05
Rubidium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Selenium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	8.64E-01	8.64E-01	8.64E-01	8.64E-01	1.50E+00	2.00E-01	5.00E+00	1.00E-03	1.25E+03	1.25E+03	1.25E+03	1.25E+03
Silver	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.50E+00	2.00E-01	8.30E+00	1.00E-03	3.65E+02	3.65E+02	3.65E+02	3.65E+02
Sodium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	7.20E+02	1.50E+03	1.51E+03	1.51E+03	1.50E+00	2.00E-01	1.00E+02	1.00E-03	1.07E+06	2.22E+06	2.24E+06	2.24E+06
Strontium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.94E+01	1.94E+01	1.94E+01	1.94E+01	1.50E+00	2.00E-01	3.50E+01	1.00E-03	2.87E+04	2.87E+04	2.87E+04	2.87E+04
Thallium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.50E+00	2.00E-01	7.10E+01	1.00E-03	7.40E+01	7.40E+01	7.40E+01	7.40E+01
Tin	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	5.23E-01	5.81E-01	5.87E-01	5.87E-01	1.50E+00	2.00E-01	2.50E+02	1.00E-03	7.75E+02	8.61E+02	8.70E+02	8.70E+02
Titanium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.09E+02	1.15E+03	1.35E+03	1.35E+03	1.50E+00	2.00E-01	1.00E+03	1.00E-03	3.09E+05	1.70E+06	2.00E+06	2.00E+06
Uranium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.50E+00	2.00E-01	4.50E+02	1.00E-03	9.94E+02	9.94E+02	9.94E+02	9.94E+02
Vanadium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.44E+01	3.62E+01	3.87E+01	3.87E+01	1.50E+00	2.00E-01	1.00E+03	1.00E-03	3.62E+04	5.37E+04	5.74E+04	5.74E+04
Zinc	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.97E+01	1.97E+01	1.97E+01	1.97E+01	1.50E+00	2.00E-01	6.20E+01	1.00E-03	2.92E+04	2.92E+04	2.92E+04	2.92E+04

Equation:

$$L_E = X_e \times (A_L - A_I) \times SD \times ER \times \frac{Cs \times Kds \times BD}{\theta_{sw} + Kds \times BD} \times CF$$

Table B.39

Total Water Body Load
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Total Wet & Dry Particle and Wet Vapor Direct Deposition to Water (L_{DEP}) (refer to table B.30) (g/yr)	Vapor Phase Diffusion to Water (L_{DIF}) (refer to table B.33) (g/yr)	Runoff Load Impervious Surfaces (L_{RI}) (refer to table B.34) (g/yr)	Runoff Load Pervious Surfaces				Soil Erosion Load				Total Load to Surface Water			
				Construction (L_R) (refer to table B.35) (g/yr)	Operations (L_R) (refer to table B.35) (g/yr)	Reclamation (L_R) (refer to table B.35) (g/yr)	Post-Closure (L_R) (refer to table B.35) (g/yr)	Construction (L_E) (refer to table B.38) (g/yr)	Operations (L_E) (refer to table B.38) (g/yr)	Reclamation (L_E) (refer to table B.38) (g/yr)	Post-Closure (L_E) (refer to table B.38) (g/yr)	Construction (L_T) (g/yr)	Operations (L_T) (g/yr)	Reclamation (L_T) (g/yr)	Post-Closure (L_T) (g/yr)
Particulate Matter															
Total Particulate Matter	2.27E+08	0.00E+00	2.27E+08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.54E+08	4.54E+08	4.54E+08	4.54E+08
Particulate Matter (PM10)	2.80E+07	0.00E+00	2.80E+07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.60E+07	5.60E+07	5.60E+07	5.60E+07
Particulate Matter (PM2.5)	1.32E+05	0.00E+00	1.32E+05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.63E+05	2.63E+05	2.63E+05	2.63E+05
Metals															
Aluminum	2.27E+07	0.00E+00	2.27E+07	2.67E+07	6.74E+07	7.69E+07	7.69E+07	2.15E+07	5.43E+07	6.20E+07	6.20E+07	9.36E+07	1.67E+08	1.84E+08	1.84E+08
Antimony	6.81E+02	0.00E+00	6.81E+02	6.12E+04	6.12E+04	6.12E+04	6.12E+04	1.48E+03	1.48E+03	1.48E+03	1.48E+03	6.40E+04	6.40E+04	6.40E+04	6.40E+04
Arsenic	8.85E+04	0.00E+00	8.85E+04	8.29E+05	8.61E+05	8.61E+05	8.61E+05	1.29E+04	1.34E+04	1.34E+04	1.34E+04	1.02E+06	1.05E+06	1.05E+06	1.05E+06
Barium	1.84E+05	0.00E+00	1.84E+05	2.50E+06	2.50E+06	2.50E+06	2.50E+06	5.51E+04	5.51E+04	5.51E+04	5.51E+04	2.93E+06	2.93E+06	2.93E+06	2.93E+06
Beryllium	6.81E+02	0.00E+00	6.81E+02	3.74E+03	4.78E+03	4.99E+03	4.99E+03	1.59E+03	2.03E+03	2.12E+03	2.12E+03	6.69E+03	8.17E+03	8.47E+03	8.47E+03
Bismuth	7.49E+01	0.00E+00	7.49E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E+02	1.50E+02	1.50E+02	1.50E+02
Boron	5.67E+03	0.00E+00	5.67E+03	2.20E+07	2.20E+07	2.20E+07	2.20E+07	3.55E+04	3.55E+04	3.55E+04	3.55E+04	2.21E+07	2.21E+07	2.21E+07	2.21E+07
Cadmium	2.72E+01	0.00E+00	2.72E+01	5.51E+03	5.51E+03	5.51E+03	5.51E+03	2.22E+02	2.22E+02	2.22E+02	2.22E+02	5.79E+03	5.79E+03	5.79E+03	5.79E+03
Calcium	2.95E+06	0.00E+00	2.95E+06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.90E+06	5.90E+06	5.90E+06	5.90E+06
Chromium Total	2.52E+04	0.00E+00	2.52E+04	1.83E+06	1.83E+06	1.83E+06	1.83E+06	1.87E+04	1.87E+04	1.87E+04	1.87E+04	1.90E+06	1.90E+06	1.90E+06	1.90E+06
Cobalt	4.09E+03	0.00E+00	4.09E+03	1.39E+05	1.39E+05	1.39E+05	1.39E+05	3.36E+03	3.36E+03	3.36E+03	3.36E+03	1.50E+05	1.50E+05	1.50E+05	1.50E+05
Copper	8.40E+03	0.00E+00	8.40E+03	5.16E+05	5.16E+05	5.16E+05	5.16E+05	9.69E+03	9.69E+03	9.69E+03	9.69E+03	5.42E+05	5.42E+05	5.42E+05	5.42E+05
Iron	9.76E+06	0.00E+00	9.76E+06	1.80E+09	1.80E+09	1.80E+09	1.80E+09	2.42E+07	2.42E+07	2.42E+07	2.42E+07	1.85E+09	1.85E+09	1.85E+09	1.85E+09
Lead	8.40E+03	0.00E+00	8.40E+03	4.79E+04	5.89E+04	6.12E+04	6.12E+04	2.32E+04	2.85E+04	2.96E+04	2.96E+04	8.79E+04	1.04E+05	1.08E+05	1.08E+05
Lithium	1.38E+04	0.00E+00	1.38E+04	8.84E+04	1.20E+05	1.24E+05	1.24E+05	1.42E+04	1.94E+04	2.00E+04	2.00E+04	1.30E+05	1.67E+05	1.72E+05	1.72E+05
Magnesium	3.40E+06	0.00E+00	3.40E+06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.81E+06	6.81E+06	6.81E+06	6.81E+06
Manganese	2.09E+05	0.00E+00	2.09E+05	4.10E+06	4.10E+06	4.10E+06	4.10E+06	1.43E+05	1.43E+05	1.43E+05	1.43E+05	4.66E+06	4.66E+06	4.66E+06	4.66E+06
Mercury, element	5.87E+01	6.84E-04	5.87E+01	1.33E+02	1.33E+02	1.33E+02	1.33E+02	2.40E+02	2.40E+02	2.40E+02	2.40E+02	4.91E+02	4.91E+02	4.91E+02	4.91E+02
Mercury, divalent	0.00E+00	0.00E+00	0.00E+00	1.06E-01	6.51E-01	7.90E-01	7.90E-01	9.36E+00	5.77E+01	7.00E+01	7.00E+01	9.46E+00	5.83E+01	7.08E+01	7.08E+01
Mercury, methyl	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.93E-05	8.93E-05	8.93E-05	8.93E-05	8.93E-05	8.93E-05	8.93E-05	8.93E-05
Molybdenum	1.82E+02	0.00E+00	1.82E+02	1.37E+05	1.37E+05	1.37E+05	1.37E+05	1.47E+03	1.47E+03	1.47E+03	1.47E+03	1.39E+05	1.39E+05	1.39E+05	1.39E+05
Nickel	9.31E+03	0.00E+00	9.31E+03	2.93E+05	2.93E+05	2.93E+05	2.93E+05	1.02E+04	1.02E+04	1.02E+04	1.02E+04	3.22E+05	3.22E+05	3.22E+05	3.22E+05
Phosphorus	1.57E+05	0.00E+00	1.57E+05	1.52E+06	1.52E+06	1.52E+06	1.52E+06	2.86E+03	2.86E+03	2.86E+03	2.86E+03	1.84E+06	1.84E+06	1.84E+06	1.84E+06
Potassium	7.26E+06	0.00E+00	7.26E+06	7.06E+07	7.06E+07	7.06E+07	7.06E+07	2.09E+05	2.09E+05	2.09E+05	2.09E+05	8.54E+07	8.54E+07	8.54E+07	8.54E+07
Rubidium	1.36E+03	0.00E+00	1.36E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.71E+03	2.71E+03	2.71E+03	2.71E+03
Selenium	7.94E+01	0.00E+00	7.94E+01	4.65E+05	4.65E+05	4.65E+05	4.65E+05	1.25E+03	1.25E+03	1.25E+03	1.25E+03	4.66E+05	4.66E+05	4.66E+05	4.66E+05
Silver	1.13E+02	0.00E+00	1.13E+02	8.19E+04	8.19E+04	8.19E+04	8.19E+04	3.65E+02	3.65E+02	3.65E+02	3.65E+02	8.25E+04	8.25E+04	8.25E+04	8.25E+04
Sodium	4.31E+06	0.00E+00	4.31E+06	1.98E+07	4.13E+07	4.17E+07	4.17E+07	1.07E+06	2.22E+06	2.24E+06	2.24E+06	2.95E+07	5.21E+07	5.26E+07	5.26E+07
Strontium	4.77E+04	0.00E+00	4.77E+04	1.52E+06	1.52E+06	1.52E+06	1.52E+06	2.87E+04	2.87E+04	2.87E+04	2.87E+04	1.65E+06	1.65E+06	1.65E+06	1.65E+06
Thallium	1.79E+02	0.00E+00	1.79E+02	1.94E+03	1.94E+03	1.94E+03	1.94E+03	7.40E+01	7.40E+01	7.40E+01	7.40E+01	2.37E+03	2.37E+03	2.37E+03	2.37E+03
Tin	6.81E+02	0.00E+00	6.81E+02	5.77E+03	6.41E+03	6.48E+03	6.48E+03	7.75E+02	8.61E+02	8.70E+02	8.70E+02	7.91E+03	8.64E+03	8.71E+03	8.71E+03
Titanium	9.53E+05	0.00E+00	9.53E+05	5.76E+05	3.16E+06	3.72E+06	3.72E+06	3.09E+05	1.70E+06	2.00E+06	2.00E+06	2.79E+06	6.77E+06	7.63E+06	7.63E+06
Uranium	4.09E+02	0.00E+00	4.09E+02	4.11E+03	4.11E+03	4.11E+03	4.11E+03	9.94E+02	9.94E+02	9.94E+02	9.94E+02	5.92E+03	5.92E+03	5.92E+03	5.92E+03
Vanadium	1.82E+04	0.00E+00	1.82E+04	6.74E+04	9.99E+04	1.07E+05	1.07E+05	3.62E+04	5.37E+04	5.74E+04	5.74E+04	1.40E+05	1.90E+05	2.01E+05	2.01E+05
Zinc	2.50E+04	0.00E+00	2.50E+04	8.76E+05	8.76E+05	8.76E+05	8.76E+05	2.92E+04	2.92E+04	2.92E+04	2.92E+04	9.55E+05	9.55E+05	9.55E+05	9.55E+05

Equation: $L_T = L_{DEP} + L_{DIF} + L_{RI} + L_R + L_E$

Table B.40

Total Water Body (Surface Water and Bed Sediment) Predicted Concentrations
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Total Load to Surface Water				Average Volumetric Flow rate (Vf_x)	Fraction Total Water Body Conc. in Water Column (f_{wc})	Overall Total Water Body Dissipation Rate Constant k_{wt}	Water Body Surface Area (A_w)	Depth of Water Column (d_{wc})	Depth of Upper Benthic Sediment Layer (d_{bs})	Total Water Body Predicted Concentrations Load to Surface Water & Sediment			
	Construction (L_T)	Operations (L_T)	Reclamation (L_T)	Post-Closure (L_T)							Construction (Cwb)	Operations (Cwb)	Reclamation (Cwb)	Post-Closure (Cwb)
	(refer to table B.39)	(refer to table B.39)	(refer to table B.39)	(refer to table B.39)	(refer to table B.9)	(refer to table B.41)	(refer to table B.44)	(refer to table B.30)	(refer to table B.9)	(refer to table B.9)				
Contaminant	(g/yr)	(g/yr)	(g/yr)	(g/yr)	(m^3/yr)	-	(1/yr)	(m^2)	(m)	(m)	(g/m^3 or mg/L)	(g/m^3 or mg/L)	(g/m^3 or mg/L)	(g/m^3 or mg/L)
Particulate Matter														
Total Particulate Matter	4.54E+08	4.54E+08	4.54E+08	4.54E+08	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Particulate Matter (PM10)	5.60E+07	5.60E+07	5.60E+07	5.60E+07	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Particulate Matter (PM2.5)	2.63E+05	2.63E+05	2.63E+05	2.63E+05	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Metals														
Aluminum	9.36E+07	1.67E+08	1.84E+08	1.84E+08	1.25E+07	6.24E-03	1.67E-01	2.95E+05	2.79E-01	3.00E-02	1.01E+03	1.80E+03	1.98E+03	1.98E+03
Antimony	6.40E+04	6.40E+04	6.40E+04	6.40E+04	1.25E+07	1.69E-01	1.39E-01	2.95E+05	2.79E-01	3.00E-02	3.02E-02	3.02E-02	3.02E-02	3.02E-02
Arsenic	1.02E+06	1.05E+06	1.05E+06	1.05E+06	1.25E+07	2.39E-01	1.28E-01	2.95E+05	2.79E-01	3.00E-02	3.41E-01	3.52E-01	3.52E-01	3.52E-01
Barium	2.93E+06	2.93E+06	2.93E+06	2.93E+06	1.25E+07	1.83E-01	1.37E-01	2.95E+05	2.79E-01	3.00E-02	1.28E+00	1.28E+00	1.28E+00	1.28E+00
Beryllium	6.69E+03	8.17E+03	8.47E+03	8.47E+03	1.25E+07	1.17E-02	1.66E-01	2.95E+05	2.79E-01	3.00E-02	4.16E-02	5.07E-02	5.26E-02	5.26E-02
Bismuth	1.50E+02	1.50E+02	1.50E+02	1.50E+02	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Boron	2.21E+07	2.21E+07	2.21E+07	2.21E+07	1.25E+07	7.21E-01	4.68E-02	2.95E+05	2.79E-01	3.00E-02	2.46E+00	2.46E+00	2.46E+00	2.46E+00
Cadmium	5.79E+03	5.79E+03	5.79E+03	5.79E+03	1.25E+07	1.09E-01	1.49E-01	2.95E+05	2.79E-01	3.00E-02	4.20E-03	4.20E-03	4.20E-03	4.20E-03
Calcium	5.90E+06	5.90E+06	5.90E+06	5.90E+06	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Chromium Total	1.90E+06	1.90E+06	1.90E+06	1.90E+06	1.25E+07	3.22E-01	1.14E-01	2.95E+05	2.79E-01	3.00E-02	4.74E-01	4.74E-01	4.74E-01	4.74E-01
Cobalt	2.93E+06	2.93E+06	2.93E+06	2.93E+06	1.25E+07	1.69E-01	1.39E-01	2.95E+05	2.79E-01	3.00E-02	1.38E+00	1.38E+00	1.38E+00	1.38E+00
Copper	6.69E+03	8.17E+03	8.47E+03	8.47E+03	1.25E+07	2.07E-01	1.33E-01	2.95E+05	2.79E-01	3.00E-02	2.58E-03	3.15E-03	3.27E-03	3.27E-03
Iron	1.85E+09	1.85E+09	1.85E+09	1.85E+09	1.25E+07	2.66E-01	1.23E-01	2.95E+05	2.79E-01	3.00E-02	5.54E+02	5.54E+02	5.54E+02	5.54E+02
Lead	8.79E+04	1.04E+05	1.08E+05	1.08E+05	1.25E+07	1.03E-02	1.66E-01	2.95E+05	2.79E-01	3.00E-02	6.12E-01	7.26E-01	7.50E-01	7.50E-01
Lithium	1.30E+05	1.67E+05	1.72E+05	1.72E+05	1.25E+07	3.01E-02	1.63E-01	2.95E+05	2.79E-01	3.00E-02	3.35E-01	4.30E-01	4.42E-01	4.42E-01
Magnesium	6.81E+06	6.81E+06	6.81E+06	6.81E+06	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Manganese	4.66E+06	4.66E+06	4.66E+06	4.66E+06	1.25E+07	1.24E-01	1.47E-01	2.95E+05	2.79E-01	3.00E-02	2.98E+00	2.98E+00	2.98E+00	2.98E+00
Mercury, element	4.91E+02	4.91E+02	4.91E+02	4.91E+02	1.25E+07	5.26E-04	7.80E-01	2.95E+05	2.79E-01	3.00E-02	6.33E-03	6.33E-03	6.33E-03	6.33E-03
Mercury, divalent	9.46E+00	5.83E+01	7.08E+01	7.08E+01	1.25E+07	5.26E-04	1.68E-01	2.95E+05	2.79E-01	3.00E-02	4.34E-04	2.68E-03	3.25E-03	3.25E-03
Mercury, methyl	8.93E-05	8.93E-05	8.93E-05	8.93E-05	1.25E+07	5.48E-02	9.17E+01	2.95E+05	2.79E-01	3.00E-02	9.89E-12	9.89E-12	9.89E-12	9.89E-12
Molybdenum	1.39E+05	1.39E+05	1.39E+05	1.39E+05	1.25E+07	3.11E-01	1.16E-01	2.95E+05	2.79E-01	3.00E-02	3.58E-02	3.58E-02	3.58E-02	3.58E-02
Nickel	3.22E+05	3.22E+05	3.22E+05	3.22E+05	1.25E+07	1.24E-01	1.47E-01	2.95E+05	2.79E-01	3.00E-02	2.06E-01	2.06E-01	2.06E-01	2.06E-01
Phosphorus	1.84E+06	1.84E+06	1.84E+06	1.84E+06	1.25E+07	6.94E-01	5.13E-02	2.95E+05	2.79E-01	3.00E-02	2.13E-01	2.13E-01	2.13E-01	2.13E-01
Potassium	8.54E+07	8.54E+07	8.54E+07	8.54E+07	1.25E+07	6.04E-01	6.65E-02	2.95E+05	2.79E-01	3.00E-02	1.13E+01	1.13E+01	1.13E+01	1.13E+01
Rubidium	2.71E+03	2.71E+03	2.71E+03	2.71E+03	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Selenium	4.66E+05	4.66E+05	4.66E+05	4.66E+05	1.25E+07	6.24E-01	6.31E-02	2.95E+05	2.79E-01	3.00E-02	5.99E-02	5.99E-02	5.99E-02	5.99E-02
Silver	8.25E+04	8.25E+04	8.25E+04	8.25E+04	1.25E+07	5.11E-01	8.20E-02	2.95E+05	2.79E-01	3.00E-02	1.29E-02	1.29E-02	1.29E-02	1.29E-02
Sodium	2.95E+07	5.21E+07	5.26E+07	5.26E+07	1.25E+07	8.46E-02	1.53E-01	2.95E+05	2.79E-01	3.00E-02	2.76E+01	4.88E+01	4.92E+01	4.92E+01
Strontium	1.65E+06	1.65E+06	1.65E+06	1.65E+06	1.25E+07	2.07E-01	1.33E-01	2.95E+05	2.79E-01	3.00E-02	6.36E-01	6.36E-01	6.36E-01	6.36E-01
Thallium	2.37E+03	2.37E+03	2.37E+03	2.37E+03	1.25E+07	1.15E-01	1.48E-01	2.95E+05	2.79E-01	3.00E-02	1.64E-03	1.64E-03	1.64E-03	1.64E-03
Tin	7.91E+03	8.64E+03	8.71E+03	8.71E+03	1.25E+07	3.58E-02	1.62E-01	2.95E+05	2.79E-01	3.00E-02	1.71E-02	1.87E-02	1.89E-02	1.89E-02
Titanium	2.79E+06	6.77E+06	7.63E+06	7.63E+06	1.25E+07	9.29E-03	1.66E-01	2.95E+05	2.79E-01	3.00E-02	2.13E+01	5.17E+01	5.83E+01	5.83E+01
Uranium	5.92E+03	5.92E+03	5.92E+03	5.92E+03	1.25E+07	2.03E-02	1.64E-01	2.95E+05	2.79E-01	3.00E-02	2.21E-02	2.21E-02	2.21E-02	2.21E-02
Vanadium	1.40E+05	1.90E+05	2.01E+05	2.01E+05	1.25E+07	9.29E-03	1.66E-01	2.95E+05	2.79E-01	3.00E-02	1.07E+00	1.45E+00	1.53E+00	1.53E+00
Zinc	9.55E+05	9.55E+05	9.55E+05	9.55E+05	1.25E+07	1.29E-01	1.46E-01	2.95E+05	2.79E-01	3.00E-02	5.88E-01	5.88E-01	5.88E-01	5.88E-01

Equation:

$$Cwb = \frac{L_T}{Vf_x \times f_{wc} + k_{wt} \times A_w \times (d_{wc} + d_{bs})}$$

Table B.41

Fraction in Water Column and in Benthic Sediment
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Suspended Sediments/ Surface Water Partition Coefficient (Kdsw) (refer to table B.10) (L/kg)	Total Suspended Solids Concentration (TSS) (refer to table B.9) (mg/L)	Unit Conversion Factor (CF) (kg/mg)	Depth of Water Column (d_{wc}) (refer to table B.9) (m)	Depth of Upper Benthic Sediment Layer (d_{bs}) (refer to table B.9) (m)	Total Water Body Depth (d_z) (m)	Bed Sediment Concentration (C_{BS}) (refer to table B.9) (kg/L)	Bed Sediment Porosity (θ_{bs}) (refer to table B.9) (L_{wat}/L_{sed})	Bed Sediments/ Sediment Pore Water Partition Coefficient (Kdbs) (refer to table B.10) (L/kg)	Fraction Total Water Body Conc. in Water Column (f_{wc}) -	Fraction Total Water Body Conc. in Benthic Sediment (f_{bs}) -
Particulate Matter											
Total Particulate Matter	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Particulate Matter (PM10)	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Particulate Matter (PM2.5)	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Metals											
Aluminum	1.50E+03	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.50E+03	6.24E-03	9.94E-01
Antimony	4.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	4.50E+01	1.69E-01	8.31E-01
Arsenic	2.90E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.90E+01	2.39E-01	7.61E-01
Barium	4.10E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	4.10E+01	1.83E-01	8.17E-01
Beryllium	7.90E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	7.90E+02	1.17E-02	9.88E-01
Bismuth	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Boron	3.00E+00	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	3.00E+00	7.21E-01	2.79E-01
Cadmium	7.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	7.50E+01	1.09E-01	8.91E-01
Calcium	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Chromium Total	1.90E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.90E+01	3.22E-01	6.78E-01
Cobalt	4.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	4.50E+01	1.69E-01	8.31E-01
Copper	3.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	3.50E+01	2.07E-01	7.93E-01
Iron	2.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.50E+01	2.66E-01	7.34E-01
Lead	9.00E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	9.00E+02	1.03E-02	9.90E-01
Lithium	3.00E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	3.00E+02	3.01E-02	9.70E-01
Magnesium	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Manganese	6.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	6.50E+01	1.24E-01	8.76E-01
Mercury, element	4.95E+04	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.64E+04	5.26E-04	9.99E-01
Mercury, divalent	4.95E+04	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.64E+04	5.26E-04	9.99E-01
Mercury, methyl	3.00E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.60E+02	5.48E-02	9.45E-01
Molybdenum	2.00E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.00E+01	3.11E-01	6.89E-01
Nickel	6.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	6.50E+01	1.24E-01	8.76E-01
Phosphorus	3.50E+00	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	3.50E+00	6.94E-01	3.06E-01
Potassium	5.50E+00	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	5.50E+00	6.04E-01	3.96E-01
Rubidium	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Selenium	5.00E+00	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	5.00E+00	6.24E-01	3.76E-01
Silver	8.30E+00	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	8.30E+00	5.11E-01	4.89E-01
Sodium	1.00E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.00E+02	8.46E-02	9.15E-01
Strontium	3.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	3.50E+01	2.07E-01	7.93E-01
Thallium	7.10E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	7.10E+01	1.15E-01	8.85E-01
Tin	2.50E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.50E+02	3.58E-02	9.64E-01
Titanium	1.00E+03	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.00E+03	9.29E-03	9.91E-01
Uranium	4.50E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	4.50E+02	2.03E-02	9.80E-01
Vanadium	1.00E+03	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.00E+03	9.29E-03	9.91E-01
Zinc	6.20E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	6.20E+01	1.29E-01	8.71E-01

Equation: $f_{bs} = 1 - f_{wc}$ where: $f_{wc} = \frac{(1 + Kdsw \times TSS \times CF) \times d_{wc} / d_z}{(1 + Kdsw \times TSS \times CF) \times d_{wc} / d_z + (\theta_{bs} + Kdbs \times C_{BS}) \times d_{bs} / d_z}$

$d_z = d_{wc} + d_{bs}$

Table B.42

Water Column Volatilization Loss Rate Constant
Surface Water Direct Contact Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Overall Transfer Rate Coefficient (K_V) (refer to table B.32) (m/yr)	Total Water Body Depth (d_z) (refer to table B.41) (m)	Suspended Sediments/ Surface Water Partition Coefficient (Kdsw) (refer to table B.10) (L/kg)	Total Suspended Solids Concentration (TSS) (refer to table B.9) (mg/L)	Unit Conversion Factor (CF) (kg/mg)	Water Column Volatilization Rate Constant k_v (yr^{-1})
Particulate Matter						
Total Particulate Matter	--	3.09E-01	--	1.00E+01	1.00E-06	--
Particulate Matter (PM10)	--	3.09E-01	--	1.00E+01	1.00E-06	--
Particulate Matter (PM2.5)	--	3.09E-01	--	1.00E+01	1.00E-06	--
Metals						
Aluminum	--	3.09E-01	1.50E+03	1.00E+01	1.00E-06	--
Antimony	--	3.09E-01	4.50E+01	1.00E+01	1.00E-06	--
Arsenic	--	3.09E-01	2.90E+01	1.00E+01	1.00E-06	--
Barium	--	3.09E-01	4.10E+01	1.00E+01	1.00E-06	--
Beryllium	--	3.09E-01	7.90E+02	1.00E+01	1.00E-06	--
Bismuth	--	3.09E-01	--	1.00E+01	1.00E-06	--
Boron	--	3.09E-01	3.00E+00	1.00E+01	1.00E-06	--
Cadmium	--	3.09E-01	7.50E+01	1.00E+01	1.00E-06	--
Calcium	--	3.09E-01	--	1.00E+01	1.00E-06	--
Chromium Total	--	3.09E-01	1.90E+01	1.00E+01	1.00E-06	--
Cobalt	--	3.09E-01	4.50E+01	1.00E+01	1.00E-06	--
Copper	--	3.09E-01	3.50E+01	1.00E+01	1.00E-06	--
Iron	--	3.09E-01	2.50E+01	1.00E+01	1.00E-06	--
Lead	--	3.09E-01	9.00E+02	1.00E+01	1.00E-06	--
Lithium	--	3.09E-01	3.00E+02	1.00E+01	1.00E-06	--
Magnesium	--	3.09E-01	--	1.00E+01	1.00E-06	--
Manganese	--	3.09E-01	6.50E+01	1.00E+01	1.00E-06	--
Mercury, element	5.37E+02	3.09E-01	4.95E+04	1.00E+01	1.00E-06	1.16E+03
Mercury, divalent	8.04E-04	3.09E-01	4.95E+04	1.00E+01	1.00E-06	1.74E-03
Mercury, methyl	5.17E+02	3.09E-01	3.00E+02	1.00E+01	1.00E-06	1.67E+03
Molybdenum	--	3.09E-01	2.00E+01	1.00E+01	1.00E-06	--
Nickel	--	3.09E-01	6.50E+01	1.00E+01	1.00E-06	--
Phosphorus	--	3.09E-01	3.50E+00	1.00E+01	1.00E-06	--
Potassium	--	3.09E-01	5.50E+00	1.00E+01	1.00E-06	--
Rubidium	--	3.09E-01	--	1.00E+01	1.00E-06	--
Selenium	--	3.09E-01	5.00E+00	1.00E+01	1.00E-06	--
Silver	--	3.09E-01	8.30E+00	1.00E+01	1.00E-06	--
Sodium	--	3.09E-01	1.00E+02	1.00E+01	1.00E-06	--
Strontium	--	3.09E-01	3.50E+01	1.00E+01	1.00E-06	--
Thallium	--	3.09E-01	7.10E+01	1.00E+01	1.00E-06	--
Tin	--	3.09E-01	2.50E+02	1.00E+01	1.00E-06	--
Titanium	--	3.09E-01	1.00E+03	1.00E+01	1.00E-06	--
Uranium	--	3.09E-01	4.50E+02	1.00E+01	1.00E-06	--
Vanadium	--	3.09E-01	1.00E+03	1.00E+01	1.00E-06	--
Zinc	--	3.09E-01	6.20E+01	1.00E+01	1.00E-06	--

Equation:

$$k_v = \frac{K_v}{d_z \times (1 + Kdsw \times TSS \times CF)}$$

Table B.43

Benthic Burial Rate Constant
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Unit Soil Loss (X_e) (refer to table B.36) (kg/m^2-yr)	Total Watershed Area Receiving Deposition (A_L) (refer to table B.35) (m^2)	Watershed Sediment Delivery Ratio (SD) (refer to table B.37) -	Unit Conversion Factor (CF1) (g/kg)	Avg. Volumetric Flow Rate of Water Body (Vf_x) (refer to table B.9) (m^3/yr)	Total Suspended Solids Concentration (TSS) (refer to table B.9) (mg/L)	Water Body Surface Area (A_W) (refer to table B.33) (m^2)	Unit Conversion Factor (CF2) (kg/mg)	Bed Sediment Concentration (C_{BS}) (refer to table B.9) (g/cm^3)	Depth of Upper Benthic Sediment Layer (d_{bs}) (refer to table B.9) (m)	Benthic Burial Rate Constant (k_b) (yr^{-1})
Particulate Matter											
Total Particulate Matter	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Particulate Matter (PM10)	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Particulate Matter (PM2.5)	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Metals											
Aluminum	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Antimony	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Arsenic	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Barium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Beryllium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Bismuth	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Boron	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Cadmium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Calcium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Chromium Total	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Cobalt	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Copper	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Iron	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Lead	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Lithium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Magnesium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Manganese	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Mercury, element	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Mercury, divalent	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Mercury, methyl	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Molybdenum	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Nickel	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Phosphorus	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Potassium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Rubidium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Selenium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Silver	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Sodium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Strontium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Thallium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Tin	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Titanium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Uranium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Vanadium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Zinc	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01

Equation:

$$k_b = \frac{(X_e \times A_L \times SD \times CF1 - Vf_x \times TSS)}{(A_w \times TSS)} \times \frac{(TSS \times CF2)}{(C_{BS} \times d_{bs})}$$

Table B.44

Overall Total Surface River Dissipation Rate Constant
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction Total Water Body Conc. in Water Column (f_{wc}) (refer to table B.41) -	Water Column Volatilization Rate Constant (k_v) (refer to table B.42) (yr^{-1})	Fraction Total Water Body Conc. in Benthic Sediment (f_{bs}) (refer to table B.41) -	Benthic Burial Rate Constant (k_b) (refer to table B.43) (yr^{-1})	Overall Total Water Body Dissipation Rate Constant (k_{wt}) (yr^{-1})
Particulate Matter					
Total Particulate Matter	--	--	--	1.68E-01	--
Particulate Matter (PM10)	--	--	--	1.68E-01	--
Particulate Matter (PM2.5)	--	--	--	1.68E-01	--
Metals					
Aluminum	6.24E-03	--	9.94E-01	1.68E-01	1.67E-01
Antimony	1.69E-01	--	8.31E-01	1.68E-01	1.39E-01
Arsenic	2.39E-01	--	7.61E-01	1.68E-01	1.28E-01
Barium	1.83E-01	--	8.17E-01	1.68E-01	1.37E-01
Beryllium	1.17E-02	--	9.88E-01	1.68E-01	1.66E-01
Bismuth	--	--	--	1.68E-01	--
Boron	7.21E-01	--	2.79E-01	1.68E-01	4.68E-02
Cadmium	1.09E-01	--	8.91E-01	1.68E-01	1.49E-01
Calcium	--	--	--	1.68E-01	--
Chromium Total	3.22E-01	--	6.78E-01	1.68E-01	1.14E-01
Cobalt	1.69E-01	--	8.31E-01	1.68E-01	1.39E-01
Copper	2.07E-01	--	7.93E-01	1.68E-01	1.33E-01
Iron	2.66E-01	--	7.34E-01	1.68E-01	1.23E-01
Lead	1.03E-02	--	9.90E-01	1.68E-01	1.66E-01
Lithium	3.01E-02	--	9.70E-01	1.68E-01	1.63E-01
Magnesium	--	--	--	1.68E-01	--
Manganese	1.24E-01	--	8.76E-01	1.68E-01	1.47E-01
Mercury, element	5.26E-04	1.16E+03	9.99E-01	1.68E-01	7.80E-01
Mercury, divalent	5.26E-04	1.74E-03	9.99E-01	1.68E-01	1.68E-01
Mercury, methyl	5.48E-02	1.67E+03	9.45E-01	1.68E-01	9.17E+01
Molybdenum	3.11E-01	--	6.89E-01	1.68E-01	1.16E-01
Nickel	1.24E-01	--	8.76E-01	1.68E-01	1.47E-01
Phosphorus	6.94E-01	--	3.06E-01	1.68E-01	5.13E-02
Potassium	6.04E-01	--	3.96E-01	1.68E-01	6.65E-02
Rubidium	--	--	--	1.68E-01	--
Selenium	6.24E-01	--	3.76E-01	1.68E-01	6.31E-02
Silver	5.11E-01	--	4.89E-01	1.68E-01	8.20E-02
Sodium	8.46E-02	--	9.15E-01	1.68E-01	1.53E-01
Strontium	2.07E-01	--	7.93E-01	1.68E-01	1.33E-01
Thallium	1.15E-01	--	8.85E-01	1.68E-01	1.48E-01
Tin	3.58E-02	--	9.64E-01	1.68E-01	1.62E-01
Titanium	9.29E-03	--	9.91E-01	1.68E-01	1.66E-01
Uranium	2.03E-02	--	9.80E-01	1.68E-01	1.64E-01
Vanadium	9.29E-03	--	9.91E-01	1.68E-01	1.66E-01
Zinc	1.29E-01	--	8.71E-01	1.68E-01	1.46E-01

Equation: $k_{wt} = f_{wc} \times k_v + f_{bs} \times k_b$

Table B.45

Total Surface Water Predicted Concentrations
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction Total Water Body Conc. in Water Column (f_{wc}) (refer to table B.41) -	Total Water Body Predicted Concentrations Load to Surface Water & Sediment: Construction (Cwb) (refer to table B.40) (mg/L)	Operations (Cwb) (refer to table B.40) (mg/L)	Reclamation (Cwb) (refer to table B.40) (mg/L)	Post-Closure (Cwb) (refer to table B.40) (mg/L)	Depth of Water Column (d_{wc}) (refer to table B.40) (m)	Depth of Upper Benthic Sediment Layer (d_{bs}) (refer to table B.40) (m)	Predicted Total Concentration in Surface Water: Construction (Cw) (1) (mg/L)	Operations (Cw) (1) (mg/L)	Reclamation (Cw) (1) (mg/L)	Post-Closure (Cw) (1) (mg/L)	Predicted Total Concentration in Surface Water (2): Construction (Cw) (2) (mg/L)	Operations (Cw) (2) (mg/L)	Reclamation (Cw) (2) (mg/L)	Post-Closure (Cw) (2) (mg/L)
Particulate Matter															
Total Particulate Matter	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Metals															
Aluminum	6.24E-03	1.01E+03	1.80E+03	1.98E+03	1.98E+03	2.79E-01	3.00E-02	6.96E+00	1.24E+01	1.37E+01	1.37E+01	4.30E-01	1.99E-01	2.66E-01	3.61E-01
Antimony	1.69E-01	3.02E-02	3.02E-02	3.02E-02	3.02E-02	2.79E-01	3.00E-02	5.66E-03	5.66E-03	5.66E-03	5.66E-03	5.00E-04	4.39E-03	3.27E-03	2.20E-03
Arsenic	2.39E-01	3.41E-01	3.52E-01	3.52E-01	3.52E-01	2.79E-01	3.00E-02	9.02E-02	9.31E-02	9.31E-02	9.31E-02	6.77E-01	5.48E-02	5.21E-02	5.12E-02
Barium	1.83E-01	1.28E+00	1.28E+00	1.28E+00	1.28E+00	2.79E-01	3.00E-02	2.59E-01	2.59E-01	2.59E-01	2.59E-01	3.60E-03	7.09E-03	7.05E-03	5.73E-03
Beryllium	1.17E-02	4.16E-02	5.07E-02	5.26E-02	5.26E-02	2.79E-01	3.00E-02	5.39E-04	6.58E-04	6.82E-04	6.82E-04	5.00E-04	4.61E-04	4.71E-04	4.76E-04
Bismuth	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Boron	7.21E-01	2.46E+00	2.46E+00	2.46E+00	2.46E+00	2.79E-01	3.00E-02	1.96E+00	1.96E+00	1.96E+00	1.96E+00	1.96E+00	1.96E+00	1.96E+00	1.96E+00
Cadmium	1.09E-01	4.20E-03	4.20E-03	4.20E-03	4.20E-03	2.79E-01	3.00E-02	5.09E-04	5.09E-04	5.09E-04	5.09E-04	2.48E-05	1.98E-05	2.41E-05	3.70E-05
Calcium	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Chromium Total	3.22E-01	4.74E-01	4.74E-01	4.74E-01	4.74E-01	2.79E-01	3.00E-02	1.69E-01	1.69E-01	1.69E-01	1.69E-01	1.30E-03	8.58E-04	6.87E-04	8.60E-04
Cobalt	1.69E-01	1.38E+00	1.38E+00	1.38E+00	1.38E+00	2.79E-01	3.00E-02	2.59E-01	2.59E-01	2.59E-01	2.59E-01	2.00E-04	9.91E-04	9.35E-04	9.61E-04
Copper	2.07E-01	2.58E-03	3.15E-03	3.27E-03	3.27E-03	2.79E-01	3.00E-02	5.91E-04	7.22E-04	7.49E-04	7.49E-04	1.74E-03	1.96E-03	1.86E-03	9.20E-04
Iron	2.66E-01	5.54E+02	5.54E+02	5.54E+02	5.54E+02	2.79E-01	3.00E-02	1.63E+02	1.63E+02	1.63E+02	1.63E+02	1.17E+00	3.55E-01	4.55E-01	4.28E-01
Lead	1.03E-02	6.12E-01	7.26E-01	7.50E-01	7.50E-01	2.79E-01	3.00E-02	6.98E-03	8.28E-03	8.55E-03	8.55E-03	7.62E-04	8.22E-04	7.06E-04	9.27E-04
Lithium	3.01E-02	3.35E-01	4.30E-01	4.42E-01	4.42E-01	2.79E-01	3.00E-02	1.11E-02	1.43E-02	1.47E-02	1.47E-02	1.11E-02	1.43E-02	1.47E-02	1.47E-02
Magnesium	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Manganese	1.24E-01	2.98E+00	2.98E+00	2.98E+00	2.98E+00	2.79E-01	3.00E-02	4.10E-01	4.10E-01	4.10E-01	4.10E-01	8.03E-02	7.56E-02	4.92E-02	1.19E-01
Mercury, element	5.26E-04	6.33E-03	6.33E-03	6.33E-03	6.33E-03	2.79E-01	3.00E-02	3.68E-06	3.68E-06	3.68E-06	3.68E-06	1.36E-04	6.88E-06	7.05E-06	9.69E-06
Mercury, divalent	5.26E-04	4.34E-04	2.68E-03	3.25E-03	3.25E-03	2.79E-01	3.00E-02	2.53E-07	1.56E-06	1.89E-06	1.89E-06	2.53E-07	1.56E-06	1.89E-06	1.89E-06
Mercury, methyl	5.48E-02	9.89E-12	9.89E-12	9.89E-12	9.89E-12	2.79E-01	3.00E-02	6.01E-13	6.01E-13	6.01E-13	6.01E-13	6.01E-13	6.01E-13	6.01E-13	6.01E-13
Molybdenum	3.11E-01	3.58E-02	3.58E-02	3.58E-02	3.58E-02	2.79E-01	3.00E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02
Nickel	1.24E-01	2.06E-01	2.06E-01	2.06E-01	2.06E-01	2.79E-01	3.00E-02	2.84E-02	2.84E-02	2.84E-02	2.84E-02	1.00E-03	1.42E-02	6.10E-03	1.13E-02
Phosphorus	6.94E-01	2.13E-01	2.13E-01	2.13E-01	2.13E-01	2.79E-01	3.00E-02	1.63E-01	1.63E-01	1.63E-01	1.63E-01	1.63E-01	1.63E-01	1.63E-01	1.63E-01
Potassium	6.04E-01	1.13E+01	1.13E+01	1.13E+01	1.13E+01	2.79E-01	3.00E-02	7.58E+00	7.58E+00	7.58E+00	7.58E+00	7.58E+00	7.58E+00	7.58E+00	7.58E+00
Rubidium	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Selenium	6.24E-01	5.99E-02	5.99E-02	5.99E-02	5.99E-02	2.79E-01	3.00E-02	4.14E-02	4.14E-02	4.14E-02	4.14E-02	5.00E-04	4.88E-04	4.68E-04	5.58E-04
Silver	5.11E-01	1.29E-02	1.29E-02	1.29E-02	1.29E-02	2.79E-01	3.00E-02	7.32E-03	7.32E-03	7.32E-03	7.32E-03	5.00E-05	7.90E-05	7.04E-05	7.48E-05
Sodium	8.46E-02	2.76E+01	4.88E+01	4.92E+01	4.92E+01	2.79E-01	3.00E-02	2.59E+00	4.57E+00	4.61E+00	4.61E+00	2.59E+00	4.57E+00	4.61E+00	4.61E+00
Strontium	2.07E-01	6.36E-01	6.36E-01	6.36E-01	6.36E-01	2.79E-01	3.00E-02	1.46E-01	1.46E-01	1.46E-01	1.46E-01	1.46E-01	1.46E-01	1.46E-01	1.46E-01
Thallium	1.15E-01	1.64E-03	1.64E-03	1.64E-03	1.64E-03	2.79E-01	3.00E-02	2.09E-04	2.09E-04	2.09E-04	2.09E-04	5.00E-05	7.31E-05	6.61E-05	8.48E-05
Tin	3.58E-02	1.71E-02	1.87E-02	1.89E-02	1.89E-02	2.79E-01	3.00E-02	6.80E-04	7.43E-04	7.50E-04	7.50E-04	6.80E-04	7.43E-04	7.50E-04	7.50E-04
Titanium	9.29E-03	2.13E+01	5.17E+01	5.83E+01	5.83E+01	2.79E-01	3.00E-02	2.19E-01	5.32E-01	6.00E-01	6.00E-01	2.19E-01	5.32E-01	6.00E-01	6.00E-01
Uranium	2.03E-02	2.21E-02	2.21E-02	2.21E-02	2.21E-02	2.79E-01	3.00E-02	4.97E-04	4.97E-04	4.97E-04	4.97E-04	5.00E-05	9.50E-04	8.52E-04	5.76E-04
Vanadium	9.29E-03	1.07E+00	1.45E+00	1.53E+00	1.53E+00	2.79E-01	3.00E-02	1.10E-02	1.49E-02	1.58E-02	1.58E-02	1.00E-03	2.12E-03	1.49E-03	2.01E-03
Zinc	1.29E-01	5.88E-01	5.88E-01	5.88E-01	5.88E-01	2.79E-01	3.00E-02	8.41E-02	8.41E-02	8.41E-02	8.41E-02	9.76E-03	7.28E-03	7.18E-03	7.27E-03

Notes:
(1) Equation: $Cw = f_{wc} \times Cwb \times [(d_{wc} + d_{bs})/d_{wc}]$
(2) Refer to table B.8. For COPCs without values in table B.8, results reported are from the previous equation.

Table B.46

Predicted Dissolved Phase Surface Water Concentrations
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Total Concentration in Surface Water using GoldSIM software: Construction (Cw) (refer to table B.45) (mg/L)	Operations (Cw) (refer to table B.45) (mg/L)	Reclamation (Cw) (refer to table B.45) (mg/L)	Post-Closure (Cw) (refer to table B.45) (mg/L)	Suspended Sediments/ Surface Water Partition Coefficient (Kdsw) (refer to table B.41) (L/kg)	Total Suspended Solids Concentration (TSS) (refer to table B.41) (mg/L)	Unit Conversion Factor (CF) (kg/mg)	Dissolved Surface Water Predicted Concentration: Construction (Cdw) (mg/L)	Operations (Cdw) (mg/L)	Reclamation (Cdw) (mg/L)	Post-Closure (Cdw) (mg/L)
Particulate Matter											
Total Particulate Matter	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Metals											
Aluminum	4.30E-01	1.99E-01	2.66E-01	3.61E-01	1.50E+03	1.00E+01	1.00E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Antimony	5.00E-04	4.39E-03	3.27E-03	2.20E-03	4.50E+01	1.00E+01	1.00E-06	5.00E-04	4.38E-03	3.26E-03	2.20E-03
Arsenic	6.77E-01	5.48E-02	5.21E-02	5.12E-02	2.90E+01	1.00E+01	1.00E-06	6.77E-01	5.48E-02	5.21E-02	5.12E-02
Barium	3.60E-03	7.09E-03	7.05E-03	5.73E-03	4.10E+01	1.00E+01	1.00E-06	3.60E-03	7.08E-03	7.04E-03	5.72E-03
Beryllium	5.00E-04	4.61E-04	4.71E-04	4.76E-04	7.90E+02	1.00E+01	1.00E-06	4.96E-04	4.57E-04	4.68E-04	4.73E-04
Bismuth	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Boron	1.96E+00	1.96E+00	1.96E+00	1.96E+00	3.00E+00	1.00E+01	1.00E-06	1.96E+00	1.96E+00	1.96E+00	1.96E+00
Cadmium	2.48E-05	1.98E-05	2.41E-05	3.70E-05	7.50E+01	1.00E+01	1.00E-06	2.48E-05	1.98E-05	2.41E-05	3.70E-05
Calcium	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Chromium Total	1.30E-03	8.58E-04	6.87E-04	8.60E-04	1.90E+01	1.00E+01	1.00E-06	1.30E-03	8.58E-04	6.86E-04	8.60E-04
Cobalt	2.00E-04	9.91E-04	9.35E-04	9.61E-04	4.50E+01	1.00E+01	1.00E-06	2.00E-04	9.91E-04	9.35E-04	9.60E-04
Copper	1.74E-03	1.96E-03	1.86E-03	9.20E-04	3.50E+01	1.00E+01	1.00E-06	1.74E-03	1.96E-03	1.85E-03	9.20E-04
Iron	1.17E+00	3.55E-01	4.55E-01	4.28E-01	2.50E+01	1.00E+01	1.00E-06	1.17E+00	3.55E-01	4.55E-01	4.27E-01
Lead	7.62E-04	8.22E-04	7.06E-04	9.27E-04	9.00E+02	1.00E+01	1.00E-06	7.55E-04	8.15E-04	7.00E-04	9.19E-04
Lithium	1.11E-02	1.43E-02	1.47E-02	1.47E-02	3.00E+02	1.00E+01	1.00E-06	1.11E-02	1.43E-02	1.47E-02	1.47E-02
Magnesium	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Manganese	8.03E-02	7.56E-02	4.92E-02	1.19E-01	6.50E+01	1.00E+01	1.00E-06	8.03E-02	7.55E-02	4.92E-02	1.19E-01
Mercury, element	1.36E-04	6.88E-06	7.05E-06	9.69E-06	4.95E+04	1.00E+01	1.00E-06	9.12E-05	4.60E-06	4.72E-06	6.48E-06
Mercury, divalent	2.53E-07	1.56E-06	1.89E-06	1.89E-06	4.95E+04	1.00E+01	1.00E-06	1.69E-07	1.04E-06	1.26E-06	1.26E-06
Mercury, methyl	6.01E-13	6.01E-13	6.01E-13	6.01E-13	3.00E+02	1.00E+01	1.00E-06	5.99E-13	5.99E-13	5.99E-13	5.99E-13
Molybdenum	1.23E-02	1.23E-02	1.23E-02	1.23E-02	2.00E+01	1.00E+01	1.00E-06	1.23E-02	1.23E-02	1.23E-02	1.23E-02
Nickel	1.00E-03	1.42E-02	6.10E-03	1.13E-02	6.50E+01	1.00E+01	1.00E-06	9.99E-04	1.42E-02	6.10E-03	1.13E-02
Phosphorus	1.63E-01	1.63E-01	1.63E-01	1.63E-01	3.50E+00	1.00E+01	1.00E-06	1.63E-01	1.63E-01	1.63E-01	1.63E-01
Potassium	7.58E+00	7.58E+00	7.58E+00	7.58E+00	5.50E+00	1.00E+01	1.00E-06	7.58E+00	7.58E+00	7.58E+00	7.58E+00
Rubidium	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Selenium	5.00E-04	4.88E-04	4.68E-04	5.58E-04	5.00E+00	1.00E+01	1.00E-06	5.00E-04	4.88E-04	4.68E-04	5.58E-04
Silver	5.00E-05	7.90E-05	7.04E-05	7.48E-05	8.30E+00	1.00E+01	1.00E-06	5.00E-05	7.89E-05	7.04E-05	7.48E-05
Sodium	2.59E+00	4.57E+00	4.61E+00	4.61E+00	1.00E+02	1.00E+01	1.00E-06	2.59E+00	4.57E+00	4.61E+00	4.61E+00
Strontium	1.46E-01	1.46E-01	1.46E-01	1.46E-01	3.50E+01	1.00E+01	1.00E-06	1.46E-01	1.46E-01	1.46E-01	1.46E-01
Thallium	5.00E-05	7.31E-05	6.61E-05	8.48E-05	7.10E+01	1.00E+01	1.00E-06	5.00E-05	7.31E-05	6.61E-05	8.48E-05
Tin	6.80E-04	7.43E-04	7.50E-04	7.50E-04	2.50E+02	1.00E+01	1.00E-06	6.78E-04	7.41E-04	7.48E-04	7.48E-04
Titanium	2.19E-01	5.32E-01	6.00E-01	6.00E-01	1.00E+03	1.00E+01	1.00E-06	2.17E-01	5.27E-01	5.94E-01	5.94E-01
Uranium	5.00E-05	9.50E-04	8.52E-04	5.76E-04	4.50E+02	1.00E+01	1.00E-06	4.98E-05	9.46E-04	8.48E-04	5.73E-04
Vanadium	1.00E-03	2.12E-03	1.49E-03	2.01E-03	1.00E+03	1.00E+01	1.00E-06	9.90E-04	2.10E-03	1.47E-03	1.99E-03
Zinc	9.76E-03	7.28E-03	7.18E-03	7.27E-03	6.20E+01	1.00E+01	1.00E-06	9.75E-03	7.27E-03	7.17E-03	7.26E-03

Equation:

$$Cdw = \frac{Cw}{1 + Kd_{sw} \times TSS \times CF} \times Hg_{factor}$$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.968), and methylmercury (0.032)

Table B.47

Predicted Sediment Concentrations
Sediment Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction Total Water Body Conc. in Benthic Sediment Construction (f_{bs}) (refer to table B.41) -	Total Water Body Concentration Load to River Water & Sediment Construction (Cwb) (refer to table B.40) (mg/L)	Operations (Cwb) (refer to table B.40) (mg/L)	Reclamation (Cwb) (refer to table B.40) (mg/L)	Post-Closure (Cwb) (refer to table B.40) (mg/L)	Bed Sediments/ Sediment Pore Water Partition Coefficient (Kdbs) (refer to table B.41) (L/kg)	Bed Sediment Porosity (θ_{bs}) (refer to table B.41) (L_{wat}/L_{sed})	Bed Sediment Concentration (C_{BS}) (refer to table B.41) (g/cm^3)	Depth of Water Column (d_{wc}) (refer to table B.40) (m)	Depth of Upper Benthic Sediment Layer (d_{bs}) (refer to table B.40) (m)	Baseline Sediment Concentration (Csed) (refer to table B.1) (mg/kg)	Predicted Sediment Concentration Construction (Csed) (mg/kg)	Operations (Csed) (mg/kg)	Reclamation (Csed) (mg/kg)	Post-Closure (Csed) (mg/kg)
Particulate Matter															
Total Particulate Matter	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	--	--	--	--
Metals															
Aluminum	9.94E-01	1.01E+03	1.80E+03	1.98E+03	1.98E+03	1.50E+03	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.50E+04	1.50E+04	1.84E+04	2.03E+04	2.03E+04
Antimony	8.31E-01	3.02E-02	3.02E-02	3.02E-02	3.02E-02	4.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	8.10E+01	8.10E+01	8.10E+01	8.10E+01	8.10E+01
Arsenic	7.61E-01	3.41E-01	3.52E-01	3.52E-01	3.52E-01	2.90E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.10E+05	1.10E+05	1.10E+05	1.10E+05	1.10E+05
Barium	8.17E-01	1.28E+00	1.28E+00	1.28E+00	1.28E+00	4.10E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	9.60E+01	9.60E+01	9.60E+01	9.60E+01	9.60E+01
Beryllium	9.88E-01	4.16E-02	5.07E-02	5.26E-02	5.26E-02	7.90E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Bismuth	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	5.40E+00	5.40E+00	5.40E+00	5.40E+00	5.40E+00
Boron	2.79E-01	2.46E+00	2.46E+00	2.46E+00	2.46E+00	3.00E+00	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.50E+01
Cadmium	8.91E-01	4.20E-03	4.20E-03	4.20E-03	4.20E-03	7.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	5.60E-01	5.60E-01	5.60E-01	5.60E-01	5.60E-01
Calcium	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	--	--	--	--
Chromium Total	6.78E-01	4.74E-01	4.74E-01	4.74E-01	4.74E-01	1.90E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.40E+01	2.40E+01	2.40E+01	2.40E+01	2.40E+01
Cobalt	8.31E-01	1.38E+00	1.38E+00	1.38E+00	1.38E+00	4.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.30E+02	1.30E+02	1.30E+02	1.30E+02	1.30E+02
Copper	7.93E-01	2.58E-03	3.15E-03	3.27E-03	3.27E-03	3.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	3.60E+01	3.60E+01	3.60E+01	3.60E+01	3.60E+01
Iron	7.34E-01	5.54E+02	5.54E+02	5.54E+02	5.54E+02	2.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.20E+05	1.20E+05	1.20E+05	1.20E+05	1.20E+05
Lead	9.90E-01	6.12E-01	7.26E-01	7.50E-01	7.50E-01	9.00E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02
Lithium	9.70E-01	3.35E-01	4.30E-01	4.42E-01	4.42E-01	3.00E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	3.10E+01	3.10E+01	3.10E+01	3.10E+01	3.10E+01
Magnesium	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	--	--	--	--
Manganese	8.76E-01	2.98E+00	2.98E+00	2.98E+00	2.98E+00	6.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	4.00E+02	4.00E+02	4.00E+02	4.00E+02	4.00E+02
Mercury, element	9.99E-01	6.33E-03	6.33E-03	6.33E-03	6.33E-03	2.64E+04	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.10E+01	1.10E+01	1.10E+01	1.10E+01	1.10E+01
Mercury, divalent	9.99E-01	4.34E-04	2.68E-03	3.25E-03	3.25E-03	2.64E+04	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	4.46E-03	2.75E-02	3.34E-02	3.34E-02
Mercury, methyl	9.45E-01	9.89E-12	9.89E-12	9.89E-12	9.89E-12	1.60E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	9.58E-11	9.58E-11	9.58E-11	9.58E-11
Molybdenum	6.89E-01	3.58E-02	3.58E-02	3.58E-02	3.58E-02	2.00E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	4.30E+00	4.30E+00	4.30E+00	4.30E+00	4.30E+00
Nickel	8.76E-01	2.06E-01	2.06E-01	2.06E-01	2.06E-01	6.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02
Phosphorus	3.06E-01	2.13E-01	2.13E-01	2.13E-01	2.13E-01	3.50E+00	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	5.72E-01	5.72E-01	5.72E-01	5.72E-01
Potassium	3.96E-01	1.13E+01	1.13E+01	1.13E+01	1.13E+01	5.50E+00	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	4.17E+01	4.17E+01	4.17E+01	4.17E+01
Rubidium	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	3.90E+01	3.90E+01	3.90E+01	3.90E+01	3.90E+01
Selenium	3.76E-01	5.99E-02	5.99E-02	5.99E-02	5.99E-02	5.00E+00	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.50E+00	2.50E+00	2.50E+00	2.50E+00	2.50E+00
Silver	4.89E-01	1.29E-02	1.29E-02	1.29E-02	1.29E-02	8.30E+00	6.00E-01	1.00E+00	2.79E-01	3.00E-02	3.40E+00	3.40E+00	3.40E+00	3.40E+00	3.40E+00
Sodium	9.15E-01	2.76E+01	4.88E+01	4.92E+01	4.92E+01	1.00E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	2.59E+02	4.57E+02	4.61E+02	4.61E+02
Strontium	7.93E-01	6.36E-01	6.36E-01	6.36E-01	6.36E-01	3.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01
Thallium	8.85E-01	1.64E-03	1.64E-03	1.64E-03	1.64E-03	7.10E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	3.00E-01	3.00E-01	3.00E-01	3.00E-01	3.00E-01
Tin	9.64E-01	1.71E-02	1.87E-02	1.89E-02	1.89E-02	2.50E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.40E+00	1.40E+00	1.40E+00	1.40E+00	1.40E+00
Titanium	9.91E-01	2.13E+01	5.17E+01	5.83E+01	5.83E+01	1.00E+03	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	2.17E+02	5.27E+02	5.94E+02	5.94E+02
Uranium	9.80E-01	2.21E-02	2.21E-02	2.21E-02	2.21E-02	4.50E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.70E+00	1.70E+00	1.70E+00	1.70E+00	1.70E+00
Vanadium	9.91E-01	1.07E+00	1.45E+00	1.53E+00	1.53E+00	1.00E+03	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01
Zinc	8.71E-01	5.88E-01	5.88E-01	5.88E-01	5.88E-01	6.20E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	6.40E+01	6.40E+01	6.40E+01	6.40E+01	6.40E+01

Equation:

$$C_{sed} = f_{bs} \times C_{wb} \times \frac{K_{dbs}}{\theta_{bs} + K_{dbs} \times C_{BS}} \times \frac{d_{wc} + d_{bs}}{d_{bs}}$$

Table B.48

Predicted Fish Concentrations from Bioconcentration Factors using Dissolved Phase Water Concentrations
Fish Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Dissolved Water Predicted Concentration				Sediment Predicted Concentration							Baseline Fish Concentration		Predicted Fish Whole Body Concentration				Predicted Fish Fillet Concentration			
	Construction (Cdw)	Operations (Cdw)	Reclamation (Cdw)	Post-Closure (Cdw)	Construction (Csed)	Operations (Csed)	Reclamation (Csed)	Post-Closure (Csed)	Bioconcentration Factor (BCF)	Bioaccumulation Factor (BAF)	Fraction of Organic Carbon in Bottom Sediment (OC_{sed})	Fillets (Cff)	Remains (Cfr)	Construction (Cfw)	Operations (Cfw)	Reclamation (Cfw)	Post-Closure (Cfw)	Construction (Cff)	Operations (Cff)	Reclamation (Cff)	Post-Closure (Cff)
	(refer to table B.46)	(refer to table B.46)	(refer to table B.46)	(refer to table B.46)	(refer to table B.47)	(refer to table B.47)	(refer to table B.47)	(refer to table B.47)	(refer to table B.10)	(refer to table B.10)	(refer to table B.9)	(refer to table B.1)	(refer to table B.1)								
Contaminant	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(L/kg)	(L/kg)	-	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)
Particulate Matter																					
Total Particulate Matter	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Metals																					
Aluminum	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E+04	1.84E+04	2.03E+04	2.03E+04	5.00E+02	--	7.00E-02	1.30E+00	2.60E+00	2.60E+00	2.60E+00	2.60E+00	2.60E+00	1.30E+00	1.30E+00	1.30E+00	1.30E+00
Antimony	5.00E-04	4.38E-03	3.26E-03	2.20E-03	8.10E+01	8.10E+01	8.10E+01	8.10E+01	4.00E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Arsenic	6.77E-01	5.48E-02	5.21E-02	5.12E-02	1.10E+05	1.10E+05	1.10E+05	1.10E+05	1.14E+02	--	7.00E-02	2.50E-01	5.30E-01	7.71E+01	6.25E+00	5.94E+00	5.83E+00	7.71E+01	6.25E+00	5.94E+00	5.83E+00
Barium	3.60E-03	7.08E-03	7.04E-03	5.72E-03	9.60E+01	9.60E+01	9.60E+01	9.60E+01	6.33E+02	--	7.00E-02	7.50E-01	2.50E+00	2.50E+00	4.48E+00	4.46E+00	3.62E+00	2.28E+00	4.48E+00	4.46E+00	3.62E+00
Beryllium	4.96E-04	4.57E-04	4.68E-04	4.73E-04	1.00E+00	1.00E+00	1.00E+00	1.00E+00	6.20E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Bismuth	--	--	--	--	5.40E+00	5.40E+00	5.40E+00	5.40E+00	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Boron	1.96E+00	1.96E+00	1.96E+00	1.96E+00	2.50E+01	2.50E+01	2.50E+01	2.50E+01	--	--	7.00E-02	7.50E-01	7.50E-01	--	--	--	--	--	--	--	--
Cadmium	2.48E-05	1.98E-05	2.41E-05	3.70E-05	5.60E-01	5.60E-01	5.60E-01	5.60E-01	9.07E+02	--	7.00E-02	2.50E-02	2.50E-02	2.50E-02	2.50E-02	2.50E-02	3.35E-02	2.50E-02	2.50E-02	2.50E-02	3.35E-02
Calcium	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Chromium Total	1.30E-03	8.58E-04	6.86E-04	8.60E-04	2.40E+01	2.40E+01	2.40E+01	2.40E+01	1.90E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Cobalt	2.00E-04	9.91E-04	9.35E-04	9.60E-04	1.30E+02	1.30E+02	1.30E+02	1.30E+02	3.00E+02	--	7.00E-02	1.00E-01	1.00E-01	1.00E-01	2.97E-01	2.80E-01	2.88E-01	1.00E-01	2.97E-01	2.80E-01	2.88E-01
Copper	1.74E-03	1.96E-03	1.85E-03	9.20E-04	3.60E+01	3.60E+01	3.60E+01	3.60E+01	2.00E+02	--	7.00E-02	2.50E-01	1.30E+00	1.30E+00	1.30E+00	1.30E+00	1.30E+00	3.48E-01	3.91E-01	3.71E-01	2.50E-01
Iron	1.17E+00	3.55E-01	4.55E-01	4.27E-01	1.20E+05	1.20E+05	1.20E+05	1.20E+05	2.00E+02	--	7.00E-02	7.50E+00	2.50E+01	2.34E+02	7.10E+01	9.10E+01	8.55E+01	2.34E+02	7.10E+01	9.10E+01	8.55E+01
Lead	7.55E-04	8.15E-04	7.00E-04	9.19E-04	1.20E+02	1.20E+02	1.20E+02	1.20E+02	9.00E-02	--	7.00E-02	9.00E-02	2.20E-01	2.20E-01	2.20E-01	2.20E-01	2.20E-01	9.00E-02	9.00E-02	9.00E-02	9.00E-02
Lithium	1.11E-02	1.43E-02	1.47E-02	1.47E-02	3.10E+01	3.10E+01	3.10E+01	3.10E+01	--	--	7.00E-02	2.50E-01	2.50E-01	--	--	--	--	--	--	--	--
Magnesium	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Manganese	8.03E-02	7.55E-02	4.92E-02	1.19E-01	4.00E+02	4.00E+02	4.00E+02	4.00E+02	4.00E+02	--	7.00E-02	3.10E+00	6.40E+00	3.21E+01	3.02E+01	1.97E+01	4.74E+01	3.21E+01	3.02E+01	1.97E+01	4.74E+01
Mercury, element	9.12E-05	4.60E-06	4.72E-06	6.48E-06	1.10E+01	1.10E+01	1.10E+01	1.10E+01	--	0.00E+00	7.00E-02	2.50E-03	1.40E+00	1.40E+00	1.40E+00	1.40E+00	1.40E+00	2.50E-03	2.50E-03	2.50E-03	2.50E-03
Mercury, divalent	1.69E-07	1.04E-06	1.26E-06	1.26E-06	4.46E-03	2.75E-02	3.34E-02	3.34E-02	--	1.00E+00	7.00E-02	--	--	1.69E-07	1.04E-06	1.26E-06	1.26E-06	1.69E-07	1.04E-06	1.26E-06	1.26E-06
Mercury, methyl	5.99E-13	5.99E-13	5.99E-13	5.99E-13	9.58E-11	9.58E-11	9.58E-11	9.58E-11	--	6.80E+06	7.00E-02	--	--	4.07E-06	4.07E-06	4.07E-06	4.07E-06	4.07E-06	4.07E-06	4.07E-06	4.07E-06
Molybdenum	1.23E-02	1.23E-02	1.23E-02	1.23E-02	4.30E+00	4.30E+00	4.30E+00	4.30E+00	1.00E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Nickel	9.99E-04	1.42E-02	6.10E-03	1.13E-02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	7.80E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	1.11E+00	4.76E-01	8.83E-01	2.50E-01	1.11E+00	4.76E-01	8.83E-01
Phosphorus	1.63E-01	1.63E-01	1.63E-01	1.63E-01	5.72E-01	5.72E-01	5.72E-01	5.72E-01	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Potassium	7.58E+00	7.58E+00	7.58E+00	7.58E+00	4.17E+01	4.17E+01	4.17E+01	4.17E+01	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Rubidium	--	--	--	--	3.90E+01	3.90E+01	3.90E+01	3.90E+01	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Selenium	5.00E-04	4.88E-04	4.68E-04	5.58E-04	2.50E+00	2.50E+00	2.50E+00	2.50E+00	1.29E+02	--	7.00E-02	7.50E-01	7.30E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01
Silver	5.00E-05	7.89E-05	7.04E-05	7.48E-05	3.40E+00	3.40E+00	3.40E+00	3.40E+00	8.77E+01	--	7.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02
Sodium	2.59E+00	4.57E+00	4.61E+00	4.61E+00	2.59E+02	4.57E+02	4.61E+02	4.61E+02	2.00E+01	--	7.00E-02	--	--	5.18E+01	9.14E+01	9.21E+01	9.21E+01	5.18E+01	9.14E+01	9.21E+01	9.21E+01
Strontium	1.46E-01	1.46E-01	1.46E-01	1.46E-01	2.60E+01	2.60E+01	2.60E+01	2.60E+01	6.00E+01	--	7.00E-02	4.40E+01	6.10E+01	6.10E+01	6.10E+01	6.10E+01	6.10E+01	4.40E+01	4.40E+01	4.40E+01	4.40E+01
Thallium	5.00E-05	7.31E-05	6.61E-05	8.48E-05	3.00E-01	3.00E-01	3.00E-01	3.00E-01	1.00E+04	--	7.00E-02	1.00E-02	1.00E-02	5.00E-01	7.31E-01	6.61E-01	8.48E-01	5.00E-01	7.31E-01	6.61E-01	8.48E-01
Tin	6.78E-04	7.41E-04	7.48E-04	7.48E-04	1.40E+00	1.40E+00	1.40E+00	1.40E+00	3.00E+03	--	7.00E-02	2.50E-01	2.50E-01	2.04E+00	2.22E+00	2.24E+00	2.24E+00	2.04E+00	2.22E+00	2.24E+00	2.24E+00
Titanium	2.17E-01	5.27E-01	5.94E-01	5.94E-01	2.17E+02	5.27E+02	5.94E+02	5.94E+02	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Uranium	4.98E-05	9.46E-04	8.48E-04	5.73E-04	1.70E+00	1.70E+00	1.70E+00	1.70E+00	--	--	7.00E-02	1.00E-02	1.00E-02	--	--	--	--	--	--	--	--
Vanadium	9.90E-04	2.10E-03	1.47E-03	1.99E-03	2.70E+01	2.70E+01	2.70E+01	2.70E+01	--	--	7.00E-02	2.50E-01	2.50E-01	--	--	--	--	--	--	--	--
Zinc	9.75E-03	7.27E-03	7.17E-03	7.26E-03	6.40E+01	6.40E+01	6.40E+01	6.40E+01	2.06E+03	--	7.00E-02	1.40E+01	3.00E+01	3.00E+01	3.00E+01	3.00E+01	3.00E+01	2.01E+01	1.50E+01	1.48E+01	1.50E+01

Equation: Cfi = Cdw x BCF or Cfi = Cdw x BAF

Note:

$Hg_{ffactor}$ = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.98), and methylmercury (0.48*0.02)

Table B.49

Predicted Aquatic Plant Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Sediment Concentration				Predicted Aquatic Plant Concentration			
Contaminant	Construction (Csed) (refer to table B.47) (mg/kg)	Operations (Csed) (refer to table B.47) (mg/kg)	Reclamation (Csed) (refer to table B.47) (mg/kg)	Post-Closure (Csed) (refer to table B.47) (mg/kg)	Construction (Cap) (1) (mg/kg FW)	Operations (Cap) (1) (mg/kg FW)	Reclamation (Cap) (1) (mg/kg FW)	Post-Closure (Cap) (1) (mg/kg FW)
Particulate Matter								
Total Particulate Matter	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--
Metals								
Aluminum	1.50E+04	1.84E+04	2.03E+04	2.03E+04	6.46E+00	7.90E+00	8.72E+00	8.72E+00
Antimony	8.10E+01	8.10E+01	8.10E+01	8.10E+01	3.65E-01	3.65E-01	3.65E-01	3.65E-01
Arsenic	1.10E+05	1.10E+05	1.10E+05	1.10E+05	6.19E+02	6.19E+02	6.19E+02	6.19E+02
Barium	9.60E+01	9.60E+01	9.60E+01	9.60E+01	2.25E+00	2.25E+00	2.25E+00	2.25E+00
Beryllium	1.00E+00	1.00E+00	1.00E+00	1.00E+00	8.78E-02	8.78E-02	8.78E-02	8.78E-02
Bismuth	5.40E+00	5.40E+00	5.40E+00	5.40E+00	8.10E-01	8.10E-01	8.10E-01	8.10E-01
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	3.75E+00	3.75E+00	3.75E+00	3.75E+00
Cadmium	5.60E-01	5.60E-01	5.60E-01	5.60E-01	6.80E-02	6.80E-02	6.80E-02	6.80E-02
Calcium	--	--	--	--	--	--	--	--
Chromium Total	2.40E+01	2.40E+01	2.40E+01	2.40E+01	1.48E-01	1.48E-01	1.48E-01	1.48E-01
Cobalt	1.30E+02	1.30E+02	1.30E+02	1.30E+02	1.46E-01	1.46E-01	1.46E-01	1.46E-01
Copper	3.60E+01	3.60E+01	3.60E+01	3.60E+01	1.20E+00	1.20E+00	1.20E+00	1.20E+00
Iron	1.20E+05	1.20E+05	1.20E+05	1.20E+05	1.80E+04	1.80E+04	1.80E+04	1.80E+04
Lead	1.20E+02	1.20E+02	1.20E+02	1.20E+02	5.83E-01	5.83E-01	5.83E-01	5.83E-01
Lithium	3.10E+01	3.10E+01	3.10E+01	3.10E+01	4.65E+00	4.65E+00	4.65E+00	4.65E+00
Magnesium	--	--	--	--	--	--	--	--
Manganese	4.00E+02	4.00E+02	4.00E+02	4.00E+02	4.74E+00	4.74E+00	4.74E+00	4.74E+00
Mercury, element	1.10E+01	1.10E+01	1.10E+01	1.10E+01	1.65E+00	1.65E+00	1.65E+00	1.65E+00
Mercury, divalent	4.46E-03	2.75E-02	3.34E-02	3.34E-02	6.69E-04	4.13E-03	5.01E-03	5.01E-03
Mercury, methyl	9.58E-11	9.58E-11	9.58E-11	9.58E-11	1.44E-11	1.44E-11	1.44E-11	1.44E-11
Molybdenum	4.30E+00	4.30E+00	4.30E+00	4.30E+00	6.45E-01	6.45E-01	6.45E-01	6.45E-01
Nickel	2.10E+02	2.10E+02	2.10E+02	2.10E+02	1.55E+00	1.55E+00	1.55E+00	1.55E+00
Phosphorus	5.72E-01	5.72E-01	5.72E-01	5.72E-01	8.58E-02	8.58E-02	8.58E-02	8.58E-02
Potassium	4.17E+01	4.17E+01	4.17E+01	4.17E+01	6.25E+00	6.25E+00	6.25E+00	6.25E+00
Rubidium	3.90E+01	3.90E+01	3.90E+01	3.90E+01	5.85E+00	5.85E+00	5.85E+00	5.85E+00
Selenium	2.50E+00	2.50E+00	2.50E+00	2.50E+00	2.10E-01	2.10E-01	2.10E-01	2.10E-01
Silver	3.40E+00	3.40E+00	3.40E+00	3.40E+00	7.14E-03	7.14E-03	7.14E-03	7.14E-03
Sodium	2.59E+02	4.57E+02	4.61E+02	4.61E+02	3.88E+01	6.85E+01	6.91E+01	6.91E+01
Strontium	2.60E+01	2.60E+01	2.60E+01	2.60E+01	3.90E+00	3.90E+00	3.90E+00	3.90E+00
Thallium	3.00E-01	3.00E-01	3.00E-01	3.00E-01	4.50E-02	4.50E-02	4.50E-02	4.50E-02
Tin	1.40E+00	1.40E+00	1.40E+00	1.40E+00	2.10E-01	2.10E-01	2.10E-01	2.10E-01
Titanium	2.17E+02	5.27E+02	5.94E+02	5.94E+02	3.26E+01	7.90E+01	8.90E+01	8.90E+01
Uranium	1.70E+00	1.70E+00	1.70E+00	1.70E+00	2.55E-01	2.55E-01	2.55E-01	2.55E-01
Vanadium	2.70E+01	2.70E+01	2.70E+01	2.70E+01	1.96E-02	1.96E-02	1.96E-02	1.96E-02
Zinc	6.40E+01	6.40E+01	6.40E+01	6.40E+01	7.26E+00	7.26E+00	7.26E+00	7.26E+00

Note:

(1) The background aquatic plant concentrations were modelled with equations from the USEPA (2007). Where the equation for aluminum was not available, an uptake factor approach was selected for aluminum, for which the median soil to plant uptake factor of 0.00287 was selected from the dataset summarized in Table D.1 of Appendix D of Bechtel Jacobs (1998).

Table B.50

Predicted Aquatic Invertebrate Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Sediment Concentration				Baseline Aquatic Invertebrate Concentration	Predicted Aquatic Invertebrate Concentration				Final Predicted Aquatic Invertebrate Concentration (wet weight)			
Contaminant	Construction (Csed) (refer to table B.47) (mg/kg)	Operations (Csed) (refer to table B.47) (mg/kg)	Reclamation (Csed) (refer to table B.47) (mg/kg)	Post-Closure (Csed) (refer to table B.47) (mg/kg)	(Cai) (refer to table B.41) (mg/kg FW)	Construction (Cai) (1) (mg/kg FW)	Operations (Cai) (1) (mg/kg FW)	Reclamation (Cai) (1) (mg/kg FW)	Post-Closure (Cai) (1) (mg/kg FW)	Construction (Cai) (1) (mg/kg FW)	Operations (Cai) (1) (mg/kg FW)	Reclamation (Cai) (1) (mg/kg FW)	Post-Closure (Cai) (1) (mg/kg FW)
Particulate Matter													
Total Particulate Matter	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals													
Aluminum	1.50E+04	1.84E+04	2.03E+04	2.03E+04	1.80E+02	3.15E+03	3.86E+03	4.25E+03	4.25E+03	3.15E+03	3.86E+03	4.25E+03	4.25E+03
Antimony	8.10E+01	8.10E+01	8.10E+01	8.10E+01	5.50E-01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01
Arsenic	1.10E+05	1.10E+05	1.10E+05	1.10E+05	1.70E+02	6.78E+02	6.78E+02	6.78E+02	6.78E+02	6.78E+02	6.78E+02	6.78E+02	6.78E+02
Barium	9.60E+01	9.60E+01	9.60E+01	9.60E+01	1.65E+00	2.02E+01	2.02E+01	2.02E+01	2.02E+01	2.02E+01	2.02E+01	2.02E+01	2.02E+01
Beryllium	1.00E+00	1.00E+00	1.00E+00	1.00E+00	5.50E-01	2.10E-01	2.10E-01	2.10E-01	2.10E-01	5.50E-01	5.50E-01	5.50E-01	5.50E-01
Bismuth	5.40E+00	5.40E+00	5.40E+00	5.40E+00	--	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.65E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
Cadmium	5.60E-01	5.60E-01	5.60E-01	5.60E-01	1.70E-01	1.54E-01	1.54E-01	1.54E-01	1.54E-01	1.70E-01	1.70E-01	1.70E-01	1.70E-01
Calcium	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	2.40E+01	2.40E+01	2.40E+01	2.40E+01	5.50E-01	1.08E+00	1.08E+00	1.08E+00	1.08E+00	1.08E+00	1.08E+00	1.08E+00	1.08E+00
Cobalt	1.30E+02	1.30E+02	1.30E+02	1.30E+02	2.20E-01	2.73E+01	2.73E+01	2.73E+01	2.73E+01	2.73E+01	2.73E+01	2.73E+01	2.73E+01
Copper	3.60E+01	3.60E+01	3.60E+01	3.60E+01	5.10E+00	6.98E+00	6.98E+00	6.98E+00	6.98E+00	6.98E+00	6.98E+00	6.98E+00	6.98E+00
Iron	1.20E+05	1.20E+05	1.20E+05	1.20E+05	1.10E+03	2.52E+04	2.52E+04	2.52E+04	2.52E+04	2.52E+04	2.52E+04	2.52E+04	2.52E+04
Lead	1.20E+02	1.20E+02	1.20E+02	1.20E+02	9.40E-01	1.63E+00	1.63E+00	1.63E+00	1.63E+00	1.63E+00	1.63E+00	1.63E+00	1.63E+00
Lithium	3.10E+01	3.10E+01	3.10E+01	3.10E+01	5.50E-01	6.51E+00	6.51E+00	6.51E+00	6.51E+00	6.51E+00	6.51E+00	6.51E+00	6.51E+00
Magnesium	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	4.00E+02	4.00E+02	4.00E+02	4.00E+02	3.30E+01	8.40E+01	8.40E+01	8.40E+01	8.40E+01	8.40E+01	8.40E+01	8.40E+01	8.40E+01
Mercury, element	1.10E+01	1.10E+01	1.10E+01	1.10E+01	1.90E-01	9.83E-02	9.83E-02	9.83E-02	9.83E-02	1.90E-01	1.90E-01	1.90E-01	1.90E-01
Mercury, divalent	4.46E-03	2.75E-02	3.34E-02	3.34E-02	--	9.37E-04	5.78E-03	7.01E-03	7.01E-03	9.37E-04	5.78E-03	7.01E-03	7.01E-03
Mercury, methyl	9.58E-11	9.58E-11	9.58E-11	9.58E-11	--	2.01E-11	2.01E-11	2.01E-11	2.01E-11	2.01E-11	2.01E-11	2.01E-11	2.01E-11
Molybdenum	4.30E+00	4.30E+00	4.30E+00	4.30E+00	5.50E-01	9.03E-01	9.03E-01	9.03E-01	9.03E-01	9.03E-01	9.03E-01	9.03E-01	9.03E-01
Nickel	2.10E+02	2.10E+02	2.10E+02	2.10E+02	5.50E-01	1.98E+01	1.98E+01	1.98E+01	1.98E+01	1.98E+01	1.98E+01	1.98E+01	1.98E+01
Phosphorus	5.72E-01	5.72E-01	5.72E-01	5.72E-01	--	1.20E-01	1.20E-01	1.20E-01	1.20E-01	1.20E-01	1.20E-01	1.20E-01	1.20E-01
Potassium	4.17E+01	4.17E+01	4.17E+01	4.17E+01	--	8.76E+00	8.76E+00	8.76E+00	8.76E+00	8.76E+00	8.76E+00	8.76E+00	8.76E+00
Rubidium	3.90E+01	3.90E+01	3.90E+01	3.90E+01	--	8.19E+00	8.19E+00	8.19E+00	8.19E+00	8.19E+00	8.19E+00	8.19E+00	8.19E+00
Selenium	2.50E+00	2.50E+00	2.50E+00	2.50E+00	5.50E-01	5.25E-01	5.25E-01	5.25E-01	5.25E-01	5.50E-01	5.50E-01	5.50E-01	5.50E-01
Silver	3.40E+00	3.40E+00	3.40E+00	3.40E+00	1.30E-01	7.14E-01	7.14E-01	7.14E-01	7.14E-01	7.14E-01	7.14E-01	7.14E-01	7.14E-01
Sodium	2.59E+02	4.57E+02	4.61E+02	4.61E+02	--	5.43E+01	9.59E+01	9.67E+01	9.67E+01	5.43E+01	9.59E+01	9.67E+01	9.67E+01
Strontium	2.60E+01	2.60E+01	2.60E+01	2.60E+01	1.65E+00	5.46E+00	5.46E+00	5.46E+00	5.46E+00	5.46E+00	5.46E+00	5.46E+00	5.46E+00
Thallium	3.00E-01	3.00E-01	3.00E-01	3.00E-01	2.20E-02	6.30E-02	6.30E-02	6.30E-02	6.30E-02	6.30E-02	6.30E-02	6.30E-02	6.30E-02
Tin	1.40E+00	1.40E+00	1.40E+00	1.40E+00	5.50E-01	2.94E-01	2.94E-01	2.94E-01	2.94E-01	5.50E-01	5.50E-01	5.50E-01	5.50E-01
Titanium	2.17E+02	5.27E+02	5.94E+02	5.94E+02	--	4.56E+01	1.11E+02	1.25E+02	1.25E+02	4.56E+01	1.11E+02	1.25E+02	1.25E+02
Uranium	1.70E+00	1.70E+00	1.70E+00	1.70E+00	2.20E-02	3.57E-01	3.57E-01	3.57E-01	3.57E-01	3.57E-01	3.57E-01	3.57E-01	3.57E-01
Vanadium	2.70E+01	2.70E+01	2.70E+01	2.70E+01	5.50E-01	5.67E+00	5.67E+00	5.67E+00	5.67E+00	5.67E+00	5.67E+00	5.67E+00	5.67E+00
Zinc	6.40E+01	6.40E+01	6.40E+01	6.40E+01	4.50E+01	3.15E+01	3.15E+01	3.15E+01	3.15E+01	4.50E+01	4.50E+01	4.50E+01	4.50E+01

Note:
(1) The predicted aquatic invertebrate concentrations were modelled with equations from Bechtel Jacobs (1998).

Table B.51

Summary of Predicted Concentrations - Construction (Scenario 2)
Anaconda Goldboro
Goldboro, Nova Scotia

	Terrestrial Environment		Aquatic Environment			Terrestrial Ecosystem								Aquatic Ecosystem			
	Soil	Air	Surface Water-Total	Surface Water-Dissolved phase	Sediment	Leafy Vegetables	Fruit	Roots	Forage	Invertebrates	Prey	Hare	Deer	Plants	Invertebrates	Fish Whole	Fish Fillet
	(Cs)	(Coa)	(Cw)	(Cdw)	(Csed)	(Cv)	(Cfru)	(Cr)	(Cfo)	(Cti)	(Cp)	(Ch)	(Cd)	(Cap)	(Cai)	(Cfw)	(Cff)
Contaminant	(mg/kg)	(mg/m³)	(mg/L)	(mg/L)	(mg/kg)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)
Metals																	
Aluminum	1.45E+04	1.09E-04	4.30E-01	0.00E+00	1.50E+04	6.56E+01	7.90E+01	1.41E+00	5.32E+02	4.20E+02	1.22E+02	1.69E-01	2.76E+00	6.46E+00	3.15E+03	2.60E+00	1.30E+00
Antimony	1.00E+00	1.63E-08	5.00E-04	5.00E-04	8.10E+01	9.64E-03	1.60E-01	4.50E-03	1.60E-01	2.50E-01	4.00E-03	8.82E-05	2.45E-03	3.65E-01	1.70E+01	2.50E-01	2.50E-01
Arsenic	8.75E+00	4.33E-07	6.77E-01	6.77E-01	1.10E+05	2.55E-01	3.07E-01	1.05E-02	2.09E+00	8.00E+00	1.48E-02	5.82E-04	1.61E-02	6.19E+02	6.78E+02	7.71E+01	7.71E+01
Barium	3.73E+01	8.85E-05	3.60E-03	3.60E-03	9.60E+01	6.92E-01	3.50E+00	8.39E-02	5.08E+00	2.40E+01	5.76E-02	3.01E-04	8.13E-03	2.25E+00	2.02E+01	2.50E+00	2.28E+00
Beryllium	1.07E+00	1.63E-08	5.00E-04	4.96E-04	1.00E+00	2.31E-03	1.60E-01	2.41E-04	1.60E-01	2.50E-01	4.00E-03	8.85E-05	2.45E-03	8.78E-02	5.50E-01	2.50E-01	2.50E-01
Bismuth	--	8.20E-09	--	--	5.40E+00	2.09E-04	2.50E-02	--	--	--	--	--	--	8.10E-01	1.13E+00	--	--
Boron	2.50E+01	3.71E-08	1.96E+00	1.96E+00	2.50E+01	8.47E+00	8.47E+00	7.50E+00	1.51E+01	4.00E+00	8.00E+00	3.83E-03	1.10E-01	3.75E+00	5.25E+00	--	--
Cadmium	1.50E-01	5.62E-08	2.48E-05	2.48E-05	5.60E-01	2.78E-03	3.20E-02	1.44E-03	3.20E-02	1.60E+00	3.72E-02	2.09E-06	5.84E-05	6.80E-02	1.70E-01	2.50E-02	2.50E-02
Calcium	--	--	--	--	--	8.22E+00	9.30E+02	--	--	--	--	--	--	--	--	--	--
Chromium	1.27E+01	1.58E-06	1.30E-03	1.30E-03	2.40E+01	7.95E-02	1.60E-01	8.58E-03	5.96E-01	6.22E-01	4.80E-01	8.02E-04	1.64E-02	1.48E-01	1.08E+00	2.50E-01	2.50E-01
Cobalt	2.27E+00	3.54E-08	2.00E-04	2.00E-04	1.30E+02	1.43E-02	8.00E-02	2.38E-03	1.01E-01	2.10E-01	1.07E-02	1.06E-03	2.61E-02	1.46E-01	2.73E+01	1.00E-01	1.00E-01
Copper	6.56E+00	3.39E-04	1.74E-03	1.74E-03	3.60E+01	2.88E-01	1.10E+00	2.46E-01	1.10E+00	1.60E+01	3.24E+00	6.04E-03	1.68E-01	1.20E+00	6.98E+00	1.30E+00	3.48E-01
Iron	1.64E+04	1.12E-04	1.17E+00	1.17E+00	1.20E+05	3.06E+01	3.64E+01	2.46E+00	2.35E+02	2.62E+03	5.25E+03	1.99E+00	2.58E+01	1.80E+04	2.52E+04	2.34E+02	2.34E+02
Lead	1.56E+01	2.44E-08	7.62E-04	7.55E-04	1.20E+02	5.52E-02	6.02E-02	2.11E-02	2.99E-01	1.18E+00	1.16E+00	3.24E-05	4.83E-04	5.83E-01	1.63E+00	2.20E-01	9.00E-02
Lithium	9.61E+00	9.02E-08	1.11E-02	1.11E-02	3.10E+01	4.82E-02	1.70E-01	5.77E-03	3.55E-01	1.54E+00	3.07E+00	1.37E-03	3.03E-02	4.65E+00	6.51E+00	--	--
Magnesium	--	--	--	--	--	9.49E+00	5.00E+01	--	--	--	--	--	--	--	--	--	--
Manganese	9.66E+01	1.80E-06	8.03E-02	8.03E-02	4.00E+02	1.68E+00	6.30E+01	7.25E-01	6.30E+01	1.20E+03	6.34E-01	1.33E-02	3.80E-01	4.74E+00	8.40E+01	3.21E+01	3.21E+01
Mercury	1.62E-01	2.21E-09	1.36E-04	9.12E-05	1.10E+01	2.76E-10	2.50E-03	0.00E+00	2.50E-03	3.50E-02	5.18E-02	2.11E-03	4.54E-02	1.65E+00	1.90E-01	1.40E+00	2.50E-03
Mercury, divalent	6.31E-03	--	2.53E-07	1.69E-07	4.46E-03	2.50E-05	2.75E-05	3.41E-05	--	1.01E-03	2.02E-03	2.36E-07	3.63E-06	6.69E-04	9.37E-04	1.69E-07	1.69E-07
Mercury, methyl	6.06E-08	--	6.01E-13	5.99E-13	9.58E-11	1.60E-06	1.94E-06	9.00E-10	--	9.70E-09	1.94E-08	7.89E-10	2.27E-08	1.44E-11	2.01E-11	4.07E-06	4.07E-06
Molybdenum	1.00E+00	3.13E-08	1.23E-02	1.23E-02	4.30E+00	1.31E-02	1.60E-01	9.00E-03	1.60E-01	6.90E-01	3.20E-01	5.38E-04	1.50E-02	6.45E-01	9.03E-01	2.50E-01	2.50E-01
Nickel	6.91E+00	1.81E-06	1.00E-03	9.99E-04	2.10E+02	3.56E-02	1.60E-01	8.29E-03	2.48E-01	1.11E+00	6.16E-01	7.04E-04	1.63E-02	1.55E+00	1.98E+01	2.50E-01	2.50E-01
Phosphorus	2.00E+00	--	1.63E-01	1.63E-01	5.72E-01	1.49E+00	1.60E+02	1.05E+00	1.60E+02	3.21E-01	6.41E-01	4.58E+00	1.32E+02	8.58E-02	1.20E-01	--	--
Potassium	1.44E+02	--	7.58E+00	7.58E+00	4.17E+01	3.34E+01	8.60E+02	1.19E+01	8.60E+02	2.31E+01	4.61E+01	8.98E+00	2.59E+02	6.25E+00	8.76E+00	--	--
Rubidium	--	4.99E-08	--	--	3.90E+01	3.78E-03	4.58E-03	--	--	--	--	--	--	5.85E+00	8.19E+00	--	--
Selenium	8.64E-01	1.22E-08	5.00E-04	5.00E-04	2.50E+00	2.81E-03	1.60E-01	2.85E-03	1.60E-01	2.50E-01	2.00E-01	2.01E-04	5.61E-03	2.10E-01	5.50E-01	7.50E-01	7.50E-01
Silver	2.50E-01	1.48E-07	5.00E-05	5.00E-05	3.40E+00	5.50E-03	4.00E-02	3.75E-03	4.00E-02	1.80E+00	3.20E-04	6.61E-05	1.83E-03	7.14E-03	7.14E-01	6.00E-02	6.00E-02
Sodium	7.20E+02	--	2.59E+00	2.59E+00	2.59E+02	1.82E+01	2.50E+01	5.94E+00	1.08E+02	1.15E+02	2.30E+02	9.28E-01	2.30E+01	3.88E+01	5.43E+01	5.18E+01	5.18E+01
Strontium	1.94E+01	5.48E-07	1.46E-01	1.46E-01	2.60E+01	1.69E+00	2.20E+00	7.28E-01	8.37E+00	1.00E+01	6.21E+00	3.77E-04	1.04E-02	3.90E+00	5.46E+00	6.10E+01	4.40E+01
Thallium	5.00E-02	9.52E-09	5.00E-05	5.00E-05	3.00E-01	5.06E-04	1.10E-02	3.00E-06	1.10E-02	1.00E-02	1.60E-02	2.39E-04	6.70E-03	4.50E-02	6.30E-02	5.00E-01	5.00E-01
Tin	5.23E-01	1.85E-06	6.80E-04	6.78E-04	1.40E+00	2.61E-03	1.20E+00	4.70E-04	1.20E+00	2.50E-01	1.67E-01	6.27E-04	1.80E-02	2.10E-01	5.50E-01	2.04E+00	2.04E+00
Titanium	2.09E+02	2.26E-06	2.19E-01	2.17E-01	2.17E+02	2.76E+00	3.32E+00	9.39E-02	2.22E+01	3.34E+01	6.68E+01	8.35E-02	1.81E+00	3.26E+01	4.56E+01	--	--
Uranium	6.70E-01	9.76E-09	5.00E-05	4.98E-05	1.70E+00	1.02E-01	1.02E-01	1.01E-01	1.10E-01	1.07E-01	2.14E-01	1.13E-05	3.12E-04	2.55E-01	3.57E-01	--	--
Vanadium	2.44E+01	3.30E-07	1.00E-03	9.90E-04	2.70E+01	6.28E-02	1.60E-01	1.10E-02	4.39E-01	9.30E-01	9.61E-02	5.08E-04	8.76E-03	1.96E-02	5.67E+00	--	--
Zinc	1.97E+01	1.90E-05	9.76E-03	9.75E-03	6.40E+01	3.56E-01	2.10E+00	2.66E+00	2.10E+00	7.90E+01	5.03E-03	1.07E-04	2.92E-03	7.26E+00	4.50E+01	3.00E+01	2.01E+01
Inorganics																	
Nitrate	--	--	2.34E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	1.06E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	1.78E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	6.94E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	--	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table B.52

Summary of Predicted Concentrations - Operations
(Scenario 3)
Anaconda Goldboro
Goldboro, Nova Scotia

	Terrestrial Environment		Aquatic Environment			Terrestrial Ecosystem								Aquatic Ecosystem			
Contaminant	Soil (Cs) (mg/kg)	Air (Coa) (mg/m³)	Surface Water-Total (Cw) (mg/L)	Surface Water-Dissolved phase (Cdw) (mg/L)	Sediment (Csed) (mg/kg)	Leafy Vegetables (Cv) (mg/kg FW)	Fruit (Cfru) (mg/kg FW)	Roots (Cr) (mg/kg FW)	Forage (Cfo) (mg/kg FW)	Invertebrates (Cti) (mg/kg FW)	Prey (Cp) (mg/kg FW)	Hare (Ch) (mg/kg FW)	Deer (Cd) (mg/kg FW)	Plants (Cap) (mg/kg FW)	Invertebrates (Cai) (mg/kg FW)	Fish Whole (Cfw) (mg/kg FW)	Fish Fillet (Cff) (mg/kg FW)
Metals																	
Aluminum	3.66E+04	1.09E-04	1.99E-01	0.00E+00	1.84E+04	6.92E+01	8.26E+01	3.57E+00	5.46E+02	4.20E+02	3.08E+02	3.34E-01	4.33E+00	7.90E+00	3.86E+03	2.60E+00	1.30E+00
Antimony	1.00E+00	1.63E-08	4.39E-03	4.38E-03	8.10E+01	9.64E-03	1.60E-01	4.50E-03	1.60E-01	2.50E-01	4.00E-03	8.87E-05	2.46E-03	3.65E-01	1.70E+01	2.50E-01	2.50E-01
Arsenic	9.08E+00	4.33E-07	5.48E-02	5.48E-02	1.10E+05	2.55E-01	3.08E-01	1.09E-02	2.09E+00	8.00E+00	1.53E-02	4.23E-04	1.14E-02	6.19E+02	6.78E+02	6.25E+00	6.25E+00
Barium	3.73E+01	8.85E-05	7.09E-03	7.08E-03	9.60E+01	6.92E-01	3.50E+00	8.39E-02	5.08E+00	2.40E+01	5.76E-02	3.01E-04	8.13E-03	2.25E+00	2.02E+01	4.48E+00	4.48E+00
Beryllium	1.37E+00	1.63E-08	4.61E-04	4.57E-04	1.00E+00	2.43E-03	1.60E-01	3.08E-04	1.60E-01	2.50E-01	4.00E-03	9.00E-05	2.46E-03	8.78E-02	5.50E-01	2.50E-01	2.50E-01
Bismuth	--	8.20E-09	--	--	5.40E+00	2.09E-04	2.50E-02	--	--	--	--	--	--	8.10E-01	1.13E+00	--	--
Boron	2.50E+01	3.71E-08	1.96E+00	1.96E+00	2.50E+01	8.47E+00	8.47E+00	7.50E+00	1.51E+01	4.00E+00	8.00E+00	3.83E-03	1.10E-01	3.75E+00	5.25E+00	--	--
Cadmium	1.50E-01	5.62E-08	1.98E-05	1.98E-05	5.60E-01	2.78E-03	3.20E-02	1.44E-03	3.20E-02	1.60E+00	3.72E-02	2.09E-06	5.84E-05	6.80E-02	1.70E-01	2.50E-02	2.50E-02
Calcium	--	--	--	--	--	8.22E+00	9.30E+02	--	--	--	--	--	--	--	--	--	--
Chromium	1.27E+01	1.58E-06	8.58E-04	8.58E-04	2.40E+01	7.95E-02	1.60E-01	8.58E-03	5.96E-01	6.22E-01	4.80E-01	8.02E-04	1.64E-02	1.48E-01	1.08E+00	2.50E-01	2.50E-01
Cobalt	2.27E+00	3.54E-08	9.91E-04	9.91E-04	1.30E+02	1.43E-02	8.00E-02	2.38E-03	1.01E-01	2.10E-01	1.07E-02	1.06E-03	2.61E-02	1.46E-01	2.73E+01	2.97E-01	2.97E-01
Copper	6.56E+00	3.39E-04	1.96E-03	1.96E-03	3.60E+01	2.88E-01	1.10E+00	2.46E-01	1.10E+00	1.60E+01	3.24E+00	6.04E-03	1.68E-01	1.20E+00	6.98E+00	1.30E+00	3.91E-01
Iron	1.64E+04	1.12E-04	3.55E-01	3.55E-01	1.20E+05	3.06E+01	3.64E+01	2.46E+00	2.35E+02	2.62E+03	5.25E+03	1.99E+00	2.57E+01	1.80E+04	2.52E+04	7.10E+01	7.10E+01
Lead	1.92E+01	2.44E-08	8.22E-04	8.15E-04	1.20E+02	6.25E-02	6.74E-02	2.59E-02	3.23E-01	1.40E+00	1.28E+00	3.88E-05	5.64E-04	5.83E-01	1.63E+00	2.20E-01	9.00E-02
Lithium	1.31E+01	9.02E-08	1.43E-02	1.43E-02	3.10E+01	5.17E-02	1.70E-01	7.85E-03	3.68E-01	2.09E+00	4.19E+00	1.55E-03	3.20E-02	4.65E+00	6.51E+00	--	--
Magnesium	--	--	--	--	--	9.49E+00	5.00E+01	--	--	--	--	--	--	--	--	--	--
Manganese	9.66E+01	1.80E-06	7.56E-02	7.55E-02	4.00E+02	1.68E+00	6.30E+01	7.25E-01	6.30E+01	1.20E+03	6.34E-01	1.33E-02	3.80E-01	4.74E+00	8.40E+01	3.02E+01	3.02E+01
Mercury	1.62E-01	2.21E-09	6.88E-06	4.60E-06	1.10E+01	2.76E-10	2.50E-03	0.00E+00	2.50E-03	3.50E-02	5.18E-02	2.11E-03	4.54E-02	1.65E+00	1.90E-01	1.40E+00	2.50E-03
Mercury, divalent	3.89E-02	--	1.56E-06	1.04E-06	2.75E-02	9.35E-05	9.60E-05	2.10E-04	--	6.22E-03	1.24E-02	1.25E-06	1.66E-05	4.13E-03	5.78E-03	1.04E-06	1.04E-06
Mercury, methyl	6.06E-08	--	6.01E-13	5.99E-13	9.58E-11	1.60E-06	1.94E-06	9.00E-10	--	9.70E-09	1.94E-08	7.89E-10	2.27E-08	1.44E-11	2.01E-11	4.07E-06	4.07E-06
Molybdenum	1.00E+00	3.13E-08	1.23E-02	1.23E-02	4.30E+00	1.31E-02	1.60E-01	9.00E-03	1.60E-01	6.90E-01	3.20E-01	5.38E-04	1.50E-02	6.45E-01	9.03E-01	2.50E-01	2.50E-01
Nickel	6.91E+00	1.81E-06	1.42E-02	1.42E-02	2.10E+02	3.56E-02	1.60E-01	8.29E-03	2.48E-01	1.11E+00	6.16E-01	7.14E-04	1.66E-02	1.55E+00	1.98E+01	1.11E+00	1.11E+00
Phosphorus	2.00E+00	--	1.63E-01	1.63E-01	5.72E-01	1.49E+00	1.60E+02	1.05E+00	1.60E+02	3.21E-01	6.41E-01	4.58E+00	1.32E+02	8.58E-02	1.20E-01	--	--
Potassium	1.44E+02	--	7.58E+00	7.58E+00	4.17E+01	3.34E+01	8.60E+02	1.19E+01	8.60E+02	2.31E+01	4.61E+01	8.98E+00	2.59E+02	6.25E+00	8.76E+00	--	--
Rubidium	--	4.99E-08	--	--	3.90E+01	3.78E-03	4.58E-03	--	--	--	--	--	--	5.85E+00	8.19E+00	--	--
Selenium	8.64E-01	1.22E-08	4.88E-04	4.88E-04	2.50E+00	2.81E-03	1.60E-01	2.85E-03	1.60E-01	2.50E-01	2.00E-01	2.01E-04	5.61E-03	2.10E-01	5.50E-01	7.50E-01	7.50E-01
Silver	2.50E-01	1.48E-07	7.90E-05	7.89E-05	3.40E+00	5.50E-03	4.00E-02	3.75E-03	4.00E-02	1.80E+00	3.20E-04	6.61E-05	1.83E-03	7.14E-03	7.14E-01	6.00E-02	6.00E-02
Sodium	1.50E+03	--	4.57E+00	4.57E+00	4.57E+02	2.49E+01	2.75E+01	1.24E+01	1.16E+02	2.40E+02	4.79E+02	1.22E+00	2.75E+01	6.85E+01	9.59E+01	9.14E+01	9.14E+01
Strontium	1.94E+01	5.48E-07	1.46E-01	1.46E-01	2.60E+01	1.69E+00	2.20E+00	7.28E-01	8.37E+00	1.00E+01	6.21E+00	3.77E-04	1.04E-02	3.90E+00	5.46E+00	6.10E+01	4.40E+01
Thallium	5.00E-02	9.52E-09	7.31E-05	7.31E-05	3.00E-01	5.06E-04	1.10E-02	3.00E-06	1.10E-02	1.00E-02	1.60E-02	2.39E-04	6.70E-03	4.50E-02	6.30E-02	7.31E-01	7.31E-01
Tin	5.81E-01	1.85E-06	7.43E-04	7.41E-04	1.40E+00	2.69E-03	1.20E+00	5.23E-04	1.20E+00	2.50E-01	1.86E-01	6.27E-04	1.80E-02	2.10E-01	5.50E-01	2.22E+00	2.22E+00
Titanium	1.15E+03	2.26E-06	5.32E-01	5.27E-01	5.27E+02	3.23E+00	3.79E+00	5.15E-01	2.29E+01	1.83E+02	3.66E+02	2.30E-01	3.32E+00	7.90E+01	1.11E+02	--	--
Uranium	6.70E-01	9.76E-09	9.50E-04	9.46E-04	1.70E+00	1.02E-01	1.02E-01	1.01E-01	1.10E-01	1.07E-01	2.14E-01	1.13E-05	3.13E-04	2.55E-01	3.57E-01	--	--
Vanadium	3.62E+01	3.30E-07	2.12E-03	2.10E-03	2.70E+01	6.86E-02	1.60E-01	1.63E-02	4.49E-01	9.30E-01	1.42E-01	6.53E-04	1.01E-02	1.96E-02	5.67E+00	--	--
Zinc	1.97E+01	1.90E-05	7.28E-03	7.27E-03	6.40E+01	3.56E-01	2.10E+00	2.66E+00	2.10E+00	7.90E+01	5.03E-03	1.07E-04	2.92E-03	7.26E+00	4.50E+01	3.00E+01	1.50E+01
Inorganics																	
Nitrate	--	--	4.82E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	5.94E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	6.83E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	1.87E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	--	4.91E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table B.53

Summary of Predicted Concentrations - Reclamation (Scenario 4)
Anaconda Goldboro
Goldboro, Nova Scotia

	Terrestrial Environment		Aquatic Environment			Terrestrial Ecosystem								Aquatic Ecosystem			
	Soil	Air	Surface Water-Total	Surface Water-Dissolved phase	Sediment	Leafy Vegetables	Fruit	Roots	Forage	Invertebrates	Prey	Hare	Deer	Plants	Invertebrates	Fish Whole	Fish Fillet
	(Cs)	(Coa)	(Cw)	(Cdw)	(Csed)	(Cv)	(Cfru)	(Cr)	(Cfo)	(Cti)	(Cp)	(Ch)	(Cd)	(Cap)	(Cai)	(Cfw)	(Cff)
Contaminant	(mg/kg)	(mg/m³)	(mg/L)	(mg/L)	(mg/kg)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)
Metals																	
Aluminum	4.18E+04	1.09E-04	2.66E-01	0.00E+00	2.03E+04	7.00E+01	8.34E+01	4.07E+00	5.49E+02	4.20E+02	3.52E+02	3.73E-01	4.70E+00	8.72E+00	4.25E+03	2.60E+00	1.30E+00
Antimony	1.00E+00	1.63E-08	3.27E-03	3.26E-03	8.10E+01	9.64E-03	1.60E-01	4.50E-03	1.60E-01	2.50E-01	4.00E-03	8.85E-05	2.46E-03	3.65E-01	1.70E+01	2.50E-01	2.50E-01
Arsenic	9.08E+00	4.33E-07	5.21E-02	5.21E-02	1.10E+05	2.55E-01	3.08E-01	1.09E-02	2.09E+00	8.00E+00	1.53E-02	4.23E-04	1.14E-02	6.19E+02	6.78E+02	5.94E+00	5.94E+00
Barium	3.73E+01	8.85E-05	7.05E-03	7.04E-03	9.60E+01	6.92E-01	3.50E+00	8.39E-02	5.08E+00	2.40E+01	5.76E-02	3.01E-04	8.13E-03	2.25E+00	2.02E+01	4.46E+00	4.46E+00
Beryllium	1.43E+00	1.63E-08	4.71E-04	4.68E-04	1.00E+00	2.45E-03	1.60E-01	3.21E-04	1.60E-01	2.50E-01	4.00E-03	9.03E-05	2.47E-03	8.78E-02	5.50E-01	2.50E-01	2.50E-01
Bismuth	--	8.20E-09	--	--	5.40E+00	2.09E-04	2.50E-02	--	--	--	--	--	--	8.10E-01	1.13E+00	--	--
Boron	2.50E+01	3.71E-08	1.96E+00	1.96E+00	2.50E+01	8.47E+00	8.47E+00	7.50E+00	1.51E+01	4.00E+00	8.00E+00	3.83E-03	1.10E-01	3.75E+00	5.25E+00	--	--
Cadmium	1.50E-01	5.62E-08	2.41E-05	2.41E-05	5.60E-01	2.78E-03	3.20E-02	1.44E-03	3.20E-02	1.60E+00	3.72E-02	2.09E-06	5.84E-05	6.80E-02	1.70E-01	2.50E-02	2.50E-02
Calcium	--	--	--	--	--	8.22E+00	9.30E+02	--	--	--	--	--	--	--	--	--	--
Chromium	1.27E+01	1.58E-06	6.87E-04	6.86E-04	2.40E+01	7.95E-02	1.60E-01	8.58E-03	5.96E-01	6.22E-01	4.80E-01	8.02E-04	1.64E-02	1.48E-01	1.08E+00	2.50E-01	2.50E-01
Cobalt	2.27E+00	3.54E-08	9.35E-04	9.35E-04	1.30E+02	1.43E-02	8.00E-02	2.38E-03	1.01E-01	2.10E-01	1.07E-02	1.06E-03	2.61E-02	1.46E-01	2.73E+01	2.80E-01	2.80E-01
Copper	6.56E+00	3.39E-04	1.86E-03	1.85E-03	3.60E+01	2.88E-01	1.10E+00	2.46E-01	1.10E+00	1.60E+01	3.24E+00	6.04E-03	1.68E-01	1.20E+00	6.98E+00	1.30E+00	3.71E-01
Iron	1.64E+04	1.12E-04	4.55E-01	4.55E-01	1.20E+05	3.06E+01	3.64E+01	2.46E+00	2.35E+02	2.62E+03	5.25E+03	1.99E+00	2.57E+01	1.80E+04	2.52E+04	9.10E+01	9.10E+01
Lead	1.99E+01	2.44E-08	7.06E-04	7.00E-04	1.20E+02	6.40E-02	6.90E-02	2.69E-02	3.28E-01	1.44E+00	1.30E+00	4.02E-05	5.81E-04	5.83E-01	1.63E+00	2.20E-01	9.00E-02
Lithium	1.35E+01	9.02E-08	1.47E-02	1.47E-02	3.10E+01	5.21E-02	1.70E-01	8.11E-03	3.70E-01	2.16E+00	4.32E+00	1.57E-03	3.22E-02	4.65E+00	6.51E+00	--	--
Magnesium	--	--	--	--	--	9.49E+00	5.00E+01	--	--	--	--	--	--	--	--	--	--
Manganese	9.66E+01	1.80E-06	4.92E-02	4.92E-02	4.00E+02	1.68E+00	6.30E+01	7.25E-01	6.30E+01	1.20E+03	6.34E-01	1.33E-02	3.80E-01	4.74E+00	8.40E+01	1.97E+01	1.97E+01
Mercury	1.62E-01	2.21E-09	7.05E-06	4.72E-06	1.10E+01	2.76E-10	2.50E-03	0.00E+00	2.50E-03	3.50E-02	5.18E-02	2.11E-03	4.54E-02	1.65E+00	1.90E-01	1.40E+00	2.50E-03
Mercury, divalent	4.72E-02	--	1.89E-06	1.26E-06	3.34E-02	1.11E-04	1.13E-04	2.55E-04	--	7.55E-03	1.51E-02	1.51E-06	1.99E-05	5.01E-03	7.01E-03	1.26E-06	1.26E-06
Mercury, methyl	6.06E-08	--	6.01E-13	5.99E-13	9.58E-11	1.60E-06	1.94E-06	9.00E-10	--	9.70E-09	1.94E-08	7.89E-10	2.27E-08	1.44E-11	2.01E-11	4.07E-06	4.07E-06
Molybdenum	1.00E+00	3.13E-08	1.23E-02	1.23E-02	4.30E+00	1.31E-02	1.60E-01	9.00E-03	1.60E-01	6.90E-01	3.20E-01	5.38E-04	1.50E-02	6.45E-01	9.03E-01	2.50E-01	2.50E-01
Nickel	6.91E+00	1.81E-06	6.10E-03	6.10E-03	2.10E+02	3.56E-02	1.60E-01	8.29E-03	2.48E-01	1.11E+00	6.16E-01	7.08E-04	1.64E-02	1.55E+00	1.98E+01	4.76E-01	4.76E-01
Phosphorus	2.00E+00	--	1.63E-01	1.63E-01	5.72E-01	1.49E+00	1.60E+02	1.05E+00	1.60E+02	3.21E-01	6.41E-01	4.58E+00	1.32E+02	8.58E-02	1.20E-01	--	--
Potassium	1.44E+02	--	7.58E+00	7.58E+00	4.17E+01	3.34E+01	8.60E+02	1.19E+01	8.60E+02	2.31E+01	4.61E+01	8.98E+00	2.59E+02	6.25E+00	8.76E+00	--	--
Rubidium	--	4.99E-08	--	--	3.90E+01	3.78E-03	4.58E-03	--	--	--	--	--	--	5.85E+00	8.19E+00	--	--
Selenium	8.64E-01	1.22E-08	4.68E-04	4.68E-04	2.50E+00	2.81E-03	1.60E-01	2.85E-03	1.60E-01	2.50E-01	2.00E-01	2.01E-04	5.61E-03	2.10E-01	5.50E-01	7.50E-01	7.50E-01
Silver	2.50E-01	1.48E-07	7.04E-05	7.04E-05	3.40E+00	5.50E-03	4.00E-02	3.75E-03	4.00E-02	1.80E+00	3.20E-04	6.61E-05	1.83E-03	7.14E-03	7.14E-01	6.00E-02	6.00E-02
Sodium	1.51E+03	--	4.61E+00	4.61E+00	4.61E+02	2.51E+01	2.76E+01	1.25E+01	1.16E+02	2.42E+02	4.84E+02	1.23E+00	2.77E+01	6.91E+01	9.67E+01	9.21E+01	9.21E+01
Strontium	1.94E+01	5.48E-07	1.46E-01	1.46E-01	2.60E+01	1.69E+00	2.20E+00	7.28E-01	8.37E+00	1.00E+01	6.21E+00	3.77E-04	1.04E-02	3.90E+00	5.46E+00	6.10E+01	4.40E+01
Thallium	5.00E-02	9.52E-09	6.61E-05	6.61E-05	3.00E-01	5.06E-04	1.10E-02	3.00E-06	1.10E-02	1.00E-02	1.60E-02	2.39E-04	6.70E-03	4.50E-02	6.30E-02	6.61E-01	6.61E-01
Tin	5.87E-01	1.85E-06	7.50E-04	7.48E-04	1.40E+00	2.69E-03	1.20E+00	5.28E-04	1.20E+00	2.50E-01	1.88E-01	6.27E-04	1.80E-02	2.10E-01	5.50E-01	2.24E+00	2.24E+00
Titanium	1.35E+03	2.26E-06	6.00E-01	5.94E-01	5.94E+02	3.33E+00	3.89E+00	6.07E-01	2.31E+01	2.16E+02	4.31E+02	2.62E-01	3.65E+00	8.90E+01	1.25E+02	--	--
Uranium	6.70E-01	9.76E-09	8.52E-04	8.48E-04	1.70E+00	1.02E-01	1.02E-01	1.01E-01	1.10E-01	1.07E-01	2.14E-01	1.13E-05	3.12E-04	2.55E-01	3.57E-01	--	--
Vanadium	3.87E+01	3.30E-07	1.49E-03	1.47E-03	2.70E+01	6.99E-02	1.60E-01	1.74E-02	4.51E-01	9.30E-01	1.52E-01	6.84E-04	1.04E-02	1.96E-02	5.67E+00	--	--
Zinc	1.97E+01	1.90E-05	7.18E-03	7.17E-03	6.40E+01	3.56E-01	2.10E+00	2.66E+00	2.10E+00	7.90E+01	5.03E-03	1.07E-04	2.92E-03	7.26E+00	4.50E+01	3.00E+01	1.48E+01
Inorganics																	
Nitrate	--	--	1.45E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	2.94E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	6.95E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	5.02E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	--	4.51E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table B.54

Summary of Predicted Concentrations - Post-Closure (Scenario 5)
Anaconda Goldboro
Goldboro, Nova Scotia

	Terrestrial Environment		Aquatic Environment			Terrestrial Ecosystem								Aquatic Ecosystem			
	Soil	Air	Surface Water-Total	Surface Water-Dissolved phase	Sediment	Leafy Vegetables	Fruit	Roots	Forage	Invertebrates	Prey	Hare	Deer	Plants	Invertebrates	Fish Whole	Fish Fillet
	(Cs)	(Coa)	(Cw)	(Cdw)	(Csed)	(Cv)	(Cfru)	(Cr)	(Cfo)	(Cti)	(Cp)	(Ch)	(Cd)	(Cap)	(Cai)	(Cfw)	(Cff)
Contaminant	(mg/kg)	(mg/m³)	(mg/L)	(mg/L)	(mg/kg)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)
Metals																	
Aluminum	4.18E+04	8.52E-05	3.61E-01	0.00E+00	2.03E+04	7.00E+01	6.74E+00	4.07E+00	5.49E+02	4.20E+02	3.52E+02	3.13E-01	2.97E+00	8.72E+00	4.25E+03	2.60E+00	1.30E+00
Antimony	1.00E+00	1.56E-08	2.20E-03	2.20E-03	8.10E+01	9.64E-03	1.60E-01	4.50E-03	1.60E-01	2.50E-01	4.00E-03	8.84E-05	2.45E-03	3.65E-01	1.70E+01	2.50E-01	2.50E-01
Arsenic	9.08E+00	3.40E-07	5.12E-02	5.12E-02	1.10E+05	2.55E-01	1.60E-01	1.09E-02	2.09E+00	8.00E+00	1.53E-02	4.02E-04	1.14E-02	6.19E+02	6.78E+02	5.83E+00	5.83E+00
Barium	3.73E+01	8.83E-05	5.73E-03	5.72E-03	9.60E+01	6.92E-01	3.50E+00	8.39E-02	5.08E+00	2.40E+01	5.76E-02	3.01E-04	8.13E-03	2.25E+00	2.02E+01	3.62E+00	3.62E+00
Beryllium	1.43E+00	1.56E-08	4.76E-04	4.73E-04	1.00E+00	2.45E-03	1.60E-01	3.21E-04	1.60E-01	2.50E-01	4.00E-03	9.03E-05	2.47E-03	8.78E-02	5.50E-01	2.50E-01	2.50E-01
Bismuth	--	8.12E-09	--	--	5.40E+00	2.09E-04	2.50E-02	--	--	--	--	--	--	8.10E-01	1.13E+00	--	--
Boron	2.50E+01	3.11E-08	1.96E+00	1.96E+00	2.50E+01	8.47E+00	8.45E+00	7.50E+00	1.51E+01	4.00E+00	8.00E+00	3.82E-03	1.09E-01	3.75E+00	5.25E+00	--	--
Cadmium	1.50E-01	5.62E-08	3.70E-05	3.70E-05	5.60E-01	2.78E-03	3.20E-02	1.44E-03	3.20E-02	1.60E+00	3.72E-02	2.09E-06	5.84E-05	6.80E-02	1.70E-01	3.35E-02	3.35E-02
Calcium	--	--	--	--	--	8.22E+00	9.30E+02	--	--	--	--	--	--	--	--	--	--
Chromium	1.27E+01	1.55E-06	8.60E-04	8.60E-04	2.40E+01	7.95E-02	1.60E-01	8.58E-03	5.96E-01	6.22E-01	4.80E-01	8.02E-04	1.64E-02	1.48E-01	1.08E+00	2.50E-01	2.50E-01
Chromium VI	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	2.27E+00	3.11E-08	9.61E-04	9.60E-04	1.30E+02	1.43E-02	8.00E-02	2.38E-03	1.01E-01	2.10E-01	1.07E-02	1.06E-03	2.61E-02	1.46E-01	2.73E+01	2.88E-01	2.88E-01
Copper	6.56E+00	3.39E-04	9.20E-04	9.20E-04	3.60E+01	2.88E-01	1.10E+00	2.46E-01	1.10E+00	1.60E+01	3.24E+00	6.04E-03	1.68E-01	1.20E+00	6.98E+00	1.30E+00	2.50E-01
Iron	1.64E+04	1.02E-04	4.28E-01	4.27E-01	1.20E+05	3.06E+01	4.80E+00	2.46E+00	2.35E+02	2.62E+03	5.25E+03	1.66E+00	1.63E+01	1.80E+04	2.52E+04	8.55E+01	8.55E+01
Lead	1.99E+01	1.56E-08	9.27E-04	9.19E-04	1.20E+02	6.40E-02	5.20E-02	2.69E-02	3.28E-01	1.44E+00	1.30E+00	3.75E-05	5.04E-04	5.83E-01	1.63E+00	2.20E-01	9.00E-02
Lithium	1.35E+01	7.56E-08	1.47E-02	1.47E-02	3.10E+01	5.21E-02	1.70E-01	8.11E-03	3.70E-01	2.16E+00	4.32E+00	1.57E-03	3.22E-02	4.65E+00	6.51E+00	--	--
Magnesium	--	--	--	--	--	9.49E+00	5.00E+01	--	--	--	--	--	--	--	--	--	--
Manganese	9.66E+01	1.58E-06	1.19E-01	1.19E-01	4.00E+02	1.68E+00	6.30E+01	7.25E-01	6.30E+01	1.20E+03	6.34E-01	1.33E-02	3.80E-01	4.74E+00	8.40E+01	4.74E+01	4.74E+01
Mercury	1.62E-01	2.14E-09	9.69E-06	6.48E-06	1.10E+01	2.76E-10	2.50E-03	0.00E+00	2.50E-03	3.50E-02	5.18E-02	2.11E-03	4.54E-02	1.65E+00	1.90E-01	1.40E+00	2.50E-03
Mercury, divalent	4.72E-02	--	1.89E-06	1.26E-06	3.34E-02	1.11E-04	9.91E-05	2.55E-04	--	7.55E-03	1.51E-02	1.48E-06	1.88E-05	5.01E-03	7.01E-03	1.26E-06	1.26E-06
Mercury, methyl	6.06E-08	--	6.01E-13	5.99E-13	9.58E-11	1.60E-06	2.64E-10	9.00E-10	--	9.70E-09	1.94E-08	3.39E-13	5.21E-12	1.44E-11	2.01E-11	4.07E-06	4.07E-06
Molybdenum	1.00E+00	3.11E-08	1.23E-02	1.23E-02	4.30E+00	1.31E-02	1.60E-01	9.00E-03	1.60E-01	6.90E-01	3.20E-01	5.38E-04	1.50E-02	6.45E-01	9.03E-01	2.50E-01	2.50E-01
Nickel	6.91E+00	1.80E-06	1.13E-02	1.13E-02	2.10E+02	3.56E-02	1.60E-01	8.29E-03	2.48E-01	1.11E+00	6.16E-01	7.12E-04	1.66E-02	1.55E+00	1.98E+01	8.83E-01	8.83E-01
Phosphorus	2.00E+00	--	1.63E-01	1.63E-01	5.72E-01	1.49E+00	1.60E+02	1.05E+00	1.60E+02	3.21E-01	6.41E-01	4.58E+00	1.32E+02	8.58E-02	1.20E-01	--	--
Potassium	1.44E+02	--	7.58E+00	7.58E+00	4.17E+01	3.34E+01	8.60E+02	1.19E+01	8.60E+02	2.31E+01	4.61E+01	8.98E+00	2.59E+02	6.25E+00	8.76E+00	--	--
Rubidium	--	4.85E-08	--	--	3.90E+01	3.78E-03	0.00E+00	--	--	--	--	--	--	5.85E+00	8.19E+00	--	--
Selenium	8.64E-01	1.21E-08	5.58E-04	5.58E-04	2.50E+00	2.81E-03	1.60E-01	2.85E-03	1.60E-01	2.50E-01	2.00E-01	2.01E-04	5.62E-03	2.10E-01	5.50E-01	7.50E-01	7.50E-01
Silver	2.50E-01	1.48E-07	7.48E-05	7.48E-05	3.40E+00	5.50E-03	4.00E-02	3.75E-03	4.00E-02	1.80E+00	3.20E-04	6.61E-05	1.83E-03	7.14E-03	7.14E-01	6.00E-02	6.00E-02
Sodium	1.51E+03	--	4.61E+00	4.61E+00	4.61E+02	2.51E+01	2.50E+01	1.25E+01	1.16E+02	2.42E+02	4.84E+02	1.16E+00	2.55E+01	6.91E+01	9.67E+01	9.21E+01	9.21E+01
Strontium	1.94E+01	4.98E-07	1.46E-01	1.46E-01	2.60E+01	1.69E+00	2.20E+00	7.28E-01	8.37E+00	1.00E+01	6.21E+00	3.77E-04	1.04E-02	3.90E+00	5.46E+00	6.10E+01	4.40E+01
Thallium	5.00E-02	9.33E-09	8.48E-05	8.48E-05	3.00E-01	5.06E-04	1.10E-02	3.00E-06	1.10E-02	1.00E-02	1.60E-02	2.39E-04	6.71E-03	4.50E-02	6.30E-02	8.48E-01	8.48E-01
Tin	5.87E-01	1.85E-06	7.50E-04	7.48E-04	1.40E+00	2.69E-03	1.20E+00	5.28E-04	1.20E+00	2.50E-01	1.88E-01	6.27E-04	1.80E-02	2.10E-01	5.50E-01	2.24E+00	2.24E+00
Titanium	1.35E+03	1.25E-06	6.00E-01	5.94E-01	5.94E+02	3.33E+00	6.71E-01	6.07E-01	2.31E+01	2.16E+02	4.31E+02	2.12E-01	2.20E+00	8.90E+01	1.25E+02	--	--
Uranium	6.70E-01	9.33E-09	5.76E-04	5.73E-04	1.70E+00	1.02E-01	1.01E-01	1.01E-01	1.10E-01	1.07E-01	2.14E-01	1.11E-05	3.08E-04	2.55E-01	3.57E-01	--	--
Vanadium	3.87E+01	3.11E-07	2.01E-03	1.99E-03	2.70E+01	6.99E-02	1.60E-01	1.74E-02	4.51E-01	9.30E-01	1.52E-01	6.84E-04	1.04E-02	1.96E-02	5.67E+00	--	--
Zinc	1.97E+01	1.89E-05	7.27E-03	7.26E-03	6.40E+01	3.56E-01	2.10E+00	2.66E+00	2.10E+00	7.90E+01	5.03E-03	1.07E-04	2.92E-03	7.26E+00	4.50E+01	3.00E+01	1.50E+01
Inorganics																	
Nitrate	--	--	7.77E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	6.00E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	3.02E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	1.68E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	--	1.22E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table B.55

Change in Predicted Media Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

	Change in Predicted Soil Concentration Δ mg/kg				Change in Predicted Surface Water Concentration Δ mg/L				Change in Predicted Sediment Concentration Δ mg/kg			
Contaminant	Construction (Cs) (mg/kg)	Operations (Cs) (mg/kg)	Reclamation (Cs) (mg/kg)	Post-Closure (Cs) (mg/kg)	Construction (Cw) (mg/L)	Operations (Cw) (mg/L)	Reclamation (Cw) (mg/L)	Post-Closure (Cw) (mg/L)	Construction (Csed) (mg/kg)	Operations (Csed) (mg/kg)	Reclamation (Csed) (mg/kg)	Post-Closure (Csed) (mg/kg)
Metals												
Aluminum	4.61E+03	2.67E+04	3.19E+04	3.19E+04	0.00E+00	-2.31E-01	-1.64E-01	-6.93E-02	0.00E+00	3.36E+03	5.25E+03	5.25E+03
Antimony	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.89E-03	2.77E-03	1.70E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Arsenic	2.71E+00	3.04E+00	3.04E+00	3.04E+00	0.00E+00	-6.22E-01	-6.25E-01	-6.26E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Barium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.49E-03	3.45E-03	2.13E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Beryllium	6.98E-02	3.67E-01	4.28E-01	4.28E-01	0.00E+00	-3.91E-05	-2.88E-05	-2.37E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bismuth	--	--	--	--	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Boron	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.94E+00	1.94E+00	1.94E+00	1.94E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cadmium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-5.01E-06	-6.90E-07	1.22E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Calcium	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.42E-04	-6.13E-04	-4.40E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cobalt	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.91E-04	7.35E-04	7.61E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Copper	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.16E-04	1.13E-04	-8.22E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Iron	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-8.15E-01	-7.15E-01	-7.42E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lead	8.14E-01	4.39E+00	5.14E+00	5.14E+00	0.00E+00	6.03E-05	-5.59E-05	1.65E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lithium	1.20E+00	4.68E+00	5.10E+00	5.10E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Magnesium	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.73E-03	-3.11E-02	3.84E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, element	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.30E-04	-1.29E-04	-1.27E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, divalent	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, methyl	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nickel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phosphorus	--	--	--	--	1.13E-01	1.13E-01	1.13E-01	1.13E-01	--	--	--	--
Potassium	--	--	--	--	6.78E+00	6.78E+00	6.78E+00	6.78E+00	--	--	--	--
Rubidium	--	--	--	--	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Selenium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.17E-05	-3.17E-05	5.82E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Silver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sodium	--	--	--	--	-2.93E+00	-9.43E-01	-9.06E-01	-9.06E-01	--	--	--	--
Strontium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E-01	1.01E-01	1.01E-01	1.01E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Thallium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tin	2.26E-02	8.11E-02	8.71E-02	8.71E-02	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Titanium	--	--	--	--	2.10E-01	5.22E-01	5.90E-01	5.90E-01	--	--	--	--
Uranium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.00E-04	8.02E-04	5.26E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Vanadium	2.62E+00	1.44E+01	1.69E+01	1.69E+01	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Zinc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-2.48E-03	-2.58E-03	-2.49E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Appendix B.2

South of the Project Area: Baseline and Predicted Future Exposure Point Concentration Models and Result

Table B.1

Summary of Measured and Estimated Background Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

	Measured Baseline Concentration									Estimated Baseline Concentration			
Contaminant	**Surface soil (Cs) (mg/kg)**	**Outdoor air (Coa) (mg/m³)**	**Surface water (Cw) (mg/L)**	**Sediment (Csed) (mg/kg)**	**Berries (Cfru) (mg/kg FW)**	**Fish fillets (Cff) (mg/kg FW)**	**Fish remains (Cfr) (mg/kg FW)**	**Terrestrial invertebrates (Cti) (mg/kg FW)**	**Aquatic invertebrates (Cai) (mg/kg FW)**	**Hare Flesh (Ch) (mg/kg FW) (refer to table B.3)**	**Deer Flesh (Cd) (mg/kg FW) (refer to table B.2)**	**Prey Flesh (Cp) (mg/kg FW) (refer to table B.4)**	**Aquatic Plants (Cap) (mg/kg FW) (refer to table B.5)**
Metals													
Aluminum	8.76E+03	8.52E-05	4.30E-01	1.50E+04	3.90E+00	1.30E+00	2.60E+00	4.20E+02	1.80E+02	6.77E-02	6.82E-01	7.37E+01	6.46E+00
Antimony	1.00E+00	1.56E-08	5.00E-04	8.10E+01	<0.32	<0.5	<0.5	<0.5	<1.1	8.82E-05	2.45E-03	4.00E-03	3.65E-01
Arsenic	3.03E+01	3.40E-07	6.77E-01	1.10E+05	<0.32	2.50E-01	5.30E-01	8.00E+00	1.70E+02	6.40E-04	1.36E-02	4.10E-02	6.19E+02
Barium	3.88E+01	8.83E-05	3.60E-03	9.60E+01	3.50E+00	<1.5	2.50E+00	2.40E+01	<3.3	3.02E-04	8.14E-03	5.76E-02	2.25E+00
Beryllium	5.00E-01	1.56E-08	5.00E-04	<2	<0.32	<0.5	<0.5	<0.5	<1.1	8.57E-05	2.42E-03	4.00E-03	8.78E-02
Bismuth	1.00E+00	--	1.00E-03	5.40E+00	<0.05	--	--	--	--	7.22E-06	1.70E-04	3.20E-01	8.10E-01
Boron	2.50E+01	3.11E-08	2.50E-02	<50	1.90E+00	<1.5	<1.5	2.30E+00	<3.3	8.91E-04	2.38E-02	8.00E+00	3.75E+00
Cadmium	4.89E-01	5.62E-08	2.48E-05	5.60E-01	3.20E-02	<0.05	2.50E-02	1.60E+00	1.70E-01	2.29E-06	6.03E-05	6.49E-02	6.80E-02
Calcium	--	--	4.89E+00	--	9.30E+02	--	--	--	--	--	--	--	--
Chromium	1.30E+01	1.55E-06	1.30E-03	2.40E+01	<0.32	<0.5	<0.5	5.80E-01	<1.1	8.10E-04	1.64E-02	4.88E-01	1.48E-01
Cobalt	1.98E+00	3.11E-08	2.00E-04	1.30E+02	<0.16	<0.2	<0.2	2.10E-01	<0.44	1.03E-03	2.58E-02	8.97E-03	1.46E-01
Copper	4.93E+00	3.39E-04	1.74E-03	3.60E+01	1.10E+00	2.50E-01	1.30E+00	1.60E+01	5.10E+00	5.96E-03	1.67E-01	3.10E+00	1.20E+00
Iron	1.58E+04	1.02E-04	1.17E+00	1.20E+05	<9.6	7.50E+00	2.50E+01	6.00E+02	1.10E+03	1.61E+00	1.58E+01	5.06E+03	1.80E+04
Lead	2.48E+01	1.56E-08	7.62E-04	1.20E+02	5.20E-02	<0.18	2.20E-01	5.60E-01	9.40E-01	4.47E-05	5.70E-04	1.43E+00	5.83E-01
Lithium	8.43E+00	--	--	3.10E+01	<0.34	<0.5	<0.5	<0.5	<1.1	--	--	2.70E+00	4.65E+00
Magnesium	--	--	8.14E-01	--	<100	--	--	--	--	--	--	--	--
Manganese	8.70E+01	1.58E-06	8.03E-02	4.00E+02	6.30E+01	3.10E+00	6.40E+00	1.20E+03	3.30E+01	1.33E-02	3.80E-01	5.71E-01	4.74E+00
Mercury	3.18E-01	--	1.36E-04	1.10E+01	<0.005	2.50E-03	1.40E+00	3.50E-02	1.90E-01	2.88E-03	5.24E-02	1.02E-01	1.65E+00
Mercury, divalent	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, methyl	--	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	1.00E+00	3.11E-08	1.00E-03	4.30E+00	<0.32	<0.5	<0.5	6.90E-01	<1.1	5.29E-04	1.47E-02	3.20E-01	6.45E-01
Nickel	5.81E+00	1.80E-06	1.00E-03	2.10E+02	<0.32	<0.5	<0.5	1.10E+00	<1.1	6.71E-04	1.60E-02	5.68E-01	1.55E+00
Phosphorus	--	--	5.00E-02	--	1.60E+02	--	--	--	--	--	--	--	--
Potassium	--	--	8.04E-01	--	8.60E+02	--	--	--	--	--	--	--	--
Rubidium	5.91E+00	--	--	3.90E+01	--	--	--	--	--	--	--	1.89E+00	5.85E+00
Selenium	2.08E+00	--	5.00E-04	2.50E+00	<0.32	7.50E-01	7.30E-01	<0.5	<1.1	2.15E-04	5.74E-03	2.78E-01	2.10E-01
Silver	2.50E-01	1.48E-07	5.00E-05	3.40E+00	<0.08	<0.12	<0.12	1.80E+00	<0.26	6.61E-05	1.83E-03	3.20E-04	7.14E-03
Sodium	--	--	5.52E+00	--	<50	--	--	--	--	--	--	--	--
Strontium	6.03E+01	4.98E-07	4.47E-02	2.60E+01	2.20E+00	4.40E+01	6.10E+01	1.00E+01	<3.3	4.34E-04	1.08E-02	1.93E+01	3.90E+00
Thallium	5.00E-02	9.33E-09	5.00E-05	3.00E-01	<0.022	<0.02	<0.02	<0.02	<0.044	2.39E-04	6.70E-03	1.60E-02	4.50E-02
Tin	5.00E-01	1.85E-06	1.00E-03	1.40E+00	1.20E+00	<0.5	<0.5	<0.5	<1.1	6.27E-04	1.80E-02	1.60E-01	2.10E-01
Titanium	--	1.25E-06	9.34E-03	--	<0.5	--	--	--	--	--	--	--	--
Uranium	6.51E-01	9.33E-09	5.00E-05	1.70E+00	<0.016	<0.02	<0.02	<0.02	<0.044	1.47E-06	2.99E-05	2.08E-01	2.55E-01
Vanadium	2.89E+01	3.11E-07	1.00E-03	2.70E+01	<0.32	<0.5	<0.5	9.30E-01	<1.1	5.63E-04	9.26E-03	1.14E-01	1.96E-02
Zinc	2.64E+01	1.89E-05	9.76E-03	6.40E+01	2.10E+00	1.40E+01	3.00E+01	7.90E+01	4.50E+01	1.10E-04	2.95E-03	5.14E-03	7.26E+00
Inorganics													
Cyanide	--	--	0.00E+00	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	2.34E-01	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	1.06E-02	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	1.78E-01	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	6.94E-03	--	--	--	--	--	--	--	--	--	--

Table B.2

Deer Baseline Concentration Due to Plant and Soil Ingestion
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal (F) (refer to Table B.9) (unitless)	Quantity of Forage Ingested by the Animal per day (1) (Qp_f) (refer to Table B.9) (kg DW/day)	Baseline Concentration in Forage Ingested (P_f) (refer to Table B.1) (mg/kg DW)	Quantity of Soil Ingested by the Animal (Qs) (refer to Table B.9) (kg/day)	Baseline Soil Concentration (Cs) (refer to Table B.1) (mg/kg)	Soil Bioavailability Factor (Bs) (unitless)	Quantity of Surface Water Ingested by the Animal (Qw) (refer to Table B.9) (L/day)	Baseline Surface Water Concentration (Cw) (refer to Table B.1) (mg/L)	Biotransfer Factor for Beef (Ba_{beef}) (refer to Table B.10) (day/kg FW tissue)	Biotransfer Factor for Wildlife ($Ba_{wildlife}$) (day/kg FW tissue)	Metabolism Factor (MF) unitless	Baseline Concentration in Deer (Cd) (mg/kg FW tissue)
Particulate Matter												
Total Particulate Matter	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	--	--	1.00E+00	--
Particulate Matter (PM10)	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	--	--	1.00E+00	--
Particulate Matter (PM2.5)	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	--	--	1.00E+00	--
Metals												
Aluminum	1.00E+00	2.25E+00	2.60E+01	4.50E-02	8.76E+03	1.00E+00	4.50E+00	4.30E-01	1.50E-03	1.50E-03	1.00E+00	6.82E-01
Antimony	1.00E+00	2.25E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	4.50E+00	5.00E-04	1.00E-03	1.00E-03	1.00E+00	2.45E-03
Arsenic	1.00E+00	2.25E+00	1.07E+00	4.50E-02	3.03E+01	1.00E+00	4.50E+00	6.77E-01	2.00E-03	2.00E-03	1.00E+00	1.36E-02
Barium	1.00E+00	2.25E+00	2.33E+01	4.50E-02	3.88E+01	1.00E+00	4.50E+00	3.60E-03	1.50E-04	1.50E-04	1.00E+00	8.14E-03
Beryllium	1.00E+00	2.25E+00	1.07E+00	4.50E-02	5.00E-01	1.00E+00	4.50E+00	5.00E-04	1.00E-03	1.00E-03	1.00E+00	2.42E-03
Bismuth	1.00E+00	2.25E+00	1.67E-01	4.50E-02	1.00E+00	1.00E+00	4.50E+00	1.00E-03	4.00E-04	4.00E-04	1.00E+00	1.70E-04
Boron	1.00E+00	2.25E+00	1.27E+01	4.50E-02	2.50E+01	1.00E+00	4.50E+00	2.50E-02	8.00E-04	8.00E-04	1.00E+00	2.38E-02
Cadmium	1.00E+00	2.25E+00	2.13E-01	4.50E-02	4.89E-01	1.00E+00	4.50E+00	2.48E-05	1.20E-04	1.20E-04	1.00E+00	6.03E-05
Calcium	1.00E+00	2.25E+00	6.20E+03	4.50E-02	--	1.00E+00	4.50E+00	4.89E+00	7.00E-04	7.00E-04	1.00E+00	--
Chromium Total	1.00E+00	2.25E+00	1.07E+00	4.50E-02	1.30E+01	1.00E+00	4.50E+00	1.30E-03	5.50E-03	5.50E-03	1.00E+00	1.64E-02
Cobalt	1.00E+00	2.25E+00	5.33E-01	4.50E-02	1.98E+00	1.00E+00	4.50E+00	2.00E-04	2.00E-02	2.00E-02	1.00E+00	2.58E-02
Copper	1.00E+00	2.25E+00	7.33E+00	4.50E-02	4.93E+00	1.00E+00	4.50E+00	1.74E-03	1.00E-02	1.00E-02	1.00E+00	1.67E-01
Iron	1.00E+00	2.25E+00	3.20E+01	4.50E-02	1.58E+04	1.00E+00	4.50E+00	1.17E+00	2.00E-02	2.00E-02	1.00E+00	1.58E+01
Lead	1.00E+00	2.25E+00	3.47E-01	4.50E-02	2.48E+01	1.00E+00	4.50E+00	7.62E-04	3.00E-04	3.00E-04	1.00E+00	5.70E-04
Lithium	1.00E+00	2.25E+00	1.13E+00	4.50E-02	8.43E+00	1.00E+00	4.50E+00	--	1.00E-02	1.00E-02	1.00E+00	--
Magnesium	1.00E+00	2.25E+00	3.33E+02	4.50E-02	--	1.00E+00	4.50E+00	8.14E-01	5.00E-03	5.00E-03	1.00E+00	--
Manganese	1.00E+00	2.25E+00	4.20E+02	4.50E-02	8.70E+01	1.00E+00	4.50E+00	8.03E-02	4.00E-04	4.00E-04	1.00E+00	3.80E-01
Mercury, element	1.00E+00	2.25E+00	1.67E-02	4.50E-02	3.18E-01	1.00E+00	4.50E+00	1.36E-04	1.00E+00	1.00E+00	1.00E+00	5.24E-02
Mercury, divalent	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	5.20E-03	5.20E-03	1.00E+00	--
Mercury, methyl	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	7.80E-04	7.80E-04	1.00E+00	--
Molybdenum	1.00E+00	2.25E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	4.50E+00	1.00E-03	6.00E-03	6.00E-03	1.00E+00	1.47E-02
Nickel	1.00E+00	2.25E+00	1.07E+00	4.50E-02	5.81E+00	1.00E+00	4.50E+00	1.00E-03	6.00E-03	6.00E-03	1.00E+00	1.60E-02
Phosphorus	1.00E+00	2.25E+00	1.07E+03	4.50E-02	--	1.00E+00	4.50E+00	5.00E-02	5.50E-02	5.50E-02	1.00E+00	--
Potassium	1.00E+00	2.25E+00	5.73E+03	4.50E-02	--	1.00E+00	4.50E+00	8.04E-01	2.00E-02	2.00E-02	1.00E+00	--
Rubidium	1.00E+00	2.25E+00	--	4.50E-02	5.91E+00	1.00E+00	4.50E+00	--	1.50E-02	1.50E-02	1.00E+00	--
Selenium	1.00E+00	2.25E+00	1.07E+00	4.50E-02	2.08E+00	1.00E+00	4.50E+00	5.00E-04	2.30E-03	2.30E-03	1.00E+00	5.74E-03
Silver	1.00E+00	2.25E+00	2.67E-01	4.50E-02	2.50E-01	1.00E+00	4.50E+00	5.00E-05	3.00E-03	3.00E-03	1.00E+00	1.83E-03
Sodium	1.00E+00	2.25E+00	1.67E+02	4.50E-02	--	1.00E+00	4.50E+00	5.52E+00	5.50E-02	5.50E-02	1.00E+00	--
Strontium	1.00E+00	2.25E+00	1.47E+01	4.50E-02	6.03E+01	1.00E+00	4.50E+00	4.47E-02	3.00E-04	3.00E-04	1.00E+00	1.08E-02
Thallium	1.00E+00	2.25E+00	7.33E-02	4.50E-02	5.00E-02	1.00E+00	4.50E+00	5.00E-05	4.00E-02	4.00E-02	1.00E+00	6.70E-03
Tin	1.00E+00	2.25E+00	8.00E+00	4.50E-02	5.00E-01	1.00E+00	4.50E+00	1.00E-03	1.00E-03	1.00E-03	1.00E+00	1.80E-02
Titanium	1.00E+00	2.25E+00	1.67E+00	4.50E-02	--	1.00E+00	4.50E+00	9.34E-03	3.00E-02	3.00E-02	1.00E+00	--
Uranium	1.00E+00	2.25E+00	5.33E-02	4.50E-02	6.51E-01	1.00E+00	4.50E+00	5.00E-05	2.00E-04	2.00E-04	1.00E+00	2.99E-05
Vanadium	1.00E+00	2.25E+00	1.07E+00	4.50E-02	2.89E+01	1.00E+00	4.50E+00	1.00E-03	2.50E-03	2.50E-03	1.00E+00	9.26E-03
Zinc	1.00E+00	2.25E+00	1.40E+01	4.50E-02	2.64E+01	1.00E+00	4.50E+00	9.76E-03	9.00E-05	9.00E-05	1.00E+00	2.95E-03

Equation: $Cwildlife = F \times Qp_f \times P_f + Qs \times Cs \times Bs + Qw \times Cw \times Ba_{wildlife} \times MF$ where: $Ba_{wildlife} = Ba_{beef}$ refer to Table B-10 for Ba_{beef}

Table B.3

Hare Baseline Concentration Due to Plant and Soil Ingestion
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal (F) (refer to Table B.9) (unitless)	Quantity of Forage Ingested by the Animal per day (1) (Qp_f) (refer to Table B.9) (kg DW/day)	Baseline Concentration in Forage Ingested (P_f) (refer to Table B.1) (mg/kg DW)	Quantity of Soil Ingested by the Animal (Qs) (refer to Table B.9) (kg/day)	Baseline Soil Concentration (Cs) (refer to Table B.1) (mg/kg)	Soil Bioavailability Factor (Bs) (unitless)	Quantity of Surface Water Ingested by the Animal (Qw) (refer to Table B.9) (L/day)	Baseline Surface Water Concentration (Cw) (refer to Table B.1) (mg/L)	Biotransfer Factor for Beef (Ba_{beef}) (refer to Table B.10) (day/kg FW tissue)	Biotransfer Factor for Wildlife ($Ba_{wildlife}$) (day/kg FW tissue)	Metabolism Factor (MF) unitless	Baseline Concentration in Hare (Ch) (mg/kg FW tissue)
Particulate Matter												
Particulate Matter (PM10)	1.00E+00	7.80E-02	--	4.91E-03	--	1.00E+00	1.30E-01	--	--	--	1.00E+00	--
Particulate Matter (PM2.5)	1.00E+00	7.80E-02	--	4.91E-03	--	1.00E+00	1.30E-01	--	--	--	1.00E+00	--
Metals												
Aluminum	1.00E+00	7.80E-02	2.60E+01	4.91E-03	8.76E+03	1.00E+00	1.30E-01	4.30E-01	1.50E-03	1.50E-03	1.00E+00	6.77E-02
Antimony	1.00E+00	7.80E-02	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.30E-01	5.00E-04	1.00E-03	1.00E-03	1.00E+00	8.82E-05
Arsenic	1.00E+00	7.80E-02	1.07E+00	4.91E-03	3.03E+01	1.00E+00	1.30E-01	6.77E-01	2.00E-03	2.00E-03	1.00E+00	6.40E-04
Barium	1.00E+00	7.80E-02	2.33E+01	4.91E-03	3.88E+01	1.00E+00	1.30E-01	3.60E-03	1.50E-04	1.50E-04	1.00E+00	3.02E-04
Beryllium	1.00E+00	7.80E-02	1.07E+00	4.91E-03	5.00E-01	1.00E+00	1.30E-01	5.00E-04	1.00E-03	1.00E-03	1.00E+00	8.57E-05
Bismuth	1.00E+00	7.80E-02	1.67E-01	4.91E-03	1.00E+00	1.00E+00	1.30E-01	1.00E-03	4.00E-04	4.00E-04	1.00E+00	7.22E-06
Boron	1.00E+00	7.80E-02	1.27E+01	4.91E-03	2.50E+01	1.00E+00	1.30E-01	2.50E-02	8.00E-04	8.00E-04	1.00E+00	8.91E-04
Cadmium	1.00E+00	7.80E-02	2.13E-01	4.91E-03	4.89E-01	1.00E+00	1.30E-01	2.48E-05	1.20E-04	1.20E-04	1.00E+00	2.29E-06
Calcium	1.00E+00	7.80E-02	6.20E+03	4.91E-03	--	1.00E+00	1.30E-01	4.89E+00	7.00E-04	7.00E-04	1.00E+00	--
Chromium Total	1.00E+00	7.80E-02	1.07E+00	4.91E-03	1.30E+01	1.00E+00	1.30E-01	1.30E-03	5.50E-03	5.50E-03	1.00E+00	8.10E-04
Cobalt	1.00E+00	7.80E-02	5.33E-01	4.91E-03	1.98E+00	1.00E+00	1.30E-01	2.00E-04	2.00E-02	2.00E-02	1.00E+00	1.03E-03
Copper	1.00E+00	7.80E-02	7.33E+00	4.91E-03	4.93E+00	1.00E+00	1.30E-01	1.74E-03	1.00E-02	1.00E-02	1.00E+00	5.96E-03
Iron	1.00E+00	7.80E-02	3.20E+01	4.91E-03	1.58E+04	1.00E+00	1.30E-01	1.17E+00	2.00E-02	2.00E-02	1.00E+00	1.61E+00
Lead	1.00E+00	7.80E-02	3.47E-01	4.91E-03	2.48E+01	1.00E+00	1.30E-01	7.62E-04	3.00E-04	3.00E-04	1.00E+00	4.47E-05
Lithium	1.00E+00	7.80E-02	1.13E+00	4.91E-03	8.43E+00	1.00E+00	1.30E-01	--	1.00E-02	1.00E-02	1.00E+00	--
Magnesium	1.00E+00	7.80E-02	3.33E+02	4.91E-03	--	1.00E+00	1.30E-01	8.14E-01	5.00E-03	5.00E-03	1.00E+00	--
Manganese	1.00E+00	7.80E-02	4.20E+02	4.91E-03	8.70E+01	1.00E+00	1.30E-01	8.03E-02	4.00E-04	4.00E-04	1.00E+00	1.33E-02
Mercury, element	1.00E+00	7.80E-02	1.67E-02	4.91E-03	3.18E-01	1.00E+00	1.30E-01	1.36E-04	1.00E+00	1.00E+00	1.00E+00	2.88E-03
Mercury, divalent	1.00E+00	7.80E-02	--	4.91E-03	--	1.00E+00	1.30E-01	--	5.20E-03	5.20E-03	1.00E+00	--
Mercury, methyl	1.00E+00	7.80E-02	--	4.91E-03	--	1.00E+00	1.30E-01	--	7.80E-04	7.80E-04	1.00E+00	--
Molybdenum	1.00E+00	7.80E-02	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.30E-01	1.00E-03	6.00E-03	6.00E-03	1.00E+00	5.29E-04
Nickel	1.00E+00	7.80E-02	1.07E+00	4.91E-03	5.81E+00	1.00E+00	1.30E-01	1.00E-03	6.00E-03	6.00E-03	1.00E+00	6.71E-04
Phosphorus	1.00E+00	7.80E-02	1.07E+03	4.91E-03	--	1.00E+00	1.30E-01	5.00E-02	5.50E-02	5.50E-02	1.00E+00	--
Potassium	1.00E+00	7.80E-02	5.73E+03	4.91E-03	--	1.00E+00	1.30E-01	8.04E-01	2.00E-02	2.00E-02	1.00E+00	--
Rubidium	1.00E+00	7.80E-02	--	4.91E-03	5.91E+00	1.00E+00	1.30E-01	--	1.50E-02	1.50E-02	1.00E+00	--
Selenium	1.00E+00	7.80E-02	1.07E+00	4.91E-03	2.08E+00	1.00E+00	1.30E-01	5.00E-04	2.30E-03	2.30E-03	1.00E+00	2.15E-04
Silver	1.00E+00	7.80E-02	2.67E-01	4.91E-03	2.50E-01	1.00E+00	1.30E-01	5.00E-05	3.00E-03	3.00E-03	1.00E+00	6.61E-05
Sodium	1.00E+00	7.80E-02	1.67E+02	4.91E-03	--	1.00E+00	1.30E-01	5.52E+00	5.50E-02	5.50E-02	1.00E+00	--
Strontium	1.00E+00	7.80E-02	1.47E+01	4.91E-03	6.03E+01	1.00E+00	1.30E-01	4.47E-02	3.00E-04	3.00E-04	1.00E+00	4.34E-04
Thallium	1.00E+00	7.80E-02	7.33E-02	4.91E-03	5.00E-02	1.00E+00	1.30E-01	5.00E-05	4.00E-02	4.00E-02	1.00E+00	2.39E-04
Tin	1.00E+00	7.80E-02	8.00E+00	4.91E-03	5.00E-01	1.00E+00	1.30E-01	1.00E-03	1.00E-03	1.00E-03	1.00E+00	6.27E-04
Titanium	1.00E+00	7.80E-02	1.67E+00	4.91E-03	--	1.00E+00	1.30E-01	9.34E-03	3.00E-02	3.00E-02	1.00E+00	--
Uranium	1.00E+00	7.80E-02	5.33E-02	4.91E-03	6.51E-01	1.00E+00	1.30E-01	5.00E-05	2.00E-04	2.00E-04	1.00E+00	1.47E-06
Vanadium	1.00E+00	7.80E-02	1.07E+00	4.91E-03	2.89E+01	1.00E+00	1.30E-01	1.00E-03	2.50E-03	2.50E-03	1.00E+00	5.63E-04
Zinc	1.00E+00	7.80E-02	1.40E+01	4.91E-03	2.64E+01	1.00E+00	1.30E-01	9.76E-03	9.00E-05	9.00E-05	1.00E+00	1.10E-04

Equation: $C_{wildlife} = F \times Qp_f \times P_f + Qs \times Cs \times Bs + Qw \times Cw \times Ba_{wildlife} \times MF$

where: $Ba_{wildlife} = Ba_{beef}$ refer to Table B-10 for Ba_{beef}

Table B.4

Baseline Prey Concentration Due to Terrestrial Invertebrates or Soil Ingestion
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Baseline Soil Concentration (Cs) (refer to Table B.1) (mg/kg)	Baseline Terrestrial Invertebrate Concentration (Cti) (refer to Table B.1) (mg/kg FW)	Baseline Prey Concentration (Cp) (mg/kg FW)
Particulate Matter			
Total Particulate Matter	--	--	--
Particulate Matter (PM10)	--	--	--
Particulate Matter (PM2.5)	--	--	--
Metals			
Aluminum	8.76E+03	4.20E+02	7.37E+01
Antimony	1.00E+00	2.50E-01	4.00E-03
Arsenic	3.03E+01	8.00E+00	4.10E-02
Barium	3.88E+01	2.40E+01	5.76E-02
Beryllium	5.00E-01	2.50E-01	4.00E-03
Bismuth	1.00E+00	--	3.20E-01
Boron	2.50E+01	2.30E+00	8.00E+00
Cadmium	4.89E-01	1.60E+00	6.49E-02
Calcium	--	--	--
Chromium Total	1.30E+01	5.80E-01	4.88E-01
Cobalt	1.98E+00	2.10E-01	8.97E-03
Copper	4.93E+00	1.60E+01	3.10E+00
Iron	1.58E+04	6.00E+02	5.06E+03
Lead	2.48E+01	5.60E-01	1.43E+00
Lithium	8.43E+00	2.50E-01	2.70E+00
Magnesium	--	--	--
Manganese	8.70E+01	1.20E+03	5.71E-01
Mercury, element	3.18E-01	3.50E-02	1.02E-01
Mercury, divalent	--	--	--
Mercury, methyl	--	--	--
Molybdenum	1.00E+00	6.90E-01	3.20E-01
Nickel	5.81E+00	1.10E+00	5.68E-01
Phosphorus	--	--	--
Potassium	--	--	--
Rubidium	5.91E+00	--	1.89E+00
Selenium	2.08E+00	2.50E-01	2.78E-01
Silver	2.50E-01	1.80E+00	3.20E-04
Sodium	--	--	--
Strontium	6.03E+01	1.00E+01	1.93E+01
Thallium	5.00E-02	1.00E-02	1.60E-02
Tin	5.00E-01	2.50E-01	1.60E-01
Titanium	--	--	--
Uranium	6.51E-01	1.00E-02	2.08E-01
Vanadium	2.89E+01	9.30E-01	1.14E-01
Zinc	2.64E+01	7.90E+01	5.14E-03

Note:
The baseline prey concentrations were modelled with uptake factors from the USEPA (2007). An aluminum uptake factor was obtained from Table C.1 in Appendix C of Sample et al. (1998a); the median uptake factor of 0.0263 from this data set was selected.

Table B.5

Baseline Aquatic Plants Concentration Due to Sediment Uptake
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Baseline Sediment Concentration (Csed) (refer to table B.1) (mg/kg)	Baseline Aquatic Plant Concentration (Cap) (1) (mg/kg FW)
Particulate Matter		
Total Particulate Matter	--	--
Particulate Matter (PM10)	--	--
Particulate Matter (PM2.5)	--	--
Metals		
Aluminum	1.50E+04	6.46E+00
Antimony	8.10E+01	3.65E-01
Arsenic	1.10E+05	6.19E+02
Barium	9.60E+01	2.25E+00
Beryllium	1.00E+00	8.78E-02
Bismuth	5.40E+00	8.10E-01
Boron	2.50E+01	3.75E+00
Cadmium	5.60E-01	6.80E-02
Calcium	--	--
Chromium Total	2.40E+01	1.48E-01
Cobalt	1.30E+02	1.46E-01
Copper	3.60E+01	1.20E+00
Iron	1.20E+05	1.80E+04
Lead	1.20E+02	5.83E-01
Lithium	3.10E+01	4.65E+00
Magnesium	--	--
Manganese	4.00E+02	4.74E+00
Mercury, element	1.10E+01	1.65E+00
Mercury, divalent	--	--
Mercury, methyl	--	--
Molybdenum	4.30E+00	6.45E-01
Nickel	2.10E+02	1.55E+00
Phosphorus	--	--
Potassium	--	--
Rubidium	3.90E+01	5.85E+00
Selenium	2.50E+00	2.10E-01
Silver	3.40E+00	7.14E-03
Sodium	--	--
Strontium	2.60E+01	3.90E+00
Thallium	3.00E-01	4.50E-02
Tin	1.40E+00	2.10E-01
Titanium	--	--
Uranium	1.70E+00	2.55E-01
Vanadium	2.70E+01	1.96E-02
Zinc	6.40E+01	7.26E+00

Note:

(1) The baseline aquatic plant concentrations were modelled with equations from the USEPA (2007). Where the equation for aluminum was not available, an uptake factor approach was selected for aluminum, for which the median soil to plant uptake factor of 0.00287 was selected from the dataset summarized in Table D.1 of Appendix D of Bechtel Jacobs (1998).

Table B.6

Summary of Annual Air Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Selected Predicted Annual Air Concentration	Predicted Annual Air Concentrations				Measured Baseline Air Concentration (refer to Tables A.2 and B.1)	Measured and Calculated Baseline Air Concentration (Using Soil Concentration for the Calculated Concentration)	Predicted Dust Concentration (Using Waste Rock Concentration)
	South (Coa) ($\mu g/m^3$)	PA (Coa) ($\mu g/m^3$)	South (Coa) ($\mu g/m^3$)	Employee Accommodations (Coa) ($\mu g/m^3$)	Village (Coa) ($\mu g/m^3$)	(Coa) (mg/m^3)	(Coa) ($\mu g/m^3$)	(Cdust) (mg/kg)
Particulate Matter								
Total Particulate Matter	3.30E+01	2.40E+02	3.30E+01	2.40E+02	2.25E+01	8.12E-03	8.12E+00	--
Particulate Matter (PM10)	8.11E+00	6.05E+01	8.11E+00	6.05E+01	5.67E+00	1.15E-03	1.15E+00	--
Particulate Matter (PM2.5)	8.47E-01	1.57E+01	8.47E-01	1.57E+01	6.65E-01	8.00E-03	8.00E+00	--
Metals								
Antimony	1.57E-05	1.63E-05	1.57E-05	1.63E-05	1.56E-05	1.56E-08	1.56E-05	3.00E+00
Arsenic	3.53E-04	4.33E-04	3.53E-04	4.33E-04	3.48E-04	3.40E-07	3.40E-04	3.90E+02
Barium	8.84E-02	8.85E-02	8.84E-02	8.85E-02	8.84E-02	8.83E-05	8.83E-02	8.10E+02
Beryllium	1.57E-05	1.63E-05	1.57E-05	1.63E-05	1.56E-05	1.56E-08	1.56E-05	3.00E+00
Bismuth	8.13E-06	8.20E-06	8.13E-06	8.20E-06	8.13E-06	--	8.12E-06	3.30E-01
Boron	3.19E-05	3.71E-05	3.19E-05	3.71E-05	3.17E-05	3.11E-08	3.11E-05	2.50E+01
Cadmium	5.62E-05	5.62E-05	5.62E-05	5.62E-05	5.62E-05	5.62E-08	5.62E-05	1.20E-01
Calcium	--	--	--	--	--	--	--	1.30E+04
Chromium Total	1.55E-03	1.58E-03	1.55E-03	1.58E-03	1.55E-03	1.55E-06	1.55E-03	1.11E+02
Chromium VI	--	--	--	--	--	--	--	--
Cobalt	3.17E-05	3.54E-05	3.17E-05	3.54E-05	3.15E-05	3.11E-08	3.11E-05	1.80E+01
Copper	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-04	3.39E-01	3.70E+01
Iron	1.03E-01	1.12E-01	1.03E-01	1.12E-01	1.03E-01	1.02E-04	1.02E-01	4.30E+04
Lead	1.68E-05	2.44E-05	1.68E-05	2.44E-05	1.64E-05	1.56E-08	1.56E-05	3.70E+01
Lithium	7.76E-05	9.02E-05	7.76E-05	9.02E-05	7.70E-05	--	7.56E-05	6.10E+01
Magnesium	--	--	--	--	--	--	--	1.50E+04
Manganese	1.61E-03	1.80E-03	1.61E-03	1.80E-03	1.60E-03	1.58E-06	1.58E-03	9.21E+02
Mercury, element	2.15E-06	2.21E-06	2.15E-06	2.21E-06	2.15E-06	--	2.14E-06	2.64E-01
Mercury, divalent	--	--	--	--	--	--	--	--
Mercury, methyl	--	--	--	--	--	--	--	--
Molybdenum	3.11E-05	3.13E-05	3.11E-05	3.13E-05	3.11E-05	3.11E-08	3.11E-05	8.00E-01
Nickel	1.80E-03	1.81E-03	1.80E-03	1.81E-03	1.80E-03	1.80E-06	1.80E-03	4.10E+01
Phosphorus	--	--	--	--	--	--	--	6.90E+02
Potassium	--	--	--	--	--	--	--	3.20E+04
Rubidium	4.87E-05	4.99E-05	4.87E-05	4.99E-05	4.86E-05	--	4.85E-05	5.97E+00
Selenium	1.21E-05	1.22E-05	1.21E-05	1.22E-05	1.21E-05	--	1.21E-05	3.50E-01
Silver	1.48E-04	1.48E-04	1.48E-04	1.48E-04	1.48E-04	1.48E-07	1.48E-04	5.00E-01
Sodium	--	--	--	--	--	--	--	1.90E+04
Strontium	5.05E-04	5.48E-04	5.05E-04	5.48E-04	5.02E-04	4.98E-07	4.98E-04	2.10E+02
Thallium	9.36E-06	9.52E-06	9.36E-06	9.52E-06	9.35E-06	9.33E-09	9.33E-06	7.90E-01
Tin	1.85E-03	1.85E-03	1.85E-03	1.85E-03	1.85E-03	1.85E-06	1.85E-03	3.00E+00
Titanium	1.39E-03	2.26E-03	1.39E-03	2.26E-03	1.34E-03	1.25E-06	1.25E-03	4.20E+03
Uranium	9.39E-06	9.76E-06	9.39E-06	9.76E-06	9.37E-06	9.33E-09	9.33E-06	1.80E+00
Vanadium	3.14E-04	3.30E-04	3.14E-04	3.30E-04	3.13E-04	3.11E-07	3.11E-04	8.00E+01
Zinc	1.89E-02	1.90E-02	1.89E-02	1.90E-02	1.89E-02	1.89E-05	1.89E-02	1.10E+02

Table B.7

Summary of Annual Predicted Deposition Rates
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Selected Predicted Annual Deposition Rate (Dr) South (g/m^2-yr)	Predicted Annual Deposition Rate (Dr) PA (g/m^2-yr)	South (g/m^2-yr)	Employee Accommodations (g/m^2-yr)	Village (g/m^2-yr)	Creek (g/m^2-yr)
Particulate Matter						
Total Particulate Matter	5.00E+01	7.69E+02	5.00E+01	7.69E+02	8.00E+00	7.69E+02
Particulate Matter (PM10)	0.00E+00	9.49E+01		9.49E+01		9.49E+01
Particulate Matter (PM2.5)	0.00E+00	4.46E-01		4.46E-01		3.33E-01
Metals						
Aluminum	5.00E+00	7.69E+01	5.00E+00	7.69E+01	8.00E-01	7.69E+01
Antimony	1.50E-04	2.31E-03	1.50E-04	2.31E-03	2.40E-05	2.31E-03
Arsenic	1.95E-02	3.00E-01	1.95E-02	3.00E-01	3.12E-03	3.00E-01
Barium	4.05E-02	6.23E-01	4.05E-02	6.23E-01	6.48E-03	6.23E-01
Beryllium	1.50E-04	2.31E-03	1.50E-04	2.31E-03	2.40E-05	2.31E-03
Bismuth	1.65E-05	2.54E-04	1.65E-05	2.54E-04	2.64E-06	2.54E-04
Boron	1.25E-03	1.92E-02	1.25E-03	1.92E-02	2.00E-04	1.92E-02
Cadmium	6.00E-06	9.23E-05	6.00E-06	9.23E-05	9.60E-07	9.23E-05
Calcium	6.50E-01	1.00E+01	6.50E-01	1.00E+01	1.04E-01	1.00E+01
Chromium Total	5.55E-03	8.54E-02	5.55E-03	8.54E-02	8.88E-04	8.54E-02
Cobalt	9.00E-04	1.38E-02	9.00E-04	1.38E-02	1.44E-04	1.38E-02
Copper	1.85E-03	2.85E-02	1.85E-03	2.85E-02	2.96E-04	2.85E-02
Iron	2.15E+00	3.31E+01	2.15E+00	3.31E+01	3.44E-01	3.31E+01
Lead	1.85E-03	2.85E-02	1.85E-03	2.85E-02	2.96E-04	2.85E-02
Lithium	3.05E-03	4.69E-02	3.05E-03	4.69E-02	4.88E-04	4.69E-02
Magnesium	7.50E-01	1.15E+01	7.50E-01	1.15E+01	1.20E-01	1.15E+01
Manganese	4.61E-02	7.09E-01	4.61E-02	7.09E-01	7.37E-03	7.09E-01
Mercury, element	1.32E-05	2.03E-04	1.32E-05	2.03E-04	2.11E-06	2.03E-04
Mercury, divalent	--	--	--	--	--	--
Mercury, methyl	--	--	--	--	--	--
Molybdenum	4.00E-05	6.16E-04	4.00E-05	6.16E-04	6.40E-06	6.16E-04
Nickel	2.05E-03	3.15E-02	2.05E-03	3.15E-02	3.28E-04	3.15E-02
Phosphorus	3.45E-02	5.31E-01	3.45E-02	5.31E-01	5.52E-03	5.31E-01
Potassium	1.60E+00	2.46E+01	1.60E+00	2.46E+01	2.56E-01	2.46E+01
Rubidium	2.99E-04	4.59E-03	2.99E-04	4.59E-03	4.78E-05	4.59E-03
Selenium	1.75E-05	2.69E-04	1.75E-05	2.69E-04	2.80E-06	2.69E-04
Silver	2.50E-05	3.85E-04	2.50E-05	3.85E-04	4.00E-06	3.85E-04
Sodium	9.50E-01	1.46E+01	9.50E-01	1.46E+01	1.52E-01	1.46E+01
Strontium	1.05E-02	1.62E-01	1.05E-02	1.62E-01	1.68E-03	1.62E-01
Thallium	3.95E-05	6.08E-04	3.95E-05	6.08E-04	6.32E-06	6.08E-04
Tin	1.50E-04	2.31E-03	1.50E-04	2.31E-03	2.40E-05	2.31E-03
Titanium	2.10E-01	3.23E+00	2.10E-01	3.23E+00	3.36E-02	3.23E+00
Uranium	9.00E-05	1.38E-03	9.00E-05	1.38E-03	1.44E-05	1.38E-03
Vanadium	4.00E-03	6.16E-02	4.00E-03	6.16E-02	6.40E-04	6.16E-02
Zinc	5.50E-03	8.46E-02	5.50E-03	8.46E-02	8.80E-04	8.46E-02

Table B.8

Predicted Concentrations in Surface Water using GoldSIM software
Anaconda Goldboro
Goldboro, Nova Scotia

		Selected Predicted Surface Water Concentration (Cw)					Gold Brook Lake Surface Water Predicted Concentration (Cw)					Gold Brook Surface Water Predicted Concentration (Cw)					Maximum Surface Water Predicted Concentration (Cw)			
Contaminant	**Units**	**Construction**	**Operations**	**Reclamation**	**Post-Closure**	**Baseline**	**Construction**	**Operations**	**Reclamation**	**Post-Closure**	**Baseline**	**Construction**	**Operations**	**Reclamation**	**Post-Closure**	**Construction**	**Operations**	**Reclamation**	**Post-Closure**
Calculated Parameters																			
Nitrate (N)	mg/L	2.34E-01	4.82E+00	1.45E+00	7.77E-01	6.23E-02	6.23E-02	4.93E+00	1.37E+00	8.62E-01	2.34E-01	2.34E-01	4.82E+00	1.45E+00	7.77E-01	2.34E-01	4.93E+00	1.45E+00	8.62E-01
Inorganics																			
Nitrite (N)	mg/L	1.06E-02	5.94E-02	2.94E-02	6.00E-02	1.59E-02	1.59E-02	6.00E-02	5.84E-02	6.00E-02	1.06E-02	1.06E-02	5.94E-02	2.94E-02	6.00E-02	1.59E-02	6.00E-02	5.84E-02	6.00E-02
Ammonia	mg/L	1.78E-01	6.83E-02	6.95E-02	3.02E-02	6.55E-02	6.55E-02	6.50E-02	6.50E-02	3.35E-02	1.78E-01	1.78E-01	6.83E-02	6.95E-02	3.02E-02				
Un-ionized ammonia	mg/L	6.94E-03	1.87E-02	5.02E-04	1.68E-04	2.55E-03	2.55E-03	1.90E-02	4.38E-04	1.86E-04	6.94E-03	6.94E-03	1.87E-02	5.02E-04	1.68E-04	6.94E-03	1.90E-02	5.02E-04	1.86E-04
Cyanide	mg/L	0.00E+00	4.91E-03	4.51E-03	1.22E-04	0.00E+00	0.00E+00	5.00E-03	5.00E-03	1.35E-04	0.00E+00	0.00E+00	4.91E-03	4.51E-03	1.22E-04	0.00E+00	5.00E-03	5.00E-03	1.35E-04
Total metals																			
Total Aluminum (Al)	mg/L	4.30E-01	1.99E-01	2.66E-01	3.61E-01	5.04E-01	5.04E-01	2.08E-01	2.96E-01	4.00E-01	4.30E-01	4.30E-01	1.99E-01	2.66E-01	3.61E-01	5.04E-01	2.08E-01	2.96E-01	4.00E-01
Total Antimony (Sb)	mg/L	5.00E-04	4.39E-03	3.27E-03	2.20E-03	6.75E-04	6.75E-04	4.51E-03	3.54E-03	2.26E-03	5.00E-04	5.00E-04	4.39E-03	3.27E-03	2.20E-03	6.75E-04	4.51E-03	3.54E-03	2.26E-03
Total Arsenic (As)	mg/L	6.77E-01	5.48E-02	5.21E-02	5.12E-02	6.18E-02	6.18E-02	5.54E-02	5.54E-02	5.33E-02	6.77E-01	6.77E-01	5.48E-02	5.21E-02	5.12E-02	6.77E-01	5.54E-02	5.54E-02	5.33E-02
Total Barium (Ba)	mg/L	3.60E-03	7.09E-03	7.05E-03	5.73E-03	3.37E-03	3.37E-03	7.17E-03	7.48E-03	6.12E-03	3.60E-03	3.60E-03	7.09E-03	7.05E-03	5.73E-03	3.60E-03	7.17E-03	7.48E-03	6.12E-03
Total Beryllium (Be)	mg/L	5.00E-04	4.61E-04	4.71E-04	4.76E-04	6.75E-04	6.75E-04	4.68E-04	5.17E-04	5.15E-04	5.00E-04	5.00E-04	4.61E-04	4.71E-04	4.76E-04	6.75E-04	4.68E-04	5.17E-04	5.15E-04
Total Bismuth (Bi)	mg/L	--	--	--	--	1.00E-03	--	--	--	--	1.00E-03	--	--	--	--	--	--	--	--
Total Boron (B)	mg/L	--	--	--	--	2.50E-02	--	--	--	--	2.50E-02	--	--	--	--	--	--	--	--
Total Cadmium (Cd)	mg/L	2.48E-05	1.98E-05	2.41E-05	3.70E-05	3.72E-05	3.72E-05	1.98E-05	2.53E-05	4.00E-05	2.48E-05	2.48E-05	1.98E-05	2.41E-05	3.70E-05	3.72E-05	1.98E-05	2.53E-05	4.00E-05
Total Calcium (Ca)	mg/L	--	--	--	--	7.54E-01	--	--	--	--	4.89E+00	--	--	--	--	--	--	--	--
Total Chromium (Cr)	mg/L	1.30E-03	8.58E-04	6.87E-04	8.60E-04	5.00E-04	5.00E-04	8.66E-04	7.18E-04	9.28E-04	1.30E-03	1.30E-03	8.58E-04	6.87E-04	8.60E-04	1.30E-03	8.66E-04	7.18E-04	9.28E-04
Total Cobalt (Co)	mg/L	2.00E-04	9.91E-04	9.35E-04	9.61E-04	3.05E-04	3.05E-04	1.00E-03	1.00E-03	1.00E-03	2.00E-04	2.00E-04	9.91E-04	9.35E-04	9.61E-04	3.05E-04	1.00E-03	1.00E-03	1.00E-03
Total Copper (Cu)	mg/L	1.74E-03	1.96E-03	1.86E-03	9.20E-04	1.00E-03	1.00E-03	1.99E-03	2.00E-03	1.01E-03	1.74E-03	1.74E-03	1.96E-03	1.86E-03	9.20E-04	1.74E-03	1.99E-03	2.00E-03	1.01E-03
Total Iron (Fe)	mg/L	1.17E+00	3.55E-01	4.55E-01	4.28E-01	6.98E-01	6.98E-01	3.59E-01	4.99E-01	4.78E-01	1.17E+00	1.17E+00	3.55E-01	4.55E-01	4.28E-01	1.17E+00	3.59E-01	4.99E-01	4.78E-01
Total Lead (Pb)	mg/L	7.62E-04	8.22E-04	7.06E-04	9.27E-04	9.70E-04	9.70E-04	8.18E-04	7.14E-04	1.00E-03	7.62E-04	7.62E-04	8.22E-04	7.06E-04	9.27E-04	9.70E-04	8.22E-04	7.14E-04	1.00E-03
Total Lithium (Li)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Magnesium (Mg)	mg/L	--	--	--	--	6.40E-01	--	--	--	--	8.14E-01	--	--	--	--	--	--	--	--
Total Manganese (Mn)	mg/L	8.03E-02	7.56E-02	4.92E-02	1.19E-01	2.55E-02	2.55E-02	7.75E-02	5.24E-02	1.28E-01	8.03E-02	8.03E-02	7.56E-02	4.92E-02	1.19E-01	8.03E-02	7.75E-02	5.24E-02	1.28E-01
Total Mercury (Hg)	mg/L	1.36E-04	6.88E-06	7.05E-06	9.69E-06	1.03E-05	1.03E-05	6.92E-06	7.59E-06	1.06E-05	1.36E-04	1.36E-04	6.88E-06	7.05E-06	9.69E-06	1.36E-04	6.92E-06	7.59E-06	1.06E-05
Total Mercury, divalent (Hg2+)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Mercury, methyl (MeHg)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Molybdenum (Mo)	mg/L	--	--	--	--	1.00E-03	--	--	--	--	1.00E-03	--	--	--	--	--	--	--	--
Total Nickel (Ni)	mg/L	1.00E-03	1.42E-02	6.10E-03	1.13E-02	1.00E-03	1.00E-03	1.46E-02	6.39E-03	1.18E-02	1.00E-03	1.00E-03	1.42E-02	6.10E-03	1.13E-02	1.00E-03	1.46E-02	6.39E-03	1.18E-02
Total Phosphorus (P)	mg/L	--	--	--	--	5.00E-02	--	--	--	--	5.00E-02	--	--	--	--	--	--	--	--
Total Potassium (K)	mg/L	--	--	--	--	3.78E-01	--	--	--	--	8.04E-01	--	--	--	--	--	--	--	--
Total Rubidium (Rb)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Selenium (Se)	mg/L	5.00E-04	4.88E-04	4.68E-04	5.58E-04	5.00E-04	5.00E-04	4.95E-04	5.00E-04	6.06E-04	5.00E-04	5.00E-04	4.88E-04	4.68E-04	5.58E-04	5.00E-04	4.95E-04	5.00E-04	6.06E-04
Total Silver (Ag)	mg/L	5.00E-05	7.90E-05	7.04E-05	7.48E-05	5.00E-05	5.00E-05	8.10E-05	7.64E-05	8.04E-05	5.00E-05	5.00E-05	7.90E-05	7.04E-05	7.48E-05	5.00E-05	8.10E-05	7.64E-05	8.04E-05
Total Sodium (Na)	mg/L	--	--	--	--	4.71E+00	--	--	--	--	5.52E+00	--	--	--	--	--	--	--	--
Total Strontium (Sr)	mg/L	--	--	--	--	9.48E-03	--	--	--	--	4.47E-02	--	--	--	--	--	--	--	--
Total Thallium (Tl)	mg/L	5.00E-05	7.31E-05	6.61E-05	8.48E-05	5.00E-05	5.00E-05	7.47E-05	7.11E-05	9.14E-05	5.00E-05	5.00E-05	7.31E-05	6.61E-05	8.48E-05	5.00E-05	7.47E-05	7.11E-05	9.14E-05
Total Tin (Sn)	mg/L	--	--	--	--	1.00E-03	--	--	--	--	1.00E-03	--	--	--	--	--	--	--	--
Total Titanium (Ti)	mg/L	--	--	--	--	8.75E-03	--	--	--	--	9.34E-03	--	--	--	--	--	--	--	--
Total Uranium (U)	mg/L	5.00E-05	9.50E-04	8.52E-04	5.76E-04	6.75E-05	6.75E-05	9.77E-04	9.26E-04	5.97E-04	5.00E-05	5.00E-05	9.50E-04	8.52E-04	5.76E-04	6.75E-05	9.77E-04	9.26E-04	5.97E-04
Total Vanadium (V)	mg/L	1.00E-03	2.12E-03	1.49E-03	2.01E-03	1.00E-03	1.00E-03	2.16E-03	1.56E-03	2.14E-03	1.00E-03	1.00E-03	2.12E-03	1.49E-03	2.01E-03	1.00E-03	2.16E-03	1.56E-03	2.14E-03
Total Zinc (Zn)	mg/L	9.76E-03	7.28E-03	7.18E-03	7.27E-03	1.18E-02	1.18E-02	6.90E-03	6.86E-03	8.11E-03	9.76E-03	9.76E-03	7.28E-03	7.18E-03	7.27E-03	1.18E-02	7.28E-03	7.18E-03	8.11E-03

Table B.9

Physical Properties and Constants
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Symbol	Unit	Value	Reference
General Parameters				
Deposition Time Period, Construction	tD	(yr)	2	Project length
Deposition Time Period, Operation	tD	(yr)	13	Project length
Deposition Time Period, Reclamation	tD	(yr)	16	Project length
Deposition Time Period, Post-Closure	tD	(yr)	16	Project length
Time Period at Start of Combustion	T_1	(yr)	0	USEPA, 2005
Soil Mixing Zone Depth (untilled)	Z_s	(cm)	2	USEPA, 2005
Soil Mixing Zone Depth (tilled)	Z_s	(cm)	20	USEPA, 2005
Soil Bulk Density	BD	(g/cm^3)	1.5	USEPA, 2005
Average Annual Surface Runoff	RO	(cm/yr)	78.92	GHD Water Balance
Soil Volume Water Content	θ_{sw}	(ml/cm^3)	0.2	USEPA, 2005
Average Annual Precipitation	P	(cm/yr)	140.92	GHD Water Balance
Average Annual Evapotranspiration	E_v	(cm/yr)	44.68	GHD Water Balance
Average Annual Recharge	q	(cm/yr)	17.32	GHD Water Balance
Universal Gas Constant	R	($atm\text{-}m^3/mol\text{-}K$)	8.21E-05	USEPA, 2005
Ambient Air Temperature	T_a	(K)	279.75	Stillwater Sherbrooke Station, Annual Mean
Solids Particle Density	ρ_s	(g/cm^3)	2.7	USEPA, 2005
COC loss, biotic and abiotic degradation	ksg	(yr^{-1})	0	USEPA, 2005
COC loss, soil erosion	kse	(yr^{-1})	0	USEPA, 2005
Solid Void Fraction	θ_v	(cm^3/cm^3)	0.17	USEPA, 2005
Soil Enrichment Ratio	ER	-	1	USEPA, 2005
Hydrology Parameters				
Water body surface area	A_W	(m^2)	2.95E+05	Surface area of Gold Brook, 6.2 m mean transect width (McCallum) by 3 km
Drag coefficient	C_d	-	1.10E-03	USEPA, 2005
Average annual wind speed	W	(m/s)	3.90E+00	USEPA, 2005
Density of air	ρ_a	(g/cm^3)	1.20E-03	USEPA, 2005
Density of water	ρ_w	(g/cm^3)	1.00E+00	USEPA, 2005
von Karman's constant	k	-	4.00E-01	USEPA, 2005
Dimensionless viscous sublayer thickness	λ_z	-	4.00E+00	USEPA, 2005
Viscosity of water corresponding to water temperature	μ_w	(g/cm-s)	1.69E-02	USEPA, 2005
Impervious watershed area receiving COPC	A_I	(m^2)	2.95E+05	Assumption: water body is only impervious area
Total watershed area receiving COPC	A_L	(m^2)	3.79E+06	Watershed area, Gold Brook GB6 minus Lake
Total watershed area receiving COPC	A_L	(sq miles)	1.46E+00	GHD Water Balance
Depth of Water Column	d_{wc}	(m)	2.79E-01	Mean of maximum depths along Gold Brook (McCallum)
USLE erodibility factor	K	(ton/acre)	3.90E-01	USEPA, 2005
USLE rainfall factor	RF	(yr^{-1})	153.4	Table R-2 of RUSLEFAC
USLE length slope factor	LS	-	1.5	USEPA, 2005
Average volumetric flow rate through water body	Vf_x	(m^3/yr)	1.25E+07	GHD Water Balance
Current velocity	μ	(m/s)	2.76E-01	Mean of maximum velocities along Gold Brook (McCallum)
USLE cover management factor	C	-	0.1	USEPA, 2005
USLE Supporting practice factor	P	-	1	USEPA, 2005
Empirical Intercept Coefficient	a	-	1.4	USEPA, 2005
Empirical Slope Coefficient	b	-	0.125	USEPA, 2005
Gas phase transfer coefficient	KG	(m/yr)	36500	USEPA, 2005
Depth of Upper Benthic Sediment Layer	d_{bs}	(m)	0.03	USEPA, 2005
Total Suspended Solids	TSS	mg/L	10	USEPA, 2005
Bed Sediment Concentration	C_{BS}	(kg/L)	1	USEPA, 2005
Bed Sediment Porosity	θ_{bs}	(Lwat/Lsed)	0.6	USEPA, 2005
Fraction of Organic Carbon in Bed Sediment	OC_{sed}	-	0.07	(4)
Water Body Temperature	T_{WK}	(K)	282.55	(5)
Average Annual Surface Runoff Pervious Areas	RO	(cm/yr)	78.92	GHD Water Balance
Vegetation Uptake Parameters				
Fraction Wet Deposition Adhere to Plant	Fw	-	0.6	USEPA, 2005
Interception Fraction Edible Plant Portion - Vegetable	Rp	-	0.982	USEPA, 2005
Interception Fraction Edible Plant Portion - Fruit	Rp	-	0.053	USEPA, 2005
Interception Fraction Edible Plant Portion - Forage	Rp	-	0.5	USEPA, 2005
Interception Fraction Edible Plant Portion - Silage	Rp	-	0.46	USEPA, 2005
Plant Surface Loss Coefficient	kp	(yr^{-1})	18	USEPA, 2005
Length of Plant Exposure to Deposition per Harvest of Edible Plant	Tp	(yrs)	0.164	USEPA, 2005
Length of Plant Exposure to Deposition per Harvest of Edible Plant - Forage	Tp	(yrs)	0.12	USEPA, 2005
Length of Plant Exposure to Deposition per Harvest of Edible Plant - Silage	Tp	(yrs)	0.16	USEPA, 2005
Yield of Edible Portion of Plant - Vegetable	Yp	($kg\ DW/m^2$)	5.66	USEPA, 2005
Yield of Edible Portion of Plant - Fruit	Yp	($kg\ DW/m^2$)	0.252	USEPA, 2005
Yield of Edible Portion of Plant - Forage	Yp	($kg\ DW/m^2$)	0.325	USEPA, 2005
Yield of Edible Portion of Plant - Silage	Yp	($kg\ DW/m^2$)	0.8	USEPA, 2005
Density of Air	pa	(g/m^3)	1200	USEPA, 2005
Correction Factor for Aboveground Produce	VG_{ag}	-	1	USEPA, 2005
Correction Factor for Forage	VG_{ag}	-	1	USEPA, 2005
Correction Factor for Silage	VG_{ag}	-	0.5	USEPA, 2005
Correction Factor for Belowground Produce	$VG_{rootveg}$	-	1	USEPA, 2005
Terrestrial Plant Moisture Content		-	0.85	
Soil Invertebrate (Earthworm) Moisture Content		-	0.84	
Prey (Small Mammal) Moisture Content		-	0.68	
Aquatic Plant Moisture Content		-	0.85	
Benthic Invertebrate Moisture Content		-	0.79	
Crops Uptake Parameters				
Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal	F	-	1	USEPA, 2005
Soil Bioavailability Factor	Bs	-	1	USEPA, 2005

Table B.9

Physical Properties and Constants
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Symbol	Unit	Value	Reference
Metabolism Factor	MF	-	1	USEPA, 2005
Quantity of Forage Ingested by the Animal per day - Cattle	Qp_f	(kg DW/day)	8.8	USEPA, 2005
Quantity of Silage Ingested by the Animal per day - Cattle	Qp_s	(kg DW/day)	2.5	USEPA, 2005
Quantity of Grain Ingested by the Animal per day - Cattle	Qp_g	(kg DW/day)	0.47	USEPA, 2005
Quantity of Soil Ingested by the Animal per day - Cattle	Qs	(kg/day)	0.5	USEPA, 2005
Quantity of Forage Ingested by the Animal per day - Dairy Cattle	Qp_f	(kg DW/day)	13.2	USEPA, 2005
Quantity of Silage Ingested by the Animal per day - Dairy Cattle	Qp_s	(kg DW/day)	4.1	USEPA, 2005
Quantity of Grain Ingested by the Animal per day - Dairy Cattle	Qp_g	(kg DW/day)	3	USEPA, 2005
Quantity of Soil Ingested by the Animal per day - Dairy Cattle	Qs	(kg/day)	0.4	USEPA, 2005
Quantity of Silage Ingested by the Animal per day - Swine	Qp_s	(kg DW/day)	1.4	USEPA, 2005
Quantity of Grain Ingested by the Animal per day - Swine	Qp_g	(kg DW/day)	3.3	USEPA, 2005
Quantity of Soil Ingested by the Animal per day - Swine	Qs	(kg/day)	0.37	USEPA, 2005
Quantity of Grain Ingested by the Animal per day - Eggs/ Chicken	Qp_g	(kg DW/day)	0.2	USEPA, 2005
Quantity of Soil Ingested by the Animal per day - Eggs/ Chicken	Qs	(kg/day)	0.022	USEPA, 2005
Quantity of Forage Ingested by the Animal per day - White Tailed Deer	Qp_f	(kg DW/day)	2.25	FCSAP, 2012
Quantity of Soil Ingested by the Animal per day - White Tailed Deer	Qs	(kg/day)	0.05	FCSAP, 2012
Quantity of Water Ingested by the Animal per day - White Tailed Deer	Qw	(L/day)	4.50	FCSAP, 2012
Quantity of Forage Ingested by the Animal per day - Snowshoe Hare	Qp_f	(kg DW/day)	0.08	FCSAP, 2012
Quantity of Soil Ingested by the Animal per day - Snowshoe Hare	Qs	(kg/day)	0.005	FCSAP, 2012
Quantity of Water Ingested by the Animal per day - Snowshoe Hare	Qw	(L/day)	0.13	FCSAP, 2012

Notes:

(1) Conservatively assumed to 2.5 cm/yr.
(2) Conservatively assumed to 5 cm/yr.
(3) Converted from temperature of 7.4°C.
(4) Based on Lake Ontario sediments.
(5) Converted from average temperature of 9.4°C. Based on data from Ganaraska River during April to October 2011,
Available at http://www.ontario.ca/environment-and-energy/provincial-stream-water-quality-monitoring-network-pwqmn-data.
(6) Based on Environment Canada climate normals for Port Hope (P = 832 mm yearly precipitation).
RO = P - (0.15) P - Ev
= 0.85 P - Ev
where Evapotranspiration (Ev) = 61 cm/year; National Atlas of Canada, Available at
http://atlas.nrcan.gc.ca/site/english/maps/archives/4thedition/environment/climate/049_50
(7) Qp_f for wildgame value not directly available in the preferred sources was calculated for a whitetailed doe using the following equation derived by Nagy (1987) consistent with USEPA (1993):
Qp_f = (0.577 x BW^0.727) / 1,000
where whitetailed doe BW = 60,000 g (Alberta Government, 2009)
(8) The percent soil in the diet for the Whitetailed deer was assumed as 2% of diet (quantity of forage ingested) as estimated by Beyer et al. (1994). Although Beyer et al. (1994) estimated a value of less than 2%, a value of 2% was used here as a conservative approach.

References:

Beyer, W.N., S. Gerould and E.E. Connor. 1994. Estimates of Soil Ingestion by Wildlife. Journal of Wildlife Management, 58, 375 382.
MOE, 2011: Rationale for the Development of Soil and Ground Water Standards for Use at Contaminated Sites in Ontario, April 15, 2011.
Nagy, K.A. 1987. Field metabolic rate and food requirement scaling in mammals and birds. Ecological Monographs 57: 111 128.
USEPA, 2005: Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities, EPA/530-R-05-006, September 2005.
USEPA, 1993: Wildlife Exposure Factors Handbook. U.S. Environmental Protection Agency, Washington, D.C., EPA/600/R-93/187, December 1993.

Table B.10

Summary of Chemical Properties [1]

Anaconda Goldboro

Goldboro, Nova Scotia

Contaminant	Henry's Law Constant (H) (atm-m³/mol)	Reference	Diffusivity of COPC in Air (Da) (cm²/s)	Reference	Diffusivity of COPC in Water (Dw) (cm²/s)	Reference	Soil-water Partition Coefficient (Kds) (mL/g)	Reference	Suspended Sediments - Surface Water Partition Coefficient (Kdsw) (L/kg)	Reference	Bed Sediments - Sediment Pore Water Partition Coefficient (Kdbs) (L/kg)	Reference	Organic Carbon Water Partition Coefficient (Koc) (mL/g)	Reference	Octanol Water Partition Coefficient (log Kow) -	Reference	Fraction of Air Concentration in Vapour Phase (Fv) -	Reference	Air to Plant Biotransfer Factor (Bv_{ag}) mg/kg)/(µg/g	Reference	Soil to Plant Bioconcentration Factor for Aboveground Produce (Br_{ag}) (µg/g)/(µg/g)	Reference	Soil to Plant Bioconcentration Factor for Aboveground Fruits ($Br_{aq(fruit)}$) (µg/g)/(µg/g)	Soil to Plant Bioconcentration Factor for Aboveground Vegetables ($Br_{aq(veg)}$) (µg/g)/(µg/g)	Soil to plant Bioconcentration Factor for Belowground Vegetables ($Br_{rootveg}$) (µg/g)/(µg/g)	Reference	Soil to plant Bioconcentration Factor for forage (Br_{forage}) (µg/g)/(µg/g)	Reference	Biotransfer Factor for Beef (Ba_{beef}) (day/kg FW)	Reference	Water to Fish Bioconcentration/ Bioaccumulation Factor (BCF/BAF) (L/kg)	Reference
Particulate Matter																																	
Total Particulate Matter	--		--		--		--		--		--		--		--		--		--		--				--		--		--		--		
Particulate Matter (PM10)	--		--		--		--		--		--		--		--		--		--		--				--		--		--		--		
Particulate Matter (PM2.5)	--		--		--		--		--		--		--		--		--		--		--				--		--		--		--		
Metals																																	
Antimony	--		--		--		4.50E+01	USEPA	4.50E+01	USEPA	4.50E+01	USEPA	--		--		0.00E+00		--		5.16E-02	USEPA	3.00E-02	7.25E-02	3.00E-02	USEPA	2.00E-01	USEPA	1.00E-03	USEPA	4.00E+01	USEPA
Arsenic	--		--		--		2.90E+01	USEPA	2.90E+01	USEPA	2.90E+01	USEPA	--		--		0.00E+00		--		6.30E-03	USEPA			8.00E-03	USEPA	3.60E-02	USEPA	2.00E-03	USEPA	1.14E+02	USEPA
Barium	--		--		--		4.10E+01	USEPA	4.10E+01	USEPA	4.10E+01	USEPA	--		--		0.00E+00		--		3.22E-02	USEPA	1.50E-02	4.88E-02	1.50E-02	USEPA	1.50E-01	USEPA	1.50E-04	USEPA	6.33E+02	USEPA
Beryllium	--		--		--		7.90E+02	USEPA	7.90E+02	USEPA	7.90E+02	USEPA	--		--		0.00E+00		--		2.58E-03	USEPA	1.50E-03	3.63E-03	1.50E-03	USEPA	1.00E-02	USEPA	1.00E-03	USEPA	6.20E+01	USEPA
Bismuth	--		--		--		--		--		--		--		--		0.00E+00		--		8.81E-03	(17)	5.00E-03	1.25E-02	5.00E-03	(16)	3.50E-02	(15)	4.00E-04	Baes et al.	--	
Boron	--		--		--		3.00E+00	RAIS	3.00E+00	RAIS	3.00E+00	RAIS	--		--		0.00E+00		--		2.25E+00	(17)	2.00E+00	2.50E+00	2.00E+00	(16)	4.00E+00	(15)	8.00E-04	RAIS	--	
Cadmium	--		--		--		7.50E+01	USEPA	7.50E+01	USEPA	7.50E+01	USEPA	--		--		0.00E+00		--		1.20E-01	USEPA			6.40E-02	USEPA	3.60E-01	USEPA	1.20E-04	USEPA	9.07E+02	USEPA
Calcium	--		--		--		--		--		--		--		--		0.00E+00		--		7.50E-01	(17)	3.50E-01	1.14E+00	3.50E-01	(16)	3.50E+00	(15)	7.00E-04	Baes et al.	--	
Chromium Total	--		--		--		1.90E+01	USEPA	1.90E+01	USEPA	1.90E+01	USEPA	--		--		0.00E+00		--		4.88E-03	USEPA	4.50E-03	5.25E-03	4.50E-03	USEPA	7.50E-03	USEPA	5.50E-03	USEPA	1.90E+01	USEPA
Cobalt	--		--		--		4.50E+01	RAIS	4.50E+01	RAIS	4.50E+01	RAIS	--		--		0.00E+00		--		8.65E-03	(17)	7.00E-03	1.03E-02	7.00E-03	(16)	2.00E-02	(15)	2.00E-02	RAIS	3.00E+02	RAIS
Copper	--		--		--		3.50E+01	RAIS	3.50E+01	RAIS	3.50E+01	RAIS	--		--		0.00E+00		--		2.69E-01	(17)	2.50E-01	2.88E-01	2.50E-01	(16)	4.00E-01	(15)	1.00E-02	RAIS	2.00E+02	RAIS
Iron	--		--		--		2.50E+01	RAIS	2.50E+01	RAIS	2.50E+01	RAIS	--		--		0.00E+00		--		1.38E-03	(17)	1.00E-03	1.75E-03	1.00E-03	(16)	4.00E-03	(15)	2.00E-02	RAIS	2.00E+02	RAIS
Lead	--		--		--		9.00E+02	USEPA	9.00E+02	USEPA	9.00E+02	USEPA	--		--		0.00E+00		--		1.36E-02	USEPA	9.00E-03	1.80E-02	9.00E-03	USEPA	4.50E-02	USEPA	3.00E-04	USEPA	9.00E-02	USEPA
Lithium	--		--		--		3.00E+02	RAIS	3.00E+02	RAIS	3.00E+02	RAIS	--		--		0.00E+00		--		6.67E-03	(17)	4.00E-03	9.25E-03	4.00E-03	(16)	2.50E-02	(15)	1.00E-02	RAIS	--	
Magnesium	--		--		--		--		--		--		--		--		0.00E+00		--		6.07E-01	(17)	5.50E-01	6.63E-01	5.50E-01	(16)	1.00E+00	(15)	5.00E-03	RAIS	--	
Manganese	--		--		--		6.50E+01	RAIS	6.50E+01	RAIS	6.50E+01	RAIS	--		--		0.00E+00		--		7.54E-02	(17)	5.00E-02	1.00E-01	5.00E-02	(16)	2.50E-01	(15)	4.00E-04	RAIS	4.00E+02	RAIS
Mercury, element	1.15E-02	MOE	3.07E-02	MOE	6.30E-06	MOE	3.30E+03	(3)	4.95E+04	(3)	2.64E+04	(3)	6.60E+05	MOE	6.20E-01	MOE	1.00E+00	USEPA	1.00E+00	USEPA	0.00E+00	USEPA			0.00E+00	USEPA	0.00E+00	USEPA	1.00E+00	USEPA	0.00E+00	USEPA
Mercury, divalent (2)	7.10E-10	USEPA	4.50E-02	USEPA	5.20E-06	USEPA	3.30E+03	(3)	4.95E+04	(3)	2.64E+04	(3)	6.60E+05	MOE	6.20E-01	MOE	8.50E-01	USEPA	1.80E+03	USEPA	1.40E-02	USEPA			3.60E-02	USEPA	1.00E+00	USEPA	5.20E-03	USEPA	1.00E+00	USEPA
Mercury, methyl	7.22E-03	USEPA	5.30E-02	USEPA	6.10E-06	USEPA	2.00E+01	(3)	3.00E+02	(3)	1.60E+02	(3)	4.00E+03	MOE	8.00E-02	MOE	0.00E+00	USEPA	1.00E+00	USEPA	2.90E-02	USEPA			9.90E-02	USEPA	1.00E+00	USEPA	7.80E-04	USEPA	6.80E+06	USEPA
Molybdenum	--		--		--		2.00E+01	RAIS	2.00E+01	RAIS	2.00E+01	RAIS	--		--		0.00E+00		--		8.42E-02	(17)	6.00E-02	1.08E-01	6.00E-02	(16)	2.50E-01	(15)	6.00E-03	RAIS	1.00E+01	RAIS
Nickel	--		--		--		6.50E+01	USEPA	6.50E+01	USEPA	6.50E+01	USEPA	--		--		0.00E+00		--		9.30E-03	USEPA			8.00E-03	USEPA	3.20E-02	USEPA	6.00E-03	USEPA	7.80E+01	USEPA
Phosphorus	--		--		--		3.50E+00	RAIS	3.50E+00	RAIS	3.50E+00	RAIS	--		--		0.00E+00		--		3.50E+00	(17)	3.50E+00	3.50E+00	3.50E+00	(16)	3.50E+00	(15)	5.50E-02	RAIS	--	
Potassium	--		--		--		5.50E+00	RAIS	5.50E+00	RAIS	5.50E+00	RAIS	--		--		0.00E+00		--		6.07E-01	(17)	5.50E-01	6.63E-01	5.50E-01	(16)	1.00E+00	(15)	2.00E-02	RAIS	--	
Rubidium	--		--		--		--		--		--		--		--		0.00E+00		--		1.00E+00	Default			1.00E+00	Default	1.00E+00	Default	1.50E-02	Baes et al.	--	
Selenium	--		--		--		5.00E+00	USEPA	5.00E+00	USEPA	5.00E+00	USEPA	--		--		0.00E+00		--		2.00E-02	USEPA			2.20E-02	USEPA	1.60E-02	USEPA	2.30E-03	USEPA	1.29E+02	USEPA
Silver	--		--		--		8.30E+00	USEPA	8.30E+00	USEPA	8.30E+00	USEPA	--		--		0.00E+00		--		1.38E-01	USEPA	1.00E-01	1.75E-01	1.00E-01	USEPA	4.00E-01	USEPA	3.00E-03	USEPA	8.77E+01	USEPA
Sodium	--		--		--		1.00E+02	RAIS	1.00E+02	RAIS	1.00E+02	RAIS	--		--		0.00E+00		--		5.75E-02	(17)	5.50E-02	6.00E-02	5.50E-02	(16)	7.50E-02	(15)	5.50E-02	RAIS	2.00E+01	RAIS
Strontium	--		--		--		3.50E+01	RAIS	3.50E+01	RAIS	3.50E+01	RAIS	--		--		0.00E+00		--		5.36E-01	(17)	2.50E-01	8.13E-01	2.50E-01	(16)	2.50E+00	(15)	3.00E-04	RAIS	6.00E+01	RAIS
Thallium	--		--		--		7.10E+01	USEPA	7.10E+01	USEPA	7.10E+01	USEPA	--		--		0.00E+00		--		8.58E-04	USEPA	4.00E-04	1.30E-03	4.00E-04	USEPA	4.00E-03	USEPA	4.00E-02	USEPA	1.00E+04	RAIS
Tin	--		--		--		2.50E+02	RAIS	2.50E+02	RAIS	2.50E+02	RAIS	--		--		0.00E+00		--		9.05E-03	(17)	6.00E-03	1.20E-02	6.00E-03	(16)	3.00E-02	(15)	1.00E-03	RAIS	3.00E+03	RAIS
Titanium	--		--		--		1.00E+03	RAIS	1.00E+03	RAIS	1.00E+03	RAIS	--		--		0.00E+00		--		3.32E-03	(17)	3.00E-03	3.63E-03	3.00E-03	(16)	5.50E-03	(15)	3.00E-02	RAIS	--	
Uranium	--		--		--		4.50E+02	RAIS	4.50E+02	RAIS	4.50E+02	RAIS	--		--		0.00E+00		--		1.00E+00	Default			1.00E+00	Default	1.00E+00	Default	2.00E-04	Baes et al.	--	
Vanadium	--		--		--		1.00E+03	RAIS	1.00E+03	RAIS	1.00E+03	RAIS	--		--		0.00E+00		--		3.32E-03	(17)	3.00E-03	3.63E-03	3.00E-03	(16)	5.50E-03	(15)	2.50E-03	RAIS	--	
Zinc	--		--		--		6.20E+01	USEPA	6.20E+01	USEPA	6.20E+01	USEPA	--		--		0.00E+00		--		9.70E-02	USEPA			9.00E-01	USEPA	2.50E-01	USEPA	9.00E-05	USEPA	2.06E+03	USEPA

Table B.10

Summary of Chemical Properties [1]

Anaconda Goldboro

Goldboro, Nova Scotia

Notes:

(1) Order of selection for chemical-specific properties:

1. MOE
2. RSL
3. USEPA or RAIS
4. Other

(2) When there was a lack of available data, the following were used as surrogates:

COPC		Surrogate
Mercury, divalent	-	Mercuric chloride
Benzo(a)fluorene	-	Benzo(a)pyrene
Benzo(b)fluorene	-	Benzo(a)pyrene
Benzo(e)pyrene	-	Benzo(a)pyrene
Benzo(g,h,i)perylene	-	Benzo(a)pyrene
Dibenzo(a,c)anthracene	-	Benzo(a)pyrene
Perylene	-	Benzo(a)pyrene
O-Terphenyl	-	Benzo(a)pyrene

(3) Kd values calculated using the following fraction organic carbon (foc) correlation equation A-2-10 provided in Appendix A-2, USEPA (2005):

Kds = foc x Koc; where foc = 5.00E-03 (MOE, 2011)

Kdsw = foc x Koc; where foc = 7.50E-02 (USEPA, 2005)

Kdbs = foc x Koc; where foc = 4.00E-02 (USEPA, 2005)

(4) Due to a lack of available data, assumed value of 1.

(5) Bv_{ag} values not directly available in the preferred sources were calculated using the following equation A-2-20 provided in Appendix A-2, USEPA (2005):

$$Bv_{ag} = \frac{P_{air} \times B_{vol}}{(1-f_{water}) \times P_{forage}}$$

where: B_{vol} = 1.065 x log Kow - log (H/RT) - 1.654

P_{air} = 1.19 (g/L)

f_{water} = 8.50E-01

P_{forage} = 770 (g/L)

(6) Br_{ag} values for organics not directly available in the preferred sources were calculated using the following equation A-2-17 provided in Appendix A-2, USEPA (2005):

$\log Br_{ag}$ = 1.588 - 0.578 (log Kow)

(7) Brrootveg values for organics not directly available in the preferred sources were calculated using the following equation A-2-16 provided in Appendix A-2, USEPA (2005):

$$Br_{rootveg} = \frac{RCF}{Kds}$$

where: log Kow > 2; log (RCF) = 0.77 log Kow - 1.52

log Kow < 2; log (RCF) -0.82 = 0.77 log Kow - 1.52

wet wt. to dry wt. conversion = 8.70E-01

(8) Br_{forage} values for organics not directly available in the preferred sources were calculated using the following equation A-2-18 provided in Appendix A-2, USEPA (2005):

$\log Br_{forage}$ = 1.588 - 0.578 (log Kow)

(9) Ba_{beef} values not directly available in the preferred sources were calculated using the following equation A-2-23 provided in Appendix A-2, USEPA (2005):

$Ba_{beef} = 10^{\log Ba\ fat} \times 0.19$ where log Ba fat = $-0.099\ (\log Kow)^2 + 1.07 \log Kow - 3.56$

(10) Ba_{milk} values not directly available in the preferred sources were calculated using the following equation A-2-22 provided in Appendix A-2, USEPA (2005):

$Ba_{milk} = 10^{\log Ba\ fat} \times 0.04$ where log Ba fat = $-0.099\ (\log Kow)^2 + 1.07 \log Kow - 3.56$

(11) Ba_{pork} values not directly available in the preferred sources were calculated using the following equation A-2-26 provided in Appendix A-2, USEPA (2005):

$Ba_{pork} = 10^{\log Ba\ fat} \times 0.23$ where log Ba fat = $-0.099\ (\log Kow)^2 + 1.07 \log Kow - 3.56$

(12) Ba_{egg} values not directly available in the preferred sources were calculated using the following equation A-2-28 provided in Appendix A-2, USEPA (2005):

$Ba_{egg} = 10^{\log Ba\ fat} \times 0.08$ where log Ba fat = $-0.099\ (\log Kow)^2 + 1.07 \log Kow - 3.56$

(13) $Ba_{chicken}$ values not directly available in the preferred sources were calculated using the following equation A-2-27 provided in Appendix A-2, USEPA (2005):

$Ba_{chicken} = 10^{\log Ba\ fat} \times 0.14$ where log Ba fat = $-0.099\ (\log Kow)^2 + 1.07 \log Kow - 3.56$

(14) BCF values not directly available in the preferred sources were calculated using the following equation A-2-28 provided in Appendix A-2, USEPA (2005):

log BCF = 0.77 log Kow - 0.7; for log Kow of 1 to 7

(15) B_v values obtained from Baes et al. (1984) were applied as the Br_{forage} values, consistent with the methodology presented in Appendix A, USEPA (2005).

(16) B_r values obtained from Baes et al. (1984) were applied as the Br_{grain} and $Br_{rootveg}$ values, consistent with the methodology presented in Appendix A, USEPA (2005).

(17) Br_{ag} values were derived from B_r and B_v values obtained from Baes et al. (1984), consistent with the methodology presented in Appendix A, USEPA (2005).

References:

Baes, C.F., R.D. Sharp, A.L. Sjoreen, and R.W. Shor. 1984. Review and Analysis of Parameters and Assessing Transport of Environmentally Released Radionuclides through Agriculture. Oak Ridge National Laboratory. Oak Ridge, Tennessee.

EPI, 2012: Estimation Programs Interface Suite™ for Microsoft® Windows, v 4.11, November 2012 (http://www.epa.gov/oppt/exposure/pubs/episuitedl.htm).

MOE, 2011: Rationale for the Development of Soil and Ground Water Standards for Use at Contaminated Sites in Ontario, April 15, 2011.

RAIS, 2014: Risk Assessment Information System database, February 2014 (http://rais.ornl.gov/).

RSL, 2013: Regional Screening Level (RSL) Chemical-Specific Parameters Supporting Table, November 2013.

USEPA, 2005: Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities (USEPA), Appendix A-2: Human Health Risk Assessment Protocol, EPA520-R-05-006, September 2005.

Table B.11

Deposition Term Calculation
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Unit Conversion Factor (CF) ($mg\text{-}m^2/kg\text{-}cm^2$)	Annual Deposition Rate (Dr) (refer to table B.7) ($g/m^2\text{-}yr$)	Soil Mixing Zone Depth Untilled (Zs) (refer to table B.9) (cm)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	Deposition Term Mercury (Ds, mercury) (mg/kg-yr)	Deposition Term Untilled (Ds) (mg/kg-yr)
Particulate Matter						
Total Particulate Matter	1.00E+02	5.00E+01	2.00E+00	1.50E+00	--	1.67E+03
Particulate Matter (PM10)	1.00E+02	0.00E+00	2.00E+00	1.50E+00	--	0.00E+00
Particulate Matter (PM2.5)	1.00E+02	0.00E+00	2.00E+00	1.50E+00	--	0.00E+00
Metals						
Aluminum	1.00E+02	5.00E+00	2.00E+00	1.50E+00	--	1.67E+02
Antimony	1.00E+02	1.50E-04	2.00E+00	1.50E+00	--	5.00E-03
Arsenic	1.00E+02	1.95E-02	2.00E+00	1.50E+00	--	6.50E-01
Barium	1.00E+02	4.05E-02	2.00E+00	1.50E+00	--	1.35E+00
Beryllium	1.00E+02	1.50E-04	2.00E+00	1.50E+00	--	5.00E-03
Bismuth	1.00E+02	1.65E-05	2.00E+00	1.50E+00	--	5.50E-04
Boron	1.00E+02	1.25E-03	2.00E+00	1.50E+00	--	4.17E-02
Cadmium	1.00E+02	6.00E-06	2.00E+00	1.50E+00	--	2.00E-04
Calcium	1.00E+02	6.50E-01	2.00E+00	1.50E+00	--	2.17E+01
Chromium Total	1.00E+02	5.55E-03	2.00E+00	1.50E+00	--	1.85E-01
Cobalt	1.00E+02	9.00E-04	2.00E+00	1.50E+00	--	3.00E-02
Copper	1.00E+02	1.85E-03	2.00E+00	1.50E+00	--	6.17E-02
Iron	1.00E+02	2.15E+00	2.00E+00	1.50E+00	--	7.17E+01
Lead	1.00E+02	1.85E-03	2.00E+00	1.50E+00	--	6.17E-02
Lithium	1.00E+02	3.05E-03	2.00E+00	1.50E+00	--	1.02E-01
Magnesium	1.00E+02	7.50E-01	2.00E+00	1.50E+00	--	2.50E+01
Manganese	1.00E+02	4.61E-02	2.00E+00	1.50E+00	--	1.54E+00
Mercury, element	1.00E+02	1.32E-05	2.00E+00	1.50E+00		0.00E+00
Mercury, divalent	1.00E+02	--	2.00E+00	1.50E+00	2.11E-04	2.07E-04
Mercury, methyl	1.00E+02	--	2.00E+00	1.50E+00		4.22E-06
Molybdenum	1.00E+02	4.00E-05	2.00E+00	1.50E+00	--	1.33E-03
Nickel	1.00E+02	2.05E-03	2.00E+00	1.50E+00	--	6.83E-02
Phosphorus	1.00E+02	3.45E-02	2.00E+00	1.50E+00	--	1.15E+00
Potassium	1.00E+02	1.60E+00	2.00E+00	1.50E+00	--	5.33E+01
Rubidium	1.00E+02	2.99E-04	2.00E+00	1.50E+00	--	9.95E-03
Selenium	1.00E+02	1.75E-05	2.00E+00	1.50E+00	--	5.83E-04
Silver	1.00E+02	2.50E-05	2.00E+00	1.50E+00	--	8.33E-04
Sodium	1.00E+02	9.50E-01	2.00E+00	1.50E+00	--	3.17E+01
Strontium	1.00E+02	1.05E-02	2.00E+00	1.50E+00	--	3.50E-01
Thallium	1.00E+02	3.95E-05	2.00E+00	1.50E+00	--	1.32E-03
Tin	1.00E+02	1.50E-04	2.00E+00	1.50E+00	--	5.00E-03
Titanium	1.00E+02	2.10E-01	2.00E+00	1.50E+00	--	7.00E+00
Uranium	1.00E+02	9.00E-05	2.00E+00	1.50E+00	--	3.00E-03
Vanadium	1.00E+02	4.00E-03	2.00E+00	1.50E+00	--	1.33E-01
Zinc	1.00E+02	5.50E-03	2.00E+00	1.50E+00	--	1.83E-01

Equation:

$$Ds = \frac{CF \times Hg_{factor} \times Dr}{Zs \times BD}$$

Where:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.98), and methylmercury (0.48*0.02)

Table B.12

COPC Loss Constant Due To Runoff
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Average Annual Surface Runoff (RO) (refer to table B.9) (cm/yr)	Soil Volume Water Content (θsw) (refer to table B.9) (ml/cm^3)	Soil Mixing Zone Depth Untilled (Z_s) (refer to table B.9) (cm)	Soil-Water Partition Coefficient (Kd_s) (refer to table B.14) (ml/g)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	COPC Loss Surface Runoff Untilled (ksr) (yr^{-1})
Particulate Matter						
Total Particulate Matter	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Particulate Matter (PM10)	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Particulate Matter (PM2.5)	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Metals						
Aluminum	7.89E+01	2.00E-01	2.00E+00	1.50E+03	1.50E+00	1.75E-02
Antimony	7.89E+01	2.00E-01	2.00E+00	4.50E+01	1.50E+00	5.83E-01
Arsenic	7.89E+01	2.00E-01	2.00E+00	2.90E+01	1.50E+00	9.03E-01
Barium	7.89E+01	2.00E-01	2.00E+00	4.10E+01	1.50E+00	6.40E-01
Beryllium	7.89E+01	2.00E-01	2.00E+00	7.90E+02	1.50E+00	3.33E-02
Bismuth	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Boron	7.89E+01	2.00E-01	2.00E+00	3.00E+00	1.50E+00	8.40E+00
Cadmium	7.89E+01	2.00E-01	2.00E+00	7.50E+01	1.50E+00	3.50E-01
Calcium	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Chromium Total	7.89E+01	2.00E-01	2.00E+00	1.90E+01	1.50E+00	1.37E+00
Cobalt	7.89E+01	2.00E-01	2.00E+00	4.50E+01	1.50E+00	5.83E-01
Copper	7.89E+01	2.00E-01	2.00E+00	3.50E+01	1.50E+00	7.49E-01
Iron	7.89E+01	2.00E-01	2.00E+00	2.50E+01	1.50E+00	1.05E+00
Lead	7.89E+01	2.00E-01	2.00E+00	9.00E+02	1.50E+00	2.92E-02
Lithium	7.89E+01	2.00E-01	2.00E+00	3.00E+02	1.50E+00	8.76E-02
Magnesium	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Manganese	7.89E+01	2.00E-01	2.00E+00	6.50E+01	1.50E+00	4.04E-01
Mercury, element	7.89E+01	2.00E-01	2.00E+00	3.30E+03	1.50E+00	7.97E-03
Mercury, divalent	7.89E+01	2.00E-01	2.00E+00	3.30E+03	1.50E+00	7.97E-03
Mercury, methyl	7.89E+01	2.00E-01	2.00E+00	2.00E+01	1.50E+00	1.31E+00
Molybdenum	7.89E+01	2.00E-01	2.00E+00	2.00E+01	1.50E+00	1.31E+00
Nickel	7.89E+01	2.00E-01	2.00E+00	6.50E+01	1.50E+00	4.04E-01
Phosphorus	7.89E+01	2.00E-01	2.00E+00	3.50E+00	1.50E+00	7.24E+00
Potassium	7.89E+01	2.00E-01	2.00E+00	5.50E+00	1.50E+00	4.67E+00
Rubidium	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Selenium	7.89E+01	2.00E-01	2.00E+00	5.00E+00	1.50E+00	5.12E+00
Silver	7.89E+01	2.00E-01	2.00E+00	8.30E+00	1.50E+00	3.12E+00
Sodium	7.89E+01	2.00E-01	2.00E+00	1.00E+02	1.50E+00	2.63E-01
Strontium	7.89E+01	2.00E-01	2.00E+00	3.50E+01	1.50E+00	7.49E-01
Thallium	7.89E+01	2.00E-01	2.00E+00	7.10E+01	1.50E+00	3.70E-01
Tin	7.89E+01	2.00E-01	2.00E+00	2.50E+02	1.50E+00	1.05E-01
Titanium	7.89E+01	2.00E-01	2.00E+00	1.00E+03	1.50E+00	2.63E-02
Uranium	7.89E+01	2.00E-01	2.00E+00	4.50E+02	1.50E+00	5.84E-02
Vanadium	7.89E+01	2.00E-01	2.00E+00	1.00E+03	1.50E+00	2.63E-02
Zinc	7.89E+01	2.00E-01	2.00E+00	6.20E+01	1.50E+00	4.23E-01

Equation:

$$ksr = \frac{RO}{\theta_{sw} \times Z_s} \times \frac{1}{1 + (Kd_s \times BD/\theta_{sw})}\}$$

Table B.13

COPC Loss Constant Due To Leaching
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Average Annual Recharge (q) (refer to table B.9) (cm/yr)	Soil Volume Water Content (θsw) (refer to table B.9) (ml/cm^3)	Soil Mixing Zone Depth Untilled (Z_s) (refer to table B.9) (cm)	Soil-Water Partition Coefficient (Kd_s) (refer to table B.14) (ml/g)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	COPC Loss Leaching Untilled (ksl) (yr^{-1})
Particulate Matter						
Total Particulate Matter	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Particulate Matter (PM10)	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Particulate Matter (PM2.5)	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Metals						
Aluminum	1.73E+01	2.00E-01	2.00E+00	1.50E+03	1.50E+00	3.85E-03
Antimony	1.73E+01	2.00E-01	2.00E+00	4.50E+01	1.50E+00	1.28E-01
Arsenic	1.73E+01	2.00E-01	2.00E+00	2.90E+01	1.50E+00	1.98E-01
Barium	1.73E+01	2.00E-01	2.00E+00	4.10E+01	1.50E+00	1.40E-01
Beryllium	1.73E+01	2.00E-01	2.00E+00	7.90E+02	1.50E+00	7.31E-03
Bismuth	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Boron	1.73E+01	2.00E-01	2.00E+00	3.00E+00	1.50E+00	1.84E+00
Cadmium	1.73E+01	2.00E-01	2.00E+00	7.50E+01	1.50E+00	7.68E-02
Calcium	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Chromium Total	1.73E+01	2.00E-01	2.00E+00	1.90E+01	1.50E+00	3.02E-01
Cobalt	1.73E+01	2.00E-01	2.00E+00	4.50E+01	1.50E+00	1.28E-01
Copper	1.73E+01	2.00E-01	2.00E+00	3.50E+01	1.50E+00	1.64E-01
Iron	1.73E+01	2.00E-01	2.00E+00	2.50E+01	1.50E+00	2.30E-01
Lead	1.73E+01	2.00E-01	2.00E+00	9.00E+02	1.50E+00	6.41E-03
Lithium	1.73E+01	2.00E-01	2.00E+00	3.00E+02	1.50E+00	1.92E-02
Magnesium	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Manganese	1.73E+01	2.00E-01	2.00E+00	6.50E+01	1.50E+00	8.86E-02
Mercury, element	1.73E+01	2.00E-01	2.00E+00	3.30E+03	1.50E+00	1.75E-03
Mercury, divalent	1.73E+01	2.00E-01	2.00E+00	3.30E+03	1.50E+00	1.75E-03
Mercury, methyl	1.73E+01	2.00E-01	2.00E+00	2.00E+01	1.50E+00	2.87E-01
Molybdenum	1.73E+01	2.00E-01	2.00E+00	2.00E+01	1.50E+00	2.87E-01
Nickel	1.73E+01	2.00E-01	2.00E+00	6.50E+01	1.50E+00	8.86E-02
Phosphorus	1.73E+01	2.00E-01	2.00E+00	3.50E+00	1.50E+00	1.59E+00
Potassium	1.73E+01	2.00E-01	2.00E+00	5.50E+00	1.50E+00	1.02E+00
Rubidium	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Selenium	1.73E+01	2.00E-01	2.00E+00	5.00E+00	1.50E+00	1.12E+00
Silver	1.73E+01	2.00E-01	2.00E+00	8.30E+00	1.50E+00	6.85E-01
Sodium	1.73E+01	2.00E-01	2.00E+00	1.00E+02	1.50E+00	5.77E-02
Strontium	1.73E+01	2.00E-01	2.00E+00	3.50E+01	1.50E+00	1.64E-01
Thallium	1.73E+01	2.00E-01	2.00E+00	7.10E+01	1.50E+00	8.12E-02
Tin	1.73E+01	2.00E-01	2.00E+00	2.50E+02	1.50E+00	2.31E-02
Titanium	1.73E+01	2.00E-01	2.00E+00	1.00E+03	1.50E+00	5.77E-03
Uranium	1.73E+01	2.00E-01	2.00E+00	4.50E+02	1.50E+00	1.28E-02
Vanadium	1.73E+01	2.00E-01	2.00E+00	1.00E+03	1.50E+00	5.77E-03
Zinc	1.73E+01	2.00E-01	2.00E+00	6.20E+01	1.50E+00	9.29E-02

Equation:

$$ksl = \frac{q}{\theta_{sw} \times Z_s \times [1.0 + (BD \times Kd_s/\theta_{sw})]}$$

Table B.14

COPC Loss Constant Due To Volatilization
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Equilibrium Coefficient Untilled (Ke) (s/yr-cm)	Gas Phase Mass Transfer Coefficient Untilled (K_t) (cm/s)	Units Conversion Factor (CF) (s/year)	Henry's Law Constant (H) (refer to table B.10) ($atm\text{-}m^3/mol$)	Soil Mixing Zone Depth Untilled (Z_s) (refer to table B.9) (cm)	Soil-water Partition Coefficient (Kd_s) (refer to table B.10) (mL /g)	Universal Gas Constant (R) (refer to table B.9) ($atm\text{-}m^3/mol\text{-}K$)	Ambient Air Temperature (T_a) (refer to table B.9) (K)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	Diffusivity of COPC in Air (Da) (refer to table B.10) (cm^2/s)	Solid Void Fraction (θv) (cm^3/cm^3)	Solids Particle Density (ρ_s) (refer to table B.9) (g/cm^3)	Volumetric Soil Water Content (θsw) (refer to table B.9) (cm^3/cm^3)	Soil Loss Constant Due t Volatilization Untilled (Ksv) (yr^{-1})
Particulate Matter														
Total Particulate Matter	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Particulate Matter (PM10)	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Particulate Matter (PM2.5)	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Metals														
Aluminum	--	--	3.15E+07	--	2.00E+00	1.50E+03	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Antimony	--	--	3.15E+07	--	2.00E+00	4.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Arsenic	--	--	3.15E+07	--	2.00E+00	2.90E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Barium	--	--	3.15E+07	--	2.00E+00	4.10E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Beryllium	--	--	3.15E+07	--	2.00E+00	7.90E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Bismuth	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Boron	--	--	3.15E+07	--	2.00E+00	3.00E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Cadmium	--	--	3.15E+07	--	2.00E+00	7.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Calcium	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Chromium Total	--	--	3.15E+07	--	2.00E+00	1.90E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Cobalt	--	--	3.15E+07	--	2.00E+00	4.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Copper	--	--	3.15E+07	--	2.00E+00	3.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Iron	--	--	3.15E+07	--	2.00E+00	2.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Lead	--	--	3.15E+07	--	2.00E+00	9.00E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Lithium	--	--	3.15E+07	--	2.00E+00	3.00E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Magnesium	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Manganese	--	--	3.15E+07	--	2.00E+00	6.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Mercury, element	1.60E+03	3.75E-03	3.15E+07	1.15E-02	2.00E+00	3.30E+03	8.21E-05	2.80E+02	1.50E+00	3.07E-02	2.44E-01	2.70E+00	2.00E-01	5.99E+00
Mercury, divalent	9.85E-05	5.50E-03	3.15E+07	7.10E-10	2.00E+00	3.30E+03	8.21E-05	2.80E+02	1.50E+00	4.50E-02	2.44E-01	2.70E+00	2.00E-01	5.42E-07
Mercury, methyl	1.65E+05	6.48E-03	3.15E+07	7.22E-03	2.00E+00	2.00E+01	8.21E-05	2.80E+02	1.50E+00	5.30E-02	2.44E-01	2.70E+00	2.00E-01	1.07E+03
Molybdenum	--	--	3.15E+07	--	2.00E+00	2.00E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Nickel	--	--	3.15E+07	--	2.00E+00	6.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Phosphorus	--	--	3.15E+07	--	2.00E+00	3.50E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Potassium	--	--	3.15E+07	--	2.00E+00	5.50E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Rubidium	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Selenium	--	--	3.15E+07	--	2.00E+00	5.00E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Silver	--	--	3.15E+07	--	2.00E+00	8.30E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Sodium	--	--	3.15E+07	--	2.00E+00	1.00E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Strontium	--	--	3.15E+07	--	2.00E+00	3.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Thallium	--	--	3.15E+07	--	2.00E+00	7.10E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Tin	--	--	3.15E+07	--	2.00E+00	2.50E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Titanium	--	--	3.15E+07	--	2.00E+00	1.00E+03	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Uranium	--	--	3.15E+07	--	2.00E+00	4.50E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Vanadium	--	--	3.15E+07	--	2.00E+00	1.00E+03	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Zinc	--	--	3.15E+07	--	2.00E+00	6.20E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--

Equations: $ksv = Ke \times K_t$ where, $Ke = \frac{CF \times H}{Z_s \times Kd_s \times R \times T_a \times BD}$ $K_t = \frac{Da \times \theta_v}{Z_s}$ $\theta_v = 1 - (BD/\rho_s) - \theta_{sw}$

Table B.15

COPC Soil Loss Constant
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Biotic and Abiotic Degradation (ksg) (refer to table B.9) (yr^{-1})	Soil Erosion (kse) (refer to table B.9) (yr^{-1})	Surface Runoff Untilled (ksr) (refer to table B.12) (yr^{-1})	Leaching Untilled (ksl) (refer to table B.13) (yr^{-1})	Volatilization Untilled (ksv) (refer to table B.14) (yr^{-1})	Constant All Processes Untilled (ks) (yr^{-1})
Particulate Matter						
Total Particulate Matter	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Particulate Matter (PM10)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Particulate Matter (PM2.5)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Metals						
Aluminum	0.00E+00	0.00E+00	1.75E-02	3.85E-03	0.00E+00	2.14E-02
Antimony	0.00E+00	0.00E+00	5.83E-01	1.28E-01	0.00E+00	7.11E-01
Arsenic	0.00E+00	0.00E+00	9.03E-01	1.98E-01	0.00E+00	1.10E+00
Barium	0.00E+00	0.00E+00	6.40E-01	1.40E-01	0.00E+00	7.80E-01
Beryllium	0.00E+00	0.00E+00	3.33E-02	7.31E-03	0.00E+00	4.06E-02
Bismuth	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Boron	0.00E+00	0.00E+00	8.40E+00	1.84E+00	0.00E+00	1.02E+01
Cadmium	0.00E+00	0.00E+00	3.50E-01	7.68E-02	0.00E+00	4.27E-01
Calcium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chromium Total	0.00E+00	0.00E+00	1.37E+00	3.02E-01	0.00E+00	1.68E+00
Cobalt	0.00E+00	0.00E+00	5.83E-01	1.28E-01	0.00E+00	7.11E-01
Copper	0.00E+00	0.00E+00	7.49E-01	1.64E-01	0.00E+00	9.13E-01
Iron	0.00E+00	0.00E+00	1.05E+00	2.30E-01	0.00E+00	1.28E+00
Lead	0.00E+00	0.00E+00	2.92E-02	6.41E-03	0.00E+00	3.56E-02
Lithium	0.00E+00	0.00E+00	8.76E-02	1.92E-02	0.00E+00	1.07E-01
Magnesium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Manganese	0.00E+00	0.00E+00	4.04E-01	8.86E-02	0.00E+00	4.93E-01
Mercury, element	0.00E+00	0.00E+00	7.97E-03	1.75E-03	5.99E+00	6.00E+00
Mercury, divalent	0.00E+00	0.00E+00	7.97E-03	1.75E-03	5.42E-07	9.72E-03
Mercury, methyl	0.00E+00	0.00E+00	1.31E+00	2.87E-01	1.07E+03	1.07E+03
Molybdenum	0.00E+00	0.00E+00	1.31E+00	2.87E-01	0.00E+00	1.59E+00
Nickel	0.00E+00	0.00E+00	4.04E-01	8.86E-02	0.00E+00	4.93E-01
Phosphorus	0.00E+00	0.00E+00	7.24E+00	1.59E+00	0.00E+00	8.83E+00
Potassium	0.00E+00	0.00E+00	4.67E+00	1.02E+00	0.00E+00	5.69E+00
Rubidium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Selenium	0.00E+00	0.00E+00	5.12E+00	1.12E+00	0.00E+00	6.25E+00
Silver	0.00E+00	0.00E+00	3.12E+00	6.85E-01	0.00E+00	3.80E+00
Sodium	0.00E+00	0.00E+00	2.63E-01	5.77E-02	0.00E+00	3.20E-01
Strontium	0.00E+00	0.00E+00	7.49E-01	1.64E-01	0.00E+00	9.13E-01
Thallium	0.00E+00	0.00E+00	3.70E-01	8.12E-02	0.00E+00	4.51E-01
Tin	0.00E+00	0.00E+00	1.05E-01	2.31E-02	0.00E+00	1.28E-01
Titanium	0.00E+00	0.00E+00	2.63E-02	5.77E-03	0.00E+00	3.21E-02
Uranium	0.00E+00	0.00E+00	5.84E-02	1.28E-02	0.00E+00	7.13E-02
Vanadium	0.00E+00	0.00E+00	2.63E-02	5.77E-03	0.00E+00	3.21E-02
Zinc	0.00E+00	0.00E+00	4.23E-01	9.29E-02	0.00E+00	5.16E-01

Equation: $ks = ksg + kse + ksr + ksl + ksv$

Notes:

COPC loss due to soil erosion (kse) is assumed to be zero.
COPC loss due to biotic and abiotic degradation (ksg) is assumed only for organics.

Table B.16

Predicted Soil Concentrations Due to Deposition - Non-Carcinogens
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

		Deposition Time Period						Existing Soil Concentration at Time tD				Deposition Soil Concentration at Time tD				Predicted Soil Concentration at Time tD			
	Deposition Term Untilled (Ds) (refer to table B.11)	Construction (tD) (refer to table B.9)	Operations (tD) (refer to table B.9)	Reclamation (tD) (refer to table B.9)	Post-Closure (tD) (refer to table B.9)	COPC Soil Loss Constant All Processes Untilled (ks) (refer to table B.15)	Baseline Soil Concentration (Cs) (refer to table B.1)	Construction (Cs)	Operations (Cs)	Reclamation (Cs)	Post-Closure (Cs)	Construction (Cs)	Operations (Cs)	Reclamation (Cs)	Post-Closure (Cs)	Construction (Cs)	Operations (Cs)	Reclamation (Cs)	Post-Closure (Cs)
Contaminant	(mg/kg-yr)	(yr)	(yr)	(yr)	(yr)	(yr^{-1})	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Particulate Matter																			
Total Particulate Matter	1.67E+03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	0.00E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	0.00E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																			
Aluminum	1.67E+02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	2.14E-02	8.76E+03	8.39E+03	6.63E+03	6.22E+03	6.22E+03	3.26E+02	1.89E+03	2.26E+03	2.26E+03	8760.0	8760.0	8760.0	8760.0
Antimony	5.00E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	7.11E-01	1.00E+00	2.41E-01	9.71E-05	1.15E-05	1.15E-05	5.34E-03	7.03E-03	7.03E-03	7.03E-03	1.0	1.0	1.0	1.0
Arsenic	6.50E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.10E+00	3.03E+01	3.35E+00	1.84E-05	6.76E-07	6.76E-07	5.25E-01	5.90E-01	5.90E-01	5.90E-01	30.3	30.3	30.3	30.3
Barium	1.35E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	7.80E-01	3.88E+01	8.15E+00	1.53E-03	1.48E-04	1.48E-04	1.37E+00	1.73E+00	1.73E+00	1.73E+00	38.8	38.8	38.8	38.8
Beryllium	5.00E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.06E-02	5.00E-01	4.61E-01	2.95E-01	2.61E-01	2.61E-01	9.60E-03	5.05E-02	5.88E-02	5.88E-02	0.5	0.5	0.5	0.5
Bismuth	5.50E-04	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	--	--	--	--	--	--	--	--
Boron	4.17E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.02E+01	2.50E+01	3.20E-08	3.93E-57	1.80E-70	1.80E-70	4.07E-03	4.07E-03	4.07E-03	4.07E-03	25.0	25.0	25.0	25.0
Cadmium	2.00E-04	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.27E-01	4.89E-01	2.08E-01	1.90E-03	5.28E-04	5.28E-04	2.69E-04	4.67E-04	4.68E-04	4.68E-04	0.49	0.49	0.49	0.49
Calcium	2.17E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	1.85E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.68E+00	1.30E+01	4.55E-01	4.44E-09	2.91E-11	2.91E-11	1.06E-01	1.10E-01	1.10E-01	1.10E-01	13.0	13.0	13.0	13.0
Cobalt	3.00E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	7.11E-01	1.98E+00	4.78E-01	1.92E-04	2.28E-05	2.28E-05	3.20E-02	4.22E-02	4.22E-02	4.22E-02	2.0	2.0	2.0	2.0
Copper	6.17E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	9.13E-01	4.93E+00	7.94E-01	3.45E-05	2.23E-06	2.23E-06	5.67E-02	6.75E-02	6.75E-02	6.75E-02	4.9	4.9	4.9	4.9
Iron	7.17E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.28E+00	1.58E+04	1.23E+03	9.83E-04	2.13E-05	2.13E-05	5.18E+01	5.61E+01	5.61E+01	5.61E+01	15800.0	15800.0	15800.0	15800.0
Lead	6.17E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.56E-02	2.48E+01	2.31E+01	1.56E+01	1.40E+01	1.40E+01	1.19E-01	6.42E-01	7.52E-01	7.52E-01	24.8	24.8	24.8	24.8
Lithium	1.02E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.07E-01	8.43E+00	6.81E+00	2.10E+00	1.52E+00	1.52E+00	1.83E-01	7.14E-01	7.79E-01	7.79E-01	8.4	8.4	8.4	8.4
Magnesium	2.50E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	1.54E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.93E-01	8.70E+01	3.25E+01	1.44E-01	3.29E-02	3.29E-02	1.95E+00	3.11E+00	3.12E+00	3.12E+00	87.0	87.0	87.0	87.0
Mercury, element	0.00E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	6.00E+00	3.18E-01	1.96E-06	4.35E-35	6.66E-43	6.66E-43	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.32	0.32	0.32	0.32
Mercury, divalent	2.07E-04	2.00E+00	1.30E+01	1.60E+01	1.60E+01	9.72E-03	--	--	--	--	--	4.10E-04	2.53E-03	3.07E-03	3.07E-03	0.0	0.0	0.0	0.0
Mercury, methyl	4.22E-06	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.07E+03	--	--	--	--	--	3.94E-09	3.94E-09	3.94E-09	3.94E-09	0.0	0.0	0.0	0.0
Molybdenum	1.33E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.59E+00	1.00E+00	4.13E-02	1.01E-09	8.47E-12	8.47E-12	8.02E-04	8.37E-04	8.37E-04	8.37E-04	1.0	1.0	1.0	1.0
Nickel	6.83E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.93E-01	5.81E+00	2.17E+00	9.63E-03	2.20E-03	2.20E-03	8.69E-02	1.39E-01	1.39E-01	1.39E-01	5.8	5.8	5.8	5.8
Phosphorus	1.15E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	8.83E+00	--	--	--	--	--	1.30E-01	1.30E-01	1.30E-01	1.30E-01	0.1	0.1	0.1	0.1
Potassium	5.33E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	5.69E+00	--	--	--	--	--	9.37E+00	9.37E+00	9.37E+00	9.37E+00	9.4	9.4	9.4	9.4
Rubidium	9.95E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	5.91E+00	5.91E+00	5.91E+00	5.91E+00	5.91E+00	--	--	--	--	--	--	--	--
Selenium	5.83E-04	2.00E+00	1.30E+01	1.60E+01	1.60E+01	6.25E+00	2.08E+00	7.76E-06	1.08E-35	7.82E-44	7.82E-44	9.33E-05	9.33E-05	9.33E-05	9.33E-05	2.08	2.08	2.08	2.08
Silver	8.33E-04	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.80E+00	2.50E-01	1.24E-04	8.35E-23	9.23E-28	9.23E-28	2.19E-04	2.19E-04	2.19E-04	2.19E-04	0.25	0.25	0.25	0.25
Sodium	3.17E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.20E-01	--	--	--	--	--	4.68E+01	9.73E+01	9.83E+01	9.83E+01	46.8	97.3	98.3	98.3
Strontium	3.50E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	9.13E-01	6.03E+01	9.71E+00	4.22E-04	2.73E-05	2.73E-05	3.22E-01	3.83E-01	3.83E-01	3.83E-01	60.3	60.3	60.3	60.3
Thallium	1.32E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.51E-01	5.00E-02	2.03E-02	1.42E-04	3.67E-05	3.67E-05	1.73E-03	2.91E-03	2.92E-03	2.92E-03	0.05	0.05	0.05	0.05
Tin	5.00E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.28E-01	5.00E-01	3.87E-01	9.44E-02	6.42E-02	6.42E-02	8.82E-03	3.16E-02	3.40E-02	3.40E-02	0.50	0.50	0.50	0.50
Titanium	7.00E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.21E-02	--	--	--	--	--	1.36E+01	7.44E+01	8.76E+01	8.76E+01	13.6	74.4	87.6	87.6
Uranium	3.00E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	7.13E-02	6.51E-01	5.65E-01	2.58E-01	2.08E-01	2.08E-01	5.59E-03	2.54E-02	2.86E-02	2.86E-02	0.65	0.65	0.65	0.65
Vanadium	1.33E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.21E-02	2.89E+01	2.71E+01	1.90E+01	1.73E+01	1.73E+01	2.58E-01	1.42E+00	1.67E+00	1.67E+00	28.9	28.9	28.9	28.9
Zinc	1.83E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	5.16E-01	2.64E+01	9.40E+00	3.21E-02	6.82E-03	6.82E-03	2.29E-01	3.55E-01	3.55E-01	3.55E-01	26.4	26.4	26.4	26.4

Equation: $Cs_{tD} = \frac{Ds \times [1 - \exp(-ks \times tD)]}{ks}$

Table B.17

Predicted Soil Invertebrate Concentrations Due to Deposition - Non-Carcinogens
Soil Invertebrate Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Soil Concentration at Time tD				Baseline Soil Invertebrate Concentration	Predicted Soil Invertebrate Concentration at Time tD				Final Soil Invertebrate Concentration at Time tD			
Contaminant	Construction (Cs) (refer to table B.16) (mg/kg)	Operations (Cs) (refer to table B.16) (mg/kg)	Reclamation (Cs) (refer to table B.16) (mg/kg)	Post-Closure (Cs) (refer to table B.16) (mg/kg)	(Cti) (refer to table B.1) (mg/kg FW)	Construction (Cti) (1) (mg/kg FW)	Operations (Cti) (1) (mg/kg FW)	Reclamation (Cti) (1) (mg/kg FW)	Post-Closure (Cti) (1) (mg/kg FW)	Construction (Cti) (1) (mg/kg FW)	Operations (Cti) (1) (mg/kg FW)	Reclamation (Cti) (1) (mg/kg FW)	Post-Closure (Cti) (1) (mg/kg FW)
Particulate Matter													
Total Particulate Matter	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals													
Aluminum	8.76E+03	8.76E+03	8.76E+03	8.76E+03	4.20E+02	6.03E+01	6.03E+01	6.03E+01	6.03E+01	4.20E+02	4.20E+02	4.20E+02	4.20E+02
Antimony	1.00E+00	1.00E+00	1.00E+00	1.00E+00	2.50E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Arsenic	3.03E+01	3.03E+01	3.03E+01	3.03E+01	8.00E+00	4.29E-01	4.29E-01	4.29E-01	4.29E-01	8.00E+00	8.00E+00	8.00E+00	8.00E+00
Barium	3.88E+01	3.88E+01	3.88E+01	3.88E+01	2.40E+01	5.65E-01	5.65E-01	5.65E-01	5.65E-01	2.40E+01	2.40E+01	2.40E+01	2.40E+01
Beryllium	5.00E-01	5.00E-01	5.00E-01	5.00E-01	2.50E-01	3.60E-04	3.60E-04	3.60E-04	3.60E-04	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Bismuth	--	--	--	--	--	--	--	--	--	--	--	--	--
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.30E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00
Cadmium	4.89E-01	4.89E-01	4.89E-01	4.89E-01	1.60E+00	7.50E-01	7.50E-01	7.50E-01	7.50E-01	1.60E+00	1.60E+00	1.60E+00	1.60E+00
Calcium	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	1.30E+01	1.30E+01	1.30E+01	1.30E+01	5.80E-01	6.36E-01	6.36E-01	6.36E-01	6.36E-01	6.36E-01	6.36E-01	6.36E-01	6.36E-01
Cobalt	1.98E+00	1.98E+00	1.98E+00	1.98E+00	2.10E-01	3.86E-02	3.86E-02	3.86E-02	3.86E-02	2.10E-01	2.10E-01	2.10E-01	2.10E-01
Copper	4.93E+00	4.93E+00	4.93E+00	4.93E+00	1.60E+01	4.06E-01	4.06E-01	4.06E-01	4.06E-01	1.60E+01	1.60E+01	1.60E+01	1.60E+01
Iron	1.58E+04	1.58E+04	1.58E+04	1.58E+04	6.00E+02	2.53E+03	2.53E+03	2.53E+03	2.53E+03	2.53E+03	2.53E+03	2.53E+03	2.53E+03
Lead	2.48E+01	2.48E+01	2.48E+01	2.48E+01	5.60E-01	1.72E+00	1.72E+00	1.72E+00	1.72E+00	1.72E+00	1.72E+00	1.72E+00	1.72E+00
Lithium	8.43E+00	8.43E+00	8.43E+00	8.43E+00	2.50E-01	1.35E+00	1.35E+00	1.35E+00	1.35E+00	1.35E+00	1.35E+00	1.35E+00	1.35E+00
Magnesium	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	8.70E+01	8.70E+01	8.70E+01	8.70E+01	1.20E+03	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.20E+03	1.20E+03	1.20E+03	1.20E+03
Mercury, element	3.18E-01	3.18E-01	3.18E-01	3.18E-01	3.50E-02	5.09E-02	5.09E-02	5.09E-02	5.09E-02	5.09E-02	5.09E-02	5.09E-02	5.09E-02
Mercury, divalent	4.10E-04	2.53E-03	3.07E-03	3.07E-03	--	6.56E-05	4.04E-04	4.91E-04	4.91E-04	6.56E-05	4.04E-04	4.91E-04	4.91E-04
Mercury, methyl	3.94E-09	3.94E-09	3.94E-09	3.94E-09	--	6.30E-10	6.30E-10	6.30E-10	6.30E-10	6.30E-10	6.30E-10	6.30E-10	6.30E-10
Molybdenum	1.00E+00	1.00E+00	1.00E+00	1.00E+00	6.90E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01	6.90E-01	6.90E-01	6.90E-01	6.90E-01
Nickel	5.81E+00	5.81E+00	5.81E+00	5.81E+00	1.10E+00	9.30E-01	9.30E-01	9.30E-01	9.30E-01	1.10E+00	1.10E+00	1.10E+00	1.10E+00
Phosphorus	1.30E-01	1.30E-01	1.30E-01	1.30E-01	--	2.08E-02	2.08E-02	2.08E-02	2.08E-02	2.08E-02	2.08E-02	2.08E-02	2.08E-02
Potassium	9.37E+00	9.37E+00	9.37E+00	9.37E+00	--	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
Rubidium	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	2.08E+00	2.08E+00	2.08E+00	2.08E+00	2.50E-01	2.54E-01	2.54E-01	2.54E-01	2.54E-01	2.54E-01	2.54E-01	2.54E-01	2.54E-01
Silver	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.80E+00	8.18E-02	8.18E-02	8.18E-02	8.18E-02	1.80E+00	1.80E+00	1.80E+00	1.80E+00
Sodium	4.68E+01	9.73E+01	9.83E+01	9.83E+01	--	7.48E+00	1.56E+01	1.57E+01	1.57E+01	7.48E+00	1.56E+01	1.57E+01	1.57E+01
Strontium	6.03E+01	6.03E+01	6.03E+01	6.03E+01	1.00E+01	9.65E+00	9.65E+00	9.65E+00	9.65E+00	1.00E+01	1.00E+01	1.00E+01	1.00E+01
Thallium	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.00E-02	8.00E-03	8.00E-03	8.00E-03	8.00E-03	1.00E-02	1.00E-02	1.00E-02	1.00E-02
Tin	5.00E-01	5.00E-01	5.00E-01	5.00E-01	2.50E-01	8.00E-02	8.00E-02	8.00E-02	8.00E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Titanium	1.36E+01	7.44E+01	8.76E+01	8.76E+01	--	2.17E+00	1.19E+01	1.40E+01	1.40E+01	2.17E+00	1.19E+01	1.40E+01	1.40E+01
Uranium	6.51E-01	6.51E-01	6.51E-01	6.51E-01	1.00E-02	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01
Vanadium	2.89E+01	2.89E+01	2.89E+01	2.89E+01	9.30E-01	1.94E-01	1.94E-01	1.94E-01	1.94E-01	9.30E-01	9.30E-01	9.30E-01	9.30E-01
Zinc	2.64E+01	2.64E+01	2.64E+01	2.64E+01	7.90E+01	4.00E+01	4.00E+01	4.00E+01	4.00E+01	7.90E+01	7.90E+01	7.90E+01	7.90E+01

Note:
(1) Uptake equations and inputs from the USEPA Eco Soil Screening Level (SSL) guidance (USEPA, 2007). An uptake factor for aluminum was taken from the validation data set presented in Table C.1 of Appendix A of Sample et al. (1998b); the median uptake factor from that data set (0.043) was selected.

Table B.18

Predicted Prey Concentrations Due to Deposition - Non-Carcinogens
Prey Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Soil Concentration at Time tD				Prey Concentration at Time tD			
Contaminant	Construction (Cs) (refer to table B.16) (mg/kg)	Operations (Cs) (refer to table B.16) (mg/kg)	Reclamation (Cs) (refer to table B.16) (mg/kg)	Post-Closure (Cs) (refer to table B.16) (mg/kg)	Construction (Cp) (1) (mg/kg FW)	Operations (Cp) (1) (mg/kg FW)	Reclamation (Cp) (1) (mg/kg FW)	Post-Closure (Cp) (1) (mg/kg FW)
Particulate Matter								
Total Particulate Matter	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--
Metals								
Aluminum	8.76E+03	8.76E+03	8.76E+03	8.76E+03	7.37E+01	7.37E+01	7.37E+01	7.37E+01
Antimony	1.00E+00	1.00E+00	1.00E+00	1.00E+00	4.00E-03	4.00E-03	4.00E-03	4.00E-03
Arsenic	3.03E+01	3.03E+01	3.03E+01	3.03E+01	4.10E-02	4.10E-02	4.10E-02	4.10E-02
Barium	3.88E+01	3.88E+01	3.88E+01	3.88E+01	5.76E-02	5.76E-02	5.76E-02	5.76E-02
Beryllium	5.00E-01	5.00E-01	5.00E-01	5.00E-01	4.00E-03	4.00E-03	4.00E-03	4.00E-03
Bismuth	--	--	--	--	--	--	--	--
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	8.00E+00	8.00E+00	8.00E+00	8.00E+00
Cadmium	4.89E-01	4.89E-01	4.89E-01	4.89E-01	6.49E-02	6.49E-02	6.49E-02	6.49E-02
Calcium	--	--	--	--	--	--	--	--
Chromium Total	1.30E+01	1.30E+01	1.30E+01	1.30E+01	4.88E-01	4.88E-01	4.88E-01	4.88E-01
Cobalt	1.98E+00	1.98E+00	1.98E+00	1.98E+00	8.97E-03	8.97E-03	8.97E-03	8.97E-03
Copper	4.93E+00	4.93E+00	4.93E+00	4.93E+00	3.10E+00	3.10E+00	3.10E+00	3.10E+00
Iron	1.58E+04	1.58E+04	1.58E+04	1.58E+04	5.06E+03	5.06E+03	5.06E+03	5.06E+03
Lead	2.48E+01	2.48E+01	2.48E+01	2.48E+01	1.43E+00	1.43E+00	1.43E+00	1.43E+00
Lithium	8.43E+00	8.43E+00	8.43E+00	8.43E+00	2.70E+00	2.70E+00	2.70E+00	2.70E+00
Magnesium	--	--	--	--	--	--	--	--
Manganese	8.70E+01	8.70E+01	8.70E+01	8.70E+01	5.71E-01	5.71E-01	5.71E-01	5.71E-01
Mercury, element	3.18E-01	3.18E-01	3.18E-01	3.18E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01
Mercury, divalent	4.10E-04	2.53E-03	3.07E-03	3.07E-03	1.31E-04	8.09E-04	9.81E-04	9.81E-04
Mercury, methyl	3.94E-09	3.94E-09	3.94E-09	3.94E-09	1.26E-09	1.26E-09	1.26E-09	1.26E-09
Molybdenum	1.00E+00	1.00E+00	1.00E+00	1.00E+00	3.20E-01	3.20E-01	3.20E-01	3.20E-01
Nickel	5.81E+00	5.81E+00	5.81E+00	5.81E+00	5.68E-01	5.68E-01	5.68E-01	5.68E-01
Phosphorus	1.30E-01	1.30E-01	1.30E-01	1.30E-01	4.17E-02	4.17E-02	4.17E-02	4.17E-02
Potassium	9.37E+00	9.37E+00	9.37E+00	9.37E+00	3.00E+00	3.00E+00	3.00E+00	3.00E+00
Rubidium	--	--	--	--	--	--	--	--
Selenium	2.08E+00	2.08E+00	2.08E+00	2.08E+00	2.78E-01	2.78E-01	2.78E-01	2.78E-01
Silver	2.50E-01	2.50E-01	2.50E-01	2.50E-01	3.20E-04	3.20E-04	3.20E-04	3.20E-04
Sodium	4.68E+01	9.73E+01	9.83E+01	9.83E+01	1.50E+01	3.11E+01	3.14E+01	3.14E+01
Strontium	6.03E+01	6.03E+01	6.03E+01	6.03E+01	1.93E+01	1.93E+01	1.93E+01	1.93E+01
Thallium	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.60E-02	1.60E-02	1.60E-02	1.60E-02
Tin	5.00E-01	5.00E-01	5.00E-01	5.00E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Titanium	1.36E+01	7.44E+01	8.76E+01	8.76E+01	4.34E+00	2.38E+01	2.80E+01	2.80E+01
Uranium	6.51E-01	6.51E-01	6.51E-01	6.51E-01	2.08E-01	2.08E-01	2.08E-01	2.08E-01
Vanadium	2.89E+01	2.89E+01	2.89E+01	2.89E+01	1.14E-01	1.14E-01	1.14E-01	1.14E-01
Zinc	2.64E+01	2.64E+01	2.64E+01	2.64E+01	5.14E-03	5.14E-03	5.14E-03	5.14E-03

Note:
The predicted prey concentrations were modelled with uptake factors from the USEPA (2007). An aluminum uptake factor was obtained from Table C.1 in Appendix C of Sample et al. (1998a); the median uptake factor of 0.0263 from this data set was selected.

Table B.19

Aboveground Produce Predicted Concentrations Due to Direct Deposition
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Units Conversion Factor (CF) (mg/g)	Annual Deposition Rate (Dr) (g/m^2-yr)	Fraction of Air Concentration In Vapor Phase (Fv) (refer to table B.10) -	Fraction Wet Deposition Adhere to Plant (Fw) (refer to table B.9) -	Interception Fraction Edible Produce Portion Vegetable (Rp) (refer to table B.9) -	Interception Fraction Edible Produce Portion Fruit (Rp) (refer to table B.9) -	Produce Surface Loss Coefficient Vegetable (kp) (refer to table B.9) (1/yr)	Produce Surface Loss Coefficient Fruit (kp) (refer to table B.9) (1/yr)	Length of Produce Exposure to Deposition per Harvest of Edible Produce Vegetable (Tp) (refer to table B.9) (yrs)	Length of Produce Exposure to Deposition per Harvest of Edible Produce Fruit (Tp) (refer to table B.9) (yrs)	Yield of Edible Portion of Produce Vegetable (Yp) (refer to table B.9) ($kg\ DW/m^2$)	Yield of Edible Portion of Produce Fruit (Yp) (refer to table B.9) ($kg\ DW/m^2$)	Predicted Produce Concentration Due to Direct Deposition Vegetable (Pd) (mg/kg DW)	Predicted Produce Concentration Due to Direct Deposition Fruit (Pd) (mg/kg DW)
Particulate Matter														
Total Particulate Matter	1.00E+03	5.00E+01	--	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	--	--
Particulate Matter (PM10)	1.00E+03	0.00E+00	--	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	--	--
Particulate Matter (PM2.5)	1.00E+03	0.00E+00	--	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	--	--
Metals														
Aluminum	1.00E+03	5.00E+00	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	2.74E+01	3.32E+01
Antimony	1.00E+03	1.50E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	8.22E-04	9.97E-04
Arsenic	1.00E+03	1.95E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.07E-01	1.30E-01
Barium	1.00E+03	4.05E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	2.22E-01	2.69E-01
Beryllium	1.00E+03	1.50E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	8.22E-04	9.97E-04
Bismuth	1.00E+03	1.65E-05	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	9.04E-05	1.10E-04
Boron	1.00E+03	1.25E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	6.85E-03	8.31E-03
Cadmium	1.00E+03	6.00E-06	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.29E-05	3.99E-05
Calcium	1.00E+03	6.50E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.56E+00	4.32E+00
Chromium Total	1.00E+03	5.55E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.04E-02	3.69E-02
Cobalt	1.00E+03	9.00E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	4.93E-03	5.98E-03
Copper	1.00E+03	1.85E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.01E-02	1.23E-02
Iron	1.00E+03	2.15E+00	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.18E+01	1.43E+01
Lead	1.00E+03	1.85E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.01E-02	1.23E-02
Lithium	1.00E+03	3.05E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.67E-02	2.03E-02
Magnesium	1.00E+03	7.50E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	4.11E+00	4.98E+00
Manganese	1.00E+03	4.61E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	2.52E-01	3.06E-01
Mercury, element	1.00E+03	1.32E-05	1.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	0.00E+00	0.00E+00
Mercury, divalent	1.00E+03	--	8.50E-01	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	5.11E-06	6.19E-06
Mercury, methyl	1.00E+03	--	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	6.95E-07	8.42E-07
Molybdenum	1.00E+03	4.00E-05	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	2.19E-04	2.66E-04
Nickel	1.00E+03	2.05E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.12E-02	1.36E-02
Phosphorus	1.00E+03	3.45E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.89E-01	2.29E-01
Potassium	1.00E+03	1.60E+00	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	8.77E+00	1.06E+01
Rubidium	1.00E+03	2.99E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.64E-03	1.98E-03
Selenium	1.00E+03	1.75E-05	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	9.59E-05	1.16E-04
Silver	1.00E+03	2.50E-05	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.37E-04	1.66E-04
Sodium	1.00E+03	9.50E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	5.21E+00	6.31E+00
Strontium	1.00E+03	1.05E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	5.76E-02	6.98E-02
Thallium	1.00E+03	3.95E-05	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	2.17E-04	2.62E-04
Tin	1.00E+03	1.50E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	8.22E-04	9.97E-04
Titanium	1.00E+03	2.10E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.15E+00	1.40E+00
Uranium	1.00E+03	9.00E-05	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	4.93E-04	5.98E-04
Vanadium	1.00E+03	4.00E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	2.19E-02	2.66E-02
Zinc	1.00E+03	5.50E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.01E-02	3.65E-02

Equation:

$$Pd = \frac{CF \times Hg_{factor} \times Dr \times (1 - Fv) \times Fw \times Rp \times [1.0 - \exp(-kp \times Tp)]}{Yp \times kp}$$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.78), and methylmercury (0.48*0.22)

Table B.20

Aboveground Produce Predicted Concentrations Due to Air-to-Plant Transfer
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Air Concentration In Vapor Phase (Fv) (refer to table B.10) -	Annual Air Predicted Concentration (Coa) (refer to table B.6) (µg/m^3)	Air -to-Plant Biotransfer Factor (Bv_{ag}) (refer to table B.10) (mg/kg DW)/(µg/g air)	Correction Factor for Above Ground Vegetation (VG_{ag}) (refer to table B.9) -	Density of Air (pa) (refer to table B.9) (g/m^3)	Predicted Produce Concentration Due to Air-to-Plant Transfer (Pv) (mg/kg DW)
Particulate Matter						
Total Particulate Matter	--	3.30E+01	--	1.00E+00	1.20E+03	--
Particulate Matter (PM10)	--	8.11E+00	--	1.00E+00	1.20E+03	--
Particulate Matter (PM2.5)	--	8.47E-01	--	1.00E+00	1.20E+03	--
Metals						
Aluminum	0.00E+00	8.85E-02	--	1.00E+00	1.20E+03	--
Antimony	0.00E+00	1.57E-05	--	1.00E+00	1.20E+03	--
Arsenic	0.00E+00	3.53E-04	--	1.00E+00	1.20E+03	--
Barium	0.00E+00	8.84E-02	--	1.00E+00	1.20E+03	--
Beryllium	0.00E+00	1.57E-05	--	1.00E+00	1.20E+03	--
Bismuth	0.00E+00	8.13E-06	--	1.00E+00	1.20E+03	--
Boron	0.00E+00	3.19E-05	--	1.00E+00	1.20E+03	--
Cadmium	0.00E+00	5.62E-05	--	1.00E+00	1.20E+03	--
Calcium	0.00E+00	--	--	1.00E+00	1.20E+03	--
Chromium Total	0.00E+00	1.55E-03	--	1.00E+00	1.20E+03	--
Cobalt	0.00E+00	3.17E-05	--	1.00E+00	1.20E+03	--
Copper	0.00E+00	3.39E-01	--	1.00E+00	1.20E+03	--
Iron	0.00E+00	1.03E-01	--	1.00E+00	1.20E+03	--
Lead	0.00E+00	1.68E-05	--	1.00E+00	1.20E+03	--
Lithium	0.00E+00	7.76E-05	--	1.00E+00	1.20E+03	--
Magnesium	0.00E+00	--	--	1.00E+00	1.20E+03	--
Manganese	0.00E+00	1.61E-03	--	1.00E+00	1.20E+03	--
Mercury, element	1.00E+00	2.15E-06	1.00E+00	1.00E+00	1.20E+03	1.79E-09
Mercury, divalent	8.50E-01	--	1.80E+03	1.00E+00	1.20E+03	--
Mercury, methyl	0.00E+00	--	1.00E+00	1.00E+00	1.20E+03	--
Molybdenum	0.00E+00	3.11E-05	--	1.00E+00	1.20E+03	--
Nickel	0.00E+00	1.80E-03	--	1.00E+00	1.20E+03	--
Phosphorus	0.00E+00	--	--	1.00E+00	1.20E+03	--
Potassium	0.00E+00	--	--	1.00E+00	1.20E+03	--
Rubidium	0.00E+00	4.87E-05	--	1.00E+00	1.20E+03	--
Selenium	0.00E+00	1.21E-05	--	1.00E+00	1.20E+03	--
Silver	0.00E+00	1.48E-04	--	1.00E+00	1.20E+03	--
Sodium	0.00E+00	--	--	1.00E+00	1.20E+03	--
Strontium	0.00E+00	5.05E-04	--	1.00E+00	1.20E+03	--
Thallium	0.00E+00	9.36E-06	--	1.00E+00	1.20E+03	--
Tin	0.00E+00	1.85E-03	--	1.00E+00	1.20E+03	--
Titanium	0.00E+00	1.39E-03	--	1.00E+00	1.20E+03	--
Uranium	0.00E+00	9.39E-06	--	1.00E+00	1.20E+03	--
Vanadium	0.00E+00	3.14E-04	--	1.00E+00	1.20E+03	--
Zinc	0.00E+00	1.89E-02	--	1.00E+00	1.20E+03	--

Equation: $Pv = Fv \times \frac{Coa \times Bv_{ag} \times VG_{ag} \times Hg_{factor}}{pa}$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.78), and methylmercury (0.48*0.22)

Table B.21

Aboveground Produce Predicted Concentrations Due to Root Uptake
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Soil Concentration Construction (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Operations (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Reclamation (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Post-Closure (Cs) (refer to table B.16) (mg/kg)	Plant-Soil Bioconcentration Factor Aboveground Produce (Br_{ag}) (refer to table B.10) (µg/g DW)/(µg/g soil)	Aboveground Produce Predicted Concentration Due to Root Uptake Construction (Cag) (mg/kg DW)	Aboveground Produce Predicted Concentration Due to Root Uptake Operations (Cag) (mg/kg DW)	Aboveground Produce Predicted Concentration Due to Root Uptake Reclamation (Cag) (mg/kg DW)	Aboveground Produce Predicted Concentration Due to Root Uptake Post-Closure (Cag) (mg/kg DW)
Particulate Matter									
Total Particulate Matter	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--
Metals									
Aluminum	8.76E+03	8.76E+03	8.76E+03	8.76E+03	1.08E-03	9.42E+00	9.42E+00	9.42E+00	9.42E+00
Antimony	1.00E+00	1.00E+00	1.00E+00	1.00E+00	5.16E-02	5.16E-02	5.16E-02	5.16E-02	5.16E-02
Arsenic	3.03E+01	3.03E+01	3.03E+01	3.03E+01	6.30E-03	1.91E-01	1.91E-01	1.91E-01	1.91E-01
Barium	3.88E+01	3.88E+01	3.88E+01	3.88E+01	3.22E-02	1.25E+00	1.25E+00	1.25E+00	1.25E+00
Beryllium	5.00E-01	5.00E-01	5.00E-01	5.00E-01	2.58E-03	1.29E-03	1.29E-03	1.29E-03	1.29E-03
Bismuth	--	--	--	--	8.81E-03	--	--	--	--
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.25E+00	5.64E+01	5.64E+01	5.64E+01	5.64E+01
Cadmium	4.89E-01	4.89E-01	4.89E-01	4.89E-01	1.20E-01	5.87E-02	5.87E-02	5.87E-02	5.87E-02
Calcium	--	--	--	--	7.50E-01	--	--	--	--
Chromium Total	1.30E+01	1.30E+01	1.30E+01	1.30E+01	4.88E-03	6.35E-02	6.35E-02	6.35E-02	6.35E-02
Cobalt	1.98E+00	1.98E+00	1.98E+00	1.98E+00	8.65E-03	1.71E-02	1.71E-02	1.71E-02	1.71E-02
Copper	4.93E+00	4.93E+00	4.93E+00	4.93E+00	2.69E-01	1.33E+00	1.33E+00	1.33E+00	1.33E+00
Iron	1.58E+04	1.58E+04	1.58E+04	1.58E+04	1.38E-03	2.18E+01	2.18E+01	2.18E+01	2.18E+01
Lead	2.48E+01	2.48E+01	2.48E+01	2.48E+01	1.36E-02	3.37E-01	3.37E-01	3.37E-01	3.37E-01
Lithium	8.43E+00	8.43E+00	8.43E+00	8.43E+00	6.67E-03	5.62E-02	5.62E-02	5.62E-02	5.62E-02
Magnesium	--	--	--	--	6.07E-01	--	--	--	--
Manganese	8.70E+01	8.70E+01	8.70E+01	8.70E+01	7.54E-02	6.56E+00	6.56E+00	6.56E+00	6.56E+00
Mercury, element	3.18E-01	3.18E-01	3.18E-01	3.18E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, divalent	4.10E-04	2.53E-03	3.07E-03	3.07E-03	1.40E-02	5.74E-06	3.54E-05	4.29E-05	4.29E-05
Mercury, methyl	3.94E-09	3.94E-09	3.94E-09	3.94E-09	2.90E-02	1.14E-10	1.14E-10	1.14E-10	1.14E-10
Molybdenum	1.00E+00	1.00E+00	1.00E+00	1.00E+00	8.42E-02	8.42E-02	8.42E-02	8.42E-02	8.42E-02
Nickel	5.81E+00	5.81E+00	5.81E+00	5.81E+00	9.30E-03	5.40E-02	5.40E-02	5.40E-02	5.40E-02
Phosphorus	1.30E-01	1.30E-01	1.30E-01	1.30E-01	3.50E+00	4.56E-01	4.56E-01	4.56E-01	4.56E-01
Potassium	9.37E+00	9.37E+00	9.37E+00	9.37E+00	6.07E-01	5.69E+00	5.69E+00	5.69E+00	5.69E+00
Rubidium	--	--	--	--	1.00E+00	--	--	--	--
Selenium	2.08E+00	2.08E+00	2.08E+00	2.08E+00	2.00E-02	4.16E-02	4.16E-02	4.16E-02	4.16E-02
Silver	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.38E-01	3.45E-02	3.45E-02	3.45E-02	3.45E-02
Sodium	4.68E+01	9.73E+01	9.83E+01	9.83E+01	5.75E-02	2.69E+00	5.60E+00	5.65E+00	5.65E+00
Strontium	6.03E+01	6.03E+01	6.03E+01	6.03E+01	5.36E-01	3.23E+01	3.23E+01	3.23E+01	3.23E+01
Thallium	5.00E-02	5.00E-02	5.00E-02	5.00E-02	8.58E-04	4.29E-05	4.29E-05	4.29E-05	4.29E-05
Tin	5.00E-01	5.00E-01	5.00E-01	5.00E-01	9.05E-03	4.53E-03	4.53E-03	4.53E-03	4.53E-03
Titanium	1.36E+01	7.44E+01	8.76E+01	8.76E+01	3.32E-03	4.50E-02	2.47E-01	2.91E-01	2.91E-01
Uranium	6.51E-01	6.51E-01	6.51E-01	6.51E-01	1.00E+00	6.51E-01	6.51E-01	6.51E-01	6.51E-01
Vanadium	2.89E+01	2.89E+01	2.89E+01	2.89E+01	3.32E-03	9.59E-02	9.59E-02	9.59E-02	9.59E-02
Zinc	2.64E+01	2.64E+01	2.64E+01	2.64E+01	9.70E-02	2.56E+00	2.56E+00	2.56E+00	2.56E+00

Equation: $Cag = Cs \times Br_{ag}$

Table B.22

Aboveground Produce Predicted Concentrations Due to Deposition, Vapour Transfer, and Root Uptake
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Produce Concentration Due to Direct Deposition		Predicted Produce Concentration Due to Air-to-Plant Transfer	Aboveground Produce Predicted Concentration Due to Root Uptake				Aboveground Produce (Vegetable) Predicted Concentration				Baseline Berry	Aboveground Produce (Fruit) Predicted Concentration			
	Vegetable (Pd) (refer to table B.19)	Fruit (Pd) (refer to table B.19)	(Pv) (refer to table B.20)	Construction (Cag) (refer to table B.21)	Operations (Cag) (refer to table B.21)	Reclamation (Cag) (refer to table B.21)	Post-Closure (Cag) (refer to table B.21)	Construction (Cv)	Operations (Cv)	Reclamation (Cv)	Post-Closure (Cv)	Concentration (Cfru) (refer to table B.1)	Construction (Cfru)	Operations (Cfru)	Reclamation (Cfru)	Post-Closure (Cfru) (1)
Contaminant	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)
Particulate Matter																
Total Particulate Matter	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--
Metals																
Aluminum	2.74E+01	3.32E+01	0.00E+00	9.42E+00	9.42E+00	9.42E+00	9.42E+00	3.68E+01	3.68E+01	3.68E+01	3.68E+01	2.60E+01	4.26E+01	4.26E+01	4.26E+01	2.60E+01
Antimony	8.22E-04	9.97E-04	0.00E+00	5.16E-02	5.16E-02	5.16E-02	5.16E-02	5.24E-02	5.24E-02	5.24E-02	5.24E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Arsenic	1.07E-01	1.30E-01	0.00E+00	1.91E-01	1.91E-01	1.91E-01	1.91E-01	2.98E-01	2.98E-01	2.98E-01	2.98E-01	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Barium	2.22E-01	2.69E-01	0.00E+00	1.25E+00	1.25E+00	1.25E+00	1.25E+00	1.47E+00	1.47E+00	1.47E+00	1.47E+00	2.33E+01	2.33E+01	2.33E+01	2.33E+01	2.33E+01
Beryllium	8.22E-04	9.97E-04	0.00E+00	1.29E-03	1.29E-03	1.29E-03	1.29E-03	2.11E-03	2.11E-03	2.11E-03	2.11E-03	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Bismuth	9.04E-05	1.10E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.04E-05	9.04E-05	9.04E-05	9.04E-05	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01
Boron	6.85E-03	8.31E-03	0.00E+00	5.64E+01	5.64E+01	5.64E+01	5.64E+01	5.64E+01	5.64E+01	5.64E+01	5.64E+01	1.27E+01	5.64E+01	5.64E+01	5.64E+01	5.64E+01
Cadmium	3.29E-05	3.99E-05	0.00E+00	5.87E-02	5.87E-02	5.87E-02	5.87E-02	5.87E-02	5.87E-02	5.87E-02	5.87E-02	2.13E-01	2.13E-01	2.13E-01	2.13E-01	2.13E-01
Calcium	3.56E+00	4.32E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.56E+00	3.56E+00	3.56E+00	3.56E+00	6.20E+03	6.20E+03	6.20E+03	6.20E+03	6.20E+03
Chromium Total	3.04E-02	3.69E-02	0.00E+00	6.35E-02	6.35E-02	6.35E-02	6.35E-02	9.39E-02	9.39E-02	9.39E-02	9.39E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Cobalt	4.93E-03	5.98E-03	0.00E+00	1.71E-02	1.71E-02	1.71E-02	1.71E-02	2.21E-02	2.21E-02	2.21E-02	2.21E-02	5.33E-01	5.33E-01	5.33E-01	5.33E-01	5.33E-01
Copper	1.01E-02	1.23E-02	0.00E+00	1.33E+00	1.33E+00	1.33E+00	1.33E+00	1.34E+00	1.34E+00	1.34E+00	1.34E+00	7.33E+00	7.33E+00	7.33E+00	7.33E+00	7.33E+00
Iron	1.18E+01	1.43E+01	0.00E+00	2.18E+01	2.18E+01	2.18E+01	2.18E+01	3.36E+01	3.36E+01	3.36E+01	3.36E+01	3.20E+01	3.61E+01	3.61E+01	3.61E+01	3.20E+01
Lead	1.01E-02	1.23E-02	0.00E+00	3.37E-01	3.37E-01	3.37E-01	3.37E-01	3.47E-01	3.47E-01	3.47E-01	3.47E-01	3.47E-01	3.49E-01	3.49E-01	3.49E-01	3.47E-01
Lithium	1.67E-02	2.03E-02	0.00E+00	5.62E-02	5.62E-02	5.62E-02	5.62E-02	7.29E-02	7.29E-02	7.29E-02	7.29E-02	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00
Magnesium	4.11E+00	4.98E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.11E+00	4.11E+00	4.11E+00	4.11E+00	3.33E+02	3.33E+02	3.33E+02	3.33E+02	3.33E+02
Manganese	2.52E-01	3.06E-01	0.00E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	6.81E+00	6.81E+00	6.81E+00	6.81E+00	4.20E+02	4.20E+02	4.20E+02	4.20E+02	4.20E+02
Mercury, element	0.00E+00	0.00E+00	1.79E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-09	1.79E-09	1.79E-09	1.79E-09	1.67E-02	1.67E-02	1.67E-02	1.67E-02	1.67E-02
Mercury, divalent	5.11E-06	6.19E-06	0.00E+00	5.74E-06	3.54E-05	4.29E-05	4.29E-05	1.08E-05	4.05E-05	4.80E-05	4.80E-05	--	1.19E-05	4.16E-05	4.91E-05	4.29E-05
Mercury, methyl	6.95E-07	8.42E-07	0.00E+00	1.14E-10	1.14E-10	1.14E-10	1.14E-10	6.95E-07	6.95E-07	6.95E-07	6.95E-07	--	8.42E-07	8.42E-07	8.42E-07	1.14E-10
Molybdenum	2.19E-04	2.66E-04	0.00E+00	8.42E-02	8.42E-02	8.42E-02	8.42E-02	8.44E-02	8.44E-02	8.44E-02	8.44E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Nickel	1.12E-02	1.36E-02	0.00E+00	5.40E-02	5.40E-02	5.40E-02	5.40E-02	6.53E-02	6.53E-02	6.53E-02	6.53E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Phosphorus	1.89E-01	2.29E-01	0.00E+00	4.56E-01	4.56E-01	4.56E-01	4.56E-01	6.45E-01	6.45E-01	6.45E-01	6.45E-01	1.07E+03	1.07E+03	1.07E+03	1.07E+03	1.07E+03
Potassium	8.77E+00	1.06E+01	0.00E+00	5.69E+00	5.69E+00	5.69E+00	5.69E+00	1.45E+01	1.45E+01	1.45E+01	1.45E+01	5.73E+03	5.73E+03	5.73E+03	5.73E+03	5.73E+03
Rubidium	1.64E-03	1.98E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.64E-03	1.64E-03	1.64E-03	1.64E-03	--	1.98E-03	1.98E-03	1.98E-03	0.00E+00
Selenium	9.59E-05	1.16E-04	0.00E+00	4.16E-02	4.16E-02	4.16E-02	4.16E-02	4.17E-02	4.17E-02	4.17E-02	4.17E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Silver	1.37E-04	1.66E-04	0.00E+00	3.45E-02	3.45E-02	3.45E-02	3.45E-02	3.47E-02	3.47E-02	3.47E-02	3.47E-02	2.67E-01	2.67E-01	2.67E-01	2.67E-01	2.67E-01
Sodium	5.21E+00	6.31E+00	0.00E+00	2.69E+00	5.60E+00	5.65E+00	5.65E+00	7.90E+00	1.08E+01	1.09E+01	1.09E+01	1.67E+02	1.67E+02	1.67E+02	1.67E+02	1.67E+02
Strontium	5.76E-02	6.98E-02	0.00E+00	3.23E+01	3.23E+01	3.23E+01	3.23E+01	3.24E+01	3.24E+01	3.24E+01	3.24E+01	1.47E+01	3.24E+01	3.24E+01	3.24E+01	3.23E+01
Thallium	2.17E-04	2.62E-04	0.00E+00	4.29E-05	4.29E-05	4.29E-05	4.29E-05	2.59E-04	2.59E-04	2.59E-04	2.59E-04	7.33E-02	7.33E-02	7.33E-02	7.33E-02	7.33E-02
Tin	8.22E-04	9.97E-04	0.00E+00	4.53E-03	4.53E-03	4.53E-03	4.53E-03	5.35E-03	5.35E-03	5.35E-03	5.35E-03	8.00E+00	8.00E+00	8.00E+00	8.00E+00	8.00E+00
Titanium	1.15E+00	1.40E+00	0.00E+00	4.50E-02	2.47E-01	2.91E-01	2.91E-01	1.20E+00	1.40E+00	1.44E+00	1.44E+00	1.67E+00	1.67E+00	1.67E+00	1.69E+00	1.67E+00
Uranium	4.93E-04	5.98E-04	0.00E+00	6.51E-01	6.51E-01	6.51E-01	6.51E-01	6.51E-01	6.51E-01	6.51E-01	6.51E-01	5.33E-02	6.52E-01	6.52E-01	6.52E-01	6.51E-01
Vanadium	2.19E-02	2.66E-02	0.00E+00	9.59E-02	9.59E-02	9.59E-02	9.59E-02	1.18E-01	1.18E-01	1.18E-01	1.18E-01	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Zinc	3.01E-02	3.65E-02	0.00E+00	2.56E+00	2.56E+00	2.56E+00	2.56E+00	2.59E+00	2.59E+00	2.59E+00	2.59E+00	1.40E+01	1.40E+01	1.40E+01	1.40E+01	1.40E+01

Equation: Cv and Cfru = Pd + Pv +Cag

Table B.23

Belowground Produce Predicted Concentrations Due to Root Uptake
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Soil Concentration				Plant-Soil Bioconcentration Factor Belowground Produce ($Br_{rootveg}$)	Correction Factor For Belowground Produce $VG_{rootveg}$	Belowground Produce Predicted Concentration Due to Root Uptake			
	Construction (Cs) (refer to table B.16)	Operations (Cs) (refer to table B.16)	Reclamation (Cs) (refer to table B.16)	Post-Closure (Cs) (refer to table B.16)	(refer to table B.10)	(refer to table B.9)	Construction (Cr)	Operations (Cr)	Reclamation (Cr)	Post-Closure (Cr)
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(µg/g DW)/(µg/g soil)	-	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)
Particulate Matter										
Total Particulate Matter	--	--	--	--	--	1.00E+00	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	1.00E+00	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	1.00E+00	--	--	--	--
Metals										
Aluminum	8.76E+03	8.76E+03	8.76E+03	8.76E+03	6.50E-04	1.00E+00	5.69E+00	5.69E+00	5.69E+00	5.69E+00
Antimony	1.00E+00	1.00E+00	1.00E+00	1.00E+00	3.00E-02	1.00E+00	3.00E-02	3.00E-02	3.00E-02	3.00E-02
Arsenic	3.03E+01	3.03E+01	3.03E+01	3.03E+01	8.00E-03	1.00E+00	2.42E-01	2.42E-01	2.42E-01	2.42E-01
Barium	3.88E+01	3.88E+01	3.88E+01	3.88E+01	1.50E-02	1.00E+00	5.82E-01	5.82E-01	5.82E-01	5.82E-01
Beryllium	5.00E-01	5.00E-01	5.00E-01	5.00E-01	1.50E-03	1.00E+00	7.50E-04	7.50E-04	7.50E-04	7.50E-04
Bismuth	--	--	--	--	5.00E-03	1.00E+00	--	--	--	--
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.00E+00	1.00E+00	5.00E+01	5.00E+01	5.00E+01	5.00E+01
Cadmium	4.89E-01	4.89E-01	4.89E-01	4.89E-01	6.40E-02	1.00E+00	3.13E-02	3.13E-02	3.13E-02	3.13E-02
Calcium	--	--	--	--	3.50E-01	1.00E+00	--	--	--	--
Chromium Total	1.30E+01	1.30E+01	1.30E+01	1.30E+01	4.50E-03	1.00E+00	5.85E-02	5.85E-02	5.85E-02	5.85E-02
Cobalt	1.98E+00	1.98E+00	1.98E+00	1.98E+00	7.00E-03	1.00E+00	1.39E-02	1.39E-02	1.39E-02	1.39E-02
Copper	4.93E+00	4.93E+00	4.93E+00	4.93E+00	2.50E-01	1.00E+00	1.23E+00	1.23E+00	1.23E+00	1.23E+00
Iron	1.58E+04	1.58E+04	1.58E+04	1.58E+04	1.00E-03	1.00E+00	1.58E+01	1.58E+01	1.58E+01	1.58E+01
Lead	2.48E+01	2.48E+01	2.48E+01	2.48E+01	9.00E-03	1.00E+00	2.23E-01	2.23E-01	2.23E-01	2.23E-01
Lithium	8.43E+00	8.43E+00	8.43E+00	8.43E+00	4.00E-03	1.00E+00	3.37E-02	3.37E-02	3.37E-02	3.37E-02
Magnesium	--	--	--	--	5.50E-01	1.00E+00	--	--	--	--
Manganese	8.70E+01	8.70E+01	8.70E+01	8.70E+01	5.00E-02	1.00E+00	4.35E+00	4.35E+00	4.35E+00	4.35E+00
Mercury, element	3.18E-01	3.18E-01	3.18E-01	3.18E-01	0.00E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, divalent	4.10E-04	2.53E-03	3.07E-03	3.07E-03	3.60E-02	1.00E+00	1.48E-05	9.10E-05	1.10E-04	1.10E-04
Mercury, methyl	3.94E-09	3.94E-09	3.94E-09	3.94E-09	9.90E-02	1.00E+00	3.90E-10	3.90E-10	3.90E-10	3.90E-10
Molybdenum	1.00E+00	1.00E+00	1.00E+00	1.00E+00	6.00E-02	1.00E+00	6.00E-02	6.00E-02	6.00E-02	6.00E-02
Nickel	5.81E+00	5.81E+00	5.81E+00	5.81E+00	8.00E-03	1.00E+00	4.65E-02	4.65E-02	4.65E-02	4.65E-02
Phosphorus	1.30E-01	1.30E-01	1.30E-01	1.30E-01	3.50E+00	1.00E+00	4.56E-01	4.56E-01	4.56E-01	4.56E-01
Potassium	9.37E+00	9.37E+00	9.37E+00	9.37E+00	5.50E-01	1.00E+00	5.15E+00	5.15E+00	5.15E+00	5.15E+00
Rubidium	--	--	--	--	1.00E+00	1.00E+00	--	--	--	--
Selenium	2.08E+00	2.08E+00	2.08E+00	2.08E+00	2.20E-02	1.00E+00	4.58E-02	4.58E-02	4.58E-02	4.58E-02
Silver	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.00E-01	1.00E+00	2.50E-02	2.50E-02	2.50E-02	2.50E-02
Sodium	4.68E+01	9.73E+01	9.83E+01	9.83E+01	5.50E-02	1.00E+00	2.57E+00	5.35E+00	5.40E+00	5.40E+00
Strontium	6.03E+01	6.03E+01	6.03E+01	6.03E+01	2.50E-01	1.00E+00	1.51E+01	1.51E+01	1.51E+01	1.51E+01
Thallium	5.00E-02	5.00E-02	5.00E-02	5.00E-02	4.00E-04	1.00E+00	2.00E-05	2.00E-05	2.00E-05	2.00E-05
Tin	5.00E-01	5.00E-01	5.00E-01	5.00E-01	6.00E-03	1.00E+00	3.00E-03	3.00E-03	3.00E-03	3.00E-03
Titanium	1.36E+01	7.44E+01	8.76E+01	8.76E+01	3.00E-03	1.00E+00	4.07E-02	2.23E-01	2.63E-01	2.63E-01
Uranium	6.51E-01	6.51E-01	6.51E-01	6.51E-01	1.00E+00	1.00E+00	6.51E-01	6.51E-01	6.51E-01	6.51E-01
Vanadium	2.89E+01	2.89E+01	2.89E+01	2.89E+01	3.00E-03	1.00E+00	8.67E-02	8.67E-02	8.67E-02	8.67E-02
Zinc	2.64E+01	2.64E+01	2.64E+01	2.64E+01	9.00E-01	1.00E+00	2.38E+01	2.38E+01	2.38E+01	2.38E+01

Equation: $Cr = Cs \times Br_{rootveg} \times VG_{rootveg}$

Table B.24

Predicted Produce Concentrations
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Aboveground Produce (Vegetable) Predicted Concentration				Aboveground Produce (Fruit) Predicted Concentration				Belowground Produce Predicted Concentration			
Contaminant	Construction (Cv) (refer to table B.22) (mg/kg FW)	Operations (Cv) (refer to table B.22) (mg/kg FW)	Reclamation (Cv) (refer to table B.22) (mg/kg FW)	Post-Closure (Cv) (refer to table B.22) (mg/kg FW)	Construction (Cfru) (refer to table B.22) (mg/kg FW)	Operations (Cfru) (refer to table B.22) (mg/kg FW)	Reclamation (Cfru) (refer to table B.22) (mg/kg FW)	Post-Closure (Cfru) (refer to table B.22) (mg/kg FW)	Construction (Cr) (refer to table B.23) (mg/kg FW)	Operations (Cr) (refer to table B.23) (mg/kg FW)	Reclamation (Cr) (refer to table B.23) (mg/kg FW)	Post-Closure (Cr) (refer to table B.23) (mg/kg FW)
Particulate Matter												
Total Particulate Matter	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--	--	--	--
Metals												
Aluminum	5.52E+00	5.52E+00	5.52E+00	5.52E+00	6.40E+00	6.40E+00	6.40E+00	3.90E+00	8.54E-01	8.54E-01	8.54E-01	8.54E-01
Antimony	7.87E-03	7.87E-03	7.87E-03	7.87E-03	1.60E-01	1.60E-01	1.60E-01	1.60E-01	4.50E-03	4.50E-03	4.50E-03	4.50E-03
Arsenic	4.47E-02	4.47E-02	4.47E-02	4.47E-02	1.60E-01	1.60E-01	1.60E-01	1.60E-01	3.64E-02	3.64E-02	3.64E-02	3.64E-02
Barium	2.20E-01	2.20E-01	2.20E-01	2.20E-01	3.50E+00	3.50E+00	3.50E+00	3.50E+00	8.73E-02	8.73E-02	8.73E-02	8.73E-02
Beryllium	3.17E-04	3.17E-04	3.17E-04	3.17E-04	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.13E-04	1.13E-04	1.13E-04	1.13E-04
Bismuth	1.36E-05	1.36E-05	1.36E-05	1.36E-05	2.50E-02	2.50E-02	2.50E-02	2.50E-02	--	--	--	--
Boron	8.45E+00	8.45E+00	8.45E+00	8.45E+00	8.45E+00	8.45E+00	8.45E+00	8.45E+00	7.50E+00	7.50E+00	7.50E+00	7.50E+00
Cadmium	8.81E-03	8.81E-03	8.81E-03	8.81E-03	3.20E-02	3.20E-02	3.20E-02	3.20E-02	4.69E-03	4.69E-03	4.69E-03	4.69E-03
Calcium	5.34E-01	5.34E-01	5.34E-01	5.34E-01	9.30E+02	9.30E+02	9.30E+02	9.30E+02	--	--	--	--
Chromium Total	1.41E-02	1.41E-02	1.41E-02	1.41E-02	1.60E-01	1.60E-01	1.60E-01	1.60E-01	8.78E-03	8.78E-03	8.78E-03	8.78E-03
Cobalt	3.31E-03	3.31E-03	3.31E-03	3.31E-03	8.00E-02	8.00E-02	8.00E-02	8.00E-02	2.08E-03	2.08E-03	2.08E-03	2.08E-03
Copper	2.00E-01	2.00E-01	2.00E-01	2.00E-01	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.85E-01	1.85E-01	1.85E-01	1.85E-01
Iron	5.04E+00	5.04E+00	5.04E+00	5.04E+00	5.42E+00	5.42E+00	5.42E+00	4.80E+00	2.37E+00	2.37E+00	2.37E+00	2.37E+00
Lead	5.20E-02	5.20E-02	5.20E-02	5.20E-02	5.23E-02	5.23E-02	5.23E-02	5.20E-02	3.35E-02	3.35E-02	3.35E-02	3.35E-02
Lithium	1.09E-02	1.09E-02	1.09E-02	1.09E-02	1.70E-01	1.70E-01	1.70E-01	1.70E-01	5.06E-03	5.06E-03	5.06E-03	5.06E-03
Magnesium	6.17E-01	6.17E-01	6.17E-01	6.17E-01	5.00E+01	5.00E+01	5.00E+01	5.00E+01	--	--	--	--
Manganese	1.02E+00	1.02E+00	1.02E+00	1.02E+00	6.30E+01	6.30E+01	6.30E+01	6.30E+01	6.53E-01	6.53E-01	6.53E-01	6.53E-01
Mercury, element	2.69E-10	2.69E-10	2.69E-10	2.69E-10	2.50E-03	2.50E-03	2.50E-03	2.50E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, divalent	1.63E-06	6.07E-06	7.21E-06	7.21E-06	1.79E-06	6.24E-06	7.37E-06	6.44E-06	2.21E-06	1.36E-05	1.66E-05	1.66E-05
Mercury, methyl	1.04E-07	1.04E-07	1.04E-07	1.04E-07	1.26E-07	1.26E-07	1.26E-07	1.71E-11	5.85E-11	5.85E-11	5.85E-11	5.85E-11
Molybdenum	1.27E-02	1.27E-02	1.27E-02	1.27E-02	1.60E-01	1.60E-01	1.60E-01	1.60E-01	9.00E-03	9.00E-03	9.00E-03	9.00E-03
Nickel	9.79E-03	9.79E-03	9.79E-03	9.79E-03	1.60E-01	1.60E-01	1.60E-01	1.60E-01	6.97E-03	6.97E-03	6.97E-03	6.97E-03
Phosphorus	9.67E-02	9.67E-02	9.67E-02	9.67E-02	1.60E+02	1.60E+02	1.60E+02	1.60E+02	6.84E-02	6.84E-02	6.84E-02	6.84E-02
Potassium	2.17E+00	2.17E+00	2.17E+00	2.17E+00	8.60E+02	8.60E+02	8.60E+02	8.60E+02	7.73E-01	7.73E-01	7.73E-01	7.73E-01
Rubidium	2.45E-04	2.45E-04	2.45E-04	2.45E-04	2.98E-04	2.98E-04	2.98E-04	0.00E+00	--	--	--	--
Selenium	6.25E-03	6.25E-03	6.25E-03	6.25E-03	1.60E-01	1.60E-01	1.60E-01	1.60E-01	6.86E-03	6.86E-03	6.86E-03	6.86E-03
Silver	5.20E-03	5.20E-03	5.20E-03	5.20E-03	4.00E-02	4.00E-02	4.00E-02	4.00E-02	3.75E-03	3.75E-03	3.75E-03	3.75E-03
Sodium	1.18E+00	1.62E+00	1.63E+00	1.63E+00	2.50E+01	2.50E+01	2.50E+01	2.50E+01	3.86E-01	8.03E-01	8.11E-01	8.11E-01
Strontium	4.86E+00	4.86E+00	4.86E+00	4.86E+00	4.86E+00	4.86E+00	4.86E+00	4.85E+00	2.26E+00	2.26E+00	2.26E+00	2.26E+00
Thallium	3.89E-05	3.89E-05	3.89E-05	3.89E-05	1.10E-02	1.10E-02	1.10E-02	1.10E-02	3.00E-06	3.00E-06	3.00E-06	3.00E-06
Tin	8.02E-04	8.02E-04	8.02E-04	8.02E-04	1.20E+00	1.20E+00	1.20E+00	1.20E+00	4.50E-04	4.50E-04	4.50E-04	4.50E-04
Titanium	1.79E-01	2.10E-01	2.16E-01	2.16E-01	2.50E-01	2.50E-01	2.53E-01	2.50E-01	6.10E-03	3.35E-02	3.94E-02	3.94E-02
Uranium	9.77E-02	9.77E-02	9.77E-02	9.77E-02	9.77E-02	9.77E-02	9.77E-02	9.77E-02	9.77E-02	9.77E-02	9.77E-02	9.77E-02
Vanadium	1.77E-02	1.77E-02	1.77E-02	1.77E-02	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.30E-02	1.30E-02	1.30E-02	1.30E-02
Zinc	3.89E-01	3.89E-01	3.89E-01	3.89E-01	2.10E+00	2.10E+00	2.10E+00	2.10E+00	3.56E+00	3.56E+00	3.56E+00	3.56E+00

Table B.25

Predicted Forage Concentration Due to Direct Deposition
Animal Product Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Units Conversion Factor (CF) (mg/g)	Annual Deposition Rate (Dr) (refer to table B.7) (g/m^2-yr)	Fraction of Air Concentration In Vapor Phase (Fv) (refer to table B.10) -	Fraction Wet Deposition Adhere to Plant (Fw) (refer to table B.9) -	Interception Fraction Edible Plant Portion Forage (Rp) (refer to table B.9) -	Plant Surface Loss Coefficient Forage (kp) (refer to table B.9) (yr^{-1})	Length of Plant Exposure to Deposition per Harvest of Edible Plant Forage (Tp) (refer to table B.9) (yrs)	Yield of Edible Portion of Plant Forage (Yp) (refer to table B.9) (kg DW/m^2)	Forage Concentration Due to Direct Deposition Forage (Pd) (mg/kg DW)
Particulate Matter									
Total Particulate Matter	1.00E+03	5.00E+01	--	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Particulate Matter (PM10)	1.00E+03	0.00E+00	--	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Particulate Matter (PM2.5)	1.00E+03	0.00E+00	--	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Metals									
Aluminum	1.00E+03	5.00E+00	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.27E+02
Antimony	1.00E+03	1.50E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	6.81E-03
Arsenic	1.00E+03	1.95E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	8.85E-01
Barium	1.00E+03	4.05E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.84E+00
Beryllium	1.00E+03	1.50E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	6.81E-03
Bismuth	1.00E+03	1.65E-05	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	7.49E-04
Boron	1.00E+03	1.25E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	5.67E-02
Cadmium	1.00E+03	6.00E-06	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.72E-04
Calcium	1.00E+03	6.50E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.95E+01
Chromium Total	1.00E+03	5.55E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.52E-01
Cobalt	1.00E+03	9.00E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	4.08E-02
Copper	1.00E+03	1.85E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	8.39E-02
Iron	1.00E+03	2.15E+00	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	9.75E+01
Lead	1.00E+03	1.85E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	8.39E-02
Lithium	1.00E+03	3.05E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.38E-01
Magnesium	1.00E+03	7.50E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	3.40E+01
Manganese	1.00E+03	4.61E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.09E+00
Mercury, element	1.00E+03	1.32E-05	1.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Mercury, divalent	1.00E+03	--	8.50E-01	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Mercury, methyl	1.00E+03	--	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Molybdenum	1.00E+03	4.00E-05	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.81E-03
Nickel	1.00E+03	2.05E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	9.30E-02
Phosphorus	1.00E+03	3.45E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.57E+00
Potassium	1.00E+03	1.60E+00	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	7.26E+01
Rubidium	1.00E+03	2.99E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.35E-02
Selenium	1.00E+03	1.75E-05	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	7.94E-04
Silver	1.00E+03	2.50E-05	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.13E-03
Sodium	1.00E+03	9.50E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	4.31E+01
Strontium	1.00E+03	1.05E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	4.76E-01
Thallium	1.00E+03	3.95E-05	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.79E-03
Tin	1.00E+03	1.50E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	6.81E-03
Titanium	1.00E+03	2.10E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	9.53E+00
Uranium	1.00E+03	9.00E-05	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	4.08E-03
Vanadium	1.00E+03	4.00E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.81E-01
Zinc	1.00E+03	5.50E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.50E-01

Equation:

$$Pd = \frac{CF \times Hg_{factor} \times Dr \times (1 - Fv) \times Fw \times Rp \times [1.0 - \exp(-kp \times Tp)]}{Yp \times kp}$$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.78), and methylmercury (0.48*0.22)

Table B.26

Forage Predicted Concentration Due to Air-to-Plant Transfer
Animal Product Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Air Concentration In Vapor Phase (Fv) (refer to table B.25) -	Annual Air Predicted Concentration (Coa) (refer to table B.6) (µg/m^3)	Air -to-Plant Biotransfer Factor (Bv_{ag}) (refer to table B.10) (mg/kg DW)/(µg/g air)	Correction Factor for Above Ground Vegetation (1) Forage (VG_{ag}) (refer to table B.9) -	Density of Air (pa) (refer to table B.9) (g/m^3)	Predicted Forage Concentration Due to Air-to-Plant Transfer Forage (Pv) (mg/kg DW)
Particulate Matter						
Total Particulate Matter	--	3.30E+01	--	1.00E+00	1.20E+03	0.00E+00
Particulate Matter (PM10)	--	8.11E+00	--	1.00E+00	1.20E+03	0.00E+00
Particulate Matter (PM2.5)	--	8.47E-01	--	1.00E+00	1.20E+03	0.00E+00
Metals						
Aluminum	0.00E+00	8.85E-02	--	1.00E+00	1.20E+03	0.00E+00
Antimony	0.00E+00	1.57E-05	--	1.00E+00	1.20E+03	0.00E+00
Arsenic	0.00E+00	3.53E-04	--	1.00E+00	1.20E+03	0.00E+00
Barium	0.00E+00	8.84E-02	--	1.00E+00	1.20E+03	0.00E+00
Beryllium	0.00E+00	1.57E-05	--	1.00E+00	1.20E+03	0.00E+00
Bismuth	0.00E+00	8.13E-06	--	1.00E+00	1.20E+03	0.00E+00
Boron	0.00E+00	3.19E-05	--	1.00E+00	1.20E+03	0.00E+00
Cadmium	0.00E+00	5.62E-05	--	1.00E+00	1.20E+03	0.00E+00
Calcium	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Chromium Total	0.00E+00	1.55E-03	--	1.00E+00	1.20E+03	0.00E+00
Cobalt	0.00E+00	3.17E-05	--	1.00E+00	1.20E+03	0.00E+00
Copper	0.00E+00	3.39E-01	--	1.00E+00	1.20E+03	0.00E+00
Iron	0.00E+00	1.03E-01	--	1.00E+00	1.20E+03	0.00E+00
Lead	0.00E+00	1.68E-05	--	1.00E+00	1.20E+03	0.00E+00
Lithium	0.00E+00	7.76E-05	--	1.00E+00	1.20E+03	0.00E+00
Magnesium	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Manganese	0.00E+00	1.61E-03	--	1.00E+00	1.20E+03	0.00E+00
Mercury, element	1.00E+00	2.15E-06	1.00E+00	1.00E+00	1.20E+03	1.79E-09
Mercury, divalent	8.50E-01	--	1.80E+03	1.00E+00	1.20E+03	0.00E+00
Mercury, methyl	0.00E+00	--	1.00E+00	1.00E+00	1.20E+03	0.00E+00
Molybdenum	0.00E+00	3.11E-05	--	1.00E+00	1.20E+03	0.00E+00
Nickel	0.00E+00	1.80E-03	--	1.00E+00	1.20E+03	0.00E+00
Phosphorus	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Potassium	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Rubidium	0.00E+00	4.87E-05	--	1.00E+00	1.20E+03	0.00E+00
Selenium	0.00E+00	1.21E-05	--	1.00E+00	1.20E+03	0.00E+00
Silver	0.00E+00	1.48E-04	--	1.00E+00	1.20E+03	0.00E+00
Sodium	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Strontium	0.00E+00	5.05E-04	--	1.00E+00	1.20E+03	0.00E+00
Thallium	0.00E+00	9.36E-06	--	1.00E+00	1.20E+03	0.00E+00
Tin	0.00E+00	1.85E-03	--	1.00E+00	1.20E+03	0.00E+00
Titanium	0.00E+00	1.39E-03	--	1.00E+00	1.20E+03	0.00E+00
Uranium	0.00E+00	9.39E-06	--	1.00E+00	1.20E+03	0.00E+00
Vanadium	0.00E+00	3.14E-04	--	1.00E+00	1.20E+03	0.00E+00
Zinc	0.00E+00	1.89E-02	--	1.00E+00	1.20E+03	0.00E+00

Equation: $Pv = Fv \times \frac{Coa \times Bv_{ag} \times VGag \times Hg_{factor}}{pa}$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.78), and methylmercury (0.48*0.22)

Table B.27

Forage Predicted Concentration Due to Root Uptake
Animal Product Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Forage Concentration Due to Direct Deposition (Pd) (refer to table B.25) (mg/kg DW)	Predicted Forage Concentration Due to Air-to-Plant Transfer (Pv) (refer to table B.26) (mg/kg DW)	Predicted Soil Concentration				Plant-Soil Bioconcentration Factor Forage (Br_{forage}) (refer to table B.10) (µg/g DW)/(µg/g soil)	Berry Concentration Dry Weight Baseline (Cfru) (refer to table B.1) (mg/kg DW)	Forage Predicted Concentration Dry Weight				Berry Concentration Wet Weight Baseline (Cfru) (refer to table B.1) (mg/kg FW)	Forage Predicted Concentration Wet Weight			
			Construction (Cs) (refer to table B.16) (mg/kg)	Operations (Cs) (refer to table B.16) (mg/kg)	Reclamation (Cs) (refer to table B.16) (mg/kg)	Post-Closure (Cs) (refer to table B.16) (mg/kg)			Construction (Cfo) (mg/kg DW)	Operations (Cfo) (mg/kg DW)	Reclamation (Cfo) (mg/kg DW)	Post-Closure (Cfo) (mg/kg DW)		Construction (Cfo) (mg/kg FW)	Operations (Cfo) (mg/kg FW)	Reclamation (Cfo) (mg/kg FW)	Post-Closure (Cfo) (mg/kg FW)
Particulate Matter																	
Total Particulate Matter	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Aluminum	2.27E+02	0.00E+00	8.76E+03	8.76E+03	8.76E+03	8.76E+03	4.00E-03	2.60E+01	2.62E+02	2.62E+02	2.62E+02	2.62E+02	3.90E+00	3.93E+01	3.93E+01	3.93E+01	3.93E+01
Antimony	6.81E-03	0.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	2.00E-01	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Arsenic	8.85E-01	0.00E+00	3.03E+01	3.03E+01	3.03E+01	3.03E+01	3.60E-02	1.07E+00	1.98E+00	1.98E+00	1.98E+00	1.98E+00	1.60E-01	2.96E-01	2.96E-01	2.96E-01	2.96E-01
Barium	1.84E+00	0.00E+00	3.88E+01	3.88E+01	3.88E+01	3.88E+01	1.50E-01	2.33E+01	2.33E+01	2.33E+01	2.33E+01	2.33E+01	3.50E+00	3.50E+00	3.50E+00	3.50E+00	3.50E+00
Beryllium	6.81E-03	0.00E+00	5.00E-01	5.00E-01	5.00E-01	5.00E-01	1.00E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Bismuth	7.49E-04	0.00E+00	--	--	--	--	3.50E-02	1.67E-01	--	--	--	--	2.50E-02	--	--	--	--
Boron	5.67E-02	0.00E+00	2.50E+01	2.50E+01	2.50E+01	2.50E+01	4.00E+00	1.27E+01	1.00E+02	1.00E+02	1.00E+02	1.00E+02	1.90E+00	1.50E+01	1.50E+01	1.50E+01	1.50E+01
Cadmium	2.72E-04	0.00E+00	4.89E-01	4.89E-01	4.89E-01	4.89E-01	3.60E-01	2.13E-01	2.13E-01	2.13E-01	2.13E-01	2.13E-01	3.20E-02	3.20E-02	3.20E-02	3.20E-02	3.20E-02
Calcium	2.95E+01	0.00E+00	--	--	--	--	3.50E+00	6.20E+03	--	--	--	--	9.30E+02	--	--	--	--
Chromium Total	2.52E-01	0.00E+00	1.30E+01	1.30E+01	1.30E+01	1.30E+01	7.50E-03	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Cobalt	4.08E-02	0.00E+00	1.98E+00	1.98E+00	1.98E+00	1.98E+00	2.00E-02	5.33E-01	5.33E-01	5.33E-01	5.33E-01	5.33E-01	8.00E-02	8.00E-02	8.00E-02	8.00E-02	8.00E-02
Copper	8.39E-02	0.00E+00	4.93E+00	4.93E+00	4.93E+00	4.93E+00	4.00E-01	7.33E+00	7.33E+00	7.33E+00	7.33E+00	7.33E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
Iron	9.75E+01	0.00E+00	1.58E+04	1.58E+04	1.58E+04	1.58E+04	4.00E-03	3.20E+01	1.61E+02	1.61E+02	1.61E+02	1.61E+02	4.80E+00	2.41E+01	2.41E+01	2.41E+01	2.41E+01
Lead	8.39E-02	0.00E+00	2.48E+01	2.48E+01	2.48E+01	2.48E+01	4.50E-02	3.47E-01	1.20E+00	1.20E+00	1.20E+00	1.20E+00	5.20E-02	1.80E-01	1.80E-01	1.80E-01	1.80E-01
Lithium	1.38E-01	0.00E+00	8.43E+00	8.43E+00	8.43E+00	8.43E+00	2.50E-02	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.70E-01	1.70E-01	1.70E-01	1.70E-01	1.70E-01
Magnesium	3.40E+01	0.00E+00	--	--	--	--	1.00E+00	3.33E+02	--	--	--	--	5.00E+01	--	--	--	--
Manganese	2.09E+00	0.00E+00	8.70E+01	8.70E+01	8.70E+01	8.70E+01	2.50E-01	4.20E+02	4.20E+02	4.20E+02	4.20E+02	4.20E+02	6.30E+01	6.30E+01	6.30E+01	6.30E+01	6.30E+01
Mercury, element	0.00E+00	1.79E-09	3.18E-01	3.18E-01	3.18E-01	3.18E-01	0.00E+00	1.67E-02	1.67E-02	1.67E-02	1.67E-02	1.67E-02	2.50E-03	2.50E-03	2.50E-03	2.50E-03	2.50E-03
Mercury, divalent	0.00E+00	0.00E+00	4.10E-04	2.53E-03	3.07E-03	3.07E-03	1.00E+00	--	--	--	--	--	--	--	--	--	--
Mercury, methyl	0.00E+00	0.00E+00	3.94E-09	3.94E-09	3.94E-09	3.94E-09	1.00E+00	--	--	--	--	--	--	--	--	--	--
Molybdenum	1.81E-03	0.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	2.50E-01	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Nickel	9.30E-02	0.00E+00	5.81E+00	5.81E+00	5.81E+00	5.81E+00	3.20E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Phosphorus	1.57E+00	0.00E+00	1.30E-01	1.30E-01	1.30E-01	1.30E-01	3.50E+00	1.07E+03	1.07E+03	1.07E+03	1.07E+03	1.07E+03	1.60E+02	1.60E+02	1.60E+02	1.60E+02	1.60E+02
Potassium	7.26E+01	0.00E+00	9.37E+00	9.37E+00	9.37E+00	9.37E+00	1.00E+00	5.73E+03	5.73E+03	5.73E+03	5.73E+03	5.73E+03	8.60E+02	8.60E+02	8.60E+02	8.60E+02	8.60E+02
Rubidium	1.35E-02	0.00E+00	--	--	--	--	1.00E+00	--	--	--	--	--	--	--	--	--	--
Selenium	7.94E-04	0.00E+00	2.08E+00	2.08E+00	2.08E+00	2.08E+00	1.60E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Silver	1.13E-03	0.00E+00	2.50E-01	2.50E-01	2.50E-01	2.50E-01	4.00E-01	2.67E-01	2.67E-01	2.67E-01	2.67E-01	2.67E-01	4.00E-02	4.00E-02	4.00E-02	4.00E-02	4.00E-02
Sodium	4.31E+01	0.00E+00	4.68E+01	9.73E+01	9.83E+01	9.83E+01	7.50E-02	1.67E+02	1.67E+02	1.67E+02	1.67E+02	1.67E+02	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.50E+01
Strontium	4.76E-01	0.00E+00	6.03E+01	6.03E+01	6.03E+01	6.03E+01	2.50E+00	1.47E+01	1.51E+02	1.51E+02	1.51E+02	1.51E+02	2.20E+00	2.27E+01	2.27E+01	2.27E+01	2.27E+01
Thallium	1.79E-03	0.00E+00	5.00E-02	5.00E-02	5.00E-02	5.00E-02	4.00E-03	7.33E-02	7.33E-02	7.33E-02	7.33E-02	7.33E-02	1.10E-02	1.10E-02	1.10E-02	1.10E-02	1.10E-02
Tin	6.81E-03	0.00E+00	5.00E-01	5.00E-01	5.00E-01	5.00E-01	3.00E-02	8.00E+00	8.00E+00	8.00E+00	8.00E+00	8.00E+00	1.20E+00	1.20E+00	1.20E+00	1.20E+00	1.20E+00
Titanium	9.53E+00	0.00E+00	1.36E+01	7.44E+01	8.76E+01	8.76E+01	5.50E-03	1.67E+00	9.60E+00	9.94E+00	1.00E+01	1.00E+01	2.50E-01	1.44E+00	1.49E+00	1.50E+00	1.50E+00
Uranium	4.08E-03	0.00E+00	6.51E-01	6.51E-01	6.51E-01	6.51E-01	1.00E+00	5.33E-02	6.55E-01	6.55E-01	6.55E-01	6.55E-01	8.00E-03	9.83E-02	9.83E-02	9.83E-02	9.83E-02
Vanadium	1.81E-01	0.00E+00	2.89E+01	2.89E+01	2.89E+01	2.89E+01	5.50E-03	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Zinc	2.50E-01	0.00E+00	2.64E+01	2.64E+01	2.64E+01	2.64E+01	2.50E-01	1.40E+01	1.40E+01	1.40E+01	1.40E+01	1.40E+01	2.10E+00	2.10E+00	2.10E+00	2.10E+00	2.10E+00

Equation: $Cfo = Pd + Pv + Cs \times Br_{forage}$

Table B.28

Predicted Deer Concentrations Due to Plant and Soil Ingestion
Animal Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal (F) (refer to table B.9) (unitless)	Quantity of Forage Ingested by the Animal per day (1) (Qp_i) (refer to table B.9) (kg DW/day)	Predicted Concentration in Forage Ingested				Quantity of Soil Ingested by the Animal (Qs) (refer to table B.9) (kg/day)	Predicted Soil Concentrations				Soil Bioavailability Factor (Bs) (unitless)	Quantity of Water Ingested by the Animal (Qw) (refer to table B.9) (L/day)	Predicted Total Surface Water Concentrations				Biotransfer Factor for Beef Ba_{beef} (refer to table B.10) (day/kg FW tissue)	Biotransfer Factor for Wildlife $Ba_{wildlife}$ (day/kg FW tissue)	Metabolism Factor (MF) (unitless)	Background Concentration in Deer (Cd) (refer to table B.6) (mg/kg FW tissue)	Predicted Concentrations in Deer			
			Construction (Cfo) (refer to table B.27) (mg/kg DW)	Operations (Cfo) (refer to table B.27) (mg/kg DW)	Reclamation (Cfo) (refer to table B.27) (mg/kg DW)	Post-Closure (Cfo) (refer to table B.27) (mg/kg DW)		Construction (Cs) (refer to table B.16) (mg/kg)	Operations (Cs) (refer to table B.16) (mg/kg)	Reclamation (Cs) (refer to table B.16) (mg/kg)	Post-Closure (Cs) (refer to table B.16) (mg/kg)			Construction (Cw) (refer to table B.45) (mg/L)	Operations (Cw) (refer to table B.45) (mg/L)	Reclamation (Cw) (refer to table B.45) (mg/L)	Post-Closure (Cw) (refer to table B.45) (mg/L)					Construction (Cd) (mg/kg FW tissue)	Operations (Cd) (mg/kg FW tissue)	Reclamation (Cd) (mg/kg FW tissue)	Post-Closure (Cd) (mg/kg FW tissue)
Particulate Matter																									
Total Particulate Matter	1.00E+00	2.25E+00	--	--	--	--	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	--	--	1.00E+00	--	--	--	--	--
Particulate Matter (PM10)	1.00E+00	2.25E+00	--	--	--	--	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	--	--	1.00E+00	--	--	--	--	--
Particulate Matter (PM2.5)	1.00E+00	2.25E+00	--	--	--	--	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	--	--	1.00E+00	--	--	--	--	--
Metals																									
Aluminum	1.00E+00	2.25E+00	4.26E+01	4.26E+01	4.26E+01	2.60E+01	4.50E-02	8.76E+03	8.76E+03	8.76E+03	8.76E+03	1.00E+00	4.50E+00	4.30E-01	1.99E-01	2.66E-01	3.61E-01	1.50E-03	1.50E-03	1.00E+00	6.82E-01	7.38E-01	7.37E-01	7.37E-01	6.82E-01
Antimony	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	4.50E+00	5.00E-04	4.39E-03	3.27E-03	2.20E-03	1.00E-03	1.00E-03	1.00E+00	2.45E-03	2.45E-03	2.46E-03	2.46E-03	2.45E-03
Arsenic	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	3.03E+01	3.03E+01	3.03E+01	3.03E+01	1.00E+00	4.50E+00	6.77E-01	5.48E-02	5.21E-02	5.12E-02	2.00E-03	2.00E-03	1.00E+00	1.36E-02	1.36E-02	1.36E-02	1.36E-02	1.36E-02
Barium	1.00E+00	2.25E+00	2.33E+01	2.33E+01	2.33E+01	2.33E+01	4.50E-02	3.88E+01	3.88E+01	3.88E+01	3.88E+01	1.00E+00	4.50E+00	3.60E-03	7.09E-03	7.05E-03	5.73E-03	1.50E-04	1.50E-04	1.00E+00	8.14E-03	8.14E-03	8.14E-03	8.14E-03	8.14E-03
Beryllium	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	5.00E-01	5.00E-01	5.00E-01	5.00E-01	1.00E+00	4.50E+00	5.00E-04	4.61E-04	4.71E-04	4.76E-04	1.00E-03	1.00E-03	1.00E+00	2.42E-03	2.42E-03	2.42E-03	2.42E-03	2.42E-03
Bismuth	1.00E+00	2.25E+00	1.67E-01	1.67E-01	1.67E-01	1.67E-01	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	4.00E-04	4.00E-04	1.00E+00	1.70E-04	--	--	--	--
Boron	1.00E+00	2.25E+00	5.64E+01	5.64E+01	5.64E+01	5.64E+01	4.50E-02	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.00E+00	4.50E+00	1.96E+00	1.96E+00	1.96E+00	1.96E+00	8.00E-04	8.00E-04	1.00E+00	2.38E-02	1.09E-01	1.09E-01	1.09E-01	1.09E-01
Cadmium	1.00E+00	2.25E+00	2.13E-01	2.13E-01	2.13E-01	2.13E-01	4.50E-02	4.89E-01	4.89E-01	4.89E-01	4.89E-01	1.00E+00	4.50E+00	2.48E-05	1.98E-05	2.41E-05	3.70E-05	1.20E-04	1.20E-04	1.00E+00	6.03E-05	6.03E-05	6.03E-05	6.03E-05	6.03E-05
Calcium	1.00E+00	2.25E+00	6.20E+03	6.20E+03	6.20E+03	6.20E+03	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	7.00E-04	7.00E-04	1.00E+00	--	--	--	--	--
Chromium Total	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	1.30E+01	1.30E+01	1.30E+01	1.30E+01	1.00E+00	4.50E+00	1.30E-03	8.58E-04	6.87E-04	8.60E-04	5.50E-03	5.50E-03	1.00E+00	1.64E-02	1.64E-02	1.64E-02	1.64E-02	1.64E-02
Cobalt	1.00E+00	2.25E+00	5.33E-01	5.33E-01	5.33E-01	5.33E-01	4.50E-02	1.98E+00	1.98E+00	1.98E+00	1.98E+00	1.00E+00	4.50E+00	2.00E-04	9.91E-04	9.35E-04	9.61E-04	2.00E-02	2.00E-02	1.00E+00	2.58E-02	2.58E-02	2.59E-02	2.59E-02	2.59E-02
Copper	1.00E+00	2.25E+00	7.33E+00	7.33E+00	7.33E+00	7.33E+00	4.50E-02	4.93E+00	4.93E+00	4.93E+00	4.93E+00	1.00E+00	4.50E+00	1.74E-03	1.96E-03	1.86E-03	9.20E-04	1.00E-02	1.00E-02	1.00E+00	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01
Iron	1.00E+00	2.25E+00	3.61E+01	3.61E+01	3.61E+01	3.20E+01	4.50E-02	1.58E+04	1.58E+04	1.58E+04	1.58E+04	1.00E+00	4.50E+00	1.17E+00	3.55E-01	4.55E-01	4.28E-01	2.00E-02	2.00E-02	1.00E+00	1.58E+01	1.60E+01	1.59E+01	1.59E+01	1.58E+01
Lead	1.00E+00	2.25E+00	3.49E-01	3.49E-01	3.49E-01	3.47E-01	4.50E-02	2.48E+01	2.48E+01	2.48E+01	2.48E+01	1.00E+00	4.50E+00	7.62E-04	8.22E-04	7.06E-04	9.27E-04	3.00E-04	3.00E-04	1.00E+00	5.70E-04	5.71E-04	5.71E-04	5.71E-04	5.70E-04
Lithium	1.00E+00	2.25E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	4.50E-02	8.43E+00	8.43E+00	8.43E+00	8.43E+00	1.00E+00	4.50E+00	7.85E-03	7.85E-03	7.85E-03	7.85E-03	1.00E-02	1.00E-02	1.00E+00	--	2.96E-02	2.96E-02	2.96E-02	2.96E-02
Magnesium	1.00E+00	2.25E+00	3.33E+02	3.33E+02	3.33E+02	3.33E+02	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	5.00E-03	5.00E-03	1.00E+00	--	--	--	--	--
Manganese	1.00E+00	2.25E+00	4.20E+02	4.20E+02	4.20E+02	4.20E+02	4.50E-02	8.70E+01	8.70E+01	8.70E+01	8.70E+01	1.00E+00	4.50E+00	8.03E-02	7.56E-02	4.92E-02	1.19E-01	4.00E-04	4.00E-04	1.00E+00	3.80E-01	3.80E-01	3.80E-01	3.80E-01	3.80E-01
Mercury, element	1.00E+00	2.25E+00	1.67E-02	1.67E-02	1.67E-02	1.67E-02	4.50E-02	3.18E-01	3.18E-01	3.18E-01	3.18E-01	1.00E+00	4.50E+00	1.36E-04	6.88E-06	7.05E-06	9.69E-06	1.00E+00	1.00E+00	1.00E+00	5.24E-02	5.24E-02	5.24E-02	5.24E-02	5.24E-02
Mercury, divalent	1.00E+00	2.25E+00	1.19E-05	4.16E-05	4.91E-05	4.29E-05	4.50E-02	4.10E-04	2.53E-03	3.07E-03	3.07E-03	1.00E+00	4.50E+00	1.64E-08	1.01E-07	1.23E-07	1.23E-07	5.20E-03	5.20E-03	1.00E+00	--	2.36E-07	1.08E-06	1.30E-06	1.22E-06
Mercury, methyl	1.00E+00	2.25E+00	8.42E-07	8.42E-07	8.42E-07	1.14E-10	4.50E-02	3.94E-09	3.94E-09	3.94E-09	3.94E-09	1.00E+00	4.50E+00	3.90E-14	3.90E-14	3.90E-14	3.90E-14	7.80E-04	7.80E-04	1.00E+00	--	1.48E-09	1.48E-09	1.48E-09	3.39E-13
Molybdenum	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	4.50E+00	1.23E-02	1.23E-02	1.23E-02	1.23E-02	6.00E-03	6.00E-03	1.00E+00	1.47E-02	1.50E-02	1.50E-02	1.50E-02	1.50E-02
Nickel	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	5.81E+00	5.81E+00	5.81E+00	5.81E+00	1.00E+00	4.50E+00	1.00E-03	1.42E-02	6.10E-03	1.13E-02	6.00E-03	6.00E-03	1.00E+00	1.60E-02	1.60E-02	1.64E-02	1.61E-02	1.63E-02
Phosphorus	1.00E+00	2.25E+00	1.07E+03	1.07E+03	1.07E+03	1.07E+03	4.50E-02	1.30E-01	1.30E-01	1.30E-01	1.30E-01	1.00E+00	4.50E+00	1.06E-02	1.06E-02	1.06E-02	1.06E-02	5.50E-02	5.50E-02	1.00E+00	--	1.32E+02	1.32E+02	1.32E+02	1.32E+02
Potassium	1.00E+00	2.25E+00	5.73E+03	5.73E+03	5.73E+03	5.73E+03	4.50E-02	9.37E+00	9.37E+00	9.37E+00	9.37E+00	1.00E+00	4.50E+00	4.93E-01	4.93E-01	4.93E-01	4.93E-01	2.00E-02	2.00E-02	1.00E+00	--	2.58E+02	2.58E+02	2.58E+02	2.58E+02
Rubidium	1.00E+00	2.25E+00	1.98E-03	1.98E-03	1.98E-03	0.00E+00	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	1.50E-02	1.50E-02	1.00E+00	--	--	--	--	--
Selenium	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	2.08E+00	2.08E+00	2.08E+00	2.08E+00	1.00E+00	4.50E+00	5.00E-04	4.88E-04	4.68E-04	5.58E-04	2.30E-03	2.30E-03	1.00E+00	5.74E-03	5.74E-03	5.74E-03	5.74E-03	5.74E-03
Silver	1.00E+00	2.25E+00	2.67E-01	2.67E-01	2.67E-01	2.67E-01	4.50E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.00E+00	4.50E+00	5.00E-05	7.90E-05	7.04E-05	7.48E-05	3.00E-03	3.00E-03	1.00E+00	1.83E-03	1.83E-03	1.83E-03	1.83E-03	1.83E-03
Sodium	1.00E+00	2.25E+00	1.67E+02	1.67E+02	1.67E+02	1.67E+02	4.50E-02	4.68E+01	9.73E+01	9.83E+01	9.83E+01	1.00E+00	4.50E+00	1.68E-01	2.97E-01	3.00E-01	3.00E-01	5.50E-02	5.50E-02	1.00E+00	--	2.08E+01	2.09E+01	2.09E+01	2.09E+01
Strontium	1.00E+00	2.25E+00	3.24E+01	3.24E+01	3.24E+01	3.23E+01	4.50E-02	6.03E+01	6.03E+01	6.03E+01	6.03E+01	1.00E+00	4.50E+00	4.28E-01	4.28E-01	4.28E-01	4.28E-01	3.00E-04	3.00E-04	1.00E+00	1.08E-02	2.33E-02	2.33E-02	2.33E-02	2.32E-02
Thallium	1.00E+00	2.25E+00	7.33E-02	7.33E-02	7.33E-02	7.33E-02	4.50E-02	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.00E+00	4.50E+00	5.00E-05	7.31E-05	6.61E-05	8.48E-05	4.00E-02	4.00E-02	1.00E+00	6.70E-03	6.70E-03	6.70E-03	6.70E-03	6.71E-03
Tin	1.00E+00	2.25E+00	8.00E+00	8.00E+00	8.00E+00	8.00E+00	4.50E-02	5.00E-01	5.00E-01	5.00E-01	5.00E-01	1.00E+00	4.50E+00	5.46E-04	5.46E-04	5.46E-04	5.46E-04	1.00E-03	1.00E-03	1.00E+00	1.80E-02	1.80E-02	1.80E-02	1.80E-02	1.80E-02
Titanium	1.00E+00	2.25E+00	1.67E+00	1.67E+00	1.69E+00	1.67E+00	4.50E-02	1.36E+01	7.44E+01	8.76E+01	8.76E+01	1.00E+00	4.50E+00	1.43E-02	3.46E-02	3.90E-02	3.90E-02	3.00E-02	3.00E-02	1.00E+00	--	1.33E-01	2.18E-01	2.37E-01	2.36E-01
Uranium	1.00E+00	2.25E+00	6.52E-01	6.52E-01	6.52E-01	6.51E-01	4.50E-02	6.51E-01	6.51E-01	6.51E-01	6.51E-01	1.00E+00	4.50E+00	5.00E-05	9.50E-04	8.52E-04	5.76E-04	2.00E-04	2.00E-04	1.00E+00	2.99E-05	2.99E-04	3.00E-04	3.00E-04	2.99E-04
Vanadium	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	2.89E+01	2.89E+01	2.89E+01	2.89E+01	1.00E+00	4.50E+00	1.00E-03	2.12E-03	1.49E-03	2.01E-03	2.50E-03	2.50E-03	1.00E+00	9.26E-03	9.26E-03	9.28E-03	9.27E-03	9.27E-03
Zinc	1.00E+00	2.25E+00	1.40E+01	1.40E+01	1.40E+01	1.40E+01	4.50E-02	2.64E+01	2.64E+01	2.64E+01	2.64E+01	1.00E+00	4.50E+00	9.76E-03	7.28E-03	7.18E-03	7.27E-03	9.00E-05	9.00E-05	1.00E+00	2.95E-03	2.95E-03	2.95E-03	2.95E-03	2.95E-03

Equation: $Cd = F \times Qp_i \times Cfo + Qs \times Cs \times Bs + Qw \times Cw \times Ba_{wildlife} \times MF$ where: $Ba_{wildlife} = Ba_{beef}$

Table B.29

Hare Concentrations Due to Plant and Soil Ingestion
Animal Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal (F) (refer to table B.9) unitless	Quantity of Forage Ingested by the Animal per day (1) (Qp_i) (refer to table B.9) (kg DW/day)	Concentration in Forage Ingested: Construction (Cfo) (refer to table B.27) (mg/kg DW)	Concentration in Forage Ingested: Operations (Cfo) (refer to table B.27) (mg/kg DW)	Concentration in Forage Ingested: Reclamation (Cfo) (refer to table B.27) (mg/kg DW)	Concentration in Forage Ingested: Post-Closure (Cfo) (refer to table B.27) (mg/kg DW)	Quantity of Soil Ingested by the Animal (Qs) (refer to table B.9) (kg/day)	Predicted Soil Concentrations: Construction (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentrations: Operations (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentrations: Reclamation (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentrations: Post-Closure (Cs) (refer to table B.16) (mg/kg)	Soil Bioavailability Factor (Bs) (unitless)	Quantity of Water Ingested by the Animal (Qw) (refer to table B.9) (L/day)	Predicted Total Surface Water Concentrations: Construction (Cw) (refer to table B.45) (mg/L)	Predicted Total Surface Water Concentrations: Operations (Cw) (refer to table B.45) (mg/L)	Predicted Total Surface Water Concentrations: Reclamation (Cw) (refer to table B.45) (mg/L)	Predicted Total Surface Water Concentrations: Post-Closure (Cw) (refer to table B.45) (mg/L)	Biotransfer Factor for Beef Ba_{beef} (refer to table B.10) (day/kg FW tissue)	Biotransfer Factor for Wildlife $Ba_{wildlife}$ (day/kg FW tissue)	Metabolism Factor (MF) (unitless)	Baseline Concentration in Hare (Ch) (refer to table B.7) (mg/kg FW tissue)	Predicted Concentrations in Hare: Construction (Cd) (mg/kg FW tissue)	Predicted Concentrations in Hare: Operations (Cd) (mg/kg FW tissue)	Predicted Concentrations in Hare: Reclamation (Cd) (mg/kg FW tissue)	Predicted Concentrations in Hare: Post-Closure (Cd) (mg/kg FW tissue)
Particulate Matter																										
Total Particulate Matter	1.00E+00	7.80E-02	--	--	--	--	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	--	--	1.00E+00	--	--	--	--	--	--
Particulate Matter (PM10)	1.00E+00	7.80E-02	--	--	--	--	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	--	--	1.00E+00	--	--	--	--	--	--
Particulate Matter (PM2.5)	1.00E+00	7.80E-02	--	--	--	--	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	--	--	1.00E+00	--	--	--	--	--	--
Metals																										
Aluminum	1.00E+00	7.80E-02	4.26E+01	4.26E+01	4.26E+01	2.60E+01	4.91E-03	8.76E+03	8.76E+03	8.76E+03	8.76E+03	1.00E+00	1.30E-01	4.30E-01	1.99E-01	2.66E-01	3.61E-01	1.50E-03	1.50E-03	1.00E+00	6.77E-02	6.96E-02	6.96E-02	6.96E-02	6.77E-02
Antimony	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.30E-01	5.00E-04	4.39E-03	3.27E-03	2.20E-03	1.00E-03	1.00E-03	1.00E+00	8.82E-05	8.82E-05	8.87E-05	8.85E-05	8.84E-05
Arsenic	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	3.03E+01	3.03E+01	3.03E+01	3.03E+01	1.00E+00	1.30E-01	6.77E-01	5.48E-02	5.21E-02	5.12E-02	2.00E-03	2.00E-03	1.00E+00	6.40E-04	6.40E-04	6.40E-04	6.40E-04	6.40E-04
Barium	1.00E+00	7.80E-02	2.33E+01	2.33E+01	2.33E+01	2.33E+01	4.91E-03	3.88E+01	3.88E+01	3.88E+01	3.88E+01	1.00E+00	1.30E-01	3.60E-03	7.09E-03	7.05E-03	5.73E-03	1.50E-04	1.50E-04	1.00E+00	3.02E-04	3.02E-04	3.02E-04	3.02E-04	3.02E-04
Beryllium	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	5.00E-01	5.00E-01	5.00E-01	5.00E-01	1.00E+00	1.30E-01	5.00E-04	4.61E-04	4.71E-04	4.76E-04	1.00E-03	1.00E-03	1.00E+00	8.57E-05	8.57E-05	8.57E-05	8.57E-05	8.57E-05
Bismuth	1.00E+00	7.80E-02	1.67E-01	1.67E-01	1.67E-01	1.67E-01	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	4.00E-04	4.00E-04	1.00E+00	7.22E-06	--	--	--	--	--
Boron	1.00E+00	7.80E-02	5.64E+01	5.64E+01	5.64E+01	5.64E+01	4.91E-03	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.00E+00	1.30E-01	1.96E+00	1.96E+00	1.96E+00	1.96E+00	8.00E-04	8.00E-04	1.00E+00	8.91E-04	3.82E-03	3.82E-03	3.82E-03	3.82E-03
Cadmium	1.00E+00	7.80E-02	2.13E-01	2.13E-01	2.13E-01	2.13E-01	4.91E-03	4.89E-01	4.89E-01	4.89E-01	4.89E-01	1.00E+00	1.30E-01	2.48E-05	1.98E-05	2.41E-05	3.70E-05	1.20E-04	1.20E-04	1.00E+00	2.29E-06	2.29E-06	2.29E-06	2.29E-06	2.29E-06
Calcium	1.00E+00	7.80E-02	6.20E+03	6.20E+03	6.20E+03	6.20E+03	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	7.00E-04	7.00E-04	1.00E+00	--	--	--	--	--	--
Chromium Total	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	1.30E+01	1.30E+01	1.30E+01	1.30E+01	1.00E+00	1.30E-01	1.30E-03	8.58E-04	6.87E-04	8.60E-04	5.50E-03	5.50E-03	1.00E+00	8.10E-04	8.10E-04	8.10E-04	8.10E-04	8.10E-04
Cobalt	1.00E+00	7.80E-02	5.33E-01	5.33E-01	5.33E-01	5.33E-01	4.91E-03	1.98E+00	1.98E+00	1.98E+00	1.98E+00	1.00E+00	1.30E-01	2.00E-04	9.91E-04	9.35E-04	9.61E-04	2.00E-02	2.00E-02	1.00E+00	1.03E-03	1.03E-03	1.03E-03	1.03E-03	1.03E-03
Copper	1.00E+00	7.80E-02	7.33E+00	7.33E+00	7.33E+00	7.33E+00	4.91E-03	4.93E+00	4.93E+00	4.93E+00	4.93E+00	1.00E+00	1.30E-01	1.74E-03	1.96E-03	1.86E-03	9.20E-04	1.00E-02	1.00E-02	1.00E+00	5.96E-03	5.96E-03	5.96E-03	5.96E-03	5.96E-03
Iron	1.00E+00	7.80E-02	3.61E+01	3.61E+01	3.61E+01	3.20E+01	4.91E-03	1.58E+04	1.58E+04	1.58E+04	1.58E+04	1.00E+00	1.30E-01	1.17E+00	3.55E-01	4.55E-01	4.28E-01	2.00E-02	2.00E-02	1.00E+00	1.61E+00	1.61E+00	1.61E+00	1.61E+00	1.61E+00
Lead	1.00E+00	7.80E-02	3.49E-01	3.49E-01	3.49E-01	3.47E-01	4.91E-03	2.48E+01	2.48E+01	2.48E+01	2.48E+01	1.00E+00	1.30E-01	7.62E-04	8.22E-04	7.06E-04	9.27E-04	3.00E-04	3.00E-04	1.00E+00	4.47E-05	4.48E-05	4.48E-05	4.48E-05	4.47E-05
Lithium	1.00E+00	7.80E-02	1.13E+00	1.13E+00	1.13E+00	1.13E+00	4.91E-03	8.43E+00	8.43E+00	8.43E+00	8.43E+00	1.00E+00	1.30E-01	7.85E-03	7.85E-03	7.85E-03	7.85E-03	1.00E-02	1.00E-02	1.00E+00	--	1.31E-03	1.31E-03	1.31E-03	1.31E-03
Magnesium	1.00E+00	7.80E-02	3.33E+02	3.33E+02	3.33E+02	3.33E+02	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	5.00E-03	5.00E-03	1.00E+00	--	--	--	--	--	--
Manganese	1.00E+00	7.80E-02	4.20E+02	4.20E+02	4.20E+02	4.20E+02	4.91E-03	8.70E+01	8.70E+01	8.70E+01	8.70E+01	1.00E+00	1.30E-01	8.03E-02	7.56E-02	4.92E-02	1.19E-01	4.00E-04	4.00E-04	1.00E+00	1.33E-02	1.33E-02	1.33E-02	1.33E-02	1.33E-02
Mercury, element	1.00E+00	7.80E-02	1.67E-02	1.67E-02	1.67E-02	1.67E-02	4.91E-03	3.18E-01	3.18E-01	3.18E-01	3.18E-01	1.00E+00	1.30E-01	1.36E-04	6.88E-06	7.05E-06	9.69E-06	1.00E+00	1.00E+00	1.00E+00	2.88E-03	2.88E-03	2.88E-03	2.88E-03	2.88E-03
Mercury, divalent	1.00E+00	7.80E-02	1.19E-05	4.16E-05	4.91E-05	4.29E-05	4.91E-03	4.10E-04	2.53E-03	3.07E-03	3.07E-03	1.00E+00	1.30E-01	1.64E-08	1.01E-07	1.23E-07	1.23E-07	5.20E-03	5.20E-03	1.00E+00	--	1.53E-08	8.15E-08	9.84E-08	9.59E-08
Mercury, methyl	1.00E+00	7.80E-02	8.42E-07	8.42E-07	8.42E-07	1.14E-10	4.91E-03	3.94E-09	3.94E-09	3.94E-09	3.94E-09	1.00E+00	1.30E-01	3.90E-14	3.90E-14	3.90E-14	3.90E-14	7.80E-04	7.80E-04	1.00E+00	--	5.12E-11	5.12E-11	5.12E-11	2.20E-14
Molybdenum	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.30E-01	1.23E-02	1.23E-02	1.23E-02	1.23E-02	6.00E-03	6.00E-03	1.00E+00	5.29E-04	5.38E-04	5.38E-04	5.38E-04	5.38E-04
Nickel	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	5.81E+00	5.81E+00	5.81E+00	5.81E+00	1.00E+00	1.30E-01	1.00E-03	1.42E-02	6.10E-03	1.13E-02	6.00E-03	6.00E-03	1.00E+00	6.71E-04	6.71E-04	6.82E-04	6.75E-04	6.79E-04
Phosphorus	1.00E+00	7.80E-02	1.07E+03	1.07E+03	1.07E+03	1.07E+03	4.91E-03	1.30E-01	1.30E-01	1.30E-01	1.30E-01	1.00E+00	1.30E-01	1.06E-02	1.06E-02	1.06E-02	1.06E-02	5.50E-02	5.50E-02	1.00E+00	--	4.58E+00	4.58E+00	4.58E+00	4.58E+00
Potassium	1.00E+00	7.80E-02	5.73E+03	5.73E+03	5.73E+03	5.73E+03	4.91E-03	9.37E+00	9.37E+00	9.37E+00	9.37E+00	1.00E+00	1.30E-01	4.93E-01	4.93E-01	4.93E-01	4.93E-01	2.00E-02	2.00E-02	1.00E+00	--	8.95E+00	8.95E+00	8.95E+00	8.95E+00
Rubidium	1.00E+00	7.80E-02	1.98E-03	1.98E-03	1.98E-03	0.00E+00	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	1.50E-02	1.50E-02	1.00E+00	--	--	--	--	--
Selenium	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	2.08E+00	2.08E+00	2.08E+00	2.08E+00	1.00E+00	1.30E-01	5.00E-04	4.88E-04	4.68E-04	5.58E-04	2.30E-03	2.30E-03	1.00E+00	2.15E-04	2.15E-04	2.15E-04	2.15E-04	2.15E-04
Silver	1.00E+00	7.80E-02	2.67E-01	2.67E-01	2.67E-01	2.67E-01	4.91E-03	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.00E+00	1.30E-01	5.00E-05	7.90E-05	7.04E-05	7.48E-05	3.00E-03	3.00E-03	1.00E+00	6.61E-05	6.61E-05	6.61E-05	6.61E-05	6.61E-05
Sodium	1.00E+00	7.80E-02	1.67E+02	1.67E+02	1.67E+02	1.67E+02	4.91E-03	4.68E+01	9.73E+01	9.83E+01	9.83E+01	1.00E+00	1.30E-01	1.68E-01	2.97E-01	3.00E-01	3.00E-01	5.50E-02	5.50E-02	1.00E+00	--	7.29E-01	7.43E-01	7.44E-01	7.44E-01
Strontium	1.00E+00	7.80E-02	3.24E+01	3.24E+01	3.24E+01	3.23E+01	4.91E-03	6.03E+01	6.03E+01	6.03E+01	6.03E+01	1.00E+00	1.30E-01	4.28E-01	4.28E-01	4.28E-01	4.28E-01	3.00E-04	3.00E-04	1.00E+00	4.34E-04	8.64E-04	8.64E-04	8.64E-04	8.62E-04
Thallium	1.00E+00	7.80E-02	7.33E-02	7.33E-02	7.33E-02	7.33E-02	4.91E-03	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.00E+00	1.30E-01	5.00E-05	7.31E-05	6.61E-05	8.48E-05	4.00E-02	4.00E-02	1.00E+00	2.39E-04	2.39E-04	2.39E-04	2.39E-04	2.39E-04
Tin	1.00E+00	7.80E-02	8.00E+00	8.00E+00	8.00E+00	8.00E+00	4.91E-03	5.00E-01	5.00E-01	5.00E-01	5.00E-01	1.00E+00	1.30E-01	5.46E-04	5.46E-04	5.46E-04	5.46E-04	1.00E-03	1.00E-03	1.00E+00	6.27E-04	6.27E-04	6.27E-04	6.27E-04	6.27E-04
Titanium	1.00E+00	7.80E-02	1.67E+00	1.67E+00	1.69E+00	1.67E+00	4.91E-03	1.36E+01	7.44E+01	8.76E+01	8.76E+01	1.00E+00	1.30E-01	1.43E-02	3.46E-02	3.90E-02	3.90E-02	3.00E-02	3.00E-02	1.00E+00	--	5.95E-03	1.50E-02	1.70E-02	1.70E-02
Uranium	1.00E+00	7.80E-02	6.52E-01	6.52E-01	6.52E-01	6.51E-01	4.91E-03	6.51E-01	6.51E-01	6.51E-01	6.51E-01	1.00E+00	1.30E-01	5.00E-05	9.50E-04	8.52E-04	5.76E-04	2.00E-04	2.00E-04	1.00E+00	1.47E-06	1.08E-05	1.08E-05	1.08E-05	1.08E-05
Vanadium	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	2.89E+01	2.89E+01	2.89E+01	2.89E+01	1.00E+00	1.30E-01	1.00E-03	2.12E-03	1.49E-03	2.01E-03	2.50E-03	2.50E-03	1.00E+00	5.63E-04	5.63E-04	5.64E-04	5.64E-04	5.64E-04
Zinc	1.00E+00	7.80E-02	1.40E+01	1.40E+01	1.40E+01	1.40E+01	4.91E-03	2.64E+01	2.64E+01	2.64E+01	2.64E+01	1.00E+00	1.30E-01	9.76E-03	7.28E-03	7.18E-03	7.27E-03	9.00E-05	9.00E-05	1.00E+00	1.10E-04	1.10E-04	1.10E-04	1.10E-04	1.10E-04

Equation: $Ch = F \times Qp_i \times Cfo + Qs \times Cs \times Bs + Qw \times Cw \times Ba_{wildlife} \times MF$ where: $Ba_{wildlife} = Ba_{beef}$

Table B.30

Deposition to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Annual Deposition Rate (Dr) (refer to table B.7) (g/m^2-yr)	Water Body Surface Area (A_w) (refer to table B.9) (m^2)	Total Wet & Dry Particle and Wet Vapor Direct Deposition to Water (L_{DEP}) (g/yr)
Particulate Matter			
Total Particulate Matter	5.00E+01	2.95E+05	1.48E+07
Particulate Matter (PM10)	0.00E+00	2.95E+05	0.00E+00
Particulate Matter (PM2.5)	0.00E+00	2.95E+05	0.00E+00
Metals			
Aluminum	5.00E+00	2.95E+05	1.48E+06
Antimony	1.50E-04	2.95E+05	4.43E+01
Arsenic	1.95E-02	2.95E+05	5.75E+03
Barium	4.05E-02	2.95E+05	1.19E+04
Beryllium	1.50E-04	2.95E+05	4.43E+01
Bismuth	1.65E-05	2.95E+05	4.87E+00
Boron	1.25E-03	2.95E+05	3.69E+02
Cadmium	6.00E-06	2.95E+05	1.77E+00
Calcium	6.50E-01	2.95E+05	1.92E+05
Chromium Total	5.55E-03	2.95E+05	1.64E+03
Cobalt	9.00E-04	2.95E+05	2.66E+02
Copper	1.85E-03	2.95E+05	5.46E+02
Iron	2.15E+00	2.95E+05	6.34E+05
Lead	1.85E-03	2.95E+05	5.46E+02
Lithium	3.05E-03	2.95E+05	9.00E+02
Magnesium	7.50E-01	2.95E+05	2.21E+05
Manganese	4.61E-02	2.95E+05	1.36E+04
Mercury, element	1.32E-05	2.95E+05	3.82E+00
Mercury, divalent	--	2.95E+05	--
Mercury, methyl	--	2.95E+05	--
Molybdenum	4.00E-05	2.95E+05	1.18E+01
Nickel	2.05E-03	2.95E+05	6.05E+02
Phosphorus	3.45E-02	2.95E+05	1.02E+04
Potassium	1.60E+00	2.95E+05	4.72E+05
Rubidium	2.99E-04	2.95E+05	8.81E+01
Selenium	1.75E-05	2.95E+05	5.16E+00
Silver	2.50E-05	2.95E+05	7.38E+00
Sodium	9.50E-01	2.95E+05	2.80E+05
Strontium	1.05E-02	2.95E+05	3.10E+03
Thallium	3.95E-05	2.95E+05	1.17E+01
Tin	1.50E-04	2.95E+05	4.43E+01
Titanium	2.10E-01	2.95E+05	6.20E+04
Uranium	9.00E-05	2.95E+05	2.66E+01
Vanadium	4.00E-03	2.95E+05	1.18E+03
Zinc	5.50E-03	2.95E+05	1.62E+03

Equation: $L_{DEP} = Hg_{factor} \times Dr \times A_W$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.48), and methylmercury (0)

Table B.31

Liquid Phase Transfer Coefficient
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Diffusivity in Water (Dw) (refer to table B.10) (cm^2/s)	Creek: Current Velocity (μ) (refer to table B.9) (m/s)	Creek: Total Water Body Depth (d_{wc}) (refer to table B.9) (m)	Creek: Units Conversion Factor (CF1) (m^2/cm^2)	Lake: Drag Coefficient (C_d) (refer to table B.9) -	Lake: Average Annual Wind Speed (W) (refer to table B.9) (m/s)	Lake: Density of Air (ρ_a) (refer to table B.9) (g/cm^3)	Lake: Density of Water (ρ_w) (refer to table B.9) (g/cm^3)	Lake: von Karman's Constant (k) (refer to table B.9) -	Lake: Dimensionless Viscous Sublayer Thickness (λ_z) (refer to table B.9) -	Lake: Viscosity of Water at Water Temperature (μ_w) (refer to table B.9) (g/cm-s)	Units Conversion Factor (CF2) (s/yr)	Liquid Phase Transfer Coefficient Creek K_L (m/yr)
Particulate Matter													
Total Particulate Matter	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Particulate Matter (PM10)	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Particulate Matter (PM2.5)	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Metals													
Aluminum	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Antimony	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Arsenic	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Barium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Beryllium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Bismuth	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Boron	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Cadmium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Calcium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Chromium Total	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Cobalt	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Copper	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Iron	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Lead	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Lithium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Magnesium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Manganese	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Mercury, element	6.30E-06	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	7.88E+02
Mercury, divalent	5.20E-06	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	7.16E+02
Mercury, methyl	6.10E-06	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	7.75E+02
Molybdenum	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Nickel	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Phosphorus	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Potassium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Rubidium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Selenium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Silver	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Sodium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Strontium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Thallium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Tin	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Titanium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Uranium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Vanadium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Zinc	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--

Equation: For the Creek, K_L = [Square Root of (($CF1 \times D_w \times \mu$) / d_{wc})] x CF2

Table B.32

Overall Transfer Rate Coefficient
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Liquid Phase Transfer Coefficient Creek (K_{L1}) (refer to table B.31) (m/yr)	Lake: Drag Coefficient (C_d) (refer to table B.9) -	Lake: Average Annual Wind Speed (W) (refer to table B.9) (m/s)	Lake: Density of Air (ρ_a) (refer to table B.9) (g/cm^3)	Lake: von Karman's Constant (k) (refer to table B.9) -	Lake: Dimensionless Viscous Sublayer Thickness (λ_z) (refer to table B.9) -	Lake: Viscosity of Air (μ_a) (refer to table B.9) (g/cm-s)	Lake: Diffusivity in Air (Da) (refer to table B.10) (cm^2/s)	Units Conversion Factor (CF1) (s/yr)	Gas Phase Transfer Coefficient Creek (K_G) (m/yr)	Henry's Law Constant (H) (refer to table B.10) (atm-m^3/mol)	Universal Gas Constant (R) (refer to table B.9) (atm-m^3/mol-K)	Water Body Temperature (T_a) (refer to table B.9) (k)	Temperature Correction Factor θ -	Overall Transfer Rate Coefficient K_v (m/yr)
Particulate Matter															
Total Particulate Matter	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Particulate Matter (PM10)	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Particulate Matter (PM2.5)	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Metals															
Aluminum	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Antimony	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Arsenic	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Barium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Beryllium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Bismuth	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Boron	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Cadmium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Calcium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Chromium Total	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Cobalt	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Copper	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Iron	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Lead	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Lithium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Magnesium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Manganese	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Mercury, element	7.88E+02	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	3.07E-02	3.15E+07	3.65E+04	1.15E-02	8.21E-05	2.80E+02	1.03E+00	5.37E+02
Mercury, divalent	7.16E+02	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	4.50E-02	3.15E+07	3.65E+04	7.10E-10	8.21E-05	2.80E+02	1.03E+00	8.04E-04
Mercury, methyl	7.75E+02	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	5.30E-02	3.15E+07	3.65E+04	7.22E-03	8.21E-05	2.80E+02	1.03E+00	5.17E+02
Molybdenum	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Nickel	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Phosphorus	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Potassium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Rubidium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Selenium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Silver	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Sodium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Strontium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Thallium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Tin	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Titanium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Uranium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Vanadium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Zinc	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--

Equation: $K_v = [K_L^{-1} + (K_G \times H/(R \times T_a))^{-1}]^{-1} \times \theta^{(1.8 \times -293)}$

For the Creek K_G = 36500 refer to Table B-9 for K_G

Table B.33

Diffusion Load to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Overall Transfer Rate Coefficient (K_v) (refer to table B.33) (m/yr)	Predicted Air Concentration (Coa) (refer to table B.6) ($\mu g/m^3$)	Water Body Surface Area A_W (refer to table B.30) (m^2)	Henry's Law Constant (H) (refer to table B.10) ($atm\text{-}m^3/mol$)	Universal Gas Constant (R) (refer to table B.9) ($atm\text{-}m^3/mol\text{-}K$)	Water Body Temperature T_a (refer to table B.9) (K)	Units Conversion Factor (CF) (g/ug)	Dry Vapor Phase Diffusion Load to Water Body (L_{dif}) (g/yr)
Particulate Matter								
Total Particulate Matter	--	3.30E+01	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Particulate Matter (PM10)	--	8.11E+00	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Particulate Matter (PM2.5)	--	8.47E-01	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Metals								
Aluminum	--	8.85E-02	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Antimony	--	1.57E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Arsenic	--	3.53E-04	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Barium	--	8.84E-02	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Beryllium	--	1.57E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Bismuth	--	8.13E-06	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Boron	--	3.19E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Cadmium	--	5.62E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Calcium	--	--	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Chromium Total	--	1.55E-03	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Cobalt	--	3.17E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Copper	--	3.39E-01	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Iron	--	1.03E-01	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Lead	--	1.68E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Lithium	--	7.76E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Magnesium	--	--	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Manganese	--	1.61E-03	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Mercury, element	5.37E+02	2.15E-06	2.95E+05	1.15E-02	8.21E-05	2.80E+02	1.00E-06	6.67E-04
Mercury, divalent	8.04E-04	--	2.95E+05	7.10E-10	8.21E-05	2.80E+02	1.00E-06	--
Mercury, methyl	5.17E+02	--	2.95E+05	7.22E-03	8.21E-05	2.80E+02	1.00E-06	--
Molybdenum	--	3.11E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Nickel	--	1.80E-03	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Phosphorus	--	--	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Potassium	--	--	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Rubidium	--	4.87E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Selenium	--	1.21E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Silver	--	1.48E-04	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Sodium	--	--	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Strontium	--	5.05E-04	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Thallium	--	9.36E-06	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Tin	--	1.85E-03	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Titanium	--	1.39E-03	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Uranium	--	9.39E-06	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Vanadium	--	3.14E-04	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Zinc	--	1.89E-02	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--

Equation:

$$L_{DIF} = \frac{(K_v \times Hg_{factor} \times Coa \times A_w \times CF) \times (R \times T_a)}{H}$$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.48), and methylmercury (0)

Table B.34

Impervious Runoff Load to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Annual Deposition Rate (Dr) (refer to table B.7) (g/m^2-yr)	Impervious Watershed Area (A_I) (refer to table B.9) (m^2)	Runoff Load Impervious Surfaces (L_{RI}) (g/yr)
Particulate Matter			
Total Particulate Matter	5.00E+01	2.95E+05	1.48E+07
Particulate Matter (PM10)	0.00E+00	2.95E+05	0.00E+00
Particulate Matter (PM2.5)	0.00E+00	2.95E+05	0.00E+00
Metals			
Aluminum	5.00E+00	2.95E+05	1.48E+06
Antimony	1.50E-04	2.95E+05	4.43E+01
Arsenic	1.95E-02	2.95E+05	5.75E+03
Barium	4.05E-02	2.95E+05	1.19E+04
Beryllium	1.50E-04	2.95E+05	4.43E+01
Bismuth	1.65E-05	2.95E+05	4.87E+00
Boron	1.25E-03	2.95E+05	3.69E+02
Cadmium	6.00E-06	2.95E+05	1.77E+00
Calcium	6.50E-01	2.95E+05	1.92E+05
Chromium Total	5.55E-03	2.95E+05	1.64E+03
Cobalt	9.00E-04	2.95E+05	2.66E+02
Copper	1.85E-03	2.95E+05	5.46E+02
Iron	2.15E+00	2.95E+05	6.34E+05
Lead	1.85E-03	2.95E+05	5.46E+02
Lithium	3.05E-03	2.95E+05	9.00E+02
Magnesium	7.50E-01	2.95E+05	2.21E+05
Manganese	4.61E-02	2.95E+05	1.36E+04
Mercury, element	1.32E-05	2.95E+05	3.82E+00
Mercury, divalent	--	2.95E+05	--
Mercury, methyl	--	2.95E+05	--
Molybdenum	4.00E-05	2.95E+05	1.18E+01
Nickel	2.05E-03	2.95E+05	6.05E+02
Phosphorus	3.45E-02	2.95E+05	1.02E+04
Potassium	1.60E+00	2.95E+05	4.72E+05
Rubidium	2.99E-04	2.95E+05	8.81E+01
Selenium	1.75E-05	2.95E+05	5.16E+00
Silver	2.50E-05	2.95E+05	7.38E+00
Sodium	9.50E-01	2.95E+05	2.80E+05
Strontium	1.05E-02	2.95E+05	3.10E+03
Thallium	3.95E-05	2.95E+05	1.17E+01
Tin	1.50E-04	2.95E+05	4.43E+01
Titanium	2.10E-01	2.95E+05	6.20E+04
Uranium	9.00E-05	2.95E+05	2.66E+01
Vanadium	4.00E-03	2.95E+05	1.18E+03
Zinc	5.50E-03	2.95E+05	1.62E+03

Equation: $L_{RI} = Hg_{factor} \times Dr \times A_I$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.48), and methylmercury (0)

Table B.35

Pervious Runoff Load to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Average Annual Surface Runoff Pervious Areas (RO) (refer to table B.9) (cm/yr)	Total Watershed Area Receiving Deposition (A_L) (refer to table B.9) (m^2)	Impervious Watershed Area (A_I) (refer to table B.34) (m^2)	Predicted Soil Concentration Construction (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Operations (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Reclamation (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Post-Closure (Cs) (refer to table B.16) (mg/kg)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	Soil Volumetric Water Content (θ_{sw}) (refer to table B.9) (ml/cm^3)	Soil-Water Partition Coefficient (Kds) (refer to table B.10) (cm^3/g)	Unit Conversion Factor (CF) ($kg\text{-}cm^2/mg\text{-}m^2$)	Runoff Load Pervious Surfaces Construction (L_R) (g/yr)	Runoff Load Pervious Surfaces Operations (L_R) (g/yr)	Runoff Load Pervious Surfaces Reclamation (L_R) (g/yr)	Runoff Load Pervious Surfaces Post-Closure (L_R) (g/yr)
Particulate Matter															
Total Particulate Matter	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Particulate Matter (PM10)	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Particulate Matter (PM2.5)	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Metals															
Aluminum	7.89E+01	3.79E+06	2.95E+05	8.76E+03	8.76E+03	8.76E+03	8.76E+03	1.50E+00	2.00E-01	1.50E+03	1.00E-02	1.61E+07	1.61E+07	1.61E+07	1.61E+07
Antimony	7.89E+01	3.79E+06	2.95E+05	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E+00	2.00E-01	4.50E+01	1.00E-02	6.12E+04	6.12E+04	6.12E+04	6.12E+04
Arsenic	7.89E+01	3.79E+06	2.95E+05	3.03E+01	3.03E+01	3.03E+01	3.03E+01	1.50E+00	2.00E-01	2.90E+01	1.00E-02	2.87E+06	2.87E+06	2.87E+06	2.87E+06
Barium	7.89E+01	3.79E+06	2.95E+05	3.88E+01	3.88E+01	3.88E+01	3.88E+01	1.50E+00	2.00E-01	4.10E+01	1.00E-02	2.60E+06	2.60E+06	2.60E+06	2.60E+06
Beryllium	7.89E+01	3.79E+06	2.95E+05	5.00E-01	5.00E-01	5.00E-01	5.00E-01	1.50E+00	2.00E-01	7.90E+02	1.00E-02	1.75E+03	1.75E+03	1.75E+03	1.75E+03
Bismuth	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Boron	7.89E+01	3.79E+06	2.95E+05	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.50E+00	2.00E-01	3.00E+00	1.00E-02	2.20E+07	2.20E+07	2.20E+07	2.20E+07
Cadmium	7.89E+01	3.79E+06	2.95E+05	4.89E-01	4.89E-01	4.89E-01	4.89E-01	1.50E+00	2.00E-01	7.50E+01	1.00E-02	1.80E+04	1.80E+04	1.80E+04	1.80E+04
Calcium	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Chromium Total	7.89E+01	3.79E+06	2.95E+05	1.30E+01	1.30E+01	1.30E+01	1.30E+01	1.50E+00	2.00E-01	1.90E+01	1.00E-02	1.88E+06	1.88E+06	1.88E+06	1.88E+06
Cobalt	7.89E+01	3.79E+06	2.95E+05	1.98E+00	1.98E+00	1.98E+00	1.98E+00	1.50E+00	2.00E-01	4.50E+01	1.00E-02	1.21E+05	1.21E+05	1.21E+05	1.21E+05
Copper	7.89E+01	3.79E+06	2.95E+05	4.93E+00	4.93E+00	4.93E+00	4.93E+00	1.50E+00	2.00E-01	3.50E+01	1.00E-02	3.87E+05	3.87E+05	3.87E+05	3.87E+05
Iron	7.89E+01	3.79E+06	2.95E+05	1.58E+04	1.58E+04	1.58E+04	1.58E+04	1.50E+00	2.00E-01	2.50E+01	1.00E-02	1.74E+09	1.74E+09	1.74E+09	1.74E+09
Lead	7.89E+01	3.79E+06	2.95E+05	2.48E+01	2.48E+01	2.48E+01	2.48E+01	1.50E+00	2.00E-01	9.00E+02	1.00E-02	7.61E+04	7.61E+04	7.61E+04	7.61E+04
Lithium	7.89E+01	3.79E+06	2.95E+05	8.43E+00	8.43E+00	8.43E+00	8.43E+00	1.50E+00	2.00E-01	3.00E+02	1.00E-02	7.76E+04	7.76E+04	7.76E+04	7.76E+04
Magnesium	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Manganese	7.89E+01	3.79E+06	2.95E+05	8.70E+01	8.70E+01	8.70E+01	8.70E+01	1.50E+00	2.00E-01	6.50E+01	1.00E-02	3.69E+06	3.69E+06	3.69E+06	3.69E+06
Mercury, element	7.89E+01	3.79E+06	2.95E+05	3.18E-01	3.18E-01	3.18E-01	3.18E-01	1.50E+00	2.00E-01	3.30E+03	1.00E-02	2.61E+02	2.61E+02	2.61E+02	2.61E+02
Mercury, divalent	7.89E+01	3.79E+06	2.95E+05	4.10E-04	2.53E-03	3.07E-03	3.07E-03	1.50E+00	2.00E-01	3.30E+03	1.00E-02	6.86E-03	4.23E-02	5.13E-02	5.13E-02
Mercury, methyl	7.89E+01	3.79E+06	2.95E+05	3.94E-09	3.94E-09	3.94E-09	3.94E-09	1.50E+00	2.00E-01	2.00E+01	1.00E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Molybdenum	7.89E+01	3.79E+06	2.95E+05	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E+00	2.00E-01	2.00E+01	1.00E-02	1.37E+05	1.37E+05	1.37E+05	1.37E+05
Nickel	7.89E+01	3.79E+06	2.95E+05	5.81E+00	5.81E+00	5.81E+00	5.81E+00	1.50E+00	2.00E-01	6.50E+01	1.00E-02	2.46E+05	2.46E+05	2.46E+05	2.46E+05
Phosphorus	7.89E+01	3.79E+06	2.95E+05	1.30E-01	1.30E-01	1.30E-01	1.30E-01	1.50E+00	2.00E-01	3.50E+00	1.00E-02	9.90E+04	9.90E+04	9.90E+04	9.90E+04
Potassium	7.89E+01	3.79E+06	2.95E+05	9.37E+00	9.37E+00	9.37E+00	9.37E+00	1.50E+00	2.00E-01	5.50E+00	1.00E-02	4.59E+06	4.59E+06	4.59E+06	4.59E+06
Rubidium	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Selenium	7.89E+01	3.79E+06	2.95E+05	2.08E+00	2.08E+00	2.08E+00	2.08E+00	1.50E+00	2.00E-01	5.00E+00	1.00E-02	1.12E+06	1.12E+06	1.12E+06	1.12E+06
Silver	7.89E+01	3.79E+06	2.95E+05	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.50E+00	2.00E-01	8.30E+00	1.00E-02	8.19E+04	8.19E+04	8.19E+04	8.19E+04
Sodium	7.89E+01	3.79E+06	2.95E+05	4.68E+01	9.73E+01	9.83E+01	9.83E+01	1.50E+00	2.00E-01	1.00E+02	1.00E-02	1.29E+06	2.68E+06	2.71E+06	2.71E+06
Strontium	7.89E+01	3.79E+06	2.95E+05	6.03E+01	6.03E+01	6.03E+01	6.03E+01	1.50E+00	2.00E-01	3.50E+01	1.00E-02	4.74E+06	4.74E+06	4.74E+06	4.74E+06
Thallium	7.89E+01	3.79E+06	2.95E+05	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.50E+00	2.00E-01	7.10E+01	1.00E-02	1.94E+03	1.94E+03	1.94E+03	1.94E+03
Tin	7.89E+01	3.79E+06	2.95E+05	5.00E-01	5.00E-01	5.00E-01	5.00E-01	1.50E+00	2.00E-01	2.50E+02	1.00E-02	5.52E+03	5.52E+03	5.52E+03	5.52E+03
Titanium	7.89E+01	3.79E+06	2.95E+05	1.36E+01	7.44E+01	8.76E+01	8.76E+01	1.50E+00	2.00E-01	1.00E+03	1.00E-02	3.74E+04	2.05E+05	2.42E+05	2.42E+05
Uranium	7.89E+01	3.79E+06	2.95E+05	6.51E-01	6.51E-01	6.51E-01	6.51E-01	1.50E+00	2.00E-01	4.50E+02	1.00E-02	3.99E+03	3.99E+03	3.99E+03	3.99E+03
Vanadium	7.89E+01	3.79E+06	2.95E+05	2.89E+01	2.89E+01	2.89E+01	2.89E+01	1.50E+00	2.00E-01	1.00E+03	1.00E-02	7.98E+04	7.98E+04	7.98E+04	7.98E+04
Zinc	7.89E+01	3.79E+06	2.95E+05	2.64E+01	2.64E+01	2.64E+01	2.64E+01	1.50E+00	2.00E-01	6.20E+01	1.00E-02	1.17E+06	1.17E+06	1.17E+06	1.17E+06

Equation:

$$L_R = RO \times (A_L - A_I) \times \frac{Cs \times BD}{\theta_{sw} + Kds \times BD} \times CF \times Hg_{factor}$$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.48), and methylmercury (0)

Table B.36

Universal Soil Loss Equation (USLE)
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	USLE Rainfall Factor (RF) (refer to table B.9) (1/yr)	USLE Erodibility Factor K (refer to table B.9) (ton/acre)	USLE Length-Slope Factor (LS) (refer to table B.9) -	USLE Cover Management Factor (C) (refer to table B.9) -	USLE Supporting Practice Factor (P) (refer to table B.9) -	Unit Conversion Factor (CF1) (kg/ton)	Unit Conversion Factor (CF2) (m^2/acre)	Unit Soil Loss X_e (kg/m^2-yr)
Particulate Matter								
Total Particulate Matter	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Particulate Matter (PM10)	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Particulate Matter (PM2.5)	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Metals								
Aluminum	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Antimony	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Arsenic	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Barium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Beryllium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Bismuth	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Boron	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Cadmium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Calcium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Chromium Total	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Cobalt	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Copper	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Iron	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Lead	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Lithium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Magnesium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Manganese	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Mercury, element	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Mercury, divalent	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Mercury, methyl	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Molybdenum	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Nickel	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Phosphorus	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Potassium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Rubidium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Selenium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Silver	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Sodium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Strontium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Thallium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Tin	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Titanium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Uranium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Vanadium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Zinc	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00

Equation: X_e = RF x K x LS x C x P x CF1/CF2

Table B.37

Sediment Delivery Ratio
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Empirical Intercept Coefficient (a) (refer to table B.9) -	Total Watershed Area Receiving Deposition (A_L) (refer to table B.35) (m^2)	Empirical Slope Coefficient (b) (refer to table B.9) -	Watershed Sediment Delivery Ratio (SD) -
Particulate Matter				
Total Particulate Matter	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Particulate Matter (PM10)	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Particulate Matter (PM2.5)	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Metals				
Aluminum	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Antimony	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Arsenic	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Barium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Beryllium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Bismuth	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Boron	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Cadmium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Calcium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Chromium Total	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Cobalt	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Copper	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Iron	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Lead	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Lithium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Magnesium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Manganese	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Mercury, element	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Mercury, divalent	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Mercury, methyl	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Molybdenum	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Nickel	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Phosphorus	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Potassium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Rubidium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Selenium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Silver	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Sodium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Strontium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Thallium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Tin	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Titanium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Uranium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Vanadium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Zinc	1.40E+00	3.79E+06	1.25E-01	2.11E-01

Equation: $SD = a \times (A_L)^{-b}$

Table B.38

Erosion Load to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Unit Soil Loss (X_o) (refer to table B.36) (kg/m^2-yr)	Total Watershed Area Receiving Deposition (A_L) (refer to table B.35) (m^2)	Impervious Watershed Area (A_I) (refer to table B.35) (m^2)	Watershed Sediment Delivery Ratio (SD) (refer to table B.37) -	Soil Enrichment Ratio (ER) -	Predicted Soil Concentration: Construction (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration: Operations (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration: Reclamation (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration: Post-Closure (Cs) (refer to table B.16) (mg/kg)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	Soil Volumetric Water Content (θ_{sw}) (refer to table B.9) (ml/cm^3)	Soil-Water Partition Coefficient (Kds) (refer to table B.35) (cm^3/g)	Unit Conversion Factor (CF) ((g/kg)/(mg/kg))	Erosion Load to Water Body: Construction (L_E) (g/yr)	Erosion Load to Water Body: Operations (L_E) (g/yr)	Erosion Load to Water Body: Reclamation (L_E) (g/yr)	Erosion Load to Water Body: Post-Closure (L_E) (g/yr)
Particulate Matter																	
Total Particulate Matter	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Particulate Matter (PM10)	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Particulate Matter (PM2.5)	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Metals																	
Aluminum	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	8.76E+03	8.76E+03	8.76E+03	8.76E+03	1.50E+00	2.00E-01	1.50E+03	1.00E-03	1.30E+07	1.30E+07	1.30E+07	1.30E+07
Antimony	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E+00	2.00E-01	4.50E+01	1.00E-03	1.48E+03	1.48E+03	1.48E+03	1.48E+03
Arsenic	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	3.03E+01	3.03E+01	3.03E+01	3.03E+01	1.50E+00	2.00E-01	2.90E+01	1.00E-03	4.47E+04	4.47E+04	4.47E+04	4.47E+04
Barium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	3.88E+01	3.88E+01	3.88E+01	3.88E+01	1.50E+00	2.00E-01	4.10E+01	1.00E-03	5.74E+04	5.74E+04	5.74E+04	5.74E+04
Beryllium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	5.00E-01	5.00E-01	5.00E-01	5.00E-01	1.50E+00	2.00E-01	7.90E+02	1.00E-03	7.42E+02	7.42E+02	7.42E+02	7.42E+02
Bismuth	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Boron	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.50E+00	2.00E-01	3.00E+00	1.00E-03	3.55E+04	3.55E+04	3.55E+04	3.55E+04
Cadmium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	4.89E-01	4.89E-01	4.89E-01	4.89E-01	1.50E+00	2.00E-01	7.50E+01	1.00E-03	7.24E+02	7.24E+02	7.24E+02	7.24E+02
Calcium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Chromium Total	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.30E+01	1.30E+01	1.30E+01	1.30E+01	1.50E+00	2.00E-01	1.90E+01	1.00E-03	1.91E+04	1.91E+04	1.91E+04	1.91E+04
Cobalt	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.98E+00	1.98E+00	1.98E+00	1.98E+00	1.50E+00	2.00E-01	4.50E+01	1.00E-03	2.93E+03	2.93E+03	2.93E+03	2.93E+03
Copper	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	4.93E+00	4.93E+00	4.93E+00	4.93E+00	1.50E+00	2.00E-01	3.50E+01	1.00E-03	7.28E+03	7.28E+03	7.28E+03	7.28E+03
Iron	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.58E+04	1.58E+04	1.58E+04	1.58E+04	1.50E+00	2.00E-01	2.50E+01	1.00E-03	2.33E+07	2.33E+07	2.33E+07	2.33E+07
Lead	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.48E+01	2.48E+01	2.48E+01	2.48E+01	1.50E+00	2.00E-01	9.00E+02	1.00E-03	3.68E+04	3.68E+04	3.68E+04	3.68E+04
Lithium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	8.43E+00	8.43E+00	8.43E+00	8.43E+00	1.50E+00	2.00E-01	3.00E+02	1.00E-03	1.25E+04	1.25E+04	1.25E+04	1.25E+04
Magnesium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Manganese	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	8.70E+01	8.70E+01	8.70E+01	8.70E+01	1.50E+00	2.00E-01	6.50E+01	1.00E-03	1.29E+05	1.29E+05	1.29E+05	1.29E+05
Mercury, element	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	3.18E-01	3.18E-01	3.18E-01	3.18E-01	1.50E+00	2.00E-01	3.30E+03	1.00E-03	4.72E+02	4.72E+02	4.72E+02	4.72E+02
Mercury, divalent	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	4.10E-04	2.53E-03	3.07E-03	3.07E-03	1.50E+00	2.00E-01	3.30E+03	1.00E-03	6.08E-01	3.75E+00	4.55E+00	4.55E+00
Mercury, methyl	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	3.94E-09	3.94E-09	3.94E-09	3.94E-09	1.50E+00	2.00E-01	2.00E+01	1.00E-03	5.80E-06	5.80E-06	5.80E-06	5.80E-06
Molybdenum	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E+00	2.00E-01	2.00E+01	1.00E-03	1.47E+03	1.47E+03	1.47E+03	1.47E+03
Nickel	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	5.81E+00	5.81E+00	5.81E+00	5.81E+00	1.50E+00	2.00E-01	6.50E+01	1.00E-03	8.60E+03	8.60E+03	8.60E+03	8.60E+03
Phosphorus	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.30E-01	1.30E-01	1.30E-01	1.30E-01	1.50E+00	2.00E-01	3.50E+00	1.00E-03	1.86E+02	1.86E+02	1.86E+02	1.86E+02
Potassium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	9.37E+00	9.37E+00	9.37E+00	9.37E+00	1.50E+00	2.00E-01	5.50E+00	1.00E-03	1.36E+04	1.36E+04	1.36E+04	1.36E+04
Rubidium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Selenium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.08E+00	2.08E+00	2.08E+00	2.08E+00	1.50E+00	2.00E-01	5.00E+00	1.00E-03	3.01E+03	3.01E+03	3.01E+03	3.01E+03
Silver	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.50E+00	2.00E-01	8.30E+00	1.00E-03	3.65E+02	3.65E+02	3.65E+02	3.65E+02
Sodium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	4.68E+01	9.73E+01	9.83E+01	9.83E+01	1.50E+00	2.00E-01	1.00E+02	1.00E-03	6.93E+04	1.44E+05	1.46E+05	1.46E+05
Strontium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	6.03E+01	6.03E+01	6.03E+01	6.03E+01	1.50E+00	2.00E-01	3.50E+01	1.00E-03	8.91E+04	8.91E+04	8.91E+04	8.91E+04
Thallium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.50E+00	2.00E-01	7.10E+01	1.00E-03	7.40E+01	7.40E+01	7.40E+01	7.40E+01
Tin	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	5.00E-01	5.00E-01	5.00E-01	5.00E-01	1.50E+00	2.00E-01	2.50E+02	1.00E-03	7.41E+02	7.41E+02	7.41E+02	7.41E+02
Titanium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.36E+01	7.44E+01	8.76E+01	8.76E+01	1.50E+00	2.00E-01	1.00E+03	1.00E-03	2.01E+04	1.10E+05	1.30E+05	1.30E+05
Uranium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	6.51E-01	6.51E-01	6.51E-01	6.51E-01	1.50E+00	2.00E-01	4.50E+02	1.00E-03	9.65E+02	9.65E+02	9.65E+02	9.65E+02
Vanadium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.89E+01	2.89E+01	2.89E+01	2.89E+01	1.50E+00	2.00E-01	1.00E+03	1.00E-03	4.29E+04	4.29E+04	4.29E+04	4.29E+04
Zinc	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.64E+01	2.64E+01	2.64E+01	2.64E+01	1.50E+00	2.00E-01	6.20E+01	1.00E-03	3.91E+04	3.91E+04	3.91E+04	3.91E+04

Equation:

$$L_E = X_o \times (A_L - A_I) \times SD \times ER \times \frac{Cs \times Kds \times BD}{\theta_{sw} + Kds \times BD} \times CF$$

Table B.39

Total Water Body Load
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Total Wet & Dry Particle and Wet Vapor Direct Deposition to Water (L_{DEP}) (refer to table B.30) (g/yr)	Vapor Phase Diffusion to Water (L_{DIF}) (refer to table B.33) (g/yr)	Runoff Load Impervious Surfaces (L_{RI}) (refer to table B.34) (g/yr)	Runoff Load Pervious Surfaces Construction (L_R) (refer to table B.35) (g/yr)	Runoff Load Pervious Surfaces Operations (L_R) (refer to table B.35) (g/yr)	Runoff Load Pervious Surfaces Reclamation (L_R) (refer to table B.35) (g/yr)	Runoff Load Pervious Surfaces Post-Closure (L_R) (refer to table B.35) (g/yr)	Soil Erosion Load Construction (L_E) (refer to table B.38) (g/yr)	Soil Erosion Load Operations (L_E) (refer to table B.38) (g/yr)	Soil Erosion Load Reclamation (L_E) (refer to table B.38) (g/yr)	Soil Erosion Load Post-Closure (L_E) (refer to table B.38) (g/yr)	Total Load to Surface Water Construction (L_T) (g/yr)	Total Load to Surface Water Operations (L_T) (g/yr)	Total Load to Surface Water Reclamation (L_T) (g/yr)	Total Load to Surface Water Post-Closure (L_T) (g/yr)
Particulate Matter															
Total Particulate Matter	1.48E+07	0.00E+00	1.48E+07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.95E+07	2.95E+07	2.95E+07	2.95E+07
Particulate Matter (PM10)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Particulate Matter (PM2.5)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Metals															
Aluminum	1.48E+06	0.00E+00	1.48E+06	1.61E+07	1.61E+07	1.61E+07	1.61E+07	1.30E+07	1.30E+07	1.30E+07	1.30E+07	3.21E+07	3.21E+07	3.21E+07	3.21E+07
Antimony	4.43E+01	0.00E+00	4.43E+01	6.12E+04	6.12E+04	6.12E+04	6.12E+04	1.48E+03	1.48E+03	1.48E+03	1.48E+03	6.28E+04	6.28E+04	6.28E+04	6.28E+04
Arsenic	5.75E+03	0.00E+00	5.75E+03	2.87E+06	2.87E+06	2.87E+06	2.87E+06	4.47E+04	4.47E+04	4.47E+04	4.47E+04	2.93E+06	2.93E+06	2.93E+06	2.93E+06
Barium	1.19E+04	0.00E+00	1.19E+04	2.60E+06	2.60E+06	2.60E+06	2.60E+06	5.74E+04	5.74E+04	5.74E+04	5.74E+04	2.69E+06	2.69E+06	2.69E+06	2.69E+06
Beryllium	4.43E+01	0.00E+00	4.43E+01	1.75E+03	1.75E+03	1.75E+03	1.75E+03	7.42E+02	7.42E+02	7.42E+02	7.42E+02	2.58E+03	2.58E+03	2.58E+03	2.58E+03
Bismuth	4.87E+00	0.00E+00	4.87E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.74E+00	9.74E+00	9.74E+00	9.74E+00
Boron	3.69E+02	0.00E+00	3.69E+02	2.20E+07	2.20E+07	2.20E+07	2.20E+07	3.55E+04	3.55E+04	3.55E+04	3.55E+04	2.21E+07	2.21E+07	2.21E+07	2.21E+07
Cadmium	1.77E+00	0.00E+00	1.77E+00	1.80E+04	1.80E+04	1.80E+04	1.80E+04	7.24E+02	7.24E+02	7.24E+02	7.24E+02	1.87E+04	1.87E+04	1.87E+04	1.87E+04
Calcium	1.92E+05	0.00E+00	1.92E+05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.84E+05	3.84E+05	3.84E+05	3.84E+05
Chromium Total	1.64E+03	0.00E+00	1.64E+03	1.88E+06	1.88E+06	1.88E+06	1.88E+06	1.91E+04	1.91E+04	1.91E+04	1.91E+04	1.90E+06	1.90E+06	1.90E+06	1.90E+06
Cobalt	2.66E+02	0.00E+00	2.66E+02	1.21E+05	1.21E+05	1.21E+05	1.21E+05	2.93E+03	2.93E+03	2.93E+03	2.93E+03	1.25E+05	1.25E+05	1.25E+05	1.25E+05
Copper	5.46E+02	0.00E+00	5.46E+02	3.87E+05	3.87E+05	3.87E+05	3.87E+05	7.28E+03	7.28E+03	7.28E+03	7.28E+03	3.96E+05	3.96E+05	3.96E+05	3.96E+05
Iron	6.34E+05	0.00E+00	6.34E+05	1.74E+09	1.74E+09	1.74E+09	1.74E+09	2.33E+07	2.33E+07	2.33E+07	2.33E+07	1.76E+09	1.76E+09	1.76E+09	1.76E+09
Lead	5.46E+02	0.00E+00	5.46E+02	7.61E+04	7.61E+04	7.61E+04	7.61E+04	3.68E+04	3.68E+04	3.68E+04	3.68E+04	1.14E+05	1.14E+05	1.14E+05	1.14E+05
Lithium	9.00E+02	0.00E+00	9.00E+02	7.76E+04	7.76E+04	7.76E+04	7.76E+04	1.25E+04	1.25E+04	1.25E+04	1.25E+04	9.19E+04	9.19E+04	9.19E+04	9.19E+04
Magnesium	2.21E+05	0.00E+00	2.21E+05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.43E+05	4.43E+05	4.43E+05	4.43E+05
Manganese	1.36E+04	0.00E+00	1.36E+04	3.69E+06	3.69E+06	3.69E+06	3.69E+06	1.29E+05	1.29E+05	1.29E+05	1.29E+05	3.84E+06	3.84E+06	3.84E+06	3.84E+06
Mercury, element	3.82E+00	6.67E-04	3.82E+00	2.61E+02	2.61E+02	2.61E+02	2.61E+02	4.72E+02	4.72E+02	4.72E+02	4.72E+02	7.40E+02	7.40E+02	7.40E+02	7.40E+02
Mercury, divalent	0.00E+00	0.00E+00	0.00E+00	6.86E-03	4.23E-02	5.13E-02	5.13E-02	6.08E-01	3.75E+00	4.55E+00	4.55E+00	6.15E-01	3.79E+00	4.60E+00	4.60E+00
Mercury, methyl	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.80E-06	5.80E-06	5.80E-06	5.80E-06	5.80E-06	5.80E-06	5.80E-06	5.80E-06
Molybdenum	1.18E+01	0.00E+00	1.18E+01	1.37E+05	1.37E+05	1.37E+05	1.37E+05	1.47E+03	1.47E+03	1.47E+03	1.47E+03	1.39E+05	1.39E+05	1.39E+05	1.39E+05
Nickel	6.05E+02	0.00E+00	6.05E+02	2.46E+05	2.46E+05	2.46E+05	2.46E+05	8.60E+03	8.60E+03	8.60E+03	8.60E+03	2.56E+05	2.56E+05	2.56E+05	2.56E+05
Phosphorus	1.02E+04	0.00E+00	1.02E+04	9.90E+04	9.90E+04	9.90E+04	9.90E+04	1.86E+02	1.86E+02	1.86E+02	1.86E+02	1.20E+05	1.20E+05	1.20E+05	1.20E+05
Potassium	4.72E+05	0.00E+00	4.72E+05	4.59E+06	4.59E+06	4.59E+06	4.59E+06	1.36E+04	1.36E+04	1.36E+04	1.36E+04	5.55E+06	5.55E+06	5.55E+06	5.55E+06
Rubidium	8.81E+01	0.00E+00	8.81E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.76E+02	1.76E+02	1.76E+02	1.76E+02
Selenium	5.16E+00	0.00E+00	5.16E+00	1.12E+06	1.12E+06	1.12E+06	1.12E+06	3.01E+03	3.01E+03	3.01E+03	3.01E+03	1.12E+06	1.12E+06	1.12E+06	1.12E+06
Silver	7.38E+00	0.00E+00	7.38E+00	8.19E+04	8.19E+04	8.19E+04	8.19E+04	3.65E+02	3.65E+02	3.65E+02	3.65E+02	8.22E+04	8.22E+04	8.22E+04	8.22E+04
Sodium	2.80E+05	0.00E+00	2.80E+05	1.29E+06	2.68E+06	2.71E+06	2.71E+06	6.93E+04	1.44E+05	1.46E+05	1.46E+05	1.92E+06	3.39E+06	3.42E+06	3.42E+06
Strontium	3.10E+03	0.00E+00	3.10E+03	4.74E+06	4.74E+06	4.74E+06	4.74E+06	8.91E+04	8.91E+04	8.91E+04	8.91E+04	4.83E+06	4.83E+06	4.83E+06	4.83E+06
Thallium	1.17E+01	0.00E+00	1.17E+01	1.94E+03	1.94E+03	1.94E+03	1.94E+03	7.40E+01	7.40E+01	7.40E+01	7.40E+01	2.04E+03	2.04E+03	2.04E+03	2.04E+03
Tin	4.43E+01	0.00E+00	4.43E+01	5.52E+03	5.52E+03	5.52E+03	5.52E+03	7.41E+02	7.41E+02	7.41E+02	7.41E+02	6.35E+03	6.35E+03	6.35E+03	6.35E+03
Titanium	6.20E+04	0.00E+00	6.20E+04	3.74E+04	2.05E+05	2.42E+05	2.42E+05	2.01E+04	1.10E+05	1.30E+05	1.30E+05	1.81E+05	4.40E+05	4.96E+05	4.96E+05
Uranium	2.66E+01	0.00E+00	2.66E+01	3.99E+03	3.99E+03	3.99E+03	3.99E+03	9.65E+02	9.65E+02	9.65E+02	9.65E+02	5.01E+03	5.01E+03	5.01E+03	5.01E+03
Vanadium	1.18E+03	0.00E+00	1.18E+03	7.98E+04	7.98E+04	7.98E+04	7.98E+04	4.29E+04	4.29E+04	4.29E+04	4.29E+04	1.25E+05	1.25E+05	1.25E+05	1.25E+05
Zinc	1.62E+03	0.00E+00	1.62E+03	1.17E+06	1.17E+06	1.17E+06	1.17E+06	3.91E+04	3.91E+04	3.91E+04	3.91E+04	1.22E+06	1.22E+06	1.22E+06	1.22E+06

Equation: $L_T = L_{DEP} + L_{DIF} + L_{RI} + L_R + L_E$

Table B.40

Total Water Body (Surface Water and Bed Sediment) Predicted Concentrations
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Total Load to Surface Water				Average Volumetric Flow rate	Fraction Total Water Body Conc. in Water Column	Overall Total Water Body Dissipation Rate Constant	Water Body Surface Area	Depth of Water Column	Depth of Upper Benthic Sediment Layer	Total Water Body Predicted Concentrations Load to Surface Water & Sediment			
	Construction (L_T) (refer to table B.39)	Operations (L_T) (refer to table B.39)	Reclamation (L_T) (refer to table B.39)	Post-Closure (L_T) (refer to table B.39)	(Vf_x) (refer to table B.9)	(f_{wc}) (refer to table B.41)	k_{wt} (refer to table B.44)	(A_w) (refer to table B.30)	(d_{wc}) (refer to table B.9)	(d_{bs}) (refer to table B.9)	Construction (Cwb)	Operations (Cwb)	Reclamation (Cwb)	Post-Closure (Cwb)
Contaminant	(g/yr)	(g/yr)	(g/yr)	(g/yr)	(m^3/yr)	-	(1/yr)	(m^2)	(m)	(m)	(g/m^3 or mg/L)	(g/m^3 or mg/L)	(g/m^3 or mg/L)	(g/m^3 or mg/L)
Particulate Matter														
Total Particulate Matter	2.95E+07	2.95E+07	2.95E+07	2.95E+07	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Particulate Matter (PM10)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Particulate Matter (PM2.5)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Metals														
Aluminum	3.21E+07	3.21E+07	3.21E+07	3.21E+07	1.25E+07	6.24E-03	1.67E-01	2.95E+05	2.79E-01	3.00E-02	3.45E+02	3.45E+02	3.45E+02	3.45E+02
Antimony	6.28E+04	6.28E+04	6.28E+04	6.28E+04	1.25E+07	1.69E-01	1.39E-01	2.95E+05	2.79E-01	3.00E-02	2.96E-02	2.96E-02	2.96E-02	2.96E-02
Arsenic	2.93E+06	2.93E+06	2.93E+06	2.93E+06	1.25E+07	2.39E-01	1.28E-01	2.95E+05	2.79E-01	3.00E-02	9.80E-01	9.80E-01	9.80E-01	9.80E-01
Barium	2.69E+06	2.69E+06	2.69E+06	2.69E+06	1.25E+07	1.83E-01	1.37E-01	2.95E+05	2.79E-01	3.00E-02	1.17E+00	1.17E+00	1.17E+00	1.17E+00
Beryllium	2.58E+03	2.58E+03	2.58E+03	2.58E+03	1.25E+07	1.17E-02	1.66E-01	2.95E+05	2.79E-01	3.00E-02	1.60E-02	1.60E-02	1.60E-02	1.60E-02
Bismuth	9.74E+00	9.74E+00	9.74E+00	9.74E+00	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Boron	2.21E+07	2.21E+07	2.21E+07	2.21E+07	1.25E+07	7.21E-01	4.68E-02	2.95E+05	2.79E-01	3.00E-02	2.46E+00	2.46E+00	2.46E+00	2.46E+00
Cadmium	1.87E+04	1.87E+04	1.87E+04	1.87E+04	1.25E+07	1.09E-01	1.49E-01	2.95E+05	2.79E-01	3.00E-02	1.36E-02	1.36E-02	1.36E-02	1.36E-02
Calcium	3.84E+05	3.84E+05	3.84E+05	3.84E+05	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Chromium Total	1.90E+06	1.90E+06	1.90E+06	1.90E+06	1.25E+07	3.22E-01	1.14E-01	2.95E+05	2.79E-01	3.00E-02	4.72E-01	4.72E-01	4.72E-01	4.72E-01
Cobalt	2.69E+06	2.69E+06	2.69E+06	2.69E+06	1.25E+07	1.69E-01	1.39E-01	2.95E+05	2.79E-01	3.00E-02	1.27E+00	1.27E+00	1.27E+00	1.27E+00
Copper	2.58E+03	2.58E+03	2.58E+03	2.58E+03	1.25E+07	2.07E-01	1.33E-01	2.95E+05	2.79E-01	3.00E-02	9.94E-04	9.94E-04	9.94E-04	9.94E-04
Iron	1.76E+09	1.76E+09	1.76E+09	1.76E+09	1.25E+07	2.66E-01	1.23E-01	2.95E+05	2.79E-01	3.00E-02	5.29E+02	5.29E+02	5.29E+02	5.29E+02
Lead	1.14E+05	1.14E+05	1.14E+05	1.14E+05	1.25E+07	1.03E-02	1.66E-01	2.95E+05	2.79E-01	3.00E-02	7.94E-01	7.94E-01	7.94E-01	7.94E-01
Lithium	9.19E+04	9.19E+04	9.19E+04	9.19E+04	1.25E+07	3.01E-02	1.63E-01	2.95E+05	2.79E-01	3.00E-02	2.36E-01	2.36E-01	2.36E-01	2.36E-01
Magnesium	4.43E+05	4.43E+05	4.43E+05	4.43E+05	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Manganese	3.84E+06	3.84E+06	3.84E+06	3.84E+06	1.25E+07	1.24E-01	1.47E-01	2.95E+05	2.79E-01	3.00E-02	2.46E+00	2.46E+00	2.46E+00	2.46E+00
Mercury, element	7.40E+02	7.40E+02	7.40E+02	7.40E+02	1.25E+07	5.26E-04	7.80E-01	2.95E+05	2.79E-01	3.00E-02	9.54E-03	9.54E-03	9.54E-03	9.54E-03
Mercury, divalent	6.15E-01	3.79E+00	4.60E+00	4.60E+00	1.25E+07	5.26E-04	1.68E-01	2.95E+05	2.79E-01	3.00E-02	2.82E-05	1.74E-04	2.11E-04	2.11E-04
Mercury, methyl	5.80E-06	5.80E-06	5.80E-06	5.80E-06	1.25E+07	5.48E-02	9.17E+01	2.95E+05	2.79E-01	3.00E-02	6.43E-13	6.43E-13	6.43E-13	6.43E-13
Molybdenum	1.39E+05	1.39E+05	1.39E+05	1.39E+05	1.25E+07	3.11E-01	1.16E-01	2.95E+05	2.79E-01	3.00E-02	3.57E-02	3.57E-02	3.57E-02	3.57E-02
Nickel	2.56E+05	2.56E+05	2.56E+05	2.56E+05	1.25E+07	1.24E-01	1.47E-01	2.95E+05	2.79E-01	3.00E-02	1.64E-01	1.64E-01	1.64E-01	1.64E-01
Phosphorus	1.20E+05	1.20E+05	1.20E+05	1.20E+05	1.25E+07	6.94E-01	5.13E-02	2.95E+05	2.79E-01	3.00E-02	1.38E-02	1.38E-02	1.38E-02	1.38E-02
Potassium	5.55E+06	5.55E+06	5.55E+06	5.55E+06	1.25E+07	6.04E-01	6.65E-02	2.95E+05	2.79E-01	3.00E-02	7.37E-01	7.37E-01	7.37E-01	7.37E-01
Rubidium	1.76E+02	1.76E+02	1.76E+02	1.76E+02	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Selenium	1.12E+06	1.12E+06	1.12E+06	1.12E+06	1.25E+07	6.24E-01	6.31E-02	2.95E+05	2.79E-01	3.00E-02	1.44E-01	1.44E-01	1.44E-01	1.44E-01
Silver	8.22E+04	8.22E+04	8.22E+04	8.22E+04	1.25E+07	5.11E-01	8.20E-02	2.95E+05	2.79E-01	3.00E-02	1.29E-02	1.29E-02	1.29E-02	1.29E-02
Sodium	1.92E+06	3.39E+06	3.42E+06	3.42E+06	1.25E+07	8.46E-02	1.53E-01	2.95E+05	2.79E-01	3.00E-02	1.80E+00	3.17E+00	3.20E+00	3.20E+00
Strontium	4.83E+06	4.83E+06	4.83E+06	4.83E+06	1.25E+07	2.07E-01	1.33E-01	2.95E+05	2.79E-01	3.00E-02	1.87E+00	1.87E+00	1.87E+00	1.87E+00
Thallium	2.04E+03	2.04E+03	2.04E+03	2.04E+03	1.25E+07	1.15E-01	1.48E-01	2.95E+05	2.79E-01	3.00E-02	1.41E-03	1.41E-03	1.41E-03	1.41E-03
Tin	6.35E+03	6.35E+03	6.35E+03	6.35E+03	1.25E+07	3.58E-02	1.62E-01	2.95E+05	2.79E-01	3.00E-02	1.38E-02	1.38E-02	1.38E-02	1.38E-02
Titanium	1.81E+05	4.40E+05	4.96E+05	4.96E+05	1.25E+07	9.29E-03	1.66E-01	2.95E+05	2.79E-01	3.00E-02	1.39E+00	3.36E+00	3.79E+00	3.79E+00
Uranium	5.01E+03	5.01E+03	5.01E+03	5.01E+03	1.25E+07	2.03E-02	1.64E-01	2.95E+05	2.79E-01	3.00E-02	1.87E-02	1.87E-02	1.87E-02	1.87E-02
Vanadium	1.25E+05	1.25E+05	1.25E+05	1.25E+05	1.25E+07	9.29E-03	1.66E-01	2.95E+05	2.79E-01	3.00E-02	9.55E-01	9.55E-01	9.55E-01	9.55E-01
Zinc	1.22E+06	1.22E+06	1.22E+06	1.22E+06	1.25E+07	1.29E-01	1.46E-01	2.95E+05	2.79E-01	3.00E-02	7.48E-01	7.48E-01	7.48E-01	7.48E-01

Equation:

$$Cwb = \frac{L_T}{Vf_x \times f_{wc} + k_{wt} \times A_w \times (d_{wc} + d_{bs})}$$

Table B.41

Fraction in Water Column and in Benthic Sediment
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Suspended Sediments/ Surface Water Partition Coefficient (Kdsw) (refer to table B.10) (L/kg)	Total Suspended Solids Concentration (TSS) (refer to table B.9) (mg/L)	Unit Conversion Factor (CF) (kg/mg)	Depth of Water Column (d_{wc}) (refer to table B.9) (m)	Depth of Upper Benthic Sediment Layer (d_{bs}) (refer to table B.9) (m)	Total Water Body Depth (d_z) (m)	Bed Sediment Concentration (C_{BS}) (refer to table B.9) (kg/L)	Bed Sediment Porosity (θ_{bs}) (refer to table B.9) (L_{wat}/L_{sed})	Bed Sediments/ Sediment Pore Water Partition Coefficient (Kdbs) (refer to table B.10) (L/kg)	Fraction Total Water Body Conc. in Water Column (f_{wc}) -	Fraction Total Water Body Conc. in Benthic Sediment (f_{bs}) -
Particulate Matter											
Total Particulate Matter	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Particulate Matter (PM10)	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Particulate Matter (PM2.5)	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Metals											
Aluminum	1.50E+03	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.50E+03	6.24E-03	9.94E-01
Antimony	4.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	4.50E+01	1.69E-01	8.31E-01
Arsenic	2.90E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.90E+01	2.39E-01	7.61E-01
Barium	4.10E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	4.10E+01	1.83E-01	8.17E-01
Beryllium	7.90E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	7.90E+02	1.17E-02	9.88E-01
Bismuth	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Boron	3.00E+00	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	3.00E+00	7.21E-01	2.79E-01
Cadmium	7.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	7.50E+01	1.09E-01	8.91E-01
Calcium	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Chromium Total	1.90E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.90E+01	3.22E-01	6.78E-01
Cobalt	4.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	4.50E+01	1.69E-01	8.31E-01
Copper	3.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	3.50E+01	2.07E-01	7.93E-01
Iron	2.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.50E+01	2.66E-01	7.34E-01
Lead	9.00E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	9.00E+02	1.03E-02	9.90E-01
Lithium	3.00E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	3.00E+02	3.01E-02	9.70E-01
Magnesium	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Manganese	6.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	6.50E+01	1.24E-01	8.76E-01
Mercury, element	4.95E+04	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.64E+04	5.26E-04	9.99E-01
Mercury, divalent	4.95E+04	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.64E+04	5.26E-04	9.99E-01
Mercury, methyl	3.00E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.60E+02	5.48E-02	9.45E-01
Molybdenum	2.00E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.00E+01	3.11E-01	6.89E-01
Nickel	6.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	6.50E+01	1.24E-01	8.76E-01
Phosphorus	3.50E+00	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	3.50E+00	6.94E-01	3.06E-01
Potassium	5.50E+00	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	5.50E+00	6.04E-01	3.96E-01
Rubidium	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Selenium	5.00E+00	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	5.00E+00	6.24E-01	3.76E-01
Silver	8.30E+00	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	8.30E+00	5.11E-01	4.89E-01
Sodium	1.00E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.00E+02	8.46E-02	9.15E-01
Strontium	3.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	3.50E+01	2.07E-01	7.93E-01
Thallium	7.10E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	7.10E+01	1.15E-01	8.85E-01
Tin	2.50E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.50E+02	3.58E-02	9.64E-01
Titanium	1.00E+03	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.00E+03	9.29E-03	9.91E-01
Uranium	4.50E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	4.50E+02	2.03E-02	9.80E-01
Vanadium	1.00E+03	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.00E+03	9.29E-03	9.91E-01
Zinc	6.20E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	6.20E+01	1.29E-01	8.71E-01

Equation: $f_{bs} = 1 - f_{wc}$ where: $f_{wc} = \dfrac{(1 + Kdsw \times TSS \times CF) \times d_{wc} / d_z}{(1 + Kdsw \times TSS \times CF) \times d_{wc}/d_z + (\theta_{bs} + Kdbs \times C_{BS}) \times d_{bs} / d_z}$

$d_z = d_{wc} + d_{bs}$

Table B.42

Water Column Volatilization Loss Rate Constant
Surface Water Direct Contact Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Overall Transfer Rate Coefficient (K_V) (refer to table B.32) (m/yr)	Total Water Body Depth (d_z) (refer to table B.41) (m)	Suspended Sediments/ Surface Water Partition Coefficient (Kdsw) (refer to table B.10) (L/kg)	Total Suspended Solids Concentration (TSS) (refer to table B.9) (mg/L)	Unit Conversion Factor (CF) (kg/mg)	Water Column Volatilization Rate Constant k_v (yr^{-1})
Particulate Matter						
Total Particulate Matter	--	3.09E-01	--	1.00E+01	1.00E-06	--
Particulate Matter (PM10)	--	3.09E-01	--	1.00E+01	1.00E-06	--
Particulate Matter (PM2.5)	--	3.09E-01	--	1.00E+01	1.00E-06	--
Metals						
Aluminum	--	3.09E-01	1.50E+03	1.00E+01	1.00E-06	--
Antimony	--	3.09E-01	4.50E+01	1.00E+01	1.00E-06	--
Arsenic	--	3.09E-01	2.90E+01	1.00E+01	1.00E-06	--
Barium	--	3.09E-01	4.10E+01	1.00E+01	1.00E-06	--
Beryllium	--	3.09E-01	7.90E+02	1.00E+01	1.00E-06	--
Bismuth	--	3.09E-01	--	1.00E+01	1.00E-06	--
Boron	--	3.09E-01	3.00E+00	1.00E+01	1.00E-06	--
Cadmium	--	3.09E-01	7.50E+01	1.00E+01	1.00E-06	--
Calcium	--	3.09E-01	--	1.00E+01	1.00E-06	--
Chromium Total	--	3.09E-01	1.90E+01	1.00E+01	1.00E-06	--
Cobalt	--	3.09E-01	4.50E+01	1.00E+01	1.00E-06	--
Copper	--	3.09E-01	3.50E+01	1.00E+01	1.00E-06	--
Iron	--	3.09E-01	2.50E+01	1.00E+01	1.00E-06	--
Lead	--	3.09E-01	9.00E+02	1.00E+01	1.00E-06	--
Lithium	--	3.09E-01	3.00E+02	1.00E+01	1.00E-06	--
Magnesium	--	3.09E-01	--	1.00E+01	1.00E-06	--
Manganese	--	3.09E-01	6.50E+01	1.00E+01	1.00E-06	--
Mercury, element	5.37E+02	3.09E-01	4.95E+04	1.00E+01	1.00E-06	1.16E+03
Mercury, divalent	8.04E-04	3.09E-01	4.95E+04	1.00E+01	1.00E-06	1.74E-03
Mercury, methyl	5.17E+02	3.09E-01	3.00E+02	1.00E+01	1.00E-06	1.67E+03
Molybdenum	--	3.09E-01	2.00E+01	1.00E+01	1.00E-06	--
Nickel	--	3.09E-01	6.50E+01	1.00E+01	1.00E-06	--
Phosphorus	--	3.09E-01	3.50E+00	1.00E+01	1.00E-06	--
Potassium	--	3.09E-01	5.50E+00	1.00E+01	1.00E-06	--
Rubidium	--	3.09E-01	--	1.00E+01	1.00E-06	--
Selenium	--	3.09E-01	5.00E+00	1.00E+01	1.00E-06	--
Silver	--	3.09E-01	8.30E+00	1.00E+01	1.00E-06	--
Sodium	--	3.09E-01	1.00E+02	1.00E+01	1.00E-06	--
Strontium	--	3.09E-01	3.50E+01	1.00E+01	1.00E-06	--
Thallium	--	3.09E-01	7.10E+01	1.00E+01	1.00E-06	--
Tin	--	3.09E-01	2.50E+02	1.00E+01	1.00E-06	--
Titanium	--	3.09E-01	1.00E+03	1.00E+01	1.00E-06	--
Uranium	--	3.09E-01	4.50E+02	1.00E+01	1.00E-06	--
Vanadium	--	3.09E-01	1.00E+03	1.00E+01	1.00E-06	--
Zinc	--	3.09E-01	6.20E+01	1.00E+01	1.00E-06	--

Equation:

$$k_v = \frac{K_v}{d_z \times (1 + Kdsw \times TSS \times CF)}$$

Table B.43

Benthic Burial Rate Constant
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Unit Soil Loss (X_e) (refer to table B.36) (kg/m^2-yr)	Total Watershed Area Receiving Deposition (A_L) (refer to table B.35) (m^2)	Watershed Sediment Delivery Ratio (SD) (refer to table B.37) -	Unit Conversion Factor (CF1) (g/kg)	Avg. Volumetric Flow Rate of Water Body (Vf_x) (refer to table B.9) (m^3/yr)	Total Suspended Solids Concentration (TSS) (refer to table B.9) (mg/L)	Water Body Surface Area (A_W) (refer to table B.33) (m^2)	Unit Conversion Factor (CF2) (kg/mg)	Bed Sediment Concentration (C_{BS}) (refer to table B.9) (g/cm^3)	Depth of Upper Benthic Sediment Layer (d_{bs}) (refer to table B.9) (m)	Benthic Burial Rate Constant (k_b) (yr^{-1})
Particulate Matter											
Total Particulate Matter	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Particulate Matter (PM10)	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Particulate Matter (PM2.5)	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Metals											
Aluminum	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Antimony	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Arsenic	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Barium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Beryllium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Bismuth	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Boron	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Cadmium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Calcium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Chromium Total	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Cobalt	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Copper	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Iron	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Lead	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Lithium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Magnesium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Manganese	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Mercury, element	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Mercury, divalent	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Mercury, methyl	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Molybdenum	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Nickel	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Phosphorus	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Potassium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Rubidium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Selenium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Silver	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Sodium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Strontium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Thallium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Tin	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Titanium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Uranium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Vanadium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Zinc	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01

Equation:

$$k_b = \frac{(X_e \times A_L \times SD \times CF1 - Vf_x \times TSS)}{(A_w \times TSS)} \times \frac{(TSS \times CF2)}{(C_{BS} \times d_{bs})}$$

Table B.44

Overall Total Surface River Dissipation Rate Constant
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction Total Water Body Conc. in Water Column (f_{wc}) (refer to table B.41) -	Water Column Volatilization Rate Constant (k_v) (refer to table B.42) (yr^{-1})	Fraction Total Water Body Conc. in Benthic Sediment (f_{bs}) (refer to table B.41) -	Benthic Burial Rate Constant (k_b) (refer to table B.43) (yr^{-1})	Overall Total Water Body Dissipation Rate Constant (k_{wt}) (yr^{-1})
Particulate Matter					
Total Particulate Matter	--	--	--	1.68E-01	--
Particulate Matter (PM10)	--	--	--	1.68E-01	--
Particulate Matter (PM2.5)	--	--	--	1.68E-01	--
Metals					
Aluminum	6.24E-03	--	9.94E-01	1.68E-01	1.67E-01
Antimony	1.69E-01	--	8.31E-01	1.68E-01	1.39E-01
Arsenic	2.39E-01	--	7.61E-01	1.68E-01	1.28E-01
Barium	1.83E-01	--	8.17E-01	1.68E-01	1.37E-01
Beryllium	1.17E-02	--	9.88E-01	1.68E-01	1.66E-01
Bismuth	--	--	--	1.68E-01	--
Boron	7.21E-01	--	2.79E-01	1.68E-01	4.68E-02
Cadmium	1.09E-01	--	8.91E-01	1.68E-01	1.49E-01
Calcium	--	--	--	1.68E-01	--
Chromium Total	3.22E-01	--	6.78E-01	1.68E-01	1.14E-01
Cobalt	1.69E-01	--	8.31E-01	1.68E-01	1.39E-01
Copper	2.07E-01	--	7.93E-01	1.68E-01	1.33E-01
Iron	2.66E-01	--	7.34E-01	1.68E-01	1.23E-01
Lead	1.03E-02	--	9.90E-01	1.68E-01	1.66E-01
Lithium	3.01E-02	--	9.70E-01	1.68E-01	1.63E-01
Magnesium	--	--	--	1.68E-01	--
Manganese	1.24E-01	--	8.76E-01	1.68E-01	1.47E-01
Mercury, element	5.26E-04	1.16E+03	9.99E-01	1.68E-01	7.80E-01
Mercury, divalent	5.26E-04	1.74E-03	9.99E-01	1.68E-01	1.68E-01
Mercury, methyl	5.48E-02	1.67E+03	9.45E-01	1.68E-01	9.17E+01
Molybdenum	3.11E-01	--	6.89E-01	1.68E-01	1.16E-01
Nickel	1.24E-01	--	8.76E-01	1.68E-01	1.47E-01
Phosphorus	6.94E-01	--	3.06E-01	1.68E-01	5.13E-02
Potassium	6.04E-01	--	3.96E-01	1.68E-01	6.65E-02
Rubidium	--	--	--	1.68E-01	--
Selenium	6.24E-01	--	3.76E-01	1.68E-01	6.31E-02
Silver	5.11E-01	--	4.89E-01	1.68E-01	8.20E-02
Sodium	8.46E-02	--	9.15E-01	1.68E-01	1.53E-01
Strontium	2.07E-01	--	7.93E-01	1.68E-01	1.33E-01
Thallium	1.15E-01	--	8.85E-01	1.68E-01	1.48E-01
Tin	3.58E-02	--	9.64E-01	1.68E-01	1.62E-01
Titanium	9.29E-03	--	9.91E-01	1.68E-01	1.66E-01
Uranium	2.03E-02	--	9.80E-01	1.68E-01	1.64E-01
Vanadium	9.29E-03	--	9.91E-01	1.68E-01	1.66E-01
Zinc	1.29E-01	--	8.71E-01	1.68E-01	1.46E-01

Equation: $k_{wt} = f_{wc} \times k_v + f_{bs} \times k_b$

Table B.45

Total Surface Water Predicted Concentrations
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction Total Water Body Conc. in Water Column (f_{wc}) (refer to table B.41) -	Total Water Body Predicted Concentrations Load to Surface Water & Sediment: Construction (Cwb) (refer to table B.40) (mg/L)	Operations (Cwb) (refer to table B.40) (mg/L)	Reclamation (Cwb) (refer to table B.40) (mg/L)	Post-Closure (Cwb) (refer to table B.40) (mg/L)	Depth of Water Column (d_{wc}) (refer to table B.40) (m)	Depth of Upper Benthic Sediment Layer (d_{bs}) (refer to table B.40) (m)	Predicted Total Concentration in Surface Water: Construction (Cw) (1) (mg/L)	Operations (Cw) (1) (mg/L)	Reclamation (Cw) (1) (mg/L)	Post-Closure (Cw) (1) (mg/L)	Predicted Total Concentration in Surface Water (2): Construction (Cw) (2) (mg/L)	Operations (Cw) (2) (mg/L)	Reclamation (Cw) (2) (mg/L)	Post-Closure (Cw) (2) (mg/L)
Particulate Matter															
Total Particulate Matter	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Metals															
Aluminum	6.24E-03	3.45E+02	3.45E+02	3.45E+02	3.45E+02	2.79E-01	3.00E-02	2.38E+00	2.38E+00	2.38E+00	2.38E+00	4.30E-01	1.99E-01	2.66E-01	3.61E-01
Antimony	1.69E-01	2.96E-02	2.96E-02	2.96E-02	2.96E-02	2.79E-01	3.00E-02	5.54E-03	5.54E-03	5.54E-03	5.54E-03	5.00E-04	4.39E-03	3.27E-03	2.20E-03
Arsenic	2.39E-01	9.80E-01	9.80E-01	9.80E-01	9.80E-01	2.79E-01	3.00E-02	2.59E-01	2.59E-01	2.59E-01	2.59E-01	6.77E-01	5.48E-02	5.21E-02	5.12E-02
Barium	1.83E-01	1.17E+00	1.17E+00	1.17E+00	1.17E+00	2.79E-01	3.00E-02	2.37E-01	2.37E-01	2.37E-01	2.37E-01	3.60E-03	7.09E-03	7.05E-03	5.73E-03
Beryllium	1.17E-02	1.60E-02	1.60E-02	1.60E-02	1.60E-02	2.79E-01	3.00E-02	2.08E-04	2.08E-04	2.08E-04	2.08E-04	5.00E-04	4.61E-04	4.71E-04	4.76E-04
Bismuth	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Boron	7.21E-01	2.46E+00	2.46E+00	2.46E+00	2.46E+00	2.79E-01	3.00E-02	1.96E+00	1.96E+00	1.96E+00	1.96E+00	1.96E+00	1.96E+00	1.96E+00	1.96E+00
Cadmium	1.09E-01	1.36E-02	1.36E-02	1.36E-02	1.36E-02	2.79E-01	3.00E-02	1.65E-03	1.65E-03	1.65E-03	1.65E-03	2.48E-05	1.98E-05	2.41E-05	3.70E-05
Calcium	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Chromium Total	3.22E-01	4.72E-01	4.72E-01	4.72E-01	4.72E-01	2.79E-01	3.00E-02	1.68E-01	1.68E-01	1.68E-01	1.68E-01	1.30E-03	8.58E-04	6.87E-04	8.60E-04
Cobalt	1.69E-01	1.27E+00	1.27E+00	1.27E+00	1.27E+00	2.79E-01	3.00E-02	2.37E-01	2.37E-01	2.37E-01	2.37E-01	2.00E-04	9.91E-04	9.35E-04	9.61E-04
Copper	2.07E-01	9.94E-04	9.94E-04	9.94E-04	9.94E-04	2.79E-01	3.00E-02	2.28E-04	2.28E-04	2.28E-04	2.28E-04	1.74E-03	1.96E-03	1.86E-03	9.20E-04
Iron	2.66E-01	5.29E+02	5.29E+02	5.29E+02	5.29E+02	2.79E-01	3.00E-02	1.56E+02	1.56E+02	1.56E+02	1.56E+02	1.17E+00	3.55E-01	4.55E-01	4.28E-01
Lead	1.03E-02	7.94E-01	7.94E-01	7.94E-01	7.94E-01	2.79E-01	3.00E-02	9.06E-03	9.06E-03	9.06E-03	9.06E-03	7.62E-04	8.22E-04	7.06E-04	9.27E-04
Lithium	3.01E-02	2.36E-01	2.36E-01	2.36E-01	2.36E-01	2.79E-01	3.00E-02	7.85E-03	7.85E-03	7.85E-03	7.85E-03	7.85E-03	7.85E-03	7.85E-03	7.85E-03
Magnesium	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Manganese	1.24E-01	2.46E+00	2.46E+00	2.46E+00	2.46E+00	2.79E-01	3.00E-02	3.39E-01	3.39E-01	3.39E-01	3.39E-01	8.03E-02	7.56E-02	4.92E-02	1.19E-01
Mercury, element	5.26E-04	9.54E-03	9.54E-03	9.54E-03	9.54E-03	2.79E-01	3.00E-02	5.56E-06	5.56E-06	5.56E-06	5.56E-06	1.36E-04	6.88E-06	7.05E-06	9.69E-06
Mercury, divalent	5.26E-04	2.82E-05	1.74E-04	2.11E-04	2.11E-04	2.79E-01	3.00E-02	1.64E-08	1.01E-07	1.23E-07	1.23E-07	1.64E-08	1.01E-07	1.23E-07	1.23E-07
Mercury, methyl	5.48E-02	6.43E-13	6.43E-13	6.43E-13	6.43E-13	2.79E-01	3.00E-02	3.90E-14	3.90E-14	3.90E-14	3.90E-14	3.90E-14	3.90E-14	3.90E-14	3.90E-14
Molybdenum	3.11E-01	3.57E-02	3.57E-02	3.57E-02	3.57E-02	2.79E-01	3.00E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02
Nickel	1.24E-01	1.64E-01	1.64E-01	1.64E-01	1.64E-01	2.79E-01	3.00E-02	2.26E-02	2.26E-02	2.26E-02	2.26E-02	1.00E-03	1.42E-02	6.10E-03	1.13E-02
Phosphorus	6.94E-01	1.38E-02	1.38E-02	1.38E-02	1.38E-02	2.79E-01	3.00E-02	1.06E-02	1.06E-02	1.06E-02	1.06E-02	1.06E-02	1.06E-02	1.06E-02	1.06E-02
Potassium	6.04E-01	7.37E-01	7.37E-01	7.37E-01	7.37E-01	2.79E-01	3.00E-02	4.93E-01	4.93E-01	4.93E-01	4.93E-01	4.93E-01	4.93E-01	4.93E-01	4.93E-01
Rubidium	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Selenium	6.24E-01	1.44E-01	1.44E-01	1.44E-01	1.44E-01	2.79E-01	3.00E-02	9.96E-02	9.96E-02	9.96E-02	9.96E-02	5.00E-04	4.88E-04	4.68E-04	5.58E-04
Silver	5.11E-01	1.29E-02	1.29E-02	1.29E-02	1.29E-02	2.79E-01	3.00E-02	7.30E-03	7.30E-03	7.30E-03	7.30E-03	5.00E-05	7.90E-05	7.04E-05	7.48E-05
Sodium	8.46E-02	1.80E+00	3.17E+00	3.20E+00	3.20E+00	2.79E-01	3.00E-02	1.68E-01	2.97E-01	3.00E-01	3.00E-01	1.68E-01	2.97E-01	3.00E-01	3.00E-01
Strontium	2.07E-01	1.87E+00	1.87E+00	1.87E+00	1.87E+00	2.79E-01	3.00E-02	4.28E-01	4.28E-01	4.28E-01	4.28E-01	4.28E-01	4.28E-01	4.28E-01	4.28E-01
Thallium	1.15E-01	1.41E-03	1.41E-03	1.41E-03	1.41E-03	2.79E-01	3.00E-02	1.79E-04	1.79E-04	1.79E-04	1.79E-04	5.00E-05	7.31E-05	6.61E-05	8.48E-05
Tin	3.58E-02	1.38E-02	1.38E-02	1.38E-02	1.38E-02	2.79E-01	3.00E-02	5.46E-04	5.46E-04	5.46E-04	5.46E-04	5.46E-04	5.46E-04	5.46E-04	5.46E-04
Titanium	9.29E-03	1.39E+00	3.36E+00	3.79E+00	3.79E+00	2.79E-01	3.00E-02	1.43E-02	3.46E-02	3.90E-02	3.90E-02	1.43E-02	3.46E-02	3.90E-02	3.90E-02
Uranium	2.03E-02	1.87E-02	1.87E-02	1.87E-02	1.87E-02	2.79E-01	3.00E-02	4.21E-04	4.21E-04	4.21E-04	4.21E-04	5.00E-05	9.50E-04	8.52E-04	5.76E-04
Vanadium	9.29E-03	9.55E-01	9.55E-01	9.55E-01	9.55E-01	2.79E-01	3.00E-02	9.83E-03	9.83E-03	9.83E-03	9.83E-03	1.00E-03	2.12E-03	1.49E-03	2.01E-03
Zinc	1.29E-01	7.48E-01	7.48E-01	7.48E-01	7.48E-01	2.79E-01	3.00E-02	1.07E-01	1.07E-01	1.07E-01	1.07E-01	9.76E-03	7.28E-03	7.18E-03	7.27E-03

Notes:
(1) Equation: $Cw = f_{wc} \times Cwb \times [(d_{wc} + d_{bs})/d_{wc}]$

(2) Refer to table B.8. For COPCs without values in table B.8, results reported are from the previous equation.

Table B.46

Predicted Dissolved Phase Surface Water Concentrations
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Total Concentration in Surface Water using GoldSIM software: Construction (Cw) (refer to table B.45) (mg/L)	Operations (Cw) (refer to table B.45) (mg/L)	Reclamation (Cw) (refer to table B.45) (mg/L)	Post-Closure (Cw) (refer to table B.45) (mg/L)	Suspended Sediments/ Surface Water Partition Coefficient (Kdsw) (refer to table B.41) (L/kg)	Total Suspended Solids Concentration (TSS) (refer to table B.41) (mg/L)	Unit Conversion Factor (CF) (kg/mg)	Dissolved Surface Water Predicted Concentration: Construction (Cdw) (mg/L)	Operations (Cdw) (mg/L)	Reclamation (Cdw) (mg/L)	Post-Closure (Cdw) (mg/L)
Particulate Matter											
Total Particulate Matter	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Metals											
Aluminum	4.30E-01	1.99E-01	2.66E-01	3.61E-01	1.50E+03	1.00E+01	1.00E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Antimony	5.00E-04	4.39E-03	3.27E-03	2.20E-03	4.50E+01	1.00E+01	1.00E-06	5.00E-04	4.38E-03	3.26E-03	2.20E-03
Arsenic	6.77E-01	5.48E-02	5.21E-02	5.12E-02	2.90E+01	1.00E+01	1.00E-06	6.77E-01	5.48E-02	5.21E-02	5.12E-02
Barium	3.60E-03	7.09E-03	7.05E-03	5.73E-03	4.10E+01	1.00E+01	1.00E-06	3.60E-03	7.08E-03	7.04E-03	5.72E-03
Beryllium	5.00E-04	4.61E-04	4.71E-04	4.76E-04	7.90E+02	1.00E+01	1.00E-06	4.96E-04	4.57E-04	4.68E-04	4.73E-04
Bismuth	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Boron	1.96E+00	1.96E+00	1.96E+00	1.96E+00	3.00E+00	1.00E+01	1.00E-06	1.96E+00	1.96E+00	1.96E+00	1.96E+00
Cadmium	2.48E-05	1.98E-05	2.41E-05	3.70E-05	7.50E+01	1.00E+01	1.00E-06	2.48E-05	1.98E-05	2.41E-05	3.70E-05
Calcium	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Chromium Total	1.30E-03	8.58E-04	6.87E-04	8.60E-04	1.90E+01	1.00E+01	1.00E-06	1.30E-03	8.58E-04	6.86E-04	8.60E-04
Cobalt	2.00E-04	9.91E-04	9.35E-04	9.61E-04	4.50E+01	1.00E+01	1.00E-06	2.00E-04	9.91E-04	9.35E-04	9.60E-04
Copper	1.74E-03	1.96E-03	1.86E-03	9.20E-04	3.50E+01	1.00E+01	1.00E-06	1.74E-03	1.96E-03	1.85E-03	9.20E-04
Iron	1.17E+00	3.55E-01	4.55E-01	4.28E-01	2.50E+01	1.00E+01	1.00E-06	1.17E+00	3.55E-01	4.55E-01	4.27E-01
Lead	7.62E-04	8.22E-04	7.06E-04	9.27E-04	9.00E+02	1.00E+01	1.00E-06	7.55E-04	8.15E-04	7.00E-04	9.19E-04
Lithium	7.85E-03	7.85E-03	7.85E-03	7.85E-03	3.00E+02	1.00E+01	1.00E-06	7.83E-03	7.83E-03	7.83E-03	7.83E-03
Magnesium	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Manganese	8.03E-02	7.56E-02	4.92E-02	1.19E-01	6.50E+01	1.00E+01	1.00E-06	8.03E-02	7.55E-02	4.92E-02	1.19E-01
Mercury, element	1.36E-04	6.88E-06	7.05E-06	9.69E-06	4.95E+04	1.00E+01	1.00E-06	9.12E-05	4.60E-06	4.72E-06	6.48E-06
Mercury, divalent	1.64E-08	1.01E-07	1.23E-07	1.23E-07	4.95E+04	1.00E+01	1.00E-06	1.10E-08	6.77E-08	8.22E-08	8.22E-08
Mercury, methyl	3.90E-14	3.90E-14	3.90E-14	3.90E-14	3.00E+02	1.00E+01	1.00E-06	3.89E-14	3.89E-14	3.89E-14	3.89E-14
Molybdenum	1.23E-02	1.23E-02	1.23E-02	1.23E-02	2.00E+01	1.00E+01	1.00E-06	1.23E-02	1.23E-02	1.23E-02	1.23E-02
Nickel	1.00E-03	1.42E-02	6.10E-03	1.13E-02	6.50E+01	1.00E+01	1.00E-06	9.99E-04	1.42E-02	6.10E-03	1.13E-02
Phosphorus	1.06E-02	1.06E-02	1.06E-02	1.06E-02	3.50E+00	1.00E+01	1.00E-06	1.06E-02	1.06E-02	1.06E-02	1.06E-02
Potassium	4.93E-01	4.93E-01	4.93E-01	4.93E-01	5.50E+00	1.00E+01	1.00E-06	4.93E-01	4.93E-01	4.93E-01	4.93E-01
Rubidium	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Selenium	5.00E-04	4.88E-04	4.68E-04	5.58E-04	5.00E+00	1.00E+01	1.00E-06	5.00E-04	4.88E-04	4.68E-04	5.58E-04
Silver	5.00E-05	7.90E-05	7.04E-05	7.48E-05	8.30E+00	1.00E+01	1.00E-06	5.00E-05	7.89E-05	7.04E-05	7.48E-05
Sodium	1.68E-01	2.97E-01	3.00E-01	3.00E-01	1.00E+02	1.00E+01	1.00E-06	1.68E-01	2.97E-01	2.99E-01	2.99E-01
Strontium	4.28E-01	4.28E-01	4.28E-01	4.28E-01	3.50E+01	1.00E+01	1.00E-06	4.27E-01	4.27E-01	4.27E-01	4.27E-01
Thallium	5.00E-05	7.31E-05	6.61E-05	8.48E-05	7.10E+01	1.00E+01	1.00E-06	5.00E-05	7.31E-05	6.61E-05	8.48E-05
Tin	5.46E-04	5.46E-04	5.46E-04	5.46E-04	2.50E+02	1.00E+01	1.00E-06	5.45E-04	5.45E-04	5.45E-04	5.45E-04
Titanium	1.43E-02	3.46E-02	3.90E-02	3.90E-02	1.00E+03	1.00E+01	1.00E-06	1.41E-02	3.42E-02	3.86E-02	3.86E-02
Uranium	5.00E-05	9.50E-04	8.52E-04	5.76E-04	4.50E+02	1.00E+01	1.00E-06	4.98E-05	9.46E-04	8.48E-04	5.73E-04
Vanadium	1.00E-03	2.12E-03	1.49E-03	2.01E-03	1.00E+03	1.00E+01	1.00E-06	9.90E-04	2.10E-03	1.47E-03	1.99E-03
Zinc	9.76E-03	7.28E-03	7.18E-03	7.27E-03	6.20E+01	1.00E+01	1.00E-06	9.75E-03	7.27E-03	7.17E-03	7.26E-03

Equation: $Cdw = \frac{Cw}{1 + Kd_{sw} \times TSS \times CF} \times Hg_{factor}$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.968), and methylmercury (0.032)

Table B.47

Predicted Sediment Concentrations
Sediment Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction Total Water Body Conc. in Benthic Sediment: Construction (f_{bs}) (refer to table B.41) -	Total Water Body Concentration Load to River Water & Sediment: Construction (Cwb) (refer to table B.40) (mg/L)	Operations (Cwb) (refer to table B.40) (mg/L)	Reclamation (Cwb) (refer to table B.40) (mg/L)	Post-Closure (Cwb) (refer to table B.40) (mg/L)	Bed Sediments/ Sediment Pore Water Partition Coefficient (Kdbs) (refer to table B.41) (L/kg)	Bed Sediment Porosity (θ_{bs}) (refer to table B.41) (L_{wat}/L_{sed})	Bed Sediment Concentration (C_{BS}) (refer to table B.41) (g/cm^3)	Depth of Water Column (d_{wc}) (refer to table B.40) (m)	Depth of Upper Benthic Sediment Layer (d_{bs}) (refer to table B.40) (m)	Baseline Sediment Concentration (Csed) (refer to table B.1) (mg/kg)	Predicted Sediment Concentration: Construction (Csed) (mg/kg)	Operations (Csed) (mg/kg)	Reclamation (Csed) (mg/kg)	Post-Closure (Csed) (mg/kg)
Particulate Matter															
Total Particulate Matter	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	--	--	--	--
Metals															
Aluminum	9.94E-01	3.45E+02	3.45E+02	3.45E+02	3.45E+02	1.50E+03	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.50E+04	1.50E+04	1.50E+04	1.50E+04	1.50E+04
Antimony	8.31E-01	2.96E-02	2.96E-02	2.96E-02	2.96E-02	4.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	8.10E+01	8.10E+01	8.10E+01	8.10E+01	8.10E+01
Arsenic	7.61E-01	9.80E-01	9.80E-01	9.80E-01	9.80E-01	2.90E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.10E+05	1.10E+05	1.10E+05	1.10E+05	1.10E+05
Barium	8.17E-01	1.17E+00	1.17E+00	1.17E+00	1.17E+00	4.10E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	9.60E+01	9.60E+01	9.60E+01	9.60E+01	9.60E+01
Beryllium	9.88E-01	1.60E-02	1.60E-02	1.60E-02	1.60E-02	7.90E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Bismuth	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	5.40E+00	5.40E+00	5.40E+00	5.40E+00	5.40E+00
Boron	2.79E-01	2.46E+00	2.46E+00	2.46E+00	2.46E+00	3.00E+00	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.50E+01
Cadmium	8.91E-01	1.36E-02	1.36E-02	1.36E-02	1.36E-02	7.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	5.60E-01	5.60E-01	5.60E-01	5.60E-01	5.60E-01
Calcium	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	--	--	--	--
Chromium Total	6.78E-01	4.72E-01	4.72E-01	4.72E-01	4.72E-01	1.90E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.40E+01	2.40E+01	2.40E+01	2.40E+01	2.40E+01
Cobalt	8.31E-01	1.27E+00	1.27E+00	1.27E+00	1.27E+00	4.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.30E+02	1.30E+02	1.30E+02	1.30E+02	1.30E+02
Copper	7.93E-01	9.94E-04	9.94E-04	9.94E-04	9.94E-04	3.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	3.60E+01	3.60E+01	3.60E+01	3.60E+01	3.60E+01
Iron	7.34E-01	5.29E+02	5.29E+02	5.29E+02	5.29E+02	2.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.20E+05	1.20E+05	1.20E+05	1.20E+05	1.20E+05
Lead	9.90E-01	7.94E-01	7.94E-01	7.94E-01	7.94E-01	9.00E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02
Lithium	9.70E-01	2.36E-01	2.36E-01	2.36E-01	2.36E-01	3.00E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	3.10E+01	3.10E+01	3.10E+01	3.10E+01	3.10E+01
Magnesium	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	--	--	--	--
Manganese	8.76E-01	2.46E+00	2.46E+00	2.46E+00	2.46E+00	6.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	4.00E+02	4.00E+02	4.00E+02	4.00E+02	4.00E+02
Mercury, element	9.99E-01	9.54E-03	9.54E-03	9.54E-03	9.54E-03	2.64E+04	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.10E+01	1.10E+01	1.10E+01	1.10E+01	1.10E+01
Mercury, divalent	9.99E-01	2.82E-05	1.74E-04	2.11E-04	2.11E-04	2.64E+04	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	2.90E-04	1.79E-03	2.17E-03	2.17E-03
Mercury, methyl	9.45E-01	6.43E-13	6.43E-13	6.43E-13	6.43E-13	1.60E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	6.23E-12	6.23E-12	6.23E-12	6.23E-12
Molybdenum	6.89E-01	3.57E-02	3.57E-02	3.57E-02	3.57E-02	2.00E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	4.30E+00	4.30E+00	4.30E+00	4.30E+00	4.30E+00
Nickel	8.76E-01	1.64E-01	1.64E-01	1.64E-01	1.64E-01	6.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02
Phosphorus	3.06E-01	1.38E-02	1.38E-02	1.38E-02	1.38E-02	3.50E+00	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	3.72E-02	3.72E-02	3.72E-02	3.72E-02
Potassium	3.96E-01	7.37E-01	7.37E-01	7.37E-01	7.37E-01	5.50E+00	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	2.71E+00	2.71E+00	2.71E+00	2.71E+00
Rubidium	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	3.90E+01	3.90E+01	3.90E+01	3.90E+01	3.90E+01
Selenium	3.76E-01	1.44E-01	1.44E-01	1.44E-01	1.44E-01	5.00E+00	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.50E+00	2.50E+00	2.50E+00	2.50E+00	2.50E+00
Silver	4.89E-01	1.29E-02	1.29E-02	1.29E-02	1.29E-02	8.30E+00	6.00E-01	1.00E+00	2.79E-01	3.00E-02	3.40E+00	3.40E+00	3.40E+00	3.40E+00	3.40E+00
Sodium	9.15E-01	1.80E+00	3.17E+00	3.20E+00	3.20E+00	1.00E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	1.68E+01	2.97E+01	2.99E+01	2.99E+01
Strontium	7.93E-01	1.87E+00	1.87E+00	1.87E+00	1.87E+00	3.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01
Thallium	8.85E-01	1.41E-03	1.41E-03	1.41E-03	1.41E-03	7.10E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	3.00E-01	3.00E-01	3.00E-01	3.00E-01	3.00E-01
Tin	9.64E-01	1.38E-02	1.38E-02	1.38E-02	1.38E-02	2.50E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.40E+00	1.40E+00	1.40E+00	1.40E+00	1.40E+00
Titanium	9.91E-01	1.39E+00	3.36E+00	3.79E+00	3.79E+00	1.00E+03	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	1.41E+01	3.42E+01	3.86E+01	3.86E+01
Uranium	9.80E-01	1.87E-02	1.87E-02	1.87E-02	1.87E-02	4.50E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.70E+00	1.70E+00	1.70E+00	1.70E+00	1.70E+00
Vanadium	9.91E-01	9.55E-01	9.55E-01	9.55E-01	9.55E-01	1.00E+03	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01
Zinc	8.71E-01	7.48E-01	7.48E-01	7.48E-01	7.48E-01	6.20E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	6.40E+01	6.40E+01	6.40E+01	6.40E+01	6.40E+01

Equation:

$$Csed = f_{bs} \times Cwb \times \frac{Kdbs}{\theta_{bs} + Kdbs \times C_{BS}} \times \frac{d_{wc} + d_{bs}}{d_{bs}}$$

Table B.48

Predicted Fish Concentrations from Bioconcentration Factors using Dissolved Phase Water Concentrations
Fish Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Dissolved Water Predicted Concentration				Sediment Predicted Concentration							Baseline Fish Concentration		Predicted Fish Whole Body Concentration				Predicted Fish Fillet Concentration			
	Construction (Cdw)	Operations (Cdw)	Reclamation (Cdw)	Post-Closure (Cdw)	Construction (Csed)	Operations (Csed)	Reclamation (Csed)	Post-Closure (Csed)	Bioconcentration Factor (BCF)	Bioaccumulation Factor (BAF)	Fraction of Organic Carbon in Bottom Sediment (OC_{sed})	Fillets (Cff)	Remains (Cfr)	Construction (Cfw)	Operations (Cfw)	Reclamation (Cfw)	Post-Closure (Cfw)	Construction (Cff)	Operations (Cff)	Reclamation (Cff)	Post-Closure (Cff)
	(refer to table B.46)	(refer to table B.46)	(refer to table B.46)	(refer to table B.46)	(refer to table B.47)	(refer to table B.47)	(refer to table B.47)	(refer to table B.47)	(refer to table B.10)	(refer to table B.10)	(refer to table B.9)	(refer to table B.1)	(refer to table B.1)								
Contaminant	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(L/kg)	(L/kg)	-	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)
Particulate Matter																					
Total Particulate Matter	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Metals																					
Aluminum	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E+04	1.50E+04	1.50E+04	1.50E+04	5.00E+02	--	7.00E-02	1.30E+00	2.60E+00	2.60E+00	2.60E+00	2.60E+00	2.60E+00	1.30E+00	1.30E+00	1.30E+00	1.30E+00
Antimony	5.00E-04	4.38E-03	3.26E-03	2.20E-03	8.10E+01	8.10E+01	8.10E+01	8.10E+01	4.00E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Arsenic	6.77E-01	5.48E-02	5.21E-02	5.12E-02	1.10E+05	1.10E+05	1.10E+05	1.10E+05	1.14E+02	--	7.00E-02	2.50E-01	5.30E-01	7.71E+01	6.25E+00	5.94E+00	5.83E+00	7.71E+01	6.25E+00	5.94E+00	5.83E+00
Barium	3.60E-03	7.08E-03	7.04E-03	5.72E-03	9.60E+01	9.60E+01	9.60E+01	9.60E+01	6.33E+02	--	7.00E-02	7.50E-01	2.50E+00	2.50E+00	4.48E+00	4.46E+00	3.62E+00	2.28E+00	4.48E+00	4.46E+00	3.62E+00
Beryllium	4.96E-04	4.57E-04	4.68E-04	4.73E-04	1.00E+00	1.00E+00	1.00E+00	1.00E+00	6.20E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Bismuth	--	--	--	--	5.40E+00	5.40E+00	5.40E+00	5.40E+00	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Boron	1.96E+00	1.96E+00	1.96E+00	1.96E+00	2.50E+01	2.50E+01	2.50E+01	2.50E+01	--	--	7.00E-02	7.50E-01	7.50E-01	--	--	--	--	--	--	--	--
Cadmium	2.48E-05	1.98E-05	2.41E-05	3.70E-05	5.60E-01	5.60E-01	5.60E-01	5.60E-01	9.07E+02	--	7.00E-02	2.50E-02	2.50E-02	2.50E-02	2.50E-02	2.50E-02	3.35E-02	2.50E-02	2.50E-02	2.50E-02	3.35E-02
Calcium	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Chromium Total	1.30E-03	8.58E-04	6.86E-04	8.60E-04	2.40E+01	2.40E+01	2.40E+01	2.40E+01	1.90E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Cobalt	2.00E-04	9.91E-04	9.35E-04	9.60E-04	1.30E+02	1.30E+02	1.30E+02	1.30E+02	3.00E+02	--	7.00E-02	1.00E-01	1.00E-01	1.00E-01	2.97E-01	2.80E-01	2.88E-01	1.00E-01	2.97E-01	2.80E-01	2.88E-01
Copper	1.74E-03	1.96E-03	1.85E-03	9.20E-04	3.60E+01	3.60E+01	3.60E+01	3.60E+01	2.00E+02	--	7.00E-02	2.50E-01	1.30E+00	1.30E+00	1.30E+00	1.30E+00	1.30E+00	3.48E-01	3.91E-01	3.71E-01	2.50E-01
Iron	1.17E+00	3.55E-01	4.55E-01	4.27E-01	1.20E+05	1.20E+05	1.20E+05	1.20E+05	2.00E+02	--	7.00E-02	7.50E+00	2.50E+01	2.34E+02	7.10E+01	9.10E+01	8.55E+01	2.34E+02	7.10E+01	9.10E+01	8.55E+01
Lead	7.55E-04	8.15E-04	7.00E-04	9.19E-04	1.20E+02	1.20E+02	1.20E+02	1.20E+02	9.00E-02	--	7.00E-02	9.00E-02	2.20E-01	2.20E-01	2.20E-01	2.20E-01	2.20E-01	9.00E-02	9.00E-02	9.00E-02	9.00E-02
Lithium	7.83E-03	7.83E-03	7.83E-03	7.83E-03	3.10E+01	3.10E+01	3.10E+01	3.10E+01	--	--	7.00E-02	2.50E-01	2.50E-01	--	--	--	--	--	--	--	--
Magnesium	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Manganese	8.03E-02	7.55E-02	4.92E-02	1.19E-01	4.00E+02	4.00E+02	4.00E+02	4.00E+02	4.00E+02	--	7.00E-02	3.10E+00	6.40E+00	3.21E+01	3.02E+01	1.97E+01	4.74E+01	3.21E+01	3.02E+01	1.97E+01	4.74E+01
Mercury, element	9.12E-05	4.60E-06	4.72E-06	6.48E-06	1.10E+01	1.10E+01	1.10E+01	1.10E+01	--	0.00E+00	7.00E-02	2.50E-03	1.40E+00	1.40E+00	1.40E+00	1.40E+00	1.40E+00	2.50E-03	2.50E-03	2.50E-03	2.50E-03
Mercury, divalent	1.10E-08	6.77E-08	8.22E-08	8.22E-08	2.90E-04	1.79E-03	2.17E-03	2.17E-03	--	1.00E+00	7.00E-02	--	--	1.10E-08	6.77E-08	8.22E-08	8.22E-08	1.10E-08	6.77E-08	8.22E-08	8.22E-08
Mercury, methyl	3.89E-14	3.89E-14	3.89E-14	3.89E-14	6.23E-12	6.23E-12	6.23E-12	6.23E-12	--	6.80E+06	7.00E-02	--	--	2.65E-07	2.65E-07	2.65E-07	2.65E-07	2.65E-07	2.65E-07	2.65E-07	2.65E-07
Molybdenum	1.23E-02	1.23E-02	1.23E-02	1.23E-02	4.30E+00	4.30E+00	4.30E+00	4.30E+00	1.00E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Nickel	9.99E-04	1.42E-02	6.10E-03	1.13E-02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	7.80E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	1.11E+00	4.76E-01	8.83E-01	2.50E-01	1.11E+00	4.76E-01	8.83E-01
Phosphorus	1.06E-02	1.06E-02	1.06E-02	1.06E-02	3.72E-02	3.72E-02	3.72E-02	3.72E-02	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Potassium	4.93E-01	4.93E-01	4.93E-01	4.93E-01	2.71E+00	2.71E+00	2.71E+00	2.71E+00	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Rubidium	--	--	--	--	3.90E+01	3.90E+01	3.90E+01	3.90E+01	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Selenium	5.00E-04	4.88E-04	4.68E-04	5.58E-04	2.50E+00	2.50E+00	2.50E+00	2.50E+00	1.29E+02	--	7.00E-02	7.50E-01	7.30E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01
Silver	5.00E-05	7.89E-05	7.04E-05	7.48E-05	3.40E+00	3.40E+00	3.40E+00	3.40E+00	8.77E+01	--	7.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02
Sodium	1.68E-01	2.97E-01	2.99E-01	2.99E-01	1.68E+01	2.97E+01	2.99E+01	2.99E+01	2.00E+01	--	7.00E-02	--	--	3.36E+00	5.94E+00	5.99E+00	5.99E+00	3.36E+00	5.94E+00	5.99E+00	5.99E+00
Strontium	4.27E-01	4.27E-01	4.27E-01	4.27E-01	2.60E+01	2.60E+01	2.60E+01	2.60E+01	6.00E+01	--	7.00E-02	4.40E+01	6.10E+01	6.10E+01	6.10E+01	6.10E+01	6.10E+01	4.40E+01	4.40E+01	4.40E+01	4.40E+01
Thallium	5.00E-05	7.31E-05	6.61E-05	8.48E-05	3.00E-01	3.00E-01	3.00E-01	3.00E-01	1.00E+04	--	7.00E-02	1.00E-02	1.00E-02	5.00E-01	7.31E-01	6.61E-01	8.48E-01	5.00E-01	7.31E-01	6.61E-01	8.48E-01
Tin	5.45E-04	5.45E-04	5.45E-04	5.45E-04	1.40E+00	1.40E+00	1.40E+00	1.40E+00	3.00E+03	--	7.00E-02	2.50E-01	2.50E-01	1.63E+00	1.63E+00	1.63E+00	1.63E+00	1.63E+00	1.63E+00	1.63E+00	1.63E+00
Titanium	1.41E-02	3.42E-02	3.86E-02	3.86E-02	1.41E+01	3.42E+01	3.86E+01	3.86E+01	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Uranium	4.98E-05	9.46E-04	8.48E-04	5.73E-04	1.70E+00	1.70E+00	1.70E+00	1.70E+00	--	--	7.00E-02	1.00E-02	1.00E-02	--	--	--	--	--	--	--	--
Vanadium	9.90E-04	2.10E-03	1.47E-03	1.99E-03	2.70E+01	2.70E+01	2.70E+01	2.70E+01	--	--	7.00E-02	2.50E-01	2.50E-01	--	--	--	--	--	--	--	--
Zinc	9.75E-03	7.27E-03	7.17E-03	7.26E-03	6.40E+01	6.40E+01	6.40E+01	6.40E+01	2.06E+03	--	7.00E-02	1.40E+01	3.00E+01	3.00E+01	3.00E+01	3.00E+01	3.00E+01	2.01E+01	1.50E+01	1.48E+01	1.50E+01

Equation: Cfi = Cdw x BCF or Cfi = Cdw x BAF

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.98), and methylmercury (0.48*0.02)

Table B.49

Predicted Aquatic Plant Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Sediment Concentration				Predicted Aquatic Plant Concentration			
Contaminant	Construction (Csed) (refer to table B.47) (mg/kg)	Operations (Csed) (refer to table B.47) (mg/kg)	Reclamation (Csed) (refer to table B.47) (mg/kg)	Post-Closure (Csed) (refer to table B.47) (mg/kg)	Construction (Cap) (1) (mg/kg FW)	Operations (Cap) (1) (mg/kg FW)	Reclamation (Cap) (1) (mg/kg FW)	Post-Closure (Cap) (1) (mg/kg FW)
Particulate Matter								
Total Particulate Matter	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--
Metals								
Aluminum	1.50E+04	1.50E+04	1.50E+04	1.50E+04	6.46E+00	6.46E+00	6.46E+00	6.46E+00
Antimony	8.10E+01	8.10E+01	8.10E+01	8.10E+01	3.65E-01	3.65E-01	3.65E-01	3.65E-01
Arsenic	1.10E+05	1.10E+05	1.10E+05	1.10E+05	6.19E+02	6.19E+02	6.19E+02	6.19E+02
Barium	9.60E+01	9.60E+01	9.60E+01	9.60E+01	2.25E+00	2.25E+00	2.25E+00	2.25E+00
Beryllium	1.00E+00	1.00E+00	1.00E+00	1.00E+00	8.78E-02	8.78E-02	8.78E-02	8.78E-02
Bismuth	5.40E+00	5.40E+00	5.40E+00	5.40E+00	8.10E-01	8.10E-01	8.10E-01	8.10E-01
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	3.75E+00	3.75E+00	3.75E+00	3.75E+00
Cadmium	5.60E-01	5.60E-01	5.60E-01	5.60E-01	6.80E-02	6.80E-02	6.80E-02	6.80E-02
Calcium	--	--	--	--	--	--	--	--
Chromium Total	2.40E+01	2.40E+01	2.40E+01	2.40E+01	1.48E-01	1.48E-01	1.48E-01	1.48E-01
Cobalt	1.30E+02	1.30E+02	1.30E+02	1.30E+02	1.46E-01	1.46E-01	1.46E-01	1.46E-01
Copper	3.60E+01	3.60E+01	3.60E+01	3.60E+01	1.20E+00	1.20E+00	1.20E+00	1.20E+00
Iron	1.20E+05	1.20E+05	1.20E+05	1.20E+05	1.80E+04	1.80E+04	1.80E+04	1.80E+04
Lead	1.20E+02	1.20E+02	1.20E+02	1.20E+02	5.83E-01	5.83E-01	5.83E-01	5.83E-01
Lithium	3.10E+01	3.10E+01	3.10E+01	3.10E+01	4.65E+00	4.65E+00	4.65E+00	4.65E+00
Magnesium	--	--	--	--	--	--	--	--
Manganese	4.00E+02	4.00E+02	4.00E+02	4.00E+02	4.74E+00	4.74E+00	4.74E+00	4.74E+00
Mercury, element	1.10E+01	1.10E+01	1.10E+01	1.10E+01	1.65E+00	1.65E+00	1.65E+00	1.65E+00
Mercury, divalent	2.90E-04	1.79E-03	2.17E-03	2.17E-03	4.35E-05	2.68E-04	3.25E-04	3.25E-04
Mercury, methyl	6.23E-12	6.23E-12	6.23E-12	6.23E-12	9.34E-13	9.34E-13	9.34E-13	9.34E-13
Molybdenum	4.30E+00	4.30E+00	4.30E+00	4.30E+00	6.45E-01	6.45E-01	6.45E-01	6.45E-01
Nickel	2.10E+02	2.10E+02	2.10E+02	2.10E+02	1.55E+00	1.55E+00	1.55E+00	1.55E+00
Phosphorus	3.72E-02	3.72E-02	3.72E-02	3.72E-02	5.57E-03	5.57E-03	5.57E-03	5.57E-03
Potassium	2.71E+00	2.71E+00	2.71E+00	2.71E+00	4.06E-01	4.06E-01	4.06E-01	4.06E-01
Rubidium	3.90E+01	3.90E+01	3.90E+01	3.90E+01	5.85E+00	5.85E+00	5.85E+00	5.85E+00
Selenium	2.50E+00	2.50E+00	2.50E+00	2.50E+00	2.10E-01	2.10E-01	2.10E-01	2.10E-01
Silver	3.40E+00	3.40E+00	3.40E+00	3.40E+00	7.14E-03	7.14E-03	7.14E-03	7.14E-03
Sodium	1.68E+01	2.97E+01	2.99E+01	2.99E+01	2.52E+00	4.45E+00	4.49E+00	4.49E+00
Strontium	2.60E+01	2.60E+01	2.60E+01	2.60E+01	3.90E+00	3.90E+00	3.90E+00	3.90E+00
Thallium	3.00E-01	3.00E-01	3.00E-01	3.00E-01	4.50E-02	4.50E-02	4.50E-02	4.50E-02
Tin	1.40E+00	1.40E+00	1.40E+00	1.40E+00	2.10E-01	2.10E-01	2.10E-01	2.10E-01
Titanium	1.41E+01	3.42E+01	3.86E+01	3.86E+01	2.12E+00	5.13E+00	5.79E+00	5.79E+00
Uranium	1.70E+00	1.70E+00	1.70E+00	1.70E+00	2.55E-01	2.55E-01	2.55E-01	2.55E-01
Vanadium	2.70E+01	2.70E+01	2.70E+01	2.70E+01	1.96E-02	1.96E-02	1.96E-02	1.96E-02
Zinc	6.40E+01	6.40E+01	6.40E+01	6.40E+01	7.26E+00	7.26E+00	7.26E+00	7.26E+00

Note:

(1) The background aquatic plant concentrations were modelled with equations from the USEPA (2007). Where the equation for aluminum was not available, an uptake factor approach was selected for aluminum, for which the median soil to plant uptake factor of 0.00287 was selected from the dataset summarized in Table D.1 of Appendix D of Bechtel Jacobs (1998).

Table B.50

Predicted Aquatic Invertebrate Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Sediment Concentration				Baseline Aquatic Invertebrate Concentration	Predicted Aquatic Invertebrate Concentration				Final Predicted Aquatic Invertebrate Concentration (wet weight)			
Contaminant	Construction (Csed) (refer to table B.47) (mg/kg)	Operations (Csed) (refer to table B.47) (mg/kg)	Reclamation (Csed) (refer to table B.47) (mg/kg)	Post-Closure (Csed) (refer to table B.47) (mg/kg)	(Cai) (refer to table B.41) (mg/kg FW)	Construction (Cai) (1) (mg/kg FW)	Operations (Cai) (1) (mg/kg FW)	Reclamation (Cai) (1) (mg/kg FW)	Post-Closure (Cai) (1) (mg/kg FW)	Construction (Cai) (1) (mg/kg FW)	Operations (Cai) (1) (mg/kg FW)	Reclamation (Cai) (1) (mg/kg FW)	Post-Closure (Cai) (1) (mg/kg FW)
Particulate Matter													
Total Particulate Matter	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals													
Aluminum	1.50E+04	1.50E+04	1.50E+04	1.50E+04	1.80E+02	3.15E+03	3.15E+03	3.15E+03	3.15E+03	3.15E+03	3.15E+03	3.15E+03	3.15E+03
Antimony	8.10E+01	8.10E+01	8.10E+01	8.10E+01	5.50E-01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01
Arsenic	1.10E+05	1.10E+05	1.10E+05	1.10E+05	1.70E+02	6.78E+02	6.78E+02	6.78E+02	6.78E+02	6.78E+02	6.78E+02	6.78E+02	6.78E+02
Barium	9.60E+01	9.60E+01	9.60E+01	9.60E+01	1.65E+00	2.02E+01	2.02E+01	2.02E+01	2.02E+01	2.02E+01	2.02E+01	2.02E+01	2.02E+01
Beryllium	1.00E+00	1.00E+00	1.00E+00	1.00E+00	5.50E-01	2.10E-01	2.10E-01	2.10E-01	2.10E-01	5.50E-01	5.50E-01	5.50E-01	5.50E-01
Bismuth	5.40E+00	5.40E+00	5.40E+00	5.40E+00	--	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.65E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
Cadmium	5.60E-01	5.60E-01	5.60E-01	5.60E-01	1.70E-01	1.54E-01	1.54E-01	1.54E-01	1.54E-01	1.70E-01	1.70E-01	1.70E-01	1.70E-01
Calcium	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	2.40E+01	2.40E+01	2.40E+01	2.40E+01	5.50E-01	1.08E+00	1.08E+00	1.08E+00	1.08E+00	1.08E+00	1.08E+00	1.08E+00	1.08E+00
Cobalt	1.30E+02	1.30E+02	1.30E+02	1.30E+02	2.20E-01	2.73E+01	2.73E+01	2.73E+01	2.73E+01	2.73E+01	2.73E+01	2.73E+01	2.73E+01
Copper	3.60E+01	3.60E+01	3.60E+01	3.60E+01	5.10E+00	6.98E+00	6.98E+00	6.98E+00	6.98E+00	6.98E+00	6.98E+00	6.98E+00	6.98E+00
Iron	1.20E+05	1.20E+05	1.20E+05	1.20E+05	1.10E+03	2.52E+04	2.52E+04	2.52E+04	2.52E+04	2.52E+04	2.52E+04	2.52E+04	2.52E+04
Lead	1.20E+02	1.20E+02	1.20E+02	1.20E+02	9.40E-01	1.63E+00	1.63E+00	1.63E+00	1.63E+00	1.63E+00	1.63E+00	1.63E+00	1.63E+00
Lithium	3.10E+01	3.10E+01	3.10E+01	3.10E+01	5.50E-01	6.51E+00	6.51E+00	6.51E+00	6.51E+00	6.51E+00	6.51E+00	6.51E+00	6.51E+00
Magnesium	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	4.00E+02	4.00E+02	4.00E+02	4.00E+02	3.30E+01	8.40E+01	8.40E+01	8.40E+01	8.40E+01	8.40E+01	8.40E+01	8.40E+01	8.40E+01
Mercury, element	1.10E+01	1.10E+01	1.10E+01	1.10E+01	1.90E-01	9.83E-02	9.83E-02	9.83E-02	9.83E-02	1.90E-01	1.90E-01	1.90E-01	1.90E-01
Mercury, divalent	2.90E-04	1.79E-03	2.17E-03	2.17E-03	--	6.09E-05	3.75E-04	4.55E-04	4.55E-04	6.09E-05	3.75E-04	4.55E-04	4.55E-04
Mercury, methyl	6.23E-12	6.23E-12	6.23E-12	6.23E-12	--	1.31E-12	1.31E-12	1.31E-12	1.31E-12	1.31E-12	1.31E-12	1.31E-12	1.31E-12
Molybdenum	4.30E+00	4.30E+00	4.30E+00	4.30E+00	5.50E-01	9.03E-01	9.03E-01	9.03E-01	9.03E-01	9.03E-01	9.03E-01	9.03E-01	9.03E-01
Nickel	2.10E+02	2.10E+02	2.10E+02	2.10E+02	5.50E-01	1.98E+01	1.98E+01	1.98E+01	1.98E+01	1.98E+01	1.98E+01	1.98E+01	1.98E+01
Phosphorus	3.72E-02	3.72E-02	3.72E-02	3.72E-02	--	7.80E-03	7.80E-03	7.80E-03	7.80E-03	7.80E-03	7.80E-03	7.80E-03	7.80E-03
Potassium	2.71E+00	2.71E+00	2.71E+00	2.71E+00	--	5.69E-01	5.69E-01	5.69E-01	5.69E-01	5.69E-01	5.69E-01	5.69E-01	5.69E-01
Rubidium	3.90E+01	3.90E+01	3.90E+01	3.90E+01	--	8.19E+00	8.19E+00	8.19E+00	8.19E+00	8.19E+00	8.19E+00	8.19E+00	8.19E+00
Selenium	2.50E+00	2.50E+00	2.50E+00	2.50E+00	5.50E-01	5.25E-01	5.25E-01	5.25E-01	5.25E-01	5.50E-01	5.50E-01	5.50E-01	5.50E-01
Silver	3.40E+00	3.40E+00	3.40E+00	3.40E+00	1.30E-01	7.14E-01	7.14E-01	7.14E-01	7.14E-01	7.14E-01	7.14E-01	7.14E-01	7.14E-01
Sodium	1.68E+01	2.97E+01	2.99E+01	2.99E+01	--	3.53E+00	6.23E+00	6.28E+00	6.28E+00	3.53E+00	6.23E+00	6.28E+00	6.28E+00
Strontium	2.60E+01	2.60E+01	2.60E+01	2.60E+01	1.65E+00	5.46E+00	5.46E+00	5.46E+00	5.46E+00	5.46E+00	5.46E+00	5.46E+00	5.46E+00
Thallium	3.00E-01	3.00E-01	3.00E-01	3.00E-01	2.20E-02	6.30E-02	6.30E-02	6.30E-02	6.30E-02	6.30E-02	6.30E-02	6.30E-02	6.30E-02
Tin	1.40E+00	1.40E+00	1.40E+00	1.40E+00	5.50E-01	2.94E-01	2.94E-01	2.94E-01	2.94E-01	5.50E-01	5.50E-01	5.50E-01	5.50E-01
Titanium	1.41E+01	3.42E+01	3.86E+01	3.86E+01	--	2.97E+00	7.19E+00	8.10E+00	8.10E+00	2.97E+00	7.19E+00	8.10E+00	8.10E+00
Uranium	1.70E+00	1.70E+00	1.70E+00	1.70E+00	2.20E-02	3.57E-01	3.57E-01	3.57E-01	3.57E-01	3.57E-01	3.57E-01	3.57E-01	3.57E-01
Vanadium	2.70E+01	2.70E+01	2.70E+01	2.70E+01	5.50E-01	5.67E+00	5.67E+00	5.67E+00	5.67E+00	5.67E+00	5.67E+00	5.67E+00	5.67E+00
Zinc	6.40E+01	6.40E+01	6.40E+01	6.40E+01	4.50E+01	3.15E+01	3.15E+01	3.15E+01	3.15E+01	4.50E+01	4.50E+01	4.50E+01	4.50E+01

Note:
(1) The predicted aquatic invertebrate concentrations were modelled with equations from Bechtel Jacobs (1998).

Table B.51

Summary of Predicted Concentrations - Construction (Scenario 2)
Anaconda Goldboro
Goldboro, Nova Scotia

	Terrestrial Environment		Aquatic Environment			Terrestrial Ecosystem								Aquatic Ecosystem			
	Soil	Air	Surface Water-Total	Surface Water-Dissolved phase	Sediment	Leafy Vegetables	Fruit	Roots	Forage	Invertebrates	Prey	Hare	Deer	Plants	Invertebrates	Fish Whole	Fish Fillet
	(Cs)	(Coa)	(Cw)	(Cdw)	(Csed)	(Cv)	(Cfru)	(Cr)	(Cfo)	(Cti)	(Cp)	(Ch)	(Cd)	(Cap)	(Cai)	(Cfw)	(Cff)
Contaminant	(mg/kg)	(mg/m³)	(mg/L)	(mg/L)	(mg/kg)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)
Metals																	
Aluminum	8.76E+03	8.85E-05	4.30E-01	0.00E+00	1.50E+04	5.52E+00	6.40E+00	8.54E-01	3.93E+01	4.20E+02	7.37E+01	6.96E-02	7.38E-01	6.46E+00	3.15E+03	2.60E+00	1.30E+00
Antimony	1.00E+00	1.57E-08	5.00E-04	5.00E-04	8.10E+01	7.87E-03	1.60E-01	4.50E-03	1.60E-01	2.50E-01	4.00E-03	8.82E-05	2.45E-03	3.65E-01	1.70E+01	2.50E-01	2.50E-01
Arsenic	3.03E+01	3.53E-07	6.77E-01	6.77E-01	1.10E+05	4.47E-02	1.60E-01	3.64E-02	2.96E-01	8.00E+00	4.10E-02	6.40E-04	1.36E-02	6.19E+02	6.78E+02	7.71E+01	7.71E+01
Barium	3.88E+01	8.84E-05	3.60E-03	3.60E-03	9.60E+01	2.20E-01	3.50E+00	8.73E-02	3.50E+00	2.40E+01	5.76E-02	3.02E-04	8.14E-03	2.25E+00	2.02E+01	2.50E+00	2.28E+00
Beryllium	5.00E-01	1.57E-08	5.00E-04	4.96E-04	1.00E+00	3.17E-04	1.60E-01	1.13E-04	1.60E-01	2.50E-01	4.00E-03	8.57E-05	2.42E-03	8.78E-02	5.50E-01	2.50E-01	2.50E-01
Bismuth	--	8.13E-09	--	--	5.40E+00	1.36E-05	2.50E-02	--	--	--	--	--	--	8.10E-01	1.13E+00	--	--
Boron	2.50E+01	3.19E-08	1.96E+00	1.96E+00	2.50E+01	8.45E+00	8.45E+00	7.50E+00	1.50E+01	4.00E+00	8.00E+00	3.82E-03	1.09E-01	3.75E+00	5.25E+00	--	--
Cadmium	4.89E-01	5.62E-08	2.48E-05	2.48E-05	5.60E-01	8.81E-03	3.20E-02	4.69E-03	3.20E-02	1.60E+00	6.49E-02	2.29E-06	6.03E-05	6.80E-02	1.70E-01	2.50E-02	2.50E-02
Calcium	--	--	--	--	--	5.34E-01	9.30E+02	--	--	--	--	--	--	--	--	--	--
Chromium	1.30E+01	1.55E-06	1.30E-03	1.30E-03	2.40E+01	1.41E-02	1.60E-01	8.78E-03	1.60E-01	6.36E-01	4.88E-01	8.10E-04	1.64E-02	1.48E-01	1.08E+00	2.50E-01	2.50E-01
Cobalt	1.98E+00	3.17E-08	2.00E-04	2.00E-04	1.30E+02	3.31E-03	8.00E-02	2.08E-03	8.00E-02	2.10E-01	8.97E-03	1.03E-03	2.58E-02	1.46E-01	2.73E+01	1.00E-01	1.00E-01
Copper	4.93E+00	3.39E-04	1.74E-03	1.74E-03	3.60E+01	2.00E-01	1.10E+00	1.85E-01	1.10E+00	1.60E+01	3.10E+00	5.96E-03	1.67E-01	1.20E+00	6.98E+00	1.30E+00	3.48E-01
Iron	1.58E+04	1.03E-04	1.17E+00	1.17E+00	1.20E+05	5.04E+00	5.42E+00	2.37E+00	2.41E+01	2.53E+03	5.06E+03	1.61E+00	1.60E+01	1.80E+04	2.52E+04	2.34E+02	2.34E+02
Lead	2.48E+01	1.68E-08	7.62E-04	7.55E-04	1.20E+02	5.20E-02	5.23E-02	3.35E-02	1.80E-01	1.72E+00	1.43E+00	4.48E-05	5.71E-04	5.83E-01	1.63E+00	2.20E-01	9.00E-02
Lithium	8.43E+00	7.76E-08	7.85E-03	7.83E-03	3.10E+01	1.09E-02	1.70E-01	5.06E-03	1.70E-01	1.35E+00	2.70E+00	1.31E-03	2.96E-02	4.65E+00	6.51E+00	--	--
Magnesium	--	--	--	--	--	6.17E-01	5.00E+01	--	--	--	--	--	--	--	--	--	--
Manganese	8.70E+01	1.61E-06	8.03E-02	8.03E-02	4.00E+02	1.02E+00	6.30E+01	6.53E-01	6.30E+01	1.20E+03	5.71E-01	1.33E-02	3.80E-01	4.74E+00	8.40E+01	3.21E+01	3.21E+01
Mercury	3.18E-01	2.15E-09	1.36E-04	9.12E-05	1.10E+01	2.69E-10	2.50E-03	0.00E+00	2.50E-03	5.09E-02	1.02E-01	2.88E-03	5.24E-02	1.65E+00	1.90E-01	1.40E+00	2.50E-03
Mercury, divalent	4.10E-04	--	1.64E-08	1.10E-08	2.90E-04	1.63E-06	1.79E-06	2.21E-06	--	6.56E-05	1.31E-04	1.53E-08	2.36E-07	4.35E-05	6.09E-05	1.10E-08	1.10E-08
Mercury, methyl	3.94E-09	--	3.90E-14	3.89E-14	6.23E-12	1.04E-07	1.26E-07	5.85E-11	--	6.30E-10	1.26E-09	5.12E-11	1.48E-09	9.34E-13	1.31E-12	2.65E-07	2.65E-07
Molybdenum	1.00E+00	3.11E-08	1.23E-02	1.23E-02	4.30E+00	1.27E-02	1.60E-01	9.00E-03	1.60E-01	6.90E-01	3.20E-01	5.38E-04	1.50E-02	6.45E-01	9.03E-01	2.50E-01	2.50E-01
Nickel	5.81E+00	1.80E-06	1.00E-03	9.99E-04	2.10E+02	9.79E-03	1.60E-01	6.97E-03	1.60E-01	1.10E+00	5.68E-01	6.71E-04	1.60E-02	1.55E+00	1.98E+01	2.50E-01	2.50E-01
Phosphorus	1.30E-01	--	1.06E-02	1.06E-02	3.72E-02	9.67E-02	1.60E+02	6.84E-02	1.60E+02	2.08E-02	4.17E-02	4.58E+00	1.32E+02	5.57E-03	7.80E-03	--	--
Potassium	9.37E+00	--	4.93E-01	4.93E-01	2.71E+00	2.17E+00	8.60E+02	7.73E-01	8.60E+02	1.50E+00	3.00E+00	8.95E+00	2.58E+02	4.06E-01	5.69E-01	--	--
Rubidium	--	4.87E-08	--	--	3.90E+01	2.45E-04	2.98E-04	--	--	--	--	--	--	5.85E+00	8.19E+00	--	--
Selenium	2.08E+00	1.21E-08	5.00E-04	5.00E-04	2.50E+00	6.25E-03	1.60E-01	6.86E-03	1.60E-01	2.54E-01	2.78E-01	2.15E-04	5.74E-03	2.10E-01	5.50E-01	7.50E-01	7.50E-01
Silver	2.50E-01	1.48E-07	5.00E-05	5.00E-05	3.40E+00	5.20E-03	4.00E-02	3.75E-03	4.00E-02	1.80E+00	3.20E-04	6.61E-05	1.83E-03	7.14E-03	7.14E-01	6.00E-02	6.00E-02
Sodium	4.68E+01	--	1.68E-01	1.68E-01	1.68E+01	1.18E+00	2.50E+01	3.86E-01	2.50E+01	7.48E+00	1.50E+01	7.29E-01	2.08E+01	2.52E+00	3.53E+00	3.36E+00	3.36E+00
Strontium	6.03E+01	5.05E-07	4.28E-01	4.27E-01	2.60E+01	4.86E+00	4.86E+00	2.26E+00	2.27E+01	1.00E+01	1.93E+01	8.64E-04	2.33E-02	3.90E+00	5.46E+00	6.10E+01	4.40E+01
Thallium	5.00E-02	9.36E-09	5.00E-05	5.00E-05	3.00E-01	3.89E-05	1.10E-02	3.00E-06	1.10E-02	1.00E-02	1.60E-02	2.39E-04	6.70E-03	4.50E-02	6.30E-02	5.00E-01	5.00E-01
Tin	5.00E-01	1.85E-06	5.46E-04	5.45E-04	1.40E+00	8.02E-04	1.20E+00	4.50E-04	1.20E+00	2.50E-01	1.60E-01	6.27E-04	1.80E-02	2.10E-01	5.50E-01	1.63E+00	1.63E+00
Titanium	1.36E+01	1.39E-06	1.43E-02	1.41E-02	1.41E+01	1.79E-01	2.50E-01	6.10E-03	1.44E+00	2.17E+00	4.34E+00	5.95E-03	1.33E-01	2.12E+00	2.97E+00	--	--
Uranium	6.51E-01	9.39E-09	5.00E-05	4.98E-05	1.70E+00	9.77E-02	9.77E-02	9.77E-02	9.83E-02	1.04E-01	2.08E-01	1.08E-05	2.99E-04	2.55E-01	3.57E-01	--	--
Vanadium	2.89E+01	3.14E-07	1.00E-03	9.90E-04	2.70E+01	1.77E-02	1.60E-01	1.30E-02	1.60E-01	9.30E-01	1.14E-01	5.63E-04	9.26E-03	1.96E-02	5.67E+00	--	--
Zinc	2.64E+01	1.89E-05	9.76E-03	9.75E-03	6.40E+01	3.89E-01	2.10E+00	3.56E+00	2.10E+00	7.90E+01	5.14E-03	1.10E-04	2.95E-03	7.26E+00	4.50E+01	3.00E+01	2.01E+01
Inorganics																	
Nitrate	--	--	2.34E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	1.06E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	1.78E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	6.94E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	--	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table B.52

Summary of Predicted Concentrations - Operations
(Scenario 3)
Anaconda Goldboro
Goldboro, Nova Scotia

	Terrestrial Environment		Aquatic Environment			Terrestrial Ecosystem								Aquatic Ecosystem			
Contaminant	Soil (Cs) (mg/kg)	Air (Coa) (mg/m³)	Surface Water-Total (Cw) (mg/L)	Surface Water-Dissolved phase (Cdw) (mg/L)	Sediment (Csed) (mg/kg)	Leafy Vegetables (Cv) (mg/kg FW)	Fruit (Cfru) (mg/kg FW)	Roots (Cr) (mg/kg FW)	Forage (Cfo) (mg/kg FW)	Invertebrates (Cti) (mg/kg FW)	Prey (Cp) (mg/kg FW)	Hare (Ch) (mg/kg FW)	Deer (Cd) (mg/kg FW)	Plants (Cap) (mg/kg FW)	Invertebrates (Cai) (mg/kg FW)	Fish Whole (Cfw) (mg/kg FW)	Fish Fillet (Cff) (mg/kg FW)
Metals																	
Aluminum	8.76E+03	8.85E-05	1.99E-01	0.00E+00	1.50E+04	5.52E+00	6.40E+00	8.54E-01	3.93E+01	4.20E+02	7.37E+01	6.96E-02	7.37E-01	6.46E+00	3.15E+03	2.60E+00	1.30E+00
Antimony	1.00E+00	1.57E-08	4.39E-03	4.38E-03	8.10E+01	7.87E-03	1.60E-01	4.50E-03	1.60E-01	2.50E-01	4.00E-03	8.87E-05	2.46E-03	3.65E-01	1.70E+01	2.50E-01	2.50E-01
Arsenic	3.03E+01	3.53E-07	5.48E-02	5.48E-02	1.10E+05	4.47E-02	1.60E-01	3.64E-02	2.96E-01	8.00E+00	4.10E-02	6.40E-04	1.36E-02	6.19E+02	6.78E+02	6.25E+00	6.25E+00
Barium	3.88E+01	8.84E-05	7.09E-03	7.08E-03	9.60E+01	2.20E-01	3.50E+00	8.73E-02	3.50E+00	2.40E+01	5.76E-02	3.02E-04	8.14E-03	2.25E+00	2.02E+01	4.48E+00	4.48E+00
Beryllium	5.00E-01	1.57E-08	4.61E-04	4.57E-04	1.00E+00	3.17E-04	1.60E-01	1.13E-04	1.60E-01	2.50E-01	4.00E-03	8.57E-05	2.42E-03	8.78E-02	5.50E-01	2.50E-01	2.50E-01
Bismuth	--	8.13E-09	--	--	5.40E+00	1.36E-05	2.50E-02	--	--	--	--	--	--	8.10E-01	1.13E+00	--	--
Boron	2.50E+01	3.19E-08	1.96E+00	1.96E+00	2.50E+01	8.45E+00	8.45E+00	7.50E+00	1.50E+01	4.00E+00	8.00E+00	3.82E-03	1.09E-01	3.75E+00	5.25E+00	--	--
Cadmium	4.89E-01	5.62E-08	1.98E-05	1.98E-05	5.60E-01	8.81E-03	3.20E-02	4.69E-03	3.20E-02	1.60E+00	6.49E-02	2.29E-06	6.03E-05	6.80E-02	1.70E-01	2.50E-02	2.50E-02
Calcium	--	--	--	--	--	5.34E-01	9.30E+02	--	--	--	--	--	--	--	--	--	--
Chromium	1.30E+01	1.55E-06	8.58E-04	8.58E-04	2.40E+01	1.41E-02	1.60E-01	8.78E-03	1.60E-01	6.36E-01	4.88E-01	8.10E-04	1.64E-02	1.48E-01	1.08E+00	2.50E-01	2.50E-01
Cobalt	1.98E+00	3.17E-08	9.91E-04	9.91E-04	1.30E+02	3.31E-03	8.00E-02	2.08E-03	8.00E-02	2.10E-01	8.97E-03	1.03E-03	2.59E-02	1.46E-01	2.73E+01	2.97E-01	2.97E-01
Copper	4.93E+00	3.39E-04	1.96E-03	1.96E-03	3.60E+01	2.00E-01	1.10E+00	1.85E-01	1.10E+00	1.60E+01	3.10E+00	5.96E-03	1.67E-01	1.20E+00	6.98E+00	1.30E+00	3.91E-01
Iron	1.58E+04	1.03E-04	3.55E-01	3.55E-01	1.20E+05	5.04E+00	5.42E+00	2.37E+00	2.41E+01	2.53E+03	5.06E+03	1.61E+00	1.59E+01	1.80E+04	2.52E+04	7.10E+01	7.10E+01
Lead	2.48E+01	1.68E-08	8.22E-04	8.15E-04	1.20E+02	5.20E-02	5.23E-02	3.35E-02	1.80E-01	1.72E+00	1.43E+00	4.48E-05	5.71E-04	5.83E-01	1.63E+00	2.20E-01	9.00E-02
Lithium	8.43E+00	7.76E-08	7.85E-03	7.83E-03	3.10E+01	1.09E-02	1.70E-01	5.06E-03	1.70E-01	1.35E+00	2.70E+00	1.31E-03	2.96E-02	4.65E+00	6.51E+00	--	--
Magnesium	--	--	--	--	--	6.17E-01	5.00E+01	--	--	--	--	--	--	--	--	--	--
Manganese	8.70E+01	1.61E-06	7.56E-02	7.55E-02	4.00E+02	1.02E+00	6.30E+01	6.53E-01	6.30E+01	1.20E+03	5.71E-01	1.33E-02	3.80E-01	4.74E+00	8.40E+01	3.02E+01	3.02E+01
Mercury	3.18E-01	2.15E-09	6.88E-06	4.60E-06	1.10E+01	2.69E-10	2.50E-03	0.00E+00	2.50E-03	5.09E-02	1.02E-01	2.88E-03	5.24E-02	1.65E+00	1.90E-01	1.40E+00	2.50E-03
Mercury, divalent	2.53E-03	--	1.01E-07	6.77E-08	1.79E-03	6.07E-06	6.24E-06	1.36E-05	--	4.04E-04	8.09E-04	8.15E-08	1.08E-06	2.68E-04	3.75E-04	6.77E-08	6.77E-08
Mercury, methyl	3.94E-09	--	3.90E-14	3.89E-14	6.23E-12	1.04E-07	1.26E-07	5.85E-11	--	6.30E-10	1.26E-09	5.12E-11	1.48E-09	9.34E-13	1.31E-12	2.65E-07	2.65E-07
Molybdenum	1.00E+00	3.11E-08	1.23E-02	1.23E-02	4.30E+00	1.27E-02	1.60E-01	9.00E-03	1.60E-01	6.90E-01	3.20E-01	5.38E-04	1.50E-02	6.45E-01	9.03E-01	2.50E-01	2.50E-01
Nickel	5.81E+00	1.80E-06	1.42E-02	1.42E-02	2.10E+02	9.79E-03	1.60E-01	6.97E-03	1.60E-01	1.10E+00	5.68E-01	6.82E-04	1.64E-02	1.55E+00	1.98E+01	1.11E+00	1.11E+00
Phosphorus	1.30E-01	--	1.06E-02	1.06E-02	3.72E-02	9.67E-02	1.60E+02	6.84E-02	1.60E+02	2.08E-02	4.17E-02	4.58E+00	1.32E+02	5.57E-03	7.80E-03	--	--
Potassium	9.37E+00	--	4.93E-01	4.93E-01	2.71E+00	2.17E+00	8.60E+02	7.73E-01	8.60E+02	1.50E+00	3.00E+00	8.95E+00	2.58E+02	4.06E-01	5.69E-01	--	--
Rubidium	--	4.87E-08	--	--	3.90E+01	2.45E-04	2.98E-04	--	--	--	--	--	--	5.85E+00	8.19E+00	--	--
Selenium	2.08E+00	1.21E-08	4.88E-04	4.88E-04	2.50E+00	6.25E-03	1.60E-01	6.86E-03	1.60E-01	2.54E-01	2.78E-01	2.15E-04	5.74E-03	2.10E-01	5.50E-01	7.50E-01	7.50E-01
Silver	2.50E-01	1.48E-07	7.90E-05	7.89E-05	3.40E+00	5.20E-03	4.00E-02	3.75E-03	4.00E-02	1.80E+00	3.20E-04	6.61E-05	1.83E-03	7.14E-03	7.14E-01	6.00E-02	6.00E-02
Sodium	9.73E+01	--	2.97E-01	2.97E-01	2.97E+01	1.62E+00	2.50E+01	8.03E-01	2.50E+01	1.56E+01	3.11E+01	7.43E-01	2.09E+01	4.45E+00	6.23E+00	5.94E+00	5.94E+00
Strontium	6.03E+01	5.05E-07	4.28E-01	4.27E-01	2.60E+01	4.86E+00	4.86E+00	2.26E+00	2.27E+01	1.00E+01	1.93E+01	8.64E-04	2.33E-02	3.90E+00	5.46E+00	6.10E+01	4.40E+01
Thallium	5.00E-02	9.36E-09	7.31E-05	7.31E-05	3.00E-01	3.89E-05	1.10E-02	3.00E-06	1.10E-02	1.00E-02	1.60E-02	2.39E-04	6.70E-03	4.50E-02	6.30E-02	7.31E-01	7.31E-01
Tin	5.00E-01	1.85E-06	5.46E-04	5.45E-04	1.40E+00	8.02E-04	1.20E+00	4.50E-04	1.20E+00	2.50E-01	1.60E-01	6.27E-04	1.80E-02	2.10E-01	5.50E-01	1.63E+00	1.63E+00
Titanium	7.44E+01	1.39E-06	3.46E-02	3.42E-02	3.42E+01	2.10E-01	2.50E-01	3.35E-02	1.49E+00	1.19E+01	2.38E+01	1.50E-02	2.18E-01	5.13E+00	7.19E+00	--	--
Uranium	6.51E-01	9.39E-09	9.50E-04	9.46E-04	1.70E+00	9.77E-02	9.77E-02	9.77E-02	9.83E-02	1.04E-01	2.08E-01	1.08E-05	3.00E-04	2.55E-01	3.57E-01	--	--
Vanadium	2.89E+01	3.14E-07	2.12E-03	2.10E-03	2.70E+01	1.77E-02	1.60E-01	1.30E-02	1.60E-01	9.30E-01	1.14E-01	5.64E-04	9.28E-03	1.96E-02	5.67E+00	--	--
Zinc	2.64E+01	1.89E-05	7.28E-03	7.27E-03	6.40E+01	3.89E-01	2.10E+00	3.56E+00	2.10E+00	7.90E+01	5.14E-03	1.10E-04	2.95E-03	7.26E+00	4.50E+01	3.00E+01	1.50E+01
Inorganics																	
Nitrate	--	--	4.82E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	5.94E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	6.83E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	1.87E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	--	4.91E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table B.53

Summary of Predicted Concentrations - Reclamation (Scenario 4)
Anaconda Goldboro
Goldboro, Nova Scotia

	Terrestrial Environment		Aquatic Environment			Terrestrial Ecosystem								Aquatic Ecosystem			
	Soil	Air	Surface Water-Total	Surface Water-Dissolved phase	Sediment	Leafy Vegetables	Fruit	Roots	Forage	Invertebrates	Prey	Hare	Deer	Plants	Invertebrates	Fish Whole	Fish Fillet
	(Cs)	(Coa)	(Cw)	(Cdw)	(Csed)	(Cv)	(Cfru)	(Cr)	(Cfo)	(Cti)	(Cp)	(Ch)	(Cd)	(Cap)	(Cai)	(Cfw)	(Cff)
Contaminant	(mg/kg)	(mg/m³)	(mg/L)	(mg/L)	(mg/kg)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)
Metals																	
Aluminum	8.76E+03	8.85E-05	2.66E-01	0.00E+00	1.50E+04	5.52E+00	6.40E+00	8.54E-01	3.93E+01	4.20E+02	7.37E+01	6.96E-02	7.37E-01	6.46E+00	3.15E+03	2.60E+00	1.30E+00
Antimony	1.00E+00	1.57E-08	3.27E-03	3.26E-03	8.10E+01	7.87E-03	1.60E-01	4.50E-03	1.60E-01	2.50E-01	4.00E-03	8.85E-05	2.46E-03	3.65E-01	1.70E+01	2.50E-01	2.50E-01
Arsenic	3.03E+01	3.53E-07	5.21E-02	5.21E-02	1.10E+05	4.47E-02	1.60E-01	3.64E-02	2.96E-01	8.00E+00	4.10E-02	6.40E-04	1.36E-02	6.19E+02	6.78E+02	5.94E+00	5.94E+00
Barium	3.88E+01	8.84E-05	7.05E-03	7.04E-03	9.60E+01	2.20E-01	3.50E+00	8.73E-02	3.50E+00	2.40E+01	5.76E-02	3.02E-04	8.14E-03	2.25E+00	2.02E+01	4.46E+00	4.46E+00
Beryllium	5.00E-01	1.57E-08	4.71E-04	4.68E-04	1.00E+00	3.17E-04	1.60E-01	1.13E-04	1.60E-01	2.50E-01	4.00E-03	8.57E-05	2.42E-03	8.78E-02	5.50E-01	2.50E-01	2.50E-01
Bismuth	--	8.13E-09	--	--	5.40E+00	1.36E-05	2.50E-02	--	--	--	--	--	--	8.10E-01	1.13E+00	--	--
Boron	2.50E+01	3.19E-08	1.96E+00	1.96E+00	2.50E+01	8.45E+00	8.45E+00	7.50E+00	1.50E+01	4.00E+00	8.00E+00	3.82E-03	1.09E-01	3.75E+00	5.25E+00	--	--
Cadmium	4.89E-01	5.62E-08	2.41E-05	2.41E-05	5.60E-01	8.81E-03	3.20E-02	4.69E-03	3.20E-02	1.60E+00	6.49E-02	2.29E-06	6.03E-05	6.80E-02	1.70E-01	2.50E-02	2.50E-02
Calcium	--	--	--	--	--	5.34E-01	9.30E+02	--	--	--	--	--	--	--	--	--	--
Chromium	1.30E+01	1.55E-06	6.87E-04	6.86E-04	2.40E+01	1.41E-02	1.60E-01	8.78E-03	1.60E-01	6.36E-01	4.88E-01	8.10E-04	1.64E-02	1.48E-01	1.08E+00	2.50E-01	2.50E-01
Cobalt	1.98E+00	3.17E-08	9.35E-04	9.35E-04	1.30E+02	3.31E-03	8.00E-02	2.08E-03	8.00E-02	2.10E-01	8.97E-03	1.03E-03	2.59E-02	1.46E-01	2.73E+01	2.80E-01	2.80E-01
Copper	4.93E+00	3.39E-04	1.86E-03	1.85E-03	3.60E+01	2.00E-01	1.10E+00	1.85E-01	1.10E+00	1.60E+01	3.10E+00	5.96E-03	1.67E-01	1.20E+00	6.98E+00	1.30E+00	3.71E-01
Iron	1.58E+04	1.03E-04	4.55E-01	4.55E-01	1.20E+05	5.04E+00	5.42E+00	2.37E+00	2.41E+01	2.53E+03	5.06E+03	1.61E+00	1.59E+01	1.80E+04	2.52E+04	9.10E+01	9.10E+01
Lead	2.48E+01	1.68E-08	7.06E-04	7.00E-04	1.20E+02	5.20E-02	5.23E-02	3.35E-02	1.80E-01	1.72E+00	1.43E+00	4.48E-05	5.71E-04	5.83E-01	1.63E+00	2.20E-01	9.00E-02
Lithium	8.43E+00	7.76E-08	7.85E-03	7.83E-03	3.10E+01	1.09E-02	1.70E-01	5.06E-03	1.70E-01	1.35E+00	2.70E+00	1.31E-03	2.96E-02	4.65E+00	6.51E+00	--	--
Magnesium	--	--	--	--	--	6.17E-01	5.00E+01	--	--	--	--	--	--	--	--	--	--
Manganese	8.70E+01	1.61E-06	4.92E-02	4.92E-02	4.00E+02	1.02E+00	6.30E+01	6.53E-01	6.30E+01	1.20E+03	5.71E-01	1.33E-02	3.80E-01	4.74E+00	8.40E+01	1.97E+01	1.97E+01
Mercury	3.18E-01	2.15E-09	7.05E-06	4.72E-06	1.10E+01	2.69E-10	2.50E-03	0.00E+00	2.50E-03	5.09E-02	1.02E-01	2.88E-03	5.24E-02	1.65E+00	1.90E-01	1.40E+00	2.50E-03
Mercury, divalent	3.07E-03	--	1.23E-07	8.22E-08	2.17E-03	7.21E-06	7.37E-06	1.66E-05	--	4.91E-04	9.81E-04	9.84E-08	1.30E-06	3.25E-04	4.55E-04	8.22E-08	8.22E-08
Mercury, methyl	3.94E-09	--	3.90E-14	3.89E-14	6.23E-12	1.04E-07	1.26E-07	5.85E-11	--	6.30E-10	1.26E-09	5.12E-11	1.48E-09	9.34E-13	1.31E-12	2.65E-07	2.65E-07
Molybdenum	1.00E+00	3.11E-08	1.23E-02	1.23E-02	4.30E+00	1.27E-02	1.60E-01	9.00E-03	1.60E-01	6.90E-01	3.20E-01	5.38E-04	1.50E-02	6.45E-01	9.03E-01	2.50E-01	2.50E-01
Nickel	5.81E+00	1.80E-06	6.10E-03	6.10E-03	2.10E+02	9.79E-03	1.60E-01	6.97E-03	1.60E-01	1.10E+00	5.68E-01	6.75E-04	1.61E-02	1.55E+00	1.98E+01	4.76E-01	4.76E-01
Phosphorus	1.30E-01	--	1.06E-02	1.06E-02	3.72E-02	9.67E-02	1.60E+02	6.84E-02	1.60E+02	2.08E-02	4.17E-02	4.58E+00	1.32E+02	5.57E-03	7.80E-03	--	--
Potassium	9.37E+00	--	4.93E-01	4.93E-01	2.71E+00	2.17E+00	8.60E+02	7.73E-01	8.60E+02	1.50E+00	3.00E+00	8.95E+00	2.58E+02	4.06E-01	5.69E-01	--	--
Rubidium	--	4.87E-08	--	--	3.90E+01	2.45E-04	2.98E-04	--	--	--	--	--	--	5.85E+00	8.19E+00	--	--
Selenium	2.08E+00	1.21E-08	4.68E-04	4.68E-04	2.50E+00	6.25E-03	1.60E-01	6.86E-03	1.60E-01	2.54E-01	2.78E-01	2.15E-04	5.74E-03	2.10E-01	5.50E-01	7.50E-01	7.50E-01
Silver	2.50E-01	1.48E-07	7.04E-05	7.04E-05	3.40E+00	5.20E-03	4.00E-02	3.75E-03	4.00E-02	1.80E+00	3.20E-04	6.61E-05	1.83E-03	7.14E-03	7.14E-01	6.00E-02	6.00E-02
Sodium	9.83E+01	--	3.00E-01	2.99E-01	2.99E+01	1.63E+00	2.50E+01	8.11E-01	2.50E+01	1.57E+01	3.14E+01	7.44E-01	2.09E+01	4.49E+00	6.28E+00	5.99E+00	5.99E+00
Strontium	6.03E+01	5.05E-07	4.28E-01	4.27E-01	2.60E+01	4.86E+00	4.86E+00	2.26E+00	2.27E+01	1.00E+01	1.93E+01	8.64E-04	2.33E-02	3.90E+00	5.46E+00	6.10E+01	4.40E+01
Thallium	5.00E-02	9.36E-09	6.61E-05	6.61E-05	3.00E-01	3.89E-05	1.10E-02	3.00E-06	1.10E-02	1.00E-02	1.60E-02	2.39E-04	6.70E-03	4.50E-02	6.30E-02	6.61E-01	6.61E-01
Tin	5.00E-01	1.85E-06	5.46E-04	5.45E-04	1.40E+00	8.02E-04	1.20E+00	4.50E-04	1.20E+00	2.50E-01	1.60E-01	6.27E-04	1.80E-02	2.10E-01	5.50E-01	1.63E+00	1.63E+00
Titanium	8.76E+01	1.39E-06	3.90E-02	3.86E-02	3.86E+01	2.16E-01	2.53E-01	3.94E-02	1.50E+00	1.40E+01	2.80E+01	1.70E-02	2.37E-01	5.79E+00	8.10E+00	--	--
Uranium	6.51E-01	9.39E-09	8.52E-04	8.48E-04	1.70E+00	9.77E-02	9.77E-02	9.77E-02	9.83E-02	1.04E-01	2.08E-01	1.08E-05	3.00E-04	2.55E-01	3.57E-01	--	--
Vanadium	2.89E+01	3.14E-07	1.49E-03	1.47E-03	2.70E+01	1.77E-02	1.60E-01	1.30E-02	1.60E-01	9.30E-01	1.14E-01	5.64E-04	9.27E-03	1.96E-02	5.67E+00	--	--
Zinc	2.64E+01	1.89E-05	7.18E-03	7.17E-03	6.40E+01	3.89E-01	2.10E+00	3.56E+00	2.10E+00	7.90E+01	5.14E-03	1.10E-04	2.95E-03	7.26E+00	4.50E+01	3.00E+01	1.48E+01
Inorganics																	
Nitrate	--	--	1.45E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	2.94E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	6.95E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	5.02E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	--	4.51E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table B.54

Summary of Predicted Concentrations - Post-Closure (Scenario 5)
Anaconda Goldboro
Goldboro, Nova Scotia

	Terrestrial Environment		Aquatic Environment			Terrestrial Ecosystem								Aquatic Ecosystem			
	Soil	Air	Surface Water-Total	Surface Water-Dissolved	Sediment	Leafy Vegetables	Fruit	Roots	Forage	Invertebrates	Prey	Hare	Deer	Plants	Invertebrates	Fish Whole	Fish Fillet
	(Cs)	(Coa)	(Cw)	(Cdw)	(Csed)	(Cv)	(Cfru)	(Cr)	(Cfo)	(Cti)	(Cp)	(Ch)	(Cd)	(Cap)	(Cai)	(Cfw)	(Cff)
Contaminant	(mg/kg)	(mg/m³)	(mg/L)	(mg/L)	(mg/kg)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)
Metals																	
Aluminum	8.76E+03	8.52E-05	3.61E-01	0.00E+00	1.50E+04	5.52E+00	3.90E+00	8.54E-01	3.93E+01	4.20E+02	7.37E+01	6.77E-02	6.82E-01	6.46E+00	3.15E+03	2.60E+00	1.30E+00
Antimony	1.00E+00	1.56E-08	2.20E-03	2.20E-03	8.10E+01	7.87E-03	1.60E-01	4.50E-03	1.60E-01	2.50E-01	4.00E-03	8.84E-05	2.45E-03	3.65E-01	1.70E+01	2.50E-01	2.50E-01
Arsenic	3.03E+01	3.40E-07	5.12E-02	5.12E-02	1.10E+05	4.47E-02	1.60E-01	3.64E-02	2.96E-01	8.00E+00	4.10E-02	6.40E-04	1.36E-02	6.19E+02	6.78E+02	5.83E+00	5.83E+00
Barium	3.88E+01	8.83E-05	5.73E-03	5.72E-03	9.60E+01	2.20E-01	3.50E+00	8.73E-02	3.50E+00	2.40E+01	5.76E-02	3.02E-04	8.14E-03	2.25E+00	2.02E+01	3.62E+00	3.62E+00
Beryllium	5.00E-01	1.56E-08	4.76E-04	4.73E-04	1.00E+00	3.17E-04	1.60E-01	1.13E-04	1.60E-01	2.50E-01	4.00E-03	8.57E-05	2.42E-03	8.78E-02	5.50E-01	2.50E-01	2.50E-01
Bismuth	--	8.12E-09	--	--	5.40E+00	1.36E-05	2.50E-02	--	--	--	--	--	--	8.10E-01	1.13E+00	--	--
Boron	2.50E+01	3.11E-08	1.96E+00	1.96E+00	2.50E+01	8.45E+00	8.45E+00	7.50E+00	1.50E+01	4.00E+00	8.00E+00	3.82E-03	1.09E-01	3.75E+00	5.25E+00	--	--
Cadmium	4.89E-01	5.62E-08	3.70E-05	3.70E-05	5.60E-01	8.81E-03	3.20E-02	4.69E-03	3.20E-02	1.60E+00	6.49E-02	2.29E-06	6.03E-05	6.80E-02	1.70E-01	3.35E-02	3.35E-02
Calcium	--	--	--	--	--	5.34E-01	9.30E+02	--	--	--	--	--	--	--	--	--	--
Chromium	1.30E+01	1.55E-06	8.60E-04	8.60E-04	2.40E+01	1.41E-02	1.60E-01	8.78E-03	1.60E-01	6.36E-01	4.88E-01	8.10E-04	1.64E-02	1.48E-01	1.08E+00	2.50E-01	2.50E-01
Chromium VI	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	1.98E+00	3.11E-08	9.61E-04	9.60E-04	1.30E+02	3.31E-03	8.00E-02	2.08E-03	8.00E-02	2.10E-01	8.97E-03	1.03E-03	2.59E-02	1.46E-01	2.73E+01	2.88E-01	2.88E-01
Copper	4.93E+00	3.39E-04	9.20E-04	9.20E-04	3.60E+01	2.00E-01	1.10E+00	1.85E-01	1.10E+00	1.60E+01	3.10E+00	5.96E-03	1.67E-01	1.20E+00	6.98E+00	1.30E+00	2.50E-01
Iron	1.58E+04	1.02E-04	4.28E-01	4.27E-01	1.20E+05	5.04E+00	4.80E+00	2.37E+00	2.41E+01	2.53E+03	5.06E+03	1.61E+00	1.58E+01	1.80E+04	2.52E+04	8.55E+01	8.55E+01
Lead	2.48E+01	1.56E-08	9.27E-04	9.19E-04	1.20E+02	5.20E-02	5.20E-02	3.35E-02	1.80E-01	1.72E+00	1.43E+00	4.47E-05	5.70E-04	5.83E-01	1.63E+00	2.20E-01	9.00E-02
Lithium	8.43E+00	7.56E-08	7.85E-03	7.83E-03	3.10E+01	1.09E-02	1.70E-01	5.06E-03	1.70E-01	1.35E+00	2.70E+00	1.31E-03	2.96E-02	4.65E+00	6.51E+00	--	--
Magnesium	--	--	--	--	--	6.17E-01	5.00E+01	--	--	--	--	--	--	--	--	--	--
Manganese	8.70E+01	1.58E-06	1.19E-01	1.19E-01	4.00E+02	1.02E+00	6.30E+01	6.53E-01	6.30E+01	1.20E+03	5.71E-01	1.33E-02	3.80E-01	4.74E+00	8.40E+01	4.74E+01	4.74E+01
Mercury	3.18E-01	2.14E-09	9.69E-06	6.48E-06	1.10E+01	2.69E-10	2.50E-03	0.00E+00	2.50E-03	5.09E-02	1.02E-01	2.88E-03	5.24E-02	1.65E+00	1.90E-01	1.40E+00	2.50E-03
Mercury, divalent	3.07E-03	--	1.23E-07	8.22E-08	2.17E-03	7.21E-06	6.44E-06	1.66E-05	--	4.91E-04	9.81E-04	9.59E-08	1.22E-06	3.25E-04	4.55E-04	8.22E-08	8.22E-08
Mercury, methyl	3.94E-09	--	3.90E-14	3.89E-14	6.23E-12	1.04E-07	1.71E-11	5.85E-11	--	6.30E-10	1.26E-09	2.20E-14	3.39E-13	9.34E-13	1.31E-12	2.65E-07	2.65E-07
Molybdenum	1.00E+00	3.11E-08	1.23E-02	1.23E-02	4.30E+00	1.27E-02	1.60E-01	9.00E-03	1.60E-01	6.90E-01	3.20E-01	5.38E-04	1.50E-02	6.45E-01	9.03E-01	2.50E-01	2.50E-01
Nickel	5.81E+00	1.80E-06	1.13E-02	1.13E-02	2.10E+02	9.79E-03	1.60E-01	6.97E-03	1.60E-01	1.10E+00	5.68E-01	6.79E-04	1.63E-02	1.55E+00	1.98E+01	8.83E-01	8.83E-01
Phosphorus	1.30E-01	--	1.06E-02	1.06E-02	3.72E-02	9.67E-02	1.60E+02	6.84E-02	1.60E+02	2.08E-02	4.17E-02	4.58E+00	1.32E+02	5.57E-03	7.80E-03	--	--
Potassium	9.37E+00	--	4.93E-01	4.93E-01	2.71E+00	2.17E+00	8.60E+02	7.73E-01	8.60E+02	1.50E+00	3.00E+00	8.95E+00	2.58E+02	4.06E-01	5.69E-01	--	--
Rubidium	--	4.85E-08	--	--	3.90E+01	2.45E-04	0.00E+00	--	--	--	--	--	--	5.85E+00	8.19E+00	--	--
Selenium	2.08E+00	1.21E-08	5.58E-04	5.58E-04	2.50E+00	6.25E-03	1.60E-01	6.86E-03	1.60E-01	2.54E-01	2.78E-01	2.15E-04	5.74E-03	2.10E-01	5.50E-01	7.50E-01	7.50E-01
Silver	2.50E-01	1.48E-07	7.48E-05	7.48E-05	3.40E+00	5.20E-03	4.00E-02	3.75E-03	4.00E-02	1.80E+00	3.20E-04	6.61E-05	1.83E-03	7.14E-03	7.14E-01	6.00E-02	6.00E-02
Sodium	9.83E+01	--	3.00E-01	2.99E-01	2.99E+01	1.63E+00	2.50E+01	8.11E-01	2.50E+01	1.57E+01	3.14E+01	7.44E-01	2.09E+01	4.49E+00	6.28E+00	5.99E+00	5.99E+00
Strontium	6.03E+01	4.98E-07	4.28E-01	4.27E-01	2.60E+01	4.86E+00	4.85E+00	2.26E+00	2.27E+01	1.00E+01	1.93E+01	8.62E-04	2.32E-02	3.90E+00	5.46E+00	6.10E+01	4.40E+01
Thallium	5.00E-02	9.33E-09	8.48E-05	8.48E-05	3.00E-01	3.89E-05	1.10E-02	3.00E-06	1.10E-02	1.00E-02	1.60E-02	2.39E-04	6.71E-03	4.50E-02	6.30E-02	8.48E-01	8.48E-01
Tin	5.00E-01	1.85E-06	5.46E-04	5.45E-04	1.40E+00	8.02E-04	1.20E+00	4.50E-04	1.20E+00	2.50E-01	1.60E-01	6.27E-04	1.80E-02	2.10E-01	5.50E-01	1.63E+00	1.63E+00
Titanium	8.76E+01	1.25E-06	3.90E-02	3.86E-02	3.86E+01	2.16E-01	2.50E-01	3.94E-02	1.50E+00	1.40E+01	2.80E+01	1.70E-02	2.36E-01	5.79E+00	8.10E+00	--	--
Uranium	6.51E-01	9.33E-09	5.76E-04	5.73E-04	1.70E+00	9.77E-02	9.77E-02	9.77E-02	9.83E-02	1.04E-01	2.08E-01	1.08E-05	2.99E-04	2.55E-01	3.57E-01	--	--
Vanadium	2.89E+01	3.11E-07	2.01E-03	1.99E-03	2.70E+01	1.77E-02	1.60E-01	1.30E-02	1.60E-01	9.30E-01	1.14E-01	5.64E-04	9.27E-03	1.96E-02	5.67E+00	--	--
Zinc	2.64E+01	1.89E-05	7.27E-03	7.26E-03	6.40E+01	3.89E-01	2.10E+00	3.56E+00	2.10E+00	7.90E+01	5.14E-03	1.10E-04	2.95E-03	7.26E+00	4.50E+01	3.00E+01	1.50E+01
Inorganics																	
Nitrate	--	--	7.77E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	6.00E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	3.02E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	1.68E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	--	1.22E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table B.55

Change in Predicted Media Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

	Change in Predicted Soil Concentration Δ mg/kg				Change in Predicted Surface Water Concentration Δ mg/L				Change in Predicted Sediment Concentration Δ mg/kg			
Contaminant	Construction (Cs) (mg/kg)	Operations (Cs) (mg/kg)	Reclamation (Cs) (mg/kg)	Post-Closure (Cs) (mg/kg)	Construction (Cw) (mg/L)	Operations (Cw) (mg/L)	Reclamation (Cw) (mg/L)	Post-Closure (Cw) (mg/L)	Construction (Csed) (mg/kg)	Operations (Csed) (mg/kg)	Reclamation (Csed) (mg/kg)	Post-Closure (Csed) (mg/kg)
Metals												
Aluminum	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-2.31E-01	-1.64E-01	-6.93E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Antimony	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.89E-03	2.77E-03	1.70E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Arsenic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-6.22E-01	-6.25E-01	-6.26E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Barium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.49E-03	3.45E-03	2.13E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Beryllium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-3.91E-05	-2.88E-05	-2.37E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bismuth	--	--	--	--	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Boron	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.94E+00	1.94E+00	1.94E+00	1.94E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cadmium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-5.01E-06	-6.90E-07	1.22E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Calcium	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.42E-04	-6.13E-04	-4.40E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cobalt	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.91E-04	7.35E-04	7.61E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Copper	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.16E-04	1.13E-04	-8.22E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Iron	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-8.15E-01	-7.15E-01	-7.42E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lead	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.03E-05	-5.59E-05	1.65E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lithium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Magnesium	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.73E-03	-3.11E-02	3.84E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, element	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.30E-04	-1.29E-04	-1.27E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, divalent	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, methyl	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nickel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phosphorus	--	--	--	--	-3.94E-02	-3.94E-02	-3.94E-02	-3.94E-02	--	--	--	--
Potassium	--	--	--	--	-3.11E-01	-3.11E-01	-3.11E-01	-3.11E-01	--	--	--	--
Rubidium	--	--	--	--	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Selenium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.17E-05	-3.17E-05	5.82E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Silver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sodium	--	--	--	--	-5.35E+00	-5.22E+00	-5.22E+00	-5.22E+00	--	--	--	--
Strontium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.83E-01	3.83E-01	3.83E-01	3.83E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Thallium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Titanium	--	--	--	--	4.92E-03	2.52E-02	2.96E-02	2.96E-02	--	--	--	--
Uranium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.00E-04	8.02E-04	5.26E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Vanadium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Zinc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-2.48E-03	-2.58E-03	-2.49E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Appendix B.3

Employee Accommodations: Baseline and Predicted Future Exposure Point Concentration Models and Result

Table B.1

Summary of Measured and Estimated Background Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

	Measured Baseline Concentration									Estimated Baseline Concentration			
Contaminant	**Surface soil (Cs) (mg/kg)**	**Outdoor air (Coa) (mg/m³)**	**Surface water (Cw) (mg/L)**	**Sediment (Csed) (mg/kg)**	**Berries (Cfru) (mg/kg FW)**	**Fish fillets (Cff) (mg/kg FW)**	**Fish remains (Cfr) (mg/kg FW)**	**Terrestrial invertebrates (Cti) (mg/kg FW)**	**Aquatic invertebrates (Cai) (mg/kg FW)**	**Hare Flesh (Ch) (mg/kg FW) (refer to table B.3)**	**Deer Flesh (Cd) (mg/kg FW) (refer to table B.2)**	**Prey Flesh (Cp) (mg/kg FW) (refer to table B.4)**	**Aquatic Plants (Cap) (mg/kg FW) (refer to table B.5)**
Metals													
Aluminum	9.89E+03	8.52E-05	4.30E-01	1.50E+04	3.90E+00	1.30E+00	2.60E+00	4.20E+02	1.80E+02	7.60E-02	7.58E-01	8.32E+01	6.46E+00
Antimony	1.00E+00	1.56E-08	5.00E-04	8.10E+01	<0.32	<0.5	<0.5	<0.5	<1.1	8.82E-05	2.45E-03	4.00E-03	3.65E-01
Arsenic	6.04E+00	3.40E-07	6.77E-01	1.10E+05	<0.32	2.50E-01	5.30E-01	8.00E+00	1.70E+02	4.02E-04	1.14E-02	1.10E-02	6.19E+02
Barium	3.73E+01	8.83E-05	3.60E-03	9.60E+01	3.50E+00	<1.5	2.50E+00	2.40E+01	<3.3	3.01E-04	8.13E-03	5.76E-02	2.25E+00
Beryllium	1.00E+00	1.56E-08	5.00E-04	<2	<0.32	<0.5	<0.5	<0.5	<1.1	8.82E-05	2.45E-03	4.00E-03	8.78E-02
Bismuth	1.00E+00	--	1.00E-03	5.40E+00	<0.05	--	--	--	--	7.22E-06	1.70E-04	3.20E-01	8.10E-01
Boron	2.50E+01	3.11E-08	2.50E-02	<50	1.90E+00	<1.5	<1.5	2.30E+00	<3.3	8.91E-04	2.38E-02	8.00E+00	3.75E+00
Cadmium	1.50E-01	5.62E-08	2.48E-05	5.60E-01	3.20E-02	<0.05	2.50E-02	1.60E+00	1.70E-01	2.09E-06	5.84E-05	3.72E-02	6.80E-02
Calcium	--	--	4.89E+00	--	9.30E+02	--	--	--	--	--	--	--	--
Chromium	1.27E+01	1.55E-06	1.30E-03	2.40E+01	<0.32	<0.5	<0.5	5.80E-01	<1.1	8.02E-04	1.64E-02	4.80E-01	1.48E-01
Cobalt	2.27E+00	3.11E-08	2.00E-04	1.30E+02	<0.16	<0.2	<0.2	2.10E-01	<0.44	1.06E-03	2.61E-02	1.07E-02	1.46E-01
Copper	6.56E+00	3.39E-04	1.74E-03	3.60E+01	1.10E+00	2.50E-01	1.30E+00	1.60E+01	5.10E+00	6.04E-03	1.68E-01	3.24E+00	1.20E+00
Iron	1.64E+04	1.02E-04	1.17E+00	1.20E+05	<9.6	7.50E+00	2.50E+01	6.00E+02	1.10E+03	1.66E+00	1.63E+01	5.25E+03	1.80E+04
Lead	1.48E+01	1.56E-08	7.62E-04	1.20E+02	5.20E-02	<0.18	2.20E-01	5.60E-01	9.40E-01	3.00E-05	4.35E-04	1.14E+00	5.83E-01
Lithium	8.41E+00	--	--	3.10E+01	<0.34	<0.5	<0.5	<0.5	<1.1	--	--	2.69E+00	4.65E+00
Magnesium	--	--	8.14E-01	--	<100	--	--	--	--	--	--	--	--
Manganese	9.66E+01	1.58E-06	8.03E-02	4.00E+02	6.30E+01	3.10E+00	6.40E+00	1.20E+03	3.30E+01	1.33E-02	3.80E-01	6.34E-01	4.74E+00
Mercury	1.62E-01	--	1.36E-04	1.10E+01	<0.005	2.50E-03	1.40E+00	3.50E-02	1.90E-01	2.11E-03	4.54E-02	5.18E-02	1.65E+00
Mercury, divalent	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, methyl	--	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	1.00E+00	3.11E-08	1.00E-03	4.30E+00	<0.32	<0.5	<0.5	6.90E-01	<1.1	5.29E-04	1.47E-02	3.20E-01	6.45E-01
Nickel	6.91E+00	1.80E-06	1.00E-03	2.10E+02	<0.32	<0.5	<0.5	1.10E+00	<1.1	7.04E-04	1.63E-02	6.16E-01	1.55E+00
Phosphorus	--	--	5.00E-02	--	1.60E+02	--	--	--	--	--	--	--	--
Potassium	--	--	8.04E-01	--	8.60E+02	--	--	--	--	--	--	--	--
Rubidium	6.45E+00	--	--	3.90E+01	--	--	--	--	--	--	--	2.06E+00	5.85E+00
Selenium	8.64E-01	--	5.00E-04	2.50E+00	<0.32	7.50E-01	7.30E-01	<0.5	<1.1	2.01E-04	5.61E-03	2.00E-01	2.10E-01
Silver	2.50E-01	1.48E-07	5.00E-05	3.40E+00	<0.08	<0.12	<0.12	1.80E+00	<0.26	6.61E-05	1.83E-03	3.20E-04	7.14E-03
Sodium	--	--	5.52E+00	--	<50	--	--	--	--	--	--	--	--
Strontium	1.94E+01	4.98E-07	4.47E-02	2.60E+01	2.20E+00	4.40E+01	6.10E+01	1.00E+01	<3.3	3.74E-04	1.02E-02	6.21E+00	3.90E+00
Thallium	5.00E-02	9.33E-09	5.00E-05	3.00E-01	<0.022	<0.02	<0.02	<0.02	<0.044	2.39E-04	6.70E-03	1.60E-02	4.50E-02
Tin	5.00E-01	1.85E-06	1.00E-03	1.40E+00	1.20E+00	<0.5	<0.5	<0.5	<1.1	6.27E-04	1.80E-02	1.60E-01	2.10E-01
Titanium	--	1.25E-06	9.34E-03	--	<0.5	--	--	--	--	--	--	--	--
Uranium	6.70E-01	9.33E-09	5.00E-05	1.70E+00	<0.016	<0.02	<0.02	<0.02	<0.044	1.49E-06	3.01E-05	2.14E-01	2.55E-01
Vanadium	2.18E+01	3.11E-07	1.00E-03	2.70E+01	<0.32	<0.5	<0.5	9.30E-01	<1.1	4.76E-04	8.46E-03	8.58E-02	1.96E-02
Zinc	1.97E+01	1.89E-05	9.76E-03	6.40E+01	2.10E+00	1.40E+01	3.00E+01	7.90E+01	4.50E+01	1.07E-04	2.92E-03	5.03E-03	7.26E+00
Inorganics													
Cyanide	--	--	0.00E+00	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	2.34E-01	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	1.06E-02	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	1.78E-01	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	6.94E-03	--	--	--	--	--	--	--	--	--	--

Table B.2

Deer Baseline Concentration Due to Plant and Soil Ingestion
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal (F) (refer to Table B.9) (unitless)	Quantity of Forage Ingested by the Animal per day (1) (Qp_f) (refer to Table B.9) (kg DW/day)	Baseline Concentration in Forage Ingested (P_f) (refer to Table B.1) (mg/kg DW)	Quantity of Soil Ingested by the Animal (Qs) (refer to Table B.9) (kg/day)	Baseline Soil Concentration (Cs) (refer to Table B.1) (mg/kg)	Soil Bioavailability Factor (Bs) (unitless)	Quantity of Surface Water Ingested by the Animal (Qw) (refer to Table B.9) (L/day)	Baseline Surface Water Concentration (Cw) (refer to Table B.1) (mg/L)	Biotransfer Factor for Beef (Ba_{beef}) (refer to Table B.10) (day/kg FW tissue)	Biotransfer Factor for Wildlife ($Ba_{wildlife}$) (day/kg FW tissue)	Metabolism Factor (MF) unitless	Baseline Concentration in Deer (Cd) (mg/kg FW tissue)
Particulate Matter												
Total Particulate Matter	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	--	--	1.00E+00	--
Particulate Matter (PM10)	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	--	--	1.00E+00	--
Particulate Matter (PM2.5)	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	--	--	1.00E+00	--
Metals												
Aluminum	1.00E+00	2.25E+00	2.60E+01	4.50E-02	9.89E+03	1.00E+00	4.50E+00	4.30E-01	1.50E-03	1.50E-03	1.00E+00	7.58E-01
Antimony	1.00E+00	2.25E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	4.50E+00	5.00E-04	1.00E-03	1.00E-03	1.00E+00	2.45E-03
Arsenic	1.00E+00	2.25E+00	1.07E+00	4.50E-02	6.04E+00	1.00E+00	4.50E+00	6.77E-01	2.00E-03	2.00E-03	1.00E+00	1.14E-02
Barium	1.00E+00	2.25E+00	2.33E+01	4.50E-02	3.73E+01	1.00E+00	4.50E+00	3.60E-03	1.50E-04	1.50E-04	1.00E+00	8.13E-03
Beryllium	1.00E+00	2.25E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	4.50E+00	5.00E-04	1.00E-03	1.00E-03	1.00E+00	2.45E-03
Bismuth	1.00E+00	2.25E+00	1.67E-01	4.50E-02	1.00E+00	1.00E+00	4.50E+00	1.00E-03	4.00E-04	4.00E-04	1.00E+00	1.70E-04
Boron	1.00E+00	2.25E+00	1.27E+01	4.50E-02	2.50E+01	1.00E+00	4.50E+00	2.50E-02	8.00E-04	8.00E-04	1.00E+00	2.38E-02
Cadmium	1.00E+00	2.25E+00	2.13E-01	4.50E-02	1.50E-01	1.00E+00	4.50E+00	2.48E-05	1.20E-04	1.20E-04	1.00E+00	5.84E-05
Calcium	1.00E+00	2.25E+00	6.20E+03	4.50E-02	--	1.00E+00	4.50E+00	4.89E+00	7.00E-04	7.00E-04	1.00E+00	--
Chromium Total	1.00E+00	2.25E+00	1.07E+00	4.50E-02	1.27E+01	1.00E+00	4.50E+00	1.30E-03	5.50E-03	5.50E-03	1.00E+00	1.64E-02
Cobalt	1.00E+00	2.25E+00	5.33E-01	4.50E-02	2.27E+00	1.00E+00	4.50E+00	2.00E-04	2.00E-02	2.00E-02	1.00E+00	2.61E-02
Copper	1.00E+00	2.25E+00	7.33E+00	4.50E-02	6.56E+00	1.00E+00	4.50E+00	1.74E-03	1.00E-02	1.00E-02	1.00E+00	1.68E-01
Iron	1.00E+00	2.25E+00	3.20E+01	4.50E-02	1.64E+04	1.00E+00	4.50E+00	1.17E+00	2.00E-02	2.00E-02	1.00E+00	1.63E+01
Lead	1.00E+00	2.25E+00	3.47E-01	4.50E-02	1.48E+01	1.00E+00	4.50E+00	7.62E-04	3.00E-04	3.00E-04	1.00E+00	4.35E-04
Lithium	1.00E+00	2.25E+00	1.13E+00	4.50E-02	8.41E+00	1.00E+00	4.50E+00	--	1.00E-02	1.00E-02	1.00E+00	--
Magnesium	1.00E+00	2.25E+00	3.33E+02	4.50E-02	--	1.00E+00	4.50E+00	8.14E-01	5.00E-03	5.00E-03	1.00E+00	--
Manganese	1.00E+00	2.25E+00	4.20E+02	4.50E-02	9.66E+01	1.00E+00	4.50E+00	8.03E-02	4.00E-04	4.00E-04	1.00E+00	3.80E-01
Mercury, element	1.00E+00	2.25E+00	1.67E-02	4.50E-02	1.62E-01	1.00E+00	4.50E+00	1.36E-04	1.00E+00	1.00E+00	1.00E+00	4.54E-02
Mercury, divalent	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	5.20E-03	5.20E-03	1.00E+00	--
Mercury, methyl	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	7.80E-04	7.80E-04	1.00E+00	--
Molybdenum	1.00E+00	2.25E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	4.50E+00	1.00E-03	6.00E-03	6.00E-03	1.00E+00	1.47E-02
Nickel	1.00E+00	2.25E+00	1.07E+00	4.50E-02	6.91E+00	1.00E+00	4.50E+00	1.00E-03	6.00E-03	6.00E-03	1.00E+00	1.63E-02
Phosphorus	1.00E+00	2.25E+00	1.07E+03	4.50E-02	--	1.00E+00	4.50E+00	5.00E-02	5.50E-02	5.50E-02	1.00E+00	--
Potassium	1.00E+00	2.25E+00	5.73E+03	4.50E-02	--	1.00E+00	4.50E+00	8.04E-01	2.00E-02	2.00E-02	1.00E+00	--
Rubidium	1.00E+00	2.25E+00	--	4.50E-02	6.45E+00	1.00E+00	4.50E+00	--	1.50E-02	1.50E-02	1.00E+00	--
Selenium	1.00E+00	2.25E+00	1.07E+00	4.50E-02	8.64E-01	1.00E+00	4.50E+00	5.00E-04	2.30E-03	2.30E-03	1.00E+00	5.61E-03
Silver	1.00E+00	2.25E+00	2.67E-01	4.50E-02	2.50E-01	1.00E+00	4.50E+00	5.00E-05	3.00E-03	3.00E-03	1.00E+00	1.83E-03
Sodium	1.00E+00	2.25E+00	1.67E+02	4.50E-02	--	1.00E+00	4.50E+00	5.52E+00	5.50E-02	5.50E-02	1.00E+00	--
Strontium	1.00E+00	2.25E+00	1.47E+01	4.50E-02	1.94E+01	1.00E+00	4.50E+00	4.47E-02	3.00E-04	3.00E-04	1.00E+00	1.02E-02
Thallium	1.00E+00	2.25E+00	7.33E-02	4.50E-02	5.00E-02	1.00E+00	4.50E+00	5.00E-05	4.00E-02	4.00E-02	1.00E+00	6.70E-03
Tin	1.00E+00	2.25E+00	8.00E+00	4.50E-02	5.00E-01	1.00E+00	4.50E+00	1.00E-03	1.00E-03	1.00E-03	1.00E+00	1.80E-02
Titanium	1.00E+00	2.25E+00	1.67E+00	4.50E-02	--	1.00E+00	4.50E+00	9.34E-03	3.00E-02	3.00E-02	1.00E+00	--
Uranium	1.00E+00	2.25E+00	5.33E-02	4.50E-02	6.70E-01	1.00E+00	4.50E+00	5.00E-05	2.00E-04	2.00E-04	1.00E+00	3.01E-05
Vanadium	1.00E+00	2.25E+00	1.07E+00	4.50E-02	2.18E+01	1.00E+00	4.50E+00	1.00E-03	2.50E-03	2.50E-03	1.00E+00	8.46E-03
Zinc	1.00E+00	2.25E+00	1.40E+01	4.50E-02	1.97E+01	1.00E+00	4.50E+00	9.76E-03	9.00E-05	9.00E-05	1.00E+00	2.92E-03

Equation: $Cwildlife = F \times Qp_f \times P_f + Qs \times Cs \times Bs + Qw \times Cw \times Ba_{wildlife} \times MF$ where: $Ba_{wildlife} = Ba_{beef}$ refer to Table B-10 for Ba_{beef}

Table B.3

Hare Baseline Concentration Due to Plant and Soil Ingestion
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal (F) (refer to Table B.9) (unitless)	Quantity of Forage Ingested by the Animal per day (1) (Qp_f) (refer to Table B.9) (kg DW/day)	Baseline Concentration in Forage Ingested (P_f) (refer to Table B.1) (mg/kg DW)	Quantity of Soil Ingested by the Animal (Qs) (refer to Table B.9) (kg/day)	Baseline Soil Concentration (Cs) (refer to Table B.1) (mg/kg)	Soil Bioavailability Factor (Bs) (unitless)	Quantity of Surface Water Ingested by the Animal (Qw) (refer to Table B.9) (L/day)	Baseline Surface Water Concentration (Cw) (refer to Table B.1) (mg/L)	Biotransfer Factor for Beef (Ba_{beef}) (refer to Table B.10) (day/kg FW tissue)	Biotransfer Factor for Wildlife ($Ba_{wildlife}$) (day/kg FW tissue)	Metabolism Factor (MF) unitless	Baseline Concentration in Hare (Ch) (mg/kg FW tissue)
Particulate Matter												
Particulate Matter (PM10)	1.00E+00	7.80E-02	--	4.91E-03	--	1.00E+00	1.30E-01	--	--	--	1.00E+00	--
Particulate Matter (PM2.5)	1.00E+00	7.80E-02	--	4.91E-03	--	1.00E+00	1.30E-01	--	--	--	1.00E+00	--
Metals												
Aluminum	1.00E+00	7.80E-02	2.60E+01	4.91E-03	9.89E+03	1.00E+00	1.30E-01	4.30E-01	1.50E-03	1.50E-03	1.00E+00	7.60E-02
Antimony	1.00E+00	7.80E-02	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.30E-01	5.00E-04	1.00E-03	1.00E-03	1.00E+00	8.82E-05
Arsenic	1.00E+00	7.80E-02	1.07E+00	4.91E-03	6.04E+00	1.00E+00	1.30E-01	6.77E-01	2.00E-03	2.00E-03	1.00E+00	4.02E-04
Barium	1.00E+00	7.80E-02	2.33E+01	4.91E-03	3.73E+01	1.00E+00	1.30E-01	3.60E-03	1.50E-04	1.50E-04	1.00E+00	3.01E-04
Beryllium	1.00E+00	7.80E-02	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.30E-01	5.00E-04	1.00E-03	1.00E-03	1.00E+00	8.82E-05
Bismuth	1.00E+00	7.80E-02	1.67E-01	4.91E-03	1.00E+00	1.00E+00	1.30E-01	1.00E-03	4.00E-04	4.00E-04	1.00E+00	7.22E-06
Boron	1.00E+00	7.80E-02	1.27E+01	4.91E-03	2.50E+01	1.00E+00	1.30E-01	2.50E-02	8.00E-04	8.00E-04	1.00E+00	8.91E-04
Cadmium	1.00E+00	7.80E-02	2.13E-01	4.91E-03	1.50E-01	1.00E+00	1.30E-01	2.48E-05	1.20E-04	1.20E-04	1.00E+00	2.09E-06
Calcium	1.00E+00	7.80E-02	6.20E+03	4.91E-03	--	1.00E+00	1.30E-01	4.89E+00	7.00E-04	7.00E-04	1.00E+00	--
Chromium Total	1.00E+00	7.80E-02	1.07E+00	4.91E-03	1.27E+01	1.00E+00	1.30E-01	1.30E-03	5.50E-03	5.50E-03	1.00E+00	8.02E-04
Cobalt	1.00E+00	7.80E-02	5.33E-01	4.91E-03	2.27E+00	1.00E+00	1.30E-01	2.00E-04	2.00E-02	2.00E-02	1.00E+00	1.06E-03
Copper	1.00E+00	7.80E-02	7.33E+00	4.91E-03	6.56E+00	1.00E+00	1.30E-01	1.74E-03	1.00E-02	1.00E-02	1.00E+00	6.04E-03
Iron	1.00E+00	7.80E-02	3.20E+01	4.91E-03	1.64E+04	1.00E+00	1.30E-01	1.17E+00	2.00E-02	2.00E-02	1.00E+00	1.66E+00
Lead	1.00E+00	7.80E-02	3.47E-01	4.91E-03	1.48E+01	1.00E+00	1.30E-01	7.62E-04	3.00E-04	3.00E-04	1.00E+00	3.00E-05
Lithium	1.00E+00	7.80E-02	1.13E+00	4.91E-03	8.41E+00	1.00E+00	1.30E-01	--	1.00E-02	1.00E-02	1.00E+00	--
Magnesium	1.00E+00	7.80E-02	3.33E+02	4.91E-03	--	1.00E+00	1.30E-01	8.14E-01	5.00E-03	5.00E-03	1.00E+00	--
Manganese	1.00E+00	7.80E-02	4.20E+02	4.91E-03	9.66E+01	1.00E+00	1.30E-01	8.03E-02	4.00E-04	4.00E-04	1.00E+00	1.33E-02
Mercury, element	1.00E+00	7.80E-02	1.67E-02	4.91E-03	1.62E-01	1.00E+00	1.30E-01	1.36E-04	1.00E+00	1.00E+00	1.00E+00	2.11E-03
Mercury, divalent	1.00E+00	7.80E-02	--	4.91E-03	--	1.00E+00	1.30E-01	--	5.20E-03	5.20E-03	1.00E+00	--
Mercury, methyl	1.00E+00	7.80E-02	--	4.91E-03	--	1.00E+00	1.30E-01	--	7.80E-04	7.80E-04	1.00E+00	--
Molybdenum	1.00E+00	7.80E-02	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.30E-01	1.00E-03	6.00E-03	6.00E-03	1.00E+00	5.29E-04
Nickel	1.00E+00	7.80E-02	1.07E+00	4.91E-03	6.91E+00	1.00E+00	1.30E-01	1.00E-03	6.00E-03	6.00E-03	1.00E+00	7.04E-04
Phosphorus	1.00E+00	7.80E-02	1.07E+03	4.91E-03	--	1.00E+00	1.30E-01	5.00E-02	5.50E-02	5.50E-02	1.00E+00	--
Potassium	1.00E+00	7.80E-02	5.73E+03	4.91E-03	--	1.00E+00	1.30E-01	8.04E-01	2.00E-02	2.00E-02	1.00E+00	--
Rubidium	1.00E+00	7.80E-02	--	4.91E-03	6.45E+00	1.00E+00	1.30E-01	--	1.50E-02	1.50E-02	1.00E+00	--
Selenium	1.00E+00	7.80E-02	1.07E+00	4.91E-03	8.64E-01	1.00E+00	1.30E-01	5.00E-04	2.30E-03	2.30E-03	1.00E+00	2.01E-04
Silver	1.00E+00	7.80E-02	2.67E-01	4.91E-03	2.50E-01	1.00E+00	1.30E-01	5.00E-05	3.00E-03	3.00E-03	1.00E+00	6.61E-05
Sodium	1.00E+00	7.80E-02	1.67E+02	4.91E-03	--	1.00E+00	1.30E-01	5.52E+00	5.50E-02	5.50E-02	1.00E+00	--
Strontium	1.00E+00	7.80E-02	1.47E+01	4.91E-03	1.94E+01	1.00E+00	1.30E-01	4.47E-02	3.00E-04	3.00E-04	1.00E+00	3.74E-04
Thallium	1.00E+00	7.80E-02	7.33E-02	4.91E-03	5.00E-02	1.00E+00	1.30E-01	5.00E-05	4.00E-02	4.00E-02	1.00E+00	2.39E-04
Tin	1.00E+00	7.80E-02	8.00E+00	4.91E-03	5.00E-01	1.00E+00	1.30E-01	1.00E-03	1.00E-03	1.00E-03	1.00E+00	6.27E-04
Titanium	1.00E+00	7.80E-02	1.67E+00	4.91E-03	--	1.00E+00	1.30E-01	9.34E-03	3.00E-02	3.00E-02	1.00E+00	--
Uranium	1.00E+00	7.80E-02	5.33E-02	4.91E-03	6.70E-01	1.00E+00	1.30E-01	5.00E-05	2.00E-04	2.00E-04	1.00E+00	1.49E-06
Vanadium	1.00E+00	7.80E-02	1.07E+00	4.91E-03	2.18E+01	1.00E+00	1.30E-01	1.00E-03	2.50E-03	2.50E-03	1.00E+00	4.76E-04
Zinc	1.00E+00	7.80E-02	1.40E+01	4.91E-03	1.97E+01	1.00E+00	1.30E-01	9.76E-03	9.00E-05	9.00E-05	1.00E+00	1.07E-04

Equation: $C_{wildlife} = F \times Qp_f \times P_f + Qs \times Cs \times Bs + Qw \times Cw \times Ba_{wildlife} \times MF$

where: $Ba_{wildlife} = Ba_{beef}$ refer to Table B-10 for Ba_{beef}

Table B.4

Baseline Prey Concentration Due to Terrestrial Invertebrates or Soil Ingestion
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Baseline Soil Concentration (Cs) (refer to Table B.1) (mg/kg)	Baseline Terrestrial Invertebrate Concentration (Cti) (refer to Table B.1) (mg/kg FW)	Baseline Prey Concentration (Cp) (mg/kg FW)
Particulate Matter			
Total Particulate Matter	--	--	--
Particulate Matter (PM10)	--	--	--
Particulate Matter (PM2.5)	--	--	--
Metals			
Aluminum	9.89E+03	4.20E+02	8.32E+01
Antimony	1.00E+00	2.50E-01	4.00E-03
Arsenic	6.04E+00	8.00E+00	1.10E-02
Barium	3.73E+01	2.40E+01	5.76E-02
Beryllium	1.00E+00	2.50E-01	4.00E-03
Bismuth	1.00E+00	--	3.20E-01
Boron	2.50E+01	2.30E+00	8.00E+00
Cadmium	1.50E-01	1.60E+00	3.72E-02
Calcium	--	--	--
Chromium Total	1.27E+01	5.80E-01	4.80E-01
Cobalt	2.27E+00	2.10E-01	1.07E-02
Copper	6.56E+00	1.60E+01	3.24E+00
Iron	1.64E+04	6.00E+02	5.25E+03
Lead	1.48E+01	5.60E-01	1.14E+00
Lithium	8.41E+00	2.50E-01	2.69E+00
Magnesium	--	--	--
Manganese	9.66E+01	1.20E+03	6.34E-01
Mercury, element	1.62E-01	3.50E-02	5.18E-02
Mercury, divalent	--	--	--
Mercury, methyl	--	--	--
Molybdenum	1.00E+00	6.90E-01	3.20E-01
Nickel	6.91E+00	1.10E+00	6.16E-01
Phosphorus	--	--	--
Potassium	--	--	--
Rubidium	6.45E+00	--	2.06E+00
Selenium	8.64E-01	2.50E-01	2.00E-01
Silver	2.50E-01	1.80E+00	3.20E-04
Sodium	--	--	--
Strontium	1.94E+01	1.00E+01	6.21E+00
Thallium	5.00E-02	1.00E-02	1.60E-02
Tin	5.00E-01	2.50E-01	1.60E-01
Titanium	--	--	--
Uranium	6.70E-01	1.00E-02	2.14E-01
Vanadium	2.18E+01	9.30E-01	8.58E-02
Zinc	1.97E+01	7.90E+01	5.03E-03

Note:
The baseline prey concentrations were modelled with uptake factors from the USEPA (2007). An aluminum uptake factor was obtained from Table C.1 in Appendix C of Sample et al. (1998a); the median uptake factor of 0.0263 from this data set was selected.

Table B.5

Baseline Aquatic Plants Concentration Due to Sediment Uptake
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Baseline Sediment Concentration (Csed) (refer to table B.1) (mg/kg)	Baseline Aquatic Plant Concentration (Cap) (1) (mg/kg FW)
Particulate Matter		
Total Particulate Matter	--	--
Particulate Matter (PM10)	--	--
Particulate Matter (PM2.5)	--	--
Metals		
Aluminum	1.50E+04	6.46E+00
Antimony	8.10E+01	3.65E-01
Arsenic	1.10E+05	6.19E+02
Barium	9.60E+01	2.25E+00
Beryllium	1.00E+00	8.78E-02
Bismuth	5.40E+00	8.10E-01
Boron	2.50E+01	3.75E+00
Cadmium	5.60E-01	6.80E-02
Calcium	--	--
Chromium Total	2.40E+01	1.48E-01
Cobalt	1.30E+02	1.46E-01
Copper	3.60E+01	1.20E+00
Iron	1.20E+05	1.80E+04
Lead	1.20E+02	5.83E-01
Lithium	3.10E+01	4.65E+00
Magnesium	--	--
Manganese	4.00E+02	4.74E+00
Mercury, element	1.10E+01	1.65E+00
Mercury, divalent	--	--
Mercury, methyl	--	--
Molybdenum	4.30E+00	6.45E-01
Nickel	2.10E+02	1.55E+00
Phosphorus	--	--
Potassium	--	--
Rubidium	3.90E+01	5.85E+00
Selenium	2.50E+00	2.10E-01
Silver	3.40E+00	7.14E-03
Sodium	--	--
Strontium	2.60E+01	3.90E+00
Thallium	3.00E-01	4.50E-02
Tin	1.40E+00	2.10E-01
Titanium	--	--
Uranium	1.70E+00	2.55E-01
Vanadium	2.70E+01	1.96E-02
Zinc	6.40E+01	7.26E+00

Note:

(1) The baseline aquatic plant concentrations were modelled with equations from the USEPA (2007). Where the equation for aluminum was not available, an uptake factor approach was selected for aluminum, for which the median soil to plant uptake factor of 0.00287 was selected from the dataset summarized in Table D.1 of Appendix D of Bechtel Jacobs (1998).

Table B.6

Summary of Annual Air Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Selected Predicted Annual Air Concentration	Predicted Annual Air Concentrations				Measured Baseline Air Concentration (refer to Tables A.2 and B.1)	Measured and Calculated Baseline Air Concentration (Using Soil Concentration for the Calculated Concentration)	Predicted Dust Concentration (Using Waste Rock Concentration)
	Employee Accommodations (Coa) ($\mu g/m^3$)	PA (Coa) ($\mu g/m^3$)	South (Coa) ($\mu g/m^3$)	Employee Accommodations (Coa) ($\mu g/m^3$)	Village (Coa) ($\mu g/m^3$)	(Coa) (mg/m^3)	(Coa) ($\mu g/m^3$)	(Cdust) (mg/kg)
Particulate Matter								
Total Particulate Matter	2.40E+02	2.40E+02	3.30E+01	2.40E+02	2.25E+01	8.12E-03	8.12E+00	--
Particulate Matter (PM10)	6.05E+01	6.05E+01	8.11E+00	6.05E+01	5.67E+00	1.15E-03	1.15E+00	--
Particulate Matter (PM2.5)	1.57E+01	1.57E+01	8.47E-01	1.57E+01	6.65E-01	8.00E-03	8.00E+00	--
Metals								
Antimony	1.63E-05	1.63E-05	1.57E-05	1.63E-05	1.56E-05	1.56E-08	1.56E-05	3.00E+00
Arsenic	4.33E-04	4.33E-04	3.53E-04	4.33E-04	3.48E-04	3.40E-07	3.40E-04	3.90E+02
Barium	8.85E-02	8.85E-02	8.84E-02	8.85E-02	8.84E-02	8.83E-05	8.83E-02	8.10E+02
Beryllium	1.63E-05	1.63E-05	1.57E-05	1.63E-05	1.56E-05	1.56E-08	1.56E-05	3.00E+00
Bismuth	8.20E-06	8.20E-06	8.13E-06	8.20E-06	8.13E-06	--	8.12E-06	3.30E-01
Boron	3.71E-05	3.71E-05	3.19E-05	3.71E-05	3.17E-05	3.11E-08	3.11E-05	2.50E+01
Cadmium	5.62E-05	5.62E-05	5.62E-05	5.62E-05	5.62E-05	5.62E-08	5.62E-05	1.20E-01
Calcium	--	--	--	--	--	--	--	1.30E+04
Chromium Total	1.58E-03	1.58E-03	1.55E-03	1.58E-03	1.55E-03	1.55E-06	1.55E-03	1.11E+02
Chromium VI	--	--	--	--	--	--	--	--
Cobalt	3.54E-05	3.54E-05	3.17E-05	3.54E-05	3.15E-05	3.11E-08	3.11E-05	1.80E+01
Copper	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-04	3.39E-01	3.70E+01
Iron	1.12E-01	1.12E-01	1.03E-01	1.12E-01	1.03E-01	1.02E-04	1.02E-01	4.30E+04
Lead	2.44E-05	2.44E-05	1.68E-05	2.44E-05	1.64E-05	1.56E-08	1.56E-05	3.70E+01
Lithium	9.02E-05	9.02E-05	7.76E-05	9.02E-05	7.70E-05	--	7.56E-05	6.10E+01
Magnesium	--	--	--	--	--	--	--	1.50E+04
Manganese	1.80E-03	1.80E-03	1.61E-03	1.80E-03	1.60E-03	1.58E-06	1.58E-03	9.21E+02
Mercury, element	2.21E-06	2.21E-06	2.15E-06	2.21E-06	2.15E-06	--	2.14E-06	2.64E-01
Mercury, divalent	--	--	--	--	--	--	--	--
Mercury, methyl	--	--	--	--	--	--	--	--
Molybdenum	3.13E-05	3.13E-05	3.11E-05	3.13E-05	3.11E-05	3.11E-08	3.11E-05	8.00E-01
Nickel	1.81E-03	1.81E-03	1.80E-03	1.81E-03	1.80E-03	1.80E-06	1.80E-03	4.10E+01
Phosphorus	--	--	--	--	--	--	--	6.90E+02
Potassium	--	--	--	--	--	--	--	3.20E+04
Rubidium	4.99E-05	4.99E-05	4.87E-05	4.99E-05	4.86E-05	--	4.85E-05	5.97E+00
Selenium	1.22E-05	1.22E-05	1.21E-05	1.22E-05	1.21E-05	--	1.21E-05	3.50E-01
Silver	1.48E-04	1.48E-04	1.48E-04	1.48E-04	1.48E-04	1.48E-07	1.48E-04	5.00E-01
Sodium	--	--	--	--	--	--	--	1.90E+04
Strontium	5.48E-04	5.48E-04	5.05E-04	5.48E-04	5.02E-04	4.98E-07	4.98E-04	2.10E+02
Thallium	9.52E-06	9.52E-06	9.36E-06	9.52E-06	9.35E-06	9.33E-09	9.33E-06	7.90E-01
Tin	1.85E-03	1.85E-03	1.85E-03	1.85E-03	1.85E-03	1.85E-06	1.85E-03	3.00E+00
Titanium	2.26E-03	2.26E-03	1.39E-03	2.26E-03	1.34E-03	1.25E-06	1.25E-03	4.20E+03
Uranium	9.76E-06	9.76E-06	9.39E-06	9.76E-06	9.37E-06	9.33E-09	9.33E-06	1.80E+00
Vanadium	3.30E-04	3.30E-04	3.14E-04	3.30E-04	3.13E-04	3.11E-07	3.11E-04	8.00E+01
Zinc	1.90E-02	1.90E-02	1.89E-02	1.90E-02	1.89E-02	1.89E-05	1.89E-02	1.10E+02

Table B.7

Summary of Annual Predicted Deposition Rates
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Selected Predicted Annual Deposition Rate (Dr) Employee Accommodations (g/m^2-yr)	Predicted Annual Deposition Rate (Dr) PA (g/m^2-yr)	South (g/m^2-yr)	Employee Accommodations (g/m^2-yr)	Village (g/m^2-yr)	Creek (g/m^2-yr)
Particulate Matter						
Total Particulate Matter	7.69E+02	7.69E+02	5.00E+01	7.69E+02	8.00E+00	7.69E+02
Particulate Matter (PM10)	9.49E+01	9.49E+01		9.49E+01		9.49E+01
Particulate Matter (PM2.5)	4.46E-01	4.46E-01		4.46E-01		3.33E-01
Metals						
Aluminum	7.69E+01	7.69E+01	5.00E+00	7.69E+01	8.00E-01	7.69E+01
Antimony	2.31E-03	2.31E-03	1.50E-04	2.31E-03	2.40E-05	2.31E-03
Arsenic	3.00E-01	3.00E-01	1.95E-02	3.00E-01	3.12E-03	3.00E-01
Barium	6.23E-01	6.23E-01	4.05E-02	6.23E-01	6.48E-03	6.23E-01
Beryllium	2.31E-03	2.31E-03	1.50E-04	2.31E-03	2.40E-05	2.31E-03
Bismuth	2.54E-04	2.54E-04	1.65E-05	2.54E-04	2.64E-06	2.54E-04
Boron	1.92E-02	1.92E-02	1.25E-03	1.92E-02	2.00E-04	1.92E-02
Cadmium	9.23E-05	9.23E-05	6.00E-06	9.23E-05	9.60E-07	9.23E-05
Calcium	1.00E+01	1.00E+01	6.50E-01	1.00E+01	1.04E-01	1.00E+01
Chromium Total	8.54E-02	8.54E-02	5.55E-03	8.54E-02	8.88E-04	8.54E-02
Cobalt	1.38E-02	1.38E-02	9.00E-04	1.38E-02	1.44E-04	1.38E-02
Copper	2.85E-02	2.85E-02	1.85E-03	2.85E-02	2.96E-04	2.85E-02
Iron	3.31E+01	3.31E+01	2.15E+00	3.31E+01	3.44E-01	3.31E+01
Lead	2.85E-02	2.85E-02	1.85E-03	2.85E-02	2.96E-04	2.85E-02
Lithium	4.69E-02	4.69E-02	3.05E-03	4.69E-02	4.88E-04	4.69E-02
Magnesium	1.15E+01	1.15E+01	7.50E-01	1.15E+01	1.20E-01	1.15E+01
Manganese	7.09E-01	7.09E-01	4.61E-02	7.09E-01	7.37E-03	7.09E-01
Mercury, element	2.03E-04	2.03E-04	1.32E-05	2.03E-04	2.11E-06	2.03E-04
Mercury, divalent	--	--	--	--	--	--
Mercury, methyl	--	--	--	--	--	--
Molybdenum	6.16E-04	6.16E-04	4.00E-05	6.16E-04	6.40E-06	6.16E-04
Nickel	3.15E-02	3.15E-02	2.05E-03	3.15E-02	3.28E-04	3.15E-02
Phosphorus	5.31E-01	5.31E-01	3.45E-02	5.31E-01	5.52E-03	5.31E-01
Potassium	2.46E+01	2.46E+01	1.60E+00	2.46E+01	2.56E-01	2.46E+01
Rubidium	4.59E-03	4.59E-03	2.99E-04	4.59E-03	4.78E-05	4.59E-03
Selenium	2.69E-04	2.69E-04	1.75E-05	2.69E-04	2.80E-06	2.69E-04
Silver	3.85E-04	3.85E-04	2.50E-05	3.85E-04	4.00E-06	3.85E-04
Sodium	1.46E+01	1.46E+01	9.50E-01	1.46E+01	1.52E-01	1.46E+01
Strontium	1.62E-01	1.62E-01	1.05E-02	1.62E-01	1.68E-03	1.62E-01
Thallium	6.08E-04	6.08E-04	3.95E-05	6.08E-04	6.32E-06	6.08E-04
Tin	2.31E-03	2.31E-03	1.50E-04	2.31E-03	2.40E-05	2.31E-03
Titanium	3.23E+00	3.23E+00	2.10E-01	3.23E+00	3.36E-02	3.23E+00
Uranium	1.38E-03	1.38E-03	9.00E-05	1.38E-03	1.44E-05	1.38E-03
Vanadium	6.16E-02	6.16E-02	4.00E-03	6.16E-02	6.40E-04	6.16E-02
Zinc	8.46E-02	8.46E-02	5.50E-03	8.46E-02	8.80E-04	8.46E-02

Table B.8

Predicted Concentrations in Surface Water using GoldSIM software
Anaconda Goldboro
Goldboro, Nova Scotia

		Selected Predicted Surface Water Concentration (Cw)					Gold Brook Lake Surface Water Predicted Concentration (Cw)					Gold Brook Surface Water Predicted Concentration (Cw)					Maximum Surface Water Predicted Concentration (Cw)			
Contaminant	**Units**	**Construction**	**Operations**	**Reclamation**	**Post-Closure**	**Baseline**	**Construction**	**Operations**	**Reclamation**	**Post-Closure**	**Baseline**	**Construction**	**Operations**	**Reclamation**	**Post-Closure**	**Construction**	**Operations**	**Reclamation**	**Post-Closure**
Calculated Parameters																			
Nitrate (N)	mg/L	2.34E-01	4.82E+00	1.45E+00	7.77E-01	6.23E-02	6.23E-02	4.93E+00	1.37E+00	8.62E-01	2.34E-01	2.34E-01	4.82E+00	1.45E+00	7.77E-01	2.34E-01	4.93E+00	1.45E+00	8.62E-01
Inorganics																			
Nitrite (N)	mg/L	1.06E-02	5.94E-02	2.94E-02	6.00E-02	1.59E-02	1.59E-02	6.00E-02	5.84E-02	6.00E-02	1.06E-02	1.06E-02	5.94E-02	2.94E-02	6.00E-02	1.59E-02	6.00E-02	5.84E-02	6.00E-02
Ammonia	mg/L	1.78E-01	6.83E-02	6.95E-02	3.02E-02	6.55E-02	6.55E-02	6.50E-02	6.50E-02	3.35E-02	1.78E-01	1.78E-01	6.83E-02	6.95E-02	3.02E-02				
Un-ionized ammonia	mg/L	6.94E-03	1.87E-02	5.02E-04	1.68E-04	2.55E-03	2.55E-03	1.90E-02	4.38E-04	1.86E-04	6.94E-03	6.94E-03	1.87E-02	5.02E-04	1.68E-04	6.94E-03	1.90E-02	5.02E-04	1.86E-04
Cyanide	mg/L	0.00E+00	4.91E-03	4.51E-03	1.22E-04	0.00E+00	0.00E+00	5.00E-03	5.00E-03	1.35E-04	0.00E+00	0.00E+00	4.91E-03	4.51E-03	1.22E-04	0.00E+00	5.00E-03	5.00E-03	1.35E-04
Total metals																			
Total Aluminum (Al)	mg/L	4.30E-01	1.99E-01	2.66E-01	3.61E-01	5.04E-01	5.04E-01	2.08E-01	2.96E-01	4.00E-01	4.30E-01	4.30E-01	1.99E-01	2.66E-01	3.61E-01	5.04E-01	2.08E-01	2.96E-01	4.00E-01
Total Antimony (Sb)	mg/L	5.00E-04	4.39E-03	3.27E-03	2.20E-03	6.75E-04	6.75E-04	4.51E-03	3.54E-03	2.26E-03	5.00E-04	5.00E-04	4.39E-03	3.27E-03	2.20E-03	6.75E-04	4.51E-03	3.54E-03	2.26E-03
Total Arsenic (As)	mg/L	6.77E-01	5.48E-02	5.21E-02	5.12E-02	6.18E-02	6.18E-02	5.54E-02	5.54E-02	5.33E-02	6.77E-01	6.77E-01	5.48E-02	5.21E-02	5.12E-02	6.77E-01	5.54E-02	5.54E-02	5.33E-02
Total Barium (Ba)	mg/L	3.60E-03	7.09E-03	7.05E-03	5.73E-03	3.37E-03	3.37E-03	7.17E-03	7.48E-03	6.12E-03	3.60E-03	3.60E-03	7.09E-03	7.05E-03	5.73E-03	3.60E-03	7.17E-03	7.48E-03	6.12E-03
Total Beryllium (Be)	mg/L	5.00E-04	4.61E-04	4.71E-04	4.76E-04	6.75E-04	6.75E-04	4.68E-04	5.17E-04	5.15E-04	5.00E-04	5.00E-04	4.61E-04	4.71E-04	4.76E-04	6.75E-04	4.68E-04	5.17E-04	5.15E-04
Total Bismuth (Bi)	mg/L	--	--	--	--	1.00E-03	--	--	--	--	1.00E-03	--	--	--	--	--	--	--	--
Total Boron (B)	mg/L	--	--	--	--	2.50E-02	--	--	--	--	2.50E-02	--	--	--	--	--	--	--	--
Total Cadmium (Cd)	mg/L	2.48E-05	1.98E-05	2.41E-05	3.70E-05	3.72E-05	3.72E-05	1.98E-05	2.53E-05	4.00E-05	2.48E-05	2.48E-05	1.98E-05	2.41E-05	3.70E-05	3.72E-05	1.98E-05	2.53E-05	4.00E-05
Total Calcium (Ca)	mg/L	--	--	--	--	7.54E-01	--	--	--	--	4.89E+00	--	--	--	--	--	--	--	--
Total Chromium (Cr)	mg/L	1.30E-03	8.58E-04	6.87E-04	8.60E-04	5.00E-04	5.00E-04	8.66E-04	7.18E-04	9.28E-04	1.30E-03	1.30E-03	8.58E-04	6.87E-04	8.60E-04	1.30E-03	8.66E-04	7.18E-04	9.28E-04
Total Cobalt (Co)	mg/L	2.00E-04	9.91E-04	9.35E-04	9.61E-04	3.05E-04	3.05E-04	1.00E-03	1.00E-03	1.00E-03	2.00E-04	2.00E-04	9.91E-04	9.35E-04	9.61E-04	3.05E-04	1.00E-03	1.00E-03	1.00E-03
Total Copper (Cu)	mg/L	1.74E-03	1.96E-03	1.86E-03	9.20E-04	1.00E-03	1.00E-03	1.99E-03	2.00E-03	1.01E-03	1.74E-03	1.74E-03	1.96E-03	1.86E-03	9.20E-04	1.74E-03	1.99E-03	2.00E-03	1.01E-03
Total Iron (Fe)	mg/L	1.17E+00	3.55E-01	4.55E-01	4.28E-01	6.98E-01	6.98E-01	3.59E-01	4.99E-01	4.78E-01	1.17E+00	1.17E+00	3.55E-01	4.55E-01	4.28E-01	1.17E+00	3.59E-01	4.99E-01	4.78E-01
Total Lead (Pb)	mg/L	7.62E-04	8.22E-04	7.06E-04	9.27E-04	9.70E-04	9.70E-04	8.18E-04	7.14E-04	1.00E-03	7.62E-04	7.62E-04	8.22E-04	7.06E-04	9.27E-04	9.70E-04	8.22E-04	7.14E-04	1.00E-03
Total Lithium (Li)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Magnesium (Mg)	mg/L	--	--	--	--	6.40E-01	--	--	--	--	8.14E-01	--	--	--	--	--	--	--	--
Total Manganese (Mn)	mg/L	8.03E-02	7.56E-02	4.92E-02	1.19E-01	2.55E-02	2.55E-02	7.75E-02	5.24E-02	1.28E-01	8.03E-02	8.03E-02	7.56E-02	4.92E-02	1.19E-01	8.03E-02	7.75E-02	5.24E-02	1.28E-01
Total Mercury (Hg)	mg/L	1.36E-04	6.88E-06	7.05E-06	9.69E-06	1.03E-05	1.03E-05	6.92E-06	7.59E-06	1.06E-05	1.36E-04	1.36E-04	6.88E-06	7.05E-06	9.69E-06	1.36E-04	6.92E-06	7.59E-06	1.06E-05
Total Mercury, divalent (Hg2+)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Mercury, methyl (MeHg)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Molybdenum (Mo)	mg/L	--	--	--	--	1.00E-03	--	--	--	--	1.00E-03	--	--	--	--	--	--	--	--
Total Nickel (Ni)	mg/L	1.00E-03	1.42E-02	6.10E-03	1.13E-02	1.00E-03	1.00E-03	1.46E-02	6.39E-03	1.18E-02	1.00E-03	1.00E-03	1.42E-02	6.10E-03	1.13E-02	1.00E-03	1.46E-02	6.39E-03	1.18E-02
Total Phosphorus (P)	mg/L	--	--	--	--	5.00E-02	--	--	--	--	5.00E-02	--	--	--	--	--	--	--	--
Total Potassium (K)	mg/L	--	--	--	--	3.78E-01	--	--	--	--	8.04E-01	--	--	--	--	--	--	--	--
Total Rubidium (Rb)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Selenium (Se)	mg/L	5.00E-04	4.88E-04	4.68E-04	5.58E-04	5.00E-04	5.00E-04	4.95E-04	5.00E-04	6.06E-04	5.00E-04	5.00E-04	4.88E-04	4.68E-04	5.58E-04	5.00E-04	4.95E-04	5.00E-04	6.06E-04
Total Silver (Ag)	mg/L	5.00E-05	7.90E-05	7.04E-05	7.48E-05	5.00E-05	5.00E-05	8.10E-05	7.64E-05	8.04E-05	5.00E-05	5.00E-05	7.90E-05	7.04E-05	7.48E-05	5.00E-05	8.10E-05	7.64E-05	8.04E-05
Total Sodium (Na)	mg/L	--	--	--	--	4.71E+00	--	--	--	--	5.52E+00	--	--	--	--	--	--	--	--
Total Strontium (Sr)	mg/L	--	--	--	--	9.48E-03	--	--	--	--	4.47E-02	--	--	--	--	--	--	--	--
Total Thallium (Tl)	mg/L	5.00E-05	7.31E-05	6.61E-05	8.48E-05	5.00E-05	5.00E-05	7.47E-05	7.11E-05	9.14E-05	5.00E-05	5.00E-05	7.31E-05	6.61E-05	8.48E-05	5.00E-05	7.47E-05	7.11E-05	9.14E-05
Total Tin (Sn)	mg/L	--	--	--	--	1.00E-03	--	--	--	--	1.00E-03	--	--	--	--	--	--	--	--
Total Titanium (Ti)	mg/L	--	--	--	--	8.75E-03	--	--	--	--	9.34E-03	--	--	--	--	--	--	--	--
Total Uranium (U)	mg/L	5.00E-05	9.50E-04	8.52E-04	5.76E-04	6.75E-05	6.75E-05	9.77E-04	9.26E-04	5.97E-04	5.00E-05	5.00E-05	9.50E-04	8.52E-04	5.76E-04	6.75E-05	9.77E-04	9.26E-04	5.97E-04
Total Vanadium (V)	mg/L	1.00E-03	2.12E-03	1.49E-03	2.01E-03	1.00E-03	1.00E-03	2.16E-03	1.56E-03	2.14E-03	1.00E-03	1.00E-03	2.12E-03	1.49E-03	2.01E-03	1.00E-03	2.16E-03	1.56E-03	2.14E-03
Total Zinc (Zn)	mg/L	9.76E-03	7.28E-03	7.18E-03	7.27E-03	1.18E-02	1.18E-02	6.90E-03	6.86E-03	8.11E-03	9.76E-03	9.76E-03	7.28E-03	7.18E-03	7.27E-03	1.18E-02	7.28E-03	7.18E-03	8.11E-03

Table B.9

Physical Properties and Constants
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Symbol	Unit	Value	Reference
General Parameters				
Deposition Time Period, Construction	tD	(yr)	2	Project length
Deposition Time Period, Operation	tD	(yr)	13	Project length
Deposition Time Period, Reclamation	tD	(yr)	16	Project length
Deposition Time Period, Post-Closure	tD	(yr)	16	Project length
Time Period at Start of Combustion	T_1	(yr)	0	USEPA, 2005
Soil Mixing Zone Depth (untilled)	Z_s	(cm)	2	USEPA, 2005
Soil Mixing Zone Depth (tilled)	Z_s	(cm)	20	USEPA, 2005
Soil Bulk Density	BD	(g/cm^3)	1.5	USEPA, 2005
Average Annual Surface Runoff	RO	(cm/yr)	78.92	GHD Water Balance
Soil Volume Water Content	θ_{sw}	(ml/cm^3)	0.2	USEPA, 2005
Average Annual Precipitation	P	(cm/yr)	140.92	GHD Water Balance
Average Annual Evapotranspiration	E_v	(cm/yr)	44.68	GHD Water Balance
Average Annual Recharge	q	(cm/yr)	17.32	GHD Water Balance
Universal Gas Constant	R	($atm\text{-}m^3/mol\text{-}K$)	8.21E-05	USEPA, 2005
Ambient Air Temperature	T_a	(K)	279.75	Stillwater Sherbrooke Station, Annual Mean
Solids Particle Density	ρ_s	(g/cm^3)	2.7	USEPA, 2005
COC loss, biotic and abiotic degradation	ksg	(yr^{-1})	0	USEPA, 2005
COC loss, soil erosion	kse	(yr^{-1})	0	USEPA, 2005
Solid Void Fraction	θ_v	(cm^3/cm^3)	0.17	USEPA, 2005
Soil Enrichment Ratio	ER	-	1	USEPA, 2005
Hydrology Parameters				
Water body surface area	A_W	(m^2)	2.95E+05	Surface area of Gold Brook, 6.2 m mean transect width (McCallum) by 3 km
Drag coefficient	C_d	-	1.10E-03	USEPA, 2005
Average annual wind speed	W	(m/s)	3.90E+00	USEPA, 2005
Density of air	ρ_a	(g/cm^3)	1.20E-03	USEPA, 2005
Density of water	ρ_w	(g/cm^3)	1.00E+00	USEPA, 2005
von Karman's constant	k	-	4.00E-01	USEPA, 2005
Dimensionless viscous sublayer thickness	λ_z	-	4.00E+00	USEPA, 2005
Viscosity of water corresponding to water temperature	μ_w	(g/cm-s)	1.69E-02	USEPA, 2005
Impervious watershed area receiving COPC	A_I	(m^2)	2.95E+05	Assumption: water body is only impervious area
Total watershed area receiving COPC	A_L	(m^2)	3.79E+06	Watershed area, Gold Brook GB6 minus Lake
Total watershed area receiving COPC	A_L	(sq miles)	1.46E+00	GHD Water Balance
Depth of Water Column	d_{wc}	(m)	2.79E-01	Mean of maximum depths along Gold Brook (McCallum)
USLE erodibility factor	K	(ton/acre)	3.90E-01	USEPA, 2005
USLE rainfall factor	RF	(yr^{-1})	153.4	Table R-2 of RUSLEFAC
USLE length slope factor	LS	-	1.5	USEPA, 2005
Average volumetric flow rate through water body	Vf_x	(m^3/yr)	1.25E+07	GHD Water Balance
Current velocity	μ	(m/s)	2.76E-01	Mean of maximum velocities along Gold Brook (McCallum)
USLE cover management factor	C	-	0.1	USEPA, 2005
USLE Supporting practice factor	P	-	1	USEPA, 2005
Empirical Intercept Coefficient	a	-	1.4	USEPA, 2005
Empirical Slope Coefficient	b	-	0.125	USEPA, 2005
Gas phase transfer coefficient	KG	(m/yr)	36500	USEPA, 2005
Depth of Upper Benthic Sediment Layer	d_{bs}	(m)	0.03	USEPA, 2005
Total Suspended Solids	TSS	mg/L	10	USEPA, 2005
Bed Sediment Concentration	C_{BS}	(kg/L)	1	USEPA, 2005
Bed Sediment Porosity	θ_{bs}	(Lwat/Lsed)	0.6	USEPA, 2005
Fraction of Organic Carbon in Bed Sediment	OC_{sed}	-	0.07	(4)
Water Body Temperature	T_{WK}	(K)	282.55	(5)
Average Annual Surface Runoff Pervious Areas	RO	(cm/yr)	78.92	GHD Water Balance
Vegetation Uptake Parameters				
Fraction Wet Deposition Adhere to Plant	Fw	-	0.6	USEPA, 2005
Interception Fraction Edible Plant Portion - Vegetable	Rp	-	0.982	USEPA, 2005
Interception Fraction Edible Plant Portion - Fruit	Rp	-	0.053	USEPA, 2005
Interception Fraction Edible Plant Portion - Forage	Rp	-	0.5	USEPA, 2005
Interception Fraction Edible Plant Portion - Silage	Rp	-	0.46	USEPA, 2005
Plant Surface Loss Coefficient	kp	(yr^{-1})	18	USEPA, 2005
Length of Plant Exposure to Deposition per Harvest of Edible Plant	Tp	(yrs)	0.164	USEPA, 2005
Length of Plant Exposure to Deposition per Harvest of Edible Plant - Forage	Tp	(yrs)	0.12	USEPA, 2005
Length of Plant Exposure to Deposition per Harvest of Edible Plant - Silage	Tp	(yrs)	0.16	USEPA, 2005
Yield of Edible Portion of Plant - Vegetable	Yp	($kg\ DW/m^2$)	5.66	USEPA, 2005
Yield of Edible Portion of Plant - Fruit	Yp	($kg\ DW/m^2$)	0.252	USEPA, 2005
Yield of Edible Portion of Plant - Forage	Yp	($kg\ DW/m^2$)	0.325	USEPA, 2005
Yield of Edible Portion of Plant - Silage	Yp	($kg\ DW/m^2$)	0.8	USEPA, 2005
Density of Air	pa	(g/m^3)	1200	USEPA, 2005
Correction Factor for Aboveground Produce	VG_{ag}	-	1	USEPA, 2005
Correction Factor for Forage	VG_{ag}	-	1	USEPA, 2005
Correction Factor for Silage	VG_{ag}	-	0.5	USEPA, 2005
Correction Factor for Belowground Produce	$VG_{rootveg}$	-	1	USEPA, 2005
Terrestrial Plant Moisture Content		-	0.85	
Soil Invertebrate (Earthworm) Moisture Content		-	0.84	
Prey (Small Mammal) Moisture Content		-	0.68	
Aquatic Plant Moisture Content		-	0.85	
Benthic Invertebrate Moisture Content		-	0.79	
Crops Uptake Parameters				
Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal	F	-	1	USEPA, 2005
Soil Bioavailability Factor	Bs	-	1	USEPA, 2005

Table B.9

Physical Properties and Constants
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Symbol	Unit	Value	Reference
Metabolism Factor	MF	-	1	USEPA, 2005
Quantity of Forage Ingested by the Animal per day - Cattle	Qp_f	(kg DW/day)	8.8	USEPA, 2005
Quantity of Silage Ingested by the Animal per day - Cattle	Qp_s	(kg DW/day)	2.5	USEPA, 2005
Quantity of Grain Ingested by the Animal per day - Cattle	Qp_g	(kg DW/day)	0.47	USEPA, 2005
Quantity of Soil Ingested by the Animal per day - Cattle	Qs	(kg/day)	0.5	USEPA, 2005
Quantity of Forage Ingested by the Animal per day - Dairy Cattle	Qp_f	(kg DW/day)	13.2	USEPA, 2005
Quantity of Silage Ingested by the Animal per day - Dairy Cattle	Qp_s	(kg DW/day)	4.1	USEPA, 2005
Quantity of Grain Ingested by the Animal per day - Dairy Cattle	Qp_g	(kg DW/day)	3	USEPA, 2005
Quantity of Soil Ingested by the Animal per day - Dairy Cattle	Qs	(kg/day)	0.4	USEPA, 2005
Quantity of Silage Ingested by the Animal per day - Swine	Qp_s	(kg DW/day)	1.4	USEPA, 2005
Quantity of Grain Ingested by the Animal per day - Swine	Qp_g	(kg DW/day)	3.3	USEPA, 2005
Quantity of Soil Ingested by the Animal per day - Swine	Qs	(kg/day)	0.37	USEPA, 2005
Quantity of Grain Ingested by the Animal per day - Eggs/ Chicken	Qp_g	(kg DW/day)	0.2	USEPA, 2005
Quantity of Soil Ingested by the Animal per day - Eggs/ Chicken	Qs	(kg/day)	0.022	USEPA, 2005
Quantity of Forage Ingested by the Animal per day - White Tailed Deer	Qp_f	(kg DW/day)	2.25	FCSAP, 2012
Quantity of Soil Ingested by the Animal per day - White Tailed Deer	Qs	(kg/day)	0.05	FCSAP, 2012
Quantity of Water Ingested by the Animal per day - White Tailed Deer	Qw	(L/day)	4.50	FCSAP, 2012
Quantity of Forage Ingested by the Animal per day - Snowshoe Hare	Qp_f	(kg DW/day)	0.08	FCSAP, 2012
Quantity of Soil Ingested by the Animal per day - Snowshoe Hare	Qs	(kg/day)	0.005	FCSAP, 2012
Quantity of Water Ingested by the Animal per day - Snowshoe Hare	Qw	(L/day)	0.13	FCSAP, 2012

Notes:

(1) Conservatively assumed to 2.5 cm/yr.
(2) Conservatively assumed to 5 cm/yr.
(3) Converted from temperature of 7.4°C.
(4) Based on Lake Ontario sediments.
(5) Converted from average temperature of 9.4°C. Based on data from Ganaraska River during April to October 2011,
Available at http://www.ontario.ca/environment-and-energy/provincial-stream-water-quality-monitoring-network-pwqmn-data.
(6) Based on Environment Canada climate normals for Port Hope (P = 832 mm yearly precipitation).
RO = P - (0.15) P - Ev
= 0.85 P - Ev
where Evapotranspiration (Ev) = 61 cm/year; National Atlas of Canada, Available at
http://atlas.nrcan.gc.ca/site/english/maps/archives/4thedition/environment/climate/049_50
(7) Qp_f for wildgame value not directly available in the preferred sources was calculated for a whitetailed doe using the following equation derived by Nagy (1987) consistent with USEPA (1993):
Qp_f = (0.577 x BW^0.727) / 1,000
where whitetailed doe BW = 60,000 g (Alberta Government, 2009)
(8) The percent soil in the diet for the Whitetailed deer was assumed as 2% of diet (quantity of forage ingested) as estimated by Beyer et al. (1994). Although Beyer et al. (1994) estimated a value of less than 2%, a value of 2% was used here as a conservative approach.

References:

Beyer, W.N., S. Gerould and E.E. Connor. 1994. Estimates of Soil Ingestion by Wildlife. Journal of Wildlife Management, 58, 375 382.
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Nagy, K.A. 1987. Field metabolic rate and food requirement scaling in mammals and birds. Ecological Monographs 57: 111 128.
USEPA, 2005: Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities, EPA/530-R-05-006, September 2005.
USEPA, 1993: Wildlife Exposure Factors Handbook. U.S. Environmental Protection Agency, Washington, D.C., EPA/600/R-93/187, December 1993.

Table B.10

Summary of Chemical Properties [1]

Anaconda Goldboro

Goldboro, Nova Scotia

Contaminant	Henry's Law Constant (H) (atm-m³/mol)	Reference	Diffusivity of COPC in Air (Da) (cm²/s)	Reference	Diffusivity of COPC in Water (Dw) (cm²/s)	Reference	Soil-water Partition Coefficient (Kds) (mL/g)	Reference	Suspended Sediments - Surface Water Partition Coefficient (Kdsw) (L/kg)	Reference	Bed Sediments - Sediment Pore Water Partition Coefficient (Kdbs) (L/kg)	Reference	Organic Carbon Water Partition Coefficient (Koc) (mL/g)	Reference	Octanol Water Partition Coefficient (log Kow) -	Reference	Fraction of Air Concentration in Vapour Phase (Fv) -	Reference	Air to Plant Biotransfer Factor (Bv_{ag}) mg/kg)/(µg/g	Reference	Soil to Plant Bioconcentration Factor for Aboveground Produce (Br_{ag}) (µg/g)/(µg/g)	Reference	Soil to Plant Bioconcentration Factor for Aboveground Fruits ($Br_{aq(fruit)}$) (µg/g)/(µg/g)	Soil to Plant Bioconcentration Factor for Aboveground Vegetables ($Br_{aq(veg)}$) (µg/g)/(µg/g)	Soil to plant Bioconcentration Factor for Belowground Vegetables ($Br_{rootveg}$) (µg/g)/(µg/g)	Reference	Soil to plant Bioconcentration Factor for forage (Br_{forage}) (µg/g)/(µg/g)	Reference	Biotransfer Factor for Beef (Ba_{beef}) (day/kg FW)	Reference	Water to Fish Bioconcentration/ Bioaccumulation Factor (BCF/BAF) (L/kg)	Reference
Particulate Matter																																	
Total Particulate Matter	--		--		--		--		--		--		--		--		--		--		--				--		--		--		--		
Particulate Matter (PM10)	--		--		--		--		--		--		--		--		--		--		--				--		--		--		--		
Particulate Matter (PM2.5)	--		--		--		--		--		--		--		--		--		--		--				--		--		--		--		
Metals																																	
Antimony	--		--		--		4.50E+01	USEPA	4.50E+01	USEPA	4.50E+01	USEPA	--		--		0.00E+00		--		5.16E-02	USEPA	3.00E-02	7.25E-02	3.00E-02	USEPA	2.00E-01	USEPA	1.00E-03	USEPA	4.00E+01	USEPA
Arsenic	--		--		--		2.90E+01	USEPA	2.90E+01	USEPA	2.90E+01	USEPA	--		--		0.00E+00		--		6.30E-03	USEPA			8.00E-03	USEPA	3.60E-02	USEPA	2.00E-03	USEPA	1.14E+02	USEPA
Barium	--		--		--		4.10E+01	USEPA	4.10E+01	USEPA	4.10E+01	USEPA	--		--		0.00E+00		--		3.22E-02	USEPA	1.50E-02	4.88E-02	1.50E-02	USEPA	1.50E-01	USEPA	1.50E-04	USEPA	6.33E+02	USEPA
Beryllium	--		--		--		7.90E+02	USEPA	7.90E+02	USEPA	7.90E+02	USEPA	--		--		0.00E+00		--		2.58E-03	USEPA	1.50E-03	3.63E-03	1.50E-03	USEPA	1.00E-02	USEPA	1.00E-03	USEPA	6.20E+01	USEPA
Bismuth	--		--		--		--		--		--		--		--		0.00E+00		--		8.81E-03	(17)	5.00E-03	1.25E-02	5.00E-03	(16)	3.50E-02	(15)	4.00E-04	Baes et al.	--	
Boron	--		--		--		3.00E+00	RAIS	3.00E+00	RAIS	3.00E+00	RAIS	--		--		0.00E+00		--		2.25E+00	(17)	2.00E+00	2.50E+00	2.00E+00	(16)	4.00E+00	(15)	8.00E-04	RAIS	--	
Cadmium	--		--		--		7.50E+01	USEPA	7.50E+01	USEPA	7.50E+01	USEPA	--		--		0.00E+00		--		1.20E-01	USEPA			6.40E-02	USEPA	3.60E-01	USEPA	1.20E-04	USEPA	9.07E+02	USEPA
Calcium	--		--		--		--		--		--		--		--		0.00E+00		--		7.50E-01	(17)	3.50E-01	1.14E+00	3.50E-01	(16)	3.50E+00	(15)	7.00E-04	Baes et al.	--	
Chromium Total	--		--		--		1.90E+01	USEPA	1.90E+01	USEPA	1.90E+01	USEPA	--		--		0.00E+00		--		4.88E-03	USEPA	4.50E-03	5.25E-03	4.50E-03	USEPA	7.50E-03	USEPA	5.50E-03	USEPA	1.90E+01	USEPA
Cobalt	--		--		--		4.50E+01	RAIS	4.50E+01	RAIS	4.50E+01	RAIS	--		--		0.00E+00		--		8.65E-03	(17)	7.00E-03	1.03E-02	7.00E-03	(16)	2.00E-02	(15)	2.00E-02	RAIS	3.00E+02	RAIS
Copper	--		--		--		3.50E+01	RAIS	3.50E+01	RAIS	3.50E+01	RAIS	--		--		0.00E+00		--		2.69E-01	(17)	2.50E-01	2.88E-01	2.50E-01	(16)	4.00E-01	(15)	1.00E-02	RAIS	2.00E+02	RAIS
Iron	--		--		--		2.50E+01	RAIS	2.50E+01	RAIS	2.50E+01	RAIS	--		--		0.00E+00		--		1.38E-03	(17)	1.00E-03	1.75E-03	1.00E-03	(16)	4.00E-03	(15)	2.00E-02	RAIS	2.00E+02	RAIS
Lead	--		--		--		9.00E+02	USEPA	9.00E+02	USEPA	9.00E+02	USEPA	--		--		0.00E+00		--		1.36E-02	USEPA	9.00E-03	1.80E-02	9.00E-03	USEPA	4.50E-02	USEPA	3.00E-04	USEPA	9.00E-02	USEPA
Lithium	--		--		--		3.00E+02	RAIS	3.00E+02	RAIS	3.00E+02	RAIS	--		--		0.00E+00		--		6.67E-03	(17)	4.00E-03	9.25E-03	4.00E-03	(16)	2.50E-02	(15)	1.00E-02	RAIS	--	
Magnesium	--		--		--		--		--		--		--		--		0.00E+00		--		6.07E-01	(17)	5.50E-01	6.63E-01	5.50E-01	(16)	1.00E+00	(15)	5.00E-03	RAIS	--	
Manganese	--		--		--		6.50E+01	RAIS	6.50E+01	RAIS	6.50E+01	RAIS	--		--		0.00E+00		--		7.54E-02	(17)	5.00E-02	1.00E-01	5.00E-02	(16)	2.50E-01	(15)	4.00E-04	RAIS	4.00E+02	RAIS
Mercury, element	1.15E-02	MOE	3.07E-02	MOE	6.30E-06	MOE	3.30E+03	(3)	4.95E+04	(3)	2.64E+04	(3)	6.60E+05	MOE	6.20E-01	MOE	1.00E+00	USEPA	1.00E+00	USEPA	0.00E+00	USEPA			0.00E+00	USEPA	0.00E+00	USEPA	1.00E+00	USEPA	0.00E+00	USEPA
Mercury, divalent (2)	7.10E-10	USEPA	4.50E-02	USEPA	5.20E-06	USEPA	3.30E+03	(3)	4.95E+04	(3)	2.64E+04	(3)	6.60E+05	MOE	6.20E-01	MOE	8.50E-01	USEPA	1.80E+03	USEPA	1.40E-02	USEPA			3.60E-02	USEPA	1.00E+00	USEPA	5.20E-03	USEPA	1.00E+00	USEPA
Mercury, methyl	7.22E-03	USEPA	5.30E-02	USEPA	6.10E-06	USEPA	2.00E+01	(3)	3.00E+02	(3)	1.60E+02	(3)	4.00E+03	MOE	8.00E-02	MOE	0.00E+00	USEPA	1.00E+00	USEPA	2.90E-02	USEPA			9.90E-02	USEPA	1.00E+00	USEPA	7.80E-04	USEPA	6.80E+06	USEPA
Molybdenum	--		--		--		2.00E+01	RAIS	2.00E+01	RAIS	2.00E+01	RAIS	--		--		0.00E+00		--		8.42E-02	(17)	6.00E-02	1.08E-01	6.00E-02	(16)	2.50E-01	(15)	6.00E-03	RAIS	1.00E+01	RAIS
Nickel	--		--		--		6.50E+01	USEPA	6.50E+01	USEPA	6.50E+01	USEPA	--		--		0.00E+00		--		9.30E-03	USEPA			8.00E-03	USEPA	3.20E-02	USEPA	6.00E-03	USEPA	7.80E+01	USEPA
Phosphorus	--		--		--		3.50E+00	RAIS	3.50E+00	RAIS	3.50E+00	RAIS	--		--		0.00E+00		--		3.50E+00	(17)	3.50E+00	3.50E+00	3.50E+00	(16)	3.50E+00	(15)	5.50E-02	RAIS	--	
Potassium	--		--		--		5.50E+00	RAIS	5.50E+00	RAIS	5.50E+00	RAIS	--		--		0.00E+00		--		6.07E-01	(17)	5.50E-01	6.63E-01	5.50E-01	(16)	1.00E+00	(15)	2.00E-02	RAIS	--	
Rubidium	--		--		--		--		--		--		--		--		0.00E+00		--		1.00E+00	Default			1.00E+00	Default	1.00E+00	Default	1.50E-02	Baes et al.	--	
Selenium	--		--		--		5.00E+00	USEPA	5.00E+00	USEPA	5.00E+00	USEPA	--		--		0.00E+00		--		2.00E-02	USEPA			2.20E-02	USEPA	1.60E-02	USEPA	2.30E-03	USEPA	1.29E+02	USEPA
Silver	--		--		--		8.30E+00	USEPA	8.30E+00	USEPA	8.30E+00	USEPA	--		--		0.00E+00		--		1.38E-01	USEPA	1.00E-01	1.75E-01	1.00E-01	USEPA	4.00E-01	USEPA	3.00E-03	USEPA	8.77E+01	USEPA
Sodium	--		--		--		1.00E+02	RAIS	1.00E+02	RAIS	1.00E+02	RAIS	--		--		0.00E+00		--		5.75E-02	(17)	5.50E-02	6.00E-02	5.50E-02	(16)	7.50E-02	(15)	5.50E-02	RAIS	2.00E+01	RAIS
Strontium	--		--		--		3.50E+01	RAIS	3.50E+01	RAIS	3.50E+01	RAIS	--		--		0.00E+00		--		5.36E-01	(17)	2.50E-01	8.13E-01	2.50E-01	(16)	2.50E+00	(15)	3.00E-04	RAIS	6.00E+01	RAIS
Thallium	--		--		--		7.10E+01	USEPA	7.10E+01	USEPA	7.10E+01	USEPA	--		--		0.00E+00		--		8.58E-04	USEPA	4.00E-04	1.30E-03	4.00E-04	USEPA	4.00E-03	USEPA	4.00E-02	USEPA	1.00E+04	RAIS
Tin	--		--		--		2.50E+02	RAIS	2.50E+02	RAIS	2.50E+02	RAIS	--		--		0.00E+00		--		9.05E-03	(17)	6.00E-03	1.20E-02	6.00E-03	(16)	3.00E-02	(15)	1.00E-03	RAIS	3.00E+03	RAIS
Titanium	--		--		--		1.00E+03	RAIS	1.00E+03	RAIS	1.00E+03	RAIS	--		--		0.00E+00		--		3.32E-03	(17)	3.00E-03	3.63E-03	3.00E-03	(16)	5.50E-03	(15)	3.00E-02	RAIS	--	
Uranium	--		--		--		4.50E+02	RAIS	4.50E+02	RAIS	4.50E+02	RAIS	--		--		0.00E+00		--		1.00E+00	Default			1.00E+00	Default	1.00E+00	Default	2.00E-04	Baes et al.	--	
Vanadium	--		--		--		1.00E+03	RAIS	1.00E+03	RAIS	1.00E+03	RAIS	--		--		0.00E+00		--		3.32E-03	(17)	3.00E-03	3.63E-03	3.00E-03	(16)	5.50E-03	(15)	2.50E-03	RAIS	--	
Zinc	--		--		--		6.20E+01	USEPA	6.20E+01	USEPA	6.20E+01	USEPA	--		--		0.00E+00		--		9.70E-02	USEPA			9.00E-01	USEPA	2.50E-01	USEPA	9.00E-05	USEPA	2.06E+03	USEPA

Table B.10

Summary of Chemical Properties [1]

Anaconda Goldboro

Goldboro, Nova Scotia

Notes:

(1) Order of selection for chemical-specific properties:

1. MOE
2. RSL
3. USEPA or RAIS
4. Other

(2) When there was a lack of available data, the following were used as surrogates:

COPC		Surrogate
Mercury, divalent	-	Mercuric chloride
Benzo(a)fluorene	-	Benzo(a)pyrene
Benzo(b)fluorene	-	Benzo(a)pyrene
Benzo(e)pyrene	-	Benzo(a)pyrene
Benzo(g,h,i)perylene	-	Benzo(a)pyrene
Dibenzo(a,c)anthracene	-	Benzo(a)pyrene
Perylene	-	Benzo(a)pyrene
O-Terphenyl	-	Benzo(a)pyrene

(3) Kd values calculated using the following fraction organic carbon (foc) correlation equation A-2-10 provided in Appendix A-2, USEPA (2005):

Kds = foc x Koc; where foc = 5.00E-03 (MOE, 2011)

Kdsw = foc x Koc; where foc = 7.50E-02 (USEPA, 2005)

Kdbs = foc x Koc; where foc = 4.00E-02 (USEPA, 2005)

(4) Due to a lack of available data, assumed value of 1.

(5) Bv_{ag} values not directly available in the preferred sources were calculated using the following equation A-2-20 provided in Appendix A-2, USEPA (2005):

$$Bv_{ag} = \frac{P_{air} \times B_{vol}}{(1-f_{water}) \times P_{forage}}$$

where: B_{vol} = 1.065 x log Kow - log (H/RT) - 1.654

P_{air} = 1.19 (g/L)

f_{water} = 8.50E-01

P_{forage} = 770 (g/L)

(6) Br_{ag} values for organics not directly available in the preferred sources were calculated using the following equation A-2-17 provided in Appendix A-2, USEPA (2005):

$\log Br_{ag}$ = 1.588 - 0.578 (log Kow)

(7) Brrootveg values for organics not directly available in the preferred sources were calculated using the following equation A-2-16 provided in Appendix A-2, USEPA (2005):

$$Br_{rootveg} = \frac{RCF}{Kds}$$

where: log Kow > 2; log (RCF) = 0.77 log Kow - 1.52

log Kow < 2; log (RCF) -0.82 = 0.77 log Kow - 1.52

wet wt. to dry wt. conversion = 8.70E-01

(8) Br_{forage} values for organics not directly available in the preferred sources were calculated using the following equation A-2-18 provided in Appendix A-2, USEPA (2005):

$\log Br_{forage}$ = 1.588 - 0.578 (log Kow)

(9) Ba_{beef} values not directly available in the preferred sources were calculated using the following equation A-2-23 provided in Appendix A-2, USEPA (2005):

$Ba_{beef} = 10^{\log Ba\ fat} \times 0.19$ where log Ba fat = $-0.099\ (\log Kow)^2 + 1.07 \log Kow - 3.56$

(10) Ba_{milk} values not directly available in the preferred sources were calculated using the following equation A-2-22 provided in Appendix A-2, USEPA (2005):

$Ba_{milk} = 10^{\log Ba\ fat} \times 0.04$ where log Ba fat = $-0.099\ (\log Kow)^2 + 1.07 \log Kow - 3.56$

(11) Ba_{pork} values not directly available in the preferred sources were calculated using the following equation A-2-26 provided in Appendix A-2, USEPA (2005):

$Ba_{pork} = 10^{\log Ba\ fat} \times 0.23$ where log Ba fat = $-0.099\ (\log Kow)^2 + 1.07 \log Kow - 3.56$

(12) Ba_{egg} values not directly available in the preferred sources were calculated using the following equation A-2-28 provided in Appendix A-2, USEPA (2005):

$Ba_{egg} = 10^{\log Ba\ fat} \times 0.08$ where log Ba fat = $-0.099\ (\log Kow)^2 + 1.07 \log Kow - 3.56$

(13) $Ba_{chicken}$ values not directly available in the preferred sources were calculated using the following equation A-2-27 provided in Appendix A-2, USEPA (2005):

$Ba_{chicken} = 10^{\log Ba\ fat} \times 0.14$ where log Ba fat = $-0.099\ (\log Kow)^2 + 1.07 \log Kow - 3.56$

(14) BCF values not directly available in the preferred sources were calculated using the following equation A-2-28 provided in Appendix A-2, USEPA (2005):

log BCF = 0.77 log Kow - 0.7; for log Kow of 1 to 7

(15) B_v values obtained from Baes et al. (1984) were applied as the Br_{forage} values, consistent with the methodology presented in Appendix A, USEPA (2005).

(16) B_r values obtained from Baes et al. (1984) were applied as the Br_{grain} and $Br_{rootveg}$ values, consistent with the methodology presented in Appendix A, USEPA (2005).

(17) Br_{ag} values were derived from B_r and B_v values obtained from Baes et al. (1984), consistent with the methodology presented in Appendix A, USEPA (2005).

References:

Baes, C.F., R.D. Sharp, A.L. Sjoreen, and R.W. Shor. 1984. Review and Analysis of Parameters and Assessing Transport of Environmentally Released Radionuclides through Agriculture. Oak Ridge National Laboratory. Oak Ridge, Tennessee.

EPI, 2012: Estimation Programs Interface Suite™ for Microsoft® Windows, v 4.11, November 2012 (http://www.epa.gov/oppt/exposure/pubs/episuitedl.htm).

MOE, 2011: Rationale for the Development of Soil and Ground Water Standards for Use at Contaminated Sites in Ontario, April 15, 2011.

RAIS, 2014: Risk Assessment Information System database, February 2014 (http://rais.ornl.gov/).

RSL, 2013: Regional Screening Level (RSL) Chemical-Specific Parameters Supporting Table, November 2013.

USEPA, 2005: Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities (USEPA), Appendix A-2: Human Health Risk Assessment Protocol, EPA520-R-05-006, September 2005.

Table B.11

Deposition Term Calculation
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Unit Conversion Factor (CF) ($mg\text{-}m^2/kg\text{-}cm^2$)	Annual Deposition Rate (Dr) (refer to table B.7) ($g/m^2\text{-}yr$)	Soil Mixing Zone Depth Untilled (Zs) (refer to table B.9) (cm)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	Deposition Term Mercury (Ds, mercury) (mg/kg-yr)	Deposition Term Untilled (Ds) (mg/kg-yr)
Particulate Matter						
Total Particulate Matter	1.00E+02	7.69E+02	2.00E+00	1.50E+00	--	2.56E+04
Particulate Matter (PM10)	1.00E+02	9.49E+01	2.00E+00	1.50E+00	--	3.16E+03
Particulate Matter (PM2.5)	1.00E+02	4.46E-01	2.00E+00	1.50E+00	--	1.49E+01
Metals						
Aluminum	1.00E+02	7.69E+01	2.00E+00	1.50E+00	--	2.56E+03
Antimony	1.00E+02	2.31E-03	2.00E+00	1.50E+00	--	7.69E-02
Arsenic	1.00E+02	3.00E-01	2.00E+00	1.50E+00	--	1.00E+01
Barium	1.00E+02	6.23E-01	2.00E+00	1.50E+00	--	2.08E+01
Beryllium	1.00E+02	2.31E-03	2.00E+00	1.50E+00	--	7.69E-02
Bismuth	1.00E+02	2.54E-04	2.00E+00	1.50E+00	--	8.46E-03
Boron	1.00E+02	1.92E-02	2.00E+00	1.50E+00	--	6.41E-01
Cadmium	1.00E+02	9.23E-05	2.00E+00	1.50E+00	--	3.08E-03
Calcium	1.00E+02	1.00E+01	2.00E+00	1.50E+00	--	3.33E+02
Chromium Total	1.00E+02	8.54E-02	2.00E+00	1.50E+00	--	2.85E+00
Cobalt	1.00E+02	1.38E-02	2.00E+00	1.50E+00	--	4.62E-01
Copper	1.00E+02	2.85E-02	2.00E+00	1.50E+00	--	9.49E-01
Iron	1.00E+02	3.31E+01	2.00E+00	1.50E+00	--	1.10E+03
Lead	1.00E+02	2.85E-02	2.00E+00	1.50E+00	--	9.49E-01
Lithium	1.00E+02	4.69E-02	2.00E+00	1.50E+00	--	1.56E+00
Magnesium	1.00E+02	1.15E+01	2.00E+00	1.50E+00	--	3.85E+02
Manganese	1.00E+02	7.09E-01	2.00E+00	1.50E+00	--	2.36E+01
Mercury, element	1.00E+02	2.03E-04	2.00E+00	1.50E+00		0.00E+00
Mercury, divalent	1.00E+02	--	2.00E+00	1.50E+00	3.25E-03	3.19E-03
Mercury, methyl	1.00E+02	--	2.00E+00	1.50E+00		6.50E-05
Molybdenum	1.00E+02	6.16E-04	2.00E+00	1.50E+00	--	2.05E-02
Nickel	1.00E+02	3.15E-02	2.00E+00	1.50E+00	--	1.05E+00
Phosphorus	1.00E+02	5.31E-01	2.00E+00	1.50E+00	--	1.77E+01
Potassium	1.00E+02	2.46E+01	2.00E+00	1.50E+00	--	8.21E+02
Rubidium	1.00E+02	4.59E-03	2.00E+00	1.50E+00	--	1.53E-01
Selenium	1.00E+02	2.69E-04	2.00E+00	1.50E+00	--	8.98E-03
Silver	1.00E+02	3.85E-04	2.00E+00	1.50E+00	--	1.28E-02
Sodium	1.00E+02	1.46E+01	2.00E+00	1.50E+00	--	4.87E+02
Strontium	1.00E+02	1.62E-01	2.00E+00	1.50E+00	--	5.39E+00
Thallium	1.00E+02	6.08E-04	2.00E+00	1.50E+00	--	2.03E-02
Tin	1.00E+02	2.31E-03	2.00E+00	1.50E+00	--	7.69E-02
Titanium	1.00E+02	3.23E+00	2.00E+00	1.50E+00	--	1.08E+02
Uranium	1.00E+02	1.38E-03	2.00E+00	1.50E+00	--	4.62E-02
Vanadium	1.00E+02	6.16E-02	2.00E+00	1.50E+00	--	2.05E+00
Zinc	1.00E+02	8.46E-02	2.00E+00	1.50E+00	--	2.82E+00

Equation:

$$Ds = \frac{CF \times Hg_{factor} \times Dr}{Zs \times BD}$$

Where:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.98), and methylmercury (0.48*0.02)

Table B.12

COPC Loss Constant Due To Runoff
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Average Annual Surface Runoff (RO) (refer to table B.9) (cm/yr)	Soil Volume Water Content (θsw) (refer to table B.9) (ml/cm^3)	Soil Mixing Zone Depth Untilled (Z_s) (refer to table B.9) (cm)	Soil-Water Partition Coefficient (Kd_s) (refer to table B.14) (ml/g)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	COPC Loss Surface Runoff Untilled (ksr) (yr^{-1})
Particulate Matter						
Total Particulate Matter	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Particulate Matter (PM10)	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Particulate Matter (PM2.5)	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Metals						
Aluminum	7.89E+01	2.00E-01	2.00E+00	1.50E+03	1.50E+00	1.75E-02
Antimony	7.89E+01	2.00E-01	2.00E+00	4.50E+01	1.50E+00	5.83E-01
Arsenic	7.89E+01	2.00E-01	2.00E+00	2.90E+01	1.50E+00	9.03E-01
Barium	7.89E+01	2.00E-01	2.00E+00	4.10E+01	1.50E+00	6.40E-01
Beryllium	7.89E+01	2.00E-01	2.00E+00	7.90E+02	1.50E+00	3.33E-02
Bismuth	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Boron	7.89E+01	2.00E-01	2.00E+00	3.00E+00	1.50E+00	8.40E+00
Cadmium	7.89E+01	2.00E-01	2.00E+00	7.50E+01	1.50E+00	3.50E-01
Calcium	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Chromium Total	7.89E+01	2.00E-01	2.00E+00	1.90E+01	1.50E+00	1.37E+00
Cobalt	7.89E+01	2.00E-01	2.00E+00	4.50E+01	1.50E+00	5.83E-01
Copper	7.89E+01	2.00E-01	2.00E+00	3.50E+01	1.50E+00	7.49E-01
Iron	7.89E+01	2.00E-01	2.00E+00	2.50E+01	1.50E+00	1.05E+00
Lead	7.89E+01	2.00E-01	2.00E+00	9.00E+02	1.50E+00	2.92E-02
Lithium	7.89E+01	2.00E-01	2.00E+00	3.00E+02	1.50E+00	8.76E-02
Magnesium	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Manganese	7.89E+01	2.00E-01	2.00E+00	6.50E+01	1.50E+00	4.04E-01
Mercury, element	7.89E+01	2.00E-01	2.00E+00	3.30E+03	1.50E+00	7.97E-03
Mercury, divalent	7.89E+01	2.00E-01	2.00E+00	3.30E+03	1.50E+00	7.97E-03
Mercury, methyl	7.89E+01	2.00E-01	2.00E+00	2.00E+01	1.50E+00	1.31E+00
Molybdenum	7.89E+01	2.00E-01	2.00E+00	2.00E+01	1.50E+00	1.31E+00
Nickel	7.89E+01	2.00E-01	2.00E+00	6.50E+01	1.50E+00	4.04E-01
Phosphorus	7.89E+01	2.00E-01	2.00E+00	3.50E+00	1.50E+00	7.24E+00
Potassium	7.89E+01	2.00E-01	2.00E+00	5.50E+00	1.50E+00	4.67E+00
Rubidium	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Selenium	7.89E+01	2.00E-01	2.00E+00	5.00E+00	1.50E+00	5.12E+00
Silver	7.89E+01	2.00E-01	2.00E+00	8.30E+00	1.50E+00	3.12E+00
Sodium	7.89E+01	2.00E-01	2.00E+00	1.00E+02	1.50E+00	2.63E-01
Strontium	7.89E+01	2.00E-01	2.00E+00	3.50E+01	1.50E+00	7.49E-01
Thallium	7.89E+01	2.00E-01	2.00E+00	7.10E+01	1.50E+00	3.70E-01
Tin	7.89E+01	2.00E-01	2.00E+00	2.50E+02	1.50E+00	1.05E-01
Titanium	7.89E+01	2.00E-01	2.00E+00	1.00E+03	1.50E+00	2.63E-02
Uranium	7.89E+01	2.00E-01	2.00E+00	4.50E+02	1.50E+00	5.84E-02
Vanadium	7.89E+01	2.00E-01	2.00E+00	1.00E+03	1.50E+00	2.63E-02
Zinc	7.89E+01	2.00E-01	2.00E+00	6.20E+01	1.50E+00	4.23E-01

Equation:

$$ksr = \frac{RO}{\theta_{sw} \times Z_s} \times \frac{1}{1 + (Kd_s \times BD/\theta_{sw})}\}$$

Table B.13

COPC Loss Constant Due To Leaching
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Average Annual Recharge (q) (refer to table B.9) (cm/yr)	Soil Volume Water Content (θsw) (refer to table B.9) (ml/cm^3)	Soil Mixing Zone Depth Untilled (Z_s) (refer to table B.9) (cm)	Soil-Water Partition Coefficient (Kd_s) (refer to table B.14) (ml/g)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	COPC Loss Leaching Untilled (ksl) (yr^{-1})
Particulate Matter						
Total Particulate Matter	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Particulate Matter (PM10)	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Particulate Matter (PM2.5)	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Metals						
Aluminum	1.73E+01	2.00E-01	2.00E+00	1.50E+03	1.50E+00	3.85E-03
Antimony	1.73E+01	2.00E-01	2.00E+00	4.50E+01	1.50E+00	1.28E-01
Arsenic	1.73E+01	2.00E-01	2.00E+00	2.90E+01	1.50E+00	1.98E-01
Barium	1.73E+01	2.00E-01	2.00E+00	4.10E+01	1.50E+00	1.40E-01
Beryllium	1.73E+01	2.00E-01	2.00E+00	7.90E+02	1.50E+00	7.31E-03
Bismuth	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Boron	1.73E+01	2.00E-01	2.00E+00	3.00E+00	1.50E+00	1.84E+00
Cadmium	1.73E+01	2.00E-01	2.00E+00	7.50E+01	1.50E+00	7.68E-02
Calcium	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Chromium Total	1.73E+01	2.00E-01	2.00E+00	1.90E+01	1.50E+00	3.02E-01
Cobalt	1.73E+01	2.00E-01	2.00E+00	4.50E+01	1.50E+00	1.28E-01
Copper	1.73E+01	2.00E-01	2.00E+00	3.50E+01	1.50E+00	1.64E-01
Iron	1.73E+01	2.00E-01	2.00E+00	2.50E+01	1.50E+00	2.30E-01
Lead	1.73E+01	2.00E-01	2.00E+00	9.00E+02	1.50E+00	6.41E-03
Lithium	1.73E+01	2.00E-01	2.00E+00	3.00E+02	1.50E+00	1.92E-02
Magnesium	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Manganese	1.73E+01	2.00E-01	2.00E+00	6.50E+01	1.50E+00	8.86E-02
Mercury, element	1.73E+01	2.00E-01	2.00E+00	3.30E+03	1.50E+00	1.75E-03
Mercury, divalent	1.73E+01	2.00E-01	2.00E+00	3.30E+03	1.50E+00	1.75E-03
Mercury, methyl	1.73E+01	2.00E-01	2.00E+00	2.00E+01	1.50E+00	2.87E-01
Molybdenum	1.73E+01	2.00E-01	2.00E+00	2.00E+01	1.50E+00	2.87E-01
Nickel	1.73E+01	2.00E-01	2.00E+00	6.50E+01	1.50E+00	8.86E-02
Phosphorus	1.73E+01	2.00E-01	2.00E+00	3.50E+00	1.50E+00	1.59E+00
Potassium	1.73E+01	2.00E-01	2.00E+00	5.50E+00	1.50E+00	1.02E+00
Rubidium	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Selenium	1.73E+01	2.00E-01	2.00E+00	5.00E+00	1.50E+00	1.12E+00
Silver	1.73E+01	2.00E-01	2.00E+00	8.30E+00	1.50E+00	6.85E-01
Sodium	1.73E+01	2.00E-01	2.00E+00	1.00E+02	1.50E+00	5.77E-02
Strontium	1.73E+01	2.00E-01	2.00E+00	3.50E+01	1.50E+00	1.64E-01
Thallium	1.73E+01	2.00E-01	2.00E+00	7.10E+01	1.50E+00	8.12E-02
Tin	1.73E+01	2.00E-01	2.00E+00	2.50E+02	1.50E+00	2.31E-02
Titanium	1.73E+01	2.00E-01	2.00E+00	1.00E+03	1.50E+00	5.77E-03
Uranium	1.73E+01	2.00E-01	2.00E+00	4.50E+02	1.50E+00	1.28E-02
Vanadium	1.73E+01	2.00E-01	2.00E+00	1.00E+03	1.50E+00	5.77E-03
Zinc	1.73E+01	2.00E-01	2.00E+00	6.20E+01	1.50E+00	9.29E-02

Equation:

$$ksl = \frac{q}{\theta_{sw} \times Z_s \times [1.0 + (BD \times Kd_s/\theta_{sw})]}$$

Table B.14

COPC Loss Constant Due To Volatilization
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Equilibrium Coefficient Untilled (Ke) (s/yr-cm)	Gas Phase Mass Transfer Coefficient Untilled (K_t) (cm/s)	Units Conversion Factor (CF) (s/year)	Henry's Law Constant (H) (refer to table B.10) ($atm\text{-}m^3/mol$)	Soil Mixing Zone Depth Untilled (Z_s) (refer to table B.9) (cm)	Soil-water Partition Coefficient (Kd_s) (refer to table B.10) (mL /g)	Universal Gas Constant (R) (refer to table B.9) ($atm\text{-}m^3/mol\text{-}K$)	Ambient Air Temperature (T_a) (refer to table B.9) (K)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	Diffusivity of COPC in Air (Da) (refer to table B.10) (cm^2/s)	Solid Void Fraction (θv) (cm^3/cm^3)	Solids Particle Density (ρ_s) (refer to table B.9) (g/cm^3)	Volumetric Soil Water Content (θsw) (refer to table B.9) (cm^3/cm^3)	Soil Loss Constant Due t Volatilization Untilled (Ksv) (yr^{-1})
Particulate Matter														
Total Particulate Matter	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Particulate Matter (PM10)	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Particulate Matter (PM2.5)	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Metals														
Aluminum	--	--	3.15E+07	--	2.00E+00	1.50E+03	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Antimony	--	--	3.15E+07	--	2.00E+00	4.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Arsenic	--	--	3.15E+07	--	2.00E+00	2.90E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Barium	--	--	3.15E+07	--	2.00E+00	4.10E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Beryllium	--	--	3.15E+07	--	2.00E+00	7.90E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Bismuth	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Boron	--	--	3.15E+07	--	2.00E+00	3.00E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Cadmium	--	--	3.15E+07	--	2.00E+00	7.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Calcium	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Chromium Total	--	--	3.15E+07	--	2.00E+00	1.90E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Cobalt	--	--	3.15E+07	--	2.00E+00	4.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Copper	--	--	3.15E+07	--	2.00E+00	3.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Iron	--	--	3.15E+07	--	2.00E+00	2.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Lead	--	--	3.15E+07	--	2.00E+00	9.00E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Lithium	--	--	3.15E+07	--	2.00E+00	3.00E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Magnesium	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Manganese	--	--	3.15E+07	--	2.00E+00	6.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Mercury, element	1.60E+03	3.75E-03	3.15E+07	1.15E-02	2.00E+00	3.30E+03	8.21E-05	2.80E+02	1.50E+00	3.07E-02	2.44E-01	2.70E+00	2.00E-01	5.99E+00
Mercury, divalent	9.85E-05	5.50E-03	3.15E+07	7.10E-10	2.00E+00	3.30E+03	8.21E-05	2.80E+02	1.50E+00	4.50E-02	2.44E-01	2.70E+00	2.00E-01	5.42E-07
Mercury, methyl	1.65E+05	6.48E-03	3.15E+07	7.22E-03	2.00E+00	2.00E+01	8.21E-05	2.80E+02	1.50E+00	5.30E-02	2.44E-01	2.70E+00	2.00E-01	1.07E+03
Molybdenum	--	--	3.15E+07	--	2.00E+00	2.00E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Nickel	--	--	3.15E+07	--	2.00E+00	6.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Phosphorus	--	--	3.15E+07	--	2.00E+00	3.50E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Potassium	--	--	3.15E+07	--	2.00E+00	5.50E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Rubidium	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Selenium	--	--	3.15E+07	--	2.00E+00	5.00E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Silver	--	--	3.15E+07	--	2.00E+00	8.30E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Sodium	--	--	3.15E+07	--	2.00E+00	1.00E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Strontium	--	--	3.15E+07	--	2.00E+00	3.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Thallium	--	--	3.15E+07	--	2.00E+00	7.10E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Tin	--	--	3.15E+07	--	2.00E+00	2.50E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Titanium	--	--	3.15E+07	--	2.00E+00	1.00E+03	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Uranium	--	--	3.15E+07	--	2.00E+00	4.50E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Vanadium	--	--	3.15E+07	--	2.00E+00	1.00E+03	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Zinc	--	--	3.15E+07	--	2.00E+00	6.20E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--

Equations: $ksv = Ke \times K_t$ where, $Ke = \frac{CF \times H}{Z_s \times Kd_s \times R \times T_a \times BD}$ $K_t = \frac{Da \times \theta_v}{Z_s}$ $\theta_v = 1 - (BD/\rho_s) - \theta_{sw}$

Table B.15

COPC Soil Loss Constant
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Biotic and Abiotic Degradation (ksg) (refer to table B.9) (yr^{-1})	Soil Erosion (kse) (refer to table B.9) (yr^{-1})	Surface Runoff Untilled (ksr) (refer to table B.12) (yr^{-1})	Leaching Untilled (ksl) (refer to table B.13) (yr^{-1})	Volatilization Untilled (ksv) (refer to table B.14) (yr^{-1})	Constant All Processes Untilled (ks) (yr^{-1})
Particulate Matter						
Total Particulate Matter	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Particulate Matter (PM10)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Particulate Matter (PM2.5)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Metals						
Aluminum	0.00E+00	0.00E+00	1.75E-02	3.85E-03	0.00E+00	2.14E-02
Antimony	0.00E+00	0.00E+00	5.83E-01	1.28E-01	0.00E+00	7.11E-01
Arsenic	0.00E+00	0.00E+00	9.03E-01	1.98E-01	0.00E+00	1.10E+00
Barium	0.00E+00	0.00E+00	6.40E-01	1.40E-01	0.00E+00	7.80E-01
Beryllium	0.00E+00	0.00E+00	3.33E-02	7.31E-03	0.00E+00	4.06E-02
Bismuth	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Boron	0.00E+00	0.00E+00	8.40E+00	1.84E+00	0.00E+00	1.02E+01
Cadmium	0.00E+00	0.00E+00	3.50E-01	7.68E-02	0.00E+00	4.27E-01
Calcium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chromium Total	0.00E+00	0.00E+00	1.37E+00	3.02E-01	0.00E+00	1.68E+00
Cobalt	0.00E+00	0.00E+00	5.83E-01	1.28E-01	0.00E+00	7.11E-01
Copper	0.00E+00	0.00E+00	7.49E-01	1.64E-01	0.00E+00	9.13E-01
Iron	0.00E+00	0.00E+00	1.05E+00	2.30E-01	0.00E+00	1.28E+00
Lead	0.00E+00	0.00E+00	2.92E-02	6.41E-03	0.00E+00	3.56E-02
Lithium	0.00E+00	0.00E+00	8.76E-02	1.92E-02	0.00E+00	1.07E-01
Magnesium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Manganese	0.00E+00	0.00E+00	4.04E-01	8.86E-02	0.00E+00	4.93E-01
Mercury, element	0.00E+00	0.00E+00	7.97E-03	1.75E-03	5.99E+00	6.00E+00
Mercury, divalent	0.00E+00	0.00E+00	7.97E-03	1.75E-03	5.42E-07	9.72E-03
Mercury, methyl	0.00E+00	0.00E+00	1.31E+00	2.87E-01	1.07E+03	1.07E+03
Molybdenum	0.00E+00	0.00E+00	1.31E+00	2.87E-01	0.00E+00	1.59E+00
Nickel	0.00E+00	0.00E+00	4.04E-01	8.86E-02	0.00E+00	4.93E-01
Phosphorus	0.00E+00	0.00E+00	7.24E+00	1.59E+00	0.00E+00	8.83E+00
Potassium	0.00E+00	0.00E+00	4.67E+00	1.02E+00	0.00E+00	5.69E+00
Rubidium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Selenium	0.00E+00	0.00E+00	5.12E+00	1.12E+00	0.00E+00	6.25E+00
Silver	0.00E+00	0.00E+00	3.12E+00	6.85E-01	0.00E+00	3.80E+00
Sodium	0.00E+00	0.00E+00	2.63E-01	5.77E-02	0.00E+00	3.20E-01
Strontium	0.00E+00	0.00E+00	7.49E-01	1.64E-01	0.00E+00	9.13E-01
Thallium	0.00E+00	0.00E+00	3.70E-01	8.12E-02	0.00E+00	4.51E-01
Tin	0.00E+00	0.00E+00	1.05E-01	2.31E-02	0.00E+00	1.28E-01
Titanium	0.00E+00	0.00E+00	2.63E-02	5.77E-03	0.00E+00	3.21E-02
Uranium	0.00E+00	0.00E+00	5.84E-02	1.28E-02	0.00E+00	7.13E-02
Vanadium	0.00E+00	0.00E+00	2.63E-02	5.77E-03	0.00E+00	3.21E-02
Zinc	0.00E+00	0.00E+00	4.23E-01	9.29E-02	0.00E+00	5.16E-01

Equation: $ks = ksg + kse + ksr + ksl + ksv$

Notes:

COPC loss due to soil erosion (kse) is assumed to be zero.
COPC loss due to biotic and abiotic degradation (ksg) is assumed only for organics.

Table B.16

Predicted Soil Concentrations Due to Deposition - Non-Carcinogens
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

		Deposition Time Period						Existing Soil Concentration at Time tD				Deposition Soil Concentration at Time tD				Predicted Soil Concentration at Time tD			
	Deposition Term Untilled (Ds) (refer to table B.11)	Construction (tD) (refer to table B.9)	Operations (tD) (refer to table B.9)	Reclamation (tD) (refer to table B.9)	Post-Closure (tD) (refer to table B.9)	COPC Soil Loss Constant All Processes Untilled (ks) (refer to table B.15)	Baseline Soil Concentration (Cs) (refer to table B.1)	Construction (Cs)	Operations (Cs)	Reclamation (Cs)	Post-Closure (Cs)	Construction (Cs)	Operations (Cs)	Reclamation (Cs)	Post-Closure (Cs)	Construction (Cs)	Operations (Cs)	Reclamation (Cs)	Post-Closure (Cs)
Contaminant	(mg/kg-yr)	(yr)	(yr)	(yr)	(yr)	(yr^{-1})	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Particulate Matter																			
Total Particulate Matter	2.56E+04	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	3.16E+03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	1.49E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																			
Aluminum	2.56E+03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	2.14E-02	9.89E+03	9.48E+03	7.49E+03	7.02E+03	7.02E+03	5.02E+03	2.91E+04	3.48E+04	3.48E+04	14497.3	36598.1	41776.6	41776.6
Antimony	7.69E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	7.11E-01	1.00E+00	2.41E-01	9.71E-05	1.15E-05	1.15E-05	8.21E-02	1.08E-01	1.08E-01	1.08E-01	1.0	1.0	1.0	1.0
Arsenic	1.00E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.10E+00	6.04E+00	6.68E-01	3.67E-06	1.35E-07	1.35E-07	8.08E+00	9.08E+00	9.08E+00	9.08E+00	8.7	9.1	9.1	9.1
Barium	2.08E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	7.80E-01	3.73E+01	7.84E+00	1.47E-03	1.42E-04	1.42E-04	2.10E+01	2.66E+01	2.66E+01	2.66E+01	37.3	37.3	37.3	37.3
Beryllium	7.69E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.06E-02	1.00E+00	9.22E-01	5.90E-01	5.22E-01	5.22E-01	1.48E-01	7.77E-01	9.05E-01	9.05E-01	1.1	1.4	1.4	1.4
Bismuth	8.46E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	--	--	--	--	--	--	--	--
Boron	6.41E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.02E+01	2.50E+01	3.20E-08	3.93E-57	1.80E-70	1.80E-70	6.26E-02	6.26E-02	6.26E-02	6.26E-02	25.0	25.0	25.0	25.0
Cadmium	3.08E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.27E-01	1.50E-01	6.39E-02	5.83E-04	1.62E-04	1.62E-04	4.14E-03	7.18E-03	7.20E-03	7.20E-03	0.15	0.15	0.15	0.15
Calcium	3.33E+02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	2.85E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.68E+00	1.27E+01	4.44E-01	4.35E-09	2.84E-11	2.84E-11	1.64E+00	1.70E+00	1.70E+00	1.70E+00	12.7	12.7	12.7	12.7
Cobalt	4.62E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	7.11E-01	2.27E+00	5.48E-01	2.20E-04	2.61E-05	2.61E-05	4.93E-01	6.49E-01	6.49E-01	6.49E-01	2.3	2.3	2.3	2.3
Copper	9.49E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	9.13E-01	6.56E+00	1.06E+00	4.59E-05	2.97E-06	2.97E-06	8.72E-01	1.04E+00	1.04E+00	1.04E+00	6.6	6.6	6.6	6.6
Iron	1.10E+03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.28E+00	1.64E+04	1.28E+03	1.02E-03	2.22E-05	2.22E-05	7.97E+02	8.64E+02	8.64E+02	8.64E+02	16400.0	16400.0	16400.0	16400.0
Lead	9.49E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.56E-02	1.48E+01	1.38E+01	9.31E+00	8.37E+00	8.37E+00	1.83E+00	9.87E+00	1.16E+01	1.16E+01	15.6	19.2	19.9	19.9
Lithium	1.56E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.07E-01	8.41E+00	6.79E+00	2.10E+00	1.52E+00	1.52E+00	2.82E+00	1.10E+01	1.20E+01	1.20E+01	9.6	13.1	13.5	13.5
Magnesium	3.85E+02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	2.36E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.93E-01	9.66E+01	3.61E+01	1.60E-01	3.65E-02	3.65E-02	3.01E+01	4.79E+01	4.79E+01	4.79E+01	96.6	96.6	96.6	96.6
Mercury, element	0.00E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	6.00E+00	1.62E-01	9.99E-07	2.21E-35	3.39E-43	3.39E-43	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.16	0.16	0.16	0.16
Mercury, divalent	3.19E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	9.72E-03	--	--	--	--	--	6.31E-03	3.89E-02	4.72E-02	4.72E-02	0.0	0.0	0.0	0.0
Mercury, methyl	6.50E-05	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.07E+03	--	--	--	--	--	6.06E-08	6.06E-08	6.06E-08	6.06E-08	0.0	0.0	0.0	0.0
Molybdenum	2.05E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.59E+00	1.00E+00	4.13E-02	1.01E-09	8.47E-12	8.47E-12	1.23E-02	1.29E-02	1.29E-02	1.29E-02	1.0	1.0	1.0	1.0
Nickel	1.05E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.93E-01	6.91E+00	2.58E+00	1.14E-02	2.61E-03	2.61E-03	1.34E+00	2.13E+00	2.13E+00	2.13E+00	6.9	6.9	6.9	6.9
Phosphorus	1.77E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	8.83E+00	--	--	--	--	--	2.00E+00	2.00E+00	2.00E+00	2.00E+00	2.0	2.0	2.0	2.0
Potassium	8.21E+02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	5.69E+00	--	--	--	--	--	1.44E+02	1.44E+02	1.44E+02	1.44E+02	144.1	144.1	144.1	144.1
Rubidium	1.53E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	6.45E+00	6.45E+00	6.45E+00	6.45E+00	6.45E+00	--	--	--	--	--	--	--	--
Selenium	8.98E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	6.25E+00	8.64E-01	3.22E-06	4.51E-36	3.25E-44	3.25E-44	1.44E-03	1.44E-03	1.44E-03	1.44E-03	0.86	0.86	0.86	0.86
Silver	1.28E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.80E+00	2.50E-01	1.24E-04	8.35E-23	9.23E-28	9.23E-28	3.37E-03	3.37E-03	3.37E-03	3.37E-03	0.25	0.25	0.25	0.25
Sodium	4.87E+02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.20E-01	--	--	--	--	--	7.20E+02	1.50E+03	1.51E+03	1.51E+03	719.6	1497.4	1512.0	1512.0
Strontium	5.39E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	9.13E-01	1.94E+01	3.12E+00	1.36E-04	8.77E-06	8.77E-06	4.95E+00	5.90E+00	5.90E+00	5.90E+00	19.4	19.4	19.4	19.4
Thallium	2.03E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.51E-01	5.00E-02	2.03E-02	1.42E-04	3.67E-05	3.67E-05	2.67E-02	4.48E-02	4.49E-02	4.49E-02	0.05	0.05	0.05	0.05
Tin	7.69E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.28E-01	5.00E-01	3.87E-01	9.44E-02	6.42E-02	6.42E-02	1.36E-01	4.87E-01	5.23E-01	5.23E-01	0.52	0.58	0.59	0.59
Titanium	1.08E+02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.21E-02	--	--	--	--	--	2.09E+02	1.15E+03	1.35E+03	1.35E+03	208.7	1145.1	1348.1	1348.1
Uranium	4.62E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	7.13E-02	6.70E-01	5.81E-01	2.65E-01	2.14E-01	2.14E-01	8.61E-02	3.91E-01	4.41E-01	4.41E-01	0.67	0.67	0.67	0.67
Vanadium	2.05E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.21E-02	2.18E+01	2.04E+01	1.44E+01	1.30E+01	1.30E+01	3.97E+00	2.18E+01	2.57E+01	2.57E+01	24.4	36.2	38.7	38.7
Zinc	2.82E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	5.16E-01	1.97E+01	7.01E+00	2.40E-02	5.09E-03	5.09E-03	3.52E+00	5.46E+00	5.46E+00	5.46E+00	19.7	19.7	19.7	19.7

Equation: $Cs_{tD} = \frac{Ds \times [1 - \exp(-ks \times tD)]}{ks}$

Table B.17

Predicted Soil Invertebrate Concentrations Due to Deposition - Non-Carcinogens
Soil Invertebrate Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Soil Concentration at Time tD				Baseline Soil Invertebrate Concentration	Predicted Soil Invertebrate Concentration at Time tD				Final Soil Invertebrate Concentration at Time tD			
Contaminant	Construction (Cs) (refer to table B.16) (mg/kg)	Operations (Cs) (refer to table B.16) (mg/kg)	Reclamation (Cs) (refer to table B.16) (mg/kg)	Post-Closure (Cs) (refer to table B.16) (mg/kg)	(Cti) (refer to table B.1) (mg/kg FW)	Construction (Cti) (1) (mg/kg FW)	Operations (Cti) (1) (mg/kg FW)	Reclamation (Cti) (1) (mg/kg FW)	Post-Closure (Cti) (1) (mg/kg FW)	Construction (Cti) (1) (mg/kg FW)	Operations (Cti) (1) (mg/kg FW)	Reclamation (Cti) (1) (mg/kg FW)	Post-Closure (Cti) (1) (mg/kg FW)
Particulate Matter													
Total Particulate Matter	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals													
Aluminum	1.45E+04	3.66E+04	4.18E+04	4.18E+04	4.20E+02	9.97E+01	2.52E+02	2.87E+02	2.87E+02	4.20E+02	4.20E+02	4.20E+02	4.20E+02
Antimony	1.00E+00	1.00E+00	1.00E+00	1.00E+00	2.50E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Arsenic	8.75E+00	9.08E+00	9.08E+00	9.08E+00	8.00E+00	1.79E-01	1.83E-01	1.83E-01	1.83E-01	8.00E+00	8.00E+00	8.00E+00	8.00E+00
Barium	3.73E+01	3.73E+01	3.73E+01	3.73E+01	2.40E+01	5.43E-01	5.43E-01	5.43E-01	5.43E-01	2.40E+01	2.40E+01	2.40E+01	2.40E+01
Beryllium	1.07E+00	1.37E+00	1.43E+00	1.43E+00	2.50E-01	7.70E-04	9.84E-04	1.03E-03	1.03E-03	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Bismuth	--	--	--	--	--	--	--	--	--	--	--	--	--
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.30E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00
Cadmium	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.60E+00	2.93E-01	2.93E-01	2.93E-01	2.93E-01	1.60E+00	1.60E+00	1.60E+00	1.60E+00
Calcium	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	1.27E+01	1.27E+01	1.27E+01	1.27E+01	5.80E-01	6.22E-01	6.22E-01	6.22E-01	6.22E-01	6.22E-01	6.22E-01	6.22E-01	6.22E-01
Cobalt	2.27E+00	2.27E+00	2.27E+00	2.27E+00	2.10E-01	4.43E-02	4.43E-02	4.43E-02	4.43E-02	2.10E-01	2.10E-01	2.10E-01	2.10E-01
Copper	6.56E+00	6.56E+00	6.56E+00	6.56E+00	1.60E+01	5.41E-01	5.41E-01	5.41E-01	5.41E-01	1.60E+01	1.60E+01	1.60E+01	1.60E+01
Iron	1.64E+04	1.64E+04	1.64E+04	1.64E+04	6.00E+02	2.62E+03	2.62E+03	2.62E+03	2.62E+03	2.62E+03	2.62E+03	2.62E+03	2.62E+03
Lead	1.56E+01	1.92E+01	1.99E+01	1.99E+01	5.60E-01	1.18E+00	1.40E+00	1.44E+00	1.44E+00	1.18E+00	1.40E+00	1.44E+00	1.44E+00
Lithium	9.61E+00	1.31E+01	1.35E+01	1.35E+01	2.50E-01	1.54E+00	2.09E+00	2.16E+00	2.16E+00	1.54E+00	2.09E+00	2.16E+00	2.16E+00
Magnesium	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	9.66E+01	9.66E+01	9.66E+01	9.66E+01	1.20E+03	1.61E+00	1.61E+00	1.61E+00	1.61E+00	1.20E+03	1.20E+03	1.20E+03	1.20E+03
Mercury, element	1.62E-01	1.62E-01	1.62E-01	1.62E-01	3.50E-02	2.59E-02	2.59E-02	2.59E-02	2.59E-02	3.50E-02	3.50E-02	3.50E-02	3.50E-02
Mercury, divalent	6.31E-03	3.89E-02	4.72E-02	4.72E-02	--	1.01E-03	6.22E-03	7.55E-03	7.55E-03	1.01E-03	6.22E-03	7.55E-03	7.55E-03
Mercury, methyl	6.06E-08	6.06E-08	6.06E-08	6.06E-08	--	9.70E-09	9.70E-09	9.70E-09	9.70E-09	9.70E-09	9.70E-09	9.70E-09	9.70E-09
Molybdenum	1.00E+00	1.00E+00	1.00E+00	1.00E+00	6.90E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01	6.90E-01	6.90E-01	6.90E-01	6.90E-01
Nickel	6.91E+00	6.91E+00	6.91E+00	6.91E+00	1.10E+00	1.11E+00	1.11E+00	1.11E+00	1.11E+00	1.11E+00	1.11E+00	1.11E+00	1.11E+00
Phosphorus	2.00E+00	2.00E+00	2.00E+00	2.00E+00	--	3.21E-01	3.21E-01	3.21E-01	3.21E-01	3.21E-01	3.21E-01	3.21E-01	3.21E-01
Potassium	1.44E+02	1.44E+02	1.44E+02	1.44E+02	--	2.31E+01	2.31E+01	2.31E+01	2.31E+01	2.31E+01	2.31E+01	2.31E+01	2.31E+01
Rubidium	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	8.64E-01	8.64E-01	8.64E-01	8.64E-01	2.50E-01	1.33E-01	1.33E-01	1.33E-01	1.33E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Silver	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.80E+00	8.18E-02	8.18E-02	8.18E-02	8.18E-02	1.80E+00	1.80E+00	1.80E+00	1.80E+00
Sodium	7.20E+02	1.50E+03	1.51E+03	1.51E+03	--	1.15E+02	2.40E+02	2.42E+02	2.42E+02	1.15E+02	2.40E+02	2.42E+02	2.42E+02
Strontium	1.94E+01	1.94E+01	1.94E+01	1.94E+01	1.00E+01	3.10E+00	3.10E+00	3.10E+00	3.10E+00	1.00E+01	1.00E+01	1.00E+01	1.00E+01
Thallium	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.00E-02	8.00E-03	8.00E-03	8.00E-03	8.00E-03	1.00E-02	1.00E-02	1.00E-02	1.00E-02
Tin	5.23E-01	5.81E-01	5.87E-01	5.87E-01	2.50E-01	8.36E-02	9.30E-02	9.39E-02	9.39E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Titanium	2.09E+02	1.15E+03	1.35E+03	1.35E+03	--	3.34E+01	1.83E+02	2.16E+02	2.16E+02	3.34E+01	1.83E+02	2.16E+02	2.16E+02
Uranium	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.00E-02	1.07E-01	1.07E-01	1.07E-01	1.07E-01	1.07E-01	1.07E-01	1.07E-01	1.07E-01
Vanadium	2.44E+01	3.62E+01	3.87E+01	3.87E+01	9.30E-01	1.64E-01	2.43E-01	2.60E-01	2.60E-01	9.30E-01	9.30E-01	9.30E-01	9.30E-01
Zinc	1.97E+01	1.97E+01	1.97E+01	1.97E+01	7.90E+01	3.64E+01	3.64E+01	3.64E+01	3.64E+01	7.90E+01	7.90E+01	7.90E+01	7.90E+01

Note:
(1) Uptake equations and inputs from the USEPA Eco Soil Screening Level (SSL) guidance (USEPA, 2007). An uptake factor for aluminum was taken from the validation data set presented in Table C.1 of Appendix A of Sample et al. (1998b); the median uptake factor from that data set (0.043) was selected.

Table B.18

Predicted Prey Concentrations Due to Deposition - Non-Carcinogens
Prey Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Soil Concentration at Time tD				Prey Concentration at Time tD			
Contaminant	Construction (Cs) (refer to table B.16) (mg/kg)	Operations (Cs) (refer to table B.16) (mg/kg)	Reclamation (Cs) (refer to table B.16) (mg/kg)	Post-Closure (Cs) (refer to table B.16) (mg/kg)	Construction (Cp) (1) (mg/kg FW)	Operations (Cp) (1) (mg/kg FW)	Reclamation (Cp) (1) (mg/kg FW)	Post-Closure (Cp) (1) (mg/kg FW)
Particulate Matter								
Total Particulate Matter	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--
Metals								
Aluminum	1.45E+04	3.66E+04	4.18E+04	4.18E+04	1.22E+02	3.08E+02	3.52E+02	3.52E+02
Antimony	1.00E+00	1.00E+00	1.00E+00	1.00E+00	4.00E-03	4.00E-03	4.00E-03	4.00E-03
Arsenic	8.75E+00	9.08E+00	9.08E+00	9.08E+00	1.48E-02	1.53E-02	1.53E-02	1.53E-02
Barium	3.73E+01	3.73E+01	3.73E+01	3.73E+01	5.76E-02	5.76E-02	5.76E-02	5.76E-02
Beryllium	1.07E+00	1.37E+00	1.43E+00	1.43E+00	4.00E-03	4.00E-03	4.00E-03	4.00E-03
Bismuth	--	--	--	--	--	--	--	--
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	8.00E+00	8.00E+00	8.00E+00	8.00E+00
Cadmium	1.50E-01	1.50E-01	1.50E-01	1.50E-01	3.72E-02	3.72E-02	3.72E-02	3.72E-02
Calcium	--	--	--	--	--	--	--	--
Chromium Total	1.27E+01	1.27E+01	1.27E+01	1.27E+01	4.80E-01	4.80E-01	4.80E-01	4.80E-01
Cobalt	2.27E+00	2.27E+00	2.27E+00	2.27E+00	1.07E-02	1.07E-02	1.07E-02	1.07E-02
Copper	6.56E+00	6.56E+00	6.56E+00	6.56E+00	3.24E+00	3.24E+00	3.24E+00	3.24E+00
Iron	1.64E+04	1.64E+04	1.64E+04	1.64E+04	5.25E+03	5.25E+03	5.25E+03	5.25E+03
Lead	1.56E+01	1.92E+01	1.99E+01	1.99E+01	1.16E+00	1.28E+00	1.30E+00	1.30E+00
Lithium	9.61E+00	1.31E+01	1.35E+01	1.35E+01	3.07E+00	4.19E+00	4.32E+00	4.32E+00
Magnesium	--	--	--	--	--	--	--	--
Manganese	9.66E+01	9.66E+01	9.66E+01	9.66E+01	6.34E-01	6.34E-01	6.34E-01	6.34E-01
Mercury, element	1.62E-01	1.62E-01	1.62E-01	1.62E-01	5.18E-02	5.18E-02	5.18E-02	5.18E-02
Mercury, divalent	6.31E-03	3.89E-02	4.72E-02	4.72E-02	2.02E-03	1.24E-02	1.51E-02	1.51E-02
Mercury, methyl	6.06E-08	6.06E-08	6.06E-08	6.06E-08	1.94E-08	1.94E-08	1.94E-08	1.94E-08
Molybdenum	1.00E+00	1.00E+00	1.00E+00	1.00E+00	3.20E-01	3.20E-01	3.20E-01	3.20E-01
Nickel	6.91E+00	6.91E+00	6.91E+00	6.91E+00	6.16E-01	6.16E-01	6.16E-01	6.16E-01
Phosphorus	2.00E+00	2.00E+00	2.00E+00	2.00E+00	6.41E-01	6.41E-01	6.41E-01	6.41E-01
Potassium	1.44E+02	1.44E+02	1.44E+02	1.44E+02	4.61E+01	4.61E+01	4.61E+01	4.61E+01
Rubidium	--	--	--	--	--	--	--	--
Selenium	8.64E-01	8.64E-01	8.64E-01	8.64E-01	2.00E-01	2.00E-01	2.00E-01	2.00E-01
Silver	2.50E-01	2.50E-01	2.50E-01	2.50E-01	3.20E-04	3.20E-04	3.20E-04	3.20E-04
Sodium	7.20E+02	1.50E+03	1.51E+03	1.51E+03	2.30E+02	4.79E+02	4.84E+02	4.84E+02
Strontium	1.94E+01	1.94E+01	1.94E+01	1.94E+01	6.21E+00	6.21E+00	6.21E+00	6.21E+00
Thallium	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.60E-02	1.60E-02	1.60E-02	1.60E-02
Tin	5.23E-01	5.81E-01	5.87E-01	5.87E-01	1.67E-01	1.86E-01	1.88E-01	1.88E-01
Titanium	2.09E+02	1.15E+03	1.35E+03	1.35E+03	6.68E+01	3.66E+02	4.31E+02	4.31E+02
Uranium	6.70E-01	6.70E-01	6.70E-01	6.70E-01	2.14E-01	2.14E-01	2.14E-01	2.14E-01
Vanadium	2.44E+01	3.62E+01	3.87E+01	3.87E+01	9.61E-02	1.42E-01	1.52E-01	1.52E-01
Zinc	1.97E+01	1.97E+01	1.97E+01	1.97E+01	5.03E-03	5.03E-03	5.03E-03	5.03E-03

Note:
The predicted prey concentrations were modelled with uptake factors from the USEPA (2007). An aluminum uptake factor was obtained from Table C.1 in Appendix C of Sample et al. (1998a); the median uptake factor of 0.0263 from this data set was selected.

Table B.19

Aboveground Produce Predicted Concentrations Due to Direct Deposition
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Units Conversion Factor (CF) (mg/g)	Annual Deposition Rate (Dr) (g/m^2-yr)	Fraction of Air Concentration In Vapor Phase (Fv) (refer to table B.10) -	Fraction Wet Deposition Adhere to Plant (Fw) (refer to table B.9) -	Interception Fraction Edible Produce Portion Vegetable (Rp) (refer to table B.9) -	Interception Fraction Edible Produce Portion Fruit (Rp) (refer to table B.9) -	Produce Surface Loss Coefficient Vegetable (kp) (refer to table B.9) (1/yr)	Produce Surface Loss Coefficient Fruit (kp) (refer to table B.9) (1/yr)	Length of Produce Exposure to Deposition per Harvest of Edible Produce Vegetable (Tp) (refer to table B.9) (yrs)	Length of Produce Exposure to Deposition per Harvest of Edible Produce Fruit (Tp) (refer to table B.9) (yrs)	Yield of Edible Portion of Produce Vegetable (Yp) (refer to table B.9) ($kg\ DW/m^2$)	Yield of Edible Portion of Produce Fruit (Yp) (refer to table B.9) ($kg\ DW/m^2$)	Predicted Produce Concentration Due to Direct Deposition Vegetable (Pd) (mg/kg DW)	Predicted Produce Concentration Due to Direct Deposition Fruit (Pd) (mg/kg DW)
Particulate Matter														
Total Particulate Matter	1.00E+03	7.69E+02	--	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	--	--
Particulate Matter (PM10)	1.00E+03	9.49E+01	--	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	--	--
Particulate Matter (PM2.5)	1.00E+03	4.46E-01	--	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	--	--
Metals														
Aluminum	1.00E+03	7.69E+01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	4.22E+02	5.11E+02
Antimony	1.00E+03	2.31E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.27E-02	1.53E-02
Arsenic	1.00E+03	3.00E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.64E+00	1.99E+00
Barium	1.00E+03	6.23E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.42E+00	4.14E+00
Beryllium	1.00E+03	2.31E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.27E-02	1.53E-02
Bismuth	1.00E+03	2.54E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.39E-03	1.69E-03
Boron	1.00E+03	1.92E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.05E-01	1.28E-01
Cadmium	1.00E+03	9.23E-05	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	5.06E-04	6.13E-04
Calcium	1.00E+03	1.00E+01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	5.48E+01	6.65E+01
Chromium Total	1.00E+03	8.54E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	4.68E-01	5.67E-01
Cobalt	1.00E+03	1.38E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	7.59E-02	9.20E-02
Copper	1.00E+03	2.85E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.56E-01	1.89E-01
Iron	1.00E+03	3.31E+01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.81E+02	2.20E+02
Lead	1.00E+03	2.85E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.56E-01	1.89E-01
Lithium	1.00E+03	4.69E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	2.57E-01	3.12E-01
Magnesium	1.00E+03	1.15E+01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	6.33E+01	7.67E+01
Manganese	1.00E+03	7.09E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.88E+00	4.71E+00
Mercury, element	1.00E+03	2.03E-04	1.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	0.00E+00	0.00E+00
Mercury, divalent	1.00E+03	--	8.50E-01	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	7.86E-05	9.52E-05
Mercury, methyl	1.00E+03	--	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.07E-05	1.30E-05
Molybdenum	1.00E+03	6.16E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.37E-03	4.09E-03
Nickel	1.00E+03	3.15E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.73E-01	2.10E-01
Phosphorus	1.00E+03	5.31E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	2.91E+00	3.53E+00
Potassium	1.00E+03	2.46E+01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.35E+02	1.64E+02
Rubidium	1.00E+03	4.59E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	2.52E-02	3.05E-02
Selenium	1.00E+03	2.69E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.48E-03	1.79E-03
Silver	1.00E+03	3.85E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	2.11E-03	2.56E-03
Sodium	1.00E+03	1.46E+01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	8.01E+01	9.71E+01
Strontium	1.00E+03	1.62E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	8.86E-01	1.07E+00
Thallium	1.00E+03	6.08E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.33E-03	4.04E-03
Tin	1.00E+03	2.31E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.27E-02	1.53E-02
Titanium	1.00E+03	3.23E+00	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.77E+01	2.15E+01
Uranium	1.00E+03	1.38E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	7.59E-03	9.20E-03
Vanadium	1.00E+03	6.16E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.37E-01	4.09E-01
Zinc	1.00E+03	8.46E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	4.64E-01	5.62E-01

Equation:

$$Pd = \frac{CF \times Hg_{factor} \times Dr \times (1 - Fv) \times Fw \times Rp \times [1.0 - \exp(-kp \times Tp)]}{Yp \times kp}$$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.78), and methylmercury (0.48*0.22)

Table B.20

Aboveground Produce Predicted Concentrations Due to Air-to-Plant Transfer
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Air Concentration In Vapor Phase (Fv) (refer to table B.10) -	Annual Air Predicted Concentration (Coa) (refer to table B.6) (µg/m^3)	Air -to-Plant Biotransfer Factor (Bv_{ag}) (refer to table B.10) (mg/kg DW)/(µg/g air)	Correction Factor for Above Ground Vegetation (VG_{ag}) (refer to table B.9) -	Density of Air (pa) (refer to table B.9) (g/m^3)	Predicted Produce Concentration Due to Air-to-Plant Transfer (Pv) (mg/kg DW)
Particulate Matter						
Total Particulate Matter	--	2.40E+02	--	1.00E+00	1.20E+03	--
Particulate Matter (PM10)	--	6.05E+01	--	1.00E+00	1.20E+03	--
Particulate Matter (PM2.5)	--	1.57E+01	--	1.00E+00	1.20E+03	--
Metals						
Aluminum	0.00E+00	1.09E-01	--	1.00E+00	1.20E+03	--
Antimony	0.00E+00	1.63E-05	--	1.00E+00	1.20E+03	--
Arsenic	0.00E+00	4.33E-04	--	1.00E+00	1.20E+03	--
Barium	0.00E+00	8.85E-02	--	1.00E+00	1.20E+03	--
Beryllium	0.00E+00	1.63E-05	--	1.00E+00	1.20E+03	--
Bismuth	0.00E+00	8.20E-06	--	1.00E+00	1.20E+03	--
Boron	0.00E+00	3.71E-05	--	1.00E+00	1.20E+03	--
Cadmium	0.00E+00	5.62E-05	--	1.00E+00	1.20E+03	--
Calcium	0.00E+00	--	--	1.00E+00	1.20E+03	--
Chromium Total	0.00E+00	1.58E-03	--	1.00E+00	1.20E+03	--
Cobalt	0.00E+00	3.54E-05	--	1.00E+00	1.20E+03	--
Copper	0.00E+00	3.39E-01	--	1.00E+00	1.20E+03	--
Iron	0.00E+00	1.12E-01	--	1.00E+00	1.20E+03	--
Lead	0.00E+00	2.44E-05	--	1.00E+00	1.20E+03	--
Lithium	0.00E+00	9.02E-05	--	1.00E+00	1.20E+03	--
Magnesium	0.00E+00	--	--	1.00E+00	1.20E+03	--
Manganese	0.00E+00	1.80E-03	--	1.00E+00	1.20E+03	--
Mercury, element	1.00E+00	2.21E-06	1.00E+00	1.00E+00	1.20E+03	1.84E-09
Mercury, divalent	8.50E-01	--	1.80E+03	1.00E+00	1.20E+03	--
Mercury, methyl	0.00E+00	--	1.00E+00	1.00E+00	1.20E+03	--
Molybdenum	0.00E+00	3.13E-05	--	1.00E+00	1.20E+03	--
Nickel	0.00E+00	1.81E-03	--	1.00E+00	1.20E+03	--
Phosphorus	0.00E+00	--	--	1.00E+00	1.20E+03	--
Potassium	0.00E+00	--	--	1.00E+00	1.20E+03	--
Rubidium	0.00E+00	4.99E-05	--	1.00E+00	1.20E+03	--
Selenium	0.00E+00	1.22E-05	--	1.00E+00	1.20E+03	--
Silver	0.00E+00	1.48E-04	--	1.00E+00	1.20E+03	--
Sodium	0.00E+00	--	--	1.00E+00	1.20E+03	--
Strontium	0.00E+00	5.48E-04	--	1.00E+00	1.20E+03	--
Thallium	0.00E+00	9.52E-06	--	1.00E+00	1.20E+03	--
Tin	0.00E+00	1.85E-03	--	1.00E+00	1.20E+03	--
Titanium	0.00E+00	2.26E-03	--	1.00E+00	1.20E+03	--
Uranium	0.00E+00	9.76E-06	--	1.00E+00	1.20E+03	--
Vanadium	0.00E+00	3.30E-04	--	1.00E+00	1.20E+03	--
Zinc	0.00E+00	1.90E-02	--	1.00E+00	1.20E+03	--

Equation: $Pv = Fv \times \frac{Coa \times Bv_{ag} \times VG_{ag} \times Hg_{factor}}{pa}$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.78), and methylmercury (0.48*0.22)

Table B.21

Aboveground Produce Predicted Concentrations Due to Root Uptake
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Soil Concentration Construction (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Operations (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Reclamation (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Post-Closure (Cs) (refer to table B.16) (mg/kg)	Plant-Soil Bioconcentration Factor Aboveground Produce (Br_{ag}) (refer to table B.10) (µg/g DW)/(µg/g soil)	Aboveground Produce Predicted Concentration Due to Root Uptake Construction (Cag) (mg/kg DW)	Aboveground Produce Predicted Concentration Due to Root Uptake Operations (Cag) (mg/kg DW)	Aboveground Produce Predicted Concentration Due to Root Uptake Reclamation (Cag) (mg/kg DW)	Aboveground Produce Predicted Concentration Due to Root Uptake Post-Closure (Cag) (mg/kg DW)
Particulate Matter									
Total Particulate Matter	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--
Metals									
Aluminum	1.45E+04	3.66E+04	4.18E+04	4.18E+04	1.08E-03	1.56E+01	3.94E+01	4.49E+01	4.49E+01
Antimony	1.00E+00	1.00E+00	1.00E+00	1.00E+00	5.16E-02	5.16E-02	5.16E-02	5.16E-02	5.16E-02
Arsenic	8.75E+00	9.08E+00	9.08E+00	9.08E+00	6.30E-03	5.51E-02	5.72E-02	5.72E-02	5.72E-02
Barium	3.73E+01	3.73E+01	3.73E+01	3.73E+01	3.22E-02	1.20E+00	1.20E+00	1.20E+00	1.20E+00
Beryllium	1.07E+00	1.37E+00	1.43E+00	1.43E+00	2.58E-03	2.76E-03	3.53E-03	3.68E-03	3.68E-03
Bismuth	--	--	--	--	8.81E-03	--	--	--	--
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.25E+00	5.64E+01	5.64E+01	5.64E+01	5.64E+01
Cadmium	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.20E-01	1.80E-02	1.80E-02	1.80E-02	1.80E-02
Calcium	--	--	--	--	7.50E-01	--	--	--	--
Chromium Total	1.27E+01	1.27E+01	1.27E+01	1.27E+01	4.88E-03	6.20E-02	6.20E-02	6.20E-02	6.20E-02
Cobalt	2.27E+00	2.27E+00	2.27E+00	2.27E+00	8.65E-03	1.96E-02	1.96E-02	1.96E-02	1.96E-02
Copper	6.56E+00	6.56E+00	6.56E+00	6.56E+00	2.69E-01	1.77E+00	1.77E+00	1.77E+00	1.77E+00
Iron	1.64E+04	1.64E+04	1.64E+04	1.64E+04	1.38E-03	2.27E+01	2.27E+01	2.27E+01	2.27E+01
Lead	1.56E+01	1.92E+01	1.99E+01	1.99E+01	1.36E-02	2.12E-01	2.60E-01	2.71E-01	2.71E-01
Lithium	9.61E+00	1.31E+01	1.35E+01	1.35E+01	6.67E-03	6.41E-02	8.73E-02	9.01E-02	9.01E-02
Magnesium	--	--	--	--	6.07E-01	--	--	--	--
Manganese	9.66E+01	9.66E+01	9.66E+01	9.66E+01	7.54E-02	7.29E+00	7.29E+00	7.29E+00	7.29E+00
Mercury, element	1.62E-01	1.62E-01	1.62E-01	1.62E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, divalent	6.31E-03	3.89E-02	4.72E-02	4.72E-02	1.40E-02	8.83E-05	5.45E-04	6.61E-04	6.61E-04
Mercury, methyl	6.06E-08	6.06E-08	6.06E-08	6.06E-08	2.90E-02	1.76E-09	1.76E-09	1.76E-09	1.76E-09
Molybdenum	1.00E+00	1.00E+00	1.00E+00	1.00E+00	8.42E-02	8.42E-02	8.42E-02	8.42E-02	8.42E-02
Nickel	6.91E+00	6.91E+00	6.91E+00	6.91E+00	9.30E-03	6.43E-02	6.43E-02	6.43E-02	6.43E-02
Phosphorus	2.00E+00	2.00E+00	2.00E+00	2.00E+00	3.50E+00	7.02E+00	7.02E+00	7.02E+00	7.02E+00
Potassium	1.44E+02	1.44E+02	1.44E+02	1.44E+02	6.07E-01	8.75E+01	8.75E+01	8.75E+01	8.75E+01
Rubidium	--	--	--	--	1.00E+00	--	--	--	--
Selenium	8.64E-01	8.64E-01	8.64E-01	8.64E-01	2.00E-02	1.73E-02	1.73E-02	1.73E-02	1.73E-02
Silver	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.38E-01	3.45E-02	3.45E-02	3.45E-02	3.45E-02
Sodium	7.20E+02	1.50E+03	1.51E+03	1.51E+03	5.75E-02	4.14E+01	8.62E+01	8.70E+01	8.70E+01
Strontium	1.94E+01	1.94E+01	1.94E+01	1.94E+01	5.36E-01	1.04E+01	1.04E+01	1.04E+01	1.04E+01
Thallium	5.00E-02	5.00E-02	5.00E-02	5.00E-02	8.58E-04	4.29E-05	4.29E-05	4.29E-05	4.29E-05
Tin	5.23E-01	5.81E-01	5.87E-01	5.87E-01	9.05E-03	4.73E-03	5.26E-03	5.31E-03	5.31E-03
Titanium	2.09E+02	1.15E+03	1.35E+03	1.35E+03	3.32E-03	6.92E-01	3.80E+00	4.47E+00	4.47E+00
Uranium	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.00E+00	6.70E-01	6.70E-01	6.70E-01	6.70E-01
Vanadium	2.44E+01	3.62E+01	3.87E+01	3.87E+01	3.32E-03	8.10E-02	1.20E-01	1.28E-01	1.28E-01
Zinc	1.97E+01	1.97E+01	1.97E+01	1.97E+01	9.70E-02	1.91E+00	1.91E+00	1.91E+00	1.91E+00

Equation: $Cag = Cs \times Br_{ag}$

Table B.22

Aboveground Produce Predicted Concentrations Due to Deposition, Vapour Transfer, and Root Uptake
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Produce Concentration Due to Direct Deposition		Predicted Produce Concentration Due to Air-to-Plant Transfer	Aboveground Produce Predicted Concentration Due to Root Uptake				Aboveground Produce (Vegetable) Predicted Concentration				Baseline Berry Concentration	Aboveground Produce (Fruit) Predicted Concentration			
Contaminant	Vegetable (Pd) (refer to table B.19) (mg/kg DW)	Fruit (Pd) (refer to table B.19) (mg/kg DW)	(Pv) (refer to table B.20) (mg/kg DW)	Construction (Cag) (refer to table B.21) (mg/kg DW)	Operations (Cag) (refer to table B.21) (mg/kg DW)	Reclamation (Cag) (refer to table B.21) (mg/kg DW)	Post-Closure (Cag) (refer to table B.21) (mg/kg DW)	Construction (Cv) (mg/kg DW)	Operations (Cv) (mg/kg DW)	Reclamation (Cv) (mg/kg DW)	Post-Closure (Cv) (mg/kg DW)	(Cfru) (refer to table B.1) (mg/kg DW)	Construction (Cfru) (mg/kg DW)	Operations (Cfru) (mg/kg DW)	Reclamation (Cfru) (mg/kg DW)	Post-Closure (Cfru) (1) (mg/kg DW)
Particulate Matter																
Total Particulate Matter	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--
Metals																
Aluminum	4.22E+02	5.11E+02	0.00E+00	1.56E+01	3.94E+01	4.49E+01	4.49E+01	4.37E+02	4.61E+02	4.67E+02	4.67E+02	2.60E+01	5.27E+02	5.51E+02	5.56E+02	4.49E+01
Antimony	1.27E-02	1.53E-02	0.00E+00	5.16E-02	5.16E-02	5.16E-02	5.16E-02	6.43E-02	6.43E-02	6.43E-02	6.43E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Arsenic	1.64E+00	1.99E+00	0.00E+00	5.51E-02	5.72E-02	5.72E-02	5.72E-02	1.70E+00	1.70E+00	1.70E+00	1.70E+00	1.07E+00	2.05E+00	2.05E+00	2.05E+00	1.07E+00
Barium	3.42E+00	4.14E+00	0.00E+00	1.20E+00	1.20E+00	1.20E+00	1.20E+00	4.62E+00	4.62E+00	4.62E+00	4.62E+00	2.33E+01	2.33E+01	2.33E+01	2.33E+01	2.33E+01
Beryllium	1.27E-02	1.53E-02	0.00E+00	2.76E-03	3.53E-03	3.68E-03	3.68E-03	1.54E-02	1.62E-02	1.63E-02	1.63E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Bismuth	1.39E-03	1.69E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.39E-03	1.39E-03	1.39E-03	1.39E-03	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01
Boron	1.05E-01	1.28E-01	0.00E+00	5.64E+01	5.64E+01	5.64E+01	5.64E+01	5.65E+01	5.65E+01	5.65E+01	5.65E+01	1.27E+01	5.65E+01	5.65E+01	5.65E+01	5.64E+01
Cadmium	5.06E-04	6.13E-04	0.00E+00	1.80E-02	1.80E-02	1.80E-02	1.80E-02	1.85E-02	1.85E-02	1.85E-02	1.85E-02	2.13E-01	2.13E-01	2.13E-01	2.13E-01	2.13E-01
Calcium	5.48E+01	6.65E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.48E+01	5.48E+01	5.48E+01	5.48E+01	6.20E+03	6.20E+03	6.20E+03	6.20E+03	6.20E+03
Chromium Total	4.68E-01	5.67E-01	0.00E+00	6.20E-02	6.20E-02	6.20E-02	6.20E-02	5.30E-01	5.30E-01	5.30E-01	5.30E-01	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Cobalt	7.59E-02	9.20E-02	0.00E+00	1.96E-02	1.96E-02	1.96E-02	1.96E-02	9.56E-02	9.56E-02	9.56E-02	9.56E-02	5.33E-01	5.33E-01	5.33E-01	5.33E-01	5.33E-01
Copper	1.56E-01	1.89E-01	0.00E+00	1.77E+00	1.77E+00	1.77E+00	1.77E+00	1.92E+00	1.92E+00	1.92E+00	1.92E+00	7.33E+00	7.33E+00	7.33E+00	7.33E+00	7.33E+00
Iron	1.81E+02	2.20E+02	0.00E+00	2.27E+01	2.27E+01	2.27E+01	2.27E+01	2.04E+02	2.04E+02	2.04E+02	2.04E+02	3.20E+01	2.42E+02	2.42E+02	2.42E+02	3.20E+01
Lead	1.56E-01	1.89E-01	0.00E+00	2.12E-01	2.60E-01	2.71E-01	2.71E-01	3.68E-01	4.17E-01	4.27E-01	4.27E-01	3.47E-01	4.01E-01	4.50E-01	4.60E-01	3.47E-01
Lithium	2.57E-01	3.12E-01	0.00E+00	6.41E-02	8.73E-02	9.01E-02	9.01E-02	3.21E-01	3.45E-01	3.47E-01	3.47E-01	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00
Magnesium	6.33E+01	7.67E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.33E+01	6.33E+01	6.33E+01	6.33E+01	3.33E+02	3.33E+02	3.33E+02	3.33E+02	3.33E+02
Manganese	3.88E+00	4.71E+00	0.00E+00	7.29E+00	7.29E+00	7.29E+00	7.29E+00	1.12E+01	1.12E+01	1.12E+01	1.12E+01	4.20E+02	4.20E+02	4.20E+02	4.20E+02	4.20E+02
Mercury, element	0.00E+00	0.00E+00	1.84E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.84E-09	1.84E-09	1.84E-09	1.84E-09	1.67E-02	1.67E-02	1.67E-02	1.67E-02	1.67E-02
Mercury, divalent	7.86E-05	9.52E-05	0.00E+00	8.83E-05	5.45E-04	6.61E-04	6.61E-04	1.67E-04	6.23E-04	7.39E-04	7.39E-04	--	1.84E-04	6.40E-04	7.56E-04	6.61E-04
Mercury, methyl	1.07E-05	1.30E-05	0.00E+00	1.76E-09	1.76E-09	1.76E-09	1.76E-09	1.07E-05	1.07E-05	1.07E-05	1.07E-05	--	1.30E-05	1.30E-05	1.30E-05	1.76E-09
Molybdenum	3.37E-03	4.09E-03	0.00E+00	8.42E-02	8.42E-02	8.42E-02	8.42E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Nickel	1.73E-01	2.10E-01	0.00E+00	6.43E-02	6.43E-02	6.43E-02	6.43E-02	2.37E-01	2.37E-01	2.37E-01	2.37E-01	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Phosphorus	2.91E+00	3.53E+00	0.00E+00	7.02E+00	7.02E+00	7.02E+00	7.02E+00	9.93E+00	9.93E+00	9.93E+00	9.93E+00	1.07E+03	1.07E+03	1.07E+03	1.07E+03	1.07E+03
Potassium	1.35E+02	1.64E+02	0.00E+00	8.75E+01	8.75E+01	8.75E+01	8.75E+01	2.22E+02	2.22E+02	2.22E+02	2.22E+02	5.73E+03	5.73E+03	5.73E+03	5.73E+03	5.73E+03
Rubidium	2.52E-02	3.05E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.52E-02	2.52E-02	2.52E-02	2.52E-02	--	3.05E-02	3.05E-02	3.05E-02	0.00E+00
Selenium	1.48E-03	1.79E-03	0.00E+00	1.73E-02	1.73E-02	1.73E-02	1.73E-02	1.88E-02	1.88E-02	1.88E-02	1.88E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Silver	2.11E-03	2.56E-03	0.00E+00	3.45E-02	3.45E-02	3.45E-02	3.45E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	2.67E-01	2.67E-01	2.67E-01	2.67E-01	2.67E-01
Sodium	8.01E+01	9.71E+01	0.00E+00	4.14E+01	8.62E+01	8.70E+01	8.70E+01	1.22E+02	1.66E+02	1.67E+02	1.67E+02	1.67E+02	1.67E+02	1.83E+02	1.84E+02	1.67E+02
Strontium	8.86E-01	1.07E+00	0.00E+00	1.04E+01	1.04E+01	1.04E+01	1.04E+01	1.13E+01	1.13E+01	1.13E+01	1.13E+01	1.47E+01	1.47E+01	1.47E+01	1.47E+01	1.47E+01
Thallium	3.33E-03	4.04E-03	0.00E+00	4.29E-05	4.29E-05	4.29E-05	4.29E-05	3.37E-03	3.37E-03	3.37E-03	3.37E-03	7.33E-02	7.33E-02	7.33E-02	7.33E-02	7.33E-02
Tin	1.27E-02	1.53E-02	0.00E+00	4.73E-03	5.26E-03	5.31E-03	5.31E-03	1.74E-02	1.79E-02	1.80E-02	1.80E-02	8.00E+00	8.00E+00	8.00E+00	8.00E+00	8.00E+00
Titanium	1.77E+01	2.15E+01	0.00E+00	6.92E-01	3.80E+00	4.47E+00	4.47E+00	1.84E+01	2.15E+01	2.22E+01	2.22E+01	1.67E+00	2.22E+01	2.53E+01	2.59E+01	4.47E+00
Uranium	7.59E-03	9.20E-03	0.00E+00	6.70E-01	6.70E-01	6.70E-01	6.70E-01	6.78E-01	6.78E-01	6.78E-01	6.78E-01	5.33E-02	6.79E-01	6.79E-01	6.79E-01	6.70E-01
Vanadium	3.37E-01	4.09E-01	0.00E+00	8.10E-02	1.20E-01	1.28E-01	1.28E-01	4.18E-01	4.57E-01	4.66E-01	4.66E-01	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Zinc	4.64E-01	5.62E-01	0.00E+00	1.91E+00	1.91E+00	1.91E+00	1.91E+00	2.37E+00	2.37E+00	2.37E+00	2.37E+00	1.40E+01	1.40E+01	1.40E+01	1.40E+01	1.40E+01

Equation: Cv and Cfru = Pd + Pv +Cag

Table B.23

Belowground Produce Predicted Concentrations Due to Root Uptake
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Soil Concentration				Plant-Soil Bioconcentration Factor Belowground Produce ($Br_{rootveg}$)	Correction Factor For Belowground Produce $VG_{rootveg}$	Belowground Produce Predicted Concentration Due to Root Uptake			
	Construction (Cs) (refer to table B.16)	Operations (Cs) (refer to table B.16)	Reclamation (Cs) (refer to table B.16)	Post-Closure (Cs) (refer to table B.16)	(refer to table B.10)	(refer to table B.9)	Construction (Cr)	Operations (Cr)	Reclamation (Cr)	Post-Closure (Cr)
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(µg/g DW)/(µg/g soil)	-	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)
Particulate Matter										
Total Particulate Matter	--	--	--	--	--	1.00E+00	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	1.00E+00	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	1.00E+00	--	--	--	--
Metals										
Aluminum	1.45E+04	3.66E+04	4.18E+04	4.18E+04	6.50E-04	1.00E+00	9.42E+00	2.38E+01	2.72E+01	2.72E+01
Antimony	1.00E+00	1.00E+00	1.00E+00	1.00E+00	3.00E-02	1.00E+00	3.00E-02	3.00E-02	3.00E-02	3.00E-02
Arsenic	8.75E+00	9.08E+00	9.08E+00	9.08E+00	8.00E-03	1.00E+00	7.00E-02	7.27E-02	7.27E-02	7.27E-02
Barium	3.73E+01	3.73E+01	3.73E+01	3.73E+01	1.50E-02	1.00E+00	5.60E-01	5.60E-01	5.60E-01	5.60E-01
Beryllium	1.07E+00	1.37E+00	1.43E+00	1.43E+00	1.50E-03	1.00E+00	1.60E-03	2.05E-03	2.14E-03	2.14E-03
Bismuth	--	--	--	--	5.00E-03	1.00E+00	--	--	--	--
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.00E+00	1.00E+00	5.00E+01	5.00E+01	5.00E+01	5.00E+01
Cadmium	1.50E-01	1.50E-01	1.50E-01	1.50E-01	6.40E-02	1.00E+00	9.60E-03	9.60E-03	9.60E-03	9.60E-03
Calcium	--	--	--	--	3.50E-01	1.00E+00	--	--	--	--
Chromium Total	1.27E+01	1.27E+01	1.27E+01	1.27E+01	4.50E-03	1.00E+00	5.72E-02	5.72E-02	5.72E-02	5.72E-02
Cobalt	2.27E+00	2.27E+00	2.27E+00	2.27E+00	7.00E-03	1.00E+00	1.59E-02	1.59E-02	1.59E-02	1.59E-02
Copper	6.56E+00	6.56E+00	6.56E+00	6.56E+00	2.50E-01	1.00E+00	1.64E+00	1.64E+00	1.64E+00	1.64E+00
Iron	1.64E+04	1.64E+04	1.64E+04	1.64E+04	1.00E-03	1.00E+00	1.64E+01	1.64E+01	1.64E+01	1.64E+01
Lead	1.56E+01	1.92E+01	1.99E+01	1.99E+01	9.00E-03	1.00E+00	1.41E-01	1.73E-01	1.79E-01	1.79E-01
Lithium	9.61E+00	1.31E+01	1.35E+01	1.35E+01	4.00E-03	1.00E+00	3.84E-02	5.23E-02	5.40E-02	5.40E-02
Magnesium	--	--	--	--	5.50E-01	1.00E+00	--	--	--	--
Manganese	9.66E+01	9.66E+01	9.66E+01	9.66E+01	5.00E-02	1.00E+00	4.83E+00	4.83E+00	4.83E+00	4.83E+00
Mercury, element	1.62E-01	1.62E-01	1.62E-01	1.62E-01	0.00E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, divalent	6.31E-03	3.89E-02	4.72E-02	4.72E-02	3.60E-02	1.00E+00	2.27E-04	1.40E-03	1.70E-03	1.70E-03
Mercury, methyl	6.06E-08	6.06E-08	6.06E-08	6.06E-08	9.90E-02	1.00E+00	6.00E-09	6.00E-09	6.00E-09	6.00E-09
Molybdenum	1.00E+00	1.00E+00	1.00E+00	1.00E+00	6.00E-02	1.00E+00	6.00E-02	6.00E-02	6.00E-02	6.00E-02
Nickel	6.91E+00	6.91E+00	6.91E+00	6.91E+00	8.00E-03	1.00E+00	5.53E-02	5.53E-02	5.53E-02	5.53E-02
Phosphorus	2.00E+00	2.00E+00	2.00E+00	2.00E+00	3.50E+00	1.00E+00	7.02E+00	7.02E+00	7.02E+00	7.02E+00
Potassium	1.44E+02	1.44E+02	1.44E+02	1.44E+02	5.50E-01	1.00E+00	7.93E+01	7.93E+01	7.93E+01	7.93E+01
Rubidium	--	--	--	--	1.00E+00	1.00E+00	--	--	--	--
Selenium	8.64E-01	8.64E-01	8.64E-01	8.64E-01	2.20E-02	1.00E+00	1.90E-02	1.90E-02	1.90E-02	1.90E-02
Silver	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.00E-01	1.00E+00	2.50E-02	2.50E-02	2.50E-02	2.50E-02
Sodium	7.20E+02	1.50E+03	1.51E+03	1.51E+03	5.50E-02	1.00E+00	3.96E+01	8.24E+01	8.32E+01	8.32E+01
Strontium	1.94E+01	1.94E+01	1.94E+01	1.94E+01	2.50E-01	1.00E+00	4.85E+00	4.85E+00	4.85E+00	4.85E+00
Thallium	5.00E-02	5.00E-02	5.00E-02	5.00E-02	4.00E-04	1.00E+00	2.00E-05	2.00E-05	2.00E-05	2.00E-05
Tin	5.23E-01	5.81E-01	5.87E-01	5.87E-01	6.00E-03	1.00E+00	3.14E-03	3.49E-03	3.52E-03	3.52E-03
Titanium	2.09E+02	1.15E+03	1.35E+03	1.35E+03	3.00E-03	1.00E+00	6.26E-01	3.44E+00	4.04E+00	4.04E+00
Uranium	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.00E+00	1.00E+00	6.70E-01	6.70E-01	6.70E-01	6.70E-01
Vanadium	2.44E+01	3.62E+01	3.87E+01	3.87E+01	3.00E-03	1.00E+00	7.33E-02	1.09E-01	1.16E-01	1.16E-01
Zinc	1.97E+01	1.97E+01	1.97E+01	1.97E+01	9.00E-01	1.00E+00	1.77E+01	1.77E+01	1.77E+01	1.77E+01

Equation: $Cr = Cs \times Br_{rootveg} \times VG_{rootveg}$

Table B.24

Predicted Produce Concentrations
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Aboveground Produce (Vegetable) Predicted Concentration				Aboveground Produce (Fruit) Predicted Concentration				Belowground Produce Predicted Concentration			
Contaminant	Construction (Cv) (refer to table B.22) (mg/kg FW)	Operations (Cv) (refer to table B.22) (mg/kg FW)	Reclamation (Cv) (refer to table B.22) (mg/kg FW)	Post-Closure (Cv) (refer to table B.22) (mg/kg FW)	Construction (Cfru) (refer to table B.22) (mg/kg FW)	Operations (Cfru) (refer to table B.22) (mg/kg FW)	Reclamation (Cfru) (refer to table B.22) (mg/kg FW)	Post-Closure (Cfru) (refer to table B.22) (mg/kg FW)	Construction (Cr) (refer to table B.23) (mg/kg FW)	Operations (Cr) (refer to table B.23) (mg/kg FW)	Reclamation (Cr) (refer to table B.23) (mg/kg FW)	Post-Closure (Cr) (refer to table B.23) (mg/kg FW)
Particulate Matter												
Total Particulate Matter	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--	--	--	--
Metals												
Aluminum	6.56E+01	6.92E+01	7.00E+01	7.00E+01	7.90E+01	8.26E+01	8.34E+01	6.74E+00	1.41E+00	3.57E+00	4.07E+00	4.07E+00
Antimony	9.64E-03	9.64E-03	9.64E-03	9.64E-03	1.60E-01	1.60E-01	1.60E-01	1.60E-01	4.50E-03	4.50E-03	4.50E-03	4.50E-03
Arsenic	2.55E-01	2.55E-01	2.55E-01	2.55E-01	3.07E-01	3.08E-01	3.08E-01	1.60E-01	1.05E-02	1.09E-02	1.09E-02	1.09E-02
Barium	6.92E-01	6.92E-01	6.92E-01	6.92E-01	3.50E+00	3.50E+00	3.50E+00	3.50E+00	8.39E-02	8.39E-02	8.39E-02	8.39E-02
Beryllium	2.31E-03	2.43E-03	2.45E-03	2.45E-03	1.60E-01	1.60E-01	1.60E-01	1.60E-01	2.41E-04	3.08E-04	3.21E-04	3.21E-04
Bismuth	2.09E-04	2.09E-04	2.09E-04	2.09E-04	2.50E-02	2.50E-02	2.50E-02	2.50E-02	--	--	--	--
Boron	8.47E+00	8.47E+00	8.47E+00	8.47E+00	8.47E+00	8.47E+00	8.47E+00	8.45E+00	7.50E+00	7.50E+00	7.50E+00	7.50E+00
Cadmium	2.78E-03	2.78E-03	2.78E-03	2.78E-03	3.20E-02	3.20E-02	3.20E-02	3.20E-02	1.44E-03	1.44E-03	1.44E-03	1.44E-03
Calcium	8.22E+00	8.22E+00	8.22E+00	8.22E+00	9.30E+02	9.30E+02	9.30E+02	9.30E+02	--	--	--	--
Chromium Total	7.95E-02	7.95E-02	7.95E-02	7.95E-02	1.60E-01	1.60E-01	1.60E-01	1.60E-01	8.58E-03	8.58E-03	8.58E-03	8.58E-03
Cobalt	1.43E-02	1.43E-02	1.43E-02	1.43E-02	8.00E-02	8.00E-02	8.00E-02	8.00E-02	2.38E-03	2.38E-03	2.38E-03	2.38E-03
Copper	2.88E-01	2.88E-01	2.88E-01	2.88E-01	1.10E+00	1.10E+00	1.10E+00	1.10E+00	2.46E-01	2.46E-01	2.46E-01	2.46E-01
Iron	3.06E+01	3.06E+01	3.06E+01	3.06E+01	3.64E+01	3.64E+01	3.64E+01	4.80E+00	2.46E+00	2.46E+00	2.46E+00	2.46E+00
Lead	5.52E-02	6.25E-02	6.40E-02	6.40E-02	6.02E-02	6.74E-02	6.90E-02	5.20E-02	2.11E-02	2.59E-02	2.69E-02	2.69E-02
Lithium	4.82E-02	5.17E-02	5.21E-02	5.21E-02	1.70E-01	1.70E-01	1.70E-01	1.70E-01	5.77E-03	7.85E-03	8.11E-03	8.11E-03
Magnesium	9.49E+00	9.49E+00	9.49E+00	9.49E+00	5.00E+01	5.00E+01	5.00E+01	5.00E+01	--	--	--	--
Manganese	1.68E+00	1.68E+00	1.68E+00	1.68E+00	6.30E+01	6.30E+01	6.30E+01	6.30E+01	7.25E-01	7.25E-01	7.25E-01	7.25E-01
Mercury, element	2.76E-10	2.76E-10	2.76E-10	2.76E-10	2.50E-03	2.50E-03	2.50E-03	2.50E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, divalent	2.50E-05	9.35E-05	1.11E-04	1.11E-04	2.75E-05	9.60E-05	1.13E-04	9.91E-05	3.41E-05	2.10E-04	2.55E-04	2.55E-04
Mercury, methyl	1.60E-06	1.60E-06	1.60E-06	1.60E-06	1.94E-06	1.94E-06	1.94E-06	2.64E-10	9.00E-10	9.00E-10	9.00E-10	9.00E-10
Molybdenum	1.31E-02	1.31E-02	1.31E-02	1.31E-02	1.60E-01	1.60E-01	1.60E-01	1.60E-01	9.00E-03	9.00E-03	9.00E-03	9.00E-03
Nickel	3.56E-02	3.56E-02	3.56E-02	3.56E-02	1.60E-01	1.60E-01	1.60E-01	1.60E-01	8.29E-03	8.29E-03	8.29E-03	8.29E-03
Phosphorus	1.49E+00	1.49E+00	1.49E+00	1.49E+00	1.60E+02	1.60E+02	1.60E+02	1.60E+02	1.05E+00	1.05E+00	1.05E+00	1.05E+00
Potassium	3.34E+01	3.34E+01	3.34E+01	3.34E+01	8.60E+02	8.60E+02	8.60E+02	8.60E+02	1.19E+01	1.19E+01	1.19E+01	1.19E+01
Rubidium	3.78E-03	3.78E-03	3.78E-03	3.78E-03	4.58E-03	4.58E-03	4.58E-03	0.00E+00	--	--	--	--
Selenium	2.81E-03	2.81E-03	2.81E-03	2.81E-03	1.60E-01	1.60E-01	1.60E-01	1.60E-01	2.85E-03	2.85E-03	2.85E-03	2.85E-03
Silver	5.50E-03	5.50E-03	5.50E-03	5.50E-03	4.00E-02	4.00E-02	4.00E-02	4.00E-02	3.75E-03	3.75E-03	3.75E-03	3.75E-03
Sodium	1.82E+01	2.49E+01	2.51E+01	2.51E+01	2.50E+01	2.75E+01	2.76E+01	2.50E+01	5.94E+00	1.24E+01	1.25E+01	1.25E+01
Strontium	1.69E+00	1.69E+00	1.69E+00	1.69E+00	2.20E+00	2.20E+00	2.20E+00	2.20E+00	7.28E-01	7.28E-01	7.28E-01	7.28E-01
Thallium	5.06E-04	5.06E-04	5.06E-04	5.06E-04	1.10E-02	1.10E-02	1.10E-02	1.10E-02	3.00E-06	3.00E-06	3.00E-06	3.00E-06
Tin	2.61E-03	2.69E-03	2.69E-03	2.69E-03	1.20E+00	1.20E+00	1.20E+00	1.20E+00	4.70E-04	5.23E-04	5.28E-04	5.28E-04
Titanium	2.76E+00	3.23E+00	3.33E+00	3.33E+00	3.32E+00	3.79E+00	3.89E+00	6.71E-01	9.39E-02	5.15E-01	6.07E-01	6.07E-01
Uranium	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.01E-01	1.01E-01	1.01E-01	1.01E-01	1.01E-01
Vanadium	6.28E-02	6.86E-02	6.99E-02	6.99E-02	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.10E-02	1.63E-02	1.74E-02	1.74E-02
Zinc	3.56E-01	3.56E-01	3.56E-01	3.56E-01	2.10E+00	2.10E+00	2.10E+00	2.10E+00	2.66E+00	2.66E+00	2.66E+00	2.66E+00

Table B.25

Predicted Forage Concentration Due to Direct Deposition
Animal Product Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Units Conversion Factor (CF) (mg/g)	Annual Deposition Rate (Dr) (refer to table B.7) (g/m^2-yr)	Fraction of Air Concentration In Vapor Phase (Fv) (refer to table B.10) -	Fraction Wet Deposition Adhere to Plant (Fw) (refer to table B.9) -	Interception Fraction Edible Plant Portion Forage (Rp) (refer to table B.9) -	Plant Surface Loss Coefficient Forage (kp) (refer to table B.9) (yr^{-1})	Length of Plant Exposure to Deposition per Harvest of Edible Plant Forage (Tp) (refer to table B.9) (yrs)	Yield of Edible Portion of Plant Forage (Yp) (refer to table B.9) (kg DW/m^2)	Forage Concentration Due to Direct Deposition Forage (Pd) (mg/kg DW)
Particulate Matter									
Total Particulate Matter	1.00E+03	7.69E+02	--	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Particulate Matter (PM10)	1.00E+03	9.49E+01	--	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Particulate Matter (PM2.5)	1.00E+03	4.46E-01	--	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Metals									
Aluminum	1.00E+03	7.69E+01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	3.49E+03
Antimony	1.00E+03	2.31E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.05E-01
Arsenic	1.00E+03	3.00E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.36E+01
Barium	1.00E+03	6.23E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.83E+01
Beryllium	1.00E+03	2.31E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.05E-01
Bismuth	1.00E+03	2.54E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.15E-02
Boron	1.00E+03	1.92E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	8.73E-01
Cadmium	1.00E+03	9.23E-05	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	4.19E-03
Calcium	1.00E+03	1.00E+01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	4.54E+02
Chromium Total	1.00E+03	8.54E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	3.87E+00
Cobalt	1.00E+03	1.38E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	6.28E-01
Copper	1.00E+03	2.85E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.29E+00
Iron	1.00E+03	3.31E+01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.50E+03
Lead	1.00E+03	2.85E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.29E+00
Lithium	1.00E+03	4.69E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.13E+00
Magnesium	1.00E+03	1.15E+01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	5.24E+02
Manganese	1.00E+03	7.09E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	3.21E+01
Mercury, element	1.00E+03	2.03E-04	1.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Mercury, divalent	1.00E+03	--	8.50E-01	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Mercury, methyl	1.00E+03	--	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Molybdenum	1.00E+03	6.16E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.79E-02
Nickel	1.00E+03	3.15E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.43E+00
Phosphorus	1.00E+03	5.31E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.41E+01
Potassium	1.00E+03	2.46E+01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.12E+03
Rubidium	1.00E+03	4.59E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.08E-01
Selenium	1.00E+03	2.69E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.22E-02
Silver	1.00E+03	3.85E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.75E-02
Sodium	1.00E+03	1.46E+01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	6.63E+02
Strontium	1.00E+03	1.62E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	7.33E+00
Thallium	1.00E+03	6.08E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.76E-02
Tin	1.00E+03	2.31E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.05E-01
Titanium	1.00E+03	3.23E+00	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.47E+02
Uranium	1.00E+03	1.38E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	6.28E-02
Vanadium	1.00E+03	6.16E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.79E+00
Zinc	1.00E+03	8.46E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	3.84E+00

Equation:

$$Pd = \frac{CF \times Hg_{factor} \times Dr \times (1 - Fv) \times Fw \times Rp \times [1.0 - \exp(-kp \times Tp)]}{Yp \times kp}$$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.78), and methylmercury (0.48*0.22)

Table B.26

Forage Predicted Concentration Due to Air-to-Plant Transfer
Animal Product Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Air Concentration In Vapor Phase (Fv) (refer to table B.25) -	Annual Air Predicted Concentration (Coa) (refer to table B.6) (µg/m^3)	Air -to-Plant Biotransfer Factor (Bv_{ag}) (refer to table B.10) (mg/kg DW)/(µg/g air)	Correction Factor for Above Ground Vegetation (1) Forage (VG_{ag}) (refer to table B.9) -	Density of Air (pa) (refer to table B.9) (g/m^3)	Predicted Forage Concentration Due to Air-to-Plant Transfer Forage (Pv) (mg/kg DW)
Particulate Matter						
Total Particulate Matter	--	2.40E+02	--	1.00E+00	1.20E+03	0.00E+00
Particulate Matter (PM10)	--	6.05E+01	--	1.00E+00	1.20E+03	0.00E+00
Particulate Matter (PM2.5)	--	1.57E+01	--	1.00E+00	1.20E+03	0.00E+00
Metals						
Aluminum	0.00E+00	1.09E-01	--	1.00E+00	1.20E+03	0.00E+00
Antimony	0.00E+00	1.63E-05	--	1.00E+00	1.20E+03	0.00E+00
Arsenic	0.00E+00	4.33E-04	--	1.00E+00	1.20E+03	0.00E+00
Barium	0.00E+00	8.85E-02	--	1.00E+00	1.20E+03	0.00E+00
Beryllium	0.00E+00	1.63E-05	--	1.00E+00	1.20E+03	0.00E+00
Bismuth	0.00E+00	8.20E-06	--	1.00E+00	1.20E+03	0.00E+00
Boron	0.00E+00	3.71E-05	--	1.00E+00	1.20E+03	0.00E+00
Cadmium	0.00E+00	5.62E-05	--	1.00E+00	1.20E+03	0.00E+00
Calcium	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Chromium Total	0.00E+00	1.58E-03	--	1.00E+00	1.20E+03	0.00E+00
Cobalt	0.00E+00	3.54E-05	--	1.00E+00	1.20E+03	0.00E+00
Copper	0.00E+00	3.39E-01	--	1.00E+00	1.20E+03	0.00E+00
Iron	0.00E+00	1.12E-01	--	1.00E+00	1.20E+03	0.00E+00
Lead	0.00E+00	2.44E-05	--	1.00E+00	1.20E+03	0.00E+00
Lithium	0.00E+00	9.02E-05	--	1.00E+00	1.20E+03	0.00E+00
Magnesium	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Manganese	0.00E+00	1.80E-03	--	1.00E+00	1.20E+03	0.00E+00
Mercury, element	1.00E+00	2.21E-06	1.00E+00	1.00E+00	1.20E+03	1.84E-09
Mercury, divalent	8.50E-01	--	1.80E+03	1.00E+00	1.20E+03	0.00E+00
Mercury, methyl	0.00E+00	--	1.00E+00	1.00E+00	1.20E+03	0.00E+00
Molybdenum	0.00E+00	3.13E-05	--	1.00E+00	1.20E+03	0.00E+00
Nickel	0.00E+00	1.81E-03	--	1.00E+00	1.20E+03	0.00E+00
Phosphorus	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Potassium	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Rubidium	0.00E+00	4.99E-05	--	1.00E+00	1.20E+03	0.00E+00
Selenium	0.00E+00	1.22E-05	--	1.00E+00	1.20E+03	0.00E+00
Silver	0.00E+00	1.48E-04	--	1.00E+00	1.20E+03	0.00E+00
Sodium	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Strontium	0.00E+00	5.48E-04	--	1.00E+00	1.20E+03	0.00E+00
Thallium	0.00E+00	9.52E-06	--	1.00E+00	1.20E+03	0.00E+00
Tin	0.00E+00	1.85E-03	--	1.00E+00	1.20E+03	0.00E+00
Titanium	0.00E+00	2.26E-03	--	1.00E+00	1.20E+03	0.00E+00
Uranium	0.00E+00	9.76E-06	--	1.00E+00	1.20E+03	0.00E+00
Vanadium	0.00E+00	3.30E-04	--	1.00E+00	1.20E+03	0.00E+00
Zinc	0.00E+00	1.90E-02	--	1.00E+00	1.20E+03	0.00E+00

Equation: $Pv = Fv \times \frac{Coa \times Bv_{ag} \times VGag \times Hg_{factor}}{pa}$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.78), and methylmercury (0.48*0.22)

Table B.27

Forage Predicted Concentration Due to Root Uptake
Animal Product Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Forage Concentration Due to Direct Deposition (Pd) (refer to table B.25) (mg/kg DW)	Predicted Forage Concentration Due to Air-to-Plant Transfer (Pv) (refer to table B.26) (mg/kg DW)	Predicted Soil Concentration				Plant-Soil Bioconcentration Factor Forage (Br_{forage}) (refer to table B.10) (µg/g DW)/(µg/g soil)	Berry Concentration Dry Weight Baseline (Cfru) (refer to table B.1) (mg/kg DW)	Forage Predicted Concentration Dry Weight				Berry Concentration Wet Weight Baseline (Cfru) (refer to table B.1) (mg/kg FW)	Forage Predicted Concentration Wet Weight			
			Construction (Cs) (refer to table B.16) (mg/kg)	Operations (Cs) (refer to table B.16) (mg/kg)	Reclamation (Cs) (refer to table B.16) (mg/kg)	Post-Closure (Cs) (refer to table B.16) (mg/kg)			Construction (Cfo) (mg/kg DW)	Operations (Cfo) (mg/kg DW)	Reclamation (Cfo) (mg/kg DW)	Post-Closure (Cfo) (mg/kg DW)		Construction (Cfo) (mg/kg FW)	Operations (Cfo) (mg/kg FW)	Reclamation (Cfo) (mg/kg FW)	Post-Closure (Cfo) (mg/kg FW)
Particulate Matter																	
Total Particulate Matter	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Aluminum	3.49E+03	0.00E+00	1.45E+04	3.66E+04	4.18E+04	4.18E+04	4.00E-03	2.60E+01	3.55E+03	3.64E+03	3.66E+03	3.66E+03	3.90E+00	5.32E+02	5.46E+02	5.49E+02	5.49E+02
Antimony	1.05E-01	0.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	2.00E-01	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Arsenic	1.36E+01	0.00E+00	8.75E+00	9.08E+00	9.08E+00	9.08E+00	3.60E-02	1.07E+00	1.39E+01	1.39E+01	1.39E+01	1.39E+01	1.60E-01	2.09E+00	2.09E+00	2.09E+00	2.09E+00
Barium	2.83E+01	0.00E+00	3.73E+01	3.73E+01	3.73E+01	3.73E+01	1.50E-01	2.33E+01	3.39E+01	3.39E+01	3.39E+01	3.39E+01	3.50E+00	5.08E+00	5.08E+00	5.08E+00	5.08E+00
Beryllium	1.05E-01	0.00E+00	1.07E+00	1.37E+00	1.43E+00	1.43E+00	1.00E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Bismuth	1.15E-02	0.00E+00	--	--	--	--	3.50E-02	1.67E-01	--	--	--	--	2.50E-02	--	--	--	--
Boron	8.73E-01	0.00E+00	2.50E+01	2.50E+01	2.50E+01	2.50E+01	4.00E+00	1.27E+01	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.90E+00	1.51E+01	1.51E+01	1.51E+01	1.51E+01
Cadmium	4.19E-03	0.00E+00	1.50E-01	1.50E-01	1.50E-01	1.50E-01	3.60E-01	2.13E-01	2.13E-01	2.13E-01	2.13E-01	2.13E-01	3.20E-02	3.20E-02	3.20E-02	3.20E-02	3.20E-02
Calcium	4.54E+02	0.00E+00	--	--	--	--	3.50E+00	6.20E+03	--	--	--	--	9.30E+02	--	--	--	--
Chromium Total	3.87E+00	0.00E+00	1.27E+01	1.27E+01	1.27E+01	1.27E+01	7.50E-03	1.07E+00	3.97E+00	3.97E+00	3.97E+00	3.97E+00	1.60E-01	5.96E-01	5.96E-01	5.96E-01	5.96E-01
Cobalt	6.28E-01	0.00E+00	2.27E+00	2.27E+00	2.27E+00	2.27E+00	2.00E-02	5.33E-01	6.74E-01	6.74E-01	6.74E-01	6.74E-01	8.00E-02	1.01E-01	1.01E-01	1.01E-01	1.01E-01
Copper	1.29E+00	0.00E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	4.00E-01	7.33E+00	7.33E+00	7.33E+00	7.33E+00	7.33E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
Iron	1.50E+03	0.00E+00	1.64E+04	1.64E+04	1.64E+04	1.64E+04	4.00E-03	3.20E+01	1.57E+03	1.57E+03	1.57E+03	1.57E+03	4.80E+00	2.35E+02	2.35E+02	2.35E+02	2.35E+02
Lead	1.29E+00	0.00E+00	1.56E+01	1.92E+01	1.99E+01	1.99E+01	4.50E-02	3.47E-01	1.99E+00	2.15E+00	2.19E+00	2.19E+00	5.20E-02	2.99E-01	3.23E-01	3.28E-01	3.28E-01
Lithium	2.13E+00	0.00E+00	9.61E+00	1.31E+01	1.35E+01	1.35E+01	2.50E-02	1.13E+00	2.37E+00	2.46E+00	2.47E+00	2.47E+00	1.70E-01	3.55E-01	3.68E-01	3.70E-01	3.70E-01
Magnesium	5.24E+02	0.00E+00	--	--	--	--	1.00E+00	3.33E+02	--	--	--	--	5.00E+01	--	--	--	--
Manganese	3.21E+01	0.00E+00	9.66E+01	9.66E+01	9.66E+01	9.66E+01	2.50E-01	4.20E+02	4.20E+02	4.20E+02	4.20E+02	4.20E+02	6.30E+01	6.30E+01	6.30E+01	6.30E+01	6.30E+01
Mercury, element	0.00E+00	1.84E-09	1.62E-01	1.62E-01	1.62E-01	1.62E-01	0.00E+00	1.67E-02	1.67E-02	1.67E-02	1.67E-02	1.67E-02	2.50E-03	2.50E-03	2.50E-03	2.50E-03	2.50E-03
Mercury, divalent	0.00E+00	0.00E+00	6.31E-03	3.89E-02	4.72E-02	4.72E-02	1.00E+00	--	--	--	--	--	--	--	--	--	--
Mercury, methyl	0.00E+00	0.00E+00	6.06E-08	6.06E-08	6.06E-08	6.06E-08	1.00E+00	--	--	--	--	--	--	--	--	--	--
Molybdenum	2.79E-02	0.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	2.50E-01	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Nickel	1.43E+00	0.00E+00	6.91E+00	6.91E+00	6.91E+00	6.91E+00	3.20E-02	1.07E+00	1.65E+00	1.65E+00	1.65E+00	1.65E+00	1.60E-01	2.48E-01	2.48E-01	2.48E-01	2.48E-01
Phosphorus	2.41E+01	0.00E+00	2.00E+00	2.00E+00	2.00E+00	2.00E+00	3.50E+00	1.07E+03	1.07E+03	1.07E+03	1.07E+03	1.07E+03	1.60E+02	1.60E+02	1.60E+02	1.60E+02	1.60E+02
Potassium	1.12E+03	0.00E+00	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.00E+00	5.73E+03	5.73E+03	5.73E+03	5.73E+03	5.73E+03	8.60E+02	8.60E+02	8.60E+02	8.60E+02	8.60E+02
Rubidium	2.08E-01	0.00E+00	--	--	--	--	1.00E+00	--	--	--	--	--	--	--	--	--	--
Selenium	1.22E-02	0.00E+00	8.64E-01	8.64E-01	8.64E-01	8.64E-01	1.60E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Silver	1.75E-02	0.00E+00	2.50E-01	2.50E-01	2.50E-01	2.50E-01	4.00E-01	2.67E-01	2.67E-01	2.67E-01	2.67E-01	2.67E-01	4.00E-02	4.00E-02	4.00E-02	4.00E-02	4.00E-02
Sodium	6.63E+02	0.00E+00	7.20E+02	1.50E+03	1.51E+03	1.51E+03	7.50E-02	1.67E+02	7.17E+02	7.76E+02	7.77E+02	7.77E+02	2.50E+01	1.08E+02	1.16E+02	1.16E+02	1.16E+02
Strontium	7.33E+00	0.00E+00	1.94E+01	1.94E+01	1.94E+01	1.94E+01	2.50E+00	1.47E+01	5.58E+01	5.58E+01	5.58E+01	5.58E+01	2.20E+00	8.37E+00	8.37E+00	8.37E+00	8.37E+00
Thallium	2.76E-02	0.00E+00	5.00E-02	5.00E-02	5.00E-02	5.00E-02	4.00E-03	7.33E-02	7.33E-02	7.33E-02	7.33E-02	7.33E-02	1.10E-02	1.10E-02	1.10E-02	1.10E-02	1.10E-02
Tin	1.05E-01	0.00E+00	5.23E-01	5.81E-01	5.87E-01	5.87E-01	3.00E-02	8.00E+00	8.00E+00	8.00E+00	8.00E+00	8.00E+00	1.20E+00	1.20E+00	1.20E+00	1.20E+00	1.20E+00
Titanium	1.47E+02	0.00E+00	2.09E+02	1.15E+03	1.35E+03	1.35E+03	5.50E-03	1.67E+00	1.48E+02	1.53E+02	1.54E+02	1.54E+02	2.50E-01	2.22E+01	2.29E+01	2.31E+01	2.31E+01
Uranium	6.28E-02	0.00E+00	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.00E+00	5.33E-02	7.33E-01	7.33E-01	7.33E-01	7.33E-01	8.00E-03	1.10E-01	1.10E-01	1.10E-01	1.10E-01
Vanadium	2.79E+00	0.00E+00	2.44E+01	3.62E+01	3.87E+01	3.87E+01	5.50E-03	1.07E+00	2.93E+00	2.99E+00	3.01E+00	3.01E+00	1.60E-01	4.39E-01	4.49E-01	4.51E-01	4.51E-01
Zinc	3.84E+00	0.00E+00	1.97E+01	1.97E+01	1.97E+01	1.97E+01	2.50E-01	1.40E+01	1.40E+01	1.40E+01	1.40E+01	1.40E+01	2.10E+00	2.10E+00	2.10E+00	2.10E+00	2.10E+00

Equation: $Cfo = Pd + Pv + Cs \times Br_{forage}$

Table B.28

Predicted Deer Concentrations Due to Plant and Soil Ingestion
Animal Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal (F) (refer to table B.9) (unitless)	Quantity of Forage Ingested by the Animal per day (1) (Qp_i) (refer to table B.9) (kg DW/day)	Predicted Concentration in Forage Ingested				Quantity of Soil Ingested by the Animal (Qs) (refer to table B.9) (kg/day)	Predicted Soil Concentrations				Soil Bioavailability Factor (Bs) (unitless)	Quantity of Water Ingested by the Animal (Qw) (refer to table B.9) (L/day)	Predicted Total Surface Water Concentrations				Biotransfer Factor for Beef Ba_{beef} (refer to table B.10) (day/kg FW tissue)	Biotransfer Factor for Wildlife $Ba_{wildlife}$ (day/kg FW tissue)	Metabolism Factor (MF) (unitless)	Background Concentration in Deer (Cd) (refer to table B.6) (mg/kg FW tissue)	Predicted Concentrations in Deer			
			Construction (Cfo) (refer to table B.27) (mg/kg DW)	Operations (Cfo) (refer to table B.27) (mg/kg DW)	Reclamation (Cfo) (refer to table B.27) (mg/kg DW)	Post-Closure (Cfo) (refer to table B.27) (mg/kg DW)		Construction (Cs) (refer to table B.16) (mg/kg)	Operations (Cs) (refer to table B.16) (mg/kg)	Reclamation (Cs) (refer to table B.16) (mg/kg)	Post-Closure (Cs) (refer to table B.16) (mg/kg)			Construction (Cw) (refer to table B.45) (mg/L)	Operations (Cw) (refer to table B.45) (mg/L)	Reclamation (Cw) (refer to table B.45) (mg/L)	Post-Closure (Cw) (refer to table B.45) (mg/L)					Construction (Cd) (mg/kg FW tissue)	Operations (Cd) (mg/kg FW tissue)	Reclamation (Cd) (mg/kg FW tissue)	Post-Closure (Cd) (mg/kg FW tissue)
Particulate Matter																									
Total Particulate Matter	1.00E+00	2.25E+00	--	--	--	--	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	--	--	1.00E+00	--	--	--	--	--
Particulate Matter (PM10)	1.00E+00	2.25E+00	--	--	--	--	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	--	--	1.00E+00	--	--	--	--	--
Particulate Matter (PM2.5)	1.00E+00	2.25E+00	--	--	--	--	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	--	--	1.00E+00	--	--	--	--	--
Metals																									
Aluminum	1.00E+00	2.25E+00	5.27E+02	5.51E+02	5.56E+02	4.49E+01	4.50E-02	1.45E+04	3.66E+04	4.18E+04	4.18E+04	1.00E+00	4.50E+00	4.30E-01	1.99E-01	2.66E-01	3.61E-01	1.50E-03	1.50E-03	1.00E+00	7.58E-01	2.76E+00	4.33E+00	4.70E+00	2.97E+00
Antimony	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	4.50E+00	5.00E-04	4.39E-03	3.27E-03	2.20E-03	1.00E-03	1.00E-03	1.00E+00	2.45E-03	2.45E-03	2.46E-03	2.46E-03	2.45E-03
Arsenic	1.00E+00	2.25E+00	2.05E+00	2.05E+00	2.05E+00	1.07E+00	4.50E-02	8.75E+00	9.08E+00	9.08E+00	9.08E+00	1.00E+00	4.50E+00	6.77E-01	5.48E-02	5.21E-02	5.12E-02	2.00E-03	2.00E-03	1.00E+00	1.14E-02	1.61E-02	1.14E-02	1.14E-02	1.14E-02
Barium	1.00E+00	2.25E+00	2.33E+01	2.33E+01	2.33E+01	2.33E+01	4.50E-02	3.73E+01	3.73E+01	3.73E+01	3.73E+01	1.00E+00	4.50E+00	3.60E-03	7.09E-03	7.05E-03	5.73E-03	1.50E-04	1.50E-04	1.00E+00	8.13E-03	8.13E-03	8.13E-03	8.13E-03	8.13E-03
Beryllium	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	1.07E+00	1.37E+00	1.43E+00	1.43E+00	1.00E+00	4.50E+00	5.00E-04	4.61E-04	4.71E-04	4.76E-04	1.00E-03	1.00E-03	1.00E+00	2.45E-03	2.45E-03	2.46E-03	2.47E-03	2.47E-03
Bismuth	1.00E+00	2.25E+00	1.67E-01	1.67E-01	1.67E-01	1.67E-01	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	4.00E-04	4.00E-04	1.00E+00	1.70E-04	--	--	--	--
Boron	1.00E+00	2.25E+00	5.65E+01	5.65E+01	5.65E+01	5.64E+01	4.50E-02	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.00E+00	4.50E+00	1.96E+00	1.96E+00	1.96E+00	1.96E+00	8.00E-04	8.00E-04	1.00E+00	2.38E-02	1.10E-01	1.10E-01	1.10E-01	1.09E-01
Cadmium	1.00E+00	2.25E+00	2.13E-01	2.13E-01	2.13E-01	2.13E-01	4.50E-02	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.00E+00	4.50E+00	2.48E-05	1.98E-05	2.41E-05	3.70E-05	1.20E-04	1.20E-04	1.00E+00	5.84E-05	5.84E-05	5.84E-05	5.84E-05	5.84E-05
Calcium	1.00E+00	2.25E+00	6.20E+03	6.20E+03	6.20E+03	6.20E+03	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	7.00E-04	7.00E-04	1.00E+00	--	--	--	--	--
Chromium Total	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	1.27E+01	1.27E+01	1.27E+01	1.27E+01	1.00E+00	4.50E+00	1.30E-03	8.58E-04	6.87E-04	8.60E-04	5.50E-03	5.50E-03	1.00E+00	1.64E-02	1.64E-02	1.64E-02	1.64E-02	1.64E-02
Cobalt	1.00E+00	2.25E+00	5.33E-01	5.33E-01	5.33E-01	5.33E-01	4.50E-02	2.27E+00	2.27E+00	2.27E+00	2.27E+00	1.00E+00	4.50E+00	2.00E-04	9.91E-04	9.35E-04	9.61E-04	2.00E-02	2.00E-02	1.00E+00	2.61E-02	2.61E-02	2.61E-02	2.61E-02	2.61E-02
Copper	1.00E+00	2.25E+00	7.33E+00	7.33E+00	7.33E+00	7.33E+00	4.50E-02	6.56E+00	6.56E+00	6.56E+00	6.56E+00	1.00E+00	4.50E+00	1.74E-03	1.96E-03	1.86E-03	9.20E-04	1.00E-02	1.00E-02	1.00E+00	1.68E-01	1.68E-01	1.68E-01	1.68E-01	1.68E-01
Iron	1.00E+00	2.25E+00	2.42E+02	2.42E+02	2.42E+02	3.20E+01	4.50E-02	1.64E+04	1.64E+04	1.64E+04	1.64E+04	1.00E+00	4.50E+00	1.17E+00	3.55E-01	4.55E-01	4.28E-01	2.00E-02	2.00E-02	1.00E+00	1.63E+01	2.58E+01	2.57E+01	2.57E+01	1.63E+01
Lead	1.00E+00	2.25E+00	4.01E-01	4.50E-01	4.60E-01	3.47E-01	4.50E-02	1.56E+01	1.92E+01	1.99E+01	1.99E+01	1.00E+00	4.50E+00	7.62E-04	8.22E-04	7.06E-04	9.27E-04	3.00E-04	3.00E-04	1.00E+00	4.35E-04	4.83E-04	5.64E-04	5.81E-04	5.04E-04
Lithium	1.00E+00	2.25E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	4.50E-02	9.61E+00	1.31E+01	1.35E+01	1.35E+01	1.00E+00	4.50E+00	1.11E-02	1.43E-02	1.47E-02	1.47E-02	1.00E-02	1.00E-02	1.00E+00	--	3.03E-02	3.20E-02	3.22E-02	3.22E-02
Magnesium	1.00E+00	2.25E+00	3.33E+02	3.33E+02	3.33E+02	3.33E+02	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	5.00E-03	5.00E-03	1.00E+00	--	--	--	--	--
Manganese	1.00E+00	2.25E+00	4.20E+02	4.20E+02	4.20E+02	4.20E+02	4.50E-02	9.66E+01	9.66E+01	9.66E+01	9.66E+01	1.00E+00	4.50E+00	8.03E-02	7.56E-02	4.92E-02	1.19E-01	4.00E-04	4.00E-04	1.00E+00	3.80E-01	3.80E-01	3.80E-01	3.80E-01	3.80E-01
Mercury, element	1.00E+00	2.25E+00	1.67E-02	1.67E-02	1.67E-02	1.67E-02	4.50E-02	1.62E-01	1.62E-01	1.62E-01	1.62E-01	1.00E+00	4.50E+00	1.36E-04	6.88E-06	7.05E-06	9.69E-06	1.00E+00	1.00E+00	1.00E+00	4.54E-02	4.54E-02	4.54E-02	4.54E-02	4.54E-02
Mercury, divalent	1.00E+00	2.25E+00	1.84E-04	6.40E-04	7.56E-04	6.61E-04	4.50E-02	6.31E-03	3.89E-02	4.72E-02	4.72E-02	1.00E+00	4.50E+00	2.53E-07	1.56E-06	1.89E-06	1.89E-06	5.20E-03	5.20E-03	1.00E+00	--	3.63E-06	1.66E-05	1.99E-05	1.88E-05
Mercury, methyl	1.00E+00	2.25E+00	1.30E-05	1.30E-05	1.30E-05	1.76E-09	4.50E-02	6.06E-08	6.06E-08	6.06E-08	6.06E-08	1.00E+00	4.50E+00	6.01E-13	6.01E-13	6.01E-13	6.01E-13	7.80E-04	7.80E-04	1.00E+00	--	2.27E-08	2.27E-08	2.27E-08	5.21E-12
Molybdenum	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	4.50E+00	1.23E-02	1.23E-02	1.23E-02	1.23E-02	6.00E-03	6.00E-03	1.00E+00	1.47E-02	1.50E-02	1.50E-02	1.50E-02	1.50E-02
Nickel	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	6.91E+00	6.91E+00	6.91E+00	6.91E+00	1.00E+00	4.50E+00	1.00E-03	1.42E-02	6.10E-03	1.13E-02	6.00E-03	6.00E-03	1.00E+00	1.63E-02	1.63E-02	1.66E-02	1.64E-02	1.66E-02
Phosphorus	1.00E+00	2.25E+00	1.07E+03	1.07E+03	1.07E+03	1.07E+03	4.50E-02	2.00E+00	2.00E+00	2.00E+00	2.00E+00	1.00E+00	4.50E+00	1.63E-01	1.63E-01	1.63E-01	1.63E-01	5.50E-02	5.50E-02	1.00E+00	--	1.32E+02	1.32E+02	1.32E+02	1.32E+02
Potassium	1.00E+00	2.25E+00	5.73E+03	5.73E+03	5.73E+03	5.73E+03	4.50E-02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.00E+00	4.50E+00	7.58E+00	7.58E+00	7.58E+00	7.58E+00	2.00E-02	2.00E-02	1.00E+00	--	2.59E+02	2.59E+02	2.59E+02	2.59E+02
Rubidium	1.00E+00	2.25E+00	3.05E-02	3.05E-02	3.05E-02	0.00E+00	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	1.50E-02	1.50E-02	1.00E+00	--	--	--	--	--
Selenium	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	8.64E-01	8.64E-01	8.64E-01	8.64E-01	1.00E+00	4.50E+00	5.00E-04	4.88E-04	4.68E-04	5.58E-04	2.30E-03	2.30E-03	1.00E+00	5.61E-03	5.61E-03	5.61E-03	5.61E-03	5.62E-03
Silver	1.00E+00	2.25E+00	2.67E-01	2.67E-01	2.67E-01	2.67E-01	4.50E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.00E+00	4.50E+00	5.00E-05	7.90E-05	7.04E-05	7.48E-05	3.00E-03	3.00E-03	1.00E+00	1.83E-03	1.83E-03	1.83E-03	1.83E-03	1.83E-03
Sodium	1.00E+00	2.25E+00	1.67E+02	1.83E+02	1.84E+02	1.67E+02	4.50E-02	7.20E+02	1.50E+03	1.51E+03	1.51E+03	1.00E+00	4.50E+00	2.59E+00	4.57E+00	4.61E+00	4.61E+00	5.50E-02	5.50E-02	1.00E+00	--	2.30E+01	2.75E+01	2.77E+01	2.55E+01
Strontium	1.00E+00	2.25E+00	1.47E+01	1.47E+01	1.47E+01	1.47E+01	4.50E-02	1.94E+01	1.94E+01	1.94E+01	1.94E+01	1.00E+00	4.50E+00	1.46E-01	1.46E-01	1.46E-01	1.46E-01	3.00E-04	3.00E-04	1.00E+00	1.02E-02	1.04E-02	1.04E-02	1.04E-02	1.04E-02
Thallium	1.00E+00	2.25E+00	7.33E-02	7.33E-02	7.33E-02	7.33E-02	4.50E-02	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.00E+00	4.50E+00	5.00E-05	7.31E-05	6.61E-05	8.48E-05	4.00E-02	4.00E-02	1.00E+00	6.70E-03	6.70E-03	6.70E-03	6.70E-03	6.71E-03
Tin	1.00E+00	2.25E+00	8.00E+00	8.00E+00	8.00E+00	8.00E+00	4.50E-02	5.23E-01	5.81E-01	5.87E-01	5.87E-01	1.00E+00	4.50E+00	6.80E-04	7.43E-04	7.50E-04	7.50E-04	1.00E-03	1.00E-03	1.00E+00	1.80E-02	1.80E-02	1.80E-02	1.80E-02	1.80E-02
Titanium	1.00E+00	2.25E+00	2.22E+01	2.53E+01	2.59E+01	4.47E+00	4.50E-02	2.09E+02	1.15E+03	1.35E+03	1.35E+03	1.00E+00	4.50E+00	2.19E-01	5.32E-01	6.00E-01	6.00E-01	3.00E-02	3.00E-02	1.00E+00	--	1.81E+00	3.32E+00	3.65E+00	2.20E+00
Uranium	1.00E+00	2.25E+00	6.79E-01	6.79E-01	6.79E-01	6.70E-01	4.50E-02	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.00E+00	4.50E+00	5.00E-05	9.50E-04	8.52E-04	5.76E-04	2.00E-04	2.00E-04	1.00E+00	3.01E-05	3.12E-04	3.13E-04	3.12E-04	3.08E-04
Vanadium	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	2.44E+01	3.62E+01	3.87E+01	3.87E+01	1.00E+00	4.50E+00	1.00E-03	2.12E-03	1.49E-03	2.01E-03	2.50E-03	2.50E-03	1.00E+00	8.46E-03	8.76E-03	1.01E-02	1.04E-02	1.04E-02
Zinc	1.00E+00	2.25E+00	1.40E+01	1.40E+01	1.40E+01	1.40E+01	4.50E-02	1.97E+01	1.97E+01	1.97E+01	1.97E+01	1.00E+00	4.50E+00	9.76E-03	7.28E-03	7.18E-03	7.27E-03	9.00E-05	9.00E-05	1.00E+00	2.92E-03	2.92E-03	2.92E-03	2.92E-03	2.92E-03

Equation: $Cd = F \times Qp_i \times Cfo + Qs \times Cs \times Bs + Qw \times Cw \times Ba_{wildlife} \times MF$ where: $Ba_{wildlife} = Ba_{beef}$

Table B.29

Hare Concentrations Due to Plant and Soil Ingestion
Animal Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal (F) (refer to table B.9) unitless	Quantity of Forage Ingested by the Animal per day (1) (Qp_i) (refer to table B.9) (kg DW/day)	Concentration in Forage Ingested: Construction (Cfo) (refer to table B.27) (mg/kg DW)	Concentration in Forage Ingested: Operations (Cfo) (refer to table B.27) (mg/kg DW)	Concentration in Forage Ingested: Reclamation (Cfo) (refer to table B.27) (mg/kg DW)	Concentration in Forage Ingested: Post-Closure (Cfo) (refer to table B.27) (mg/kg DW)	Quantity of Soil Ingested by the Animal (Qs) (refer to table B.9) (kg/day)	Predicted Soil Concentrations: Construction (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentrations: Operations (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentrations: Reclamation (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentrations: Post-Closure (Cs) (refer to table B.16) (mg/kg)	Soil Bioavailability Factor (Bs) (unitless)	Quantity of Water Ingested by the Animal (Qw) (refer to table B.9) (L/day)	Predicted Total Surface Water Concentrations: Construction (Cw) (refer to table B.45) (mg/L)	Predicted Total Surface Water Concentrations: Operations (Cw) (refer to table B.45) (mg/L)	Predicted Total Surface Water Concentrations: Reclamation (Cw) (refer to table B.45) (mg/L)	Predicted Total Surface Water Concentrations: Post-Closure (Cw) (refer to table B.45) (mg/L)	Biotransfer Factor for Beef Ba_{beef} (refer to table B.10) (day/kg FW tissue)	Biotransfer Factor for Wildlife $Ba_{wildlife}$ (day/kg FW tissue)	Metabolism Factor (MF) (unitless)	Baseline Concentration in Hare (Ch) (refer to table B.7) (mg/kg FW tissue)	Predicted Concentrations in Hare: Construction (Cd) (mg/kg FW tissue)	Predicted Concentrations in Hare: Operations (Cd) (mg/kg FW tissue)	Predicted Concentrations in Hare: Reclamation (Cd) (mg/kg FW tissue)	Predicted Concentrations in Hare: Post-Closure (Cd) (mg/kg FW tissue)
Particulate Matter																										
Total Particulate Matter	1.00E+00	7.80E-02	--	--	--	--	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	--	--	1.00E+00	--	--	--	--	--	--
Particulate Matter (PM10)	1.00E+00	7.80E-02	--	--	--	--	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	--	--	1.00E+00	--	--	--	--	--	--
Particulate Matter (PM2.5)	1.00E+00	7.80E-02	--	--	--	--	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	--	--	1.00E+00	--	--	--	--	--	--
Metals																										
Aluminum	1.00E+00	7.80E-02	5.27E+02	5.51E+02	5.56E+02	4.49E+01	4.91E-03	1.45E+04	3.66E+04	4.18E+04	4.18E+04	1.00E+00	1.30E-01	4.30E-01	1.99E-01	2.66E-01	3.61E-01	1.50E-03	1.50E-03	1.00E+00	7.60E-02	1.69E-01	3.34E-01	3.73E-01	3.13E-01
Antimony	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.30E-01	5.00E-04	4.39E-03	3.27E-03	2.20E-03	1.00E-03	1.00E-03	1.00E+00	8.82E-05	8.82E-05	8.87E-05	8.85E-05	8.84E-05
Arsenic	1.00E+00	7.80E-02	2.05E+00	2.05E+00	2.05E+00	1.07E+00	4.91E-03	8.75E+00	9.08E+00	9.08E+00	9.08E+00	1.00E+00	1.30E-01	6.77E-01	5.48E-02	5.21E-02	5.12E-02	2.00E-03	2.00E-03	1.00E+00	4.02E-04	5.82E-04	4.23E-04	4.23E-04	4.02E-04
Barium	1.00E+00	7.80E-02	2.33E+01	2.33E+01	2.33E+01	2.33E+01	4.91E-03	3.73E+01	3.73E+01	3.73E+01	3.73E+01	1.00E+00	1.30E-01	3.60E-03	7.09E-03	7.05E-03	5.73E-03	1.50E-04	1.50E-04	1.00E+00	3.01E-04	3.01E-04	3.01E-04	3.01E-04	3.01E-04
Beryllium	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	1.07E+00	1.37E+00	1.43E+00	1.43E+00	1.00E+00	1.30E-01	5.00E-04	4.61E-04	4.71E-04	4.76E-04	1.00E-03	1.00E-03	1.00E+00	8.82E-05	8.85E-05	9.00E-05	9.03E-05	9.03E-05
Bismuth	1.00E+00	7.80E-02	1.67E-01	1.67E-01	1.67E-01	1.67E-01	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	4.00E-04	4.00E-04	1.00E+00	7.22E-06	--	--	--	--
Boron	1.00E+00	7.80E-02	5.65E+01	5.65E+01	5.65E+01	5.64E+01	4.91E-03	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.00E+00	1.30E-01	1.96E+00	1.96E+00	1.96E+00	1.96E+00	8.00E-04	8.00E-04	1.00E+00	8.91E-04	3.83E-03	3.83E-03	3.83E-03	3.82E-03
Cadmium	1.00E+00	7.80E-02	2.13E-01	2.13E-01	2.13E-01	2.13E-01	4.91E-03	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.00E+00	1.30E-01	2.48E-05	1.98E-05	2.41E-05	3.70E-05	1.20E-04	1.20E-04	1.00E+00	2.09E-06	2.09E-06	2.09E-06	2.09E-06	2.09E-06
Calcium	1.00E+00	7.80E-02	6.20E+03	6.20E+03	6.20E+03	6.20E+03	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	7.00E-04	7.00E-04	1.00E+00	--	--	--	--	--
Chromium Total	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	1.27E+01	1.27E+01	1.27E+01	1.27E+01	1.00E+00	1.30E-01	1.30E-03	8.58E-04	6.87E-04	8.60E-04	5.50E-03	5.50E-03	1.00E+00	8.02E-04	8.02E-04	8.02E-04	8.02E-04	8.02E-04
Cobalt	1.00E+00	7.80E-02	5.33E-01	5.33E-01	5.33E-01	5.33E-01	4.91E-03	2.27E+00	2.27E+00	2.27E+00	2.27E+00	1.00E+00	1.30E-01	2.00E-04	9.91E-04	9.35E-04	9.61E-04	2.00E-02	2.00E-02	1.00E+00	1.06E-03	1.06E-03	1.06E-03	1.06E-03	1.06E-03
Copper	1.00E+00	7.80E-02	7.33E+00	7.33E+00	7.33E+00	7.33E+00	4.91E-03	6.56E+00	6.56E+00	6.56E+00	6.56E+00	1.00E+00	1.30E-01	1.74E-03	1.96E-03	1.86E-03	9.20E-04	1.00E-02	1.00E-02	1.00E+00	6.04E-03	6.04E-03	6.04E-03	6.04E-03	6.04E-03
Iron	1.00E+00	7.80E-02	2.42E+02	2.42E+02	2.42E+02	3.20E+01	4.91E-03	1.64E+04	1.64E+04	1.64E+04	1.64E+04	1.00E+00	1.30E-01	1.17E+00	3.55E-01	4.55E-01	4.28E-01	2.00E-02	2.00E-02	1.00E+00	1.66E+00	1.99E+00	1.99E+00	1.99E+00	1.66E+00
Lead	1.00E+00	7.80E-02	4.01E-01	4.50E-01	4.60E-01	3.47E-01	4.91E-03	1.56E+01	1.92E+01	1.99E+01	1.99E+01	1.00E+00	1.30E-01	7.62E-04	8.22E-04	7.06E-04	9.27E-04	3.00E-04	3.00E-04	1.00E+00	3.00E-05	3.24E-05	3.88E-05	4.02E-05	3.75E-05
Lithium	1.00E+00	7.80E-02	1.13E+00	1.13E+00	1.13E+00	1.13E+00	4.91E-03	9.61E+00	1.31E+01	1.35E+01	1.35E+01	1.00E+00	1.30E-01	1.11E-02	1.43E-02	1.47E-02	1.47E-02	1.00E-02	1.00E-02	1.00E+00	--	1.37E-03	1.55E-03	1.57E-03	1.57E-03
Magnesium	1.00E+00	7.80E-02	3.33E+02	3.33E+02	3.33E+02	3.33E+02	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	5.00E-03	5.00E-03	1.00E+00	--	--	--	--	--
Manganese	1.00E+00	7.80E-02	4.20E+02	4.20E+02	4.20E+02	4.20E+02	4.91E-03	9.66E+01	9.66E+01	9.66E+01	9.66E+01	1.00E+00	1.30E-01	8.03E-02	7.56E-02	4.92E-02	1.19E-01	4.00E-04	4.00E-04	1.00E+00	1.33E-02	1.33E-02	1.33E-02	1.33E-02	1.33E-02
Mercury, element	1.00E+00	7.80E-02	1.67E-02	1.67E-02	1.67E-02	1.67E-02	4.91E-03	1.62E-01	1.62E-01	1.62E-01	1.62E-01	1.00E+00	1.30E-01	1.36E-04	6.88E-06	7.05E-06	9.69E-06	1.00E+00	1.00E+00	1.00E+00	2.11E-03	2.11E-03	2.11E-03	2.11E-03	2.11E-03
Mercury, divalent	1.00E+00	7.80E-02	1.84E-04	6.40E-04	7.56E-04	6.61E-04	4.91E-03	6.31E-03	3.89E-02	4.72E-02	4.72E-02	1.00E+00	1.30E-01	2.53E-07	1.56E-06	1.89E-06	1.89E-06	5.20E-03	5.20E-03	1.00E+00	--	2.36E-07	1.25E-06	1.51E-06	1.48E-06
Mercury, methyl	1.00E+00	7.80E-02	1.30E-05	1.30E-05	1.30E-05	1.76E-09	4.91E-03	6.06E-08	6.06E-08	6.06E-08	6.06E-08	1.00E+00	1.30E-01	6.01E-13	6.01E-13	6.01E-13	6.01E-13	7.80E-04	7.80E-04	1.00E+00	--	7.89E-10	7.89E-10	7.89E-10	3.39E-13
Molybdenum	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.30E-01	1.23E-02	1.23E-02	1.23E-02	1.23E-02	6.00E-03	6.00E-03	1.00E+00	5.29E-04	5.38E-04	5.38E-04	5.38E-04	5.38E-04
Nickel	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	6.91E+00	6.91E+00	6.91E+00	6.91E+00	1.00E+00	1.30E-01	1.00E-03	1.42E-02	6.10E-03	1.13E-02	6.00E-03	6.00E-03	1.00E+00	7.04E-04	7.04E-04	7.14E-04	7.08E-04	7.12E-04
Phosphorus	1.00E+00	7.80E-02	1.07E+03	1.07E+03	1.07E+03	1.07E+03	4.91E-03	2.00E+00	2.00E+00	2.00E+00	2.00E+00	1.00E+00	1.30E-01	1.63E-01	1.63E-01	1.63E-01	1.63E-01	5.50E-02	5.50E-02	1.00E+00	--	4.58E+00	4.58E+00	4.58E+00	4.58E+00
Potassium	1.00E+00	7.80E-02	5.73E+03	5.73E+03	5.73E+03	5.73E+03	4.91E-03	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.00E+00	1.30E-01	7.58E+00	7.58E+00	7.58E+00	7.58E+00	2.00E-02	2.00E-02	1.00E+00	--	8.98E+00	8.98E+00	8.98E+00	8.98E+00
Selenium	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	8.64E-01	8.64E-01	8.64E-01	8.64E-01	1.00E+00	1.30E-01	5.00E-04	4.88E-04	4.68E-04	5.58E-04	2.30E-03	2.30E-03	1.00E+00	2.01E-04	2.01E-04	2.01E-04	2.01E-04	2.01E-04
Silver	1.00E+00	7.80E-02	2.67E-01	2.67E-01	2.67E-01	2.67E-01	4.91E-03	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.00E+00	1.30E-01	5.00E-05	7.90E-05	7.04E-05	7.48E-05	3.00E-03	3.00E-03	1.00E+00	6.61E-05	6.61E-05	6.61E-05	6.61E-05	6.61E-05
Sodium	1.00E+00	7.80E-02	1.67E+02	1.83E+02	1.84E+02	1.67E+02	4.91E-03	7.20E+02	1.50E+03	1.51E+03	1.51E+03	1.00E+00	1.30E-01	2.59E+00	4.57E+00	4.61E+00	4.61E+00	5.50E-02	5.50E-02	1.00E+00	--	9.28E-01	1.22E+00	1.23E+00	1.16E+00
Strontium	1.00E+00	7.80E-02	1.47E+01	1.47E+01	1.47E+01	1.47E+01	4.91E-03	1.94E+01	1.94E+01	1.94E+01	1.94E+01	1.00E+00	1.30E-01	1.46E-01	1.46E-01	1.46E-01	1.46E-01	3.00E-04	3.00E-04	1.00E+00	3.74E-04	3.77E-04	3.77E-04	3.77E-04	3.77E-04
Thallium	1.00E+00	7.80E-02	7.33E-02	7.33E-02	7.33E-02	7.33E-02	4.91E-03	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.00E+00	1.30E-01	5.00E-05	7.31E-05	6.61E-05	8.48E-05	4.00E-02	4.00E-02	1.00E+00	2.39E-04	2.39E-04	2.39E-04	2.39E-04	2.39E-04
Tin	1.00E+00	7.80E-02	8.00E+00	8.00E+00	8.00E+00	8.00E+00	4.91E-03	5.23E-01	5.81E-01	5.87E-01	5.87E-01	1.00E+00	1.30E-01	6.80E-04	7.43E-04	7.50E-04	7.50E-04	1.00E-03	1.00E-03	1.00E+00	6.27E-04	6.27E-04	6.27E-04	6.27E-04	6.27E-04
Titanium	1.00E+00	7.80E-02	2.22E+01	2.53E+01	2.59E+01	4.47E+00	4.91E-03	2.09E+02	1.15E+03	1.35E+03	1.35E+03	1.00E+00	1.30E-01	2.19E-01	5.32E-01	6.00E-01	6.00E-01	3.00E-02	3.00E-02	1.00E+00	--	8.35E-02	2.30E-01	2.62E-01	2.12E-01
Uranium	1.00E+00	7.80E-02	6.79E-01	6.79E-01	6.79E-01	6.70E-01	4.91E-03	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.00E+00	1.30E-01	5.00E-05	9.50E-04	8.52E-04	5.76E-04	2.00E-04	2.00E-04	1.00E+00	1.49E-06	1.13E-05	1.13E-05	1.13E-05	1.11E-05
Vanadium	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	2.44E+01	3.62E+01	3.87E+01	3.87E+01	1.00E+00	1.30E-01	1.00E-03	2.12E-03	1.49E-03	2.01E-03	2.50E-03	2.50E-03	1.00E+00	4.76E-04	5.08E-04	6.53E-04	6.84E-04	6.84E-04
Zinc	1.00E+00	7.80E-02	1.40E+01	1.40E+01	1.40E+01	1.40E+01	4.91E-03	1.97E+01	1.97E+01	1.97E+01	1.97E+01	1.00E+00	1.30E-01	9.76E-03	7.28E-03	7.18E-03	7.27E-03	9.00E-05	9.00E-05	1.00E+00	1.07E-04	1.07E-04	1.07E-04	1.07E-04	1.07E-04

Equation: $Ch = F \times Qp_i \times Cfo + Qs \times Cs \times Bs + Qw \times Cw \times Ba_{wildlife} \times MF$ where: $Ba_{wildlife} = Ba_{beef}$

Table B.30

Deposition to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Annual Deposition Rate (Dr) (refer to table B.7) (g/m^2-yr)	Water Body Surface Area (A_w) (refer to table B.9) (m^2)	Total Wet & Dry Particle and Wet Vapor Direct Deposition to Water (L_{DEP}) (g/yr)
Particulate Matter			
Total Particulate Matter	7.69E+02	2.95E+05	2.27E+08
Particulate Matter (PM10)	9.49E+01	2.95E+05	2.80E+07
Particulate Matter (PM2.5)	4.46E-01	2.95E+05	1.32E+05
Metals			
Aluminum	7.69E+01	2.95E+05	2.27E+07
Antimony	2.31E-03	2.95E+05	6.81E+02
Arsenic	3.00E-01	2.95E+05	8.85E+04
Barium	6.23E-01	2.95E+05	1.84E+05
Beryllium	2.31E-03	2.95E+05	6.81E+02
Bismuth	2.54E-04	2.95E+05	7.49E+01
Boron	1.92E-02	2.95E+05	5.67E+03
Cadmium	9.23E-05	2.95E+05	2.72E+01
Calcium	1.00E+01	2.95E+05	2.95E+06
Chromium Total	8.54E-02	2.95E+05	2.52E+04
Cobalt	1.38E-02	2.95E+05	4.09E+03
Copper	2.85E-02	2.95E+05	8.40E+03
Iron	3.31E+01	2.95E+05	9.76E+06
Lead	2.85E-02	2.95E+05	8.40E+03
Lithium	4.69E-02	2.95E+05	1.38E+04
Magnesium	1.15E+01	2.95E+05	3.40E+06
Manganese	7.09E-01	2.95E+05	2.09E+05
Mercury, element	2.03E-04	2.95E+05	5.87E+01
Mercury, divalent	--	2.95E+05	--
Mercury, methyl	--	2.95E+05	--
Molybdenum	6.16E-04	2.95E+05	1.82E+02
Nickel	3.15E-02	2.95E+05	9.31E+03
Phosphorus	5.31E-01	2.95E+05	1.57E+05
Potassium	2.46E+01	2.95E+05	7.26E+06
Rubidium	4.59E-03	2.95E+05	1.36E+03
Selenium	2.69E-04	2.95E+05	7.94E+01
Silver	3.85E-04	2.95E+05	1.13E+02
Sodium	1.46E+01	2.95E+05	4.31E+06
Strontium	1.62E-01	2.95E+05	4.77E+04
Thallium	6.08E-04	2.95E+05	1.79E+02
Tin	2.31E-03	2.95E+05	6.81E+02
Titanium	3.23E+00	2.95E+05	9.53E+05
Uranium	1.38E-03	2.95E+05	4.09E+02
Vanadium	6.16E-02	2.95E+05	1.82E+04
Zinc	8.46E-02	2.95E+05	2.50E+04

Equation: $L_{DEP} = Hg_{factor} \times Dr \times A_W$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.48), and methylmercury (0)

Table B.31

Liquid Phase Transfer Coefficient
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Diffusivity in Water (Dw) (refer to table B.10) (cm^2/s)	Creek: Current Velocity (μ) (refer to table B.9) (m/s)	Creek: Total Water Body Depth (d_{wc}) (refer to table B.9) (m)	Creek: Units Conversion Factor (CF1) (m^2/cm^2)	Lake: Drag Coefficient (C_d) (refer to table B.9) -	Lake: Average Annual Wind Speed (W) (refer to table B.9) (m/s)	Lake: Density of Air (ρ_a) (refer to table B.9) (g/cm^3)	Lake: Density of Water (ρ_w) (refer to table B.9) (g/cm^3)	Lake: von Karman's Constant (k) (refer to table B.9) -	Lake: Dimensionless Viscous Sublayer Thickness (λ_z) (refer to table B.9) -	Lake: Viscosity of Water at Water Temperature (μ_w) (refer to table B.9) (g/cm-s)	Units Conversion Factor (CF2) (s/yr)	Liquid Phase Transfer Coefficient Creek K_L (m/yr)
Particulate Matter													
Total Particulate Matter	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Particulate Matter (PM10)	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Particulate Matter (PM2.5)	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Metals													
Aluminum	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Antimony	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Arsenic	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Barium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Beryllium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Bismuth	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Boron	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Cadmium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Calcium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Chromium Total	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Cobalt	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Copper	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Iron	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Lead	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Lithium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Magnesium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Manganese	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Mercury, element	6.30E-06	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	7.88E+02
Mercury, divalent	5.20E-06	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	7.16E+02
Mercury, methyl	6.10E-06	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	7.75E+02
Molybdenum	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Nickel	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Phosphorus	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Potassium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Rubidium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Selenium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Silver	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Sodium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Strontium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Thallium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Tin	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Titanium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Uranium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Vanadium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Zinc	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--

Equation: For the Creek, K_L = [Square Root of (($CF1 \times D_w \times \mu$) / d_{wc})] x CF2

Table B.32

Overall Transfer Rate Coefficient
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Liquid Phase Transfer Coefficient Creek (K_{L1}) (refer to table B.31) (m/yr)	Lake: Drag Coefficient (C_d) (refer to table B.9) -	Lake: Average Annual Wind Speed (W) (refer to table B.9) (m/s)	Lake: Density of Air (ρ_a) (refer to table B.9) (g/cm^3)	Lake: von Karman's Constant (k) (refer to table B.9) -	Lake: Dimensionless Viscous Sublayer Thickness (λ_z) (refer to table B.9) -	Lake: Viscosity of Air (μ_a) (refer to table B.9) (g/cm-s)	Lake: Diffusivity in Air (Da) (refer to table B.10) (cm^2/s)	Units Conversion Factor (CF1) (s/yr)	Gas Phase Transfer Coefficient Creek (K_G) (m/yr)	Henry's Law Constant (H) (refer to table B.10) (atm-m^3/mol)	Universal Gas Constant (R) (refer to table B.9) (atm-m^3/mol-K)	Water Body Temperature (T_a) (refer to table B.9) (k)	Temperature Correction Factor θ -	Overall Transfer Rate Coefficient K_v (m/yr)
Particulate Matter															
Total Particulate Matter	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Particulate Matter (PM10)	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Particulate Matter (PM2.5)	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Metals															
Aluminum	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Antimony	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Arsenic	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Barium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Beryllium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Bismuth	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Boron	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Cadmium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Calcium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Chromium Total	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Cobalt	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Copper	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Iron	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Lead	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Lithium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Magnesium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Manganese	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Mercury, element	7.88E+02	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	3.07E-02	3.15E+07	3.65E+04	1.15E-02	8.21E-05	2.80E+02	1.03E+00	5.37E+02
Mercury, divalent	7.16E+02	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	4.50E-02	3.15E+07	3.65E+04	7.10E-10	8.21E-05	2.80E+02	1.03E+00	8.04E-04
Mercury, methyl	7.75E+02	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	5.30E-02	3.15E+07	3.65E+04	7.22E-03	8.21E-05	2.80E+02	1.03E+00	5.17E+02
Molybdenum	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Nickel	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Phosphorus	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Potassium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Rubidium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Selenium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Silver	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Sodium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Strontium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Thallium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Tin	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Titanium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Uranium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Vanadium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Zinc	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--

Equation: $K_v = [K_L^{-1} + (K_G \times H/(R \times T_a))^{-1}]^{-1} \times \theta^{(1.8 \times -293)}$

For the Creek K_G = 36500 refer to Table B-9 for K_G

Table B.33

Diffusion Load to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Overall Transfer Rate Coefficient (K_v) (refer to table B.33) (m/yr)	Predicted Air Concentration (Coa) (refer to table B.6) (µg/m^3)	Water Body Surface Area A_W (refer to table B.30) (m^2)	Henry's Law Constant (H) (refer to table B.10) (atm-m^3/mol)	Universal Gas Constant (R) (refer to table B.9) (atm-m^3/mol-K)	Water Body Temperature T_a (refer to table B.9) (K)	Units Conversion Factor (CF) (g/ug)	Dry Vapor Phase Diffusion Load to Water Body (L_{dif}) (g/yr)
Particulate Matter								
Total Particulate Matter	--	2.40E+02	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Particulate Matter (PM10)	--	6.05E+01	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Particulate Matter (PM2.5)	--	1.57E+01	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Metals								
Aluminum	--	1.09E-01	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Antimony	--	1.63E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Arsenic	--	4.33E-04	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Barium	--	8.85E-02	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Beryllium	--	1.63E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Bismuth	--	8.20E-06	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Boron	--	3.71E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Cadmium	--	5.62E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Calcium	--	--	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Chromium Total	--	1.58E-03	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Cobalt	--	3.54E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Copper	--	3.39E-01	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Iron	--	1.12E-01	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Lead	--	2.44E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Lithium	--	9.02E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Magnesium	--	--	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Manganese	--	1.80E-03	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Mercury, element	5.37E+02	2.21E-06	2.95E+05	1.15E-02	8.21E-05	2.80E+02	1.00E-06	6.84E-04
Mercury, divalent	8.04E-04	--	2.95E+05	7.10E-10	8.21E-05	2.80E+02	1.00E-06	--
Mercury, methyl	5.17E+02	--	2.95E+05	7.22E-03	8.21E-05	2.80E+02	1.00E-06	--
Molybdenum	--	3.13E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Nickel	--	1.81E-03	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Phosphorus	--	--	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Potassium	--	--	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Rubidium	--	4.99E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Selenium	--	1.22E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Silver	--	1.48E-04	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Sodium	--	--	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Strontium	--	5.48E-04	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Thallium	--	9.52E-06	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Tin	--	1.85E-03	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Titanium	--	2.26E-03	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Uranium	--	9.76E-06	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Vanadium	--	3.30E-04	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Zinc	--	1.90E-02	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--

Equation:

$$L_{DIF} = \frac{(K_v \times Hg_{factor} \times Coa \times A_w \times CF) \times (R \times T_a)}{H}$$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.48), and methylmercury (0)

Table B.34

Impervious Runoff Load to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Annual Deposition Rate (Dr) (refer to table B.7) (g/m^2-yr)	Impervious Watershed Area (A_I) (refer to table B.9) (m^2)	Runoff Load Impervious Surfaces (L_{RI}) (g/yr)
Particulate Matter			
Total Particulate Matter	7.69E+02	2.95E+05	2.27E+08
Particulate Matter (PM10)	9.49E+01	2.95E+05	2.80E+07
Particulate Matter (PM2.5)	4.46E-01	2.95E+05	1.32E+05
Metals			
Aluminum	7.69E+01	2.95E+05	2.27E+07
Antimony	2.31E-03	2.95E+05	6.81E+02
Arsenic	3.00E-01	2.95E+05	8.85E+04
Barium	6.23E-01	2.95E+05	1.84E+05
Beryllium	2.31E-03	2.95E+05	6.81E+02
Bismuth	2.54E-04	2.95E+05	7.49E+01
Boron	1.92E-02	2.95E+05	5.67E+03
Cadmium	9.23E-05	2.95E+05	2.72E+01
Calcium	1.00E+01	2.95E+05	2.95E+06
Chromium Total	8.54E-02	2.95E+05	2.52E+04
Cobalt	1.38E-02	2.95E+05	4.09E+03
Copper	2.85E-02	2.95E+05	8.40E+03
Iron	3.31E+01	2.95E+05	9.76E+06
Lead	2.85E-02	2.95E+05	8.40E+03
Lithium	4.69E-02	2.95E+05	1.38E+04
Magnesium	1.15E+01	2.95E+05	3.40E+06
Manganese	7.09E-01	2.95E+05	2.09E+05
Mercury, element	2.03E-04	2.95E+05	5.87E+01
Mercury, divalent	--	2.95E+05	--
Mercury, methyl	--	2.95E+05	--
Molybdenum	6.16E-04	2.95E+05	1.82E+02
Nickel	3.15E-02	2.95E+05	9.31E+03
Phosphorus	5.31E-01	2.95E+05	1.57E+05
Potassium	2.46E+01	2.95E+05	7.26E+06
Rubidium	4.59E-03	2.95E+05	1.36E+03
Selenium	2.69E-04	2.95E+05	7.94E+01
Silver	3.85E-04	2.95E+05	1.13E+02
Sodium	1.46E+01	2.95E+05	4.31E+06
Strontium	1.62E-01	2.95E+05	4.77E+04
Thallium	6.08E-04	2.95E+05	1.79E+02
Tin	2.31E-03	2.95E+05	6.81E+02
Titanium	3.23E+00	2.95E+05	9.53E+05
Uranium	1.38E-03	2.95E+05	4.09E+02
Vanadium	6.16E-02	2.95E+05	1.82E+04
Zinc	8.46E-02	2.95E+05	2.50E+04

Equation: $L_{RI} = Hg_{factor} \times Dr \times A_I$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.48), and methylmercury (0)

Table B.35

Pervious Runoff Load to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Average Annual Surface Runoff Pervious Areas (RO) (refer to table B.9) (cm/yr)	Total Watershed Area Receiving Deposition (A_L) (refer to table B.9) (m^2)	Impervious Watershed Area (A_I) (refer to table B.34) (m^2)	Predicted Soil Concentration Construction (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Operations (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Reclamation (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Post-Closure (Cs) (refer to table B.16) (mg/kg)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	Soil Volumetric Water Content (θ_{sw}) (refer to table B.9) (ml/cm^3)	Soil-Water Partition Coefficient (Kds) (refer to table B.10) (cm^3/g)	Unit Conversion Factor (CF) ($kg\text{-}cm^2/mg\text{-}m^2$)	Runoff Load Pervious Surfaces Construction (L_R) (g/yr)	Runoff Load Pervious Surfaces Operations (L_R) (g/yr)	Runoff Load Pervious Surfaces Reclamation (L_R) (g/yr)	Runoff Load Pervious Surfaces Post-Closure (L_R) (g/yr)
Particulate Matter															
Total Particulate Matter	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Particulate Matter (PM10)	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Particulate Matter (PM2.5)	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Metals															
Aluminum	7.89E+01	3.79E+06	2.95E+05	1.45E+04	3.66E+04	4.18E+04	4.18E+04	1.50E+00	2.00E-01	1.50E+03	1.00E-02	2.67E+07	6.74E+07	7.69E+07	7.69E+07
Antimony	7.89E+01	3.79E+06	2.95E+05	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E+00	2.00E-01	4.50E+01	1.00E-02	6.12E+04	6.12E+04	6.12E+04	6.12E+04
Arsenic	7.89E+01	3.79E+06	2.95E+05	8.75E+00	9.08E+00	9.08E+00	9.08E+00	1.50E+00	2.00E-01	2.90E+01	1.00E-02	8.29E+05	8.61E+05	8.61E+05	8.61E+05
Barium	7.89E+01	3.79E+06	2.95E+05	3.73E+01	3.73E+01	3.73E+01	3.73E+01	1.50E+00	2.00E-01	4.10E+01	1.00E-02	2.50E+06	2.50E+06	2.50E+06	2.50E+06
Beryllium	7.89E+01	3.79E+06	2.95E+05	1.07E+00	1.37E+00	1.43E+00	1.43E+00	1.50E+00	2.00E-01	7.90E+02	1.00E-02	3.74E+03	4.78E+03	4.99E+03	4.99E+03
Bismuth	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Boron	7.89E+01	3.79E+06	2.95E+05	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.50E+00	2.00E-01	3.00E+00	1.00E-02	2.20E+07	2.20E+07	2.20E+07	2.20E+07
Cadmium	7.89E+01	3.79E+06	2.95E+05	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.50E+00	2.00E-01	7.50E+01	1.00E-02	5.51E+03	5.51E+03	5.51E+03	5.51E+03
Calcium	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Chromium Total	7.89E+01	3.79E+06	2.95E+05	1.27E+01	1.27E+01	1.27E+01	1.27E+01	1.50E+00	2.00E-01	1.90E+01	1.00E-02	1.83E+06	1.83E+06	1.83E+06	1.83E+06
Cobalt	7.89E+01	3.79E+06	2.95E+05	2.27E+00	2.27E+00	2.27E+00	2.27E+00	1.50E+00	2.00E-01	4.50E+01	1.00E-02	1.39E+05	1.39E+05	1.39E+05	1.39E+05
Copper	7.89E+01	3.79E+06	2.95E+05	6.56E+00	6.56E+00	6.56E+00	6.56E+00	1.50E+00	2.00E-01	3.50E+01	1.00E-02	5.16E+05	5.16E+05	5.16E+05	5.16E+05
Iron	7.89E+01	3.79E+06	2.95E+05	1.64E+04	1.64E+04	1.64E+04	1.64E+04	1.50E+00	2.00E-01	2.50E+01	1.00E-02	1.80E+09	1.80E+09	1.80E+09	1.80E+09
Lead	7.89E+01	3.79E+06	2.95E+05	1.56E+01	1.92E+01	1.99E+01	1.99E+01	1.50E+00	2.00E-01	9.00E+02	1.00E-02	4.79E+04	5.89E+04	6.12E+04	6.12E+04
Lithium	7.89E+01	3.79E+06	2.95E+05	9.61E+00	1.31E+01	1.35E+01	1.35E+01	1.50E+00	2.00E-01	3.00E+02	1.00E-02	8.84E+04	1.20E+05	1.24E+05	1.24E+05
Magnesium	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Manganese	7.89E+01	3.79E+06	2.95E+05	9.66E+01	9.66E+01	9.66E+01	9.66E+01	1.50E+00	2.00E-01	6.50E+01	1.00E-02	4.10E+06	4.10E+06	4.10E+06	4.10E+06
Mercury, element	7.89E+01	3.79E+06	2.95E+05	1.62E-01	1.62E-01	1.62E-01	1.62E-01	1.50E+00	2.00E-01	3.30E+03	1.00E-02	1.33E+02	1.33E+02	1.33E+02	1.33E+02
Mercury, divalent	7.89E+01	3.79E+06	2.95E+05	6.31E-03	3.89E-02	4.72E-02	4.72E-02	1.50E+00	2.00E-01	3.30E+03	1.00E-02	1.06E-01	6.51E-01	7.90E-01	7.90E-01
Mercury, methyl	7.89E+01	3.79E+06	2.95E+05	6.06E-08	6.06E-08	6.06E-08	6.06E-08	1.50E+00	2.00E-01	2.00E+01	1.00E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Molybdenum	7.89E+01	3.79E+06	2.95E+05	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E+00	2.00E-01	2.00E+01	1.00E-02	1.37E+05	1.37E+05	1.37E+05	1.37E+05
Nickel	7.89E+01	3.79E+06	2.95E+05	6.91E+00	6.91E+00	6.91E+00	6.91E+00	1.50E+00	2.00E-01	6.50E+01	1.00E-02	2.93E+05	2.93E+05	2.93E+05	2.93E+05
Phosphorus	7.89E+01	3.79E+06	2.95E+05	2.00E+00	2.00E+00	2.00E+00	2.00E+00	1.50E+00	2.00E-01	3.50E+00	1.00E-02	1.52E+06	1.52E+06	1.52E+06	1.52E+06
Potassium	7.89E+01	3.79E+06	2.95E+05	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.50E+00	2.00E-01	5.50E+00	1.00E-02	7.06E+07	7.06E+07	7.06E+07	7.06E+07
Rubidium	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Selenium	7.89E+01	3.79E+06	2.95E+05	8.64E-01	8.64E-01	8.64E-01	8.64E-01	1.50E+00	2.00E-01	5.00E+00	1.00E-02	4.65E+05	4.65E+05	4.65E+05	4.65E+05
Silver	7.89E+01	3.79E+06	2.95E+05	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.50E+00	2.00E-01	8.30E+00	1.00E-02	8.19E+04	8.19E+04	8.19E+04	8.19E+04
Sodium	7.89E+01	3.79E+06	2.95E+05	7.20E+02	1.50E+03	1.51E+03	1.51E+03	1.50E+00	2.00E-01	1.00E+02	1.00E-02	1.98E+07	4.13E+07	4.17E+07	4.17E+07
Strontium	7.89E+01	3.79E+06	2.95E+05	1.94E+01	1.94E+01	1.94E+01	1.94E+01	1.50E+00	2.00E-01	3.50E+01	1.00E-02	1.52E+06	1.52E+06	1.52E+06	1.52E+06
Thallium	7.89E+01	3.79E+06	2.95E+05	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.50E+00	2.00E-01	7.10E+01	1.00E-02	1.94E+03	1.94E+03	1.94E+03	1.94E+03
Tin	7.89E+01	3.79E+06	2.95E+05	5.23E-01	5.81E-01	5.87E-01	5.87E-01	1.50E+00	2.00E-01	2.50E+02	1.00E-02	5.77E+03	6.41E+03	6.48E+03	6.48E+03
Titanium	7.89E+01	3.79E+06	2.95E+05	2.09E+02	1.15E+03	1.35E+03	1.35E+03	1.50E+00	2.00E-01	1.00E+03	1.00E-02	5.76E+05	3.16E+06	3.72E+06	3.72E+06
Uranium	7.89E+01	3.79E+06	2.95E+05	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.50E+00	2.00E-01	4.50E+02	1.00E-02	4.11E+03	4.11E+03	4.11E+03	4.11E+03
Vanadium	7.89E+01	3.79E+06	2.95E+05	2.44E+01	3.62E+01	3.87E+01	3.87E+01	1.50E+00	2.00E-01	1.00E+03	1.00E-02	6.74E+04	9.99E+04	1.07E+05	1.07E+05
Zinc	7.89E+01	3.79E+06	2.95E+05	1.97E+01	1.97E+01	1.97E+01	1.97E+01	1.50E+00	2.00E-01	6.20E+01	1.00E-02	8.76E+05	8.76E+05	8.76E+05	8.76E+05

Equation:

$$L_R = RO \times (A_L - A_I) \times \frac{Cs \times BD}{\theta_{sw} + Kds \times BD} \times CF \times Hg_{factor}$$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.48), and methylmercury (0)

Table B.36

Universal Soil Loss Equation (USLE)
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	USLE Rainfall Factor (RF) (refer to table B.9) (1/yr)	USLE Erodibility Factor K (refer to table B.9) (ton/acre)	USLE Length-Slope Factor (LS) (refer to table B.9) -	USLE Cover Management Factor (C) (refer to table B.9) -	USLE Supporting Practice Factor (P) (refer to table B.9) -	Unit Conversion Factor (CF1) (kg/ton)	Unit Conversion Factor (CF2) (m^2/acre)	Unit Soil Loss X_e (kg/m^2-yr)
Particulate Matter								
Total Particulate Matter	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Particulate Matter (PM10)	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Particulate Matter (PM2.5)	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Metals								
Aluminum	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Antimony	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Arsenic	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Barium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Beryllium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Bismuth	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Boron	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Cadmium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Calcium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Chromium Total	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Cobalt	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Copper	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Iron	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Lead	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Lithium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Magnesium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Manganese	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Mercury, element	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Mercury, divalent	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Mercury, methyl	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Molybdenum	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Nickel	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Phosphorus	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Potassium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Rubidium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Selenium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Silver	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Sodium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Strontium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Thallium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Tin	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Titanium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Uranium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Vanadium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Zinc	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00

Equation: X_e = RF x K x LS x C x P x CF1/CF2

Table B.37

Sediment Delivery Ratio
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Empirical Intercept Coefficient (a) (refer to table B.9) -	Total Watershed Area Receiving Deposition (A_L) (refer to table B.35) (m^2)	Empirical Slope Coefficient (b) (refer to table B.9) -	Watershed Sediment Delivery Ratio (SD) -
Particulate Matter				
Total Particulate Matter	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Particulate Matter (PM10)	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Particulate Matter (PM2.5)	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Metals				
Aluminum	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Antimony	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Arsenic	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Barium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Beryllium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Bismuth	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Boron	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Cadmium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Calcium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Chromium Total	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Cobalt	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Copper	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Iron	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Lead	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Lithium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Magnesium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Manganese	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Mercury, element	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Mercury, divalent	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Mercury, methyl	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Molybdenum	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Nickel	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Phosphorus	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Potassium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Rubidium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Selenium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Silver	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Sodium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Strontium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Thallium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Tin	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Titanium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Uranium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Vanadium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Zinc	1.40E+00	3.79E+06	1.25E-01	2.11E-01

Equation: $SD = a \times (A_L)^{-b}$

Table B.38

Erosion Load to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Unit Soil Loss (X_o) (refer to table B.36) (kg/m^2-yr)	Total Watershed Area Receiving Deposition (A_L) (refer to table B.35) (m^2)	Impervious Watershed Area (A_I) (refer to table B.35) (m^2)	Watershed Sediment Delivery Ratio (SD) (refer to table B.37) -	Soil Enrichment Ratio (ER) -	Predicted Soil Concentration: Construction (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration: Operations (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration: Reclamation (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration: Post-Closure (Cs) (refer to table B.16) (mg/kg)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	Soil Volumetric Water Content (θ_{sw}) (refer to table B.9) (ml/cm^3)	Soil-Water Partition Coefficient (Kds) (refer to table B.35) (cm^3/g)	Unit Conversion Factor (CF) ((g/kg)/(mg/kg))	Erosion Load to Water Body: Construction (L_E) (g/yr)	Erosion Load to Water Body: Operations (L_E) (g/yr)	Erosion Load to Water Body: Reclamation (L_E) (g/yr)	Erosion Load to Water Body: Post-Closure (L_E) (g/yr)
Particulate Matter																	
Total Particulate Matter	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Particulate Matter (PM10)	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Particulate Matter (PM2.5)	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Metals																	
Aluminum	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.45E+04	3.66E+04	4.18E+04	4.18E+04	1.50E+00	2.00E-01	1.50E+03	1.00E-03	2.15E+07	5.43E+07	6.20E+07	6.20E+07
Antimony	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E+00	2.00E-01	4.50E+01	1.00E-03	1.48E+03	1.48E+03	1.48E+03	1.48E+03
Arsenic	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	8.75E+00	9.08E+00	9.08E+00	9.08E+00	1.50E+00	2.00E-01	2.90E+01	1.00E-03	1.29E+04	1.34E+04	1.34E+04	1.34E+04
Barium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	3.73E+01	3.73E+01	3.73E+01	3.73E+01	1.50E+00	2.00E-01	4.10E+01	1.00E-03	5.51E+04	5.51E+04	5.51E+04	5.51E+04
Beryllium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.07E+00	1.37E+00	1.43E+00	1.43E+00	1.50E+00	2.00E-01	7.90E+02	1.00E-03	1.59E+03	2.03E+03	2.12E+03	2.12E+03
Bismuth	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Boron	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.50E+00	2.00E-01	3.00E+00	1.00E-03	3.55E+04	3.55E+04	3.55E+04	3.55E+04
Cadmium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.50E+00	2.00E-01	7.50E+01	1.00E-03	2.22E+02	2.22E+02	2.22E+02	2.22E+02
Calcium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Chromium Total	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.27E+01	1.27E+01	1.27E+01	1.27E+01	1.50E+00	2.00E-01	1.90E+01	1.00E-03	1.87E+04	1.87E+04	1.87E+04	1.87E+04
Cobalt	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.27E+00	2.27E+00	2.27E+00	2.27E+00	1.50E+00	2.00E-01	4.50E+01	1.00E-03	3.36E+03	3.36E+03	3.36E+03	3.36E+03
Copper	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	6.56E+00	6.56E+00	6.56E+00	6.56E+00	1.50E+00	2.00E-01	3.50E+01	1.00E-03	9.69E+03	9.69E+03	9.69E+03	9.69E+03
Iron	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.64E+04	1.64E+04	1.64E+04	1.64E+04	1.50E+00	2.00E-01	2.50E+01	1.00E-03	2.42E+07	2.42E+07	2.42E+07	2.42E+07
Lead	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.56E+01	1.92E+01	1.99E+01	1.99E+01	1.50E+00	2.00E-01	9.00E+02	1.00E-03	2.32E+04	2.85E+04	2.96E+04	2.96E+04
Lithium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	9.61E+00	1.31E+01	1.35E+01	1.35E+01	1.50E+00	2.00E-01	3.00E+02	1.00E-03	1.42E+04	1.94E+04	2.00E+04	2.00E+04
Magnesium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Manganese	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	9.66E+01	9.66E+01	9.66E+01	9.66E+01	1.50E+00	2.00E-01	6.50E+01	1.00E-03	1.43E+05	1.43E+05	1.43E+05	1.43E+05
Mercury, element	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.62E-01	1.62E-01	1.62E-01	1.62E-01	1.50E+00	2.00E-01	3.30E+03	1.00E-03	2.40E+02	2.40E+02	2.40E+02	2.40E+02
Mercury, divalent	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	6.31E-03	3.89E-02	4.72E-02	4.72E-02	1.50E+00	2.00E-01	3.30E+03	1.00E-03	9.36E+00	5.77E+01	7.00E+01	7.00E+01
Mercury, methyl	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	6.06E-08	6.06E-08	6.06E-08	6.06E-08	1.50E+00	2.00E-01	2.00E+01	1.00E-03	8.93E-05	8.93E-05	8.93E-05	8.93E-05
Molybdenum	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E+00	2.00E-01	2.00E+01	1.00E-03	1.47E+03	1.47E+03	1.47E+03	1.47E+03
Nickel	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	6.91E+00	6.91E+00	6.91E+00	6.91E+00	1.50E+00	2.00E-01	6.50E+01	1.00E-03	1.02E+04	1.02E+04	1.02E+04	1.02E+04
Phosphorus	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.00E+00	2.00E+00	2.00E+00	2.00E+00	1.50E+00	2.00E-01	3.50E+00	1.00E-03	2.86E+03	2.86E+03	2.86E+03	2.86E+03
Potassium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.50E+00	2.00E-01	5.50E+00	1.00E-03	2.09E+05	2.09E+05	2.09E+05	2.09E+05
Rubidium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Selenium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	8.64E-01	8.64E-01	8.64E-01	8.64E-01	1.50E+00	2.00E-01	5.00E+00	1.00E-03	1.25E+03	1.25E+03	1.25E+03	1.25E+03
Silver	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.50E+00	2.00E-01	8.30E+00	1.00E-03	3.65E+02	3.65E+02	3.65E+02	3.65E+02
Sodium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	7.20E+02	1.50E+03	1.51E+03	1.51E+03	1.50E+00	2.00E-01	1.00E+02	1.00E-03	1.07E+06	2.22E+06	2.24E+06	2.24E+06
Strontium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.94E+01	1.94E+01	1.94E+01	1.94E+01	1.50E+00	2.00E-01	3.50E+01	1.00E-03	2.87E+04	2.87E+04	2.87E+04	2.87E+04
Thallium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.50E+00	2.00E-01	7.10E+01	1.00E-03	7.40E+01	7.40E+01	7.40E+01	7.40E+01
Tin	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	5.23E-01	5.81E-01	5.87E-01	5.87E-01	1.50E+00	2.00E-01	2.50E+02	1.00E-03	7.75E+02	8.61E+02	8.70E+02	8.70E+02
Titanium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.09E+02	1.15E+03	1.35E+03	1.35E+03	1.50E+00	2.00E-01	1.00E+03	1.00E-03	3.09E+05	1.70E+06	2.00E+06	2.00E+06
Uranium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.50E+00	2.00E-01	4.50E+02	1.00E-03	9.94E+02	9.94E+02	9.94E+02	9.94E+02
Vanadium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.44E+01	3.62E+01	3.87E+01	3.87E+01	1.50E+00	2.00E-01	1.00E+03	1.00E-03	3.62E+04	5.37E+04	5.74E+04	5.74E+04
Zinc	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.97E+01	1.97E+01	1.97E+01	1.97E+01	1.50E+00	2.00E-01	6.20E+01	1.00E-03	2.92E+04	2.92E+04	2.92E+04	2.92E+04

Equation: $L_E = X_o \times (A_L - A_I) \times SD \times ER \times \frac{Cs \times Kds \times BD}{\theta_{sw} + Kds \times BD} \times CF$

Table B.39

Total Water Body Load
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Total Wet & Dry Particle and Wet Vapor Direct Deposition to Water (L_{DEP}) (refer to table B.30) (g/yr)	Vapor Phase Diffusion to Water (L_{DIF}) (refer to table B.33) (g/yr)	Runoff Load Impervious Surfaces (L_{RI}) (refer to table B.34) (g/yr)	Runoff Load Pervious Surfaces Construction (L_R) (refer to table B.35) (g/yr)	Runoff Load Pervious Surfaces Operations (L_R) (refer to table B.35) (g/yr)	Runoff Load Pervious Surfaces Reclamation (L_R) (refer to table B.35) (g/yr)	Runoff Load Pervious Surfaces Post-Closure (L_R) (refer to table B.35) (g/yr)	Soil Erosion Load Construction (L_E) (refer to table B.38) (g/yr)	Soil Erosion Load Operations (L_E) (refer to table B.38) (g/yr)	Soil Erosion Load Reclamation (L_E) (refer to table B.38) (g/yr)	Soil Erosion Load Post-Closure (L_E) (refer to table B.38) (g/yr)	Total Load to Surface Water Construction (L_T) (g/yr)	Total Load to Surface Water Operations (L_T) (g/yr)	Total Load to Surface Water Reclamation (L_T) (g/yr)	Total Load to Surface Water Post-Closure (L_T) (g/yr)
Particulate Matter															
Total Particulate Matter	2.27E+08	0.00E+00	2.27E+08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.54E+08	4.54E+08	4.54E+08	4.54E+08
Particulate Matter (PM10)	2.80E+07	0.00E+00	2.80E+07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.60E+07	5.60E+07	5.60E+07	5.60E+07
Particulate Matter (PM2.5)	1.32E+05	0.00E+00	1.32E+05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.63E+05	2.63E+05	2.63E+05	2.63E+05
Metals															
Aluminum	2.27E+07	0.00E+00	2.27E+07	2.67E+07	6.74E+07	7.69E+07	7.69E+07	2.15E+07	5.43E+07	6.20E+07	6.20E+07	9.36E+07	1.67E+08	1.84E+08	1.84E+08
Antimony	6.81E+02	0.00E+00	6.81E+02	6.12E+04	6.12E+04	6.12E+04	6.12E+04	1.48E+03	1.48E+03	1.48E+03	1.48E+03	6.40E+04	6.40E+04	6.40E+04	6.40E+04
Arsenic	8.85E+04	0.00E+00	8.85E+04	8.29E+05	8.61E+05	8.61E+05	8.61E+05	1.29E+04	1.34E+04	1.34E+04	1.34E+04	1.02E+06	1.05E+06	1.05E+06	1.05E+06
Barium	1.84E+05	0.00E+00	1.84E+05	2.50E+06	2.50E+06	2.50E+06	2.50E+06	5.51E+04	5.51E+04	5.51E+04	5.51E+04	2.93E+06	2.93E+06	2.93E+06	2.93E+06
Beryllium	6.81E+02	0.00E+00	6.81E+02	3.74E+03	4.78E+03	4.99E+03	4.99E+03	1.59E+03	2.03E+03	2.12E+03	2.12E+03	6.69E+03	8.17E+03	8.47E+03	8.47E+03
Bismuth	7.49E+01	0.00E+00	7.49E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E+02	1.50E+02	1.50E+02	1.50E+02
Boron	5.67E+03	0.00E+00	5.67E+03	2.20E+07	2.20E+07	2.20E+07	2.20E+07	3.55E+04	3.55E+04	3.55E+04	3.55E+04	2.21E+07	2.21E+07	2.21E+07	2.21E+07
Cadmium	2.72E+01	0.00E+00	2.72E+01	5.51E+03	5.51E+03	5.51E+03	5.51E+03	2.22E+02	2.22E+02	2.22E+02	2.22E+02	5.79E+03	5.79E+03	5.79E+03	5.79E+03
Calcium	2.95E+06	0.00E+00	2.95E+06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.90E+06	5.90E+06	5.90E+06	5.90E+06
Chromium Total	2.52E+04	0.00E+00	2.52E+04	1.83E+06	1.83E+06	1.83E+06	1.83E+06	1.87E+04	1.87E+04	1.87E+04	1.87E+04	1.90E+06	1.90E+06	1.90E+06	1.90E+06
Cobalt	4.09E+03	0.00E+00	4.09E+03	1.39E+05	1.39E+05	1.39E+05	1.39E+05	3.36E+03	3.36E+03	3.36E+03	3.36E+03	1.50E+05	1.50E+05	1.50E+05	1.50E+05
Copper	8.40E+03	0.00E+00	8.40E+03	5.16E+05	5.16E+05	5.16E+05	5.16E+05	9.69E+03	9.69E+03	9.69E+03	9.69E+03	5.42E+05	5.42E+05	5.42E+05	5.42E+05
Iron	9.76E+06	0.00E+00	9.76E+06	1.80E+09	1.80E+09	1.80E+09	1.80E+09	2.42E+07	2.42E+07	2.42E+07	2.42E+07	1.85E+09	1.85E+09	1.85E+09	1.85E+09
Lead	8.40E+03	0.00E+00	8.40E+03	4.79E+04	5.89E+04	6.12E+04	6.12E+04	2.32E+04	2.85E+04	2.96E+04	2.96E+04	8.79E+04	1.04E+05	1.08E+05	1.08E+05
Lithium	1.38E+04	0.00E+00	1.38E+04	8.84E+04	1.20E+05	1.24E+05	1.24E+05	1.42E+04	1.94E+04	2.00E+04	2.00E+04	1.30E+05	1.67E+05	1.72E+05	1.72E+05
Magnesium	3.40E+06	0.00E+00	3.40E+06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.81E+06	6.81E+06	6.81E+06	6.81E+06
Manganese	2.09E+05	0.00E+00	2.09E+05	4.10E+06	4.10E+06	4.10E+06	4.10E+06	1.43E+05	1.43E+05	1.43E+05	1.43E+05	4.66E+06	4.66E+06	4.66E+06	4.66E+06
Mercury, element	5.87E+01	6.84E-04	5.87E+01	1.33E+02	1.33E+02	1.33E+02	1.33E+02	2.40E+02	2.40E+02	2.40E+02	2.40E+02	4.91E+02	4.91E+02	4.91E+02	4.91E+02
Mercury, divalent	0.00E+00	0.00E+00	0.00E+00	1.06E-01	6.51E-01	7.90E-01	7.90E-01	9.36E+00	5.77E+01	7.00E+01	7.00E+01	9.46E+00	5.83E+01	7.08E+01	7.08E+01
Mercury, methyl	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.93E-05	8.93E-05	8.93E-05	8.93E-05	8.93E-05	8.93E-05	8.93E-05	8.93E-05
Molybdenum	1.82E+02	0.00E+00	1.82E+02	1.37E+05	1.37E+05	1.37E+05	1.37E+05	1.47E+03	1.47E+03	1.47E+03	1.47E+03	1.39E+05	1.39E+05	1.39E+05	1.39E+05
Nickel	9.31E+03	0.00E+00	9.31E+03	2.93E+05	2.93E+05	2.93E+05	2.93E+05	1.02E+04	1.02E+04	1.02E+04	1.02E+04	3.22E+05	3.22E+05	3.22E+05	3.22E+05
Phosphorus	1.57E+05	0.00E+00	1.57E+05	1.52E+06	1.52E+06	1.52E+06	1.52E+06	2.86E+03	2.86E+03	2.86E+03	2.86E+03	1.84E+06	1.84E+06	1.84E+06	1.84E+06
Potassium	7.26E+06	0.00E+00	7.26E+06	7.06E+07	7.06E+07	7.06E+07	7.06E+07	2.09E+05	2.09E+05	2.09E+05	2.09E+05	8.54E+07	8.54E+07	8.54E+07	8.54E+07
Rubidium	1.36E+03	0.00E+00	1.36E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.71E+03	2.71E+03	2.71E+03	2.71E+03
Selenium	7.94E+01	0.00E+00	7.94E+01	4.65E+05	4.65E+05	4.65E+05	4.65E+05	1.25E+03	1.25E+03	1.25E+03	1.25E+03	4.66E+05	4.66E+05	4.66E+05	4.66E+05
Silver	1.13E+02	0.00E+00	1.13E+02	8.19E+04	8.19E+04	8.19E+04	8.19E+04	3.65E+02	3.65E+02	3.65E+02	3.65E+02	8.25E+04	8.25E+04	8.25E+04	8.25E+04
Sodium	4.31E+06	0.00E+00	4.31E+06	1.98E+07	4.13E+07	4.17E+07	4.17E+07	1.07E+06	2.22E+06	2.24E+06	2.24E+06	2.95E+07	5.21E+07	5.26E+07	5.26E+07
Strontium	4.77E+04	0.00E+00	4.77E+04	1.52E+06	1.52E+06	1.52E+06	1.52E+06	2.87E+04	2.87E+04	2.87E+04	2.87E+04	1.65E+06	1.65E+06	1.65E+06	1.65E+06
Thallium	1.79E+02	0.00E+00	1.79E+02	1.94E+03	1.94E+03	1.94E+03	1.94E+03	7.40E+01	7.40E+01	7.40E+01	7.40E+01	2.37E+03	2.37E+03	2.37E+03	2.37E+03
Tin	6.81E+02	0.00E+00	6.81E+02	5.77E+03	6.41E+03	6.48E+03	6.48E+03	7.75E+02	8.61E+02	8.70E+02	8.70E+02	7.91E+03	8.64E+03	8.71E+03	8.71E+03
Titanium	9.53E+05	0.00E+00	9.53E+05	5.76E+05	3.16E+06	3.72E+06	3.72E+06	3.09E+05	1.70E+06	2.00E+06	2.00E+06	2.79E+06	6.77E+06	7.63E+06	7.63E+06
Uranium	4.09E+02	0.00E+00	4.09E+02	4.11E+03	4.11E+03	4.11E+03	4.11E+03	9.94E+02	9.94E+02	9.94E+02	9.94E+02	5.92E+03	5.92E+03	5.92E+03	5.92E+03
Vanadium	1.82E+04	0.00E+00	1.82E+04	6.74E+04	9.99E+04	1.07E+05	1.07E+05	3.62E+04	5.37E+04	5.74E+04	5.74E+04	1.40E+05	1.90E+05	2.01E+05	2.01E+05
Zinc	2.50E+04	0.00E+00	2.50E+04	8.76E+05	8.76E+05	8.76E+05	8.76E+05	2.92E+04	2.92E+04	2.92E+04	2.92E+04	9.55E+05	9.55E+05	9.55E+05	9.55E+05

Equation: $L_T = L_{DEP} + L_{DIF} + L_{RI} + L_R + L_E$

Table B.40

Total Water Body (Surface Water and Bed Sediment) Predicted Concentrations
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Total Load to Surface Water				Average Volumetric Flow rate	Fraction Total Water Body Conc. in Water Column	Overall Total Water Body Dissipation Rate Constant	Water Body Surface Area	Depth of Water Column	Depth of Upper Benthic Sediment Layer	Total Water Body Predicted Concentrations Load to Surface Water & Sediment			
	Construction (L_T) (refer to table B.39)	Operations (L_T) (refer to table B.39)	Reclamation (L_T) (refer to table B.39)	Post-Closure (L_T) (refer to table B.39)	(Vf_x) (refer to table B.9)	(f_{wc}) (refer to table B.41)	k_{wt} (refer to table B.44)	(A_w) (refer to table B.30)	(d_{wc}) (refer to table B.9)	(d_{bs}) (refer to table B.9)	Construction (Cwb)	Operations (Cwb)	Reclamation (Cwb)	Post-Closure (Cwb)
Contaminant	(g/yr)	(g/yr)	(g/yr)	(g/yr)	(m^3/yr)	-	(1/yr)	(m^2)	(m)	(m)	(g/m^3 or mg/L)	(g/m^3 or mg/L)	(g/m^3 or mg/L)	(g/m^3 or mg/L)
Particulate Matter														
Total Particulate Matter	4.54E+08	4.54E+08	4.54E+08	4.54E+08	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Particulate Matter (PM10)	5.60E+07	5.60E+07	5.60E+07	5.60E+07	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Particulate Matter (PM2.5)	2.63E+05	2.63E+05	2.63E+05	2.63E+05	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Metals														
Aluminum	9.36E+07	1.67E+08	1.84E+08	1.84E+08	1.25E+07	6.24E-03	1.67E-01	2.95E+05	2.79E-01	3.00E-02	1.01E+03	1.80E+03	1.98E+03	1.98E+03
Antimony	6.40E+04	6.40E+04	6.40E+04	6.40E+04	1.25E+07	1.69E-01	1.39E-01	2.95E+05	2.79E-01	3.00E-02	3.02E-02	3.02E-02	3.02E-02	3.02E-02
Arsenic	1.02E+06	1.05E+06	1.05E+06	1.05E+06	1.25E+07	2.39E-01	1.28E-01	2.95E+05	2.79E-01	3.00E-02	3.41E-01	3.52E-01	3.52E-01	3.52E-01
Barium	2.93E+06	2.93E+06	2.93E+06	2.93E+06	1.25E+07	1.83E-01	1.37E-01	2.95E+05	2.79E-01	3.00E-02	1.28E+00	1.28E+00	1.28E+00	1.28E+00
Beryllium	6.69E+03	8.17E+03	8.47E+03	8.47E+03	1.25E+07	1.17E-02	1.66E-01	2.95E+05	2.79E-01	3.00E-02	4.16E-02	5.07E-02	5.26E-02	5.26E-02
Bismuth	1.50E+02	1.50E+02	1.50E+02	1.50E+02	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Boron	2.21E+07	2.21E+07	2.21E+07	2.21E+07	1.25E+07	7.21E-01	4.68E-02	2.95E+05	2.79E-01	3.00E-02	2.46E+00	2.46E+00	2.46E+00	2.46E+00
Cadmium	5.79E+03	5.79E+03	5.79E+03	5.79E+03	1.25E+07	1.09E-01	1.49E-01	2.95E+05	2.79E-01	3.00E-02	4.20E-03	4.20E-03	4.20E-03	4.20E-03
Calcium	5.90E+06	5.90E+06	5.90E+06	5.90E+06	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Chromium Total	1.90E+06	1.90E+06	1.90E+06	1.90E+06	1.25E+07	3.22E-01	1.14E-01	2.95E+05	2.79E-01	3.00E-02	4.74E-01	4.74E-01	4.74E-01	4.74E-01
Cobalt	2.93E+06	2.93E+06	2.93E+06	2.93E+06	1.25E+07	1.69E-01	1.39E-01	2.95E+05	2.79E-01	3.00E-02	1.38E+00	1.38E+00	1.38E+00	1.38E+00
Copper	6.69E+03	8.17E+03	8.47E+03	8.47E+03	1.25E+07	2.07E-01	1.33E-01	2.95E+05	2.79E-01	3.00E-02	2.58E-03	3.15E-03	3.27E-03	3.27E-03
Iron	1.85E+09	1.85E+09	1.85E+09	1.85E+09	1.25E+07	2.66E-01	1.23E-01	2.95E+05	2.79E-01	3.00E-02	5.54E+02	5.54E+02	5.54E+02	5.54E+02
Lead	8.79E+04	1.04E+05	1.08E+05	1.08E+05	1.25E+07	1.03E-02	1.66E-01	2.95E+05	2.79E-01	3.00E-02	6.12E-01	7.26E-01	7.50E-01	7.50E-01
Lithium	1.30E+05	1.67E+05	1.72E+05	1.72E+05	1.25E+07	3.01E-02	1.63E-01	2.95E+05	2.79E-01	3.00E-02	3.35E-01	4.30E-01	4.42E-01	4.42E-01
Magnesium	6.81E+06	6.81E+06	6.81E+06	6.81E+06	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Manganese	4.66E+06	4.66E+06	4.66E+06	4.66E+06	1.25E+07	1.24E-01	1.47E-01	2.95E+05	2.79E-01	3.00E-02	2.98E+00	2.98E+00	2.98E+00	2.98E+00
Mercury, element	4.91E+02	4.91E+02	4.91E+02	4.91E+02	1.25E+07	5.26E-04	7.80E-01	2.95E+05	2.79E-01	3.00E-02	6.33E-03	6.33E-03	6.33E-03	6.33E-03
Mercury, divalent	9.46E+00	5.83E+01	7.08E+01	7.08E+01	1.25E+07	5.26E-04	1.68E-01	2.95E+05	2.79E-01	3.00E-02	4.34E-04	2.68E-03	3.25E-03	3.25E-03
Mercury, methyl	8.93E-05	8.93E-05	8.93E-05	8.93E-05	1.25E+07	5.48E-02	9.17E+01	2.95E+05	2.79E-01	3.00E-02	9.89E-12	9.89E-12	9.89E-12	9.89E-12
Molybdenum	1.39E+05	1.39E+05	1.39E+05	1.39E+05	1.25E+07	3.11E-01	1.16E-01	2.95E+05	2.79E-01	3.00E-02	3.58E-02	3.58E-02	3.58E-02	3.58E-02
Nickel	3.22E+05	3.22E+05	3.22E+05	3.22E+05	1.25E+07	1.24E-01	1.47E-01	2.95E+05	2.79E-01	3.00E-02	2.06E-01	2.06E-01	2.06E-01	2.06E-01
Phosphorus	1.84E+06	1.84E+06	1.84E+06	1.84E+06	1.25E+07	6.94E-01	5.13E-02	2.95E+05	2.79E-01	3.00E-02	2.13E-01	2.13E-01	2.13E-01	2.13E-01
Potassium	8.54E+07	8.54E+07	8.54E+07	8.54E+07	1.25E+07	6.04E-01	6.65E-02	2.95E+05	2.79E-01	3.00E-02	1.13E+01	1.13E+01	1.13E+01	1.13E+01
Rubidium	2.71E+03	2.71E+03	2.71E+03	2.71E+03	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Selenium	4.66E+05	4.66E+05	4.66E+05	4.66E+05	1.25E+07	6.24E-01	6.31E-02	2.95E+05	2.79E-01	3.00E-02	5.99E-02	5.99E-02	5.99E-02	5.99E-02
Silver	8.25E+04	8.25E+04	8.25E+04	8.25E+04	1.25E+07	5.11E-01	8.20E-02	2.95E+05	2.79E-01	3.00E-02	1.29E-02	1.29E-02	1.29E-02	1.29E-02
Sodium	2.95E+07	5.21E+07	5.26E+07	5.26E+07	1.25E+07	8.46E-02	1.53E-01	2.95E+05	2.79E-01	3.00E-02	2.76E+01	4.88E+01	4.92E+01	4.92E+01
Strontium	1.65E+06	1.65E+06	1.65E+06	1.65E+06	1.25E+07	2.07E-01	1.33E-01	2.95E+05	2.79E-01	3.00E-02	6.36E-01	6.36E-01	6.36E-01	6.36E-01
Thallium	2.37E+03	2.37E+03	2.37E+03	2.37E+03	1.25E+07	1.15E-01	1.48E-01	2.95E+05	2.79E-01	3.00E-02	1.64E-03	1.64E-03	1.64E-03	1.64E-03
Tin	7.91E+03	8.64E+03	8.71E+03	8.71E+03	1.25E+07	3.58E-02	1.62E-01	2.95E+05	2.79E-01	3.00E-02	1.71E-02	1.87E-02	1.89E-02	1.89E-02
Titanium	2.79E+06	6.77E+06	7.63E+06	7.63E+06	1.25E+07	9.29E-03	1.66E-01	2.95E+05	2.79E-01	3.00E-02	2.13E+01	5.17E+01	5.83E+01	5.83E+01
Uranium	5.92E+03	5.92E+03	5.92E+03	5.92E+03	1.25E+07	2.03E-02	1.64E-01	2.95E+05	2.79E-01	3.00E-02	2.21E-02	2.21E-02	2.21E-02	2.21E-02
Vanadium	1.40E+05	1.90E+05	2.01E+05	2.01E+05	1.25E+07	9.29E-03	1.66E-01	2.95E+05	2.79E-01	3.00E-02	1.07E+00	1.45E+00	1.53E+00	1.53E+00
Zinc	9.55E+05	9.55E+05	9.55E+05	9.55E+05	1.25E+07	1.29E-01	1.46E-01	2.95E+05	2.79E-01	3.00E-02	5.88E-01	5.88E-01	5.88E-01	5.88E-01

Equation:

$$Cwb = \frac{L_T}{Vf_x \times f_{wc} + k_{wt} \times A_w \times (d_{wc} + d_{bs})}$$

Table B.41

Fraction in Water Column and in Benthic Sediment
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Suspended Sediments/ Surface Water Partition Coefficient (Kdsw) (refer to table B.10) (L/kg)	Total Suspended Solids Concentration (TSS) (refer to table B.9) (mg/L)	Unit Conversion Factor (CF) (kg/mg)	Depth of Water Column (d_{wc}) (refer to table B.9) (m)	Depth of Upper Benthic Sediment Layer (d_{bs}) (refer to table B.9) (m)	Total Water Body Depth (d_z) (m)	Bed Sediment Concentration (C_{BS}) (refer to table B.9) (kg/L)	Bed Sediment Porosity (θ_{bs}) (refer to table B.9) (L_{wat}/L_{sed})	Bed Sediments/ Sediment Pore Water Partition Coefficient (Kdbs) (refer to table B.10) (L/kg)	Fraction Total Water Body Conc. in Water Column (f_{wc}) -	Fraction Total Water Body Conc. in Benthic Sediment (f_{bs}) -
Particulate Matter											
Total Particulate Matter	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Particulate Matter (PM10)	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Particulate Matter (PM2.5)	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Metals											
Aluminum	1.50E+03	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.50E+03	6.24E-03	9.94E-01
Antimony	4.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	4.50E+01	1.69E-01	8.31E-01
Arsenic	2.90E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.90E+01	2.39E-01	7.61E-01
Barium	4.10E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	4.10E+01	1.83E-01	8.17E-01
Beryllium	7.90E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	7.90E+02	1.17E-02	9.88E-01
Bismuth	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Boron	3.00E+00	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	3.00E+00	7.21E-01	2.79E-01
Cadmium	7.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	7.50E+01	1.09E-01	8.91E-01
Calcium	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Chromium Total	1.90E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.90E+01	3.22E-01	6.78E-01
Cobalt	4.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	4.50E+01	1.69E-01	8.31E-01
Copper	3.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	3.50E+01	2.07E-01	7.93E-01
Iron	2.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.50E+01	2.66E-01	7.34E-01
Lead	9.00E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	9.00E+02	1.03E-02	9.90E-01
Lithium	3.00E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	3.00E+02	3.01E-02	9.70E-01
Magnesium	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Manganese	6.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	6.50E+01	1.24E-01	8.76E-01
Mercury, element	4.95E+04	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.64E+04	5.26E-04	9.99E-01
Mercury, divalent	4.95E+04	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.64E+04	5.26E-04	9.99E-01
Mercury, methyl	3.00E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.60E+02	5.48E-02	9.45E-01
Molybdenum	2.00E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.00E+01	3.11E-01	6.89E-01
Nickel	6.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	6.50E+01	1.24E-01	8.76E-01
Phosphorus	3.50E+00	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	3.50E+00	6.94E-01	3.06E-01
Potassium	5.50E+00	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	5.50E+00	6.04E-01	3.96E-01
Rubidium	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Selenium	5.00E+00	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	5.00E+00	6.24E-01	3.76E-01
Silver	8.30E+00	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	8.30E+00	5.11E-01	4.89E-01
Sodium	1.00E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.00E+02	8.46E-02	9.15E-01
Strontium	3.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	3.50E+01	2.07E-01	7.93E-01
Thallium	7.10E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	7.10E+01	1.15E-01	8.85E-01
Tin	2.50E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.50E+02	3.58E-02	9.64E-01
Titanium	1.00E+03	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.00E+03	9.29E-03	9.91E-01
Uranium	4.50E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	4.50E+02	2.03E-02	9.80E-01
Vanadium	1.00E+03	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.00E+03	9.29E-03	9.91E-01
Zinc	6.20E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	6.20E+01	1.29E-01	8.71E-01

Equation: $f_{bs} = 1 - f_{wc}$ where: $f_{wc} = \dfrac{(1 + Kdsw \times TSS \times CF) \times d_{wc} / d_z}{(1 + Kdsw \times TSS \times CF) \times d_{wc}/d_z + (\theta_{bs} + Kdbs \times C_{BS}) \times d_{bs} / d_z}$

$d_z = d_{wc} + d_{bs}$

Table B.42

Water Column Volatilization Loss Rate Constant
Surface Water Direct Contact Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Overall Transfer Rate Coefficient (K_V) (refer to table B.32) (m/yr)	Total Water Body Depth (d_z) (refer to table B.41) (m)	Suspended Sediments/ Surface Water Partition Coefficient (Kdsw) (refer to table B.10) (L/kg)	Total Suspended Solids Concentration (TSS) (refer to table B.9) (mg/L)	Unit Conversion Factor (CF) (kg/mg)	Water Column Volatilization Rate Constant k_v (yr^{-1})
Particulate Matter						
Total Particulate Matter	--	3.09E-01	--	1.00E+01	1.00E-06	--
Particulate Matter (PM10)	--	3.09E-01	--	1.00E+01	1.00E-06	--
Particulate Matter (PM2.5)	--	3.09E-01	--	1.00E+01	1.00E-06	--
Metals						
Aluminum	--	3.09E-01	1.50E+03	1.00E+01	1.00E-06	--
Antimony	--	3.09E-01	4.50E+01	1.00E+01	1.00E-06	--
Arsenic	--	3.09E-01	2.90E+01	1.00E+01	1.00E-06	--
Barium	--	3.09E-01	4.10E+01	1.00E+01	1.00E-06	--
Beryllium	--	3.09E-01	7.90E+02	1.00E+01	1.00E-06	--
Bismuth	--	3.09E-01	--	1.00E+01	1.00E-06	--
Boron	--	3.09E-01	3.00E+00	1.00E+01	1.00E-06	--
Cadmium	--	3.09E-01	7.50E+01	1.00E+01	1.00E-06	--
Calcium	--	3.09E-01	--	1.00E+01	1.00E-06	--
Chromium Total	--	3.09E-01	1.90E+01	1.00E+01	1.00E-06	--
Cobalt	--	3.09E-01	4.50E+01	1.00E+01	1.00E-06	--
Copper	--	3.09E-01	3.50E+01	1.00E+01	1.00E-06	--
Iron	--	3.09E-01	2.50E+01	1.00E+01	1.00E-06	--
Lead	--	3.09E-01	9.00E+02	1.00E+01	1.00E-06	--
Lithium	--	3.09E-01	3.00E+02	1.00E+01	1.00E-06	--
Magnesium	--	3.09E-01	--	1.00E+01	1.00E-06	--
Manganese	--	3.09E-01	6.50E+01	1.00E+01	1.00E-06	--
Mercury, element	5.37E+02	3.09E-01	4.95E+04	1.00E+01	1.00E-06	1.16E+03
Mercury, divalent	8.04E-04	3.09E-01	4.95E+04	1.00E+01	1.00E-06	1.74E-03
Mercury, methyl	5.17E+02	3.09E-01	3.00E+02	1.00E+01	1.00E-06	1.67E+03
Molybdenum	--	3.09E-01	2.00E+01	1.00E+01	1.00E-06	--
Nickel	--	3.09E-01	6.50E+01	1.00E+01	1.00E-06	--
Phosphorus	--	3.09E-01	3.50E+00	1.00E+01	1.00E-06	--
Potassium	--	3.09E-01	5.50E+00	1.00E+01	1.00E-06	--
Rubidium	--	3.09E-01	--	1.00E+01	1.00E-06	--
Selenium	--	3.09E-01	5.00E+00	1.00E+01	1.00E-06	--
Silver	--	3.09E-01	8.30E+00	1.00E+01	1.00E-06	--
Sodium	--	3.09E-01	1.00E+02	1.00E+01	1.00E-06	--
Strontium	--	3.09E-01	3.50E+01	1.00E+01	1.00E-06	--
Thallium	--	3.09E-01	7.10E+01	1.00E+01	1.00E-06	--
Tin	--	3.09E-01	2.50E+02	1.00E+01	1.00E-06	--
Titanium	--	3.09E-01	1.00E+03	1.00E+01	1.00E-06	--
Uranium	--	3.09E-01	4.50E+02	1.00E+01	1.00E-06	--
Vanadium	--	3.09E-01	1.00E+03	1.00E+01	1.00E-06	--
Zinc	--	3.09E-01	6.20E+01	1.00E+01	1.00E-06	--

Equation:

$$k_v = \frac{K_v}{d_z \times (1 + Kdsw \times TSS \times CF)}$$

Table B.43

Benthic Burial Rate Constant
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Unit Soil Loss (X_e) (refer to table B.36) (kg/m^2-yr)	Total Watershed Area Receiving Deposition (A_L) (refer to table B.35) (m^2)	Watershed Sediment Delivery Ratio (SD) (refer to table B.37) -	Unit Conversion Factor (CF1) (g/kg)	Avg. Volumetric Flow Rate of Water Body (Vf_x) (refer to table B.9) (m^3/yr)	Total Suspended Solids Concentration (TSS) (refer to table B.9) (mg/L)	Water Body Surface Area (A_W) (refer to table B.33) (m^2)	Unit Conversion Factor (CF2) (kg/mg)	Bed Sediment Concentration (C_{BS}) (refer to table B.9) (g/cm^3)	Depth of Upper Benthic Sediment Layer (d_{bs}) (refer to table B.9) (m)	Benthic Burial Rate Constant (k_b) (yr^{-1})
Particulate Matter											
Total Particulate Matter	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Particulate Matter (PM10)	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Particulate Matter (PM2.5)	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Metals											
Aluminum	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Antimony	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Arsenic	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Barium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Beryllium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Bismuth	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Boron	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Cadmium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Calcium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Chromium Total	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Cobalt	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Copper	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Iron	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Lead	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Lithium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Magnesium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Manganese	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Mercury, element	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Mercury, divalent	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Mercury, methyl	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Molybdenum	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Nickel	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Phosphorus	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Potassium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Rubidium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Selenium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Silver	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Sodium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Strontium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Thallium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Tin	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Titanium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Uranium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Vanadium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Zinc	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01

Equation:

$$k_b = \frac{(X_e \times A_L \times SD \times CF1 - Vf_x \times TSS)}{(A_w \times TSS)} \times \frac{(TSS \times CF2)}{(C_{BS} \times d_{bs})}$$

Table B.44

Overall Total Surface River Dissipation Rate Constant
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction Total Water Body Conc. in Water Column (f_{wc}) (refer to table B.41) -	Water Column Volatilization Rate Constant (k_v) (refer to table B.42) (yr^{-1})	Fraction Total Water Body Conc. in Benthic Sediment (f_{bs}) (refer to table B.41) -	Benthic Burial Rate Constant (k_b) (refer to table B.43) (yr^{-1})	Overall Total Water Body Dissipation Rate Constant (k_{wt}) (yr^{-1})
Particulate Matter					
Total Particulate Matter	--	--	--	1.68E-01	--
Particulate Matter (PM10)	--	--	--	1.68E-01	--
Particulate Matter (PM2.5)	--	--	--	1.68E-01	--
Metals					
Aluminum	6.24E-03	--	9.94E-01	1.68E-01	1.67E-01
Antimony	1.69E-01	--	8.31E-01	1.68E-01	1.39E-01
Arsenic	2.39E-01	--	7.61E-01	1.68E-01	1.28E-01
Barium	1.83E-01	--	8.17E-01	1.68E-01	1.37E-01
Beryllium	1.17E-02	--	9.88E-01	1.68E-01	1.66E-01
Bismuth	--	--	--	1.68E-01	--
Boron	7.21E-01	--	2.79E-01	1.68E-01	4.68E-02
Cadmium	1.09E-01	--	8.91E-01	1.68E-01	1.49E-01
Calcium	--	--	--	1.68E-01	--
Chromium Total	3.22E-01	--	6.78E-01	1.68E-01	1.14E-01
Cobalt	1.69E-01	--	8.31E-01	1.68E-01	1.39E-01
Copper	2.07E-01	--	7.93E-01	1.68E-01	1.33E-01
Iron	2.66E-01	--	7.34E-01	1.68E-01	1.23E-01
Lead	1.03E-02	--	9.90E-01	1.68E-01	1.66E-01
Lithium	3.01E-02	--	9.70E-01	1.68E-01	1.63E-01
Magnesium	--	--	--	1.68E-01	--
Manganese	1.24E-01	--	8.76E-01	1.68E-01	1.47E-01
Mercury, element	5.26E-04	1.16E+03	9.99E-01	1.68E-01	7.80E-01
Mercury, divalent	5.26E-04	1.74E-03	9.99E-01	1.68E-01	1.68E-01
Mercury, methyl	5.48E-02	1.67E+03	9.45E-01	1.68E-01	9.17E+01
Molybdenum	3.11E-01	--	6.89E-01	1.68E-01	1.16E-01
Nickel	1.24E-01	--	8.76E-01	1.68E-01	1.47E-01
Phosphorus	6.94E-01	--	3.06E-01	1.68E-01	5.13E-02
Potassium	6.04E-01	--	3.96E-01	1.68E-01	6.65E-02
Rubidium	--	--	--	1.68E-01	--
Selenium	6.24E-01	--	3.76E-01	1.68E-01	6.31E-02
Silver	5.11E-01	--	4.89E-01	1.68E-01	8.20E-02
Sodium	8.46E-02	--	9.15E-01	1.68E-01	1.53E-01
Strontium	2.07E-01	--	7.93E-01	1.68E-01	1.33E-01
Thallium	1.15E-01	--	8.85E-01	1.68E-01	1.48E-01
Tin	3.58E-02	--	9.64E-01	1.68E-01	1.62E-01
Titanium	9.29E-03	--	9.91E-01	1.68E-01	1.66E-01
Uranium	2.03E-02	--	9.80E-01	1.68E-01	1.64E-01
Vanadium	9.29E-03	--	9.91E-01	1.68E-01	1.66E-01
Zinc	1.29E-01	--	8.71E-01	1.68E-01	1.46E-01

Equation: $k_{wt} = f_{wc} \times k_v + f_{bs} \times k_b$

Table B.45

Total Surface Water Predicted Concentrations
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction Total Water Body Conc. in Water Column (f_{wc}) (refer to table B.41) -	Total Water Body Predicted Concentrations Load to Surface Water & Sediment: Construction (Cwb) (refer to table B.40) (mg/L)	Operations (Cwb) (refer to table B.40) (mg/L)	Reclamation (Cwb) (refer to table B.40) (mg/L)	Post-Closure (Cwb) (refer to table B.40) (mg/L)	Depth of Water Column (d_{wc}) (refer to table B.40) (m)	Depth of Upper Benthic Sediment Layer (d_{bs}) (refer to table B.40) (m)	Predicted Total Concentration in Surface Water: Construction (Cw) (1) (mg/L)	Operations (Cw) (1) (mg/L)	Reclamation (Cw) (1) (mg/L)	Post-Closure (Cw) (1) (mg/L)	Predicted Total Concentration in Surface Water (2): Construction (Cw) (2) (mg/L)	Operations (Cw) (2) (mg/L)	Reclamation (Cw) (2) (mg/L)	Post-Closure (Cw) (2) (mg/L)
Particulate Matter															
Total Particulate Matter	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Metals															
Aluminum	6.24E-03	1.01E+03	1.80E+03	1.98E+03	1.98E+03	2.79E-01	3.00E-02	6.96E+00	1.24E+01	1.37E+01	1.37E+01	4.30E-01	1.99E-01	2.66E-01	3.61E-01
Antimony	1.69E-01	3.02E-02	3.02E-02	3.02E-02	3.02E-02	2.79E-01	3.00E-02	5.66E-03	5.66E-03	5.66E-03	5.66E-03	5.00E-04	4.39E-03	3.27E-03	2.20E-03
Arsenic	2.39E-01	3.41E-01	3.52E-01	3.52E-01	3.52E-01	2.79E-01	3.00E-02	9.02E-02	9.31E-02	9.31E-02	9.31E-02	6.77E-01	5.48E-02	5.21E-02	5.12E-02
Barium	1.83E-01	1.28E+00	1.28E+00	1.28E+00	1.28E+00	2.79E-01	3.00E-02	2.59E-01	2.59E-01	2.59E-01	2.59E-01	3.60E-03	7.09E-03	7.05E-03	5.73E-03
Beryllium	1.17E-02	4.16E-02	5.07E-02	5.26E-02	5.26E-02	2.79E-01	3.00E-02	5.39E-04	6.58E-04	6.82E-04	6.82E-04	5.00E-04	4.61E-04	4.71E-04	4.76E-04
Bismuth	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Boron	7.21E-01	2.46E+00	2.46E+00	2.46E+00	2.46E+00	2.79E-01	3.00E-02	1.96E+00	1.96E+00	1.96E+00	1.96E+00	1.96E+00	1.96E+00	1.96E+00	1.96E+00
Cadmium	1.09E-01	4.20E-03	4.20E-03	4.20E-03	4.20E-03	2.79E-01	3.00E-02	5.09E-04	5.09E-04	5.09E-04	5.09E-04	2.48E-05	1.98E-05	2.41E-05	3.70E-05
Calcium	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Chromium Total	3.22E-01	4.74E-01	4.74E-01	4.74E-01	4.74E-01	2.79E-01	3.00E-02	1.69E-01	1.69E-01	1.69E-01	1.69E-01	1.30E-03	8.58E-04	6.87E-04	8.60E-04
Cobalt	1.69E-01	1.38E+00	1.38E+00	1.38E+00	1.38E+00	2.79E-01	3.00E-02	2.59E-01	2.59E-01	2.59E-01	2.59E-01	2.00E-04	9.91E-04	9.35E-04	9.61E-04
Copper	2.07E-01	2.58E-03	3.15E-03	3.27E-03	3.27E-03	2.79E-01	3.00E-02	5.91E-04	7.22E-04	7.49E-04	7.49E-04	1.74E-03	1.96E-03	1.86E-03	9.20E-04
Iron	2.66E-01	5.54E+02	5.54E+02	5.54E+02	5.54E+02	2.79E-01	3.00E-02	1.63E+02	1.63E+02	1.63E+02	1.63E+02	1.17E+00	3.55E-01	4.55E-01	4.28E-01
Lead	1.03E-02	6.12E-01	7.26E-01	7.50E-01	7.50E-01	2.79E-01	3.00E-02	6.98E-03	8.28E-03	8.55E-03	8.55E-03	7.62E-04	8.22E-04	7.06E-04	9.27E-04
Lithium	3.01E-02	3.35E-01	4.30E-01	4.42E-01	4.42E-01	2.79E-01	3.00E-02	1.11E-02	1.43E-02	1.47E-02	1.47E-02	1.11E-02	1.43E-02	1.47E-02	1.47E-02
Magnesium	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Manganese	1.24E-01	2.98E+00	2.98E+00	2.98E+00	2.98E+00	2.79E-01	3.00E-02	4.10E-01	4.10E-01	4.10E-01	4.10E-01	8.03E-02	7.56E-02	4.92E-02	1.19E-01
Mercury, element	5.26E-04	6.33E-03	6.33E-03	6.33E-03	6.33E-03	2.79E-01	3.00E-02	3.68E-06	3.68E-06	3.68E-06	3.68E-06	1.36E-04	6.88E-06	7.05E-06	9.69E-06
Mercury, divalent	5.26E-04	4.34E-04	2.68E-03	3.25E-03	3.25E-03	2.79E-01	3.00E-02	2.53E-07	1.56E-06	1.89E-06	1.89E-06	2.53E-07	1.56E-06	1.89E-06	1.89E-06
Mercury, methyl	5.48E-02	9.89E-12	9.89E-12	9.89E-12	9.89E-12	2.79E-01	3.00E-02	6.01E-13	6.01E-13	6.01E-13	6.01E-13	6.01E-13	6.01E-13	6.01E-13	6.01E-13
Molybdenum	3.11E-01	3.58E-02	3.58E-02	3.58E-02	3.58E-02	2.79E-01	3.00E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02
Nickel	1.24E-01	2.06E-01	2.06E-01	2.06E-01	2.06E-01	2.79E-01	3.00E-02	2.84E-02	2.84E-02	2.84E-02	2.84E-02	1.00E-03	1.42E-02	6.10E-03	1.13E-02
Phosphorus	6.94E-01	2.13E-01	2.13E-01	2.13E-01	2.13E-01	2.79E-01	3.00E-02	1.63E-01	1.63E-01	1.63E-01	1.63E-01	1.63E-01	1.63E-01	1.63E-01	1.63E-01
Potassium	6.04E-01	1.13E+01	1.13E+01	1.13E+01	1.13E+01	2.79E-01	3.00E-02	7.58E+00	7.58E+00	7.58E+00	7.58E+00	7.58E+00	7.58E+00	7.58E+00	7.58E+00
Rubidium	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Selenium	6.24E-01	5.99E-02	5.99E-02	5.99E-02	5.99E-02	2.79E-01	3.00E-02	4.14E-02	4.14E-02	4.14E-02	4.14E-02	5.00E-04	4.88E-04	4.68E-04	5.58E-04
Silver	5.11E-01	1.29E-02	1.29E-02	1.29E-02	1.29E-02	2.79E-01	3.00E-02	7.32E-03	7.32E-03	7.32E-03	7.32E-03	5.00E-05	7.90E-05	7.04E-05	7.48E-05
Sodium	8.46E-02	2.76E+01	4.88E+01	4.92E+01	4.92E+01	2.79E-01	3.00E-02	2.59E+00	4.57E+00	4.61E+00	4.61E+00	2.59E+00	4.57E+00	4.61E+00	4.61E+00
Strontium	2.07E-01	6.36E-01	6.36E-01	6.36E-01	6.36E-01	2.79E-01	3.00E-02	1.46E-01	1.46E-01	1.46E-01	1.46E-01	1.46E-01	1.46E-01	1.46E-01	1.46E-01
Thallium	1.15E-01	1.64E-03	1.64E-03	1.64E-03	1.64E-03	2.79E-01	3.00E-02	2.09E-04	2.09E-04	2.09E-04	2.09E-04	5.00E-05	7.31E-05	6.61E-05	8.48E-05
Tin	3.58E-02	1.71E-02	1.87E-02	1.89E-02	1.89E-02	2.79E-01	3.00E-02	6.80E-04	7.43E-04	7.50E-04	7.50E-04	6.80E-04	7.43E-04	7.50E-04	7.50E-04
Titanium	9.29E-03	2.13E+01	5.17E+01	5.83E+01	5.83E+01	2.79E-01	3.00E-02	2.19E-01	5.32E-01	6.00E-01	6.00E-01	2.19E-01	5.32E-01	6.00E-01	6.00E-01
Uranium	2.03E-02	2.21E-02	2.21E-02	2.21E-02	2.21E-02	2.79E-01	3.00E-02	4.97E-04	4.97E-04	4.97E-04	4.97E-04	5.00E-05	9.50E-04	8.52E-04	5.76E-04
Vanadium	9.29E-03	1.07E+00	1.45E+00	1.53E+00	1.53E+00	2.79E-01	3.00E-02	1.10E-02	1.49E-02	1.58E-02	1.58E-02	1.00E-03	2.12E-03	1.49E-03	2.01E-03
Zinc	1.29E-01	5.88E-01	5.88E-01	5.88E-01	5.88E-01	2.79E-01	3.00E-02	8.41E-02	8.41E-02	8.41E-02	8.41E-02	9.76E-03	7.28E-03	7.18E-03	7.27E-03

Notes:
(1) Equation: $Cw = f_{wc} \times Cwb \times [(d_{wc} + d_{bs})/d_{wc}]$

(2) Refer to table B.8. For COPCs without values in table B.8, results reported are from the previous equation.

Table B.46

Predicted Dissolved Phase Surface Water Concentrations
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Total Concentration in Surface Water using GoldSIM software: Construction (Cw) (refer to table B.45) (mg/L)	Operations (Cw) (refer to table B.45) (mg/L)	Reclamation (Cw) (refer to table B.45) (mg/L)	Post-Closure (Cw) (refer to table B.45) (mg/L)	Suspended Sediments/ Surface Water Partition Coefficient (Kdsw) (refer to table B.41) (L/kg)	Total Suspended Solids Concentration (TSS) (refer to table B.41) (mg/L)	Unit Conversion Factor (CF) (kg/mg)	Dissolved Surface Water Predicted Concentration: Construction (Cdw) (mg/L)	Operations (Cdw) (mg/L)	Reclamation (Cdw) (mg/L)	Post-Closure (Cdw) (mg/L)
Particulate Matter											
Total Particulate Matter	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Metals											
Aluminum	4.30E-01	1.99E-01	2.66E-01	3.61E-01	1.50E+03	1.00E+01	1.00E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Antimony	5.00E-04	4.39E-03	3.27E-03	2.20E-03	4.50E+01	1.00E+01	1.00E-06	5.00E-04	4.38E-03	3.26E-03	2.20E-03
Arsenic	6.77E-01	5.48E-02	5.21E-02	5.12E-02	2.90E+01	1.00E+01	1.00E-06	6.77E-01	5.48E-02	5.21E-02	5.12E-02
Barium	3.60E-03	7.09E-03	7.05E-03	5.73E-03	4.10E+01	1.00E+01	1.00E-06	3.60E-03	7.08E-03	7.04E-03	5.72E-03
Beryllium	5.00E-04	4.61E-04	4.71E-04	4.76E-04	7.90E+02	1.00E+01	1.00E-06	4.96E-04	4.57E-04	4.68E-04	4.73E-04
Bismuth	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Boron	1.96E+00	1.96E+00	1.96E+00	1.96E+00	3.00E+00	1.00E+01	1.00E-06	1.96E+00	1.96E+00	1.96E+00	1.96E+00
Cadmium	2.48E-05	1.98E-05	2.41E-05	3.70E-05	7.50E+01	1.00E+01	1.00E-06	2.48E-05	1.98E-05	2.41E-05	3.70E-05
Calcium	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Chromium Total	1.30E-03	8.58E-04	6.87E-04	8.60E-04	1.90E+01	1.00E+01	1.00E-06	1.30E-03	8.58E-04	6.86E-04	8.60E-04
Cobalt	2.00E-04	9.91E-04	9.35E-04	9.61E-04	4.50E+01	1.00E+01	1.00E-06	2.00E-04	9.91E-04	9.35E-04	9.60E-04
Copper	1.74E-03	1.96E-03	1.86E-03	9.20E-04	3.50E+01	1.00E+01	1.00E-06	1.74E-03	1.96E-03	1.85E-03	9.20E-04
Iron	1.17E+00	3.55E-01	4.55E-01	4.28E-01	2.50E+01	1.00E+01	1.00E-06	1.17E+00	3.55E-01	4.55E-01	4.27E-01
Lead	7.62E-04	8.22E-04	7.06E-04	9.27E-04	9.00E+02	1.00E+01	1.00E-06	7.55E-04	8.15E-04	7.00E-04	9.19E-04
Lithium	1.11E-02	1.43E-02	1.47E-02	1.47E-02	3.00E+02	1.00E+01	1.00E-06	1.11E-02	1.43E-02	1.47E-02	1.47E-02
Magnesium	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Manganese	8.03E-02	7.56E-02	4.92E-02	1.19E-01	6.50E+01	1.00E+01	1.00E-06	8.03E-02	7.55E-02	4.92E-02	1.19E-01
Mercury, element	1.36E-04	6.88E-06	7.05E-06	9.69E-06	4.95E+04	1.00E+01	1.00E-06	9.12E-05	4.60E-06	4.72E-06	6.48E-06
Mercury, divalent	2.53E-07	1.56E-06	1.89E-06	1.89E-06	4.95E+04	1.00E+01	1.00E-06	1.69E-07	1.04E-06	1.26E-06	1.26E-06
Mercury, methyl	6.01E-13	6.01E-13	6.01E-13	6.01E-13	3.00E+02	1.00E+01	1.00E-06	5.99E-13	5.99E-13	5.99E-13	5.99E-13
Molybdenum	1.23E-02	1.23E-02	1.23E-02	1.23E-02	2.00E+01	1.00E+01	1.00E-06	1.23E-02	1.23E-02	1.23E-02	1.23E-02
Nickel	1.00E-03	1.42E-02	6.10E-03	1.13E-02	6.50E+01	1.00E+01	1.00E-06	9.99E-04	1.42E-02	6.10E-03	1.13E-02
Phosphorus	1.63E-01	1.63E-01	1.63E-01	1.63E-01	3.50E+00	1.00E+01	1.00E-06	1.63E-01	1.63E-01	1.63E-01	1.63E-01
Potassium	7.58E+00	7.58E+00	7.58E+00	7.58E+00	5.50E+00	1.00E+01	1.00E-06	7.58E+00	7.58E+00	7.58E+00	7.58E+00
Rubidium	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Selenium	5.00E-04	4.88E-04	4.68E-04	5.58E-04	5.00E+00	1.00E+01	1.00E-06	5.00E-04	4.88E-04	4.68E-04	5.58E-04
Silver	5.00E-05	7.90E-05	7.04E-05	7.48E-05	8.30E+00	1.00E+01	1.00E-06	5.00E-05	7.89E-05	7.04E-05	7.48E-05
Sodium	2.59E+00	4.57E+00	4.61E+00	4.61E+00	1.00E+02	1.00E+01	1.00E-06	2.59E+00	4.57E+00	4.61E+00	4.61E+00
Strontium	1.46E-01	1.46E-01	1.46E-01	1.46E-01	3.50E+01	1.00E+01	1.00E-06	1.46E-01	1.46E-01	1.46E-01	1.46E-01
Thallium	5.00E-05	7.31E-05	6.61E-05	8.48E-05	7.10E+01	1.00E+01	1.00E-06	5.00E-05	7.31E-05	6.61E-05	8.48E-05
Tin	6.80E-04	7.43E-04	7.50E-04	7.50E-04	2.50E+02	1.00E+01	1.00E-06	6.78E-04	7.41E-04	7.48E-04	7.48E-04
Titanium	2.19E-01	5.32E-01	6.00E-01	6.00E-01	1.00E+03	1.00E+01	1.00E-06	2.17E-01	5.27E-01	5.94E-01	5.94E-01
Uranium	5.00E-05	9.50E-04	8.52E-04	5.76E-04	4.50E+02	1.00E+01	1.00E-06	4.98E-05	9.46E-04	8.48E-04	5.73E-04
Vanadium	1.00E-03	2.12E-03	1.49E-03	2.01E-03	1.00E+03	1.00E+01	1.00E-06	9.90E-04	2.10E-03	1.47E-03	1.99E-03
Zinc	9.76E-03	7.28E-03	7.18E-03	7.27E-03	6.20E+01	1.00E+01	1.00E-06	9.75E-03	7.27E-03	7.17E-03	7.26E-03

Equation: $Cdw = \frac{Cw}{1 + Kd_{sw} \times TSS \times CF} \times Hg_{factor}$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.968), and methylmercury (0.032)

Table B.47

Predicted Sediment Concentrations
Sediment Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction Total Water Body Conc. in Benthic Sediment	Total Water Body Concentration Load to River Water & Sediment				Bed Sediments/ Sediment Pore Water Partition Coefficient	Bed Sediment Porosity	Bed Sediment Concentration	Depth of Water Column	Depth of Upper Benthic Sediment Layer	Baseline Sediment Concentration	Predicted Sediment Concentration			
	Construction (f_{bs}) (refer to table B.41)	Construction (Cwb) (refer to table B.40)	Operations (Cwb) (refer to table B.40)	Reclamation (Cwb) (refer to table B.40)	Post-Closure (Cwb) (refer to table B.40)	(Kdbs) (refer to table B.41)	(θ_{bs}) (refer to table B.41)	(C_{BS}) (refer to table B.41)	(d_{wc}) (refer to table B.40)	(d_{bs}) (refer to table B.40)	(Csed) (refer to table B.1)	Construction (Csed)	Operations (Csed)	Reclamation (Csed)	Post-Closure (Csed)
	-	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(L/kg)	(L_{wat}/L_{sed})	(g/cm^3)	(m)	(m)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Particulate Matter															
Total Particulate Matter	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	--	--	--	--
Metals															
Aluminum	9.94E-01	1.01E+03	1.80E+03	1.98E+03	1.98E+03	1.50E+03	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.50E+04	1.50E+04	1.84E+04	2.03E+04	2.03E+04
Antimony	8.31E-01	3.02E-02	3.02E-02	3.02E-02	3.02E-02	4.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	8.10E+01	8.10E+01	8.10E+01	8.10E+01	8.10E+01
Arsenic	7.61E-01	3.41E-01	3.52E-01	3.52E-01	3.52E-01	2.90E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.10E+05	1.10E+05	1.10E+05	1.10E+05	1.10E+05
Barium	8.17E-01	1.28E+00	1.28E+00	1.28E+00	1.28E+00	4.10E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	9.60E+01	9.60E+01	9.60E+01	9.60E+01	9.60E+01
Beryllium	9.88E-01	4.16E-02	5.07E-02	5.26E-02	5.26E-02	7.90E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Bismuth	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	5.40E+00	5.40E+00	5.40E+00	5.40E+00	5.40E+00
Boron	2.79E-01	2.46E+00	2.46E+00	2.46E+00	2.46E+00	3.00E+00	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.50E+01
Cadmium	8.91E-01	4.20E-03	4.20E-03	4.20E-03	4.20E-03	7.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	5.60E-01	5.60E-01	5.60E-01	5.60E-01	5.60E-01
Calcium	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	--	--	--	--
Chromium Total	6.78E-01	4.74E-01	4.74E-01	4.74E-01	4.74E-01	1.90E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.40E+01	2.40E+01	2.40E+01	2.40E+01	2.40E+01
Cobalt	8.31E-01	1.38E+00	1.38E+00	1.38E+00	1.38E+00	4.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.30E+02	1.30E+02	1.30E+02	1.30E+02	1.30E+02
Copper	7.93E-01	2.58E-03	3.15E-03	3.27E-03	3.27E-03	3.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	3.60E+01	3.60E+01	3.60E+01	3.60E+01	3.60E+01
Iron	7.34E-01	5.54E+02	5.54E+02	5.54E+02	5.54E+02	2.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.20E+05	1.20E+05	1.20E+05	1.20E+05	1.20E+05
Lead	9.90E-01	6.12E-01	7.26E-01	7.50E-01	7.50E-01	9.00E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02
Lithium	9.70E-01	3.35E-01	4.30E-01	4.42E-01	4.42E-01	3.00E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	3.10E+01	3.10E+01	3.10E+01	3.10E+01	3.10E+01
Magnesium	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	--	--	--	--
Manganese	8.76E-01	2.98E+00	2.98E+00	2.98E+00	2.98E+00	6.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	4.00E+02	4.00E+02	4.00E+02	4.00E+02	4.00E+02
Mercury, element	9.99E-01	6.33E-03	6.33E-03	6.33E-03	6.33E-03	2.64E+04	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.10E+01	1.10E+01	1.10E+01	1.10E+01	1.10E+01
Mercury, divalent	9.99E-01	4.34E-04	2.68E-03	3.25E-03	3.25E-03	2.64E+04	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	4.46E-03	2.75E-02	3.34E-02	3.34E-02
Mercury, methyl	9.45E-01	9.89E-12	9.89E-12	9.89E-12	9.89E-12	1.60E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	9.58E-11	9.58E-11	9.58E-11	9.58E-11
Molybdenum	6.89E-01	3.58E-02	3.58E-02	3.58E-02	3.58E-02	2.00E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	4.30E+00	4.30E+00	4.30E+00	4.30E+00	4.30E+00
Nickel	8.76E-01	2.06E-01	2.06E-01	2.06E-01	2.06E-01	6.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02
Phosphorus	3.06E-01	2.13E-01	2.13E-01	2.13E-01	2.13E-01	3.50E+00	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	5.72E-01	5.72E-01	5.72E-01	5.72E-01
Potassium	3.96E-01	1.13E+01	1.13E+01	1.13E+01	1.13E+01	5.50E+00	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	4.17E+01	4.17E+01	4.17E+01	4.17E+01
Rubidium	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	3.90E+01	3.90E+01	3.90E+01	3.90E+01	3.90E+01
Selenium	3.76E-01	5.99E-02	5.99E-02	5.99E-02	5.99E-02	5.00E+00	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.50E+00	2.50E+00	2.50E+00	2.50E+00	2.50E+00
Silver	4.89E-01	1.29E-02	1.29E-02	1.29E-02	1.29E-02	8.30E+00	6.00E-01	1.00E+00	2.79E-01	3.00E-02	3.40E+00	3.40E+00	3.40E+00	3.40E+00	3.40E+00
Sodium	9.15E-01	2.76E+01	4.88E+01	4.92E+01	4.92E+01	1.00E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	2.59E+02	4.57E+02	4.61E+02	4.61E+02
Strontium	7.93E-01	6.36E-01	6.36E-01	6.36E-01	6.36E-01	3.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01
Thallium	8.85E-01	1.64E-03	1.64E-03	1.64E-03	1.64E-03	7.10E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	3.00E-01	3.00E-01	3.00E-01	3.00E-01	3.00E-01
Tin	9.64E-01	1.71E-02	1.87E-02	1.89E-02	1.89E-02	2.50E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.40E+00	1.40E+00	1.40E+00	1.40E+00	1.40E+00
Titanium	9.91E-01	2.13E+01	5.17E+01	5.83E+01	5.83E+01	1.00E+03	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	2.17E+02	5.27E+02	5.94E+02	5.94E+02
Uranium	9.80E-01	2.21E-02	2.21E-02	2.21E-02	2.21E-02	4.50E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.70E+00	1.70E+00	1.70E+00	1.70E+00	1.70E+00
Vanadium	9.91E-01	1.07E+00	1.45E+00	1.53E+00	1.53E+00	1.00E+03	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01
Zinc	8.71E-01	5.88E-01	5.88E-01	5.88E-01	5.88E-01	6.20E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	6.40E+01	6.40E+01	6.40E+01	6.40E+01	6.40E+01

Equation:

$$Csed = f_{bs} \times Cwb \times \frac{Kdbs}{\theta_{bs} + Kdbs \times C_{BS}} \times \frac{d_{wc} + d_{bs}}{d_{bs}}$$

Table B.48

Predicted Fish Concentrations from Bioconcentration Factors using Dissolved Phase Water Concentrations
Fish Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Dissolved Water Predicted Concentration				Sediment Predicted Concentration							Baseline Fish Concentration		Predicted Fish Whole Body Concentration				Predicted Fish Fillet Concentration			
	Construction (Cdw)	Operations (Cdw)	Reclamation (Cdw)	Post-Closure (Cdw)	Construction (Csed)	Operations (Csed)	Reclamation (Csed)	Post-Closure (Csed)	Bioconcentration Factor (BCF)	Bioaccumulation Factor (BAF)	Fraction of Organic Carbon in Bottom Sediment (OC_{sed})	Fillets (Cff)	Remains (Cfr)	Construction (Cfw)	Operations (Cfw)	Reclamation (Cfw)	Post-Closure (Cfw)	Construction (Cff)	Operations (Cff)	Reclamation (Cff)	Post-Closure (Cff)
	(refer to table B.46)	(refer to table B.46)	(refer to table B.46)	(refer to table B.46)	(refer to table B.47)	(refer to table B.47)	(refer to table B.47)	(refer to table B.47)	(refer to table B.10)	(refer to table B.10)	(refer to table B.9)	(refer to table B.1)	(refer to table B.1)								
Contaminant	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(L/kg)	(L/kg)	-	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)
Particulate Matter																					
Total Particulate Matter	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Metals																					
Aluminum	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E+04	1.84E+04	2.03E+04	2.03E+04	5.00E+02	--	7.00E-02	1.30E+00	2.60E+00	2.60E+00	2.60E+00	2.60E+00	2.60E+00	1.30E+00	1.30E+00	1.30E+00	1.30E+00
Antimony	5.00E-04	4.38E-03	3.26E-03	2.20E-03	8.10E+01	8.10E+01	8.10E+01	8.10E+01	4.00E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Arsenic	6.77E-01	5.48E-02	5.21E-02	5.12E-02	1.10E+05	1.10E+05	1.10E+05	1.10E+05	1.14E+02	--	7.00E-02	2.50E-01	5.30E-01	7.71E+01	6.25E+00	5.94E+00	5.83E+00	7.71E+01	6.25E+00	5.94E+00	5.83E+00
Barium	3.60E-03	7.08E-03	7.04E-03	5.72E-03	9.60E+01	9.60E+01	9.60E+01	9.60E+01	6.33E+02	--	7.00E-02	7.50E-01	2.50E+00	2.50E+00	4.48E+00	4.46E+00	3.62E+00	2.28E+00	4.48E+00	4.46E+00	3.62E+00
Beryllium	4.96E-04	4.57E-04	4.68E-04	4.73E-04	1.00E+00	1.00E+00	1.00E+00	1.00E+00	6.20E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Bismuth	--	--	--	--	5.40E+00	5.40E+00	5.40E+00	5.40E+00	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Boron	1.96E+00	1.96E+00	1.96E+00	1.96E+00	2.50E+01	2.50E+01	2.50E+01	2.50E+01	--	--	7.00E-02	7.50E-01	7.50E-01	--	--	--	--	--	--	--	--
Cadmium	2.48E-05	1.98E-05	2.41E-05	3.70E-05	5.60E-01	5.60E-01	5.60E-01	5.60E-01	9.07E+02	--	7.00E-02	2.50E-02	2.50E-02	2.50E-02	2.50E-02	2.50E-02	3.35E-02	2.50E-02	2.50E-02	2.50E-02	3.35E-02
Calcium	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Chromium Total	1.30E-03	8.58E-04	6.86E-04	8.60E-04	2.40E+01	2.40E+01	2.40E+01	2.40E+01	1.90E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Cobalt	2.00E-04	9.91E-04	9.35E-04	9.60E-04	1.30E+02	1.30E+02	1.30E+02	1.30E+02	3.00E+02	--	7.00E-02	1.00E-01	1.00E-01	1.00E-01	2.97E-01	2.80E-01	2.88E-01	1.00E-01	2.97E-01	2.80E-01	2.88E-01
Copper	1.74E-03	1.96E-03	1.85E-03	9.20E-04	3.60E+01	3.60E+01	3.60E+01	3.60E+01	2.00E+02	--	7.00E-02	2.50E-01	1.30E+00	1.30E+00	1.30E+00	1.30E+00	1.30E+00	3.48E-01	3.91E-01	3.71E-01	2.50E-01
Iron	1.17E+00	3.55E-01	4.55E-01	4.27E-01	1.20E+05	1.20E+05	1.20E+05	1.20E+05	2.00E+02	--	7.00E-02	7.50E+00	2.50E+01	2.34E+02	7.10E+01	9.10E+01	8.55E+01	2.34E+02	7.10E+01	9.10E+01	8.55E+01
Lead	7.55E-04	8.15E-04	7.00E-04	9.19E-04	1.20E+02	1.20E+02	1.20E+02	1.20E+02	9.00E-02	--	7.00E-02	9.00E-02	2.20E-01	2.20E-01	2.20E-01	2.20E-01	2.20E-01	9.00E-02	9.00E-02	9.00E-02	9.00E-02
Lithium	1.11E-02	1.43E-02	1.47E-02	1.47E-02	3.10E+01	3.10E+01	3.10E+01	3.10E+01	--	--	7.00E-02	2.50E-01	2.50E-01	--	--	--	--	--	--	--	--
Magnesium	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Manganese	8.03E-02	7.55E-02	4.92E-02	1.19E-01	4.00E+02	4.00E+02	4.00E+02	4.00E+02	4.00E+02	--	7.00E-02	3.10E+00	6.40E+00	3.21E+01	3.02E+01	1.97E+01	4.74E+01	3.21E+01	3.02E+01	1.97E+01	4.74E+01
Mercury, element	9.12E-05	4.60E-06	4.72E-06	6.48E-06	1.10E+01	1.10E+01	1.10E+01	1.10E+01	--	0.00E+00	7.00E-02	2.50E-03	1.40E+00	1.40E+00	1.40E+00	1.40E+00	1.40E+00	2.50E-03	2.50E-03	2.50E-03	2.50E-03
Mercury, divalent	1.69E-07	1.04E-06	1.26E-06	1.26E-06	4.46E-03	2.75E-02	3.34E-02	3.34E-02	--	1.00E+00	7.00E-02	--	--	1.69E-07	1.04E-06	1.26E-06	1.26E-06	1.69E-07	1.04E-06	1.26E-06	1.26E-06
Mercury, methyl	5.99E-13	5.99E-13	5.99E-13	5.99E-13	9.58E-11	9.58E-11	9.58E-11	9.58E-11	--	6.80E+06	7.00E-02	--	--	4.07E-06	4.07E-06	4.07E-06	4.07E-06	4.07E-06	4.07E-06	4.07E-06	4.07E-06
Molybdenum	1.23E-02	1.23E-02	1.23E-02	1.23E-02	4.30E+00	4.30E+00	4.30E+00	4.30E+00	1.00E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Nickel	9.99E-04	1.42E-02	6.10E-03	1.13E-02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	7.80E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	1.11E+00	4.76E-01	8.83E-01	2.50E-01	1.11E+00	4.76E-01	8.83E-01
Phosphorus	1.63E-01	1.63E-01	1.63E-01	1.63E-01	5.72E-01	5.72E-01	5.72E-01	5.72E-01	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Potassium	7.58E+00	7.58E+00	7.58E+00	7.58E+00	4.17E+01	4.17E+01	4.17E+01	4.17E+01	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Rubidium	--	--	--	--	3.90E+01	3.90E+01	3.90E+01	3.90E+01	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Selenium	5.00E-04	4.88E-04	4.68E-04	5.58E-04	2.50E+00	2.50E+00	2.50E+00	2.50E+00	1.29E+02	--	7.00E-02	7.50E-01	7.30E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01
Silver	5.00E-05	7.89E-05	7.04E-05	7.48E-05	3.40E+00	3.40E+00	3.40E+00	3.40E+00	8.77E+01	--	7.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02
Sodium	2.59E+00	4.57E+00	4.61E+00	4.61E+00	2.59E+02	4.57E+02	4.61E+02	4.61E+02	2.00E+01	--	7.00E-02	--	--	5.18E+01	9.14E+01	9.21E+01	9.21E+01	5.18E+01	9.14E+01	9.21E+01	9.21E+01
Strontium	1.46E-01	1.46E-01	1.46E-01	1.46E-01	2.60E+01	2.60E+01	2.60E+01	2.60E+01	6.00E+01	--	7.00E-02	4.40E+01	6.10E+01	6.10E+01	6.10E+01	6.10E+01	6.10E+01	4.40E+01	4.40E+01	4.40E+01	4.40E+01
Thallium	5.00E-05	7.31E-05	6.61E-05	8.48E-05	3.00E-01	3.00E-01	3.00E-01	3.00E-01	1.00E+04	--	7.00E-02	1.00E-02	1.00E-02	5.00E-01	7.31E-01	6.61E-01	8.48E-01	5.00E-01	7.31E-01	6.61E-01	8.48E-01
Tin	6.78E-04	7.41E-04	7.48E-04	7.48E-04	1.40E+00	1.40E+00	1.40E+00	1.40E+00	3.00E+03	--	7.00E-02	2.50E-01	2.50E-01	2.04E+00	2.22E+00	2.24E+00	2.24E+00	2.04E+00	2.22E+00	2.24E+00	2.24E+00
Titanium	2.17E-01	5.27E-01	5.94E-01	5.94E-01	2.17E+02	5.27E+02	5.94E+02	5.94E+02	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Uranium	4.98E-05	9.46E-04	8.48E-04	5.73E-04	1.70E+00	1.70E+00	1.70E+00	1.70E+00	--	--	7.00E-02	1.00E-02	1.00E-02	--	--	--	--	--	--	--	--
Vanadium	9.90E-04	2.10E-03	1.47E-03	1.99E-03	2.70E+01	2.70E+01	2.70E+01	2.70E+01	--	--	7.00E-02	2.50E-01	2.50E-01	--	--	--	--	--	--	--	--
Zinc	9.75E-03	7.27E-03	7.17E-03	7.26E-03	6.40E+01	6.40E+01	6.40E+01	6.40E+01	2.06E+03	--	7.00E-02	1.40E+01	3.00E+01	3.00E+01	3.00E+01	3.00E+01	3.00E+01	2.01E+01	1.50E+01	1.48E+01	1.50E+01

Equation: Cfi = Cdw x BCF or Cfi = Cdw x BAF

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.98), and methylmercury (0.48*0.02)

Table B.49

Predicted Aquatic Plant Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Sediment Concentration				Predicted Aquatic Plant Concentration			
Contaminant	Construction (Csed) (refer to table B.47) (mg/kg)	Operations (Csed) (refer to table B.47) (mg/kg)	Reclamation (Csed) (refer to table B.47) (mg/kg)	Post-Closure (Csed) (refer to table B.47) (mg/kg)	Construction (Cap) (1) (mg/kg FW)	Operations (Cap) (1) (mg/kg FW)	Reclamation (Cap) (1) (mg/kg FW)	Post-Closure (Cap) (1) (mg/kg FW)
Particulate Matter								
Total Particulate Matter	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--
Metals								
Aluminum	1.50E+04	1.84E+04	2.03E+04	2.03E+04	6.46E+00	7.90E+00	8.72E+00	8.72E+00
Antimony	8.10E+01	8.10E+01	8.10E+01	8.10E+01	3.65E-01	3.65E-01	3.65E-01	3.65E-01
Arsenic	1.10E+05	1.10E+05	1.10E+05	1.10E+05	6.19E+02	6.19E+02	6.19E+02	6.19E+02
Barium	9.60E+01	9.60E+01	9.60E+01	9.60E+01	2.25E+00	2.25E+00	2.25E+00	2.25E+00
Beryllium	1.00E+00	1.00E+00	1.00E+00	1.00E+00	8.78E-02	8.78E-02	8.78E-02	8.78E-02
Bismuth	5.40E+00	5.40E+00	5.40E+00	5.40E+00	8.10E-01	8.10E-01	8.10E-01	8.10E-01
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	3.75E+00	3.75E+00	3.75E+00	3.75E+00
Cadmium	5.60E-01	5.60E-01	5.60E-01	5.60E-01	6.80E-02	6.80E-02	6.80E-02	6.80E-02
Calcium	--	--	--	--	--	--	--	--
Chromium Total	2.40E+01	2.40E+01	2.40E+01	2.40E+01	1.48E-01	1.48E-01	1.48E-01	1.48E-01
Cobalt	1.30E+02	1.30E+02	1.30E+02	1.30E+02	1.46E-01	1.46E-01	1.46E-01	1.46E-01
Copper	3.60E+01	3.60E+01	3.60E+01	3.60E+01	1.20E+00	1.20E+00	1.20E+00	1.20E+00
Iron	1.20E+05	1.20E+05	1.20E+05	1.20E+05	1.80E+04	1.80E+04	1.80E+04	1.80E+04
Lead	1.20E+02	1.20E+02	1.20E+02	1.20E+02	5.83E-01	5.83E-01	5.83E-01	5.83E-01
Lithium	3.10E+01	3.10E+01	3.10E+01	3.10E+01	4.65E+00	4.65E+00	4.65E+00	4.65E+00
Magnesium	--	--	--	--	--	--	--	--
Manganese	4.00E+02	4.00E+02	4.00E+02	4.00E+02	4.74E+00	4.74E+00	4.74E+00	4.74E+00
Mercury, element	1.10E+01	1.10E+01	1.10E+01	1.10E+01	1.65E+00	1.65E+00	1.65E+00	1.65E+00
Mercury, divalent	4.46E-03	2.75E-02	3.34E-02	3.34E-02	6.69E-04	4.13E-03	5.01E-03	5.01E-03
Mercury, methyl	9.58E-11	9.58E-11	9.58E-11	9.58E-11	1.44E-11	1.44E-11	1.44E-11	1.44E-11
Molybdenum	4.30E+00	4.30E+00	4.30E+00	4.30E+00	6.45E-01	6.45E-01	6.45E-01	6.45E-01
Nickel	2.10E+02	2.10E+02	2.10E+02	2.10E+02	1.55E+00	1.55E+00	1.55E+00	1.55E+00
Phosphorus	5.72E-01	5.72E-01	5.72E-01	5.72E-01	8.58E-02	8.58E-02	8.58E-02	8.58E-02
Potassium	4.17E+01	4.17E+01	4.17E+01	4.17E+01	6.25E+00	6.25E+00	6.25E+00	6.25E+00
Rubidium	3.90E+01	3.90E+01	3.90E+01	3.90E+01	5.85E+00	5.85E+00	5.85E+00	5.85E+00
Selenium	2.50E+00	2.50E+00	2.50E+00	2.50E+00	2.10E-01	2.10E-01	2.10E-01	2.10E-01
Silver	3.40E+00	3.40E+00	3.40E+00	3.40E+00	7.14E-03	7.14E-03	7.14E-03	7.14E-03
Sodium	2.59E+02	4.57E+02	4.61E+02	4.61E+02	3.88E+01	6.85E+01	6.91E+01	6.91E+01
Strontium	2.60E+01	2.60E+01	2.60E+01	2.60E+01	3.90E+00	3.90E+00	3.90E+00	3.90E+00
Thallium	3.00E-01	3.00E-01	3.00E-01	3.00E-01	4.50E-02	4.50E-02	4.50E-02	4.50E-02
Tin	1.40E+00	1.40E+00	1.40E+00	1.40E+00	2.10E-01	2.10E-01	2.10E-01	2.10E-01
Titanium	2.17E+02	5.27E+02	5.94E+02	5.94E+02	3.26E+01	7.90E+01	8.90E+01	8.90E+01
Uranium	1.70E+00	1.70E+00	1.70E+00	1.70E+00	2.55E-01	2.55E-01	2.55E-01	2.55E-01
Vanadium	2.70E+01	2.70E+01	2.70E+01	2.70E+01	1.96E-02	1.96E-02	1.96E-02	1.96E-02
Zinc	6.40E+01	6.40E+01	6.40E+01	6.40E+01	7.26E+00	7.26E+00	7.26E+00	7.26E+00

Note:

(1) The background aquatic plant concentrations were modelled with equations from the USEPA (2007). Where the equation for aluminum was not available, an uptake factor approach was selected for aluminum, for which the median soil to plant uptake factor of 0.00287 was selected from the dataset summarized in Table D.1 of Appendix D of Bechtel Jacobs (1998).

Table B.50

Predicted Aquatic Invertebrate Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Sediment Concentration				Baseline Aquatic Invertebrate Concentration	Predicted Aquatic Invertebrate Concentration				Final Predicted Aquatic Invertebrate Concentration (wet weight)			
Contaminant	Construction (Csed) (refer to table B.47) (mg/kg)	Operations (Csed) (refer to table B.47) (mg/kg)	Reclamation (Csed) (refer to table B.47) (mg/kg)	Post-Closure (Csed) (refer to table B.47) (mg/kg)	(refer to table B.41) (mg/kg FW)	Construction (Cai) (1) (mg/kg FW)	Operations (Cai) (1) (mg/kg FW)	Reclamation (Cai) (1) (mg/kg FW)	Post-Closure (Cai) (1) (mg/kg FW)	Construction (Cai) (1) (mg/kg FW)	Operations (Cai) (1) (mg/kg FW)	Reclamation (Cai) (1) (mg/kg FW)	Post-Closure (Cai) (1) (mg/kg FW)
Particulate Matter													
Total Particulate Matter	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals													
Aluminum	1.50E+04	1.84E+04	2.03E+04	2.03E+04	1.80E+02	3.15E+03	3.86E+03	4.25E+03	4.25E+03	3.15E+03	3.86E+03	4.25E+03	4.25E+03
Antimony	8.10E+01	8.10E+01	8.10E+01	8.10E+01	5.50E-01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01
Arsenic	1.10E+05	1.10E+05	1.10E+05	1.10E+05	1.70E+02	6.78E+02	6.78E+02	6.78E+02	6.78E+02	6.78E+02	6.78E+02	6.78E+02	6.78E+02
Barium	9.60E+01	9.60E+01	9.60E+01	9.60E+01	1.65E+00	2.02E+01	2.02E+01	2.02E+01	2.02E+01	2.02E+01	2.02E+01	2.02E+01	2.02E+01
Beryllium	1.00E+00	1.00E+00	1.00E+00	1.00E+00	5.50E-01	2.10E-01	2.10E-01	2.10E-01	2.10E-01	5.50E-01	5.50E-01	5.50E-01	5.50E-01
Bismuth	5.40E+00	5.40E+00	5.40E+00	5.40E+00	--	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.65E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
Cadmium	5.60E-01	5.60E-01	5.60E-01	5.60E-01	1.70E-01	1.54E-01	1.54E-01	1.54E-01	1.54E-01	1.70E-01	1.70E-01	1.70E-01	1.70E-01
Calcium	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	2.40E+01	2.40E+01	2.40E+01	2.40E+01	5.50E-01	1.08E+00	1.08E+00	1.08E+00	1.08E+00	1.08E+00	1.08E+00	1.08E+00	1.08E+00
Cobalt	1.30E+02	1.30E+02	1.30E+02	1.30E+02	2.20E-01	2.73E+01	2.73E+01	2.73E+01	2.73E+01	2.73E+01	2.73E+01	2.73E+01	2.73E+01
Copper	3.60E+01	3.60E+01	3.60E+01	3.60E+01	5.10E+00	6.98E+00	6.98E+00	6.98E+00	6.98E+00	6.98E+00	6.98E+00	6.98E+00	6.98E+00
Iron	1.20E+05	1.20E+05	1.20E+05	1.20E+05	1.10E+03	2.52E+04	2.52E+04	2.52E+04	2.52E+04	2.52E+04	2.52E+04	2.52E+04	2.52E+04
Lead	1.20E+02	1.20E+02	1.20E+02	1.20E+02	9.40E-01	1.63E+00	1.63E+00	1.63E+00	1.63E+00	1.63E+00	1.63E+00	1.63E+00	1.63E+00
Lithium	3.10E+01	3.10E+01	3.10E+01	3.10E+01	5.50E-01	6.51E+00	6.51E+00	6.51E+00	6.51E+00	6.51E+00	6.51E+00	6.51E+00	6.51E+00
Magnesium	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	4.00E+02	4.00E+02	4.00E+02	4.00E+02	3.30E+01	8.40E+01	8.40E+01	8.40E+01	8.40E+01	8.40E+01	8.40E+01	8.40E+01	8.40E+01
Mercury, element	1.10E+01	1.10E+01	1.10E+01	1.10E+01	1.90E-01	9.83E-02	9.83E-02	9.83E-02	9.83E-02	1.90E-01	1.90E-01	1.90E-01	1.90E-01
Mercury, divalent	4.46E-03	2.75E-02	3.34E-02	3.34E-02	--	9.37E-04	5.78E-03	7.01E-03	7.01E-03	9.37E-04	5.78E-03	7.01E-03	7.01E-03
Mercury, methyl	9.58E-11	9.58E-11	9.58E-11	9.58E-11	--	2.01E-11	2.01E-11	2.01E-11	2.01E-11	2.01E-11	2.01E-11	2.01E-11	2.01E-11
Molybdenum	4.30E+00	4.30E+00	4.30E+00	4.30E+00	5.50E-01	9.03E-01	9.03E-01	9.03E-01	9.03E-01	9.03E-01	9.03E-01	9.03E-01	9.03E-01
Nickel	2.10E+02	2.10E+02	2.10E+02	2.10E+02	5.50E-01	1.98E+01	1.98E+01	1.98E+01	1.98E+01	1.98E+01	1.98E+01	1.98E+01	1.98E+01
Phosphorus	5.72E-01	5.72E-01	5.72E-01	5.72E-01	--	1.20E-01	1.20E-01	1.20E-01	1.20E-01	1.20E-01	1.20E-01	1.20E-01	1.20E-01
Potassium	4.17E+01	4.17E+01	4.17E+01	4.17E+01	--	8.76E+00	8.76E+00	8.76E+00	8.76E+00	8.76E+00	8.76E+00	8.76E+00	8.76E+00
Rubidium	3.90E+01	3.90E+01	3.90E+01	3.90E+01	--	8.19E+00	8.19E+00	8.19E+00	8.19E+00	8.19E+00	8.19E+00	8.19E+00	8.19E+00
Selenium	2.50E+00	2.50E+00	2.50E+00	2.50E+00	5.50E-01	5.25E-01	5.25E-01	5.25E-01	5.25E-01	5.50E-01	5.50E-01	5.50E-01	5.50E-01
Silver	3.40E+00	3.40E+00	3.40E+00	3.40E+00	1.30E-01	7.14E-01	7.14E-01	7.14E-01	7.14E-01	7.14E-01	7.14E-01	7.14E-01	7.14E-01
Sodium	2.59E+02	4.57E+02	4.61E+02	4.61E+02	--	5.43E+01	9.59E+01	9.67E+01	9.67E+01	5.43E+01	9.59E+01	9.67E+01	9.67E+01
Strontium	2.60E+01	2.60E+01	2.60E+01	2.60E+01	1.65E+00	5.46E+00	5.46E+00	5.46E+00	5.46E+00	5.46E+00	5.46E+00	5.46E+00	5.46E+00
Thallium	3.00E-01	3.00E-01	3.00E-01	3.00E-01	2.20E-02	6.30E-02	6.30E-02	6.30E-02	6.30E-02	6.30E-02	6.30E-02	6.30E-02	6.30E-02
Tin	1.40E+00	1.40E+00	1.40E+00	1.40E+00	5.50E-01	2.94E-01	2.94E-01	2.94E-01	2.94E-01	5.50E-01	5.50E-01	5.50E-01	5.50E-01
Titanium	2.17E+02	5.27E+02	5.94E+02	5.94E+02	--	4.56E+01	1.11E+02	1.25E+02	1.25E+02	4.56E+01	1.11E+02	1.25E+02	1.25E+02
Uranium	1.70E+00	1.70E+00	1.70E+00	1.70E+00	2.20E-02	3.57E-01	3.57E-01	3.57E-01	3.57E-01	3.57E-01	3.57E-01	3.57E-01	3.57E-01
Vanadium	2.70E+01	2.70E+01	2.70E+01	2.70E+01	5.50E-01	5.67E+00	5.67E+00	5.67E+00	5.67E+00	5.67E+00	5.67E+00	5.67E+00	5.67E+00
Zinc	6.40E+01	6.40E+01	6.40E+01	6.40E+01	4.50E+01	3.15E+01	3.15E+01	3.15E+01	3.15E+01	4.50E+01	4.50E+01	4.50E+01	4.50E+01

Note:
(1) The predicted aquatic invertebrate concentrations were modelled with equations from Bechtel Jacobs (1998).

Table B.51

Summary of Predicted Concentrations - Construction (Scenario 2)
Anaconda Goldboro
Goldboro, Nova Scotia

	Terrestrial Environment		Aquatic Environment			Terrestrial Ecosystem								Aquatic Ecosystem			
	Soil	Air	Surface Water-Total	Surface Water-Dissolved phase	Sediment	Leafy Vegetables	Fruit	Roots	Forage	Invertebrates	Prey	Hare	Deer	Plants	Invertebrates	Fish Whole	Fish Fillet
	(Cs)	(Coa)	(Cw)	(Cdw)	(Csed)	(Cv)	(Cfru)	(Cr)	(Cfo)	(Cti)	(Cp)	(Ch)	(Cd)	(Cap)	(Cai)	(Cfw)	(Cff)
Contaminant	(mg/kg)	(mg/m³)	(mg/L)	(mg/L)	(mg/kg)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)
Metals																	
Aluminum	1.45E+04	1.09E-04	4.30E-01	0.00E+00	1.50E+04	6.56E+01	7.90E+01	1.41E+00	5.32E+02	4.20E+02	1.22E+02	1.69E-01	2.76E+00	6.46E+00	3.15E+03	2.60E+00	1.30E+00
Antimony	1.00E+00	1.63E-08	5.00E-04	5.00E-04	8.10E+01	9.64E-03	1.60E-01	4.50E-03	1.60E-01	2.50E-01	4.00E-03	8.82E-05	2.45E-03	3.65E-01	1.70E+01	2.50E-01	2.50E-01
Arsenic	8.75E+00	4.33E-07	6.77E-01	6.77E-01	1.10E+05	2.55E-01	3.07E-01	1.05E-02	2.09E+00	8.00E+00	1.48E-02	5.82E-04	1.61E-02	6.19E+02	6.78E+02	7.71E+01	7.71E+01
Barium	3.73E+01	8.85E-05	3.60E-03	3.60E-03	9.60E+01	6.92E-01	3.50E+00	8.39E-02	5.08E+00	2.40E+01	5.76E-02	3.01E-04	8.13E-03	2.25E+00	2.02E+01	2.50E+00	2.28E+00
Beryllium	1.07E+00	1.63E-08	5.00E-04	4.96E-04	1.00E+00	2.31E-03	1.60E-01	2.41E-04	1.60E-01	2.50E-01	4.00E-03	8.85E-05	2.45E-03	8.78E-02	5.50E-01	2.50E-01	2.50E-01
Bismuth	--	8.20E-09	--	--	5.40E+00	2.09E-04	2.50E-02	--	--	--	--	--	--	8.10E-01	1.13E+00	--	--
Boron	2.50E+01	3.71E-08	1.96E+00	1.96E+00	2.50E+01	8.47E+00	8.47E+00	7.50E+00	1.51E+01	4.00E+00	8.00E+00	3.83E-03	1.10E-01	3.75E+00	5.25E+00	--	--
Cadmium	1.50E-01	5.62E-08	2.48E-05	2.48E-05	5.60E-01	2.78E-03	3.20E-02	1.44E-03	3.20E-02	1.60E+00	3.72E-02	2.09E-06	5.84E-05	6.80E-02	1.70E-01	2.50E-02	2.50E-02
Calcium	--	--	--	--	--	8.22E+00	9.30E+02	--	--	--	--	--	--	--	--	--	--
Chromium	1.27E+01	1.58E-06	1.30E-03	1.30E-03	2.40E+01	7.95E-02	1.60E-01	8.58E-03	5.96E-01	6.22E-01	4.80E-01	8.02E-04	1.64E-02	1.48E-01	1.08E+00	2.50E-01	2.50E-01
Cobalt	2.27E+00	3.54E-08	2.00E-04	2.00E-04	1.30E+02	1.43E-02	8.00E-02	2.38E-03	1.01E-01	2.10E-01	1.07E-02	1.06E-03	2.61E-02	1.46E-01	2.73E+01	1.00E-01	1.00E-01
Copper	6.56E+00	3.39E-04	1.74E-03	1.74E-03	3.60E+01	2.88E-01	1.10E+00	2.46E-01	1.10E+00	1.60E+01	3.24E+00	6.04E-03	1.68E-01	1.20E+00	6.98E+00	1.30E+00	3.48E-01
Iron	1.64E+04	1.12E-04	1.17E+00	1.17E+00	1.20E+05	3.06E+01	3.64E+01	2.46E+00	2.35E+02	2.62E+03	5.25E+03	1.99E+00	2.58E+01	1.80E+04	2.52E+04	2.34E+02	2.34E+02
Lead	1.56E+01	2.44E-08	7.62E-04	7.55E-04	1.20E+02	5.52E-02	6.02E-02	2.11E-02	2.99E-01	1.18E+00	1.16E+00	3.24E-05	4.83E-04	5.83E-01	1.63E+00	2.20E-01	9.00E-02
Lithium	9.61E+00	9.02E-08	1.11E-02	1.11E-02	3.10E+01	4.82E-02	1.70E-01	5.77E-03	3.55E-01	1.54E+00	3.07E+00	1.37E-03	3.03E-02	4.65E+00	6.51E+00	--	--
Magnesium	--	--	--	--	--	9.49E+00	5.00E+01	--	--	--	--	--	--	--	--	--	--
Manganese	9.66E+01	1.80E-06	8.03E-02	8.03E-02	4.00E+02	1.68E+00	6.30E+01	7.25E-01	6.30E+01	1.20E+03	6.34E-01	1.33E-02	3.80E-01	4.74E+00	8.40E+01	3.21E+01	3.21E+01
Mercury	1.62E-01	2.21E-09	1.36E-04	9.12E-05	1.10E+01	2.76E-10	2.50E-03	0.00E+00	2.50E-03	3.50E-02	5.18E-02	2.11E-03	4.54E-02	1.65E+00	1.90E-01	1.40E+00	2.50E-03
Mercury, divalent	6.31E-03	--	2.53E-07	1.69E-07	4.46E-03	2.50E-05	2.75E-05	3.41E-05	--	1.01E-03	2.02E-03	2.36E-07	3.63E-06	6.69E-04	9.37E-04	1.69E-07	1.69E-07
Mercury, methyl	6.06E-08	--	6.01E-13	5.99E-13	9.58E-11	1.60E-06	1.94E-06	9.00E-10	--	9.70E-09	1.94E-08	7.89E-10	2.27E-08	1.44E-11	2.01E-11	4.07E-06	4.07E-06
Molybdenum	1.00E+00	3.13E-08	1.23E-02	1.23E-02	4.30E+00	1.31E-02	1.60E-01	9.00E-03	1.60E-01	6.90E-01	3.20E-01	5.38E-04	1.50E-02	6.45E-01	9.03E-01	2.50E-01	2.50E-01
Nickel	6.91E+00	1.81E-06	1.00E-03	9.99E-04	2.10E+02	3.56E-02	1.60E-01	8.29E-03	2.48E-01	1.11E+00	6.16E-01	7.04E-04	1.63E-02	1.55E+00	1.98E+01	2.50E-01	2.50E-01
Phosphorus	2.00E+00	--	1.63E-01	1.63E-01	5.72E-01	1.49E+00	1.60E+02	1.05E+00	1.60E+02	3.21E-01	6.41E-01	4.58E+00	1.32E+02	8.58E-02	1.20E-01	--	--
Potassium	1.44E+02	--	7.58E+00	7.58E+00	4.17E+01	3.34E+01	8.60E+02	1.19E+01	8.60E+02	2.31E+01	4.61E+01	8.98E+00	2.59E+02	6.25E+00	8.76E+00	--	--
Rubidium	--	4.99E-08	--	--	3.90E+01	3.78E-03	4.58E-03	--	--	--	--	--	--	5.85E+00	8.19E+00	--	--
Selenium	8.64E-01	1.22E-08	5.00E-04	5.00E-04	2.50E+00	2.81E-03	1.60E-01	2.85E-03	1.60E-01	2.50E-01	2.00E-01	2.01E-04	5.61E-03	2.10E-01	5.50E-01	7.50E-01	7.50E-01
Silver	2.50E-01	1.48E-07	5.00E-05	5.00E-05	3.40E+00	5.50E-03	4.00E-02	3.75E-03	4.00E-02	1.80E+00	3.20E-04	6.61E-05	1.83E-03	7.14E-03	7.14E-01	6.00E-02	6.00E-02
Sodium	7.20E+02	--	2.59E+00	2.59E+00	2.59E+02	1.82E+01	2.50E+01	5.94E+00	1.08E+02	1.15E+02	2.30E+02	9.28E-01	2.30E+01	3.88E+01	5.43E+01	5.18E+01	5.18E+01
Strontium	1.94E+01	5.48E-07	1.46E-01	1.46E-01	2.60E+01	1.69E+00	2.20E+00	7.28E-01	8.37E+00	1.00E+01	6.21E+00	3.77E-04	1.04E-02	3.90E+00	5.46E+00	6.10E+01	4.40E+01
Thallium	5.00E-02	9.52E-09	5.00E-05	5.00E-05	3.00E-01	5.06E-04	1.10E-02	3.00E-06	1.10E-02	1.00E-02	1.60E-02	2.39E-04	6.70E-03	4.50E-02	6.30E-02	5.00E-01	5.00E-01
Tin	5.23E-01	1.85E-06	6.80E-04	6.78E-04	1.40E+00	2.61E-03	1.20E+00	4.70E-04	1.20E+00	2.50E-01	1.67E-01	6.27E-04	1.80E-02	2.10E-01	5.50E-01	2.04E+00	2.04E+00
Titanium	2.09E+02	2.26E-06	2.19E-01	2.17E-01	2.17E+02	2.76E+00	3.32E+00	9.39E-02	2.22E+01	3.34E+01	6.68E+01	8.35E-02	1.81E+00	3.26E+01	4.56E+01	--	--
Uranium	6.70E-01	9.76E-09	5.00E-05	4.98E-05	1.70E+00	1.02E-01	1.02E-01	1.01E-01	1.10E-01	1.07E-01	2.14E-01	1.13E-05	3.12E-04	2.55E-01	3.57E-01	--	--
Vanadium	2.44E+01	3.30E-07	1.00E-03	9.90E-04	2.70E+01	6.28E-02	1.60E-01	1.10E-02	4.39E-01	9.30E-01	9.61E-02	5.08E-04	8.76E-03	1.96E-02	5.67E+00	--	--
Zinc	1.97E+01	1.90E-05	9.76E-03	9.75E-03	6.40E+01	3.56E-01	2.10E+00	2.66E+00	2.10E+00	7.90E+01	5.03E-03	1.07E-04	2.92E-03	7.26E+00	4.50E+01	3.00E+01	2.01E+01
Inorganics																	
Nitrate	--	--	2.34E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	1.06E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	1.78E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	6.94E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	--	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table B.52

Summary of Predicted Concentrations - Operations
(Scenario 3)
Anaconda Goldboro
Goldboro, Nova Scotia

	Terrestrial Environment		Aquatic Environment			Terrestrial Ecosystem								Aquatic Ecosystem			
Contaminant	Soil (Cs) (mg/kg)	Air (Coa) (mg/m³)	Surface Water-Total (Cw) (mg/L)	Surface Water-Dissolved phase (Cdw) (mg/L)	Sediment (Csed) (mg/kg)	Leafy Vegetables (Cv) (mg/kg FW)	Fruit (Cfru) (mg/kg FW)	Roots (Cr) (mg/kg FW)	Forage (Cfo) (mg/kg FW)	Invertebrates (Cti) (mg/kg FW)	Prey (Cp) (mg/kg FW)	Hare (Ch) (mg/kg FW)	Deer (Cd) (mg/kg FW)	Plants (Cap) (mg/kg FW)	Invertebrates (Cai) (mg/kg FW)	Fish Whole (Cfw) (mg/kg FW)	Fish Fillet (Cff) (mg/kg FW)
Metals																	
Aluminum	3.66E+04	1.09E-04	1.99E-01	0.00E+00	1.84E+04	6.92E+01	8.26E+01	3.57E+00	5.46E+02	4.20E+02	3.08E+02	3.34E-01	4.33E+00	7.90E+00	3.86E+03	2.60E+00	1.30E+00
Antimony	1.00E+00	1.63E-08	4.39E-03	4.38E-03	8.10E+01	9.64E-03	1.60E-01	4.50E-03	1.60E-01	2.50E-01	4.00E-03	8.87E-05	2.46E-03	3.65E-01	1.70E+01	2.50E-01	2.50E-01
Arsenic	9.08E+00	4.33E-07	5.48E-02	5.48E-02	1.10E+05	2.55E-01	3.08E-01	1.09E-02	2.09E+00	8.00E+00	1.53E-02	4.23E-04	1.14E-02	6.19E+02	6.78E+02	6.25E+00	6.25E+00
Barium	3.73E+01	8.85E-05	7.09E-03	7.08E-03	9.60E+01	6.92E-01	3.50E+00	8.39E-02	5.08E+00	2.40E+01	5.76E-02	3.01E-04	8.13E-03	2.25E+00	2.02E+01	4.48E+00	4.48E+00
Beryllium	1.37E+00	1.63E-08	4.61E-04	4.57E-04	1.00E+00	2.43E-03	1.60E-01	3.08E-04	1.60E-01	2.50E-01	4.00E-03	9.00E-05	2.46E-03	8.78E-02	5.50E-01	2.50E-01	2.50E-01
Bismuth	--	8.20E-09	--	--	5.40E+00	2.09E-04	2.50E-02	--	--	--	--	--	--	8.10E-01	1.13E+00	--	--
Boron	2.50E+01	3.71E-08	1.96E+00	1.96E+00	2.50E+01	8.47E+00	8.47E+00	7.50E+00	1.51E+01	4.00E+00	8.00E+00	3.83E-03	1.10E-01	3.75E+00	5.25E+00	--	--
Cadmium	1.50E-01	5.62E-08	1.98E-05	1.98E-05	5.60E-01	2.78E-03	3.20E-02	1.44E-03	3.20E-02	1.60E+00	3.72E-02	2.09E-06	5.84E-05	6.80E-02	1.70E-01	2.50E-02	2.50E-02
Calcium	--	--	--	--	--	8.22E+00	9.30E+02	--	--	--	--	--	--	--	--	--	--
Chromium	1.27E+01	1.58E-06	8.58E-04	8.58E-04	2.40E+01	7.95E-02	1.60E-01	8.58E-03	5.96E-01	6.22E-01	4.80E-01	8.02E-04	1.64E-02	1.48E-01	1.08E+00	2.50E-01	2.50E-01
Cobalt	2.27E+00	3.54E-08	9.91E-04	9.91E-04	1.30E+02	1.43E-02	8.00E-02	2.38E-03	1.01E-01	2.10E-01	1.07E-02	1.06E-03	2.61E-02	1.46E-01	2.73E+01	2.97E-01	2.97E-01
Copper	6.56E+00	3.39E-04	1.96E-03	1.96E-03	3.60E+01	2.88E-01	1.10E+00	2.46E-01	1.10E+00	1.60E+01	3.24E+00	6.04E-03	1.68E-01	1.20E+00	6.98E+00	1.30E+00	3.91E-01
Iron	1.64E+04	1.12E-04	3.55E-01	3.55E-01	1.20E+05	3.06E+01	3.64E+01	2.46E+00	2.35E+02	2.62E+03	5.25E+03	1.99E+00	2.57E+01	1.80E+04	2.52E+04	7.10E+01	7.10E+01
Lead	1.92E+01	2.44E-08	8.22E-04	8.15E-04	1.20E+02	6.25E-02	6.74E-02	2.59E-02	3.23E-01	1.40E+00	1.28E+00	3.88E-05	5.64E-04	5.83E-01	1.63E+00	2.20E-01	9.00E-02
Lithium	1.31E+01	9.02E-08	1.43E-02	1.43E-02	3.10E+01	5.17E-02	1.70E-01	7.85E-03	3.68E-01	2.09E+00	4.19E+00	1.55E-03	3.20E-02	4.65E+00	6.51E+00	--	--
Magnesium	--	--	--	--	--	9.49E+00	5.00E+01	--	--	--	--	--	--	--	--	--	--
Manganese	9.66E+01	1.80E-06	7.56E-02	7.55E-02	4.00E+02	1.68E+00	6.30E+01	7.25E-01	6.30E+01	1.20E+03	6.34E-01	1.33E-02	3.80E-01	4.74E+00	8.40E+01	3.02E+01	3.02E+01
Mercury	1.62E-01	2.21E-09	6.88E-06	4.60E-06	1.10E+01	2.76E-10	2.50E-03	0.00E+00	2.50E-03	3.50E-02	5.18E-02	2.11E-03	4.54E-02	1.65E+00	1.90E-01	1.40E+00	2.50E-03
Mercury, divalent	3.89E-02	--	1.56E-06	1.04E-06	2.75E-02	9.35E-05	9.60E-05	2.10E-04	--	6.22E-03	1.24E-02	1.25E-06	1.66E-05	4.13E-03	5.78E-03	1.04E-06	1.04E-06
Mercury, methyl	6.06E-08	--	6.01E-13	5.99E-13	9.58E-11	1.60E-06	1.94E-06	9.00E-10	--	9.70E-09	1.94E-08	7.89E-10	2.27E-08	1.44E-11	2.01E-11	4.07E-06	4.07E-06
Molybdenum	1.00E+00	3.13E-08	1.23E-02	1.23E-02	4.30E+00	1.31E-02	1.60E-01	9.00E-03	1.60E-01	6.90E-01	3.20E-01	5.38E-04	1.50E-02	6.45E-01	9.03E-01	2.50E-01	2.50E-01
Nickel	6.91E+00	1.81E-06	1.42E-02	1.42E-02	2.10E+02	3.56E-02	1.60E-01	8.29E-03	2.48E-01	1.11E+00	6.16E-01	7.14E-04	1.66E-02	1.55E+00	1.98E+01	1.11E+00	1.11E+00
Phosphorus	2.00E+00	--	1.63E-01	1.63E-01	5.72E-01	1.49E+00	1.60E+02	1.05E+00	1.60E+02	3.21E-01	6.41E-01	4.58E+00	1.32E+02	8.58E-02	1.20E-01	--	--
Potassium	1.44E+02	--	7.58E+00	7.58E+00	4.17E+01	3.34E+01	8.60E+02	1.19E+01	8.60E+02	2.31E+01	4.61E+01	8.98E+00	2.59E+02	6.25E+00	8.76E+00	--	--
Rubidium	--	4.99E-08	--	--	3.90E+01	3.78E-03	4.58E-03	--	--	--	--	--	--	5.85E+00	8.19E+00	--	--
Selenium	8.64E-01	1.22E-08	4.88E-04	4.88E-04	2.50E+00	2.81E-03	1.60E-01	2.85E-03	1.60E-01	2.50E-01	2.00E-01	2.01E-04	5.61E-03	2.10E-01	5.50E-01	7.50E-01	7.50E-01
Silver	2.50E-01	1.48E-07	7.90E-05	7.89E-05	3.40E+00	5.50E-03	4.00E-02	3.75E-03	4.00E-02	1.80E+00	3.20E-04	6.61E-05	1.83E-03	7.14E-03	7.14E-01	6.00E-02	6.00E-02
Sodium	1.50E+03	--	4.57E+00	4.57E+00	4.57E+02	2.49E+01	2.75E+01	1.24E+01	1.16E+02	2.40E+02	4.79E+02	1.22E+00	2.75E+01	6.85E+01	9.59E+01	9.14E+01	9.14E+01
Strontium	1.94E+01	5.48E-07	1.46E-01	1.46E-01	2.60E+01	1.69E+00	2.20E+00	7.28E-01	8.37E+00	1.00E+01	6.21E+00	3.77E-04	1.04E-02	3.90E+00	5.46E+00	6.10E+01	4.40E+01
Thallium	5.00E-02	9.52E-09	7.31E-05	7.31E-05	3.00E-01	5.06E-04	1.10E-02	3.00E-06	1.10E-02	1.00E-02	1.60E-02	2.39E-04	6.70E-03	4.50E-02	6.30E-02	7.31E-01	7.31E-01
Tin	5.81E-01	1.85E-06	7.43E-04	7.41E-04	1.40E+00	2.69E-03	1.20E+00	5.23E-04	1.20E+00	2.50E-01	1.86E-01	6.27E-04	1.80E-02	2.10E-01	5.50E-01	2.22E+00	2.22E+00
Titanium	1.15E+03	2.26E-06	5.32E-01	5.27E-01	5.27E+02	3.23E+00	3.79E+00	5.15E-01	2.29E+01	1.83E+02	3.66E+02	2.30E-01	3.32E+00	7.90E+01	1.11E+02	--	--
Uranium	6.70E-01	9.76E-09	9.50E-04	9.46E-04	1.70E+00	1.02E-01	1.02E-01	1.01E-01	1.10E-01	1.07E-01	2.14E-01	1.13E-05	3.13E-04	2.55E-01	3.57E-01	--	--
Vanadium	3.62E+01	3.30E-07	2.12E-03	2.10E-03	2.70E+01	6.86E-02	1.60E-01	1.63E-02	4.49E-01	9.30E-01	1.42E-01	6.53E-04	1.01E-02	1.96E-02	5.67E+00	--	--
Zinc	1.97E+01	1.90E-05	7.28E-03	7.27E-03	6.40E+01	3.56E-01	2.10E+00	2.66E+00	2.10E+00	7.90E+01	5.03E-03	1.07E-04	2.92E-03	7.26E+00	4.50E+01	3.00E+01	1.50E+01
Inorganics																	
Nitrate	--	--	4.82E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	5.94E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	6.83E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	1.87E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	--	4.91E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table B.53

Summary of Predicted Concentrations - Reclamation (Scenario 4)
Anaconda Goldboro
Goldboro, Nova Scotia

	Terrestrial Environment		Aquatic Environment			Terrestrial Ecosystem								Aquatic Ecosystem			
	Soil	Air	Surface Water-Total	Surface Water-Dissolved phase	Sediment	Leafy Vegetables	Fruit	Roots	Forage	Invertebrates	Prey	Hare	Deer	Plants	Invertebrates	Fish Whole	Fish Fillet
	(Cs)	(Coa)	(Cw)	(Cdw)	(Csed)	(Cv)	(Cfru)	(Cr)	(Cfo)	(Cti)	(Cp)	(Ch)	(Cd)	(Cap)	(Cai)	(Cfw)	(Cff)
Contaminant	(mg/kg)	(mg/m³)	(mg/L)	(mg/L)	(mg/kg)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)
Metals																	
Aluminum	4.18E+04	1.09E-04	2.66E-01	0.00E+00	2.03E+04	7.00E+01	8.34E+01	4.07E+00	5.49E+02	4.20E+02	3.52E+02	3.73E-01	4.70E+00	8.72E+00	4.25E+03	2.60E+00	1.30E+00
Antimony	1.00E+00	1.63E-08	3.27E-03	3.26E-03	8.10E+01	9.64E-03	1.60E-01	4.50E-03	1.60E-01	2.50E-01	4.00E-03	8.85E-05	2.46E-03	3.65E-01	1.70E+01	2.50E-01	2.50E-01
Arsenic	9.08E+00	4.33E-07	5.21E-02	5.21E-02	1.10E+05	2.55E-01	3.08E-01	1.09E-02	2.09E+00	8.00E+00	1.53E-02	4.23E-04	1.14E-02	6.19E+02	6.78E+02	5.94E+00	5.94E+00
Barium	3.73E+01	8.85E-05	7.05E-03	7.04E-03	9.60E+01	6.92E-01	3.50E+00	8.39E-02	5.08E+00	2.40E+01	5.76E-02	3.01E-04	8.13E-03	2.25E+00	2.02E+01	4.46E+00	4.46E+00
Beryllium	1.43E+00	1.63E-08	4.71E-04	4.68E-04	1.00E+00	2.45E-03	1.60E-01	3.21E-04	1.60E-01	2.50E-01	4.00E-03	9.03E-05	2.47E-03	8.78E-02	5.50E-01	2.50E-01	2.50E-01
Bismuth	--	8.20E-09	--	--	5.40E+00	2.09E-04	2.50E-02	--	--	--	--	--	--	8.10E-01	1.13E+00	--	--
Boron	2.50E+01	3.71E-08	1.96E+00	1.96E+00	2.50E+01	8.47E+00	8.47E+00	7.50E+00	1.51E+01	4.00E+00	8.00E+00	3.83E-03	1.10E-01	3.75E+00	5.25E+00	--	--
Cadmium	1.50E-01	5.62E-08	2.41E-05	2.41E-05	5.60E-01	2.78E-03	3.20E-02	1.44E-03	3.20E-02	1.60E+00	3.72E-02	2.09E-06	5.84E-05	6.80E-02	1.70E-01	2.50E-02	2.50E-02
Calcium	--	--	--	--	--	8.22E+00	9.30E+02	--	--	--	--	--	--	--	--	--	--
Chromium	1.27E+01	1.58E-06	6.87E-04	6.86E-04	2.40E+01	7.95E-02	1.60E-01	8.58E-03	5.96E-01	6.22E-01	4.80E-01	8.02E-04	1.64E-02	1.48E-01	1.08E+00	2.50E-01	2.50E-01
Cobalt	2.27E+00	3.54E-08	9.35E-04	9.35E-04	1.30E+02	1.43E-02	8.00E-02	2.38E-03	1.01E-01	2.10E-01	1.07E-02	1.06E-03	2.61E-02	1.46E-01	2.73E+01	2.80E-01	2.80E-01
Copper	6.56E+00	3.39E-04	1.86E-03	1.85E-03	3.60E+01	2.88E-01	1.10E+00	2.46E-01	1.10E+00	1.60E+01	3.24E+00	6.04E-03	1.68E-01	1.20E+00	6.98E+00	1.30E+00	3.71E-01
Iron	1.64E+04	1.12E-04	4.55E-01	4.55E-01	1.20E+05	3.06E+01	3.64E+01	2.46E+00	2.35E+02	2.62E+03	5.25E+03	1.99E+00	2.57E+01	1.80E+04	2.52E+04	9.10E+01	9.10E+01
Lead	1.99E+01	2.44E-08	7.06E-04	7.00E-04	1.20E+02	6.40E-02	6.90E-02	2.69E-02	3.28E-01	1.44E+00	1.30E+00	4.02E-05	5.81E-04	5.83E-01	1.63E+00	2.20E-01	9.00E-02
Lithium	1.35E+01	9.02E-08	1.47E-02	1.47E-02	3.10E+01	5.21E-02	1.70E-01	8.11E-03	3.70E-01	2.16E+00	4.32E+00	1.57E-03	3.22E-02	4.65E+00	6.51E+00	--	--
Magnesium	--	--	--	--	--	9.49E+00	5.00E+01	--	--	--	--	--	--	--	--	--	--
Manganese	9.66E+01	1.80E-06	4.92E-02	4.92E-02	4.00E+02	1.68E+00	6.30E+01	7.25E-01	6.30E+01	1.20E+03	6.34E-01	1.33E-02	3.80E-01	4.74E+00	8.40E+01	1.97E+01	1.97E+01
Mercury	1.62E-01	2.21E-09	7.05E-06	4.72E-06	1.10E+01	2.76E-10	2.50E-03	0.00E+00	2.50E-03	3.50E-02	5.18E-02	2.11E-03	4.54E-02	1.65E+00	1.90E-01	1.40E+00	2.50E-03
Mercury, divalent	4.72E-02	--	1.89E-06	1.26E-06	3.34E-02	1.11E-04	1.13E-04	2.55E-04	--	7.55E-03	1.51E-02	1.51E-06	1.99E-05	5.01E-03	7.01E-03	1.26E-06	1.26E-06
Mercury, methyl	6.06E-08	--	6.01E-13	5.99E-13	9.58E-11	1.60E-06	1.94E-06	9.00E-10	--	9.70E-09	1.94E-08	7.89E-10	2.27E-08	1.44E-11	2.01E-11	4.07E-06	4.07E-06
Molybdenum	1.00E+00	3.13E-08	1.23E-02	1.23E-02	4.30E+00	1.31E-02	1.60E-01	9.00E-03	1.60E-01	6.90E-01	3.20E-01	5.38E-04	1.50E-02	6.45E-01	9.03E-01	2.50E-01	2.50E-01
Nickel	6.91E+00	1.81E-06	6.10E-03	6.10E-03	2.10E+02	3.56E-02	1.60E-01	8.29E-03	2.48E-01	1.11E+00	6.16E-01	7.08E-04	1.64E-02	1.55E+00	1.98E+01	4.76E-01	4.76E-01
Phosphorus	2.00E+00	--	1.63E-01	1.63E-01	5.72E-01	1.49E+00	1.60E+02	1.05E+00	1.60E+02	3.21E-01	6.41E-01	4.58E+00	1.32E+02	8.58E-02	1.20E-01	--	--
Potassium	1.44E+02	--	7.58E+00	7.58E+00	4.17E+01	3.34E+01	8.60E+02	1.19E+01	8.60E+02	2.31E+01	4.61E+01	8.98E+00	2.59E+02	6.25E+00	8.76E+00	--	--
Rubidium	--	4.99E-08	--	--	3.90E+01	3.78E-03	4.58E-03	--	--	--	--	--	--	5.85E+00	8.19E+00	--	--
Selenium	8.64E-01	1.22E-08	4.68E-04	4.68E-04	2.50E+00	2.81E-03	1.60E-01	2.85E-03	1.60E-01	2.50E-01	2.00E-01	2.01E-04	5.61E-03	2.10E-01	5.50E-01	7.50E-01	7.50E-01
Silver	2.50E-01	1.48E-07	7.04E-05	7.04E-05	3.40E+00	5.50E-03	4.00E-02	3.75E-03	4.00E-02	1.80E+00	3.20E-04	6.61E-05	1.83E-03	7.14E-03	7.14E-01	6.00E-02	6.00E-02
Sodium	1.51E+03	--	4.61E+00	4.61E+00	4.61E+02	2.51E+01	2.76E+01	1.25E+01	1.16E+02	2.42E+02	4.84E+02	1.23E+00	2.77E+01	6.91E+01	9.67E+01	9.21E+01	9.21E+01
Strontium	1.94E+01	5.48E-07	1.46E-01	1.46E-01	2.60E+01	1.69E+00	2.20E+00	7.28E-01	8.37E+00	1.00E+01	6.21E+00	3.77E-04	1.04E-02	3.90E+00	5.46E+00	6.10E+01	4.40E+01
Thallium	5.00E-02	9.52E-09	6.61E-05	6.61E-05	3.00E-01	5.06E-04	1.10E-02	3.00E-06	1.10E-02	1.00E-02	1.60E-02	2.39E-04	6.70E-03	4.50E-02	6.30E-02	6.61E-01	6.61E-01
Tin	5.87E-01	1.85E-06	7.50E-04	7.48E-04	1.40E+00	2.69E-03	1.20E+00	5.28E-04	1.20E+00	2.50E-01	1.88E-01	6.27E-04	1.80E-02	2.10E-01	5.50E-01	2.24E+00	2.24E+00
Titanium	1.35E+03	2.26E-06	6.00E-01	5.94E-01	5.94E+02	3.33E+00	3.89E+00	6.07E-01	2.31E+01	2.16E+02	4.31E+02	2.62E-01	3.65E+00	8.90E+01	1.25E+02	--	--
Uranium	6.70E-01	9.76E-09	8.52E-04	8.48E-04	1.70E+00	1.02E-01	1.02E-01	1.01E-01	1.10E-01	1.07E-01	2.14E-01	1.13E-05	3.12E-04	2.55E-01	3.57E-01	--	--
Vanadium	3.87E+01	3.30E-07	1.49E-03	1.47E-03	2.70E+01	6.99E-02	1.60E-01	1.74E-02	4.51E-01	9.30E-01	1.52E-01	6.84E-04	1.04E-02	1.96E-02	5.67E+00	--	--
Zinc	1.97E+01	1.90E-05	7.18E-03	7.17E-03	6.40E+01	3.56E-01	2.10E+00	2.66E+00	2.10E+00	7.90E+01	5.03E-03	1.07E-04	2.92E-03	7.26E+00	4.50E+01	3.00E+01	1.48E+01
Inorganics																	
Nitrate	--	--	1.45E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	2.94E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	6.95E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	5.02E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	--	4.51E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table B.54

Summary of Predicted Concentrations - Post-Closure (Scenario 5)
Anaconda Goldboro
Goldboro, Nova Scotia

	Terrestrial Environment		Aquatic Environment			Terrestrial Ecosystem								Aquatic Ecosystem			
	Soil	Air	Surface Water-Total	Surface Water-Dissolved	Sediment	Leafy Vegetables	Fruit	Roots	Forage	Invertebrates	Prey	Hare	Deer	Plants	Invertebrates	Fish Whole	Fish Fillet
	(Cs)	(Coa)	(Cw)	(Cdw)	(Csed)	(Cv)	(Cfru)	(Cr)	(Cfo)	(Cti)	(Cp)	(Ch)	(Cd)	(Cap)	(Cai)	(Cfw)	(Cff)
Contaminant	(mg/kg)	(mg/m³)	(mg/L)	(mg/L)	(mg/kg)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)
Metals																	
Aluminum	4.18E+04	8.52E-05	3.61E-01	0.00E+00	2.03E+04	7.00E+01	6.74E+00	4.07E+00	5.49E+02	4.20E+02	3.52E+02	3.13E-01	2.97E+00	8.72E+00	4.25E+03	2.60E+00	1.30E+00
Antimony	1.00E+00	1.56E-08	2.20E-03	2.20E-03	8.10E+01	9.64E-03	1.60E-01	4.50E-03	1.60E-01	2.50E-01	4.00E-03	8.84E-05	2.45E-03	3.65E-01	1.70E+01	2.50E-01	2.50E-01
Arsenic	9.08E+00	3.40E-07	5.12E-02	5.12E-02	1.10E+05	2.55E-01	1.60E-01	1.09E-02	2.09E+00	8.00E+00	1.53E-02	4.02E-04	1.14E-02	6.19E+02	6.78E+02	5.83E+00	5.83E+00
Barium	3.73E+01	8.83E-05	5.73E-03	5.72E-03	9.60E+01	6.92E-01	3.50E+00	8.39E-02	5.08E+00	2.40E+01	5.76E-02	3.01E-04	8.13E-03	2.25E+00	2.02E+01	3.62E+00	3.62E+00
Beryllium	1.43E+00	1.56E-08	4.76E-04	4.73E-04	1.00E+00	2.45E-03	1.60E-01	3.21E-04	1.60E-01	2.50E-01	4.00E-03	9.03E-05	2.47E-03	8.78E-02	5.50E-01	2.50E-01	2.50E-01
Bismuth	--	8.12E-09	--	--	5.40E+00	2.09E-04	2.50E-02	--	--	--	--	--	--	8.10E-01	1.13E+00	--	--
Boron	2.50E+01	3.11E-08	1.96E+00	1.96E+00	2.50E+01	8.47E+00	8.45E+00	7.50E+00	1.51E+01	4.00E+00	8.00E+00	3.82E-03	1.09E-01	3.75E+00	5.25E+00	--	--
Cadmium	1.50E-01	5.62E-08	3.70E-05	3.70E-05	5.60E-01	2.78E-03	3.20E-02	1.44E-03	3.20E-02	1.60E+00	3.72E-02	2.09E-06	5.84E-05	6.80E-02	1.70E-01	3.35E-02	3.35E-02
Calcium	--	--	--	--	--	8.22E+00	9.30E+02	--	--	--	--	--	--	--	--	--	--
Chromium	1.27E+01	1.55E-06	8.60E-04	8.60E-04	2.40E+01	7.95E-02	1.60E-01	8.58E-03	5.96E-01	6.22E-01	4.80E-01	8.02E-04	1.64E-02	1.48E-01	1.08E+00	2.50E-01	2.50E-01
Chromium VI	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	2.27E+00	3.11E-08	9.61E-04	9.60E-04	1.30E+02	1.43E-02	8.00E-02	2.38E-03	1.01E-01	2.10E-01	1.07E-02	1.06E-03	2.61E-02	1.46E-01	2.73E+01	2.88E-01	2.88E-01
Copper	6.56E+00	3.39E-04	9.20E-04	9.20E-04	3.60E+01	2.88E-01	1.10E+00	2.46E-01	1.10E+00	1.60E+01	3.24E+00	6.04E-03	1.68E-01	1.20E+00	6.98E+00	1.30E+00	2.50E-01
Iron	1.64E+04	1.02E-04	4.28E-01	4.27E-01	1.20E+05	3.06E+01	4.80E+00	2.46E+00	2.35E+02	2.62E+03	5.25E+03	1.66E+00	1.63E+01	1.80E+04	2.52E+04	8.55E+01	8.55E+01
Lead	1.99E+01	1.56E-08	9.27E-04	9.19E-04	1.20E+02	6.40E-02	5.20E-02	2.69E-02	3.28E-01	1.44E+00	1.30E+00	3.75E-05	5.04E-04	5.83E-01	1.63E+00	2.20E-01	9.00E-02
Lithium	1.35E+01	7.56E-08	1.47E-02	1.47E-02	3.10E+01	5.21E-02	1.70E-01	8.11E-03	3.70E-01	2.16E+00	4.32E+00	1.57E-03	3.22E-02	4.65E+00	6.51E+00	--	--
Magnesium	--	--	--	--	--	9.49E+00	5.00E+01	--	--	--	--	--	--	--	--	--	--
Manganese	9.66E+01	1.58E-06	1.19E-01	1.19E-01	4.00E+02	1.68E+00	6.30E+01	7.25E-01	6.30E+01	1.20E+03	6.34E-01	1.33E-02	3.80E-01	4.74E+00	8.40E+01	4.74E+01	4.74E+01
Mercury	1.62E-01	2.14E-09	9.69E-06	6.48E-06	1.10E+01	2.76E-10	2.50E-03	0.00E+00	2.50E-03	3.50E-02	5.18E-02	2.11E-03	4.54E-02	1.65E+00	1.90E-01	1.40E+00	2.50E-03
Mercury, divalent	4.72E-02	--	1.89E-06	1.26E-06	3.34E-02	1.11E-04	9.91E-05	2.55E-04	--	7.55E-03	1.51E-02	1.48E-06	1.88E-05	5.01E-03	7.01E-03	1.26E-06	1.26E-06
Mercury, methyl	6.06E-08	--	6.01E-13	5.99E-13	9.58E-11	1.60E-06	2.64E-10	9.00E-10	--	9.70E-09	1.94E-08	3.39E-13	5.21E-12	1.44E-11	2.01E-11	4.07E-06	4.07E-06
Molybdenum	1.00E+00	3.11E-08	1.23E-02	1.23E-02	4.30E+00	1.31E-02	1.60E-01	9.00E-03	1.60E-01	6.90E-01	3.20E-01	5.38E-04	1.50E-02	6.45E-01	9.03E-01	2.50E-01	2.50E-01
Nickel	6.91E+00	1.80E-06	1.13E-02	1.13E-02	2.10E+02	3.56E-02	1.60E-01	8.29E-03	2.48E-01	1.11E+00	6.16E-01	7.12E-04	1.66E-02	1.55E+00	1.98E+01	8.83E-01	8.83E-01
Phosphorus	2.00E+00	--	1.63E-01	1.63E-01	5.72E-01	1.49E+00	1.60E+02	1.05E+00	1.60E+02	3.21E-01	6.41E-01	4.58E+00	1.32E+02	8.58E-02	1.20E-01	--	--
Potassium	1.44E+02	--	7.58E+00	7.58E+00	4.17E+01	3.34E+01	8.60E+02	1.19E+01	8.60E+02	2.31E+01	4.61E+01	8.98E+00	2.59E+02	6.25E+00	8.76E+00	--	--
Rubidium	--	4.85E-08	--	--	3.90E+01	3.78E-03	0.00E+00	--	--	--	--	--	--	5.85E+00	8.19E+00	--	--
Selenium	8.64E-01	1.21E-08	5.58E-04	5.58E-04	2.50E+00	2.81E-03	1.60E-01	2.85E-03	1.60E-01	2.50E-01	2.00E-01	2.01E-04	5.62E-03	2.10E-01	5.50E-01	7.50E-01	7.50E-01
Silver	2.50E-01	1.48E-07	7.48E-05	7.48E-05	3.40E+00	5.50E-03	4.00E-02	3.75E-03	4.00E-02	1.80E+00	3.20E-04	6.61E-05	1.83E-03	7.14E-03	7.14E-01	6.00E-02	6.00E-02
Sodium	1.51E+03	--	4.61E+00	4.61E+00	4.61E+02	2.51E+01	2.50E+01	1.25E+01	1.16E+02	2.42E+02	4.84E+02	1.16E+00	2.55E+01	6.91E+01	9.67E+01	9.21E+01	9.21E+01
Strontium	1.94E+01	4.98E-07	1.46E-01	1.46E-01	2.60E+01	1.69E+00	2.20E+00	7.28E-01	8.37E+00	1.00E+01	6.21E+00	3.77E-04	1.04E-02	3.90E+00	5.46E+00	6.10E+01	4.40E+01
Thallium	5.00E-02	9.33E-09	8.48E-05	8.48E-05	3.00E-01	5.06E-04	1.10E-02	3.00E-06	1.10E-02	1.00E-02	1.60E-02	2.39E-04	6.71E-03	4.50E-02	6.30E-02	8.48E-01	8.48E-01
Tin	5.87E-01	1.85E-06	7.50E-04	7.48E-04	1.40E+00	2.69E-03	1.20E+00	5.28E-04	1.20E+00	2.50E-01	1.88E-01	6.27E-04	1.80E-02	2.10E-01	5.50E-01	2.24E+00	2.24E+00
Titanium	1.35E+03	1.25E-06	6.00E-01	5.94E-01	5.94E+02	3.33E+00	6.71E-01	6.07E-01	2.31E+01	2.16E+02	4.31E+02	2.12E-01	2.20E+00	8.90E+01	1.25E+02	--	--
Uranium	6.70E-01	9.33E-09	5.76E-04	5.73E-04	1.70E+00	1.02E-01	1.01E-01	1.01E-01	1.10E-01	1.07E-01	2.14E-01	1.11E-05	3.08E-04	2.55E-01	3.57E-01	--	--
Vanadium	3.87E+01	3.11E-07	2.01E-03	1.99E-03	2.70E+01	6.99E-02	1.60E-01	1.74E-02	4.51E-01	9.30E-01	1.52E-01	6.84E-04	1.04E-02	1.96E-02	5.67E+00	--	--
Zinc	1.97E+01	1.89E-05	7.27E-03	7.26E-03	6.40E+01	3.56E-01	2.10E+00	2.66E+00	2.10E+00	7.90E+01	5.03E-03	1.07E-04	2.92E-03	7.26E+00	4.50E+01	3.00E+01	1.50E+01
Inorganics																	
Nitrate	--	--	7.77E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	6.00E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	3.02E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	1.68E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	--	1.22E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table B.55

Change in Predicted Media Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

	Change in Predicted Soil Concentration Δ mg/kg				Change in Predicted Surface Water Concentration Δ mg/L				Change in Predicted Sediment Concentration Δ mg/kg			
Contaminant	Construction (Cs) (mg/kg)	Operations (Cs) (mg/kg)	Reclamation (Cs) (mg/kg)	Post-Closure (Cs) (mg/kg)	Construction (Cw) (mg/L)	Operations (Cw) (mg/L)	Reclamation (Cw) (mg/L)	Post-Closure (Cw) (mg/L)	Construction (Csed) (mg/kg)	Operations (Csed) (mg/kg)	Reclamation (Csed) (mg/kg)	Post-Closure (Csed) (mg/kg)
Metals												
Aluminum	4.61E+03	2.67E+04	3.19E+04	3.19E+04	0.00E+00	-2.31E-01	-1.64E-01	-6.93E-02	0.00E+00	3.36E+03	5.25E+03	5.25E+03
Antimony	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.89E-03	2.77E-03	1.70E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Arsenic	2.71E+00	3.04E+00	3.04E+00	3.04E+00	0.00E+00	-6.22E-01	-6.25E-01	-6.26E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Barium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.49E-03	3.45E-03	2.13E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Beryllium	6.98E-02	3.67E-01	4.28E-01	4.28E-01	0.00E+00	-3.91E-05	-2.88E-05	-2.37E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bismuth	--	--	--	--	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Boron	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.94E+00	1.94E+00	1.94E+00	1.94E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cadmium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-5.01E-06	-6.90E-07	1.22E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Calcium	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.42E-04	-6.13E-04	-4.40E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cobalt	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.91E-04	7.35E-04	7.61E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Copper	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.16E-04	1.13E-04	-8.22E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Iron	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-8.15E-01	-7.15E-01	-7.42E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lead	8.14E-01	4.39E+00	5.14E+00	5.14E+00	0.00E+00	6.03E-05	-5.59E-05	1.65E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lithium	1.20E+00	4.68E+00	5.10E+00	5.10E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Magnesium	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.73E-03	-3.11E-02	3.84E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, element	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.30E-04	-1.29E-04	-1.27E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, divalent	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, methyl	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nickel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phosphorus	--	--	--	--	1.13E-01	1.13E-01	1.13E-01	1.13E-01	--	--	--	--
Potassium	--	--	--	--	6.78E+00	6.78E+00	6.78E+00	6.78E+00	--	--	--	--
Rubidium	--	--	--	--	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Selenium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.17E-05	-3.17E-05	5.82E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Silver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sodium	--	--	--	--	-2.93E+00	-9.43E-01	-9.06E-01	-9.06E-01	--	--	--	--
Strontium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E-01	1.01E-01	1.01E-01	1.01E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Thallium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tin	2.26E-02	8.11E-02	8.71E-02	8.71E-02	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Titanium	--	--	--	--	2.10E-01	5.22E-01	5.90E-01	5.90E-01	--	--	--	--
Uranium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.00E-04	8.02E-04	5.26E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Vanadium	2.62E+00	1.44E+01	1.69E+01	1.69E+01	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Zinc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-2.48E-03	-2.58E-03	-2.49E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Appendix B.4

Village: Baseline and Predicted Future Exposure Point Concentration Models and Result

Table B.1

Summary of Measured and Estimated Background Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

	Measured Baseline Concentration									Estimated Baseline Concentration			
Contaminant	**Surface soil (Cs) (mg/kg)**	**Outdoor air (Coa) (mg/m³)**	**Surface water (Cw) (mg/L)**	**Sediment (Csed) (mg/kg)**	**Berries (Cfru) (mg/kg FW)**	**Fish fillets (Cff) (mg/kg FW)**	**Fish remains (Cfr) (mg/kg FW)**	**Terrestrial invertebrates (Cti) (mg/kg FW)**	**Aquatic invertebrates (Cai) (mg/kg FW)**	**Hare Flesh (Ch) (mg/kg FW) (refer to table B.3)**	**Deer Flesh (Cd) (mg/kg FW) (refer to table B.2)**	**Prey Flesh (Cp) (mg/kg FW) (refer to table B.4)**	**Aquatic Plants (Cap) (mg/kg FW) (refer to table B.5)**
Metals													
Aluminum	9.92E+03	8.52E-05	5.04E-01	1.50E+04	3.90E+00	1.30E+00	2.60E+00	4.20E+02	1.80E+02	7.63E-02	7.61E-01	8.35E+01	6.46E+00
Antimony	1.00E+00	1.56E-08	6.75E-04	8.10E+01	<0.32	<0.5	<0.5	<0.5	<1.1	8.82E-05	2.45E-03	4.00E-03	3.65E-01
Arsenic	1.07E+01	3.40E-07	6.77E-01	1.10E+05	<0.32	2.50E-01	5.30E-01	8.00E+00	1.70E+02	4.47E-04	1.19E-02	1.75E-02	6.19E+02
Barium	4.15E+01	8.83E-05	3.60E-03	9.60E+01	3.50E+00	<1.5	2.50E+00	2.40E+01	<3.3	3.04E-04	8.16E-03	5.76E-02	2.25E+00
Beryllium	1.00E+00	1.56E-08	6.75E-04	<2	<0.32	<0.5	<0.5	<0.5	<1.1	8.82E-05	2.45E-03	4.00E-03	8.78E-02
Bismuth	1.00E+00	--	1.00E-03	5.40E+00	<0.05	--	--	--	--	7.22E-06	1.70E-04	3.20E-01	8.10E-01
Boron	2.50E+01	3.11E-08	2.50E-02	<50	1.90E+00	<1.5	<1.5	2.30E+00	<3.3	8.91E-04	2.38E-02	8.00E+00	3.75E+00
Cadmium	3.81E-01	5.62E-08	3.72E-05	5.60E-01	3.20E-02	<0.05	2.50E-02	1.60E+00	1.70E-01	2.22E-06	5.97E-05	5.77E-02	6.80E-02
Calcium	--	--	4.89E+00	--	9.30E+02	--	--	--	--	--	--	--	--
Chromium	1.34E+01	1.55E-06	1.30E-03	2.40E+01	<0.32	<0.5	<0.5	5.80E-01	<1.1	8.21E-04	1.65E-02	4.99E-01	1.48E-01
Cobalt	2.39E+00	3.11E-08	3.05E-04	1.30E+02	<0.16	<0.2	<0.2	2.10E-01	<0.44	1.07E-03	2.62E-02	1.15E-02	1.46E-01
Copper	5.86E+00	3.39E-04	1.74E-03	3.60E+01	1.10E+00	2.50E-01	1.30E+00	1.60E+01	5.10E+00	6.01E-03	1.68E-01	3.18E+00	1.20E+00
Iron	1.64E+04	1.02E-04	1.17E+00	1.20E+05	<9.6	7.50E+00	2.50E+01	6.00E+02	1.10E+03	1.66E+00	1.63E+01	5.25E+03	1.80E+04
Lead	2.37E+01	1.56E-08	9.70E-04	1.20E+02	5.20E-02	<0.18	2.20E-01	5.60E-01	9.40E-01	4.31E-05	5.55E-04	1.40E+00	5.83E-01
Lithium	9.31E+00	--	--	3.10E+01	<0.34	<0.5	<0.5	<0.5	<1.1	--	--	2.98E+00	4.65E+00
Magnesium	--	--	8.14E-01	--	<100	--	--	--	--	--	--	--	--
Manganese	9.07E+01	1.58E-06	8.03E-02	4.00E+02	6.30E+01	3.10E+00	6.40E+00	1.20E+03	3.30E+01	1.33E-02	3.80E-01	5.95E-01	4.74E+00
Mercury	2.64E-01	--	1.36E-04	1.10E+01	<0.005	2.50E-03	1.40E+00	3.50E-02	1.90E-01	2.62E-03	5.00E-02	8.45E-02	1.65E+00
Mercury, divalent	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, methyl	--	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	1.00E+00	3.11E-08	1.00E-03	4.30E+00	<0.32	<0.5	<0.5	6.90E-01	<1.1	5.29E-04	1.47E-02	3.20E-01	6.45E-01
Nickel	6.91E+00	1.80E-06	1.00E-03	2.10E+02	<0.32	<0.5	<0.5	1.10E+00	<1.1	7.04E-04	1.63E-02	6.16E-01	1.55E+00
Phosphorus	--	--	5.00E-02	--	1.60E+02	--	--	--	--	--	--	--	--
Potassium	--	--	8.04E-01	--	8.60E+02	--	--	--	--	--	--	--	--
Rubidium	5.97E+00	--	--	3.90E+01	--	--	--	--	--	--	--	1.91E+00	5.85E+00
Selenium	1.49E+00	--	5.00E-04	2.50E+00	<0.32	7.50E-01	7.30E-01	<0.5	<1.1	2.08E-04	5.68E-03	2.45E-01	2.10E-01
Silver	2.50E-01	1.48E-07	5.00E-05	3.40E+00	<0.08	<0.12	<0.12	1.80E+00	<0.26	6.61E-05	1.83E-03	3.20E-04	7.14E-03
Sodium	--	--	5.52E+00	--	<50	--	--	--	--	--	--	--	--
Strontium	4.57E+01	4.98E-07	4.47E-02	2.60E+01	2.20E+00	4.40E+01	6.10E+01	1.00E+01	<3.3	4.12E-04	1.06E-02	1.46E+01	3.90E+00
Thallium	5.00E-02	9.33E-09	5.00E-05	3.00E-01	<0.022	<0.02	<0.02	<0.02	<0.044	2.39E-04	6.70E-03	1.60E-02	4.50E-02
Tin	5.00E-01	1.85E-06	1.00E-03	1.40E+00	1.20E+00	<0.5	<0.5	<0.5	<1.1	6.27E-04	1.80E-02	1.60E-01	2.10E-01
Titanium	--	1.25E-06	9.34E-03	--	<0.5	--	--	--	--	--	--	--	--
Uranium	6.70E-01	9.33E-09	6.75E-05	1.70E+00	<0.016	<0.02	<0.02	<0.02	<0.044	1.49E-06	3.01E-05	2.14E-01	2.55E-01
Vanadium	2.30E+01	3.11E-07	1.00E-03	2.70E+01	<0.32	<0.5	<0.5	9.30E-01	<1.1	4.91E-04	8.60E-03	9.05E-02	1.96E-02
Zinc	2.35E+01	1.89E-05	1.18E-02	6.40E+01	2.10E+00	1.40E+01	3.00E+01	7.90E+01	4.50E+01	1.09E-04	2.93E-03	5.09E-03	7.26E+00
Inorganics													
Cyanide	--	--	0.00E+00	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	2.34E-01	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	1.59E-02	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	1.78E-01	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	6.94E-03	--	--	--	--	--	--	--	--	--	--

Table B.2

Deer Baseline Concentration Due to Plant and Soil Ingestion
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal (F) (refer to Table B.9) (unitless)	Quantity of Forage Ingested by the Animal per day (1) (Qp_f) (refer to Table B.9) (kg DW/day)	Baseline Concentration in Forage Ingested (P_f) (refer to Table B.1) (mg/kg DW)	Quantity of Soil Ingested by the Animal (Qs) (refer to Table B.9) (kg/day)	Baseline Soil Concentration (Cs) (refer to Table B.1) (mg/kg)	Soil Bioavailability Factor (Bs) (unitless)	Quantity of Surface Water Ingested by the Animal (Qw) (refer to Table B.9) (L/day)	Baseline Surface Water Concentration (Cw) (refer to Table B.1) (mg/L)	Biotransfer Factor for Beef (Ba_{beef}) (refer to Table B.10) (day/kg FW tissue)	Biotransfer Factor for Wildlife ($Ba_{wildlife}$) (day/kg FW tissue)	Metabolism Factor (MF) unitless	Baseline Concentration in Deer (Cd) (mg/kg FW tissue)
Particulate Matter												
Total Particulate Matter	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	--	--	1.00E+00	--
Particulate Matter (PM10)	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	--	--	1.00E+00	--
Particulate Matter (PM2.5)	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	--	--	1.00E+00	--
Metals												
Aluminum	1.00E+00	2.25E+00	2.60E+01	4.50E-02	9.92E+03	1.00E+00	4.50E+00	5.04E-01	1.50E-03	1.50E-03	1.00E+00	7.61E-01
Antimony	1.00E+00	2.25E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	4.50E+00	6.75E-04	1.00E-03	1.00E-03	1.00E+00	2.45E-03
Arsenic	1.00E+00	2.25E+00	1.07E+00	4.50E-02	1.07E+01	1.00E+00	4.50E+00	6.77E-01	2.00E-03	2.00E-03	1.00E+00	1.19E-02
Barium	1.00E+00	2.25E+00	2.33E+01	4.50E-02	4.15E+01	1.00E+00	4.50E+00	3.60E-03	1.50E-04	1.50E-04	1.00E+00	8.16E-03
Beryllium	1.00E+00	2.25E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	4.50E+00	6.75E-04	1.00E-03	1.00E-03	1.00E+00	2.45E-03
Bismuth	1.00E+00	2.25E+00	1.67E-01	4.50E-02	1.00E+00	1.00E+00	4.50E+00	1.00E-03	4.00E-04	4.00E-04	1.00E+00	1.70E-04
Boron	1.00E+00	2.25E+00	1.27E+01	4.50E-02	2.50E+01	1.00E+00	4.50E+00	2.50E-02	8.00E-04	8.00E-04	1.00E+00	2.38E-02
Cadmium	1.00E+00	2.25E+00	2.13E-01	4.50E-02	3.81E-01	1.00E+00	4.50E+00	3.72E-05	1.20E-04	1.20E-04	1.00E+00	5.97E-05
Calcium	1.00E+00	2.25E+00	6.20E+03	4.50E-02	--	1.00E+00	4.50E+00	4.89E+00	7.00E-04	7.00E-04	1.00E+00	--
Chromium Total	1.00E+00	2.25E+00	1.07E+00	4.50E-02	1.34E+01	1.00E+00	4.50E+00	1.30E-03	5.50E-03	5.50E-03	1.00E+00	1.65E-02
Cobalt	1.00E+00	2.25E+00	5.33E-01	4.50E-02	2.39E+00	1.00E+00	4.50E+00	3.05E-04	2.00E-02	2.00E-02	1.00E+00	2.62E-02
Copper	1.00E+00	2.25E+00	7.33E+00	4.50E-02	5.86E+00	1.00E+00	4.50E+00	1.74E-03	1.00E-02	1.00E-02	1.00E+00	1.68E-01
Iron	1.00E+00	2.25E+00	3.20E+01	4.50E-02	1.64E+04	1.00E+00	4.50E+00	1.17E+00	2.00E-02	2.00E-02	1.00E+00	1.63E+01
Lead	1.00E+00	2.25E+00	3.47E-01	4.50E-02	2.37E+01	1.00E+00	4.50E+00	9.70E-04	3.00E-04	3.00E-04	1.00E+00	5.55E-04
Lithium	1.00E+00	2.25E+00	1.13E+00	4.50E-02	9.31E+00	1.00E+00	4.50E+00	--	1.00E-02	1.00E-02	1.00E+00	--
Magnesium	1.00E+00	2.25E+00	3.33E+02	4.50E-02	--	1.00E+00	4.50E+00	8.14E-01	5.00E-03	5.00E-03	1.00E+00	--
Manganese	1.00E+00	2.25E+00	4.20E+02	4.50E-02	9.07E+01	1.00E+00	4.50E+00	8.03E-02	4.00E-04	4.00E-04	1.00E+00	3.80E-01
Mercury, element	1.00E+00	2.25E+00	1.67E-02	4.50E-02	2.64E-01	1.00E+00	4.50E+00	1.36E-04	1.00E+00	1.00E+00	1.00E+00	5.00E-02
Mercury, divalent	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	5.20E-03	5.20E-03	1.00E+00	--
Mercury, methyl	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	7.80E-04	7.80E-04	1.00E+00	--
Molybdenum	1.00E+00	2.25E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	4.50E+00	1.00E-03	6.00E-03	6.00E-03	1.00E+00	1.47E-02
Nickel	1.00E+00	2.25E+00	1.07E+00	4.50E-02	6.91E+00	1.00E+00	4.50E+00	1.00E-03	6.00E-03	6.00E-03	1.00E+00	1.63E-02
Phosphorus	1.00E+00	2.25E+00	1.07E+03	4.50E-02	--	1.00E+00	4.50E+00	5.00E-02	5.50E-02	5.50E-02	1.00E+00	--
Potassium	1.00E+00	2.25E+00	5.73E+03	4.50E-02	--	1.00E+00	4.50E+00	8.04E-01	2.00E-02	2.00E-02	1.00E+00	--
Rubidium	1.00E+00	2.25E+00	--	4.50E-02	5.97E+00	1.00E+00	4.50E+00	--	1.50E-02	1.50E-02	1.00E+00	--
Selenium	1.00E+00	2.25E+00	1.07E+00	4.50E-02	1.49E+00	1.00E+00	4.50E+00	5.00E-04	2.30E-03	2.30E-03	1.00E+00	5.68E-03
Silver	1.00E+00	2.25E+00	2.67E-01	4.50E-02	2.50E-01	1.00E+00	4.50E+00	5.00E-05	3.00E-03	3.00E-03	1.00E+00	1.83E-03
Sodium	1.00E+00	2.25E+00	1.67E+02	4.50E-02	--	1.00E+00	4.50E+00	5.52E+00	5.50E-02	5.50E-02	1.00E+00	--
Strontium	1.00E+00	2.25E+00	1.47E+01	4.50E-02	4.57E+01	1.00E+00	4.50E+00	4.47E-02	3.00E-04	3.00E-04	1.00E+00	1.06E-02
Thallium	1.00E+00	2.25E+00	7.33E-02	4.50E-02	5.00E-02	1.00E+00	4.50E+00	5.00E-05	4.00E-02	4.00E-02	1.00E+00	6.70E-03
Tin	1.00E+00	2.25E+00	8.00E+00	4.50E-02	5.00E-01	1.00E+00	4.50E+00	1.00E-03	1.00E-03	1.00E-03	1.00E+00	1.80E-02
Titanium	1.00E+00	2.25E+00	1.67E+00	4.50E-02	--	1.00E+00	4.50E+00	9.34E-03	3.00E-02	3.00E-02	1.00E+00	--
Uranium	1.00E+00	2.25E+00	5.33E-02	4.50E-02	6.70E-01	1.00E+00	4.50E+00	6.75E-05	2.00E-04	2.00E-04	1.00E+00	3.01E-05
Vanadium	1.00E+00	2.25E+00	1.07E+00	4.50E-02	2.30E+01	1.00E+00	4.50E+00	1.00E-03	2.50E-03	2.50E-03	1.00E+00	8.60E-03
Zinc	1.00E+00	2.25E+00	1.40E+01	4.50E-02	2.35E+01	1.00E+00	4.50E+00	1.18E-02	9.00E-05	9.00E-05	1.00E+00	2.93E-03

Equation: $Cwildlife = F \times Qp_f \times P_f + Qs \times Cs \times Bs + Qw \times Cw \times Ba_{wildlife} \times MF$ where: $Ba_{wildlife} = Ba_{beef}$ refer to Table B-10 for Ba_{beef}

Table B.3

Hare Baseline Concentration Due to Plant and Soil Ingestion
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal (F) (refer to Table B.9) (unitless)	Quantity of Forage Ingested by the Animal per day (1) (Qp_f) (refer to Table B.9) (kg DW/day)	Baseline Concentration in Forage Ingested (P_f) (refer to Table B.1) (mg/kg DW)	Quantity of Soil Ingested by the Animal (Qs) (refer to Table B.9) (kg/day)	Baseline Soil Concentration (Cs) (refer to Table B.1) (mg/kg)	Soil Bioavailability Factor (Bs) (unitless)	Quantity of Surface Water Ingested by the Animal (Qw) (refer to Table B.9) (L/day)	Baseline Surface Water Concentration (Cw) (refer to Table B.1) (mg/L)	Biotransfer Factor for Beef (Ba_{beef}) (refer to Table B.10) (day/kg FW tissue)	Biotransfer Factor for Wildlife ($Ba_{wildlife}$) (day/kg FW tissue)	Metabolism Factor (MF) unitless	Baseline Concentration in Hare (Ch) (mg/kg FW tissue)
Particulate Matter												
Particulate Matter (PM10)	1.00E+00	7.80E-02	--	4.91E-03	--	1.00E+00	1.30E-01	--	--	--	1.00E+00	--
Particulate Matter (PM2.5)	1.00E+00	7.80E-02	--	4.91E-03	--	1.00E+00	1.30E-01	--	--	--	1.00E+00	--
Metals												
Aluminum	1.00E+00	7.80E-02	2.60E+01	4.91E-03	9.92E+03	1.00E+00	1.30E-01	5.04E-01	1.50E-03	1.50E-03	1.00E+00	7.63E-02
Antimony	1.00E+00	7.80E-02	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.30E-01	6.75E-04	1.00E-03	1.00E-03	1.00E+00	8.82E-05
Arsenic	1.00E+00	7.80E-02	1.07E+00	4.91E-03	1.07E+01	1.00E+00	1.30E-01	6.77E-01	2.00E-03	2.00E-03	1.00E+00	4.47E-04
Barium	1.00E+00	7.80E-02	2.33E+01	4.91E-03	4.15E+01	1.00E+00	1.30E-01	3.60E-03	1.50E-04	1.50E-04	1.00E+00	3.04E-04
Beryllium	1.00E+00	7.80E-02	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.30E-01	6.75E-04	1.00E-03	1.00E-03	1.00E+00	8.82E-05
Bismuth	1.00E+00	7.80E-02	1.67E-01	4.91E-03	1.00E+00	1.00E+00	1.30E-01	1.00E-03	4.00E-04	4.00E-04	1.00E+00	7.22E-06
Boron	1.00E+00	7.80E-02	1.27E+01	4.91E-03	2.50E+01	1.00E+00	1.30E-01	2.50E-02	8.00E-04	8.00E-04	1.00E+00	8.91E-04
Cadmium	1.00E+00	7.80E-02	2.13E-01	4.91E-03	3.81E-01	1.00E+00	1.30E-01	3.72E-05	1.20E-04	1.20E-04	1.00E+00	2.22E-06
Calcium	1.00E+00	7.80E-02	6.20E+03	4.91E-03	--	1.00E+00	1.30E-01	4.89E+00	7.00E-04	7.00E-04	1.00E+00	--
Chromium Total	1.00E+00	7.80E-02	1.07E+00	4.91E-03	1.34E+01	1.00E+00	1.30E-01	1.30E-03	5.50E-03	5.50E-03	1.00E+00	8.21E-04
Cobalt	1.00E+00	7.80E-02	5.33E-01	4.91E-03	2.39E+00	1.00E+00	1.30E-01	3.05E-04	2.00E-02	2.00E-02	1.00E+00	1.07E-03
Copper	1.00E+00	7.80E-02	7.33E+00	4.91E-03	5.86E+00	1.00E+00	1.30E-01	1.74E-03	1.00E-02	1.00E-02	1.00E+00	6.01E-03
Iron	1.00E+00	7.80E-02	3.20E+01	4.91E-03	1.64E+04	1.00E+00	1.30E-01	1.17E+00	2.00E-02	2.00E-02	1.00E+00	1.66E+00
Lead	1.00E+00	7.80E-02	3.47E-01	4.91E-03	2.37E+01	1.00E+00	1.30E-01	9.70E-04	3.00E-04	3.00E-04	1.00E+00	4.31E-05
Lithium	1.00E+00	7.80E-02	1.13E+00	4.91E-03	9.31E+00	1.00E+00	1.30E-01	--	1.00E-02	1.00E-02	1.00E+00	--
Magnesium	1.00E+00	7.80E-02	3.33E+02	4.91E-03	--	1.00E+00	1.30E-01	8.14E-01	5.00E-03	5.00E-03	1.00E+00	--
Manganese	1.00E+00	7.80E-02	4.20E+02	4.91E-03	9.07E+01	1.00E+00	1.30E-01	8.03E-02	4.00E-04	4.00E-04	1.00E+00	1.33E-02
Mercury, element	1.00E+00	7.80E-02	1.67E-02	4.91E-03	2.64E-01	1.00E+00	1.30E-01	1.36E-04	1.00E+00	1.00E+00	1.00E+00	2.62E-03
Mercury, divalent	1.00E+00	7.80E-02	--	4.91E-03	--	1.00E+00	1.30E-01	--	5.20E-03	5.20E-03	1.00E+00	--
Mercury, methyl	1.00E+00	7.80E-02	--	4.91E-03	--	1.00E+00	1.30E-01	--	7.80E-04	7.80E-04	1.00E+00	--
Molybdenum	1.00E+00	7.80E-02	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.30E-01	1.00E-03	6.00E-03	6.00E-03	1.00E+00	5.29E-04
Nickel	1.00E+00	7.80E-02	1.07E+00	4.91E-03	6.91E+00	1.00E+00	1.30E-01	1.00E-03	6.00E-03	6.00E-03	1.00E+00	7.04E-04
Phosphorus	1.00E+00	7.80E-02	1.07E+03	4.91E-03	--	1.00E+00	1.30E-01	5.00E-02	5.50E-02	5.50E-02	1.00E+00	--
Potassium	1.00E+00	7.80E-02	5.73E+03	4.91E-03	--	1.00E+00	1.30E-01	8.04E-01	2.00E-02	2.00E-02	1.00E+00	--
Rubidium	1.00E+00	7.80E-02	--	4.91E-03	5.97E+00	1.00E+00	1.30E-01	--	1.50E-02	1.50E-02	1.00E+00	--
Selenium	1.00E+00	7.80E-02	1.07E+00	4.91E-03	1.49E+00	1.00E+00	1.30E-01	5.00E-04	2.30E-03	2.30E-03	1.00E+00	2.08E-04
Silver	1.00E+00	7.80E-02	2.67E-01	4.91E-03	2.50E-01	1.00E+00	1.30E-01	5.00E-05	3.00E-03	3.00E-03	1.00E+00	6.61E-05
Sodium	1.00E+00	7.80E-02	1.67E+02	4.91E-03	--	1.00E+00	1.30E-01	5.52E+00	5.50E-02	5.50E-02	1.00E+00	--
Strontium	1.00E+00	7.80E-02	1.47E+01	4.91E-03	4.57E+01	1.00E+00	1.30E-01	4.47E-02	3.00E-04	3.00E-04	1.00E+00	4.12E-04
Thallium	1.00E+00	7.80E-02	7.33E-02	4.91E-03	5.00E-02	1.00E+00	1.30E-01	5.00E-05	4.00E-02	4.00E-02	1.00E+00	2.39E-04
Tin	1.00E+00	7.80E-02	8.00E+00	4.91E-03	5.00E-01	1.00E+00	1.30E-01	1.00E-03	1.00E-03	1.00E-03	1.00E+00	6.27E-04
Titanium	1.00E+00	7.80E-02	1.67E+00	4.91E-03	--	1.00E+00	1.30E-01	9.34E-03	3.00E-02	3.00E-02	1.00E+00	--
Uranium	1.00E+00	7.80E-02	5.33E-02	4.91E-03	6.70E-01	1.00E+00	1.30E-01	6.75E-05	2.00E-04	2.00E-04	1.00E+00	1.49E-06
Vanadium	1.00E+00	7.80E-02	1.07E+00	4.91E-03	2.30E+01	1.00E+00	1.30E-01	1.00E-03	2.50E-03	2.50E-03	1.00E+00	4.91E-04
Zinc	1.00E+00	7.80E-02	1.40E+01	4.91E-03	2.35E+01	1.00E+00	1.30E-01	1.18E-02	9.00E-05	9.00E-05	1.00E+00	1.09E-04

Equation: $Cwildlife = F \times Qp_f \times P_f + Qs \times Cs \times Bs + Qw \times Cw \times Ba_{wildlife} \times MF$

where: $Ba_{wildlife} = Ba_{beef}$ refer to Table B-10 for Ba_{beef}

Table B.4

Baseline Prey Concentration Due to Terrestrial Invertebrates or Soil Ingestion
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Baseline Soil Concentration (Cs) (refer to Table B.1) (mg/kg)	Baseline Terrestrial Invertebrate Concentration (Cti) (refer to Table B.1) (mg/kg FW)	Baseline Prey Concentration (Cp) (mg/kg FW)
Particulate Matter			
Total Particulate Matter	--	--	--
Particulate Matter (PM10)	--	--	--
Particulate Matter (PM2.5)	--	--	--
Metals			
Aluminum	9.92E+03	4.20E+02	8.35E+01
Antimony	1.00E+00	2.50E-01	4.00E-03
Arsenic	1.07E+01	8.00E+00	1.75E-02
Barium	4.15E+01	2.40E+01	5.76E-02
Beryllium	1.00E+00	2.50E-01	4.00E-03
Bismuth	1.00E+00	--	3.20E-01
Boron	2.50E+01	2.30E+00	8.00E+00
Cadmium	3.81E-01	1.60E+00	5.77E-02
Calcium	--	--	--
Chromium Total	1.34E+01	5.80E-01	4.99E-01
Cobalt	2.39E+00	2.10E-01	1.15E-02
Copper	5.86E+00	1.60E+01	3.18E+00
Iron	1.64E+04	6.00E+02	5.25E+03
Lead	2.37E+01	5.60E-01	1.40E+00
Lithium	9.31E+00	2.50E-01	2.98E+00
Magnesium	--	--	--
Manganese	9.07E+01	1.20E+03	5.95E-01
Mercury, element	2.64E-01	3.50E-02	8.45E-02
Mercury, divalent	--	--	--
Mercury, methyl	--	--	--
Molybdenum	1.00E+00	6.90E-01	3.20E-01
Nickel	6.91E+00	1.10E+00	6.16E-01
Phosphorus	--	--	--
Potassium	--	--	--
Rubidium	5.97E+00	--	1.91E+00
Selenium	1.49E+00	2.50E-01	2.45E-01
Silver	2.50E-01	1.80E+00	3.20E-04
Sodium	--	--	--
Strontium	4.57E+01	1.00E+01	1.46E+01
Thallium	5.00E-02	1.00E-02	1.60E-02
Tin	5.00E-01	2.50E-01	1.60E-01
Titanium	--	--	--
Uranium	6.70E-01	1.00E-02	2.14E-01
Vanadium	2.30E+01	9.30E-01	9.05E-02
Zinc	2.35E+01	7.90E+01	5.09E-03

Note:
The baseline prey concentrations were modelled with uptake factors from the USEPA (2007). An aluminum uptake factor was obtained from Table C.1 in Appendix C of Sample et al. (1998a); the median uptake factor of 0.0263 from this data set was selected.

Table B.5

Baseline Aquatic Plants Concentration Due to Sediment Uptake
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Baseline Sediment Concentration (Csed) (refer to table B.1) (mg/kg)	Baseline Aquatic Plant Concentration (Cap) (1) (mg/kg FW)
Particulate Matter		
Total Particulate Matter	--	--
Particulate Matter (PM10)	--	--
Particulate Matter (PM2.5)	--	--
Metals		
Aluminum	1.50E+04	6.46E+00
Antimony	8.10E+01	3.65E-01
Arsenic	1.10E+05	6.19E+02
Barium	9.60E+01	2.25E+00
Beryllium	1.00E+00	8.78E-02
Bismuth	5.40E+00	8.10E-01
Boron	2.50E+01	3.75E+00
Cadmium	5.60E-01	6.80E-02
Calcium	--	--
Chromium Total	2.40E+01	1.48E-01
Cobalt	1.30E+02	1.46E-01
Copper	3.60E+01	1.20E+00
Iron	1.20E+05	1.80E+04
Lead	1.20E+02	5.83E-01
Lithium	3.10E+01	4.65E+00
Magnesium	--	--
Manganese	4.00E+02	4.74E+00
Mercury, element	1.10E+01	1.65E+00
Mercury, divalent	--	--
Mercury, methyl	--	--
Molybdenum	4.30E+00	6.45E-01
Nickel	2.10E+02	1.55E+00
Phosphorus	--	--
Potassium	--	--
Rubidium	3.90E+01	5.85E+00
Selenium	2.50E+00	2.10E-01
Silver	3.40E+00	7.14E-03
Sodium	--	--
Strontium	2.60E+01	3.90E+00
Thallium	3.00E-01	4.50E-02
Tin	1.40E+00	2.10E-01
Titanium	--	--
Uranium	1.70E+00	2.55E-01
Vanadium	2.70E+01	1.96E-02
Zinc	6.40E+01	7.26E+00

Note:

(1) The baseline aquatic plant concentrations were modelled with equations from the USEPA (2007). Where the equation for aluminum was not available, an uptake factor approach was selected for aluminum, for which the median soil to plant uptake factor of 0.00287 was selected from the dataset summarized in Table D.1 of Appendix D of Bechtel Jacobs (1998).

Table B.6

Summary of Annual Air Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Selected Predicted Annual Air Concentration	Predicted Annual Air Concentrations				Measured Baseline Air Concentration (refer to Tables A.2 and B.1)	Measured and Calculated Baseline Air Concentration (Using Soil Concentration for the Calculated Concentration)	Predicted Dust Concentration (Using Waste Rock Concentration)
	Village (Coa) ($\mu g/m^3$)	PA (Coa) ($\mu g/m^3$)	South (Coa) ($\mu g/m^3$)	Employee Accommodations (Coa) ($\mu g/m^3$)	Village (Coa) ($\mu g/m^3$)	(Coa) (mg/m^3)	(Coa) ($\mu g/m^3$)	(Cdust) (mg/kg)
Particulate Matter								
Total Particulate Matter	2.25E+01	2.40E+02	3.30E+01	2.40E+02	2.25E+01	8.12E-03	8.12E+00	--
Particulate Matter (PM10)	5.67E+00	6.05E+01	8.11E+00	6.05E+01	5.67E+00	1.15E-03	1.15E+00	--
Particulate Matter (PM2.5)	6.65E-01	1.57E+01	8.47E-01	1.57E+01	6.65E-01	8.00E-03	8.00E+00	--
Metals								
Antimony	1.56E-05	1.63E-05	1.57E-05	1.63E-05	1.56E-05	1.56E-08	1.56E-05	3.00E+00
Arsenic	3.48E-04	4.33E-04	3.53E-04	4.33E-04	3.48E-04	3.40E-07	3.40E-04	3.90E+02
Barium	8.84E-02	8.85E-02	8.84E-02	8.85E-02	8.84E-02	8.83E-05	8.83E-02	8.10E+02
Beryllium	1.56E-05	1.63E-05	1.57E-05	1.63E-05	1.56E-05	1.56E-08	1.56E-05	3.00E+00
Bismuth	8.13E-06	8.20E-06	8.13E-06	8.20E-06	8.13E-06	--	8.12E-06	3.30E-01
Boron	3.17E-05	3.71E-05	3.19E-05	3.71E-05	3.17E-05	3.11E-08	3.11E-05	2.50E+01
Cadmium	5.62E-05	5.62E-05	5.62E-05	5.62E-05	5.62E-05	5.62E-08	5.62E-05	1.20E-01
Calcium	--	--	--	--	--	--	--	1.30E+04
Chromium Total	1.55E-03	1.58E-03	1.55E-03	1.58E-03	1.55E-03	1.55E-06	1.55E-03	1.11E+02
Chromium VI	--	--	--	--	--	--	--	--
Cobalt	3.15E-05	3.54E-05	3.17E-05	3.54E-05	3.15E-05	3.11E-08	3.11E-05	1.80E+01
Copper	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-04	3.39E-01	3.70E+01
Iron	1.03E-01	1.12E-01	1.03E-01	1.12E-01	1.03E-01	1.02E-04	1.02E-01	4.30E+04
Lead	1.64E-05	2.44E-05	1.68E-05	2.44E-05	1.64E-05	1.56E-08	1.56E-05	3.70E+01
Lithium	7.70E-05	9.02E-05	7.76E-05	9.02E-05	7.70E-05	--	7.56E-05	6.10E+01
Magnesium	--	--	--	--	--	--	--	1.50E+04
Manganese	1.60E-03	1.80E-03	1.61E-03	1.80E-03	1.60E-03	1.58E-06	1.58E-03	9.21E+02
Mercury, element	2.15E-06	2.21E-06	2.15E-06	2.21E-06	2.15E-06	--	2.14E-06	2.64E-01
Mercury, divalent	--	--	--	--	--	--	--	--
Mercury, methyl	--	--	--	--	--	--	--	--
Molybdenum	3.11E-05	3.13E-05	3.11E-05	3.13E-05	3.11E-05	3.11E-08	3.11E-05	8.00E-01
Nickel	1.80E-03	1.81E-03	1.80E-03	1.81E-03	1.80E-03	1.80E-06	1.80E-03	4.10E+01
Phosphorus	--	--	--	--	--	--	--	6.90E+02
Potassium	--	--	--	--	--	--	--	3.20E+04
Rubidium	4.86E-05	4.99E-05	4.87E-05	4.99E-05	4.86E-05	--	4.85E-05	5.97E+00
Selenium	1.21E-05	1.22E-05	1.21E-05	1.22E-05	1.21E-05	--	1.21E-05	3.50E-01
Silver	1.48E-04	1.48E-04	1.48E-04	1.48E-04	1.48E-04	1.48E-07	1.48E-04	5.00E-01
Sodium	--	--	--	--	--	--	--	1.90E+04
Strontium	5.02E-04	5.48E-04	5.05E-04	5.48E-04	5.02E-04	4.98E-07	4.98E-04	2.10E+02
Thallium	9.35E-06	9.52E-06	9.36E-06	9.52E-06	9.35E-06	9.33E-09	9.33E-06	7.90E-01
Tin	1.85E-03	1.85E-03	1.85E-03	1.85E-03	1.85E-03	1.85E-06	1.85E-03	3.00E+00
Titanium	1.34E-03	2.26E-03	1.39E-03	2.26E-03	1.34E-03	1.25E-06	1.25E-03	4.20E+03
Uranium	9.37E-06	9.76E-06	9.39E-06	9.76E-06	9.37E-06	9.33E-09	9.33E-06	1.80E+00
Vanadium	3.13E-04	3.30E-04	3.14E-04	3.30E-04	3.13E-04	3.11E-07	3.11E-04	8.00E+01
Zinc	1.89E-02	1.90E-02	1.89E-02	1.90E-02	1.89E-02	1.89E-05	1.89E-02	1.10E+02

Table B.7

Summary of Annual Predicted Deposition Rates
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Selected Predicted Annual Deposition Rate (Dr) Village (g/m^2-yr)	Predicted Annual Deposition Rate (Dr) PA (g/m^2-yr)	South (g/m^2-yr)	Employee Accommodations (g/m^2-yr)	Village (g/m^2-yr)	Creek (g/m^2-yr)
Particulate Matter						
Total Particulate Matter	8.00E+00	7.69E+02	5.00E+01	7.69E+02	8.00E+00	7.69E+02
Particulate Matter (PM10)	0.00E+00	9.49E+01		9.49E+01		9.49E+01
Particulate Matter (PM2.5)	0.00E+00	4.46E-01		4.46E-01		3.33E-01
Metals						
Aluminum	8.00E-01	7.69E+01	5.00E+00	7.69E+01	8.00E-01	7.69E+01
Antimony	2.40E-05	2.31E-03	1.50E-04	2.31E-03	2.40E-05	2.31E-03
Arsenic	3.12E-03	3.00E-01	1.95E-02	3.00E-01	3.12E-03	3.00E-01
Barium	6.48E-03	6.23E-01	4.05E-02	6.23E-01	6.48E-03	6.23E-01
Beryllium	2.40E-05	2.31E-03	1.50E-04	2.31E-03	2.40E-05	2.31E-03
Bismuth	2.64E-06	2.54E-04	1.65E-05	2.54E-04	2.64E-06	2.54E-04
Boron	2.00E-04	1.92E-02	1.25E-03	1.92E-02	2.00E-04	1.92E-02
Cadmium	9.60E-07	9.23E-05	6.00E-06	9.23E-05	9.60E-07	9.23E-05
Calcium	1.04E-01	1.00E+01	6.50E-01	1.00E+01	1.04E-01	1.00E+01
Chromium Total	8.88E-04	8.54E-02	5.55E-03	8.54E-02	8.88E-04	8.54E-02
Cobalt	1.44E-04	1.38E-02	9.00E-04	1.38E-02	1.44E-04	1.38E-02
Copper	2.96E-04	2.85E-02	1.85E-03	2.85E-02	2.96E-04	2.85E-02
Iron	3.44E-01	3.31E+01	2.15E+00	3.31E+01	3.44E-01	3.31E+01
Lead	2.96E-04	2.85E-02	1.85E-03	2.85E-02	2.96E-04	2.85E-02
Lithium	4.88E-04	4.69E-02	3.05E-03	4.69E-02	4.88E-04	4.69E-02
Magnesium	1.20E-01	1.15E+01	7.50E-01	1.15E+01	1.20E-01	1.15E+01
Manganese	7.37E-03	7.09E-01	4.61E-02	7.09E-01	7.37E-03	7.09E-01
Mercury, element	2.11E-06	2.03E-04	1.32E-05	2.03E-04	2.11E-06	2.03E-04
Mercury, divalent	--	--	--	--	--	--
Mercury, methyl	--	--	--	--	--	--
Molybdenum	6.40E-06	6.16E-04	4.00E-05	6.16E-04	6.40E-06	6.16E-04
Nickel	3.28E-04	3.15E-02	2.05E-03	3.15E-02	3.28E-04	3.15E-02
Phosphorus	5.52E-03	5.31E-01	3.45E-02	5.31E-01	5.52E-03	5.31E-01
Potassium	2.56E-01	2.46E+01	1.60E+00	2.46E+01	2.56E-01	2.46E+01
Rubidium	4.78E-05	4.59E-03	2.99E-04	4.59E-03	4.78E-05	4.59E-03
Selenium	2.80E-06	2.69E-04	1.75E-05	2.69E-04	2.80E-06	2.69E-04
Silver	4.00E-06	3.85E-04	2.50E-05	3.85E-04	4.00E-06	3.85E-04
Sodium	1.52E-01	1.46E+01	9.50E-01	1.46E+01	1.52E-01	1.46E+01
Strontium	1.68E-03	1.62E-01	1.05E-02	1.62E-01	1.68E-03	1.62E-01
Thallium	6.32E-06	6.08E-04	3.95E-05	6.08E-04	6.32E-06	6.08E-04
Tin	2.40E-05	2.31E-03	1.50E-04	2.31E-03	2.40E-05	2.31E-03
Titanium	3.36E-02	3.23E+00	2.10E-01	3.23E+00	3.36E-02	3.23E+00
Uranium	1.44E-05	1.38E-03	9.00E-05	1.38E-03	1.44E-05	1.38E-03
Vanadium	6.40E-04	6.16E-02	4.00E-03	6.16E-02	6.40E-04	6.16E-02
Zinc	8.80E-04	8.46E-02	5.50E-03	8.46E-02	8.80E-04	8.46E-02

Table B.8

Predicted Concentrations in Surface Water using GoldSIM software
Anaconda Goldboro
Goldboro, Nova Scotia

		Selected Predicted Surface Water Concentration (Cw)					Gold Brook Lake Surface Water Predicted Concentration (Cw)					Gold Brook Surface Water Predicted Concentration (Cw)					Maximum Surface Water Predicted Concentration (Cw)			
Contaminant	**Units**	**Construction**	**Operations**	**Reclamation**	**Post-Closure**	**Baseline**	**Construction**	**Operations**	**Reclamation**	**Post-Closure**	**Baseline**	**Construction**	**Operations**	**Reclamation**	**Post-Closure**	**Construction**	**Operations**	**Reclamation**	**Post-Closure**
Calculated Parameters																			
Nitrate (N)	mg/L	2.34E-01	4.82E+00	1.45E+00	7.77E-01	6.23E-02	6.23E-02	4.93E+00	1.37E+00	8.62E-01	2.34E-01	2.34E-01	4.82E+00	1.45E+00	7.77E-01	2.34E-01	4.93E+00	1.45E+00	8.62E-01
Inorganics																			
Nitrite (N)	mg/L	1.06E-02	5.94E-02	2.94E-02	6.00E-02	1.59E-02	1.59E-02	6.00E-02	5.84E-02	6.00E-02	1.06E-02	1.06E-02	5.94E-02	2.94E-02	6.00E-02	1.59E-02	6.00E-02	5.84E-02	6.00E-02
Ammonia	mg/L	1.78E-01	6.83E-02	6.95E-02	3.02E-02	6.55E-02	6.55E-02	6.50E-02	6.50E-02	3.35E-02	1.78E-01	1.78E-01	6.83E-02	6.95E-02	3.02E-02				
Un-ionized ammonia	mg/L	6.94E-03	1.87E-02	5.02E-04	1.68E-04	2.55E-03	2.55E-03	1.90E-02	4.38E-04	1.86E-04	6.94E-03	6.94E-03	1.87E-02	5.02E-04	1.68E-04	6.94E-03	1.90E-02	5.02E-04	1.86E-04
Cyanide	mg/L	0.00E+00	4.91E-03	4.51E-03	1.22E-04	0.00E+00	0.00E+00	5.00E-03	5.00E-03	1.35E-04	0.00E+00	0.00E+00	4.91E-03	4.51E-03	1.22E-04	0.00E+00	5.00E-03	5.00E-03	1.35E-04
Total metals																			
Total Aluminum (Al)	mg/L	4.30E-01	1.99E-01	2.66E-01	3.61E-01	5.04E-01	5.04E-01	2.08E-01	2.96E-01	4.00E-01	4.30E-01	4.30E-01	1.99E-01	2.66E-01	3.61E-01	5.04E-01	2.08E-01	2.96E-01	4.00E-01
Total Antimony (Sb)	mg/L	5.00E-04	4.39E-03	3.27E-03	2.20E-03	6.75E-04	6.75E-04	4.51E-03	3.54E-03	2.26E-03	5.00E-04	5.00E-04	4.39E-03	3.27E-03	2.20E-03	6.75E-04	4.51E-03	3.54E-03	2.26E-03
Total Arsenic (As)	mg/L	6.77E-01	5.48E-02	5.21E-02	5.12E-02	6.18E-02	6.18E-02	5.54E-02	5.54E-02	5.33E-02	6.77E-01	6.77E-01	5.48E-02	5.21E-02	5.12E-02	6.77E-01	5.54E-02	5.54E-02	5.33E-02
Total Barium (Ba)	mg/L	3.60E-03	7.09E-03	7.05E-03	5.73E-03	3.37E-03	3.37E-03	7.17E-03	7.48E-03	6.12E-03	3.60E-03	3.60E-03	7.09E-03	7.05E-03	5.73E-03	3.60E-03	7.17E-03	7.48E-03	6.12E-03
Total Beryllium (Be)	mg/L	5.00E-04	4.61E-04	4.71E-04	4.76E-04	6.75E-04	6.75E-04	4.68E-04	5.17E-04	5.15E-04	5.00E-04	5.00E-04	4.61E-04	4.71E-04	4.76E-04	6.75E-04	4.68E-04	5.17E-04	5.15E-04
Total Bismuth (Bi)	mg/L	--	--	--	--	1.00E-03	--	--	--	--	1.00E-03	--	--	--	--	--	--	--	--
Total Boron (B)	mg/L	--	--	--	--	2.50E-02	--	--	--	--	2.50E-02	--	--	--	--	--	--	--	--
Total Cadmium (Cd)	mg/L	2.48E-05	1.98E-05	2.41E-05	3.70E-05	3.72E-05	3.72E-05	1.98E-05	2.53E-05	4.00E-05	2.48E-05	2.48E-05	1.98E-05	2.41E-05	3.70E-05	3.72E-05	1.98E-05	2.53E-05	4.00E-05
Total Calcium (Ca)	mg/L	--	--	--	--	7.54E-01	--	--	--	--	4.89E+00	--	--	--	--	--	--	--	--
Total Chromium (Cr)	mg/L	1.30E-03	8.58E-04	6.87E-04	8.60E-04	5.00E-04	5.00E-04	8.66E-04	7.18E-04	9.28E-04	1.30E-03	1.30E-03	8.58E-04	6.87E-04	8.60E-04	1.30E-03	8.66E-04	7.18E-04	9.28E-04
Total Cobalt (Co)	mg/L	2.00E-04	9.91E-04	9.35E-04	9.61E-04	3.05E-04	3.05E-04	1.00E-03	1.00E-03	1.00E-03	2.00E-04	2.00E-04	9.91E-04	9.35E-04	9.61E-04	3.05E-04	1.00E-03	1.00E-03	1.00E-03
Total Copper (Cu)	mg/L	1.74E-03	1.96E-03	1.86E-03	9.20E-04	1.00E-03	1.00E-03	1.99E-03	2.00E-03	1.01E-03	1.74E-03	1.74E-03	1.96E-03	1.86E-03	9.20E-04	1.74E-03	1.99E-03	2.00E-03	1.01E-03
Total Iron (Fe)	mg/L	1.17E+00	3.55E-01	4.55E-01	4.28E-01	6.98E-01	6.98E-01	3.59E-01	4.99E-01	4.78E-01	1.17E+00	1.17E+00	3.55E-01	4.55E-01	4.28E-01	1.17E+00	3.59E-01	4.99E-01	4.78E-01
Total Lead (Pb)	mg/L	7.62E-04	8.22E-04	7.06E-04	9.27E-04	9.70E-04	9.70E-04	8.18E-04	7.14E-04	1.00E-03	7.62E-04	7.62E-04	8.22E-04	7.06E-04	9.27E-04	9.70E-04	8.22E-04	7.14E-04	1.00E-03
Total Lithium (Li)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Magnesium (Mg)	mg/L	--	--	--	--	6.40E-01	--	--	--	--	8.14E-01	--	--	--	--	--	--	--	--
Total Manganese (Mn)	mg/L	8.03E-02	7.56E-02	4.92E-02	1.19E-01	2.55E-02	2.55E-02	7.75E-02	5.24E-02	1.28E-01	8.03E-02	8.03E-02	7.56E-02	4.92E-02	1.19E-01	8.03E-02	7.75E-02	5.24E-02	1.28E-01
Total Mercury (Hg)	mg/L	1.36E-04	6.88E-06	7.05E-06	9.69E-06	1.03E-05	1.03E-05	6.92E-06	7.59E-06	1.06E-05	1.36E-04	1.36E-04	6.88E-06	7.05E-06	9.69E-06	1.36E-04	6.92E-06	7.59E-06	1.06E-05
Total Mercury, divalent (Hg2+)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Mercury, methyl (MeHg)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Molybdenum (Mo)	mg/L	--	--	--	--	1.00E-03	--	--	--	--	1.00E-03	--	--	--	--	--	--	--	--
Total Nickel (Ni)	mg/L	1.00E-03	1.42E-02	6.10E-03	1.13E-02	1.00E-03	1.00E-03	1.46E-02	6.39E-03	1.18E-02	1.00E-03	1.00E-03	1.42E-02	6.10E-03	1.13E-02	1.00E-03	1.46E-02	6.39E-03	1.18E-02
Total Phosphorus (P)	mg/L	--	--	--	--	5.00E-02	--	--	--	--	5.00E-02	--	--	--	--	--	--	--	--
Total Potassium (K)	mg/L	--	--	--	--	3.78E-01	--	--	--	--	8.04E-01	--	--	--	--	--	--	--	--
Total Rubidium (Rb)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Selenium (Se)	mg/L	5.00E-04	4.88E-04	4.68E-04	5.58E-04	5.00E-04	5.00E-04	4.95E-04	5.00E-04	6.06E-04	5.00E-04	5.00E-04	4.88E-04	4.68E-04	5.58E-04	5.00E-04	4.95E-04	5.00E-04	6.06E-04
Total Silver (Ag)	mg/L	5.00E-05	7.90E-05	7.04E-05	7.48E-05	5.00E-05	5.00E-05	8.10E-05	7.64E-05	8.04E-05	5.00E-05	5.00E-05	7.90E-05	7.04E-05	7.48E-05	5.00E-05	8.10E-05	7.64E-05	8.04E-05
Total Sodium (Na)	mg/L	--	--	--	--	4.71E+00	--	--	--	--	5.52E+00	--	--	--	--	--	--	--	--
Total Strontium (Sr)	mg/L	--	--	--	--	9.48E-03	--	--	--	--	4.47E-02	--	--	--	--	--	--	--	--
Total Thallium (Tl)	mg/L	5.00E-05	7.31E-05	6.61E-05	8.48E-05	5.00E-05	5.00E-05	7.47E-05	7.11E-05	9.14E-05	5.00E-05	5.00E-05	7.31E-05	6.61E-05	8.48E-05	5.00E-05	7.47E-05	7.11E-05	9.14E-05
Total Tin (Sn)	mg/L	--	--	--	--	1.00E-03	--	--	--	--	1.00E-03	--	--	--	--	--	--	--	--
Total Titanium (Ti)	mg/L	--	--	--	--	8.75E-03	--	--	--	--	9.34E-03	--	--	--	--	--	--	--	--
Total Uranium (U)	mg/L	5.00E-05	9.50E-04	8.52E-04	5.76E-04	6.75E-05	6.75E-05	9.77E-04	9.26E-04	5.97E-04	5.00E-05	5.00E-05	9.50E-04	8.52E-04	5.76E-04	6.75E-05	9.77E-04	9.26E-04	5.97E-04
Total Vanadium (V)	mg/L	1.00E-03	2.12E-03	1.49E-03	2.01E-03	1.00E-03	1.00E-03	2.16E-03	1.56E-03	2.14E-03	1.00E-03	1.00E-03	2.12E-03	1.49E-03	2.01E-03	1.00E-03	2.16E-03	1.56E-03	2.14E-03
Total Zinc (Zn)	mg/L	9.76E-03	7.28E-03	7.18E-03	7.27E-03	1.18E-02	1.18E-02	6.90E-03	6.86E-03	8.11E-03	9.76E-03	9.76E-03	7.28E-03	7.18E-03	7.27E-03	1.18E-02	7.28E-03	7.18E-03	8.11E-03

Table B.9

Physical Properties and Constants
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Symbol	Unit	Value	Reference
General Parameters				
Deposition Time Period, Construction	tD	(yr)	2	Project length
Deposition Time Period, Operation	tD	(yr)	13	Project length
Deposition Time Period, Reclamation	tD	(yr)	16	Project length
Deposition Time Period, Post-Closure	tD	(yr)	16	Project length
Time Period at Start of Combustion	T_1	(yr)	0	USEPA, 2005
Soil Mixing Zone Depth (untilled)	Z_s	(cm)	2	USEPA, 2005
Soil Mixing Zone Depth (tilled)	Z_s	(cm)	20	USEPA, 2005
Soil Bulk Density	BD	(g/cm^3)	1.5	USEPA, 2005
Average Annual Surface Runoff	RO	(cm/yr)	78.92	GHD Water Balance
Soil Volume Water Content	θ_{sw}	(ml/cm^3)	0.2	USEPA, 2005
Average Annual Precipitation	P	(cm/yr)	140.92	GHD Water Balance
Average Annual Evapotranspiration	E_v	(cm/yr)	44.68	GHD Water Balance
Average Annual Recharge	q	(cm/yr)	17.32	GHD Water Balance
Universal Gas Constant	R	($atm\text{-}m^3/mol\text{-}K$)	8.21E-05	USEPA, 2005
Ambient Air Temperature	T_a	(K)	279.75	Stillwater Sherbrooke Station, Annual Mean
Solids Particle Density	ρ_s	(g/cm^3)	2.7	USEPA, 2005
COC loss, biotic and abiotic degradation	ksg	(yr^{-1})	0	USEPA, 2005
COC loss, soil erosion	kse	(yr^{-1})	0	USEPA, 2005
Solid Void Fraction	θ_v	(cm^3/cm^3)	0.17	USEPA, 2005
Soil Enrichment Ratio	ER	-	1	USEPA, 2005
Hydrology Parameters				
Water body surface area	A_W	(m^2)	2.95E+05	Surface area of Gold Brook, 6.2 m mean transect width (McCallum) by 3 km
Drag coefficient	C_d	-	1.10E-03	USEPA, 2005
Average annual wind speed	W	(m/s)	3.90E+00	USEPA, 2005
Density of air	ρ_a	(g/cm^3)	1.20E-03	USEPA, 2005
Density of water	ρ_w	(g/cm^3)	1.00E+00	USEPA, 2005
von Karman's constant	k	-	4.00E-01	USEPA, 2005
Dimensionless viscous sublayer thickness	λ_z	-	4.00E+00	USEPA, 2005
Viscosity of water corresponding to water temperature	μ_w	(g/cm-s)	1.69E-02	USEPA, 2005
Impervious watershed area receiving COPC	A_I	(m^2)	2.95E+05	Assumption: water body is only impervious area
Total watershed area receiving COPC	A_L	(m^2)	3.79E+06	Watershed area, Gold Brook GB6 minus Lake
Total watershed area receiving COPC	A_L	(sq miles)	1.46E+00	GHD Water Balance
Depth of Water Column	d_{wc}	(m)	2.79E-01	Mean of maximum depths along Gold Brook (McCallum)
USLE erodibility factor	K	(ton/acre)	3.90E-01	USEPA, 2005
USLE rainfall factor	RF	(yr^{-1})	153.4	Table R-2 of RUSLEFAC
USLE length slope factor	LS	-	1.5	USEPA, 2005
Average volumetric flow rate through water body	Vf_x	(m^3/yr)	1.25E+07	GHD Water Balance
Current velocity	μ	(m/s)	2.76E-01	Mean of maximum velocities along Gold Brook (McCallum)
USLE cover management factor	C	-	0.1	USEPA, 2005
USLE Supporting practice factor	P	-	1	USEPA, 2005
Empirical Intercept Coefficient	a	-	1.4	USEPA, 2005
Empirical Slope Coefficient	b	-	0.125	USEPA, 2005
Gas phase transfer coefficient	KG	(m/yr)	36500	USEPA, 2005
Depth of Upper Benthic Sediment Layer	d_{bs}	(m)	0.03	USEPA, 2005
Total Suspended Solids	TSS	mg/L	10	USEPA, 2005
Bed Sediment Concentration	C_{BS}	(kg/L)	1	USEPA, 2005
Bed Sediment Porosity	θ_{bs}	(Lwat/Lsed)	0.6	USEPA, 2005
Fraction of Organic Carbon in Bed Sediment	OC_{sed}	-	0.07	(4)
Water Body Temperature	T_{WK}	(K)	282.55	(5)
Average Annual Surface Runoff Pervious Areas	RO	(cm/yr)	78.92	GHD Water Balance
Vegetation Uptake Parameters				
Fraction Wet Deposition Adhere to Plant	Fw	-	0.6	USEPA, 2005
Interception Fraction Edible Plant Portion - Vegetable	Rp	-	0.982	USEPA, 2005
Interception Fraction Edible Plant Portion - Fruit	Rp	-	0.053	USEPA, 2005
Interception Fraction Edible Plant Portion - Forage	Rp	-	0.5	USEPA, 2005
Interception Fraction Edible Plant Portion - Silage	Rp	-	0.46	USEPA, 2005
Plant Surface Loss Coefficient	kp	(yr^{-1})	18	USEPA, 2005
Length of Plant Exposure to Deposition per Harvest of Edible Plant	Tp	(yrs)	0.164	USEPA, 2005
Length of Plant Exposure to Deposition per Harvest of Edible Plant - Forage	Tp	(yrs)	0.12	USEPA, 2005
Length of Plant Exposure to Deposition per Harvest of Edible Plant - Silage	Tp	(yrs)	0.16	USEPA, 2005
Yield of Edible Portion of Plant - Vegetable	Yp	($kg\ DW/m^2$)	5.66	USEPA, 2005
Yield of Edible Portion of Plant - Fruit	Yp	($kg\ DW/m^2$)	0.252	USEPA, 2005
Yield of Edible Portion of Plant - Forage	Yp	($kg\ DW/m^2$)	0.325	USEPA, 2005
Yield of Edible Portion of Plant - Silage	Yp	($kg\ DW/m^2$)	0.8	USEPA, 2005
Density of Air	pa	(g/m^3)	1200	USEPA, 2005
Correction Factor for Aboveground Produce	VG_{ag}	-	1	USEPA, 2005
Correction Factor for Forage	VG_{ag}	-	1	USEPA, 2005
Correction Factor for Silage	VG_{ag}	-	0.5	USEPA, 2005
Correction Factor for Belowground Produce	$VG_{rootveg}$	-	1	USEPA, 2005
Terrestrial Plant Moisture Content		-	0.85	
Soil Invertebrate (Earthworm) Moisture Content		-	0.84	
Prey (Small Mammal) Moisture Content		-	0.68	
Aquatic Plant Moisture Content		-	0.85	
Benthic Invertebrate Moisture Content		-	0.79	
Crops Uptake Parameters				
Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal	F	-	1	USEPA, 2005
Soil Bioavailability Factor	Bs	-	1	USEPA, 2005

Table B.9

Physical Properties and Constants
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Symbol	Unit	Value	Reference
Metabolism Factor	MF	-	1	USEPA, 2005
Quantity of Forage Ingested by the Animal per day - Cattle	Qp_f	(kg DW/day)	8.8	USEPA, 2005
Quantity of Silage Ingested by the Animal per day - Cattle	Qp_s	(kg DW/day)	2.5	USEPA, 2005
Quantity of Grain Ingested by the Animal per day - Cattle	Qp_g	(kg DW/day)	0.47	USEPA, 2005
Quantity of Soil Ingested by the Animal per day - Cattle	Qs	(kg/day)	0.5	USEPA, 2005
Quantity of Forage Ingested by the Animal per day - Dairy Cattle	Qp_f	(kg DW/day)	13.2	USEPA, 2005
Quantity of Silage Ingested by the Animal per day - Dairy Cattle	Qp_s	(kg DW/day)	4.1	USEPA, 2005
Quantity of Grain Ingested by the Animal per day - Dairy Cattle	Qp_g	(kg DW/day)	3	USEPA, 2005
Quantity of Soil Ingested by the Animal per day - Dairy Cattle	Qs	(kg/day)	0.4	USEPA, 2005
Quantity of Silage Ingested by the Animal per day - Swine	Qp_s	(kg DW/day)	1.4	USEPA, 2005
Quantity of Grain Ingested by the Animal per day - Swine	Qp_g	(kg DW/day)	3.3	USEPA, 2005
Quantity of Soil Ingested by the Animal per day - Swine	Qs	(kg/day)	0.37	USEPA, 2005
Quantity of Grain Ingested by the Animal per day - Eggs/ Chicken	Qp_g	(kg DW/day)	0.2	USEPA, 2005
Quantity of Soil Ingested by the Animal per day - Eggs/ Chicken	Qs	(kg/day)	0.022	USEPA, 2005
Quantity of Forage Ingested by the Animal per day - White Tailed Deer	Qp_f	(kg DW/day)	2.25	FCSAP, 2012
Quantity of Soil Ingested by the Animal per day - White Tailed Deer	Qs	(kg/day)	0.05	FCSAP, 2012
Quantity of Water Ingested by the Animal per day - White Tailed Deer	Qw	(L/day)	4.50	FCSAP, 2012
Quantity of Forage Ingested by the Animal per day - Snowshoe Hare	Qp_f	(kg DW/day)	0.08	FCSAP, 2012
Quantity of Soil Ingested by the Animal per day - Snowshoe Hare	Qs	(kg/day)	0.005	FCSAP, 2012
Quantity of Water Ingested by the Animal per day - Snowshoe Hare	Qw	(L/day)	0.13	FCSAP, 2012

Notes:

(1) Conservatively assumed to 2.5 cm/yr.
(2) Conservatively assumed to 5 cm/yr.
(3) Converted from temperature of 7.4°C.
(4) Based on Lake Ontario sediments.
(5) Converted from average temperature of 9.4°C. Based on data from Ganaraska River during April to October 2011,
Available at http://www.ontario.ca/environment-and-energy/provincial-stream-water-quality-monitoring-network-pwqmn-data.
(6) Based on Environment Canada climate normals for Port Hope (P = 832 mm yearly precipitation).
RO = P - (0.15) P - Ev
= 0.85 P - Ev
where Evapotranspiration (Ev) = 61 cm/year; National Atlas of Canada, Available at
http://atlas.nrcan.gc.ca/site/english/maps/archives/4thedition/environment/climate/049_50
(7) Qp_f for wildgame value not directly available in the preferred sources was calculated for a whitetailed doe using the following equation derived by Nagy (1987) consistent with USEPA (1993):
Qp_f = (0.577 x BW^0.727) / 1,000
where whitetailed doe BW = 60,000 g (Alberta Government, 2009)
(8) The percent soil in the diet for the Whitetailed deer was assumed as 2% of diet (quantity of forage ingested) as estimated by Beyer et al. (1994). Although Beyer et al. (1994) estimated a value of less than 2%, a value of 2% was used here as a conservative approach.

References:

Beyer, W.N., S. Gerould and E.E. Connor. 1994. Estimates of Soil Ingestion by Wildlife. Journal of Wildlife Management, 58, 375 382.
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Nagy, K.A. 1987. Field metabolic rate and food requirement scaling in mammals and birds. Ecological Monographs 57: 111 128.
USEPA, 2005: Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities, EPA/530-R-05-006, September 2005.
USEPA, 1993: Wildlife Exposure Factors Handbook. U.S. Environmental Protection Agency, Washington, D.C., EPA/600/R-93/187, December 1993.

Table B.10

Summary of Chemical Properties [1]

Anaconda Goldboro

Goldboro, Nova Scotia

Contaminant	Henry's Law Constant (H) (atm-m³/mol)	Reference	Diffusivity of COPC in Air (Da) (cm²/s)	Reference	Diffusivity of COPC in Water (Dw) (cm²/s)	Reference	Soil-water Partition Coefficient (Kds) (mL/g)	Reference	Suspended Sediments - Surface Water Partition Coefficient (Kdsw) (L/kg)	Reference	Bed Sediments - Sediment Pore Water Partition Coefficient (Kdbs) (L/kg)	Reference	Organic Carbon Water Partition Coefficient (Koc) (mL/g)	Reference	Octanol Water Partition Coefficient (log Kow) -	Reference	Fraction of Air Concentration in Vapour Phase (Fv) -	Reference	Air to Plant Biotransfer Factor (Bv_{ag}) mg/kg)/(µg/g	Reference	Soil to Plant Bioconcentration Factor for Aboveground Produce (Br_{ag}) (µg/g)/(µg/g)	Reference	Soil to Plant Bioconcentration Factor for Aboveground Fruits ($Br_{aq(fruit)}$) (µg/g)/(µg/g)	Soil to Plant Bioconcentration Factor for Aboveground Vegetables ($Br_{aq(veg)}$) (µg/g)/(µg/g)	Soil to plant Bioconcentration Factor for Belowground Vegetables ($Br_{rootveg}$) (µg/g)/(µg/g)	Reference	Soil to plant Bioconcentration Factor for forage (Br_{forage}) (µg/g)/(µg/g)	Reference	Biotransfer Factor for Beef (Ba_{beef}) (day/kg FW)	Reference	Water to Fish Bioconcentration/ Bioaccumulation Factor (BCF/BAF) (L/kg)	Reference
Particulate Matter																																	
Total Particulate Matter	--		--		--		--		--		--		--		--		--		--		--				--		--		--		--		
Particulate Matter (PM10)	--		--		--		--		--		--		--		--		--		--		--				--		--		--		--		
Particulate Matter (PM2.5)	--		--		--		--		--		--		--		--		--		--		--				--		--		--		--		
Metals																																	
Antimony	--		--		--		4.50E+01	USEPA	4.50E+01	USEPA	4.50E+01	USEPA	--		--		0.00E+00		--		5.16E-02	USEPA	3.00E-02	7.25E-02	3.00E-02	USEPA	2.00E-01	USEPA	1.00E-03	USEPA	4.00E+01	USEPA
Arsenic	--		--		--		2.90E+01	USEPA	2.90E+01	USEPA	2.90E+01	USEPA	--		--		0.00E+00		--		6.30E-03	USEPA			8.00E-03	USEPA	3.60E-02	USEPA	2.00E-03	USEPA	1.14E+02	USEPA
Barium	--		--		--		4.10E+01	USEPA	4.10E+01	USEPA	4.10E+01	USEPA	--		--		0.00E+00		--		3.22E-02	USEPA	1.50E-02	4.88E-02	1.50E-02	USEPA	1.50E-01	USEPA	1.50E-04	USEPA	6.33E+02	USEPA
Beryllium	--		--		--		7.90E+02	USEPA	7.90E+02	USEPA	7.90E+02	USEPA	--		--		0.00E+00		--		2.58E-03	USEPA	1.50E-03	3.63E-03	1.50E-03	USEPA	1.00E-02	USEPA	1.00E-03	USEPA	6.20E+01	USEPA
Bismuth	--		--		--		--		--		--		--		--		0.00E+00		--		8.81E-03	(17)	5.00E-03	1.25E-02	5.00E-03	(16)	3.50E-02	(15)	4.00E-04	Baes et al.	--	
Boron	--		--		--		3.00E+00	RAIS	3.00E+00	RAIS	3.00E+00	RAIS	--		--		0.00E+00		--		2.25E+00	(17)	2.00E+00	2.50E+00	2.00E+00	(16)	4.00E+00	(15)	8.00E-04	RAIS	--	
Cadmium	--		--		--		7.50E+01	USEPA	7.50E+01	USEPA	7.50E+01	USEPA	--		--		0.00E+00		--		1.20E-01	USEPA			6.40E-02	USEPA	3.60E-01	USEPA	1.20E-04	USEPA	9.07E+02	USEPA
Calcium	--		--		--		--		--		--		--		--		0.00E+00		--		7.50E-01	(17)	3.50E-01	1.14E+00	3.50E-01	(16)	3.50E+00	(15)	7.00E-04	Baes et al.	--	
Chromium Total	--		--		--		1.90E+01	USEPA	1.90E+01	USEPA	1.90E+01	USEPA	--		--		0.00E+00		--		4.88E-03	USEPA	4.50E-03	5.25E-03	4.50E-03	USEPA	7.50E-03	USEPA	5.50E-03	USEPA	1.90E+01	USEPA
Cobalt	--		--		--		4.50E+01	RAIS	4.50E+01	RAIS	4.50E+01	RAIS	--		--		0.00E+00		--		8.65E-03	(17)	7.00E-03	1.03E-02	7.00E-03	(16)	2.00E-02	(15)	2.00E-02	RAIS	3.00E+02	RAIS
Copper	--		--		--		3.50E+01	RAIS	3.50E+01	RAIS	3.50E+01	RAIS	--		--		0.00E+00		--		2.69E-01	(17)	2.50E-01	2.88E-01	2.50E-01	(16)	4.00E-01	(15)	1.00E-02	RAIS	2.00E+02	RAIS
Iron	--		--		--		2.50E+01	RAIS	2.50E+01	RAIS	2.50E+01	RAIS	--		--		0.00E+00		--		1.38E-03	(17)	1.00E-03	1.75E-03	1.00E-03	(16)	4.00E-03	(15)	2.00E-02	RAIS	2.00E+02	RAIS
Lead	--		--		--		9.00E+02	USEPA	9.00E+02	USEPA	9.00E+02	USEPA	--		--		0.00E+00		--		1.36E-02	USEPA	9.00E-03	1.80E-02	9.00E-03	USEPA	4.50E-02	USEPA	3.00E-04	USEPA	9.00E-02	USEPA
Lithium	--		--		--		3.00E+02	RAIS	3.00E+02	RAIS	3.00E+02	RAIS	--		--		0.00E+00		--		6.67E-03	(17)	4.00E-03	9.25E-03	4.00E-03	(16)	2.50E-02	(15)	1.00E-02	RAIS	--	
Magnesium	--		--		--		--		--		--		--		--		0.00E+00		--		6.07E-01	(17)	5.50E-01	6.63E-01	5.50E-01	(16)	1.00E+00	(15)	5.00E-03	RAIS	--	
Manganese	--		--		--		6.50E+01	RAIS	6.50E+01	RAIS	6.50E+01	RAIS	--		--		0.00E+00		--		7.54E-02	(17)	5.00E-02	1.00E-01	5.00E-02	(16)	2.50E-01	(15)	4.00E-04	RAIS	4.00E+02	RAIS
Mercury, element	1.15E-02	MOE	3.07E-02	MOE	6.30E-06	MOE	3.30E+03	(3)	4.95E+04	(3)	2.64E+04	(3)	6.60E+05	MOE	6.20E-01	MOE	1.00E+00	USEPA	1.00E+00	USEPA	0.00E+00	USEPA			0.00E+00	USEPA	0.00E+00	USEPA	1.00E+00	USEPA	0.00E+00	USEPA
Mercury, divalent (2)	7.10E-10	USEPA	4.50E-02	USEPA	5.20E-06	USEPA	3.30E+03	(3)	4.95E+04	(3)	2.64E+04	(3)	6.60E+05	MOE	6.20E-01	MOE	8.50E-01	USEPA	1.80E+03	USEPA	1.40E-02	USEPA			3.60E-02	USEPA	1.00E+00	USEPA	5.20E-03	USEPA	1.00E+00	USEPA
Mercury, methyl	7.22E-03	USEPA	5.30E-02	USEPA	6.10E-06	USEPA	2.00E+01	(3)	3.00E+02	(3)	1.60E+02	(3)	4.00E+03	MOE	8.00E-02	MOE	0.00E+00	USEPA	1.00E+00	USEPA	2.90E-02	USEPA			9.90E-02	USEPA	1.00E+00	USEPA	7.80E-04	USEPA	6.80E+06	USEPA
Molybdenum	--		--		--		2.00E+01	RAIS	2.00E+01	RAIS	2.00E+01	RAIS	--		--		0.00E+00		--		8.42E-02	(17)	6.00E-02	1.08E-01	6.00E-02	(16)	2.50E-01	(15)	6.00E-03	RAIS	1.00E+01	RAIS
Nickel	--		--		--		6.50E+01	USEPA	6.50E+01	USEPA	6.50E+01	USEPA	--		--		0.00E+00		--		9.30E-03	USEPA			8.00E-03	USEPA	3.20E-02	USEPA	6.00E-03	USEPA	7.80E+01	USEPA
Phosphorus	--		--		--		3.50E+00	RAIS	3.50E+00	RAIS	3.50E+00	RAIS	--		--		0.00E+00		--		3.50E+00	(17)	3.50E+00	3.50E+00	3.50E+00	(16)	3.50E+00	(15)	5.50E-02	RAIS	--	
Potassium	--		--		--		5.50E+00	RAIS	5.50E+00	RAIS	5.50E+00	RAIS	--		--		0.00E+00		--		6.07E-01	(17)	5.50E-01	6.63E-01	5.50E-01	(16)	1.00E+00	(15)	2.00E-02	RAIS	--	
Rubidium	--		--		--		--		--		--		--		--		0.00E+00		--		1.00E+00	Default			1.00E+00	Default	1.00E+00	Default	1.50E-02	Baes et al.	--	
Selenium	--		--		--		5.00E+00	USEPA	5.00E+00	USEPA	5.00E+00	USEPA	--		--		0.00E+00		--		2.00E-02	USEPA			2.20E-02	USEPA	1.60E-02	USEPA	2.30E-03	USEPA	1.29E+02	USEPA
Silver	--		--		--		8.30E+00	USEPA	8.30E+00	USEPA	8.30E+00	USEPA	--		--		0.00E+00		--		1.38E-01	USEPA	1.00E-01	1.75E-01	1.00E-01	USEPA	4.00E-01	USEPA	3.00E-03	USEPA	8.77E+01	USEPA
Sodium	--		--		--		1.00E+02	RAIS	1.00E+02	RAIS	1.00E+02	RAIS	--		--		0.00E+00		--		5.75E-02	(17)	5.50E-02	6.00E-02	5.50E-02	(16)	7.50E-02	(15)	5.50E-02	RAIS	2.00E+01	RAIS
Strontium	--		--		--		3.50E+01	RAIS	3.50E+01	RAIS	3.50E+01	RAIS	--		--		0.00E+00		--		5.36E-01	(17)	2.50E-01	8.13E-01	2.50E-01	(16)	2.50E+00	(15)	3.00E-04	RAIS	6.00E+01	RAIS
Thallium	--		--		--		7.10E+01	USEPA	7.10E+01	USEPA	7.10E+01	USEPA	--		--		0.00E+00		--		8.58E-04	USEPA	4.00E-04	1.30E-03	4.00E-04	USEPA	4.00E-03	USEPA	4.00E-02	USEPA	1.00E+04	RAIS
Tin	--		--		--		2.50E+02	RAIS	2.50E+02	RAIS	2.50E+02	RAIS	--		--		0.00E+00		--		9.05E-03	(17)	6.00E-03	1.20E-02	6.00E-03	(16)	3.00E-02	(15)	1.00E-03	RAIS	3.00E+03	RAIS
Titanium	--		--		--		1.00E+03	RAIS	1.00E+03	RAIS	1.00E+03	RAIS	--		--		0.00E+00		--		3.32E-03	(17)	3.00E-03	3.63E-03	3.00E-03	(16)	5.50E-03	(15)	3.00E-02	RAIS	--	
Uranium	--		--		--		4.50E+02	RAIS	4.50E+02	RAIS	4.50E+02	RAIS	--		--		0.00E+00		--		1.00E+00	Default			1.00E+00	Default	1.00E+00	Default	2.00E-04	Baes et al.	--	
Vanadium	--		--		--		1.00E+03	RAIS	1.00E+03	RAIS	1.00E+03	RAIS	--		--		0.00E+00		--		3.32E-03	(17)	3.00E-03	3.63E-03	3.00E-03	(16)	5.50E-03	(15)	2.50E-03	RAIS	--	
Zinc	--		--		--		6.20E+01	USEPA	6.20E+01	USEPA	6.20E+01	USEPA	--		--		0.00E+00		--		9.70E-02	USEPA			9.00E-01	USEPA	2.50E-01	USEPA	9.00E-05	USEPA	2.06E+03	USEPA

Table B.10

Summary of Chemical Properties [1]

Anaconda Goldboro

Goldboro, Nova Scotia

Notes:

(1) Order of selection for chemical-specific properties:

1. MOE
2. RSL
3. USEPA or RAIS
4. Other

(2) When there was a lack of available data, the following were used as surrogates:

COPC		Surrogate
Mercury, divalent	-	Mercuric chloride
Benzo(a)fluorene	-	Benzo(a)pyrene
Benzo(b)fluorene	-	Benzo(a)pyrene
Benzo(e)pyrene	-	Benzo(a)pyrene
Benzo(g,h,i)perylene	-	Benzo(a)pyrene
Dibenzo(a,c)anthracene	-	Benzo(a)pyrene
Perylene	-	Benzo(a)pyrene
O-Terphenyl	-	Benzo(a)pyrene

(3) Kd values calculated using the following fraction organic carbon (foc) correlation equation A-2-10 provided in Appendix A-2, USEPA (2005):

Kds = foc x Koc; where foc = 5.00E-03 (MOE, 2011)

Kdsw = foc x Koc; where foc = 7.50E-02 (USEPA, 2005)

Kdbs = foc x Koc; where foc = 4.00E-02 (USEPA, 2005)

(4) Due to a lack of available data, assumed value of 1.

(5) Bv_{ag} values not directly available in the preferred sources were calculated using the following equation A-2-20 provided in Appendix A-2, USEPA (2005):

$$Bv_{ag} = \frac{P_{air} \times B_{vol}}{(1-f_{water}) \times P_{forage}}$$

where: B_{vol} = 1.065 x log Kow - log (H/RT) - 1.654

P_{air} = 1.19 (g/L)

f_{water} = 8.50E-01

P_{forage} = 770 (g/L)

(6) Br_{ag} values for organics not directly available in the preferred sources were calculated using the following equation A-2-17 provided in Appendix A-2, USEPA (2005):

$\log Br_{ag}$ = 1.588 - 0.578 (log Kow)

(7) Brrootveg values for organics not directly available in the preferred sources were calculated using the following equation A-2-16 provided in Appendix A-2, USEPA (2005):

$$Br_{rootveg} = \frac{RCF}{Kds}$$

where: log Kow > 2; log (RCF) = 0.77 log Kow - 1.52

log Kow < 2; log (RCF) -0.82 = 0.77 log Kow - 1.52

wet wt. to dry wt. conversion = 8.70E-01

(8) Br_{forage} values for organics not directly available in the preferred sources were calculated using the following equation A-2-18 provided in Appendix A-2, USEPA (2005):

$\log Br_{forage}$ = 1.588 - 0.578 (log Kow)

(9) Ba_{beef} values not directly available in the preferred sources were calculated using the following equation A-2-23 provided in Appendix A-2, USEPA (2005):

$Ba_{beef} = 10^{\log Ba\ fat} \times 0.19$ where log Ba fat = $-0.099\ (\log Kow)^2 + 1.07 \log Kow - 3.56$

(10) Ba_{milk} values not directly available in the preferred sources were calculated using the following equation A-2-22 provided in Appendix A-2, USEPA (2005):

$Ba_{milk} = 10^{\log Ba\ fat} \times 0.04$ where log Ba fat = $-0.099\ (\log Kow)^2 + 1.07 \log Kow - 3.56$

(11) Ba_{pork} values not directly available in the preferred sources were calculated using the following equation A-2-26 provided in Appendix A-2, USEPA (2005):

$Ba_{pork} = 10^{\log Ba\ fat} \times 0.23$ where log Ba fat = $-0.099\ (\log Kow)^2 + 1.07 \log Kow - 3.56$

(12) Ba_{egg} values not directly available in the preferred sources were calculated using the following equation A-2-28 provided in Appendix A-2, USEPA (2005):

$Ba_{egg} = 10^{\log Ba\ fat} \times 0.08$ where log Ba fat = $-0.099\ (\log Kow)^2 + 1.07 \log Kow - 3.56$

(13) $Ba_{chicken}$ values not directly available in the preferred sources were calculated using the following equation A-2-27 provided in Appendix A-2, USEPA (2005):

$Ba_{chicken} = 10^{\log Ba\ fat} \times 0.14$ where log Ba fat = $-0.099\ (\log Kow)^2 + 1.07 \log Kow - 3.56$

(14) BCF values not directly available in the preferred sources were calculated using the following equation A-2-28 provided in Appendix A-2, USEPA (2005):

log BCF = 0.77 log Kow - 0.7; for log Kow of 1 to 7

(15) B_v values obtained from Baes et al. (1984) were applied as the Br_{forage} values, consistent with the methodology presented in Appendix A, USEPA (2005).

(16) B_r values obtained from Baes et al. (1984) were applied as the Br_{grain} and $Br_{rootveg}$ values, consistent with the methodology presented in Appendix A, USEPA (2005).

(17) Br_{ag} values were derived from B_r and B_v values obtained from Baes et al. (1984), consistent with the methodology presented in Appendix A, USEPA (2005).

References:

Baes, C.F., R.D. Sharp, A.L. Sjoreen, and R.W. Shor. 1984. Review and Analysis of Parameters and Assessing Transport of Environmentally Released Radionuclides through Agriculture. Oak Ridge National Laboratory. Oak Ridge, Tennessee.

EPI, 2012: Estimation Programs Interface Suite™ for Microsoft® Windows, v 4.11, November 2012 (http://www.epa.gov/oppt/exposure/pubs/episuitedl.htm).

MOE, 2011: Rationale for the Development of Soil and Ground Water Standards for Use at Contaminated Sites in Ontario, April 15, 2011.

RAIS, 2014: Risk Assessment Information System database, February 2014 (http://rais.ornl.gov/).

RSL, 2013: Regional Screening Level (RSL) Chemical-Specific Parameters Supporting Table, November 2013.

USEPA, 2005: Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities (USEPA), Appendix A-2: Human Health Risk Assessment Protocol, EPA520-R-05-006, September 2005.

Table B.11

Deposition Term Calculation
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Unit Conversion Factor (CF) (mg-m^2/kg-cm^2)	Annual Deposition Rate (Dr) (refer to table B.7) (g/m^2-yr)	Soil Mixing Zone Depth Untilled (Zs) (refer to table B.9) (cm)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	Deposition Term Mercury (Ds, mercury) (mg/kg-yr)	Deposition Term Untilled (Ds) (mg/kg-yr)
Particulate Matter						
Total Particulate Matter	1.00E+02	8.00E+00	2.00E+00	1.50E+00	--	2.67E+02
Particulate Matter (PM10)	1.00E+02	0.00E+00	2.00E+00	1.50E+00	--	0.00E+00
Particulate Matter (PM2.5)	1.00E+02	0.00E+00	2.00E+00	1.50E+00	--	0.00E+00
Metals						
Aluminum	1.00E+02	8.00E-01	2.00E+00	1.50E+00	--	2.67E+01
Antimony	1.00E+02	2.40E-05	2.00E+00	1.50E+00	--	8.00E-04
Arsenic	1.00E+02	3.12E-03	2.00E+00	1.50E+00	--	1.04E-01
Barium	1.00E+02	6.48E-03	2.00E+00	1.50E+00	--	2.16E-01
Beryllium	1.00E+02	2.40E-05	2.00E+00	1.50E+00	--	8.00E-04
Bismuth	1.00E+02	2.64E-06	2.00E+00	1.50E+00	--	8.80E-05
Boron	1.00E+02	2.00E-04	2.00E+00	1.50E+00	--	6.67E-03
Cadmium	1.00E+02	9.60E-07	2.00E+00	1.50E+00	--	3.20E-05
Calcium	1.00E+02	1.04E-01	2.00E+00	1.50E+00	--	3.47E+00
Chromium Total	1.00E+02	8.88E-04	2.00E+00	1.50E+00	--	2.96E-02
Cobalt	1.00E+02	1.44E-04	2.00E+00	1.50E+00	--	4.80E-03
Copper	1.00E+02	2.96E-04	2.00E+00	1.50E+00	--	9.87E-03
Iron	1.00E+02	3.44E-01	2.00E+00	1.50E+00	--	1.15E+01
Lead	1.00E+02	2.96E-04	2.00E+00	1.50E+00	--	9.87E-03
Lithium	1.00E+02	4.88E-04	2.00E+00	1.50E+00	--	1.63E-02
Magnesium	1.00E+02	1.20E-01	2.00E+00	1.50E+00	--	4.00E+00
Manganese	1.00E+02	7.37E-03	2.00E+00	1.50E+00	--	2.46E-01
Mercury, element	1.00E+02	2.11E-06	2.00E+00	1.50E+00		0.00E+00
Mercury, divalent	1.00E+02	--	2.00E+00	1.50E+00	3.38E-05	3.31E-05
Mercury, methyl	1.00E+02	--	2.00E+00	1.50E+00		6.76E-07
Molybdenum	1.00E+02	6.40E-06	2.00E+00	1.50E+00	--	2.13E-04
Nickel	1.00E+02	3.28E-04	2.00E+00	1.50E+00	--	1.09E-02
Phosphorus	1.00E+02	5.52E-03	2.00E+00	1.50E+00	--	1.84E-01
Potassium	1.00E+02	2.56E-01	2.00E+00	1.50E+00	--	8.53E+00
Rubidium	1.00E+02	4.78E-05	2.00E+00	1.50E+00	--	1.59E-03
Selenium	1.00E+02	2.80E-06	2.00E+00	1.50E+00	--	9.33E-05
Silver	1.00E+02	4.00E-06	2.00E+00	1.50E+00	--	1.33E-04
Sodium	1.00E+02	1.52E-01	2.00E+00	1.50E+00	--	5.07E+00
Strontium	1.00E+02	1.68E-03	2.00E+00	1.50E+00	--	5.60E-02
Thallium	1.00E+02	6.32E-06	2.00E+00	1.50E+00	--	2.11E-04
Tin	1.00E+02	2.40E-05	2.00E+00	1.50E+00	--	8.00E-04
Titanium	1.00E+02	3.36E-02	2.00E+00	1.50E+00	--	1.12E+00
Uranium	1.00E+02	1.44E-05	2.00E+00	1.50E+00	--	4.80E-04
Vanadium	1.00E+02	6.40E-04	2.00E+00	1.50E+00	--	2.13E-02
Zinc	1.00E+02	8.80E-04	2.00E+00	1.50E+00	--	2.93E-02

Equation:

$$Ds = \frac{CF \times Hg_{factor} \times Dr}{Zs \times BD}$$

Where:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.98), and methylmercury (0.48*0.02)

Table B.12

COPC Loss Constant Due To Runoff
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Average Annual Surface Runoff (RO) (refer to table B.9) (cm/yr)	Soil Volume Water Content (θsw) (refer to table B.9) (ml/cm^3)	Soil Mixing Zone Depth Untilled (Z_s) (refer to table B.9) (cm)	Soil-Water Partition Coefficient (Kd_s) (refer to table B.14) (ml/g)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	COPC Loss Surface Runoff Untilled (ksr) (yr^{-1})
Particulate Matter						
Total Particulate Matter	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Particulate Matter (PM10)	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Particulate Matter (PM2.5)	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Metals						
Aluminum	7.89E+01	2.00E-01	2.00E+00	1.50E+03	1.50E+00	1.75E-02
Antimony	7.89E+01	2.00E-01	2.00E+00	4.50E+01	1.50E+00	5.83E-01
Arsenic	7.89E+01	2.00E-01	2.00E+00	2.90E+01	1.50E+00	9.03E-01
Barium	7.89E+01	2.00E-01	2.00E+00	4.10E+01	1.50E+00	6.40E-01
Beryllium	7.89E+01	2.00E-01	2.00E+00	7.90E+02	1.50E+00	3.33E-02
Bismuth	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Boron	7.89E+01	2.00E-01	2.00E+00	3.00E+00	1.50E+00	8.40E+00
Cadmium	7.89E+01	2.00E-01	2.00E+00	7.50E+01	1.50E+00	3.50E-01
Calcium	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Chromium Total	7.89E+01	2.00E-01	2.00E+00	1.90E+01	1.50E+00	1.37E+00
Cobalt	7.89E+01	2.00E-01	2.00E+00	4.50E+01	1.50E+00	5.83E-01
Copper	7.89E+01	2.00E-01	2.00E+00	3.50E+01	1.50E+00	7.49E-01
Iron	7.89E+01	2.00E-01	2.00E+00	2.50E+01	1.50E+00	1.05E+00
Lead	7.89E+01	2.00E-01	2.00E+00	9.00E+02	1.50E+00	2.92E-02
Lithium	7.89E+01	2.00E-01	2.00E+00	3.00E+02	1.50E+00	8.76E-02
Magnesium	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Manganese	7.89E+01	2.00E-01	2.00E+00	6.50E+01	1.50E+00	4.04E-01
Mercury, element	7.89E+01	2.00E-01	2.00E+00	3.30E+03	1.50E+00	7.97E-03
Mercury, divalent	7.89E+01	2.00E-01	2.00E+00	3.30E+03	1.50E+00	7.97E-03
Mercury, methyl	7.89E+01	2.00E-01	2.00E+00	2.00E+01	1.50E+00	1.31E+00
Molybdenum	7.89E+01	2.00E-01	2.00E+00	2.00E+01	1.50E+00	1.31E+00
Nickel	7.89E+01	2.00E-01	2.00E+00	6.50E+01	1.50E+00	4.04E-01
Phosphorus	7.89E+01	2.00E-01	2.00E+00	3.50E+00	1.50E+00	7.24E+00
Potassium	7.89E+01	2.00E-01	2.00E+00	5.50E+00	1.50E+00	4.67E+00
Rubidium	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Selenium	7.89E+01	2.00E-01	2.00E+00	5.00E+00	1.50E+00	5.12E+00
Silver	7.89E+01	2.00E-01	2.00E+00	8.30E+00	1.50E+00	3.12E+00
Sodium	7.89E+01	2.00E-01	2.00E+00	1.00E+02	1.50E+00	2.63E-01
Strontium	7.89E+01	2.00E-01	2.00E+00	3.50E+01	1.50E+00	7.49E-01
Thallium	7.89E+01	2.00E-01	2.00E+00	7.10E+01	1.50E+00	3.70E-01
Tin	7.89E+01	2.00E-01	2.00E+00	2.50E+02	1.50E+00	1.05E-01
Titanium	7.89E+01	2.00E-01	2.00E+00	1.00E+03	1.50E+00	2.63E-02
Uranium	7.89E+01	2.00E-01	2.00E+00	4.50E+02	1.50E+00	5.84E-02
Vanadium	7.89E+01	2.00E-01	2.00E+00	1.00E+03	1.50E+00	2.63E-02
Zinc	7.89E+01	2.00E-01	2.00E+00	6.20E+01	1.50E+00	4.23E-01

Equation:

$$ksr = \frac{RO}{\theta_{sw} \times Z_s} \times \frac{1}{1 + (Kd_s \times BD/\theta_{sw})}\}$$

Table B.13

COPC Loss Constant Due To Leaching
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Average Annual Recharge (q) (refer to table B.9) (cm/yr)	Soil Volume Water Content (θsw) (refer to table B.9) (ml/cm^3)	Soil Mixing Zone Depth Untilled (Z_s) (refer to table B.9) (cm)	Soil-Water Partition Coefficient (Kd_s) (refer to table B.14) (ml/g)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	COPC Loss Leaching Untilled (ksl) (yr^{-1})
Particulate Matter						
Total Particulate Matter	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Particulate Matter (PM10)	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Particulate Matter (PM2.5)	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Metals						
Aluminum	1.73E+01	2.00E-01	2.00E+00	1.50E+03	1.50E+00	3.85E-03
Antimony	1.73E+01	2.00E-01	2.00E+00	4.50E+01	1.50E+00	1.28E-01
Arsenic	1.73E+01	2.00E-01	2.00E+00	2.90E+01	1.50E+00	1.98E-01
Barium	1.73E+01	2.00E-01	2.00E+00	4.10E+01	1.50E+00	1.40E-01
Beryllium	1.73E+01	2.00E-01	2.00E+00	7.90E+02	1.50E+00	7.31E-03
Bismuth	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Boron	1.73E+01	2.00E-01	2.00E+00	3.00E+00	1.50E+00	1.84E+00
Cadmium	1.73E+01	2.00E-01	2.00E+00	7.50E+01	1.50E+00	7.68E-02
Calcium	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Chromium Total	1.73E+01	2.00E-01	2.00E+00	1.90E+01	1.50E+00	3.02E-01
Cobalt	1.73E+01	2.00E-01	2.00E+00	4.50E+01	1.50E+00	1.28E-01
Copper	1.73E+01	2.00E-01	2.00E+00	3.50E+01	1.50E+00	1.64E-01
Iron	1.73E+01	2.00E-01	2.00E+00	2.50E+01	1.50E+00	2.30E-01
Lead	1.73E+01	2.00E-01	2.00E+00	9.00E+02	1.50E+00	6.41E-03
Lithium	1.73E+01	2.00E-01	2.00E+00	3.00E+02	1.50E+00	1.92E-02
Magnesium	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Manganese	1.73E+01	2.00E-01	2.00E+00	6.50E+01	1.50E+00	8.86E-02
Mercury, element	1.73E+01	2.00E-01	2.00E+00	3.30E+03	1.50E+00	1.75E-03
Mercury, divalent	1.73E+01	2.00E-01	2.00E+00	3.30E+03	1.50E+00	1.75E-03
Mercury, methyl	1.73E+01	2.00E-01	2.00E+00	2.00E+01	1.50E+00	2.87E-01
Molybdenum	1.73E+01	2.00E-01	2.00E+00	2.00E+01	1.50E+00	2.87E-01
Nickel	1.73E+01	2.00E-01	2.00E+00	6.50E+01	1.50E+00	8.86E-02
Phosphorus	1.73E+01	2.00E-01	2.00E+00	3.50E+00	1.50E+00	1.59E+00
Potassium	1.73E+01	2.00E-01	2.00E+00	5.50E+00	1.50E+00	1.02E+00
Rubidium	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Selenium	1.73E+01	2.00E-01	2.00E+00	5.00E+00	1.50E+00	1.12E+00
Silver	1.73E+01	2.00E-01	2.00E+00	8.30E+00	1.50E+00	6.85E-01
Sodium	1.73E+01	2.00E-01	2.00E+00	1.00E+02	1.50E+00	5.77E-02
Strontium	1.73E+01	2.00E-01	2.00E+00	3.50E+01	1.50E+00	1.64E-01
Thallium	1.73E+01	2.00E-01	2.00E+00	7.10E+01	1.50E+00	8.12E-02
Tin	1.73E+01	2.00E-01	2.00E+00	2.50E+02	1.50E+00	2.31E-02
Titanium	1.73E+01	2.00E-01	2.00E+00	1.00E+03	1.50E+00	5.77E-03
Uranium	1.73E+01	2.00E-01	2.00E+00	4.50E+02	1.50E+00	1.28E-02
Vanadium	1.73E+01	2.00E-01	2.00E+00	1.00E+03	1.50E+00	5.77E-03
Zinc	1.73E+01	2.00E-01	2.00E+00	6.20E+01	1.50E+00	9.29E-02

Equation:

$$ksl = \frac{q}{\theta_{sw} \times Z_s \times [1.0 + (BD \times Kd_s/\theta_{sw})]}$$

Table B.14

COPC Loss Constant Due To Volatilization
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Equilibrium Coefficient Untilled (Ke) (s/yr-cm)	Gas Phase Mass Transfer Coefficient Untilled (K_t) (cm/s)	Units Conversion Factor (CF) (s/year)	Henry's Law Constant (H) (refer to table B.10) ($atm\text{-}m^3/mol$)	Soil Mixing Zone Depth Untilled (Z_s) (refer to table B.9) (cm)	Soil-water Partition Coefficient (Kd_s) (refer to table B.10) (mL /g)	Universal Gas Constant (R) (refer to table B.9) ($atm\text{-}m^3/mol\text{-}K$)	Ambient Air Temperature (T_a) (refer to table B.9) (K)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	Diffusivity of COPC in Air (Da) (refer to table B.10) (cm^2/s)	Solid Void Fraction (θv) (cm^3/cm^3)	Solids Particle Density (ρ_s) (refer to table B.9) (g/cm^3)	Volumetric Soil Water Content (θsw) (refer to table B.9) (cm^3/cm^3)	Soil Loss Constant Due t Volatilization Untilled (Ksv) (yr^{-1})
Particulate Matter														
Total Particulate Matter	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Particulate Matter (PM10)	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Particulate Matter (PM2.5)	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Metals														
Aluminum	--	--	3.15E+07	--	2.00E+00	1.50E+03	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Antimony	--	--	3.15E+07	--	2.00E+00	4.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Arsenic	--	--	3.15E+07	--	2.00E+00	2.90E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Barium	--	--	3.15E+07	--	2.00E+00	4.10E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Beryllium	--	--	3.15E+07	--	2.00E+00	7.90E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Bismuth	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Boron	--	--	3.15E+07	--	2.00E+00	3.00E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Cadmium	--	--	3.15E+07	--	2.00E+00	7.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Calcium	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Chromium Total	--	--	3.15E+07	--	2.00E+00	1.90E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Cobalt	--	--	3.15E+07	--	2.00E+00	4.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Copper	--	--	3.15E+07	--	2.00E+00	3.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Iron	--	--	3.15E+07	--	2.00E+00	2.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Lead	--	--	3.15E+07	--	2.00E+00	9.00E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Lithium	--	--	3.15E+07	--	2.00E+00	3.00E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Magnesium	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Manganese	--	--	3.15E+07	--	2.00E+00	6.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Mercury, element	1.60E+03	3.75E-03	3.15E+07	1.15E-02	2.00E+00	3.30E+03	8.21E-05	2.80E+02	1.50E+00	3.07E-02	2.44E-01	2.70E+00	2.00E-01	5.99E+00
Mercury, divalent	9.85E-05	5.50E-03	3.15E+07	7.10E-10	2.00E+00	3.30E+03	8.21E-05	2.80E+02	1.50E+00	4.50E-02	2.44E-01	2.70E+00	2.00E-01	5.42E-07
Mercury, methyl	1.65E+05	6.48E-03	3.15E+07	7.22E-03	2.00E+00	2.00E+01	8.21E-05	2.80E+02	1.50E+00	5.30E-02	2.44E-01	2.70E+00	2.00E-01	1.07E+03
Molybdenum	--	--	3.15E+07	--	2.00E+00	2.00E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Nickel	--	--	3.15E+07	--	2.00E+00	6.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Phosphorus	--	--	3.15E+07	--	2.00E+00	3.50E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Potassium	--	--	3.15E+07	--	2.00E+00	5.50E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Rubidium	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Selenium	--	--	3.15E+07	--	2.00E+00	5.00E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Silver	--	--	3.15E+07	--	2.00E+00	8.30E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Sodium	--	--	3.15E+07	--	2.00E+00	1.00E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Strontium	--	--	3.15E+07	--	2.00E+00	3.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Thallium	--	--	3.15E+07	--	2.00E+00	7.10E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Tin	--	--	3.15E+07	--	2.00E+00	2.50E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Titanium	--	--	3.15E+07	--	2.00E+00	1.00E+03	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Uranium	--	--	3.15E+07	--	2.00E+00	4.50E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Vanadium	--	--	3.15E+07	--	2.00E+00	1.00E+03	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Zinc	--	--	3.15E+07	--	2.00E+00	6.20E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--

Equations: $ksv = Ke \times K_t$ where, $Ke = \frac{CF \times H}{Z_s \times Kd_s \times R \times T_a \times BD}$ $K_t = \frac{Da \times \theta_v}{Z_s}$ $\theta_v = 1 - (BD/\rho_s) - \theta_{sw}$

Table B.15

COPC Soil Loss Constant
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Biotic and Abiotic Degradation (ksg) (refer to table B.9) (yr^{-1})	Soil Erosion (kse) (refer to table B.9) (yr^{-1})	Surface Runoff Untilled (ksr) (refer to table B.12) (yr^{-1})	Leaching Untilled (ksl) (refer to table B.13) (yr^{-1})	Volatilization Untilled (ksv) (refer to table B.14) (yr^{-1})	Constant All Processes Untilled (ks) (yr^{-1})
Particulate Matter						
Total Particulate Matter	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Particulate Matter (PM10)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Particulate Matter (PM2.5)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Metals						
Aluminum	0.00E+00	0.00E+00	1.75E-02	3.85E-03	0.00E+00	2.14E-02
Antimony	0.00E+00	0.00E+00	5.83E-01	1.28E-01	0.00E+00	7.11E-01
Arsenic	0.00E+00	0.00E+00	9.03E-01	1.98E-01	0.00E+00	1.10E+00
Barium	0.00E+00	0.00E+00	6.40E-01	1.40E-01	0.00E+00	7.80E-01
Beryllium	0.00E+00	0.00E+00	3.33E-02	7.31E-03	0.00E+00	4.06E-02
Bismuth	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Boron	0.00E+00	0.00E+00	8.40E+00	1.84E+00	0.00E+00	1.02E+01
Cadmium	0.00E+00	0.00E+00	3.50E-01	7.68E-02	0.00E+00	4.27E-01
Calcium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chromium Total	0.00E+00	0.00E+00	1.37E+00	3.02E-01	0.00E+00	1.68E+00
Cobalt	0.00E+00	0.00E+00	5.83E-01	1.28E-01	0.00E+00	7.11E-01
Copper	0.00E+00	0.00E+00	7.49E-01	1.64E-01	0.00E+00	9.13E-01
Iron	0.00E+00	0.00E+00	1.05E+00	2.30E-01	0.00E+00	1.28E+00
Lead	0.00E+00	0.00E+00	2.92E-02	6.41E-03	0.00E+00	3.56E-02
Lithium	0.00E+00	0.00E+00	8.76E-02	1.92E-02	0.00E+00	1.07E-01
Magnesium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Manganese	0.00E+00	0.00E+00	4.04E-01	8.86E-02	0.00E+00	4.93E-01
Mercury, element	0.00E+00	0.00E+00	7.97E-03	1.75E-03	5.99E+00	6.00E+00
Mercury, divalent	0.00E+00	0.00E+00	7.97E-03	1.75E-03	5.42E-07	9.72E-03
Mercury, methyl	0.00E+00	0.00E+00	1.31E+00	2.87E-01	1.07E+03	1.07E+03
Molybdenum	0.00E+00	0.00E+00	1.31E+00	2.87E-01	0.00E+00	1.59E+00
Nickel	0.00E+00	0.00E+00	4.04E-01	8.86E-02	0.00E+00	4.93E-01
Phosphorus	0.00E+00	0.00E+00	7.24E+00	1.59E+00	0.00E+00	8.83E+00
Potassium	0.00E+00	0.00E+00	4.67E+00	1.02E+00	0.00E+00	5.69E+00
Rubidium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Selenium	0.00E+00	0.00E+00	5.12E+00	1.12E+00	0.00E+00	6.25E+00
Silver	0.00E+00	0.00E+00	3.12E+00	6.85E-01	0.00E+00	3.80E+00
Sodium	0.00E+00	0.00E+00	2.63E-01	5.77E-02	0.00E+00	3.20E-01
Strontium	0.00E+00	0.00E+00	7.49E-01	1.64E-01	0.00E+00	9.13E-01
Thallium	0.00E+00	0.00E+00	3.70E-01	8.12E-02	0.00E+00	4.51E-01
Tin	0.00E+00	0.00E+00	1.05E-01	2.31E-02	0.00E+00	1.28E-01
Titanium	0.00E+00	0.00E+00	2.63E-02	5.77E-03	0.00E+00	3.21E-02
Uranium	0.00E+00	0.00E+00	5.84E-02	1.28E-02	0.00E+00	7.13E-02
Vanadium	0.00E+00	0.00E+00	2.63E-02	5.77E-03	0.00E+00	3.21E-02
Zinc	0.00E+00	0.00E+00	4.23E-01	9.29E-02	0.00E+00	5.16E-01

Equation: $ks = ksg + kse + ksr + ksl + ksv$

Notes:

COPC loss due to soil erosion (kse) is assumed to be zero.
COPC loss due to biotic and abiotic degradation (ksg) is assumed only for organics.

Table B.16

Predicted Soil Concentrations Due to Deposition - Non-Carcinogens
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

		Deposition Time Period						Existing Soil Concentration at Time tD				Deposition Soil Concentration at Time tD				Predicted Soil Concentration at Time tD			
	Deposition Term					COPC Soil Loss Constant All Processes	Baseline												
	Untilled	Construction	Operations	Reclamation	Post-Closure	Untilled	Soil Concentration	Construction	Operations	Reclamation	Post-Closure	Construction	Operations	Reclamation	Post-Closure	Construction	Operations	Reclamation	Post-Closure
	(Ds)	(tD)	(tD)	(tD)	(tD)	(ks)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)
	(refer to table B.11)	(refer to table B.9)	(refer to table B.9)	(refer to table B.9)	(refer to table B.9)	(refer to table B.15)	(refer to table B.1)												
Contaminant	(mg/kg-yr)	(yr)	(yr)	(yr)	(yr)	(yr^{-1})	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Particulate Matter																			
Total Particulate Matter	2.67E+02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	0.00E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	0.00E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																			
Aluminum	2.67E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	2.14E-02	9.92E+03	9.50E+03	7.51E+03	7.05E+03	7.05E+03	5.22E+01	3.03E+02	3.61E+02	3.61E+02	9920.0	9920.0	9920.0	9920.0
Antimony	8.00E-04	2.00E+00	1.30E+01	1.60E+01	1.60E+01	7.11E-01	1.00E+00	2.41E-01	9.71E-05	1.15E-05	1.15E-05	8.54E-04	1.13E-03	1.13E-03	1.13E-03	1.0	1.0	1.0	1.0
Arsenic	1.04E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.10E+00	1.07E+01	1.18E+00	6.48E-06	2.38E-07	2.38E-07	8.40E-02	9.44E-02	9.44E-02	9.44E-02	10.7	10.7	10.7	10.7
Barium	2.16E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	7.80E-01	4.15E+01	8.72E+00	1.64E-03	1.58E-04	1.58E-04	2.19E-01	2.77E-01	2.77E-01	2.77E-01	41.5	41.5	41.5	41.5
Beryllium	8.00E-04	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.06E-02	1.00E+00	9.22E-01	5.90E-01	5.22E-01	5.22E-01	1.54E-03	8.08E-03	9.41E-03	9.41E-03	1.0	1.0	1.0	1.0
Bismuth	8.80E-05	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	--	--	--	--	--	--	--	--
Boron	6.67E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.02E+01	2.50E+01	3.20E-08	3.93E-57	1.80E-70	1.80E-70	6.51E-04	6.51E-04	6.51E-04	6.51E-04	25.0	25.0	25.0	25.0
Cadmium	3.20E-05	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.27E-01	3.81E-01	1.62E-01	1.48E-03	4.11E-04	4.11E-04	4.30E-05	7.47E-05	7.49E-05	7.49E-05	0.38	0.38	0.38	0.38
Calcium	3.47E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	2.96E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.68E+00	1.34E+01	4.69E-01	4.58E-09	3.00E-11	3.00E-11	1.70E-02	1.77E-02	1.77E-02	1.77E-02	13.4	13.4	13.4	13.4
Cobalt	4.80E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	7.11E-01	2.39E+00	5.77E-01	2.32E-04	2.75E-05	2.75E-05	5.12E-03	6.75E-03	6.75E-03	6.75E-03	2.4	2.4	2.4	2.4
Copper	9.87E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	9.13E-01	5.86E+00	9.44E-01	4.10E-05	2.65E-06	2.65E-06	9.07E-03	1.08E-02	1.08E-02	1.08E-02	5.9	5.9	5.9	5.9
Iron	1.15E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.28E+00	1.64E+04	1.28E+03	1.02E-03	2.22E-05	2.22E-05	8.28E+00	8.98E+00	8.98E+00	8.98E+00	16400.0	16400.0	16400.0	16400.0
Lead	9.87E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.56E-02	2.37E+01	2.21E+01	1.49E+01	1.34E+01	1.34E+01	1.90E-02	1.03E-01	1.20E-01	1.20E-01	23.7	23.7	23.7	23.7
Lithium	1.63E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.07E-01	9.31E+00	7.52E+00	2.32E+00	1.68E+00	1.68E+00	2.93E-02	1.14E-01	1.25E-01	1.25E-01	9.3	9.3	9.3	9.3
Magnesium	4.00E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	2.46E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.93E-01	9.07E+01	3.39E+01	1.50E-01	3.43E-02	3.43E-02	3.12E-01	4.98E-01	4.98E-01	4.98E-01	90.7	90.7	90.7	90.7
Mercury, element	0.00E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	6.00E+00	2.64E-01	1.63E-06	3.61E-35	5.53E-43	5.53E-43	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.26	0.26	0.26	0.26
Mercury, divalent	3.31E-05	2.00E+00	1.30E+01	1.60E+01	1.60E+01	9.72E-03	--	--	--	--	--	6.56E-05	4.04E-04	4.91E-04	4.91E-04	0.0	0.0	0.0	0.0
Mercury, methyl	6.76E-07	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.07E+03	--	--	--	--	--	6.30E-10	6.30E-10	6.30E-10	6.30E-10	0.0	0.0	0.0	0.0
Molybdenum	2.13E-04	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.59E+00	1.00E+00	4.13E-02	1.01E-09	8.47E-12	8.47E-12	1.28E-04	1.34E-04	1.34E-04	1.34E-04	1.0	1.0	1.0	1.0
Nickel	1.09E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.93E-01	6.91E+00	2.58E+00	1.14E-02	2.61E-03	2.61E-03	1.39E-02	2.22E-02	2.22E-02	2.22E-02	6.9	6.9	6.9	6.9
Phosphorus	1.84E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	8.83E+00	--	--	--	--	--	2.08E-02	2.08E-02	2.08E-02	2.08E-02	0.0	0.0	0.0	0.0
Potassium	8.53E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	5.69E+00	--	--	--	--	--	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.5	1.5	1.5	1.5
Rubidium	1.59E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	5.97E+00	5.97E+00	5.97E+00	5.97E+00	5.97E+00	--	--	--	--	--	--	--	--
Selenium	9.33E-05	2.00E+00	1.30E+01	1.60E+01	1.60E+01	6.25E+00	1.49E+00	5.56E-06	7.77E-36	5.60E-44	5.60E-44	1.49E-05	1.49E-05	1.49E-05	1.49E-05	1.49	1.49	1.49	1.49
Silver	1.33E-04	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.80E+00	2.50E-01	1.24E-04	8.35E-23	9.23E-28	9.23E-28	3.50E-05	3.51E-05	3.51E-05	3.51E-05	0.25	0.25	0.25	0.25
Sodium	5.07E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.20E-01	--	--	--	--	--	7.48E+00	1.56E+01	1.57E+01	1.57E+01	7.5	15.6	15.7	15.7
Strontium	5.60E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	9.13E-01	4.57E+01	7.36E+00	3.20E-04	2.07E-05	2.07E-05	5.15E-02	6.13E-02	6.13E-02	6.13E-02	45.7	45.7	45.7	45.7
Thallium	2.11E-04	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.51E-01	5.00E-02	2.03E-02	1.42E-04	3.67E-05	3.67E-05	2.78E-04	4.66E-04	4.67E-04	4.67E-04	0.05	0.05	0.05	0.05
Tin	8.00E-04	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.28E-01	5.00E-01	3.87E-01	9.44E-02	6.42E-02	6.42E-02	1.41E-03	5.06E-03	5.44E-03	5.44E-03	0.50	0.50	0.50	0.50
Titanium	1.12E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.21E-02	--	--	--	--	--	2.17E+00	1.19E+01	1.40E+01	1.40E+01	2.2	11.9	14.0	14.0
Uranium	4.80E-04	2.00E+00	1.30E+01	1.60E+01	1.60E+01	7.13E-02	6.70E-01	5.81E-01	2.65E-01	2.14E-01	2.14E-01	8.95E-04	4.07E-03	4.58E-03	4.58E-03	0.67	0.67	0.67	0.67
Vanadium	2.13E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.21E-02	2.30E+01	2.16E+01	1.52E+01	1.38E+01	1.38E+01	4.13E-02	2.27E-01	2.67E-01	2.67E-01	23.0	23.0	23.0	23.0
Zinc	2.93E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	5.16E-01	2.35E+01	8.37E+00	2.86E-02	6.07E-03	6.07E-03	3.66E-02	5.67E-02	5.68E-02	5.68E-02	23.5	23.5	23.5	23.5

Equation: $Cs_{tD} = \frac{Ds \times [1 - \exp(-ks \times tD)]}{ks}$

Table B.17

Predicted Soil Invertebrate Concentrations Due to Deposition - Non-Carcinogens
Soil Invertebrate Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Soil Concentration at Time tD				Baseline Soil Invertebrate Concentration	Predicted Soil Invertebrate Concentration at Time tD				Final Soil Invertebrate Concentration at Time tD			
Contaminant	Construction (Cs) (refer to table B.16) (mg/kg)	Operations (Cs) (refer to table B.16) (mg/kg)	Reclamation (Cs) (refer to table B.16) (mg/kg)	Post-Closure (Cs) (refer to table B.16) (mg/kg)	(Cti) (refer to table B.1) (mg/kg FW)	Construction (Cti) (1) (mg/kg FW)	Operations (Cti) (1) (mg/kg FW)	Reclamation (Cti) (1) (mg/kg FW)	Post-Closure (Cti) (1) (mg/kg FW)	Construction (Cti) (1) (mg/kg FW)	Operations (Cti) (1) (mg/kg FW)	Reclamation (Cti) (1) (mg/kg FW)	Post-Closure (Cti) (1) (mg/kg FW)
Particulate Matter													
Total Particulate Matter	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals													
Aluminum	9.92E+03	9.92E+03	9.92E+03	9.92E+03	4.20E+02	6.82E+01	6.82E+01	6.82E+01	6.82E+01	4.20E+02	4.20E+02	4.20E+02	4.20E+02
Antimony	1.00E+00	1.00E+00	1.00E+00	1.00E+00	2.50E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Arsenic	1.07E+01	1.07E+01	1.07E+01	1.07E+01	8.00E+00	2.06E-01	2.06E-01	2.06E-01	2.06E-01	8.00E+00	8.00E+00	8.00E+00	8.00E+00
Barium	4.15E+01	4.15E+01	4.15E+01	4.15E+01	2.40E+01	6.04E-01	6.04E-01	6.04E-01	6.04E-01	2.40E+01	2.40E+01	2.40E+01	2.40E+01
Beryllium	1.00E+00	1.00E+00	1.00E+00	1.00E+00	2.50E-01	7.20E-04	7.20E-04	7.20E-04	7.20E-04	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Bismuth	--	--	--	--	--	--	--	--	--	--	--	--	--
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.30E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00
Cadmium	3.81E-01	3.81E-01	3.81E-01	3.81E-01	1.60E+00	6.15E-01	6.15E-01	6.15E-01	6.15E-01	1.60E+00	1.60E+00	1.60E+00	1.60E+00
Calcium	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	1.34E+01	1.34E+01	1.34E+01	1.34E+01	5.80E-01	6.56E-01	6.56E-01	6.56E-01	6.56E-01	6.56E-01	6.56E-01	6.56E-01	6.56E-01
Cobalt	2.39E+00	2.39E+00	2.39E+00	2.39E+00	2.10E-01	4.67E-02	4.67E-02	4.67E-02	4.67E-02	2.10E-01	2.10E-01	2.10E-01	2.10E-01
Copper	5.86E+00	5.86E+00	5.86E+00	5.86E+00	1.60E+01	4.83E-01	4.83E-01	4.83E-01	4.83E-01	1.60E+01	1.60E+01	1.60E+01	1.60E+01
Iron	1.64E+04	1.64E+04	1.64E+04	1.64E+04	6.00E+02	2.62E+03	2.62E+03	2.62E+03	2.62E+03	2.62E+03	2.62E+03	2.62E+03	2.62E+03
Lead	2.37E+01	2.37E+01	2.37E+01	2.37E+01	5.60E-01	1.66E+00	1.66E+00	1.66E+00	1.66E+00	1.66E+00	1.66E+00	1.66E+00	1.66E+00
Lithium	9.31E+00	9.31E+00	9.31E+00	9.31E+00	2.50E-01	1.49E+00	1.49E+00	1.49E+00	1.49E+00	1.49E+00	1.49E+00	1.49E+00	1.49E+00
Magnesium	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	9.07E+01	9.07E+01	9.07E+01	9.07E+01	1.20E+03	1.54E+00	1.54E+00	1.54E+00	1.54E+00	1.20E+03	1.20E+03	1.20E+03	1.20E+03
Mercury, element	2.64E-01	2.64E-01	2.64E-01	2.64E-01	3.50E-02	4.22E-02	4.22E-02	4.22E-02	4.22E-02	4.22E-02	4.22E-02	4.22E-02	4.22E-02
Mercury, divalent	6.56E-05	4.04E-04	4.91E-04	4.91E-04	--	1.05E-05	6.47E-05	7.85E-05	7.85E-05	1.05E-05	6.47E-05	7.85E-05	7.85E-05
Mercury, methyl	6.30E-10	6.30E-10	6.30E-10	6.30E-10	--	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10	1.01E-10
Molybdenum	1.00E+00	1.00E+00	1.00E+00	1.00E+00	6.90E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01	6.90E-01	6.90E-01	6.90E-01	6.90E-01
Nickel	6.91E+00	6.91E+00	6.91E+00	6.91E+00	1.10E+00	1.11E+00	1.11E+00	1.11E+00	1.11E+00	1.11E+00	1.11E+00	1.11E+00	1.11E+00
Phosphorus	2.08E-02	2.08E-02	2.08E-02	2.08E-02	--	3.33E-03	3.33E-03	3.33E-03	3.33E-03	3.33E-03	3.33E-03	3.33E-03	3.33E-03
Potassium	1.50E+00	1.50E+00	1.50E+00	1.50E+00	--	2.40E-01	2.40E-01	2.40E-01	2.40E-01	2.40E-01	2.40E-01	2.40E-01	2.40E-01
Rubidium	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	1.49E+00	1.49E+00	1.49E+00	1.49E+00	2.50E-01	1.99E-01	1.99E-01	1.99E-01	1.99E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Silver	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.80E+00	8.18E-02	8.18E-02	8.18E-02	8.18E-02	1.80E+00	1.80E+00	1.80E+00	1.80E+00
Sodium	7.48E+00	1.56E+01	1.57E+01	1.57E+01	--	1.20E+00	2.49E+00	2.52E+00	2.52E+00	1.20E+00	2.49E+00	2.52E+00	2.52E+00
Strontium	4.57E+01	4.57E+01	4.57E+01	4.57E+01	1.00E+01	7.31E+00	7.31E+00	7.31E+00	7.31E+00	1.00E+01	1.00E+01	1.00E+01	1.00E+01
Thallium	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.00E-02	8.00E-03	8.00E-03	8.00E-03	8.00E-03	1.00E-02	1.00E-02	1.00E-02	1.00E-02
Tin	5.00E-01	5.00E-01	5.00E-01	5.00E-01	2.50E-01	8.00E-02	8.00E-02	8.00E-02	8.00E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Titanium	2.17E+00	1.19E+01	1.40E+01	1.40E+01	--	3.47E-01	1.90E+00	2.24E+00	2.24E+00	3.47E-01	1.90E+00	2.24E+00	2.24E+00
Uranium	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.00E-02	1.07E-01	1.07E-01	1.07E-01	1.07E-01	1.07E-01	1.07E-01	1.07E-01	1.07E-01
Vanadium	2.30E+01	2.30E+01	2.30E+01	2.30E+01	9.30E-01	1.55E-01	1.55E-01	1.55E-01	1.55E-01	9.30E-01	9.30E-01	9.30E-01	9.30E-01
Zinc	2.35E+01	2.35E+01	2.35E+01	2.35E+01	7.90E+01	3.85E+01	3.85E+01	3.85E+01	3.85E+01	7.90E+01	7.90E+01	7.90E+01	7.90E+01

Note:
(1) Uptake equations and inputs from the USEPA Eco Soil Screening Level (SSL) guidance (USEPA, 2007). An uptake factor for aluminum was taken from the validation data set presented in Table C.1 of Appendix A of Sample et al. (1998b); the median uptake factor from that data set (0.043) was selected.

Table B.18

Predicted Prey Concentrations Due to Deposition - Non-Carcinogens
Prey Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Soil Concentration at Time tD				Prey Concentration at Time tD			
Contaminant	Construction (Cs) (refer to table B.16) (mg/kg)	Operations (Cs) (refer to table B.16) (mg/kg)	Reclamation (Cs) (refer to table B.16) (mg/kg)	Post-Closure (Cs) (refer to table B.16) (mg/kg)	Construction (Cp) (1) (mg/kg FW)	Operations (Cp) (1) (mg/kg FW)	Reclamation (Cp) (1) (mg/kg FW)	Post-Closure (Cp) (1) (mg/kg FW)
Particulate Matter								
Total Particulate Matter	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--
Metals								
Aluminum	9.92E+03	9.92E+03	9.92E+03	9.92E+03	8.35E+01	8.35E+01	8.35E+01	8.35E+01
Antimony	1.00E+00	1.00E+00	1.00E+00	1.00E+00	4.00E-03	4.00E-03	4.00E-03	4.00E-03
Arsenic	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.75E-02	1.75E-02	1.75E-02	1.75E-02
Barium	4.15E+01	4.15E+01	4.15E+01	4.15E+01	5.76E-02	5.76E-02	5.76E-02	5.76E-02
Beryllium	1.00E+00	1.00E+00	1.00E+00	1.00E+00	4.00E-03	4.00E-03	4.00E-03	4.00E-03
Bismuth	--	--	--	--	--	--	--	--
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	8.00E+00	8.00E+00	8.00E+00	8.00E+00
Cadmium	3.81E-01	3.81E-01	3.81E-01	3.81E-01	5.77E-02	5.77E-02	5.77E-02	5.77E-02
Calcium	--	--	--	--	--	--	--	--
Chromium Total	1.34E+01	1.34E+01	1.34E+01	1.34E+01	4.99E-01	4.99E-01	4.99E-01	4.99E-01
Cobalt	2.39E+00	2.39E+00	2.39E+00	2.39E+00	1.15E-02	1.15E-02	1.15E-02	1.15E-02
Copper	5.86E+00	5.86E+00	5.86E+00	5.86E+00	3.18E+00	3.18E+00	3.18E+00	3.18E+00
Iron	1.64E+04	1.64E+04	1.64E+04	1.64E+04	5.25E+03	5.25E+03	5.25E+03	5.25E+03
Lead	2.37E+01	2.37E+01	2.37E+01	2.37E+01	1.40E+00	1.40E+00	1.40E+00	1.40E+00
Lithium	9.31E+00	9.31E+00	9.31E+00	9.31E+00	2.98E+00	2.98E+00	2.98E+00	2.98E+00
Magnesium	--	--	--	--	--	--	--	--
Manganese	9.07E+01	9.07E+01	9.07E+01	9.07E+01	5.95E-01	5.95E-01	5.95E-01	5.95E-01
Mercury, element	2.64E-01	2.64E-01	2.64E-01	2.64E-01	8.45E-02	8.45E-02	8.45E-02	8.45E-02
Mercury, divalent	6.56E-05	4.04E-04	4.91E-04	4.91E-04	2.10E-05	1.29E-04	1.57E-04	1.57E-04
Mercury, methyl	6.30E-10	6.30E-10	6.30E-10	6.30E-10	2.02E-10	2.02E-10	2.02E-10	2.02E-10
Molybdenum	1.00E+00	1.00E+00	1.00E+00	1.00E+00	3.20E-01	3.20E-01	3.20E-01	3.20E-01
Nickel	6.91E+00	6.91E+00	6.91E+00	6.91E+00	6.16E-01	6.16E-01	6.16E-01	6.16E-01
Phosphorus	2.08E-02	2.08E-02	2.08E-02	2.08E-02	6.67E-03	6.67E-03	6.67E-03	6.67E-03
Potassium	1.50E+00	1.50E+00	1.50E+00	1.50E+00	4.80E-01	4.80E-01	4.80E-01	4.80E-01
Rubidium	--	--	--	--	--	--	--	--
Selenium	1.49E+00	1.49E+00	1.49E+00	1.49E+00	2.45E-01	2.45E-01	2.45E-01	2.45E-01
Silver	2.50E-01	2.50E-01	2.50E-01	2.50E-01	3.20E-04	3.20E-04	3.20E-04	3.20E-04
Sodium	7.48E+00	1.56E+01	1.57E+01	1.57E+01	2.39E+00	4.98E+00	5.03E+00	5.03E+00
Strontium	4.57E+01	4.57E+01	4.57E+01	4.57E+01	1.46E+01	1.46E+01	1.46E+01	1.46E+01
Thallium	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.60E-02	1.60E-02	1.60E-02	1.60E-02
Tin	5.00E-01	5.00E-01	5.00E-01	5.00E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Titanium	2.17E+00	1.19E+01	1.40E+01	1.40E+01	6.94E-01	3.81E+00	4.49E+00	4.49E+00
Uranium	6.70E-01	6.70E-01	6.70E-01	6.70E-01	2.14E-01	2.14E-01	2.14E-01	2.14E-01
Vanadium	2.30E+01	2.30E+01	2.30E+01	2.30E+01	9.05E-02	9.05E-02	9.05E-02	9.05E-02
Zinc	2.35E+01	2.35E+01	2.35E+01	2.35E+01	5.09E-03	5.09E-03	5.09E-03	5.09E-03

Note:
The predicted prey concentrations were modelled with uptake factors from the USEPA (2007). An aluminum uptake factor was obtained from Table C.1 in Appendix C of Sample et al. (1998a); the median uptake factor of 0.0263 from this data set was selected.

Table B.19

Aboveground Produce Predicted Concentrations Due to Direct Deposition
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Units Conversion Factor (CF) (mg/g)	Annual Deposition Rate (Dr) (g/m^2-yr)	Fraction of Air Concentration In Vapor Phase (Fv) (refer to table B.10) -	Fraction Wet Deposition Adhere to Plant (Fw) (refer to table B.9) -	Interception Fraction Edible Produce Portion Vegetable (Rp) (refer to table B.9) -	Interception Fraction Edible Produce Portion Fruit (Rp) (refer to table B.9) -	Produce Surface Loss Coefficient Vegetable (kp) (refer to table B.9) (1/yr)	Produce Surface Loss Coefficient Fruit (kp) (refer to table B.9) (1/yr)	Length of Produce Exposure to Deposition per Harvest of Edible Produce Vegetable (Tp) (refer to table B.9) (yrs)	Length of Produce Exposure to Deposition per Harvest of Edible Produce Fruit (Tp) (refer to table B.9) (yrs)	Yield of Edible Portion of Produce Vegetable (Yp) (refer to table B.9) (kg DW/m^2)	Yield of Edible Portion of Produce Fruit (Yp) (refer to table B.9) (kg DW/m^2)	Predicted Produce Concentration Due to Direct Deposition Vegetable (Pd) (mg/kg DW)	Predicted Produce Concentration Due to Direct Deposition Fruit (Pd) (mg/kg DW)
Particulate Matter														
Total Particulate Matter	1.00E+03	8.00E+00	--	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	--	--
Particulate Matter (PM10)	1.00E+03	0.00E+00	--	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	--	--
Particulate Matter (PM2.5)	1.00E+03	0.00E+00	--	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	--	--
Metals														
Aluminum	1.00E+03	8.00E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	4.38E+00	5.32E+00
Antimony	1.00E+03	2.40E-05	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.32E-04	1.59E-04
Arsenic	1.00E+03	3.12E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.71E-02	2.07E-02
Barium	1.00E+03	6.48E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.55E-02	4.31E-02
Beryllium	1.00E+03	2.40E-05	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.32E-04	1.59E-04
Bismuth	1.00E+03	2.64E-06	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.45E-05	1.75E-05
Boron	1.00E+03	2.00E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.10E-03	1.33E-03
Cadmium	1.00E+03	9.60E-07	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	5.26E-06	6.38E-06
Calcium	1.00E+03	1.04E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	5.70E-01	6.91E-01
Chromium Total	1.00E+03	8.88E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	4.87E-03	5.90E-03
Cobalt	1.00E+03	1.44E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	7.89E-04	9.57E-04
Copper	1.00E+03	2.96E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.62E-03	1.97E-03
Iron	1.00E+03	3.44E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.89E+00	2.29E+00
Lead	1.00E+03	2.96E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.62E-03	1.97E-03
Lithium	1.00E+03	4.88E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	2.67E-03	3.24E-03
Magnesium	1.00E+03	1.20E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	6.58E-01	7.97E-01
Manganese	1.00E+03	7.37E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	4.04E-02	4.90E-02
Mercury, element	1.00E+03	2.11E-06	1.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	0.00E+00	0.00E+00
Mercury, divalent	1.00E+03	--	8.50E-01	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	8.17E-07	9.90E-07
Mercury, methyl	1.00E+03	--	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.11E-07	1.35E-07
Molybdenum	1.00E+03	6.40E-06	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.51E-05	4.25E-05
Nickel	1.00E+03	3.28E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.80E-03	2.18E-03
Phosphorus	1.00E+03	5.52E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.03E-02	3.67E-02
Potassium	1.00E+03	2.56E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.40E+00	1.70E+00
Rubidium	1.00E+03	4.78E-05	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	2.62E-04	3.17E-04
Selenium	1.00E+03	2.80E-06	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.53E-05	1.86E-05
Silver	1.00E+03	4.00E-06	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	2.19E-05	2.66E-05
Sodium	1.00E+03	1.52E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	8.33E-01	1.01E+00
Strontium	1.00E+03	1.68E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	9.21E-03	1.12E-02
Thallium	1.00E+03	6.32E-06	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.46E-05	4.20E-05
Tin	1.00E+03	2.40E-05	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.32E-04	1.59E-04
Titanium	1.00E+03	3.36E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.84E-01	2.23E-01
Uranium	1.00E+03	1.44E-05	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	7.89E-05	9.57E-05
Vanadium	1.00E+03	6.40E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.51E-03	4.25E-03
Zinc	1.00E+03	8.80E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	4.82E-03	5.85E-03

Equation:

$$Pd = \frac{CF \times Hg_{factor} \times Dr \times (1 - Fv) \times Fw \times Rp \times [1.0 - \exp(-kp \times Tp)]}{Yp \times kp}$$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.78), and methylmercury (0.48*0.22)

Table B.20

Aboveground Produce Predicted Concentrations Due to Air-to-Plant Transfer
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Air Concentration In Vapor Phase (Fv) (refer to table B.10) -	Annual Air Predicted Concentration (Coa) (refer to table B.6) (µg/m^3)	Air -to-Plant Biotransfer Factor (Bv_{ag}) (refer to table B.10) (mg/kg DW)/(µg/g air)	Correction Factor for Above Ground Vegetation (VG_{ag}) (refer to table B.9) -	Density of Air (pa) (refer to table B.9) (g/m^3)	Predicted Produce Concentration Due to Air-to-Plant Transfer (Pv) (mg/kg DW)
Particulate Matter						
Total Particulate Matter	--	2.25E+01	--	1.00E+00	1.20E+03	--
Particulate Matter (PM10)	--	5.67E+00	--	1.00E+00	1.20E+03	--
Particulate Matter (PM2.5)	--	6.65E-01	--	1.00E+00	1.20E+03	--
Metals						
Aluminum	0.00E+00	8.75E-02	--	1.00E+00	1.20E+03	--
Antimony	0.00E+00	1.56E-05	--	1.00E+00	1.20E+03	--
Arsenic	0.00E+00	3.48E-04	--	1.00E+00	1.20E+03	--
Barium	0.00E+00	8.84E-02	--	1.00E+00	1.20E+03	--
Beryllium	0.00E+00	1.56E-05	--	1.00E+00	1.20E+03	--
Bismuth	0.00E+00	8.13E-06	--	1.00E+00	1.20E+03	--
Boron	0.00E+00	3.17E-05	--	1.00E+00	1.20E+03	--
Cadmium	0.00E+00	5.62E-05	--	1.00E+00	1.20E+03	--
Calcium	0.00E+00	--	--	1.00E+00	1.20E+03	--
Chromium Total	0.00E+00	1.55E-03	--	1.00E+00	1.20E+03	--
Cobalt	0.00E+00	3.15E-05	--	1.00E+00	1.20E+03	--
Copper	0.00E+00	3.39E-01	--	1.00E+00	1.20E+03	--
Iron	0.00E+00	1.03E-01	--	1.00E+00	1.20E+03	--
Lead	0.00E+00	1.64E-05	--	1.00E+00	1.20E+03	--
Lithium	0.00E+00	7.70E-05	--	1.00E+00	1.20E+03	--
Magnesium	0.00E+00	--	--	1.00E+00	1.20E+03	--
Manganese	0.00E+00	1.60E-03	--	1.00E+00	1.20E+03	--
Mercury, element	1.00E+00	2.15E-06	1.00E+00	1.00E+00	1.20E+03	1.79E-09
Mercury, divalent	8.50E-01	--	1.80E+03	1.00E+00	1.20E+03	--
Mercury, methyl	0.00E+00	--	1.00E+00	1.00E+00	1.20E+03	--
Molybdenum	0.00E+00	3.11E-05	--	1.00E+00	1.20E+03	--
Nickel	0.00E+00	1.80E-03	--	1.00E+00	1.20E+03	--
Phosphorus	0.00E+00	--	--	1.00E+00	1.20E+03	--
Potassium	0.00E+00	--	--	1.00E+00	1.20E+03	--
Rubidium	0.00E+00	4.86E-05	--	1.00E+00	1.20E+03	--
Selenium	0.00E+00	1.21E-05	--	1.00E+00	1.20E+03	--
Silver	0.00E+00	1.48E-04	--	1.00E+00	1.20E+03	--
Sodium	0.00E+00	--	--	1.00E+00	1.20E+03	--
Strontium	0.00E+00	5.02E-04	--	1.00E+00	1.20E+03	--
Thallium	0.00E+00	9.35E-06	--	1.00E+00	1.20E+03	--
Tin	0.00E+00	1.85E-03	--	1.00E+00	1.20E+03	--
Titanium	0.00E+00	1.34E-03	--	1.00E+00	1.20E+03	--
Uranium	0.00E+00	9.37E-06	--	1.00E+00	1.20E+03	--
Vanadium	0.00E+00	3.13E-04	--	1.00E+00	1.20E+03	--
Zinc	0.00E+00	1.89E-02	--	1.00E+00	1.20E+03	--

Equation: $Pv = Fv \times \frac{Coa \times Bv_{ag} \times VG_{ag} \times Hg_{factor}}{pa}$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.78), and methylmercury (0.48*0.22)

Table B.21

Aboveground Produce Predicted Concentrations Due to Root Uptake
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Soil Concentration Construction (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Operations (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Reclamation (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Post-Closure (Cs) (refer to table B.16) (mg/kg)	Plant-Soil Bioconcentration Factor Aboveground Produce (Br_{ag}) (refer to table B.10) (µg/g DW)/(µg/g soil)	Aboveground Produce Predicted Concentration Due to Root Uptake Construction (Cag) (mg/kg DW)	Aboveground Produce Predicted Concentration Due to Root Uptake Operations (Cag) (mg/kg DW)	Aboveground Produce Predicted Concentration Due to Root Uptake Reclamation (Cag) (mg/kg DW)	Aboveground Produce Predicted Concentration Due to Root Uptake Post-Closure (Cag) (mg/kg DW)
Particulate Matter									
Total Particulate Matter	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--
Metals									
Aluminum	9.92E+03	9.92E+03	9.92E+03	9.92E+03	1.08E-03	1.07E+01	1.07E+01	1.07E+01	1.07E+01
Antimony	1.00E+00	1.00E+00	1.00E+00	1.00E+00	5.16E-02	5.16E-02	5.16E-02	5.16E-02	5.16E-02
Arsenic	1.07E+01	1.07E+01	1.07E+01	1.07E+01	6.30E-03	6.73E-02	6.73E-02	6.73E-02	6.73E-02
Barium	4.15E+01	4.15E+01	4.15E+01	4.15E+01	3.22E-02	1.33E+00	1.33E+00	1.33E+00	1.33E+00
Beryllium	1.00E+00	1.00E+00	1.00E+00	1.00E+00	2.58E-03	2.58E-03	2.58E-03	2.58E-03	2.58E-03
Bismuth	--	--	--	--	8.81E-03	--	--	--	--
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.25E+00	5.64E+01	5.64E+01	5.64E+01	5.64E+01
Cadmium	3.81E-01	3.81E-01	3.81E-01	3.81E-01	1.20E-01	4.57E-02	4.57E-02	4.57E-02	4.57E-02
Calcium	--	--	--	--	7.50E-01	--	--	--	--
Chromium Total	1.34E+01	1.34E+01	1.34E+01	1.34E+01	4.88E-03	6.54E-02	6.54E-02	6.54E-02	6.54E-02
Cobalt	2.39E+00	2.39E+00	2.39E+00	2.39E+00	8.65E-03	2.07E-02	2.07E-02	2.07E-02	2.07E-02
Copper	5.86E+00	5.86E+00	5.86E+00	5.86E+00	2.69E-01	1.58E+00	1.58E+00	1.58E+00	1.58E+00
Iron	1.64E+04	1.64E+04	1.64E+04	1.64E+04	1.38E-03	2.27E+01	2.27E+01	2.27E+01	2.27E+01
Lead	2.37E+01	2.37E+01	2.37E+01	2.37E+01	1.36E-02	3.22E-01	3.22E-01	3.22E-01	3.22E-01
Lithium	9.31E+00	9.31E+00	9.31E+00	9.31E+00	6.67E-03	6.21E-02	6.21E-02	6.21E-02	6.21E-02
Magnesium	--	--	--	--	6.07E-01	--	--	--	--
Manganese	9.07E+01	9.07E+01	9.07E+01	9.07E+01	7.54E-02	6.84E+00	6.84E+00	6.84E+00	6.84E+00
Mercury, element	2.64E-01	2.64E-01	2.64E-01	2.64E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, divalent	6.56E-05	4.04E-04	4.91E-04	4.91E-04	1.40E-02	9.18E-07	5.66E-06	6.87E-06	6.87E-06
Mercury, methyl	6.30E-10	6.30E-10	6.30E-10	6.30E-10	2.90E-02	1.83E-11	1.83E-11	1.83E-11	1.83E-11
Molybdenum	1.00E+00	1.00E+00	1.00E+00	1.00E+00	8.42E-02	8.42E-02	8.42E-02	8.42E-02	8.42E-02
Nickel	6.91E+00	6.91E+00	6.91E+00	6.91E+00	9.30E-03	6.43E-02	6.43E-02	6.43E-02	6.43E-02
Phosphorus	2.08E-02	2.08E-02	2.08E-02	2.08E-02	3.50E+00	7.29E-02	7.29E-02	7.29E-02	7.29E-02
Potassium	1.50E+00	1.50E+00	1.50E+00	1.50E+00	6.07E-01	9.10E-01	9.10E-01	9.10E-01	9.10E-01
Rubidium	--	--	--	--	1.00E+00	--	--	--	--
Selenium	1.49E+00	1.49E+00	1.49E+00	1.49E+00	2.00E-02	2.98E-02	2.98E-02	2.98E-02	2.98E-02
Silver	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.38E-01	3.45E-02	3.45E-02	3.45E-02	3.45E-02
Sodium	7.48E+00	1.56E+01	1.57E+01	1.57E+01	5.75E-02	4.31E-01	8.96E-01	9.05E-01	9.05E-01
Strontium	4.57E+01	4.57E+01	4.57E+01	4.57E+01	5.36E-01	2.45E+01	2.45E+01	2.45E+01	2.45E+01
Thallium	5.00E-02	5.00E-02	5.00E-02	5.00E-02	8.58E-04	4.29E-05	4.29E-05	4.29E-05	4.29E-05
Tin	5.00E-01	5.00E-01	5.00E-01	5.00E-01	9.05E-03	4.53E-03	4.53E-03	4.53E-03	4.53E-03
Titanium	2.17E+00	1.19E+01	1.40E+01	1.40E+01	3.32E-03	7.20E-03	3.95E-02	4.65E-02	4.65E-02
Uranium	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.00E+00	6.70E-01	6.70E-01	6.70E-01	6.70E-01
Vanadium	2.30E+01	2.30E+01	2.30E+01	2.30E+01	3.32E-03	7.63E-02	7.63E-02	7.63E-02	7.63E-02
Zinc	2.35E+01	2.35E+01	2.35E+01	2.35E+01	9.70E-02	2.28E+00	2.28E+00	2.28E+00	2.28E+00

Equation: $Cag = Cs \times Br_{ag}$

Table B.22

Aboveground Produce Predicted Concentrations Due to Deposition, Vapour Transfer, and Root Uptake
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Produce Concentration Due to Direct Deposition		Predicted Produce Concentration Due to Air-to-Plant Transfer	Aboveground Produce Predicted Concentration Due to Root Uptake				Aboveground Produce (Vegetable) Predicted Concentration				Baseline Berry	Aboveground Produce (Fruit) Predicted Concentration			
	Vegetable (Pd) (refer to table B.19)	Fruit (Pd) (refer to table B.19)	(Pv) (refer to table B.20)	Construction (Cag) (refer to table B.21)	Operations (Cag) (refer to table B.21)	Reclamation (Cag) (refer to table B.21)	Post-Closure (Cag) (refer to table B.21)	Construction (Cv)	Operations (Cv)	Reclamation (Cv)	Post-Closure (Cv)	Concentration (Cfru) (refer to table B.1)	Construction (Cfru)	Operations (Cfru)	Reclamation (Cfru)	Post-Closure (Cfru) (1)
Contaminant	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)
Particulate Matter																
Total Particulate Matter	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--
Metals																
Aluminum	4.38E+00	5.32E+00	0.00E+00	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.51E+01	1.51E+01	1.51E+01	1.51E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01
Antimony	1.32E-04	1.59E-04	0.00E+00	5.16E-02	5.16E-02	5.16E-02	5.16E-02	5.17E-02	5.17E-02	5.17E-02	5.17E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Arsenic	1.71E-02	2.07E-02	0.00E+00	6.73E-02	6.73E-02	6.73E-02	6.73E-02	8.44E-02	8.44E-02	8.44E-02	8.44E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Barium	3.55E-02	4.31E-02	0.00E+00	1.33E+00	1.33E+00	1.33E+00	1.33E+00	1.37E+00	1.37E+00	1.37E+00	1.37E+00	2.33E+01	2.33E+01	2.33E+01	2.33E+01	2.33E+01
Beryllium	1.32E-04	1.59E-04	0.00E+00	2.58E-03	2.58E-03	2.58E-03	2.58E-03	2.71E-03	2.71E-03	2.71E-03	2.71E-03	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Bismuth	1.45E-05	1.75E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.45E-05	1.45E-05	1.45E-05	1.45E-05	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01
Boron	1.10E-03	1.33E-03	0.00E+00	5.64E+01	5.64E+01	5.64E+01	5.64E+01	5.64E+01	5.64E+01	5.64E+01	5.64E+01	1.27E+01	5.64E+01	5.64E+01	5.64E+01	5.64E+01
Cadmium	5.26E-06	6.38E-06	0.00E+00	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	4.57E-02	2.13E-01	2.13E-01	2.13E-01	2.13E-01	2.13E-01
Calcium	5.70E-01	6.91E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.70E-01	5.70E-01	5.70E-01	5.70E-01	6.20E+03	6.20E+03	6.20E+03	6.20E+03	6.20E+03
Chromium Total	4.87E-03	5.90E-03	0.00E+00	6.54E-02	6.54E-02	6.54E-02	6.54E-02	7.03E-02	7.03E-02	7.03E-02	7.03E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Cobalt	7.89E-04	9.57E-04	0.00E+00	2.07E-02	2.07E-02	2.07E-02	2.07E-02	2.15E-02	2.15E-02	2.15E-02	2.15E-02	5.33E-01	5.33E-01	5.33E-01	5.33E-01	5.33E-01
Copper	1.62E-03	1.97E-03	0.00E+00	1.58E+00	1.58E+00	1.58E+00	1.58E+00	1.58E+00	1.58E+00	1.58E+00	1.58E+00	7.33E+00	7.33E+00	7.33E+00	7.33E+00	7.33E+00
Iron	1.89E+00	2.29E+00	0.00E+00	2.27E+01	2.27E+01	2.27E+01	2.27E+01	2.45E+01	2.45E+01	2.45E+01	2.45E+01	3.20E+01	3.20E+01	3.20E+01	3.20E+01	3.20E+01
Lead	1.62E-03	1.97E-03	0.00E+00	3.22E-01	3.22E-01	3.22E-01	3.22E-01	3.23E-01	3.23E-01	3.23E-01	3.23E-01	3.47E-01	3.47E-01	3.47E-01	3.47E-01	3.47E-01
Lithium	2.67E-03	3.24E-03	0.00E+00	6.21E-02	6.21E-02	6.21E-02	6.21E-02	6.48E-02	6.48E-02	6.48E-02	6.48E-02	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00
Magnesium	6.58E-01	7.97E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.58E-01	6.58E-01	6.58E-01	6.58E-01	3.33E+02	3.33E+02	3.33E+02	3.33E+02	3.33E+02
Manganese	4.04E-02	4.90E-02	0.00E+00	6.84E+00	6.84E+00	6.84E+00	6.84E+00	6.88E+00	6.88E+00	6.88E+00	6.88E+00	4.20E+02	4.20E+02	4.20E+02	4.20E+02	4.20E+02
Mercury, element	0.00E+00	0.00E+00	1.79E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-09	1.79E-09	1.79E-09	1.79E-09	1.67E-02	1.67E-02	1.67E-02	1.67E-02	1.67E-02
Mercury, divalent	8.17E-07	9.90E-07	0.00E+00	9.18E-07	5.66E-06	6.87E-06	6.87E-06	1.74E-06	6.48E-06	7.69E-06	7.69E-06	--	1.91E-06	6.65E-06	7.86E-06	6.87E-06
Mercury, methyl	1.11E-07	1.35E-07	0.00E+00	1.83E-11	1.83E-11	1.83E-11	1.83E-11	1.11E-07	1.11E-07	1.11E-07	1.11E-07	--	1.35E-07	1.35E-07	1.35E-07	1.83E-11
Molybdenum	3.51E-05	4.25E-05	0.00E+00	8.42E-02	8.42E-02	8.42E-02	8.42E-02	8.42E-02	8.42E-02	8.42E-02	8.42E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Nickel	1.80E-03	2.18E-03	0.00E+00	6.43E-02	6.43E-02	6.43E-02	6.43E-02	6.61E-02	6.61E-02	6.61E-02	6.61E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Phosphorus	3.03E-02	3.67E-02	0.00E+00	7.29E-02	7.29E-02	7.29E-02	7.29E-02	1.03E-01	1.03E-01	1.03E-01	1.03E-01	1.07E+03	1.07E+03	1.07E+03	1.07E+03	1.07E+03
Potassium	1.40E+00	1.70E+00	0.00E+00	9.10E-01	9.10E-01	9.10E-01	9.10E-01	2.31E+00	2.31E+00	2.31E+00	2.31E+00	5.73E+03	5.73E+03	5.73E+03	5.73E+03	5.73E+03
Rubidium	2.62E-04	3.17E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.62E-04	2.62E-04	2.62E-04	2.62E-04	--	3.17E-04	3.17E-04	3.17E-04	0.00E+00
Selenium	1.53E-05	1.86E-05	0.00E+00	2.98E-02	2.98E-02	2.98E-02	2.98E-02	2.98E-02	2.98E-02	2.98E-02	2.98E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Silver	2.19E-05	2.66E-05	0.00E+00	3.45E-02	3.45E-02	3.45E-02	3.45E-02	3.46E-02	3.46E-02	3.46E-02	3.46E-02	2.67E-01	2.67E-01	2.67E-01	2.67E-01	2.67E-01
Sodium	8.33E-01	1.01E+00	0.00E+00	4.31E-01	8.96E-01	9.05E-01	9.05E-01	1.26E+00	1.73E+00	1.74E+00	1.74E+00	1.67E+02	1.67E+02	1.67E+02	1.67E+02	1.67E+02
Strontium	9.21E-03	1.12E-02	0.00E+00	2.45E+01	2.45E+01	2.45E+01	2.45E+01	2.45E+01	2.45E+01	2.45E+01	2.45E+01	1.47E+01	2.45E+01	2.45E+01	2.45E+01	2.45E+01
Thallium	3.46E-05	4.20E-05	0.00E+00	4.29E-05	4.29E-05	4.29E-05	4.29E-05	7.75E-05	7.75E-05	7.75E-05	7.75E-05	7.33E-02	7.33E-02	7.33E-02	7.33E-02	7.33E-02
Tin	1.32E-04	1.59E-04	0.00E+00	4.53E-03	4.53E-03	4.53E-03	4.53E-03	4.66E-03	4.66E-03	4.66E-03	4.66E-03	8.00E+00	8.00E+00	8.00E+00	8.00E+00	8.00E+00
Titanium	1.84E-01	2.23E-01	0.00E+00	7.20E-03	3.95E-02	4.65E-02	4.65E-02	1.91E-01	2.24E-01	2.31E-01	2.31E-01	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00
Uranium	7.89E-05	9.57E-05	0.00E+00	6.70E-01	6.70E-01	6.70E-01	6.70E-01	6.70E-01	6.70E-01	6.70E-01	6.70E-01	5.33E-02	6.70E-01	6.70E-01	6.70E-01	6.70E-01
Vanadium	3.51E-03	4.25E-03	0.00E+00	7.63E-02	7.63E-02	7.63E-02	7.63E-02	7.98E-02	7.98E-02	7.98E-02	7.98E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Zinc	4.82E-03	5.85E-03	0.00E+00	2.28E+00	2.28E+00	2.28E+00	2.28E+00	2.28E+00	2.28E+00	2.28E+00	2.28E+00	1.40E+01	1.40E+01	1.40E+01	1.40E+01	1.40E+01

Equation: Cv and Cfru = Pd + Pv +Cag

Table B.23

Belowground Produce Predicted Concentrations Due to Root Uptake
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Soil Concentration				Plant-Soil Bioconcentration Factor Belowground Produce ($Br_{rootveg}$) (refer to table B.10) (µg/g DW)/(µg/g soil)	Correction Factor For Belowground Produce $VG_{rootveg}$ (refer to table B.9) -	Belowground Produce Predicted Concentration Due to Root Uptake			
	Construction (Cs) (refer to table B.16) (mg/kg)	Operations (Cs) (refer to table B.16) (mg/kg)	Reclamation (Cs) (refer to table B.16) (mg/kg)	Post-Closure (Cs) (refer to table B.16) (mg/kg)			Construction (Cr) (mg/kg DW)	Operations (Cr) (mg/kg DW)	Reclamation (Cr) (mg/kg DW)	Post-Closure (Cr) (mg/kg DW)
Particulate Matter										
Total Particulate Matter	--	--	--	--	--	1.00E+00	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	1.00E+00	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	1.00E+00	--	--	--	--
Metals										
Aluminum	9.92E+03	9.92E+03	9.92E+03	9.92E+03	6.50E-04	1.00E+00	6.45E+00	6.45E+00	6.45E+00	6.45E+00
Antimony	1.00E+00	1.00E+00	1.00E+00	1.00E+00	3.00E-02	1.00E+00	3.00E-02	3.00E-02	3.00E-02	3.00E-02
Arsenic	1.07E+01	1.07E+01	1.07E+01	1.07E+01	8.00E-03	1.00E+00	8.54E-02	8.54E-02	8.54E-02	8.54E-02
Barium	4.15E+01	4.15E+01	4.15E+01	4.15E+01	1.50E-02	1.00E+00	6.23E-01	6.23E-01	6.23E-01	6.23E-01
Beryllium	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E-03	1.00E+00	1.50E-03	1.50E-03	1.50E-03	1.50E-03
Bismuth	--	--	--	--	5.00E-03	1.00E+00	--	--	--	--
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.00E+00	1.00E+00	5.00E+01	5.00E+01	5.00E+01	5.00E+01
Cadmium	3.81E-01	3.81E-01	3.81E-01	3.81E-01	6.40E-02	1.00E+00	2.44E-02	2.44E-02	2.44E-02	2.44E-02
Calcium	--	--	--	--	3.50E-01	1.00E+00	--	--	--	--
Chromium Total	1.34E+01	1.34E+01	1.34E+01	1.34E+01	4.50E-03	1.00E+00	6.03E-02	6.03E-02	6.03E-02	6.03E-02
Cobalt	2.39E+00	2.39E+00	2.39E+00	2.39E+00	7.00E-03	1.00E+00	1.67E-02	1.67E-02	1.67E-02	1.67E-02
Copper	5.86E+00	5.86E+00	5.86E+00	5.86E+00	2.50E-01	1.00E+00	1.47E+00	1.47E+00	1.47E+00	1.47E+00
Iron	1.64E+04	1.64E+04	1.64E+04	1.64E+04	1.00E-03	1.00E+00	1.64E+01	1.64E+01	1.64E+01	1.64E+01
Lead	2.37E+01	2.37E+01	2.37E+01	2.37E+01	9.00E-03	1.00E+00	2.13E-01	2.13E-01	2.13E-01	2.13E-01
Lithium	9.31E+00	9.31E+00	9.31E+00	9.31E+00	4.00E-03	1.00E+00	3.72E-02	3.72E-02	3.72E-02	3.72E-02
Magnesium	--	--	--	--	5.50E-01	1.00E+00	--	--	--	--
Manganese	9.07E+01	9.07E+01	9.07E+01	9.07E+01	5.00E-02	1.00E+00	4.54E+00	4.54E+00	4.54E+00	4.54E+00
Mercury, element	2.64E-01	2.64E-01	2.64E-01	2.64E-01	0.00E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, divalent	6.56E-05	4.04E-04	4.91E-04	4.91E-04	3.60E-02	1.00E+00	2.36E-06	1.46E-05	1.77E-05	1.77E-05
Mercury, methyl	6.30E-10	6.30E-10	6.30E-10	6.30E-10	9.90E-02	1.00E+00	6.24E-11	6.24E-11	6.24E-11	6.24E-11
Molybdenum	1.00E+00	1.00E+00	1.00E+00	1.00E+00	6.00E-02	1.00E+00	6.00E-02	6.00E-02	6.00E-02	6.00E-02
Nickel	6.91E+00	6.91E+00	6.91E+00	6.91E+00	8.00E-03	1.00E+00	5.53E-02	5.53E-02	5.53E-02	5.53E-02
Phosphorus	2.08E-02	2.08E-02	2.08E-02	2.08E-02	3.50E+00	1.00E+00	7.29E-02	7.29E-02	7.29E-02	7.29E-02
Potassium	1.50E+00	1.50E+00	1.50E+00	1.50E+00	5.50E-01	1.00E+00	8.24E-01	8.24E-01	8.24E-01	8.24E-01
Rubidium	--	--	--	--	1.00E+00	1.00E+00	--	--	--	--
Selenium	1.49E+00	1.49E+00	1.49E+00	1.49E+00	2.20E-02	1.00E+00	3.28E-02	3.28E-02	3.28E-02	3.28E-02
Silver	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.00E-01	1.00E+00	2.50E-02	2.50E-02	2.50E-02	2.50E-02
Sodium	7.48E+00	1.56E+01	1.57E+01	1.57E+01	5.50E-02	1.00E+00	4.12E-01	8.56E-01	8.65E-01	8.65E-01
Strontium	4.57E+01	4.57E+01	4.57E+01	4.57E+01	2.50E-01	1.00E+00	1.14E+01	1.14E+01	1.14E+01	1.14E+01
Thallium	5.00E-02	5.00E-02	5.00E-02	5.00E-02	4.00E-04	1.00E+00	2.00E-05	2.00E-05	2.00E-05	2.00E-05
Tin	5.00E-01	5.00E-01	5.00E-01	5.00E-01	6.00E-03	1.00E+00	3.00E-03	3.00E-03	3.00E-03	3.00E-03
Titanium	2.17E+00	1.19E+01	1.40E+01	1.40E+01	3.00E-03	1.00E+00	6.51E-03	3.57E-02	4.21E-02	4.21E-02
Uranium	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.00E+00	1.00E+00	6.70E-01	6.70E-01	6.70E-01	6.70E-01
Vanadium	2.30E+01	2.30E+01	2.30E+01	2.30E+01	3.00E-03	1.00E+00	6.90E-02	6.90E-02	6.90E-02	6.90E-02
Zinc	2.35E+01	2.35E+01	2.35E+01	2.35E+01	9.00E-01	1.00E+00	2.12E+01	2.12E+01	2.12E+01	2.12E+01

Equation: $Cr = Cs \times Br_{rootveg} \times VG_{rootveg}$

Table B.24

Predicted Produce Concentrations
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Aboveground Produce (Vegetable) Predicted Concentration				Aboveground Produce (Fruit) Predicted Concentration				Belowground Produce Predicted Concentration			
Contaminant	Construction (Cv) (refer to table B.22) (mg/kg FW)	Operations (Cv) (refer to table B.22) (mg/kg FW)	Reclamation (Cv) (refer to table B.22) (mg/kg FW)	Post-Closure (Cv) (refer to table B.22) (mg/kg FW)	Construction (Cfru) (refer to table B.22) (mg/kg FW)	Operations (Cfru) (refer to table B.22) (mg/kg FW)	Reclamation (Cfru) (refer to table B.22) (mg/kg FW)	Post-Closure (Cfru) (refer to table B.22) (mg/kg FW)	Construction (Cr) (refer to table B.23) (mg/kg FW)	Operations (Cr) (refer to table B.23) (mg/kg FW)	Reclamation (Cr) (refer to table B.23) (mg/kg FW)	Post-Closure (Cr) (refer to table B.23) (mg/kg FW)
Particulate Matter												
Total Particulate Matter	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--	--	--	--
Metals												
Aluminum	2.26E+00	2.26E+00	2.26E+00	2.26E+00	3.90E+00	3.90E+00	3.90E+00	3.90E+00	9.67E-01	9.67E-01	9.67E-01	9.67E-01
Antimony	7.76E-03	7.76E-03	7.76E-03	7.76E-03	1.60E-01	1.60E-01	1.60E-01	1.60E-01	4.50E-03	4.50E-03	4.50E-03	4.50E-03
Arsenic	1.27E-02	1.27E-02	1.27E-02	1.27E-02	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.28E-02	1.28E-02	1.28E-02	1.28E-02
Barium	2.06E-01	2.06E-01	2.06E-01	2.06E-01	3.50E+00	3.50E+00	3.50E+00	3.50E+00	9.34E-02	9.34E-02	9.34E-02	9.34E-02
Beryllium	4.07E-04	4.07E-04	4.07E-04	4.07E-04	1.60E-01	1.60E-01	1.60E-01	1.60E-01	2.25E-04	2.25E-04	2.25E-04	2.25E-04
Bismuth	2.17E-06	2.17E-06	2.17E-06	2.17E-06	2.50E-02	2.50E-02	2.50E-02	2.50E-02	--	--	--	--
Boron	8.45E+00	8.45E+00	8.45E+00	8.45E+00	8.45E+00	8.45E+00	8.45E+00	8.45E+00	7.50E+00	7.50E+00	7.50E+00	7.50E+00
Cadmium	6.86E-03	6.86E-03	6.86E-03	6.86E-03	3.20E-02	3.20E-02	3.20E-02	3.20E-02	3.66E-03	3.66E-03	3.66E-03	3.66E-03
Calcium	8.55E-02	8.55E-02	8.55E-02	8.55E-02	9.30E+02	9.30E+02	9.30E+02	9.30E+02	--	--	--	--
Chromium Total	1.05E-02	1.05E-02	1.05E-02	1.05E-02	1.60E-01	1.60E-01	1.60E-01	1.60E-01	9.05E-03	9.05E-03	9.05E-03	9.05E-03
Cobalt	3.22E-03	3.22E-03	3.22E-03	3.22E-03	8.00E-02	8.00E-02	8.00E-02	8.00E-02	2.51E-03	2.51E-03	2.51E-03	2.51E-03
Copper	2.37E-01	2.37E-01	2.37E-01	2.37E-01	1.10E+00	1.10E+00	1.10E+00	1.10E+00	2.20E-01	2.20E-01	2.20E-01	2.20E-01
Iron	3.68E+00	3.68E+00	3.68E+00	3.68E+00	4.80E+00	4.80E+00	4.80E+00	4.80E+00	2.46E+00	2.46E+00	2.46E+00	2.46E+00
Lead	4.85E-02	4.85E-02	4.85E-02	4.85E-02	5.20E-02	5.20E-02	5.20E-02	5.20E-02	3.20E-02	3.20E-02	3.20E-02	3.20E-02
Lithium	9.72E-03	9.72E-03	9.72E-03	9.72E-03	1.70E-01	1.70E-01	1.70E-01	1.70E-01	5.59E-03	5.59E-03	5.59E-03	5.59E-03
Magnesium	9.87E-02	9.87E-02	9.87E-02	9.87E-02	5.00E+01	5.00E+01	5.00E+01	5.00E+01	--	--	--	--
Manganese	1.03E+00	1.03E+00	1.03E+00	1.03E+00	6.30E+01	6.30E+01	6.30E+01	6.30E+01	6.80E-01	6.80E-01	6.80E-01	6.80E-01
Mercury, element	2.69E-10	2.69E-10	2.69E-10	2.69E-10	2.50E-03	2.50E-03	2.50E-03	2.50E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, divalent	2.60E-07	9.72E-07	1.15E-06	1.15E-06	2.86E-07	9.98E-07	1.18E-06	1.03E-06	3.54E-07	2.18E-06	2.65E-06	2.65E-06
Mercury, methyl	1.67E-08	1.67E-08	1.67E-08	1.67E-08	2.02E-08	2.02E-08	2.02E-08	2.74E-12	9.36E-12	9.36E-12	9.36E-12	9.36E-12
Molybdenum	1.26E-02	1.26E-02	1.26E-02	1.26E-02	1.60E-01	1.60E-01	1.60E-01	1.60E-01	9.00E-03	9.00E-03	9.00E-03	9.00E-03
Nickel	9.91E-03	9.91E-03	9.91E-03	9.91E-03	1.60E-01	1.60E-01	1.60E-01	1.60E-01	8.29E-03	8.29E-03	8.29E-03	8.29E-03
Phosphorus	1.55E-02	1.55E-02	1.55E-02	1.55E-02	1.60E+02	1.60E+02	1.60E+02	1.60E+02	1.09E-02	1.09E-02	1.09E-02	1.09E-02
Potassium	3.47E-01	3.47E-01	3.47E-01	3.47E-01	8.60E+02	8.60E+02	8.60E+02	8.60E+02	1.24E-01	1.24E-01	1.24E-01	1.24E-01
Rubidium	3.93E-05	3.93E-05	3.93E-05	3.93E-05	4.76E-05	4.76E-05	4.76E-05	0.00E+00	--	--	--	--
Selenium	4.47E-03	4.47E-03	4.47E-03	4.47E-03	1.60E-01	1.60E-01	1.60E-01	1.60E-01	4.92E-03	4.92E-03	4.92E-03	4.92E-03
Silver	5.18E-03	5.18E-03	5.18E-03	5.18E-03	4.00E-02	4.00E-02	4.00E-02	4.00E-02	3.75E-03	3.75E-03	3.75E-03	3.75E-03
Sodium	1.90E-01	2.59E-01	2.61E-01	2.61E-01	2.50E+01	2.50E+01	2.50E+01	2.50E+01	6.17E-02	1.28E-01	1.30E-01	1.30E-01
Strontium	3.68E+00	3.68E+00	3.68E+00	3.68E+00	3.68E+00	3.68E+00	3.68E+00	3.67E+00	1.71E+00	1.71E+00	1.71E+00	1.71E+00
Thallium	1.16E-05	1.16E-05	1.16E-05	1.16E-05	1.10E-02	1.10E-02	1.10E-02	1.10E-02	3.00E-06	3.00E-06	3.00E-06	3.00E-06
Tin	6.99E-04	6.99E-04	6.99E-04	6.99E-04	1.20E+00	1.20E+00	1.20E+00	1.20E+00	4.50E-04	4.50E-04	4.50E-04	4.50E-04
Titanium	2.87E-02	3.36E-02	3.46E-02	3.46E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	9.76E-04	5.36E-03	6.31E-03	6.31E-03
Uranium	1.01E-01	1.01E-01	1.01E-01	1.01E-01	1.01E-01	1.01E-01	1.01E-01	1.01E-01	1.01E-01	1.01E-01	1.01E-01	1.01E-01
Vanadium	1.20E-02	1.20E-02	1.20E-02	1.20E-02	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.04E-02	1.04E-02	1.04E-02	1.04E-02
Zinc	3.43E-01	3.43E-01	3.43E-01	3.43E-01	2.10E+00	2.10E+00	2.10E+00	2.10E+00	3.17E+00	3.17E+00	3.17E+00	3.17E+00

Table B.25

Predicted Forage Concentration Due to Direct Deposition
Animal Product Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Units Conversion Factor (CF) (mg/g)	Annual Deposition Rate (Dr) (refer to table B.7) (g/m^2-yr)	Fraction of Air Concentration In Vapor Phase (Fv) (refer to table B.10) -	Fraction Wet Deposition Adhere to Plant (Fw) (refer to table B.9) -	Interception Fraction Edible Plant Portion Forage (Rp) (refer to table B.9) -	Plant Surface Loss Coefficient Forage (kp) (refer to table B.9) (yr^{-1})	Length of Plant Exposure to Deposition per Harvest of Edible Plant Forage (Tp) (refer to table B.9) (yrs)	Yield of Edible Portion of Plant Forage (Yp) (refer to table B.9) (kg DW/m^2)	Forage Concentration Due to Direct Deposition Forage (Pd) (mg/kg DW)
Particulate Matter									
Total Particulate Matter	1.00E+03	8.00E+00	--	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Particulate Matter (PM10)	1.00E+03	0.00E+00	--	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Particulate Matter (PM2.5)	1.00E+03	0.00E+00	--	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Metals									
Aluminum	1.00E+03	8.00E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	3.63E+01
Antimony	1.00E+03	2.40E-05	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.09E-03
Arsenic	1.00E+03	3.12E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.42E-01
Barium	1.00E+03	6.48E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.94E-01
Beryllium	1.00E+03	2.40E-05	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.09E-03
Bismuth	1.00E+03	2.64E-06	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.20E-04
Boron	1.00E+03	2.00E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	9.07E-03
Cadmium	1.00E+03	9.60E-07	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	4.36E-05
Calcium	1.00E+03	1.04E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	4.72E+00
Chromium Total	1.00E+03	8.88E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	4.03E-02
Cobalt	1.00E+03	1.44E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	6.53E-03
Copper	1.00E+03	2.96E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.34E-02
Iron	1.00E+03	3.44E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.56E+01
Lead	1.00E+03	2.96E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.34E-02
Lithium	1.00E+03	4.88E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.21E-02
Magnesium	1.00E+03	1.20E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	5.44E+00
Manganese	1.00E+03	7.37E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	3.34E-01
Mercury, element	1.00E+03	2.11E-06	1.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Mercury, divalent	1.00E+03	--	8.50E-01	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Mercury, methyl	1.00E+03	--	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Molybdenum	1.00E+03	6.40E-06	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.90E-04
Nickel	1.00E+03	3.28E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.49E-02
Phosphorus	1.00E+03	5.52E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.50E-01
Potassium	1.00E+03	2.56E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.16E+01
Rubidium	1.00E+03	4.78E-05	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.17E-03
Selenium	1.00E+03	2.80E-06	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.27E-04
Silver	1.00E+03	4.00E-06	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.81E-04
Sodium	1.00E+03	1.52E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	6.90E+00
Strontium	1.00E+03	1.68E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	7.62E-02
Thallium	1.00E+03	6.32E-06	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.87E-04
Tin	1.00E+03	2.40E-05	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.09E-03
Titanium	1.00E+03	3.36E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.52E+00
Uranium	1.00E+03	1.44E-05	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	6.53E-04
Vanadium	1.00E+03	6.40E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.90E-02
Zinc	1.00E+03	8.80E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	3.99E-02

Equation:

$$Pd = \frac{CF \times Hg_{factor} \times Dr \times (1 - Fv) \times Fw \times Rp \times [1.0 - \exp(-kp \times Tp)]}{Yp \times kp}$$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.78), and methylmercury (0.48*0.22)

Table B.26

Forage Predicted Concentration Due to Air-to-Plant Transfer
Animal Product Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Air Concentration In Vapor Phase (Fv) (refer to table B.25) -	Annual Air Predicted Concentration (Coa) (refer to table B.6) (µg/m^3)	Air -to-Plant Biotransfer Factor (Bv_{ag}) (refer to table B.10) (mg/kg DW)/(µg/g air)	Correction Factor for Above Ground Vegetation (1) Forage (VG_{ag}) (refer to table B.9) -	Density of Air (pa) (refer to table B.9) (g/m^3)	Predicted Forage Concentration Due to Air-to-Plant Transfer Forage (Pv) (mg/kg DW)
Particulate Matter						
Total Particulate Matter	--	2.25E+01	--	1.00E+00	1.20E+03	0.00E+00
Particulate Matter (PM10)	--	5.67E+00	--	1.00E+00	1.20E+03	0.00E+00
Particulate Matter (PM2.5)	--	6.65E-01	--	1.00E+00	1.20E+03	0.00E+00
Metals						
Aluminum	0.00E+00	8.75E-02	--	1.00E+00	1.20E+03	0.00E+00
Antimony	0.00E+00	1.56E-05	--	1.00E+00	1.20E+03	0.00E+00
Arsenic	0.00E+00	3.48E-04	--	1.00E+00	1.20E+03	0.00E+00
Barium	0.00E+00	8.84E-02	--	1.00E+00	1.20E+03	0.00E+00
Beryllium	0.00E+00	1.56E-05	--	1.00E+00	1.20E+03	0.00E+00
Bismuth	0.00E+00	8.13E-06	--	1.00E+00	1.20E+03	0.00E+00
Boron	0.00E+00	3.17E-05	--	1.00E+00	1.20E+03	0.00E+00
Cadmium	0.00E+00	5.62E-05	--	1.00E+00	1.20E+03	0.00E+00
Calcium	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Chromium Total	0.00E+00	1.55E-03	--	1.00E+00	1.20E+03	0.00E+00
Cobalt	0.00E+00	3.15E-05	--	1.00E+00	1.20E+03	0.00E+00
Copper	0.00E+00	3.39E-01	--	1.00E+00	1.20E+03	0.00E+00
Iron	0.00E+00	1.03E-01	--	1.00E+00	1.20E+03	0.00E+00
Lead	0.00E+00	1.64E-05	--	1.00E+00	1.20E+03	0.00E+00
Lithium	0.00E+00	7.70E-05	--	1.00E+00	1.20E+03	0.00E+00
Magnesium	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Manganese	0.00E+00	1.60E-03	--	1.00E+00	1.20E+03	0.00E+00
Mercury, element	1.00E+00	2.15E-06	1.00E+00	1.00E+00	1.20E+03	1.79E-09
Mercury, divalent	8.50E-01	--	1.80E+03	1.00E+00	1.20E+03	0.00E+00
Mercury, methyl	0.00E+00	--	1.00E+00	1.00E+00	1.20E+03	0.00E+00
Molybdenum	0.00E+00	3.11E-05	--	1.00E+00	1.20E+03	0.00E+00
Nickel	0.00E+00	1.80E-03	--	1.00E+00	1.20E+03	0.00E+00
Phosphorus	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Potassium	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Rubidium	0.00E+00	4.86E-05	--	1.00E+00	1.20E+03	0.00E+00
Selenium	0.00E+00	1.21E-05	--	1.00E+00	1.20E+03	0.00E+00
Silver	0.00E+00	1.48E-04	--	1.00E+00	1.20E+03	0.00E+00
Sodium	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Strontium	0.00E+00	5.02E-04	--	1.00E+00	1.20E+03	0.00E+00
Thallium	0.00E+00	9.35E-06	--	1.00E+00	1.20E+03	0.00E+00
Tin	0.00E+00	1.85E-03	--	1.00E+00	1.20E+03	0.00E+00
Titanium	0.00E+00	1.34E-03	--	1.00E+00	1.20E+03	0.00E+00
Uranium	0.00E+00	9.37E-06	--	1.00E+00	1.20E+03	0.00E+00
Vanadium	0.00E+00	3.13E-04	--	1.00E+00	1.20E+03	0.00E+00
Zinc	0.00E+00	1.89E-02	--	1.00E+00	1.20E+03	0.00E+00

Equation: $Pv = Fv \times \frac{Coa \times Bv_{ag} \times VGag \times Hg_{factor}}{pa}$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.78), and methylmercury (0.48*0.22)

Table B.27

Forage Predicted Concentration Due to Root Uptake
Animal Product Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Forage Concentration Due to Direct Deposition (Pd) (refer to table B.25) (mg/kg DW)	Predicted Forage Concentration Due to Air-to-Plant Transfer (Pv) (refer to table B.26) (mg/kg DW)	Predicted Soil Concentration				Plant-Soil Bioconcentration Factor Forage (Br_{forage}) (refer to table B.10) (µg/g DW)/(µg/g soil)	Berry Concentration Dry Weight Baseline (Cfru) (refer to table B.1) (mg/kg DW)	Forage Predicted Concentration Dry Weight				Berry Concentration Wet Weight Baseline (Cfru) (refer to table B.1) (mg/kg FW)	Forage Predicted Concentration Wet Weight			
			Construction (Cs) (refer to table B.16) (mg/kg)	Operations (Cs) (refer to table B.16) (mg/kg)	Reclamation (Cs) (refer to table B.16) (mg/kg)	Post-Closure (Cs) (refer to table B.16) (mg/kg)			Construction (Cfo) (mg/kg DW)	Operations (Cfo) (mg/kg DW)	Reclamation (Cfo) (mg/kg DW)	Post-Closure (Cfo) (mg/kg DW)		Construction (Cfo) (mg/kg FW)	Operations (Cfo) (mg/kg FW)	Reclamation (Cfo) (mg/kg FW)	Post-Closure (Cfo) (mg/kg FW)
Particulate Matter																	
Total Particulate Matter	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Aluminum	3.63E+01	0.00E+00	9.92E+03	9.92E+03	9.92E+03	9.92E+03	4.00E-03	2.60E+01	7.60E+01	7.60E+01	7.60E+01	7.60E+01	3.90E+00	1.14E+01	1.14E+01	1.14E+01	1.14E+01
Antimony	1.09E-03	0.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	2.00E-01	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Arsenic	1.42E-01	0.00E+00	1.07E+01	1.07E+01	1.07E+01	1.07E+01	3.60E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Barium	2.94E-01	0.00E+00	4.15E+01	4.15E+01	4.15E+01	4.15E+01	1.50E-01	2.33E+01	2.33E+01	2.33E+01	2.33E+01	2.33E+01	3.50E+00	3.50E+00	3.50E+00	3.50E+00	3.50E+00
Beryllium	1.09E-03	0.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Bismuth	1.20E-04	0.00E+00	--	--	--	--	3.50E-02	1.67E-01	--	--	--	--	2.50E-02	--	--	--	--
Boron	9.07E-03	0.00E+00	2.50E+01	2.50E+01	2.50E+01	2.50E+01	4.00E+00	1.27E+01	1.00E+02	1.00E+02	1.00E+02	1.00E+02	1.90E+00	1.50E+01	1.50E+01	1.50E+01	1.50E+01
Cadmium	4.36E-05	0.00E+00	3.81E-01	3.81E-01	3.81E-01	3.81E-01	3.60E-01	2.13E-01	2.13E-01	2.13E-01	2.13E-01	2.13E-01	3.20E-02	3.20E-02	3.20E-02	3.20E-02	3.20E-02
Calcium	4.72E+00	0.00E+00	--	--	--	--	3.50E+00	6.20E+03	--	--	--	--	9.30E+02	--	--	--	--
Chromium Total	4.03E-02	0.00E+00	1.34E+01	1.34E+01	1.34E+01	1.34E+01	7.50E-03	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Cobalt	6.53E-03	0.00E+00	2.39E+00	2.39E+00	2.39E+00	2.39E+00	2.00E-02	5.33E-01	5.33E-01	5.33E-01	5.33E-01	5.33E-01	8.00E-02	8.00E-02	8.00E-02	8.00E-02	8.00E-02
Copper	1.34E-02	0.00E+00	5.86E+00	5.86E+00	5.86E+00	5.86E+00	4.00E-01	7.33E+00	7.33E+00	7.33E+00	7.33E+00	7.33E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
Iron	1.56E+01	0.00E+00	1.64E+04	1.64E+04	1.64E+04	1.64E+04	4.00E-03	3.20E+01	8.12E+01	8.12E+01	8.12E+01	8.12E+01	4.80E+00	1.22E+01	1.22E+01	1.22E+01	1.22E+01
Lead	1.34E-02	0.00E+00	2.37E+01	2.37E+01	2.37E+01	2.37E+01	4.50E-02	3.47E-01	1.08E+00	1.08E+00	1.08E+00	1.08E+00	5.20E-02	1.62E-01	1.62E-01	1.62E-01	1.62E-01
Lithium	2.21E-02	0.00E+00	9.31E+00	9.31E+00	9.31E+00	9.31E+00	2.50E-02	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.70E-01	1.70E-01	1.70E-01	1.70E-01	1.70E-01
Magnesium	5.44E+00	0.00E+00	--	--	--	--	1.00E+00	3.33E+02	--	--	--	--	5.00E+01	--	--	--	--
Manganese	3.34E-01	0.00E+00	9.07E+01	9.07E+01	9.07E+01	9.07E+01	2.50E-01	4.20E+02	4.20E+02	4.20E+02	4.20E+02	4.20E+02	6.30E+01	6.30E+01	6.30E+01	6.30E+01	6.30E+01
Mercury, element	0.00E+00	1.79E-09	2.64E-01	2.64E-01	2.64E-01	2.64E-01	0.00E+00	1.67E-02	1.67E-02	1.67E-02	1.67E-02	1.67E-02	2.50E-03	2.50E-03	2.50E-03	2.50E-03	2.50E-03
Mercury, divalent	0.00E+00	0.00E+00	6.56E-05	4.04E-04	4.91E-04	4.91E-04	1.00E+00	--	--	--	--	--	--	--	--	--	--
Mercury, methyl	0.00E+00	0.00E+00	6.30E-10	6.30E-10	6.30E-10	6.30E-10	1.00E+00	--	--	--	--	--	--	--	--	--	--
Molybdenum	2.90E-04	0.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	2.50E-01	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Nickel	1.49E-02	0.00E+00	6.91E+00	6.91E+00	6.91E+00	6.91E+00	3.20E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Phosphorus	2.50E-01	0.00E+00	2.08E-02	2.08E-02	2.08E-02	2.08E-02	3.50E+00	1.07E+03	1.07E+03	1.07E+03	1.07E+03	1.07E+03	1.60E+02	1.60E+02	1.60E+02	1.60E+02	1.60E+02
Potassium	1.16E+01	0.00E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.00E+00	5.73E+03	5.73E+03	5.73E+03	5.73E+03	5.73E+03	8.60E+02	8.60E+02	8.60E+02	8.60E+02	8.60E+02
Rubidium	2.17E-03	0.00E+00	--	--	--	--	1.00E+00	--	--	--	--	--	--	--	--	--	--
Selenium	1.27E-04	0.00E+00	1.49E+00	1.49E+00	1.49E+00	1.49E+00	1.60E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Silver	1.81E-04	0.00E+00	2.50E-01	2.50E-01	2.50E-01	2.50E-01	4.00E-01	2.67E-01	2.67E-01	2.67E-01	2.67E-01	2.67E-01	4.00E-02	4.00E-02	4.00E-02	4.00E-02	4.00E-02
Sodium	6.90E+00	0.00E+00	7.48E+00	1.56E+01	1.57E+01	1.57E+01	7.50E-02	1.67E+02	1.67E+02	1.67E+02	1.67E+02	1.67E+02	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.50E+01
Strontium	7.62E-02	0.00E+00	4.57E+01	4.57E+01	4.57E+01	4.57E+01	2.50E+00	1.47E+01	1.14E+02	1.14E+02	1.14E+02	1.14E+02	2.20E+00	1.71E+01	1.71E+01	1.71E+01	1.71E+01
Thallium	2.87E-04	0.00E+00	5.00E-02	5.00E-02	5.00E-02	5.00E-02	4.00E-03	7.33E-02	7.33E-02	7.33E-02	7.33E-02	7.33E-02	1.10E-02	1.10E-02	1.10E-02	1.10E-02	1.10E-02
Tin	1.09E-03	0.00E+00	5.00E-01	5.00E-01	5.00E-01	5.00E-01	3.00E-02	8.00E+00	8.00E+00	8.00E+00	8.00E+00	8.00E+00	1.20E+00	1.20E+00	1.20E+00	1.20E+00	1.20E+00
Titanium	1.52E+00	0.00E+00	2.17E+00	1.19E+01	1.40E+01	1.40E+01	5.50E-03	1.67E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Uranium	6.53E-04	0.00E+00	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.00E+00	5.33E-02	6.71E-01	6.71E-01	6.71E-01	6.71E-01	8.00E-03	1.01E-01	1.01E-01	1.01E-01	1.01E-01
Vanadium	2.90E-02	0.00E+00	2.30E+01	2.30E+01	2.30E+01	2.30E+01	5.50E-03	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Zinc	3.99E-02	0.00E+00	2.35E+01	2.35E+01	2.35E+01	2.35E+01	2.50E-01	1.40E+01	1.40E+01	1.40E+01	1.40E+01	1.40E+01	2.10E+00	2.10E+00	2.10E+00	2.10E+00	2.10E+00

Equation: $Cfo = Pd + Pv + Cs \times Br_{forage}$

Table B.28

Predicted Deer Concentrations Due to Plant and Soil Ingestion
Animal Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal (F) (refer to table B.9) (unitless)	Quantity of Forage Ingested by the Animal per day (1) (Qp_i) (refer to table B.9) (kg DW/day)	Predicted Concentration in Forage Ingested				Quantity of Soil Ingested by the Animal (Qs) (refer to table B.9) (kg/day)	Predicted Soil Concentrations				Soil Bioavailability Factor (Bs) (unitless)	Quantity of Water Ingested by the Animal (Qw) (refer to table B.9) (L/day)	Predicted Total Surface Water Concentrations				Biotransfer Factor for Beef Ba_{beef} (refer to table B.10) (day/kg FW tissue)	Biotransfer Factor for Wildlife $Ba_{wildlife}$ (day/kg FW tissue)	Metabolism Factor (MF) (unitless)	Background Concentration in Deer (Cd) (refer to table B.6) (mg/kg FW tissue)	Predicted Concentrations in Deer			
			Construction (Cfo) (refer to table B.27) (mg/kg DW)	Operations (Cfo) (refer to table B.27) (mg/kg DW)	Reclamation (Cfo) (refer to table B.27) (mg/kg DW)	Post-Closure (Cfo) (refer to table B.27) (mg/kg DW)		Construction (Cs) (refer to table B.16) (mg/kg)	Operations (Cs) (refer to table B.16) (mg/kg)	Reclamation (Cs) (refer to table B.16) (mg/kg)	Post-Closure (Cs) (refer to table B.16) (mg/kg)			Construction (Cw) (refer to table B.45) (mg/L)	Operations (Cw) (refer to table B.45) (mg/L)	Reclamation (Cw) (refer to table B.45) (mg/L)	Post-Closure (Cw) (refer to table B.45) (mg/L)					Construction (Cd) (mg/kg FW tissue)	Operations (Cd) (mg/kg FW tissue)	Reclamation (Cd) (mg/kg FW tissue)	Post-Closure (Cd) (mg/kg FW tissue)
Particulate Matter																									
Total Particulate Matter	1.00E+00	2.25E+00	--	--	--	--	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	--	--	1.00E+00	--	--	--	--	--
Particulate Matter (PM10)	1.00E+00	2.25E+00	--	--	--	--	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	--	--	1.00E+00	--	--	--	--	--
Particulate Matter (PM2.5)	1.00E+00	2.25E+00	--	--	--	--	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	--	--	1.00E+00	--	--	--	--	--
Metals																									
Aluminum	1.00E+00	2.25E+00	2.60E+01	2.60E+01	2.60E+01	2.60E+01	4.50E-02	9.92E+03	9.92E+03	9.92E+03	9.92E+03	1.00E+00	4.50E+00	4.30E-01	1.99E-01	2.66E-01	3.61E-01	1.50E-03	1.50E-03	1.00E+00	7.61E-01	7.61E-01	7.61E-01	7.61E-01	7.61E-01
Antimony	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	4.50E+00	5.00E-04	4.39E-03	3.27E-03	2.20E-03	1.00E-03	1.00E-03	1.00E+00	2.45E-03	2.45E-03	2.46E-03	2.46E-03	2.45E-03
Arsenic	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.00E+00	4.50E+00	6.77E-01	5.48E-02	5.21E-02	5.12E-02	2.00E-03	2.00E-03	1.00E+00	1.19E-02	1.19E-02	1.19E-02	1.19E-02	1.19E-02
Barium	1.00E+00	2.25E+00	2.33E+01	2.33E+01	2.33E+01	2.33E+01	4.50E-02	4.15E+01	4.15E+01	4.15E+01	4.15E+01	1.00E+00	4.50E+00	3.60E-03	7.09E-03	7.05E-03	5.73E-03	1.50E-04	1.50E-04	1.00E+00	8.16E-03	8.16E-03	8.16E-03	8.16E-03	8.16E-03
Beryllium	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	4.50E+00	5.00E-04	4.61E-04	4.71E-04	4.76E-04	1.00E-03	1.00E-03	1.00E+00	2.45E-03	2.45E-03	2.45E-03	2.45E-03	2.45E-03
Bismuth	1.00E+00	2.25E+00	1.67E-01	1.67E-01	1.67E-01	1.67E-01	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	4.00E-04	4.00E-04	1.00E+00	1.70E-04	--	--	--	--
Boron	1.00E+00	2.25E+00	5.64E+01	5.64E+01	5.64E+01	5.64E+01	4.50E-02	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.00E+00	4.50E+00	1.96E+00	1.96E+00	1.96E+00	1.96E+00	8.00E-04	8.00E-04	1.00E+00	2.38E-02	1.09E-01	1.09E-01	1.09E-01	1.09E-01
Cadmium	1.00E+00	2.25E+00	2.13E-01	2.13E-01	2.13E-01	2.13E-01	4.50E-02	3.81E-01	3.81E-01	3.81E-01	3.81E-01	1.00E+00	4.50E+00	2.48E-05	1.98E-05	2.41E-05	3.70E-05	1.20E-04	1.20E-04	1.00E+00	5.97E-05	5.97E-05	5.97E-05	5.97E-05	5.97E-05
Calcium	1.00E+00	2.25E+00	6.20E+03	6.20E+03	6.20E+03	6.20E+03	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	7.00E-04	7.00E-04	1.00E+00	--	--	--	--	--
Chromium Total	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	1.34E+01	1.34E+01	1.34E+01	1.34E+01	1.00E+00	4.50E+00	1.30E-03	8.58E-04	6.87E-04	8.60E-04	5.50E-03	5.50E-03	1.00E+00	1.65E-02	1.65E-02	1.65E-02	1.65E-02	1.65E-02
Cobalt	1.00E+00	2.25E+00	5.33E-01	5.33E-01	5.33E-01	5.33E-01	4.50E-02	2.39E+00	2.39E+00	2.39E+00	2.39E+00	1.00E+00	4.50E+00	2.00E-04	9.91E-04	9.35E-04	9.61E-04	2.00E-02	2.00E-02	1.00E+00	2.62E-02	2.62E-02	2.62E-02	2.62E-02	2.62E-02
Copper	1.00E+00	2.25E+00	7.33E+00	7.33E+00	7.33E+00	7.33E+00	4.50E-02	5.86E+00	5.86E+00	5.86E+00	5.86E+00	1.00E+00	4.50E+00	1.74E-03	1.96E-03	1.86E-03	9.20E-04	1.00E-02	1.00E-02	1.00E+00	1.68E-01	1.68E-01	1.68E-01	1.68E-01	1.68E-01
Iron	1.00E+00	2.25E+00	3.20E+01	3.20E+01	3.20E+01	3.20E+01	4.50E-02	1.64E+04	1.64E+04	1.64E+04	1.64E+04	1.00E+00	4.50E+00	1.17E+00	3.55E-01	4.55E-01	4.28E-01	2.00E-02	2.00E-02	1.00E+00	1.63E+01	1.63E+01	1.63E+01	1.63E+01	1.63E+01
Lead	1.00E+00	2.25E+00	3.47E-01	3.47E-01	3.47E-01	3.47E-01	4.50E-02	2.37E+01	2.37E+01	2.37E+01	2.37E+01	1.00E+00	4.50E+00	7.62E-04	8.22E-04	7.06E-04	9.27E-04	3.00E-04	3.00E-04	1.00E+00	5.55E-04	5.55E-04	5.55E-04	5.55E-04	5.55E-04
Lithium	1.00E+00	2.25E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	4.50E-02	9.31E+00	9.31E+00	9.31E+00	9.31E+00	1.00E+00	4.50E+00	8.53E-03	8.53E-03	8.53E-03	8.53E-03	1.00E-02	1.00E-02	1.00E+00	--	3.01E-02	3.01E-02	3.01E-02	3.01E-02
Magnesium	1.00E+00	2.25E+00	3.33E+02	3.33E+02	3.33E+02	3.33E+02	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	5.00E-03	5.00E-03	1.00E+00	--	--	--	--	--
Manganese	1.00E+00	2.25E+00	4.20E+02	4.20E+02	4.20E+02	4.20E+02	4.50E-02	9.07E+01	9.07E+01	9.07E+01	9.07E+01	1.00E+00	4.50E+00	8.03E-02	7.56E-02	4.92E-02	1.19E-01	4.00E-04	4.00E-04	1.00E+00	3.80E-01	3.80E-01	3.80E-01	3.80E-01	3.80E-01
Mercury, element	1.00E+00	2.25E+00	1.67E-02	1.67E-02	1.67E-02	1.67E-02	4.50E-02	2.64E-01	2.64E-01	2.64E-01	2.64E-01	1.00E+00	4.50E+00	1.36E-04	6.88E-06	7.05E-06	9.69E-06	1.00E+00	1.00E+00	1.00E+00	5.00E-02	5.00E-02	5.00E-02	5.00E-02	5.00E-02
Mercury, divalent	1.00E+00	2.25E+00	1.91E-06	6.65E-06	7.86E-06	6.87E-06	4.50E-02	6.56E-05	4.04E-04	4.91E-04	4.91E-04	1.00E+00	4.50E+00	2.63E-09	1.62E-08	1.97E-08	1.97E-08	5.20E-03	5.20E-03	1.00E+00	--	3.77E-08	1.73E-07	2.07E-07	1.96E-07
Mercury, methyl	1.00E+00	2.25E+00	1.35E-07	1.35E-07	1.35E-07	1.83E-11	4.50E-02	6.30E-10	6.30E-10	6.30E-10	6.30E-10	1.00E+00	4.50E+00	6.24E-15	6.24E-15	6.24E-15	6.24E-15	7.80E-04	7.80E-04	1.00E+00	--	2.36E-10	2.36E-10	2.36E-10	5.42E-14
Molybdenum	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	4.50E+00	1.23E-02	1.23E-02	1.23E-02	1.23E-02	6.00E-03	6.00E-03	1.00E+00	1.47E-02	1.50E-02	1.50E-02	1.50E-02	1.50E-02
Nickel	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	6.91E+00	6.91E+00	6.91E+00	6.91E+00	1.00E+00	4.50E+00	1.00E-03	1.42E-02	6.10E-03	1.13E-02	6.00E-03	6.00E-03	1.00E+00	1.63E-02	1.63E-02	1.66E-02	1.64E-02	1.66E-02
Phosphorus	1.00E+00	2.25E+00	1.07E+03	1.07E+03	1.07E+03	1.07E+03	4.50E-02	2.08E-02	2.08E-02	2.08E-02	2.08E-02	1.00E+00	4.50E+00	1.70E-03	1.70E-03	1.70E-03	1.70E-03	5.50E-02	5.50E-02	1.00E+00	--	1.32E+02	1.32E+02	1.32E+02	1.32E+02
Potassium	1.00E+00	2.25E+00	5.73E+03	5.73E+03	5.73E+03	5.73E+03	4.50E-02	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.00E+00	4.50E+00	7.88E-02	7.88E-02	7.88E-02	7.88E-02	2.00E-02	2.00E-02	1.00E+00	--	2.58E+02	2.58E+02	2.58E+02	2.58E+02
Rubidium	1.00E+00	2.25E+00	3.17E-04	3.17E-04	3.17E-04	0.00E+00	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	1.50E-02	1.50E-02	1.00E+00	--	--	--	--	--
Selenium	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	1.49E+00	1.49E+00	1.49E+00	1.49E+00	1.00E+00	4.50E+00	5.00E-04	4.88E-04	4.68E-04	5.58E-04	2.30E-03	2.30E-03	1.00E+00	5.68E-03	5.68E-03	5.68E-03	5.68E-03	5.68E-03
Silver	1.00E+00	2.25E+00	2.67E-01	2.67E-01	2.67E-01	2.67E-01	4.50E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.00E+00	4.50E+00	5.00E-05	7.90E-05	7.04E-05	7.48E-05	3.00E-03	3.00E-03	1.00E+00	1.83E-03	1.83E-03	1.83E-03	1.83E-03	1.83E-03
Sodium	1.00E+00	2.25E+00	1.67E+02	1.67E+02	1.67E+02	1.67E+02	4.50E-02	7.48E+00	1.56E+01	1.57E+01	1.57E+01	1.00E+00	4.50E+00	2.69E-02	4.75E-02	4.79E-02	4.79E-02	5.50E-02	5.50E-02	1.00E+00	--	2.07E+01	2.07E+01	2.07E+01	2.07E+01
Strontium	1.00E+00	2.25E+00	2.45E+01	2.45E+01	2.45E+01	2.45E+01	4.50E-02	4.57E+01	4.57E+01	4.57E+01	4.57E+01	1.00E+00	4.50E+00	3.24E-01	3.24E-01	3.24E-01	3.24E-01	3.00E-04	3.00E-04	1.00E+00	1.06E-02	1.76E-02	1.76E-02	1.76E-02	1.76E-02
Thallium	1.00E+00	2.25E+00	7.33E-02	7.33E-02	7.33E-02	7.33E-02	4.50E-02	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.00E+00	4.50E+00	5.00E-05	7.31E-05	6.61E-05	8.48E-05	4.00E-02	4.00E-02	1.00E+00	6.70E-03	6.70E-03	6.70E-03	6.70E-03	6.71E-03
Tin	1.00E+00	2.25E+00	8.00E+00	8.00E+00	8.00E+00	8.00E+00	4.50E-02	5.00E-01	5.00E-01	5.00E-01	5.00E-01	1.00E+00	4.50E+00	5.40E-04	5.40E-04	5.40E-04	5.40E-04	1.00E-03	1.00E-03	1.00E+00	1.80E-02	1.80E-02	1.80E-02	1.80E-02	1.80E-02
Titanium	1.00E+00	2.25E+00	1.67E+00	1.67E+00	1.67E+00	1.67E+00	4.50E-02	2.17E+00	1.19E+01	1.40E+01	1.40E+01	1.00E+00	4.50E+00	2.28E-03	5.53E-03	6.23E-03	6.23E-03	3.00E-02	3.00E-02	1.00E+00	--	1.16E-01	1.29E-01	1.32E-01	1.32E-01
Uranium	1.00E+00	2.25E+00	6.70E-01	6.70E-01	6.70E-01	6.70E-01	4.50E-02	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.00E+00	4.50E+00	5.00E-05	9.50E-04	8.52E-04	5.76E-04	2.00E-04	2.00E-04	1.00E+00	3.01E-05	3.08E-04	3.08E-04	3.08E-04	3.08E-04
Vanadium	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	2.30E+01	2.30E+01	2.30E+01	2.30E+01	1.00E+00	4.50E+00	1.00E-03	2.12E-03	1.49E-03	2.01E-03	2.50E-03	2.50E-03	1.00E+00	8.60E-03	8.60E-03	8.61E-03	8.60E-03	8.61E-03
Zinc	1.00E+00	2.25E+00	1.40E+01	1.40E+01	1.40E+01	1.40E+01	4.50E-02	2.35E+01	2.35E+01	2.35E+01	2.35E+01	1.00E+00	4.50E+00	9.76E-03	7.28E-03	7.18E-03	7.27E-03	9.00E-05	9.00E-05	1.00E+00	2.93E-03	2.93E-03	2.93E-03	2.93E-03	2.93E-03

Equation: $Cd = F \times Qp_i \times Cfo + Qs \times Cs \times Bs + Qw \times Cw \times Ba_{wildlife} \times MF$ where: $Ba_{wildlife} = Ba_{beef}$

Table B.29

Hare Concentrations Due to Plant and Soil Ingestion
Animal Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal (F) (refer to table B.9) unitless	Quantity of Forage Ingested by the Animal per day (1) (Qp_i) (refer to table B.9) (kg DW/day)	Concentration in Forage Ingested: Construction (Cfo) (refer to table B.27) (mg/kg DW)	Concentration in Forage Ingested: Operations (Cfo) (refer to table B.27) (mg/kg DW)	Concentration in Forage Ingested: Reclamation (Cfo) (refer to table B.27) (mg/kg DW)	Concentration in Forage Ingested: Post-Closure (Cfo) (refer to table B.27) (mg/kg DW)	Quantity of Soil Ingested by the Animal (Qs) (refer to table B.9) (kg/day)	Predicted Soil Concentrations: Construction (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentrations: Operations (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentrations: Reclamation (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentrations: Post-Closure (Cs) (refer to table B.16) (mg/kg)	Soil Bioavailability Factor (Bs) (unitless)	Quantity of Water Ingested by the Animal (Qw) (refer to table B.9) (L/day)	Predicted Total Surface Water Concentrations: Construction (Cw) (refer to table B.45) (mg/L)	Predicted Total Surface Water Concentrations: Operations (Cw) (refer to table B.45) (mg/L)	Predicted Total Surface Water Concentrations: Reclamation (Cw) (refer to table B.45) (mg/L)	Predicted Total Surface Water Concentrations: Post-Closure (Cw) (refer to table B.45) (mg/L)	Biotransfer Factor for Beef Ba_{beef} (refer to table B.10) (day/kg FW tissue)	Biotransfer Factor for Wildlife $Ba_{wildlife}$ (day/kg FW tissue)	Metabolism Factor (MF) (unitless)	Baseline Concentration in Hare (Ch) (refer to table B.7) (mg/kg FW tissue)	Predicted Concentrations in Hare: Construction (Cd) (mg/kg FW tissue)	Predicted Concentrations in Hare: Operations (Cd) (mg/kg FW tissue)	Predicted Concentrations in Hare: Reclamation (Cd) (mg/kg FW tissue)	Predicted Concentrations in Hare: Post-Closure (Cd) (mg/kg FW tissue)
Particulate Matter																										
Total Particulate Matter	1.00E+00	7.80E-02	--	--	--	--	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	--	--	1.00E+00	--	--	--	--	--	--
Particulate Matter (PM10)	1.00E+00	7.80E-02	--	--	--	--	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	--	--	1.00E+00	--	--	--	--	--	--
Particulate Matter (PM2.5)	1.00E+00	7.80E-02	--	--	--	--	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	--	--	1.00E+00	--	--	--	--	--	--
Metals																										
Aluminum	1.00E+00	7.80E-02	2.60E+01	2.60E+01	2.60E+01	2.60E+01	4.91E-03	9.92E+03	9.92E+03	9.92E+03	9.92E+03	1.00E+00	1.30E-01	4.30E-01	1.99E-01	2.66E-01	3.61E-01	1.50E-03	1.50E-03	1.00E+00	7.63E-02	7.63E-02	7.63E-02	7.63E-02	7.63E-02	7.63E-02
Antimony	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.30E-01	5.00E-04	4.39E-03	3.27E-03	2.20E-03	1.00E-03	1.00E-03	1.00E+00	8.82E-05	8.82E-05	8.87E-05	8.85E-05	8.84E-05	8.84E-05
Arsenic	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.00E+00	1.30E-01	6.77E-01	5.48E-02	5.21E-02	5.12E-02	2.00E-03	2.00E-03	1.00E+00	4.47E-04	4.47E-04	4.47E-04	4.47E-04	4.47E-04	4.47E-04
Barium	1.00E+00	7.80E-02	2.33E+01	2.33E+01	2.33E+01	2.33E+01	4.91E-03	4.15E+01	4.15E+01	4.15E+01	4.15E+01	1.00E+00	1.30E-01	3.60E-03	7.09E-03	7.05E-03	5.73E-03	1.50E-04	1.50E-04	1.00E+00	3.04E-04	3.04E-04	3.04E-04	3.04E-04	3.04E-04	3.04E-04
Beryllium	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.30E-01	5.00E-04	4.61E-04	4.71E-04	4.76E-04	1.00E-03	1.00E-03	1.00E+00	8.82E-05	8.82E-05	8.82E-05	8.82E-05	8.82E-05	8.82E-05
Bismuth	1.00E+00	7.80E-02	1.67E-01	1.67E-01	1.67E-01	1.67E-01	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	4.00E-04	4.00E-04	1.00E+00	7.22E-06	--	--	--	--	--
Boron	1.00E+00	7.80E-02	5.64E+01	5.64E+01	5.64E+01	5.64E+01	4.91E-03	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.00E+00	1.30E-01	1.96E+00	1.96E+00	1.96E+00	1.96E+00	8.00E-04	8.00E-04	1.00E+00	8.91E-04	3.82E-03	3.82E-03	3.82E-03	3.82E-03	3.82E-03
Cadmium	1.00E+00	7.80E-02	2.13E-01	2.13E-01	2.13E-01	2.13E-01	4.91E-03	3.81E-01	3.81E-01	3.81E-01	3.81E-01	1.00E+00	1.30E-01	2.48E-05	1.98E-05	2.41E-05	3.70E-05	1.20E-04	1.20E-04	1.00E+00	2.22E-06	2.22E-06	2.22E-06	2.22E-06	2.22E-06	2.22E-06
Calcium	1.00E+00	7.80E-02	6.20E+03	6.20E+03	6.20E+03	6.20E+03	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	7.00E-04	7.00E-04	1.00E+00	--	--	--	--	--	--
Chromium Total	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	1.34E+01	1.34E+01	1.34E+01	1.34E+01	1.00E+00	1.30E-01	1.30E-03	8.58E-04	6.87E-04	8.60E-04	5.50E-03	5.50E-03	1.00E+00	8.21E-04	8.21E-04	8.21E-04	8.21E-04	8.21E-04	8.21E-04
Cobalt	1.00E+00	7.80E-02	5.33E-01	5.33E-01	5.33E-01	5.33E-01	4.91E-03	2.39E+00	2.39E+00	2.39E+00	2.39E+00	1.00E+00	1.30E-01	2.00E-04	9.91E-04	9.35E-04	9.61E-04	2.00E-02	2.00E-02	1.00E+00	1.07E-03	1.07E-03	1.07E-03	1.07E-03	1.07E-03	1.07E-03
Copper	1.00E+00	7.80E-02	7.33E+00	7.33E+00	7.33E+00	7.33E+00	4.91E-03	5.86E+00	5.86E+00	5.86E+00	5.86E+00	1.00E+00	1.30E-01	1.74E-03	1.96E-03	1.86E-03	9.20E-04	1.00E-02	1.00E-02	1.00E+00	6.01E-03	6.01E-03	6.01E-03	6.01E-03	6.01E-03	6.01E-03
Iron	1.00E+00	7.80E-02	3.20E+01	3.20E+01	3.20E+01	3.20E+01	4.91E-03	1.64E+04	1.64E+04	1.64E+04	1.64E+04	1.00E+00	1.30E-01	1.17E+00	3.55E-01	4.55E-01	4.28E-01	2.00E-02	2.00E-02	1.00E+00	1.66E+00	1.66E+00	1.66E+00	1.66E+00	1.66E+00	1.66E+00
Lead	1.00E+00	7.80E-02	3.47E-01	3.47E-01	3.47E-01	3.47E-01	4.91E-03	2.37E+01	2.37E+01	2.37E+01	2.37E+01	1.00E+00	1.30E-01	7.62E-04	8.22E-04	7.06E-04	9.27E-04	3.00E-04	3.00E-04	1.00E+00	4.31E-05	4.31E-05	4.31E-05	4.31E-05	4.31E-05	4.31E-05
Lithium	1.00E+00	7.80E-02	1.13E+00	1.13E+00	1.13E+00	1.13E+00	4.91E-03	9.31E+00	9.31E+00	9.31E+00	9.31E+00	1.00E+00	1.30E-01	8.53E-03	8.53E-03	8.53E-03	8.53E-03	1.00E-02	1.00E-02	1.00E+00	--	1.35E-03	1.35E-03	1.35E-03	1.35E-03	1.35E-03
Magnesium	1.00E+00	7.80E-02	3.33E+02	3.33E+02	3.33E+02	3.33E+02	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	5.00E-03	5.00E-03	1.00E+00	--	--	--	--	--	--
Manganese	1.00E+00	7.80E-02	4.20E+02	4.20E+02	4.20E+02	4.20E+02	4.91E-03	9.07E+01	9.07E+01	9.07E+01	9.07E+01	1.00E+00	1.30E-01	8.03E-02	7.56E-02	4.92E-02	1.19E-01	4.00E-04	4.00E-04	1.00E+00	1.33E-02	1.33E-02	1.33E-02	1.33E-02	1.33E-02	1.33E-02
Mercury, element	1.00E+00	7.80E-02	1.67E-02	1.67E-02	1.67E-02	1.67E-02	4.91E-03	2.64E-01	2.64E-01	2.64E-01	2.64E-01	1.00E+00	1.30E-01	1.36E-04	6.88E-06	7.05E-06	9.69E-06	1.00E+00	1.00E+00	1.00E+00	2.62E-03	2.62E-03	2.62E-03	2.62E-03	2.62E-03	2.62E-03
Mercury, divalent	1.00E+00	7.80E-02	1.91E-06	6.65E-06	7.86E-06	6.87E-06	4.91E-03	6.56E-05	4.04E-04	4.91E-04	4.91E-04	1.00E+00	1.30E-01	2.63E-09	1.62E-08	1.97E-08	1.97E-08	5.20E-03	5.20E-03	1.00E+00	--	2.45E-09	1.30E-08	1.57E-08	1.53E-08	1.53E-08
Mercury, methyl	1.00E+00	7.80E-02	1.35E-07	1.35E-07	1.35E-07	1.83E-11	4.91E-03	6.30E-10	6.30E-10	6.30E-10	6.30E-10	1.00E+00	1.30E-01	6.24E-15	6.24E-15	6.24E-15	6.24E-15	7.80E-04	7.80E-04	1.00E+00	--	8.20E-12	8.20E-12	8.20E-12	8.20E-12	3.53E-15
Molybdenum	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.30E-01	1.23E-02	1.23E-02	1.23E-02	1.23E-02	6.00E-03	6.00E-03	1.00E+00	5.29E-04	5.38E-04	5.38E-04	5.38E-04	5.38E-04	5.38E-04
Nickel	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	6.91E+00	6.91E+00	6.91E+00	6.91E+00	1.00E+00	1.30E-01	1.00E-03	1.42E-02	6.10E-03	1.13E-02	6.00E-03	6.00E-03	1.00E+00	7.04E-04	7.04E-04	7.14E-04	7.08E-04	7.12E-04	7.12E-04
Phosphorus	1.00E+00	7.80E-02	1.07E+03	1.07E+03	1.07E+03	1.07E+03	4.91E-03	2.08E-02	2.08E-02	2.08E-02	2.08E-02	1.00E+00	1.30E-01	1.70E-03	1.70E-03	1.70E-03	1.70E-03	5.50E-02	5.50E-02	1.00E+00	--	4.58E+00	4.58E+00	4.58E+00	4.58E+00	4.58E+00
Potassium	1.00E+00	7.80E-02	5.73E+03	5.73E+03	5.73E+03	5.73E+03	4.91E-03	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.00E+00	1.30E-01	7.88E-02	7.88E-02	7.88E-02	7.88E-02	2.00E-02	2.00E-02	1.00E+00	--	8.94E+00	8.94E+00	8.94E+00	8.94E+00	8.94E+00
Selenium	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	1.49E+00	1.49E+00	1.49E+00	1.49E+00	1.00E+00	1.30E-01	5.00E-04	4.88E-04	4.68E-04	5.58E-04	2.30E-03	2.30E-03	1.00E+00	2.08E-04	2.08E-04	2.08E-04	2.08E-04	2.08E-04	2.08E-04
Silver	1.00E+00	7.80E-02	2.67E-01	2.67E-01	2.67E-01	2.67E-01	4.91E-03	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.00E+00	1.30E-01	5.00E-05	7.90E-05	7.04E-05	7.48E-05	3.00E-03	3.00E-03	1.00E+00	6.61E-05	6.61E-05	6.61E-05	6.61E-05	6.61E-05	6.61E-05
Sodium	1.00E+00	7.80E-02	1.67E+02	1.67E+02	1.67E+02	1.67E+02	4.91E-03	7.48E+00	1.56E+01	1.57E+01	1.57E+01	1.00E+00	1.30E-01	2.69E-02	4.75E-02	4.79E-02	4.79E-02	5.50E-02	5.50E-02	1.00E+00	--	7.17E-01	7.20E-01	7.20E-01	7.20E-01	7.20E-01
Strontium	1.00E+00	7.80E-02	2.45E+01	2.45E+01	2.45E+01	2.45E+01	4.91E-03	4.57E+01	4.57E+01	4.57E+01	4.57E+01	1.00E+00	1.30E-01	3.24E-01	3.24E-01	3.24E-01	3.24E-01	3.00E-04	3.00E-04	1.00E+00	4.12E-04	6.53E-04	6.53E-04	6.53E-04	6.53E-04	6.53E-04
Thallium	1.00E+00	7.80E-02	7.33E-02	7.33E-02	7.33E-02	7.33E-02	4.91E-03	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.00E+00	1.30E-01	5.00E-05	7.31E-05	6.61E-05	8.48E-05	4.00E-02	4.00E-02	1.00E+00	2.39E-04	2.39E-04	2.39E-04	2.39E-04	2.39E-04	2.39E-04
Tin	1.00E+00	7.80E-02	8.00E+00	8.00E+00	8.00E+00	8.00E+00	4.91E-03	5.00E-01	5.00E-01	5.00E-01	5.00E-01	1.00E+00	1.30E-01	5.40E-04	5.40E-04	5.40E-04	5.40E-04	1.00E-03	1.00E-03	1.00E+00	6.27E-04	6.27E-04	6.27E-04	6.27E-04	6.27E-04	6.27E-04
Titanium	1.00E+00	7.80E-02	1.67E+00	1.67E+00	1.67E+00	1.67E+00	4.91E-03	2.17E+00	1.19E+01	1.40E+01	1.40E+01	1.00E+00	1.30E-01	2.28E-03	5.53E-03	6.23E-03	6.23E-03	3.00E-02	3.00E-02	1.00E+00	--	4.23E-03	5.68E-03	5.99E-03	5.99E-03	5.99E-03
Uranium	1.00E+00	7.80E-02	6.70E-01	6.70E-01	6.70E-01	6.70E-01	4.91E-03	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.00E+00	1.30E-01	5.00E-05	9.50E-04	8.52E-04	5.76E-04	2.00E-04	2.00E-04	1.00E+00	1.49E-06	1.11E-05	1.11E-05	1.11E-05	1.11E-05	1.11E-05
Vanadium	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	2.30E+01	2.30E+01	2.30E+01	2.30E+01	1.00E+00	1.30E-01	1.00E-03	2.12E-03	1.49E-03	2.01E-03	2.50E-03	2.50E-03	1.00E+00	4.91E-04	4.91E-04	4.91E-04	4.91E-04	4.91E-04	4.91E-04
Zinc	1.00E+00	7.80E-02	1.40E+01	1.40E+01	1.40E+01	1.40E+01	4.91E-03	2.35E+01	2.35E+01	2.35E+01	2.35E+01	1.00E+00	1.30E-01	9.76E-03	7.28E-03	7.18E-03	7.27E-03	9.00E-05	9.00E-05	1.00E+00	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04
Rubidium	1.00E+00	7.80E-02	3.17E-04	3.17E-04	3.17E-04	0.00E+00	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	1.50E-02	1.50E-02	1.00E+00	--	--	--	--	--	--

Equation: $Ch = F \times Qp_i \times Cfo + Qs \times Cs \times Bs + Qw \times Cw \times Ba_{wildlife} \times MF$ where: $Ba_{wildlife} = Ba_{beef}$

Table B.30

Deposition to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Annual Deposition Rate (Dr) (refer to table B.7) (g/m^2-yr)	Water Body Surface Area (A_w) (refer to table B.9) (m^2)	Total Wet & Dry Particle and Wet Vapor Direct Deposition to Water (L_{DEP}) (g/yr)
Particulate Matter			
Total Particulate Matter	8.00E+00	2.95E+05	2.36E+06
Particulate Matter (PM10)	0.00E+00	2.95E+05	0.00E+00
Particulate Matter (PM2.5)	0.00E+00	2.95E+05	0.00E+00
Metals			
Aluminum	8.00E-01	2.95E+05	2.36E+05
Antimony	2.40E-05	2.95E+05	7.08E+00
Arsenic	3.12E-03	2.95E+05	9.20E+02
Barium	6.48E-03	2.95E+05	1.91E+03
Beryllium	2.40E-05	2.95E+05	7.08E+00
Bismuth	2.64E-06	2.95E+05	7.79E-01
Boron	2.00E-04	2.95E+05	5.90E+01
Cadmium	9.60E-07	2.95E+05	2.83E-01
Calcium	1.04E-01	2.95E+05	3.07E+04
Chromium Total	8.88E-04	2.95E+05	2.62E+02
Cobalt	1.44E-04	2.95E+05	4.25E+01
Copper	2.96E-04	2.95E+05	8.73E+01
Iron	3.44E-01	2.95E+05	1.01E+05
Lead	2.96E-04	2.95E+05	8.73E+01
Lithium	4.88E-04	2.95E+05	1.44E+02
Magnesium	1.20E-01	2.95E+05	3.54E+04
Manganese	7.37E-03	2.95E+05	2.17E+03
Mercury, element	2.11E-06	2.95E+05	6.11E-01
Mercury, divalent	--	2.95E+05	--
Mercury, methyl	--	2.95E+05	--
Molybdenum	6.40E-06	2.95E+05	1.89E+00
Nickel	3.28E-04	2.95E+05	9.68E+01
Phosphorus	5.52E-03	2.95E+05	1.63E+03
Potassium	2.56E-01	2.95E+05	7.55E+04
Rubidium	4.78E-05	2.95E+05	1.41E+01
Selenium	2.80E-06	2.95E+05	8.26E-01
Silver	4.00E-06	2.95E+05	1.18E+00
Sodium	1.52E-01	2.95E+05	4.48E+04
Strontium	1.68E-03	2.95E+05	4.96E+02
Thallium	6.32E-06	2.95E+05	1.86E+00
Tin	2.40E-05	2.95E+05	7.08E+00
Titanium	3.36E-02	2.95E+05	9.91E+03
Uranium	1.44E-05	2.95E+05	4.25E+00
Vanadium	6.40E-04	2.95E+05	1.89E+02
Zinc	8.80E-04	2.95E+05	2.60E+02

Equation: $L_{DEP} = Hg_{factor} \times Dr \times A_W$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.48), and methylmercury (0)

Table B.31

Liquid Phase Transfer Coefficient
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Diffusivity in Water (Dw) (refer to table B.10) (cm^2/s)	Creek: Current Velocity (μ) (refer to table B.9) (m/s)	Creek: Total Water Body Depth (d_{wc}) (refer to table B.9) (m)	Creek: Units Conversion Factor (CF1) (m^2/cm^2)	Lake: Drag Coefficient (C_d) (refer to table B.9) -	Lake: Average Annual Wind Speed (W) (refer to table B.9) (m/s)	Lake: Density of Air (ρ_a) (refer to table B.9) (g/cm^3)	Lake: Density of Water (ρ_w) (refer to table B.9) (g/cm^3)	Lake: von Karman's Constant (k) (refer to table B.9) -	Lake: Dimensionless Viscous Sublayer Thickness (λ_z) (refer to table B.9) -	Lake: Viscosity of Water at Water Temperature (μ_w) (refer to table B.9) (g/cm-s)	Units Conversion Factor (CF2) (s/yr)	Liquid Phase Transfer Coefficient Creek K_L (m/yr)
Particulate Matter													
Total Particulate Matter	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Particulate Matter (PM10)	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Particulate Matter (PM2.5)	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Metals													
Aluminum	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Antimony	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Arsenic	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Barium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Beryllium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Bismuth	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Boron	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Cadmium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Calcium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Chromium Total	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Cobalt	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Copper	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Iron	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Lead	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Lithium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Magnesium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Manganese	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Mercury, element	6.30E-06	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	7.88E+02
Mercury, divalent	5.20E-06	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	7.16E+02
Mercury, methyl	6.10E-06	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	7.75E+02
Molybdenum	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Nickel	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Phosphorus	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Potassium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Rubidium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Selenium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Silver	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Sodium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Strontium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Thallium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Tin	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Titanium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Uranium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Vanadium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Zinc	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--

Equation: For the Creek, K_L = [Square Root of (($CF1 \times D_w \times \mu$) / d_{wc})] x CF2

Table B.32

Overall Transfer Rate Coefficient
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Liquid Phase Transfer Coefficient Creek (K_{L1}) (refer to table B.31) (m/yr)	Lake: Drag Coefficient (C_d) (refer to table B.9) -	Lake: Average Annual Wind Speed (W) (refer to table B.9) (m/s)	Lake: Density of Air (ρ_a) (refer to table B.9) (g/cm^3)	Lake: von Karman's Constant (k) (refer to table B.9) -	Lake: Dimensionless Viscous Sublayer Thickness (λ_z) (refer to table B.9) -	Lake: Viscosity of Air (μ_a) (refer to table B.9) (g/cm-s)	Lake: Diffusivity in Air (Da) (refer to table B.10) (cm^2/s)	Units Conversion Factor (CF1) (s/yr)	Gas Phase Transfer Coefficient Creek (K_G) (m/yr)	Henry's Law Constant (H) (refer to table B.10) (atm-m^3/mol)	Universal Gas Constant (R) (refer to table B.9) (atm-m^3/mol-K)	Water Body Temperature (T_a) (refer to table B.9) (k)	Temperature Correction Factor θ -	Overall Transfer Rate Coefficient K_v (m/yr)
Particulate Matter															
Total Particulate Matter	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Particulate Matter (PM10)	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Particulate Matter (PM2.5)	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Metals															
Aluminum	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Antimony	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Arsenic	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Barium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Beryllium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Bismuth	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Boron	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Cadmium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Calcium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Chromium Total	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Cobalt	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Copper	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Iron	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Lead	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Lithium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Magnesium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Manganese	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Mercury, element	7.88E+02	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	3.07E-02	3.15E+07	3.65E+04	1.15E-02	8.21E-05	2.80E+02	1.03E+00	5.37E+02
Mercury, divalent	7.16E+02	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	4.50E-02	3.15E+07	3.65E+04	7.10E-10	8.21E-05	2.80E+02	1.03E+00	8.04E-04
Mercury, methyl	7.75E+02	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	5.30E-02	3.15E+07	3.65E+04	7.22E-03	8.21E-05	2.80E+02	1.03E+00	5.17E+02
Molybdenum	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Nickel	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Phosphorus	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Potassium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Rubidium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Selenium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Silver	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Sodium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Strontium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Thallium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Tin	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Titanium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Uranium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Vanadium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Zinc	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--

Equation: $K_v = [K_L^{-1} + (K_G \times H/(R \times T_a))^{-1}]^{-1} \times \theta^{(1.8 \times -293)}$

For the Creek K_G = 36500 refer to Table B-9 for K_G

Table B.33

Diffusion Load to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Overall Transfer Rate Coefficient (K_v) (refer to table B.33) (m/yr)	Predicted Air Concentration (Coa) (refer to table B.6) (µg/m^3)	Water Body Surface Area A_W (refer to table B.30) (m^2)	Henry's Law Constant (H) (refer to table B.10) (atm-m^3/mol)	Universal Gas Constant (R) (refer to table B.9) (atm-m^3/mol-K)	Water Body Temperature T_a (refer to table B.9) (K)	Units Conversion Factor (CF) (g/ug)	Dry Vapor Phase Diffusion Load to Water Body (L_{dif}) (g/yr)
Particulate Matter								
Total Particulate Matter	--	2.25E+01	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Particulate Matter (PM10)	--	5.67E+00	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Particulate Matter (PM2.5)	--	6.65E-01	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Metals								
Aluminum	--	8.75E-02	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Antimony	--	1.56E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Arsenic	--	3.48E-04	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Barium	--	8.84E-02	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Beryllium	--	1.56E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Bismuth	--	8.13E-06	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Boron	--	3.17E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Cadmium	--	5.62E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Calcium	--	--	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Chromium Total	--	1.55E-03	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Cobalt	--	3.15E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Copper	--	3.39E-01	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Iron	--	1.03E-01	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Lead	--	1.64E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Lithium	--	7.70E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Magnesium	--	--	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Manganese	--	1.60E-03	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Mercury, element	5.37E+02	2.15E-06	2.95E+05	1.15E-02	8.21E-05	2.80E+02	1.00E-06	6.67E-04
Mercury, divalent	8.04E-04	--	2.95E+05	7.10E-10	8.21E-05	2.80E+02	1.00E-06	--
Mercury, methyl	5.17E+02	--	2.95E+05	7.22E-03	8.21E-05	2.80E+02	1.00E-06	--
Molybdenum	--	3.11E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Nickel	--	1.80E-03	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Phosphorus	--	--	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Potassium	--	--	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Rubidium	--	4.86E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Selenium	--	1.21E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Silver	--	1.48E-04	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Sodium	--	--	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Strontium	--	5.02E-04	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Thallium	--	9.35E-06	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Tin	--	1.85E-03	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Titanium	--	1.34E-03	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Uranium	--	9.37E-06	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Vanadium	--	3.13E-04	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Zinc	--	1.89E-02	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--

Equation:

$$L_{DIF} = \frac{(K_v \times Hg_{factor} \times Coa \times A_w \times CF) \times (R \times T_a)}{H}$$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.48), and methylmercury (0)

Table B.34

Impervious Runoff Load to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Annual Deposition Rate (Dr) (refer to table B.7) (g/m^2-yr)	Impervious Watershed Area (A_I) (refer to table B.9) (m^2)	Runoff Load Impervious Surfaces (L_{RI}) (g/yr)
Particulate Matter			
Total Particulate Matter	8.00E+00	2.95E+05	2.36E+06
Particulate Matter (PM10)	0.00E+00	2.95E+05	0.00E+00
Particulate Matter (PM2.5)	0.00E+00	2.95E+05	0.00E+00
Metals			
Aluminum	8.00E-01	2.95E+05	2.36E+05
Antimony	2.40E-05	2.95E+05	7.08E+00
Arsenic	3.12E-03	2.95E+05	9.20E+02
Barium	6.48E-03	2.95E+05	1.91E+03
Beryllium	2.40E-05	2.95E+05	7.08E+00
Bismuth	2.64E-06	2.95E+05	7.79E-01
Boron	2.00E-04	2.95E+05	5.90E+01
Cadmium	9.60E-07	2.95E+05	2.83E-01
Calcium	1.04E-01	2.95E+05	3.07E+04
Chromium Total	8.88E-04	2.95E+05	2.62E+02
Cobalt	1.44E-04	2.95E+05	4.25E+01
Copper	2.96E-04	2.95E+05	8.73E+01
Iron	3.44E-01	2.95E+05	1.01E+05
Lead	2.96E-04	2.95E+05	8.73E+01
Lithium	4.88E-04	2.95E+05	1.44E+02
Magnesium	1.20E-01	2.95E+05	3.54E+04
Manganese	7.37E-03	2.95E+05	2.17E+03
Mercury, element	2.11E-06	2.95E+05	6.11E-01
Mercury, divalent	--	2.95E+05	--
Mercury, methyl	--	2.95E+05	--
Molybdenum	6.40E-06	2.95E+05	1.89E+00
Nickel	3.28E-04	2.95E+05	9.68E+01
Phosphorus	5.52E-03	2.95E+05	1.63E+03
Potassium	2.56E-01	2.95E+05	7.55E+04
Rubidium	4.78E-05	2.95E+05	1.41E+01
Selenium	2.80E-06	2.95E+05	8.26E-01
Silver	4.00E-06	2.95E+05	1.18E+00
Sodium	1.52E-01	2.95E+05	4.48E+04
Strontium	1.68E-03	2.95E+05	4.96E+02
Thallium	6.32E-06	2.95E+05	1.86E+00
Tin	2.40E-05	2.95E+05	7.08E+00
Titanium	3.36E-02	2.95E+05	9.91E+03
Uranium	1.44E-05	2.95E+05	4.25E+00
Vanadium	6.40E-04	2.95E+05	1.89E+02
Zinc	8.80E-04	2.95E+05	2.60E+02

Equation: $L_{RI} = Hg_{factor} \times Dr \times A_I$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.48), and methylmercury (0)

Table B.35

Pervious Runoff Load to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Average Annual Surface Runoff Pervious Areas (RO) (refer to table B.9) (cm/yr)	Total Watershed Area Receiving Deposition (A_L) (refer to table B.9) (m^2)	Impervious Watershed Area (A_I) (refer to table B.34) (m^2)	Predicted Soil Concentration Construction (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Operations (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Reclamation (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Post-Closure (Cs) (refer to table B.16) (mg/kg)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	Soil Volumetric Water Content (θ_{sw}) (refer to table B.9) (ml/cm^3)	Soil-Water Partition Coefficient (Kds) (refer to table B.10) (cm^3/g)	Unit Conversion Factor (CF) ($kg\text{-}cm^2/mg\text{-}m^2$)	Runoff Load Pervious Surfaces Construction (L_R) (g/yr)	Runoff Load Pervious Surfaces Operations (L_R) (g/yr)	Runoff Load Pervious Surfaces Reclamation (L_R) (g/yr)	Runoff Load Pervious Surfaces Post-Closure (L_R) (g/yr)
Particulate Matter															
Total Particulate Matter	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Particulate Matter (PM10)	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Particulate Matter (PM2.5)	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Metals															
Aluminum	7.89E+01	3.79E+06	2.95E+05	9.92E+03	9.92E+03	9.92E+03	9.92E+03	1.50E+00	2.00E-01	1.50E+03	1.00E-02	1.83E+07	1.83E+07	1.83E+07	1.83E+07
Antimony	7.89E+01	3.79E+06	2.95E+05	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E+00	2.00E-01	4.50E+01	1.00E-02	6.12E+04	6.12E+04	6.12E+04	6.12E+04
Arsenic	7.89E+01	3.79E+06	2.95E+05	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.50E+00	2.00E-01	2.90E+01	1.00E-02	1.01E+06	1.01E+06	1.01E+06	1.01E+06
Barium	7.89E+01	3.79E+06	2.95E+05	4.15E+01	4.15E+01	4.15E+01	4.15E+01	1.50E+00	2.00E-01	4.10E+01	1.00E-02	2.79E+06	2.79E+06	2.79E+06	2.79E+06
Beryllium	7.89E+01	3.79E+06	2.95E+05	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E+00	2.00E-01	7.90E+02	1.00E-02	3.49E+03	3.49E+03	3.49E+03	3.49E+03
Bismuth	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Boron	7.89E+01	3.79E+06	2.95E+05	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.50E+00	2.00E-01	3.00E+00	1.00E-02	2.20E+07	2.20E+07	2.20E+07	2.20E+07
Cadmium	7.89E+01	3.79E+06	2.95E+05	3.81E-01	3.81E-01	3.81E-01	3.81E-01	1.50E+00	2.00E-01	7.50E+01	1.00E-02	1.40E+04	1.40E+04	1.40E+04	1.40E+04
Calcium	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Chromium Total	7.89E+01	3.79E+06	2.95E+05	1.34E+01	1.34E+01	1.34E+01	1.34E+01	1.50E+00	2.00E-01	1.90E+01	1.00E-02	1.93E+06	1.93E+06	1.93E+06	1.93E+06
Cobalt	7.89E+01	3.79E+06	2.95E+05	2.39E+00	2.39E+00	2.39E+00	2.39E+00	1.50E+00	2.00E-01	4.50E+01	1.00E-02	1.46E+05	1.46E+05	1.46E+05	1.46E+05
Copper	7.89E+01	3.79E+06	2.95E+05	5.86E+00	5.86E+00	5.86E+00	5.86E+00	1.50E+00	2.00E-01	3.50E+01	1.00E-02	4.61E+05	4.61E+05	4.61E+05	4.61E+05
Iron	7.89E+01	3.79E+06	2.95E+05	1.64E+04	1.64E+04	1.64E+04	1.64E+04	1.50E+00	2.00E-01	2.50E+01	1.00E-02	1.80E+09	1.80E+09	1.80E+09	1.80E+09
Lead	7.89E+01	3.79E+06	2.95E+05	2.37E+01	2.37E+01	2.37E+01	2.37E+01	1.50E+00	2.00E-01	9.00E+02	1.00E-02	7.27E+04	7.27E+04	7.27E+04	7.27E+04
Lithium	7.89E+01	3.79E+06	2.95E+05	9.31E+00	9.31E+00	9.31E+00	9.31E+00	1.50E+00	2.00E-01	3.00E+02	1.00E-02	8.57E+04	8.57E+04	8.57E+04	8.57E+04
Magnesium	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Manganese	7.89E+01	3.79E+06	2.95E+05	9.07E+01	9.07E+01	9.07E+01	9.07E+01	1.50E+00	2.00E-01	6.50E+01	1.00E-02	3.85E+06	3.85E+06	3.85E+06	3.85E+06
Mercury, element	7.89E+01	3.79E+06	2.95E+05	2.64E-01	2.64E-01	2.64E-01	2.64E-01	1.50E+00	2.00E-01	3.30E+03	1.00E-02	2.16E+02	2.16E+02	2.16E+02	2.16E+02
Mercury, divalent	7.89E+01	3.79E+06	2.95E+05	6.56E-05	4.04E-04	4.91E-04	4.91E-04	1.50E+00	2.00E-01	3.30E+03	1.00E-02	1.10E-03	6.77E-03	8.21E-03	8.21E-03
Mercury, methyl	7.89E+01	3.79E+06	2.95E+05	6.30E-10	6.30E-10	6.30E-10	6.30E-10	1.50E+00	2.00E-01	2.00E+01	1.00E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Molybdenum	7.89E+01	3.79E+06	2.95E+05	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E+00	2.00E-01	2.00E+01	1.00E-02	1.37E+05	1.37E+05	1.37E+05	1.37E+05
Nickel	7.89E+01	3.79E+06	2.95E+05	6.91E+00	6.91E+00	6.91E+00	6.91E+00	1.50E+00	2.00E-01	6.50E+01	1.00E-02	2.93E+05	2.93E+05	2.93E+05	2.93E+05
Phosphorus	7.89E+01	3.79E+06	2.95E+05	2.08E-02	2.08E-02	2.08E-02	2.08E-02	1.50E+00	2.00E-01	3.50E+00	1.00E-02	1.58E+04	1.58E+04	1.58E+04	1.58E+04
Potassium	7.89E+01	3.79E+06	2.95E+05	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	2.00E-01	5.50E+00	1.00E-02	7.35E+05	7.35E+05	7.35E+05	7.35E+05
Rubidium	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Selenium	7.89E+01	3.79E+06	2.95E+05	1.49E+00	1.49E+00	1.49E+00	1.49E+00	1.50E+00	2.00E-01	5.00E+00	1.00E-02	8.02E+05	8.02E+05	8.02E+05	8.02E+05
Silver	7.89E+01	3.79E+06	2.95E+05	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.50E+00	2.00E-01	8.30E+00	1.00E-02	8.19E+04	8.19E+04	8.19E+04	8.19E+04
Sodium	7.89E+01	3.79E+06	2.95E+05	7.48E+00	1.56E+01	1.57E+01	1.57E+01	1.50E+00	2.00E-01	1.00E+02	1.00E-02	2.06E+05	4.29E+05	4.34E+05	4.34E+05
Strontium	7.89E+01	3.79E+06	2.95E+05	4.57E+01	4.57E+01	4.57E+01	4.57E+01	1.50E+00	2.00E-01	3.50E+01	1.00E-02	3.59E+06	3.59E+06	3.59E+06	3.59E+06
Thallium	7.89E+01	3.79E+06	2.95E+05	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.50E+00	2.00E-01	7.10E+01	1.00E-02	1.94E+03	1.94E+03	1.94E+03	1.94E+03
Tin	7.89E+01	3.79E+06	2.95E+05	5.00E-01	5.00E-01	5.00E-01	5.00E-01	1.50E+00	2.00E-01	2.50E+02	1.00E-02	5.52E+03	5.52E+03	5.52E+03	5.52E+03
Titanium	7.89E+01	3.79E+06	2.95E+05	2.17E+00	1.19E+01	1.40E+01	1.40E+01	1.50E+00	2.00E-01	1.00E+03	1.00E-02	5.99E+03	3.29E+04	3.87E+04	3.87E+04
Uranium	7.89E+01	3.79E+06	2.95E+05	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.50E+00	2.00E-01	4.50E+02	1.00E-02	4.11E+03	4.11E+03	4.11E+03	4.11E+03
Vanadium	7.89E+01	3.79E+06	2.95E+05	2.30E+01	2.30E+01	2.30E+01	2.30E+01	1.50E+00	2.00E-01	1.00E+03	1.00E-02	6.35E+04	6.35E+04	6.35E+04	6.35E+04
Zinc	7.89E+01	3.79E+06	2.95E+05	2.35E+01	2.35E+01	2.35E+01	2.35E+01	1.50E+00	2.00E-01	6.20E+01	1.00E-02	1.04E+06	1.04E+06	1.04E+06	1.04E+06

Equation:

$$L_R = RO \times (A_L - A_I) \times \frac{Cs \times BD}{\theta_{sw} + Kds \times BD} \times CF \times Hg_{factor}$$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.48), and methylmercury (0)

Table B.36

Universal Soil Loss Equation (USLE)
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	USLE Rainfall Factor (RF) (refer to table B.9) (1/yr)	USLE Erodibility Factor K (refer to table B.9) (ton/acre)	USLE Length-Slope Factor (LS) (refer to table B.9) -	USLE Cover Management Factor (C) (refer to table B.9) -	USLE Supporting Practice Factor (P) (refer to table B.9) -	Unit Conversion Factor (CF1) (kg/ton)	Unit Conversion Factor (CF2) (m^2/acre)	Unit Soil Loss X_e (kg/m^2-yr)
Particulate Matter								
Total Particulate Matter	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Particulate Matter (PM10)	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Particulate Matter (PM2.5)	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Metals								
Aluminum	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Antimony	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Arsenic	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Barium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Beryllium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Bismuth	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Boron	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Cadmium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Calcium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Chromium Total	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Cobalt	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Copper	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Iron	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Lead	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Lithium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Magnesium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Manganese	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Mercury, element	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Mercury, divalent	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Mercury, methyl	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Molybdenum	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Nickel	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Phosphorus	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Potassium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Rubidium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Selenium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Silver	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Sodium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Strontium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Thallium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Tin	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Titanium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Uranium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Vanadium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Zinc	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00

Equation: X_e = RF x K x LS x C x P x CF1/CF2

Table B.37

Sediment Delivery Ratio
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Empirical Intercept Coefficient (a) (refer to table B.9) -	Total Watershed Area Receiving Deposition (A_L) (refer to table B.35) (m^2)	Empirical Slope Coefficient (b) (refer to table B.9) -	Watershed Sediment Delivery Ratio (SD) -
Particulate Matter				
Total Particulate Matter	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Particulate Matter (PM10)	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Particulate Matter (PM2.5)	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Metals				
Aluminum	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Antimony	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Arsenic	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Barium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Beryllium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Bismuth	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Boron	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Cadmium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Calcium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Chromium Total	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Cobalt	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Copper	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Iron	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Lead	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Lithium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Magnesium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Manganese	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Mercury, element	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Mercury, divalent	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Mercury, methyl	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Molybdenum	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Nickel	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Phosphorus	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Potassium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Rubidium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Selenium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Silver	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Sodium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Strontium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Thallium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Tin	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Titanium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Uranium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Vanadium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Zinc	1.40E+00	3.79E+06	1.25E-01	2.11E-01

Equation: $SD = a \times (A_L)^{-b}$

Table B.38

Erosion Load to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Unit Soil Loss (X_o) (refer to table B.36) (kg/m^2-yr)	Total Watershed Area Receiving Deposition (A_L) (refer to table B.35) (m^2)	Impervious Watershed Area (A_I) (refer to table B.35) (m^2)	Watershed Sediment Delivery Ratio (SD) (refer to table B.37) -	Soil Enrichment Ratio (ER) -	Predicted Soil Concentration: Construction (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration: Operations (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration: Reclamation (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration: Post-Closure (Cs) (refer to table B.16) (mg/kg)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	Soil Volumetric Water Content (θ_{sw}) (refer to table B.9) (ml/cm^3)	Soil-Water Partition Coefficient (Kds) (refer to table B.35) (cm^3/g)	Unit Conversion Factor (CF) ((g/kg)/(mg/kg))	Erosion Load to Water Body: Construction (L_E) (g/yr)	Erosion Load to Water Body: Operations (L_E) (g/yr)	Erosion Load to Water Body: Reclamation (L_E) (g/yr)	Erosion Load to Water Body: Post-Closure (L_E) (g/yr)
Particulate Matter																	
Total Particulate Matter	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Particulate Matter (PM10)	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Particulate Matter (PM2.5)	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Metals																	
Aluminum	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	9.92E+03	9.92E+03	9.92E+03	9.92E+03	1.50E+00	2.00E-01	1.50E+03	1.00E-03	1.47E+07	1.47E+07	1.47E+07	1.47E+07
Antimony	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E+00	2.00E-01	4.50E+01	1.00E-03	1.48E+03	1.48E+03	1.48E+03	1.48E+03
Arsenic	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.07E+01	1.07E+01	1.07E+01	1.07E+01	1.50E+00	2.00E-01	2.90E+01	1.00E-03	1.58E+04	1.58E+04	1.58E+04	1.58E+04
Barium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	4.15E+01	4.15E+01	4.15E+01	4.15E+01	1.50E+00	2.00E-01	4.10E+01	1.00E-03	6.14E+04	6.14E+04	6.14E+04	6.14E+04
Beryllium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E+00	2.00E-01	7.90E+02	1.00E-03	1.48E+03	1.48E+03	1.48E+03	1.48E+03
Bismuth	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Boron	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.50E+00	2.00E-01	3.00E+00	1.00E-03	3.55E+04	3.55E+04	3.55E+04	3.55E+04
Cadmium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	3.81E-01	3.81E-01	3.81E-01	3.81E-01	1.50E+00	2.00E-01	7.50E+01	1.00E-03	5.64E+02	5.64E+02	5.64E+02	5.64E+02
Calcium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Chromium Total	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.34E+01	1.34E+01	1.34E+01	1.34E+01	1.50E+00	2.00E-01	1.90E+01	1.00E-03	1.97E+04	1.97E+04	1.97E+04	1.97E+04
Cobalt	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.39E+00	2.39E+00	2.39E+00	2.39E+00	1.50E+00	2.00E-01	4.50E+01	1.00E-03	3.53E+03	3.53E+03	3.53E+03	3.53E+03
Copper	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	5.86E+00	5.86E+00	5.86E+00	5.86E+00	1.50E+00	2.00E-01	3.50E+01	1.00E-03	8.66E+03	8.66E+03	8.66E+03	8.66E+03
Iron	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.64E+04	1.64E+04	1.64E+04	1.64E+04	1.50E+00	2.00E-01	2.50E+01	1.00E-03	2.42E+07	2.42E+07	2.42E+07	2.42E+07
Lead	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.37E+01	2.37E+01	2.37E+01	2.37E+01	1.50E+00	2.00E-01	9.00E+02	1.00E-03	3.51E+04	3.51E+04	3.51E+04	3.51E+04
Lithium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	9.31E+00	9.31E+00	9.31E+00	9.31E+00	1.50E+00	2.00E-01	3.00E+02	1.00E-03	1.38E+04	1.38E+04	1.38E+04	1.38E+04
Magnesium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Manganese	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	9.07E+01	9.07E+01	9.07E+01	9.07E+01	1.50E+00	2.00E-01	6.50E+01	1.00E-03	1.34E+05	1.34E+05	1.34E+05	1.34E+05
Mercury, element	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.64E-01	2.64E-01	2.64E-01	2.64E-01	1.50E+00	2.00E-01	3.30E+03	1.00E-03	3.92E+02	3.92E+02	3.92E+02	3.92E+02
Mercury, divalent	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	6.56E-05	4.04E-04	4.91E-04	4.91E-04	1.50E+00	2.00E-01	3.30E+03	1.00E-03	9.73E-02	6.00E-01	7.28E-01	7.28E-01
Mercury, methyl	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	6.30E-10	6.30E-10	6.30E-10	6.30E-10	1.50E+00	2.00E-01	2.00E+01	1.00E-03	9.28E-07	9.28E-07	9.28E-07	9.28E-07
Molybdenum	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E+00	2.00E-01	2.00E+01	1.00E-03	1.47E+03	1.47E+03	1.47E+03	1.47E+03
Nickel	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	6.91E+00	6.91E+00	6.91E+00	6.91E+00	1.50E+00	2.00E-01	6.50E+01	1.00E-03	1.02E+04	1.02E+04	1.02E+04	1.02E+04
Phosphorus	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.08E-02	2.08E-02	2.08E-02	2.08E-02	1.50E+00	2.00E-01	3.50E+00	1.00E-03	2.98E+01	2.98E+01	2.98E+01	2.98E+01
Potassium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	2.00E-01	5.50E+00	1.00E-03	2.17E+03	2.17E+03	2.17E+03	2.17E+03
Rubidium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Selenium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.49E+00	1.49E+00	1.49E+00	1.49E+00	1.50E+00	2.00E-01	5.00E+00	1.00E-03	2.15E+03	2.15E+03	2.15E+03	2.15E+03
Silver	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.50E+00	2.00E-01	8.30E+00	1.00E-03	3.65E+02	3.65E+02	3.65E+02	3.65E+02
Sodium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	7.48E+00	1.56E+01	1.57E+01	1.57E+01	1.50E+00	2.00E-01	1.00E+02	1.00E-03	1.11E+04	2.31E+04	2.33E+04	2.33E+04
Strontium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	4.57E+01	4.57E+01	4.57E+01	4.57E+01	1.50E+00	2.00E-01	3.50E+01	1.00E-03	6.75E+04	6.75E+04	6.75E+04	6.75E+04
Thallium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.50E+00	2.00E-01	7.10E+01	1.00E-03	7.40E+01	7.40E+01	7.40E+01	7.40E+01
Tin	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	5.00E-01	5.00E-01	5.00E-01	5.00E-01	1.50E+00	2.00E-01	2.50E+02	1.00E-03	7.41E+02	7.41E+02	7.41E+02	7.41E+02
Titanium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.17E+00	1.19E+01	1.40E+01	1.40E+01	1.50E+00	2.00E-01	1.00E+03	1.00E-03	3.22E+03	1.77E+04	2.08E+04	2.08E+04
Uranium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.50E+00	2.00E-01	4.50E+02	1.00E-03	9.94E+02	9.94E+02	9.94E+02	9.94E+02
Vanadium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.30E+01	2.30E+01	2.30E+01	2.30E+01	1.50E+00	2.00E-01	1.00E+03	1.00E-03	3.41E+04	3.41E+04	3.41E+04	3.41E+04
Zinc	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.35E+01	2.35E+01	2.35E+01	2.35E+01	1.50E+00	2.00E-01	6.20E+01	1.00E-03	3.48E+04	3.48E+04	3.48E+04	3.48E+04

Equation:

$$L_E = X_o \times (A_L - A_I) \times SD \times ER \times \frac{Cs \times Kds \times BD}{\theta_{sw} + Kds \times BD} \times CF$$

Table B.39

Total Water Body Load
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Total Wet & Dry Particle and Wet Vapor Direct Deposition to Water (L_{DEP}) (refer to table B.30) (g/yr)	Vapor Phase Diffusion to Water (L_{DIF}) (refer to table B.33) (g/yr)	Runoff Load Impervious Surfaces (L_{RI}) (refer to table B.34) (g/yr)	Runoff Load Pervious Surfaces Construction (L_R) (refer to table B.35) (g/yr)	Runoff Load Pervious Surfaces Operations (L_R) (refer to table B.35) (g/yr)	Runoff Load Pervious Surfaces Reclamation (L_R) (refer to table B.35) (g/yr)	Runoff Load Pervious Surfaces Post-Closure (L_R) (refer to table B.35) (g/yr)	Soil Erosion Load Construction (L_E) (refer to table B.38) (g/yr)	Soil Erosion Load Operations (L_E) (refer to table B.38) (g/yr)	Soil Erosion Load Reclamation (L_E) (refer to table B.38) (g/yr)	Soil Erosion Load Post-Closure (L_E) (refer to table B.38) (g/yr)	Total Load to Surface Water Construction (L_T) (g/yr)	Total Load to Surface Water Operations (L_T) (g/yr)	Total Load to Surface Water Reclamation (L_T) (g/yr)	Total Load to Surface Water Post-Closure (L_T) (g/yr)
Particulate Matter															
Total Particulate Matter	2.36E+06	0.00E+00	2.36E+06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.72E+06	4.72E+06	4.72E+06	4.72E+06
Particulate Matter (PM10)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Particulate Matter (PM2.5)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Metals															
Aluminum	2.36E+05	0.00E+00	2.36E+05	1.83E+07	1.83E+07	1.83E+07	1.83E+07	1.47E+07	1.47E+07	1.47E+07	1.47E+07	3.34E+07	3.34E+07	3.34E+07	3.34E+07
Antimony	7.08E+00	0.00E+00	7.08E+00	6.12E+04	6.12E+04	6.12E+04	6.12E+04	1.48E+03	1.48E+03	1.48E+03	1.48E+03	6.27E+04	6.27E+04	6.27E+04	6.27E+04
Arsenic	9.20E+02	0.00E+00	9.20E+02	1.01E+06	1.01E+06	1.01E+06	1.01E+06	1.58E+04	1.58E+04	1.58E+04	1.58E+04	1.03E+06	1.03E+06	1.03E+06	1.03E+06
Barium	1.91E+03	0.00E+00	1.91E+03	2.79E+06	2.79E+06	2.79E+06	2.79E+06	6.14E+04	6.14E+04	6.14E+04	6.14E+04	2.85E+06	2.85E+06	2.85E+06	2.85E+06
Beryllium	7.08E+00	0.00E+00	7.08E+00	3.49E+03	3.49E+03	3.49E+03	3.49E+03	1.48E+03	1.48E+03	1.48E+03	1.48E+03	4.99E+03	4.99E+03	4.99E+03	4.99E+03
Bismuth	7.79E-01	0.00E+00	7.79E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.56E+00	1.56E+00	1.56E+00	1.56E+00
Boron	5.90E+01	0.00E+00	5.90E+01	2.20E+07	2.20E+07	2.20E+07	2.20E+07	3.55E+04	3.55E+04	3.55E+04	3.55E+04	2.21E+07	2.21E+07	2.21E+07	2.21E+07
Cadmium	2.83E-01	0.00E+00	2.83E-01	1.40E+04	1.40E+04	1.40E+04	1.40E+04	5.64E+02	5.64E+02	5.64E+02	5.64E+02	1.46E+04	1.46E+04	1.46E+04	1.46E+04
Calcium	3.07E+04	0.00E+00	3.07E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.14E+04	6.14E+04	6.14E+04	6.14E+04
Chromium Total	2.62E+02	0.00E+00	2.62E+02	1.93E+06	1.93E+06	1.93E+06	1.93E+06	1.97E+04	1.97E+04	1.97E+04	1.97E+04	1.95E+06	1.95E+06	1.95E+06	1.95E+06
Cobalt	4.25E+01	0.00E+00	4.25E+01	1.46E+05	1.46E+05	1.46E+05	1.46E+05	3.53E+03	3.53E+03	3.53E+03	3.53E+03	1.50E+05	1.50E+05	1.50E+05	1.50E+05
Copper	8.73E+01	0.00E+00	8.73E+01	4.61E+05	4.61E+05	4.61E+05	4.61E+05	8.66E+03	8.66E+03	8.66E+03	8.66E+03	4.69E+05	4.69E+05	4.69E+05	4.69E+05
Iron	1.01E+05	0.00E+00	1.01E+05	1.80E+09	1.80E+09	1.80E+09	1.80E+09	2.42E+07	2.42E+07	2.42E+07	2.42E+07	1.83E+09	1.83E+09	1.83E+09	1.83E+09
Lead	8.73E+01	0.00E+00	8.73E+01	7.27E+04	7.27E+04	7.27E+04	7.27E+04	3.51E+04	3.51E+04	3.51E+04	3.51E+04	1.08E+05	1.08E+05	1.08E+05	1.08E+05
Lithium	1.44E+02	0.00E+00	1.44E+02	8.57E+04	8.57E+04	8.57E+04	8.57E+04	1.38E+04	1.38E+04	1.38E+04	1.38E+04	9.97E+04	9.97E+04	9.97E+04	9.97E+04
Magnesium	3.54E+04	0.00E+00	3.54E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.08E+04	7.08E+04	7.08E+04	7.08E+04
Manganese	2.17E+03	0.00E+00	2.17E+03	3.85E+06	3.85E+06	3.85E+06	3.85E+06	1.34E+05	1.34E+05	1.34E+05	1.34E+05	3.98E+06	3.98E+06	3.98E+06	3.98E+06
Mercury, element	6.11E-01	6.67E-04	6.11E-01	2.16E+02	2.16E+02	2.16E+02	2.16E+02	3.92E+02	3.92E+02	3.92E+02	3.92E+02	6.09E+02	6.09E+02	6.09E+02	6.09E+02
Mercury, divalent	0.00E+00	0.00E+00	0.00E+00	1.10E-03	6.77E-03	8.21E-03	8.21E-03	9.73E-02	6.00E-01	7.28E-01	7.28E-01	9.84E-02	6.07E-01	7.36E-01	7.36E-01
Mercury, methyl	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.28E-07	9.28E-07	9.28E-07	9.28E-07	9.28E-07	9.28E-07	9.28E-07	9.28E-07
Molybdenum	1.89E+00	0.00E+00	1.89E+00	1.37E+05	1.37E+05	1.37E+05	1.37E+05	1.47E+03	1.47E+03	1.47E+03	1.47E+03	1.39E+05	1.39E+05	1.39E+05	1.39E+05
Nickel	9.68E+01	0.00E+00	9.68E+01	2.93E+05	2.93E+05	2.93E+05	2.93E+05	1.02E+04	1.02E+04	1.02E+04	1.02E+04	3.03E+05	3.03E+05	3.03E+05	3.03E+05
Phosphorus	1.63E+03	0.00E+00	1.63E+03	1.58E+04	1.58E+04	1.58E+04	1.58E+04	2.98E+01	2.98E+01	2.98E+01	2.98E+01	1.91E+04	1.91E+04	1.91E+04	1.91E+04
Potassium	7.55E+04	0.00E+00	7.55E+04	7.35E+05	7.35E+05	7.35E+05	7.35E+05	2.17E+03	2.17E+03	2.17E+03	2.17E+03	8.88E+05	8.88E+05	8.88E+05	8.88E+05
Rubidium	1.41E+01	0.00E+00	1.41E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.82E+01	2.82E+01	2.82E+01	2.82E+01
Selenium	8.26E-01	0.00E+00	8.26E-01	8.02E+05	8.02E+05	8.02E+05	8.02E+05	2.15E+03	2.15E+03	2.15E+03	2.15E+03	8.04E+05	8.04E+05	8.04E+05	8.04E+05
Silver	1.18E+00	0.00E+00	1.18E+00	8.19E+04	8.19E+04	8.19E+04	8.19E+04	3.65E+02	3.65E+02	3.65E+02	3.65E+02	8.22E+04	8.22E+04	8.22E+04	8.22E+04
Sodium	4.48E+04	0.00E+00	4.48E+04	2.06E+05	4.29E+05	4.34E+05	4.34E+05	1.11E+04	2.31E+04	2.33E+04	2.33E+04	3.07E+05	5.42E+05	5.47E+05	5.47E+05
Strontium	4.96E+02	0.00E+00	4.96E+02	3.59E+06	3.59E+06	3.59E+06	3.59E+06	6.75E+04	6.75E+04	6.75E+04	6.75E+04	3.66E+06	3.66E+06	3.66E+06	3.66E+06
Thallium	1.86E+00	0.00E+00	1.86E+00	1.94E+03	1.94E+03	1.94E+03	1.94E+03	7.40E+01	7.40E+01	7.40E+01	7.40E+01	2.02E+03	2.02E+03	2.02E+03	2.02E+03
Tin	7.08E+00	0.00E+00	7.08E+00	5.52E+03	5.52E+03	5.52E+03	5.52E+03	7.41E+02	7.41E+02	7.41E+02	7.41E+02	6.28E+03	6.28E+03	6.28E+03	6.28E+03
Titanium	9.91E+03	0.00E+00	9.91E+03	5.99E+03	3.29E+04	3.87E+04	3.87E+04	3.22E+03	1.77E+04	2.08E+04	2.08E+04	2.90E+04	7.04E+04	7.93E+04	7.93E+04
Uranium	4.25E+00	0.00E+00	4.25E+00	4.11E+03	4.11E+03	4.11E+03	4.11E+03	9.94E+02	9.94E+02	9.94E+02	9.94E+02	5.11E+03	5.11E+03	5.11E+03	5.11E+03
Vanadium	1.89E+02	0.00E+00	1.89E+02	6.35E+04	6.35E+04	6.35E+04	6.35E+04	3.41E+04	3.41E+04	3.41E+04	3.41E+04	9.80E+04	9.80E+04	9.80E+04	9.80E+04
Zinc	2.60E+02	0.00E+00	2.60E+02	1.04E+06	1.04E+06	1.04E+06	1.04E+06	3.48E+04	3.48E+04	3.48E+04	3.48E+04	1.08E+06	1.08E+06	1.08E+06	1.08E+06

Equation: $L_T = L_{DEP} + L_{DIF} + L_{RI} + L_R + L_E$

Table B.40

Total Water Body (Surface Water and Bed Sediment) Predicted Concentrations
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Total Load to Surface Water				Average Volumetric Flow rate	Fraction Total Water Body Conc. in Water Column	Overall Total Water Body Dissipation Rate Constant	Water Body Surface Area	Depth of Water Column	Depth of Upper Benthic Sediment Layer	Total Water Body Predicted Concentrations Load to Surface Water & Sediment			
	Construction (L_T) (refer to table B.39)	Operations (L_T) (refer to table B.39)	Reclamation (L_T) (refer to table B.39)	Post-Closure (L_T) (refer to table B.39)	(Vf_x) (refer to table B.9)	(f_{wc}) (refer to table B.41)	k_{wt} (refer to table B.44)	(A_w) (refer to table B.30)	(d_{wc}) (refer to table B.9)	(d_{bs}) (refer to table B.9)	Construction (Cwb)	Operations (Cwb)	Reclamation (Cwb)	Post-Closure (Cwb)
Contaminant	(g/yr)	(g/yr)	(g/yr)	(g/yr)	(m^3/yr)	-	(1/yr)	(m^2)	(m)	(m)	(g/m^3 or mg/L)	(g/m^3 or mg/L)	(g/m^3 or mg/L)	(g/m^3 or mg/L)
Particulate Matter														
Total Particulate Matter	4.72E+06	4.72E+06	4.72E+06	4.72E+06	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Particulate Matter (PM10)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Particulate Matter (PM2.5)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Metals														
Aluminum	3.34E+07	3.34E+07	3.34E+07	3.34E+07	1.25E+07	6.24E-03	1.67E-01	2.95E+05	2.79E-01	3.00E-02	3.60E+02	3.60E+02	3.60E+02	3.60E+02
Antimony	6.27E+04	6.27E+04	6.27E+04	6.27E+04	1.25E+07	1.69E-01	1.39E-01	2.95E+05	2.79E-01	3.00E-02	2.95E-02	2.95E-02	2.95E-02	2.95E-02
Arsenic	1.03E+06	1.03E+06	1.03E+06	1.03E+06	1.25E+07	2.39E-01	1.28E-01	2.95E+05	2.79E-01	3.00E-02	3.45E-01	3.45E-01	3.45E-01	3.45E-01
Barium	2.85E+06	2.85E+06	2.85E+06	2.85E+06	1.25E+07	1.83E-01	1.37E-01	2.95E+05	2.79E-01	3.00E-02	1.25E+00	1.25E+00	1.25E+00	1.25E+00
Beryllium	4.99E+03	4.99E+03	4.99E+03	4.99E+03	1.25E+07	1.17E-02	1.66E-01	2.95E+05	2.79E-01	3.00E-02	3.10E-02	3.10E-02	3.10E-02	3.10E-02
Bismuth	1.56E+00	1.56E+00	1.56E+00	1.56E+00	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Boron	2.21E+07	2.21E+07	2.21E+07	2.21E+07	1.25E+07	7.21E-01	4.68E-02	2.95E+05	2.79E-01	3.00E-02	2.46E+00	2.46E+00	2.46E+00	2.46E+00
Cadmium	1.46E+04	1.46E+04	1.46E+04	1.46E+04	1.25E+07	1.09E-01	1.49E-01	2.95E+05	2.79E-01	3.00E-02	1.06E-02	1.06E-02	1.06E-02	1.06E-02
Calcium	6.14E+04	6.14E+04	6.14E+04	6.14E+04	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Chromium Total	1.95E+06	1.95E+06	1.95E+06	1.95E+06	1.25E+07	3.22E-01	1.14E-01	2.95E+05	2.79E-01	3.00E-02	4.86E-01	4.86E-01	4.86E-01	4.86E-01
Cobalt	2.85E+06	2.85E+06	2.85E+06	2.85E+06	1.25E+07	1.69E-01	1.39E-01	2.95E+05	2.79E-01	3.00E-02	1.34E+00	1.34E+00	1.34E+00	1.34E+00
Copper	4.99E+03	4.99E+03	4.99E+03	4.99E+03	1.25E+07	2.07E-01	1.33E-01	2.95E+05	2.79E-01	3.00E-02	1.93E-03	1.93E-03	1.93E-03	1.93E-03
Iron	1.83E+09	1.83E+09	1.83E+09	1.83E+09	1.25E+07	2.66E-01	1.23E-01	2.95E+05	2.79E-01	3.00E-02	5.48E+02	5.48E+02	5.48E+02	5.48E+02
Lead	1.08E+05	1.08E+05	1.08E+05	1.08E+05	1.25E+07	1.03E-02	1.66E-01	2.95E+05	2.79E-01	3.00E-02	7.53E-01	7.53E-01	7.53E-01	7.53E-01
Lithium	9.97E+04	9.97E+04	9.97E+04	9.97E+04	1.25E+07	3.01E-02	1.63E-01	2.95E+05	2.79E-01	3.00E-02	2.56E-01	2.56E-01	2.56E-01	2.56E-01
Magnesium	7.08E+04	7.08E+04	7.08E+04	7.08E+04	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Manganese	3.98E+06	3.98E+06	3.98E+06	3.98E+06	1.25E+07	1.24E-01	1.47E-01	2.95E+05	2.79E-01	3.00E-02	2.55E+00	2.55E+00	2.55E+00	2.55E+00
Mercury, element	6.09E+02	6.09E+02	6.09E+02	6.09E+02	1.25E+07	5.26E-04	7.80E-01	2.95E+05	2.79E-01	3.00E-02	7.86E-03	7.86E-03	7.86E-03	7.86E-03
Mercury, divalent	9.84E-02	6.07E-01	7.36E-01	7.36E-01	1.25E+07	5.26E-04	1.68E-01	2.95E+05	2.79E-01	3.00E-02	4.51E-06	2.78E-05	3.38E-05	3.38E-05
Mercury, methyl	9.28E-07	9.28E-07	9.28E-07	9.28E-07	1.25E+07	5.48E-02	9.17E+01	2.95E+05	2.79E-01	3.00E-02	1.03E-13	1.03E-13	1.03E-13	1.03E-13
Molybdenum	1.39E+05	1.39E+05	1.39E+05	1.39E+05	1.25E+07	3.11E-01	1.16E-01	2.95E+05	2.79E-01	3.00E-02	3.57E-02	3.57E-02	3.57E-02	3.57E-02
Nickel	3.03E+05	3.03E+05	3.03E+05	3.03E+05	1.25E+07	1.24E-01	1.47E-01	2.95E+05	2.79E-01	3.00E-02	1.94E-01	1.94E-01	1.94E-01	1.94E-01
Phosphorus	1.91E+04	1.91E+04	1.91E+04	1.91E+04	1.25E+07	6.94E-01	5.13E-02	2.95E+05	2.79E-01	3.00E-02	2.21E-03	2.21E-03	2.21E-03	2.21E-03
Potassium	8.88E+05	8.88E+05	8.88E+05	8.88E+05	1.25E+07	6.04E-01	6.65E-02	2.95E+05	2.79E-01	3.00E-02	1.18E-01	1.18E-01	1.18E-01	1.18E-01
Rubidium	2.82E+01	2.82E+01	2.82E+01	2.82E+01	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Selenium	8.04E+05	8.04E+05	8.04E+05	8.04E+05	1.25E+07	6.24E-01	6.31E-02	2.95E+05	2.79E-01	3.00E-02	1.03E-01	1.03E-01	1.03E-01	1.03E-01
Silver	8.22E+04	8.22E+04	8.22E+04	8.22E+04	1.25E+07	5.11E-01	8.20E-02	2.95E+05	2.79E-01	3.00E-02	1.29E-02	1.29E-02	1.29E-02	1.29E-02
Sodium	3.07E+05	5.42E+05	5.47E+05	5.47E+05	1.25E+07	8.46E-02	1.53E-01	2.95E+05	2.79E-01	3.00E-02	2.87E-01	5.07E-01	5.12E-01	5.12E-01
Strontium	3.66E+06	3.66E+06	3.66E+06	3.66E+06	1.25E+07	2.07E-01	1.33E-01	2.95E+05	2.79E-01	3.00E-02	1.41E+00	1.41E+00	1.41E+00	1.41E+00
Thallium	2.02E+03	2.02E+03	2.02E+03	2.02E+03	1.25E+07	1.15E-01	1.48E-01	2.95E+05	2.79E-01	3.00E-02	1.40E-03	1.40E-03	1.40E-03	1.40E-03
Tin	6.28E+03	6.28E+03	6.28E+03	6.28E+03	1.25E+07	3.58E-02	1.62E-01	2.95E+05	2.79E-01	3.00E-02	1.36E-02	1.36E-02	1.36E-02	1.36E-02
Titanium	2.90E+04	7.04E+04	7.93E+04	7.93E+04	1.25E+07	9.29E-03	1.66E-01	2.95E+05	2.79E-01	3.00E-02	2.22E-01	5.38E-01	6.06E-01	6.06E-01
Uranium	5.11E+03	5.11E+03	5.11E+03	5.11E+03	1.25E+07	2.03E-02	1.64E-01	2.95E+05	2.79E-01	3.00E-02	1.91E-02	1.91E-02	1.91E-02	1.91E-02
Vanadium	9.80E+04	9.80E+04	9.80E+04	9.80E+04	1.25E+07	9.29E-03	1.66E-01	2.95E+05	2.79E-01	3.00E-02	7.49E-01	7.49E-01	7.49E-01	7.49E-01
Zinc	1.08E+06	1.08E+06	1.08E+06	1.08E+06	1.25E+07	1.29E-01	1.46E-01	2.95E+05	2.79E-01	3.00E-02	6.65E-01	6.65E-01	6.65E-01	6.65E-01

Equation:

$$Cwb = \frac{L_T}{Vf_x \times f_{wc} + k_{wt} \times A_w \times (d_{wc} + d_{bs})}$$

Table B.41

Fraction in Water Column and in Benthic Sediment
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Suspended Sediments/ Surface Water Partition Coefficient (Kdsw) (refer to table B.10) (L/kg)	Total Suspended Solids Concentration (TSS) (refer to table B.9) (mg/L)	Unit Conversion Factor (CF) (kg/mg)	Depth of Water Column (d_{wc}) (refer to table B.9) (m)	Depth of Upper Benthic Sediment Layer (d_{bs}) (refer to table B.9) (m)	Total Water Body Depth (d_z) (m)	Bed Sediment Concentration (C_{BS}) (refer to table B.9) (kg/L)	Bed Sediment Porosity (θ_{bs}) (refer to table B.9) (L_{wat}/L_{sed})	Bed Sediments/ Sediment Pore Water Partition Coefficient (Kdbs) (refer to table B.10) (L/kg)	Fraction Total Water Body Conc. in Water Column (f_{wc}) -	Fraction Total Water Body Conc. in Benthic Sediment (f_{bs}) -
Particulate Matter											
Total Particulate Matter	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Particulate Matter (PM10)	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Particulate Matter (PM2.5)	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Metals											
Aluminum	1.50E+03	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.50E+03	6.24E-03	9.94E-01
Antimony	4.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	4.50E+01	1.69E-01	8.31E-01
Arsenic	2.90E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.90E+01	2.39E-01	7.61E-01
Barium	4.10E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	4.10E+01	1.83E-01	8.17E-01
Beryllium	7.90E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	7.90E+02	1.17E-02	9.88E-01
Bismuth	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Boron	3.00E+00	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	3.00E+00	7.21E-01	2.79E-01
Cadmium	7.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	7.50E+01	1.09E-01	8.91E-01
Calcium	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Chromium Total	1.90E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.90E+01	3.22E-01	6.78E-01
Cobalt	4.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	4.50E+01	1.69E-01	8.31E-01
Copper	3.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	3.50E+01	2.07E-01	7.93E-01
Iron	2.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.50E+01	2.66E-01	7.34E-01
Lead	9.00E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	9.00E+02	1.03E-02	9.90E-01
Lithium	3.00E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	3.00E+02	3.01E-02	9.70E-01
Magnesium	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Manganese	6.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	6.50E+01	1.24E-01	8.76E-01
Mercury, element	4.95E+04	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.64E+04	5.26E-04	9.99E-01
Mercury, divalent	4.95E+04	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.64E+04	5.26E-04	9.99E-01
Mercury, methyl	3.00E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.60E+02	5.48E-02	9.45E-01
Molybdenum	2.00E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.00E+01	3.11E-01	6.89E-01
Nickel	6.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	6.50E+01	1.24E-01	8.76E-01
Phosphorus	3.50E+00	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	3.50E+00	6.94E-01	3.06E-01
Potassium	5.50E+00	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	5.50E+00	6.04E-01	3.96E-01
Rubidium	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Selenium	5.00E+00	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	5.00E+00	6.24E-01	3.76E-01
Silver	8.30E+00	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	8.30E+00	5.11E-01	4.89E-01
Sodium	1.00E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.00E+02	8.46E-02	9.15E-01
Strontium	3.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	3.50E+01	2.07E-01	7.93E-01
Thallium	7.10E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	7.10E+01	1.15E-01	8.85E-01
Tin	2.50E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.50E+02	3.58E-02	9.64E-01
Titanium	1.00E+03	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.00E+03	9.29E-03	9.91E-01
Uranium	4.50E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	4.50E+02	2.03E-02	9.80E-01
Vanadium	1.00E+03	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.00E+03	9.29E-03	9.91E-01
Zinc	6.20E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	6.20E+01	1.29E-01	8.71E-01

Equation: $f_{bs} = 1 - f_{wc}$ where: $f_{wc} = \dfrac{(1 + Kdsw \times TSS \times CF) \times d_{wc} / d_z}{(1 + Kdsw \times TSS \times CF) \times d_{wc}/d_z + (\theta_{bs} + Kdbs \times C_{BS}) \times d_{bs} / d_z}$

$d_z = d_{wc} + d_{bs}$

Table B.42

Water Column Volatilization Loss Rate Constant
Surface Water Direct Contact Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Overall Transfer Rate Coefficient (K_V) (refer to table B.32) (m/yr)	Total Water Body Depth (d_z) (refer to table B.41) (m)	Suspended Sediments/ Surface Water Partition Coefficient (Kdsw) (refer to table B.10) (L/kg)	Total Suspended Solids Concentration (TSS) (refer to table B.9) (mg/L)	Unit Conversion Factor (CF) (kg/mg)	Water Column Volatilization Rate Constant k_v (yr^{-1})
Particulate Matter						
Total Particulate Matter	--	3.09E-01	--	1.00E+01	1.00E-06	--
Particulate Matter (PM10)	--	3.09E-01	--	1.00E+01	1.00E-06	--
Particulate Matter (PM2.5)	--	3.09E-01	--	1.00E+01	1.00E-06	--
Metals						
Aluminum	--	3.09E-01	1.50E+03	1.00E+01	1.00E-06	--
Antimony	--	3.09E-01	4.50E+01	1.00E+01	1.00E-06	--
Arsenic	--	3.09E-01	2.90E+01	1.00E+01	1.00E-06	--
Barium	--	3.09E-01	4.10E+01	1.00E+01	1.00E-06	--
Beryllium	--	3.09E-01	7.90E+02	1.00E+01	1.00E-06	--
Bismuth	--	3.09E-01	--	1.00E+01	1.00E-06	--
Boron	--	3.09E-01	3.00E+00	1.00E+01	1.00E-06	--
Cadmium	--	3.09E-01	7.50E+01	1.00E+01	1.00E-06	--
Calcium	--	3.09E-01	--	1.00E+01	1.00E-06	--
Chromium Total	--	3.09E-01	1.90E+01	1.00E+01	1.00E-06	--
Cobalt	--	3.09E-01	4.50E+01	1.00E+01	1.00E-06	--
Copper	--	3.09E-01	3.50E+01	1.00E+01	1.00E-06	--
Iron	--	3.09E-01	2.50E+01	1.00E+01	1.00E-06	--
Lead	--	3.09E-01	9.00E+02	1.00E+01	1.00E-06	--
Lithium	--	3.09E-01	3.00E+02	1.00E+01	1.00E-06	--
Magnesium	--	3.09E-01	--	1.00E+01	1.00E-06	--
Manganese	--	3.09E-01	6.50E+01	1.00E+01	1.00E-06	--
Mercury, element	5.37E+02	3.09E-01	4.95E+04	1.00E+01	1.00E-06	1.16E+03
Mercury, divalent	8.04E-04	3.09E-01	4.95E+04	1.00E+01	1.00E-06	1.74E-03
Mercury, methyl	5.17E+02	3.09E-01	3.00E+02	1.00E+01	1.00E-06	1.67E+03
Molybdenum	--	3.09E-01	2.00E+01	1.00E+01	1.00E-06	--
Nickel	--	3.09E-01	6.50E+01	1.00E+01	1.00E-06	--
Phosphorus	--	3.09E-01	3.50E+00	1.00E+01	1.00E-06	--
Potassium	--	3.09E-01	5.50E+00	1.00E+01	1.00E-06	--
Rubidium	--	3.09E-01	--	1.00E+01	1.00E-06	--
Selenium	--	3.09E-01	5.00E+00	1.00E+01	1.00E-06	--
Silver	--	3.09E-01	8.30E+00	1.00E+01	1.00E-06	--
Sodium	--	3.09E-01	1.00E+02	1.00E+01	1.00E-06	--
Strontium	--	3.09E-01	3.50E+01	1.00E+01	1.00E-06	--
Thallium	--	3.09E-01	7.10E+01	1.00E+01	1.00E-06	--
Tin	--	3.09E-01	2.50E+02	1.00E+01	1.00E-06	--
Titanium	--	3.09E-01	1.00E+03	1.00E+01	1.00E-06	--
Uranium	--	3.09E-01	4.50E+02	1.00E+01	1.00E-06	--
Vanadium	--	3.09E-01	1.00E+03	1.00E+01	1.00E-06	--
Zinc	--	3.09E-01	6.20E+01	1.00E+01	1.00E-06	--

Equation:

$$k_v = \frac{K_v}{d_z \times (1 + Kdsw \times TSS \times CF)}$$

Table B.43

Benthic Burial Rate Constant
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Unit Soil Loss (X_e) (refer to table B.36) (kg/m^2-yr)	Total Watershed Area Receiving Deposition (A_L) (refer to table B.35) (m^2)	Watershed Sediment Delivery Ratio (SD) (refer to table B.37) -	Unit Conversion Factor (CF1) (g/kg)	Avg. Volumetric Flow Rate of Water Body (Vf_x) (refer to table B.9) (m^3/yr)	Total Suspended Solids Concentration (TSS) (refer to table B.9) (mg/L)	Water Body Surface Area (A_W) (refer to table B.33) (m^2)	Unit Conversion Factor (CF2) (kg/mg)	Bed Sediment Concentration (C_{BS}) (refer to table B.9) (g/cm^3)	Depth of Upper Benthic Sediment Layer (d_{bs}) (refer to table B.9) (m)	Benthic Burial Rate Constant (k_b) (yr^{-1})
Particulate Matter											
Total Particulate Matter	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Particulate Matter (PM10)	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Particulate Matter (PM2.5)	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Metals											
Aluminum	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Antimony	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Arsenic	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Barium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Beryllium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Bismuth	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Boron	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Cadmium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Calcium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Chromium Total	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Cobalt	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Copper	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Iron	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Lead	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Lithium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Magnesium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Manganese	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Mercury, element	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Mercury, divalent	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Mercury, methyl	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Molybdenum	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Nickel	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Phosphorus	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Potassium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Rubidium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Selenium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Silver	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Sodium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Strontium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Thallium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Tin	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Titanium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Uranium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Vanadium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Zinc	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01

Equation:

$$k_b = \frac{(X_e \times A_L \times SD \times CF1 - Vf_x \times TSS)}{(A_w \times TSS)} \times \frac{(TSS \times CF2)}{(C_{BS} \times d_{bs})}$$

Table B.44

Overall Total Surface River Dissipation Rate Constant
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction Total Water Body Conc. in Water Column (f_{wc}) (refer to table B.41) -	Water Column Volatilization Rate Constant (k_v) (refer to table B.42) (yr^{-1})	Fraction Total Water Body Conc. in Benthic Sediment (f_{bs}) (refer to table B.41) -	Benthic Burial Rate Constant (k_b) (refer to table B.43) (yr^{-1})	Overall Total Water Body Dissipation Rate Constant (k_{wt}) (yr^{-1})
Particulate Matter					
Total Particulate Matter	--	--	--	1.68E-01	--
Particulate Matter (PM10)	--	--	--	1.68E-01	--
Particulate Matter (PM2.5)	--	--	--	1.68E-01	--
Metals					
Aluminum	6.24E-03	--	9.94E-01	1.68E-01	1.67E-01
Antimony	1.69E-01	--	8.31E-01	1.68E-01	1.39E-01
Arsenic	2.39E-01	--	7.61E-01	1.68E-01	1.28E-01
Barium	1.83E-01	--	8.17E-01	1.68E-01	1.37E-01
Beryllium	1.17E-02	--	9.88E-01	1.68E-01	1.66E-01
Bismuth	--	--	--	1.68E-01	--
Boron	7.21E-01	--	2.79E-01	1.68E-01	4.68E-02
Cadmium	1.09E-01	--	8.91E-01	1.68E-01	1.49E-01
Calcium	--	--	--	1.68E-01	--
Chromium Total	3.22E-01	--	6.78E-01	1.68E-01	1.14E-01
Cobalt	1.69E-01	--	8.31E-01	1.68E-01	1.39E-01
Copper	2.07E-01	--	7.93E-01	1.68E-01	1.33E-01
Iron	2.66E-01	--	7.34E-01	1.68E-01	1.23E-01
Lead	1.03E-02	--	9.90E-01	1.68E-01	1.66E-01
Lithium	3.01E-02	--	9.70E-01	1.68E-01	1.63E-01
Magnesium	--	--	--	1.68E-01	--
Manganese	1.24E-01	--	8.76E-01	1.68E-01	1.47E-01
Mercury, element	5.26E-04	1.16E+03	9.99E-01	1.68E-01	7.80E-01
Mercury, divalent	5.26E-04	1.74E-03	9.99E-01	1.68E-01	1.68E-01
Mercury, methyl	5.48E-02	1.67E+03	9.45E-01	1.68E-01	9.17E+01
Molybdenum	3.11E-01	--	6.89E-01	1.68E-01	1.16E-01
Nickel	1.24E-01	--	8.76E-01	1.68E-01	1.47E-01
Phosphorus	6.94E-01	--	3.06E-01	1.68E-01	5.13E-02
Potassium	6.04E-01	--	3.96E-01	1.68E-01	6.65E-02
Rubidium	--	--	--	1.68E-01	--
Selenium	6.24E-01	--	3.76E-01	1.68E-01	6.31E-02
Silver	5.11E-01	--	4.89E-01	1.68E-01	8.20E-02
Sodium	8.46E-02	--	9.15E-01	1.68E-01	1.53E-01
Strontium	2.07E-01	--	7.93E-01	1.68E-01	1.33E-01
Thallium	1.15E-01	--	8.85E-01	1.68E-01	1.48E-01
Tin	3.58E-02	--	9.64E-01	1.68E-01	1.62E-01
Titanium	9.29E-03	--	9.91E-01	1.68E-01	1.66E-01
Uranium	2.03E-02	--	9.80E-01	1.68E-01	1.64E-01
Vanadium	9.29E-03	--	9.91E-01	1.68E-01	1.66E-01
Zinc	1.29E-01	--	8.71E-01	1.68E-01	1.46E-01

Equation: $k_{wt} = f_{wc} \times k_v + f_{bs} \times k_b$

Table B.45

Total Surface Water Predicted Concentrations
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction Total Water Body Conc. in Water Column (f_{wc}) (refer to table B.41) -	Total Water Body Predicted Concentrations Load to Surface Water & Sediment: Construction (Cwb) (refer to table B.40) (mg/L)	Operations (Cwb) (refer to table B.40) (mg/L)	Reclamation (Cwb) (refer to table B.40) (mg/L)	Post-Closure (Cwb) (refer to table B.40) (mg/L)	Depth of Water Column (d_{wc}) (refer to table B.40) (m)	Depth of Upper Benthic Sediment Layer (d_{bs}) (refer to table B.40) (m)	Predicted Total Concentration in Surface Water: Construction (Cw) (1) (mg/L)	Operations (Cw) (1) (mg/L)	Reclamation (Cw) (1) (mg/L)	Post-Closure (Cw) (1) (mg/L)	Predicted Total Concentration in Surface Water (2): Construction (Cw) (2) (mg/L)	Operations (Cw) (2) (mg/L)	Reclamation (Cw) (2) (mg/L)	Post-Closure (Cw) (2) (mg/L)
Particulate Matter															
Total Particulate Matter	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Metals															
Aluminum	6.24E-03	3.60E+02	3.60E+02	3.60E+02	3.60E+02	2.79E-01	3.00E-02	2.49E+00	2.49E+00	2.49E+00	2.49E+00	4.30E-01	1.99E-01	2.66E-01	3.61E-01
Antimony	1.69E-01	2.95E-02	2.95E-02	2.95E-02	2.95E-02	2.79E-01	3.00E-02	5.54E-03	5.54E-03	5.54E-03	5.54E-03	5.00E-04	4.39E-03	3.27E-03	2.20E-03
Arsenic	2.39E-01	3.45E-01	3.45E-01	3.45E-01	3.45E-01	2.79E-01	3.00E-02	9.12E-02	9.12E-02	9.12E-02	9.12E-02	6.77E-01	5.48E-02	5.21E-02	5.12E-02
Barium	1.83E-01	1.25E+00	1.25E+00	1.25E+00	1.25E+00	2.79E-01	3.00E-02	2.52E-01	2.52E-01	2.52E-01	2.52E-01	3.60E-03	7.09E-03	7.05E-03	5.73E-03
Beryllium	1.17E-02	3.10E-02	3.10E-02	3.10E-02	3.10E-02	2.79E-01	3.00E-02	4.02E-04	4.02E-04	4.02E-04	4.02E-04	5.00E-04	4.61E-04	4.71E-04	4.76E-04
Bismuth	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Boron	7.21E-01	2.46E+00	2.46E+00	2.46E+00	2.46E+00	2.79E-01	3.00E-02	1.96E+00	1.96E+00	1.96E+00	1.96E+00	1.96E+00	1.96E+00	1.96E+00	1.96E+00
Cadmium	1.09E-01	1.06E-02	1.06E-02	1.06E-02	1.06E-02	2.79E-01	3.00E-02	1.28E-03	1.28E-03	1.28E-03	1.28E-03	2.48E-05	1.98E-05	2.41E-05	3.70E-05
Calcium	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Chromium Total	3.22E-01	4.86E-01	4.86E-01	4.86E-01	4.86E-01	2.79E-01	3.00E-02	1.73E-01	1.73E-01	1.73E-01	1.73E-01	1.30E-03	8.58E-04	6.87E-04	8.60E-04
Cobalt	1.69E-01	1.34E+00	1.34E+00	1.34E+00	1.34E+00	2.79E-01	3.00E-02	2.52E-01	2.52E-01	2.52E-01	2.52E-01	2.00E-04	9.91E-04	9.35E-04	9.61E-04
Copper	2.07E-01	1.93E-03	1.93E-03	1.93E-03	1.93E-03	2.79E-01	3.00E-02	4.42E-04	4.42E-04	4.42E-04	4.42E-04	1.74E-03	1.96E-03	1.86E-03	9.20E-04
Iron	2.66E-01	5.48E+02	5.48E+02	5.48E+02	5.48E+02	2.79E-01	3.00E-02	1.62E+02	1.62E+02	1.62E+02	1.62E+02	1.17E+00	3.55E-01	4.55E-01	4.28E-01
Lead	1.03E-02	7.53E-01	7.53E-01	7.53E-01	7.53E-01	2.79E-01	3.00E-02	8.59E-03	8.59E-03	8.59E-03	8.59E-03	7.62E-04	8.22E-04	7.06E-04	9.27E-04
Lithium	3.01E-02	2.56E-01	2.56E-01	2.56E-01	2.56E-01	2.79E-01	3.00E-02	8.53E-03	8.53E-03	8.53E-03	8.53E-03	8.53E-03	8.53E-03	8.53E-03	8.53E-03
Magnesium	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Manganese	1.24E-01	2.55E+00	2.55E+00	2.55E+00	2.55E+00	2.79E-01	3.00E-02	3.51E-01	3.51E-01	3.51E-01	3.51E-01	8.03E-02	7.56E-02	4.92E-02	1.19E-01
Mercury, element	5.26E-04	7.86E-03	7.86E-03	7.86E-03	7.86E-03	2.79E-01	3.00E-02	4.57E-06	4.57E-06	4.57E-06	4.57E-06	1.36E-04	6.88E-06	7.05E-06	9.69E-06
Mercury, divalent	5.26E-04	4.51E-06	2.78E-05	3.38E-05	3.38E-05	2.79E-01	3.00E-02	2.63E-09	1.62E-08	1.97E-08	1.97E-08	2.63E-09	1.62E-08	1.97E-08	1.97E-08
Mercury, methyl	5.48E-02	1.03E-13	1.03E-13	1.03E-13	1.03E-13	2.79E-01	3.00E-02	6.24E-15	6.24E-15	6.24E-15	6.24E-15	6.24E-15	6.24E-15	6.24E-15	6.24E-15
Molybdenum	3.11E-01	3.57E-02	3.57E-02	3.57E-02	3.57E-02	2.79E-01	3.00E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02
Nickel	1.24E-01	1.94E-01	1.94E-01	1.94E-01	1.94E-01	2.79E-01	3.00E-02	2.67E-02	2.67E-02	2.67E-02	2.67E-02	1.00E-03	1.42E-02	6.10E-03	1.13E-02
Phosphorus	6.94E-01	2.21E-03	2.21E-03	2.21E-03	2.21E-03	2.79E-01	3.00E-02	1.70E-03	1.70E-03	1.70E-03	1.70E-03	1.70E-03	1.70E-03	1.70E-03	1.70E-03
Potassium	6.04E-01	1.18E-01	1.18E-01	1.18E-01	1.18E-01	2.79E-01	3.00E-02	7.88E-02	7.88E-02	7.88E-02	7.88E-02	7.88E-02	7.88E-02	7.88E-02	7.88E-02
Rubidium	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Selenium	6.24E-01	1.03E-01	1.03E-01	1.03E-01	1.03E-01	2.79E-01	3.00E-02	7.14E-02	7.14E-02	7.14E-02	7.14E-02	5.00E-04	4.88E-04	4.68E-04	5.58E-04
Silver	5.11E-01	1.29E-02	1.29E-02	1.29E-02	1.29E-02	2.79E-01	3.00E-02	7.30E-03	7.30E-03	7.30E-03	7.30E-03	5.00E-05	7.90E-05	7.04E-05	7.48E-05
Sodium	8.46E-02	2.87E-01	5.07E-01	5.12E-01	5.12E-01	2.79E-01	3.00E-02	2.69E-02	4.75E-02	4.79E-02	4.79E-02	2.69E-02	4.75E-02	4.79E-02	4.79E-02
Strontium	2.07E-01	1.41E+00	1.41E+00	1.41E+00	1.41E+00	2.79E-01	3.00E-02	3.24E-01	3.24E-01	3.24E-01	3.24E-01	3.24E-01	3.24E-01	3.24E-01	3.24E-01
Thallium	1.15E-01	1.40E-03	1.40E-03	1.40E-03	1.40E-03	2.79E-01	3.00E-02	1.78E-04	1.78E-04	1.78E-04	1.78E-04	5.00E-05	7.31E-05	6.61E-05	8.48E-05
Tin	3.58E-02	1.36E-02	1.36E-02	1.36E-02	1.36E-02	2.79E-01	3.00E-02	5.40E-04	5.40E-04	5.40E-04	5.40E-04	5.40E-04	5.40E-04	5.40E-04	5.40E-04
Titanium	9.29E-03	2.22E-01	5.38E-01	6.06E-01	6.06E-01	2.79E-01	3.00E-02	2.28E-03	5.53E-03	6.23E-03	6.23E-03	2.28E-03	5.53E-03	6.23E-03	6.23E-03
Uranium	2.03E-02	1.91E-02	1.91E-02	1.91E-02	1.91E-02	2.79E-01	3.00E-02	4.29E-04	4.29E-04	4.29E-04	4.29E-04	5.00E-05	9.50E-04	8.52E-04	5.76E-04
Vanadium	9.29E-03	7.49E-01	7.49E-01	7.49E-01	7.49E-01	2.79E-01	3.00E-02	7.70E-03	7.70E-03	7.70E-03	7.70E-03	1.00E-03	2.12E-03	1.49E-03	2.01E-03
Zinc	1.29E-01	6.65E-01	6.65E-01	6.65E-01	6.65E-01	2.79E-01	3.00E-02	9.52E-02	9.52E-02	9.52E-02	9.52E-02	9.76E-03	7.28E-03	7.18E-03	7.27E-03

Notes:
(1) Equation: $Cw = f_{wc} \times Cwb \times [(d_{wc} + d_{bs})/d_{wc}]$

(2) Refer to table B.8. For COPCs without values in table B.8, results reported are from the previous equation.

Table B.46

Predicted Dissolved Phase Surface Water Concentrations
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Total Concentration in Surface Water using GoldSIM software: Construction (Cw) (refer to table B.45) (mg/L)	Operations (Cw) (refer to table B.45) (mg/L)	Reclamation (Cw) (refer to table B.45) (mg/L)	Post-Closure (Cw) (refer to table B.45) (mg/L)	Suspended Sediments/ Surface Water Partition Coefficient (Kdsw) (refer to table B.41) (L/kg)	Total Suspended Solids Concentration (TSS) (refer to table B.41) (mg/L)	Unit Conversion Factor (CF) (kg/mg)	Dissolved Surface Water Predicted Concentration: Construction (Cdw) (mg/L)	Operations (Cdw) (mg/L)	Reclamation (Cdw) (mg/L)	Post-Closure (Cdw) (mg/L)
Particulate Matter											
Total Particulate Matter	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Metals											
Aluminum	4.30E-01	1.99E-01	2.66E-01	3.61E-01	1.50E+03	1.00E+01	1.00E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Antimony	5.00E-04	4.39E-03	3.27E-03	2.20E-03	4.50E+01	1.00E+01	1.00E-06	5.00E-04	4.38E-03	3.26E-03	2.20E-03
Arsenic	6.77E-01	5.48E-02	5.21E-02	5.12E-02	2.90E+01	1.00E+01	1.00E-06	6.77E-01	5.48E-02	5.21E-02	5.12E-02
Barium	3.60E-03	7.09E-03	7.05E-03	5.73E-03	4.10E+01	1.00E+01	1.00E-06	3.60E-03	7.08E-03	7.04E-03	5.72E-03
Beryllium	5.00E-04	4.61E-04	4.71E-04	4.76E-04	7.90E+02	1.00E+01	1.00E-06	4.96E-04	4.57E-04	4.68E-04	4.73E-04
Bismuth	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Boron	1.96E+00	1.96E+00	1.96E+00	1.96E+00	3.00E+00	1.00E+01	1.00E-06	1.96E+00	1.96E+00	1.96E+00	1.96E+00
Cadmium	2.48E-05	1.98E-05	2.41E-05	3.70E-05	7.50E+01	1.00E+01	1.00E-06	2.48E-05	1.98E-05	2.41E-05	3.70E-05
Calcium	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Chromium Total	1.30E-03	8.58E-04	6.87E-04	8.60E-04	1.90E+01	1.00E+01	1.00E-06	1.30E-03	8.58E-04	6.86E-04	8.60E-04
Cobalt	2.00E-04	9.91E-04	9.35E-04	9.61E-04	4.50E+01	1.00E+01	1.00E-06	2.00E-04	9.91E-04	9.35E-04	9.60E-04
Copper	1.74E-03	1.96E-03	1.86E-03	9.20E-04	3.50E+01	1.00E+01	1.00E-06	1.74E-03	1.96E-03	1.85E-03	9.20E-04
Iron	1.17E+00	3.55E-01	4.55E-01	4.28E-01	2.50E+01	1.00E+01	1.00E-06	1.17E+00	3.55E-01	4.55E-01	4.27E-01
Lead	7.62E-04	8.22E-04	7.06E-04	9.27E-04	9.00E+02	1.00E+01	1.00E-06	7.55E-04	8.15E-04	7.00E-04	9.19E-04
Lithium	8.53E-03	8.53E-03	8.53E-03	8.53E-03	3.00E+02	1.00E+01	1.00E-06	8.50E-03	8.50E-03	8.50E-03	8.50E-03
Magnesium	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Manganese	8.03E-02	7.56E-02	4.92E-02	1.19E-01	6.50E+01	1.00E+01	1.00E-06	8.03E-02	7.55E-02	4.92E-02	1.19E-01
Mercury, element	1.36E-04	6.88E-06	7.05E-06	9.69E-06	4.95E+04	1.00E+01	1.00E-06	9.12E-05	4.60E-06	4.72E-06	6.48E-06
Mercury, divalent	2.63E-09	1.62E-08	1.97E-08	1.97E-08	4.95E+04	1.00E+01	1.00E-06	1.76E-09	1.08E-08	1.31E-08	1.31E-08
Mercury, methyl	6.24E-15	6.24E-15	6.24E-15	6.24E-15	3.00E+02	1.00E+01	1.00E-06	6.23E-15	6.23E-15	6.23E-15	6.23E-15
Molybdenum	1.23E-02	1.23E-02	1.23E-02	1.23E-02	2.00E+01	1.00E+01	1.00E-06	1.23E-02	1.23E-02	1.23E-02	1.23E-02
Nickel	1.00E-03	1.42E-02	6.10E-03	1.13E-02	6.50E+01	1.00E+01	1.00E-06	9.99E-04	1.42E-02	6.10E-03	1.13E-02
Phosphorus	1.70E-03	1.70E-03	1.70E-03	1.70E-03	3.50E+00	1.00E+01	1.00E-06	1.70E-03	1.70E-03	1.70E-03	1.70E-03
Potassium	7.88E-02	7.88E-02	7.88E-02	7.88E-02	5.50E+00	1.00E+01	1.00E-06	7.88E-02	7.88E-02	7.88E-02	7.88E-02
Rubidium	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Selenium	5.00E-04	4.88E-04	4.68E-04	5.58E-04	5.00E+00	1.00E+01	1.00E-06	5.00E-04	4.88E-04	4.68E-04	5.58E-04
Silver	5.00E-05	7.90E-05	7.04E-05	7.48E-05	8.30E+00	1.00E+01	1.00E-06	5.00E-05	7.89E-05	7.04E-05	7.48E-05
Sodium	2.69E-02	4.75E-02	4.79E-02	4.79E-02	1.00E+02	1.00E+01	1.00E-06	2.69E-02	4.75E-02	4.79E-02	4.79E-02
Strontium	3.24E-01	3.24E-01	3.24E-01	3.24E-01	3.50E+01	1.00E+01	1.00E-06	3.24E-01	3.24E-01	3.24E-01	3.24E-01
Thallium	5.00E-05	7.31E-05	6.61E-05	8.48E-05	7.10E+01	1.00E+01	1.00E-06	5.00E-05	7.31E-05	6.61E-05	8.48E-05
Tin	5.40E-04	5.40E-04	5.40E-04	5.40E-04	2.50E+02	1.00E+01	1.00E-06	5.38E-04	5.38E-04	5.38E-04	5.38E-04
Titanium	2.28E-03	5.53E-03	6.23E-03	6.23E-03	1.00E+03	1.00E+01	1.00E-06	2.26E-03	5.47E-03	6.17E-03	6.17E-03
Uranium	5.00E-05	9.50E-04	8.52E-04	5.76E-04	4.50E+02	1.00E+01	1.00E-06	4.98E-05	9.46E-04	8.48E-04	5.73E-04
Vanadium	1.00E-03	2.12E-03	1.49E-03	2.01E-03	1.00E+03	1.00E+01	1.00E-06	9.90E-04	2.10E-03	1.47E-03	1.99E-03
Zinc	9.76E-03	7.28E-03	7.18E-03	7.27E-03	6.20E+01	1.00E+01	1.00E-06	9.75E-03	7.27E-03	7.17E-03	7.26E-03

Equation: $Cdw = \frac{Cw}{1 + Kd_{sw} \times TSS \times CF} \times Hg_{factor}$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.968), and methylmercury (0.032)

Table B.47

Predicted Sediment Concentrations
Sediment Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction Total Water Body Conc. in Benthic Sediment: Construction (f_{bs}) (refer to table B.41) -	Total Water Body Concentration Load to River Water & Sediment: Construction (Cwb) (refer to table B.40) (mg/L)	Operations (Cwb) (refer to table B.40) (mg/L)	Reclamation (Cwb) (refer to table B.40) (mg/L)	Post-Closure (Cwb) (refer to table B.40) (mg/L)	Bed Sediments/ Sediment Pore Water Partition Coefficient (Kdbs) (refer to table B.41) (L/kg)	Bed Sediment Porosity (θ_{bs}) (refer to table B.41) (L_{wat}/L_{sed})	Bed Sediment Concentration (C_{BS}) (refer to table B.41) (g/cm^3)	Depth of Water Column (d_{wc}) (refer to table B.40) (m)	Depth of Upper Benthic Sediment Layer (d_{bs}) (refer to table B.40) (m)	Baseline Sediment Concentration (Csed) (refer to table B.1) (mg/kg)	Predicted Sediment Concentration: Construction (Csed) (mg/kg)	Operations (Csed) (mg/kg)	Reclamation (Csed) (mg/kg)	Post-Closure (Csed) (mg/kg)
Particulate Matter															
Total Particulate Matter	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	--	--	--	--
Metals															
Aluminum	9.94E-01	3.60E+02	3.60E+02	3.60E+02	3.60E+02	1.50E+03	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.50E+04	1.50E+04	1.50E+04	1.50E+04	1.50E+04
Antimony	8.31E-01	2.95E-02	2.95E-02	2.95E-02	2.95E-02	4.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	8.10E+01	8.10E+01	8.10E+01	8.10E+01	8.10E+01
Arsenic	7.61E-01	3.45E-01	3.45E-01	3.45E-01	3.45E-01	2.90E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.10E+05	1.10E+05	1.10E+05	1.10E+05	1.10E+05
Barium	8.17E-01	1.25E+00	1.25E+00	1.25E+00	1.25E+00	4.10E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	9.60E+01	9.60E+01	9.60E+01	9.60E+01	9.60E+01
Beryllium	9.88E-01	3.10E-02	3.10E-02	3.10E-02	3.10E-02	7.90E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Bismuth	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	5.40E+00	5.40E+00	5.40E+00	5.40E+00	5.40E+00
Boron	2.79E-01	2.46E+00	2.46E+00	2.46E+00	2.46E+00	3.00E+00	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.50E+01
Cadmium	8.91E-01	1.06E-02	1.06E-02	1.06E-02	1.06E-02	7.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	5.60E-01	5.60E-01	5.60E-01	5.60E-01	5.60E-01
Calcium	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	--	--	--	--
Chromium Total	6.78E-01	4.86E-01	4.86E-01	4.86E-01	4.86E-01	1.90E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.40E+01	2.40E+01	2.40E+01	2.40E+01	2.40E+01
Cobalt	8.31E-01	1.34E+00	1.34E+00	1.34E+00	1.34E+00	4.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.30E+02	1.30E+02	1.30E+02	1.30E+02	1.30E+02
Copper	7.93E-01	1.93E-03	1.93E-03	1.93E-03	1.93E-03	3.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	3.60E+01	3.60E+01	3.60E+01	3.60E+01	3.60E+01
Iron	7.34E-01	5.48E+02	5.48E+02	5.48E+02	5.48E+02	2.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.20E+05	1.20E+05	1.20E+05	1.20E+05	1.20E+05
Lead	9.90E-01	7.53E-01	7.53E-01	7.53E-01	7.53E-01	9.00E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02
Lithium	9.70E-01	2.56E-01	2.56E-01	2.56E-01	2.56E-01	3.00E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	3.10E+01	3.10E+01	3.10E+01	3.10E+01	3.10E+01
Magnesium	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	--	--	--	--
Manganese	8.76E-01	2.55E+00	2.55E+00	2.55E+00	2.55E+00	6.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	4.00E+02	4.00E+02	4.00E+02	4.00E+02	4.00E+02
Mercury, element	9.99E-01	7.86E-03	7.86E-03	7.86E-03	7.86E-03	2.64E+04	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.10E+01	1.10E+01	1.10E+01	1.10E+01	1.10E+01
Mercury, divalent	9.99E-01	4.51E-06	2.78E-05	3.38E-05	3.38E-05	2.64E+04	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	4.64E-05	2.86E-04	3.47E-04	3.47E-04
Mercury, methyl	9.45E-01	1.03E-13	1.03E-13	1.03E-13	1.03E-13	1.60E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	9.96E-13	9.96E-13	9.96E-13	9.96E-13
Molybdenum	6.89E-01	3.57E-02	3.57E-02	3.57E-02	3.57E-02	2.00E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	4.30E+00	4.30E+00	4.30E+00	4.30E+00	4.30E+00
Nickel	8.76E-01	1.94E-01	1.94E-01	1.94E-01	1.94E-01	6.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02
Phosphorus	3.06E-01	2.21E-03	2.21E-03	2.21E-03	2.21E-03	3.50E+00	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	5.94E-03	5.94E-03	5.94E-03	5.94E-03
Potassium	3.96E-01	1.18E-01	1.18E-01	1.18E-01	1.18E-01	5.50E+00	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	4.33E-01	4.34E-01	4.34E-01	4.34E-01
Rubidium	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	3.90E+01	3.90E+01	3.90E+01	3.90E+01	3.90E+01
Selenium	3.76E-01	1.03E-01	1.03E-01	1.03E-01	1.03E-01	5.00E+00	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.50E+00	2.50E+00	2.50E+00	2.50E+00	2.50E+00
Silver	4.89E-01	1.29E-02	1.29E-02	1.29E-02	1.29E-02	8.30E+00	6.00E-01	1.00E+00	2.79E-01	3.00E-02	3.40E+00	3.40E+00	3.40E+00	3.40E+00	3.40E+00
Sodium	9.15E-01	2.87E-01	5.07E-01	5.12E-01	5.12E-01	1.00E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	2.69E+00	4.75E+00	4.79E+00	4.79E+00
Strontium	7.93E-01	1.41E+00	1.41E+00	1.41E+00	1.41E+00	3.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01
Thallium	8.85E-01	1.40E-03	1.40E-03	1.40E-03	1.40E-03	7.10E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	3.00E-01	3.00E-01	3.00E-01	3.00E-01	3.00E-01
Tin	9.64E-01	1.36E-02	1.36E-02	1.36E-02	1.36E-02	2.50E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.40E+00	1.40E+00	1.40E+00	1.40E+00	1.40E+00
Titanium	9.91E-01	2.22E-01	5.38E-01	6.06E-01	6.06E-01	1.00E+03	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	2.26E+00	5.47E+00	6.17E+00	6.17E+00
Uranium	9.80E-01	1.91E-02	1.91E-02	1.91E-02	1.91E-02	4.50E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.70E+00	1.70E+00	1.70E+00	1.70E+00	1.70E+00
Vanadium	9.91E-01	7.49E-01	7.49E-01	7.49E-01	7.49E-01	1.00E+03	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01
Zinc	8.71E-01	6.65E-01	6.65E-01	6.65E-01	6.65E-01	6.20E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	6.40E+01	6.40E+01	6.40E+01	6.40E+01	6.40E+01

Equation:

$$Csed = f_{bs} \times Cwb \times \frac{Kdbs}{\theta_{bs} + Kdbs \times C_{BS}} \times \frac{d_{wc} + d_{bs}}{d_{bs}}$$

Table B.48

Predicted Fish Concentrations from Bioconcentration Factors using Dissolved Phase Water Concentrations
Fish Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Dissolved Water Predicted Concentration				Sediment Predicted Concentration							Baseline Fish Concentration		Predicted Fish Whole Body Concentration				Predicted Fish Fillet Concentration			
	Construction (Cdw)	Operations (Cdw)	Reclamation (Cdw)	Post-Closure (Cdw)	Construction (Csed)	Operations (Csed)	Reclamation (Csed)	Post-Closure (Csed)	Bioconcentration Factor (BCF)	Bioaccumulation Factor (BAF)	Fraction of Organic Carbon in Bottom Sediment (OC_{sed})	Fillets (Cff)	Remains (Cfr)	Construction (Cfw)	Operations (Cfw)	Reclamation (Cfw)	Post-Closure (Cfw)	Construction (Cff)	Operations (Cff)	Reclamation (Cff)	Post-Closure (Cff)
	(refer to table B.46)	(refer to table B.46)	(refer to table B.46)	(refer to table B.46)	(refer to table B.47)	(refer to table B.47)	(refer to table B.47)	(refer to table B.47)	(refer to table B.10)	(refer to table B.10)	(refer to table B.9)	(refer to table B.1)	(refer to table B.1)								
Contaminant	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(L/kg)	(L/kg)	-	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)
Particulate Matter																					
Total Particulate Matter	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Metals																					
Aluminum	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E+04	1.50E+04	1.50E+04	1.50E+04	5.00E+02	--	7.00E-02	1.30E+00	2.60E+00	2.60E+00	2.60E+00	2.60E+00	2.60E+00	1.30E+00	1.30E+00	1.30E+00	1.30E+00
Antimony	5.00E-04	4.38E-03	3.26E-03	2.20E-03	8.10E+01	8.10E+01	8.10E+01	8.10E+01	4.00E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Arsenic	6.77E-01	5.48E-02	5.21E-02	5.12E-02	1.10E+05	1.10E+05	1.10E+05	1.10E+05	1.14E+02	--	7.00E-02	2.50E-01	5.30E-01	7.71E+01	6.25E+00	5.94E+00	5.83E+00	7.71E+01	6.25E+00	5.94E+00	5.83E+00
Barium	3.60E-03	7.08E-03	7.04E-03	5.72E-03	9.60E+01	9.60E+01	9.60E+01	9.60E+01	6.33E+02	--	7.00E-02	7.50E-01	2.50E+00	2.50E+00	4.48E+00	4.46E+00	3.62E+00	2.28E+00	4.48E+00	4.46E+00	3.62E+00
Beryllium	4.96E-04	4.57E-04	4.68E-04	4.73E-04	1.00E+00	1.00E+00	1.00E+00	1.00E+00	6.20E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Bismuth	--	--	--	--	5.40E+00	5.40E+00	5.40E+00	5.40E+00	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Boron	1.96E+00	1.96E+00	1.96E+00	1.96E+00	2.50E+01	2.50E+01	2.50E+01	2.50E+01	--	--	7.00E-02	7.50E-01	7.50E-01	--	--	--	--	--	--	--	--
Cadmium	2.48E-05	1.98E-05	2.41E-05	3.70E-05	5.60E-01	5.60E-01	5.60E-01	5.60E-01	9.07E+02	--	7.00E-02	2.50E-02	2.50E-02	2.50E-02	2.50E-02	2.50E-02	3.35E-02	2.50E-02	2.50E-02	2.50E-02	3.35E-02
Calcium	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Chromium Total	1.30E-03	8.58E-04	6.86E-04	8.60E-04	2.40E+01	2.40E+01	2.40E+01	2.40E+01	1.90E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Cobalt	2.00E-04	9.91E-04	9.35E-04	9.60E-04	1.30E+02	1.30E+02	1.30E+02	1.30E+02	3.00E+02	--	7.00E-02	1.00E-01	1.00E-01	1.00E-01	2.97E-01	2.80E-01	2.88E-01	1.00E-01	2.97E-01	2.80E-01	2.88E-01
Copper	1.74E-03	1.96E-03	1.85E-03	9.20E-04	3.60E+01	3.60E+01	3.60E+01	3.60E+01	2.00E+02	--	7.00E-02	2.50E-01	1.30E+00	1.30E+00	1.30E+00	1.30E+00	1.30E+00	3.48E-01	3.91E-01	3.71E-01	2.50E-01
Iron	1.17E+00	3.55E-01	4.55E-01	4.27E-01	1.20E+05	1.20E+05	1.20E+05	1.20E+05	2.00E+02	--	7.00E-02	7.50E+00	2.50E+01	2.34E+02	7.10E+01	9.10E+01	8.55E+01	2.34E+02	7.10E+01	9.10E+01	8.55E+01
Lead	7.55E-04	8.15E-04	7.00E-04	9.19E-04	1.20E+02	1.20E+02	1.20E+02	1.20E+02	9.00E-02	--	7.00E-02	9.00E-02	2.20E-01	2.20E-01	2.20E-01	2.20E-01	2.20E-01	9.00E-02	9.00E-02	9.00E-02	9.00E-02
Lithium	8.50E-03	8.50E-03	8.50E-03	8.50E-03	3.10E+01	3.10E+01	3.10E+01	3.10E+01	--	--	7.00E-02	2.50E-01	2.50E-01	--	--	--	--	--	--	--	--
Magnesium	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Manganese	8.03E-02	7.55E-02	4.92E-02	1.19E-01	4.00E+02	4.00E+02	4.00E+02	4.00E+02	4.00E+02	--	7.00E-02	3.10E+00	6.40E+00	3.21E+01	3.02E+01	1.97E+01	4.74E+01	3.21E+01	3.02E+01	1.97E+01	4.74E+01
Mercury, element	9.12E-05	4.60E-06	4.72E-06	6.48E-06	1.10E+01	1.10E+01	1.10E+01	1.10E+01	--	0.00E+00	7.00E-02	2.50E-03	1.40E+00	1.40E+00	1.40E+00	1.40E+00	1.40E+00	2.50E-03	2.50E-03	2.50E-03	2.50E-03
Mercury, divalent	1.76E-09	1.08E-08	1.31E-08	1.31E-08	4.64E-05	2.86E-04	3.47E-04	3.47E-04	--	1.00E+00	7.00E-02	--	--	1.76E-09	1.08E-08	1.31E-08	1.31E-08	1.76E-09	1.08E-08	1.31E-08	1.31E-08
Mercury, methyl	6.23E-15	6.23E-15	6.23E-15	6.23E-15	9.96E-13	9.96E-13	9.96E-13	9.96E-13	--	6.80E+06	7.00E-02	--	--	4.23E-08	4.23E-08	4.23E-08	4.23E-08	4.23E-08	4.23E-08	4.23E-08	4.23E-08
Molybdenum	1.23E-02	1.23E-02	1.23E-02	1.23E-02	4.30E+00	4.30E+00	4.30E+00	4.30E+00	1.00E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Nickel	9.99E-04	1.42E-02	6.10E-03	1.13E-02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	7.80E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	1.11E+00	4.76E-01	8.83E-01	2.50E-01	1.11E+00	4.76E-01	8.83E-01
Phosphorus	1.70E-03	1.70E-03	1.70E-03	1.70E-03	5.94E-03	5.94E-03	5.94E-03	5.94E-03	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Potassium	7.88E-02	7.88E-02	7.88E-02	7.88E-02	4.33E-01	4.34E-01	4.34E-01	4.34E-01	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Rubidium	--	--	--	--	3.90E+01	3.90E+01	3.90E+01	3.90E+01	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Selenium	5.00E-04	4.88E-04	4.68E-04	5.58E-04	2.50E+00	2.50E+00	2.50E+00	2.50E+00	1.29E+02	--	7.00E-02	7.50E-01	7.30E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01
Silver	5.00E-05	7.89E-05	7.04E-05	7.48E-05	3.40E+00	3.40E+00	3.40E+00	3.40E+00	8.77E+01	--	7.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02
Sodium	2.69E-02	4.75E-02	4.79E-02	4.79E-02	2.69E+00	4.75E+00	4.79E+00	4.79E+00	2.00E+01	--	7.00E-02	--	--	5.38E-01	9.50E-01	9.58E-01	9.58E-01	5.38E-01	9.50E-01	9.58E-01	9.58E-01
Strontium	3.24E-01	3.24E-01	3.24E-01	3.24E-01	2.60E+01	2.60E+01	2.60E+01	2.60E+01	6.00E+01	--	7.00E-02	4.40E+01	6.10E+01	6.10E+01	6.10E+01	6.10E+01	6.10E+01	4.40E+01	4.40E+01	4.40E+01	4.40E+01
Thallium	5.00E-05	7.31E-05	6.61E-05	8.48E-05	3.00E-01	3.00E-01	3.00E-01	3.00E-01	1.00E+04	--	7.00E-02	1.00E-02	1.00E-02	5.00E-01	7.31E-01	6.61E-01	8.48E-01	5.00E-01	7.31E-01	6.61E-01	8.48E-01
Tin	5.38E-04	5.38E-04	5.38E-04	5.38E-04	1.40E+00	1.40E+00	1.40E+00	1.40E+00	3.00E+03	--	7.00E-02	2.50E-01	2.50E-01	1.62E+00	1.62E+00	1.62E+00	1.62E+00	1.62E+00	1.62E+00	1.62E+00	1.62E+00
Titanium	2.26E-03	5.47E-03	6.17E-03	6.17E-03	2.26E+00	5.47E+00	6.17E+00	6.17E+00	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Uranium	4.98E-05	9.46E-04	8.48E-04	5.73E-04	1.70E+00	1.70E+00	1.70E+00	1.70E+00	--	--	7.00E-02	1.00E-02	1.00E-02	--	--	--	--	--	--	--	--
Vanadium	9.90E-04	2.10E-03	1.47E-03	1.99E-03	2.70E+01	2.70E+01	2.70E+01	2.70E+01	--	--	7.00E-02	2.50E-01	2.50E-01	--	--	--	--	--	--	--	--
Zinc	9.75E-03	7.27E-03	7.17E-03	7.26E-03	6.40E+01	6.40E+01	6.40E+01	6.40E+01	2.06E+03	--	7.00E-02	1.40E+01	3.00E+01	3.00E+01	3.00E+01	3.00E+01	3.00E+01	2.01E+01	1.50E+01	1.48E+01	1.50E+01

Equation: Cfi = Cdw x BCF or Cfi = Cdw x BAF

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.98), and methylmercury (0.48*0.02)

Table B.49

Predicted Aquatic Plant Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Sediment Concentration				Predicted Aquatic Plant Concentration			
Contaminant	Construction (Csed) (refer to table B.47) (mg/kg)	Operations (Csed) (refer to table B.47) (mg/kg)	Reclamation (Csed) (refer to table B.47) (mg/kg)	Post-Closure (Csed) (refer to table B.47) (mg/kg)	Construction (Cap) (1) (mg/kg FW)	Operations (Cap) (1) (mg/kg FW)	Reclamation (Cap) (1) (mg/kg FW)	Post-Closure (Cap) (1) (mg/kg FW)
Particulate Matter								
Total Particulate Matter	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--
Metals								
Aluminum	1.50E+04	1.50E+04	1.50E+04	1.50E+04	6.46E+00	6.46E+00	6.46E+00	6.46E+00
Antimony	8.10E+01	8.10E+01	8.10E+01	8.10E+01	3.65E-01	3.65E-01	3.65E-01	3.65E-01
Arsenic	1.10E+05	1.10E+05	1.10E+05	1.10E+05	6.19E+02	6.19E+02	6.19E+02	6.19E+02
Barium	9.60E+01	9.60E+01	9.60E+01	9.60E+01	2.25E+00	2.25E+00	2.25E+00	2.25E+00
Beryllium	1.00E+00	1.00E+00	1.00E+00	1.00E+00	8.78E-02	8.78E-02	8.78E-02	8.78E-02
Bismuth	5.40E+00	5.40E+00	5.40E+00	5.40E+00	8.10E-01	8.10E-01	8.10E-01	8.10E-01
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	3.75E+00	3.75E+00	3.75E+00	3.75E+00
Cadmium	5.60E-01	5.60E-01	5.60E-01	5.60E-01	6.80E-02	6.80E-02	6.80E-02	6.80E-02
Calcium	--	--	--	--	--	--	--	--
Chromium Total	2.40E+01	2.40E+01	2.40E+01	2.40E+01	1.48E-01	1.48E-01	1.48E-01	1.48E-01
Cobalt	1.30E+02	1.30E+02	1.30E+02	1.30E+02	1.46E-01	1.46E-01	1.46E-01	1.46E-01
Copper	3.60E+01	3.60E+01	3.60E+01	3.60E+01	1.20E+00	1.20E+00	1.20E+00	1.20E+00
Iron	1.20E+05	1.20E+05	1.20E+05	1.20E+05	1.80E+04	1.80E+04	1.80E+04	1.80E+04
Lead	1.20E+02	1.20E+02	1.20E+02	1.20E+02	5.83E-01	5.83E-01	5.83E-01	5.83E-01
Lithium	3.10E+01	3.10E+01	3.10E+01	3.10E+01	4.65E+00	4.65E+00	4.65E+00	4.65E+00
Magnesium	--	--	--	--	--	--	--	--
Manganese	4.00E+02	4.00E+02	4.00E+02	4.00E+02	4.74E+00	4.74E+00	4.74E+00	4.74E+00
Mercury, element	1.10E+01	1.10E+01	1.10E+01	1.10E+01	1.65E+00	1.65E+00	1.65E+00	1.65E+00
Mercury, divalent	4.64E-05	2.86E-04	3.47E-04	3.47E-04	6.96E-06	4.29E-05	5.21E-05	5.21E-05
Mercury, methyl	9.96E-13	9.96E-13	9.96E-13	9.96E-13	1.49E-13	1.49E-13	1.49E-13	1.49E-13
Molybdenum	4.30E+00	4.30E+00	4.30E+00	4.30E+00	6.45E-01	6.45E-01	6.45E-01	6.45E-01
Nickel	2.10E+02	2.10E+02	2.10E+02	2.10E+02	1.55E+00	1.55E+00	1.55E+00	1.55E+00
Phosphorus	5.94E-03	5.94E-03	5.94E-03	5.94E-03	8.92E-04	8.92E-04	8.92E-04	8.92E-04
Potassium	4.33E-01	4.34E-01	4.34E-01	4.34E-01	6.50E-02	6.50E-02	6.50E-02	6.50E-02
Rubidium	3.90E+01	3.90E+01	3.90E+01	3.90E+01	5.85E+00	5.85E+00	5.85E+00	5.85E+00
Selenium	2.50E+00	2.50E+00	2.50E+00	2.50E+00	2.10E-01	2.10E-01	2.10E-01	2.10E-01
Silver	3.40E+00	3.40E+00	3.40E+00	3.40E+00	7.14E-03	7.14E-03	7.14E-03	7.14E-03
Sodium	2.69E+00	4.75E+00	4.79E+00	4.79E+00	4.04E-01	7.12E-01	7.18E-01	7.18E-01
Strontium	2.60E+01	2.60E+01	2.60E+01	2.60E+01	3.90E+00	3.90E+00	3.90E+00	3.90E+00
Thallium	3.00E-01	3.00E-01	3.00E-01	3.00E-01	4.50E-02	4.50E-02	4.50E-02	4.50E-02
Tin	1.40E+00	1.40E+00	1.40E+00	1.40E+00	2.10E-01	2.10E-01	2.10E-01	2.10E-01
Titanium	2.26E+00	5.47E+00	6.17E+00	6.17E+00	3.39E-01	8.21E-01	9.26E-01	9.26E-01
Uranium	1.70E+00	1.70E+00	1.70E+00	1.70E+00	2.55E-01	2.55E-01	2.55E-01	2.55E-01
Vanadium	2.70E+01	2.70E+01	2.70E+01	2.70E+01	1.96E-02	1.96E-02	1.96E-02	1.96E-02
Zinc	6.40E+01	6.40E+01	6.40E+01	6.40E+01	7.26E+00	7.26E+00	7.26E+00	7.26E+00

Note:

(1) The background aquatic plant concentrations were modelled with equations from the USEPA (2007). Where the equation for aluminum was not available, an uptake factor approach was selected for aluminum, for which the median soil to plant uptake factor of 0.00287 was selected from the dataset summarized in Table D.1 of Appendix D of Bechtel Jacobs (1998).

Table B.50

Predicted Aquatic Invertebrate Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Sediment Concentration				Baseline Aquatic Invertebrate Concentration	Predicted Aquatic Invertebrate Concentration				Final Predicted Aquatic Invertebrate Concentration (wet weight)			
Contaminant	Construction (Csed) (refer to table B.47) (mg/kg)	Operations (Csed) (refer to table B.47) (mg/kg)	Reclamation (Csed) (refer to table B.47) (mg/kg)	Post-Closure (Csed) (refer to table B.47) (mg/kg)	(Cai) (refer to table B.41) (mg/kg FW)	Construction (Cai) (1) (mg/kg FW)	Operations (Cai) (1) (mg/kg FW)	Reclamation (Cai) (1) (mg/kg FW)	Post-Closure (Cai) (1) (mg/kg FW)	Construction (Cai) (1) (mg/kg FW)	Operations (Cai) (1) (mg/kg FW)	Reclamation (Cai) (1) (mg/kg FW)	Post-Closure (Cai) (1) (mg/kg FW)
Particulate Matter													
Total Particulate Matter	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals													
Aluminum	1.50E+04	1.50E+04	1.50E+04	1.50E+04	1.80E+02	3.15E+03	3.15E+03	3.15E+03	3.15E+03	3.15E+03	3.15E+03	3.15E+03	3.15E+03
Antimony	8.10E+01	8.10E+01	8.10E+01	8.10E+01	5.50E-01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01
Arsenic	1.10E+05	1.10E+05	1.10E+05	1.10E+05	1.70E+02	6.78E+02	6.78E+02	6.78E+02	6.78E+02	6.78E+02	6.78E+02	6.78E+02	6.78E+02
Barium	9.60E+01	9.60E+01	9.60E+01	9.60E+01	1.65E+00	2.02E+01	2.02E+01	2.02E+01	2.02E+01	2.02E+01	2.02E+01	2.02E+01	2.02E+01
Beryllium	1.00E+00	1.00E+00	1.00E+00	1.00E+00	5.50E-01	2.10E-01	2.10E-01	2.10E-01	2.10E-01	5.50E-01	5.50E-01	5.50E-01	5.50E-01
Bismuth	5.40E+00	5.40E+00	5.40E+00	5.40E+00	--	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.65E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
Cadmium	5.60E-01	5.60E-01	5.60E-01	5.60E-01	1.70E-01	1.54E-01	1.54E-01	1.54E-01	1.54E-01	1.70E-01	1.70E-01	1.70E-01	1.70E-01
Calcium	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	2.40E+01	2.40E+01	2.40E+01	2.40E+01	5.50E-01	1.08E+00	1.08E+00	1.08E+00	1.08E+00	1.08E+00	1.08E+00	1.08E+00	1.08E+00
Cobalt	1.30E+02	1.30E+02	1.30E+02	1.30E+02	2.20E-01	2.73E+01	2.73E+01	2.73E+01	2.73E+01	2.73E+01	2.73E+01	2.73E+01	2.73E+01
Copper	3.60E+01	3.60E+01	3.60E+01	3.60E+01	5.10E+00	6.98E+00	6.98E+00	6.98E+00	6.98E+00	6.98E+00	6.98E+00	6.98E+00	6.98E+00
Iron	1.20E+05	1.20E+05	1.20E+05	1.20E+05	1.10E+03	2.52E+04	2.52E+04	2.52E+04	2.52E+04	2.52E+04	2.52E+04	2.52E+04	2.52E+04
Lead	1.20E+02	1.20E+02	1.20E+02	1.20E+02	9.40E-01	1.63E+00	1.63E+00	1.63E+00	1.63E+00	1.63E+00	1.63E+00	1.63E+00	1.63E+00
Lithium	3.10E+01	3.10E+01	3.10E+01	3.10E+01	5.50E-01	6.51E+00	6.51E+00	6.51E+00	6.51E+00	6.51E+00	6.51E+00	6.51E+00	6.51E+00
Magnesium	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	4.00E+02	4.00E+02	4.00E+02	4.00E+02	3.30E+01	8.40E+01	8.40E+01	8.40E+01	8.40E+01	8.40E+01	8.40E+01	8.40E+01	8.40E+01
Mercury, element	1.10E+01	1.10E+01	1.10E+01	1.10E+01	1.90E-01	9.83E-02	9.83E-02	9.83E-02	9.83E-02	1.90E-01	1.90E-01	1.90E-01	1.90E-01
Mercury, divalent	4.64E-05	2.86E-04	3.47E-04	3.47E-04	--	9.74E-06	6.01E-05	7.29E-05	7.29E-05	9.74E-06	6.01E-05	7.29E-05	7.29E-05
Mercury, methyl	9.96E-13	9.96E-13	9.96E-13	9.96E-13	--	2.09E-13	2.09E-13	2.09E-13	2.09E-13	2.09E-13	2.09E-13	2.09E-13	2.09E-13
Molybdenum	4.30E+00	4.30E+00	4.30E+00	4.30E+00	5.50E-01	9.03E-01	9.03E-01	9.03E-01	9.03E-01	9.03E-01	9.03E-01	9.03E-01	9.03E-01
Nickel	2.10E+02	2.10E+02	2.10E+02	2.10E+02	5.50E-01	1.98E+01	1.98E+01	1.98E+01	1.98E+01	1.98E+01	1.98E+01	1.98E+01	1.98E+01
Phosphorus	5.94E-03	5.94E-03	5.94E-03	5.94E-03	--	1.25E-03	1.25E-03	1.25E-03	1.25E-03	1.25E-03	1.25E-03	1.25E-03	1.25E-03
Potassium	4.33E-01	4.34E-01	4.34E-01	4.34E-01	--	9.10E-02	9.10E-02	9.10E-02	9.10E-02	9.10E-02	9.10E-02	9.10E-02	9.10E-02
Rubidium	3.90E+01	3.90E+01	3.90E+01	3.90E+01	--	8.19E+00	8.19E+00	8.19E+00	8.19E+00	8.19E+00	8.19E+00	8.19E+00	8.19E+00
Selenium	2.50E+00	2.50E+00	2.50E+00	2.50E+00	5.50E-01	5.25E-01	5.25E-01	5.25E-01	5.25E-01	5.50E-01	5.50E-01	5.50E-01	5.50E-01
Silver	3.40E+00	3.40E+00	3.40E+00	3.40E+00	1.30E-01	7.14E-01	7.14E-01	7.14E-01	7.14E-01	7.14E-01	7.14E-01	7.14E-01	7.14E-01
Sodium	2.69E+00	4.75E+00	4.79E+00	4.79E+00	--	5.65E-01	9.97E-01	1.01E+00	1.01E+00	5.65E-01	9.97E-01	1.01E+00	1.01E+00
Strontium	2.60E+01	2.60E+01	2.60E+01	2.60E+01	1.65E+00	5.46E+00	5.46E+00	5.46E+00	5.46E+00	5.46E+00	5.46E+00	5.46E+00	5.46E+00
Thallium	3.00E-01	3.00E-01	3.00E-01	3.00E-01	2.20E-02	6.30E-02	6.30E-02	6.30E-02	6.30E-02	6.30E-02	6.30E-02	6.30E-02	6.30E-02
Tin	1.40E+00	1.40E+00	1.40E+00	1.40E+00	5.50E-01	2.94E-01	2.94E-01	2.94E-01	2.94E-01	5.50E-01	5.50E-01	5.50E-01	5.50E-01
Titanium	2.26E+00	5.47E+00	6.17E+00	6.17E+00	--	4.74E-01	1.15E+00	1.30E+00	1.30E+00	4.74E-01	1.15E+00	1.30E+00	1.30E+00
Uranium	1.70E+00	1.70E+00	1.70E+00	1.70E+00	2.20E-02	3.57E-01	3.57E-01	3.57E-01	3.57E-01	3.57E-01	3.57E-01	3.57E-01	3.57E-01
Vanadium	2.70E+01	2.70E+01	2.70E+01	2.70E+01	5.50E-01	5.67E+00	5.67E+00	5.67E+00	5.67E+00	5.67E+00	5.67E+00	5.67E+00	5.67E+00
Zinc	6.40E+01	6.40E+01	6.40E+01	6.40E+01	4.50E+01	3.15E+01	3.15E+01	3.15E+01	3.15E+01	4.50E+01	4.50E+01	4.50E+01	4.50E+01

Note:
(1) The predicted aquatic invertebrate concentrations were modelled with equations from Bechtel Jacobs (1998).

Table B.51

Summary of Predicted Concentrations - Construction (Scenario 2)
Anaconda Goldboro
Goldboro, Nova Scotia

	Terrestrial Environment		Aquatic Environment			Terrestrial Ecosystem								Aquatic Ecosystem			
	Soil	Air	Surface Water-Total	Surface Water-Dissolved phase	Sediment	Leafy Vegetables	Fruit	Roots	Forage	Invertebrates	Prey	Hare	Deer	Plants	Invertebrates	Fish Whole	Fish Fillet
	(Cs)	(Coa)	(Cw)	(Cdw)	(Csed)	(Cv)	(Cfru)	(Cr)	(Cfo)	(Cti)	(Cp)	(Ch)	(Cd)	(Cap)	(Cai)	(Cfw)	(Cff)
Contaminant	(mg/kg)	(mg/m³)	(mg/L)	(mg/L)	(mg/kg)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)
Metals																	
Aluminum	9.92E+03	8.75E-05	4.30E-01	0.00E+00	1.50E+04	2.26E+00	3.90E+00	9.67E-01	1.14E+01	4.20E+02	8.35E+01	7.63E-02	7.61E-01	6.46E+00	3.15E+03	2.60E+00	1.30E+00
Antimony	1.00E+00	1.56E-08	5.00E-04	5.00E-04	8.10E+01	7.76E-03	1.60E-01	4.50E-03	1.60E-01	2.50E-01	4.00E-03	8.82E-05	2.45E-03	3.65E-01	1.70E+01	2.50E-01	2.50E-01
Arsenic	1.07E+01	3.48E-07	6.77E-01	6.77E-01	1.10E+05	1.27E-02	1.60E-01	1.28E-02	1.60E-01	8.00E+00	1.75E-02	4.47E-04	1.19E-02	6.19E+02	6.78E+02	7.71E+01	7.71E+01
Barium	4.15E+01	8.84E-05	3.60E-03	3.60E-03	9.60E+01	2.06E-01	3.50E+00	9.34E-02	3.50E+00	2.40E+01	5.76E-02	3.04E-04	8.16E-03	2.25E+00	2.02E+01	2.50E+00	2.28E+00
Beryllium	1.00E+00	1.56E-08	5.00E-04	4.96E-04	1.00E+00	4.07E-04	1.60E-01	2.25E-04	1.60E-01	2.50E-01	4.00E-03	8.82E-05	2.45E-03	8.78E-02	5.50E-01	2.50E-01	2.50E-01
Bismuth	--	8.13E-09	--	--	5.40E+00	2.17E-06	2.50E-02	--	--	--	--	--	--	8.10E-01	1.13E+00	--	--
Boron	2.50E+01	3.17E-08	1.96E+00	1.96E+00	2.50E+01	8.45E+00	8.45E+00	7.50E+00	1.50E+01	4.00E+00	8.00E+00	3.82E-03	1.09E-01	3.75E+00	5.25E+00	--	--
Cadmium	3.81E-01	5.62E-08	2.48E-05	2.48E-05	5.60E-01	6.86E-03	3.20E-02	3.66E-03	3.20E-02	1.60E+00	5.77E-02	2.22E-06	5.97E-05	6.80E-02	1.70E-01	2.50E-02	2.50E-02
Calcium	--	--	--	--	--	8.55E-02	9.30E+02	--	--	--	--	--	--	--	--	--	--
Chromium	1.34E+01	1.55E-06	1.30E-03	1.30E-03	2.40E+01	1.05E-02	1.60E-01	9.05E-03	1.60E-01	6.56E-01	4.99E-01	8.21E-04	1.65E-02	1.48E-01	1.08E+00	2.50E-01	2.50E-01
Cobalt	2.39E+00	3.15E-08	2.00E-04	2.00E-04	1.30E+02	3.22E-03	8.00E-02	2.51E-03	8.00E-02	2.10E-01	1.15E-02	1.07E-03	2.62E-02	1.46E-01	2.73E+01	1.00E-01	1.00E-01
Copper	5.86E+00	3.39E-04	1.74E-03	1.74E-03	3.60E+01	2.37E-01	1.10E+00	2.20E-01	1.10E+00	1.60E+01	3.18E+00	6.01E-03	1.68E-01	1.20E+00	6.98E+00	1.30E+00	3.48E-01
Iron	1.64E+04	1.03E-04	1.17E+00	1.17E+00	1.20E+05	3.68E+00	4.80E+00	2.46E+00	1.22E+01	2.62E+03	5.25E+03	1.66E+00	1.63E+01	1.80E+04	2.52E+04	2.34E+02	2.34E+02
Lead	2.37E+01	1.64E-08	7.62E-04	7.55E-04	1.20E+02	4.85E-02	5.20E-02	3.20E-02	1.62E-01	1.66E+00	1.40E+00	4.31E-05	5.55E-04	5.83E-01	1.63E+00	2.20E-01	9.00E-02
Lithium	9.31E+00	7.70E-08	8.53E-03	8.50E-03	3.10E+01	9.72E-03	1.70E-01	5.59E-03	1.70E-01	1.49E+00	2.98E+00	1.35E-03	3.01E-02	4.65E+00	6.51E+00	--	--
Magnesium	--	--	--	--	--	9.87E-02	5.00E+01	--	--	--	--	--	--	--	--	--	--
Manganese	9.07E+01	1.60E-06	8.03E-02	8.03E-02	4.00E+02	1.03E+00	6.30E+01	6.80E-01	6.30E+01	1.20E+03	5.95E-01	1.33E-02	3.80E-01	4.74E+00	8.40E+01	3.21E+01	3.21E+01
Mercury	2.64E-01	2.15E-09	1.36E-04	9.12E-05	1.10E+01	2.69E-10	2.50E-03	0.00E+00	2.50E-03	4.22E-02	8.45E-02	2.62E-03	5.00E-02	1.65E+00	1.90E-01	1.40E+00	2.50E-03
Mercury, divalent	6.56E-05	--	2.63E-09	1.76E-09	4.64E-05	2.60E-07	2.86E-07	3.54E-07	--	1.05E-05	2.10E-05	2.45E-09	3.77E-08	6.96E-06	9.74E-06	1.76E-09	1.76E-09
Mercury, methyl	6.30E-10	--	6.24E-15	6.23E-15	9.96E-13	1.67E-08	2.02E-08	9.36E-12	--	1.01E-10	2.02E-10	8.20E-12	2.36E-10	1.49E-13	2.09E-13	4.23E-08	4.23E-08
Molybdenum	1.00E+00	3.11E-08	1.23E-02	1.23E-02	4.30E+00	1.26E-02	1.60E-01	9.00E-03	1.60E-01	6.90E-01	3.20E-01	5.38E-04	1.50E-02	6.45E-01	9.03E-01	2.50E-01	2.50E-01
Nickel	6.91E+00	1.80E-06	1.00E-03	9.99E-04	2.10E+02	9.91E-03	1.60E-01	8.29E-03	1.60E-01	1.11E+00	6.16E-01	7.04E-04	1.63E-02	1.55E+00	1.98E+01	2.50E-01	2.50E-01
Phosphorus	2.08E-02	--	1.70E-03	1.70E-03	5.94E-03	1.55E-02	1.60E+02	1.09E-02	1.60E+02	3.33E-03	6.67E-03	4.58E+00	1.32E+02	8.92E-04	1.25E-03	--	--
Potassium	1.50E+00	--	7.88E-02	7.88E-02	4.33E-01	3.47E-01	8.60E+02	1.24E-01	8.60E+02	2.40E-01	4.80E-01	8.94E+00	2.58E+02	6.50E-02	9.10E-02	--	--
Rubidium	--	4.86E-08	--	--	3.90E+01	3.93E-05	4.76E-05	--	--	--	--	--	--	5.85E+00	8.19E+00	--	--
Selenium	1.49E+00	1.21E-08	5.00E-04	5.00E-04	2.50E+00	4.47E-03	1.60E-01	4.92E-03	1.60E-01	2.50E-01	2.45E-01	2.08E-04	5.68E-03	2.10E-01	5.50E-01	7.50E-01	7.50E-01
Silver	2.50E-01	1.48E-07	5.00E-05	5.00E-05	3.40E+00	5.18E-03	4.00E-02	3.75E-03	4.00E-02	1.80E+00	3.20E-04	6.61E-05	1.83E-03	7.14E-03	7.14E-01	6.00E-02	6.00E-02
Sodium	7.48E+00	--	2.69E-02	2.69E-02	2.69E+00	1.90E-01	2.50E+01	6.17E-02	2.50E+01	1.20E+00	2.39E+00	7.17E-01	2.07E+01	4.04E-01	5.65E-01	5.38E-01	5.38E-01
Strontium	4.57E+01	5.02E-07	3.24E-01	3.24E-01	2.60E+01	3.68E+00	3.68E+00	1.71E+00	1.71E+01	1.00E+01	1.46E+01	6.53E-04	1.76E-02	3.90E+00	5.46E+00	6.10E+01	4.40E+01
Thallium	5.00E-02	9.35E-09	5.00E-05	5.00E-05	3.00E-01	1.16E-05	1.10E-02	3.00E-06	1.10E-02	1.00E-02	1.60E-02	2.39E-04	6.70E-03	4.50E-02	6.30E-02	5.00E-01	5.00E-01
Tin	5.00E-01	1.85E-06	5.40E-04	5.38E-04	1.40E+00	6.99E-04	1.20E+00	4.50E-04	1.20E+00	2.50E-01	1.60E-01	6.27E-04	1.80E-02	2.10E-01	5.50E-01	1.62E+00	1.62E+00
Titanium	2.17E+00	1.34E-06	2.28E-03	2.26E-03	2.26E+00	2.87E-02	2.50E-01	9.76E-04	2.50E-01	3.47E-01	6.94E-01	4.23E-03	1.16E-01	3.39E-01	4.74E-01	--	--
Uranium	6.70E-01	9.37E-09	5.00E-05	4.98E-05	1.70E+00	1.01E-01	1.01E-01	1.01E-01	1.01E-01	1.07E-01	2.14E-01	1.11E-05	3.08E-04	2.55E-01	3.57E-01	--	--
Vanadium	2.30E+01	3.13E-07	1.00E-03	9.90E-04	2.70E+01	1.20E-02	1.60E-01	1.04E-02	1.60E-01	9.30E-01	9.05E-02	4.91E-04	8.60E-03	1.96E-02	5.67E+00	--	--
Zinc	2.35E+01	1.89E-05	9.76E-03	9.75E-03	6.40E+01	3.43E-01	2.10E+00	3.17E+00	2.10E+00	7.90E+01	5.09E-03	1.09E-04	2.93E-03	7.26E+00	4.50E+01	3.00E+01	2.01E+01
Inorganics																	
Nitrate	--	--	2.34E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	1.06E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	1.78E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	6.94E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	--	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table B.52

Summary of Predicted Concentrations - Operations
(Scenario 3)
Anaconda Goldboro
Goldboro, Nova Scotia

	Terrestrial Environment		Aquatic Environment			Terrestrial Ecosystem								Aquatic Ecosystem			
Contaminant	Soil (Cs) (mg/kg)	Air (Coa) (mg/m³)	Surface Water-Total (Cw) (mg/L)	Surface Water-Dissolved phase (Cdw) (mg/L)	Sediment (Csed) (mg/kg)	Leafy Vegetables (Cv) (mg/kg FW)	Fruit (Cfru) (mg/kg FW)	Roots (Cr) (mg/kg FW)	Forage (Cfo) (mg/kg FW)	Invertebrates (Cti) (mg/kg FW)	Prey (Cp) (mg/kg FW)	Hare (Ch) (mg/kg FW)	Deer (Cd) (mg/kg FW)	Plants (Cap) (mg/kg FW)	Invertebrates (Cai) (mg/kg FW)	Fish Whole (Cfw) (mg/kg FW)	Fish Fillet (Cff) (mg/kg FW)
Metals																	
Aluminum	9.92E+03	8.75E-05	1.99E-01	0.00E+00	1.50E+04	2.26E+00	3.90E+00	9.67E-01	1.14E+01	4.20E+02	8.35E+01	7.63E-02	7.61E-01	6.46E+00	3.15E+03	2.60E+00	1.30E+00
Antimony	1.00E+00	1.56E-08	4.39E-03	4.38E-03	8.10E+01	7.76E-03	1.60E-01	4.50E-03	1.60E-01	2.50E-01	4.00E-03	8.87E-05	2.46E-03	3.65E-01	1.70E+01	2.50E-01	2.50E-01
Arsenic	1.07E+01	3.48E-07	5.48E-02	5.48E-02	1.10E+05	1.27E-02	1.60E-01	1.28E-02	1.60E-01	8.00E+00	1.75E-02	4.47E-04	1.19E-02	6.19E+02	6.78E+02	6.25E+00	6.25E+00
Barium	4.15E+01	8.84E-05	7.09E-03	7.08E-03	9.60E+01	2.06E-01	3.50E+00	9.34E-02	3.50E+00	2.40E+01	5.76E-02	3.04E-04	8.16E-03	2.25E+00	2.02E+01	4.48E+00	4.48E+00
Beryllium	1.00E+00	1.56E-08	4.61E-04	4.57E-04	1.00E+00	4.07E-04	1.60E-01	2.25E-04	1.60E-01	2.50E-01	4.00E-03	8.82E-05	2.45E-03	8.78E-02	5.50E-01	2.50E-01	2.50E-01
Bismuth	--	8.13E-09	--	--	5.40E+00	2.17E-06	2.50E-02	--	--	--	--	--	--	8.10E-01	1.13E+00	--	--
Boron	2.50E+01	3.17E-08	1.96E+00	1.96E+00	2.50E+01	8.45E+00	8.45E+00	7.50E+00	1.50E+01	4.00E+00	8.00E+00	3.82E-03	1.09E-01	3.75E+00	5.25E+00	--	--
Cadmium	3.81E-01	5.62E-08	1.98E-05	1.98E-05	5.60E-01	6.86E-03	3.20E-02	3.66E-03	3.20E-02	1.60E+00	5.77E-02	2.22E-06	5.97E-05	6.80E-02	1.70E-01	2.50E-02	2.50E-02
Calcium	--	--	--	--	--	8.55E-02	9.30E+02	--	--	--	--	--	--	--	--	--	--
Chromium	1.34E+01	1.55E-06	8.58E-04	8.58E-04	2.40E+01	1.05E-02	1.60E-01	9.05E-03	1.60E-01	6.56E-01	4.99E-01	8.21E-04	1.65E-02	1.48E-01	1.08E+00	2.50E-01	2.50E-01
Cobalt	2.39E+00	3.15E-08	9.91E-04	9.91E-04	1.30E+02	3.22E-03	8.00E-02	2.51E-03	8.00E-02	2.10E-01	1.15E-02	1.07E-03	2.62E-02	1.46E-01	2.73E+01	2.97E-01	2.97E-01
Copper	5.86E+00	3.39E-04	1.96E-03	1.96E-03	3.60E+01	2.37E-01	1.10E+00	2.20E-01	1.10E+00	1.60E+01	3.18E+00	6.01E-03	1.68E-01	1.20E+00	6.98E+00	1.30E+00	3.91E-01
Iron	1.64E+04	1.03E-04	3.55E-01	3.55E-01	1.20E+05	3.68E+00	4.80E+00	2.46E+00	1.22E+01	2.62E+03	5.25E+03	1.66E+00	1.63E+01	1.80E+04	2.52E+04	7.10E+01	7.10E+01
Lead	2.37E+01	1.64E-08	8.22E-04	8.15E-04	1.20E+02	4.85E-02	5.20E-02	3.20E-02	1.62E-01	1.66E+00	1.40E+00	4.31E-05	5.55E-04	5.83E-01	1.63E+00	2.20E-01	9.00E-02
Lithium	9.31E+00	7.70E-08	8.53E-03	8.50E-03	3.10E+01	9.72E-03	1.70E-01	5.59E-03	1.70E-01	1.49E+00	2.98E+00	1.35E-03	3.01E-02	4.65E+00	6.51E+00	--	--
Magnesium	--	--	--	--	--	9.87E-02	5.00E+01	--	--	--	--	--	--	--	--	--	--
Manganese	9.07E+01	1.60E-06	7.56E-02	7.55E-02	4.00E+02	1.03E+00	6.30E+01	6.80E-01	6.30E+01	1.20E+03	5.95E-01	1.33E-02	3.80E-01	4.74E+00	8.40E+01	3.02E+01	3.02E+01
Mercury	2.64E-01	2.15E-09	6.88E-06	4.60E-06	1.10E+01	2.69E-10	2.50E-03	0.00E+00	2.50E-03	4.22E-02	8.45E-02	2.62E-03	5.00E-02	1.65E+00	1.90E-01	1.40E+00	2.50E-03
Mercury, divalent	4.04E-04	--	1.62E-08	1.08E-08	2.86E-04	9.72E-07	9.98E-07	2.18E-06	--	6.47E-05	1.29E-04	1.30E-08	1.73E-07	4.29E-05	6.01E-05	1.08E-08	1.08E-08
Mercury, methyl	6.30E-10	--	6.24E-15	6.23E-15	9.96E-13	1.67E-08	2.02E-08	9.36E-12	--	1.01E-10	2.02E-10	8.20E-12	2.36E-10	1.49E-13	2.09E-13	4.23E-08	4.23E-08
Molybdenum	1.00E+00	3.11E-08	1.23E-02	1.23E-02	4.30E+00	1.26E-02	1.60E-01	9.00E-03	1.60E-01	6.90E-01	3.20E-01	5.38E-04	1.50E-02	6.45E-01	9.03E-01	2.50E-01	2.50E-01
Nickel	6.91E+00	1.80E-06	1.42E-02	1.42E-02	2.10E+02	9.91E-03	1.60E-01	8.29E-03	1.60E-01	1.11E+00	6.16E-01	7.14E-04	1.66E-02	1.55E+00	1.98E+01	1.11E+00	1.11E+00
Phosphorus	2.08E-02	--	1.70E-03	1.70E-03	5.94E-03	1.55E-02	1.60E+02	1.09E-02	1.60E+02	3.33E-03	6.67E-03	4.58E+00	1.32E+02	8.92E-04	1.25E-03	--	--
Potassium	1.50E+00	--	7.88E-02	7.88E-02	4.34E-01	3.47E-01	8.60E+02	1.24E-01	8.60E+02	2.40E-01	4.80E-01	8.94E+00	2.58E+02	6.50E-02	9.10E-02	--	--
Rubidium	--	4.86E-08	--	--	3.90E+01	3.93E-05	4.76E-05	--	--	--	--	--	--	5.85E+00	8.19E+00	--	--
Selenium	1.49E+00	1.21E-08	4.88E-04	4.88E-04	2.50E+00	4.47E-03	1.60E-01	4.92E-03	1.60E-01	2.50E-01	2.45E-01	2.08E-04	5.68E-03	2.10E-01	5.50E-01	7.50E-01	7.50E-01
Silver	2.50E-01	1.48E-07	7.90E-05	7.89E-05	3.40E+00	5.18E-03	4.00E-02	3.75E-03	4.00E-02	1.80E+00	3.20E-04	6.61E-05	1.83E-03	7.14E-03	7.14E-01	6.00E-02	6.00E-02
Sodium	1.56E+01	--	4.75E-02	4.75E-02	4.75E+00	2.59E-01	2.50E+01	1.28E-01	2.50E+01	2.49E+00	4.98E+00	7.20E-01	2.07E+01	7.12E-01	9.97E-01	9.50E-01	9.50E-01
Strontium	4.57E+01	5.02E-07	3.24E-01	3.24E-01	2.60E+01	3.68E+00	3.68E+00	1.71E+00	1.71E+01	1.00E+01	1.46E+01	6.53E-04	1.76E-02	3.90E+00	5.46E+00	6.10E+01	4.40E+01
Thallium	5.00E-02	9.35E-09	7.31E-05	7.31E-05	3.00E-01	1.16E-05	1.10E-02	3.00E-06	1.10E-02	1.00E-02	1.60E-02	2.39E-04	6.70E-03	4.50E-02	6.30E-02	7.31E-01	7.31E-01
Tin	5.00E-01	1.85E-06	5.40E-04	5.38E-04	1.40E+00	6.99E-04	1.20E+00	4.50E-04	1.20E+00	2.50E-01	1.60E-01	6.27E-04	1.80E-02	2.10E-01	5.50E-01	1.62E+00	1.62E+00
Titanium	1.19E+01	1.34E-06	5.53E-03	5.47E-03	5.47E+00	3.36E-02	2.50E-01	5.36E-03	2.50E-01	1.90E+00	3.81E+00	5.68E-03	1.29E-01	8.21E-01	1.15E+00	--	--
Uranium	6.70E-01	9.37E-09	9.50E-04	9.46E-04	1.70E+00	1.01E-01	1.01E-01	1.01E-01	1.01E-01	1.07E-01	2.14E-01	1.11E-05	3.08E-04	2.55E-01	3.57E-01	--	--
Vanadium	2.30E+01	3.13E-07	2.12E-03	2.10E-03	2.70E+01	1.20E-02	1.60E-01	1.04E-02	1.60E-01	9.30E-01	9.05E-02	4.91E-04	8.61E-03	1.96E-02	5.67E+00	--	--
Zinc	2.35E+01	1.89E-05	7.28E-03	7.27E-03	6.40E+01	3.43E-01	2.10E+00	3.17E+00	2.10E+00	7.90E+01	5.09E-03	1.09E-04	2.93E-03	7.26E+00	4.50E+01	3.00E+01	1.50E+01
Inorganics																	
Nitrate	--	--	4.82E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	5.94E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	6.83E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	1.87E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	--	4.91E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table B.53

Summary of Predicted Concentrations - Reclamation (Scenario 4)
Anaconda Goldboro
Goldboro, Nova Scotia

	Terrestrial Environment		Aquatic Environment			Terrestrial Ecosystem								Aquatic Ecosystem			
	Soil	Air	Surface Water-Total	Surface Water-Dissolved phase	Sediment	Leafy Vegetables	Fruit	Roots	Forage	Invertebrates	Prey	Hare	Deer	Plants	Invertebrates	Fish Whole	Fish Fillet
	(Cs)	(Coa)	(Cw)	(Cdw)	(Csed)	(Cv)	(Cfru)	(Cr)	(Cfo)	(Cti)	(Cp)	(Ch)	(Cd)	(Cap)	(Cai)	(Cfw)	(Cff)
Contaminant	(mg/kg)	(mg/m³)	(mg/L)	(mg/L)	(mg/kg)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)
Metals																	
Aluminum	9.92E+03	8.75E-05	2.66E-01	0.00E+00	1.50E+04	2.26E+00	3.90E+00	9.67E-01	1.14E+01	4.20E+02	8.35E+01	7.63E-02	7.61E-01	6.46E+00	3.15E+03	2.60E+00	1.30E+00
Antimony	1.00E+00	1.56E-08	3.27E-03	3.26E-03	8.10E+01	7.76E-03	1.60E-01	4.50E-03	1.60E-01	2.50E-01	4.00E-03	8.85E-05	2.46E-03	3.65E-01	1.70E+01	2.50E-01	2.50E-01
Arsenic	1.07E+01	3.48E-07	5.21E-02	5.21E-02	1.10E+05	1.27E-02	1.60E-01	1.28E-02	1.60E-01	8.00E+00	1.75E-02	4.47E-04	1.19E-02	6.19E+02	6.78E+02	5.94E+00	5.94E+00
Barium	4.15E+01	8.84E-05	7.05E-03	7.04E-03	9.60E+01	2.06E-01	3.50E+00	9.34E-02	3.50E+00	2.40E+01	5.76E-02	3.04E-04	8.16E-03	2.25E+00	2.02E+01	4.46E+00	4.46E+00
Beryllium	1.00E+00	1.56E-08	4.71E-04	4.68E-04	1.00E+00	4.07E-04	1.60E-01	2.25E-04	1.60E-01	2.50E-01	4.00E-03	8.82E-05	2.45E-03	8.78E-02	5.50E-01	2.50E-01	2.50E-01
Bismuth	--	8.13E-09	--	--	5.40E+00	2.17E-06	2.50E-02	--	--	--	--	--	--	8.10E-01	1.13E+00	--	--
Boron	2.50E+01	3.17E-08	1.96E+00	1.96E+00	2.50E+01	8.45E+00	8.45E+00	7.50E+00	1.50E+01	4.00E+00	8.00E+00	3.82E-03	1.09E-01	3.75E+00	5.25E+00	--	--
Cadmium	3.81E-01	5.62E-08	2.41E-05	2.41E-05	5.60E-01	6.86E-03	3.20E-02	3.66E-03	3.20E-02	1.60E+00	5.77E-02	2.22E-06	5.97E-05	6.80E-02	1.70E-01	2.50E-02	2.50E-02
Calcium	--	--	--	--	--	8.55E-02	9.30E+02	--	--	--	--	--	--	--	--	--	--
Chromium	1.34E+01	1.55E-06	6.87E-04	6.86E-04	2.40E+01	1.05E-02	1.60E-01	9.05E-03	1.60E-01	6.56E-01	4.99E-01	8.21E-04	1.65E-02	1.48E-01	1.08E+00	2.50E-01	2.50E-01
Cobalt	2.39E+00	3.15E-08	9.35E-04	9.35E-04	1.30E+02	3.22E-03	8.00E-02	2.51E-03	8.00E-02	2.10E-01	1.15E-02	1.07E-03	2.62E-02	1.46E-01	2.73E+01	2.80E-01	2.80E-01
Copper	5.86E+00	3.39E-04	1.86E-03	1.85E-03	3.60E+01	2.37E-01	1.10E+00	2.20E-01	1.10E+00	1.60E+01	3.18E+00	6.01E-03	1.68E-01	1.20E+00	6.98E+00	1.30E+00	3.71E-01
Iron	1.64E+04	1.03E-04	4.55E-01	4.55E-01	1.20E+05	3.68E+00	4.80E+00	2.46E+00	1.22E+01	2.62E+03	5.25E+03	1.66E+00	1.63E+01	1.80E+04	2.52E+04	9.10E+01	9.10E+01
Lead	2.37E+01	1.64E-08	7.06E-04	7.00E-04	1.20E+02	4.85E-02	5.20E-02	3.20E-02	1.62E-01	1.66E+00	1.40E+00	4.31E-05	5.55E-04	5.83E-01	1.63E+00	2.20E-01	9.00E-02
Lithium	9.31E+00	7.70E-08	8.53E-03	8.50E-03	3.10E+01	9.72E-03	1.70E-01	5.59E-03	1.70E-01	1.49E+00	2.98E+00	1.35E-03	3.01E-02	4.65E+00	6.51E+00	--	--
Magnesium	--	--	--	--	--	9.87E-02	5.00E+01	--	--	--	--	--	--	--	--	--	--
Manganese	9.07E+01	1.60E-06	4.92E-02	4.92E-02	4.00E+02	1.03E+00	6.30E+01	6.80E-01	6.30E+01	1.20E+03	5.95E-01	1.33E-02	3.80E-01	4.74E+00	8.40E+01	1.97E+01	1.97E+01
Mercury	2.64E-01	2.15E-09	7.05E-06	4.72E-06	1.10E+01	2.69E-10	2.50E-03	0.00E+00	2.50E-03	4.22E-02	8.45E-02	2.62E-03	5.00E-02	1.65E+00	1.90E-01	1.40E+00	2.50E-03
Mercury, divalent	4.91E-04	--	1.97E-08	1.31E-08	3.47E-04	1.15E-06	1.18E-06	2.65E-06	--	7.85E-05	1.57E-04	1.57E-08	2.07E-07	5.21E-05	7.29E-05	1.31E-08	1.31E-08
Mercury, methyl	6.30E-10	--	6.24E-15	6.23E-15	9.96E-13	1.67E-08	2.02E-08	9.36E-12	--	1.01E-10	2.02E-10	8.20E-12	2.36E-10	1.49E-13	2.09E-13	4.23E-08	4.23E-08
Molybdenum	1.00E+00	3.11E-08	1.23E-02	1.23E-02	4.30E+00	1.26E-02	1.60E-01	9.00E-03	1.60E-01	6.90E-01	3.20E-01	5.38E-04	1.50E-02	6.45E-01	9.03E-01	2.50E-01	2.50E-01
Nickel	6.91E+00	1.80E-06	6.10E-03	6.10E-03	2.10E+02	9.91E-03	1.60E-01	8.29E-03	1.60E-01	1.11E+00	6.16E-01	7.08E-04	1.64E-02	1.55E+00	1.98E+01	4.76E-01	4.76E-01
Phosphorus	2.08E-02	--	1.70E-03	1.70E-03	5.94E-03	1.55E-02	1.60E+02	1.09E-02	1.60E+02	3.33E-03	6.67E-03	4.58E+00	1.32E+02	8.92E-04	1.25E-03	--	--
Potassium	1.50E+00	--	7.88E-02	7.88E-02	4.34E-01	3.47E-01	8.60E+02	1.24E-01	8.60E+02	2.40E-01	4.80E-01	8.94E+00	2.58E+02	6.50E-02	9.10E-02	--	--
Rubidium	--	4.86E-08	--	--	3.90E+01	3.93E-05	4.76E-05	--	--	--	--	--	--	5.85E+00	8.19E+00	--	--
Selenium	1.49E+00	1.21E-08	4.68E-04	4.68E-04	2.50E+00	4.47E-03	1.60E-01	4.92E-03	1.60E-01	2.50E-01	2.45E-01	2.08E-04	5.68E-03	2.10E-01	5.50E-01	7.50E-01	7.50E-01
Silver	2.50E-01	1.48E-07	7.04E-05	7.04E-05	3.40E+00	5.18E-03	4.00E-02	3.75E-03	4.00E-02	1.80E+00	3.20E-04	6.61E-05	1.83E-03	7.14E-03	7.14E-01	6.00E-02	6.00E-02
Sodium	1.57E+01	--	4.79E-02	4.79E-02	4.79E+00	2.61E-01	2.50E+01	1.30E-01	2.50E+01	2.52E+00	5.03E+00	7.20E-01	2.07E+01	7.18E-01	1.01E+00	9.58E-01	9.58E-01
Strontium	4.57E+01	5.02E-07	3.24E-01	3.24E-01	2.60E+01	3.68E+00	3.68E+00	1.71E+00	1.71E+01	1.00E+01	1.46E+01	6.53E-04	1.76E-02	3.90E+00	5.46E+00	6.10E+01	4.40E+01
Thallium	5.00E-02	9.35E-09	6.61E-05	6.61E-05	3.00E-01	1.16E-05	1.10E-02	3.00E-06	1.10E-02	1.00E-02	1.60E-02	2.39E-04	6.70E-03	4.50E-02	6.30E-02	6.61E-01	6.61E-01
Tin	5.00E-01	1.85E-06	5.40E-04	5.38E-04	1.40E+00	6.99E-04	1.20E+00	4.50E-04	1.20E+00	2.50E-01	1.60E-01	6.27E-04	1.80E-02	2.10E-01	5.50E-01	1.62E+00	1.62E+00
Titanium	1.40E+01	1.34E-06	6.23E-03	6.17E-03	6.17E+00	3.46E-02	2.50E-01	6.31E-03	2.50E-01	2.24E+00	4.49E+00	5.99E-03	1.32E-01	9.26E-01	1.30E+00	--	--
Uranium	6.70E-01	9.37E-09	8.52E-04	8.48E-04	1.70E+00	1.01E-01	1.01E-01	1.01E-01	1.01E-01	1.07E-01	2.14E-01	1.11E-05	3.08E-04	2.55E-01	3.57E-01	--	--
Vanadium	2.30E+01	3.13E-07	1.49E-03	1.47E-03	2.70E+01	1.20E-02	1.60E-01	1.04E-02	1.60E-01	9.30E-01	9.05E-02	4.91E-04	8.60E-03	1.96E-02	5.67E+00	--	--
Zinc	2.35E+01	1.89E-05	7.18E-03	7.17E-03	6.40E+01	3.43E-01	2.10E+00	3.17E+00	2.10E+00	7.90E+01	5.09E-03	1.09E-04	2.93E-03	7.26E+00	4.50E+01	3.00E+01	1.48E+01
Inorganics																	
Nitrate	--	--	1.45E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	2.94E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	6.95E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	5.02E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	--	4.51E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table B.54

Summary of Predicted Concentrations - Post-Closure (Scenario 5)
Anaconda Goldboro
Goldboro, Nova Scotia

	Terrestrial Environment		Aquatic Environment			Terrestrial Ecosystem								Aquatic Ecosystem			
	Soil	Air	Surface Water-Total	Surface Water-Dissolved	Sediment	Leafy Vegetables	Fruit	Roots	Forage	Invertebrates	Prey	Hare	Deer	Plants	Invertebrates	Fish Whole	Fish Fillet
	(Cs)	(Coa)	(Cw)	(Cdw)	(Csed)	(Cv)	(Cfru)	(Cr)	(Cfo)	(Cti)	(Cp)	(Ch)	(Cd)	(Cap)	(Cai)	(Cfw)	(Cff)
Contaminant	(mg/kg)	(mg/m³)	(mg/L)	(mg/L)	(mg/kg)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)
Metals																	
Aluminum	9.92E+03	8.52E-05	3.61E-01	0.00E+00	1.50E+04	2.26E+00	3.90E+00	9.67E-01	1.14E+01	4.20E+02	8.35E+01	7.63E-02	7.61E-01	6.46E+00	3.15E+03	2.60E+00	1.30E+00
Antimony	1.00E+00	1.56E-08	2.20E-03	2.20E-03	8.10E+01	7.76E-03	1.60E-01	4.50E-03	1.60E-01	2.50E-01	4.00E-03	8.84E-05	2.45E-03	3.65E-01	1.70E+01	2.50E-01	2.50E-01
Arsenic	1.07E+01	3.40E-07	5.12E-02	5.12E-02	1.10E+05	1.27E-02	1.60E-01	1.28E-02	1.60E-01	8.00E+00	1.75E-02	4.47E-04	1.19E-02	6.19E+02	6.78E+02	5.83E+00	5.83E+00
Barium	4.15E+01	8.83E-05	5.73E-03	5.72E-03	9.60E+01	2.06E-01	3.50E+00	9.34E-02	3.50E+00	2.40E+01	5.76E-02	3.04E-04	8.16E-03	2.25E+00	2.02E+01	3.62E+00	3.62E+00
Beryllium	1.00E+00	1.56E-08	4.76E-04	4.73E-04	1.00E+00	4.07E-04	1.60E-01	2.25E-04	1.60E-01	2.50E-01	4.00E-03	8.82E-05	2.45E-03	8.78E-02	5.50E-01	2.50E-01	2.50E-01
Bismuth	--	8.12E-09	--	--	5.40E+00	2.17E-06	2.50E-02	--	--	--	--	--	--	8.10E-01	1.13E+00	--	--
Boron	2.50E+01	3.11E-08	1.96E+00	1.96E+00	2.50E+01	8.45E+00	8.45E+00	7.50E+00	1.50E+01	4.00E+00	8.00E+00	3.82E-03	1.09E-01	3.75E+00	5.25E+00	--	--
Cadmium	3.81E-01	5.62E-08	3.70E-05	3.70E-05	5.60E-01	6.86E-03	3.20E-02	3.66E-03	3.20E-02	1.60E+00	5.77E-02	2.22E-06	5.97E-05	6.80E-02	1.70E-01	3.35E-02	3.35E-02
Calcium	--	--	--	--	--	8.55E-02	9.30E+02	--	--	--	--	--	--	--	--	--	--
Chromium	1.34E+01	1.55E-06	8.60E-04	8.60E-04	2.40E+01	1.05E-02	1.60E-01	9.05E-03	1.60E-01	6.56E-01	4.99E-01	8.21E-04	1.65E-02	1.48E-01	1.08E+00	2.50E-01	2.50E-01
Chromium VI	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	2.39E+00	3.11E-08	9.61E-04	9.60E-04	1.30E+02	3.22E-03	8.00E-02	2.51E-03	8.00E-02	2.10E-01	1.15E-02	1.07E-03	2.62E-02	1.46E-01	2.73E+01	2.88E-01	2.88E-01
Copper	5.86E+00	3.39E-04	9.20E-04	9.20E-04	3.60E+01	2.37E-01	1.10E+00	2.20E-01	1.10E+00	1.60E+01	3.18E+00	6.01E-03	1.68E-01	1.20E+00	6.98E+00	1.30E+00	2.50E-01
Iron	1.64E+04	1.02E-04	4.28E-01	4.27E-01	1.20E+05	3.68E+00	4.80E+00	2.46E+00	1.22E+01	2.62E+03	5.25E+03	1.66E+00	1.63E+01	1.80E+04	2.52E+04	8.55E+01	8.55E+01
Lead	2.37E+01	1.56E-08	9.27E-04	9.19E-04	1.20E+02	4.85E-02	5.20E-02	3.20E-02	1.62E-01	1.66E+00	1.40E+00	4.31E-05	5.55E-04	5.83E-01	1.63E+00	2.20E-01	9.00E-02
Lithium	9.31E+00	7.56E-08	8.53E-03	8.50E-03	3.10E+01	9.72E-03	1.70E-01	5.59E-03	1.70E-01	1.49E+00	2.98E+00	1.35E-03	3.01E-02	4.65E+00	6.51E+00	--	--
Magnesium	--	--	--	--	--	9.87E-02	5.00E+01	--	--	--	--	--	--	--	--	--	--
Manganese	9.07E+01	1.58E-06	1.19E-01	1.19E-01	4.00E+02	1.03E+00	6.30E+01	6.80E-01	6.30E+01	1.20E+03	5.95E-01	1.33E-02	3.80E-01	4.74E+00	8.40E+01	4.74E+01	4.74E+01
Mercury	2.64E-01	2.14E-09	9.69E-06	6.48E-06	1.10E+01	2.69E-10	2.50E-03	0.00E+00	2.50E-03	4.22E-02	8.45E-02	2.62E-03	5.00E-02	1.65E+00	1.90E-01	1.40E+00	2.50E-03
Mercury, divalent	4.91E-04	--	1.97E-08	1.31E-08	3.47E-04	1.15E-06	1.03E-06	2.65E-06	--	7.85E-05	1.57E-04	1.53E-08	1.96E-07	5.21E-05	7.29E-05	1.31E-08	1.31E-08
Mercury, methyl	6.30E-10	--	6.24E-15	6.23E-15	9.96E-13	1.67E-08	2.74E-12	9.36E-12	--	1.01E-10	2.02E-10	3.53E-15	5.42E-14	1.49E-13	2.09E-13	4.23E-08	4.23E-08
Molybdenum	1.00E+00	3.11E-08	1.23E-02	1.23E-02	4.30E+00	1.26E-02	1.60E-01	9.00E-03	1.60E-01	6.90E-01	3.20E-01	5.38E-04	1.50E-02	6.45E-01	9.03E-01	2.50E-01	2.50E-01
Nickel	6.91E+00	1.80E-06	1.13E-02	1.13E-02	2.10E+02	9.91E-03	1.60E-01	8.29E-03	1.60E-01	1.11E+00	6.16E-01	7.12E-04	1.66E-02	1.55E+00	1.98E+01	8.83E-01	8.83E-01
Phosphorus	2.08E-02	--	1.70E-03	1.70E-03	5.94E-03	1.55E-02	1.60E+02	1.09E-02	1.60E+02	3.33E-03	6.67E-03	4.58E+00	1.32E+02	8.92E-04	1.25E-03	--	--
Potassium	1.50E+00	--	7.88E-02	7.88E-02	4.34E-01	3.47E-01	8.60E+02	1.24E-01	8.60E+02	2.40E-01	4.80E-01	8.94E+00	2.58E+02	6.50E-02	9.10E-02	--	--
Rubidium	--	4.85E-08	--	--	3.90E+01	3.93E-05	0.00E+00	--	--	--	--	--	--	5.85E+00	8.19E+00	--	--
Selenium	1.49E+00	1.21E-08	5.58E-04	5.58E-04	2.50E+00	4.47E-03	1.60E-01	4.92E-03	1.60E-01	2.50E-01	2.45E-01	2.08E-04	5.68E-03	2.10E-01	5.50E-01	7.50E-01	7.50E-01
Silver	2.50E-01	1.48E-07	7.48E-05	7.48E-05	3.40E+00	5.18E-03	4.00E-02	3.75E-03	4.00E-02	1.80E+00	3.20E-04	6.61E-05	1.83E-03	7.14E-03	7.14E-01	6.00E-02	6.00E-02
Sodium	1.57E+01	--	4.79E-02	4.79E-02	4.79E+00	2.61E-01	2.50E+01	1.30E-01	2.50E+01	2.52E+00	5.03E+00	7.20E-01	2.07E+01	7.18E-01	1.01E+00	9.58E-01	9.58E-01
Strontium	4.57E+01	4.98E-07	3.24E-01	3.24E-01	2.60E+01	3.68E+00	3.67E+00	1.71E+00	1.71E+01	1.00E+01	1.46E+01	6.53E-04	1.76E-02	3.90E+00	5.46E+00	6.10E+01	4.40E+01
Thallium	5.00E-02	9.33E-09	8.48E-05	8.48E-05	3.00E-01	1.16E-05	1.10E-02	3.00E-06	1.10E-02	1.00E-02	1.60E-02	2.39E-04	6.71E-03	4.50E-02	6.30E-02	8.48E-01	8.48E-01
Tin	5.00E-01	1.85E-06	5.40E-04	5.38E-04	1.40E+00	6.99E-04	1.20E+00	4.50E-04	1.20E+00	2.50E-01	1.60E-01	6.27E-04	1.80E-02	2.10E-01	5.50E-01	1.62E+00	1.62E+00
Titanium	1.40E+01	1.25E-06	6.23E-03	6.17E-03	6.17E+00	3.46E-02	2.50E-01	6.31E-03	2.50E-01	2.24E+00	4.49E+00	5.99E-03	1.32E-01	9.26E-01	1.30E+00	--	--
Uranium	6.70E-01	9.33E-09	5.76E-04	5.73E-04	1.70E+00	1.01E-01	1.01E-01	1.01E-01	1.01E-01	1.07E-01	2.14E-01	1.11E-05	3.08E-04	2.55E-01	3.57E-01	--	--
Vanadium	2.30E+01	3.11E-07	2.01E-03	1.99E-03	2.70E+01	1.20E-02	1.60E-01	1.04E-02	1.60E-01	9.30E-01	9.05E-02	4.91E-04	8.61E-03	1.96E-02	5.67E+00	--	--
Zinc	2.35E+01	1.89E-05	7.27E-03	7.26E-03	6.40E+01	3.43E-01	2.10E+00	3.17E+00	2.10E+00	7.90E+01	5.09E-03	1.09E-04	2.93E-03	7.26E+00	4.50E+01	3.00E+01	1.50E+01
Inorganics																	
Nitrate	--	--	7.77E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	6.00E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	3.02E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	1.68E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	--	1.22E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table B.55

Change in Predicted Media Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

	Change in Predicted Soil Concentration Δ mg/kg				Change in Predicted Surface Water Concentration Δ mg/L				Change in Predicted Sediment Concentration Δ mg/kg			
Contaminant	Construction (Cs) (mg/kg)	Operations (Cs) (mg/kg)	Reclamation (Cs) (mg/kg)	Post-Closure (Cs) (mg/kg)	Construction (Cw) (mg/L)	Operations (Cw) (mg/L)	Reclamation (Cw) (mg/L)	Post-Closure (Cw) (mg/L)	Construction (Csed) (mg/kg)	Operations (Csed) (mg/kg)	Reclamation (Csed) (mg/kg)	Post-Closure (Csed) (mg/kg)
Metals												
Aluminum	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-7.36E-02	-3.05E-01	-2.38E-01	-1.43E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Antimony	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.75E-04	3.71E-03	2.59E-03	1.52E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Arsenic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-6.22E-01	-6.25E-01	-6.26E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Barium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.49E-03	3.45E-03	2.13E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Beryllium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.75E-04	-2.14E-04	-2.04E-04	-1.99E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bismuth	--	--	--	--	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Boron	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.94E+00	1.94E+00	1.94E+00	1.94E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cadmium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.24E-05	-1.74E-05	-1.31E-05	-2.20E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Calcium	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.42E-04	-6.13E-04	-4.40E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cobalt	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.05E-04	6.86E-04	6.30E-04	6.56E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Copper	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.16E-04	1.13E-04	-8.22E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Iron	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-8.15E-01	-7.15E-01	-7.42E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lead	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-2.08E-04	-1.48E-04	-2.64E-04	-4.30E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lithium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Magnesium	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.73E-03	-3.11E-02	3.84E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, element	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.30E-04	-1.29E-04	-1.27E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, divalent	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, methyl	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nickel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phosphorus	--	--	--	--	-4.83E-02	-4.83E-02	-4.83E-02	-4.83E-02	--	--	--	--
Potassium	--	--	--	--	-7.25E-01	-7.25E-01	-7.25E-01	-7.25E-01	--	--	--	--
Rubidium	--	--	--	--	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Selenium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.17E-05	-3.17E-05	5.82E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Silver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sodium	--	--	--	--	-5.49E+00	-5.47E+00	-5.47E+00	-5.47E+00	--	--	--	--
Strontium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.79E-01	2.79E-01	2.79E-01	2.79E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Thallium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tin	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Titanium	--	--	--	--	-7.06E-03	-3.81E-03	-3.11E-03	-3.11E-03	--	--	--	--
Uranium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.75E-05	8.83E-04	7.84E-04	5.08E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Vanadium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Zinc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-2.04E-03	-4.52E-03	-4.62E-03	-4.53E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Appendix B.5

Gold Brook Lake: Baseline and Predicted Future Exposure Point Concentration Models and Result

Table B.1

Summary of Measured and Estimated Background Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

	Measured Baseline Concentration									Estimated Baseline Concentration			
Contaminant	**Surface soil (Cs) (mg/kg)**	**Outdoor air (Coa) (mg/m³)**	**Surface water (Cw) (mg/L)**	**Sediment (Csed) (mg/kg)**	**Berries (Cfru) (mg/kg FW)**	**Fish fillets (Cff) (mg/kg FW)**	**Fish remains (Cfr) (mg/kg FW)**	**Terrestrial invertebrates (Cti) (mg/kg FW)**	**Aquatic invertebrates (Cai) (mg/kg FW)**	**Hare Flesh (Ch) (mg/kg FW) (refer to table B.3)**	**Deer Flesh (Cd) (mg/kg FW) (refer to table B.2)**	**Prey Flesh (Cp) (mg/kg FW) (refer to table B.4)**	**Aquatic Plants (Cap) (mg/kg FW) (refer to table B.5)**
Metals													
Aluminum	1.10E+04	8.52E-05	5.04E-01	9.80E+03	3.90E+00	1.30E+00	2.60E+00	4.20E+02	1.80E+02	8.42E-02	8.34E-01	9.26E+01	4.22E+00
Antimony	1.00E+00	1.56E-08	6.75E-04	5.30E+00	<0.32	<0.5	<0.5	<0.5	<1.1	8.82E-05	2.45E-03	4.00E-03	2.83E-02
Arsenic	6.10E+00	3.40E-07	6.18E-02	1.50E+04	<0.32	2.50E-01	5.30E-01	8.00E+00	1.70E+02	2.42E-04	5.91E-03	1.10E-02	8.44E+01
Barium	4.30E+01	8.83E-05	3.37E-03	7.10E+01	3.50E+00	<1.5	2.50E+00	2.40E+01	<3.3	3.05E-04	8.17E-03	5.76E-02	1.66E+00
Beryllium	1.00E+00	1.56E-08	6.75E-04	<2	<0.32	<0.5	<0.5	<0.5	<1.1	8.82E-05	2.45E-03	4.00E-03	8.78E-02
Bismuth	1.00E+00	--	1.00E-03	<2	<0.05	--	--	--	--	7.22E-06	1.70E-04	3.20E-01	1.50E-01
Boron	2.50E+01	3.11E-08	2.50E-02	<50	1.90E+00	<1.5	<1.5	2.30E+00	<3.3	8.91E-04	2.38E-02	8.00E+00	3.75E+00
Cadmium	1.50E-01	5.62E-08	3.72E-05	<0.3	3.20E-02	<0.05	2.50E-02	1.60E+00	1.70E-01	2.09E-06	5.84E-05	3.72E-02	3.31E-02
Calcium	--	--	7.54E-01	--	9.30E+02	--	--	--	--	--	--	--	--
Chromium	1.40E+01	1.55E-06	5.00E-04	1.60E+01	<0.32	<0.5	<0.5	5.80E-01	<1.1	8.36E-04	1.67E-02	5.15E-01	9.84E-02
Cobalt	2.60E+00	3.11E-08	3.05E-04	4.10E+00	<0.16	<0.2	<0.2	2.10E-01	<0.44	1.09E-03	2.64E-02	1.28E-02	4.61E-03
Copper	7.10E+00	3.39E-04	1.00E-03	1.50E+01	1.10E+00	2.50E-01	1.30E+00	1.60E+01	5.10E+00	6.07E-03	1.68E-01	3.27E+00	8.50E-01
Iron	1.70E+04	1.02E-04	6.98E-01	3.70E+04	<9.6	7.50E+00	2.50E+01	6.00E+02	1.10E+03	1.72E+00	1.68E+01	5.44E+03	5.55E+03
Lead	1.60E+01	1.56E-08	9.70E-04	4.90E+01	5.20E-02	<0.18	2.20E-01	5.60E-01	9.40E-01	3.17E-05	4.51E-04	1.18E+00	3.53E-01
Lithium	1.00E+01	--	--	1.70E+01	<0.34	<0.5	<0.5	<0.5	<1.1	--	--	3.20E+00	2.55E+00
Magnesium	--	--	6.40E-01	--	<100	--	--	--	--	--	--	--	--
Manganese	9.90E+01	1.58E-06	2.55E-02	2.10E+02	6.30E+01	3.10E+00	6.40E+00	1.20E+03	3.30E+01	1.33E-02	3.80E-01	6.49E-01	2.49E+00
Mercury	1.80E-01	--	1.03E-05	2.70E+00	<0.005	2.50E-03	1.40E+00	3.50E-02	1.90E-01	2.19E-03	4.56E-02	5.76E-02	4.05E-01
Mercury, divalent	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, methyl	--	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	1.00E+00	3.11E-08	1.00E-03	<2	<0.32	<0.5	<0.5	6.90E-01	<1.1	5.29E-04	1.47E-02	3.20E-01	1.50E-01
Nickel	7.30E+00	1.80E-06	1.00E-03	1.30E+01	<0.32	<0.5	<0.5	1.10E+00	<1.1	7.15E-04	1.64E-02	6.31E-01	4.09E-01
Phosphorus	--	--	5.00E-02	--	1.60E+02	--	--	--	--	--	--	--	--
Potassium	--	--	3.78E-01	--	8.60E+02	--	--	--	--	--	--	--	--
Rubidium	6.90E+00	--	--	2.10E+01	--	--	--	--	--	--	--	2.21E+00	3.15E+00
Selenium	8.70E-01	--	5.00E-04	1.10E+00	<0.32	7.50E-01	7.30E-01	<0.5	<1.1	2.01E-04	5.62E-03	2.00E-01	8.47E-02
Silver	2.50E-01	1.48E-07	5.00E-05	<0.5	<0.08	<0.12	<0.12	1.80E+00	<0.26	6.61E-05	1.83E-03	3.20E-04	5.25E-04
Sodium	--	--	4.71E+00	--	<50	--	--	--	--	--	--	--	--
Strontium	2.30E+01	4.98E-07	9.48E-03	1.30E+01	2.20E+00	4.40E+01	6.10E+01	1.00E+01	<3.3	3.77E-04	1.02E-02	7.36E+00	1.95E+00
Thallium	5.00E-02	9.33E-09	5.00E-05	1.70E-01	<0.022	<0.02	<0.02	<0.02	<0.044	2.39E-04	6.70E-03	1.60E-02	2.55E-02
Tin	5.00E-01	1.85E-06	1.00E-03	<1	1.20E+00	<0.5	<0.5	<0.5	<1.1	6.27E-04	1.80E-02	1.60E-01	7.50E-02
Titanium	--	1.25E-06	8.75E-03	--	<0.5	--	--	--	--	--	--	--	--
Uranium	6.70E-01	9.33E-09	6.75E-05	6.00E-01	<0.016	<0.02	<0.02	<0.02	<0.044	1.49E-06	3.01E-05	2.14E-01	9.00E-02
Vanadium	2.30E+01	3.11E-07	1.00E-03	1.80E+01	<0.32	<0.5	<0.5	9.30E-01	<1.1	4.91E-04	8.60E-03	9.05E-02	1.31E-02
Zinc	2.00E+01	1.89E-05	1.18E-02	3.90E+01	2.10E+00	1.40E+01	3.00E+01	7.90E+01	4.50E+01	1.07E-04	2.92E-03	5.04E-03	5.52E+00
Inorganics													
Cyanide	--	--	0.00E+00	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	6.23E-02	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	1.59E-02	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	6.55E-02	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	2.55E-03	--	--	--	--	--	--	--	--	--	--

Table B.2

Deer Baseline Concentration Due to Plant and Soil Ingestion
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal (F) (refer to Table B.9) (unitless)	Quantity of Forage Ingested by the Animal per day (1) (Qp_f) (refer to Table B.9) (kg DW/day)	Baseline Concentration in Forage Ingested (P_f) (refer to Table B.1) (mg/kg DW)	Quantity of Soil Ingested by the Animal (Qs) (refer to Table B.9) (kg/day)	Baseline Soil Concentration (Cs) (refer to Table B.1) (mg/kg)	Soil Bioavailability Factor (Bs) (unitless)	Quantity of Surface Water Ingested by the Animal (Qw) (refer to Table B.9) (L/day)	Baseline Surface Water Concentration (Cw) (refer to Table B.1) (mg/L)	Biotransfer Factor for Beef (Ba_{beef}) (refer to Table B.10) (day/kg FW tissue)	Biotransfer Factor for Wildlife ($Ba_{wildlife}$) (day/kg FW tissue)	Metabolism Factor (MF) unitless	Baseline Concentration in Deer (Cd) (mg/kg FW tissue)
Particulate Matter												
Total Particulate Matter	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	--	--	1.00E+00	--
Particulate Matter (PM10)	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	--	--	1.00E+00	--
Particulate Matter (PM2.5)	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	--	--	1.00E+00	--
Metals												
Aluminum	1.00E+00	2.25E+00	2.60E+01	4.50E-02	1.10E+04	1.00E+00	4.50E+00	5.04E-01	1.50E-03	1.50E-03	1.00E+00	8.34E-01
Antimony	1.00E+00	2.25E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	4.50E+00	6.75E-04	1.00E-03	1.00E-03	1.00E+00	2.45E-03
Arsenic	1.00E+00	2.25E+00	1.07E+00	4.50E-02	6.10E+00	1.00E+00	4.50E+00	6.18E-02	2.00E-03	2.00E-03	1.00E+00	5.91E-03
Barium	1.00E+00	2.25E+00	2.33E+01	4.50E-02	4.30E+01	1.00E+00	4.50E+00	3.37E-03	1.50E-04	1.50E-04	1.00E+00	8.17E-03
Beryllium	1.00E+00	2.25E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	4.50E+00	6.75E-04	1.00E-03	1.00E-03	1.00E+00	2.45E-03
Bismuth	1.00E+00	2.25E+00	1.67E-01	4.50E-02	1.00E+00	1.00E+00	4.50E+00	1.00E-03	4.00E-04	4.00E-04	1.00E+00	1.70E-04
Boron	1.00E+00	2.25E+00	1.27E+01	4.50E-02	2.50E+01	1.00E+00	4.50E+00	2.50E-02	8.00E-04	8.00E-04	1.00E+00	2.38E-02
Cadmium	1.00E+00	2.25E+00	2.13E-01	4.50E-02	1.50E-01	1.00E+00	4.50E+00	3.72E-05	1.20E-04	1.20E-04	1.00E+00	5.84E-05
Calcium	1.00E+00	2.25E+00	6.20E+03	4.50E-02	--	1.00E+00	4.50E+00	7.54E-01	7.00E-04	7.00E-04	1.00E+00	--
Chromium Total	1.00E+00	2.25E+00	1.07E+00	4.50E-02	1.40E+01	1.00E+00	4.50E+00	5.00E-04	5.50E-03	5.50E-03	1.00E+00	1.67E-02
Cobalt	1.00E+00	2.25E+00	5.33E-01	4.50E-02	2.60E+00	1.00E+00	4.50E+00	3.05E-04	2.00E-02	2.00E-02	1.00E+00	2.64E-02
Copper	1.00E+00	2.25E+00	7.33E+00	4.50E-02	7.10E+00	1.00E+00	4.50E+00	1.00E-03	1.00E-02	1.00E-02	1.00E+00	1.68E-01
Iron	1.00E+00	2.25E+00	3.20E+01	4.50E-02	1.70E+04	1.00E+00	4.50E+00	6.98E-01	2.00E-02	2.00E-02	1.00E+00	1.68E+01
Lead	1.00E+00	2.25E+00	3.47E-01	4.50E-02	1.60E+01	1.00E+00	4.50E+00	9.70E-04	3.00E-04	3.00E-04	1.00E+00	4.51E-04
Lithium	1.00E+00	2.25E+00	1.13E+00	4.50E-02	1.00E+01	1.00E+00	4.50E+00	--	1.00E-02	1.00E-02	1.00E+00	--
Magnesium	1.00E+00	2.25E+00	3.33E+02	4.50E-02	--	1.00E+00	4.50E+00	6.40E-01	5.00E-03	5.00E-03	1.00E+00	--
Manganese	1.00E+00	2.25E+00	4.20E+02	4.50E-02	9.90E+01	1.00E+00	4.50E+00	2.55E-02	4.00E-04	4.00E-04	1.00E+00	3.80E-01
Mercury, element	1.00E+00	2.25E+00	1.67E-02	4.50E-02	1.80E-01	1.00E+00	4.50E+00	1.03E-05	1.00E+00	1.00E+00	1.00E+00	4.56E-02
Mercury, divalent	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	5.20E-03	5.20E-03	1.00E+00	--
Mercury, methyl	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	7.80E-04	7.80E-04	1.00E+00	--
Molybdenum	1.00E+00	2.25E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	4.50E+00	1.00E-03	6.00E-03	6.00E-03	1.00E+00	1.47E-02
Nickel	1.00E+00	2.25E+00	1.07E+00	4.50E-02	7.30E+00	1.00E+00	4.50E+00	1.00E-03	6.00E-03	6.00E-03	1.00E+00	1.64E-02
Phosphorus	1.00E+00	2.25E+00	1.07E+03	4.50E-02	--	1.00E+00	4.50E+00	5.00E-02	5.50E-02	5.50E-02	1.00E+00	--
Potassium	1.00E+00	2.25E+00	5.73E+03	4.50E-02	--	1.00E+00	4.50E+00	3.78E-01	2.00E-02	2.00E-02	1.00E+00	--
Rubidium	1.00E+00	2.25E+00	--	4.50E-02	6.90E+00	1.00E+00	4.50E+00	--	1.50E-02	1.50E-02	1.00E+00	--
Selenium	1.00E+00	2.25E+00	1.07E+00	4.50E-02	8.70E-01	1.00E+00	4.50E+00	5.00E-04	2.30E-03	2.30E-03	1.00E+00	5.62E-03
Silver	1.00E+00	2.25E+00	2.67E-01	4.50E-02	2.50E-01	1.00E+00	4.50E+00	5.00E-05	3.00E-03	3.00E-03	1.00E+00	1.83E-03
Sodium	1.00E+00	2.25E+00	1.67E+02	4.50E-02	--	1.00E+00	4.50E+00	4.71E+00	5.50E-02	5.50E-02	1.00E+00	--
Strontium	1.00E+00	2.25E+00	1.47E+01	4.50E-02	2.30E+01	1.00E+00	4.50E+00	9.48E-03	3.00E-04	3.00E-04	1.00E+00	1.02E-02
Thallium	1.00E+00	2.25E+00	7.33E-02	4.50E-02	5.00E-02	1.00E+00	4.50E+00	5.00E-05	4.00E-02	4.00E-02	1.00E+00	6.70E-03
Tin	1.00E+00	2.25E+00	8.00E+00	4.50E-02	5.00E-01	1.00E+00	4.50E+00	1.00E-03	1.00E-03	1.00E-03	1.00E+00	1.80E-02
Titanium	1.00E+00	2.25E+00	1.67E+00	4.50E-02	--	1.00E+00	4.50E+00	8.75E-03	3.00E-02	3.00E-02	1.00E+00	--
Uranium	1.00E+00	2.25E+00	5.33E-02	4.50E-02	6.70E-01	1.00E+00	4.50E+00	6.75E-05	2.00E-04	2.00E-04	1.00E+00	3.01E-05
Vanadium	1.00E+00	2.25E+00	1.07E+00	4.50E-02	2.30E+01	1.00E+00	4.50E+00	1.00E-03	2.50E-03	2.50E-03	1.00E+00	8.60E-03
Zinc	1.00E+00	2.25E+00	1.40E+01	4.50E-02	2.00E+01	1.00E+00	4.50E+00	1.18E-02	9.00E-05	9.00E-05	1.00E+00	2.92E-03

Equation: $Cwildlife = F \times Qp_f \times P_f + Qs \times Cs \times Bs + Qw \times Cw \times Ba_{wildlife} \times MF$ where: $Ba_{wildlife} = Ba_{beef}$ refer to Table B-10 for Ba_{beef}

Table B.3

Hare Baseline Concentration Due to Plant and Soil Ingestion
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal (F) (refer to Table B.9) (unitless)	Quantity of Forage Ingested by the Animal per day (1) (Qp_f) (refer to Table B.9) (kg DW/day)	Baseline Concentration in Forage Ingested (P_f) (refer to Table B.1) (mg/kg DW)	Quantity of Soil Ingested by the Animal (Qs) (refer to Table B.9) (kg/day)	Baseline Soil Concentration (Cs) (refer to Table B.1) (mg/kg)	Soil Bioavailability Factor (Bs) (unitless)	Quantity of Surface Water Ingested by the Animal (Qw) (refer to Table B.9) (L/day)	Baseline Surface Water Concentration (Cw) (refer to Table B.1) (mg/L)	Biotransfer Factor for Beef (Ba_{beef}) (refer to Table B.10) (day/kg FW tissue)	Biotransfer Factor for Wildlife ($Ba_{wildlife}$) (day/kg FW tissue)	Metabolism Factor (MF) unitless	Baseline Concentration in Hare (Ch) (mg/kg FW tissue)
Particulate Matter												
Particulate Matter (PM10)	1.00E+00	7.80E-02	--	4.91E-03	--	1.00E+00	1.30E-01	--	--	--	1.00E+00	--
Particulate Matter (PM2.5)	1.00E+00	7.80E-02	--	4.91E-03	--	1.00E+00	1.30E-01	--	--	--	1.00E+00	--
Metals												
Aluminum	1.00E+00	7.80E-02	2.60E+01	4.91E-03	1.10E+04	1.00E+00	1.30E-01	5.04E-01	1.50E-03	1.50E-03	1.00E+00	8.42E-02
Antimony	1.00E+00	7.80E-02	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.30E-01	6.75E-04	1.00E-03	1.00E-03	1.00E+00	8.82E-05
Arsenic	1.00E+00	7.80E-02	1.07E+00	4.91E-03	6.10E+00	1.00E+00	1.30E-01	6.18E-02	2.00E-03	2.00E-03	1.00E+00	2.42E-04
Barium	1.00E+00	7.80E-02	2.33E+01	4.91E-03	4.30E+01	1.00E+00	1.30E-01	3.37E-03	1.50E-04	1.50E-04	1.00E+00	3.05E-04
Beryllium	1.00E+00	7.80E-02	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.30E-01	6.75E-04	1.00E-03	1.00E-03	1.00E+00	8.82E-05
Bismuth	1.00E+00	7.80E-02	1.67E-01	4.91E-03	1.00E+00	1.00E+00	1.30E-01	1.00E-03	4.00E-04	4.00E-04	1.00E+00	7.22E-06
Boron	1.00E+00	7.80E-02	1.27E+01	4.91E-03	2.50E+01	1.00E+00	1.30E-01	2.50E-02	8.00E-04	8.00E-04	1.00E+00	8.91E-04
Cadmium	1.00E+00	7.80E-02	2.13E-01	4.91E-03	1.50E-01	1.00E+00	1.30E-01	3.72E-05	1.20E-04	1.20E-04	1.00E+00	2.09E-06
Calcium	1.00E+00	7.80E-02	6.20E+03	4.91E-03	--	1.00E+00	1.30E-01	7.54E-01	7.00E-04	7.00E-04	1.00E+00	--
Chromium Total	1.00E+00	7.80E-02	1.07E+00	4.91E-03	1.40E+01	1.00E+00	1.30E-01	5.00E-04	5.50E-03	5.50E-03	1.00E+00	8.36E-04
Cobalt	1.00E+00	7.80E-02	5.33E-01	4.91E-03	2.60E+00	1.00E+00	1.30E-01	3.05E-04	2.00E-02	2.00E-02	1.00E+00	1.09E-03
Copper	1.00E+00	7.80E-02	7.33E+00	4.91E-03	7.10E+00	1.00E+00	1.30E-01	1.00E-03	1.00E-02	1.00E-02	1.00E+00	6.07E-03
Iron	1.00E+00	7.80E-02	3.20E+01	4.91E-03	1.70E+04	1.00E+00	1.30E-01	6.98E-01	2.00E-02	2.00E-02	1.00E+00	1.72E+00
Lead	1.00E+00	7.80E-02	3.47E-01	4.91E-03	1.60E+01	1.00E+00	1.30E-01	9.70E-04	3.00E-04	3.00E-04	1.00E+00	3.17E-05
Lithium	1.00E+00	7.80E-02	1.13E+00	4.91E-03	1.00E+01	1.00E+00	1.30E-01	--	1.00E-02	1.00E-02	1.00E+00	--
Magnesium	1.00E+00	7.80E-02	3.33E+02	4.91E-03	--	1.00E+00	1.30E-01	6.40E-01	5.00E-03	5.00E-03	1.00E+00	--
Manganese	1.00E+00	7.80E-02	4.20E+02	4.91E-03	9.90E+01	1.00E+00	1.30E-01	2.55E-02	4.00E-04	4.00E-04	1.00E+00	1.33E-02
Mercury, element	1.00E+00	7.80E-02	1.67E-02	4.91E-03	1.80E-01	1.00E+00	1.30E-01	1.03E-05	1.00E+00	1.00E+00	1.00E+00	2.19E-03
Mercury, divalent	1.00E+00	7.80E-02	--	4.91E-03	--	1.00E+00	1.30E-01	--	5.20E-03	5.20E-03	1.00E+00	--
Mercury, methyl	1.00E+00	7.80E-02	--	4.91E-03	--	1.00E+00	1.30E-01	--	7.80E-04	7.80E-04	1.00E+00	--
Molybdenum	1.00E+00	7.80E-02	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.30E-01	1.00E-03	6.00E-03	6.00E-03	1.00E+00	5.29E-04
Nickel	1.00E+00	7.80E-02	1.07E+00	4.91E-03	7.30E+00	1.00E+00	1.30E-01	1.00E-03	6.00E-03	6.00E-03	1.00E+00	7.15E-04
Phosphorus	1.00E+00	7.80E-02	1.07E+03	4.91E-03	--	1.00E+00	1.30E-01	5.00E-02	5.50E-02	5.50E-02	1.00E+00	--
Potassium	1.00E+00	7.80E-02	5.73E+03	4.91E-03	--	1.00E+00	1.30E-01	3.78E-01	2.00E-02	2.00E-02	1.00E+00	--
Rubidium	1.00E+00	7.80E-02	--	4.91E-03	6.90E+00	1.00E+00	1.30E-01	--	1.50E-02	1.50E-02	1.00E+00	--
Selenium	1.00E+00	7.80E-02	1.07E+00	4.91E-03	8.70E-01	1.00E+00	1.30E-01	5.00E-04	2.30E-03	2.30E-03	1.00E+00	2.01E-04
Silver	1.00E+00	7.80E-02	2.67E-01	4.91E-03	2.50E-01	1.00E+00	1.30E-01	5.00E-05	3.00E-03	3.00E-03	1.00E+00	6.61E-05
Sodium	1.00E+00	7.80E-02	1.67E+02	4.91E-03	--	1.00E+00	1.30E-01	4.71E+00	5.50E-02	5.50E-02	1.00E+00	--
Strontium	1.00E+00	7.80E-02	1.47E+01	4.91E-03	2.30E+01	1.00E+00	1.30E-01	9.48E-03	3.00E-04	3.00E-04	1.00E+00	3.77E-04
Thallium	1.00E+00	7.80E-02	7.33E-02	4.91E-03	5.00E-02	1.00E+00	1.30E-01	5.00E-05	4.00E-02	4.00E-02	1.00E+00	2.39E-04
Tin	1.00E+00	7.80E-02	8.00E+00	4.91E-03	5.00E-01	1.00E+00	1.30E-01	1.00E-03	1.00E-03	1.00E-03	1.00E+00	6.27E-04
Titanium	1.00E+00	7.80E-02	1.67E+00	4.91E-03	--	1.00E+00	1.30E-01	8.75E-03	3.00E-02	3.00E-02	1.00E+00	--
Uranium	1.00E+00	7.80E-02	5.33E-02	4.91E-03	6.70E-01	1.00E+00	1.30E-01	6.75E-05	2.00E-04	2.00E-04	1.00E+00	1.49E-06
Vanadium	1.00E+00	7.80E-02	1.07E+00	4.91E-03	2.30E+01	1.00E+00	1.30E-01	1.00E-03	2.50E-03	2.50E-03	1.00E+00	4.91E-04
Zinc	1.00E+00	7.80E-02	1.40E+01	4.91E-03	2.00E+01	1.00E+00	1.30E-01	1.18E-02	9.00E-05	9.00E-05	1.00E+00	1.07E-04

Equation: $C_{wildlife} = F \times Qp_f \times P_f + Qs \times Cs \times Bs + Qw \times Cw \times Ba_{wildlife} \times MF$

where: $Ba_{wildlife} = Ba_{beef}$ refer to Table B-10 for Ba_{beef}

Table B.4

Baseline Prey Concentration Due to Terrestrial Invertebrates or Soil Ingestion
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Baseline Soil Concentration (Cs) (refer to Table B.1) (mg/kg)	Baseline Terrestrial Invertebrate Concentration (Cti) (refer to Table B.1) (mg/kg FW)	Baseline Prey Concentration (Cp) (mg/kg FW)
Particulate Matter			
Total Particulate Matter	--	--	--
Particulate Matter (PM10)	--	--	--
Particulate Matter (PM2.5)	--	--	--
Metals			
Aluminum	1.10E+04	4.20E+02	9.26E+01
Antimony	1.00E+00	2.50E-01	4.00E-03
Arsenic	6.10E+00	8.00E+00	1.10E-02
Barium	4.30E+01	2.40E+01	5.76E-02
Beryllium	1.00E+00	2.50E-01	4.00E-03
Bismuth	1.00E+00	--	3.20E-01
Boron	2.50E+01	2.30E+00	8.00E+00
Cadmium	1.50E-01	1.60E+00	3.72E-02
Calcium	--	--	--
Chromium Total	1.40E+01	5.80E-01	5.15E-01
Cobalt	2.60E+00	2.10E-01	1.28E-02
Copper	7.10E+00	1.60E+01	3.27E+00
Iron	1.70E+04	6.00E+02	5.44E+03
Lead	1.60E+01	5.60E-01	1.18E+00
Lithium	1.00E+01	2.50E-01	3.20E+00
Magnesium	--	--	--
Manganese	9.90E+01	1.20E+03	6.49E-01
Mercury, element	1.80E-01	3.50E-02	5.76E-02
Mercury, divalent	--	--	--
Mercury, methyl	--	--	--
Molybdenum	1.00E+00	6.90E-01	3.20E-01
Nickel	7.30E+00	1.10E+00	6.31E-01
Phosphorus	--	--	--
Potassium	--	--	--
Rubidium	6.90E+00	--	2.21E+00
Selenium	8.70E-01	2.50E-01	2.00E-01
Silver	2.50E-01	1.80E+00	3.20E-04
Sodium	--	--	--
Strontium	2.30E+01	1.00E+01	7.36E+00
Thallium	5.00E-02	1.00E-02	1.60E-02
Tin	5.00E-01	2.50E-01	1.60E-01
Titanium	--	--	--
Uranium	6.70E-01	1.00E-02	2.14E-01
Vanadium	2.30E+01	9.30E-01	9.05E-02
Zinc	2.00E+01	7.90E+01	5.04E-03

Note:
The baseline prey concentrations were modelled with uptake factors from the USEPA (2007). An aluminum uptake factor was obtained from Table C.1 in Appendix C of Sample et al. (1998a); the median uptake factor of 0.0263 from this data set was selected.

Table B.5

Baseline Aquatic Plants Concentration Due to Sediment Uptake
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Baseline Sediment Concentration (Csed) (refer to table B.1) (mg/kg)	Baseline Aquatic Plant Concentration (Cap) (1) (mg/kg FW)
Particulate Matter		
Total Particulate Matter	--	--
Particulate Matter (PM10)	--	--
Particulate Matter (PM2.5)	--	--
Metals		
Aluminum	9.80E+03	4.22E+00
Antimony	5.30E+00	2.83E-02
Arsenic	1.50E+04	8.44E+01
Barium	7.10E+01	1.66E+00
Beryllium	1.00E+00	8.78E-02
Bismuth	1.00E+00	1.50E-01
Boron	2.50E+01	3.75E+00
Cadmium	1.50E-01	3.31E-02
Calcium	--	--
Chromium Total	1.60E+01	9.84E-02
Cobalt	4.10E+00	4.61E-03
Copper	1.50E+01	8.50E-01
Iron	3.70E+04	5.55E+03
Lead	4.90E+01	3.53E-01
Lithium	1.70E+01	2.55E+00
Magnesium	--	--
Manganese	2.10E+02	2.49E+00
Mercury, element	2.70E+00	4.05E-01
Mercury, divalent	--	--
Mercury, methyl	--	--
Molybdenum	1.00E+00	1.50E-01
Nickel	1.30E+01	4.09E-01
Phosphorus	--	--
Potassium	--	--
Rubidium	2.10E+01	3.15E+00
Selenium	1.10E+00	8.47E-02
Silver	2.50E-01	5.25E-04
Sodium	--	--
Strontium	1.30E+01	1.95E+00
Thallium	1.70E-01	2.55E-02
Tin	5.00E-01	7.50E-02
Titanium	--	--
Uranium	6.00E-01	9.00E-02
Vanadium	1.80E+01	1.31E-02
Zinc	3.90E+01	5.52E+00

Note:

(1) The baseline aquatic plant concentrations were modelled with equations from the USEPA (2007). Where the equation for aluminum was not available, an uptake factor approach was selected for aluminum, for which the median soil to plant uptake factor of 0.00287 was selected from the dataset summarized in Table D.1 of Appendix D of Bechtel Jacobs (1998).

Table B.6

Summary of Annual Air Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Selected Predicted Annual Air Concentration	Predicted Annual Air Concentrations				Measured Baseline Air Concentration (refer to Tables A.2 and B.1)	Measured and Calculated Baseline Air Concentration (Using Soil Concentration for the Calculated Concentration)	Predicted Dust Concentration (Using Waste Rock Concentration)
	PA (Coa) ($\mu g/m^3$)	PA (Coa) ($\mu g/m^3$)	South (Coa) ($\mu g/m^3$)	Employee Accommodations (Coa) ($\mu g/m^3$)	Village (Coa) ($\mu g/m^3$)	(Coa) (mg/m^3)	(Coa) ($\mu g/m^3$)	(Cdust) (mg/kg)
Particulate Matter								
Total Particulate Matter	2.40E+02	2.40E+02	3.30E+01	2.40E+02	2.25E+01	8.12E-03	8.12E+00	--
Particulate Matter (PM10)	6.05E+01	6.05E+01	8.11E+00	6.05E+01	5.67E+00	1.15E-03	1.15E+00	--
Particulate Matter (PM2.5)	1.57E+01	1.57E+01	8.47E-01	1.57E+01	6.65E-01	8.00E-03	8.00E+00	--
Metals								
Antimony	1.63E-05	1.63E-05	1.57E-05	1.63E-05	1.56E-05	1.56E-08	1.56E-05	3.00E+00
Arsenic	4.33E-04	4.33E-04	3.53E-04	4.33E-04	3.48E-04	3.40E-07	3.40E-04	3.90E+02
Barium	8.85E-02	8.85E-02	8.84E-02	8.85E-02	8.84E-02	8.83E-05	8.83E-02	8.10E+02
Beryllium	1.63E-05	1.63E-05	1.57E-05	1.63E-05	1.56E-05	1.56E-08	1.56E-05	3.00E+00
Bismuth	8.20E-06	8.20E-06	8.13E-06	8.20E-06	8.13E-06	--	8.12E-06	3.30E-01
Boron	3.71E-05	3.71E-05	3.19E-05	3.71E-05	3.17E-05	3.11E-08	3.11E-05	2.50E+01
Cadmium	5.62E-05	5.62E-05	5.62E-05	5.62E-05	5.62E-05	5.62E-08	5.62E-05	1.20E-01
Calcium	--	--	--	--	--	--	--	1.30E+04
Chromium Total	1.58E-03	1.58E-03	1.55E-03	1.58E-03	1.55E-03	1.55E-06	1.55E-03	1.11E+02
Chromium VI	--	--	--	--	--	--	--	--
Cobalt	3.54E-05	3.54E-05	3.17E-05	3.54E-05	3.15E-05	3.11E-08	3.11E-05	1.80E+01
Copper	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-04	3.39E-01	3.70E+01
Iron	1.12E-01	1.12E-01	1.03E-01	1.12E-01	1.03E-01	1.02E-04	1.02E-01	4.30E+04
Lead	2.44E-05	2.44E-05	1.68E-05	2.44E-05	1.64E-05	1.56E-08	1.56E-05	3.70E+01
Lithium	9.02E-05	9.02E-05	7.76E-05	9.02E-05	7.70E-05	--	7.56E-05	6.10E+01
Magnesium	--	--	--	--	--	--	--	1.50E+04
Manganese	1.80E-03	1.80E-03	1.61E-03	1.80E-03	1.60E-03	1.58E-06	1.58E-03	9.21E+02
Mercury, element	2.21E-06	2.21E-06	2.15E-06	2.21E-06	2.15E-06	--	2.14E-06	2.64E-01
Mercury, divalent	--	--	--	--	--	--	--	--
Mercury, methyl	--	--	--	--	--	--	--	--
Molybdenum	3.13E-05	3.13E-05	3.11E-05	3.13E-05	3.11E-05	3.11E-08	3.11E-05	8.00E-01
Nickel	1.81E-03	1.81E-03	1.80E-03	1.81E-03	1.80E-03	1.80E-06	1.80E-03	4.10E+01
Phosphorus	--	--	--	--	--	--	--	6.90E+02
Potassium	--	--	--	--	--	--	--	3.20E+04
Rubidium	4.99E-05	4.99E-05	4.87E-05	4.99E-05	4.86E-05	--	4.85E-05	5.97E+00
Selenium	1.22E-05	1.22E-05	1.21E-05	1.22E-05	1.21E-05	--	1.21E-05	3.50E-01
Silver	1.48E-04	1.48E-04	1.48E-04	1.48E-04	1.48E-04	1.48E-07	1.48E-04	5.00E-01
Sodium	--	--	--	--	--	--	--	1.90E+04
Strontium	5.48E-04	5.48E-04	5.05E-04	5.48E-04	5.02E-04	4.98E-07	4.98E-04	2.10E+02
Thallium	9.52E-06	9.52E-06	9.36E-06	9.52E-06	9.35E-06	9.33E-09	9.33E-06	7.90E-01
Tin	1.85E-03	1.85E-03	1.85E-03	1.85E-03	1.85E-03	1.85E-06	1.85E-03	3.00E+00
Titanium	2.26E-03	2.26E-03	1.39E-03	2.26E-03	1.34E-03	1.25E-06	1.25E-03	4.20E+03
Uranium	9.76E-06	9.76E-06	9.39E-06	9.76E-06	9.37E-06	9.33E-09	9.33E-06	1.80E+00
Vanadium	3.30E-04	3.30E-04	3.14E-04	3.30E-04	3.13E-04	3.11E-07	3.11E-04	8.00E+01
Zinc	1.90E-02	1.90E-02	1.89E-02	1.90E-02	1.89E-02	1.89E-05	1.89E-02	1.10E+02

Table B.7

Summary of Annual Predicted Deposition Rates
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Selected Predicted Annual Deposition Rate (Dr) PA (g/m^2-yr)	Predicted Annual Deposition Rate (Dr) PA (g/m^2-yr)	South (g/m^2-yr)	Employee Accommodations (g/m^2-yr)	Village (g/m^2-yr)	Creek (g/m^2-yr)
Particulate Matter						
Total Particulate Matter	7.69E+02	7.69E+02	5.00E+01	7.69E+02	8.00E+00	7.69E+02
Particulate Matter (PM10)	9.49E+01	9.49E+01		9.49E+01		9.49E+01
Particulate Matter (PM2.5)	4.46E-01	4.46E-01		4.46E-01		3.33E-01
Metals						
Aluminum	7.69E+01	7.69E+01	5.00E+00	7.69E+01	8.00E-01	7.69E+01
Antimony	2.31E-03	2.31E-03	1.50E-04	2.31E-03	2.40E-05	2.31E-03
Arsenic	3.00E-01	3.00E-01	1.95E-02	3.00E-01	3.12E-03	3.00E-01
Barium	6.23E-01	6.23E-01	4.05E-02	6.23E-01	6.48E-03	6.23E-01
Beryllium	2.31E-03	2.31E-03	1.50E-04	2.31E-03	2.40E-05	2.31E-03
Bismuth	2.54E-04	2.54E-04	1.65E-05	2.54E-04	2.64E-06	2.54E-04
Boron	1.92E-02	1.92E-02	1.25E-03	1.92E-02	2.00E-04	1.92E-02
Cadmium	9.23E-05	9.23E-05	6.00E-06	9.23E-05	9.60E-07	9.23E-05
Calcium	1.00E+01	1.00E+01	6.50E-01	1.00E+01	1.04E-01	1.00E+01
Chromium Total	8.54E-02	8.54E-02	5.55E-03	8.54E-02	8.88E-04	8.54E-02
Cobalt	1.38E-02	1.38E-02	9.00E-04	1.38E-02	1.44E-04	1.38E-02
Copper	2.85E-02	2.85E-02	1.85E-03	2.85E-02	2.96E-04	2.85E-02
Iron	3.31E+01	3.31E+01	2.15E+00	3.31E+01	3.44E-01	3.31E+01
Lead	2.85E-02	2.85E-02	1.85E-03	2.85E-02	2.96E-04	2.85E-02
Lithium	4.69E-02	4.69E-02	3.05E-03	4.69E-02	4.88E-04	4.69E-02
Magnesium	1.15E+01	1.15E+01	7.50E-01	1.15E+01	1.20E-01	1.15E+01
Manganese	7.09E-01	7.09E-01	4.61E-02	7.09E-01	7.37E-03	7.09E-01
Mercury, element	2.03E-04	2.03E-04	1.32E-05	2.03E-04	2.11E-06	2.03E-04
Mercury, divalent	--	--	--	--	--	--
Mercury, methyl	--	--	--	--	--	--
Molybdenum	6.16E-04	6.16E-04	4.00E-05	6.16E-04	6.40E-06	6.16E-04
Nickel	3.15E-02	3.15E-02	2.05E-03	3.15E-02	3.28E-04	3.15E-02
Phosphorus	5.31E-01	5.31E-01	3.45E-02	5.31E-01	5.52E-03	5.31E-01
Potassium	2.46E+01	2.46E+01	1.60E+00	2.46E+01	2.56E-01	2.46E+01
Rubidium	4.59E-03	4.59E-03	2.99E-04	4.59E-03	4.78E-05	4.59E-03
Selenium	2.69E-04	2.69E-04	1.75E-05	2.69E-04	2.80E-06	2.69E-04
Silver	3.85E-04	3.85E-04	2.50E-05	3.85E-04	4.00E-06	3.85E-04
Sodium	1.46E+01	1.46E+01	9.50E-01	1.46E+01	1.52E-01	1.46E+01
Strontium	1.62E-01	1.62E-01	1.05E-02	1.62E-01	1.68E-03	1.62E-01
Thallium	6.08E-04	6.08E-04	3.95E-05	6.08E-04	6.32E-06	6.08E-04
Tin	2.31E-03	2.31E-03	1.50E-04	2.31E-03	2.40E-05	2.31E-03
Titanium	3.23E+00	3.23E+00	2.10E-01	3.23E+00	3.36E-02	3.23E+00
Uranium	1.38E-03	1.38E-03	9.00E-05	1.38E-03	1.44E-05	1.38E-03
Vanadium	6.16E-02	6.16E-02	4.00E-03	6.16E-02	6.40E-04	6.16E-02
Zinc	8.46E-02	8.46E-02	5.50E-03	8.46E-02	8.80E-04	8.46E-02

Table B.8

Predicted Concentrations in Surface Water using GoldSIM software
Anaconda Goldboro
Goldboro, Nova Scotia

		Selected Predicted Surface Water Concentration (Cw)				Gold Brook Lake Surface Water Predicted Concentration (Cw)					Gold Brook Surface Water Predicted Concentration (Cw)					Maximum Surface Water Predicted Concentration (Cw)			
Contaminant	**Units**	**Construction**	**Operations**	**Reclamation**	**Post-Closure**	**Baseline**	**Construction**	**Operations**	**Reclamation**	**Post-Closure**	**Baseline**	**Construction**	**Operations**	**Reclamation**	**Post-Closure**	**Construction**	**Operations**	**Reclamation**	**Post-Closure**
Calculated Parameters																			
Nitrate (N)	mg/L	6.23E-02	4.93E+00	1.37E+00	8.62E-01	6.23E-02	6.23E-02	4.93E+00	1.37E+00	8.62E-01	2.34E-01	2.34E-01	4.82E+00	1.45E+00	7.77E-01	2.34E-01	4.93E+00	1.45E+00	8.62E-01
Inorganics																			
Nitrite (N)	mg/L	1.59E-02	6.00E-02	5.84E-02	6.00E-02	1.59E-02	1.59E-02	6.00E-02	5.84E-02	6.00E-02	1.06E-02	1.06E-02	5.94E-02	2.94E-02	6.00E-02	1.59E-02	6.00E-02	5.84E-02	6.00E-02
Ammonia	mg/L	6.55E-02	6.50E-02	6.50E-02	3.35E-02	6.55E-02	6.55E-02	6.50E-02	6.50E-02	3.35E-02	1.78E-01	1.78E-01	6.83E-02	6.95E-02	3.02E-02				
Un-ionized ammonia	mg/L	2.55E-03	1.90E-02	4.38E-04	1.86E-04	2.55E-03	2.55E-03	1.90E-02	4.38E-04	1.86E-04	6.94E-03	6.94E-03	1.87E-02	5.02E-04	1.68E-04	6.94E-03	1.90E-02	5.02E-04	1.86E-04
Cyanide	mg/L	0.00E+00	5.00E-03	5.00E-03	1.35E-04	0.00E+00	0.00E+00	5.00E-03	5.00E-03	1.35E-04	0.00E+00	0.00E+00	4.91E-03	4.51E-03	1.22E-04	0.00E+00	5.00E-03	5.00E-03	1.35E-04
Total metals																			
Total Aluminum (Al)	mg/L	5.04E-01	2.08E-01	2.96E-01	4.00E-01	5.04E-01	5.04E-01	2.08E-01	2.96E-01	4.00E-01	4.30E-01	4.30E-01	1.99E-01	2.66E-01	3.61E-01	5.04E-01	2.08E-01	2.96E-01	4.00E-01
Total Antimony (Sb)	mg/L	6.75E-04	4.51E-03	3.54E-03	2.26E-03	6.75E-04	6.75E-04	4.51E-03	3.54E-03	2.26E-03	5.00E-04	5.00E-04	4.39E-03	3.27E-03	2.20E-03	6.75E-04	4.51E-03	3.54E-03	2.26E-03
Total Arsenic (As)	mg/L	6.18E-02	5.54E-02	5.54E-02	5.33E-02	6.18E-02	6.18E-02	5.54E-02	5.54E-02	5.33E-02	6.77E-01	6.77E-01	5.48E-02	5.21E-02	5.12E-02	6.77E-01	5.54E-02	5.54E-02	5.33E-02
Total Barium (Ba)	mg/L	3.37E-03	7.17E-03	7.48E-03	6.12E-03	3.37E-03	3.37E-03	7.17E-03	7.48E-03	6.12E-03	3.60E-03	3.60E-03	7.09E-03	7.05E-03	5.73E-03	3.60E-03	7.17E-03	7.48E-03	6.12E-03
Total Beryllium (Be)	mg/L	6.75E-04	4.68E-04	5.17E-04	5.15E-04	6.75E-04	6.75E-04	4.68E-04	5.17E-04	5.15E-04	5.00E-04	5.00E-04	4.61E-04	4.71E-04	4.76E-04	6.75E-04	4.68E-04	5.17E-04	5.15E-04
Total Bismuth (Bi)	mg/L	--	--	--	--	1.00E-03	--	--	--	--	1.00E-03	--	--	--	--	--	--	--	--
Total Boron (B)	mg/L	--	--	--	--	2.50E-02	--	--	--	--	2.50E-02	--	--	--	--	--	--	--	--
Total Cadmium (Cd)	mg/L	3.72E-05	1.98E-05	2.53E-05	4.00E-05	3.72E-05	3.72E-05	1.98E-05	2.53E-05	4.00E-05	2.48E-05	2.48E-05	1.98E-05	2.41E-05	3.70E-05	3.72E-05	1.98E-05	2.53E-05	4.00E-05
Total Calcium (Ca)	mg/L	--	--	--	--	7.54E-01	--	--	--	--	4.89E+00	--	--	--	--	--	--	--	--
Total Chromium (Cr)	mg/L	5.00E-04	8.66E-04	7.18E-04	9.28E-04	5.00E-04	5.00E-04	8.66E-04	7.18E-04	9.28E-04	1.30E-03	1.30E-03	8.58E-04	6.87E-04	8.60E-04	1.30E-03	8.66E-04	7.18E-04	9.28E-04
Total Cobalt (Co)	mg/L	3.05E-04	1.00E-03	1.00E-03	1.00E-03	3.05E-04	3.05E-04	1.00E-03	1.00E-03	1.00E-03	2.00E-04	2.00E-04	9.91E-04	9.35E-04	9.61E-04	3.05E-04	1.00E-03	1.00E-03	1.00E-03
Total Copper (Cu)	mg/L	1.00E-03	1.99E-03	2.00E-03	1.01E-03	1.00E-03	1.00E-03	1.99E-03	2.00E-03	1.01E-03	1.74E-03	1.74E-03	1.96E-03	1.86E-03	9.20E-04	1.74E-03	1.99E-03	2.00E-03	1.01E-03
Total Iron (Fe)	mg/L	6.98E-01	3.59E-01	4.99E-01	4.78E-01	6.98E-01	6.98E-01	3.59E-01	4.99E-01	4.78E-01	1.17E+00	1.17E+00	3.55E-01	4.55E-01	4.28E-01	1.17E+00	3.59E-01	4.99E-01	4.78E-01
Total Lead (Pb)	mg/L	9.70E-04	8.18E-04	7.14E-04	1.00E-03	9.70E-04	9.70E-04	8.18E-04	7.14E-04	1.00E-03	7.62E-04	7.62E-04	8.22E-04	7.06E-04	9.27E-04	9.70E-04	8.22E-04	7.14E-04	1.00E-03
Total Lithium (Li)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Magnesium (Mg)	mg/L	--	--	--	--	6.40E-01	--	--	--	--	8.14E-01	--	--	--	--	--	--	--	--
Total Manganese (Mn)	mg/L	2.55E-02	7.75E-02	5.24E-02	1.28E-01	2.55E-02	2.55E-02	7.75E-02	5.24E-02	1.28E-01	8.03E-02	8.03E-02	7.56E-02	4.92E-02	1.19E-01	8.03E-02	7.75E-02	5.24E-02	1.28E-01
Total Mercury (Hg)	mg/L	1.03E-05	6.92E-06	7.59E-06	1.06E-05	1.03E-05	1.03E-05	6.92E-06	7.59E-06	1.06E-05	1.36E-04	1.36E-04	6.88E-06	7.05E-06	9.69E-06	1.36E-04	6.92E-06	7.59E-06	1.06E-05
Total Mercury, divalent (Hg2+)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Mercury, methyl (MeHg)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Molybdenum (Mo)	mg/L	--	--	--	--	1.00E-03	--	--	--	--	1.00E-03	--	--	--	--	--	--	--	--
Total Nickel (Ni)	mg/L	1.00E-03	1.46E-02	6.39E-03	1.18E-02	1.00E-03	1.00E-03	1.46E-02	6.39E-03	1.18E-02	1.00E-03	1.00E-03	1.42E-02	6.10E-03	1.13E-02	1.00E-03	1.46E-02	6.39E-03	1.18E-02
Total Phosphorus (P)	mg/L	--	--	--	--	5.00E-02	--	--	--	--	5.00E-02	--	--	--	--	--	--	--	--
Total Potassium (K)	mg/L	--	--	--	--	3.78E-01	--	--	--	--	8.04E-01	--	--	--	--	--	--	--	--
Total Rubidium (Rb)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Selenium (Se)	mg/L	5.00E-04	4.95E-04	5.00E-04	6.06E-04	5.00E-04	5.00E-04	4.95E-04	5.00E-04	6.06E-04	5.00E-04	5.00E-04	4.88E-04	4.68E-04	5.58E-04	5.00E-04	4.95E-04	5.00E-04	6.06E-04
Total Silver (Ag)	mg/L	5.00E-05	8.10E-05	7.64E-05	8.04E-05	5.00E-05	5.00E-05	8.10E-05	7.64E-05	8.04E-05	5.00E-05	5.00E-05	7.90E-05	7.04E-05	7.48E-05	5.00E-05	8.10E-05	7.64E-05	8.04E-05
Total Sodium (Na)	mg/L	--	--	--	--	4.71E+00	--	--	--	--	5.52E+00	--	--	--	--	--	--	--	--
Total Strontium (Sr)	mg/L	--	--	--	--	9.48E-03	--	--	--	--	4.47E-02	--	--	--	--	--	--	--	--
Total Thallium (Tl)	mg/L	5.00E-05	7.47E-05	7.11E-05	9.14E-05	5.00E-05	5.00E-05	7.47E-05	7.11E-05	9.14E-05	5.00E-05	5.00E-05	7.31E-05	6.61E-05	8.48E-05	5.00E-05	7.47E-05	7.11E-05	9.14E-05
Total Tin (Sn)	mg/L	--	--	--	--	1.00E-03	--	--	--	--	1.00E-03	--	--	--	--	--	--	--	--
Total Titanium (Ti)	mg/L	--	--	--	--	8.75E-03	--	--	--	--	9.34E-03	--	--	--	--	--	--	--	--
Total Uranium (U)	mg/L	6.75E-05	9.77E-04	9.26E-04	5.97E-04	6.75E-05	6.75E-05	9.77E-04	9.26E-04	5.97E-04	5.00E-05	5.00E-05	9.50E-04	8.52E-04	5.76E-04	6.75E-05	9.77E-04	9.26E-04	5.97E-04
Total Vanadium (V)	mg/L	1.00E-03	2.16E-03	1.56E-03	2.14E-03	1.00E-03	1.00E-03	2.16E-03	1.56E-03	2.14E-03	1.00E-03	1.00E-03	2.12E-03	1.49E-03	2.01E-03	1.00E-03	2.16E-03	1.56E-03	2.14E-03
Total Zinc (Zn)	mg/L	1.18E-02	6.90E-03	6.86E-03	8.11E-03	1.18E-02	1.18E-02	6.90E-03	6.86E-03	8.11E-03	9.76E-03	9.76E-03	7.28E-03	7.18E-03	7.27E-03	1.18E-02	7.28E-03	7.18E-03	8.11E-03

Table B.9

Physical Properties and Constants
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Symbol	Unit	Value	Reference
General Parameters				
Deposition Time Period, Construction	tD	(yr)	2	Project length
Deposition Time Period, Operation	tD	(yr)	13	Project length
Deposition Time Period, Reclamation	tD	(yr)	16	Project length
Deposition Time Period, Post-Closure	tD	(yr)	16	Project length
Time Period at Start of Combustion	T_1	(yr)	0	USEPA, 2005
Soil Mixing Zone Depth (untilled)	Z_s	(cm)	2	USEPA, 2005
Soil Mixing Zone Depth (tilled)	Z_s	(cm)	20	USEPA, 2005
Soil Bulk Density	BD	(g/cm^3)	1.5	USEPA, 2005
Average Annual Surface Runoff	RO	(cm/yr)	78.92	GHD Water Balance
Soil Volume Water Content	θ_{sw}	(ml/cm^3)	0.2	USEPA, 2005
Average Annual Precipitation	P	(cm/yr)	140.92	GHD Water Balance
Average Annual Evapotranspiration	E_v	(cm/yr)	44.68	GHD Water Balance
Average Annual Recharge	q	(cm/yr)	17.32	GHD Water Balance
Universal Gas Constant	R	($atm\text{-}m^3/mol\text{-}K$)	8.21E-05	USEPA, 2005
Ambient Air Temperature	T_a	(K)	279.75	Stillwater Sherbrooke Station, Annual Mean
Solids Particle Density	ρ_s	(g/cm^3)	2.7	USEPA, 2005
COC loss, biotic and abiotic degradation	ksg	(yr^{-1})	0	USEPA, 2005
COC loss, soil erosion	kse	(yr^{-1})	0	USEPA, 2005
Solid Void Fraction	θ_v	(cm^3/cm^3)	0.17	USEPA, 2005
Soil Enrichment Ratio	ER	-	1	USEPA, 2005
Hydrology Parameters				
Water body surface area	A_W	(m^2)	8.50E+05	Surface area, Gold Brook Lake
Drag coefficient	C_d	-	1.10E-03	USEPA, 2005
Average annual wind speed	W	(m/s)	3.90E+00	USEPA, 2005
Density of air	ρ_a	(g/cm^{-})	1.20E-03	USEPA, 2005
Density of water	ρ_w	(g/cm^{-})	1.00E+00	USEPA, 2005
von Karman's constant	k	-	4.00E-01	USEPA, 2005
Dimensionless viscous sublayer thickness	λ_z	-	4.00E+00	USEPA, 2005
Viscosity of water corresponding to water temperature	μ_w	(g/cm-s)	1.69E-02	USEPA, 2005
Impervious watershed area receiving COPC	A_I	($m^{<}$)	8.50E+05	Assumption: water body is only impervious area
Total watershed area receiving COPC	A_L	($m^{<}$)	9.22E+06	Watershed area, Gold Brook Lake
Total watershed area receiving COPC	A_L	(sq miles)	3.56E+00	GHD Water Balance
Depth of Water Column	d_{wc}	(m)	2.40E+00	Depth of 8 feet (Anaconda)
USLE erodibility factor	K	(ton/acre)	3.90E-01	USEPA, 2005
USLE rainfall factor	RF	(yr^{-1})	153.4	Table R-2 of RUSLEFAC
USLE length slope factor	LS	-	1.5	USEPA, 2005
Average volumetric flow rate through water body	Vf_x	(m^3/yr)	8.84E+06	GHD Water Balance
Current velocity	µ	(m/s)	--	Not Required
USLE cover management factor	C	-	0.1	USEPA, 2005
USLE Supporting practice factor	P	-	1	USEPA, 2005
Empirical Intercept Coefficient	a	-	1.4	USEPA, 2005
Empirical Slope Coefficient	b	-	0.125	USEPA, 2005
Gas phase transfer coefficient	KG	(m/yr)	36500	USEPA, 2005
Depth of Upper Benthic Sediment Layer	d_{bs}	(m)	0.03	USEPA, 2005
Total Suspended Solids	TSS	mg/L	10	USEPA, 2005
Bed Sediment Concentration	C_{BS}	(kg/L)	1	USEPA, 2005
Bed Sediment Porosity	θ_{bs}	(Lwat/Lsed)	0.6	USEPA, 2005
Fraction of Organic Carbon in Bed Sediment	OC_{sed}	-	0.07	(4)
Water Body Temperature	T_{WK}	(K)	282.55	(5)
Average Annual Surface Runoff Pervious Areas	RO	(cm/yr)	78.92	GHD Water Balance
Vegetation Uptake Parameters				
Fraction Wet Deposition Adhere to Plant	Fw	-	0.6	USEPA, 2005
Interception Fraction Edible Plant Portion - Vegetable	Rp	-	0.982	USEPA, 2005
Interception Fraction Edible Plant Portion - Fruit	Rp	-	0.053	USEPA, 2005
Interception Fraction Edible Plant Portion - Forage	Rp	-	0.5	USEPA, 2005
Interception Fraction Edible Plant Portion - Silage	Rp	-	0.46	USEPA, 2005
Plant Surface Loss Coefficient	kp	(yr^{-1})	18	USEPA, 2005
Length of Plant Exposure to Deposition per Harvest of Edible Plant	Tp	(yrs)	0.164	USEPA, 2005
Length of Plant Exposure to Deposition per Harvest of Edible Plant - Forage	Tp	(yrs)	0.12	USEPA, 2005
Length of Plant Exposure to Deposition per Harvest of Edible Plant - Silage	Tp	(yrs)	0.16	USEPA, 2005
Yield of Edible Portion of Plant - Vegetable	Yp	($kg\ DW/m^2$)	5.66	USEPA, 2005
Yield of Edible Portion of Plant - Fruit	Yp	($kg\ DW/m^2$)	0.252	USEPA, 2005
Yield of Edible Portion of Plant - Forage	Yp	($kg\ DW/m^2$)	0.325	USEPA, 2005
Yield of Edible Portion of Plant - Silage	Yp	($kg\ DW/m^2$)	0.8	USEPA, 2005
Density of Air	pa	(g/m^3)	1200	USEPA, 2005
Correction Factor for Aboveground Produce	VG_{ag}	-	1	USEPA, 2005
Correction Factor for Forage	VG_{ag}	-	1	USEPA, 2005
Correction Factor for Silage	VG_{ag}	-	0.5	USEPA, 2005
Correction Factor for Belowground Produce	$VG_{rootveg}$	-	1	USEPA, 2005
Terrestrial Plant Moisture Content		-	0.85	
Soil Invertebrate (Earthworm) Moisture Content		-	0.84	
Prey (Small Mammal) Moisture Content		-	0.68	
Aquatic Plant Moisture Content		-	0.85	
Benthic Invertebrate Moisture Content		-	0.79	
Crops Uptake Parameters				
Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal	F	-	1	USEPA, 2005
Soil Bioavailability Factor	Bs	-	1	USEPA, 2005

Table B.9

Physical Properties and Constants
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Symbol	Unit	Value	Reference
Metabolism Factor	MF	-	1	USEPA, 2005
Quantity of Forage Ingested by the Animal per day - Cattle	Qp_f	(kg DW/day)	8.8	USEPA, 2005
Quantity of Silage Ingested by the Animal per day - Cattle	Qp_s	(kg DW/day)	2.5	USEPA, 2005
Quantity of Grain Ingested by the Animal per day - Cattle	Qp_g	(kg DW/day)	0.47	USEPA, 2005
Quantity of Soil Ingested by the Animal per day - Cattle	Qs	(kg/day)	0.5	USEPA, 2005
Quantity of Forage Ingested by the Animal per day - Dairy Cattle	Qp_f	(kg DW/day)	13.2	USEPA, 2005
Quantity of Silage Ingested by the Animal per day - Dairy Cattle	Qp_s	(kg DW/day)	4.1	USEPA, 2005
Quantity of Grain Ingested by the Animal per day - Dairy Cattle	Qp_g	(kg DW/day)	3	USEPA, 2005
Quantity of Soil Ingested by the Animal per day - Dairy Cattle	Qs	(kg/day)	0.4	USEPA, 2005
Quantity of Silage Ingested by the Animal per day - Swine	Qp_s	(kg DW/day)	1.4	USEPA, 2005
Quantity of Grain Ingested by the Animal per day - Swine	Qp_g	(kg DW/day)	3.3	USEPA, 2005
Quantity of Soil Ingested by the Animal per day - Swine	Qs	(kg/day)	0.37	USEPA, 2005
Quantity of Grain Ingested by the Animal per day - Eggs/ Chicken	Qp_g	(kg DW/day)	0.2	USEPA, 2005
Quantity of Soil Ingested by the Animal per day - Eggs/ Chicken	Qs	(kg/day)	0.022	USEPA, 2005
Quantity of Forage Ingested by the Animal per day - White Tailed Deer	Qp_f	(kg DW/day)	2.25	FCSAP, 2012
Quantity of Soil Ingested by the Animal per day - White Tailed Deer	Qs	(kg/day)	0.05	FCSAP, 2012
Quantity of Water Ingested by the Animal per day - White Tailed Deer	Qw	(L/day)	4.50	FCSAP, 2012
Quantity of Forage Ingested by the Animal per day - Snowshoe Hare	Qp_f	(kg DW/day)	0.08	FCSAP, 2012
Quantity of Soil Ingested by the Animal per day - Snowshoe Hare	Qs	(kg/day)	0.005	FCSAP, 2012
Quantity of Water Ingested by the Animal per day - Snowshoe Hare	Qw	(L/day)	0.13	FCSAP, 2012

Notes:

(1) Conservatively assumed to 2.5 cm/yr.
(2) Conservatively assumed to 5 cm/yr.
(3) Converted from temperature of 7.4°C.
(4) Based on Lake Ontario sediments.
(5) Converted from average temperature of 9.4°C. Based on data from Ganaraska River during April to October 2011,
Available at http://www.ontario.ca/environment-and-energy/provincial-stream-water-quality-monitoring-network-pwqmn-data.
(6) Based on Environment Canada climate normals for Port Hope (P = 832 mm yearly precipitation).
RO = P - (0.15) P - Ev
= 0.85 P - Ev
where Evapotranspiration (Ev) = 61 cm/year; National Atlas of Canada, Available at
http://atlas.nrcan.gc.ca/site/english/maps/archives/4thedition/environment/climate/049_50
(7) Qp_f for wildgame value not directly available in the preferred sources was calculated for a whitetailed doe using the following equation derived by Nagy (1987) consistent with USEPA (1993):
Qp_f = (0.577 x BW^0.727) / 1,000
where whitetailed doe BW = 60,000 g (Alberta Government, 2009)
(8) The percent soil in the diet for the Whitetailed deer was assumed as 2% of diet (quantity of forage ingested) as estimated by Beyer et al. (1994). Although Beyer et al. (1994) estimated a value of less than 2%, a value of 2% was used here as a conservative approach.

References:

Beyer, W.N., S. Gerould and E.E. Connor. 1994. Estimates of Soil Ingestion by Wildlife. Journal of Wildlife Management, 58, 375 382.
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Nagy, K.A. 1987. Field metabolic rate and food requirement scaling in mammals and birds. Ecological Monographs 57: 111 128.
USEPA, 2005: Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities, EPA/530-R-05-006, September 2005.
USEPA, 1993: Wildlife Exposure Factors Handbook. U.S. Environmental Protection Agency, Washington, D.C., EPA/600/R-93/187, December 1993.

Table B.10

Summary of Chemical Properties [1]

Anaconda Goldboro

Goldboro, Nova Scotia

Contaminant	Henry's Law Constant (H) (atm-m³/mol)	Reference	Diffusivity of COPC in Air (Da) (cm²/s)	Reference	Diffusivity of COPC in Water (Dw) (cm²/s)	Reference	Soil-water Partition Coefficient (Kds) (mL/g)	Reference	Suspended Sediments - Surface Water Partition Coefficient (Kdsw) (L/kg)	Reference	Bed Sediments - Sediment Pore Water Partition Coefficient (Kdbs) (L/kg)	Reference	Organic Carbon Water Partition Coefficient (Koc) (mL/g)	Reference	Octanol Water Partition Coefficient (log Kow) -	Reference	Fraction of Air Concentration in Vapour Phase (Fv) -	Reference	Air to Plant Biotransfer Factor (Bv_{ag}) mg/kg)/(µg/g	Reference	Soil to Plant Bioconcentration Factor for Aboveground Produce (Br_{ag}) (µg/g)/(µg/g)	Reference	Soil to Plant Bioconcentration Factor for Aboveground Fruits ($Br_{aq(fruit)}$) (µg/g)/(µg/g)	Soil to Plant Bioconcentration Factor for Aboveground Vegetables ($Br_{aq(veg)}$) (µg/g)/(µg/g)	Soil to plant Bioconcentration Factor for Belowground Vegetables ($Br_{rootveg}$) (µg/g)/(µg/g)	Reference	Soil to plant Bioconcentration Factor for forage (Br_{forage}) (µg/g)/(µg/g)	Reference	Biotransfer Factor for Beef (Ba_{beef}) (day/kg FW)	Reference	Water to Fish Bioconcentration/ Bioaccumulation Factor (BCF/BAF) (L/kg)	Reference
Particulate Matter																																	
Total Particulate Matter	--		--		--		--		--		--		--		--		--		--		--				--		--		--		--		
Particulate Matter (PM10)	--		--		--		--		--		--		--		--		--		--		--				--		--		--		--		
Particulate Matter (PM2.5)	--		--		--		--		--		--		--		--		--		--		--				--		--		--		--		
Metals																																	
Antimony	--		--		--		4.50E+01	USEPA	4.50E+01	USEPA	4.50E+01	USEPA	--		--		0.00E+00		--		5.16E-02	USEPA	3.00E-02	7.25E-02	3.00E-02	USEPA	2.00E-01	USEPA	1.00E-03	USEPA	4.00E+01	USEPA
Arsenic	--		--		--		2.90E+01	USEPA	2.90E+01	USEPA	2.90E+01	USEPA	--		--		0.00E+00		--		6.30E-03	USEPA			8.00E-03	USEPA	3.60E-02	USEPA	2.00E-03	USEPA	1.14E+02	USEPA
Barium	--		--		--		4.10E+01	USEPA	4.10E+01	USEPA	4.10E+01	USEPA	--		--		0.00E+00		--		3.22E-02	USEPA	1.50E-02	4.88E-02	1.50E-02	USEPA	1.50E-01	USEPA	1.50E-04	USEPA	6.33E+02	USEPA
Beryllium	--		--		--		7.90E+02	USEPA	7.90E+02	USEPA	7.90E+02	USEPA	--		--		0.00E+00		--		2.58E-03	USEPA	1.50E-03	3.63E-03	1.50E-03	USEPA	1.00E-02	USEPA	1.00E-03	USEPA	6.20E+01	USEPA
Bismuth	--		--		--		--		--		--		--		--		0.00E+00		--		8.81E-03	(17)	5.00E-03	1.25E-02	5.00E-03	(16)	3.50E-02	(15)	4.00E-04	Baes et al.	--	
Boron	--		--		--		3.00E+00	RAIS	3.00E+00	RAIS	3.00E+00	RAIS	--		--		0.00E+00		--		2.25E+00	(17)	2.00E+00	2.50E+00	2.00E+00	(16)	4.00E+00	(15)	8.00E-04	RAIS	--	
Cadmium	--		--		--		7.50E+01	USEPA	7.50E+01	USEPA	7.50E+01	USEPA	--		--		0.00E+00		--		1.20E-01	USEPA			6.40E-02	USEPA	3.60E-01	USEPA	1.20E-04	USEPA	9.07E+02	USEPA
Calcium	--		--		--		--		--		--		--		--		0.00E+00		--		7.50E-01	(17)	3.50E-01	1.14E+00	3.50E-01	(16)	3.50E+00	(15)	7.00E-04	Baes et al.	--	
Chromium Total	--		--		--		1.90E+01	USEPA	1.90E+01	USEPA	1.90E+01	USEPA	--		--		0.00E+00		--		4.88E-03	USEPA	4.50E-03	5.25E-03	4.50E-03	USEPA	7.50E-03	USEPA	5.50E-03	USEPA	1.90E+01	USEPA
Cobalt	--		--		--		4.50E+01	RAIS	4.50E+01	RAIS	4.50E+01	RAIS	--		--		0.00E+00		--		8.65E-03	(17)	7.00E-03	1.03E-02	7.00E-03	(16)	2.00E-02	(15)	2.00E-02	RAIS	3.00E+02	RAIS
Copper	--		--		--		3.50E+01	RAIS	3.50E+01	RAIS	3.50E+01	RAIS	--		--		0.00E+00		--		2.69E-01	(17)	2.50E-01	2.88E-01	2.50E-01	(16)	4.00E-01	(15)	1.00E-02	RAIS	2.00E+02	RAIS
Iron	--		--		--		2.50E+01	RAIS	2.50E+01	RAIS	2.50E+01	RAIS	--		--		0.00E+00		--		1.38E-03	(17)	1.00E-03	1.75E-03	1.00E-03	(16)	4.00E-03	(15)	2.00E-02	RAIS	2.00E+02	RAIS
Lead	--		--		--		9.00E+02	USEPA	9.00E+02	USEPA	9.00E+02	USEPA	--		--		0.00E+00		--		1.36E-02	USEPA	9.00E-03	1.80E-02	9.00E-03	USEPA	4.50E-02	USEPA	3.00E-04	USEPA	9.00E-02	USEPA
Lithium	--		--		--		3.00E+02	RAIS	3.00E+02	RAIS	3.00E+02	RAIS	--		--		0.00E+00		--		6.67E-03	(17)	4.00E-03	9.25E-03	4.00E-03	(16)	2.50E-02	(15)	1.00E-02	RAIS	--	
Magnesium	--		--		--		--		--		--		--		--		0.00E+00		--		6.07E-01	(17)	5.50E-01	6.63E-01	5.50E-01	(16)	1.00E+00	(15)	5.00E-03	RAIS	--	
Manganese	--		--		--		6.50E+01	RAIS	6.50E+01	RAIS	6.50E+01	RAIS	--		--		0.00E+00		--		7.54E-02	(17)	5.00E-02	1.00E-01	5.00E-02	(16)	2.50E-01	(15)	4.00E-04	RAIS	4.00E+02	RAIS
Mercury, element	1.15E-02	MOE	3.07E-02	MOE	6.30E-06	MOE	3.30E+03	(3)	4.95E+04	(3)	2.64E+04	(3)	6.60E+05	MOE	6.20E-01	MOE	1.00E+00	USEPA	1.00E+00	USEPA	0.00E+00	USEPA			0.00E+00	USEPA	0.00E+00	USEPA	1.00E+00	USEPA	0.00E+00	USEPA
Mercury, divalent (2)	7.10E-10	USEPA	4.50E-02	USEPA	5.20E-06	USEPA	3.30E+03	(3)	4.95E+04	(3)	2.64E+04	(3)	6.60E+05	MOE	6.20E-01	MOE	8.50E-01	USEPA	1.80E+03	USEPA	1.40E-02	USEPA			3.60E-02	USEPA	1.00E+00	USEPA	5.20E-03	USEPA	1.00E+00	USEPA
Mercury, methyl	7.22E-03	USEPA	5.30E-02	USEPA	6.10E-06	USEPA	2.00E+01	(3)	3.00E+02	(3)	1.60E+02	(3)	4.00E+03	MOE	8.00E-02	MOE	0.00E+00	USEPA	1.00E+00	USEPA	2.90E-02	USEPA			9.90E-02	USEPA	1.00E+00	USEPA	7.80E-04	USEPA	6.80E+06	USEPA
Molybdenum	--		--		--		2.00E+01	RAIS	2.00E+01	RAIS	2.00E+01	RAIS	--		--		0.00E+00		--		8.42E-02	(17)	6.00E-02	1.08E-01	6.00E-02	(16)	2.50E-01	(15)	6.00E-03	RAIS	1.00E+01	RAIS
Nickel	--		--		--		6.50E+01	USEPA	6.50E+01	USEPA	6.50E+01	USEPA	--		--		0.00E+00		--		9.30E-03	USEPA			8.00E-03	USEPA	3.20E-02	USEPA	6.00E-03	USEPA	7.80E+01	USEPA
Phosphorus	--		--		--		3.50E+00	RAIS	3.50E+00	RAIS	3.50E+00	RAIS	--		--		0.00E+00		--		3.50E+00	(17)	3.50E+00	3.50E+00	3.50E+00	(16)	3.50E+00	(15)	5.50E-02	RAIS	--	
Potassium	--		--		--		5.50E+00	RAIS	5.50E+00	RAIS	5.50E+00	RAIS	--		--		0.00E+00		--		6.07E-01	(17)	5.50E-01	6.63E-01	5.50E-01	(16)	1.00E+00	(15)	2.00E-02	RAIS	--	
Rubidium	--		--		--		--		--		--		--		--		0.00E+00		--		1.00E+00	Default			1.00E+00	Default	1.00E+00	Default	1.50E-02	Baes et al.	--	
Selenium	--		--		--		5.00E+00	USEPA	5.00E+00	USEPA	5.00E+00	USEPA	--		--		0.00E+00		--		2.00E-02	USEPA			2.20E-02	USEPA	1.60E-02	USEPA	2.30E-03	USEPA	1.29E+02	USEPA
Silver	--		--		--		8.30E+00	USEPA	8.30E+00	USEPA	8.30E+00	USEPA	--		--		0.00E+00		--		1.38E-01	USEPA	1.00E-01	1.75E-01	1.00E-01	USEPA	4.00E-01	USEPA	3.00E-03	USEPA	8.77E+01	USEPA
Sodium	--		--		--		1.00E+02	RAIS	1.00E+02	RAIS	1.00E+02	RAIS	--		--		0.00E+00		--		5.75E-02	(17)	5.50E-02	6.00E-02	5.50E-02	(16)	7.50E-02	(15)	5.50E-02	RAIS	2.00E+01	RAIS
Strontium	--		--		--		3.50E+01	RAIS	3.50E+01	RAIS	3.50E+01	RAIS	--		--		0.00E+00		--		5.36E-01	(17)	2.50E-01	8.13E-01	2.50E-01	(16)	2.50E+00	(15)	3.00E-04	RAIS	6.00E+01	RAIS
Thallium	--		--		--		7.10E+01	USEPA	7.10E+01	USEPA	7.10E+01	USEPA	--		--		0.00E+00		--		8.58E-04	USEPA	4.00E-04	1.30E-03	4.00E-04	USEPA	4.00E-03	USEPA	4.00E-02	USEPA	1.00E+04	RAIS
Tin	--		--		--		2.50E+02	RAIS	2.50E+02	RAIS	2.50E+02	RAIS	--		--		0.00E+00		--		9.05E-03	(17)	6.00E-03	1.20E-02	6.00E-03	(16)	3.00E-02	(15)	1.00E-03	RAIS	3.00E+03	RAIS
Titanium	--		--		--		1.00E+03	RAIS	1.00E+03	RAIS	1.00E+03	RAIS	--		--		0.00E+00		--		3.32E-03	(17)	3.00E-03	3.63E-03	3.00E-03	(16)	5.50E-03	(15)	3.00E-02	RAIS	--	
Uranium	--		--		--		4.50E+02	RAIS	4.50E+02	RAIS	4.50E+02	RAIS	--		--		0.00E+00		--		1.00E+00	Default			1.00E+00	Default	1.00E+00	Default	2.00E-04	Baes et al.	--	
Vanadium	--		--		--		1.00E+03	RAIS	1.00E+03	RAIS	1.00E+03	RAIS	--		--		0.00E+00		--		3.32E-03	(17)	3.00E-03	3.63E-03	3.00E-03	(16)	5.50E-03	(15)	2.50E-03	RAIS	--	
Zinc	--		--		--		6.20E+01	USEPA	6.20E+01	USEPA	6.20E+01	USEPA	--		--		0.00E+00		--		9.70E-02	USEPA			9.00E-01	USEPA	2.50E-01	USEPA	9.00E-05	USEPA	2.06E+03	USEPA

Table B.10

Summary of Chemical Properties [1]

Anaconda Goldboro

Goldboro, Nova Scotia

Notes:

(1) Order of selection for chemical-specific properties:

1. MOE
2. RSL
3. USEPA or RAIS
4. Other

(2) When there was a lack of available data, the following were used as surrogates:

COPC		Surrogate
Mercury, divalent	-	Mercuric chloride
Benzo(a)fluorene	-	Benzo(a)pyrene
Benzo(b)fluorene	-	Benzo(a)pyrene
Benzo(e)pyrene	-	Benzo(a)pyrene
Benzo(g,h,i)perylene	-	Benzo(a)pyrene
Dibenzo(a,c)anthracene	-	Benzo(a)pyrene
Perylene	-	Benzo(a)pyrene
O-Terphenyl	-	Benzo(a)pyrene

(3) Kd values calculated using the following fraction organic carbon (foc) correlation equation A-2-10 provided in Appendix A-2, USEPA (2005):

Kds = foc x Koc; where foc = 5.00E-03 (MOE, 2011)

Kdsw = foc x Koc; where foc = 7.50E-02 (USEPA, 2005)

Kdbs = foc x Koc; where foc = 4.00E-02 (USEPA, 2005)

(4) Due to a lack of available data, assumed value of 1.

(5) Bv_{ag} values not directly available in the preferred sources were calculated using the following equation A-2-20 provided in Appendix A-2, USEPA (2005):

$$Bv_{ag} = \frac{P_{air} \times B_{vol}}{(1-f_{water}) \times P_{forage}}$$

where: B_{vol} = 1.065 x log Kow - log (H/RT) - 1.654

P_{air} = 1.19 (g/L)

f_{water} = 8.50E-01

P_{forage} = 770 (g/L)

(6) Br_{ag} values for organics not directly available in the preferred sources were calculated using the following equation A-2-17 provided in Appendix A-2, USEPA (2005):

$\log Br_{ag}$ = 1.588 - 0.578 (log Kow)

(7) Brrootveg values for organics not directly available in the preferred sources were calculated using the following equation A-2-16 provided in Appendix A-2, USEPA (2005):

$$Br_{rootveg} = \frac{RCF}{Kds}$$

where: log Kow > 2; log (RCF) = 0.77 log Kow - 1.52

log Kow < 2; log (RCF) -0.82 = 0.77 log Kow - 1.52

wet wt. to dry wt. conversion = 8.70E-01

(8) Br_{forage} values for organics not directly available in the preferred sources were calculated using the following equation A-2-18 provided in Appendix A-2, USEPA (2005):

$\log Br_{forage}$ = 1.588 - 0.578 (log Kow)

(9) Ba_{beef} values not directly available in the preferred sources were calculated using the following equation A-2-23 provided in Appendix A-2, USEPA (2005):

$Ba_{beef} = 10^{\log Ba\ fat} \times 0.19$ where log Ba fat = $-0.099\ (\log Kow)^2 + 1.07 \log Kow - 3.56$

(10) Ba_{milk} values not directly available in the preferred sources were calculated using the following equation A-2-22 provided in Appendix A-2, USEPA (2005):

$Ba_{milk} = 10^{\log Ba\ fat} \times 0.04$ where log Ba fat = $-0.099\ (\log Kow)^2 + 1.07 \log Kow - 3.56$

(11) Ba_{pork} values not directly available in the preferred sources were calculated using the following equation A-2-26 provided in Appendix A-2, USEPA (2005):

$Ba_{pork} = 10^{\log Ba\ fat} \times 0.23$ where log Ba fat = $-0.099\ (\log Kow)^2 + 1.07 \log Kow - 3.56$

(12) Ba_{egg} values not directly available in the preferred sources were calculated using the following equation A-2-28 provided in Appendix A-2, USEPA (2005):

$Ba_{egg} = 10^{\log Ba\ fat} \times 0.08$ where log Ba fat = $-0.099\ (\log Kow)^2 + 1.07 \log Kow - 3.56$

(13) $Ba_{chicken}$ values not directly available in the preferred sources were calculated using the following equation A-2-27 provided in Appendix A-2, USEPA (2005):

$Ba_{chicken} = 10^{\log Ba\ fat} \times 0.14$ where log Ba fat = $-0.099\ (\log Kow)^2 + 1.07 \log Kow - 3.56$

(14) BCF values not directly available in the preferred sources were calculated using the following equation A-2-28 provided in Appendix A-2, USEPA (2005):

log BCF = 0.77 log Kow - 0.7; for log Kow of 1 to 7

(15) B_v values obtained from Baes et al. (1984) were applied as the Br_{forage} values, consistent with the methodology presented in Appendix A, USEPA (2005).

(16) B_r values obtained from Baes et al. (1984) were applied as the Br_{grain} and $Br_{rootveg}$ values, consistent with the methodology presented in Appendix A, USEPA (2005).

(17) Br_{ag} values were derived from B_r and B_v values obtained from Baes et al. (1984), consistent with the methodology presented in Appendix A, USEPA (2005).

References:

Baes, C.F., R.D. Sharp, A.L. Sjoreen, and R.W. Shor. 1984. Review and Analysis of Parameters and Assessing Transport of Environmentally Released Radionuclides through Agriculture. Oak Ridge National Laboratory. Oak Ridge, Tennessee.

EPI, 2012: Estimation Programs Interface Suite™ for Microsoft® Windows, v 4.11, November 2012 (http://www.epa.gov/oppt/exposure/pubs/episuitedl.htm).

MOE, 2011: Rationale for the Development of Soil and Ground Water Standards for Use at Contaminated Sites in Ontario, April 15, 2011.

RAIS, 2014: Risk Assessment Information System database, February 2014 (http://rais.ornl.gov/).

RSL, 2013: Regional Screening Level (RSL) Chemical-Specific Parameters Supporting Table, November 2013.

USEPA, 2005: Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities (USEPA), Appendix A-2: Human Health Risk Assessment Protocol, EPA520-R-05-006, September 2005.

Table B.11

Deposition Term Calculation
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Unit Conversion Factor (CF) ($mg\text{-}m^2/kg\text{-}cm^2$)	Annual Deposition Rate (Dr) (refer to table B.7) ($g/m^2\text{-}yr$)	Soil Mixing Zone Depth Untilled (Zs) (refer to table B.9) (cm)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	Deposition Term Mercury (Ds, mercury) (mg/kg-yr)	Deposition Term Untilled (Ds) (mg/kg-yr)
Particulate Matter						
Total Particulate Matter	1.00E+02	7.69E+02	2.00E+00	1.50E+00	--	2.56E+04
Particulate Matter (PM10)	1.00E+02	9.49E+01	2.00E+00	1.50E+00	--	3.16E+03
Particulate Matter (PM2.5)	1.00E+02	4.46E-01	2.00E+00	1.50E+00	--	1.49E+01
Metals						
Aluminum	1.00E+02	7.69E+01	2.00E+00	1.50E+00	--	2.56E+03
Antimony	1.00E+02	2.31E-03	2.00E+00	1.50E+00	--	7.69E-02
Arsenic	1.00E+02	3.00E-01	2.00E+00	1.50E+00	--	1.00E+01
Barium	1.00E+02	6.23E-01	2.00E+00	1.50E+00	--	2.08E+01
Beryllium	1.00E+02	2.31E-03	2.00E+00	1.50E+00	--	7.69E-02
Bismuth	1.00E+02	2.54E-04	2.00E+00	1.50E+00	--	8.46E-03
Boron	1.00E+02	1.92E-02	2.00E+00	1.50E+00	--	6.41E-01
Cadmium	1.00E+02	9.23E-05	2.00E+00	1.50E+00	--	3.08E-03
Calcium	1.00E+02	1.00E+01	2.00E+00	1.50E+00	--	3.33E+02
Chromium Total	1.00E+02	8.54E-02	2.00E+00	1.50E+00	--	2.85E+00
Cobalt	1.00E+02	1.38E-02	2.00E+00	1.50E+00	--	4.62E-01
Copper	1.00E+02	2.85E-02	2.00E+00	1.50E+00	--	9.49E-01
Iron	1.00E+02	3.31E+01	2.00E+00	1.50E+00	--	1.10E+03
Lead	1.00E+02	2.85E-02	2.00E+00	1.50E+00	--	9.49E-01
Lithium	1.00E+02	4.69E-02	2.00E+00	1.50E+00	--	1.56E+00
Magnesium	1.00E+02	1.15E+01	2.00E+00	1.50E+00	--	3.85E+02
Manganese	1.00E+02	7.09E-01	2.00E+00	1.50E+00	--	2.36E+01
Mercury, element	1.00E+02	2.03E-04	2.00E+00	1.50E+00		0.00E+00
Mercury, divalent	1.00E+02	--	2.00E+00	1.50E+00	3.25E-03	3.19E-03
Mercury, methyl	1.00E+02	--	2.00E+00	1.50E+00		6.50E-05
Molybdenum	1.00E+02	6.16E-04	2.00E+00	1.50E+00	--	2.05E-02
Nickel	1.00E+02	3.15E-02	2.00E+00	1.50E+00	--	1.05E+00
Phosphorus	1.00E+02	5.31E-01	2.00E+00	1.50E+00	--	1.77E+01
Potassium	1.00E+02	2.46E+01	2.00E+00	1.50E+00	--	8.21E+02
Rubidium	1.00E+02	4.59E-03	2.00E+00	1.50E+00	--	1.53E-01
Selenium	1.00E+02	2.69E-04	2.00E+00	1.50E+00	--	8.98E-03
Silver	1.00E+02	3.85E-04	2.00E+00	1.50E+00	--	1.28E-02
Sodium	1.00E+02	1.46E+01	2.00E+00	1.50E+00	--	4.87E+02
Strontium	1.00E+02	1.62E-01	2.00E+00	1.50E+00	--	5.39E+00
Thallium	1.00E+02	6.08E-04	2.00E+00	1.50E+00	--	2.03E-02
Tin	1.00E+02	2.31E-03	2.00E+00	1.50E+00	--	7.69E-02
Titanium	1.00E+02	3.23E+00	2.00E+00	1.50E+00	--	1.08E+02
Uranium	1.00E+02	1.38E-03	2.00E+00	1.50E+00	--	4.62E-02
Vanadium	1.00E+02	6.16E-02	2.00E+00	1.50E+00	--	2.05E+00
Zinc	1.00E+02	8.46E-02	2.00E+00	1.50E+00	--	2.82E+00

Equation:

$$Ds = \frac{CF \times Hg_{factor} \times Dr}{Zs \times BD}$$

Where:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.98), and methylmercury (0.48*0.02)

Table B.12

COPC Loss Constant Due To Runoff
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Average Annual Surface Runoff (RO) (refer to table B.9) (cm/yr)	Soil Volume Water Content (θsw) (refer to table B.9) (ml/cm^3)	Soil Mixing Zone Depth Untilled (Z_s) (refer to table B.9) (cm)	Soil-Water Partition Coefficient (Kd_s) (refer to table B.14) (ml/g)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	COPC Loss Surface Runoff Untilled (ksr) (yr^{-1})
Particulate Matter						
Total Particulate Matter	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Particulate Matter (PM10)	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Particulate Matter (PM2.5)	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Metals						
Aluminum	7.89E+01	2.00E-01	2.00E+00	1.50E+03	1.50E+00	1.75E-02
Antimony	7.89E+01	2.00E-01	2.00E+00	4.50E+01	1.50E+00	5.83E-01
Arsenic	7.89E+01	2.00E-01	2.00E+00	2.90E+01	1.50E+00	9.03E-01
Barium	7.89E+01	2.00E-01	2.00E+00	4.10E+01	1.50E+00	6.40E-01
Beryllium	7.89E+01	2.00E-01	2.00E+00	7.90E+02	1.50E+00	3.33E-02
Bismuth	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Boron	7.89E+01	2.00E-01	2.00E+00	3.00E+00	1.50E+00	8.40E+00
Cadmium	7.89E+01	2.00E-01	2.00E+00	7.50E+01	1.50E+00	3.50E-01
Calcium	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Chromium Total	7.89E+01	2.00E-01	2.00E+00	1.90E+01	1.50E+00	1.37E+00
Cobalt	7.89E+01	2.00E-01	2.00E+00	4.50E+01	1.50E+00	5.83E-01
Copper	7.89E+01	2.00E-01	2.00E+00	3.50E+01	1.50E+00	7.49E-01
Iron	7.89E+01	2.00E-01	2.00E+00	2.50E+01	1.50E+00	1.05E+00
Lead	7.89E+01	2.00E-01	2.00E+00	9.00E+02	1.50E+00	2.92E-02
Lithium	7.89E+01	2.00E-01	2.00E+00	3.00E+02	1.50E+00	8.76E-02
Magnesium	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Manganese	7.89E+01	2.00E-01	2.00E+00	6.50E+01	1.50E+00	4.04E-01
Mercury, element	7.89E+01	2.00E-01	2.00E+00	3.30E+03	1.50E+00	7.97E-03
Mercury, divalent	7.89E+01	2.00E-01	2.00E+00	3.30E+03	1.50E+00	7.97E-03
Mercury, methyl	7.89E+01	2.00E-01	2.00E+00	2.00E+01	1.50E+00	1.31E+00
Molybdenum	7.89E+01	2.00E-01	2.00E+00	2.00E+01	1.50E+00	1.31E+00
Nickel	7.89E+01	2.00E-01	2.00E+00	6.50E+01	1.50E+00	4.04E-01
Phosphorus	7.89E+01	2.00E-01	2.00E+00	3.50E+00	1.50E+00	7.24E+00
Potassium	7.89E+01	2.00E-01	2.00E+00	5.50E+00	1.50E+00	4.67E+00
Rubidium	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Selenium	7.89E+01	2.00E-01	2.00E+00	5.00E+00	1.50E+00	5.12E+00
Silver	7.89E+01	2.00E-01	2.00E+00	8.30E+00	1.50E+00	3.12E+00
Sodium	7.89E+01	2.00E-01	2.00E+00	1.00E+02	1.50E+00	2.63E-01
Strontium	7.89E+01	2.00E-01	2.00E+00	3.50E+01	1.50E+00	7.49E-01
Thallium	7.89E+01	2.00E-01	2.00E+00	7.10E+01	1.50E+00	3.70E-01
Tin	7.89E+01	2.00E-01	2.00E+00	2.50E+02	1.50E+00	1.05E-01
Titanium	7.89E+01	2.00E-01	2.00E+00	1.00E+03	1.50E+00	2.63E-02
Uranium	7.89E+01	2.00E-01	2.00E+00	4.50E+02	1.50E+00	5.84E-02
Vanadium	7.89E+01	2.00E-01	2.00E+00	1.00E+03	1.50E+00	2.63E-02
Zinc	7.89E+01	2.00E-01	2.00E+00	6.20E+01	1.50E+00	4.23E-01

Equation:

$$ksr = \frac{RO}{\theta_{sw} \times Z_s} \times \frac{1}{1 + (Kd_s \times BD/\theta_{sw})}\}$$

Table B.13

COPC Loss Constant Due To Leaching
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Average Annual Recharge (q) (refer to table B.9) (cm/yr)	Soil Volume Water Content (θsw) (refer to table B.9) (ml/cm^3)	Soil Mixing Zone Depth Untilled (Z_s) (refer to table B.9) (cm)	Soil-Water Partition Coefficient (Kd_s) (refer to table B.14) (ml/g)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	COPC Loss Leaching Untilled (ksl) (yr^{-1})
Particulate Matter						
Total Particulate Matter	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Particulate Matter (PM10)	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Particulate Matter (PM2.5)	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Metals						
Aluminum	1.73E+01	2.00E-01	2.00E+00	1.50E+03	1.50E+00	3.85E-03
Antimony	1.73E+01	2.00E-01	2.00E+00	4.50E+01	1.50E+00	1.28E-01
Arsenic	1.73E+01	2.00E-01	2.00E+00	2.90E+01	1.50E+00	1.98E-01
Barium	1.73E+01	2.00E-01	2.00E+00	4.10E+01	1.50E+00	1.40E-01
Beryllium	1.73E+01	2.00E-01	2.00E+00	7.90E+02	1.50E+00	7.31E-03
Bismuth	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Boron	1.73E+01	2.00E-01	2.00E+00	3.00E+00	1.50E+00	1.84E+00
Cadmium	1.73E+01	2.00E-01	2.00E+00	7.50E+01	1.50E+00	7.68E-02
Calcium	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Chromium Total	1.73E+01	2.00E-01	2.00E+00	1.90E+01	1.50E+00	3.02E-01
Cobalt	1.73E+01	2.00E-01	2.00E+00	4.50E+01	1.50E+00	1.28E-01
Copper	1.73E+01	2.00E-01	2.00E+00	3.50E+01	1.50E+00	1.64E-01
Iron	1.73E+01	2.00E-01	2.00E+00	2.50E+01	1.50E+00	2.30E-01
Lead	1.73E+01	2.00E-01	2.00E+00	9.00E+02	1.50E+00	6.41E-03
Lithium	1.73E+01	2.00E-01	2.00E+00	3.00E+02	1.50E+00	1.92E-02
Magnesium	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Manganese	1.73E+01	2.00E-01	2.00E+00	6.50E+01	1.50E+00	8.86E-02
Mercury, element	1.73E+01	2.00E-01	2.00E+00	3.30E+03	1.50E+00	1.75E-03
Mercury, divalent	1.73E+01	2.00E-01	2.00E+00	3.30E+03	1.50E+00	1.75E-03
Mercury, methyl	1.73E+01	2.00E-01	2.00E+00	2.00E+01	1.50E+00	2.87E-01
Molybdenum	1.73E+01	2.00E-01	2.00E+00	2.00E+01	1.50E+00	2.87E-01
Nickel	1.73E+01	2.00E-01	2.00E+00	6.50E+01	1.50E+00	8.86E-02
Phosphorus	1.73E+01	2.00E-01	2.00E+00	3.50E+00	1.50E+00	1.59E+00
Potassium	1.73E+01	2.00E-01	2.00E+00	5.50E+00	1.50E+00	1.02E+00
Rubidium	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Selenium	1.73E+01	2.00E-01	2.00E+00	5.00E+00	1.50E+00	1.12E+00
Silver	1.73E+01	2.00E-01	2.00E+00	8.30E+00	1.50E+00	6.85E-01
Sodium	1.73E+01	2.00E-01	2.00E+00	1.00E+02	1.50E+00	5.77E-02
Strontium	1.73E+01	2.00E-01	2.00E+00	3.50E+01	1.50E+00	1.64E-01
Thallium	1.73E+01	2.00E-01	2.00E+00	7.10E+01	1.50E+00	8.12E-02
Tin	1.73E+01	2.00E-01	2.00E+00	2.50E+02	1.50E+00	2.31E-02
Titanium	1.73E+01	2.00E-01	2.00E+00	1.00E+03	1.50E+00	5.77E-03
Uranium	1.73E+01	2.00E-01	2.00E+00	4.50E+02	1.50E+00	1.28E-02
Vanadium	1.73E+01	2.00E-01	2.00E+00	1.00E+03	1.50E+00	5.77E-03
Zinc	1.73E+01	2.00E-01	2.00E+00	6.20E+01	1.50E+00	9.29E-02

Equation:

$$ksl = \frac{q}{\theta_{sw} \times Z_s \times [1.0 + (BD \times Kd_s/\theta_{sw})]}$$

Table B.14

COPC Loss Constant Due To Volatilization
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Equilibrium Coefficient Untilled (Ke) (s/yr-cm)	Gas Phase Mass Transfer Coefficient Untilled (K_t) (cm/s)	Units Conversion Factor (CF) (s/year)	Henry's Law Constant (H) (refer to table B.10) ($atm\text{-}m^3/mol$)	Soil Mixing Zone Depth Untilled (Z_s) (refer to table B.9) (cm)	Soil-water Partition Coefficient (Kd_s) (refer to table B.10) (mL /g)	Universal Gas Constant (R) (refer to table B.9) ($atm\text{-}m^3/mol\text{-}K$)	Ambient Air Temperature (T_a) (refer to table B.9) (K)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	Diffusivity of COPC in Air (Da) (refer to table B.10) (cm^2/s)	Solid Void Fraction (θv) (cm^3/cm^3)	Solids Particle Density (ρ_s) (refer to table B.9) (g/cm^3)	Volumetric Soil Water Content (θsw) (refer to table B.9) (cm^3/cm^3)	Soil Loss Constant Due t Volatilization Untilled (Ksv) (yr^{-1})
Particulate Matter														
Total Particulate Matter	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Particulate Matter (PM10)	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Particulate Matter (PM2.5)	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Metals														
Aluminum	--	--	3.15E+07	--	2.00E+00	1.50E+03	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Antimony	--	--	3.15E+07	--	2.00E+00	4.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Arsenic	--	--	3.15E+07	--	2.00E+00	2.90E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Barium	--	--	3.15E+07	--	2.00E+00	4.10E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Beryllium	--	--	3.15E+07	--	2.00E+00	7.90E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Bismuth	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Boron	--	--	3.15E+07	--	2.00E+00	3.00E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Cadmium	--	--	3.15E+07	--	2.00E+00	7.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Calcium	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Chromium Total	--	--	3.15E+07	--	2.00E+00	1.90E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Cobalt	--	--	3.15E+07	--	2.00E+00	4.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Copper	--	--	3.15E+07	--	2.00E+00	3.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Iron	--	--	3.15E+07	--	2.00E+00	2.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Lead	--	--	3.15E+07	--	2.00E+00	9.00E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Lithium	--	--	3.15E+07	--	2.00E+00	3.00E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Magnesium	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Manganese	--	--	3.15E+07	--	2.00E+00	6.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Mercury, element	1.60E+03	3.75E-03	3.15E+07	1.15E-02	2.00E+00	3.30E+03	8.21E-05	2.80E+02	1.50E+00	3.07E-02	2.44E-01	2.70E+00	2.00E-01	5.99E+00
Mercury, divalent	9.85E-05	5.50E-03	3.15E+07	7.10E-10	2.00E+00	3.30E+03	8.21E-05	2.80E+02	1.50E+00	4.50E-02	2.44E-01	2.70E+00	2.00E-01	5.42E-07
Mercury, methyl	1.65E+05	6.48E-03	3.15E+07	7.22E-03	2.00E+00	2.00E+01	8.21E-05	2.80E+02	1.50E+00	5.30E-02	2.44E-01	2.70E+00	2.00E-01	1.07E+03
Molybdenum	--	--	3.15E+07	--	2.00E+00	2.00E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Nickel	--	--	3.15E+07	--	2.00E+00	6.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Phosphorus	--	--	3.15E+07	--	2.00E+00	3.50E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Potassium	--	--	3.15E+07	--	2.00E+00	5.50E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Rubidium	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Selenium	--	--	3.15E+07	--	2.00E+00	5.00E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Silver	--	--	3.15E+07	--	2.00E+00	8.30E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Sodium	--	--	3.15E+07	--	2.00E+00	1.00E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Strontium	--	--	3.15E+07	--	2.00E+00	3.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Thallium	--	--	3.15E+07	--	2.00E+00	7.10E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Tin	--	--	3.15E+07	--	2.00E+00	2.50E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Titanium	--	--	3.15E+07	--	2.00E+00	1.00E+03	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Uranium	--	--	3.15E+07	--	2.00E+00	4.50E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Vanadium	--	--	3.15E+07	--	2.00E+00	1.00E+03	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Zinc	--	--	3.15E+07	--	2.00E+00	6.20E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--

Equations: $ksv = Ke \times K_t$ where, $Ke = \frac{CF \times H}{Z_s \times Kd_s \times R \times T_a \times BD}$ $K_t = \frac{Da \times \theta_v}{Z_s}$ $\theta_v = 1 - (BD/\rho_s) - \theta_{sw}$

Table B.15

COPC Soil Loss Constant
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Biotic and Abiotic Degradation (ksg) (refer to table B.9) (yr^{-1})	Soil Erosion (kse) (refer to table B.9) (yr^{-1})	Surface Runoff Untilled (ksr) (refer to table B.12) (yr^{-1})	Leaching Untilled (ksl) (refer to table B.13) (yr^{-1})	Volatilization Untilled (ksv) (refer to table B.14) (yr^{-1})	Constant All Processes Untilled (ks) (yr^{-1})
Particulate Matter						
Total Particulate Matter	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Particulate Matter (PM10)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Particulate Matter (PM2.5)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Metals						
Aluminum	0.00E+00	0.00E+00	1.75E-02	3.85E-03	0.00E+00	2.14E-02
Antimony	0.00E+00	0.00E+00	5.83E-01	1.28E-01	0.00E+00	7.11E-01
Arsenic	0.00E+00	0.00E+00	9.03E-01	1.98E-01	0.00E+00	1.10E+00
Barium	0.00E+00	0.00E+00	6.40E-01	1.40E-01	0.00E+00	7.80E-01
Beryllium	0.00E+00	0.00E+00	3.33E-02	7.31E-03	0.00E+00	4.06E-02
Bismuth	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Boron	0.00E+00	0.00E+00	8.40E+00	1.84E+00	0.00E+00	1.02E+01
Cadmium	0.00E+00	0.00E+00	3.50E-01	7.68E-02	0.00E+00	4.27E-01
Calcium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chromium Total	0.00E+00	0.00E+00	1.37E+00	3.02E-01	0.00E+00	1.68E+00
Cobalt	0.00E+00	0.00E+00	5.83E-01	1.28E-01	0.00E+00	7.11E-01
Copper	0.00E+00	0.00E+00	7.49E-01	1.64E-01	0.00E+00	9.13E-01
Iron	0.00E+00	0.00E+00	1.05E+00	2.30E-01	0.00E+00	1.28E+00
Lead	0.00E+00	0.00E+00	2.92E-02	6.41E-03	0.00E+00	3.56E-02
Lithium	0.00E+00	0.00E+00	8.76E-02	1.92E-02	0.00E+00	1.07E-01
Magnesium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Manganese	0.00E+00	0.00E+00	4.04E-01	8.86E-02	0.00E+00	4.93E-01
Mercury, element	0.00E+00	0.00E+00	7.97E-03	1.75E-03	5.99E+00	6.00E+00
Mercury, divalent	0.00E+00	0.00E+00	7.97E-03	1.75E-03	5.42E-07	9.72E-03
Mercury, methyl	0.00E+00	0.00E+00	1.31E+00	2.87E-01	1.07E+03	1.07E+03
Molybdenum	0.00E+00	0.00E+00	1.31E+00	2.87E-01	0.00E+00	1.59E+00
Nickel	0.00E+00	0.00E+00	4.04E-01	8.86E-02	0.00E+00	4.93E-01
Phosphorus	0.00E+00	0.00E+00	7.24E+00	1.59E+00	0.00E+00	8.83E+00
Potassium	0.00E+00	0.00E+00	4.67E+00	1.02E+00	0.00E+00	5.69E+00
Rubidium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Selenium	0.00E+00	0.00E+00	5.12E+00	1.12E+00	0.00E+00	6.25E+00
Silver	0.00E+00	0.00E+00	3.12E+00	6.85E-01	0.00E+00	3.80E+00
Sodium	0.00E+00	0.00E+00	2.63E-01	5.77E-02	0.00E+00	3.20E-01
Strontium	0.00E+00	0.00E+00	7.49E-01	1.64E-01	0.00E+00	9.13E-01
Thallium	0.00E+00	0.00E+00	3.70E-01	8.12E-02	0.00E+00	4.51E-01
Tin	0.00E+00	0.00E+00	1.05E-01	2.31E-02	0.00E+00	1.28E-01
Titanium	0.00E+00	0.00E+00	2.63E-02	5.77E-03	0.00E+00	3.21E-02
Uranium	0.00E+00	0.00E+00	5.84E-02	1.28E-02	0.00E+00	7.13E-02
Vanadium	0.00E+00	0.00E+00	2.63E-02	5.77E-03	0.00E+00	3.21E-02
Zinc	0.00E+00	0.00E+00	4.23E-01	9.29E-02	0.00E+00	5.16E-01

Equation: $ks = ksg + kse + ksr + ksl + ksv$

Notes:

COPC loss due to soil erosion (kse) is assumed to be zero.
COPC loss due to biotic and abiotic degradation (ksg) is assumed only for organics.

Table B.16

Predicted Soil Concentrations Due to Deposition - Non-Carcinogens
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

		Deposition						Existing Soil Concentration				Deposition Soil Concentration				Predicted Soil Concentration			
	Deposition Term	Time Period				COPC Soil Loss Constant All Processes	Baseline	at Time tD				at Time tD				at Time tD			
	Untilled	Construction	Operations	Reclamation	Post-Closure	Untilled	Soil Concentration	Construction	Operations	Reclamation	Post-Closure	Construction	Operations	Reclamation	Post-Closure	Construction	Operations	Reclamation	Post-Closure
	(Ds)	(tD)	(tD)	(tD)	(tD)	(ks)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)
	(refer to table B.11)	(refer to table B.9)	(refer to table B.9)	(refer to table B.9)	(refer to table B.9)	(refer to table B.15)	(refer to table B.1)												
Contaminant	(mg/kg-yr)	(yr)	(yr)	(yr)	(yr)	(yr^{-1})	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Particulate Matter																			
Total Particulate Matter	2.56E+04	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	3.16E+03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	1.49E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																			
Aluminum	2.56E+03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	2.14E-02	1.10E+04	1.05E+04	8.33E+03	7.81E+03	7.81E+03	5.02E+03	2.91E+04	3.48E+04	3.48E+04	15560.8	37438.7	42565.0	42565.0
Antimony	7.69E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	7.11E-01	1.00E+00	2.41E-01	9.71E-05	1.15E-05	1.15E-05	8.21E-02	1.08E-01	1.08E-01	1.08E-01	1.0	1.0	1.0	1.0
Arsenic	1.00E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.10E+00	6.10E+00	6.74E-01	3.70E-06	1.36E-07	1.36E-07	8.08E+00	9.08E+00	9.08E+00	9.08E+00	8.8	9.1	9.1	9.1
Barium	2.08E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	7.80E-01	4.30E+01	9.04E+00	1.70E-03	1.64E-04	1.64E-04	2.10E+01	2.66E+01	2.66E+01	2.66E+01	43.0	43.0	43.0	43.0
Beryllium	7.69E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.06E-02	1.00E+00	9.22E-01	5.90E-01	5.22E-01	5.22E-01	1.48E-01	7.77E-01	9.05E-01	9.05E-01	1.1	1.4	1.4	1.4
Bismuth	8.46E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	--	--	--	--	--	--	--	--
Boron	6.41E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.02E+01	2.50E+01	3.20E-08	3.93E-57	1.80E-70	1.80E-70	6.26E-02	6.26E-02	6.26E-02	6.26E-02	25.0	25.0	25.0	25.0
Cadmium	3.08E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.27E-01	1.50E-01	6.39E-02	5.83E-04	1.62E-04	1.62E-04	4.14E-03	7.18E-03	7.20E-03	7.20E-03	0.15	0.15	0.15	0.15
Calcium	3.33E+02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	2.85E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.68E+00	1.40E+01	4.90E-01	4.79E-09	3.13E-11	3.13E-11	1.64E+00	1.70E+00	1.70E+00	1.70E+00	14.0	14.0	14.0	14.0
Cobalt	4.62E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	7.11E-01	2.60E+00	6.27E-01	2.52E-04	2.99E-05	2.99E-05	4.93E-01	6.49E-01	6.49E-01	6.49E-01	2.6	2.6	2.6	2.6
Copper	9.49E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	9.13E-01	7.10E+00	1.14E+00	4.97E-05	3.21E-06	3.21E-06	8.72E-01	1.04E+00	1.04E+00	1.04E+00	7.1	7.1	7.1	7.1
Iron	1.10E+03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.28E+00	1.70E+04	1.32E+03	1.06E-03	2.30E-05	2.30E-05	7.97E+02	8.64E+02	8.64E+02	8.64E+02	17000.0	17000.0	17000.0	17000.0
Lead	9.49E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.56E-02	1.60E+01	1.49E+01	1.01E+01	9.05E+00	9.05E+00	1.83E+00	9.87E+00	1.16E+01	1.16E+01	16.7	19.9	20.6	20.6
Lithium	1.56E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.07E-01	1.00E+01	8.08E+00	2.49E+00	1.81E+00	1.81E+00	2.82E+00	1.10E+01	1.20E+01	1.20E+01	10.9	13.5	13.8	13.8
Magnesium	3.85E+02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	2.36E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.93E-01	9.90E+01	3.70E+01	1.64E-01	3.74E-02	3.74E-02	3.01E+01	4.79E+01	4.79E+01	4.79E+01	99.0	99.0	99.0	99.0
Mercury, element	0.00E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	6.00E+00	1.80E-01	1.11E-06	2.46E-35	3.77E-43	3.77E-43	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.18	0.18	0.18	0.18
Mercury, divalent	3.19E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	9.72E-03	--	--	--	--	--	6.31E-03	3.89E-02	4.72E-02	4.72E-02	0.0	0.0	0.0	0.0
Mercury, methyl	6.50E-05	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.07E+03	--	--	--	--	--	6.06E-08	6.06E-08	6.06E-08	6.06E-08	0.0	0.0	0.0	0.0
Molybdenum	2.05E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.59E+00	1.00E+00	4.13E-02	1.01E-09	8.47E-12	8.47E-12	1.23E-02	1.29E-02	1.29E-02	1.29E-02	1.0	1.0	1.0	1.0
Nickel	1.05E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.93E-01	7.30E+00	2.73E+00	1.21E-02	2.76E-03	2.76E-03	1.34E+00	2.13E+00	2.13E+00	2.13E+00	7.3	7.3	7.3	7.3
Phosphorus	1.77E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	8.83E+00	--	--	--	--	--	2.00E+00	2.00E+00	2.00E+00	2.00E+00	2.0	2.0	2.0	2.0
Potassium	8.21E+02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	5.69E+00	--	--	--	--	--	1.44E+02	1.44E+02	1.44E+02	1.44E+02	144.1	144.1	144.1	144.1
Rubidium	1.53E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	6.90E+00	6.90E+00	6.90E+00	6.90E+00	6.90E+00	--	--	--	--	--	--	--	--
Selenium	8.98E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	6.25E+00	8.70E-01	3.25E-06	4.54E-36	3.27E-44	3.27E-44	1.44E-03	1.44E-03	1.44E-03	1.44E-03	0.87	0.87	0.87	0.87
Silver	1.28E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.80E+00	2.50E-01	1.24E-04	8.35E-23	9.23E-28	9.23E-28	3.37E-03	3.37E-03	3.37E-03	3.37E-03	0.25	0.25	0.25	0.25
Sodium	4.87E+02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.20E-01	--	--	--	--	--	7.20E+02	1.50E+03	1.51E+03	1.51E+03	719.6	1497.4	1512.0	1512.0
Strontium	5.39E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	9.13E-01	2.30E+01	3.70E+00	1.61E-04	1.04E-05	1.04E-05	4.95E+00	5.90E+00	5.90E+00	5.90E+00	23.0	23.0	23.0	23.0
Thallium	2.03E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.51E-01	5.00E-02	2.03E-02	1.42E-04	3.67E-05	3.67E-05	2.67E-02	4.48E-02	4.49E-02	4.49E-02	0.05	0.05	0.05	0.05
Tin	7.69E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.28E-01	5.00E-01	3.87E-01	9.44E-02	6.42E-02	6.42E-02	1.36E-01	4.87E-01	5.23E-01	5.23E-01	0.52	0.58	0.59	0.59
Titanium	1.08E+02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.21E-02	--	--	--	--	--	2.09E+02	1.15E+03	1.35E+03	1.35E+03	208.7	1145.1	1348.1	1348.1
Uranium	4.62E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	7.13E-02	6.70E-01	5.81E-01	2.65E-01	2.14E-01	2.14E-01	8.61E-02	3.91E-01	4.41E-01	4.41E-01	0.67	0.67	0.67	0.67
Vanadium	2.05E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.21E-02	2.30E+01	2.16E+01	1.52E+01	1.38E+01	1.38E+01	3.97E+00	2.18E+01	2.57E+01	2.57E+01	25.5	37.0	39.4	39.4
Zinc	2.82E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	5.16E-01	2.00E+01	7.12E+00	2.43E-02	5.17E-03	5.17E-03	3.52E+00	5.46E+00	5.46E+00	5.46E+00	20.0	20.0	20.0	20.0

Equation:

$$Cs_{tD} = \frac{Ds \times [1 - \exp(-ks \times tD)]}{ks}$$

Table B.17

Predicted Soil Invertebrate Concentrations Due to Deposition - Non-Carcinogens
Soil Invertebrate Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Soil Concentration at Time tD				Baseline Soil Invertebrate Concentration	Predicted Soil Invertebrate Concentration at Time tD				Final Soil Invertebrate Concentration at Time tD			
Contaminant	Construction (Cs) (refer to table B.16) (mg/kg)	Operations (Cs) (refer to table B.16) (mg/kg)	Reclamation (Cs) (refer to table B.16) (mg/kg)	Post-Closure (Cs) (refer to table B.16) (mg/kg)	(Cti) (refer to table B.1) (mg/kg FW)	Construction (Cti) (1) (mg/kg FW)	Operations (Cti) (1) (mg/kg FW)	Reclamation (Cti) (1) (mg/kg FW)	Post-Closure (Cti) (1) (mg/kg FW)	Construction (Cti) (1) (mg/kg FW)	Operations (Cti) (1) (mg/kg FW)	Reclamation (Cti) (1) (mg/kg FW)	Post-Closure (Cti) (1) (mg/kg FW)
Particulate Matter													
Total Particulate Matter	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals													
Aluminum	1.56E+04	3.74E+04	4.26E+04	4.26E+04	4.20E+02	1.07E+02	2.58E+02	2.93E+02	2.93E+02	4.20E+02	4.20E+02	4.20E+02	4.20E+02
Antimony	1.00E+00	1.00E+00	1.00E+00	1.00E+00	2.50E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Arsenic	8.75E+00	9.08E+00	9.08E+00	9.08E+00	8.00E+00	1.79E-01	1.83E-01	1.83E-01	1.83E-01	8.00E+00	8.00E+00	8.00E+00	8.00E+00
Barium	4.30E+01	4.30E+01	4.30E+01	4.30E+01	2.40E+01	6.26E-01	6.26E-01	6.26E-01	6.26E-01	2.40E+01	2.40E+01	2.40E+01	2.40E+01
Beryllium	1.07E+00	1.37E+00	1.43E+00	1.43E+00	2.50E-01	7.70E-04	9.84E-04	1.03E-03	1.03E-03	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Bismuth	--	--	--	--	--	--	--	--	--	--	--	--	--
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.30E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00
Cadmium	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.60E+00	2.93E-01	2.93E-01	2.93E-01	2.93E-01	1.60E+00	1.60E+00	1.60E+00	1.60E+00
Calcium	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	1.40E+01	1.40E+01	1.40E+01	1.40E+01	5.80E-01	6.85E-01	6.85E-01	6.85E-01	6.85E-01	6.85E-01	6.85E-01	6.85E-01	6.85E-01
Cobalt	2.60E+00	2.60E+00	2.60E+00	2.60E+00	2.10E-01	5.08E-02	5.08E-02	5.08E-02	5.08E-02	2.10E-01	2.10E-01	2.10E-01	2.10E-01
Copper	7.10E+00	7.10E+00	7.10E+00	7.10E+00	1.60E+01	5.85E-01	5.85E-01	5.85E-01	5.85E-01	1.60E+01	1.60E+01	1.60E+01	1.60E+01
Iron	1.70E+04	1.70E+04	1.70E+04	1.70E+04	6.00E+02	2.72E+03	2.72E+03	2.72E+03	2.72E+03	2.72E+03	2.72E+03	2.72E+03	2.72E+03
Lead	1.67E+01	1.99E+01	2.06E+01	2.06E+01	5.60E-01	1.25E+00	1.44E+00	1.48E+00	1.48E+00	1.25E+00	1.44E+00	1.48E+00	1.48E+00
Lithium	1.09E+01	1.35E+01	1.38E+01	1.38E+01	2.50E-01	1.74E+00	2.16E+00	2.21E+00	2.21E+00	1.74E+00	2.16E+00	2.21E+00	2.21E+00
Magnesium	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	9.90E+01	9.90E+01	9.90E+01	9.90E+01	1.20E+03	1.64E+00	1.64E+00	1.64E+00	1.64E+00	1.20E+03	1.20E+03	1.20E+03	1.20E+03
Mercury, element	1.80E-01	1.80E-01	1.80E-01	1.80E-01	3.50E-02	2.88E-02	2.88E-02	2.88E-02	2.88E-02	3.50E-02	3.50E-02	3.50E-02	3.50E-02
Mercury, divalent	6.31E-03	3.89E-02	4.72E-02	4.72E-02	--	1.01E-03	6.22E-03	7.55E-03	7.55E-03	1.01E-03	6.22E-03	7.55E-03	7.55E-03
Mercury, methyl	6.06E-08	6.06E-08	6.06E-08	6.06E-08	--	9.70E-09	9.70E-09	9.70E-09	9.70E-09	9.70E-09	9.70E-09	9.70E-09	9.70E-09
Molybdenum	1.00E+00	1.00E+00	1.00E+00	1.00E+00	6.90E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01	6.90E-01	6.90E-01	6.90E-01	6.90E-01
Nickel	7.30E+00	7.30E+00	7.30E+00	7.30E+00	1.10E+00	1.17E+00	1.17E+00	1.17E+00	1.17E+00	1.17E+00	1.17E+00	1.17E+00	1.17E+00
Phosphorus	2.00E+00	2.00E+00	2.00E+00	2.00E+00	--	3.21E-01	3.21E-01	3.21E-01	3.21E-01	3.21E-01	3.21E-01	3.21E-01	3.21E-01
Potassium	1.44E+02	1.44E+02	1.44E+02	1.44E+02	--	2.31E+01	2.31E+01	2.31E+01	2.31E+01	2.31E+01	2.31E+01	2.31E+01	2.31E+01
Rubidium	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	8.70E-01	8.70E-01	8.70E-01	8.70E-01	2.50E-01	1.34E-01	1.34E-01	1.34E-01	1.34E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Silver	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.80E+00	8.18E-02	8.18E-02	8.18E-02	8.18E-02	1.80E+00	1.80E+00	1.80E+00	1.80E+00
Sodium	7.20E+02	1.50E+03	1.51E+03	1.51E+03	--	1.15E+02	2.40E+02	2.42E+02	2.42E+02	1.15E+02	2.40E+02	2.42E+02	2.42E+02
Strontium	2.30E+01	2.30E+01	2.30E+01	2.30E+01	1.00E+01	3.68E+00	3.68E+00	3.68E+00	3.68E+00	1.00E+01	1.00E+01	1.00E+01	1.00E+01
Thallium	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.00E-02	8.00E-03	8.00E-03	8.00E-03	8.00E-03	1.00E-02	1.00E-02	1.00E-02	1.00E-02
Tin	5.23E-01	5.81E-01	5.87E-01	5.87E-01	2.50E-01	8.36E-02	9.30E-02	9.39E-02	9.39E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Titanium	2.09E+02	1.15E+03	1.35E+03	1.35E+03	--	3.34E+01	1.83E+02	2.16E+02	2.16E+02	3.34E+01	1.83E+02	2.16E+02	2.16E+02
Uranium	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.00E-02	1.07E-01	1.07E-01	1.07E-01	1.07E-01	1.07E-01	1.07E-01	1.07E-01	1.07E-01
Vanadium	2.55E+01	3.70E+01	3.94E+01	3.94E+01	9.30E-01	1.72E-01	2.48E-01	2.65E-01	2.65E-01	9.30E-01	9.30E-01	9.30E-01	9.30E-01
Zinc	2.00E+01	2.00E+01	2.00E+01	2.00E+01	7.90E+01	3.66E+01	3.66E+01	3.66E+01	3.66E+01	7.90E+01	7.90E+01	7.90E+01	7.90E+01

Note:
(1) Uptake equations and inputs from the USEPA Eco Soil Screening Level (SSL) guidance (USEPA, 2007). An uptake factor for aluminum was taken from the validation data set presented in Table C.1 of Appendix A of Sample et al. (1998b); the median uptake factor from that data set (0.043) was selected.

Table B.18

Predicted Prey Concentrations Due to Deposition - Non-Carcinogens
Prey Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Soil Concentration at Time tD				Prey Concentration at Time tD			
Contaminant	Construction (Cs) (refer to table B.16) (mg/kg)	Operations (Cs) (refer to table B.16) (mg/kg)	Reclamation (Cs) (refer to table B.16) (mg/kg)	Post-Closure (Cs) (refer to table B.16) (mg/kg)	Construction (Cp) (1) (mg/kg FW)	Operations (Cp) (1) (mg/kg FW)	Reclamation (Cp) (1) (mg/kg FW)	Post-Closure (Cp) (1) (mg/kg FW)
Particulate Matter								
Total Particulate Matter	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--
Metals								
Aluminum	1.56E+04	3.74E+04	4.26E+04	4.26E+04	1.31E+02	3.15E+02	3.58E+02	3.58E+02
Antimony	1.00E+00	1.00E+00	1.00E+00	1.00E+00	4.00E-03	4.00E-03	4.00E-03	4.00E-03
Arsenic	8.75E+00	9.08E+00	9.08E+00	9.08E+00	1.48E-02	1.53E-02	1.53E-02	1.53E-02
Barium	4.30E+01	4.30E+01	4.30E+01	4.30E+01	5.76E-02	5.76E-02	5.76E-02	5.76E-02
Beryllium	1.07E+00	1.37E+00	1.43E+00	1.43E+00	4.00E-03	4.00E-03	4.00E-03	4.00E-03
Bismuth	--	--	--	--	--	--	--	--
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	8.00E+00	8.00E+00	8.00E+00	8.00E+00
Cadmium	1.50E-01	1.50E-01	1.50E-01	1.50E-01	3.72E-02	3.72E-02	3.72E-02	3.72E-02
Calcium	--	--	--	--	--	--	--	--
Chromium Total	1.40E+01	1.40E+01	1.40E+01	1.40E+01	5.15E-01	5.15E-01	5.15E-01	5.15E-01
Cobalt	2.60E+00	2.60E+00	2.60E+00	2.60E+00	1.28E-02	1.28E-02	1.28E-02	1.28E-02
Copper	7.10E+00	7.10E+00	7.10E+00	7.10E+00	3.27E+00	3.27E+00	3.27E+00	3.27E+00
Iron	1.70E+04	1.70E+04	1.70E+04	1.70E+04	5.44E+03	5.44E+03	5.44E+03	5.44E+03
Lead	1.67E+01	1.99E+01	2.06E+01	2.06E+01	1.20E+00	1.30E+00	1.32E+00	1.32E+00
Lithium	1.09E+01	1.35E+01	1.38E+01	1.38E+01	3.49E+00	4.31E+00	4.42E+00	4.42E+00
Magnesium	--	--	--	--	--	--	--	--
Manganese	9.90E+01	9.90E+01	9.90E+01	9.90E+01	6.49E-01	6.49E-01	6.49E-01	6.49E-01
Mercury, element	1.80E-01	1.80E-01	1.80E-01	1.80E-01	5.76E-02	5.76E-02	5.76E-02	5.76E-02
Mercury, divalent	6.31E-03	3.89E-02	4.72E-02	4.72E-02	2.02E-03	1.24E-02	1.51E-02	1.51E-02
Mercury, methyl	6.06E-08	6.06E-08	6.06E-08	6.06E-08	1.94E-08	1.94E-08	1.94E-08	1.94E-08
Molybdenum	1.00E+00	1.00E+00	1.00E+00	1.00E+00	3.20E-01	3.20E-01	3.20E-01	3.20E-01
Nickel	7.30E+00	7.30E+00	7.30E+00	7.30E+00	6.31E-01	6.31E-01	6.31E-01	6.31E-01
Phosphorus	2.00E+00	2.00E+00	2.00E+00	2.00E+00	6.41E-01	6.41E-01	6.41E-01	6.41E-01
Potassium	1.44E+02	1.44E+02	1.44E+02	1.44E+02	4.61E+01	4.61E+01	4.61E+01	4.61E+01
Rubidium	--	--	--	--	--	--	--	--
Selenium	8.70E-01	8.70E-01	8.70E-01	8.70E-01	2.00E-01	2.00E-01	2.00E-01	2.00E-01
Silver	2.50E-01	2.50E-01	2.50E-01	2.50E-01	3.20E-04	3.20E-04	3.20E-04	3.20E-04
Sodium	7.20E+02	1.50E+03	1.51E+03	1.51E+03	2.30E+02	4.79E+02	4.84E+02	4.84E+02
Strontium	2.30E+01	2.30E+01	2.30E+01	2.30E+01	7.36E+00	7.36E+00	7.36E+00	7.36E+00
Thallium	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.60E-02	1.60E-02	1.60E-02	1.60E-02
Tin	5.23E-01	5.81E-01	5.87E-01	5.87E-01	1.67E-01	1.86E-01	1.88E-01	1.88E-01
Titanium	2.09E+02	1.15E+03	1.35E+03	1.35E+03	6.68E+01	3.66E+02	4.31E+02	4.31E+02
Uranium	6.70E-01	6.70E-01	6.70E-01	6.70E-01	2.14E-01	2.14E-01	2.14E-01	2.14E-01
Vanadium	2.55E+01	3.70E+01	3.94E+01	3.94E+01	1.01E-01	1.46E-01	1.55E-01	1.55E-01
Zinc	2.00E+01	2.00E+01	2.00E+01	2.00E+01	5.04E-03	5.04E-03	5.04E-03	5.04E-03

Note:
The predicted prey concentrations were modelled with uptake factors from the USEPA (2007). An aluminum uptake factor was obtained from Table C.1 in Appendix C of Sample et al. (1998a); the median uptake factor of 0.0263 from this data set was selected.

Table B.19

Aboveground Produce Predicted Concentrations Due to Direct Deposition
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Units Conversion Factor (CF) (mg/g)	Annual Deposition Rate (Dr) (g/m^2-yr)	Fraction of Air Concentration In Vapor Phase (Fv) (refer to table B.10) -	Fraction Wet Deposition Adhere to Plant (Fw) (refer to table B.9) -	Interception Fraction Edible Produce Portion Vegetable (Rp) (refer to table B.9) -	Interception Fraction Edible Produce Portion Fruit (Rp) (refer to table B.9) -	Produce Surface Loss Coefficient Vegetable (kp) (refer to table B.9) (1/yr)	Produce Surface Loss Coefficient Fruit (kp) (refer to table B.9) (1/yr)	Length of Produce Exposure to Deposition per Harvest of Edible Produce Vegetable (Tp) (refer to table B.9) (yrs)	Length of Produce Exposure to Deposition per Harvest of Edible Produce Fruit (Tp) (refer to table B.9) (yrs)	Yield of Edible Portion of Produce Vegetable (Yp) (refer to table B.9) ($kg\ DW/m^2$)	Yield of Edible Portion of Produce Fruit (Yp) (refer to table B.9) ($kg\ DW/m^2$)	Predicted Produce Concentration Due to Direct Deposition Vegetable (Pd) (mg/kg DW)	Predicted Produce Concentration Due to Direct Deposition Fruit (Pd) (mg/kg DW)
Particulate Matter														
Total Particulate Matter	1.00E+03	7.69E+02	--	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	--	--
Particulate Matter (PM10)	1.00E+03	9.49E+01	--	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	--	--
Particulate Matter (PM2.5)	1.00E+03	4.46E-01	--	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	--	--
Metals														
Aluminum	1.00E+03	7.69E+01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	4.22E+02	5.11E+02
Antimony	1.00E+03	2.31E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.27E-02	1.53E-02
Arsenic	1.00E+03	3.00E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.64E+00	1.99E+00
Barium	1.00E+03	6.23E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.42E+00	4.14E+00
Beryllium	1.00E+03	2.31E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.27E-02	1.53E-02
Bismuth	1.00E+03	2.54E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.39E-03	1.69E-03
Boron	1.00E+03	1.92E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.05E-01	1.28E-01
Cadmium	1.00E+03	9.23E-05	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	5.06E-04	6.13E-04
Calcium	1.00E+03	1.00E+01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	5.48E+01	6.65E+01
Chromium Total	1.00E+03	8.54E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	4.68E-01	5.67E-01
Cobalt	1.00E+03	1.38E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	7.59E-02	9.20E-02
Copper	1.00E+03	2.85E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.56E-01	1.89E-01
Iron	1.00E+03	3.31E+01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.81E+02	2.20E+02
Lead	1.00E+03	2.85E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.56E-01	1.89E-01
Lithium	1.00E+03	4.69E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	2.57E-01	3.12E-01
Magnesium	1.00E+03	1.15E+01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	6.33E+01	7.67E+01
Manganese	1.00E+03	7.09E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.88E+00	4.71E+00
Mercury, element	1.00E+03	2.03E-04	1.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	0.00E+00	0.00E+00
Mercury, divalent	1.00E+03	--	8.50E-01	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	7.86E-05	9.52E-05
Mercury, methyl	1.00E+03	--	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.07E-05	1.30E-05
Molybdenum	1.00E+03	6.16E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.37E-03	4.09E-03
Nickel	1.00E+03	3.15E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.73E-01	2.10E-01
Phosphorus	1.00E+03	5.31E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	2.91E+00	3.53E+00
Potassium	1.00E+03	2.46E+01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.35E+02	1.64E+02
Rubidium	1.00E+03	4.59E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	2.52E-02	3.05E-02
Selenium	1.00E+03	2.69E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.48E-03	1.79E-03
Silver	1.00E+03	3.85E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	2.11E-03	2.56E-03
Sodium	1.00E+03	1.46E+01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	8.01E+01	9.71E+01
Strontium	1.00E+03	1.62E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	8.86E-01	1.07E+00
Thallium	1.00E+03	6.08E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.33E-03	4.04E-03
Tin	1.00E+03	2.31E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.27E-02	1.53E-02
Titanium	1.00E+03	3.23E+00	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.77E+01	2.15E+01
Uranium	1.00E+03	1.38E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	7.59E-03	9.20E-03
Vanadium	1.00E+03	6.16E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.37E-01	4.09E-01
Zinc	1.00E+03	8.46E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	4.64E-01	5.62E-01

Equation:

$$Pd = \frac{CF \times Hg_{factor} \times Dr \times (1 - Fv) \times Fw \times Rp \times [1.0 - \exp(-kp \times Tp)]}{Yp \times kp}$$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.78), and methylmercury (0.48*0.22)

Table B.20

Aboveground Produce Predicted Concentrations Due to Air-to-Plant Transfer
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Air Concentration In Vapor Phase (Fv) (refer to table B.10) -	Annual Air Predicted Concentration (Coa) (refer to table B.6) (µg/m^3)	Air -to-Plant Biotransfer Factor (Bv_{ag}) (refer to table B.10) (mg/kg DW)/(µg/g air)	Correction Factor for Above Ground Vegetation (VG_{ag}) (refer to table B.9) -	Density of Air (pa) (refer to table B.9) (g/m^3)	Predicted Produce Concentration Due to Air-to-Plant Transfer (Pv) (mg/kg DW)
Particulate Matter						
Total Particulate Matter	--	2.40E+02	--	1.00E+00	1.20E+03	--
Particulate Matter (PM10)	--	6.05E+01	--	1.00E+00	1.20E+03	--
Particulate Matter (PM2.5)	--	1.57E+01	--	1.00E+00	1.20E+03	--
Metals						
Aluminum	0.00E+00	1.09E-01	--	1.00E+00	1.20E+03	--
Antimony	0.00E+00	1.63E-05	--	1.00E+00	1.20E+03	--
Arsenic	0.00E+00	4.33E-04	--	1.00E+00	1.20E+03	--
Barium	0.00E+00	8.85E-02	--	1.00E+00	1.20E+03	--
Beryllium	0.00E+00	1.63E-05	--	1.00E+00	1.20E+03	--
Bismuth	0.00E+00	8.20E-06	--	1.00E+00	1.20E+03	--
Boron	0.00E+00	3.71E-05	--	1.00E+00	1.20E+03	--
Cadmium	0.00E+00	5.62E-05	--	1.00E+00	1.20E+03	--
Calcium	0.00E+00	--	--	1.00E+00	1.20E+03	--
Chromium Total	0.00E+00	1.58E-03	--	1.00E+00	1.20E+03	--
Cobalt	0.00E+00	3.54E-05	--	1.00E+00	1.20E+03	--
Copper	0.00E+00	3.39E-01	--	1.00E+00	1.20E+03	--
Iron	0.00E+00	1.12E-01	--	1.00E+00	1.20E+03	--
Lead	0.00E+00	2.44E-05	--	1.00E+00	1.20E+03	--
Lithium	0.00E+00	9.02E-05	--	1.00E+00	1.20E+03	--
Magnesium	0.00E+00	--	--	1.00E+00	1.20E+03	--
Manganese	0.00E+00	1.80E-03	--	1.00E+00	1.20E+03	--
Mercury, element	1.00E+00	2.21E-06	1.00E+00	1.00E+00	1.20E+03	1.84E-09
Mercury, divalent	8.50E-01	--	1.80E+03	1.00E+00	1.20E+03	--
Mercury, methyl	0.00E+00	--	1.00E+00	1.00E+00	1.20E+03	--
Molybdenum	0.00E+00	3.13E-05	--	1.00E+00	1.20E+03	--
Nickel	0.00E+00	1.81E-03	--	1.00E+00	1.20E+03	--
Phosphorus	0.00E+00	--	--	1.00E+00	1.20E+03	--
Potassium	0.00E+00	--	--	1.00E+00	1.20E+03	--
Rubidium	0.00E+00	4.99E-05	--	1.00E+00	1.20E+03	--
Selenium	0.00E+00	1.22E-05	--	1.00E+00	1.20E+03	--
Silver	0.00E+00	1.48E-04	--	1.00E+00	1.20E+03	--
Sodium	0.00E+00	--	--	1.00E+00	1.20E+03	--
Strontium	0.00E+00	5.48E-04	--	1.00E+00	1.20E+03	--
Thallium	0.00E+00	9.52E-06	--	1.00E+00	1.20E+03	--
Tin	0.00E+00	1.85E-03	--	1.00E+00	1.20E+03	--
Titanium	0.00E+00	2.26E-03	--	1.00E+00	1.20E+03	--
Uranium	0.00E+00	9.76E-06	--	1.00E+00	1.20E+03	--
Vanadium	0.00E+00	3.30E-04	--	1.00E+00	1.20E+03	--
Zinc	0.00E+00	1.90E-02	--	1.00E+00	1.20E+03	--

Equation: $Pv = Fv \times \frac{Coa \times Bv_{ag} \times VG_{ag} \times Hg_{factor}}{pa}$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.78), and methylmercury (0.48*0.22)

Table B.21

Aboveground Produce Predicted Concentrations Due to Root Uptake
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Soil Concentration Construction (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Operations (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Reclamation (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Post-Closure (Cs) (refer to table B.16) (mg/kg)	Plant-Soil Bioconcentration Factor Aboveground Produce (Br_{ag}) (refer to table B.10) (µg/g DW)/(µg/g soil)	Aboveground Produce Predicted Concentration Due to Root Uptake Construction (Cag) (mg/kg DW)	Aboveground Produce Predicted Concentration Due to Root Uptake Operations (Cag) (mg/kg DW)	Aboveground Produce Predicted Concentration Due to Root Uptake Reclamation (Cag) (mg/kg DW)	Aboveground Produce Predicted Concentration Due to Root Uptake Post-Closure (Cag) (mg/kg DW)
Particulate Matter									
Total Particulate Matter	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--
Metals									
Aluminum	1.56E+04	3.74E+04	4.26E+04	4.26E+04	1.08E-03	1.67E+01	4.03E+01	4.58E+01	4.58E+01
Antimony	1.00E+00	1.00E+00	1.00E+00	1.00E+00	5.16E-02	5.16E-02	5.16E-02	5.16E-02	5.16E-02
Arsenic	8.75E+00	9.08E+00	9.08E+00	9.08E+00	6.30E-03	5.51E-02	5.72E-02	5.72E-02	5.72E-02
Barium	4.30E+01	4.30E+01	4.30E+01	4.30E+01	3.22E-02	1.38E+00	1.38E+00	1.38E+00	1.38E+00
Beryllium	1.07E+00	1.37E+00	1.43E+00	1.43E+00	2.58E-03	2.76E-03	3.53E-03	3.68E-03	3.68E-03
Bismuth	--	--	--	--	8.81E-03	--	--	--	--
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.25E+00	5.64E+01	5.64E+01	5.64E+01	5.64E+01
Cadmium	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.20E-01	1.80E-02	1.80E-02	1.80E-02	1.80E-02
Calcium	--	--	--	--	7.50E-01	--	--	--	--
Chromium Total	1.40E+01	1.40E+01	1.40E+01	1.40E+01	4.88E-03	6.83E-02	6.83E-02	6.83E-02	6.83E-02
Cobalt	2.60E+00	2.60E+00	2.60E+00	2.60E+00	8.65E-03	2.25E-02	2.25E-02	2.25E-02	2.25E-02
Copper	7.10E+00	7.10E+00	7.10E+00	7.10E+00	2.69E-01	1.91E+00	1.91E+00	1.91E+00	1.91E+00
Iron	1.70E+04	1.70E+04	1.70E+04	1.70E+04	1.38E-03	2.35E+01	2.35E+01	2.35E+01	2.35E+01
Lead	1.67E+01	1.99E+01	2.06E+01	2.06E+01	1.36E-02	2.27E-01	2.71E-01	2.80E-01	2.80E-01
Lithium	1.09E+01	1.35E+01	1.38E+01	1.38E+01	6.67E-03	7.27E-02	8.99E-02	9.20E-02	9.20E-02
Magnesium	--	--	--	--	6.07E-01	--	--	--	--
Manganese	9.90E+01	9.90E+01	9.90E+01	9.90E+01	7.54E-02	7.47E+00	7.47E+00	7.47E+00	7.47E+00
Mercury, element	1.80E-01	1.80E-01	1.80E-01	1.80E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, divalent	6.31E-03	3.89E-02	4.72E-02	4.72E-02	1.40E-02	8.83E-05	5.45E-04	6.61E-04	6.61E-04
Mercury, methyl	6.06E-08	6.06E-08	6.06E-08	6.06E-08	2.90E-02	1.76E-09	1.76E-09	1.76E-09	1.76E-09
Molybdenum	1.00E+00	1.00E+00	1.00E+00	1.00E+00	8.42E-02	8.42E-02	8.42E-02	8.42E-02	8.42E-02
Nickel	7.30E+00	7.30E+00	7.30E+00	7.30E+00	9.30E-03	6.79E-02	6.79E-02	6.79E-02	6.79E-02
Phosphorus	2.00E+00	2.00E+00	2.00E+00	2.00E+00	3.50E+00	7.02E+00	7.02E+00	7.02E+00	7.02E+00
Potassium	1.44E+02	1.44E+02	1.44E+02	1.44E+02	6.07E-01	8.75E+01	8.75E+01	8.75E+01	8.75E+01
Rubidium	--	--	--	--	1.00E+00	--	--	--	--
Selenium	8.70E-01	8.70E-01	8.70E-01	8.70E-01	2.00E-02	1.74E-02	1.74E-02	1.74E-02	1.74E-02
Silver	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.38E-01	3.45E-02	3.45E-02	3.45E-02	3.45E-02
Sodium	7.20E+02	1.50E+03	1.51E+03	1.51E+03	5.75E-02	4.14E+01	8.62E+01	8.70E+01	8.70E+01
Strontium	2.30E+01	2.30E+01	2.30E+01	2.30E+01	5.36E-01	1.23E+01	1.23E+01	1.23E+01	1.23E+01
Thallium	5.00E-02	5.00E-02	5.00E-02	5.00E-02	8.58E-04	4.29E-05	4.29E-05	4.29E-05	4.29E-05
Tin	5.23E-01	5.81E-01	5.87E-01	5.87E-01	9.05E-03	4.73E-03	5.26E-03	5.31E-03	5.31E-03
Titanium	2.09E+02	1.15E+03	1.35E+03	1.35E+03	3.32E-03	6.92E-01	3.80E+00	4.47E+00	4.47E+00
Uranium	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.00E+00	6.70E-01	6.70E-01	6.70E-01	6.70E-01
Vanadium	2.55E+01	3.70E+01	3.94E+01	3.94E+01	3.32E-03	8.48E-02	1.23E-01	1.31E-01	1.31E-01
Zinc	2.00E+01	2.00E+01	2.00E+01	2.00E+01	9.70E-02	1.94E+00	1.94E+00	1.94E+00	1.94E+00

Equation: $Cag = Cs \times Br_{ag}$

Table B.22

Aboveground Produce Predicted Concentrations Due to Deposition, Vapour Transfer, and Root Uptake
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Produce Concentration Due to Direct Deposition		Predicted Produce Concentration Due to Air-to-Plant Transfer	Aboveground Produce Predicted Concentration Due to Root Uptake				Aboveground Produce (Vegetable) Predicted Concentration				Baseline Berry	Aboveground Produce (Fruit) Predicted Concentration			
	Vegetable (Pd) (refer to table B.19)	Fruit (Pd) (refer to table B.19)	(Pv) (refer to table B.20)	Construction (Cag) (refer to table B.21)	Operations (Cag) (refer to table B.21)	Reclamation (Cag) (refer to table B.21)	Post-Closure (Cag) (refer to table B.21)	Construction (Cv)	Operations (Cv)	Reclamation (Cv)	Post-Closure (Cv)	Concentration (Cfru) (refer to table B.1)	Construction (Cfru)	Operations (Cfru)	Reclamation (Cfru)	Post-Closure (Cfru) (1)
Contaminant	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)
Particulate Matter																
Total Particulate Matter	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--
Metals																
Aluminum	4.22E+02	5.11E+02	0.00E+00	1.67E+01	4.03E+01	4.58E+01	4.58E+01	4.38E+02	4.62E+02	4.68E+02	4.68E+02	2.60E+01	5.28E+02	5.52E+02	5.57E+02	4.58E+01
Antimony	1.27E-02	1.53E-02	0.00E+00	5.16E-02	5.16E-02	5.16E-02	5.16E-02	6.43E-02	6.43E-02	6.43E-02	6.43E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Arsenic	1.64E+00	1.99E+00	0.00E+00	5.51E-02	5.72E-02	5.72E-02	5.72E-02	1.70E+00	1.70E+00	1.70E+00	1.70E+00	1.07E+00	2.05E+00	2.05E+00	2.05E+00	1.07E+00
Barium	3.42E+00	4.14E+00	0.00E+00	1.38E+00	1.38E+00	1.38E+00	1.38E+00	4.80E+00	4.80E+00	4.80E+00	4.80E+00	2.33E+01	2.33E+01	2.33E+01	2.33E+01	2.33E+01
Beryllium	1.27E-02	1.53E-02	0.00E+00	2.76E-03	3.53E-03	3.68E-03	3.68E-03	1.54E-02	1.62E-02	1.63E-02	1.63E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Bismuth	1.39E-03	1.69E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.39E-03	1.39E-03	1.39E-03	1.39E-03	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01
Boron	1.05E-01	1.28E-01	0.00E+00	5.64E+01	5.64E+01	5.64E+01	5.64E+01	5.65E+01	5.65E+01	5.65E+01	5.65E+01	1.27E+01	5.65E+01	5.65E+01	5.65E+01	5.64E+01
Cadmium	5.06E-04	6.13E-04	0.00E+00	1.80E-02	1.80E-02	1.80E-02	1.80E-02	1.85E-02	1.85E-02	1.85E-02	1.85E-02	2.13E-01	2.13E-01	2.13E-01	2.13E-01	2.13E-01
Calcium	5.48E+01	6.65E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.48E+01	5.48E+01	5.48E+01	5.48E+01	6.20E+03	6.20E+03	6.20E+03	6.20E+03	6.20E+03
Chromium Total	4.68E-01	5.67E-01	0.00E+00	6.83E-02	6.83E-02	6.83E-02	6.83E-02	5.36E-01	5.36E-01	5.36E-01	5.36E-01	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Cobalt	7.59E-02	9.20E-02	0.00E+00	2.25E-02	2.25E-02	2.25E-02	2.25E-02	9.84E-02	9.84E-02	9.84E-02	9.84E-02	5.33E-01	5.33E-01	5.33E-01	5.33E-01	5.33E-01
Copper	1.56E-01	1.89E-01	0.00E+00	1.91E+00	1.91E+00	1.91E+00	1.91E+00	2.07E+00	2.07E+00	2.07E+00	2.07E+00	7.33E+00	7.33E+00	7.33E+00	7.33E+00	7.33E+00
Iron	1.81E+02	2.20E+02	0.00E+00	2.35E+01	2.35E+01	2.35E+01	2.35E+01	2.05E+02	2.05E+02	2.05E+02	2.05E+02	3.20E+01	2.43E+02	2.43E+02	2.43E+02	3.20E+01
Lead	1.56E-01	1.89E-01	0.00E+00	2.27E-01	2.71E-01	2.80E-01	2.80E-01	3.83E-01	4.27E-01	4.36E-01	4.36E-01	3.47E-01	4.16E-01	4.60E-01	4.69E-01	3.47E-01
Lithium	2.57E-01	3.12E-01	0.00E+00	7.27E-02	8.99E-02	9.20E-02	9.20E-02	3.30E-01	3.47E-01	3.49E-01	3.49E-01	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00
Magnesium	6.33E+01	7.67E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.33E+01	6.33E+01	6.33E+01	6.33E+01	3.33E+02	3.33E+02	3.33E+02	3.33E+02	3.33E+02
Manganese	3.88E+00	4.71E+00	0.00E+00	7.47E+00	7.47E+00	7.47E+00	7.47E+00	1.14E+01	1.14E+01	1.14E+01	1.14E+01	4.20E+02	4.20E+02	4.20E+02	4.20E+02	4.20E+02
Mercury, element	0.00E+00	0.00E+00	1.84E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.84E-09	1.84E-09	1.84E-09	1.84E-09	1.67E-02	1.67E-02	1.67E-02	1.67E-02	1.67E-02
Mercury, divalent	7.86E-05	9.52E-05	0.00E+00	8.83E-05	5.45E-04	6.61E-04	6.61E-04	1.67E-04	6.23E-04	7.39E-04	7.39E-04	--	1.84E-04	6.40E-04	7.56E-04	6.61E-04
Mercury, methyl	1.07E-05	1.30E-05	0.00E+00	1.76E-09	1.76E-09	1.76E-09	1.76E-09	1.07E-05	1.07E-05	1.07E-05	1.07E-05	--	1.30E-05	1.30E-05	1.30E-05	1.76E-09
Molybdenum	3.37E-03	4.09E-03	0.00E+00	8.42E-02	8.42E-02	8.42E-02	8.42E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Nickel	1.73E-01	2.10E-01	0.00E+00	6.79E-02	6.79E-02	6.79E-02	6.79E-02	2.41E-01	2.41E-01	2.41E-01	2.41E-01	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Phosphorus	2.91E+00	3.53E+00	0.00E+00	7.02E+00	7.02E+00	7.02E+00	7.02E+00	9.93E+00	9.93E+00	9.93E+00	9.93E+00	1.07E+03	1.07E+03	1.07E+03	1.07E+03	1.07E+03
Potassium	1.35E+02	1.64E+02	0.00E+00	8.75E+01	8.75E+01	8.75E+01	8.75E+01	2.22E+02	2.22E+02	2.22E+02	2.22E+02	5.73E+03	5.73E+03	5.73E+03	5.73E+03	5.73E+03
Rubidium	2.52E-02	3.05E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.52E-02	2.52E-02	2.52E-02	2.52E-02	--	3.05E-02	3.05E-02	3.05E-02	0.00E+00
Selenium	1.48E-03	1.79E-03	0.00E+00	1.74E-02	1.74E-02	1.74E-02	1.74E-02	1.89E-02	1.89E-02	1.89E-02	1.89E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Silver	2.11E-03	2.56E-03	0.00E+00	3.45E-02	3.45E-02	3.45E-02	3.45E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	2.67E-01	2.67E-01	2.67E-01	2.67E-01	2.67E-01
Sodium	8.01E+01	9.71E+01	0.00E+00	4.14E+01	8.62E+01	8.70E+01	8.70E+01	1.22E+02	1.66E+02	1.67E+02	1.67E+02	1.67E+02	1.67E+02	1.83E+02	1.84E+02	1.67E+02
Strontium	8.86E-01	1.07E+00	0.00E+00	1.23E+01	1.23E+01	1.23E+01	1.23E+01	1.32E+01	1.32E+01	1.32E+01	1.32E+01	1.47E+01	1.47E+01	1.47E+01	1.47E+01	1.47E+01
Thallium	3.33E-03	4.04E-03	0.00E+00	4.29E-05	4.29E-05	4.29E-05	4.29E-05	3.37E-03	3.37E-03	3.37E-03	3.37E-03	7.33E-02	7.33E-02	7.33E-02	7.33E-02	7.33E-02
Tin	1.27E-02	1.53E-02	0.00E+00	4.73E-03	5.26E-03	5.31E-03	5.31E-03	1.74E-02	1.79E-02	1.80E-02	1.80E-02	8.00E+00	8.00E+00	8.00E+00	8.00E+00	8.00E+00
Titanium	1.77E+01	2.15E+01	0.00E+00	6.92E-01	3.80E+00	4.47E+00	4.47E+00	1.84E+01	2.15E+01	2.22E+01	2.22E+01	1.67E+00	2.22E+01	2.53E+01	2.59E+01	4.47E+00
Uranium	7.59E-03	9.20E-03	0.00E+00	6.70E-01	6.70E-01	6.70E-01	6.70E-01	6.78E-01	6.78E-01	6.78E-01	6.78E-01	5.33E-02	6.79E-01	6.79E-01	6.79E-01	6.70E-01
Vanadium	3.37E-01	4.09E-01	0.00E+00	8.48E-02	1.23E-01	1.31E-01	1.31E-01	4.22E-01	4.60E-01	4.68E-01	4.68E-01	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Zinc	4.64E-01	5.62E-01	0.00E+00	1.94E+00	1.94E+00	1.94E+00	1.94E+00	2.40E+00	2.40E+00	2.40E+00	2.40E+00	1.40E+01	1.40E+01	1.40E+01	1.40E+01	1.40E+01

Equation: Cv and Cfru = Pd + Pv +Cag

Table B.23

Belowground Produce Predicted Concentrations Due to Root Uptake
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Soil Concentration				Plant-Soil Bioconcentration Factor Belowground Produce ($Br_{rootveg}$)	Correction Factor For Belowground Produce $VG_{rootveg}$	Belowground Produce Predicted Concentration Due to Root Uptake			
	Construction (Cs) (refer to table B.16)	Operations (Cs) (refer to table B.16)	Reclamation (Cs) (refer to table B.16)	Post-Closure (Cs) (refer to table B.16)	(refer to table B.10)	(refer to table B.9)	Construction (Cr)	Operations (Cr)	Reclamation (Cr)	Post-Closure (Cr)
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(µg/g DW)/(µg/g soil)	-	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)
Particulate Matter										
Total Particulate Matter	--	--	--	--	--	1.00E+00	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	1.00E+00	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	1.00E+00	--	--	--	--
Metals										
Aluminum	1.56E+04	3.74E+04	4.26E+04	4.26E+04	6.50E-04	1.00E+00	1.01E+01	2.43E+01	2.77E+01	2.77E+01
Antimony	1.00E+00	1.00E+00	1.00E+00	1.00E+00	3.00E-02	1.00E+00	3.00E-02	3.00E-02	3.00E-02	3.00E-02
Arsenic	8.75E+00	9.08E+00	9.08E+00	9.08E+00	8.00E-03	1.00E+00	7.00E-02	7.27E-02	7.27E-02	7.27E-02
Barium	4.30E+01	4.30E+01	4.30E+01	4.30E+01	1.50E-02	1.00E+00	6.45E-01	6.45E-01	6.45E-01	6.45E-01
Beryllium	1.07E+00	1.37E+00	1.43E+00	1.43E+00	1.50E-03	1.00E+00	1.60E-03	2.05E-03	2.14E-03	2.14E-03
Bismuth	--	--	--	--	5.00E-03	1.00E+00	--	--	--	--
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.00E+00	1.00E+00	5.00E+01	5.00E+01	5.00E+01	5.00E+01
Cadmium	1.50E-01	1.50E-01	1.50E-01	1.50E-01	6.40E-02	1.00E+00	9.60E-03	9.60E-03	9.60E-03	9.60E-03
Calcium	--	--	--	--	3.50E-01	1.00E+00	--	--	--	--
Chromium Total	1.40E+01	1.40E+01	1.40E+01	1.40E+01	4.50E-03	1.00E+00	6.30E-02	6.30E-02	6.30E-02	6.30E-02
Cobalt	2.60E+00	2.60E+00	2.60E+00	2.60E+00	7.00E-03	1.00E+00	1.82E-02	1.82E-02	1.82E-02	1.82E-02
Copper	7.10E+00	7.10E+00	7.10E+00	7.10E+00	2.50E-01	1.00E+00	1.78E+00	1.78E+00	1.78E+00	1.78E+00
Iron	1.70E+04	1.70E+04	1.70E+04	1.70E+04	1.00E-03	1.00E+00	1.70E+01	1.70E+01	1.70E+01	1.70E+01
Lead	1.67E+01	1.99E+01	2.06E+01	2.06E+01	9.00E-03	1.00E+00	1.51E-01	1.79E-01	1.86E-01	1.86E-01
Lithium	1.09E+01	1.35E+01	1.38E+01	1.38E+01	4.00E-03	1.00E+00	4.36E-02	5.39E-02	5.52E-02	5.52E-02
Magnesium	--	--	--	--	5.50E-01	1.00E+00	--	--	--	--
Manganese	9.90E+01	9.90E+01	9.90E+01	9.90E+01	5.00E-02	1.00E+00	4.95E+00	4.95E+00	4.95E+00	4.95E+00
Mercury, element	1.80E-01	1.80E-01	1.80E-01	1.80E-01	0.00E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, divalent	6.31E-03	3.89E-02	4.72E-02	4.72E-02	3.60E-02	1.00E+00	2.27E-04	1.40E-03	1.70E-03	1.70E-03
Mercury, methyl	6.06E-08	6.06E-08	6.06E-08	6.06E-08	9.90E-02	1.00E+00	6.00E-09	6.00E-09	6.00E-09	6.00E-09
Molybdenum	1.00E+00	1.00E+00	1.00E+00	1.00E+00	6.00E-02	1.00E+00	6.00E-02	6.00E-02	6.00E-02	6.00E-02
Nickel	7.30E+00	7.30E+00	7.30E+00	7.30E+00	8.00E-03	1.00E+00	5.84E-02	5.84E-02	5.84E-02	5.84E-02
Phosphorus	2.00E+00	2.00E+00	2.00E+00	2.00E+00	3.50E+00	1.00E+00	7.02E+00	7.02E+00	7.02E+00	7.02E+00
Potassium	1.44E+02	1.44E+02	1.44E+02	1.44E+02	5.50E-01	1.00E+00	7.93E+01	7.93E+01	7.93E+01	7.93E+01
Rubidium	--	--	--	--	1.00E+00	1.00E+00	--	--	--	--
Selenium	8.70E-01	8.70E-01	8.70E-01	8.70E-01	2.20E-02	1.00E+00	1.91E-02	1.91E-02	1.91E-02	1.91E-02
Silver	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.00E-01	1.00E+00	2.50E-02	2.50E-02	2.50E-02	2.50E-02
Sodium	7.20E+02	1.50E+03	1.51E+03	1.51E+03	5.50E-02	1.00E+00	3.96E+01	8.24E+01	8.32E+01	8.32E+01
Strontium	2.30E+01	2.30E+01	2.30E+01	2.30E+01	2.50E-01	1.00E+00	5.75E+00	5.75E+00	5.75E+00	5.75E+00
Thallium	5.00E-02	5.00E-02	5.00E-02	5.00E-02	4.00E-04	1.00E+00	2.00E-05	2.00E-05	2.00E-05	2.00E-05
Tin	5.23E-01	5.81E-01	5.87E-01	5.87E-01	6.00E-03	1.00E+00	3.14E-03	3.49E-03	3.52E-03	3.52E-03
Titanium	2.09E+02	1.15E+03	1.35E+03	1.35E+03	3.00E-03	1.00E+00	6.26E-01	3.44E+00	4.04E+00	4.04E+00
Uranium	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.00E+00	1.00E+00	6.70E-01	6.70E-01	6.70E-01	6.70E-01
Vanadium	2.55E+01	3.70E+01	3.94E+01	3.94E+01	3.00E-03	1.00E+00	7.66E-02	1.11E-01	1.18E-01	1.18E-01
Zinc	2.00E+01	2.00E+01	2.00E+01	2.00E+01	9.00E-01	1.00E+00	1.80E+01	1.80E+01	1.80E+01	1.80E+01

Equation: $Cr = Cs \times Br_{rootveg} \times VG_{rootveg}$

Table B.24

Predicted Produce Concentrations
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Aboveground Produce (Vegetable) Predicted Concentration				Aboveground Produce (Fruit) Predicted Concentration				Belowground Produce Predicted Concentration			
Contaminant	Construction (Cv) (refer to table B.22) (mg/kg FW)	Operations (Cv) (refer to table B.22) (mg/kg FW)	Reclamation (Cv) (refer to table B.22) (mg/kg FW)	Post-Closure (Cv) (refer to table B.22) (mg/kg FW)	Construction (Cfru) (refer to table B.22) (mg/kg FW)	Operations (Cfru) (refer to table B.22) (mg/kg FW)	Reclamation (Cfru) (refer to table B.22) (mg/kg FW)	Post-Closure (Cfru) (refer to table B.22) (mg/kg FW)	Construction (Cr) (refer to table B.23) (mg/kg FW)	Operations (Cr) (refer to table B.23) (mg/kg FW)	Reclamation (Cr) (refer to table B.23) (mg/kg FW)	Post-Closure (Cr) (refer to table B.23) (mg/kg FW)
Particulate Matter												
Total Particulate Matter	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--	--	--	--
Metals												
Aluminum	6.58E+01	6.93E+01	7.01E+01	7.01E+01	7.92E+01	8.27E+01	8.36E+01	6.87E+00	1.52E+00	3.65E+00	4.15E+00	4.15E+00
Antimony	9.64E-03	9.64E-03	9.64E-03	9.64E-03	1.60E-01	1.60E-01	1.60E-01	1.60E-01	4.50E-03	4.50E-03	4.50E-03	4.50E-03
Arsenic	2.55E-01	2.55E-01	2.55E-01	2.55E-01	3.07E-01	3.08E-01	3.08E-01	1.60E-01	1.05E-02	1.09E-02	1.09E-02	1.09E-02
Barium	7.20E-01	7.20E-01	7.20E-01	7.20E-01	3.50E+00	3.50E+00	3.50E+00	3.50E+00	9.68E-02	9.68E-02	9.68E-02	9.68E-02
Beryllium	2.31E-03	2.43E-03	2.45E-03	2.45E-03	1.60E-01	1.60E-01	1.60E-01	1.60E-01	2.41E-04	3.08E-04	3.21E-04	3.21E-04
Bismuth	2.09E-04	2.09E-04	2.09E-04	2.09E-04	2.50E-02	2.50E-02	2.50E-02	2.50E-02	--	--	--	--
Boron	8.47E+00	8.47E+00	8.47E+00	8.47E+00	8.47E+00	8.47E+00	8.47E+00	8.45E+00	7.50E+00	7.50E+00	7.50E+00	7.50E+00
Cadmium	2.78E-03	2.78E-03	2.78E-03	2.78E-03	3.20E-02	3.20E-02	3.20E-02	3.20E-02	1.44E-03	1.44E-03	1.44E-03	1.44E-03
Calcium	8.22E+00	8.22E+00	8.22E+00	8.22E+00	9.30E+02	9.30E+02	9.30E+02	9.30E+02	--	--	--	--
Chromium Total	8.05E-02	8.05E-02	8.05E-02	8.05E-02	1.60E-01	1.60E-01	1.60E-01	1.60E-01	9.45E-03	9.45E-03	9.45E-03	9.45E-03
Cobalt	1.48E-02	1.48E-02	1.48E-02	1.48E-02	8.00E-02	8.00E-02	8.00E-02	8.00E-02	2.73E-03	2.73E-03	2.73E-03	2.73E-03
Copper	3.10E-01	3.10E-01	3.10E-01	3.10E-01	1.10E+00	1.10E+00	1.10E+00	1.10E+00	2.66E-01	2.66E-01	2.66E-01	2.66E-01
Iron	3.07E+01	3.07E+01	3.07E+01	3.07E+01	3.65E+01	3.65E+01	3.65E+01	4.80E+00	2.55E+00	2.55E+00	2.55E+00	2.55E+00
Lead	5.75E-02	6.40E-02	6.54E-02	6.54E-02	6.24E-02	6.90E-02	7.04E-02	5.20E-02	2.26E-02	2.69E-02	2.78E-02	2.78E-02
Lithium	4.95E-02	5.21E-02	5.24E-02	5.24E-02	1.70E-01	1.70E-01	1.70E-01	1.70E-01	6.54E-03	8.09E-03	8.28E-03	8.28E-03
Magnesium	9.49E+00	9.49E+00	9.49E+00	9.49E+00	5.00E+01	5.00E+01	5.00E+01	5.00E+01	--	--	--	--
Manganese	1.70E+00	1.70E+00	1.70E+00	1.70E+00	6.30E+01	6.30E+01	6.30E+01	6.30E+01	7.43E-01	7.43E-01	7.43E-01	7.43E-01
Mercury, element	2.76E-10	2.76E-10	2.76E-10	2.76E-10	2.50E-03	2.50E-03	2.50E-03	2.50E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, divalent	2.50E-05	9.35E-05	1.11E-04	1.11E-04	2.75E-05	9.60E-05	1.13E-04	9.91E-05	3.41E-05	2.10E-04	2.55E-04	2.55E-04
Mercury, methyl	1.60E-06	1.60E-06	1.60E-06	1.60E-06	1.94E-06	1.94E-06	1.94E-06	2.64E-10	9.00E-10	9.00E-10	9.00E-10	9.00E-10
Molybdenum	1.31E-02	1.31E-02	1.31E-02	1.31E-02	1.60E-01	1.60E-01	1.60E-01	1.60E-01	9.00E-03	9.00E-03	9.00E-03	9.00E-03
Nickel	3.61E-02	3.61E-02	3.61E-02	3.61E-02	1.60E-01	1.60E-01	1.60E-01	1.60E-01	8.76E-03	8.76E-03	8.76E-03	8.76E-03
Phosphorus	1.49E+00	1.49E+00	1.49E+00	1.49E+00	1.60E+02	1.60E+02	1.60E+02	1.60E+02	1.05E+00	1.05E+00	1.05E+00	1.05E+00
Potassium	3.34E+01	3.34E+01	3.34E+01	3.34E+01	8.60E+02	8.60E+02	8.60E+02	8.60E+02	1.19E+01	1.19E+01	1.19E+01	1.19E+01
Rubidium	3.78E-03	3.78E-03	3.78E-03	3.78E-03	4.58E-03	4.58E-03	4.58E-03	0.00E+00	--	--	--	--
Selenium	2.83E-03	2.83E-03	2.83E-03	2.83E-03	1.60E-01	1.60E-01	1.60E-01	1.60E-01	2.87E-03	2.87E-03	2.87E-03	2.87E-03
Silver	5.50E-03	5.50E-03	5.50E-03	5.50E-03	4.00E-02	4.00E-02	4.00E-02	4.00E-02	3.75E-03	3.75E-03	3.75E-03	3.75E-03
Sodium	1.82E+01	2.49E+01	2.51E+01	2.51E+01	2.50E+01	2.75E+01	2.76E+01	2.50E+01	5.94E+00	1.24E+01	1.25E+01	1.25E+01
Strontium	1.98E+00	1.98E+00	1.98E+00	1.98E+00	2.20E+00	2.20E+00	2.20E+00	2.20E+00	8.63E-01	8.63E-01	8.63E-01	8.63E-01
Thallium	5.06E-04	5.06E-04	5.06E-04	5.06E-04	1.10E-02	1.10E-02	1.10E-02	1.10E-02	3.00E-06	3.00E-06	3.00E-06	3.00E-06
Tin	2.61E-03	2.69E-03	2.69E-03	2.69E-03	1.20E+00	1.20E+00	1.20E+00	1.20E+00	4.70E-04	5.23E-04	5.28E-04	5.28E-04
Titanium	2.76E+00	3.23E+00	3.33E+00	3.33E+00	3.32E+00	3.79E+00	3.89E+00	6.71E-01	9.39E-02	5.15E-01	6.07E-01	6.07E-01
Uranium	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.02E-01	1.01E-01	1.01E-01	1.01E-01	1.01E-01	1.01E-01
Vanadium	6.33E-02	6.90E-02	7.02E-02	7.02E-02	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.15E-02	1.66E-02	1.78E-02	1.78E-02
Zinc	3.61E-01	3.61E-01	3.61E-01	3.61E-01	2.10E+00	2.10E+00	2.10E+00	2.10E+00	2.70E+00	2.70E+00	2.70E+00	2.70E+00

Table B.25

Predicted Forage Concentration Due to Direct Deposition
Animal Product Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Units Conversion Factor (CF) (mg/g)	Annual Deposition Rate (Dr) (refer to table B.7) (g/m^2-yr)	Fraction of Air Concentration In Vapor Phase (Fv) (refer to table B.10) -	Fraction Wet Deposition Adhere to Plant (Fw) (refer to table B.9) -	Interception Fraction Edible Plant Portion Forage (Rp) (refer to table B.9) -	Plant Surface Loss Coefficient Forage (kp) (refer to table B.9) (yr^{-1})	Length of Plant Exposure to Deposition per Harvest of Edible Plant Forage (Tp) (refer to table B.9) (yrs)	Yield of Edible Portion of Plant Forage (Yp) (refer to table B.9) (kg DW/m^2)	Forage Concentration Due to Direct Deposition Forage (Pd) (mg/kg DW)
Particulate Matter									
Total Particulate Matter	1.00E+03	7.69E+02	--	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Particulate Matter (PM10)	1.00E+03	9.49E+01	--	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Particulate Matter (PM2.5)	1.00E+03	4.46E-01	--	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Metals									
Aluminum	1.00E+03	7.69E+01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	3.49E+03
Antimony	1.00E+03	2.31E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.05E-01
Arsenic	1.00E+03	3.00E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.36E+01
Barium	1.00E+03	6.23E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.83E+01
Beryllium	1.00E+03	2.31E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.05E-01
Bismuth	1.00E+03	2.54E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.15E-02
Boron	1.00E+03	1.92E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	8.73E-01
Cadmium	1.00E+03	9.23E-05	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	4.19E-03
Calcium	1.00E+03	1.00E+01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	4.54E+02
Chromium Total	1.00E+03	8.54E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	3.87E+00
Cobalt	1.00E+03	1.38E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	6.28E-01
Copper	1.00E+03	2.85E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.29E+00
Iron	1.00E+03	3.31E+01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.50E+03
Lead	1.00E+03	2.85E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.29E+00
Lithium	1.00E+03	4.69E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.13E+00
Magnesium	1.00E+03	1.15E+01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	5.24E+02
Manganese	1.00E+03	7.09E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	3.21E+01
Mercury, element	1.00E+03	2.03E-04	1.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Mercury, divalent	1.00E+03	--	8.50E-01	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Mercury, methyl	1.00E+03	--	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Molybdenum	1.00E+03	6.16E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.79E-02
Nickel	1.00E+03	3.15E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.43E+00
Phosphorus	1.00E+03	5.31E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.41E+01
Potassium	1.00E+03	2.46E+01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.12E+03
Rubidium	1.00E+03	4.59E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.08E-01
Selenium	1.00E+03	2.69E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.22E-02
Silver	1.00E+03	3.85E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.75E-02
Sodium	1.00E+03	1.46E+01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	6.63E+02
Strontium	1.00E+03	1.62E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	7.33E+00
Thallium	1.00E+03	6.08E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.76E-02
Tin	1.00E+03	2.31E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.05E-01
Titanium	1.00E+03	3.23E+00	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.47E+02
Uranium	1.00E+03	1.38E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	6.28E-02
Vanadium	1.00E+03	6.16E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.79E+00
Zinc	1.00E+03	8.46E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	3.84E+00

Equation:

$$Pd = \frac{CF \times Hg_{factor} \times Dr \times (1 - Fv) \times Fw \times Rp \times [1.0 - \exp(-kp \times Tp)]}{Yp \times kp}$$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.78), and methylmercury (0.48*0.22)

Table B.26

Forage Predicted Concentration Due to Air-to-Plant Transfer
Animal Product Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Air Concentration In Vapor Phase (Fv) (refer to table B.25) -	Annual Air Predicted Concentration (Coa) (refer to table B.6) (µg/m^3)	Air -to-Plant Biotransfer Factor (Bv_{ag}) (refer to table B.10) (mg/kg DW)/(µg/g air)	Correction Factor for Above Ground Vegetation (1) Forage (VG_{ag}) (refer to table B.9) -	Density of Air (pa) (refer to table B.9) (g/m^3)	Predicted Forage Concentration Due to Air-to-Plant Transfer Forage (Pv) (mg/kg DW)
Particulate Matter						
Total Particulate Matter	--	2.40E+02	--	1.00E+00	1.20E+03	0.00E+00
Particulate Matter (PM10)	--	6.05E+01	--	1.00E+00	1.20E+03	0.00E+00
Particulate Matter (PM2.5)	--	1.57E+01	--	1.00E+00	1.20E+03	0.00E+00
Metals						
Aluminum	0.00E+00	1.09E-01	--	1.00E+00	1.20E+03	0.00E+00
Antimony	0.00E+00	1.63E-05	--	1.00E+00	1.20E+03	0.00E+00
Arsenic	0.00E+00	4.33E-04	--	1.00E+00	1.20E+03	0.00E+00
Barium	0.00E+00	8.85E-02	--	1.00E+00	1.20E+03	0.00E+00
Beryllium	0.00E+00	1.63E-05	--	1.00E+00	1.20E+03	0.00E+00
Bismuth	0.00E+00	8.20E-06	--	1.00E+00	1.20E+03	0.00E+00
Boron	0.00E+00	3.71E-05	--	1.00E+00	1.20E+03	0.00E+00
Cadmium	0.00E+00	5.62E-05	--	1.00E+00	1.20E+03	0.00E+00
Calcium	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Chromium Total	0.00E+00	1.58E-03	--	1.00E+00	1.20E+03	0.00E+00
Cobalt	0.00E+00	3.54E-05	--	1.00E+00	1.20E+03	0.00E+00
Copper	0.00E+00	3.39E-01	--	1.00E+00	1.20E+03	0.00E+00
Iron	0.00E+00	1.12E-01	--	1.00E+00	1.20E+03	0.00E+00
Lead	0.00E+00	2.44E-05	--	1.00E+00	1.20E+03	0.00E+00
Lithium	0.00E+00	9.02E-05	--	1.00E+00	1.20E+03	0.00E+00
Magnesium	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Manganese	0.00E+00	1.80E-03	--	1.00E+00	1.20E+03	0.00E+00
Mercury, element	1.00E+00	2.21E-06	1.00E+00	1.00E+00	1.20E+03	1.84E-09
Mercury, divalent	8.50E-01	--	1.80E+03	1.00E+00	1.20E+03	0.00E+00
Mercury, methyl	0.00E+00	--	1.00E+00	1.00E+00	1.20E+03	0.00E+00
Molybdenum	0.00E+00	3.13E-05	--	1.00E+00	1.20E+03	0.00E+00
Nickel	0.00E+00	1.81E-03	--	1.00E+00	1.20E+03	0.00E+00
Phosphorus	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Potassium	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Rubidium	0.00E+00	4.99E-05	--	1.00E+00	1.20E+03	0.00E+00
Selenium	0.00E+00	1.22E-05	--	1.00E+00	1.20E+03	0.00E+00
Silver	0.00E+00	1.48E-04	--	1.00E+00	1.20E+03	0.00E+00
Sodium	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Strontium	0.00E+00	5.48E-04	--	1.00E+00	1.20E+03	0.00E+00
Thallium	0.00E+00	9.52E-06	--	1.00E+00	1.20E+03	0.00E+00
Tin	0.00E+00	1.85E-03	--	1.00E+00	1.20E+03	0.00E+00
Titanium	0.00E+00	2.26E-03	--	1.00E+00	1.20E+03	0.00E+00
Uranium	0.00E+00	9.76E-06	--	1.00E+00	1.20E+03	0.00E+00
Vanadium	0.00E+00	3.30E-04	--	1.00E+00	1.20E+03	0.00E+00
Zinc	0.00E+00	1.90E-02	--	1.00E+00	1.20E+03	0.00E+00

Equation: $Pv = Fv \times \frac{Coa \times Bv_{ag} \times VGag \times Hg_{factor}}{pa}$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.78), and methylmercury (0.48*0.22)

Table B.27

Forage Predicted Concentration Due to Root Uptake
Animal Product Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Forage Concentration Due to Direct Deposition (Pd) (refer to table B.25) (mg/kg DW)	Predicted Forage Concentration Due to Air-to-Plant Transfer (Pv) (refer to table B.26) (mg/kg DW)	Predicted Soil Concentration				Plant-Soil Bioconcentration Factor Forage (Br_{forage}) (refer to table B.10) (µg/g DW)/(µg/g soil)	Berry Concentration Dry Weight Baseline (Cfru) (refer to table B.1) (mg/kg DW)	Forage Predicted Concentration Dry Weight				Berry Concentration Wet Weight Baseline (Cfru) (refer to table B.1) (mg/kg FW)	Forage Predicted Concentration Wet Weight			
			Construction (Cs) (refer to table B.16) (mg/kg)	Operations (Cs) (refer to table B.16) (mg/kg)	Reclamation (Cs) (refer to table B.16) (mg/kg)	Post-Closure (Cs) (refer to table B.16) (mg/kg)			Construction (Cfo) (mg/kg DW)	Operations (Cfo) (mg/kg DW)	Reclamation (Cfo) (mg/kg DW)	Post-Closure (Cfo) (mg/kg DW)		Construction (Cfo) (mg/kg FW)	Operations (Cfo) (mg/kg FW)	Reclamation (Cfo) (mg/kg FW)	Post-Closure (Cfo) (mg/kg FW)
Particulate Matter																	
Total Particulate Matter	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Aluminum	3.49E+03	0.00E+00	1.56E+04	3.74E+04	4.26E+04	4.26E+04	4.00E-03	2.60E+01	3.55E+03	3.64E+03	3.66E+03	3.66E+03	3.90E+00	5.33E+02	5.46E+02	5.49E+02	5.49E+02
Antimony	1.05E-01	0.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	2.00E-01	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Arsenic	1.36E+01	0.00E+00	8.75E+00	9.08E+00	9.08E+00	9.08E+00	3.60E-02	1.07E+00	1.39E+01	1.39E+01	1.39E+01	1.39E+01	1.60E-01	2.09E+00	2.09E+00	2.09E+00	2.09E+00
Barium	2.83E+01	0.00E+00	4.30E+01	4.30E+01	4.30E+01	4.30E+01	1.50E-01	2.33E+01	3.47E+01	3.47E+01	3.47E+01	3.47E+01	3.50E+00	5.21E+00	5.21E+00	5.21E+00	5.21E+00
Beryllium	1.05E-01	0.00E+00	1.07E+00	1.37E+00	1.43E+00	1.43E+00	1.00E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Bismuth	1.15E-02	0.00E+00	--	--	--	--	3.50E-02	1.67E-01	--	--	--	--	2.50E-02	--	--	--	--
Boron	8.73E-01	0.00E+00	2.50E+01	2.50E+01	2.50E+01	2.50E+01	4.00E+00	1.27E+01	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.90E+00	1.51E+01	1.51E+01	1.51E+01	1.51E+01
Cadmium	4.19E-03	0.00E+00	1.50E-01	1.50E-01	1.50E-01	1.50E-01	3.60E-01	2.13E-01	2.13E-01	2.13E-01	2.13E-01	2.13E-01	3.20E-02	3.20E-02	3.20E-02	3.20E-02	3.20E-02
Calcium	4.54E+02	0.00E+00	--	--	--	--	3.50E+00	6.20E+03	--	--	--	--	9.30E+02	--	--	--	--
Chromium Total	3.87E+00	0.00E+00	1.40E+01	1.40E+01	1.40E+01	1.40E+01	7.50E-03	1.07E+00	3.98E+00	3.98E+00	3.98E+00	3.98E+00	1.60E-01	5.97E-01	5.97E-01	5.97E-01	5.97E-01
Cobalt	6.28E-01	0.00E+00	2.60E+00	2.60E+00	2.60E+00	2.60E+00	2.00E-02	5.33E-01	6.80E-01	6.80E-01	6.80E-01	6.80E-01	8.00E-02	1.02E-01	1.02E-01	1.02E-01	1.02E-01
Copper	1.29E+00	0.00E+00	7.10E+00	7.10E+00	7.10E+00	7.10E+00	4.00E-01	7.33E+00	7.33E+00	7.33E+00	7.33E+00	7.33E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
Iron	1.50E+03	0.00E+00	1.70E+04	1.70E+04	1.70E+04	1.70E+04	4.00E-03	3.20E+01	1.57E+03	1.57E+03	1.57E+03	1.57E+03	4.80E+00	2.35E+02	2.35E+02	2.35E+02	2.35E+02
Lead	1.29E+00	0.00E+00	1.67E+01	1.99E+01	2.06E+01	2.06E+01	4.50E-02	3.47E-01	2.04E+00	2.19E+00	2.22E+00	2.22E+00	5.20E-02	3.07E-01	3.28E-01	3.33E-01	3.33E-01
Lithium	2.13E+00	0.00E+00	1.09E+01	1.35E+01	1.38E+01	1.38E+01	2.50E-02	1.13E+00	2.40E+00	2.47E+00	2.47E+00	2.47E+00	1.70E-01	3.60E-01	3.70E-01	3.71E-01	3.71E-01
Magnesium	5.24E+02	0.00E+00	--	--	--	--	1.00E+00	3.33E+02	--	--	--	--	5.00E+01	--	--	--	--
Manganese	3.21E+01	0.00E+00	9.90E+01	9.90E+01	9.90E+01	9.90E+01	2.50E-01	4.20E+02	4.20E+02	4.20E+02	4.20E+02	4.20E+02	6.30E+01	6.30E+01	6.30E+01	6.30E+01	6.30E+01
Mercury, element	0.00E+00	1.84E-09	1.80E-01	1.80E-01	1.80E-01	1.80E-01	0.00E+00	1.67E-02	1.67E-02	1.67E-02	1.67E-02	1.67E-02	2.50E-03	2.50E-03	2.50E-03	2.50E-03	2.50E-03
Mercury, divalent	0.00E+00	0.00E+00	6.31E-03	3.89E-02	4.72E-02	4.72E-02	1.00E+00	--	--	--	--	--	--	--	--	--	--
Mercury, methyl	0.00E+00	0.00E+00	6.06E-08	6.06E-08	6.06E-08	6.06E-08	1.00E+00	--	--	--	--	--	--	--	--	--	--
Molybdenum	2.79E-02	0.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	2.50E-01	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Nickel	1.43E+00	0.00E+00	7.30E+00	7.30E+00	7.30E+00	7.30E+00	3.20E-02	1.07E+00	1.66E+00	1.66E+00	1.66E+00	1.66E+00	1.60E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Phosphorus	2.41E+01	0.00E+00	2.00E+00	2.00E+00	2.00E+00	2.00E+00	3.50E+00	1.07E+03	1.07E+03	1.07E+03	1.07E+03	1.07E+03	1.60E+02	1.60E+02	1.60E+02	1.60E+02	1.60E+02
Potassium	1.12E+03	0.00E+00	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.00E+00	5.73E+03	5.73E+03	5.73E+03	5.73E+03	5.73E+03	8.60E+02	8.60E+02	8.60E+02	8.60E+02	8.60E+02
Rubidium	2.08E-01	0.00E+00	--	--	--	--	1.00E+00	--	--	--	--	--	--	--	--	--	--
Selenium	1.22E-02	0.00E+00	8.70E-01	8.70E-01	8.70E-01	8.70E-01	1.60E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Silver	1.75E-02	0.00E+00	2.50E-01	2.50E-01	2.50E-01	2.50E-01	4.00E-01	2.67E-01	2.67E-01	2.67E-01	2.67E-01	2.67E-01	4.00E-02	4.00E-02	4.00E-02	4.00E-02	4.00E-02
Sodium	6.63E+02	0.00E+00	7.20E+02	1.50E+03	1.51E+03	1.51E+03	7.50E-02	1.67E+02	7.17E+02	7.76E+02	7.77E+02	7.77E+02	2.50E+01	1.08E+02	1.16E+02	1.16E+02	1.16E+02
Strontium	7.33E+00	0.00E+00	2.30E+01	2.30E+01	2.30E+01	2.30E+01	2.50E+00	1.47E+01	6.48E+01	6.48E+01	6.48E+01	6.48E+01	2.20E+00	9.72E+00	9.72E+00	9.72E+00	9.72E+00
Thallium	2.76E-02	0.00E+00	5.00E-02	5.00E-02	5.00E-02	5.00E-02	4.00E-03	7.33E-02	7.33E-02	7.33E-02	7.33E-02	7.33E-02	1.10E-02	1.10E-02	1.10E-02	1.10E-02	1.10E-02
Tin	1.05E-01	0.00E+00	5.23E-01	5.81E-01	5.87E-01	5.87E-01	3.00E-02	8.00E+00	8.00E+00	8.00E+00	8.00E+00	8.00E+00	1.20E+00	1.20E+00	1.20E+00	1.20E+00	1.20E+00
Titanium	1.47E+02	0.00E+00	2.09E+02	1.15E+03	1.35E+03	1.35E+03	5.50E-03	1.67E+00	1.48E+02	1.53E+02	1.54E+02	1.54E+02	2.50E-01	2.22E+01	2.29E+01	2.31E+01	2.31E+01
Uranium	6.28E-02	0.00E+00	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.00E+00	5.33E-02	7.33E-01	7.33E-01	7.33E-01	7.33E-01	8.00E-03	1.10E-01	1.10E-01	1.10E-01	1.10E-01
Vanadium	2.79E+00	0.00E+00	2.55E+01	3.70E+01	3.94E+01	3.94E+01	5.50E-03	1.07E+00	2.93E+00	3.00E+00	3.01E+00	3.01E+00	1.60E-01	4.40E-01	4.49E-01	4.51E-01	4.51E-01
Zinc	3.84E+00	0.00E+00	2.00E+01	2.00E+01	2.00E+01	2.00E+01	2.50E-01	1.40E+01	1.40E+01	1.40E+01	1.40E+01	1.40E+01	2.10E+00	2.10E+00	2.10E+00	2.10E+00	2.10E+00

Equation: $Cfo = Pd + Pv + Cs \times Br_{forage}$

Table B.28

Predicted Deer Concentrations Due to Plant and Soil Ingestion
Animal Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal (F) (refer to table B.9) (unitless)	Quantity of Forage Ingested by the Animal per day (1) (Qp_i) (refer to table B.9) (kg DW/day)	Predicted Concentration in Forage Ingested				Quantity of Soil Ingested by the Animal (Qs) (refer to table B.9) (kg/day)	Predicted Soil Concentrations				Soil Bioavailability Factor (Bs) (unitless)	Quantity of Water Ingested by the Animal (Qw) (refer to table B.9) (L/day)	Predicted Total Surface Water Concentrations				Biotransfer Factor for Beef Ba_{beef} (refer to table B.10) (day/kg FW tissue)	Biotransfer Factor for Wildlife $Ba_{wildlife}$ (day/kg FW tissue)	Metabolism Factor (MF) (unitless)	Background Concentration in Deer (Cd) (refer to table B.6) (mg/kg FW tissue)	Predicted Concentrations in Deer			
			Construction (Cfo) (refer to table B.27) (mg/kg DW)	Operations (Cfo) (refer to table B.27) (mg/kg DW)	Reclamation (Cfo) (refer to table B.27) (mg/kg DW)	Post-Closure (Cfo) (refer to table B.27) (mg/kg DW)		Construction (Cs) (refer to table B.16) (mg/kg)	Operations (Cs) (refer to table B.16) (mg/kg)	Reclamation (Cs) (refer to table B.16) (mg/kg)	Post-Closure (Cs) (refer to table B.16) (mg/kg)			Construction (Cw) (refer to table B.45) (mg/L)	Operations (Cw) (refer to table B.45) (mg/L)	Reclamation (Cw) (refer to table B.45) (mg/L)	Post-Closure (Cw) (refer to table B.45) (mg/L)					Construction (Cd) (mg/kg FW tissue)	Operations (Cd) (mg/kg FW tissue)	Reclamation (Cd) (mg/kg FW tissue)	Post-Closure (Cd) (mg/kg FW tissue)
Particulate Matter																									
Total Particulate Matter	1.00E+00	2.25E+00	--	--	--	--	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	--	--	1.00E+00	--	--	--	--	--
Particulate Matter (PM10)	1.00E+00	2.25E+00	--	--	--	--	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	--	--	1.00E+00	--	--	--	--	--
Particulate Matter (PM2.5)	1.00E+00	2.25E+00	--	--	--	--	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	--	--	1.00E+00	--	--	--	--	--
Metals																									
Aluminum	1.00E+00	2.25E+00	5.28E+02	5.52E+02	5.57E+02	4.58E+01	4.50E-02	1.56E+04	3.74E+04	4.26E+04	4.26E+04	1.00E+00	4.50E+00	5.04E-01	2.08E-01	2.96E-01	4.00E-01	1.50E-03	1.50E-03	1.00E+00	8.34E-01	2.84E+00	4.39E+00	4.76E+00	3.03E+00
Antimony	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	4.50E+00	6.75E-04	4.51E-03	3.54E-03	2.26E-03	1.00E-03	1.00E-03	1.00E+00	2.45E-03	2.45E-03	2.47E-03	2.46E-03	2.46E-03
Arsenic	1.00E+00	2.25E+00	2.05E+00	2.05E+00	2.05E+00	1.07E+00	4.50E-02	8.75E+00	9.08E+00	9.08E+00	9.08E+00	1.00E+00	4.50E+00	6.18E-02	5.54E-02	5.54E-02	5.33E-02	2.00E-03	2.00E-03	1.00E+00	5.91E-03	1.06E-02	1.05E-02	1.05E-02	6.10E-03
Barium	1.00E+00	2.25E+00	2.33E+01	2.33E+01	2.33E+01	2.33E+01	4.50E-02	4.30E+01	4.30E+01	4.30E+01	4.30E+01	1.00E+00	4.50E+00	3.37E-03	7.17E-03	7.48E-03	6.12E-03	1.50E-04	1.50E-04	1.00E+00	8.17E-03	8.17E-03	8.17E-03	8.17E-03	8.17E-03
Beryllium	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	1.07E+00	1.37E+00	1.43E+00	1.43E+00	1.00E+00	4.50E+00	6.75E-04	4.68E-04	5.17E-04	5.15E-04	1.00E-03	1.00E-03	1.00E+00	2.45E-03	2.45E-03	2.46E-03	2.47E-03	2.47E-03
Bismuth	1.00E+00	2.25E+00	1.67E-01	1.67E-01	1.67E-01	1.67E-01	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	4.00E-04	4.00E-04	1.00E+00	1.70E-04	--	--	--	--
Boron	1.00E+00	2.25E+00	5.65E+01	5.65E+01	5.65E+01	5.64E+01	4.50E-02	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.00E+00	4.50E+00	6.04E+00	6.04E+00	6.04E+00	6.04E+00	8.00E-04	8.00E-04	1.00E+00	2.38E-02	1.24E-01	1.24E-01	1.24E-01	1.24E-01
Cadmium	1.00E+00	2.25E+00	2.13E-01	2.13E-01	2.13E-01	2.13E-01	4.50E-02	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.00E+00	4.50E+00	3.72E-05	1.98E-05	2.53E-05	4.00E-05	1.20E-04	1.20E-04	1.00E+00	5.84E-05	5.84E-05	5.84E-05	5.84E-05	5.84E-05
Calcium	1.00E+00	2.25E+00	6.20E+03	6.20E+03	6.20E+03	6.20E+03	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	7.00E-04	7.00E-04	1.00E+00	--	--	--	--	--
Chromium Total	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	1.40E+01	1.40E+01	1.40E+01	1.40E+01	1.00E+00	4.50E+00	5.00E-04	8.66E-04	7.18E-04	9.28E-04	5.50E-03	5.50E-03	1.00E+00	1.67E-02	1.67E-02	1.67E-02	1.67E-02	1.67E-02
Cobalt	1.00E+00	2.25E+00	5.33E-01	5.33E-01	5.33E-01	5.33E-01	4.50E-02	2.60E+00	2.60E+00	2.60E+00	2.60E+00	1.00E+00	4.50E+00	3.05E-04	1.00E-03	1.00E-03	1.00E-03	2.00E-02	2.00E-02	1.00E+00	2.64E-02	2.64E-02	2.64E-02	2.64E-02	2.64E-02
Copper	1.00E+00	2.25E+00	7.33E+00	7.33E+00	7.33E+00	7.33E+00	4.50E-02	7.10E+00	7.10E+00	7.10E+00	7.10E+00	1.00E+00	4.50E+00	1.00E-03	1.99E-03	2.00E-03	1.01E-03	1.00E-02	1.00E-02	1.00E+00	1.68E-01	1.68E-01	1.68E-01	1.68E-01	1.68E-01
Iron	1.00E+00	2.25E+00	2.43E+02	2.43E+02	2.43E+02	3.20E+01	4.50E-02	1.70E+04	1.70E+04	1.70E+04	1.70E+04	1.00E+00	4.50E+00	6.98E-01	3.59E-01	4.99E-01	4.78E-01	2.00E-02	2.00E-02	1.00E+00	1.68E+01	2.63E+01	2.63E+01	2.63E+01	1.68E+01
Lead	1.00E+00	2.25E+00	4.16E-01	4.60E-01	4.69E-01	3.47E-01	4.50E-02	1.67E+01	1.99E+01	2.06E+01	2.06E+01	1.00E+00	4.50E+00	9.70E-04	8.18E-04	7.14E-04	1.00E-03	3.00E-04	3.00E-04	1.00E+00	4.51E-04	5.08E-04	5.81E-04	5.96E-04	5.14E-04
Lithium	1.00E+00	2.25E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	4.50E-02	1.09E+01	1.35E+01	1.38E+01	1.38E+01	1.00E+00	4.50E+00	3.63E-02	4.30E-02	4.38E-02	4.38E-02	1.00E-02	1.00E-02	1.00E+00	--	3.20E-02	3.35E-02	3.37E-02	3.37E-02
Magnesium	1.00E+00	2.25E+00	3.33E+02	3.33E+02	3.33E+02	3.33E+02	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	5.00E-03	5.00E-03	1.00E+00	--	--	--	--	--
Manganese	1.00E+00	2.25E+00	4.20E+02	4.20E+02	4.20E+02	4.20E+02	4.50E-02	9.90E+01	9.90E+01	9.90E+01	9.90E+01	1.00E+00	4.50E+00	2.55E-02	7.75E-02	5.24E-02	1.28E-01	4.00E-04	4.00E-04	1.00E+00	3.80E-01	3.80E-01	3.80E-01	3.80E-01	3.80E-01
Mercury, element	1.00E+00	2.25E+00	1.67E-02	1.67E-02	1.67E-02	1.67E-02	4.50E-02	1.80E-01	1.80E-01	1.80E-01	1.80E-01	1.00E+00	4.50E+00	1.03E-05	6.92E-06	7.59E-06	1.06E-05	1.00E+00	1.00E+00	1.00E+00	4.56E-02	4.56E-02	4.56E-02	4.56E-02	4.56E-02
Mercury, divalent	1.00E+00	2.25E+00	1.84E-04	6.40E-04	7.56E-04	6.61E-04	4.50E-02	6.31E-03	3.89E-02	4.72E-02	4.72E-02	1.00E+00	4.50E+00	2.94E-07	1.81E-06	2.20E-06	2.20E-06	5.20E-03	5.20E-03	1.00E+00	--	3.63E-06	1.66E-05	1.99E-05	1.88E-05
Mercury, methyl	1.00E+00	2.25E+00	1.30E-05	1.30E-05	1.30E-05	1.76E-09	4.50E-02	6.06E-08	6.06E-08	6.06E-08	6.06E-08	1.00E+00	4.50E+00	2.27E-12	2.27E-12	2.27E-12	2.27E-12	7.80E-04	7.80E-04	1.00E+00	--	2.27E-08	2.27E-08	2.27E-08	5.22E-12
Molybdenum	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	4.50E+00	3.78E-02	3.78E-02	3.78E-02	3.78E-02	6.00E-03	6.00E-03	1.00E+00	1.47E-02	1.57E-02	1.57E-02	1.57E-02	1.57E-02
Nickel	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	7.30E+00	7.30E+00	7.30E+00	7.30E+00	1.00E+00	4.50E+00	1.00E-03	1.46E-02	6.39E-03	1.18E-02	6.00E-03	6.00E-03	1.00E+00	1.64E-02	1.64E-02	1.68E-02	1.65E-02	1.67E-02
Phosphorus	1.00E+00	2.25E+00	1.07E+03	1.07E+03	1.07E+03	1.07E+03	4.50E-02	2.00E+00	2.00E+00	2.00E+00	2.00E+00	1.00E+00	4.50E+00	5.21E-01	5.21E-01	5.21E-01	5.21E-01	5.50E-02	5.50E-02	1.00E+00	--	1.32E+02	1.32E+02	1.32E+02	1.32E+02
Potassium	1.00E+00	2.25E+00	5.73E+03	5.73E+03	5.73E+03	5.73E+03	4.50E-02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.00E+00	4.50E+00	2.42E+01	2.42E+01	2.42E+01	2.42E+01	2.00E-02	2.00E-02	1.00E+00	--	2.60E+02	2.60E+02	2.60E+02	2.60E+02
Rubidium	1.00E+00	2.25E+00	3.05E-02	3.05E-02	3.05E-02	0.00E+00	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	1.50E-02	1.50E-02	1.00E+00	--	--	--	--	--
Selenium	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	8.70E-01	8.70E-01	8.70E-01	8.70E-01	1.00E+00	4.50E+00	5.00E-04	4.95E-04	5.00E-04	6.06E-04	2.30E-03	2.30E-03	1.00E+00	5.62E-03	5.62E-03	5.62E-03	5.62E-03	5.62E-03
Silver	1.00E+00	2.25E+00	2.67E-01	2.67E-01	2.67E-01	2.67E-01	4.50E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.00E+00	4.50E+00	5.00E-05	8.10E-05	7.64E-05	8.04E-05	3.00E-03	3.00E-03	1.00E+00	1.83E-03	1.83E-03	1.83E-03	1.83E-03	1.83E-03
Sodium	1.00E+00	2.25E+00	1.67E+02	1.83E+02	1.84E+02	1.67E+02	4.50E-02	7.20E+02	1.50E+03	1.51E+03	1.51E+03	1.00E+00	4.50E+00	8.23E+00	1.42E+01	1.43E+01	1.43E+01	5.50E-02	5.50E-02	1.00E+00	--	2.44E+01	2.99E+01	3.01E+01	2.79E+01
Strontium	1.00E+00	2.25E+00	1.47E+01	1.47E+01	1.47E+01	1.47E+01	4.50E-02	2.30E+01	2.30E+01	2.30E+01	2.30E+01	1.00E+00	4.50E+00	5.28E-01	5.28E-01	5.28E-01	5.28E-01	3.00E-04	3.00E-04	1.00E+00	1.02E-02	1.09E-02	1.09E-02	1.09E-02	1.09E-02
Thallium	1.00E+00	2.25E+00	7.33E-02	7.33E-02	7.33E-02	7.33E-02	4.50E-02	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.00E+00	4.50E+00	5.00E-05	7.47E-05	7.11E-05	9.14E-05	4.00E-02	4.00E-02	1.00E+00	6.70E-03	6.70E-03	6.70E-03	6.70E-03	6.71E-03
Tin	1.00E+00	2.25E+00	8.00E+00	8.00E+00	8.00E+00	8.00E+00	4.50E-02	5.23E-01	5.81E-01	5.87E-01	5.87E-01	1.00E+00	4.50E+00	2.02E-03	2.20E-03	2.22E-03	2.22E-03	1.00E-03	1.00E-03	1.00E+00	1.80E-02	1.80E-02	1.80E-02	1.80E-02	1.80E-02
Titanium	1.00E+00	2.25E+00	2.22E+01	2.53E+01	2.59E+01	4.47E+00	4.50E-02	2.09E+02	1.15E+03	1.35E+03	1.35E+03	1.00E+00	4.50E+00	6.22E-01	1.38E+00	1.54E+00	1.54E+00	3.00E-02	3.00E-02	1.00E+00	--	1.86E+00	3.44E+00	3.78E+00	2.33E+00
Uranium	1.00E+00	2.25E+00	6.79E-01	6.79E-01	6.79E-01	6.70E-01	4.50E-02	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.00E+00	4.50E+00	6.75E-05	9.77E-04	9.26E-04	5.97E-04	2.00E-04	2.00E-04	1.00E+00	3.01E-05	3.12E-04	3.13E-04	3.13E-04	3.08E-04
Vanadium	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	2.55E+01	3.70E+01	3.94E+01	3.94E+01	1.00E+00	4.50E+00	1.00E-03	2.16E-03	1.56E-03	2.14E-03	2.50E-03	2.50E-03	1.00E+00	8.60E-03	8.89E-03	1.02E-02	1.05E-02	1.05E-02
Zinc	1.00E+00	2.25E+00	1.40E+01	1.40E+01	1.40E+01	1.40E+01	4.50E-02	2.00E+01	2.00E+01	2.00E+01	2.00E+01	1.00E+00	4.50E+00	1.18E-02	6.90E-03	6.86E-03	8.11E-03	9.00E-05	9.00E-05	1.00E+00	2.92E-03	2.92E-03	2.92E-03	2.92E-03	2.92E-03

Equation: $Cd = F \times Qp_i \times Cfo + Qs \times Cs \times Bs + Qw \times Cw \times Ba_{wildlife} \times MF$ where: $Ba_{wildlife} = Ba_{beef}$

Table B.29

Hare Concentrations Due to Plant and Soil Ingestion
Animal Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal (F) (refer to table B.9) unitless	Quantity of Forage Ingested by the Animal per day (1) (Q_{Pi}) (refer to table B.9) (kg DW/day)	Concentration in Forage Ingested: Construction (Cfo) (refer to table B.27) (mg/kg DW)	Concentration in Forage Ingested: Operations (Cfo) (refer to table B.27) (mg/kg DW)	Concentration in Forage Ingested: Reclamation (Cfo) (refer to table B.27) (mg/kg DW)	Concentration in Forage Ingested: Post-Closure (Cfo) (refer to table B.27) (mg/kg DW)	Quantity of Soil Ingested by the Animal (Qs) (refer to table B.9) (kg/day)	Predicted Soil Concentrations: Construction (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentrations: Operations (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentrations: Reclamation (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentrations: Post-Closure (Cs) (refer to table B.16) (mg/kg)	Soil Bioavailability Factor (Bs) (unitless)	Quantity of Water Ingested by the Animal (Qw) (refer to table B.9) (L/day)	Predicted Total Surface Water Concentrations: Construction (Cw) (refer to table B.45) (mg/L)	Predicted Total Surface Water Concentrations: Operations (Cw) (refer to table B.45) (mg/L)	Predicted Total Surface Water Concentrations: Reclamation (Cw) (refer to table B.45) (mg/L)	Predicted Total Surface Water Concentrations: Post-Closure (Cw) (refer to table B.45) (mg/L)	Biotransfer Factor for Beef Ba_{beef} (refer to table B.10) (day/kg FW tissue)	Biotransfer Factor for Wildlife $Ba_{wildlife}$ (day/kg FW tissue)	Metabolism Factor (MF) (unitless)	Baseline Concentration in Hare (Ch) (refer to table B.7) (mg/kg FW tissue)	Predicted Concentrations in Hare: Construction (Cd) (mg/kg FW tissue)	Predicted Concentrations in Hare: Operations (Cd) (mg/kg FW tissue)	Predicted Concentrations in Hare: Reclamation (Cd) (mg/kg FW tissue)	Predicted Concentrations in Hare: Post-Closure (Cd) (mg/kg FW tissue)
Particulate Matter																										
Total Particulate Matter	1.00E+00	7.80E-02	--	--	--	--	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	--	--	1.00E+00	--	--	--	--	--	--
Particulate Matter (PM10)	1.00E+00	7.80E-02	--	--	--	--	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	--	--	1.00E+00	--	--	--	--	--	--
Particulate Matter (PM2.5)	1.00E+00	7.80E-02	--	--	--	--	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	--	--	1.00E+00	--	--	--	--	--	--
Metals																										
Aluminum	1.00E+00	7.80E-02	5.28E+02	5.52E+02	5.57E+02	4.58E+01	4.91E-03	1.56E+04	3.74E+04	4.26E+04	4.26E+04	1.00E+00	1.30E-01	5.04E-01	2.08E-01	2.96E-01	4.00E-01	1.50E-03	1.50E-03	1.00E+00	8.42E-02	1.77E-01	3.41E-01	3.79E-01	3.19E-01
Antimony	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.30E-01	6.75E-04	4.51E-03	3.54E-03	2.26E-03	1.00E-03	1.00E-03	1.00E+00	8.82E-05	8.82E-05	8.87E-05	8.86E-05	8.84E-05
Arsenic	1.00E+00	7.80E-02	2.05E+00	2.05E+00	2.05E+00	1.07E+00	4.91E-03	8.75E+00	9.08E+00	9.08E+00	9.08E+00	1.00E+00	1.30E-01	6.18E-02	5.54E-02	5.54E-02	5.33E-02	2.00E-03	2.00E-03	1.00E+00	2.42E-04	4.22E-04	4.24E-04	4.24E-04	2.70E-04
Barium	1.00E+00	7.80E-02	2.33E+01	2.33E+01	2.33E+01	2.33E+01	4.91E-03	4.30E+01	4.30E+01	4.30E+01	4.30E+01	1.00E+00	1.30E-01	3.37E-03	7.17E-03	7.48E-03	6.12E-03	1.50E-04	1.50E-04	1.00E+00	3.05E-04	3.05E-04	3.05E-04	3.05E-04	3.05E-04
Beryllium	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	1.07E+00	1.37E+00	1.43E+00	1.43E+00	1.00E+00	1.30E-01	6.75E-04	4.68E-04	5.17E-04	5.15E-04	1.00E-03	1.00E-03	1.00E+00	8.82E-05	8.85E-05	9.00E-05	9.03E-05	9.03E-05
Bismuth	1.00E+00	7.80E-02	1.67E-01	1.67E-01	1.67E-01	1.67E-01	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	4.00E-04	4.00E-04	1.00E+00	7.22E-06	--	--	--	--	--
Boron	1.00E+00	7.80E-02	5.65E+01	5.65E+01	5.65E+01	5.64E+01	4.91E-03	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.00E+00	1.30E-01	6.04E+00	6.04E+00	6.04E+00	6.04E+00	8.00E-04	8.00E-04	1.00E+00	8.91E-04	4.25E-03	4.25E-03	4.25E-03	4.24E-03
Cadmium	1.00E+00	7.80E-02	2.13E-01	2.13E-01	2.13E-01	2.13E-01	4.91E-03	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.00E+00	1.30E-01	3.72E-05	1.98E-05	2.53E-05	4.00E-05	1.20E-04	1.20E-04	1.00E+00	2.09E-06	2.09E-06	2.09E-06	2.09E-06	2.09E-06
Calcium	1.00E+00	7.80E-02	6.20E+03	6.20E+03	6.20E+03	6.20E+03	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	7.00E-04	7.00E-04	1.00E+00	--	--	--	--	--	--
Chromium Total	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	1.40E+01	1.40E+01	1.40E+01	1.40E+01	1.00E+00	1.30E-01	5.00E-04	8.66E-04	7.18E-04	9.28E-04	5.50E-03	5.50E-03	1.00E+00	8.36E-04	8.36E-04	8.37E-04	8.36E-04	8.37E-04
Cobalt	1.00E+00	7.80E-02	5.33E-01	5.33E-01	5.33E-01	5.33E-01	4.91E-03	2.60E+00	2.60E+00	2.60E+00	2.60E+00	1.00E+00	1.30E-01	3.05E-04	1.00E-03	1.00E-03	1.00E-03	2.00E-02	2.00E-02	1.00E+00	1.09E-03	1.09E-03	1.09E-03	1.09E-03	1.09E-03
Copper	1.00E+00	7.80E-02	7.33E+00	7.33E+00	7.33E+00	7.33E+00	4.91E-03	7.10E+00	7.10E+00	7.10E+00	7.10E+00	1.00E+00	1.30E-01	1.00E-03	1.99E-03	2.00E-03	1.01E-03	1.00E-02	1.00E-02	1.00E+00	6.07E-03	6.07E-03	6.07E-03	6.07E-03	6.07E-03
Iron	1.00E+00	7.80E-02	2.43E+02	2.43E+02	2.43E+02	3.20E+01	4.91E-03	1.70E+04	1.70E+04	1.70E+04	1.70E+04	1.00E+00	1.30E-01	6.98E-01	3.59E-01	4.99E-01	4.78E-01	2.00E-02	2.00E-02	1.00E+00	1.72E+00	2.05E+00	2.05E+00	2.05E+00	1.72E+00
Lead	1.00E+00	7.80E-02	4.16E-01	4.60E-01	4.69E-01	3.47E-01	4.91E-03	1.67E+01	1.99E+01	2.06E+01	2.06E+01	1.00E+00	1.30E-01	9.70E-04	8.18E-04	7.14E-04	1.00E-03	3.00E-04	3.00E-04	1.00E+00	3.17E-05	3.44E-05	4.02E-05	4.14E-05	3.85E-05
Lithium	1.00E+00	7.80E-02	1.13E+00	1.13E+00	1.13E+00	1.13E+00	4.91E-03	1.09E+01	1.35E+01	1.38E+01	1.38E+01	1.00E+00	1.30E-01	3.63E-02	4.30E-02	4.38E-02	4.38E-02	1.00E-02	1.00E-02	1.00E+00	--	1.47E-03	1.60E-03	1.62E-03	1.62E-03
Magnesium	1.00E+00	7.80E-02	3.33E+02	3.33E+02	3.33E+02	3.33E+02	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	5.00E-03	5.00E-03	1.00E+00	--	--	--	--	--	--
Manganese	1.00E+00	7.80E-02	4.20E+02	4.20E+02	4.20E+02	4.20E+02	4.91E-03	9.90E+01	9.90E+01	9.90E+01	9.90E+01	1.00E+00	1.30E-01	2.55E-02	7.75E-02	5.24E-02	1.28E-01	4.00E-04	4.00E-04	1.00E+00	1.33E-02	1.33E-02	1.33E-02	1.33E-02	1.33E-02
Mercury, element	1.00E+00	7.80E-02	1.67E-02	1.67E-02	1.67E-02	1.67E-02	4.91E-03	1.80E-01	1.80E-01	1.80E-01	1.80E-01	1.00E+00	1.30E-01	1.03E-05	6.92E-06	7.59E-06	1.06E-05	1.00E+00	1.00E+00	1.00E+00	2.19E-03	2.19E-03	2.19E-03	2.19E-03	2.19E-03
Mercury, divalent	1.00E+00	7.80E-02	1.84E-04	6.40E-04	7.56E-04	6.61E-04	4.91E-03	6.31E-03	3.89E-02	4.72E-02	4.72E-02	1.00E+00	1.30E-01	2.94E-07	1.81E-06	2.20E-06	2.20E-06	5.20E-03	5.20E-03	1.00E+00	--	2.36E-07	1.25E-06	1.51E-06	1.48E-06
Mercury, methyl	1.00E+00	7.80E-02	1.30E-05	1.30E-05	1.30E-05	1.76E-09	4.91E-03	6.06E-08	6.06E-08	6.06E-08	6.06E-08	1.00E+00	1.30E-01	2.27E-12	2.27E-12	2.27E-12	2.27E-12	7.80E-04	7.80E-04	1.00E+00	--	7.89E-10	7.89E-10	7.89E-10	3.39E-13
Molybdenum	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.30E-01	3.78E-02	3.78E-02	3.78E-02	3.78E-02	6.00E-03	6.00E-03	1.00E+00	5.29E-04	5.58E-04	5.58E-04	5.58E-04	5.58E-04
Nickel	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	7.30E+00	7.30E+00	7.30E+00	7.30E+00	1.00E+00	1.30E-01	1.00E-03	1.46E-02	6.39E-03	1.18E-02	6.00E-03	6.00E-03	1.00E+00	7.15E-04	7.15E-04	7.26E-04	7.19E-04	7.24E-04
Phosphorus	1.00E+00	7.80E-02	1.07E+03	1.07E+03	1.07E+03	1.07E+03	4.91E-03	2.00E+00	2.00E+00	2.00E+00	2.00E+00	1.00E+00	1.30E-01	5.21E-01	5.21E-01	5.21E-01	5.21E-01	5.50E-02	5.50E-02	1.00E+00	--	4.58E+00	4.58E+00	4.58E+00	4.58E+00
Potassium	1.00E+00	7.80E-02	5.73E+03	5.73E+03	5.73E+03	5.73E+03	4.91E-03	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.00E+00	1.30E-01	2.42E+01	2.42E+01	2.42E+01	2.42E+01	2.00E-02	2.00E-02	1.00E+00	--	9.02E+00	9.02E+00	9.02E+00	9.02E+00
Rubidium	1.00E+00	7.80E-02	3.05E-02	3.05E-02	3.05E-02	0.00E+00	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	1.50E-02	1.50E-02	1.00E+00	--	--	--	--	--
Selenium	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	8.70E-01	8.70E-01	8.70E-01	8.70E-01	1.00E+00	1.30E-01	5.00E-04	4.95E-04	5.00E-04	6.06E-04	2.30E-03	2.30E-03	1.00E+00	2.01E-04	2.01E-04	2.01E-04	2.01E-04	2.01E-04
Silver	1.00E+00	7.80E-02	2.67E-01	2.67E-01	2.67E-01	2.67E-01	4.91E-03	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.00E+00	1.30E-01	5.00E-05	8.10E-05	7.64E-05	8.04E-05	3.00E-03	3.00E-03	1.00E+00	6.61E-05	6.61E-05	6.61E-05	6.61E-05	6.61E-05
Sodium	1.00E+00	7.80E-02	1.67E+02	1.83E+02	1.84E+02	1.67E+02	4.91E-03	7.20E+02	1.50E+03	1.51E+03	1.51E+03	1.00E+00	1.30E-01	8.23E+00	1.42E+01	1.43E+01	1.43E+01	5.50E-02	5.50E-02	1.00E+00	--	9.68E-01	1.29E+00	1.30E+00	1.23E+00
Strontium	1.00E+00	7.80E-02	1.47E+01	1.47E+01	1.47E+01	1.47E+01	4.91E-03	2.30E+01	2.30E+01	2.30E+01	2.30E+01	1.00E+00	1.30E-01	5.28E-01	5.28E-01	5.28E-01	5.28E-01	3.00E-04	3.00E-04	1.00E+00	3.77E-04	3.98E-04	3.98E-04	3.98E-04	3.98E-04
Thallium	1.00E+00	7.80E-02	7.33E-02	7.33E-02	7.33E-02	7.33E-02	4.91E-03	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.00E+00	1.30E-01	5.00E-05	7.47E-05	7.11E-05	9.14E-05	4.00E-02	4.00E-02	1.00E+00	2.39E-04	2.39E-04	2.39E-04	2.39E-04	2.39E-04
Tin	1.00E+00	7.80E-02	8.00E+00	8.00E+00	8.00E+00	8.00E+00	4.91E-03	5.23E-01	5.81E-01	5.87E-01	5.87E-01	1.00E+00	1.30E-01	2.02E-03	2.20E-03	2.22E-03	2.22E-03	1.00E-03	1.00E-03	1.00E+00	6.27E-04	6.27E-04	6.27E-04	6.27E-04	6.27E-04
Titanium	1.00E+00	7.80E-02	2.22E+01	2.53E+01	2.59E+01	4.47E+00	4.91E-03	2.09E+02	1.15E+03	1.35E+03	1.35E+03	1.00E+00	1.30E-01	6.22E-01	1.38E+00	1.54E+00	1.54E+00	3.00E-02	3.00E-02	1.00E+00	--	8.51E-02	2.33E-01	2.65E-01	2.15E-01
Uranium	1.00E+00	7.80E-02	6.79E-01	6.79E-01	6.79E-01	6.70E-01	4.91E-03	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.00E+00	1.30E-01	6.75E-05	9.77E-04	9.26E-04	5.97E-04	2.00E-04	2.00E-04	1.00E+00	1.49E-06	1.13E-05	1.13E-05	1.13E-05	1.11E-05
Vanadium	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	2.55E+01	3.70E+01	3.94E+01	3.94E+01	1.00E+00	1.30E-01	1.00E-03	2.16E-03	1.56E-03	2.14E-03	2.50E-03	2.50E-03	1.00E+00	4.91E-04	5.22E-04	6.63E-04	6.93E-04	6.93E-04
Zinc	1.00E+00	7.80E-02	1.40E+01	1.40E+01	1.40E+01	1.40E+01	4.91E-03	2.00E+01	2.00E+01	2.00E+01	2.00E+01	1.00E+00	1.30E-01	1.18E-02	6.90E-03	6.86E-03	8.11E-03	9.00E-05	9.00E-05	1.00E+00	1.07E-04	1.07E-04	1.07E-04	1.07E-04	1.07E-04

Equation: $Ch = F \times Q_{Pi} \times Cfo + Qs \times Cs \times Bs + Qw \times Cw \times Ba_{wildlife} \times MF$ where: $Ba_{wildlife} = Ba_{beef}$

Table B.30

Deposition to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Annual Deposition Rate (Dr) (refer to table B.7) (g/m^2-yr)	Water Body Surface Area (A_w) (refer to table B.9) (m^2)	Total Wet & Dry Particle and Wet Vapor Direct Deposition to Water (L_{DEP}) (g/yr)
Particulate Matter			
Total Particulate Matter	7.69E+02	8.50E+05	6.54E+08
Particulate Matter (PM10)	9.49E+01	8.50E+05	8.07E+07
Particulate Matter (PM2.5)	4.46E-01	8.50E+05	3.79E+05
Metals			
Aluminum	7.69E+01	8.50E+05	6.54E+07
Antimony	2.31E-03	8.50E+05	1.96E+03
Arsenic	3.00E-01	8.50E+05	2.55E+05
Barium	6.23E-01	8.50E+05	5.30E+05
Beryllium	2.31E-03	8.50E+05	1.96E+03
Bismuth	2.54E-04	8.50E+05	2.16E+02
Boron	1.92E-02	8.50E+05	1.64E+04
Cadmium	9.23E-05	8.50E+05	7.85E+01
Calcium	1.00E+01	8.50E+05	8.50E+06
Chromium Total	8.54E-02	8.50E+05	7.26E+04
Cobalt	1.38E-02	8.50E+05	1.18E+04
Copper	2.85E-02	8.50E+05	2.42E+04
Iron	3.31E+01	8.50E+05	2.81E+07
Lead	2.85E-02	8.50E+05	2.42E+04
Lithium	4.69E-02	8.50E+05	3.99E+04
Magnesium	1.15E+01	8.50E+05	9.81E+06
Manganese	7.09E-01	8.50E+05	6.02E+05
Mercury, element	2.03E-04	8.50E+05	1.69E+02
Mercury, divalent	--	8.50E+05	--
Mercury, methyl	--	8.50E+05	--
Molybdenum	6.16E-04	8.50E+05	5.23E+02
Nickel	3.15E-02	8.50E+05	2.68E+04
Phosphorus	5.31E-01	8.50E+05	4.51E+05
Potassium	2.46E+01	8.50E+05	2.09E+07
Rubidium	4.59E-03	8.50E+05	3.90E+03
Selenium	2.69E-04	8.50E+05	2.29E+02
Silver	3.85E-04	8.50E+05	3.27E+02
Sodium	1.46E+01	8.50E+05	1.24E+07
Strontium	1.62E-01	8.50E+05	1.37E+05
Thallium	6.08E-04	8.50E+05	5.17E+02
Tin	2.31E-03	8.50E+05	1.96E+03
Titanium	3.23E+00	8.50E+05	2.75E+06
Uranium	1.38E-03	8.50E+05	1.18E+03
Vanadium	6.16E-02	8.50E+05	5.23E+04
Zinc	8.46E-02	8.50E+05	7.19E+04

Equation: $L_{DEP} = Hg_{factor} \times Dr \times A_W$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.48), and methylmercury (0)

Table B.31

Liquid Phase Transfer Coefficient
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

		Creek			Lake								Liquid Phase
Contaminant	Diffusivity in Water (Dw) (refer to table B.10) (cm^2/s)	Current Velocity (μ) (refer to table B.9) (m/s)	Total Water Body Depth (d_{wc}) (refer to table B.9) (m)	Units Conversion Factor (CF1) (m^2/cm^2)	Drag Coefficient (C_d) (refer to table B.9) -	Average Annual Wind Speed (W) (refer to table B.9) (m/s)	Density of Air (ρ_a) (refer to table B.9) (g/cm^3)	Density of Water (ρ_w) (refer to table B.9) (g/cm^3)	von Karman's Constant (k) (refer to table B.9) -	Dimensionless Viscous Sublayer Thickness (λ_z) (refer to table B.9) -	Viscosity of Water at Water Temperature (μ_w) (refer to table B.9) (g/cm-s)	Units Conversion Factor (CF2) (s/yr)	Transfer Coefficient Lake K_L (m/yr)
Particulate Matter													
Total Particulate Matter	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Particulate Matter (PM10)	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Particulate Matter (PM2.5)	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Metals													
Aluminum	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Antimony	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Arsenic	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Barium	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Beryllium	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Bismuth	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Boron	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Cadmium	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Calcium	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Chromium Total	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Cobalt	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Copper	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Iron	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Lead	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Lithium	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Magnesium	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Manganese	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Mercury, element	6.30E-06	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	1.32E+02
Mercury, divalent	5.20E-06	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	1.16E+02
Mercury, methyl	6.10E-06	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	1.29E+02
Molybdenum	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Nickel	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Phosphorus	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Potassium	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Rubidium	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Selenium	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Silver	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Sodium	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Strontium	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Thallium	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Tin	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Titanium	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Uranium	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Vanadium	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Zinc	--	--	2.40E+00	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--

Equation: For the Creek, K_L = [Square Root of (($CF1 \times D_w \times \mu$) / d_{wc})] x CF2

Table B.32

Overall Transfer Rate Coefficient
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

		Lake													
Contaminant	Liquid Phase Transfer Coefficient Lake (K_{L}) (refer to table B.31) (m/yr)	Drag Coefficient (C_d) (refer to table B.9) -	Average Annual Wind Speed (W) (refer to table B.9) (m/s)	Density of Air (ρ_a) (refer to table B.9) (g/cm^3)	von Karman's Constant (k) (refer to table B.9) -	Dimensionless Viscous Sublayer Thickness (λ_z) (refer to table B.9) -	Viscosity of Air (μ_a) (refer to table B.9) (g/cm-s)	Diffusivity in Air (Da) (refer to table B.10) (cm^2/s)	Units Conversion Factor (CF1) (s/yr)	Gas Phase Transfer Coefficient Lake (K_G) (m/yr)	Henry's Law Constant (H) (refer to table B.10) (atm-m^3/mol)	Universal Gas Constant (R) (refer to table B.9) (atm-m^3/mol-K)	Water Body Temperature (T_a) (refer to table B.9) (k)	Temperature Correction Factor θ -	Overall Transfer Rate Coefficient K_v (m/yr)
Particulate Matter															
Total Particulate Matter	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Particulate Matter (PM10)	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Particulate Matter (PM2.5)	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Metals															
Aluminum	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Antimony	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Arsenic	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Barium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Beryllium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Bismuth	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Boron	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Cadmium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Calcium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Chromium Total	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Cobalt	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Copper	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Iron	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Lead	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Lithium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Magnesium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Manganese	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Mercury, element	1.32E+02	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	3.07E-02	3.15E+07	1.24E+04	1.15E-02	8.21E-05	2.80E+02	1.03E+00	9.18E+01
Mercury, divalent	1.16E+02	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	4.50E-02	3.15E+07	1.60E+04	7.10E-10	8.21E-05	2.80E+02	1.03E+00	3.53E-04
Mercury, methyl	1.29E+02	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	5.30E-02	3.15E+07	1.79E+04	7.22E-03	8.21E-05	2.80E+02	1.03E+00	8.97E+01
Molybdenum	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Nickel	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Phosphorus	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Potassium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Rubidium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Selenium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Silver	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Sodium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Strontium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Thallium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Tin	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Titanium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Uranium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Vanadium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Zinc	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--

Equation: $K_v = [K_L^{-1} + (K_G \times H/(R \times T_a))^{-1}]^{-1} \times \theta^{(T_a - 293)}$

For the Creek K_G = 36500 refer to Table B-9 for K_G

Table B.33

Diffusion Load to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Overall Transfer Rate Coefficient (K_v) (refer to table B.33) (m/yr)	Predicted Air Concentration (Coa) (refer to table B.6) ($\mu g/m^3$)	Water Body Surface Area A_W (refer to table B.30) (m^2)	Henry's Law Constant (H) (refer to table B.10) ($atm\text{-}m^3/mol$)	Universal Gas Constant (R) (refer to table B.9) ($atm\text{-}m^3/mol\text{-}K$)	Water Body Temperature T_a (refer to table B.9) (K)	Units Conversion Factor (CF) (g/ug)	Dry Vapor Phase Diffusion Load to Water Body (L_{dif}) (g/yr)
Particulate Matter								
Total Particulate Matter	--	2.40E+02	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Particulate Matter (PM10)	--	6.05E+01	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Particulate Matter (PM2.5)	--	1.57E+01	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Metals								
Aluminum	--	1.09E-01	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Antimony	--	1.63E-05	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Arsenic	--	4.33E-04	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Barium	--	8.85E-02	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Beryllium	--	1.63E-05	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Bismuth	--	8.20E-06	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Boron	--	3.71E-05	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Cadmium	--	5.62E-05	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Calcium	--	--	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Chromium Total	--	1.58E-03	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Cobalt	--	3.54E-05	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Copper	--	3.39E-01	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Iron	--	1.12E-01	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Lead	--	2.44E-05	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Lithium	--	9.02E-05	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Magnesium	--	--	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Manganese	--	1.80E-03	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Mercury, element	9.18E+01	2.21E-06	8.50E+05	1.15E-02	8.21E-05	2.80E+02	1.00E-06	3.37E-04
Mercury, divalent	3.53E-04	--	8.50E+05	7.10E-10	8.21E-05	2.80E+02	1.00E-06	--
Mercury, methyl	8.97E+01	--	8.50E+05	7.22E-03	8.21E-05	2.80E+02	1.00E-06	--
Molybdenum	--	3.13E-05	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Nickel	--	1.81E-03	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Phosphorus	--	--	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Potassium	--	--	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Rubidium	--	4.99E-05	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Selenium	--	1.22E-05	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Silver	--	1.48E-04	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Sodium	--	--	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Strontium	--	5.48E-04	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Thallium	--	9.52E-06	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Tin	--	1.85E-03	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Titanium	--	2.26E-03	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Uranium	--	9.76E-06	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Vanadium	--	3.30E-04	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Zinc	--	1.90E-02	8.50E+05	--	8.21E-05	2.80E+02	1.00E-06	--

Equation:

$$L_{DIF} = \frac{(K_v \times Hg_{factor} \times Coa \times A_w \times CF) \times (R \times T_a)}{H}$$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.48), and methylmercury (0)

Table B.34

Impervious Runoff Load to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Annual Deposition Rate (Dr) (refer to table B.7) (g/m^2-yr)	Impervious Watershed Area (A_I) (refer to table B.9) (m^2)	Runoff Load Impervious Surfaces (L_{RI}) (g/yr)
Particulate Matter			
Total Particulate Matter	7.69E+02	8.50E+05	6.54E+08
Particulate Matter (PM10)	9.49E+01	8.50E+05	8.07E+07
Particulate Matter (PM2.5)	4.46E-01	8.50E+05	3.79E+05
Metals			
Aluminum	7.69E+01	8.50E+05	6.54E+07
Antimony	2.31E-03	8.50E+05	1.96E+03
Arsenic	3.00E-01	8.50E+05	2.55E+05
Barium	6.23E-01	8.50E+05	5.30E+05
Beryllium	2.31E-03	8.50E+05	1.96E+03
Bismuth	2.54E-04	8.50E+05	2.16E+02
Boron	1.92E-02	8.50E+05	1.64E+04
Cadmium	9.23E-05	8.50E+05	7.85E+01
Calcium	1.00E+01	8.50E+05	8.50E+06
Chromium Total	8.54E-02	8.50E+05	7.26E+04
Cobalt	1.38E-02	8.50E+05	1.18E+04
Copper	2.85E-02	8.50E+05	2.42E+04
Iron	3.31E+01	8.50E+05	2.81E+07
Lead	2.85E-02	8.50E+05	2.42E+04
Lithium	4.69E-02	8.50E+05	3.99E+04
Magnesium	1.15E+01	8.50E+05	9.81E+06
Manganese	7.09E-01	8.50E+05	6.02E+05
Mercury, element	2.03E-04	8.50E+05	1.69E+02
Mercury, divalent	--	8.50E+05	--
Mercury, methyl	--	8.50E+05	--
Molybdenum	6.16E-04	8.50E+05	5.23E+02
Nickel	3.15E-02	8.50E+05	2.68E+04
Phosphorus	5.31E-01	8.50E+05	4.51E+05
Potassium	2.46E+01	8.50E+05	2.09E+07
Rubidium	4.59E-03	8.50E+05	3.90E+03
Selenium	2.69E-04	8.50E+05	2.29E+02
Silver	3.85E-04	8.50E+05	3.27E+02
Sodium	1.46E+01	8.50E+05	1.24E+07
Strontium	1.62E-01	8.50E+05	1.37E+05
Thallium	6.08E-04	8.50E+05	5.17E+02
Tin	2.31E-03	8.50E+05	1.96E+03
Titanium	3.23E+00	8.50E+05	2.75E+06
Uranium	1.38E-03	8.50E+05	1.18E+03
Vanadium	6.16E-02	8.50E+05	5.23E+04
Zinc	8.46E-02	8.50E+05	7.19E+04

Equation: $L_{RI} = Hg_{factor} \times Dr \times A_I$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.48), and methylmercury (0)

Table B.35

Pervious Runoff Load to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Average Annual Surface Runoff Pervious Areas (RO) (refer to table B.9) (cm/yr)	Total Watershed Area Receiving Deposition (A_L) (refer to table B.9) (m^2)	Impervious Watershed Area (A_I) (refer to table B.34) (m^2)	Predicted Soil Concentration Construction (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Operations (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Reclamation (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Post-Closure (Cs) (refer to table B.16) (mg/kg)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	Soil Volumetric Water Content (θ_{sw}) (refer to table B.9) (ml/cm^3)	Soil-Water Partition Coefficient (Kds) (refer to table B.10) (cm^3/g)	Unit Conversion Factor (CF) ($kg\text{-}cm^2/mg\text{-}m^2$)	Runoff Load Pervious Surfaces Construction (L_R) (g/yr)	Runoff Load Pervious Surfaces Operations (L_R) (g/yr)	Runoff Load Pervious Surfaces Reclamation (L_R) (g/yr)	Runoff Load Pervious Surfaces Post-Closure (L_R) (g/yr)
Particulate Matter															
Total Particulate Matter	7.89E+01	9.22E+06	8.50E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Particulate Matter (PM10)	7.89E+01	9.22E+06	8.50E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Particulate Matter (PM2.5)	7.89E+01	9.22E+06	8.50E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Metals															
Aluminum	7.89E+01	9.22E+06	8.50E+05	1.56E+04	3.74E+04	4.26E+04	4.26E+04	1.50E+00	2.00E-01	1.50E+03	1.00E-02	6.85E+07	1.65E+08	1.87E+08	1.87E+08
Antimony	7.89E+01	9.22E+06	8.50E+05	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E+00	2.00E-01	4.50E+01	1.00E-02	1.46E+05	1.46E+05	1.46E+05	1.46E+05
Arsenic	7.89E+01	9.22E+06	8.50E+05	8.75E+00	9.08E+00	9.08E+00	9.08E+00	1.50E+00	2.00E-01	2.90E+01	1.00E-02	1.99E+06	2.06E+06	2.06E+06	2.06E+06
Barium	7.89E+01	9.22E+06	8.50E+05	4.30E+01	4.30E+01	4.30E+01	4.30E+01	1.50E+00	2.00E-01	4.10E+01	1.00E-02	6.91E+06	6.91E+06	6.91E+06	6.91E+06
Beryllium	7.89E+01	9.22E+06	8.50E+05	1.07E+00	1.37E+00	1.43E+00	1.43E+00	1.50E+00	2.00E-01	7.90E+02	1.00E-02	8.95E+03	1.14E+04	1.19E+04	1.19E+04
Bismuth	7.89E+01	9.22E+06	8.50E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Boron	7.89E+01	9.22E+06	8.50E+05	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.50E+00	2.00E-01	3.00E+00	1.00E-02	5.27E+07	5.27E+07	5.27E+07	5.27E+07
Cadmium	7.89E+01	9.22E+06	8.50E+05	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.50E+00	2.00E-01	7.50E+01	1.00E-02	1.32E+04	1.32E+04	1.32E+04	1.32E+04
Calcium	7.89E+01	9.22E+06	8.50E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Chromium Total	7.89E+01	9.22E+06	8.50E+05	1.40E+01	1.40E+01	1.40E+01	1.40E+01	1.50E+00	2.00E-01	1.90E+01	1.00E-02	4.83E+06	4.83E+06	4.83E+06	4.83E+06
Cobalt	7.89E+01	9.22E+06	8.50E+05	2.60E+00	2.60E+00	2.60E+00	2.60E+00	1.50E+00	2.00E-01	4.50E+01	1.00E-02	3.81E+05	3.81E+05	3.81E+05	3.81E+05
Copper	7.89E+01	9.22E+06	8.50E+05	7.10E+00	7.10E+00	7.10E+00	7.10E+00	1.50E+00	2.00E-01	3.50E+01	1.00E-02	1.34E+06	1.34E+06	1.34E+06	1.34E+06
Iron	7.89E+01	9.22E+06	8.50E+05	1.70E+04	1.70E+04	1.70E+04	1.70E+04	1.50E+00	2.00E-01	2.50E+01	1.00E-02	4.47E+09	4.47E+09	4.47E+09	4.47E+09
Lead	7.89E+01	9.22E+06	8.50E+05	1.67E+01	1.99E+01	2.06E+01	2.06E+01	1.50E+00	2.00E-01	9.00E+02	1.00E-02	1.23E+05	1.46E+05	1.51E+05	1.51E+05
Lithium	7.89E+01	9.22E+06	8.50E+05	1.09E+01	1.35E+01	1.38E+01	1.38E+01	1.50E+00	2.00E-01	3.00E+02	1.00E-02	2.40E+05	2.97E+05	3.04E+05	3.04E+05
Magnesium	7.89E+01	9.22E+06	8.50E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Manganese	7.89E+01	9.22E+06	8.50E+05	9.90E+01	9.90E+01	9.90E+01	9.90E+01	1.50E+00	2.00E-01	6.50E+01	1.00E-02	1.00E+07	1.00E+07	1.00E+07	1.00E+07
Mercury, element	7.89E+01	9.22E+06	8.50E+05	1.80E-01	1.80E-01	1.80E-01	1.80E-01	1.50E+00	2.00E-01	3.30E+03	1.00E-02	3.53E+02	3.53E+02	3.53E+02	3.53E+02
Mercury, divalent	7.89E+01	9.22E+06	8.50E+05	6.31E-03	3.89E-02	4.72E-02	4.72E-02	1.50E+00	2.00E-01	3.30E+03	1.00E-02	2.53E-01	1.56E+00	1.89E+00	1.89E+00
Mercury, methyl	7.89E+01	9.22E+06	8.50E+05	6.06E-08	6.06E-08	6.06E-08	6.06E-08	1.50E+00	2.00E-01	2.00E+01	1.00E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Molybdenum	7.89E+01	9.22E+06	8.50E+05	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E+00	2.00E-01	2.00E+01	1.00E-02	3.28E+05	3.28E+05	3.28E+05	3.28E+05
Nickel	7.89E+01	9.22E+06	8.50E+05	7.30E+00	7.30E+00	7.30E+00	7.30E+00	1.50E+00	2.00E-01	6.50E+01	1.00E-02	7.41E+05	7.41E+05	7.41E+05	7.41E+05
Phosphorus	7.89E+01	9.22E+06	8.50E+05	2.00E+00	2.00E+00	2.00E+00	2.00E+00	1.50E+00	2.00E-01	3.50E+00	1.00E-02	3.64E+06	3.64E+06	3.64E+06	3.64E+06
Potassium	7.89E+01	9.22E+06	8.50E+05	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.50E+00	2.00E-01	5.50E+00	1.00E-02	1.69E+08	1.69E+08	1.69E+08	1.69E+08
Rubidium	7.89E+01	9.22E+06	8.50E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Selenium	7.89E+01	9.22E+06	8.50E+05	8.70E-01	8.70E-01	8.70E-01	8.70E-01	1.50E+00	2.00E-01	5.00E+00	1.00E-02	1.12E+06	1.12E+06	1.12E+06	1.12E+06
Silver	7.89E+01	9.22E+06	8.50E+05	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.50E+00	2.00E-01	8.30E+00	1.00E-02	1.96E+05	1.96E+05	1.96E+05	1.96E+05
Sodium	7.89E+01	9.22E+06	8.50E+05	7.20E+02	1.50E+03	1.51E+03	1.51E+03	1.50E+00	2.00E-01	1.00E+02	1.00E-02	4.75E+07	9.88E+07	9.98E+07	9.98E+07
Strontium	7.89E+01	9.22E+06	8.50E+05	2.30E+01	2.30E+01	2.30E+01	2.30E+01	1.50E+00	2.00E-01	3.50E+01	1.00E-02	4.33E+06	4.33E+06	4.33E+06	4.33E+06
Thallium	7.89E+01	9.22E+06	8.50E+05	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.50E+00	2.00E-01	7.10E+01	1.00E-02	4.64E+03	4.64E+03	4.64E+03	4.64E+03
Tin	7.89E+01	9.22E+06	8.50E+05	5.23E-01	5.81E-01	5.87E-01	5.87E-01	1.50E+00	2.00E-01	2.50E+02	1.00E-02	1.38E+04	1.53E+04	1.55E+04	1.55E+04
Titanium	7.89E+01	9.22E+06	8.50E+05	2.09E+02	1.15E+03	1.35E+03	1.35E+03	1.50E+00	2.00E-01	1.00E+03	1.00E-02	1.38E+06	7.56E+06	8.91E+06	8.91E+06
Uranium	7.89E+01	9.22E+06	8.50E+05	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.50E+00	2.00E-01	4.50E+02	1.00E-02	9.83E+03	9.83E+03	9.83E+03	9.83E+03
Vanadium	7.89E+01	9.22E+06	8.50E+05	2.55E+01	3.70E+01	3.94E+01	3.94E+01	1.50E+00	2.00E-01	1.00E+03	1.00E-02	1.69E+05	2.44E+05	2.61E+05	2.61E+05
Zinc	7.89E+01	9.22E+06	8.50E+05	2.00E+01	2.00E+01	2.00E+01	2.00E+01	1.50E+00	2.00E-01	6.20E+01	1.00E-02	2.13E+06	2.13E+06	2.13E+06	2.13E+06

Equation:

$$L_R = RO \times (A_L - A_I) \times \frac{Cs \times BD}{\theta_{sw} + Kds \times BD} \times CF \times Hg_{factor}$$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.48), and methylmercury (0)

Table B.36

Universal Soil Loss Equation (USLE)
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	USLE Rainfall Factor (RF) (refer to table B.9) (1/yr)	USLE Erodibility Factor K (refer to table B.9) (ton/acre)	USLE Length-Slope Factor (LS) (refer to table B.9) -	USLE Cover Management Factor (C) (refer to table B.9) -	USLE Supporting Practice Factor (P) (refer to table B.9) -	Unit Conversion Factor (CF1) (kg/ton)	Unit Conversion Factor (CF2) (m^2/acre)	Unit Soil Loss X_e (kg/m^2-yr)
Particulate Matter								
Total Particulate Matter	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Particulate Matter (PM10)	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Particulate Matter (PM2.5)	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Metals								
Aluminum	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Antimony	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Arsenic	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Barium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Beryllium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Bismuth	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Boron	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Cadmium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Calcium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Chromium Total	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Cobalt	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Copper	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Iron	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Lead	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Lithium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Magnesium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Manganese	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Mercury, element	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Mercury, divalent	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Mercury, methyl	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Molybdenum	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Nickel	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Phosphorus	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Potassium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Rubidium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Selenium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Silver	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Sodium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Strontium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Thallium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Tin	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Titanium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Uranium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Vanadium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Zinc	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00

Equation: X_e = RF x K x LS x C x P x CF1/CF2

Table B.37

Sediment Delivery Ratio
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Empirical Intercept Coefficient (a) (refer to table B.9) -	Total Watershed Area Receiving Deposition (A_L) (refer to table B.35) (m^2)	Empirical Slope Coefficient (b) (refer to table B.9) -	Watershed Sediment Delivery Ratio (SD) -
Particulate Matter				
Total Particulate Matter	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Particulate Matter (PM10)	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Particulate Matter (PM2.5)	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Metals				
Aluminum	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Antimony	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Arsenic	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Barium	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Beryllium	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Bismuth	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Boron	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Cadmium	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Calcium	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Chromium Total	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Cobalt	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Copper	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Iron	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Lead	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Lithium	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Magnesium	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Manganese	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Mercury, element	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Mercury, divalent	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Mercury, methyl	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Molybdenum	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Nickel	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Phosphorus	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Potassium	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Rubidium	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Selenium	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Silver	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Sodium	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Strontium	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Thallium	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Tin	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Titanium	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Uranium	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Vanadium	1.40E+00	9.22E+06	1.25E-01	1.89E-01
Zinc	1.40E+00	9.22E+06	1.25E-01	1.89E-01

Equation: $SD = a \times (A_L)^{-b}$

Table B.38

Erosion Load to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Unit Soil Loss (X_o) (refer to table B.36) (kg/m^2-yr)	Total Watershed Area Receiving Deposition (A_L) (refer to table B.35) (m^2)	Impervious Watershed Area (A_I) (refer to table B.35) (m^2)	Watershed Sediment Delivery Ratio (SD) (refer to table B.37) -	Soil Enrichment Ratio (ER) -	Predicted Soil Concentration: Construction (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration: Operations (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration: Reclamation (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration: Post-Closure (Cs) (refer to table B.16) (mg/kg)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	Soil Volumetric Water Content (θ_{sw}) (refer to table B.9) (ml/cm^3)	Soil-Water Partition Coefficient (Kds) (refer to table B.35) (cm^3/g)	Unit Conversion Factor (CF) ((g/kg)/(mg/kg))	Erosion Load to Water Body: Construction (L_E) (g/yr)	Erosion Load to Water Body: Operations (L_E) (g/yr)	Erosion Load to Water Body: Reclamation (L_E) (g/yr)	Erosion Load to Water Body: Post-Closure (L_E) (g/yr)
Particulate Matter																	
Total Particulate Matter	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Particulate Matter (PM10)	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Particulate Matter (PM2.5)	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Metals																	
Aluminum	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	1.56E+04	3.74E+04	4.26E+04	4.26E+04	1.50E+00	2.00E-01	1.50E+03	1.00E-03	4.94E+07	1.19E+08	1.35E+08	1.35E+08
Antimony	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E+00	2.00E-01	4.50E+01	1.00E-03	3.17E+03	3.17E+03	3.17E+03	3.17E+03
Arsenic	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	8.75E+00	9.08E+00	9.08E+00	9.08E+00	1.50E+00	2.00E-01	2.90E+01	1.00E-03	2.77E+04	2.87E+04	2.87E+04	2.87E+04
Barium	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	4.30E+01	4.30E+01	4.30E+01	4.30E+01	1.50E+00	2.00E-01	4.10E+01	1.00E-03	1.36E+05	1.36E+05	1.36E+05	1.36E+05
Beryllium	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	1.07E+00	1.37E+00	1.43E+00	1.43E+00	1.50E+00	2.00E-01	7.90E+02	1.00E-03	3.40E+03	4.34E+03	4.53E+03	4.53E+03
Bismuth	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Boron	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.50E+00	2.00E-01	3.00E+00	1.00E-03	7.60E+04	7.60E+04	7.60E+04	7.60E+04
Cadmium	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.50E+00	2.00E-01	7.50E+01	1.00E-03	4.76E+02	4.76E+02	4.76E+02	4.76E+02
Calcium	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Chromium Total	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	1.40E+01	1.40E+01	1.40E+01	1.40E+01	1.50E+00	2.00E-01	1.90E+01	1.00E-03	4.42E+04	4.42E+04	4.42E+04	4.42E+04
Cobalt	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	2.60E+00	2.60E+00	2.60E+00	2.60E+00	1.50E+00	2.00E-01	4.50E+01	1.00E-03	8.23E+03	8.23E+03	8.23E+03	8.23E+03
Copper	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	7.10E+00	7.10E+00	7.10E+00	7.10E+00	1.50E+00	2.00E-01	3.50E+01	1.00E-03	2.25E+04	2.25E+04	2.25E+04	2.25E+04
Iron	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	1.70E+04	1.70E+04	1.70E+04	1.70E+04	1.50E+00	2.00E-01	2.50E+01	1.00E-03	5.37E+07	5.37E+07	5.37E+07	5.37E+07
Lead	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	1.67E+01	1.99E+01	2.06E+01	2.06E+01	1.50E+00	2.00E-01	9.00E+02	1.00E-03	5.31E+04	6.33E+04	6.55E+04	6.55E+04
Lithium	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	1.09E+01	1.35E+01	1.38E+01	1.38E+01	1.50E+00	2.00E-01	3.00E+02	1.00E-03	3.46E+04	4.28E+04	4.38E+04	4.38E+04
Magnesium	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Manganese	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	9.90E+01	9.90E+01	9.90E+01	9.90E+01	1.50E+00	2.00E-01	6.50E+01	1.00E-03	3.14E+05	3.14E+05	3.14E+05	3.14E+05
Mercury, element	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	1.80E-01	1.80E-01	1.80E-01	1.80E-01	1.50E+00	2.00E-01	3.30E+03	1.00E-03	5.72E+02	5.72E+02	5.72E+02	5.72E+02
Mercury, divalent	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	6.31E-03	3.89E-02	4.72E-02	4.72E-02	1.50E+00	2.00E-01	3.30E+03	1.00E-03	2.00E+01	1.24E+02	1.50E+02	1.50E+02
Mercury, methyl	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	6.06E-08	6.06E-08	6.06E-08	6.06E-08	1.50E+00	2.00E-01	2.00E+01	1.00E-03	1.91E-04	1.91E-04	1.91E-04	1.91E-04
Molybdenum	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E+00	2.00E-01	2.00E+01	1.00E-03	3.16E+03	3.16E+03	3.16E+03	3.16E+03
Nickel	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	7.30E+00	7.30E+00	7.30E+00	7.30E+00	1.50E+00	2.00E-01	6.50E+01	1.00E-03	2.31E+04	2.31E+04	2.31E+04	2.31E+04
Phosphorus	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	2.00E+00	2.00E+00	2.00E+00	2.00E+00	1.50E+00	2.00E-01	3.50E+00	1.00E-03	6.13E+03	6.13E+03	6.13E+03	6.13E+03
Potassium	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.50E+00	2.00E-01	5.50E+00	1.00E-03	4.47E+05	4.47E+05	4.47E+05	4.47E+05
Rubidium	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Selenium	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	8.70E-01	8.70E-01	8.70E-01	8.70E-01	1.50E+00	2.00E-01	5.00E+00	1.00E-03	2.69E+03	2.69E+03	2.69E+03	2.69E+03
Silver	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.50E+00	2.00E-01	8.30E+00	1.00E-03	7.81E+02	7.81E+02	7.81E+02	7.81E+02
Sodium	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	7.20E+02	1.50E+03	1.51E+03	1.51E+03	1.50E+00	2.00E-01	1.00E+02	1.00E-03	2.28E+06	4.75E+06	4.80E+06	4.80E+06
Strontium	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	2.30E+01	2.30E+01	2.30E+01	2.30E+01	1.50E+00	2.00E-01	3.50E+01	1.00E-03	7.28E+04	7.28E+04	7.28E+04	7.28E+04
Thallium	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.50E+00	2.00E-01	7.10E+01	1.00E-03	1.59E+02	1.59E+02	1.59E+02	1.59E+02
Tin	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	5.23E-01	5.81E-01	5.87E-01	5.87E-01	1.50E+00	2.00E-01	2.50E+02	1.00E-03	1.66E+03	1.84E+03	1.86E+03	1.86E+03
Titanium	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	2.09E+02	1.15E+03	1.35E+03	1.35E+03	1.50E+00	2.00E-01	1.00E+03	1.00E-03	6.63E+05	3.64E+06	4.28E+06	4.28E+06
Uranium	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	6.70E-01	6.70E-01	6.70E-01	6.70E-01	1.50E+00	2.00E-01	4.50E+02	1.00E-03	2.13E+03	2.13E+03	2.13E+03	2.13E+03
Vanadium	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	2.55E+01	3.70E+01	3.94E+01	3.94E+01	1.50E+00	2.00E-01	1.00E+03	1.00E-03	8.11E+04	1.17E+05	1.25E+05	1.25E+05
Zinc	2.01E+00	9.22E+06	8.50E+05	1.89E-01	1.00E+00	2.00E+01	2.00E+01	2.00E+01	2.00E+01	1.50E+00	2.00E-01	6.20E+01	1.00E-03	6.34E+04	6.34E+04	6.34E+04	6.34E+04

Equation:

$$L_E = X_o \times (A_L - A_I) \times SD \times ER \times \frac{Cs \times Kds \times BD}{\theta_{sw} + Kds \times BD} \times CF$$

Table B.39

Total Water Body Load
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Total Wet & Dry Particle and Wet Vapor Direct Deposition to Water (L_{DEP}) (refer to table B.30) (g/yr)	Vapor Phase Diffusion to Water (L_{DIF}) (refer to table B.33) (g/yr)	Runoff Load Impervious Surfaces (L_{RI}) (refer to table B.34) (g/yr)	Runoff Load Pervious Surfaces Construction (L_R) (refer to table B.35) (g/yr)	Runoff Load Pervious Surfaces Operations (L_R) (refer to table B.35) (g/yr)	Runoff Load Pervious Surfaces Reclamation (L_R) (refer to table B.35) (g/yr)	Runoff Load Pervious Surfaces Post-Closure (L_R) (refer to table B.35) (g/yr)	Soil Erosion Load Construction (L_E) (refer to table B.38) (g/yr)	Soil Erosion Load Operations (L_E) (refer to table B.38) (g/yr)	Soil Erosion Load Reclamation (L_E) (refer to table B.38) (g/yr)	Soil Erosion Load Post-Closure (L_E) (refer to table B.38) (g/yr)	Total Load to Surface Water Construction (L_T) (g/yr)	Total Load to Surface Water Operations (L_T) (g/yr)	Total Load to Surface Water Reclamation (L_T) (g/yr)	Total Load to Surface Water Post-Closure (L_T) (g/yr)
Particulate Matter															
Total Particulate Matter	6.54E+08	0.00E+00	6.54E+08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.31E+09	1.31E+09	1.31E+09	1.31E+09
Particulate Matter (PM10)	8.07E+07	0.00E+00	8.07E+07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.61E+08	1.61E+08	1.61E+08	1.61E+08
Particulate Matter (PM2.5)	3.79E+05	0.00E+00	3.79E+05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.58E+05	7.58E+05	7.58E+05	7.58E+05
Metals															
Aluminum	6.54E+07	0.00E+00	6.54E+07	6.85E+07	1.65E+08	1.87E+08	1.87E+08	4.94E+07	1.19E+08	1.35E+08	1.35E+08	2.49E+08	4.15E+08	4.53E+08	4.53E+08
Antimony	1.96E+03	0.00E+00	1.96E+03	1.46E+05	1.46E+05	1.46E+05	1.46E+05	3.17E+03	3.17E+03	3.17E+03	3.17E+03	1.53E+05	1.53E+05	1.53E+05	1.53E+05
Arsenic	2.55E+05	0.00E+00	2.55E+05	1.99E+06	2.06E+06	2.06E+06	2.06E+06	2.77E+04	2.87E+04	2.87E+04	2.87E+04	2.52E+06	2.60E+06	2.60E+06	2.60E+06
Barium	5.30E+05	0.00E+00	5.30E+05	6.91E+06	6.91E+06	6.91E+06	6.91E+06	1.36E+05	1.36E+05	1.36E+05	1.36E+05	8.10E+06	8.10E+06	8.10E+06	8.10E+06
Beryllium	1.96E+03	0.00E+00	1.96E+03	8.95E+03	1.14E+04	1.19E+04	1.19E+04	3.40E+03	4.34E+03	4.53E+03	4.53E+03	1.63E+04	1.97E+04	2.04E+04	2.04E+04
Bismuth	2.16E+02	0.00E+00	2.16E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.32E+02	4.32E+02	4.32E+02	4.32E+02
Boron	1.64E+04	0.00E+00	1.64E+04	5.27E+07	5.27E+07	5.27E+07	5.27E+07	7.60E+04	7.60E+04	7.60E+04	7.60E+04	5.28E+07	5.28E+07	5.28E+07	5.28E+07
Cadmium	7.85E+01	0.00E+00	7.85E+01	1.32E+04	1.32E+04	1.32E+04	1.32E+04	4.76E+02	4.76E+02	4.76E+02	4.76E+02	1.38E+04	1.38E+04	1.38E+04	1.38E+04
Calcium	8.50E+06	0.00E+00	8.50E+06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.70E+07	1.70E+07	1.70E+07	1.70E+07
Chromium Total	7.26E+04	0.00E+00	7.26E+04	4.83E+06	4.83E+06	4.83E+06	4.83E+06	4.42E+04	4.42E+04	4.42E+04	4.42E+04	5.02E+06	5.02E+06	5.02E+06	5.02E+06
Cobalt	1.18E+04	0.00E+00	1.18E+04	3.81E+05	3.81E+05	3.81E+05	3.81E+05	8.23E+03	8.23E+03	8.23E+03	8.23E+03	4.12E+05	4.12E+05	4.12E+05	4.12E+05
Copper	2.42E+04	0.00E+00	2.42E+04	1.34E+06	1.34E+06	1.34E+06	1.34E+06	2.25E+04	2.25E+04	2.25E+04	2.25E+04	1.41E+06	1.41E+06	1.41E+06	1.41E+06
Iron	2.81E+07	0.00E+00	2.81E+07	4.47E+09	4.47E+09	4.47E+09	4.47E+09	5.37E+07	5.37E+07	5.37E+07	5.37E+07	4.58E+09	4.58E+09	4.58E+09	4.58E+09
Lead	2.42E+04	0.00E+00	2.42E+04	1.23E+05	1.46E+05	1.51E+05	1.51E+05	5.31E+04	6.33E+04	6.55E+04	6.55E+04	2.24E+05	2.58E+05	2.65E+05	2.65E+05
Lithium	3.99E+04	0.00E+00	3.99E+04	2.40E+05	2.97E+05	3.04E+05	3.04E+05	3.46E+04	4.28E+04	4.38E+04	4.38E+04	3.54E+05	4.19E+05	4.27E+05	4.27E+05
Magnesium	9.81E+06	0.00E+00	9.81E+06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.96E+07	1.96E+07	1.96E+07	1.96E+07
Manganese	6.02E+05	0.00E+00	6.02E+05	1.00E+07	1.00E+07	1.00E+07	1.00E+07	3.14E+05	3.14E+05	3.14E+05	3.14E+05	1.16E+07	1.16E+07	1.16E+07	1.16E+07
Mercury, element	1.69E+02	3.37E-04	1.69E+02	3.53E+02	3.53E+02	3.53E+02	3.53E+02	5.72E+02	5.72E+02	5.72E+02	5.72E+02	1.26E+03	1.26E+03	1.26E+03	1.26E+03
Mercury, divalent	0.00E+00	0.00E+00	0.00E+00	2.53E-01	1.56E+00	1.89E+00	1.89E+00	2.00E+01	1.24E+02	1.50E+02	1.50E+02	2.03E+01	1.25E+02	1.52E+02	1.52E+02
Mercury, methyl	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.91E-04	1.91E-04	1.91E-04	1.91E-04	1.91E-04	1.91E-04	1.91E-04	1.91E-04
Molybdenum	5.23E+02	0.00E+00	5.23E+02	3.28E+05	3.28E+05	3.28E+05	3.28E+05	3.16E+03	3.16E+03	3.16E+03	3.16E+03	3.32E+05	3.32E+05	3.32E+05	3.32E+05
Nickel	2.68E+04	0.00E+00	2.68E+04	7.41E+05	7.41E+05	7.41E+05	7.41E+05	2.31E+04	2.31E+04	2.31E+04	2.31E+04	8.17E+05	8.17E+05	8.17E+05	8.17E+05
Phosphorus	4.51E+05	0.00E+00	4.51E+05	3.64E+06	3.64E+06	3.64E+06	3.64E+06	6.13E+03	6.13E+03	6.13E+03	6.13E+03	4.55E+06	4.55E+06	4.55E+06	4.55E+06
Potassium	2.09E+07	0.00E+00	2.09E+07	1.69E+08	1.69E+08	1.69E+08	1.69E+08	4.47E+05	4.47E+05	4.47E+05	4.47E+05	2.11E+08	2.11E+08	2.11E+08	2.11E+08
Rubidium	3.90E+03	0.00E+00	3.90E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.81E+03	7.81E+03	7.81E+03	7.81E+03
Selenium	2.29E+02	0.00E+00	2.29E+02	1.12E+06	1.12E+06	1.12E+06	1.12E+06	2.69E+03	2.69E+03	2.69E+03	2.69E+03	1.12E+06	1.12E+06	1.12E+06	1.12E+06
Silver	3.27E+02	0.00E+00	3.27E+02	1.96E+05	1.96E+05	1.96E+05	1.96E+05	7.81E+02	7.81E+02	7.81E+02	7.81E+02	1.97E+05	1.97E+05	1.97E+05	1.97E+05
Sodium	1.24E+07	0.00E+00	1.24E+07	4.75E+07	9.88E+07	9.98E+07	9.98E+07	2.28E+06	4.75E+06	4.80E+06	4.80E+06	7.46E+07	1.28E+08	1.29E+08	1.29E+08
Strontium	1.37E+05	0.00E+00	1.37E+05	4.33E+06	4.33E+06	4.33E+06	4.33E+06	7.28E+04	7.28E+04	7.28E+04	7.28E+04	4.67E+06	4.67E+06	4.67E+06	4.67E+06
Thallium	5.17E+02	0.00E+00	5.17E+02	4.64E+03	4.64E+03	4.64E+03	4.64E+03	1.59E+02	1.59E+02	1.59E+02	1.59E+02	5.84E+03	5.84E+03	5.84E+03	5.84E+03
Tin	1.96E+03	0.00E+00	1.96E+03	1.38E+04	1.53E+04	1.55E+04	1.55E+04	1.66E+03	1.84E+03	1.86E+03	1.86E+03	1.94E+04	2.11E+04	2.13E+04	2.13E+04
Titanium	2.75E+06	0.00E+00	2.75E+06	1.38E+06	7.56E+06	8.91E+06	8.91E+06	6.63E+05	3.64E+06	4.28E+06	4.28E+06	7.53E+06	1.67E+07	1.87E+07	1.87E+07
Uranium	1.18E+03	0.00E+00	1.18E+03	9.83E+03	9.83E+03	9.83E+03	9.83E+03	2.13E+03	2.13E+03	2.13E+03	2.13E+03	1.43E+04	1.43E+04	1.43E+04	1.43E+04
Vanadium	5.23E+04	0.00E+00	5.23E+04	1.69E+05	2.44E+05	2.61E+05	2.61E+05	8.11E+04	1.17E+05	1.25E+05	1.25E+05	3.55E+05	4.66E+05	4.90E+05	4.90E+05
Zinc	7.19E+04	0.00E+00	7.19E+04	2.13E+06	2.13E+06	2.13E+06	2.13E+06	6.34E+04	6.34E+04	6.34E+04	6.34E+04	2.33E+06	2.33E+06	2.33E+06	2.33E+06

Equation: $L_T = L_{DEP} + L_{DIF} + L_{RI} + L_R + L_E$

Table B.40

Total Water Body (Surface Water and Bed Sediment) Predicted Concentrations
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Total Load to Surface Water				Average Volumetric Flow rate	Fraction Total Water Body Conc. in Water Column	Overall Total Water Body Dissipation Rate Constant	Water Body Surface Area	Depth of Water Column	Depth of Upper Benthic Sediment Layer	Total Water Body Predicted Concentrations Load to Surface Water & Sediment			
	Construction (L_T) (refer to table B.39)	Operations (L_T) (refer to table B.39)	Reclamation (L_T) (refer to table B.39)	Post-Closure (L_T) (refer to table B.39)	(Vf_x) (refer to table B.9)	(f_{wc}) (refer to table B.41)	k_{wt} (refer to table B.44)	(A_w) (refer to table B.30)	(d_{wc}) (refer to table B.9)	(d_{bs}) (refer to table B.9)	Construction (Cwb)	Operations (Cwb)	Reclamation (Cwb)	Post-Closure (Cwb)
Contaminant	(g/yr)	(g/yr)	(g/yr)	(g/yr)	(m^3/yr)	-	(1/yr)	(m^2)	(m)	(m)	(g/m^3 or mg/L)	(g/m^3 or mg/L)	(g/m^3 or mg/L)	(g/m^3 or mg/L)
Particulate Matter														
Total Particulate Matter	1.31E+09	1.31E+09	1.31E+09	1.31E+09	8.84E+06	0.00E+00	--	8.50E+05	2.40E+00	3.00E-02	--	--	--	--
Particulate Matter (PM10)	1.61E+08	1.61E+08	1.61E+08	1.61E+08	8.84E+06	0.00E+00	--	8.50E+05	2.40E+00	3.00E-02	--	--	--	--
Particulate Matter (PM2.5)	7.58E+05	7.58E+05	7.58E+05	7.58E+05	8.84E+06	0.00E+00	--	8.50E+05	2.40E+00	3.00E-02	--	--	--	--
Metals														
Aluminum	2.49E+08	4.15E+08	4.53E+08	4.53E+08	8.84E+06	5.13E-02	1.27E-01	8.50E+05	2.40E+00	3.00E-02	3.48E+02	5.79E+02	6.34E+02	6.34E+02
Antimony	1.53E+05	1.53E+05	1.53E+05	1.53E+05	8.84E+06	6.37E-01	4.85E-02	8.50E+05	2.40E+00	3.00E-02	2.68E-02	2.68E-02	2.68E-02	2.68E-02
Arsenic	2.52E+06	2.60E+06	2.60E+06	2.60E+06	8.84E+06	7.30E-01	3.61E-02	8.50E+05	2.40E+00	3.00E-02	3.87E-01	3.98E-01	3.98E-01	3.98E-01
Barium	8.10E+06	8.10E+06	8.10E+06	8.10E+06	8.84E+06	6.58E-01	4.57E-02	8.50E+05	2.40E+00	3.00E-02	1.37E+00	1.37E+00	1.37E+00	1.37E+00
Beryllium	1.63E+04	1.97E+04	2.04E+04	2.04E+04	8.84E+06	9.25E-02	1.21E-01	8.50E+05	2.40E+00	3.00E-02	1.52E-02	1.84E-02	1.91E-02	1.91E-02
Bismuth	4.32E+02	4.32E+02	4.32E+02	4.32E+02	8.84E+06	0.00E+00	--	8.50E+05	2.40E+00	3.00E-02	--	--	--	--
Boron	5.28E+07	5.28E+07	5.28E+07	5.28E+07	8.84E+06	9.57E-01	5.76E-03	8.50E+05	2.40E+00	3.00E-02	6.24E+00	6.24E+00	6.24E+00	6.24E+00
Cadmium	1.38E+04	1.38E+04	1.38E+04	1.38E+04	8.84E+06	5.14E-01	6.50E-02	8.50E+05	2.40E+00	3.00E-02	2.95E-03	2.95E-03	2.95E-03	2.95E-03
Calcium	1.70E+07	1.70E+07	1.70E+07	1.70E+07	8.84E+06	0.00E+00	--	8.50E+05	2.40E+00	3.00E-02	--	--	--	--
Chromium Total	5.02E+06	5.02E+06	5.02E+06	5.02E+06	8.84E+06	8.03E-01	2.63E-02	8.50E+05	2.40E+00	3.00E-02	7.02E-01	7.02E-01	7.02E-01	7.02E-01
Cobalt	8.10E+06	8.10E+06	8.10E+06	8.10E+06	8.84E+06	6.37E-01	4.85E-02	8.50E+05	2.40E+00	3.00E-02	1.41E+00	1.41E+00	1.41E+00	1.41E+00
Copper	1.63E+04	1.97E+04	2.04E+04	2.04E+04	8.84E+06	6.92E-01	4.12E-02	8.50E+05	2.40E+00	3.00E-02	2.62E-03	3.18E-03	3.29E-03	3.29E-03
Iron	4.58E+09	4.58E+09	4.58E+09	4.58E+09	8.84E+06	7.58E-01	3.24E-02	8.50E+05	2.40E+00	3.00E-02	6.77E+02	6.77E+02	6.77E+02	6.77E+02
Lead	2.24E+05	2.58E+05	2.65E+05	2.65E+05	8.84E+06	8.23E-02	1.23E-01	8.50E+05	2.40E+00	3.00E-02	2.29E-01	2.63E-01	2.71E-01	2.71E-01
Lithium	3.54E+05	4.19E+05	4.27E+05	4.27E+05	8.84E+06	2.11E-01	1.06E-01	8.50E+05	2.40E+00	3.00E-02	1.70E-01	2.02E-01	2.05E-01	2.05E-01
Magnesium	1.96E+07	1.96E+07	1.96E+07	1.96E+07	8.84E+06	0.00E+00	--	8.50E+05	2.40E+00	3.00E-02	--	--	--	--
Manganese	1.16E+07	1.16E+07	1.16E+07	1.16E+07	8.84E+06	5.50E-01	6.02E-02	8.50E+05	2.40E+00	3.00E-02	2.32E+00	2.32E+00	2.32E+00	2.32E+00
Mercury, element	1.26E+03	1.26E+03	1.26E+03	1.26E+03	8.84E+06	4.51E-03	2.47E-01	8.50E+05	2.40E+00	3.00E-02	2.30E-03	2.30E-03	2.30E-03	2.30E-03
Mercury, divalent	2.03E+01	1.25E+02	1.52E+02	1.52E+02	8.84E+06	4.51E-03	1.33E-01	8.50E+05	2.40E+00	3.00E-02	6.44E-05	3.97E-04	4.82E-04	4.82E-04
Mercury, methyl	1.91E-04	1.91E-04	1.91E-04	1.91E-04	8.84E+06	3.33E-01	1.23E+01	8.50E+05	2.40E+00	3.00E-02	6.72E-12	6.72E-12	6.72E-12	6.72E-12
Molybdenum	3.32E+05	3.32E+05	3.32E+05	3.32E+05	8.84E+06	7.95E-01	2.74E-02	8.50E+05	2.40E+00	3.00E-02	4.69E-02	4.69E-02	4.69E-02	4.69E-02
Nickel	8.17E+05	8.17E+05	8.17E+05	8.17E+05	8.84E+06	5.50E-01	6.02E-02	8.50E+05	2.40E+00	3.00E-02	1.64E-01	1.64E-01	1.64E-01	1.64E-01
Phosphorus	4.55E+06	4.55E+06	4.55E+06	4.55E+06	8.84E+06	9.51E-01	6.52E-03	8.50E+05	2.40E+00	3.00E-02	5.41E-01	5.41E-01	5.41E-01	5.41E-01
Potassium	2.11E+08	2.11E+08	2.11E+08	2.11E+08	8.84E+06	9.29E-01	9.47E-03	8.50E+05	2.40E+00	3.00E-02	2.57E+01	2.57E+01	2.57E+01	2.57E+01
Rubidium	7.81E+03	7.81E+03	7.81E+03	7.81E+03	8.84E+06	0.00E+00	--	8.50E+05	2.40E+00	3.00E-02	--	--	--	--
Selenium	1.12E+06	1.12E+06	1.12E+06	1.12E+06	8.84E+06	9.35E-01	8.75E-03	8.50E+05	2.40E+00	3.00E-02	1.36E-01	1.36E-01	1.36E-01	1.36E-01
Silver	1.97E+05	1.97E+05	1.97E+05	1.97E+05	8.84E+06	9.00E-01	1.34E-02	8.50E+05	2.40E+00	3.00E-02	2.47E-02	2.47E-02	2.47E-02	2.47E-02
Sodium	7.46E+07	1.28E+08	1.29E+08	1.29E+08	8.84E+06	4.43E-01	7.45E-02	8.50E+05	2.40E+00	3.00E-02	1.83E+01	3.15E+01	3.18E+01	3.18E+01
Strontium	4.67E+06	4.67E+06	4.67E+06	4.67E+06	8.84E+06	6.92E-01	4.12E-02	8.50E+05	2.40E+00	3.00E-02	7.54E-01	7.54E-01	7.54E-01	7.54E-01
Thallium	5.84E+03	5.84E+03	5.84E+03	5.84E+03	8.84E+06	5.28E-01	6.31E-02	8.50E+05	2.40E+00	3.00E-02	1.22E-03	1.22E-03	1.22E-03	1.22E-03
Tin	1.94E+04	2.11E+04	2.13E+04	2.13E+04	8.84E+06	2.42E-01	1.01E-01	8.50E+05	2.40E+00	3.00E-02	8.24E-03	8.98E-03	9.06E-03	9.06E-03
Titanium	7.53E+06	1.67E+07	1.87E+07	1.87E+07	8.84E+06	7.47E-02	1.24E-01	8.50E+05	2.40E+00	3.00E-02	8.23E+00	1.82E+01	2.04E+01	2.04E+01
Uranium	1.43E+04	1.43E+04	1.43E+04	1.43E+04	8.84E+06	1.51E-01	1.13E-01	8.50E+05	2.40E+00	3.00E-02	9.11E-03	9.11E-03	9.11E-03	9.11E-03
Vanadium	3.55E+05	4.66E+05	4.90E+05	4.90E+05	8.84E+06	7.47E-02	1.24E-01	8.50E+05	2.40E+00	3.00E-02	3.87E-01	5.09E-01	5.36E-01	5.36E-01
Zinc	2.33E+06	2.33E+06	2.33E+06	2.33E+06	8.84E+06	5.61E-01	5.87E-02	8.50E+05	2.40E+00	3.00E-02	4.59E-01	4.59E-01	4.59E-01	4.59E-01

Equation:

$$Cwb = \frac{L_T}{Vf_x \times f_{wc} + k_{wt} \times A_w \times (d_{wc} + d_{bs})}$$

Table B.41

Fraction in Water Column and in Benthic Sediment
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Suspended Sediments/ Surface Water Partition Coefficient (Kdsw) (refer to table B.10) (L/kg)	Total Suspended Solids Concentration (TSS) (refer to table B.9) (mg/L)	Unit Conversion Factor (CF) (kg/mg)	Depth of Water Column (d_{wc}) (refer to table B.9) (m)	Depth of Upper Benthic Sediment Layer (d_{bs}) (refer to table B.9) (m)	Total Water Body Depth (d_z) (m)	Bed Sediment Concentration (C_{BS}) (refer to table B.9) (kg/L)	Bed Sediment Porosity (θ_{bs}) (refer to table B.9) (L_{wat}/L_{sed})	Bed Sediments/ Sediment Pore Water Partition Coefficient (Kdbs) (refer to table B.10) (L/kg)	Fraction Total Water Body Conc. in Water Column (f_{wc}) -	Fraction Total Water Body Conc. in Benthic Sediment (f_{bs}) -
Particulate Matter											
Total Particulate Matter	--	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	--	--	--
Particulate Matter (PM10)	--	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	--	--	--
Particulate Matter (PM2.5)	--	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	--	--	--
Metals											
Aluminum	1.50E+03	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	1.50E+03	5.13E-02	9.49E-01
Antimony	4.50E+01	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	4.50E+01	6.37E-01	3.63E-01
Arsenic	2.90E+01	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	2.90E+01	7.30E-01	2.70E-01
Barium	4.10E+01	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	4.10E+01	6.58E-01	3.42E-01
Beryllium	7.90E+02	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	7.90E+02	9.25E-02	9.07E-01
Bismuth	--	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	--	--	--
Boron	3.00E+00	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	3.00E+00	9.57E-01	4.31E-02
Cadmium	7.50E+01	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	7.50E+01	5.14E-01	4.86E-01
Calcium	--	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	--	--	--
Chromium Total	1.90E+01	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	1.90E+01	8.03E-01	1.97E-01
Cobalt	4.50E+01	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	4.50E+01	6.37E-01	3.63E-01
Copper	3.50E+01	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	3.50E+01	6.92E-01	3.08E-01
Iron	2.50E+01	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	2.50E+01	7.58E-01	2.42E-01
Lead	9.00E+02	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	9.00E+02	8.23E-02	9.18E-01
Lithium	3.00E+02	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	3.00E+02	2.11E-01	7.89E-01
Magnesium	--	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	--	--	--
Manganese	6.50E+01	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	6.50E+01	5.50E-01	4.50E-01
Mercury, element	4.95E+04	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	2.64E+04	4.51E-03	9.95E-01
Mercury, divalent	4.95E+04	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	2.64E+04	4.51E-03	9.95E-01
Mercury, methyl	3.00E+02	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	1.60E+02	3.33E-01	6.67E-01
Molybdenum	2.00E+01	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	2.00E+01	7.95E-01	2.05E-01
Nickel	6.50E+01	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	6.50E+01	5.50E-01	4.50E-01
Phosphorus	3.50E+00	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	3.50E+00	9.51E-01	4.87E-02
Potassium	5.50E+00	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	5.50E+00	9.29E-01	7.08E-02
Rubidium	--	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	--	--	--
Selenium	5.00E+00	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	5.00E+00	9.35E-01	6.54E-02
Silver	8.30E+00	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	8.30E+00	9.00E-01	1.00E-01
Sodium	1.00E+02	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	1.00E+02	4.43E-01	5.57E-01
Strontium	3.50E+01	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	3.50E+01	6.92E-01	3.08E-01
Thallium	7.10E+01	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	7.10E+01	5.28E-01	4.72E-01
Tin	2.50E+02	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	2.50E+02	2.42E-01	7.58E-01
Titanium	1.00E+03	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	1.00E+03	7.47E-02	9.25E-01
Uranium	4.50E+02	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	4.50E+02	1.51E-01	8.49E-01
Vanadium	1.00E+03	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	1.00E+03	7.47E-02	9.25E-01
Zinc	6.20E+01	1.00E+01	1.00E-06	2.40E+00	3.00E-02	2.43E+00	1.00E+00	6.00E-01	6.20E+01	5.61E-01	4.39E-01

Equation: $f_{bs} = 1 - f_{wc}$ where: $f_{wc} = \dfrac{(1 + Kdsw \times TSS \times CF) \times d_{wc} / d_z}{(1 + Kdsw \times TSS \times CF) \times d_{wc}/d_z + (\theta_{bs} + Kdbs \times C_{BS}) \times d_{bs} / d_z}$

$d_z = d_{wc} + d_{bs}$

Table B.42

Water Column Volatilization Loss Rate Constant
Surface Water Direct Contact Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Overall Transfer Rate Coefficient (K_V) (refer to table B.32) (m/yr)	Total Water Body Depth (d_z) (refer to table B.41) (m)	Suspended Sediments/ Surface Water Partition Coefficient (Kdsw) (refer to table B.10) (L/kg)	Total Suspended Solids Concentration (TSS) (refer to table B.9) (mg/L)	Unit Conversion Factor (CF) (kg/mg)	Water Column Volatilization Rate Constant k_v (yr^{-1})
Particulate Matter						
Total Particulate Matter	--	2.43E+00	--	1.00E+01	1.00E-06	--
Particulate Matter (PM10)	--	2.43E+00	--	1.00E+01	1.00E-06	--
Particulate Matter (PM2.5)	--	2.43E+00	--	1.00E+01	1.00E-06	--
Metals						
Aluminum	--	2.43E+00	1.50E+03	1.00E+01	1.00E-06	--
Antimony	--	2.43E+00	4.50E+01	1.00E+01	1.00E-06	--
Arsenic	--	2.43E+00	2.90E+01	1.00E+01	1.00E-06	--
Barium	--	2.43E+00	4.10E+01	1.00E+01	1.00E-06	--
Beryllium	--	2.43E+00	7.90E+02	1.00E+01	1.00E-06	--
Bismuth	--	2.43E+00	--	1.00E+01	1.00E-06	--
Boron	--	2.43E+00	3.00E+00	1.00E+01	1.00E-06	--
Cadmium	--	2.43E+00	7.50E+01	1.00E+01	1.00E-06	--
Calcium	--	2.43E+00	--	1.00E+01	1.00E-06	--
Chromium Total	--	2.43E+00	1.90E+01	1.00E+01	1.00E-06	--
Cobalt	--	2.43E+00	4.50E+01	1.00E+01	1.00E-06	--
Copper	--	2.43E+00	3.50E+01	1.00E+01	1.00E-06	--
Iron	--	2.43E+00	2.50E+01	1.00E+01	1.00E-06	--
Lead	--	2.43E+00	9.00E+02	1.00E+01	1.00E-06	--
Lithium	--	2.43E+00	3.00E+02	1.00E+01	1.00E-06	--
Magnesium	--	2.43E+00	--	1.00E+01	1.00E-06	--
Manganese	--	2.43E+00	6.50E+01	1.00E+01	1.00E-06	--
Mercury, element	9.18E+01	2.43E+00	4.95E+04	1.00E+01	1.00E-06	2.53E+01
Mercury, divalent	3.53E-04	2.43E+00	4.95E+04	1.00E+01	1.00E-06	9.72E-05
Mercury, methyl	8.97E+01	2.43E+00	3.00E+02	1.00E+01	1.00E-06	3.68E+01
Molybdenum	--	2.43E+00	2.00E+01	1.00E+01	1.00E-06	--
Nickel	--	2.43E+00	6.50E+01	1.00E+01	1.00E-06	--
Phosphorus	--	2.43E+00	3.50E+00	1.00E+01	1.00E-06	--
Potassium	--	2.43E+00	5.50E+00	1.00E+01	1.00E-06	--
Rubidium	--	2.43E+00	--	1.00E+01	1.00E-06	--
Selenium	--	2.43E+00	5.00E+00	1.00E+01	1.00E-06	--
Silver	--	2.43E+00	8.30E+00	1.00E+01	1.00E-06	--
Sodium	--	2.43E+00	1.00E+02	1.00E+01	1.00E-06	--
Strontium	--	2.43E+00	3.50E+01	1.00E+01	1.00E-06	--
Thallium	--	2.43E+00	7.10E+01	1.00E+01	1.00E-06	--
Tin	--	2.43E+00	2.50E+02	1.00E+01	1.00E-06	--
Titanium	--	2.43E+00	1.00E+03	1.00E+01	1.00E-06	--
Uranium	--	2.43E+00	4.50E+02	1.00E+01	1.00E-06	--
Vanadium	--	2.43E+00	1.00E+03	1.00E+01	1.00E-06	--
Zinc	--	2.43E+00	6.20E+01	1.00E+01	1.00E-06	--

Equation:

$$k_v = \frac{K_v}{d_z \times (1 + Kdsw \times TSS \times CF)}$$

Table B.43

Benthic Burial Rate Constant
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Unit Soil Loss (X_e) (refer to table B.36) (kg/m^2-yr)	Total Watershed Area Receiving Deposition (A_L) (refer to table B.35) (m^2)	Watershed Sediment Delivery Ratio (SD) (refer to table B.37) -	Unit Conversion Factor (CF1) (g/kg)	Avg. Volumetric Flow Rate of Water Body (Vf_x) (refer to table B.9) (m^3/yr)	Total Suspended Solids Concentration (TSS) (refer to table B.9) (mg/L)	Water Body Surface Area (A_W) (refer to table B.33) (m^2)	Unit Conversion Factor (CF2) (kg/mg)	Bed Sediment Concentration (C_{BS}) (refer to table B.9) (g/cm^3)	Depth of Upper Benthic Sediment Layer (d_{bs}) (refer to table B.9) (m)	Benthic Burial Rate Constant (k_b) (yr^{-1})
Particulate Matter											
Total Particulate Matter	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Particulate Matter (PM10)	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Particulate Matter (PM2.5)	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Metals											
Aluminum	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Antimony	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Arsenic	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Barium	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Beryllium	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Bismuth	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Boron	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Cadmium	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Calcium	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Chromium Total	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Cobalt	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Copper	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Iron	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Lead	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Lithium	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Magnesium	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Manganese	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Mercury, element	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Mercury, divalent	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Mercury, methyl	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Molybdenum	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Nickel	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Phosphorus	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Potassium	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Rubidium	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Selenium	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Silver	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Sodium	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Strontium	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Thallium	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Tin	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Titanium	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Uranium	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Vanadium	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01
Zinc	2.01E+00	9.22E+06	1.89E-01	1.00E+03	8.84E+06	1.00E+01	8.50E+05	1.00E-06	1.00E+00	3.00E-02	1.34E-01

Equation:

$$k_b = \frac{(X_e \times A_L \times SD \times CF1 - Vf_x \times TSS)}{(A_w \times TSS)} \times \frac{(TSS \times CF2)}{(C_{BS} \times d_{bs})}$$

Table B.44

Overall Total Surface River Dissipation Rate Constant
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction Total Water Body Conc. in Water Column (f_{wc}) (refer to table B.41) -	Water Column Volatilization Rate Constant (k_v) (refer to table B.42) (yr^{-1})	Fraction Total Water Body Conc. in Benthic Sediment (f_{bs}) (refer to table B.41) -	Benthic Burial Rate Constant (k_b) (refer to table B.43) (yr^{-1})	Overall Total Water Body Dissipation Rate Constant (k_{wt}) (yr^{-1})
Particulate Matter					
Total Particulate Matter	--	--	--	1.34E-01	--
Particulate Matter (PM10)	--	--	--	1.34E-01	--
Particulate Matter (PM2.5)	--	--	--	1.34E-01	--
Metals					
Aluminum	5.13E-02	--	9.49E-01	1.34E-01	1.27E-01
Antimony	6.37E-01	--	3.63E-01	1.34E-01	4.85E-02
Arsenic	7.30E-01	--	2.70E-01	1.34E-01	3.61E-02
Barium	6.58E-01	--	3.42E-01	1.34E-01	4.57E-02
Beryllium	9.25E-02	--	9.07E-01	1.34E-01	1.21E-01
Bismuth	--	--	--	1.34E-01	--
Boron	9.57E-01	--	4.31E-02	1.34E-01	5.76E-03
Cadmium	5.14E-01	--	4.86E-01	1.34E-01	6.50E-02
Calcium	--	--	--	1.34E-01	--
Chromium Total	8.03E-01	--	1.97E-01	1.34E-01	2.63E-02
Cobalt	6.37E-01	--	3.63E-01	1.34E-01	4.85E-02
Copper	6.92E-01	--	3.08E-01	1.34E-01	4.12E-02
Iron	7.58E-01	--	2.42E-01	1.34E-01	3.24E-02
Lead	8.23E-02	--	9.18E-01	1.34E-01	1.23E-01
Lithium	2.11E-01	--	7.89E-01	1.34E-01	1.06E-01
Magnesium	--	--	--	1.34E-01	--
Manganese	5.50E-01	--	4.50E-01	1.34E-01	6.02E-02
Mercury, element	4.51E-03	2.53E+01	9.95E-01	1.34E-01	2.47E-01
Mercury, divalent	4.51E-03	9.72E-05	9.95E-01	1.34E-01	1.33E-01
Mercury, methyl	3.33E-01	3.68E+01	6.67E-01	1.34E-01	1.23E+01
Molybdenum	7.95E-01	--	2.05E-01	1.34E-01	2.74E-02
Nickel	5.50E-01	--	4.50E-01	1.34E-01	6.02E-02
Phosphorus	9.51E-01	--	4.87E-02	1.34E-01	6.52E-03
Potassium	9.29E-01	--	7.08E-02	1.34E-01	9.47E-03
Rubidium	--	--	--	1.34E-01	--
Selenium	9.35E-01	--	6.54E-02	1.34E-01	8.75E-03
Silver	9.00E-01	--	1.00E-01	1.34E-01	1.34E-02
Sodium	4.43E-01	--	5.57E-01	1.34E-01	7.45E-02
Strontium	6.92E-01	--	3.08E-01	1.34E-01	4.12E-02
Thallium	5.28E-01	--	4.72E-01	1.34E-01	6.31E-02
Tin	2.42E-01	--	7.58E-01	1.34E-01	1.01E-01
Titanium	7.47E-02	--	9.25E-01	1.34E-01	1.24E-01
Uranium	1.51E-01	--	8.49E-01	1.34E-01	1.13E-01
Vanadium	7.47E-02	--	9.25E-01	1.34E-01	1.24E-01
Zinc	5.61E-01	--	4.39E-01	1.34E-01	5.87E-02

Equation: $k_{wt} = f_{wc} \times k_v + f_{bs} \times k_b$

Table B.45

Total Surface Water Predicted Concentrations
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction Total Water Body Conc. in Water Column (f_{wc}) (refer to table B.41) -	Total Water Body Predicted Concentrations Load to Surface Water & Sediment: Construction (Cwb) (refer to table B.40) (mg/L)	Operations (Cwb) (refer to table B.40) (mg/L)	Reclamation (Cwb) (refer to table B.40) (mg/L)	Post-Closure (Cwb) (refer to table B.40) (mg/L)	Depth of Water Column (d_{wc}) (refer to table B.40) (m)	Depth of Upper Benthic Sediment Layer (d_{bs}) (refer to table B.40) (m)	Predicted Total Concentration in Surface Water: Construction (Cw) (1) (mg/L)	Operations (Cw) (1) (mg/L)	Reclamation (Cw) (1) (mg/L)	Post-Closure (Cw) (1) (mg/L)	Predicted Total Concentration in Surface Water (2): Construction (Cw) (2) (mg/L)	Operations (Cw) (2) (mg/L)	Reclamation (Cw) (2) (mg/L)	Post-Closure (Cw) (2) (mg/L)
Particulate Matter															
Total Particulate Matter	--	--	--	--	--	2.40E+00	3.00E-02	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	2.40E+00	3.00E-02	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	2.40E+00	3.00E-02	--	--	--	--	--	--	--	--
Metals															
Aluminum	5.13E-02	3.48E+02	5.79E+02	6.34E+02	6.34E+02	2.40E+00	3.00E-02	1.81E+01	3.01E+01	3.29E+01	3.29E+01	5.04E-01	2.08E-01	2.96E-01	4.00E-01
Antimony	6.37E-01	2.68E-02	2.68E-02	2.68E-02	2.68E-02	2.40E+00	3.00E-02	1.73E-02	1.73E-02	1.73E-02	1.73E-02	6.75E-04	4.51E-03	3.54E-03	2.26E-03
Arsenic	7.30E-01	3.87E-01	3.98E-01	3.98E-01	3.98E-01	2.40E+00	3.00E-02	2.86E-01	2.94E-01	2.94E-01	2.94E-01	6.18E-02	5.54E-02	5.54E-02	5.33E-02
Barium	6.58E-01	1.37E+00	1.37E+00	1.37E+00	1.37E+00	2.40E+00	3.00E-02	9.14E-01	9.14E-01	9.14E-01	9.14E-01	3.37E-03	7.17E-03	7.48E-03	6.12E-03
Beryllium	9.25E-02	1.52E-02	1.84E-02	1.91E-02	1.91E-02	2.40E+00	3.00E-02	1.43E-03	1.73E-03	1.79E-03	1.79E-03	6.75E-04	4.68E-04	5.17E-04	5.15E-04
Bismuth	--	--	--	--	--	2.40E+00	3.00E-02	--	--	--	--	--	--	--	--
Boron	9.57E-01	6.24E+00	6.24E+00	6.24E+00	6.24E+00	2.40E+00	3.00E-02	6.04E+00	6.04E+00	6.04E+00	6.04E+00	6.04E+00	6.04E+00	6.04E+00	6.04E+00
Cadmium	5.14E-01	2.95E-03	2.95E-03	2.95E-03	2.95E-03	2.40E+00	3.00E-02	1.54E-03	1.54E-03	1.54E-03	1.54E-03	3.72E-05	1.98E-05	2.53E-05	4.00E-05
Calcium	--	--	--	--	--	2.40E+00	3.00E-02	--	--	--	--	--	--	--	--
Chromium Total	8.03E-01	7.02E-01	7.02E-01	7.02E-01	7.02E-01	2.40E+00	3.00E-02	5.71E-01	5.71E-01	5.71E-01	5.71E-01	5.00E-04	8.66E-04	7.18E-04	9.28E-04
Cobalt	6.37E-01	1.41E+00	1.41E+00	1.41E+00	1.41E+00	2.40E+00	3.00E-02	9.12E-01	9.12E-01	9.12E-01	9.12E-01	3.05E-04	1.00E-03	1.00E-03	1.00E-03
Copper	6.92E-01	2.62E-03	3.18E-03	3.29E-03	3.29E-03	2.40E+00	3.00E-02	1.84E-03	2.23E-03	2.31E-03	2.31E-03	1.00E-03	1.99E-03	2.00E-03	1.01E-03
Iron	7.58E-01	6.77E+02	6.77E+02	6.77E+02	6.77E+02	2.40E+00	3.00E-02	5.19E+02	5.19E+02	5.19E+02	5.19E+02	6.98E-01	3.59E-01	4.99E-01	4.78E-01
Lead	8.23E-02	2.29E-01	2.63E-01	2.71E-01	2.71E-01	2.40E+00	3.00E-02	1.91E-02	2.19E-02	2.25E-02	2.25E-02	9.70E-04	8.18E-04	7.14E-04	1.00E-03
Lithium	2.11E-01	1.70E-01	2.02E-01	2.05E-01	2.05E-01	2.40E+00	3.00E-02	3.63E-02	4.30E-02	4.38E-02	4.38E-02	3.63E-02	4.30E-02	4.38E-02	4.38E-02
Magnesium	--	--	--	--	--	2.40E+00	3.00E-02	--	--	--	--	--	--	--	--
Manganese	5.50E-01	2.32E+00	2.32E+00	2.32E+00	2.32E+00	2.40E+00	3.00E-02	1.29E+00	1.29E+00	1.29E+00	1.29E+00	2.55E-02	7.75E-02	5.24E-02	1.28E-01
Mercury, element	4.51E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.40E+00	3.00E-02	1.05E-05	1.05E-05	1.05E-05	1.05E-05	1.03E-05	6.92E-06	7.59E-06	1.06E-05
Mercury, divalent	4.51E-03	6.44E-05	3.97E-04	4.82E-04	4.82E-04	2.40E+00	3.00E-02	2.94E-07	1.81E-06	2.20E-06	2.20E-06	2.94E-07	1.81E-06	2.20E-06	2.20E-06
Mercury, methyl	3.33E-01	6.72E-12	6.72E-12	6.72E-12	6.72E-12	2.40E+00	3.00E-02	2.27E-12	2.27E-12	2.27E-12	2.27E-12	2.27E-12	2.27E-12	2.27E-12	2.27E-12
Molybdenum	7.95E-01	4.69E-02	4.69E-02	4.69E-02	4.69E-02	2.40E+00	3.00E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
Nickel	5.50E-01	1.64E-01	1.64E-01	1.64E-01	1.64E-01	2.40E+00	3.00E-02	9.13E-02	9.13E-02	9.13E-02	9.13E-02	1.00E-03	1.46E-02	6.39E-03	1.18E-02
Phosphorus	9.51E-01	5.41E-01	5.41E-01	5.41E-01	5.41E-01	2.40E+00	3.00E-02	5.21E-01	5.21E-01	5.21E-01	5.21E-01	5.21E-01	5.21E-01	5.21E-01	5.21E-01
Potassium	9.29E-01	2.57E+01	2.57E+01	2.57E+01	2.57E+01	2.40E+00	3.00E-02	2.42E+01	2.42E+01	2.42E+01	2.42E+01	2.42E+01	2.42E+01	2.42E+01	2.42E+01
Rubidium	--	--	--	--	--	2.40E+00	3.00E-02	--	--	--	--	--	--	--	--
Selenium	9.35E-01	1.36E-01	1.36E-01	1.36E-01	1.36E-01	2.40E+00	3.00E-02	1.28E-01	1.28E-01	1.28E-01	1.28E-01	5.00E-04	4.95E-04	5.00E-04	6.06E-04
Silver	9.00E-01	2.47E-02	2.47E-02	2.47E-02	2.47E-02	2.40E+00	3.00E-02	2.25E-02	2.25E-02	2.25E-02	2.25E-02	5.00E-05	8.10E-05	7.64E-05	8.04E-05
Sodium	4.43E-01	1.83E+01	3.15E+01	3.18E+01	3.18E+01	2.40E+00	3.00E-02	8.23E+00	1.42E+01	1.43E+01	1.43E+01	8.23E+00	1.42E+01	1.43E+01	1.43E+01
Strontium	6.92E-01	7.54E-01	7.54E-01	7.54E-01	7.54E-01	2.40E+00	3.00E-02	5.28E-01	5.28E-01	5.28E-01	5.28E-01	5.28E-01	5.28E-01	5.28E-01	5.28E-01
Thallium	5.28E-01	1.22E-03	1.22E-03	1.22E-03	1.22E-03	2.40E+00	3.00E-02	6.51E-04	6.51E-04	6.51E-04	6.51E-04	5.00E-05	7.47E-05	7.11E-05	9.14E-05
Tin	2.42E-01	8.24E-03	8.98E-03	9.06E-03	9.06E-03	2.40E+00	3.00E-02	2.02E-03	2.20E-03	2.22E-03	2.22E-03	2.02E-03	2.20E-03	2.22E-03	2.22E-03
Titanium	7.47E-02	8.23E+00	1.82E+01	2.04E+01	2.04E+01	2.40E+00	3.00E-02	6.22E-01	1.38E+00	1.54E+00	1.54E+00	6.22E-01	1.38E+00	1.54E+00	1.54E+00
Uranium	1.51E-01	9.11E-03	9.11E-03	9.11E-03	9.11E-03	2.40E+00	3.00E-02	1.40E-03	1.40E-03	1.40E-03	1.40E-03	6.75E-05	9.77E-04	9.26E-04	5.97E-04
Vanadium	7.47E-02	3.87E-01	5.09E-01	5.36E-01	5.36E-01	2.40E+00	3.00E-02	2.93E-02	3.85E-02	4.05E-02	4.05E-02	1.00E-03	2.16E-03	1.56E-03	2.14E-03
Zinc	5.61E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	2.40E+00	3.00E-02	2.61E-01	2.61E-01	2.61E-01	2.61E-01	1.18E-02	6.90E-03	6.86E-03	8.11E-03

Notes:
(1) Equation: $Cw = f_{wc} \times Cwb \times [(d_{wc} + d_{bs})/d_{wc}]$

(2) Refer to table B.8. For COPCs without values in table B.8, results reported are from the previous equation.

Table B.46

Predicted Dissolved Phase Surface Water Concentrations
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Total Concentration in Surface Water using GoldSIM software: Construction (Cw) (refer to table B.45) (mg/L)	Operations (Cw) (refer to table B.45) (mg/L)	Reclamation (Cw) (refer to table B.45) (mg/L)	Post-Closure (Cw) (refer to table B.45) (mg/L)	Suspended Sediments/ Surface Water Partition Coefficient (Kdsw) (refer to table B.41) (L/kg)	Total Suspended Solids Concentration (TSS) (refer to table B.41) (mg/L)	Unit Conversion Factor (CF) (kg/mg)	Dissolved Surface Water Predicted Concentration: Construction (Cdw) (mg/L)	Operations (Cdw) (mg/L)	Reclamation (Cdw) (mg/L)	Post-Closure (Cdw) (mg/L)
Particulate Matter											
Total Particulate Matter	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Metals											
Aluminum	5.04E-01	2.08E-01	2.96E-01	4.00E-01	1.50E+03	1.00E+01	1.00E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Antimony	6.75E-04	4.51E-03	3.54E-03	2.26E-03	4.50E+01	1.00E+01	1.00E-06	6.75E-04	4.51E-03	3.53E-03	2.26E-03
Arsenic	6.18E-02	5.54E-02	5.54E-02	5.33E-02	2.90E+01	1.00E+01	1.00E-06	6.18E-02	5.54E-02	5.54E-02	5.32E-02
Barium	3.37E-03	7.17E-03	7.48E-03	6.12E-03	4.10E+01	1.00E+01	1.00E-06	3.37E-03	7.17E-03	7.47E-03	6.12E-03
Beryllium	6.75E-04	4.68E-04	5.17E-04	5.15E-04	7.90E+02	1.00E+01	1.00E-06	6.70E-04	4.64E-04	5.13E-04	5.11E-04
Bismuth	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Boron	6.04E+00	6.04E+00	6.04E+00	6.04E+00	3.00E+00	1.00E+01	1.00E-06	6.04E+00	6.04E+00	6.04E+00	6.04E+00
Cadmium	3.72E-05	1.98E-05	2.53E-05	4.00E-05	7.50E+01	1.00E+01	1.00E-06	3.72E-05	1.98E-05	2.52E-05	4.00E-05
Calcium	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Chromium Total	5.00E-04	8.66E-04	7.18E-04	9.28E-04	1.90E+01	1.00E+01	1.00E-06	5.00E-04	8.66E-04	7.18E-04	9.28E-04
Cobalt	3.05E-04	1.00E-03	1.00E-03	1.00E-03	4.50E+01	1.00E+01	1.00E-06	3.05E-04	1.00E-03	1.00E-03	1.00E-03
Copper	1.00E-03	1.99E-03	2.00E-03	1.01E-03	3.50E+01	1.00E+01	1.00E-06	1.00E-03	1.99E-03	2.00E-03	1.01E-03
Iron	6.98E-01	3.59E-01	4.99E-01	4.78E-01	2.50E+01	1.00E+01	1.00E-06	6.98E-01	3.59E-01	4.99E-01	4.78E-01
Lead	9.70E-04	8.18E-04	7.14E-04	1.00E-03	9.00E+02	1.00E+01	1.00E-06	9.61E-04	8.11E-04	7.07E-04	9.91E-04
Lithium	3.63E-02	4.30E-02	4.38E-02	4.38E-02	3.00E+02	1.00E+01	1.00E-06	3.62E-02	4.29E-02	4.37E-02	4.37E-02
Magnesium	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Manganese	2.55E-02	7.75E-02	5.24E-02	1.28E-01	6.50E+01	1.00E+01	1.00E-06	2.55E-02	7.74E-02	5.24E-02	1.28E-01
Mercury, element	1.03E-05	6.92E-06	7.59E-06	1.06E-05	4.95E+04	1.00E+01	1.00E-06	6.91E-06	4.63E-06	5.07E-06	7.07E-06
Mercury, divalent	2.94E-07	1.81E-06	2.20E-06	2.20E-06	4.95E+04	1.00E+01	1.00E-06	1.97E-07	1.21E-06	1.47E-06	1.47E-06
Mercury, methyl	2.27E-12	2.27E-12	2.27E-12	2.27E-12	3.00E+02	1.00E+01	1.00E-06	2.26E-12	2.26E-12	2.26E-12	2.26E-12
Molybdenum	3.78E-02	3.78E-02	3.78E-02	3.78E-02	2.00E+01	1.00E+01	1.00E-06	3.78E-02	3.78E-02	3.78E-02	3.78E-02
Nickel	1.00E-03	1.46E-02	6.39E-03	1.18E-02	6.50E+01	1.00E+01	1.00E-06	9.99E-04	1.46E-02	6.39E-03	1.17E-02
Phosphorus	5.21E-01	5.21E-01	5.21E-01	5.21E-01	3.50E+00	1.00E+01	1.00E-06	5.21E-01	5.21E-01	5.21E-01	5.21E-01
Potassium	2.42E+01	2.42E+01	2.42E+01	2.42E+01	5.50E+00	1.00E+01	1.00E-06	2.42E+01	2.42E+01	2.42E+01	2.42E+01
Rubidium	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Selenium	5.00E-04	4.95E-04	5.00E-04	6.06E-04	5.00E+00	1.00E+01	1.00E-06	5.00E-04	4.95E-04	5.00E-04	6.06E-04
Silver	5.00E-05	8.10E-05	7.64E-05	8.04E-05	8.30E+00	1.00E+01	1.00E-06	5.00E-05	8.10E-05	7.64E-05	8.03E-05
Sodium	8.23E+00	1.42E+01	1.43E+01	1.43E+01	1.00E+02	1.00E+01	1.00E-06	8.22E+00	1.41E+01	1.43E+01	1.43E+01
Strontium	5.28E-01	5.28E-01	5.28E-01	5.28E-01	3.50E+01	1.00E+01	1.00E-06	5.28E-01	5.28E-01	5.28E-01	5.28E-01
Thallium	5.00E-05	7.47E-05	7.11E-05	9.14E-05	7.10E+01	1.00E+01	1.00E-06	5.00E-05	7.47E-05	7.11E-05	9.14E-05
Tin	2.02E-03	2.20E-03	2.22E-03	2.22E-03	2.50E+02	1.00E+01	1.00E-06	2.02E-03	2.20E-03	2.22E-03	2.22E-03
Titanium	6.22E-01	1.38E+00	1.54E+00	1.54E+00	1.00E+03	1.00E+01	1.00E-06	6.16E-01	1.37E+00	1.53E+00	1.53E+00
Uranium	6.75E-05	9.77E-04	9.26E-04	5.97E-04	4.50E+02	1.00E+01	1.00E-06	6.72E-05	9.73E-04	9.22E-04	5.94E-04
Vanadium	1.00E-03	2.16E-03	1.56E-03	2.14E-03	1.00E+03	1.00E+01	1.00E-06	9.90E-04	2.14E-03	1.55E-03	2.12E-03
Zinc	1.18E-02	6.90E-03	6.86E-03	8.11E-03	6.20E+01	1.00E+01	1.00E-06	1.18E-02	6.90E-03	6.85E-03	8.10E-03

Equation:

$$Cdw = \frac{Cw}{1 + Kd_{sw} \times TSS \times CF} \times Hg_{factor}$$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.968), and methylmercury (0.032)

Table B.47

Predicted Sediment Concentrations
Sediment Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction Total Water Body Conc. in Benthic Sediment: Construction (f_{bs}) (refer to table B.41) -	Total Water Body Concentration Load to River Water & Sediment: Construction (Cwb) (refer to table B.40) (mg/L)	Operations (Cwb) (refer to table B.40) (mg/L)	Reclamation (Cwb) (refer to table B.40) (mg/L)	Post-Closure (Cwb) (refer to table B.40) (mg/L)	Bed Sediments/ Sediment Pore Water Partition Coefficient (Kdbs) (refer to table B.41) (L/kg)	Bed Sediment Porosity (θ_{bs}) (refer to table B.41) (L_{wat}/L_{sed})	Bed Sediment Concentration (C_{BS}) (refer to table B.41) (g/cm^3)	Depth of Water Column (d_{wc}) (refer to table B.40) (m)	Depth of Upper Benthic Sediment Layer (d_{bs}) (refer to table B.40) (m)	Baseline Sediment Concentration (Csed) (refer to table B.1) (mg/kg)	Predicted Sediment Concentration: Construction (Csed) (mg/kg)	Operations (Csed) (mg/kg)	Reclamation (Csed) (mg/kg)	Post-Closure (Csed) (mg/kg)
Particulate Matter															
Total Particulate Matter	--	--	--	--	--	--	6.00E-01	1.00E+00	2.40E+00	3.00E-02	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	6.00E-01	1.00E+00	2.40E+00	3.00E-02	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	6.00E-01	1.00E+00	2.40E+00	3.00E-02	--	--	--	--	--
Metals															
Aluminum	9.49E-01	3.48E+02	5.79E+02	6.34E+02	6.34E+02	1.50E+03	6.00E-01	1.00E+00	2.40E+00	3.00E-02	9.80E+03	2.67E+04	4.45E+04	4.87E+04	4.87E+04
Antimony	3.63E-01	2.68E-02	2.68E-02	2.68E-02	2.68E-02	4.50E+01	6.00E-01	1.00E+00	2.40E+00	3.00E-02	5.30E+00	5.30E+00	5.30E+00	5.30E+00	5.30E+00
Arsenic	2.70E-01	3.87E-01	3.98E-01	3.98E-01	3.98E-01	2.90E+01	6.00E-01	1.00E+00	2.40E+00	3.00E-02	1.50E+04	1.50E+04	1.50E+04	1.50E+04	1.50E+04
Barium	3.42E-01	1.37E+00	1.37E+00	1.37E+00	1.37E+00	4.10E+01	6.00E-01	1.00E+00	2.40E+00	3.00E-02	7.10E+01	7.10E+01	7.10E+01	7.10E+01	7.10E+01
Beryllium	9.07E-01	1.52E-02	1.84E-02	1.91E-02	1.91E-02	7.90E+02	6.00E-01	1.00E+00	2.40E+00	3.00E-02	1.00E+00	1.12E+00	1.35E+00	1.40E+00	1.40E+00
Bismuth	--	--	--	--	--	--	6.00E-01	1.00E+00	2.40E+00	3.00E-02	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Boron	4.31E-02	6.24E+00	6.24E+00	6.24E+00	6.24E+00	3.00E+00	6.00E-01	1.00E+00	2.40E+00	3.00E-02	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.50E+01
Cadmium	4.86E-01	2.95E-03	2.95E-03	2.95E-03	2.95E-03	7.50E+01	6.00E-01	1.00E+00	2.40E+00	3.00E-02	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.50E-01
Calcium	--	--	--	--	--	--	6.00E-01	1.00E+00	2.40E+00	3.00E-02	--	--	--	--	--
Chromium Total	1.97E-01	7.02E-01	7.02E-01	7.02E-01	7.02E-01	1.90E+01	6.00E-01	1.00E+00	2.40E+00	3.00E-02	1.60E+01	1.60E+01	1.60E+01	1.60E+01	1.60E+01
Cobalt	3.63E-01	1.41E+00	1.41E+00	1.41E+00	1.41E+00	4.50E+01	6.00E-01	1.00E+00	2.40E+00	3.00E-02	4.10E+00	4.10E+01	4.10E+01	4.10E+01	4.10E+01
Copper	3.08E-01	2.62E-03	3.18E-03	3.29E-03	3.29E-03	3.50E+01	6.00E-01	1.00E+00	2.40E+00	3.00E-02	1.50E+01	1.50E+01	1.50E+01	1.50E+01	1.50E+01
Iron	2.42E-01	6.77E+02	6.77E+02	6.77E+02	6.77E+02	2.50E+01	6.00E-01	1.00E+00	2.40E+00	3.00E-02	3.70E+04	3.70E+04	3.70E+04	3.70E+04	3.70E+04
Lead	9.18E-01	2.29E-01	2.63E-01	2.71E-01	2.71E-01	9.00E+02	6.00E-01	1.00E+00	2.40E+00	3.00E-02	4.90E+01	4.90E+01	4.90E+01	4.90E+01	4.90E+01
Lithium	7.89E-01	1.70E-01	2.02E-01	2.05E-01	2.05E-01	3.00E+02	6.00E-01	1.00E+00	2.40E+00	3.00E-02	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01
Magnesium	--	--	--	--	--	--	6.00E-01	1.00E+00	2.40E+00	3.00E-02	--	--	--	--	--
Manganese	4.50E-01	2.32E+00	2.32E+00	2.32E+00	2.32E+00	6.50E+01	6.00E-01	1.00E+00	2.40E+00	3.00E-02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02
Mercury, element	9.95E-01	2.30E-03	2.30E-03	2.30E-03	2.30E-03	2.64E+04	6.00E-01	1.00E+00	2.40E+00	3.00E-02	2.70E+00	2.70E+00	2.70E+00	2.70E+00	2.70E+00
Mercury, divalent	9.95E-01	6.44E-05	3.97E-04	4.82E-04	4.82E-04	2.64E+04	6.00E-01	1.00E+00	2.40E+00	3.00E-02	--	5.20E-03	3.20E-02	3.89E-02	3.89E-02
Mercury, methyl	6.67E-01	6.72E-12	6.72E-12	6.72E-12	6.72E-12	1.60E+02	6.00E-01	1.00E+00	2.40E+00	3.00E-02	--	3.62E-10	3.62E-10	3.62E-10	3.62E-10
Molybdenum	2.05E-01	4.69E-02	4.69E-02	4.69E-02	4.69E-02	2.00E+01	6.00E-01	1.00E+00	2.40E+00	3.00E-02	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Nickel	4.50E-01	1.64E-01	1.64E-01	1.64E-01	1.64E-01	6.50E+01	6.00E-01	1.00E+00	2.40E+00	3.00E-02	1.30E+01	1.30E+01	1.30E+01	1.30E+01	1.30E+01
Phosphorus	4.87E-02	5.41E-01	5.41E-01	5.41E-01	5.41E-01	3.50E+00	6.00E-01	1.00E+00	2.40E+00	3.00E-02	--	1.82E+00	1.82E+00	1.82E+00	1.82E+00
Potassium	7.08E-02	2.57E+01	2.57E+01	2.57E+01	2.57E+01	5.50E+00	6.00E-01	1.00E+00	2.40E+00	3.00E-02	--	1.33E+02	1.33E+02	1.33E+02	1.33E+02
Rubidium	--	--	--	--	--	--	6.00E-01	1.00E+00	2.40E+00	3.00E-02	2.10E+01	2.10E+01	2.10E+01	2.10E+01	2.10E+01
Selenium	6.54E-02	1.36E-01	1.36E-01	1.36E-01	1.36E-01	5.00E+00	6.00E-01	1.00E+00	2.40E+00	3.00E-02	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
Silver	1.00E-01	2.47E-02	2.47E-02	2.47E-02	2.47E-02	8.30E+00	6.00E-01	1.00E+00	2.40E+00	3.00E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Sodium	5.57E-01	1.83E+01	3.15E+01	3.18E+01	3.18E+01	1.00E+02	6.00E-01	1.00E+00	2.40E+00	3.00E-02	--	8.22E+02	1.41E+03	1.43E+03	1.43E+03
Strontium	3.08E-01	7.54E-01	7.54E-01	7.54E-01	7.54E-01	3.50E+01	6.00E-01	1.00E+00	2.40E+00	3.00E-02	1.30E+01	1.85E+01	1.85E+01	1.85E+01	1.85E+01
Thallium	4.72E-01	1.22E-03	1.22E-03	1.22E-03	1.22E-03	7.10E+01	6.00E-01	1.00E+00	2.40E+00	3.00E-02	1.70E-01	1.70E-01	1.70E-01	1.70E-01	1.70E-01
Tin	7.58E-01	8.24E-03	8.98E-03	9.06E-03	9.06E-03	2.50E+02	6.00E-01	1.00E+00	2.40E+00	3.00E-02	5.00E-01	5.05E-01	5.50E-01	5.54E-01	5.54E-01
Titanium	9.25E-01	8.23E+00	1.82E+01	2.04E+01	2.04E+01	1.00E+03	6.00E-01	1.00E+00	2.40E+00	3.00E-02	--	6.16E+02	1.37E+03	1.53E+03	1.53E+03
Uranium	8.49E-01	9.11E-03	9.11E-03	9.11E-03	9.11E-03	4.50E+02	6.00E-01	1.00E+00	2.40E+00	3.00E-02	6.00E-01	6.25E-01	6.25E-01	6.25E-01	6.25E-01
Vanadium	9.25E-01	3.87E-01	5.09E-01	5.36E-01	5.36E-01	1.00E+03	6.00E-01	1.00E+00	2.40E+00	3.00E-02	1.80E+01	2.90E+01	3.81E+01	4.01E+01	4.01E+01
Zinc	4.39E-01	4.59E-01	4.59E-01	4.59E-01	4.59E-01	6.20E+01	6.00E-01	1.00E+00	2.40E+00	3.00E-02	3.90E+01	3.90E+01	3.90E+01	3.90E+01	3.90E+01

Equation:

$$Csed = f_{bs} \times Cwb \times \frac{Kdbs}{\theta_{bs} + Kdbs \times C_{BS}} \times \frac{d_{wc} + d_{bs}}{d_{bs}}$$

Table B.48

Predicted Fish Concentrations from Bioconcentration Factors using Dissolved Phase Water Concentrations
Fish Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Dissolved Water Predicted Concentration				Sediment Predicted Concentration							Baseline Fish Concentration		Predicted Fish Whole Body Concentration				Predicted Fish Fillet Concentration			
	Construction (Cdw)	Operations (Cdw)	Reclamation (Cdw)	Post-Closure (Cdw)	Construction (Csed)	Operations (Csed)	Reclamation (Csed)	Post-Closure (Csed)	Bioconcentration Factor (BCF)	Bioaccumulation Factor (BAF)	Fraction of Organic Carbon in Bottom Sediment (OC_{sed})	Fillets (Cff)	Remains (Cfr)	Construction (Cfw)	Operations (Cfw)	Reclamation (Cfw)	Post-Closure (Cfw)	Construction (Cff)	Operations (Cff)	Reclamation (Cff)	Post-Closure (Cff)
	(refer to table B.46)	(refer to table B.46)	(refer to table B.46)	(refer to table B.46)	(refer to table B.47)	(refer to table B.47)	(refer to table B.47)	(refer to table B.47)	(refer to table B.10)	(refer to table B.10)	(refer to table B.9)	(refer to table B.1)	(refer to table B.1)								
Contaminant	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(L/kg)	(L/kg)	-	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)
Particulate Matter																					
Total Particulate Matter	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Metals																					
Aluminum	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.67E+04	4.45E+04	4.87E+04	4.87E+04	5.00E+02	--	7.00E-02	1.30E+00	2.60E+00	2.60E+00	2.60E+00	2.60E+00	2.60E+00	1.30E+00	1.30E+00	1.30E+00	1.30E+00
Antimony	6.75E-04	4.51E-03	3.53E-03	2.26E-03	5.30E+00	5.30E+00	5.30E+00	5.30E+00	4.00E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Arsenic	6.18E-02	5.54E-02	5.54E-02	5.32E-02	1.50E+04	1.50E+04	1.50E+04	1.50E+04	1.14E+02	--	7.00E-02	2.50E-01	5.30E-01	7.04E+00	6.31E+00	6.31E+00	6.07E+00	7.04E+00	6.31E+00	6.31E+00	6.07E+00
Barium	3.37E-03	7.17E-03	7.47E-03	6.12E-03	7.10E+01	7.10E+01	7.10E+01	7.10E+01	6.33E+02	--	7.00E-02	7.50E-01	2.50E+00	2.50E+00	4.54E+00	4.73E+00	3.87E+00	2.13E+00	4.54E+00	4.73E+00	3.87E+00
Beryllium	6.70E-04	4.64E-04	5.13E-04	5.11E-04	1.12E+00	1.35E+00	1.40E+00	1.40E+00	6.20E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Bismuth	--	--	--	--	1.00E+00	1.00E+00	1.00E+00	1.00E+00	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Boron	6.04E+00	6.04E+00	6.04E+00	6.04E+00	2.50E+01	2.50E+01	2.50E+01	2.50E+01	--	--	7.00E-02	7.50E-01	7.50E-01	--	--	--	--	--	--	--	--
Cadmium	3.72E-05	1.98E-05	2.52E-05	4.00E-05	1.50E-01	1.50E-01	1.50E-01	1.50E-01	9.07E+02	--	7.00E-02	2.50E-02	2.50E-02	3.37E-02	2.50E-02	2.50E-02	3.63E-02	3.37E-02	2.50E-02	2.50E-02	3.63E-02
Calcium	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Chromium Total	5.00E-04	8.66E-04	7.18E-04	9.28E-04	1.60E+01	1.60E+01	1.60E+01	1.60E+01	1.90E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Cobalt	3.05E-04	1.00E-03	1.00E-03	1.00E-03	4.10E+01	4.10E+01	4.10E+01	4.10E+01	3.00E+02	--	7.00E-02	1.00E-01	1.00E-01	1.00E-01	3.00E-01	3.00E-01	3.00E-01	1.00E-01	3.00E-01	3.00E-01	3.00E-01
Copper	1.00E-03	1.99E-03	2.00E-03	1.01E-03	1.50E+01	1.50E+01	1.50E+01	1.50E+01	2.00E+02	--	7.00E-02	2.50E-01	1.30E+00	1.30E+00	1.30E+00	1.30E+00	1.30E+00	2.50E-01	3.98E-01	4.00E-01	2.50E-01
Iron	6.98E-01	3.59E-01	4.99E-01	4.78E-01	3.70E+04	3.70E+04	3.70E+04	3.70E+04	2.00E+02	--	7.00E-02	7.50E+00	2.50E+01	1.40E+02	7.18E+01	9.98E+01	9.55E+01	1.40E+02	7.18E+01	9.98E+01	9.55E+01
Lead	9.61E-04	8.11E-04	7.07E-04	9.91E-04	4.90E+01	4.90E+01	4.90E+01	4.90E+01	9.00E-02	--	7.00E-02	9.00E-02	2.20E-01	2.20E-01	2.20E-01	2.20E-01	2.20E-01	9.00E-02	9.00E-02	9.00E-02	9.00E-02
Lithium	3.62E-02	4.29E-02	4.37E-02	4.37E-02	1.70E+01	1.70E+01	1.70E+01	1.70E+01	--	--	7.00E-02	2.50E-01	2.50E-01	--	--	--	--	--	--	--	--
Magnesium	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Manganese	2.55E-02	7.74E-02	5.24E-02	1.28E-01	2.10E+02	2.10E+02	2.10E+02	2.10E+02	4.00E+02	--	7.00E-02	3.10E+00	6.40E+00	1.02E+01	3.10E+01	2.10E+01	5.12E+01	1.02E+01	3.10E+01	2.10E+01	5.12E+01
Mercury, element	6.91E-06	4.63E-06	5.07E-06	7.07E-06	2.70E+00	2.70E+00	2.70E+00	2.70E+00	--	0.00E+00	7.00E-02	2.50E-03	1.40E+00	1.40E+00	1.40E+00	1.40E+00	1.40E+00	2.50E-03	2.50E-03	2.50E-03	2.50E-03
Mercury, divalent	1.97E-07	1.21E-06	1.47E-06	1.47E-06	5.20E-03	3.20E-02	3.89E-02	3.89E-02	--	1.00E+00	7.00E-02	--	--	1.97E-07	1.21E-06	1.47E-06	1.47E-06	1.97E-07	1.21E-06	1.47E-06	1.47E-06
Mercury, methyl	2.26E-12	2.26E-12	2.26E-12	2.26E-12	3.62E-10	3.62E-10	3.62E-10	3.62E-10	--	6.80E+06	7.00E-02	--	--	1.54E-05	1.54E-05	1.54E-05	1.54E-05	1.54E-05	1.54E-05	1.54E-05	1.54E-05
Molybdenum	3.78E-02	3.78E-02	3.78E-02	3.78E-02	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+01	--	7.00E-02	2.50E-01	2.50E-01	3.78E-01	3.78E-01	3.78E-01	3.78E-01	3.78E-01	3.78E-01	3.78E-01	3.78E-01
Nickel	9.99E-04	1.46E-02	6.39E-03	1.17E-02	1.30E+01	1.30E+01	1.30E+01	1.30E+01	7.80E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	1.14E+00	4.98E-01	9.16E-01	2.50E-01	1.14E+00	4.98E-01	9.16E-01
Phosphorus	5.21E-01	5.21E-01	5.21E-01	5.21E-01	1.82E+00	1.82E+00	1.82E+00	1.82E+00	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Potassium	2.42E+01	2.42E+01	2.42E+01	2.42E+01	1.33E+02	1.33E+02	1.33E+02	1.33E+02	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Rubidium	--	--	--	--	2.10E+01	2.10E+01	2.10E+01	2.10E+01	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Selenium	5.00E-04	4.95E-04	5.00E-04	6.06E-04	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.29E+02	--	7.00E-02	7.50E-01	7.30E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01
Silver	5.00E-05	8.10E-05	7.64E-05	8.03E-05	2.50E-01	2.50E-01	2.50E-01	2.50E-01	8.77E+01	--	7.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02
Sodium	8.22E+00	1.41E+01	1.43E+01	1.43E+01	8.22E+02	1.41E+03	1.43E+03	1.43E+03	2.00E+01	--	7.00E-02	--	--	1.64E+02	2.83E+02	2.85E+02	2.85E+02	1.64E+02	2.83E+02	2.85E+02	2.85E+02
Strontium	5.28E-01	5.28E-01	5.28E-01	5.28E-01	1.85E+01	1.85E+01	1.85E+01	1.85E+01	6.00E+01	--	7.00E-02	4.40E+01	6.10E+01	6.10E+01	6.10E+01	6.10E+01	6.10E+01	4.40E+01	4.40E+01	4.40E+01	4.40E+01
Thallium	5.00E-05	7.47E-05	7.11E-05	9.14E-05	1.70E-01	1.70E-01	1.70E-01	1.70E-01	1.00E+04	--	7.00E-02	1.00E-02	1.00E-02	5.00E-01	7.47E-01	7.11E-01	9.14E-01	5.00E-01	7.47E-01	7.11E-01	9.14E-01
Tin	2.02E-03	2.20E-03	2.22E-03	2.22E-03	5.05E-01	5.50E-01	5.54E-01	5.54E-01	3.00E+03	--	7.00E-02	2.50E-01	2.50E-01	6.06E+00	6.60E+00	6.65E+00	6.65E+00	6.06E+00	6.60E+00	6.65E+00	6.65E+00
Titanium	6.16E-01	1.37E+00	1.53E+00	1.53E+00	6.16E+02	1.37E+03	1.53E+03	1.53E+03	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Uranium	6.72E-05	9.73E-04	9.22E-04	5.94E-04	6.25E-01	6.25E-01	6.25E-01	6.25E-01	--	--	7.00E-02	1.00E-02	1.00E-02	--	--	--	--	--	--	--	--
Vanadium	9.90E-04	2.14E-03	1.55E-03	2.12E-03	2.90E+01	3.81E+01	4.01E+01	4.01E+01	--	--	7.00E-02	2.50E-01	2.50E-01	--	--	--	--	--	--	--	--
Zinc	1.18E-02	6.90E-03	6.85E-03	8.10E-03	3.90E+01	3.90E+01	3.90E+01	3.90E+01	2.06E+03	--	7.00E-02	1.40E+01	3.00E+01	3.00E+01	3.00E+01	3.00E+01	3.00E+01	2.43E+01	1.42E+01	1.41E+01	1.67E+01

Equation: Cfi = Cdw x BCF or Cfi = Cdw x BAF

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.98), and methylmercury (0.48*0.02)

Table B.49

Predicted Aquatic Plant Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Sediment Concentration				Predicted Aquatic Plant Concentration			
Contaminant	Construction (Csed) (refer to table B.47) (mg/kg)	Operations (Csed) (refer to table B.47) (mg/kg)	Reclamation (Csed) (refer to table B.47) (mg/kg)	Post-Closure (Csed) (refer to table B.47) (mg/kg)	Construction (Cap) (1) (mg/kg FW)	Operations (Cap) (1) (mg/kg FW)	Reclamation (Cap) (1) (mg/kg FW)	Post-Closure (Cap) (1) (mg/kg FW)
Particulate Matter								
Total Particulate Matter	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--
Metals								
Aluminum	2.67E+04	4.45E+04	4.87E+04	4.87E+04	1.15E+01	1.92E+01	2.10E+01	2.10E+01
Antimony	5.30E+00	5.30E+00	5.30E+00	5.30E+00	2.83E-02	2.83E-02	2.83E-02	2.83E-02
Arsenic	1.50E+04	1.50E+04	1.50E+04	1.50E+04	8.44E+01	8.44E+01	8.44E+01	8.44E+01
Barium	7.10E+01	7.10E+01	7.10E+01	7.10E+01	1.66E+00	1.66E+00	1.66E+00	1.66E+00
Beryllium	1.12E+00	1.35E+00	1.40E+00	1.40E+00	9.53E-02	1.10E-01	1.12E-01	1.12E-01
Bismuth	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E-01	1.50E-01	1.50E-01	1.50E-01
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	3.75E+00	3.75E+00	3.75E+00	3.75E+00
Cadmium	1.50E-01	1.50E-01	1.50E-01	1.50E-01	3.31E-02	3.31E-02	3.31E-02	3.31E-02
Calcium	--	--	--	--	--	--	--	--
Chromium Total	1.60E+01	1.60E+01	1.60E+01	1.60E+01	9.84E-02	9.84E-02	9.84E-02	9.84E-02
Cobalt	4.10E+01	4.10E+01	4.10E+01	4.10E+01	4.62E-02	4.62E-02	4.62E-02	4.62E-02
Copper	1.50E+01	1.50E+01	1.50E+01	1.50E+01	8.50E-01	8.50E-01	8.50E-01	8.50E-01
Iron	3.70E+04	3.70E+04	3.70E+04	3.70E+04	5.55E+03	5.55E+03	5.55E+03	5.55E+03
Lead	4.90E+01	4.90E+01	4.90E+01	4.90E+01	3.53E-01	3.53E-01	3.53E-01	3.53E-01
Lithium	1.70E+01	1.70E+01	1.70E+01	1.70E+01	2.55E+00	2.55E+00	2.55E+00	2.55E+00
Magnesium	--	--	--	--	--	--	--	--
Manganese	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.49E+00	2.49E+00	2.49E+00	2.49E+00
Mercury, element	2.70E+00	2.70E+00	2.70E+00	2.70E+00	4.05E-01	4.05E-01	4.05E-01	4.05E-01
Mercury, divalent	5.20E-03	3.20E-02	3.89E-02	3.89E-02	7.79E-04	4.81E-03	5.83E-03	5.83E-03
Mercury, methyl	3.62E-10	3.62E-10	3.62E-10	3.62E-10	5.42E-11	5.42E-11	5.42E-11	5.42E-11
Molybdenum	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E-01	1.50E-01	1.50E-01	1.50E-01
Nickel	1.30E+01	1.30E+01	1.30E+01	1.30E+01	4.09E-01	4.09E-01	4.09E-01	4.09E-01
Phosphorus	1.82E+00	1.82E+00	1.82E+00	1.82E+00	2.73E-01	2.73E-01	2.73E-01	2.73E-01
Potassium	1.33E+02	1.33E+02	1.33E+02	1.33E+02	1.99E+01	1.99E+01	1.99E+01	1.99E+01
Rubidium	2.10E+01	2.10E+01	2.10E+01	2.10E+01	3.15E+00	3.15E+00	3.15E+00	3.15E+00
Selenium	1.10E+00	1.10E+00	1.10E+00	1.10E+00	8.47E-02	8.47E-02	8.47E-02	8.47E-02
Silver	2.50E-01	2.50E-01	2.50E-01	2.50E-01	5.25E-04	5.25E-04	5.25E-04	5.25E-04
Sodium	8.22E+02	1.41E+03	1.43E+03	1.43E+03	1.23E+02	2.12E+02	2.14E+02	2.14E+02
Strontium	1.85E+01	1.85E+01	1.85E+01	1.85E+01	2.77E+00	2.77E+00	2.77E+00	2.77E+00
Thallium	1.70E-01	1.70E-01	1.70E-01	1.70E-01	2.55E-02	2.55E-02	2.55E-02	2.55E-02
Tin	5.05E-01	5.50E-01	5.54E-01	5.54E-01	7.57E-02	8.25E-02	8.32E-02	8.32E-02
Titanium	6.16E+02	1.37E+03	1.53E+03	1.53E+03	9.24E+01	2.05E+02	2.29E+02	2.29E+02
Uranium	6.25E-01	6.25E-01	6.25E-01	6.25E-01	9.38E-02	9.38E-02	9.38E-02	9.38E-02
Vanadium	2.90E+01	3.81E+01	4.01E+01	4.01E+01	2.11E-02	2.77E-02	2.92E-02	2.92E-02
Zinc	3.90E+01	3.90E+01	3.90E+01	3.90E+01	5.52E+00	5.52E+00	5.52E+00	5.52E+00

Note:

(1) The background aquatic plant concentrations were modelled with equations from the USEPA (2007). Where the equation for aluminum was not available, an uptake factor approach was selected for aluminum, for which the median soil to plant uptake factor of 0.00287 was selected from the dataset summarized in Table D.1 of Appendix D of Bechtel Jacobs (1998).

Table B.50

Predicted Aquatic Invertebrate Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Sediment Concentration				Baseline Aquatic Invertebrate Concentration	Predicted Aquatic Invertebrate Concentration				Final Predicted Aquatic Invertebrate Concentration (wet weight)			
Contaminant	Construction (Csed) (refer to table B.47) (mg/kg)	Operations (Csed) (refer to table B.47) (mg/kg)	Reclamation (Csed) (refer to table B.47) (mg/kg)	Post-Closure (Csed) (refer to table B.47) (mg/kg)	(Cai) (refer to table B.41) (mg/kg FW)	Construction (Cai) (1) (mg/kg FW)	Operations (Cai) (1) (mg/kg FW)	Reclamation (Cai) (1) (mg/kg FW)	Post-Closure (Cai) (1) (mg/kg FW)	Construction (Cai) (1) (mg/kg FW)	Operations (Cai) (1) (mg/kg FW)	Reclamation (Cai) (1) (mg/kg FW)	Post-Closure (Cai) (1) (mg/kg FW)
Particulate Matter													
Total Particulate Matter	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals													
Aluminum	2.67E+04	4.45E+04	4.87E+04	4.87E+04	1.80E+02	5.61E+03	9.34E+03	1.02E+04	1.02E+04	5.61E+03	9.34E+03	1.02E+04	1.02E+04
Antimony	5.30E+00	5.30E+00	5.30E+00	5.30E+00	5.50E-01	1.11E+00	1.11E+00	1.11E+00	1.11E+00	1.11E+00	1.11E+00	1.11E+00	1.11E+00
Arsenic	1.50E+04	1.50E+04	1.50E+04	1.50E+04	1.70E+02	1.51E+02	1.51E+02	1.51E+02	1.51E+02	1.70E+02	1.70E+02	1.70E+02	1.70E+02
Barium	7.10E+01	7.10E+01	7.10E+01	7.10E+01	1.65E+00	1.49E+01	1.49E+01	1.49E+01	1.49E+01	1.49E+01	1.49E+01	1.49E+01	1.49E+01
Beryllium	1.12E+00	1.35E+00	1.40E+00	1.40E+00	5.50E-01	2.35E-01	2.84E-01	2.94E-01	2.94E-01	5.50E-01	5.50E-01	5.50E-01	5.50E-01
Bismuth	1.00E+00	1.00E+00	1.00E+00	1.00E+00	--	2.10E-01	2.10E-01	2.10E-01	2.10E-01	2.10E-01	2.10E-01	2.10E-01	2.10E-01
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.65E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
Cadmium	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.70E-01	6.19E-02	6.19E-02	6.19E-02	6.19E-02	1.70E-01	1.70E-01	1.70E-01	1.70E-01
Calcium	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	1.60E+01	1.60E+01	1.60E+01	1.60E+01	5.50E-01	9.35E-01	9.35E-01	9.35E-01	9.35E-01	9.35E-01	9.35E-01	9.35E-01	9.35E-01
Cobalt	4.10E+01	4.10E+01	4.10E+01	4.10E+01	2.20E-01	8.62E+00	8.62E+00	8.62E+00	8.62E+00	8.62E+00	8.62E+00	8.62E+00	8.62E+00
Copper	1.50E+01	1.50E+01	1.50E+01	1.50E+01	5.10E+00	5.47E+00	5.47E+00	5.47E+00	5.47E+00	5.47E+00	5.47E+00	5.47E+00	5.47E+00
Iron	3.70E+04	3.70E+04	3.70E+04	3.70E+04	1.10E+03	7.77E+03	7.77E+03	7.77E+03	7.77E+03	7.77E+03	7.77E+03	7.77E+03	7.77E+03
Lead	4.90E+01	4.90E+01	4.90E+01	4.90E+01	9.40E-01	7.94E-01	7.94E-01	7.94E-01	7.94E-01	9.40E-01	9.40E-01	9.40E-01	9.40E-01
Lithium	1.70E+01	1.70E+01	1.70E+01	1.70E+01	5.50E-01	3.57E+00	3.57E+00	3.57E+00	3.57E+00	3.57E+00	3.57E+00	3.57E+00	3.57E+00
Magnesium	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	2.10E+02	2.10E+02	2.10E+02	2.10E+02	3.30E+01	4.41E+01	4.41E+01	4.41E+01	4.41E+01	4.41E+01	4.41E+01	4.41E+01	4.41E+01
Mercury, element	2.70E+00	2.70E+00	2.70E+00	2.70E+00	1.90E-01	6.21E-02	6.21E-02	6.21E-02	6.21E-02	1.90E-01	1.90E-01	1.90E-01	1.90E-01
Mercury, divalent	5.20E-03	3.20E-02	3.89E-02	3.89E-02	--	1.09E-03	6.73E-03	8.16E-03	8.16E-03	1.09E-03	6.73E-03	8.16E-03	8.16E-03
Mercury, methyl	3.62E-10	3.62E-10	3.62E-10	3.62E-10	--	7.59E-11	7.59E-11	7.59E-11	7.59E-11	7.59E-11	7.59E-11	7.59E-11	7.59E-11
Molybdenum	1.00E+00	1.00E+00	1.00E+00	1.00E+00	5.50E-01	2.10E-01	2.10E-01	2.10E-01	2.10E-01	5.50E-01	5.50E-01	5.50E-01	5.50E-01
Nickel	1.30E+01	1.30E+01	1.30E+01	1.30E+01	5.50E-01	1.10E+01	1.10E+01	1.10E+01	1.10E+01	1.10E+01	1.10E+01	1.10E+01	1.10E+01
Phosphorus	1.82E+00	1.82E+00	1.82E+00	1.82E+00	--	3.83E-01	3.83E-01	3.83E-01	3.83E-01	3.83E-01	3.83E-01	3.83E-01	3.83E-01
Potassium	1.33E+02	1.33E+02	1.33E+02	1.33E+02	--	2.79E+01	2.79E+01	2.79E+01	2.79E+01	2.79E+01	2.79E+01	2.79E+01	2.79E+01
Rubidium	2.10E+01	2.10E+01	2.10E+01	2.10E+01	--	4.41E+00	4.41E+00	4.41E+00	4.41E+00	4.41E+00	4.41E+00	4.41E+00	4.41E+00
Selenium	1.10E+00	1.10E+00	1.10E+00	1.10E+00	5.50E-01	2.31E-01	2.31E-01	2.31E-01	2.31E-01	5.50E-01	5.50E-01	5.50E-01	5.50E-01
Silver	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.30E-01	5.25E-02	5.25E-02	5.25E-02	5.25E-02	1.30E-01	1.30E-01	1.30E-01	1.30E-01
Sodium	8.22E+02	1.41E+03	1.43E+03	1.43E+03	--	1.73E+02	2.97E+02	2.99E+02	2.99E+02	1.73E+02	2.97E+02	2.99E+02	2.99E+02
Strontium	1.85E+01	1.85E+01	1.85E+01	1.85E+01	1.65E+00	3.88E+00	3.88E+00	3.88E+00	3.88E+00	3.88E+00	3.88E+00	3.88E+00	3.88E+00
Thallium	1.70E-01	1.70E-01	1.70E-01	1.70E-01	2.20E-02	3.57E-02	3.57E-02	3.57E-02	3.57E-02	3.57E-02	3.57E-02	3.57E-02	3.57E-02
Tin	5.05E-01	5.50E-01	5.54E-01	5.54E-01	5.50E-01	1.06E-01	1.15E-01	1.16E-01	1.16E-01	5.50E-01	5.50E-01	5.50E-01	5.50E-01
Titanium	6.16E+02	1.37E+03	1.53E+03	1.53E+03	--	1.29E+02	2.87E+02	3.21E+02	3.21E+02	1.29E+02	2.87E+02	3.21E+02	3.21E+02
Uranium	6.25E-01	6.25E-01	6.25E-01	6.25E-01	2.20E-02	1.31E-01	1.31E-01	1.31E-01	1.31E-01	1.31E-01	1.31E-01	1.31E-01	1.31E-01
Vanadium	2.90E+01	3.81E+01	4.01E+01	4.01E+01	5.50E-01	6.09E+00	8.01E+00	8.42E+00	8.42E+00	6.09E+00	8.01E+00	8.42E+00	8.42E+00
Zinc	3.90E+01	3.90E+01	3.90E+01	3.90E+01	4.50E+01	2.84E+01	2.84E+01	2.84E+01	2.84E+01	4.50E+01	4.50E+01	4.50E+01	4.50E+01

Note:
(1) The predicted aquatic invertebrate concentrations were modelled with equations from Bechtel Jacobs (1998).

Table B.51

Summary of Predicted Concentrations - Construction (Scenario 2)
Anaconda Goldboro
Goldboro, Nova Scotia

	Terrestrial Environment		Aquatic Environment			Terrestrial Ecosystem								Aquatic Ecosystem			
	Soil	Air	Surface Water-Total	Surface Water-Dissolved phase	Sediment	Leafy Vegetables	Fruit	Roots	Forage	Invertebrates	Prey	Hare	Deer	Plants	Invertebrates	Fish Whole	Fish Fillet
	(Cs)	(Coa)	(Cw)	(Cdw)	(Csed)	(Cv)	(Cfru)	(Cr)	(Cfo)	(Cti)	(Cp)	(Ch)	(Cd)	(Cap)	(Cai)	(Cfw)	(Cff)
Contaminant	(mg/kg)	(mg/m³)	(mg/L)	(mg/L)	(mg/kg)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)
Metals																	
Aluminum	1.56E+04	1.09E-04	5.04E-01	0.00E+00	2.67E+04	6.58E+01	7.92E+01	1.52E+00	5.33E+02	4.20E+02	1.31E+02	1.77E-01	2.84E+00	1.15E+01	5.61E+03	2.60E+00	1.30E+00
Antimony	1.00E+00	1.63E-08	6.75E-04	6.75E-04	5.30E+00	9.64E-03	1.60E-01	4.50E-03	1.60E-01	2.50E-01	4.00E-03	8.82E-05	2.45E-03	2.83E-02	1.11E+00	2.50E-01	2.50E-01
Arsenic	8.75E+00	4.33E-07	6.18E-02	6.18E-02	1.50E+04	2.55E-01	3.07E-01	1.05E-02	2.09E+00	8.00E+00	1.48E-02	4.22E-04	1.06E-02	8.44E+01	1.70E+02	7.04E+00	7.04E+00
Barium	4.30E+01	8.85E-05	3.37E-03	3.37E-03	7.10E+01	7.20E-01	3.50E+00	9.68E-02	5.21E+00	2.40E+01	5.76E-02	3.05E-04	8.17E-03	1.66E+00	1.49E+01	2.50E+00	2.13E+00
Beryllium	1.07E+00	1.63E-08	6.75E-04	6.70E-04	1.12E+00	2.31E-03	1.60E-01	2.41E-04	1.60E-01	2.50E-01	4.00E-03	8.85E-05	2.45E-03	9.53E-02	5.50E-01	2.50E-01	2.50E-01
Bismuth	--	8.20E-09	--	--	1.00E+00	2.09E-04	2.50E-02	--	--	--	--	--	--	1.50E-01	2.10E-01	--	--
Boron	2.50E+01	3.71E-08	6.04E+00	6.04E+00	2.50E+01	8.47E+00	8.47E+00	7.50E+00	1.51E+01	4.00E+00	8.00E+00	4.25E-03	1.24E-01	3.75E+00	5.25E+00	--	--
Cadmium	1.50E-01	5.62E-08	3.72E-05	3.72E-05	1.50E-01	2.78E-03	3.20E-02	1.44E-03	3.20E-02	1.60E+00	3.72E-02	2.09E-06	5.84E-05	3.31E-02	1.70E-01	3.37E-02	3.37E-02
Calcium	--	--	--	--	--	8.22E+00	9.30E+02	--	--	--	--	--	--	--	--	--	--
Chromium	1.40E+01	1.58E-06	5.00E-04	5.00E-04	1.60E+01	8.05E-02	1.60E-01	9.45E-03	5.97E-01	6.85E-01	5.15E-01	8.36E-04	1.67E-02	9.84E-02	9.35E-01	2.50E-01	2.50E-01
Cobalt	2.60E+00	3.54E-08	3.05E-04	3.05E-04	4.10E+01	1.48E-02	8.00E-02	2.73E-03	1.02E-01	2.10E-01	1.28E-02	1.09E-03	2.64E-02	4.62E-02	8.62E+00	1.00E-01	1.00E-01
Copper	7.10E+00	3.39E-04	1.00E-03	1.00E-03	1.50E+01	3.10E-01	1.10E+00	2.66E-01	1.10E+00	1.60E+01	3.27E+00	6.07E-03	1.68E-01	8.50E-01	5.47E+00	1.30E+00	2.50E-01
Iron	1.70E+04	1.12E-04	6.98E-01	6.98E-01	3.70E+04	3.07E+01	3.65E+01	2.55E+00	2.35E+02	2.72E+03	5.44E+03	2.05E+00	2.63E+01	5.55E+03	7.77E+03	1.40E+02	1.40E+02
Lead	1.67E+01	2.44E-08	9.70E-04	9.61E-04	4.90E+01	5.75E-02	6.24E-02	2.26E-02	3.07E-01	1.25E+00	1.20E+00	3.44E-05	5.08E-04	3.53E-01	9.40E-01	2.20E-01	9.00E-02
Lithium	1.09E+01	9.02E-08	3.63E-02	3.62E-02	1.70E+01	4.95E-02	1.70E-01	6.54E-03	3.60E-01	1.74E+00	3.49E+00	1.47E-03	3.20E-02	2.55E+00	3.57E+00	--	--
Magnesium	--	--	--	--	--	9.49E+00	5.00E+01	--	--	--	--	--	--	--	--	--	--
Manganese	9.90E+01	1.80E-06	2.55E-02	2.55E-02	2.10E+02	1.70E+00	6.30E+01	7.43E-01	6.30E+01	1.20E+03	6.49E-01	1.33E-02	3.80E-01	2.49E+00	4.41E+01	1.02E+01	1.02E+01
Mercury	1.80E-01	2.21E-09	1.03E-05	6.91E-06	2.70E+00	2.76E-10	2.50E-03	0.00E+00	2.50E-03	3.50E-02	5.76E-02	2.19E-03	4.56E-02	4.05E-01	1.90E-01	1.40E+00	2.50E-03
Mercury, divalent	6.31E-03	--	2.94E-07	1.97E-07	5.20E-03	2.50E-05	2.75E-05	3.41E-05	--	1.01E-03	2.02E-03	2.36E-07	3.63E-06	7.79E-04	1.09E-03	1.97E-07	1.97E-07
Mercury, methyl	6.06E-08	--	2.27E-12	2.26E-12	3.62E-10	1.60E-06	1.94E-06	9.00E-10	--	9.70E-09	1.94E-08	7.89E-10	2.27E-08	5.42E-11	7.59E-11	1.54E-05	1.54E-05
Molybdenum	1.00E+00	3.13E-08	3.78E-02	3.78E-02	1.00E+00	1.31E-02	1.60E-01	9.00E-03	1.60E-01	6.90E-01	3.20E-01	5.58E-04	1.57E-02	1.50E-01	5.50E-01	3.78E-01	3.78E-01
Nickel	7.30E+00	1.81E-06	1.00E-03	9.99E-04	1.30E+01	3.61E-02	1.60E-01	8.76E-03	2.50E-01	1.17E+00	6.31E-01	7.15E-04	1.64E-02	4.09E-01	1.10E+01	2.50E-01	2.50E-01
Phosphorus	2.00E+00	--	5.21E-01	5.21E-01	1.82E+00	1.49E+00	1.60E+02	1.05E+00	1.60E+02	3.21E-01	6.41E-01	4.58E+00	1.32E+02	2.73E-01	3.83E-01	--	--
Potassium	1.44E+02	--	2.42E+01	2.42E+01	1.33E+02	3.34E+01	8.60E+02	1.19E+01	8.60E+02	2.31E+01	4.61E+01	9.02E+00	2.60E+02	1.99E+01	2.79E+01	--	--
Rubidium	--	4.99E-08	--	--	2.10E+01	3.78E-03	4.58E-03	--	--	--	--	--	--	3.15E+00	4.41E+00	--	--
Selenium	8.70E-01	1.22E-08	5.00E-04	5.00E-04	1.10E+00	2.83E-03	1.60E-01	2.87E-03	1.60E-01	2.50E-01	2.00E-01	2.01E-04	5.62E-03	8.47E-02	5.50E-01	7.50E-01	7.50E-01
Silver	2.50E-01	1.48E-07	5.00E-05	5.00E-05	2.50E-01	5.50E-03	4.00E-02	3.75E-03	4.00E-02	1.80E+00	3.20E-04	6.61E-05	1.83E-03	5.25E-04	1.30E-01	6.00E-02	6.00E-02
Sodium	7.20E+02	--	8.23E+00	8.22E+00	8.22E+02	1.82E+01	2.50E+01	5.94E+00	1.08E+02	1.15E+02	2.30E+02	9.68E-01	2.44E+01	1.23E+02	1.73E+02	1.64E+02	1.64E+02
Strontium	2.30E+01	5.48E-07	5.28E-01	5.28E-01	1.85E+01	1.98E+00	2.20E+00	8.63E-01	9.72E+00	1.00E+01	7.36E+00	3.98E-04	1.09E-02	2.77E+00	3.88E+00	6.10E+01	4.40E+01
Thallium	5.00E-02	9.52E-09	5.00E-05	5.00E-05	1.70E-01	5.06E-04	1.10E-02	3.00E-06	1.10E-02	1.00E-02	1.60E-02	2.39E-04	6.70E-03	2.55E-02	3.57E-02	5.00E-01	5.00E-01
Tin	5.23E-01	1.85E-06	2.02E-03	2.02E-03	5.05E-01	2.61E-03	1.20E+00	4.70E-04	1.20E+00	2.50E-01	1.67E-01	6.27E-04	1.80E-02	7.57E-02	5.50E-01	6.06E+00	6.06E+00
Titanium	2.09E+02	2.26E-06	6.22E-01	6.16E-01	6.16E+02	2.76E+00	3.32E+00	9.39E-02	2.22E+01	3.34E+01	6.68E+01	8.51E-02	1.86E+00	9.24E+01	1.29E+02	--	--
Uranium	6.70E-01	9.76E-09	6.75E-05	6.72E-05	6.25E-01	1.02E-01	1.02E-01	1.01E-01	1.10E-01	1.07E-01	2.14E-01	1.13E-05	3.12E-04	9.38E-02	1.31E-01	--	--
Vanadium	2.55E+01	3.30E-07	1.00E-03	9.90E-04	2.90E+01	6.33E-02	1.60E-01	1.15E-02	4.40E-01	9.30E-01	1.01E-01	5.22E-04	8.89E-03	2.11E-02	6.09E+00	--	--
Zinc	2.00E+01	1.90E-05	1.18E-02	1.18E-02	3.90E+01	3.61E-01	2.10E+00	2.70E+00	2.10E+00	7.90E+01	5.04E-03	1.07E-04	2.92E-03	5.52E+00	4.50E+01	3.00E+01	2.43E+01
Inorganics																	
Nitrate	--	--	6.23E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	1.59E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	6.55E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	2.55E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	--	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table B.52

Summary of Predicted Concentrations - Operations
(Scenario 3)
Anaconda Goldboro
Goldboro, Nova Scotia

	Terrestrial Environment		Aquatic Environment			Terrestrial Ecosystem								Aquatic Ecosystem			
Contaminant	Soil (Cs) (mg/kg)	Air (Coa) (mg/m³)	Surface Water-Total (Cw) (mg/L)	Surface Water-Dissolved phase (Cdw) (mg/L)	Sediment (Csed) (mg/kg)	Leafy Vegetables (Cv) (mg/kg FW)	Fruit (Cfru) (mg/kg FW)	Roots (Cr) (mg/kg FW)	Forage (Cfo) (mg/kg FW)	Invertebrates (Cti) (mg/kg FW)	Prey (Cp) (mg/kg FW)	Hare (Ch) (mg/kg FW)	Deer (Cd) (mg/kg FW)	Plants (Cap) (mg/kg FW)	Invertebrates (Cai) (mg/kg FW)	Fish Whole (Cfw) (mg/kg FW)	Fish Fillet (Cff) (mg/kg FW)
Metals																	
Aluminum	3.74E+04	1.09E-04	2.08E-01	0.00E+00	4.45E+04	6.93E+01	8.27E+01	3.65E+00	5.46E+02	4.20E+02	3.15E+02	3.41E-01	4.39E+00	1.92E+01	9.34E+03	2.60E+00	1.30E+00
Antimony	1.00E+00	1.63E-08	4.51E-03	4.51E-03	5.30E+00	9.64E-03	1.60E-01	4.50E-03	1.60E-01	2.50E-01	4.00E-03	8.87E-05	2.47E-03	2.83E-02	1.11E+00	2.50E-01	2.50E-01
Arsenic	9.08E+00	4.33E-07	5.54E-02	5.54E-02	1.50E+04	2.55E-01	3.08E-01	1.09E-02	2.09E+00	8.00E+00	1.53E-02	4.24E-04	1.05E-02	8.44E+01	1.70E+02	6.31E+00	6.31E+00
Barium	4.30E+01	8.85E-05	7.17E-03	7.17E-03	7.10E+01	7.20E-01	3.50E+00	9.68E-02	5.21E+00	2.40E+01	5.76E-02	3.05E-04	8.17E-03	1.66E+00	1.49E+01	4.54E+00	4.54E+00
Beryllium	1.37E+00	1.63E-08	4.68E-04	4.64E-04	1.35E+00	2.43E-03	1.60E-01	3.08E-04	1.60E-01	2.50E-01	4.00E-03	9.00E-05	2.46E-03	1.10E-01	5.50E-01	2.50E-01	2.50E-01
Bismuth	--	8.20E-09	--	--	1.00E+00	2.09E-04	2.50E-02	--	--	--	--	--	--	1.50E-01	2.10E-01	--	--
Boron	2.50E+01	3.71E-08	6.04E+00	6.04E+00	2.50E+01	8.47E+00	8.47E+00	7.50E+00	1.51E+01	4.00E+00	8.00E+00	4.25E-03	1.24E-01	3.75E+00	5.25E+00	--	--
Cadmium	1.50E-01	5.62E-08	1.98E-05	1.98E-05	1.50E-01	2.78E-03	3.20E-02	1.44E-03	3.20E-02	1.60E+00	3.72E-02	2.09E-06	5.84E-05	3.31E-02	1.70E-01	2.50E-02	2.50E-02
Calcium	--	--	--	--	--	8.22E+00	9.30E+02	--	--	--	--	--	--	--	--	--	--
Chromium	1.40E+01	1.58E-06	8.66E-04	8.66E-04	1.60E+01	8.05E-02	1.60E-01	9.45E-03	5.97E-01	6.85E-01	5.15E-01	8.37E-04	1.67E-02	9.84E-02	9.35E-01	2.50E-01	2.50E-01
Cobalt	2.60E+00	3.54E-08	1.00E-03	1.00E-03	4.10E+01	1.48E-02	8.00E-02	2.73E-03	1.02E-01	2.10E-01	1.28E-02	1.09E-03	2.64E-02	4.62E-02	8.62E+00	3.00E-01	3.00E-01
Copper	7.10E+00	3.39E-04	1.99E-03	1.99E-03	1.50E+01	3.10E-01	1.10E+00	2.66E-01	1.10E+00	1.60E+01	3.27E+00	6.07E-03	1.68E-01	8.50E-01	5.47E+00	1.30E+00	3.98E-01
Iron	1.70E+04	1.12E-04	3.59E-01	3.59E-01	3.70E+04	3.07E+01	3.65E+01	2.55E+00	2.35E+02	2.72E+03	5.44E+03	2.05E+00	2.63E+01	5.55E+03	7.77E+03	7.18E+01	7.18E+01
Lead	1.99E+01	2.44E-08	8.18E-04	8.11E-04	4.90E+01	6.40E-02	6.90E-02	2.69E-02	3.28E-01	1.44E+00	1.30E+00	4.02E-05	5.81E-04	3.53E-01	9.40E-01	2.20E-01	9.00E-02
Lithium	1.35E+01	9.02E-08	4.30E-02	4.29E-02	1.70E+01	5.21E-02	1.70E-01	8.09E-03	3.70E-01	2.16E+00	4.31E+00	1.60E-03	3.35E-02	2.55E+00	3.57E+00	--	--
Magnesium	--	--	--	--	--	9.49E+00	5.00E+01	--	--	--	--	--	--	--	--	--	--
Manganese	9.90E+01	1.80E-06	7.75E-02	7.74E-02	2.10E+02	1.70E+00	6.30E+01	7.43E-01	6.30E+01	1.20E+03	6.49E-01	1.33E-02	3.80E-01	2.49E+00	4.41E+01	3.10E+01	3.10E+01
Mercury	1.80E-01	2.21E-09	6.92E-06	4.63E-06	2.70E+00	2.76E-10	2.50E-03	0.00E+00	2.50E-03	3.50E-02	5.76E-02	2.19E-03	4.56E-02	4.05E-01	1.90E-01	1.40E+00	2.50E-03
Mercury, divalent	3.89E-02	--	1.81E-06	1.21E-06	3.20E-02	9.35E-05	9.60E-05	2.10E-04	--	6.22E-03	1.24E-02	1.25E-06	1.66E-05	4.81E-03	6.73E-03	1.21E-06	1.21E-06
Mercury, methyl	6.06E-08	--	2.27E-12	2.26E-12	3.62E-10	1.60E-06	1.94E-06	9.00E-10	--	9.70E-09	1.94E-08	7.89E-10	2.27E-08	5.42E-11	7.59E-11	1.54E-05	1.54E-05
Molybdenum	1.00E+00	3.13E-08	3.78E-02	3.78E-02	1.00E+00	1.31E-02	1.60E-01	9.00E-03	1.60E-01	6.90E-01	3.20E-01	5.58E-04	1.57E-02	1.50E-01	5.50E-01	3.78E-01	3.78E-01
Nickel	7.30E+00	1.81E-06	1.46E-02	1.46E-02	1.30E+01	3.61E-02	1.60E-01	8.76E-03	2.50E-01	1.17E+00	6.31E-01	7.26E-04	1.68E-02	4.09E-01	1.10E+01	1.14E+00	1.14E+00
Phosphorus	2.00E+00	--	5.21E-01	5.21E-01	1.82E+00	1.49E+00	1.60E+02	1.05E+00	1.60E+02	3.21E-01	6.41E-01	4.58E+00	1.32E+02	2.73E-01	3.83E-01	--	--
Potassium	1.44E+02	--	2.42E+01	2.42E+01	1.33E+02	3.34E+01	8.60E+02	1.19E+01	8.60E+02	2.31E+01	4.61E+01	9.02E+00	2.60E+02	1.99E+01	2.79E+01	--	--
Rubidium	--	4.99E-08	--	--	2.10E+01	3.78E-03	4.58E-03	--	--	--	--	--	--	3.15E+00	4.41E+00	--	--
Selenium	8.70E-01	1.22E-08	4.95E-04	4.95E-04	1.10E+00	2.83E-03	1.60E-01	2.87E-03	1.60E-01	2.50E-01	2.00E-01	2.01E-04	5.62E-03	8.47E-02	5.50E-01	7.50E-01	7.50E-01
Silver	2.50E-01	1.48E-07	8.10E-05	8.10E-05	2.50E-01	5.50E-03	4.00E-02	3.75E-03	4.00E-02	1.80E+00	3.20E-04	6.61E-05	1.83E-03	5.25E-04	1.30E-01	6.00E-02	6.00E-02
Sodium	1.50E+03	--	1.42E+01	1.41E+01	1.41E+03	2.49E+01	2.75E+01	1.24E+01	1.16E+02	2.40E+02	4.79E+02	1.29E+00	2.99E+01	2.12E+02	2.97E+02	2.83E+02	2.83E+02
Strontium	2.30E+01	5.48E-07	5.28E-01	5.28E-01	1.85E+01	1.98E+00	2.20E+00	8.63E-01	9.72E+00	1.00E+01	7.36E+00	3.98E-04	1.09E-02	2.77E+00	3.88E+00	6.10E+01	4.40E+01
Thallium	5.00E-02	9.52E-09	7.47E-05	7.47E-05	1.70E-01	5.06E-04	1.10E-02	3.00E-06	1.10E-02	1.00E-02	1.60E-02	2.39E-04	6.70E-03	2.55E-02	3.57E-02	7.47E-01	7.47E-01
Tin	5.81E-01	1.85E-06	2.20E-03	2.20E-03	5.50E-01	2.69E-03	1.20E+00	5.23E-04	1.20E+00	2.50E-01	1.86E-01	6.27E-04	1.80E-02	8.25E-02	5.50E-01	6.60E+00	6.60E+00
Titanium	1.15E+03	2.26E-06	1.38E+00	1.37E+00	1.37E+03	3.23E+00	3.79E+00	5.15E-01	2.29E+01	1.83E+02	3.66E+02	2.33E-01	3.44E+00	2.05E+02	2.87E+02	--	--
Uranium	6.70E-01	9.76E-09	9.77E-04	9.73E-04	6.25E-01	1.02E-01	1.02E-01	1.01E-01	1.10E-01	1.07E-01	2.14E-01	1.13E-05	3.13E-04	9.38E-02	1.31E-01	--	--
Vanadium	3.70E+01	3.30E-07	2.16E-03	2.14E-03	3.81E+01	6.90E-02	1.60E-01	1.66E-02	4.49E-01	9.30E-01	1.46E-01	6.63E-04	1.02E-02	2.77E-02	8.01E+00	--	--
Zinc	2.00E+01	1.90E-05	6.90E-03	6.90E-03	3.90E+01	3.61E-01	2.10E+00	2.70E+00	2.10E+00	7.90E+01	5.04E-03	1.07E-04	2.92E-03	5.52E+00	4.50E+01	3.00E+01	1.42E+01
Inorganics																	
Nitrate	--	--	4.93E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	6.00E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	6.50E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	1.90E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	--	5.00E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table B.53

Summary of Predicted Concentrations - Reclamation (Scenario 4)
Anaconda Goldboro
Goldboro, Nova Scotia

	Terrestrial Environment		Aquatic Environment			Terrestrial Ecosystem								Aquatic Ecosystem			
	Soil	Air	Surface Water-Total	Surface Water-Dissolved phase	Sediment	Leafy Vegetables	Fruit	Roots	Forage	Invertebrates	Prey	Hare	Deer	Plants	Invertebrates	Fish Whole	Fish Fillet
	(Cs)	(Coa)	(Cw)	(Cdw)	(Csed)	(Cv)	(Cfru)	(Cr)	(Cfo)	(Cti)	(Cp)	(Ch)	(Cd)	(Cap)	(Cai)	(Cfw)	(Cff)
Contaminant	(mg/kg)	(mg/m³)	(mg/L)	(mg/L)	(mg/kg)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)
Metals																	
Aluminum	4.26E+04	1.09E-04	2.96E-01	0.00E+00	4.87E+04	7.01E+01	8.36E+01	4.15E+00	5.49E+02	4.20E+02	3.58E+02	3.79E-01	4.76E+00	2.10E+01	1.02E+04	2.60E+00	1.30E+00
Antimony	1.00E+00	1.63E-08	3.54E-03	3.53E-03	5.30E+00	9.64E-03	1.60E-01	4.50E-03	1.60E-01	2.50E-01	4.00E-03	8.86E-05	2.46E-03	2.83E-02	1.11E+00	2.50E-01	2.50E-01
Arsenic	9.08E+00	4.33E-07	5.54E-02	5.54E-02	1.50E+04	2.55E-01	3.08E-01	1.09E-02	2.09E+00	8.00E+00	1.53E-02	4.24E-04	1.05E-02	8.44E+01	1.70E+02	6.31E+00	6.31E+00
Barium	4.30E+01	8.85E-05	7.48E-03	7.47E-03	7.10E+01	7.20E-01	3.50E+00	9.68E-02	5.21E+00	2.40E+01	5.76E-02	3.05E-04	8.17E-03	1.66E+00	1.49E+01	4.73E+00	4.73E+00
Beryllium	1.43E+00	1.63E-08	5.17E-04	5.13E-04	1.40E+00	2.45E-03	1.60E-01	3.21E-04	1.60E-01	2.50E-01	4.00E-03	9.03E-05	2.47E-03	1.12E-01	5.50E-01	2.50E-01	2.50E-01
Bismuth	--	8.20E-09	--	--	1.00E+00	2.09E-04	2.50E-02	--	--	--	--	--	--	1.50E-01	2.10E-01	--	--
Boron	2.50E+01	3.71E-08	6.04E+00	6.04E+00	2.50E+01	8.47E+00	8.47E+00	7.50E+00	1.51E+01	4.00E+00	8.00E+00	4.25E-03	1.24E-01	3.75E+00	5.25E+00	--	--
Cadmium	1.50E-01	5.62E-08	2.53E-05	2.52E-05	1.50E-01	2.78E-03	3.20E-02	1.44E-03	3.20E-02	1.60E+00	3.72E-02	2.09E-06	5.84E-05	3.31E-02	1.70E-01	2.50E-02	2.50E-02
Calcium	--	--	--	--	--	8.22E+00	9.30E+02	--	--	--	--	--	--	--	--	--	--
Chromium	1.40E+01	1.58E-06	7.18E-04	7.18E-04	1.60E+01	8.05E-02	1.60E-01	9.45E-03	5.97E-01	6.85E-01	5.15E-01	8.36E-04	1.67E-02	9.84E-02	9.35E-01	2.50E-01	2.50E-01
Cobalt	2.60E+00	3.54E-08	1.00E-03	1.00E-03	4.10E+01	1.48E-02	8.00E-02	2.73E-03	1.02E-01	2.10E-01	1.28E-02	1.09E-03	2.64E-02	4.62E-02	8.62E+00	3.00E-01	3.00E-01
Copper	7.10E+00	3.39E-04	2.00E-03	2.00E-03	1.50E+01	3.10E-01	1.10E+00	2.66E-01	1.10E+00	1.60E+01	3.27E+00	6.07E-03	1.68E-01	8.50E-01	5.47E+00	1.30E+00	4.00E-01
Iron	1.70E+04	1.12E-04	4.99E-01	4.99E-01	3.70E+04	3.07E+01	3.65E+01	2.55E+00	2.35E+02	2.72E+03	5.44E+03	2.05E+00	2.63E+01	5.55E+03	7.77E+03	9.98E+01	9.98E+01
Lead	2.06E+01	2.44E-08	7.14E-04	7.07E-04	4.90E+01	6.54E-02	7.04E-02	2.78E-02	3.33E-01	1.48E+00	1.32E+00	4.14E-05	5.96E-04	3.53E-01	9.40E-01	2.20E-01	9.00E-02
Lithium	1.38E+01	9.02E-08	4.38E-02	4.37E-02	1.70E+01	5.24E-02	1.70E-01	8.28E-03	3.71E-01	2.21E+00	4.42E+00	1.62E-03	3.37E-02	2.55E+00	3.57E+00	--	--
Magnesium	--	--	--	--	--	9.49E+00	5.00E+01	--	--	--	--	--	--	--	--	--	--
Manganese	9.90E+01	1.80E-06	5.24E-02	5.24E-02	2.10E+02	1.70E+00	6.30E+01	7.43E-01	6.30E+01	1.20E+03	6.49E-01	1.33E-02	3.80E-01	2.49E+00	4.41E+01	2.10E+01	2.10E+01
Mercury	1.80E-01	2.21E-09	7.59E-06	5.07E-06	2.70E+00	2.76E-10	2.50E-03	0.00E+00	2.50E-03	3.50E-02	5.76E-02	2.19E-03	4.56E-02	4.05E-01	1.90E-01	1.40E+00	2.50E-03
Mercury, divalent	4.72E-02	--	2.20E-06	1.47E-06	3.89E-02	1.11E-04	1.13E-04	2.55E-04	--	7.55E-03	1.51E-02	1.51E-06	1.99E-05	5.83E-03	8.16E-03	1.47E-06	1.47E-06
Mercury, methyl	6.06E-08	--	2.27E-12	2.26E-12	3.62E-10	1.60E-06	1.94E-06	9.00E-10	--	9.70E-09	1.94E-08	7.89E-10	2.27E-08	5.42E-11	7.59E-11	1.54E-05	1.54E-05
Molybdenum	1.00E+00	3.13E-08	3.78E-02	3.78E-02	1.00E+00	1.31E-02	1.60E-01	9.00E-03	1.60E-01	6.90E-01	3.20E-01	5.58E-04	1.57E-02	1.50E-01	5.50E-01	3.78E-01	3.78E-01
Nickel	7.30E+00	1.81E-06	6.39E-03	6.39E-03	1.30E+01	3.61E-02	1.60E-01	8.76E-03	2.50E-01	1.17E+00	6.31E-01	7.19E-04	1.65E-02	4.09E-01	1.10E+01	4.98E-01	4.98E-01
Phosphorus	2.00E+00	--	5.21E-01	5.21E-01	1.82E+00	1.49E+00	1.60E+02	1.05E+00	1.60E+02	3.21E-01	6.41E-01	4.58E+00	1.32E+02	2.73E-01	3.83E-01	--	--
Potassium	1.44E+02	--	2.42E+01	2.42E+01	1.33E+02	3.34E+01	8.60E+02	1.19E+01	8.60E+02	2.31E+01	4.61E+01	9.02E+00	2.60E+02	1.99E+01	2.79E+01	--	--
Rubidium	--	4.99E-08	--	--	2.10E+01	3.78E-03	4.58E-03	--	--	--	--	--	--	3.15E+00	4.41E+00	--	--
Selenium	8.70E-01	1.22E-08	5.00E-04	5.00E-04	1.10E+00	2.83E-03	1.60E-01	2.87E-03	1.60E-01	2.50E-01	2.00E-01	2.01E-04	5.62E-03	8.47E-02	5.50E-01	7.50E-01	7.50E-01
Silver	2.50E-01	1.48E-07	7.64E-05	7.64E-05	2.50E-01	5.50E-03	4.00E-02	3.75E-03	4.00E-02	1.80E+00	3.20E-04	6.61E-05	1.83E-03	5.25E-04	1.30E-01	6.00E-02	6.00E-02
Sodium	1.51E+03	--	1.43E+01	1.43E+01	1.43E+03	2.51E+01	2.76E+01	1.25E+01	1.16E+02	2.42E+02	4.84E+02	1.30E+00	3.01E+01	2.14E+02	2.99E+02	2.85E+02	2.85E+02
Strontium	2.30E+01	5.48E-07	5.28E-01	5.28E-01	1.85E+01	1.98E+00	2.20E+00	8.63E-01	9.72E+00	1.00E+01	7.36E+00	3.98E-04	1.09E-02	2.77E+00	3.88E+00	6.10E+01	4.40E+01
Thallium	5.00E-02	9.52E-09	7.11E-05	7.11E-05	1.70E-01	5.06E-04	1.10E-02	3.00E-06	1.10E-02	1.00E-02	1.60E-02	2.39E-04	6.70E-03	2.55E-02	3.57E-02	7.11E-01	7.11E-01
Tin	5.87E-01	1.85E-06	2.22E-03	2.22E-03	5.54E-01	2.69E-03	1.20E+00	5.28E-04	1.20E+00	2.50E-01	1.88E-01	6.27E-04	1.80E-02	8.32E-02	5.50E-01	6.65E+00	6.65E+00
Titanium	1.35E+03	2.26E-06	1.54E+00	1.53E+00	1.53E+03	3.33E+00	3.89E+00	6.07E-01	2.31E+01	2.16E+02	4.31E+02	2.65E-01	3.78E+00	2.29E+02	3.21E+02	--	--
Uranium	6.70E-01	9.76E-09	9.26E-04	9.22E-04	6.25E-01	1.02E-01	1.02E-01	1.01E-01	1.10E-01	1.07E-01	2.14E-01	1.13E-05	3.13E-04	9.38E-02	1.31E-01	--	--
Vanadium	3.94E+01	3.30E-07	1.56E-03	1.55E-03	4.01E+01	7.02E-02	1.60E-01	1.78E-02	4.51E-01	9.30E-01	1.55E-01	6.93E-04	1.05E-02	2.92E-02	8.42E+00	--	--
Zinc	2.00E+01	1.90E-05	6.86E-03	6.85E-03	3.90E+01	3.61E-01	2.10E+00	2.70E+00	2.10E+00	7.90E+01	5.04E-03	1.07E-04	2.92E-03	5.52E+00	4.50E+01	3.00E+01	1.41E+01
Inorganics																	
Nitrate	--	--	1.37E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	5.84E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	6.50E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	4.38E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	--	5.00E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table B.54

Summary of Predicted Concentrations - Post-Closure (Scenario 5)
Anaconda Goldboro
Goldboro, Nova Scotia

	Terrestrial Environment		Aquatic Environment			Terrestrial Ecosystem								Aquatic Ecosystem			
	Soil	Air	Surface Water-Total	Surface Water-Dissolved	Sediment	Leafy Vegetables	Fruit	Roots	Forage	Invertebrates	Prey	Hare	Deer	Plants	Invertebrates	Fish Whole	Fish Fillet
	(Cs)	(Coa)	(Cw)	(Cdw)	(Csed)	(Cv)	(Cfru)	(Cr)	(Cfo)	(Cti)	(Cp)	(Ch)	(Cd)	(Cap)	(Cai)	(Cfw)	(Cff)
Contaminant	(mg/kg)	(mg/m³)	(mg/L)	(mg/L)	(mg/kg)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)
Metals																	
Aluminum	4.26E+04	8.52E-05	4.00E-01	0.00E+00	4.87E+04	7.01E+01	6.87E+00	4.15E+00	5.49E+02	4.20E+02	3.58E+02	3.19E-01	3.03E+00	2.10E+01	1.02E+04	2.60E+00	1.30E+00
Antimony	1.00E+00	1.56E-08	2.26E-03	2.26E-03	5.30E+00	9.64E-03	1.60E-01	4.50E-03	1.60E-01	2.50E-01	4.00E-03	8.84E-05	2.46E-03	2.83E-02	1.11E+00	2.50E-01	2.50E-01
Arsenic	9.08E+00	3.40E-07	5.33E-02	5.32E-02	1.50E+04	2.55E-01	1.60E-01	1.09E-02	2.09E+00	8.00E+00	1.53E-02	2.70E-04	6.10E-03	8.44E+01	1.70E+02	6.07E+00	6.07E+00
Barium	4.30E+01	8.83E-05	6.12E-03	6.12E-03	7.10E+01	7.20E-01	3.50E+00	9.68E-02	5.21E+00	2.40E+01	5.76E-02	3.05E-04	8.17E-03	1.66E+00	1.49E+01	3.87E+00	3.87E+00
Beryllium	1.43E+00	1.56E-08	5.15E-04	5.11E-04	1.40E+00	2.45E-03	1.60E-01	3.21E-04	1.60E-01	2.50E-01	4.00E-03	9.03E-05	2.47E-03	1.12E-01	5.50E-01	2.50E-01	2.50E-01
Bismuth	--	8.12E-09	--	--	1.00E+00	2.09E-04	2.50E-02	--	--	--	--	--	--	1.50E-01	2.10E-01	--	--
Boron	2.50E+01	3.11E-08	6.04E+00	6.04E+00	2.50E+01	8.47E+00	8.45E+00	7.50E+00	1.51E+01	4.00E+00	8.00E+00	4.24E-03	1.24E-01	3.75E+00	5.25E+00	--	--
Cadmium	1.50E-01	5.62E-08	4.00E-05	4.00E-05	1.50E-01	2.78E-03	3.20E-02	1.44E-03	3.20E-02	1.60E+00	3.72E-02	2.09E-06	5.84E-05	3.31E-02	1.70E-01	3.63E-02	3.63E-02
Calcium	--	--	--	--	--	8.22E+00	9.30E+02	--	--	--	--	--	--	--	--	--	--
Chromium	1.40E+01	1.55E-06	9.28E-04	9.28E-04	1.60E+01	8.05E-02	1.60E-01	9.45E-03	5.97E-01	6.85E-01	5.15E-01	8.37E-04	1.67E-02	9.84E-02	9.35E-01	2.50E-01	2.50E-01
Chromium VI	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	2.60E+00	3.11E-08	1.00E-03	1.00E-03	4.10E+01	1.48E-02	8.00E-02	2.73E-03	1.02E-01	2.10E-01	1.28E-02	1.09E-03	2.64E-02	4.62E-02	8.62E+00	3.00E-01	3.00E-01
Copper	7.10E+00	3.39E-04	1.01E-03	1.01E-03	1.50E+01	3.10E-01	1.10E+00	2.66E-01	1.10E+00	1.60E+01	3.27E+00	6.07E-03	1.68E-01	8.50E-01	5.47E+00	1.30E+00	2.50E-01
Iron	1.70E+04	1.02E-04	4.78E-01	4.78E-01	3.70E+04	3.07E+01	4.80E+00	2.55E+00	2.35E+02	2.72E+03	5.44E+03	1.72E+00	1.68E+01	5.55E+03	7.77E+03	9.55E+01	9.55E+01
Lead	2.06E+01	1.56E-08	1.00E-03	9.91E-04	4.90E+01	6.54E-02	5.20E-02	2.78E-02	3.33E-01	1.48E+00	1.32E+00	3.85E-05	5.14E-04	3.53E-01	9.40E-01	2.20E-01	9.00E-02
Lithium	1.38E+01	7.56E-08	4.38E-02	4.37E-02	1.70E+01	5.24E-02	1.70E-01	8.28E-03	3.71E-01	2.21E+00	4.42E+00	1.62E-03	3.37E-02	2.55E+00	3.57E+00	--	--
Magnesium	--	--	--	--	--	9.49E+00	5.00E+01	--	--	--	--	--	--	--	--	--	--
Manganese	9.90E+01	1.58E-06	1.28E-01	1.28E-01	2.10E+02	1.70E+00	6.30E+01	7.43E-01	6.30E+01	1.20E+03	6.49E-01	1.33E-02	3.80E-01	2.49E+00	4.41E+01	5.12E+01	5.12E+01
Mercury	1.80E-01	2.14E-09	1.06E-05	7.07E-06	2.70E+00	2.76E-10	2.50E-03	0.00E+00	2.50E-03	3.50E-02	5.76E-02	2.19E-03	4.56E-02	4.05E-01	1.90E-01	1.40E+00	2.50E-03
Mercury, divalent	4.72E-02	--	2.20E-06	1.47E-06	3.89E-02	1.11E-04	9.91E-05	2.55E-04	--	7.55E-03	1.51E-02	1.48E-06	1.88E-05	5.83E-03	8.16E-03	1.47E-06	1.47E-06
Mercury, methyl	6.06E-08	--	2.27E-12	2.26E-12	3.62E-10	1.60E-06	2.64E-10	9.00E-10	--	9.70E-09	1.94E-08	3.39E-13	5.22E-12	5.42E-11	7.59E-11	1.54E-05	1.54E-05
Molybdenum	1.00E+00	3.11E-08	3.78E-02	3.78E-02	1.00E+00	1.31E-02	1.60E-01	9.00E-03	1.60E-01	6.90E-01	3.20E-01	5.58E-04	1.57E-02	1.50E-01	5.50E-01	3.78E-01	3.78E-01
Nickel	7.30E+00	1.80E-06	1.18E-02	1.17E-02	1.30E+01	3.61E-02	1.60E-01	8.76E-03	2.50E-01	1.17E+00	6.31E-01	7.24E-04	1.67E-02	4.09E-01	1.10E+01	9.16E-01	9.16E-01
Phosphorus	2.00E+00	--	5.21E-01	5.21E-01	1.82E+00	1.49E+00	1.60E+02	1.05E+00	1.60E+02	3.21E-01	6.41E-01	4.58E+00	1.32E+02	2.73E-01	3.83E-01	--	--
Potassium	1.44E+02	--	2.42E+01	2.42E+01	1.33E+02	3.34E+01	8.60E+02	1.19E+01	8.60E+02	2.31E+01	4.61E+01	9.02E+00	2.60E+02	1.99E+01	2.79E+01	--	--
Rubidium	--	4.85E-08	--	--	2.10E+01	3.78E-03	0.00E+00	--	--	--	--	--	--	3.15E+00	4.41E+00	--	--
Selenium	8.70E-01	1.21E-08	6.06E-04	6.06E-04	1.10E+00	2.83E-03	1.60E-01	2.87E-03	1.60E-01	2.50E-01	2.00E-01	2.01E-04	5.62E-03	8.47E-02	5.50E-01	7.50E-01	7.50E-01
Silver	2.50E-01	1.48E-07	8.04E-05	8.03E-05	2.50E-01	5.50E-03	4.00E-02	3.75E-03	4.00E-02	1.80E+00	3.20E-04	6.61E-05	1.83E-03	5.25E-04	1.30E-01	6.00E-02	6.00E-02
Sodium	1.51E+03	--	1.43E+01	1.43E+01	1.43E+03	2.51E+01	2.50E+01	1.25E+01	1.16E+02	2.42E+02	4.84E+02	1.23E+00	2.79E+01	2.14E+02	2.99E+02	2.85E+02	2.85E+02
Strontium	2.30E+01	4.98E-07	5.28E-01	5.28E-01	1.85E+01	1.98E+00	2.20E+00	8.63E-01	9.72E+00	1.00E+01	7.36E+00	3.98E-04	1.09E-02	2.77E+00	3.88E+00	6.10E+01	4.40E+01
Thallium	5.00E-02	9.33E-09	9.14E-05	9.14E-05	1.70E-01	5.06E-04	1.10E-02	3.00E-06	1.10E-02	1.00E-02	1.60E-02	2.39E-04	6.71E-03	2.55E-02	3.57E-02	9.14E-01	9.14E-01
Tin	5.87E-01	1.85E-06	2.22E-03	2.22E-03	5.54E-01	2.69E-03	1.20E+00	5.28E-04	1.20E+00	2.50E-01	1.88E-01	6.27E-04	1.80E-02	8.32E-02	5.50E-01	6.65E+00	6.65E+00
Titanium	1.35E+03	1.25E-06	1.54E+00	1.53E+00	1.53E+03	3.33E+00	6.71E-01	6.07E-01	2.31E+01	2.16E+02	4.31E+02	2.15E-01	2.33E+00	2.29E+02	3.21E+02	--	--
Uranium	6.70E-01	9.33E-09	5.97E-04	5.94E-04	6.25E-01	1.02E-01	1.01E-01	1.01E-01	1.10E-01	1.07E-01	2.14E-01	1.11E-05	3.08E-04	9.38E-02	1.31E-01	--	--
Vanadium	3.94E+01	3.11E-07	2.14E-03	2.12E-03	4.01E+01	7.02E-02	1.60E-01	1.78E-02	4.51E-01	9.30E-01	1.55E-01	6.93E-04	1.05E-02	2.92E-02	8.42E+00	--	--
Zinc	2.00E+01	1.89E-05	8.11E-03	8.10E-03	3.90E+01	3.61E-01	2.10E+00	2.70E+00	2.10E+00	7.90E+01	5.04E-03	1.07E-04	2.92E-03	5.52E+00	4.50E+01	3.00E+01	1.67E+01
Inorganics																	
Nitrate	--	--	8.62E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	6.00E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	3.35E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	1.86E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	--	1.35E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table B.55

Change in Predicted Media Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

	Change in Predicted Soil Concentration Δ mg/kg				Change in Predicted Surface Water Concentration Δ mg/L				Change in Predicted Sediment Concentration Δ mg/kg			
Contaminant	Construction (Cs) (mg/kg)	Operations (Cs) (mg/kg)	Reclamation (Cs) (mg/kg)	Post-Closure (Cs) (mg/kg)	Construction (Cw) (mg/L)	Operations (Cw) (mg/L)	Reclamation (Cw) (mg/L)	Post-Closure (Cw) (mg/L)	Construction (Csed) (mg/kg)	Operations (Csed) (mg/kg)	Reclamation (Csed) (mg/kg)	Post-Closure (Csed) (mg/kg)
Metals												
Aluminum	4.56E+03	2.64E+04	3.16E+04	3.16E+04	0.00E+00	-2.96E-01	-2.08E-01	-1.04E-01	1.69E+04	3.47E+04	3.89E+04	3.89E+04
Antimony	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.83E-03	2.86E-03	1.58E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Arsenic	2.65E+00	2.98E+00	2.98E+00	2.98E+00	0.00E+00	-6.40E-03	-6.40E-03	-8.54E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Barium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.80E-03	4.11E-03	2.75E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Beryllium	6.98E-02	3.67E-01	4.28E-01	4.28E-01	0.00E+00	-2.07E-04	-1.58E-04	-1.60E-04	1.18E-01	3.54E-01	4.02E-01	4.02E-01
Bismuth	--	--	--	--	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Boron	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.02E+00	6.02E+00	6.02E+00	6.02E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cadmium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.74E-05	-1.19E-05	2.80E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Calcium	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.66E-04	2.18E-04	4.28E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cobalt	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.95E-04	6.95E-04	6.95E-04	3.69E+01	3.69E+01	3.69E+01	3.69E+01
Copper	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.93E-04	1.00E-03	1.00E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Iron	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-3.39E-01	-1.98E-01	-2.20E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lead	7.31E-01	3.94E+00	4.62E+00	4.62E+00	0.00E+00	-1.52E-04	-2.56E-04	3.00E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lithium	8.92E-01	3.48E+00	3.80E+00	3.80E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Magnesium	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.20E-02	2.69E-02	1.03E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, element	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-3.41E-06	-2.74E-06	2.45E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, divalent	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, methyl	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nickel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phosphorus	--	--	--	--	4.71E-01	4.71E-01	4.71E-01	4.71E-01	--	--	--	--
Potassium	--	--	--	--	2.38E+01	2.38E+01	2.38E+01	2.38E+01	--	--	--	--
Rubidium	--	--	--	--	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Selenium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.70E-06	1.00E-07	1.06E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Silver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sodium	--	--	--	--	3.52E+00	9.45E+00	9.56E+00	9.56E+00	--	--	--	--
Strontium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.19E-01	5.19E-01	5.19E-01	5.19E-01	5.48E+00	5.48E+00	5.48E+00	5.48E+00
Thallium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tin	2.26E-02	8.11E-02	8.71E-02	8.71E-02	--	--	--	--	4.70E-03	4.97E-02	5.44E-02	5.44E-02
Titanium	--	--	--	--	6.14E-01	1.37E+00	1.53E+00	1.53E+00	--	--	--	--
Uranium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.10E-04	8.58E-04	5.30E-04	2.53E-02	2.53E-02	2.53E-02	2.53E-02
Vanadium	2.55E+00	1.40E+01	1.64E+01	1.64E+01	--	--	--	--	1.10E+01	2.01E+01	2.21E+01	2.21E+01
Zinc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.90E-03	-4.94E-03	-3.69E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Appendix B.6

Gold Brook: Baseline and Predicted Future Exposure Point Concentration Models and Result

Table B.1

Summary of Measured and Estimated Background Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

	Measured Baseline Concentration									Estimated Baseline Concentration			
Contaminant	**Surface soil (Cs) (mg/kg)**	**Outdoor air (Coa) (mg/m³)**	**Surface water (Cw) (mg/L)**	**Sediment (Csed) (mg/kg)**	**Berries (Cfru) (mg/kg FW)**	**Fish fillets (Cff) (mg/kg FW)**	**Fish remains (Cfr) (mg/kg FW)**	**Terrestrial invertebrates (Cti) (mg/kg FW)**	**Aquatic invertebrates (Cai) (mg/kg FW)**	**Hare Flesh (Ch) (mg/kg FW) (refer to table B.3)**	**Deer Flesh (Cd) (mg/kg FW) (refer to table B.2)**	**Prey Flesh (Cp) (mg/kg FW) (refer to table B.4)**	**Aquatic Plants (Cap) (mg/kg FW) (refer to table B.5)**
Metals													
Aluminum	6.80E+03	8.52E-05	4.30E-01	1.50E+04	3.90E+00	1.30E+00	2.60E+00	4.20E+02	1.80E+02	5.32E-02	5.50E-01	5.72E+01	6.46E+00
Antimony	1.00E+00	1.56E-08	5.00E-04	8.10E+01	<0.32	<0.5	<0.5	<0.5	<1.1	8.82E-05	2.45E-03	4.00E-03	3.65E-01
Arsenic	2.08E+01	3.40E-07	6.77E-01	1.10E+05	<0.32	2.50E-01	5.30E-01	8.00E+00	1.70E+02	5.47E-04	1.28E-02	3.02E-02	6.19E+02
Barium	3.66E+01	8.83E-05	3.60E-03	9.60E+01	3.50E+00	<1.5	2.50E+00	2.40E+01	<3.3	3.00E-04	8.12E-03	5.76E-02	2.25E+00
Beryllium	5.00E-01	1.56E-08	5.00E-04	<2	<0.32	<0.5	<0.5	<0.5	<1.1	8.57E-05	2.42E-03	4.00E-03	8.78E-02
Bismuth	1.00E+00	--	1.00E-03	5.40E+00	<0.05	--	--	--	--	7.22E-06	1.70E-04	3.20E-01	8.10E-01
Boron	2.50E+01	3.11E-08	2.50E-02	<50	1.90E+00	<1.5	<1.5	2.30E+00	<3.3	8.91E-04	2.38E-02	8.00E+00	3.75E+00
Cadmium	4.62E-01	5.62E-08	2.48E-05	5.60E-01	3.20E-02	<0.05	2.50E-02	1.60E+00	1.70E-01	2.27E-06	6.01E-05	6.32E-02	6.80E-02
Calcium	--	--	4.89E+00	--	9.30E+02	--	--	--	--	--	--	--	--
Chromium	1.10E+01	1.55E-06	1.30E-03	2.40E+01	<0.32	<0.5	<0.5	5.80E-01	<1.1	7.55E-04	1.59E-02	4.31E-01	1.48E-01
Cobalt	1.84E+00	3.11E-08	2.00E-04	1.30E+02	<0.16	<0.2	<0.2	2.10E-01	<0.44	1.01E-03	2.57E-02	8.15E-03	1.46E-01
Copper	4.62E+00	3.39E-04	1.74E-03	3.60E+01	1.10E+00	2.50E-01	1.30E+00	1.60E+01	5.10E+00	5.95E-03	1.67E-01	3.08E+00	1.20E+00
Iron	1.38E+04	1.02E-04	1.17E+00	1.20E+05	<9.6	7.50E+00	2.50E+01	6.00E+02	1.10E+03	1.41E+00	1.40E+01	4.42E+03	1.80E+04
Lead	2.38E+01	1.56E-08	7.62E-04	1.20E+02	5.20E-02	<0.18	2.20E-01	5.60E-01	9.40E-01	4.32E-05	5.56E-04	1.40E+00	5.83E-01
Lithium	6.76E+00	--	--	3.10E+01	<0.34	<0.5	<0.5	<0.5	<1.1	--	--	2.16E+00	4.65E+00
Magnesium	--	--	8.14E-01	--	<100	--	--	--	--	--	--	--	--
Manganese	7.72E+01	1.58E-06	8.03E-02	4.00E+02	6.30E+01	3.10E+00	6.40E+00	1.20E+03	3.30E+01	1.33E-02	3.80E-01	5.06E-01	4.74E+00
Mercury	2.94E-01	--	1.36E-04	1.10E+01	<0.005	2.50E-03	1.40E+00	3.50E-02	1.90E-01	2.76E-03	5.13E-02	9.41E-02	1.65E+00
Mercury, divalent	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, methyl	--	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	1.00E+00	3.11E-08	1.00E-03	4.30E+00	<0.32	<0.5	<0.5	6.90E-01	<1.1	5.29E-04	1.47E-02	3.20E-01	6.45E-01
Nickel	5.32E+00	1.80E-06	1.00E-03	2.10E+02	<0.32	<0.5	<0.5	1.10E+00	<1.1	6.57E-04	1.59E-02	5.45E-01	1.55E+00
Phosphorus	--	--	5.00E-02	--	1.60E+02	--	--	--	--	--	--	--	--
Potassium	--	--	8.04E-01	--	8.60E+02	--	--	--	--	--	--	--	--
Rubidium	5.58E+00	--	--	3.90E+01	--	--	--	--	--	--	--	1.79E+00	5.85E+00
Selenium	1.78E+00	--	5.00E-04	2.50E+00	<0.32	7.50E-01	7.30E-01	<0.5	<1.1	2.12E-04	5.71E-03	2.62E-01	2.10E-01
Silver	2.50E-01	1.48E-07	5.00E-05	3.40E+00	<0.08	<0.12	<0.12	1.80E+00	<0.26	6.61E-05	1.83E-03	3.20E-04	7.14E-03
Sodium	--	--	5.52E+00	--	<50	--	--	--	--	--	--	--	--
Strontium	5.78E+01	4.98E-07	4.47E-02	2.60E+01	2.20E+00	4.40E+01	6.10E+01	1.00E+01	<3.3	4.30E-04	1.07E-02	1.85E+01	3.90E+00
Thallium	5.00E-02	9.33E-09	5.00E-05	3.00E-01	<0.022	<0.02	<0.02	<0.02	<0.044	2.39E-04	6.70E-03	1.60E-02	4.50E-02
Tin	5.00E-01	1.85E-06	1.00E-03	1.40E+00	1.20E+00	<0.5	<0.5	<0.5	<1.1	6.27E-04	1.80E-02	1.60E-01	2.10E-01
Titanium	--	1.25E-06	9.34E-03	--	<0.5	--	--	--	--	--	--	--	--
Uranium	6.16E-01	9.33E-09	5.00E-05	1.70E+00	<0.016	<0.02	<0.02	<0.02	<0.044	1.44E-06	2.96E-05	1.97E-01	2.55E-01
Vanadium	2.62E+01	3.11E-07	1.00E-03	2.70E+01	<0.32	<0.5	<0.5	9.30E-01	<1.1	5.30E-04	8.96E-03	1.03E-01	1.96E-02
Zinc	2.36E+01	1.89E-05	9.76E-03	6.40E+01	2.10E+00	1.40E+01	3.00E+01	7.90E+01	4.50E+01	1.09E-04	2.93E-03	5.10E-03	7.26E+00
Inorganics													
Cyanide	--	--	0.00E+00	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	2.34E-01	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	1.06E-02	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	1.78E-01	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	6.94E-03	--	--	--	--	--	--	--	--	--	--

Table B.2

Deer Baseline Concentration Due to Plant and Soil Ingestion
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal (F) (refer to Table B.9) (unitless)	Quantity of Forage Ingested by the Animal per day (1) (Qp_f) (refer to Table B.9) (kg DW/day)	Baseline Concentration in Forage Ingested (P_f) (refer to Table B.1) (mg/kg DW)	Quantity of Soil Ingested by the Animal (Qs) (refer to Table B.9) (kg/day)	Baseline Soil Concentration (Cs) (refer to Table B.1) (mg/kg)	Soil Bioavailability Factor (Bs) (unitless)	Quantity of Surface Water Ingested by the Animal (Qw) (refer to Table B.9) (L/day)	Baseline Surface Water Concentration (Cw) (refer to Table B.1) (mg/L)	Biotransfer Factor for Beef (Ba_{beef}) (refer to Table B.10) (day/kg FW tissue)	Biotransfer Factor for Wildlife ($Ba_{wildlife}$) (day/kg FW tissue)	Metabolism Factor (MF) unitless	Baseline Concentration in Deer (Cd) (mg/kg FW tissue)
Particulate Matter												
Total Particulate Matter	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	--	--	1.00E+00	--
Particulate Matter (PM10)	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	--	--	1.00E+00	--
Particulate Matter (PM2.5)	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	--	--	1.00E+00	--
Metals												
Aluminum	1.00E+00	2.25E+00	2.60E+01	4.50E-02	6.80E+03	1.00E+00	4.50E+00	4.30E-01	1.50E-03	1.50E-03	1.00E+00	5.50E-01
Antimony	1.00E+00	2.25E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	4.50E+00	5.00E-04	1.00E-03	1.00E-03	1.00E+00	2.45E-03
Arsenic	1.00E+00	2.25E+00	1.07E+00	4.50E-02	2.08E+01	1.00E+00	4.50E+00	6.77E-01	2.00E-03	2.00E-03	1.00E+00	1.28E-02
Barium	1.00E+00	2.25E+00	2.33E+01	4.50E-02	3.66E+01	1.00E+00	4.50E+00	3.60E-03	1.50E-04	1.50E-04	1.00E+00	8.12E-03
Beryllium	1.00E+00	2.25E+00	1.07E+00	4.50E-02	5.00E-01	1.00E+00	4.50E+00	5.00E-04	1.00E-03	1.00E-03	1.00E+00	2.42E-03
Bismuth	1.00E+00	2.25E+00	1.67E-01	4.50E-02	1.00E+00	1.00E+00	4.50E+00	1.00E-03	4.00E-04	4.00E-04	1.00E+00	1.70E-04
Boron	1.00E+00	2.25E+00	1.27E+01	4.50E-02	2.50E+01	1.00E+00	4.50E+00	2.50E-02	8.00E-04	8.00E-04	1.00E+00	2.38E-02
Cadmium	1.00E+00	2.25E+00	2.13E-01	4.50E-02	4.62E-01	1.00E+00	4.50E+00	2.48E-05	1.20E-04	1.20E-04	1.00E+00	6.01E-05
Calcium	1.00E+00	2.25E+00	6.20E+03	4.50E-02	--	1.00E+00	4.50E+00	4.89E+00	7.00E-04	7.00E-04	1.00E+00	--
Chromium Total	1.00E+00	2.25E+00	1.07E+00	4.50E-02	1.10E+01	1.00E+00	4.50E+00	1.30E-03	5.50E-03	5.50E-03	1.00E+00	1.59E-02
Cobalt	1.00E+00	2.25E+00	5.33E-01	4.50E-02	1.84E+00	1.00E+00	4.50E+00	2.00E-04	2.00E-02	2.00E-02	1.00E+00	2.57E-02
Copper	1.00E+00	2.25E+00	7.33E+00	4.50E-02	4.62E+00	1.00E+00	4.50E+00	1.74E-03	1.00E-02	1.00E-02	1.00E+00	1.67E-01
Iron	1.00E+00	2.25E+00	3.20E+01	4.50E-02	1.38E+04	1.00E+00	4.50E+00	1.17E+00	2.00E-02	2.00E-02	1.00E+00	1.40E+01
Lead	1.00E+00	2.25E+00	3.47E-01	4.50E-02	2.38E+01	1.00E+00	4.50E+00	7.62E-04	3.00E-04	3.00E-04	1.00E+00	5.56E-04
Lithium	1.00E+00	2.25E+00	1.13E+00	4.50E-02	6.76E+00	1.00E+00	4.50E+00	--	1.00E-02	1.00E-02	1.00E+00	--
Magnesium	1.00E+00	2.25E+00	3.33E+02	4.50E-02	--	1.00E+00	4.50E+00	8.14E-01	5.00E-03	5.00E-03	1.00E+00	--
Manganese	1.00E+00	2.25E+00	4.20E+02	4.50E-02	7.72E+01	1.00E+00	4.50E+00	8.03E-02	4.00E-04	4.00E-04	1.00E+00	3.80E-01
Mercury, element	1.00E+00	2.25E+00	1.67E-02	4.50E-02	2.94E-01	1.00E+00	4.50E+00	1.36E-04	1.00E+00	1.00E+00	1.00E+00	5.13E-02
Mercury, divalent	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	5.20E-03	5.20E-03	1.00E+00	--
Mercury, methyl	1.00E+00	2.25E+00	--	4.50E-02	--	1.00E+00	4.50E+00	--	7.80E-04	7.80E-04	1.00E+00	--
Molybdenum	1.00E+00	2.25E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	4.50E+00	1.00E-03	6.00E-03	6.00E-03	1.00E+00	1.47E-02
Nickel	1.00E+00	2.25E+00	1.07E+00	4.50E-02	5.32E+00	1.00E+00	4.50E+00	1.00E-03	6.00E-03	6.00E-03	1.00E+00	1.59E-02
Phosphorus	1.00E+00	2.25E+00	1.07E+03	4.50E-02	--	1.00E+00	4.50E+00	5.00E-02	5.50E-02	5.50E-02	1.00E+00	--
Potassium	1.00E+00	2.25E+00	5.73E+03	4.50E-02	--	1.00E+00	4.50E+00	8.04E-01	2.00E-02	2.00E-02	1.00E+00	--
Rubidium	1.00E+00	2.25E+00	--	4.50E-02	5.58E+00	1.00E+00	4.50E+00	--	1.50E-02	1.50E-02	1.00E+00	--
Selenium	1.00E+00	2.25E+00	1.07E+00	4.50E-02	1.78E+00	1.00E+00	4.50E+00	5.00E-04	2.30E-03	2.30E-03	1.00E+00	5.71E-03
Silver	1.00E+00	2.25E+00	2.67E-01	4.50E-02	2.50E-01	1.00E+00	4.50E+00	5.00E-05	3.00E-03	3.00E-03	1.00E+00	1.83E-03
Sodium	1.00E+00	2.25E+00	1.67E+02	4.50E-02	--	1.00E+00	4.50E+00	5.52E+00	5.50E-02	5.50E-02	1.00E+00	--
Strontium	1.00E+00	2.25E+00	1.47E+01	4.50E-02	5.78E+01	1.00E+00	4.50E+00	4.47E-02	3.00E-04	3.00E-04	1.00E+00	1.07E-02
Thallium	1.00E+00	2.25E+00	7.33E-02	4.50E-02	5.00E-02	1.00E+00	4.50E+00	5.00E-05	4.00E-02	4.00E-02	1.00E+00	6.70E-03
Tin	1.00E+00	2.25E+00	8.00E+00	4.50E-02	5.00E-01	1.00E+00	4.50E+00	1.00E-03	1.00E-03	1.00E-03	1.00E+00	1.80E-02
Titanium	1.00E+00	2.25E+00	1.67E+00	4.50E-02	--	1.00E+00	4.50E+00	9.34E-03	3.00E-02	3.00E-02	1.00E+00	--
Uranium	1.00E+00	2.25E+00	5.33E-02	4.50E-02	6.16E-01	1.00E+00	4.50E+00	5.00E-05	2.00E-04	2.00E-04	1.00E+00	2.96E-05
Vanadium	1.00E+00	2.25E+00	1.07E+00	4.50E-02	2.62E+01	1.00E+00	4.50E+00	1.00E-03	2.50E-03	2.50E-03	1.00E+00	8.96E-03
Zinc	1.00E+00	2.25E+00	1.40E+01	4.50E-02	2.36E+01	1.00E+00	4.50E+00	9.76E-03	9.00E-05	9.00E-05	1.00E+00	2.93E-03

Equation: $Cwildlife = F \times Qp_f \times P_f + Qs \times Cs \times Bs + Qw \times Cw \times Ba_{wildlife} \times MF$ where: $Ba_{wildlife} = Ba_{beef}$ refer to Table B-10 for Ba_{beef}

Table B.3

Hare Baseline Concentration Due to Plant and Soil Ingestion
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal (F) (refer to Table B.9) (unitless)	Quantity of Forage Ingested by the Animal per day (1) (Qp_f) (refer to Table B.9) (kg DW/day)	Baseline Concentration in Forage Ingested (P_f) (refer to Table B.1) (mg/kg DW)	Quantity of Soil Ingested by the Animal (Qs) (refer to Table B.9) (kg/day)	Baseline Soil Concentration (Cs) (refer to Table B.1) (mg/kg)	Soil Bioavailability Factor (Bs) (unitless)	Quantity of Surface Water Ingested by the Animal (Qw) (refer to Table B.9) (L/day)	Baseline Surface Water Concentration (Cw) (refer to Table B.1) (mg/L)	Biotransfer Factor for Beef (Ba_{beef}) (refer to Table B.10) (day/kg FW tissue)	Biotransfer Factor for Wildlife ($Ba_{wildlife}$) (day/kg FW tissue)	Metabolism Factor (MF) unitless	Baseline Concentration in Hare (Ch) (mg/kg FW tissue)
Particulate Matter												
Particulate Matter (PM10)	1.00E+00	7.80E-02	--	4.91E-03	--	1.00E+00	1.30E-01	--	--	--	1.00E+00	--
Particulate Matter (PM2.5)	1.00E+00	7.80E-02	--	4.91E-03	--	1.00E+00	1.30E-01	--	--	--	1.00E+00	--
Metals												
Aluminum	1.00E+00	7.80E-02	2.60E+01	4.91E-03	6.80E+03	1.00E+00	1.30E-01	4.30E-01	1.50E-03	1.50E-03	1.00E+00	5.32E-02
Antimony	1.00E+00	7.80E-02	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.30E-01	5.00E-04	1.00E-03	1.00E-03	1.00E+00	8.82E-05
Arsenic	1.00E+00	7.80E-02	1.07E+00	4.91E-03	2.08E+01	1.00E+00	1.30E-01	6.77E-01	2.00E-03	2.00E-03	1.00E+00	5.47E-04
Barium	1.00E+00	7.80E-02	2.33E+01	4.91E-03	3.66E+01	1.00E+00	1.30E-01	3.60E-03	1.50E-04	1.50E-04	1.00E+00	3.00E-04
Beryllium	1.00E+00	7.80E-02	1.07E+00	4.91E-03	5.00E-01	1.00E+00	1.30E-01	5.00E-04	1.00E-03	1.00E-03	1.00E+00	8.57E-05
Bismuth	1.00E+00	7.80E-02	1.67E-01	4.91E-03	1.00E+00	1.00E+00	1.30E-01	1.00E-03	4.00E-04	4.00E-04	1.00E+00	7.22E-06
Boron	1.00E+00	7.80E-02	1.27E+01	4.91E-03	2.50E+01	1.00E+00	1.30E-01	2.50E-02	8.00E-04	8.00E-04	1.00E+00	8.91E-04
Cadmium	1.00E+00	7.80E-02	2.13E-01	4.91E-03	4.62E-01	1.00E+00	1.30E-01	2.48E-05	1.20E-04	1.20E-04	1.00E+00	2.27E-06
Calcium	1.00E+00	7.80E-02	6.20E+03	4.91E-03	--	1.00E+00	1.30E-01	4.89E+00	7.00E-04	7.00E-04	1.00E+00	--
Chromium Total	1.00E+00	7.80E-02	1.07E+00	4.91E-03	1.10E+01	1.00E+00	1.30E-01	1.30E-03	5.50E-03	5.50E-03	1.00E+00	7.55E-04
Cobalt	1.00E+00	7.80E-02	5.33E-01	4.91E-03	1.84E+00	1.00E+00	1.30E-01	2.00E-04	2.00E-02	2.00E-02	1.00E+00	1.01E-03
Copper	1.00E+00	7.80E-02	7.33E+00	4.91E-03	4.62E+00	1.00E+00	1.30E-01	1.74E-03	1.00E-02	1.00E-02	1.00E+00	5.95E-03
Iron	1.00E+00	7.80E-02	3.20E+01	4.91E-03	1.38E+04	1.00E+00	1.30E-01	1.17E+00	2.00E-02	2.00E-02	1.00E+00	1.41E+00
Lead	1.00E+00	7.80E-02	3.47E-01	4.91E-03	2.38E+01	1.00E+00	1.30E-01	7.62E-04	3.00E-04	3.00E-04	1.00E+00	4.32E-05
Lithium	1.00E+00	7.80E-02	1.13E+00	4.91E-03	6.76E+00	1.00E+00	1.30E-01	--	1.00E-02	1.00E-02	1.00E+00	--
Magnesium	1.00E+00	7.80E-02	3.33E+02	4.91E-03	--	1.00E+00	1.30E-01	8.14E-01	5.00E-03	5.00E-03	1.00E+00	--
Manganese	1.00E+00	7.80E-02	4.20E+02	4.91E-03	7.72E+01	1.00E+00	1.30E-01	8.03E-02	4.00E-04	4.00E-04	1.00E+00	1.33E-02
Mercury, element	1.00E+00	7.80E-02	1.67E-02	4.91E-03	2.94E-01	1.00E+00	1.30E-01	1.36E-04	1.00E+00	1.00E+00	1.00E+00	2.76E-03
Mercury, divalent	1.00E+00	7.80E-02	--	4.91E-03	--	1.00E+00	1.30E-01	--	5.20E-03	5.20E-03	1.00E+00	--
Mercury, methyl	1.00E+00	7.80E-02	--	4.91E-03	--	1.00E+00	1.30E-01	--	7.80E-04	7.80E-04	1.00E+00	--
Molybdenum	1.00E+00	7.80E-02	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.30E-01	1.00E-03	6.00E-03	6.00E-03	1.00E+00	5.29E-04
Nickel	1.00E+00	7.80E-02	1.07E+00	4.91E-03	5.32E+00	1.00E+00	1.30E-01	1.00E-03	6.00E-03	6.00E-03	1.00E+00	6.57E-04
Phosphorus	1.00E+00	7.80E-02	1.07E+03	4.91E-03	--	1.00E+00	1.30E-01	5.00E-02	5.50E-02	5.50E-02	1.00E+00	--
Potassium	1.00E+00	7.80E-02	5.73E+03	4.91E-03	--	1.00E+00	1.30E-01	8.04E-01	2.00E-02	2.00E-02	1.00E+00	--
Rubidium	1.00E+00	7.80E-02	--	4.91E-03	5.58E+00	1.00E+00	1.30E-01	--	1.50E-02	1.50E-02	1.00E+00	--
Selenium	1.00E+00	7.80E-02	1.07E+00	4.91E-03	1.78E+00	1.00E+00	1.30E-01	5.00E-04	2.30E-03	2.30E-03	1.00E+00	2.12E-04
Silver	1.00E+00	7.80E-02	2.67E-01	4.91E-03	2.50E-01	1.00E+00	1.30E-01	5.00E-05	3.00E-03	3.00E-03	1.00E+00	6.61E-05
Sodium	1.00E+00	7.80E-02	1.67E+02	4.91E-03	--	1.00E+00	1.30E-01	5.52E+00	5.50E-02	5.50E-02	1.00E+00	--
Strontium	1.00E+00	7.80E-02	1.47E+01	4.91E-03	5.78E+01	1.00E+00	1.30E-01	4.47E-02	3.00E-04	3.00E-04	1.00E+00	4.30E-04
Thallium	1.00E+00	7.80E-02	7.33E-02	4.91E-03	5.00E-02	1.00E+00	1.30E-01	5.00E-05	4.00E-02	4.00E-02	1.00E+00	2.39E-04
Tin	1.00E+00	7.80E-02	8.00E+00	4.91E-03	5.00E-01	1.00E+00	1.30E-01	1.00E-03	1.00E-03	1.00E-03	1.00E+00	6.27E-04
Titanium	1.00E+00	7.80E-02	1.67E+00	4.91E-03	--	1.00E+00	1.30E-01	9.34E-03	3.00E-02	3.00E-02	1.00E+00	--
Uranium	1.00E+00	7.80E-02	5.33E-02	4.91E-03	6.16E-01	1.00E+00	1.30E-01	5.00E-05	2.00E-04	2.00E-04	1.00E+00	1.44E-06
Vanadium	1.00E+00	7.80E-02	1.07E+00	4.91E-03	2.62E+01	1.00E+00	1.30E-01	1.00E-03	2.50E-03	2.50E-03	1.00E+00	5.30E-04
Zinc	1.00E+00	7.80E-02	1.40E+01	4.91E-03	2.36E+01	1.00E+00	1.30E-01	9.76E-03	9.00E-05	9.00E-05	1.00E+00	1.09E-04

Equation: $Cwildlife = F \times Qp_f \times P_f + Qs \times Cs \times Bs + Qw \times Cw \times Ba_{wildlife} \times MF$

where: $Ba_{wildlife} = Ba_{beef}$ refer to Table B-10 for Ba_{beef}

Table B.4

Baseline Prey Concentration Due to Terrestrial Invertebrates or Soil Ingestion
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Baseline Soil Concentration (Cs) (refer to Table B.1) (mg/kg)	Baseline Terrestrial Invertebrate Concentration (Cti) (refer to Table B.1) (mg/kg FW)	Baseline Prey Concentration (Cp) (mg/kg FW)
Particulate Matter			
Total Particulate Matter	--	--	--
Particulate Matter (PM10)	--	--	--
Particulate Matter (PM2.5)	--	--	--
Metals			
Aluminum	6.80E+03	4.20E+02	5.72E+01
Antimony	1.00E+00	2.50E-01	4.00E-03
Arsenic	2.08E+01	8.00E+00	3.02E-02
Barium	3.66E+01	2.40E+01	5.76E-02
Beryllium	5.00E-01	2.50E-01	4.00E-03
Bismuth	1.00E+00	--	3.20E-01
Boron	2.50E+01	2.30E+00	8.00E+00
Cadmium	4.62E-01	1.60E+00	6.32E-02
Calcium	--	--	--
Chromium Total	1.10E+01	5.80E-01	4.31E-01
Cobalt	1.84E+00	2.10E-01	8.15E-03
Copper	4.62E+00	1.60E+01	3.08E+00
Iron	1.38E+04	6.00E+02	4.42E+03
Lead	2.38E+01	5.60E-01	1.40E+00
Lithium	6.76E+00	2.50E-01	2.16E+00
Magnesium	--	--	--
Manganese	7.72E+01	1.20E+03	5.06E-01
Mercury, element	2.94E-01	3.50E-02	9.41E-02
Mercury, divalent	--	--	--
Mercury, methyl	--	--	--
Molybdenum	1.00E+00	6.90E-01	3.20E-01
Nickel	5.32E+00	1.10E+00	5.45E-01
Phosphorus	--	--	--
Potassium	--	--	--
Rubidium	5.58E+00	--	1.79E+00
Selenium	1.78E+00	2.50E-01	2.62E-01
Silver	2.50E-01	1.80E+00	3.20E-04
Sodium	--	--	--
Strontium	5.78E+01	1.00E+01	1.85E+01
Thallium	5.00E-02	1.00E-02	1.60E-02
Tin	5.00E-01	2.50E-01	1.60E-01
Titanium	--	--	--
Uranium	6.16E-01	1.00E-02	1.97E-01
Vanadium	2.62E+01	9.30E-01	1.03E-01
Zinc	2.36E+01	7.90E+01	5.10E-03

Note:
The baseline prey concentrations were modelled with uptake factors from the USEPA (2007). An aluminum uptake factor was obtained from Table C.1 in Appendix C of Sample et al. (1998a); the median uptake factor of 0.0263 from this data set was selected.

Table B.5

Baseline Aquatic Plants Concentration Due to Sediment Uptake
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Baseline Sediment Concentration (Csed) (refer to table B.1) (mg/kg)	Baseline Aquatic Plant Concentration (Cap) (1) (mg/kg FW)
Particulate Matter		
Total Particulate Matter	--	--
Particulate Matter (PM10)	--	--
Particulate Matter (PM2.5)	--	--
Metals		
Aluminum	1.50E+04	6.46E+00
Antimony	8.10E+01	3.65E-01
Arsenic	1.10E+05	6.19E+02
Barium	9.60E+01	2.25E+00
Beryllium	1.00E+00	8.78E-02
Bismuth	5.40E+00	8.10E-01
Boron	2.50E+01	3.75E+00
Cadmium	5.60E-01	6.80E-02
Calcium	--	--
Chromium Total	2.40E+01	1.48E-01
Cobalt	1.30E+02	1.46E-01
Copper	3.60E+01	1.20E+00
Iron	1.20E+05	1.80E+04
Lead	1.20E+02	5.83E-01
Lithium	3.10E+01	4.65E+00
Magnesium	--	--
Manganese	4.00E+02	4.74E+00
Mercury, element	1.10E+01	1.65E+00
Mercury, divalent	--	--
Mercury, methyl	--	--
Molybdenum	4.30E+00	6.45E-01
Nickel	2.10E+02	1.55E+00
Phosphorus	--	--
Potassium	--	--
Rubidium	3.90E+01	5.85E+00
Selenium	2.50E+00	2.10E-01
Silver	3.40E+00	7.14E-03
Sodium	--	--
Strontium	2.60E+01	3.90E+00
Thallium	3.00E-01	4.50E-02
Tin	1.40E+00	2.10E-01
Titanium	--	--
Uranium	1.70E+00	2.55E-01
Vanadium	2.70E+01	1.96E-02
Zinc	6.40E+01	7.26E+00

Note:

(1) The baseline aquatic plant concentrations were modelled with equations from the USEPA (2007). Where the equation for aluminum was not available, an uptake factor approach was selected for aluminum, for which the median soil to plant uptake factor of 0.00287 was selected from the dataset summarized in Table D.1 of Appendix D of Bechtel Jacobs (1998).

Table B.6

Summary of Annual Air Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Selected Predicted Annual Air Concentration	Predicted Annual Air Concentrations				Measured Baseline Air Concentration (refer to Tables A.2 and B.1)	Measured and Calculated Baseline Air Concentration (Using Soil Concentration for the Calculated Concentration)	Predicted Dust Concentration (Using Waste Rock Concentration)
	South (Coa) ($\mu g/m^3$)	PA (Coa) ($\mu g/m^3$)	South (Coa) ($\mu g/m^3$)	Employee Accommodations (Coa) ($\mu g/m^3$)	Village (Coa) ($\mu g/m^3$)	(Coa) (mg/m^3)	(Coa) ($\mu g/m^3$)	(Cdust) (mg/kg)
Particulate Matter								
Total Particulate Matter	3.30E+01	2.40E+02	3.30E+01	2.40E+02	2.25E+01	8.12E-03	8.12E+00	--
Particulate Matter (PM10)	8.11E+00	6.05E+01	8.11E+00	6.05E+01	5.67E+00	1.15E-03	1.15E+00	--
Particulate Matter (PM2.5)	8.47E-01	1.57E+01	8.47E-01	1.57E+01	6.65E-01	8.00E-03	8.00E+00	--
Metals								
Antimony	1.57E-05	1.63E-05	1.57E-05	1.63E-05	1.56E-05	1.56E-08	1.56E-05	3.00E+00
Arsenic	3.53E-04	4.33E-04	3.53E-04	4.33E-04	3.48E-04	3.40E-07	3.40E-04	3.90E+02
Barium	8.84E-02	8.85E-02	8.84E-02	8.85E-02	8.84E-02	8.83E-05	8.83E-02	8.10E+02
Beryllium	1.57E-05	1.63E-05	1.57E-05	1.63E-05	1.56E-05	1.56E-08	1.56E-05	3.00E+00
Bismuth	8.13E-06	8.20E-06	8.13E-06	8.20E-06	8.13E-06	--	8.12E-06	3.30E-01
Boron	3.19E-05	3.71E-05	3.19E-05	3.71E-05	3.17E-05	3.11E-08	3.11E-05	2.50E+01
Cadmium	5.62E-05	5.62E-05	5.62E-05	5.62E-05	5.62E-05	5.62E-08	5.62E-05	1.20E-01
Calcium	--	--	--	--	--	--	--	1.30E+04
Chromium Total	1.55E-03	1.58E-03	1.55E-03	1.58E-03	1.55E-03	1.55E-06	1.55E-03	1.11E+02
Chromium VI	--	--	--	--	--	--	--	--
Cobalt	3.17E-05	3.54E-05	3.17E-05	3.54E-05	3.15E-05	3.11E-08	3.11E-05	1.80E+01
Copper	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-01	3.39E-04	3.39E-01	3.70E+01
Iron	1.03E-01	1.12E-01	1.03E-01	1.12E-01	1.03E-01	1.02E-04	1.02E-01	4.30E+04
Lead	1.68E-05	2.44E-05	1.68E-05	2.44E-05	1.64E-05	1.56E-08	1.56E-05	3.70E+01
Lithium	7.76E-05	9.02E-05	7.76E-05	9.02E-05	7.70E-05	--	7.56E-05	6.10E+01
Magnesium	--	--	--	--	--	--	--	1.50E+04
Manganese	1.61E-03	1.80E-03	1.61E-03	1.80E-03	1.60E-03	1.58E-06	1.58E-03	9.21E+02
Mercury, element	2.15E-06	2.21E-06	2.15E-06	2.21E-06	2.15E-06	--	2.14E-06	2.64E-01
Mercury, divalent	--	--	--	--	--	--	--	--
Mercury, methyl	--	--	--	--	--	--	--	--
Molybdenum	3.11E-05	3.13E-05	3.11E-05	3.13E-05	3.11E-05	3.11E-08	3.11E-05	8.00E-01
Nickel	1.80E-03	1.81E-03	1.80E-03	1.81E-03	1.80E-03	1.80E-06	1.80E-03	4.10E+01
Phosphorus	--	--	--	--	--	--	--	6.90E+02
Potassium	--	--	--	--	--	--	--	3.20E+04
Rubidium	4.87E-05	4.99E-05	4.87E-05	4.99E-05	4.86E-05	--	4.85E-05	5.97E+00
Selenium	1.21E-05	1.22E-05	1.21E-05	1.22E-05	1.21E-05	--	1.21E-05	3.50E-01
Silver	1.48E-04	1.48E-04	1.48E-04	1.48E-04	1.48E-04	1.48E-07	1.48E-04	5.00E-01
Sodium	--	--	--	--	--	--	--	1.90E+04
Strontium	5.05E-04	5.48E-04	5.05E-04	5.48E-04	5.02E-04	4.98E-07	4.98E-04	2.10E+02
Thallium	9.36E-06	9.52E-06	9.36E-06	9.52E-06	9.35E-06	9.33E-09	9.33E-06	7.90E-01
Tin	1.85E-03	1.85E-03	1.85E-03	1.85E-03	1.85E-03	1.85E-06	1.85E-03	3.00E+00
Titanium	1.39E-03	2.26E-03	1.39E-03	2.26E-03	1.34E-03	1.25E-06	1.25E-03	4.20E+03
Uranium	9.39E-06	9.76E-06	9.39E-06	9.76E-06	9.37E-06	9.33E-09	9.33E-06	1.80E+00
Vanadium	3.14E-04	3.30E-04	3.14E-04	3.30E-04	3.13E-04	3.11E-07	3.11E-04	8.00E+01
Zinc	1.89E-02	1.90E-02	1.89E-02	1.90E-02	1.89E-02	1.89E-05	1.89E-02	1.10E+02

Table B.7

Summary of Annual Predicted Deposition Rates
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Selected Predicted Annual Deposition Rate (Dr) Creek (g/m^2-yr)	Predicted Annual Deposition Rate (Dr) PA (g/m^2-yr)	South (g/m^2-yr)	Employee Accommodations (g/m^2-yr)	Village (g/m^2-yr)	Creek (g/m^2-yr)
Particulate Matter						
Total Particulate Matter	7.69E+02	7.69E+02	5.00E+01	7.69E+02	8.00E+00	7.69E+02
Particulate Matter (PM10)	9.49E+01	9.49E+01		9.49E+01		9.49E+01
Particulate Matter (PM2.5)	3.33E-01	4.46E-01		4.46E-01		3.33E-01
Metals						
Aluminum	7.69E+01	7.69E+01	5.00E+00	7.69E+01	8.00E-01	7.69E+01
Antimony	2.31E-03	2.31E-03	1.50E-04	2.31E-03	2.40E-05	2.31E-03
Arsenic	3.00E-01	3.00E-01	1.95E-02	3.00E-01	3.12E-03	3.00E-01
Barium	6.23E-01	6.23E-01	4.05E-02	6.23E-01	6.48E-03	6.23E-01
Beryllium	2.31E-03	2.31E-03	1.50E-04	2.31E-03	2.40E-05	2.31E-03
Bismuth	2.54E-04	2.54E-04	1.65E-05	2.54E-04	2.64E-06	2.54E-04
Boron	1.92E-02	1.92E-02	1.25E-03	1.92E-02	2.00E-04	1.92E-02
Cadmium	9.23E-05	9.23E-05	6.00E-06	9.23E-05	9.60E-07	9.23E-05
Calcium	1.00E+01	1.00E+01	6.50E-01	1.00E+01	1.04E-01	1.00E+01
Chromium Total	8.54E-02	8.54E-02	5.55E-03	8.54E-02	8.88E-04	8.54E-02
Cobalt	1.38E-02	1.38E-02	9.00E-04	1.38E-02	1.44E-04	1.38E-02
Copper	2.85E-02	2.85E-02	1.85E-03	2.85E-02	2.96E-04	2.85E-02
Iron	3.31E+01	3.31E+01	2.15E+00	3.31E+01	3.44E-01	3.31E+01
Lead	2.85E-02	2.85E-02	1.85E-03	2.85E-02	2.96E-04	2.85E-02
Lithium	4.69E-02	4.69E-02	3.05E-03	4.69E-02	4.88E-04	4.69E-02
Magnesium	1.15E+01	1.15E+01	7.50E-01	1.15E+01	1.20E-01	1.15E+01
Manganese	7.09E-01	7.09E-01	4.61E-02	7.09E-01	7.37E-03	7.09E-01
Mercury, element	2.03E-04	2.03E-04	1.32E-05	2.03E-04	2.11E-06	2.03E-04
Mercury, divalent	--	--	--	--	--	--
Mercury, methyl	--	--	--	--	--	--
Molybdenum	6.16E-04	6.16E-04	4.00E-05	6.16E-04	6.40E-06	6.16E-04
Nickel	3.15E-02	3.15E-02	2.05E-03	3.15E-02	3.28E-04	3.15E-02
Phosphorus	5.31E-01	5.31E-01	3.45E-02	5.31E-01	5.52E-03	5.31E-01
Potassium	2.46E+01	2.46E+01	1.60E+00	2.46E+01	2.56E-01	2.46E+01
Rubidium	4.59E-03	4.59E-03	2.99E-04	4.59E-03	4.78E-05	4.59E-03
Selenium	2.69E-04	2.69E-04	1.75E-05	2.69E-04	2.80E-06	2.69E-04
Silver	3.85E-04	3.85E-04	2.50E-05	3.85E-04	4.00E-06	3.85E-04
Sodium	1.46E+01	1.46E+01	9.50E-01	1.46E+01	1.52E-01	1.46E+01
Strontium	1.62E-01	1.62E-01	1.05E-02	1.62E-01	1.68E-03	1.62E-01
Thallium	6.08E-04	6.08E-04	3.95E-05	6.08E-04	6.32E-06	6.08E-04
Tin	2.31E-03	2.31E-03	1.50E-04	2.31E-03	2.40E-05	2.31E-03
Titanium	3.23E+00	3.23E+00	2.10E-01	3.23E+00	3.36E-02	3.23E+00
Uranium	1.38E-03	1.38E-03	9.00E-05	1.38E-03	1.44E-05	1.38E-03
Vanadium	6.16E-02	6.16E-02	4.00E-03	6.16E-02	6.40E-04	6.16E-02
Zinc	8.46E-02	8.46E-02	5.50E-03	8.46E-02	8.80E-04	8.46E-02

Table B.8

Predicted Concentrations in Surface Water using GoldSIM software
Anaconda Goldboro
Goldboro, Nova Scotia

		Selected Predicted Surface Water Concentration (Cw)					Gold Brook Lake Surface Water Predicted Concentration (Cw)					Gold Brook Surface Water Predicted Concentration (Cw)					Maximum Surface Water Predicted Concentration (Cw)			
Contaminant	**Units**	**Construction**	**Operations**	**Reclamation**	**Post-Closure**	**Baseline**	**Construction**	**Operations**	**Reclamation**	**Post-Closure**	**Baseline**	**Construction**	**Operations**	**Reclamation**	**Post-Closure**	**Construction**	**Operations**	**Reclamation**	**Post-Closure**
Calculated Parameters																			
Nitrate (N)	mg/L	2.34E-01	4.82E+00	1.45E+00	7.77E-01	6.23E-02	6.23E-02	4.93E+00	1.37E+00	8.62E-01	2.34E-01	2.34E-01	4.82E+00	1.45E+00	7.77E-01	2.34E-01	4.93E+00	1.45E+00	8.62E-01
Inorganics																			
Nitrite (N)	mg/L	1.06E-02	5.94E-02	2.94E-02	6.00E-02	1.59E-02	1.59E-02	6.00E-02	5.84E-02	6.00E-02	1.06E-02	1.06E-02	5.94E-02	2.94E-02	6.00E-02	1.59E-02	6.00E-02	5.84E-02	6.00E-02
Ammonia	mg/L	1.78E-01	6.83E-02	6.95E-02	3.02E-02	6.55E-02	6.55E-02	6.50E-02	6.50E-02	3.35E-02	1.78E-01	1.78E-01	6.83E-02	6.95E-02	3.02E-02				
Un-ionized ammonia	mg/L	6.94E-03	1.87E-02	5.02E-04	1.68E-04	2.55E-03	2.55E-03	1.90E-02	4.38E-04	1.86E-04	6.94E-03	6.94E-03	1.87E-02	5.02E-04	1.68E-04	6.94E-03	1.90E-02	5.02E-04	1.86E-04
Cyanide	mg/L	0.00E+00	4.91E-03	4.51E-03	1.22E-04	0.00E+00	0.00E+00	5.00E-03	5.00E-03	1.35E-04	0.00E+00	0.00E+00	4.91E-03	4.51E-03	1.22E-04	0.00E+00	5.00E-03	5.00E-03	1.35E-04
Total metals																			
Total Aluminum (Al)	mg/L	4.30E-01	1.99E-01	2.66E-01	3.61E-01	5.04E-01	5.04E-01	2.08E-01	2.96E-01	4.00E-01	4.30E-01	4.30E-01	1.99E-01	2.66E-01	3.61E-01	5.04E-01	2.08E-01	2.96E-01	4.00E-01
Total Antimony (Sb)	mg/L	5.00E-04	4.39E-03	3.27E-03	2.20E-03	6.75E-04	6.75E-04	4.51E-03	3.54E-03	2.26E-03	5.00E-04	5.00E-04	4.39E-03	3.27E-03	2.20E-03	6.75E-04	4.51E-03	3.54E-03	2.26E-03
Total Arsenic (As)	mg/L	6.77E-01	5.48E-02	5.21E-02	5.12E-02	6.18E-02	6.18E-02	5.54E-02	5.54E-02	5.33E-02	6.77E-01	6.77E-01	5.48E-02	5.21E-02	5.12E-02	6.77E-01	5.54E-02	5.54E-02	5.33E-02
Total Barium (Ba)	mg/L	3.60E-03	7.09E-03	7.05E-03	5.73E-03	3.37E-03	3.37E-03	7.17E-03	7.48E-03	6.12E-03	3.60E-03	3.60E-03	7.09E-03	7.05E-03	5.73E-03	3.60E-03	7.17E-03	7.48E-03	6.12E-03
Total Beryllium (Be)	mg/L	5.00E-04	4.61E-04	4.71E-04	4.76E-04	6.75E-04	6.75E-04	4.68E-04	5.17E-04	5.15E-04	5.00E-04	5.00E-04	4.61E-04	4.71E-04	4.76E-04	6.75E-04	4.68E-04	5.17E-04	5.15E-04
Total Bismuth (Bi)	mg/L	--	--	--	--	1.00E-03	--	--	--	--	1.00E-03	--	--	--	--	--	--	--	--
Total Boron (B)	mg/L	--	--	--	--	2.50E-02	--	--	--	--	2.50E-02	--	--	--	--	--	--	--	--
Total Cadmium (Cd)	mg/L	2.48E-05	1.98E-05	2.41E-05	3.70E-05	3.72E-05	3.72E-05	1.98E-05	2.53E-05	4.00E-05	2.48E-05	2.48E-05	1.98E-05	2.41E-05	3.70E-05	3.72E-05	1.98E-05	2.53E-05	4.00E-05
Total Calcium (Ca)	mg/L	--	--	--	--	7.54E-01	--	--	--	--	4.89E+00	--	--	--	--	--	--	--	--
Total Chromium (Cr)	mg/L	1.30E-03	8.58E-04	6.87E-04	8.60E-04	5.00E-04	5.00E-04	8.66E-04	7.18E-04	9.28E-04	1.30E-03	1.30E-03	8.58E-04	6.87E-04	8.60E-04	1.30E-03	8.66E-04	7.18E-04	9.28E-04
Total Cobalt (Co)	mg/L	2.00E-04	9.91E-04	9.35E-04	9.61E-04	3.05E-04	3.05E-04	1.00E-03	1.00E-03	1.00E-03	2.00E-04	2.00E-04	9.91E-04	9.35E-04	9.61E-04	3.05E-04	1.00E-03	1.00E-03	1.00E-03
Total Copper (Cu)	mg/L	1.74E-03	1.96E-03	1.86E-03	9.20E-04	1.00E-03	1.00E-03	1.99E-03	2.00E-03	1.01E-03	1.74E-03	1.74E-03	1.96E-03	1.86E-03	9.20E-04	1.74E-03	1.99E-03	2.00E-03	1.01E-03
Total Iron (Fe)	mg/L	1.17E+00	3.55E-01	4.55E-01	4.28E-01	6.98E-01	6.98E-01	3.59E-01	4.99E-01	4.78E-01	1.17E+00	1.17E+00	3.55E-01	4.55E-01	4.28E-01	1.17E+00	3.59E-01	4.99E-01	4.78E-01
Total Lead (Pb)	mg/L	7.62E-04	8.22E-04	7.06E-04	9.27E-04	9.70E-04	9.70E-04	8.18E-04	7.14E-04	1.00E-03	7.62E-04	7.62E-04	8.22E-04	7.06E-04	9.27E-04	9.70E-04	8.22E-04	7.14E-04	1.00E-03
Total Lithium (Li)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Magnesium (Mg)	mg/L	--	--	--	--	6.40E-01	--	--	--	--	8.14E-01	--	--	--	--	--	--	--	--
Total Manganese (Mn)	mg/L	8.03E-02	7.56E-02	4.92E-02	1.19E-01	2.55E-02	2.55E-02	7.75E-02	5.24E-02	1.28E-01	8.03E-02	8.03E-02	7.56E-02	4.92E-02	1.19E-01	8.03E-02	7.75E-02	5.24E-02	1.28E-01
Total Mercury (Hg)	mg/L	1.36E-04	6.88E-06	7.05E-06	9.69E-06	1.03E-05	1.03E-05	6.92E-06	7.59E-06	1.06E-05	1.36E-04	1.36E-04	6.88E-06	7.05E-06	9.69E-06	1.36E-04	6.92E-06	7.59E-06	1.06E-05
Total Mercury, divalent (Hg2+)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Mercury, methyl (MeHg)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Molybdenum (Mo)	mg/L	--	--	--	--	1.00E-03	--	--	--	--	1.00E-03	--	--	--	--	--	--	--	--
Total Nickel (Ni)	mg/L	1.00E-03	1.42E-02	6.10E-03	1.13E-02	1.00E-03	1.00E-03	1.46E-02	6.39E-03	1.18E-02	1.00E-03	1.00E-03	1.42E-02	6.10E-03	1.13E-02	1.00E-03	1.46E-02	6.39E-03	1.18E-02
Total Phosphorus (P)	mg/L	--	--	--	--	5.00E-02	--	--	--	--	5.00E-02	--	--	--	--	--	--	--	--
Total Potassium (K)	mg/L	--	--	--	--	3.78E-01	--	--	--	--	8.04E-01	--	--	--	--	--	--	--	--
Total Rubidium (Rb)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Selenium (Se)	mg/L	5.00E-04	4.88E-04	4.68E-04	5.58E-04	5.00E-04	5.00E-04	4.95E-04	5.00E-04	6.06E-04	5.00E-04	5.00E-04	4.88E-04	4.68E-04	5.58E-04	5.00E-04	4.95E-04	5.00E-04	6.06E-04
Total Silver (Ag)	mg/L	5.00E-05	7.90E-05	7.04E-05	7.48E-05	5.00E-05	5.00E-05	8.10E-05	7.64E-05	8.04E-05	5.00E-05	5.00E-05	7.90E-05	7.04E-05	7.48E-05	5.00E-05	8.10E-05	7.64E-05	8.04E-05
Total Sodium (Na)	mg/L	--	--	--	--	4.71E+00	--	--	--	--	5.52E+00	--	--	--	--	--	--	--	--
Total Strontium (Sr)	mg/L	--	--	--	--	9.48E-03	--	--	--	--	4.47E-02	--	--	--	--	--	--	--	--
Total Thallium (Tl)	mg/L	5.00E-05	7.31E-05	6.61E-05	8.48E-05	5.00E-05	5.00E-05	7.47E-05	7.11E-05	9.14E-05	5.00E-05	5.00E-05	7.31E-05	6.61E-05	8.48E-05	5.00E-05	7.47E-05	7.11E-05	9.14E-05
Total Tin (Sn)	mg/L	--	--	--	--	1.00E-03	--	--	--	--	1.00E-03	--	--	--	--	--	--	--	--
Total Titanium (Ti)	mg/L	--	--	--	--	8.75E-03	--	--	--	--	9.34E-03	--	--	--	--	--	--	--	--
Total Uranium (U)	mg/L	5.00E-05	9.50E-04	8.52E-04	5.76E-04	6.75E-05	6.75E-05	9.77E-04	9.26E-04	5.97E-04	5.00E-05	5.00E-05	9.50E-04	8.52E-04	5.76E-04	6.75E-05	9.77E-04	9.26E-04	5.97E-04
Total Vanadium (V)	mg/L	1.00E-03	2.12E-03	1.49E-03	2.01E-03	1.00E-03	1.00E-03	2.16E-03	1.56E-03	2.14E-03	1.00E-03	1.00E-03	2.12E-03	1.49E-03	2.01E-03	1.00E-03	2.16E-03	1.56E-03	2.14E-03
Total Zinc (Zn)	mg/L	9.76E-03	7.28E-03	7.18E-03	7.27E-03	1.18E-02	1.18E-02	6.90E-03	6.86E-03	8.11E-03	9.76E-03	9.76E-03	7.28E-03	7.18E-03	7.27E-03	1.18E-02	7.28E-03	7.18E-03	8.11E-03

Table B.9

Physical Properties and Constants
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Symbol	Unit	Value	Reference
General Parameters				
Deposition Time Period, Construction	tD	(yr)	2	Project length
Deposition Time Period, Operation	tD	(yr)	13	Project length
Deposition Time Period, Reclamation	tD	(yr)	16	Project length
Deposition Time Period, Post-Closure	tD	(yr)	16	Project length
Time Period at Start of Combustion	T_1	(yr)	0	USEPA, 2005
Soil Mixing Zone Depth (untilled)	Z_s	(cm)	2	USEPA, 2005
Soil Mixing Zone Depth (tilled)	Z_s	(cm)	20	USEPA, 2005
Soil Bulk Density	BD	(g/cm^3)	1.5	USEPA, 2005
Average Annual Surface Runoff	RO	(cm/yr)	78.92	GHD Water Balance
Soil Volume Water Content	θ_{sw}	(ml/cm^3)	0.2	USEPA, 2005
Average Annual Precipitation	P	(cm/yr)	140.92	GHD Water Balance
Average Annual Evapotranspiration	E_v	(cm/yr)	44.68	GHD Water Balance
Average Annual Recharge	q	(cm/yr)	17.32	GHD Water Balance
Universal Gas Constant	R	($atm\text{-}m^3/mol\text{-}K$)	8.21E-05	USEPA, 2005
Ambient Air Temperature	T_a	(K)	279.75	Stillwater Sherbrooke Station, Annual Mean
Solids Particle Density	ρ_s	(g/cm^3)	2.7	USEPA, 2005
COC loss, biotic and abiotic degradation	ksg	(yr^{-1})	0	USEPA, 2005
COC loss, soil erosion	kse	(yr^{-1})	0	USEPA, 2005
Solid Void Fraction	θ_v	(cm^3/cm^3)	0.17	USEPA, 2005
Soil Enrichment Ratio	ER	-	1	USEPA, 2005
Hydrology Parameters				
Water body surface area	A_W	(m^2)	2.95E+05	Surface area of Gold Brook, 6.2 m mean transect width (McCallum) by 3 km
Drag coefficient	C_d	-	1.10E-03	USEPA, 2005
Average annual wind speed	W	(m/s)	3.90E+00	USEPA, 2005
Density of air	ρ_a	(g/cm^3)	1.20E-03	USEPA, 2005
Density of water	ρ_w	(g/cm^3)	1.00E+00	USEPA, 2005
von Karman's constant	k	-	4.00E-01	USEPA, 2005
Dimensionless viscous sublayer thickness	λ_z	-	4.00E+00	USEPA, 2005
Viscosity of water corresponding to water temperature	μ_w	(g/cm-s)	1.69E-02	USEPA, 2005
Impervious watershed area receiving COPC	A_I	(m^2)	2.95E+05	Assumption: water body is only impervious area
Total watershed area receiving COPC	A_L	(m^2)	3.79E+06	Watershed area, Gold Brook GB6 minus Lake
Total watershed area receiving COPC	A_L	(sq miles)	1.46E+00	GHD Water Balance
Depth of Water Column	d_{wc}	(m)	2.79E-01	Mean of maximum depths along Gold Brook (McCallum)
USLE erodibility factor	K	(ton/acre)	3.90E-01	USEPA, 2005
USLE rainfall factor	RF	(yr^{-1})	153.4	Table R-2 of RUSLEFAC
USLE length slope factor	LS	-	1.5	USEPA, 2005
Average volumetric flow rate through water body	Vf_x	(m^3/yr)	1.25E+07	GHD Water Balance
Current velocity	μ	(m/s)	2.76E-01	Mean of maximum velocities along Gold Brook (McCallum)
USLE cover management factor	C	-	0.1	USEPA, 2005
USLE Supporting practice factor	P	-	1	USEPA, 2005
Empirical Intercept Coefficient	a	-	1.4	USEPA, 2005
Empirical Slope Coefficient	b	-	0.125	USEPA, 2005
Gas phase transfer coefficient	KG	(m/yr)	36500	USEPA, 2005
Depth of Upper Benthic Sediment Layer	d_{bs}	(m)	0.03	USEPA, 2005
Total Suspended Solids	TSS	mg/L	10	USEPA, 2005
Bed Sediment Concentration	C_{BS}	(kg/L)	1	USEPA, 2005
Bed Sediment Porosity	θ_{bs}	(Lwat/Lsed)	0.6	USEPA, 2005
Fraction of Organic Carbon in Bed Sediment	OC_{sed}	-	0.07	(4)
Water Body Temperature	T_{WK}	(K)	282.55	(5)
Average Annual Surface Runoff Pervious Areas	RO	(cm/yr)	78.92	GHD Water Balance
Vegetation Uptake Parameters				
Fraction Wet Deposition Adhere to Plant	Fw	-	0.6	USEPA, 2005
Interception Fraction Edible Plant Portion - Vegetable	Rp	-	0.982	USEPA, 2005
Interception Fraction Edible Plant Portion - Fruit	Rp	-	0.053	USEPA, 2005
Interception Fraction Edible Plant Portion - Forage	Rp	-	0.5	USEPA, 2005
Interception Fraction Edible Plant Portion - Silage	Rp	-	0.46	USEPA, 2005
Plant Surface Loss Coefficient	kp	(yr^{-1})	18	USEPA, 2005
Length of Plant Exposure to Deposition per Harvest of Edible Plant	Tp	(yrs)	0.164	USEPA, 2005
Length of Plant Exposure to Deposition per Harvest of Edible Plant - Forage	Tp	(yrs)	0.12	USEPA, 2005
Length of Plant Exposure to Deposition per Harvest of Edible Plant - Silage	Tp	(yrs)	0.16	USEPA, 2005
Yield of Edible Portion of Plant - Vegetable	Yp	($kg\ DW/m^2$)	5.66	USEPA, 2005
Yield of Edible Portion of Plant - Fruit	Yp	($kg\ DW/m^2$)	0.252	USEPA, 2005
Yield of Edible Portion of Plant - Forage	Yp	($kg\ DW/m^2$)	0.325	USEPA, 2005
Yield of Edible Portion of Plant - Silage	Yp	($kg\ DW/m^2$)	0.8	USEPA, 2005
Density of Air	pa	(g/m^3)	1200	USEPA, 2005
Correction Factor for Aboveground Produce	VG_{ag}	-	1	USEPA, 2005
Correction Factor for Forage	VG_{ag}	-	1	USEPA, 2005
Correction Factor for Silage	VG_{ag}	-	0.5	USEPA, 2005
Correction Factor for Belowground Produce	$VG_{rootveg}$	-	1	USEPA, 2005
Terrestrial Plant Moisture Content		-	0.85	
Soil Invertebrate (Earthworm) Moisture Content		-	0.84	
Prey (Small Mammal) Moisture Content		-	0.68	
Aquatic Plant Moisture Content		-	0.85	
Benthic Invertebrate Moisture Content		-	0.79	
Crops Uptake Parameters				
Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal	F	-	1	USEPA, 2005
Soil Bioavailability Factor	Bs	-	1	USEPA, 2005

Table B.9

Physical Properties and Constants
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Symbol	Unit	Value	Reference
Metabolism Factor	MF	-	1	USEPA, 2005
Quantity of Forage Ingested by the Animal per day - Cattle	Qp_f	(kg DW/day)	8.8	USEPA, 2005
Quantity of Silage Ingested by the Animal per day - Cattle	Qp_s	(kg DW/day)	2.5	USEPA, 2005
Quantity of Grain Ingested by the Animal per day - Cattle	Qp_g	(kg DW/day)	0.47	USEPA, 2005
Quantity of Soil Ingested by the Animal per day - Cattle	Qs	(kg/day)	0.5	USEPA, 2005
Quantity of Forage Ingested by the Animal per day - Dairy Cattle	Qp_f	(kg DW/day)	13.2	USEPA, 2005
Quantity of Silage Ingested by the Animal per day - Dairy Cattle	Qp_s	(kg DW/day)	4.1	USEPA, 2005
Quantity of Grain Ingested by the Animal per day - Dairy Cattle	Qp_g	(kg DW/day)	3	USEPA, 2005
Quantity of Soil Ingested by the Animal per day - Dairy Cattle	Qs	(kg/day)	0.4	USEPA, 2005
Quantity of Silage Ingested by the Animal per day - Swine	Qp_s	(kg DW/day)	1.4	USEPA, 2005
Quantity of Grain Ingested by the Animal per day - Swine	Qp_g	(kg DW/day)	3.3	USEPA, 2005
Quantity of Soil Ingested by the Animal per day - Swine	Qs	(kg/day)	0.37	USEPA, 2005
Quantity of Grain Ingested by the Animal per day - Eggs/ Chicken	Qp_g	(kg DW/day)	0.2	USEPA, 2005
Quantity of Soil Ingested by the Animal per day - Eggs/ Chicken	Qs	(kg/day)	0.022	USEPA, 2005
Quantity of Forage Ingested by the Animal per day - White Tailed Deer	Qp_f	(kg DW/day)	2.25	FCSAP, 2012
Quantity of Soil Ingested by the Animal per day - White Tailed Deer	Qs	(kg/day)	0.05	FCSAP, 2012
Quantity of Water Ingested by the Animal per day - White Tailed Deer	Qw	(L/day)	4.50	FCSAP, 2012
Quantity of Forage Ingested by the Animal per day - Snowshoe Hare	Qp_f	(kg DW/day)	0.08	FCSAP, 2012
Quantity of Soil Ingested by the Animal per day - Snowshoe Hare	Qs	(kg/day)	0.005	FCSAP, 2012
Quantity of Water Ingested by the Animal per day - Snowshoe Hare	Qw	(L/day)	0.13	FCSAP, 2012

Notes:

(1) Conservatively assumed to 2.5 cm/yr.
(2) Conservatively assumed to 5 cm/yr.
(3) Converted from temperature of 7.4°C.
(4) Based on Lake Ontario sediments.
(5) Converted from average temperature of 9.4°C. Based on data from Ganaraska River during April to October 2011,
Available at http://www.ontario.ca/environment-and-energy/provincial-stream-water-quality-monitoring-network-pwqmn-data.
(6) Based on Environment Canada climate normals for Port Hope (P = 832 mm yearly precipitation).
RO = P - (0.15) P - Ev
= 0.85 P - Ev
where Evapotranspiration (Ev) = 61 cm/year; National Atlas of Canada, Available at
http://atlas.nrcan.gc.ca/site/english/maps/archives/4thedition/environment/climate/049_50
(7) Qp_f for wildgame value not directly available in the preferred sources was calculated for a whitetailed doe using the following equation derived by Nagy (1987) consistent with USEPA (1993):
Qp_f = (0.577 x BW^0.727) / 1,000
where whitetailed doe BW = 60,000 g (Alberta Government, 2009)
(8) The percent soil in the diet for the Whitetailed deer was assumed as 2% of diet (quantity of forage ingested) as estimated by Beyer et al. (1994). Although Beyer et al. (1994) estimated a value of less than 2%, a value of 2% was used here as a conservative approach.

References:

Beyer, W.N., S. Gerould and E.E. Connor. 1994. Estimates of Soil Ingestion by Wildlife. Journal of Wildlife Management, 58, 375 382.
MOE, 2011: Rationale for the Development of Soil and Ground Water Standards for Use at Contaminated Sites in Ontario, April 15, 2011.
Nagy, K.A. 1987. Field metabolic rate and food requirement scaling in mammals and birds. Ecological Monographs 57: 111 128.
USEPA, 2005: Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities, EPA/530-R-05-006, September 2005.
USEPA, 1993: Wildlife Exposure Factors Handbook. U.S. Environmental Protection Agency, Washington, D.C., EPA/600/R-93/187, December 1993.

Table B.10

Summary of Chemical Properties [1]

Anaconda Goldboro

Goldboro, Nova Scotia

Contaminant	Henry's Law Constant (H) (atm-m³/mol)	Reference	Diffusivity of COPC in Air (Da) (cm²/s)	Reference	Diffusivity of COPC in Water (Dw) (cm²/s)	Reference	Soil-water Partition Coefficient (Kds) (mL/g)	Reference	Suspended Sediments - Surface Water Partition Coefficient (Kdsw) (L/kg)	Reference	Bed Sediments - Sediment Pore Water Partition Coefficient (Kdbs) (L/kg)	Reference	Organic Carbon Water Partition Coefficient (Koc) (mL/g)	Reference	Octanol Water Partition Coefficient (log Kow) -	Reference	Fraction of Air Concentration in Vapour Phase (Fv) -	Reference	Air to Plant Biotransfer Factor (Bv_{ag}) mg/kg)/(µg/g	Reference	Soil to Plant Bioconcentration Factor for Aboveground Produce (Br_{ag}) (µg/g)/(µg/g)	Reference	Soil to Plant Bioconcentration Factor for Aboveground Fruits ($Br_{aq(fruit)}$) (µg/g)/(µg/g)	Soil to Plant Bioconcentration Factor for Aboveground Vegetables ($Br_{aq(veg)}$) (µg/g)/(µg/g)	Soil to plant Bioconcentration Factor for Belowground Vegetables ($Br_{rootveg}$) (µg/g)/(µg/g)	Reference	Soil to plant Bioconcentration Factor for forage (Br_{forage}) (µg/g)/(µg/g)	Reference	Biotransfer Factor for Beef (Ba_{beef}) (day/kg FW)	Reference	Water to Fish Bioconcentration/ Bioaccumulation Factor (BCF/BAF) (L/kg)	Reference
Particulate Matter																																	
Total Particulate Matter	--		--		--		--		--		--		--		--		--		--		--				--		--		--		--		
Particulate Matter (PM10)	--		--		--		--		--		--		--		--		--		--		--				--		--		--		--		
Particulate Matter (PM2.5)	--		--		--		--		--		--		--		--		--		--		--				--		--		--		--		
Metals																																	
Antimony	--		--		--		4.50E+01	USEPA	4.50E+01	USEPA	4.50E+01	USEPA	--		--		0.00E+00		--		5.16E-02	USEPA	3.00E-02	7.25E-02	3.00E-02	USEPA	2.00E-01	USEPA	1.00E-03	USEPA	4.00E+01	USEPA
Arsenic	--		--		--		2.90E+01	USEPA	2.90E+01	USEPA	2.90E+01	USEPA	--		--		0.00E+00		--		6.30E-03	USEPA			8.00E-03	USEPA	3.60E-02	USEPA	2.00E-03	USEPA	1.14E+02	USEPA
Barium	--		--		--		4.10E+01	USEPA	4.10E+01	USEPA	4.10E+01	USEPA	--		--		0.00E+00		--		3.22E-02	USEPA	1.50E-02	4.88E-02	1.50E-02	USEPA	1.50E-01	USEPA	1.50E-04	USEPA	6.33E+02	USEPA
Beryllium	--		--		--		7.90E+02	USEPA	7.90E+02	USEPA	7.90E+02	USEPA	--		--		0.00E+00		--		2.58E-03	USEPA	1.50E-03	3.63E-03	1.50E-03	USEPA	1.00E-02	USEPA	1.00E-03	USEPA	6.20E+01	USEPA
Bismuth	--		--		--		--		--		--		--		--		0.00E+00		--		8.81E-03	(17)	5.00E-03	1.25E-02	5.00E-03	(16)	3.50E-02	(15)	4.00E-04	Baes et al.	--	
Boron	--		--		--		3.00E+00	RAIS	3.00E+00	RAIS	3.00E+00	RAIS	--		--		0.00E+00		--		2.25E+00	(17)	2.00E+00	2.50E+00	2.00E+00	(16)	4.00E+00	(15)	8.00E-04	RAIS	--	
Cadmium	--		--		--		7.50E+01	USEPA	7.50E+01	USEPA	7.50E+01	USEPA	--		--		0.00E+00		--		1.20E-01	USEPA			6.40E-02	USEPA	3.60E-01	USEPA	1.20E-04	USEPA	9.07E+02	USEPA
Calcium	--		--		--		--		--		--		--		--		0.00E+00		--		7.50E-01	(17)	3.50E-01	1.14E+00	3.50E-01	(16)	3.50E+00	(15)	7.00E-04	Baes et al.	--	
Chromium Total	--		--		--		1.90E+01	USEPA	1.90E+01	USEPA	1.90E+01	USEPA	--		--		0.00E+00		--		4.88E-03	USEPA	4.50E-03	5.25E-03	4.50E-03	USEPA	7.50E-03	USEPA	5.50E-03	USEPA	1.90E+01	USEPA
Cobalt	--		--		--		4.50E+01	RAIS	4.50E+01	RAIS	4.50E+01	RAIS	--		--		0.00E+00		--		8.65E-03	(17)	7.00E-03	1.03E-02	7.00E-03	(16)	2.00E-02	(15)	2.00E-02	RAIS	3.00E+02	RAIS
Copper	--		--		--		3.50E+01	RAIS	3.50E+01	RAIS	3.50E+01	RAIS	--		--		0.00E+00		--		2.69E-01	(17)	2.50E-01	2.88E-01	2.50E-01	(16)	4.00E-01	(15)	1.00E-02	RAIS	2.00E+02	RAIS
Iron	--		--		--		2.50E+01	RAIS	2.50E+01	RAIS	2.50E+01	RAIS	--		--		0.00E+00		--		1.38E-03	(17)	1.00E-03	1.75E-03	1.00E-03	(16)	4.00E-03	(15)	2.00E-02	RAIS	2.00E+02	RAIS
Lead	--		--		--		9.00E+02	USEPA	9.00E+02	USEPA	9.00E+02	USEPA	--		--		0.00E+00		--		1.36E-02	USEPA	9.00E-03	1.80E-02	9.00E-03	USEPA	4.50E-02	USEPA	3.00E-04	USEPA	9.00E-02	USEPA
Lithium	--		--		--		3.00E+02	RAIS	3.00E+02	RAIS	3.00E+02	RAIS	--		--		0.00E+00		--		6.67E-03	(17)	4.00E-03	9.25E-03	4.00E-03	(16)	2.50E-02	(15)	1.00E-02	RAIS	--	
Magnesium	--		--		--		--		--		--		--		--		0.00E+00		--		6.07E-01	(17)	5.50E-01	6.63E-01	5.50E-01	(16)	1.00E+00	(15)	5.00E-03	RAIS	--	
Manganese	--		--		--		6.50E+01	RAIS	6.50E+01	RAIS	6.50E+01	RAIS	--		--		0.00E+00		--		7.54E-02	(17)	5.00E-02	1.00E-01	5.00E-02	(16)	2.50E-01	(15)	4.00E-04	RAIS	4.00E+02	RAIS
Mercury, element	1.15E-02	MOE	3.07E-02	MOE	6.30E-06	MOE	3.30E+03	(3)	4.95E+04	(3)	2.64E+04	(3)	6.60E+05	MOE	6.20E-01	MOE	1.00E+00	USEPA	1.00E+00	USEPA	0.00E+00	USEPA			0.00E+00	USEPA	0.00E+00	USEPA	1.00E+00	USEPA	0.00E+00	USEPA
Mercury, divalent (2)	7.10E-10	USEPA	4.50E-02	USEPA	5.20E-06	USEPA	3.30E+03	(3)	4.95E+04	(3)	2.64E+04	(3)	6.60E+05	MOE	6.20E-01	MOE	8.50E-01	USEPA	1.80E+03	USEPA	1.40E-02	USEPA			3.60E-02	USEPA	1.00E+00	USEPA	5.20E-03	USEPA	1.00E+00	USEPA
Mercury, methyl	7.22E-03	USEPA	5.30E-02	USEPA	6.10E-06	USEPA	2.00E+01	(3)	3.00E+02	(3)	1.60E+02	(3)	4.00E+03	MOE	8.00E-02	MOE	0.00E+00	USEPA	1.00E+00	USEPA	2.90E-02	USEPA			9.90E-02	USEPA	1.00E+00	USEPA	7.80E-04	USEPA	6.80E+06	USEPA
Molybdenum	--		--		--		2.00E+01	RAIS	2.00E+01	RAIS	2.00E+01	RAIS	--		--		0.00E+00		--		8.42E-02	(17)	6.00E-02	1.08E-01	6.00E-02	(16)	2.50E-01	(15)	6.00E-03	RAIS	1.00E+01	RAIS
Nickel	--		--		--		6.50E+01	USEPA	6.50E+01	USEPA	6.50E+01	USEPA	--		--		0.00E+00		--		9.30E-03	USEPA			8.00E-03	USEPA	3.20E-02	USEPA	6.00E-03	USEPA	7.80E+01	USEPA
Phosphorus	--		--		--		3.50E+00	RAIS	3.50E+00	RAIS	3.50E+00	RAIS	--		--		0.00E+00		--		3.50E+00	(17)	3.50E+00	3.50E+00	3.50E+00	(16)	3.50E+00	(15)	5.50E-02	RAIS	--	
Potassium	--		--		--		5.50E+00	RAIS	5.50E+00	RAIS	5.50E+00	RAIS	--		--		0.00E+00		--		6.07E-01	(17)	5.50E-01	6.63E-01	5.50E-01	(16)	1.00E+00	(15)	2.00E-02	RAIS	--	
Rubidium	--		--		--		--		--		--		--		--		0.00E+00		--		1.00E+00	Default			1.00E+00	Default	1.00E+00	Default	1.50E-02	Baes et al.	--	
Selenium	--		--		--		5.00E+00	USEPA	5.00E+00	USEPA	5.00E+00	USEPA	--		--		0.00E+00		--		2.00E-02	USEPA			2.20E-02	USEPA	1.60E-02	USEPA	2.30E-03	USEPA	1.29E+02	USEPA
Silver	--		--		--		8.30E+00	USEPA	8.30E+00	USEPA	8.30E+00	USEPA	--		--		0.00E+00		--		1.38E-01	USEPA	1.00E-01	1.75E-01	1.00E-01	USEPA	4.00E-01	USEPA	3.00E-03	USEPA	8.77E+01	USEPA
Sodium	--		--		--		1.00E+02	RAIS	1.00E+02	RAIS	1.00E+02	RAIS	--		--		0.00E+00		--		5.75E-02	(17)	5.50E-02	6.00E-02	5.50E-02	(16)	7.50E-02	(15)	5.50E-02	RAIS	2.00E+01	RAIS
Strontium	--		--		--		3.50E+01	RAIS	3.50E+01	RAIS	3.50E+01	RAIS	--		--		0.00E+00		--		5.36E-01	(17)	2.50E-01	8.13E-01	2.50E-01	(16)	2.50E+00	(15)	3.00E-04	RAIS	6.00E+01	RAIS
Thallium	--		--		--		7.10E+01	USEPA	7.10E+01	USEPA	7.10E+01	USEPA	--		--		0.00E+00		--		8.58E-04	USEPA	4.00E-04	1.30E-03	4.00E-04	USEPA	4.00E-03	USEPA	4.00E-02	USEPA	1.00E+04	RAIS
Tin	--		--		--		2.50E+02	RAIS	2.50E+02	RAIS	2.50E+02	RAIS	--		--		0.00E+00		--		9.05E-03	(17)	6.00E-03	1.20E-02	6.00E-03	(16)	3.00E-02	(15)	1.00E-03	RAIS	3.00E+03	RAIS
Titanium	--		--		--		1.00E+03	RAIS	1.00E+03	RAIS	1.00E+03	RAIS	--		--		0.00E+00		--		3.32E-03	(17)	3.00E-03	3.63E-03	3.00E-03	(16)	5.50E-03	(15)	3.00E-02	RAIS	--	
Uranium	--		--		--		4.50E+02	RAIS	4.50E+02	RAIS	4.50E+02	RAIS	--		--		0.00E+00		--		1.00E+00	Default			1.00E+00	Default	1.00E+00	Default	2.00E-04	Baes et al.	--	
Vanadium	--		--		--		1.00E+03	RAIS	1.00E+03	RAIS	1.00E+03	RAIS	--		--		0.00E+00		--		3.32E-03	(17)	3.00E-03	3.63E-03	3.00E-03	(16)	5.50E-03	(15)	2.50E-03	RAIS	--	
Zinc	--		--		--		6.20E+01	USEPA	6.20E+01	USEPA	6.20E+01	USEPA	--		--		0.00E+00		--		9.70E-02	USEPA			9.00E-01	USEPA	2.50E-01	USEPA	9.00E-05	USEPA	2.06E+03	USEPA

Table B.10

Summary of Chemical Properties [1]

Anaconda Goldboro

Goldboro, Nova Scotia

Notes:

(1) Order of selection for chemical-specific properties:

1. MOE
2. RSL
3. USEPA or RAIS
4. Other

(2) When there was a lack of available data, the following were used as surrogates:

COPC		Surrogate
Mercury, divalent	-	Mercuric chloride
Benzo(a)fluorene	-	Benzo(a)pyrene
Benzo(b)fluorene	-	Benzo(a)pyrene
Benzo(e)pyrene	-	Benzo(a)pyrene
Benzo(g,h,i)perylene	-	Benzo(a)pyrene
Dibenzo(a,c)anthracene	-	Benzo(a)pyrene
Perylene	-	Benzo(a)pyrene
O-Terphenyl	-	Benzo(a)pyrene

(3) Kd values calculated using the following fraction organic carbon (foc) correlation equation A-2-10 provided in Appendix A-2, USEPA (2005):

Kds = foc x Koc; where foc = 5.00E-03 (MOE, 2011)

Kdsw = foc x Koc; where foc = 7.50E-02 (USEPA, 2005)

Kdbs = foc x Koc; where foc = 4.00E-02 (USEPA, 2005)

(4) Due to a lack of available data, assumed value of 1.

(5) Bv_{ag} values not directly available in the preferred sources were calculated using the following equation A-2-20 provided in Appendix A-2, USEPA (2005):

$$Bv_{ag} = \frac{P_{air} \times B_{vol}}{(1-f_{water}) \times P_{forage}}$$

where: B_{vol} = 1.065 x log Kow - log (H/RT) - 1.654

P_{air} = 1.19 (g/L)

f_{water} = 8.50E-01

P_{forage} = 770 (g/L)

(6) Br_{ag} values for organics not directly available in the preferred sources were calculated using the following equation A-2-17 provided in Appendix A-2, USEPA (2005):

$\log Br_{ag}$ = 1.588 - 0.578 (log Kow)

(7) Brrootveg values for organics not directly available in the preferred sources were calculated using the following equation A-2-16 provided in Appendix A-2, USEPA (2005):

$$Br_{rootveg} = \frac{RCF}{Kds}$$

where: log Kow > 2; log (RCF) = 0.77 log Kow - 1.52

log Kow < 2; log (RCF) -0.82 = 0.77 log Kow - 1.52

wet wt. to dry wt. conversion = 8.70E-01

(8) Br_{forage} values for organics not directly available in the preferred sources were calculated using the following equation A-2-18 provided in Appendix A-2, USEPA (2005):

$\log Br_{forage}$ = 1.588 - 0.578 (log Kow)

(9) Ba_{beef} values not directly available in the preferred sources were calculated using the following equation A-2-23 provided in Appendix A-2, USEPA (2005):

$Ba_{beef} = 10^{\log Ba\ fat} \times 0.19$ where log Ba fat = $-0.099\ (\log Kow)^2 + 1.07 \log Kow - 3.56$

(10) Ba_{milk} values not directly available in the preferred sources were calculated using the following equation A-2-22 provided in Appendix A-2, USEPA (2005):

$Ba_{milk} = 10^{\log Ba\ fat} \times 0.04$ where log Ba fat = $-0.099\ (\log Kow)^2 + 1.07 \log Kow - 3.56$

(11) Ba_{pork} values not directly available in the preferred sources were calculated using the following equation A-2-26 provided in Appendix A-2, USEPA (2005):

$Ba_{pork} = 10^{\log Ba\ fat} \times 0.23$ where log Ba fat = $-0.099\ (\log Kow)^2 + 1.07 \log Kow - 3.56$

(12) Ba_{egg} values not directly available in the preferred sources were calculated using the following equation A-2-28 provided in Appendix A-2, USEPA (2005):

$Ba_{egg} = 10^{\log Ba\ fat} \times 0.08$ where log Ba fat = $-0.099\ (\log Kow)^2 + 1.07 \log Kow - 3.56$

(13) $Ba_{chicken}$ values not directly available in the preferred sources were calculated using the following equation A-2-27 provided in Appendix A-2, USEPA (2005):

$Ba_{chicken} = 10^{\log Ba\ fat} \times 0.14$ where log Ba fat = $-0.099\ (\log Kow)^2 + 1.07 \log Kow - 3.56$

(14) BCF values not directly available in the preferred sources were calculated using the following equation A-2-28 provided in Appendix A-2, USEPA (2005):

log BCF = 0.77 log Kow - 0.7; for log Kow of 1 to 7

(15) B_v values obtained from Baes et al. (1984) were applied as the Br_{forage} values, consistent with the methodology presented in Appendix A, USEPA (2005).

(16) B_r values obtained from Baes et al. (1984) were applied as the Br_{grain} and $Br_{rootveg}$ values, consistent with the methodology presented in Appendix A, USEPA (2005).

(17) Br_{ag} values were derived from B_r and B_v values obtained from Baes et al. (1984), consistent with the methodology presented in Appendix A, USEPA (2005).

References:

Baes, C.F., R.D. Sharp, A.L. Sjoreen, and R.W. Shor. 1984. Review and Analysis of Parameters and Assessing Transport of Environmentally Released Radionuclides through Agriculture. Oak Ridge National Laboratory. Oak Ridge, Tennessee.

EPI, 2012: Estimation Programs Interface Suite™ for Microsoft® Windows, v 4.11, November 2012 (http://www.epa.gov/oppt/exposure/pubs/episuitedl.htm).

MOE, 2011: Rationale for the Development of Soil and Ground Water Standards for Use at Contaminated Sites in Ontario, April 15, 2011.

RAIS, 2014: Risk Assessment Information System database, February 2014 (http://rais.ornl.gov/).

RSL, 2013: Regional Screening Level (RSL) Chemical-Specific Parameters Supporting Table, November 2013.

USEPA, 2005: Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities (USEPA), Appendix A-2: Human Health Risk Assessment Protocol, EPA520-R-05-006, September 2005.

Table B.11

Deposition Term Calculation
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Unit Conversion Factor (CF) ($mg\text{-}m^2/kg\text{-}cm^2$)	Annual Deposition Rate (Dr) (refer to table B.7) ($g/m^2\text{-}yr$)	Soil Mixing Zone Depth Untilled (Zs) (refer to table B.9) (cm)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	Deposition Term Mercury (Ds, mercury) (mg/kg-yr)	Deposition Term Untilled (Ds) (mg/kg-yr)
Particulate Matter						
Total Particulate Matter	1.00E+02	7.69E+02	2.00E+00	1.50E+00	--	2.56E+04
Particulate Matter (PM10)	1.00E+02	9.49E+01	2.00E+00	1.50E+00	--	3.16E+03
Particulate Matter (PM2.5)	1.00E+02	3.33E-01	2.00E+00	1.50E+00	--	1.11E+01
Metals						
Aluminum	1.00E+02	7.69E+01	2.00E+00	1.50E+00	--	2.56E+03
Antimony	1.00E+02	2.31E-03	2.00E+00	1.50E+00	--	7.69E-02
Arsenic	1.00E+02	3.00E-01	2.00E+00	1.50E+00	--	1.00E+01
Barium	1.00E+02	6.23E-01	2.00E+00	1.50E+00	--	2.08E+01
Beryllium	1.00E+02	2.31E-03	2.00E+00	1.50E+00	--	7.69E-02
Bismuth	1.00E+02	2.54E-04	2.00E+00	1.50E+00	--	8.46E-03
Boron	1.00E+02	1.92E-02	2.00E+00	1.50E+00	--	6.41E-01
Cadmium	1.00E+02	9.23E-05	2.00E+00	1.50E+00	--	3.08E-03
Calcium	1.00E+02	1.00E+01	2.00E+00	1.50E+00	--	3.33E+02
Chromium Total	1.00E+02	8.54E-02	2.00E+00	1.50E+00	--	2.85E+00
Cobalt	1.00E+02	1.38E-02	2.00E+00	1.50E+00	--	4.62E-01
Copper	1.00E+02	2.85E-02	2.00E+00	1.50E+00	--	9.49E-01
Iron	1.00E+02	3.31E+01	2.00E+00	1.50E+00	--	1.10E+03
Lead	1.00E+02	2.85E-02	2.00E+00	1.50E+00	--	9.49E-01
Lithium	1.00E+02	4.69E-02	2.00E+00	1.50E+00	--	1.56E+00
Magnesium	1.00E+02	1.15E+01	2.00E+00	1.50E+00	--	3.85E+02
Manganese	1.00E+02	7.09E-01	2.00E+00	1.50E+00	--	2.36E+01
Mercury, element	1.00E+02	2.03E-04	2.00E+00	1.50E+00		0.00E+00
Mercury, divalent	1.00E+02	--	2.00E+00	1.50E+00	3.25E-03	3.19E-03
Mercury, methyl	1.00E+02	--	2.00E+00	1.50E+00		6.50E-05
Molybdenum	1.00E+02	6.16E-04	2.00E+00	1.50E+00	--	2.05E-02
Nickel	1.00E+02	3.15E-02	2.00E+00	1.50E+00	--	1.05E+00
Phosphorus	1.00E+02	5.31E-01	2.00E+00	1.50E+00	--	1.77E+01
Potassium	1.00E+02	2.46E+01	2.00E+00	1.50E+00	--	8.21E+02
Rubidium	1.00E+02	4.59E-03	2.00E+00	1.50E+00	--	1.53E-01
Selenium	1.00E+02	2.69E-04	2.00E+00	1.50E+00	--	8.98E-03
Silver	1.00E+02	3.85E-04	2.00E+00	1.50E+00	--	1.28E-02
Sodium	1.00E+02	1.46E+01	2.00E+00	1.50E+00	--	4.87E+02
Strontium	1.00E+02	1.62E-01	2.00E+00	1.50E+00	--	5.39E+00
Thallium	1.00E+02	6.08E-04	2.00E+00	1.50E+00	--	2.03E-02
Tin	1.00E+02	2.31E-03	2.00E+00	1.50E+00	--	7.69E-02
Titanium	1.00E+02	3.23E+00	2.00E+00	1.50E+00	--	1.08E+02
Uranium	1.00E+02	1.38E-03	2.00E+00	1.50E+00	--	4.62E-02
Vanadium	1.00E+02	6.16E-02	2.00E+00	1.50E+00	--	2.05E+00
Zinc	1.00E+02	8.46E-02	2.00E+00	1.50E+00	--	2.82E+00

Equation:

$$Ds = \frac{CF \times Hg_{factor} \times Dr}{Zs \times BD}$$

Where:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.98), and methylmercury (0.48*0.02)

Table B.12

COPC Loss Constant Due To Runoff
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Average Annual Surface Runoff (RO) (refer to table B.9) (cm/yr)	Soil Volume Water Content (θsw) (refer to table B.9) (ml/cm^3)	Soil Mixing Zone Depth Untilled (Z_s) (refer to table B.9) (cm)	Soil-Water Partition Coefficient (Kd_s) (refer to table B.14) (ml/g)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	COPC Loss Surface Runoff Untilled (ksr) (yr^{-1})
Particulate Matter						
Total Particulate Matter	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Particulate Matter (PM10)	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Particulate Matter (PM2.5)	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Metals						
Aluminum	7.89E+01	2.00E-01	2.00E+00	1.50E+03	1.50E+00	1.75E-02
Antimony	7.89E+01	2.00E-01	2.00E+00	4.50E+01	1.50E+00	5.83E-01
Arsenic	7.89E+01	2.00E-01	2.00E+00	2.90E+01	1.50E+00	9.03E-01
Barium	7.89E+01	2.00E-01	2.00E+00	4.10E+01	1.50E+00	6.40E-01
Beryllium	7.89E+01	2.00E-01	2.00E+00	7.90E+02	1.50E+00	3.33E-02
Bismuth	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Boron	7.89E+01	2.00E-01	2.00E+00	3.00E+00	1.50E+00	8.40E+00
Cadmium	7.89E+01	2.00E-01	2.00E+00	7.50E+01	1.50E+00	3.50E-01
Calcium	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Chromium Total	7.89E+01	2.00E-01	2.00E+00	1.90E+01	1.50E+00	1.37E+00
Cobalt	7.89E+01	2.00E-01	2.00E+00	4.50E+01	1.50E+00	5.83E-01
Copper	7.89E+01	2.00E-01	2.00E+00	3.50E+01	1.50E+00	7.49E-01
Iron	7.89E+01	2.00E-01	2.00E+00	2.50E+01	1.50E+00	1.05E+00
Lead	7.89E+01	2.00E-01	2.00E+00	9.00E+02	1.50E+00	2.92E-02
Lithium	7.89E+01	2.00E-01	2.00E+00	3.00E+02	1.50E+00	8.76E-02
Magnesium	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Manganese	7.89E+01	2.00E-01	2.00E+00	6.50E+01	1.50E+00	4.04E-01
Mercury, element	7.89E+01	2.00E-01	2.00E+00	3.30E+03	1.50E+00	7.97E-03
Mercury, divalent	7.89E+01	2.00E-01	2.00E+00	3.30E+03	1.50E+00	7.97E-03
Mercury, methyl	7.89E+01	2.00E-01	2.00E+00	2.00E+01	1.50E+00	1.31E+00
Molybdenum	7.89E+01	2.00E-01	2.00E+00	2.00E+01	1.50E+00	1.31E+00
Nickel	7.89E+01	2.00E-01	2.00E+00	6.50E+01	1.50E+00	4.04E-01
Phosphorus	7.89E+01	2.00E-01	2.00E+00	3.50E+00	1.50E+00	7.24E+00
Potassium	7.89E+01	2.00E-01	2.00E+00	5.50E+00	1.50E+00	4.67E+00
Rubidium	7.89E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Selenium	7.89E+01	2.00E-01	2.00E+00	5.00E+00	1.50E+00	5.12E+00
Silver	7.89E+01	2.00E-01	2.00E+00	8.30E+00	1.50E+00	3.12E+00
Sodium	7.89E+01	2.00E-01	2.00E+00	1.00E+02	1.50E+00	2.63E-01
Strontium	7.89E+01	2.00E-01	2.00E+00	3.50E+01	1.50E+00	7.49E-01
Thallium	7.89E+01	2.00E-01	2.00E+00	7.10E+01	1.50E+00	3.70E-01
Tin	7.89E+01	2.00E-01	2.00E+00	2.50E+02	1.50E+00	1.05E-01
Titanium	7.89E+01	2.00E-01	2.00E+00	1.00E+03	1.50E+00	2.63E-02
Uranium	7.89E+01	2.00E-01	2.00E+00	4.50E+02	1.50E+00	5.84E-02
Vanadium	7.89E+01	2.00E-01	2.00E+00	1.00E+03	1.50E+00	2.63E-02
Zinc	7.89E+01	2.00E-01	2.00E+00	6.20E+01	1.50E+00	4.23E-01

Equation:

$$ksr = \frac{RO}{\theta_{sw} \times Z_s} \times \frac{1}{1 + (Kd_s \times BD/\theta_{sw})}\}$$

Table B.13

COPC Loss Constant Due To Leaching
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Average Annual Recharge (q) (refer to table B.9) (cm/yr)	Soil Volume Water Content (θsw) (refer to table B.9) (ml/cm^3)	Soil Mixing Zone Depth Untilled (Z_s) (refer to table B.9) (cm)	Soil-Water Partition Coefficient (Kd_s) (refer to table B.14) (ml/g)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	COPC Loss Leaching Untilled (ksl) (yr^{-1})
Particulate Matter						
Total Particulate Matter	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Particulate Matter (PM10)	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Particulate Matter (PM2.5)	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Metals						
Aluminum	1.73E+01	2.00E-01	2.00E+00	1.50E+03	1.50E+00	3.85E-03
Antimony	1.73E+01	2.00E-01	2.00E+00	4.50E+01	1.50E+00	1.28E-01
Arsenic	1.73E+01	2.00E-01	2.00E+00	2.90E+01	1.50E+00	1.98E-01
Barium	1.73E+01	2.00E-01	2.00E+00	4.10E+01	1.50E+00	1.40E-01
Beryllium	1.73E+01	2.00E-01	2.00E+00	7.90E+02	1.50E+00	7.31E-03
Bismuth	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Boron	1.73E+01	2.00E-01	2.00E+00	3.00E+00	1.50E+00	1.84E+00
Cadmium	1.73E+01	2.00E-01	2.00E+00	7.50E+01	1.50E+00	7.68E-02
Calcium	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Chromium Total	1.73E+01	2.00E-01	2.00E+00	1.90E+01	1.50E+00	3.02E-01
Cobalt	1.73E+01	2.00E-01	2.00E+00	4.50E+01	1.50E+00	1.28E-01
Copper	1.73E+01	2.00E-01	2.00E+00	3.50E+01	1.50E+00	1.64E-01
Iron	1.73E+01	2.00E-01	2.00E+00	2.50E+01	1.50E+00	2.30E-01
Lead	1.73E+01	2.00E-01	2.00E+00	9.00E+02	1.50E+00	6.41E-03
Lithium	1.73E+01	2.00E-01	2.00E+00	3.00E+02	1.50E+00	1.92E-02
Magnesium	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Manganese	1.73E+01	2.00E-01	2.00E+00	6.50E+01	1.50E+00	8.86E-02
Mercury, element	1.73E+01	2.00E-01	2.00E+00	3.30E+03	1.50E+00	1.75E-03
Mercury, divalent	1.73E+01	2.00E-01	2.00E+00	3.30E+03	1.50E+00	1.75E-03
Mercury, methyl	1.73E+01	2.00E-01	2.00E+00	2.00E+01	1.50E+00	2.87E-01
Molybdenum	1.73E+01	2.00E-01	2.00E+00	2.00E+01	1.50E+00	2.87E-01
Nickel	1.73E+01	2.00E-01	2.00E+00	6.50E+01	1.50E+00	8.86E-02
Phosphorus	1.73E+01	2.00E-01	2.00E+00	3.50E+00	1.50E+00	1.59E+00
Potassium	1.73E+01	2.00E-01	2.00E+00	5.50E+00	1.50E+00	1.02E+00
Rubidium	1.73E+01	2.00E-01	2.00E+00	--	1.50E+00	--
Selenium	1.73E+01	2.00E-01	2.00E+00	5.00E+00	1.50E+00	1.12E+00
Silver	1.73E+01	2.00E-01	2.00E+00	8.30E+00	1.50E+00	6.85E-01
Sodium	1.73E+01	2.00E-01	2.00E+00	1.00E+02	1.50E+00	5.77E-02
Strontium	1.73E+01	2.00E-01	2.00E+00	3.50E+01	1.50E+00	1.64E-01
Thallium	1.73E+01	2.00E-01	2.00E+00	7.10E+01	1.50E+00	8.12E-02
Tin	1.73E+01	2.00E-01	2.00E+00	2.50E+02	1.50E+00	2.31E-02
Titanium	1.73E+01	2.00E-01	2.00E+00	1.00E+03	1.50E+00	5.77E-03
Uranium	1.73E+01	2.00E-01	2.00E+00	4.50E+02	1.50E+00	1.28E-02
Vanadium	1.73E+01	2.00E-01	2.00E+00	1.00E+03	1.50E+00	5.77E-03
Zinc	1.73E+01	2.00E-01	2.00E+00	6.20E+01	1.50E+00	9.29E-02

Equation:

$$ksl = \frac{q}{\theta_{sw} \times Z_s \times [1.0 + (BD \times Kd_s/\theta_{sw})]}$$

Table B.14

COPC Loss Constant Due To Volatilization
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Equilibrium Coefficient Untilled (Ke) (s/yr-cm)	Gas Phase Mass Transfer Coefficient Untilled (K_t) (cm/s)	Units Conversion Factor (CF) (s/year)	Henry's Law Constant (H) (refer to table B.10) ($atm\text{-}m^3/mol$)	Soil Mixing Zone Depth Untilled (Z_s) (refer to table B.9) (cm)	Soil-water Partition Coefficient (Kd_s) (refer to table B.10) (mL /g)	Universal Gas Constant (R) (refer to table B.9) ($atm\text{-}m^3/mol\text{-}K$)	Ambient Air Temperature (T_a) (refer to table B.9) (K)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	Diffusivity of COPC in Air (Da) (refer to table B.10) (cm^2/s)	Solid Void Fraction (θv) (cm^3/cm^3)	Solids Particle Density (ρ_s) (refer to table B.9) (g/cm^3)	Volumetric Soil Water Content (θsw) (refer to table B.9) (cm^3/cm^3)	Soil Loss Constant Due t Volatilization Untilled (Ksv) (yr^{-1})
Particulate Matter														
Total Particulate Matter	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Particulate Matter (PM10)	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Particulate Matter (PM2.5)	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Metals														
Aluminum	--	--	3.15E+07	--	2.00E+00	1.50E+03	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Antimony	--	--	3.15E+07	--	2.00E+00	4.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Arsenic	--	--	3.15E+07	--	2.00E+00	2.90E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Barium	--	--	3.15E+07	--	2.00E+00	4.10E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Beryllium	--	--	3.15E+07	--	2.00E+00	7.90E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Bismuth	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Boron	--	--	3.15E+07	--	2.00E+00	3.00E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Cadmium	--	--	3.15E+07	--	2.00E+00	7.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Calcium	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Chromium Total	--	--	3.15E+07	--	2.00E+00	1.90E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Cobalt	--	--	3.15E+07	--	2.00E+00	4.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Copper	--	--	3.15E+07	--	2.00E+00	3.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Iron	--	--	3.15E+07	--	2.00E+00	2.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Lead	--	--	3.15E+07	--	2.00E+00	9.00E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Lithium	--	--	3.15E+07	--	2.00E+00	3.00E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Magnesium	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Manganese	--	--	3.15E+07	--	2.00E+00	6.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Mercury, element	1.60E+03	3.75E-03	3.15E+07	1.15E-02	2.00E+00	3.30E+03	8.21E-05	2.80E+02	1.50E+00	3.07E-02	2.44E-01	2.70E+00	2.00E-01	5.99E+00
Mercury, divalent	9.85E-05	5.50E-03	3.15E+07	7.10E-10	2.00E+00	3.30E+03	8.21E-05	2.80E+02	1.50E+00	4.50E-02	2.44E-01	2.70E+00	2.00E-01	5.42E-07
Mercury, methyl	1.65E+05	6.48E-03	3.15E+07	7.22E-03	2.00E+00	2.00E+01	8.21E-05	2.80E+02	1.50E+00	5.30E-02	2.44E-01	2.70E+00	2.00E-01	1.07E+03
Molybdenum	--	--	3.15E+07	--	2.00E+00	2.00E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Nickel	--	--	3.15E+07	--	2.00E+00	6.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Phosphorus	--	--	3.15E+07	--	2.00E+00	3.50E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Potassium	--	--	3.15E+07	--	2.00E+00	5.50E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Rubidium	--	--	3.15E+07	--	2.00E+00	--	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Selenium	--	--	3.15E+07	--	2.00E+00	5.00E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Silver	--	--	3.15E+07	--	2.00E+00	8.30E+00	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Sodium	--	--	3.15E+07	--	2.00E+00	1.00E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Strontium	--	--	3.15E+07	--	2.00E+00	3.50E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Thallium	--	--	3.15E+07	--	2.00E+00	7.10E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Tin	--	--	3.15E+07	--	2.00E+00	2.50E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Titanium	--	--	3.15E+07	--	2.00E+00	1.00E+03	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Uranium	--	--	3.15E+07	--	2.00E+00	4.50E+02	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Vanadium	--	--	3.15E+07	--	2.00E+00	1.00E+03	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--
Zinc	--	--	3.15E+07	--	2.00E+00	6.20E+01	8.21E-05	2.80E+02	1.50E+00	--	2.44E-01	2.70E+00	2.00E-01	--

Equations: $ksv = Ke \times K_t$ where, $Ke = \frac{CF \times H}{Z_s \times Kd_s \times R \times T_a \times BD}$ $K_t = \frac{Da \times \theta_v}{Z_s}$ $\theta_v = 1 - (BD/\rho_s) - \theta_{sw}$

Table B.15

COPC Soil Loss Constant
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Biotic and Abiotic Degradation (ksg) (refer to table B.9) (yr^{-1})	Soil Erosion (kse) (refer to table B.9) (yr^{-1})	Surface Runoff Untilled (ksr) (refer to table B.12) (yr^{-1})	Leaching Untilled (ksl) (refer to table B.13) (yr^{-1})	Volatilization Untilled (ksv) (refer to table B.14) (yr^{-1})	Constant All Processes Untilled (ks) (yr^{-1})
Particulate Matter						
Total Particulate Matter	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Particulate Matter (PM10)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Particulate Matter (PM2.5)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Metals						
Aluminum	0.00E+00	0.00E+00	1.75E-02	3.85E-03	0.00E+00	2.14E-02
Antimony	0.00E+00	0.00E+00	5.83E-01	1.28E-01	0.00E+00	7.11E-01
Arsenic	0.00E+00	0.00E+00	9.03E-01	1.98E-01	0.00E+00	1.10E+00
Barium	0.00E+00	0.00E+00	6.40E-01	1.40E-01	0.00E+00	7.80E-01
Beryllium	0.00E+00	0.00E+00	3.33E-02	7.31E-03	0.00E+00	4.06E-02
Bismuth	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Boron	0.00E+00	0.00E+00	8.40E+00	1.84E+00	0.00E+00	1.02E+01
Cadmium	0.00E+00	0.00E+00	3.50E-01	7.68E-02	0.00E+00	4.27E-01
Calcium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chromium Total	0.00E+00	0.00E+00	1.37E+00	3.02E-01	0.00E+00	1.68E+00
Cobalt	0.00E+00	0.00E+00	5.83E-01	1.28E-01	0.00E+00	7.11E-01
Copper	0.00E+00	0.00E+00	7.49E-01	1.64E-01	0.00E+00	9.13E-01
Iron	0.00E+00	0.00E+00	1.05E+00	2.30E-01	0.00E+00	1.28E+00
Lead	0.00E+00	0.00E+00	2.92E-02	6.41E-03	0.00E+00	3.56E-02
Lithium	0.00E+00	0.00E+00	8.76E-02	1.92E-02	0.00E+00	1.07E-01
Magnesium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Manganese	0.00E+00	0.00E+00	4.04E-01	8.86E-02	0.00E+00	4.93E-01
Mercury, element	0.00E+00	0.00E+00	7.97E-03	1.75E-03	5.99E+00	6.00E+00
Mercury, divalent	0.00E+00	0.00E+00	7.97E-03	1.75E-03	5.42E-07	9.72E-03
Mercury, methyl	0.00E+00	0.00E+00	1.31E+00	2.87E-01	1.07E+03	1.07E+03
Molybdenum	0.00E+00	0.00E+00	1.31E+00	2.87E-01	0.00E+00	1.59E+00
Nickel	0.00E+00	0.00E+00	4.04E-01	8.86E-02	0.00E+00	4.93E-01
Phosphorus	0.00E+00	0.00E+00	7.24E+00	1.59E+00	0.00E+00	8.83E+00
Potassium	0.00E+00	0.00E+00	4.67E+00	1.02E+00	0.00E+00	5.69E+00
Rubidium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Selenium	0.00E+00	0.00E+00	5.12E+00	1.12E+00	0.00E+00	6.25E+00
Silver	0.00E+00	0.00E+00	3.12E+00	6.85E-01	0.00E+00	3.80E+00
Sodium	0.00E+00	0.00E+00	2.63E-01	5.77E-02	0.00E+00	3.20E-01
Strontium	0.00E+00	0.00E+00	7.49E-01	1.64E-01	0.00E+00	9.13E-01
Thallium	0.00E+00	0.00E+00	3.70E-01	8.12E-02	0.00E+00	4.51E-01
Tin	0.00E+00	0.00E+00	1.05E-01	2.31E-02	0.00E+00	1.28E-01
Titanium	0.00E+00	0.00E+00	2.63E-02	5.77E-03	0.00E+00	3.21E-02
Uranium	0.00E+00	0.00E+00	5.84E-02	1.28E-02	0.00E+00	7.13E-02
Vanadium	0.00E+00	0.00E+00	2.63E-02	5.77E-03	0.00E+00	3.21E-02
Zinc	0.00E+00	0.00E+00	4.23E-01	9.29E-02	0.00E+00	5.16E-01

Equation: $ks = ksg + kse + ksr + ksl + ksv$

Notes:

COPC loss due to soil erosion (kse) is assumed to be zero.
COPC loss due to biotic and abiotic degradation (ksg) is assumed only for organics.

Table B.16

Predicted Soil Concentrations Due to Deposition - Non-Carcinogens
Soil Equations
Anaconda Goldboro
Goldboro, Nova Scotia

		Deposition Time Period						Existing Soil Concentration at Time tD				Deposition Soil Concentration at Time tD				Predicted Soil Concentration at Time tD			
	Deposition Term					COPC Soil Loss Constant All Processes	Baseline												
	Untilled	Construction	Operations	Reclamation	Post-Closure	Untilled	Soil Concentration	Construction	Operations	Reclamation	Post-Closure	Construction	Operations	Reclamation	Post-Closure	Construction	Operations	Reclamation	Post-Closure
	(Ds)	(tD)	(tD)	(tD)	(tD)	(ks)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)	(Cs)
	(refer to table B.11)	(refer to table B.9)	(refer to table B.9)	(refer to table B.9)	(refer to table B.9)	(refer to table B.15)	(refer to table B.1)												
Contaminant	(mg/kg-yr)	(yr)	(yr)	(yr)	(yr)	(yr^{-1})	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Particulate Matter																			
Total Particulate Matter	2.56E+04	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	3.16E+03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	1.11E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																			
Aluminum	2.56E+03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	2.14E-02	6.80E+03	6.52E+03	5.15E+03	4.83E+03	4.83E+03	5.02E+03	2.91E+04	3.48E+04	3.48E+04	11536.8	34258.6	39582.6	39582.6
Antimony	7.69E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	7.11E-01	1.00E+00	2.41E-01	9.71E-05	1.15E-05	1.15E-05	8.21E-02	1.08E-01	1.08E-01	1.08E-01	1.0	1.0	1.0	1.0
Arsenic	1.00E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.10E+00	2.08E+01	2.30E+00	1.26E-05	4.64E-07	4.64E-07	8.08E+00	9.08E+00	9.08E+00	9.08E+00	20.8	20.8	20.8	20.8
Barium	2.08E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	7.80E-01	3.66E+01	7.69E+00	1.45E-03	1.39E-04	1.39E-04	2.10E+01	2.66E+01	2.66E+01	2.66E+01	36.6	36.6	36.6	36.6
Beryllium	7.69E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.06E-02	5.00E-01	4.61E-01	2.95E-01	2.61E-01	2.61E-01	1.48E-01	7.77E-01	9.05E-01	9.05E-01	0.6	1.1	1.2	1.2
Bismuth	8.46E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	--	--	--	--	--	--	--	--
Boron	6.41E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.02E+01	2.50E+01	3.20E-08	3.93E-57	1.80E-70	1.80E-70	6.26E-02	6.26E-02	6.26E-02	6.26E-02	25.0	25.0	25.0	25.0
Cadmium	3.08E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.27E-01	4.62E-01	1.97E-01	1.79E-03	4.99E-04	4.99E-04	4.14E-03	7.18E-03	7.20E-03	7.20E-03	0.46	0.46	0.46	0.46
Calcium	3.33E+02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	2.85E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.68E+00	1.10E+01	3.84E-01	3.75E-09	2.45E-11	2.45E-11	1.64E+00	1.70E+00	1.70E+00	1.70E+00	11.0	11.0	11.0	11.0
Cobalt	4.62E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	7.11E-01	1.84E+00	4.44E-01	1.79E-04	2.12E-05	2.12E-05	4.93E-01	6.49E-01	6.50E-01	6.50E-01	1.8	1.8	1.8	1.8
Copper	9.49E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	9.13E-01	4.62E+00	7.44E-01	3.23E-05	2.09E-06	2.09E-06	8.72E-01	1.04E+00	1.04E+00	1.04E+00	4.6	4.6	4.6	4.6
Iron	1.10E+03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.28E+00	1.38E+04	1.07E+03	8.58E-04	1.86E-05	1.86E-05	7.97E+02	8.64E+02	8.64E+02	8.64E+02	13800.0	13800.0	13800.0	13800.0
Lead	9.49E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.56E-02	2.38E+01	2.22E+01	1.50E+01	1.35E+01	1.35E+01	1.83E+00	9.87E+00	1.16E+01	1.16E+01	24.0	24.8	25.0	25.0
Lithium	1.56E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.07E-01	6.76E+00	5.46E+00	1.68E+00	1.22E+00	1.22E+00	2.82E+00	1.10E+01	1.20E+01	1.20E+01	8.3	12.7	13.2	13.2
Magnesium	3.85E+02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	2.36E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.93E-01	7.72E+01	2.88E+01	1.28E-01	2.92E-02	2.92E-02	3.01E+01	4.79E+01	4.79E+01	4.79E+01	77.2	77.2	77.2	77.2
Mercury, element	0.00E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	6.00E+00	2.94E-01	1.81E-06	4.02E-35	6.16E-43	6.16E-43	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.29	0.29	0.29	0.29
Mercury, divalent	3.19E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	9.72E-03	--	--	--	--	--	6.31E-03	3.89E-02	4.72E-02	4.72E-02	0.0	0.0	0.0	0.0
Mercury, methyl	6.50E-05	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.07E+03	--	--	--	--	--	6.06E-08	6.06E-08	6.06E-08	6.06E-08	0.0	0.0	0.0	0.0
Molybdenum	2.05E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.59E+00	1.00E+00	4.13E-02	1.01E-09	8.47E-12	8.47E-12	1.23E-02	1.29E-02	1.29E-02	1.29E-02	1.0	1.0	1.0	1.0
Nickel	1.05E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.93E-01	5.32E+00	1.99E+00	8.81E-03	2.01E-03	2.01E-03	1.34E+00	2.13E+00	2.13E+00	2.13E+00	5.3	5.3	5.3	5.3
Phosphorus	1.77E+01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	8.83E+00	--	--	--	--	--	2.00E+00	2.00E+00	2.00E+00	2.00E+00	2.0	2.0	2.0	2.0
Potassium	8.21E+02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	5.69E+00	--	--	--	--	--	1.44E+02	1.44E+02	1.44E+02	1.44E+02	144.1	144.1	144.1	144.1
Rubidium	1.53E-01	2.00E+00	1.30E+01	1.60E+01	1.60E+01	0.00E+00	5.58E+00	5.58E+00	5.58E+00	5.58E+00	5.58E+00	--	--	--	--	--	--	--	--
Selenium	8.98E-03	2.00E+00	1.30E+01	1.60E+01	1.60E+01	6.25E+00	1.78E+00	6.64E-06	9.28E-36	6.69E-44	6.69E-44	1.44E-03	1.44E-03	1.44E-03	1.44E-03	1.78	1.78	1.78	1.78
Silver	1.28E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.80E+00	2.50E-01	1.24E-04	8.35E-23	9.23E-28	9.23E-28	3.37E-03	3.37E-03	3.37E-03	3.37E-03	0.25	0.25	0.25	0.25
Sodium	4.87E+02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.20E-01	--	--	--	--	--	7.20E+02	1.50E+03	1.51E+03	1.51E+03	719.6	1497.5	1512.0	1512.0
Strontium	5.39E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	9.13E-01	5.78E+01	9.31E+00	4.04E-04	2.61E-05	2.61E-05	4.95E+00	5.90E+00	5.90E+00	5.90E+00	57.8	57.8	57.8	57.8
Thallium	2.03E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	4.51E-01	5.00E-02	2.03E-02	1.42E-04	3.67E-05	3.67E-05	2.67E-02	4.48E-02	4.49E-02	4.49E-02	0.05	0.05	0.05	0.05
Tin	7.69E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	1.28E-01	5.00E-01	3.87E-01	9.44E-02	6.42E-02	6.42E-02	1.36E-01	4.87E-01	5.23E-01	5.23E-01	0.52	0.58	0.59	0.59
Titanium	1.08E+02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.21E-02	--	--	--	--	--	2.09E+02	1.15E+03	1.35E+03	1.35E+03	208.7	1145.1	1348.1	1348.1
Uranium	4.62E-02	2.00E+00	1.30E+01	1.60E+01	1.60E+01	7.13E-02	6.16E-01	5.34E-01	2.44E-01	1.97E-01	1.97E-01	8.61E-02	3.91E-01	4.41E-01	4.41E-01	0.62	0.64	0.64	0.64
Vanadium	2.05E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	3.21E-02	2.62E+01	2.46E+01	1.73E+01	1.57E+01	1.57E+01	3.97E+00	2.18E+01	2.57E+01	2.57E+01	28.5	39.1	41.4	41.4
Zinc	2.82E+00	2.00E+00	1.30E+01	1.60E+01	1.60E+01	5.16E-01	2.36E+01	8.40E+00	2.87E-02	6.10E-03	6.10E-03	3.52E+00	5.46E+00	5.46E+00	5.46E+00	23.6	23.6	23.6	23.6

Equation: $Cs_{tD} = \frac{Ds \times [1 - \exp(-ks \times tD)]}{ks}$

Table B.17

Predicted Soil Invertebrate Concentrations Due to Deposition - Non-Carcinogens
Soil Invertebrate Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Soil Concentration at Time tD				Baseline Soil Invertebrate Concentration	Predicted Soil Invertebrate Concentration at Time tD				Final Soil Invertebrate Concentration at Time tD			
Contaminant	Construction (Cs) (refer to table B.16) (mg/kg)	Operations (Cs) (refer to table B.16) (mg/kg)	Reclamation (Cs) (refer to table B.16) (mg/kg)	Post-Closure (Cs) (refer to table B.16) (mg/kg)	(Cti) (refer to table B.1) (mg/kg FW)	Construction (Cti) (1) (mg/kg FW)	Operations (Cti) (1) (mg/kg FW)	Reclamation (Cti) (1) (mg/kg FW)	Post-Closure (Cti) (1) (mg/kg FW)	Construction (Cti) (1) (mg/kg FW)	Operations (Cti) (1) (mg/kg FW)	Reclamation (Cti) (1) (mg/kg FW)	Post-Closure (Cti) (1) (mg/kg FW)
Particulate Matter													
Total Particulate Matter	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals													
Aluminum	1.15E+04	3.43E+04	3.96E+04	3.96E+04	4.20E+02	7.94E+01	2.36E+02	2.72E+02	2.72E+02	4.20E+02	4.20E+02	4.20E+02	4.20E+02
Antimony	1.00E+00	1.00E+00	1.00E+00	1.00E+00	2.50E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Arsenic	2.08E+01	2.08E+01	2.08E+01	2.08E+01	8.00E+00	3.29E-01	3.29E-01	3.29E-01	3.29E-01	8.00E+00	8.00E+00	8.00E+00	8.00E+00
Barium	3.66E+01	3.66E+01	3.66E+01	3.66E+01	2.40E+01	5.33E-01	5.33E-01	5.33E-01	5.33E-01	2.40E+01	2.40E+01	2.40E+01	2.40E+01
Beryllium	6.09E-01	1.07E+00	1.17E+00	1.17E+00	2.50E-01	4.38E-04	7.72E-04	8.40E-04	8.40E-04	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Bismuth	--	--	--	--	--	--	--	--	--	--	--	--	--
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.30E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00	4.00E+00
Cadmium	4.62E-01	4.62E-01	4.62E-01	4.62E-01	1.60E+00	7.17E-01	7.17E-01	7.17E-01	7.17E-01	1.60E+00	1.60E+00	1.60E+00	1.60E+00
Calcium	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	1.10E+01	1.10E+01	1.10E+01	1.10E+01	5.80E-01	5.38E-01	5.38E-01	5.38E-01	5.38E-01	5.80E-01	5.80E-01	5.80E-01	5.80E-01
Cobalt	1.84E+00	1.84E+00	1.84E+00	1.84E+00	2.10E-01	3.59E-02	3.59E-02	3.59E-02	3.59E-02	2.10E-01	2.10E-01	2.10E-01	2.10E-01
Copper	4.62E+00	4.62E+00	4.62E+00	4.62E+00	1.60E+01	3.81E-01	3.81E-01	3.81E-01	3.81E-01	1.60E+01	1.60E+01	1.60E+01	1.60E+01
Iron	1.38E+04	1.38E+04	1.38E+04	1.38E+04	6.00E+02	2.21E+03	2.21E+03	2.21E+03	2.21E+03	2.21E+03	2.21E+03	2.21E+03	2.21E+03
Lead	2.40E+01	2.48E+01	2.50E+01	2.50E+01	5.60E-01	1.67E+00	1.72E+00	1.73E+00	1.73E+00	1.67E+00	1.72E+00	1.73E+00	1.73E+00
Lithium	8.28E+00	1.27E+01	1.32E+01	1.32E+01	2.50E-01	1.32E+00	2.03E+00	2.11E+00	2.11E+00	1.32E+00	2.03E+00	2.11E+00	2.11E+00
Magnesium	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	7.72E+01	7.72E+01	7.72E+01	7.72E+01	1.20E+03	1.38E+00	1.38E+00	1.38E+00	1.38E+00	1.20E+03	1.20E+03	1.20E+03	1.20E+03
Mercury, element	2.94E-01	2.94E-01	2.94E-01	2.94E-01	3.50E-02	4.70E-02	4.70E-02	4.70E-02	4.70E-02	4.70E-02	4.70E-02	4.70E-02	4.70E-02
Mercury, divalent	6.31E-03	3.89E-02	4.72E-02	4.72E-02	--	1.01E-03	6.22E-03	7.55E-03	7.55E-03	1.01E-03	6.22E-03	7.55E-03	7.55E-03
Mercury, methyl	6.06E-08	6.06E-08	6.06E-08	6.06E-08	--	9.70E-09	9.70E-09	9.70E-09	9.70E-09	9.70E-09	9.70E-09	9.70E-09	9.70E-09
Molybdenum	1.00E+00	1.00E+00	1.00E+00	1.00E+00	6.90E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01	6.90E-01	6.90E-01	6.90E-01	6.90E-01
Nickel	5.32E+00	5.32E+00	5.32E+00	5.32E+00	1.10E+00	8.51E-01	8.51E-01	8.51E-01	8.51E-01	1.10E+00	1.10E+00	1.10E+00	1.10E+00
Phosphorus	2.00E+00	2.00E+00	2.00E+00	2.00E+00	--	3.21E-01	3.21E-01	3.21E-01	3.21E-01	3.21E-01	3.21E-01	3.21E-01	3.21E-01
Potassium	1.44E+02	1.44E+02	1.44E+02	1.44E+02	--	2.31E+01	2.31E+01	2.31E+01	2.31E+01	2.31E+01	2.31E+01	2.31E+01	2.31E+01
Rubidium	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	1.78E+00	1.78E+00	1.78E+00	1.78E+00	2.50E-01	2.27E-01	2.27E-01	2.27E-01	2.27E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Silver	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.80E+00	8.18E-02	8.18E-02	8.18E-02	8.18E-02	1.80E+00	1.80E+00	1.80E+00	1.80E+00
Sodium	7.20E+02	1.50E+03	1.51E+03	1.51E+03	--	1.15E+02	2.40E+02	2.42E+02	2.42E+02	1.15E+02	2.40E+02	2.42E+02	2.42E+02
Strontium	5.78E+01	5.78E+01	5.78E+01	5.78E+01	1.00E+01	9.25E+00	9.25E+00	9.25E+00	9.25E+00	1.00E+01	1.00E+01	1.00E+01	1.00E+01
Thallium	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.00E-02	8.00E-03	8.00E-03	8.00E-03	8.00E-03	1.00E-02	1.00E-02	1.00E-02	1.00E-02
Tin	5.23E-01	5.81E-01	5.87E-01	5.87E-01	2.50E-01	8.36E-02	9.30E-02	9.39E-02	9.39E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Titanium	2.09E+02	1.15E+03	1.35E+03	1.35E+03	--	3.34E+01	1.83E+02	2.16E+02	2.16E+02	3.34E+01	1.83E+02	2.16E+02	2.16E+02
Uranium	6.20E-01	6.35E-01	6.38E-01	6.38E-01	1.00E-02	9.92E-02	1.02E-01	1.02E-01	1.02E-01	9.92E-02	1.02E-01	1.02E-01	1.02E-01
Vanadium	2.85E+01	3.91E+01	4.14E+01	4.14E+01	9.30E-01	1.92E-01	2.63E-01	2.78E-01	2.78E-01	9.30E-01	9.30E-01	9.30E-01	9.30E-01
Zinc	2.36E+01	2.36E+01	2.36E+01	2.36E+01	7.90E+01	3.86E+01	3.86E+01	3.86E+01	3.86E+01	7.90E+01	7.90E+01	7.90E+01	7.90E+01

Note:
(1) Uptake equations and inputs from the USEPA Eco Soil Screening Level (SSL) guidance (USEPA, 2007). An uptake factor for aluminum was taken from the validation data set presented in Table C.1 of Appendix A of Sample et al. (1998b); the median uptake factor from that data set (0.043) was selected.

Table B.18

Predicted Prey Concentrations Due to Deposition - Non-Carcinogens
Prey Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Soil Concentration at Time tD				Prey Concentration at Time tD			
Contaminant	Construction (Cs) (refer to table B.16) (mg/kg)	Operations (Cs) (refer to table B.16) (mg/kg)	Reclamation (Cs) (refer to table B.16) (mg/kg)	Post-Closure (Cs) (refer to table B.16) (mg/kg)	Construction (Cp) (1) (mg/kg FW)	Operations (Cp) (1) (mg/kg FW)	Reclamation (Cp) (1) (mg/kg FW)	Post-Closure (Cp) (1) (mg/kg FW)
Particulate Matter								
Total Particulate Matter	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--
Metals								
Aluminum	1.15E+04	3.43E+04	3.96E+04	3.96E+04	9.71E+01	2.88E+02	3.33E+02	3.33E+02
Antimony	1.00E+00	1.00E+00	1.00E+00	1.00E+00	4.00E-03	4.00E-03	4.00E-03	4.00E-03
Arsenic	2.08E+01	2.08E+01	2.08E+01	2.08E+01	3.02E-02	3.02E-02	3.02E-02	3.02E-02
Barium	3.66E+01	3.66E+01	3.66E+01	3.66E+01	5.76E-02	5.76E-02	5.76E-02	5.76E-02
Beryllium	6.09E-01	1.07E+00	1.17E+00	1.17E+00	4.00E-03	4.00E-03	4.00E-03	4.00E-03
Bismuth	--	--	--	--	--	--	--	--
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	8.00E+00	8.00E+00	8.00E+00	8.00E+00
Cadmium	4.62E-01	4.62E-01	4.62E-01	4.62E-01	6.32E-02	6.32E-02	6.32E-02	6.32E-02
Calcium	--	--	--	--	--	--	--	--
Chromium Total	1.10E+01	1.10E+01	1.10E+01	1.10E+01	4.31E-01	4.31E-01	4.31E-01	4.31E-01
Cobalt	1.84E+00	1.84E+00	1.84E+00	1.84E+00	8.15E-03	8.15E-03	8.15E-03	8.15E-03
Copper	4.62E+00	4.62E+00	4.62E+00	4.62E+00	3.08E+00	3.08E+00	3.08E+00	3.08E+00
Iron	1.38E+04	1.38E+04	1.38E+04	1.38E+04	4.42E+03	4.42E+03	4.42E+03	4.42E+03
Lead	2.40E+01	2.48E+01	2.50E+01	2.50E+01	1.41E+00	1.43E+00	1.43E+00	1.43E+00
Lithium	8.28E+00	1.27E+01	1.32E+01	1.32E+01	2.65E+00	4.06E+00	4.23E+00	4.23E+00
Magnesium	--	--	--	--	--	--	--	--
Manganese	7.72E+01	7.72E+01	7.72E+01	7.72E+01	5.06E-01	5.06E-01	5.06E-01	5.06E-01
Mercury, element	2.94E-01	2.94E-01	2.94E-01	2.94E-01	9.41E-02	9.41E-02	9.41E-02	9.41E-02
Mercury, divalent	6.31E-03	3.89E-02	4.72E-02	4.72E-02	2.02E-03	1.24E-02	1.51E-02	1.51E-02
Mercury, methyl	6.06E-08	6.06E-08	6.06E-08	6.06E-08	1.94E-08	1.94E-08	1.94E-08	1.94E-08
Molybdenum	1.00E+00	1.00E+00	1.00E+00	1.00E+00	3.20E-01	3.20E-01	3.20E-01	3.20E-01
Nickel	5.32E+00	5.32E+00	5.32E+00	5.32E+00	5.45E-01	5.45E-01	5.45E-01	5.45E-01
Phosphorus	2.00E+00	2.00E+00	2.00E+00	2.00E+00	6.41E-01	6.41E-01	6.41E-01	6.41E-01
Potassium	1.44E+02	1.44E+02	1.44E+02	1.44E+02	4.61E+01	4.61E+01	4.61E+01	4.61E+01
Rubidium	--	--	--	--	--	--	--	--
Selenium	1.78E+00	1.78E+00	1.78E+00	1.78E+00	2.62E-01	2.62E-01	2.62E-01	2.62E-01
Silver	2.50E-01	2.50E-01	2.50E-01	2.50E-01	3.20E-04	3.20E-04	3.20E-04	3.20E-04
Sodium	7.20E+02	1.50E+03	1.51E+03	1.51E+03	2.30E+02	4.79E+02	4.84E+02	4.84E+02
Strontium	5.78E+01	5.78E+01	5.78E+01	5.78E+01	1.85E+01	1.85E+01	1.85E+01	1.85E+01
Thallium	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.60E-02	1.60E-02	1.60E-02	1.60E-02
Tin	5.23E-01	5.81E-01	5.87E-01	5.87E-01	1.67E-01	1.86E-01	1.88E-01	1.88E-01
Titanium	2.09E+02	1.15E+03	1.35E+03	1.35E+03	6.68E+01	3.66E+02	4.31E+02	4.31E+02
Uranium	6.20E-01	6.35E-01	6.38E-01	6.38E-01	1.98E-01	2.03E-01	2.04E-01	2.04E-01
Vanadium	2.85E+01	3.91E+01	4.14E+01	4.14E+01	1.12E-01	1.54E-01	1.63E-01	1.63E-01
Zinc	2.36E+01	2.36E+01	2.36E+01	2.36E+01	5.10E-03	5.10E-03	5.10E-03	5.10E-03

Note:
The predicted prey concentrations were modelled with uptake factors from the USEPA (2007). An aluminum uptake factor was obtained from Table C.1 in Appendix C of Sample et al. (1998a); the median uptake factor of 0.0263 from this data set was selected.

Table B.19

Aboveground Produce Predicted Concentrations Due to Direct Deposition
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Units Conversion Factor (CF) (mg/g)	Annual Deposition Rate (Dr) (g/m^2-yr)	Fraction of Air Concentration In Vapor Phase (Fv) (refer to table B.10) -	Fraction Wet Deposition Adhere to Plant (Fw) (refer to table B.9) -	Interception Fraction Edible Produce Portion Vegetable (Rp) (refer to table B.9) -	Interception Fraction Edible Produce Portion Fruit (Rp) (refer to table B.9) -	Produce Surface Loss Coefficient Vegetable (kp) (refer to table B.9) (1/yr)	Produce Surface Loss Coefficient Fruit (kp) (refer to table B.9) (1/yr)	Length of Produce Exposure to Deposition per Harvest of Edible Produce Vegetable (Tp) (refer to table B.9) (yrs)	Length of Produce Exposure to Deposition per Harvest of Edible Produce Fruit (Tp) (refer to table B.9) (yrs)	Yield of Edible Portion of Produce Vegetable (Yp) (refer to table B.9) (kg DW/m^2)	Yield of Edible Portion of Produce Fruit (Yp) (refer to table B.9) (kg DW/m^2)	Predicted Produce Concentration Due to Direct Deposition Vegetable (Pd) (mg/kg DW)	Predicted Produce Concentration Due to Direct Deposition Fruit (Pd) (mg/kg DW)
Particulate Matter														
Total Particulate Matter	1.00E+03	7.69E+02	--	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	--	--
Particulate Matter (PM10)	1.00E+03	9.49E+01	--	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	--	--
Particulate Matter (PM2.5)	1.00E+03	3.33E-01	--	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	--	--
Metals														
Aluminum	1.00E+03	7.69E+01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	4.22E+02	5.11E+02
Antimony	1.00E+03	2.31E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.27E-02	1.53E-02
Arsenic	1.00E+03	3.00E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.64E+00	1.99E+00
Barium	1.00E+03	6.23E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.42E+00	4.14E+00
Beryllium	1.00E+03	2.31E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.27E-02	1.53E-02
Bismuth	1.00E+03	2.54E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.39E-03	1.69E-03
Boron	1.00E+03	1.92E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.05E-01	1.28E-01
Cadmium	1.00E+03	9.23E-05	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	5.06E-04	6.13E-04
Calcium	1.00E+03	1.00E+01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	5.48E+01	6.65E+01
Chromium Total	1.00E+03	8.54E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	4.68E-01	5.67E-01
Cobalt	1.00E+03	1.38E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	7.59E-02	9.20E-02
Copper	1.00E+03	2.85E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.56E-01	1.89E-01
Iron	1.00E+03	3.31E+01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.81E+02	2.20E+02
Lead	1.00E+03	2.85E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.56E-01	1.89E-01
Lithium	1.00E+03	4.69E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	2.57E-01	3.12E-01
Magnesium	1.00E+03	1.15E+01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	6.33E+01	7.67E+01
Manganese	1.00E+03	7.09E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.88E+00	4.71E+00
Mercury, element	1.00E+03	2.03E-04	1.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	0.00E+00	0.00E+00
Mercury, divalent	1.00E+03	--	8.50E-01	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	7.86E-05	9.52E-05
Mercury, methyl	1.00E+03	--	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.07E-05	1.30E-05
Molybdenum	1.00E+03	6.16E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.37E-03	4.09E-03
Nickel	1.00E+03	3.15E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.73E-01	2.10E-01
Phosphorus	1.00E+03	5.31E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	2.91E+00	3.53E+00
Potassium	1.00E+03	2.46E+01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.35E+02	1.64E+02
Rubidium	1.00E+03	4.59E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	2.52E-02	3.05E-02
Selenium	1.00E+03	2.69E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.48E-03	1.79E-03
Silver	1.00E+03	3.85E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	2.11E-03	2.56E-03
Sodium	1.00E+03	1.46E+01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	8.01E+01	9.71E+01
Strontium	1.00E+03	1.62E-01	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	8.86E-01	1.07E+00
Thallium	1.00E+03	6.08E-04	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.33E-03	4.04E-03
Tin	1.00E+03	2.31E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.27E-02	1.53E-02
Titanium	1.00E+03	3.23E+00	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	1.77E+01	2.15E+01
Uranium	1.00E+03	1.38E-03	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	7.59E-03	9.20E-03
Vanadium	1.00E+03	6.16E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	3.37E-01	4.09E-01
Zinc	1.00E+03	8.46E-02	0.00E+00	6.00E-01	9.82E-01	5.30E-02	1.80E+01	1.80E+01	1.64E-01	1.64E-01	5.66E+00	2.52E-01	4.64E-01	5.62E-01

Equation:

$$Pd = \frac{CF \times Hg_{factor} \times Dr \times (1 - Fv) \times Fw \times Rp \times [1.0 - \exp(-kp \times Tp)]}{Yp \times kp}$$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.78), and methylmercury (0.48*0.22)

Table B.20

Aboveground Produce Predicted Concentrations Due to Air-to-Plant Transfer
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Air Concentration In Vapor Phase (Fv) (refer to table B.10) -	Annual Air Predicted Concentration (Coa) (refer to table B.6) (µg/m^3)	Air -to-Plant Biotransfer Factor (Bv_{ag}) (refer to table B.10) (mg/kg DW)/(µg/g air)	Correction Factor for Above Ground Vegetation (VG_{ag}) (refer to table B.9) -	Density of Air (pa) (refer to table B.9) (g/m^3)	Predicted Produce Concentration Due to Air-to-Plant Transfer (Pv) (mg/kg DW)
Particulate Matter						
Total Particulate Matter	--	3.30E+01	--	1.00E+00	1.20E+03	--
Particulate Matter (PM10)	--	8.11E+00	--	1.00E+00	1.20E+03	--
Particulate Matter (PM2.5)	--	8.47E-01	--	1.00E+00	1.20E+03	--
Metals						
Aluminum	0.00E+00	8.85E-02	--	1.00E+00	1.20E+03	--
Antimony	0.00E+00	1.57E-05	--	1.00E+00	1.20E+03	--
Arsenic	0.00E+00	3.53E-04	--	1.00E+00	1.20E+03	--
Barium	0.00E+00	8.84E-02	--	1.00E+00	1.20E+03	--
Beryllium	0.00E+00	1.57E-05	--	1.00E+00	1.20E+03	--
Bismuth	0.00E+00	8.13E-06	--	1.00E+00	1.20E+03	--
Boron	0.00E+00	3.19E-05	--	1.00E+00	1.20E+03	--
Cadmium	0.00E+00	5.62E-05	--	1.00E+00	1.20E+03	--
Calcium	0.00E+00	--	--	1.00E+00	1.20E+03	--
Chromium Total	0.00E+00	1.55E-03	--	1.00E+00	1.20E+03	--
Cobalt	0.00E+00	3.17E-05	--	1.00E+00	1.20E+03	--
Copper	0.00E+00	3.39E-01	--	1.00E+00	1.20E+03	--
Iron	0.00E+00	1.03E-01	--	1.00E+00	1.20E+03	--
Lead	0.00E+00	1.68E-05	--	1.00E+00	1.20E+03	--
Lithium	0.00E+00	7.76E-05	--	1.00E+00	1.20E+03	--
Magnesium	0.00E+00	--	--	1.00E+00	1.20E+03	--
Manganese	0.00E+00	1.61E-03	--	1.00E+00	1.20E+03	--
Mercury, element	1.00E+00	2.15E-06	1.00E+00	1.00E+00	1.20E+03	1.79E-09
Mercury, divalent	8.50E-01	--	1.80E+03	1.00E+00	1.20E+03	--
Mercury, methyl	0.00E+00	--	1.00E+00	1.00E+00	1.20E+03	--
Molybdenum	0.00E+00	3.11E-05	--	1.00E+00	1.20E+03	--
Nickel	0.00E+00	1.80E-03	--	1.00E+00	1.20E+03	--
Phosphorus	0.00E+00	--	--	1.00E+00	1.20E+03	--
Potassium	0.00E+00	--	--	1.00E+00	1.20E+03	--
Rubidium	0.00E+00	4.87E-05	--	1.00E+00	1.20E+03	--
Selenium	0.00E+00	1.21E-05	--	1.00E+00	1.20E+03	--
Silver	0.00E+00	1.48E-04	--	1.00E+00	1.20E+03	--
Sodium	0.00E+00	--	--	1.00E+00	1.20E+03	--
Strontium	0.00E+00	5.05E-04	--	1.00E+00	1.20E+03	--
Thallium	0.00E+00	9.36E-06	--	1.00E+00	1.20E+03	--
Tin	0.00E+00	1.85E-03	--	1.00E+00	1.20E+03	--
Titanium	0.00E+00	1.39E-03	--	1.00E+00	1.20E+03	--
Uranium	0.00E+00	9.39E-06	--	1.00E+00	1.20E+03	--
Vanadium	0.00E+00	3.14E-04	--	1.00E+00	1.20E+03	--
Zinc	0.00E+00	1.89E-02	--	1.00E+00	1.20E+03	--

Equation: $Pv = Fv \times \frac{Coa \times Bv_{ag} \times VG_{ag} \times Hg_{factor}}{pa}$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.78), and methylmercury (0.48*0.22)

Table B.21

Aboveground Produce Predicted Concentrations Due to Root Uptake
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Soil Concentration Construction (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Operations (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Reclamation (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Post-Closure (Cs) (refer to table B.16) (mg/kg)	Plant-Soil Bioconcentration Factor Aboveground Produce (Br_{ag}) (refer to table B.10) (µg/g DW)/(µg/g soil)	Aboveground Produce Predicted Concentration Due to Root Uptake Construction (Cag) (mg/kg DW)	Aboveground Produce Predicted Concentration Due to Root Uptake Operations (Cag) (mg/kg DW)	Aboveground Produce Predicted Concentration Due to Root Uptake Reclamation (Cag) (mg/kg DW)	Aboveground Produce Predicted Concentration Due to Root Uptake Post-Closure (Cag) (mg/kg DW)
Particulate Matter									
Total Particulate Matter	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--
Metals									
Aluminum	1.15E+04	3.43E+04	3.96E+04	3.96E+04	1.08E-03	1.24E+01	3.69E+01	4.26E+01	4.26E+01
Antimony	1.00E+00	1.00E+00	1.00E+00	1.00E+00	5.16E-02	5.16E-02	5.16E-02	5.16E-02	5.16E-02
Arsenic	2.08E+01	2.08E+01	2.08E+01	2.08E+01	6.30E-03	1.31E-01	1.31E-01	1.31E-01	1.31E-01
Barium	3.66E+01	3.66E+01	3.66E+01	3.66E+01	3.22E-02	1.18E+00	1.18E+00	1.18E+00	1.18E+00
Beryllium	6.09E-01	1.07E+00	1.17E+00	1.17E+00	2.58E-03	1.57E-03	2.77E-03	3.01E-03	3.01E-03
Bismuth	--	--	--	--	8.81E-03	--	--	--	--
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.25E+00	5.64E+01	5.64E+01	5.64E+01	5.64E+01
Cadmium	4.62E-01	4.62E-01	4.62E-01	4.62E-01	1.20E-01	5.54E-02	5.54E-02	5.54E-02	5.54E-02
Calcium	--	--	--	--	7.50E-01	--	--	--	--
Chromium Total	1.10E+01	1.10E+01	1.10E+01	1.10E+01	4.88E-03	5.36E-02	5.36E-02	5.36E-02	5.36E-02
Cobalt	1.84E+00	1.84E+00	1.84E+00	1.84E+00	8.65E-03	1.59E-02	1.59E-02	1.59E-02	1.59E-02
Copper	4.62E+00	4.62E+00	4.62E+00	4.62E+00	2.69E-01	1.24E+00	1.24E+00	1.24E+00	1.24E+00
Iron	1.38E+04	1.38E+04	1.38E+04	1.38E+04	1.38E-03	1.91E+01	1.91E+01	1.91E+01	1.91E+01
Lead	2.40E+01	2.48E+01	2.50E+01	2.50E+01	1.36E-02	3.26E-01	3.37E-01	3.40E-01	3.40E-01
Lithium	8.28E+00	1.27E+01	1.32E+01	1.32E+01	6.67E-03	5.52E-02	8.45E-02	8.81E-02	8.81E-02
Magnesium	--	--	--	--	6.07E-01	--	--	--	--
Manganese	7.72E+01	7.72E+01	7.72E+01	7.72E+01	7.54E-02	5.82E+00	5.82E+00	5.82E+00	5.82E+00
Mercury, element	2.94E-01	2.94E-01	2.94E-01	2.94E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, divalent	6.31E-03	3.89E-02	4.72E-02	4.72E-02	1.40E-02	8.83E-05	5.45E-04	6.61E-04	6.61E-04
Mercury, methyl	6.06E-08	6.06E-08	6.06E-08	6.06E-08	2.90E-02	1.76E-09	1.76E-09	1.76E-09	1.76E-09
Molybdenum	1.00E+00	1.00E+00	1.00E+00	1.00E+00	8.42E-02	8.42E-02	8.42E-02	8.42E-02	8.42E-02
Nickel	5.32E+00	5.32E+00	5.32E+00	5.32E+00	9.30E-03	4.95E-02	4.95E-02	4.95E-02	4.95E-02
Phosphorus	2.00E+00	2.00E+00	2.00E+00	2.00E+00	3.50E+00	7.02E+00	7.02E+00	7.02E+00	7.02E+00
Potassium	1.44E+02	1.44E+02	1.44E+02	1.44E+02	6.07E-01	8.75E+01	8.75E+01	8.75E+01	8.75E+01
Rubidium	--	--	--	--	1.00E+00	--	--	--	--
Selenium	1.78E+00	1.78E+00	1.78E+00	1.78E+00	2.00E-02	3.56E-02	3.56E-02	3.56E-02	3.56E-02
Silver	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.38E-01	3.45E-02	3.45E-02	3.45E-02	3.45E-02
Sodium	7.20E+02	1.50E+03	1.51E+03	1.51E+03	5.75E-02	4.14E+01	8.62E+01	8.70E+01	8.70E+01
Strontium	5.78E+01	5.78E+01	5.78E+01	5.78E+01	5.36E-01	3.10E+01	3.10E+01	3.10E+01	3.10E+01
Thallium	5.00E-02	5.00E-02	5.00E-02	5.00E-02	8.58E-04	4.29E-05	4.29E-05	4.29E-05	4.29E-05
Tin	5.23E-01	5.81E-01	5.87E-01	5.87E-01	9.05E-03	4.73E-03	5.26E-03	5.31E-03	5.31E-03
Titanium	2.09E+02	1.15E+03	1.35E+03	1.35E+03	3.32E-03	6.92E-01	3.80E+00	4.47E+00	4.47E+00
Uranium	6.20E-01	6.35E-01	6.38E-01	6.38E-01	1.00E+00	6.20E-01	6.35E-01	6.38E-01	6.38E-01
Vanadium	2.85E+01	3.91E+01	4.14E+01	4.14E+01	3.32E-03	9.47E-02	1.30E-01	1.37E-01	1.37E-01
Zinc	2.36E+01	2.36E+01	2.36E+01	2.36E+01	9.70E-02	2.29E+00	2.29E+00	2.29E+00	2.29E+00

Equation: $Cag = Cs \times Br_{ag}$

Table B.22

Aboveground Produce Predicted Concentrations Due to Deposition, Vapour Transfer, and Root Uptake
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Produce Concentration Due to Direct Deposition		Predicted Produce Concentration Due to Air-to-Plant Transfer	Aboveground Produce Predicted Concentration Due to Root Uptake				Aboveground Produce (Vegetable) Predicted Concentration				Baseline Berry	Aboveground Produce (Fruit) Predicted Concentration			
	Vegetable (Pd) (refer to table B.19)	Fruit (Pd) (refer to table B.19)	(Pv) (refer to table B.20)	Construction (Cag) (refer to table B.21)	Operations (Cag) (refer to table B.21)	Reclamation (Cag) (refer to table B.21)	Post-Closure (Cag) (refer to table B.21)	Construction (Cv)	Operations (Cv)	Reclamation (Cv)	Post-Closure (Cv)	Concentration (Cfru) (refer to table B.1)	Construction (Cfru)	Operations (Cfru)	Reclamation (Cfru)	Post-Closure (Cfru) (1)
Contaminant	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)
Particulate Matter																
Total Particulate Matter	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--
Metals																
Aluminum	4.22E+02	5.11E+02	0.00E+00	1.24E+01	3.69E+01	4.26E+01	4.26E+01	4.34E+02	4.59E+02	4.64E+02	4.64E+02	2.60E+01	5.24E+02	5.48E+02	5.54E+02	4.26E+01
Antimony	1.27E-02	1.53E-02	0.00E+00	5.16E-02	5.16E-02	5.16E-02	5.16E-02	6.43E-02	6.43E-02	6.43E-02	6.43E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Arsenic	1.64E+00	1.99E+00	0.00E+00	1.31E-01	1.31E-01	1.31E-01	1.31E-01	1.78E+00	1.78E+00	1.78E+00	1.78E+00	1.07E+00	2.12E+00	2.12E+00	2.12E+00	1.07E+00
Barium	3.42E+00	4.14E+00	0.00E+00	1.18E+00	1.18E+00	1.18E+00	1.18E+00	4.59E+00	4.59E+00	4.59E+00	4.59E+00	2.33E+01	2.33E+01	2.33E+01	2.33E+01	2.33E+01
Beryllium	1.27E-02	1.53E-02	0.00E+00	1.57E-03	2.77E-03	3.01E-03	3.01E-03	1.42E-02	1.54E-02	1.57E-02	1.57E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Bismuth	1.39E-03	1.69E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.39E-03	1.39E-03	1.39E-03	1.39E-03	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01
Boron	1.05E-01	1.28E-01	0.00E+00	5.64E+01	5.64E+01	5.64E+01	5.64E+01	5.65E+01	5.65E+01	5.65E+01	5.65E+01	1.27E+01	5.65E+01	5.65E+01	5.65E+01	5.64E+01
Cadmium	5.06E-04	6.13E-04	0.00E+00	5.54E-02	5.54E-02	5.54E-02	5.54E-02	5.59E-02	5.59E-02	5.59E-02	5.59E-02	2.13E-01	2.13E-01	2.13E-01	2.13E-01	2.13E-01
Calcium	5.48E+01	6.65E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.48E+01	5.48E+01	5.48E+01	5.48E+01	6.20E+03	6.20E+03	6.20E+03	6.20E+03	6.20E+03
Chromium Total	4.68E-01	5.67E-01	0.00E+00	5.36E-02	5.36E-02	5.36E-02	5.36E-02	5.22E-01	5.22E-01	5.22E-01	5.22E-01	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Cobalt	7.59E-02	9.20E-02	0.00E+00	1.59E-02	1.59E-02	1.59E-02	1.59E-02	9.18E-02	9.18E-02	9.18E-02	9.18E-02	5.33E-01	5.33E-01	5.33E-01	5.33E-01	5.33E-01
Copper	1.56E-01	1.89E-01	0.00E+00	1.24E+00	1.24E+00	1.24E+00	1.24E+00	1.40E+00	1.40E+00	1.40E+00	1.40E+00	7.33E+00	7.33E+00	7.33E+00	7.33E+00	7.33E+00
Iron	1.81E+02	2.20E+02	0.00E+00	1.91E+01	1.91E+01	1.91E+01	1.91E+01	2.00E+02	2.00E+02	2.00E+02	2.00E+02	3.20E+01	2.39E+02	2.39E+02	2.39E+02	3.20E+01
Lead	1.56E-01	1.89E-01	0.00E+00	3.26E-01	3.37E-01	3.40E-01	3.40E-01	4.82E-01	4.93E-01	4.96E-01	4.96E-01	3.47E-01	5.15E-01	5.27E-01	5.29E-01	3.47E-01
Lithium	2.57E-01	3.12E-01	0.00E+00	5.52E-02	8.45E-02	8.81E-02	8.81E-02	3.12E-01	3.42E-01	3.45E-01	3.45E-01	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00
Magnesium	6.33E+01	7.67E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.33E+01	6.33E+01	6.33E+01	6.33E+01	3.33E+02	3.33E+02	3.33E+02	3.33E+02	3.33E+02
Manganese	3.88E+00	4.71E+00	0.00E+00	5.82E+00	5.82E+00	5.82E+00	5.82E+00	9.71E+00	9.71E+00	9.71E+00	9.71E+00	4.20E+02	4.20E+02	4.20E+02	4.20E+02	4.20E+02
Mercury, element	0.00E+00	0.00E+00	1.79E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-09	1.79E-09	1.79E-09	1.79E-09	1.67E-02	1.67E-02	1.67E-02	1.67E-02	1.67E-02
Mercury, divalent	7.86E-05	9.52E-05	0.00E+00	8.83E-05	5.45E-04	6.61E-04	6.61E-04	1.67E-04	6.23E-04	7.39E-04	7.39E-04	--	1.84E-04	6.40E-04	7.56E-04	6.61E-04
Mercury, methyl	1.07E-05	1.30E-05	0.00E+00	1.76E-09	1.76E-09	1.76E-09	1.76E-09	1.07E-05	1.07E-05	1.07E-05	1.07E-05	--	1.30E-05	1.30E-05	1.30E-05	1.76E-09
Molybdenum	3.37E-03	4.09E-03	0.00E+00	8.42E-02	8.42E-02	8.42E-02	8.42E-02	8.75E-02	8.75E-02	8.75E-02	8.75E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Nickel	1.73E-01	2.10E-01	0.00E+00	4.95E-02	4.95E-02	4.95E-02	4.95E-02	2.22E-01	2.22E-01	2.22E-01	2.22E-01	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Phosphorus	2.91E+00	3.53E+00	0.00E+00	7.02E+00	7.02E+00	7.02E+00	7.02E+00	9.93E+00	9.93E+00	9.93E+00	9.93E+00	1.07E+03	1.07E+03	1.07E+03	1.07E+03	1.07E+03
Potassium	1.35E+02	1.64E+02	0.00E+00	8.75E+01	8.75E+01	8.75E+01	8.75E+01	2.22E+02	2.22E+02	2.22E+02	2.22E+02	5.73E+03	5.73E+03	5.73E+03	5.73E+03	5.73E+03
Rubidium	2.52E-02	3.05E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.52E-02	2.52E-02	2.52E-02	2.52E-02	--	3.05E-02	3.05E-02	3.05E-02	0.00E+00
Selenium	1.48E-03	1.79E-03	0.00E+00	3.56E-02	3.56E-02	3.56E-02	3.56E-02	3.71E-02	3.71E-02	3.71E-02	3.71E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Silver	2.11E-03	2.56E-03	0.00E+00	3.45E-02	3.45E-02	3.45E-02	3.45E-02	3.66E-02	3.66E-02	3.66E-02	3.66E-02	2.67E-01	2.67E-01	2.67E-01	2.67E-01	2.67E-01
Sodium	8.01E+01	9.71E+01	0.00E+00	4.14E+01	8.62E+01	8.70E+01	8.70E+01	1.22E+02	1.66E+02	1.67E+02	1.67E+02	1.67E+02	1.67E+02	1.83E+02	1.84E+02	1.67E+02
Strontium	8.86E-01	1.07E+00	0.00E+00	3.10E+01	3.10E+01	3.10E+01	3.10E+01	3.19E+01	3.19E+01	3.19E+01	3.19E+01	1.47E+01	3.21E+01	3.21E+01	3.21E+01	3.10E+01
Thallium	3.33E-03	4.04E-03	0.00E+00	4.29E-05	4.29E-05	4.29E-05	4.29E-05	3.37E-03	3.37E-03	3.37E-03	3.37E-03	7.33E-02	7.33E-02	7.33E-02	7.33E-02	7.33E-02
Tin	1.27E-02	1.53E-02	0.00E+00	4.73E-03	5.26E-03	5.31E-03	5.31E-03	1.74E-02	1.79E-02	1.80E-02	1.80E-02	8.00E+00	8.00E+00	8.00E+00	8.00E+00	8.00E+00
Titanium	1.77E+01	2.15E+01	0.00E+00	6.92E-01	3.80E+00	4.47E+00	4.47E+00	1.84E+01	2.15E+01	2.22E+01	2.22E+01	1.67E+00	2.22E+01	2.53E+01	2.59E+01	4.47E+00
Uranium	7.59E-03	9.20E-03	0.00E+00	6.20E-01	6.35E-01	6.38E-01	6.38E-01	6.28E-01	6.43E-01	6.45E-01	6.45E-01	5.33E-02	6.29E-01	6.44E-01	6.47E-01	6.38E-01
Vanadium	3.37E-01	4.09E-01	0.00E+00	9.47E-02	1.30E-01	1.37E-01	1.37E-01	4.32E-01	4.67E-01	4.75E-01	4.75E-01	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00
Zinc	4.64E-01	5.62E-01	0.00E+00	2.29E+00	2.29E+00	2.29E+00	2.29E+00	2.75E+00	2.75E+00	2.75E+00	2.75E+00	1.40E+01	1.40E+01	1.40E+01	1.40E+01	1.40E+01

Equation: Cv and Cfru = Pd + Pv +Cag

Table B.23

Belowground Produce Predicted Concentrations Due to Root Uptake
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Soil Concentration				Plant-Soil Bioconcentration Factor Belowground Produce ($Br_{rootveg}$)	Correction Factor For Belowground Produce $VG_{rootveg}$	Belowground Produce Predicted Concentration Due to Root Uptake			
	Construction (Cs) (refer to table B.16)	Operations (Cs) (refer to table B.16)	Reclamation (Cs) (refer to table B.16)	Post-Closure (Cs) (refer to table B.16)	(refer to table B.10)	(refer to table B.9)	Construction (Cr)	Operations (Cr)	Reclamation (Cr)	Post-Closure (Cr)
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(µg/g DW)/(µg/g soil)	-	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)	(mg/kg DW)
Particulate Matter										
Total Particulate Matter	--	--	--	--	--	1.00E+00	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	1.00E+00	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	1.00E+00	--	--	--	--
Metals										
Aluminum	1.15E+04	3.43E+04	3.96E+04	3.96E+04	6.50E-04	1.00E+00	7.50E+00	2.23E+01	2.57E+01	2.57E+01
Antimony	1.00E+00	1.00E+00	1.00E+00	1.00E+00	3.00E-02	1.00E+00	3.00E-02	3.00E-02	3.00E-02	3.00E-02
Arsenic	2.08E+01	2.08E+01	2.08E+01	2.08E+01	8.00E-03	1.00E+00	1.66E-01	1.66E-01	1.66E-01	1.66E-01
Barium	3.66E+01	3.66E+01	3.66E+01	3.66E+01	1.50E-02	1.00E+00	5.49E-01	5.49E-01	5.49E-01	5.49E-01
Beryllium	6.09E-01	1.07E+00	1.17E+00	1.17E+00	1.50E-03	1.00E+00	9.13E-04	1.61E-03	1.75E-03	1.75E-03
Bismuth	--	--	--	--	5.00E-03	1.00E+00	--	--	--	--
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.00E+00	1.00E+00	5.00E+01	5.00E+01	5.00E+01	5.00E+01
Cadmium	4.62E-01	4.62E-01	4.62E-01	4.62E-01	6.40E-02	1.00E+00	2.96E-02	2.96E-02	2.96E-02	2.96E-02
Calcium	--	--	--	--	3.50E-01	1.00E+00	--	--	--	--
Chromium Total	1.10E+01	1.10E+01	1.10E+01	1.10E+01	4.50E-03	1.00E+00	4.94E-02	4.94E-02	4.94E-02	4.94E-02
Cobalt	1.84E+00	1.84E+00	1.84E+00	1.84E+00	7.00E-03	1.00E+00	1.29E-02	1.29E-02	1.29E-02	1.29E-02
Copper	4.62E+00	4.62E+00	4.62E+00	4.62E+00	2.50E-01	1.00E+00	1.16E+00	1.16E+00	1.16E+00	1.16E+00
Iron	1.38E+04	1.38E+04	1.38E+04	1.38E+04	1.00E-03	1.00E+00	1.38E+01	1.38E+01	1.38E+01	1.38E+01
Lead	2.40E+01	2.48E+01	2.50E+01	2.50E+01	9.00E-03	1.00E+00	2.16E-01	2.24E-01	2.25E-01	2.25E-01
Lithium	8.28E+00	1.27E+01	1.32E+01	1.32E+01	4.00E-03	1.00E+00	3.31E-02	5.07E-02	5.29E-02	5.29E-02
Magnesium	--	--	--	--	5.50E-01	1.00E+00	--	--	--	--
Manganese	7.72E+01	7.72E+01	7.72E+01	7.72E+01	5.00E-02	1.00E+00	3.86E+00	3.86E+00	3.86E+00	3.86E+00
Mercury, element	2.94E-01	2.94E-01	2.94E-01	2.94E-01	0.00E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, divalent	6.31E-03	3.89E-02	4.72E-02	4.72E-02	3.60E-02	1.00E+00	2.27E-04	1.40E-03	1.70E-03	1.70E-03
Mercury, methyl	6.06E-08	6.06E-08	6.06E-08	6.06E-08	9.90E-02	1.00E+00	6.00E-09	6.00E-09	6.00E-09	6.00E-09
Molybdenum	1.00E+00	1.00E+00	1.00E+00	1.00E+00	6.00E-02	1.00E+00	6.00E-02	6.00E-02	6.00E-02	6.00E-02
Nickel	5.32E+00	5.32E+00	5.32E+00	5.32E+00	8.00E-03	1.00E+00	4.26E-02	4.26E-02	4.26E-02	4.26E-02
Phosphorus	2.00E+00	2.00E+00	2.00E+00	2.00E+00	3.50E+00	1.00E+00	7.02E+00	7.02E+00	7.02E+00	7.02E+00
Potassium	1.44E+02	1.44E+02	1.44E+02	1.44E+02	5.50E-01	1.00E+00	7.93E+01	7.93E+01	7.93E+01	7.93E+01
Rubidium	--	--	--	--	1.00E+00	1.00E+00	--	--	--	--
Selenium	1.78E+00	1.78E+00	1.78E+00	1.78E+00	2.20E-02	1.00E+00	3.92E-02	3.92E-02	3.92E-02	3.92E-02
Silver	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.00E-01	1.00E+00	2.50E-02	2.50E-02	2.50E-02	2.50E-02
Sodium	7.20E+02	1.50E+03	1.51E+03	1.51E+03	5.50E-02	1.00E+00	3.96E+01	8.24E+01	8.32E+01	8.32E+01
Strontium	5.78E+01	5.78E+01	5.78E+01	5.78E+01	2.50E-01	1.00E+00	1.45E+01	1.45E+01	1.45E+01	1.45E+01
Thallium	5.00E-02	5.00E-02	5.00E-02	5.00E-02	4.00E-04	1.00E+00	2.00E-05	2.00E-05	2.00E-05	2.00E-05
Tin	5.23E-01	5.81E-01	5.87E-01	5.87E-01	6.00E-03	1.00E+00	3.14E-03	3.49E-03	3.52E-03	3.52E-03
Titanium	2.09E+02	1.15E+03	1.35E+03	1.35E+03	3.00E-03	1.00E+00	6.26E-01	3.44E+00	4.04E+00	4.04E+00
Uranium	6.20E-01	6.35E-01	6.38E-01	6.38E-01	1.00E+00	1.00E+00	6.20E-01	6.35E-01	6.38E-01	6.38E-01
Vanadium	2.85E+01	3.91E+01	4.14E+01	4.14E+01	3.00E-03	1.00E+00	8.56E-02	1.17E-01	1.24E-01	1.24E-01
Zinc	2.36E+01	2.36E+01	2.36E+01	2.36E+01	9.00E-01	1.00E+00	2.12E+01	2.12E+01	2.12E+01	2.12E+01

Equation: $Cr = Cs \times Br_{rootveg} \times VG_{rootveg}$

Table B.24

Predicted Produce Concentrations
Produce Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Aboveground Produce (Vegetable) Predicted Concentration				Aboveground Produce (Fruit) Predicted Concentration				Belowground Produce Predicted Concentration			
Contaminant	Construction (Cv) (refer to table B.22) (mg/kg FW)	Operations (Cv) (refer to table B.22) (mg/kg FW)	Reclamation (Cv) (refer to table B.22) (mg/kg FW)	Post-Closure (Cv) (refer to table B.22) (mg/kg FW)	Construction (Cfru) (refer to table B.22) (mg/kg FW)	Operations (Cfru) (refer to table B.22) (mg/kg FW)	Reclamation (Cfru) (refer to table B.22) (mg/kg FW)	Post-Closure (Cfru) (refer to table B.22) (mg/kg FW)	Construction (Cr) (refer to table B.23) (mg/kg FW)	Operations (Cr) (refer to table B.23) (mg/kg FW)	Reclamation (Cr) (refer to table B.23) (mg/kg FW)	Post-Closure (Cr) (refer to table B.23) (mg/kg FW)
Particulate Matter												
Total Particulate Matter	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--	--	--	--
Metals												
Aluminum	6.51E+01	6.88E+01	6.96E+01	6.96E+01	7.85E+01	8.22E+01	8.31E+01	6.39E+00	1.12E+00	3.34E+00	3.86E+00	3.86E+00
Antimony	9.64E-03	9.64E-03	9.64E-03	9.64E-03	1.60E-01	1.60E-01	1.60E-01	1.60E-01	4.50E-03	4.50E-03	4.50E-03	4.50E-03
Arsenic	2.66E-01	2.66E-01	2.66E-01	2.66E-01	3.19E-01	3.19E-01	3.19E-01	1.60E-01	2.50E-02	2.50E-02	2.50E-02	2.50E-02
Barium	6.89E-01	6.89E-01	6.89E-01	6.89E-01	3.50E+00	3.50E+00	3.50E+00	3.50E+00	8.24E-02	8.24E-02	8.24E-02	8.24E-02
Beryllium	2.13E-03	2.31E-03	2.35E-03	2.35E-03	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.37E-04	2.41E-04	2.62E-04	2.62E-04
Bismuth	2.09E-04	2.09E-04	2.09E-04	2.09E-04	2.50E-02	2.50E-02	2.50E-02	2.50E-02	--	--	--	--
Boron	8.47E+00	8.47E+00	8.47E+00	8.47E+00	8.47E+00	8.47E+00	8.47E+00	8.45E+00	7.50E+00	7.50E+00	7.50E+00	7.50E+00
Cadmium	8.39E-03	8.39E-03	8.39E-03	8.39E-03	3.20E-02	3.20E-02	3.20E-02	3.20E-02	4.44E-03	4.44E-03	4.44E-03	4.44E-03
Calcium	8.22E+00	8.22E+00	8.22E+00	8.22E+00	9.30E+02	9.30E+02	9.30E+02	9.30E+02	--	--	--	--
Chromium Total	7.83E-02	7.83E-02	7.83E-02	7.83E-02	1.60E-01	1.60E-01	1.60E-01	1.60E-01	7.41E-03	7.41E-03	7.41E-03	7.41E-03
Cobalt	1.38E-02	1.38E-02	1.38E-02	1.38E-02	8.00E-02	8.00E-02	8.00E-02	8.00E-02	1.93E-03	1.93E-03	1.93E-03	1.93E-03
Copper	2.10E-01	2.10E-01	2.10E-01	2.10E-01	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.73E-01	1.73E-01	1.73E-01	1.73E-01
Iron	3.01E+01	3.01E+01	3.01E+01	3.01E+01	3.58E+01	3.58E+01	3.58E+01	4.80E+00	2.07E+00	2.07E+00	2.07E+00	2.07E+00
Lead	7.23E-02	7.40E-02	7.44E-02	7.44E-02	7.72E-02	7.90E-02	7.93E-02	5.20E-02	3.24E-02	3.35E-02	3.38E-02	3.38E-02
Lithium	4.69E-02	5.13E-02	5.18E-02	5.18E-02	1.70E-01	1.70E-01	1.70E-01	1.70E-01	4.97E-03	7.60E-03	7.93E-03	7.93E-03
Magnesium	9.49E+00	9.49E+00	9.49E+00	9.49E+00	5.00E+01	5.00E+01	5.00E+01	5.00E+01	--	--	--	--
Manganese	1.46E+00	1.46E+00	1.46E+00	1.46E+00	6.30E+01	6.30E+01	6.30E+01	6.30E+01	5.79E-01	5.79E-01	5.79E-01	5.79E-01
Mercury, element	2.69E-10	2.69E-10	2.69E-10	2.69E-10	2.50E-03	2.50E-03	2.50E-03	2.50E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, divalent	2.50E-05	9.35E-05	1.11E-04	1.11E-04	2.75E-05	9.60E-05	1.13E-04	9.91E-05	3.41E-05	2.10E-04	2.55E-04	2.55E-04
Mercury, methyl	1.60E-06	1.60E-06	1.60E-06	1.60E-06	1.94E-06	1.94E-06	1.94E-06	2.64E-10	9.00E-10	9.00E-10	9.00E-10	9.00E-10
Molybdenum	1.31E-02	1.31E-02	1.31E-02	1.31E-02	1.60E-01	1.60E-01	1.60E-01	1.60E-01	9.00E-03	9.00E-03	9.00E-03	9.00E-03
Nickel	3.34E-02	3.34E-02	3.34E-02	3.34E-02	1.60E-01	1.60E-01	1.60E-01	1.60E-01	6.38E-03	6.38E-03	6.38E-03	6.38E-03
Phosphorus	1.49E+00	1.49E+00	1.49E+00	1.49E+00	1.60E+02	1.60E+02	1.60E+02	1.60E+02	1.05E+00	1.05E+00	1.05E+00	1.05E+00
Potassium	3.34E+01	3.34E+01	3.34E+01	3.34E+01	8.60E+02	8.60E+02	8.60E+02	8.60E+02	1.19E+01	1.19E+01	1.19E+01	1.19E+01
Rubidium	3.78E-03	3.78E-03	3.78E-03	3.78E-03	4.58E-03	4.58E-03	4.58E-03	0.00E+00	--	--	--	--
Selenium	5.56E-03	5.56E-03	5.56E-03	5.56E-03	1.60E-01	1.60E-01	1.60E-01	1.60E-01	5.87E-03	5.87E-03	5.87E-03	5.87E-03
Silver	5.50E-03	5.50E-03	5.50E-03	5.50E-03	4.00E-02	4.00E-02	4.00E-02	4.00E-02	3.75E-03	3.75E-03	3.75E-03	3.75E-03
Sodium	1.82E+01	2.49E+01	2.51E+01	2.51E+01	2.50E+01	2.75E+01	2.76E+01	2.50E+01	5.94E+00	1.24E+01	1.25E+01	1.25E+01
Strontium	4.78E+00	4.78E+00	4.78E+00	4.78E+00	4.81E+00	4.81E+00	4.81E+00	4.65E+00	2.17E+00	2.17E+00	2.17E+00	2.17E+00
Thallium	5.06E-04	5.06E-04	5.06E-04	5.06E-04	1.10E-02	1.10E-02	1.10E-02	1.10E-02	3.00E-06	3.00E-06	3.00E-06	3.00E-06
Tin	2.61E-03	2.69E-03	2.69E-03	2.69E-03	1.20E+00	1.20E+00	1.20E+00	1.20E+00	4.70E-04	5.23E-04	5.28E-04	5.28E-04
Titanium	2.76E+00	3.23E+00	3.33E+00	3.33E+00	3.32E+00	3.79E+00	3.89E+00	6.71E-01	9.39E-02	5.15E-01	6.07E-01	6.07E-01
Uranium	9.42E-02	9.64E-02	9.68E-02	9.68E-02	9.44E-02	9.67E-02	9.70E-02	9.56E-02	9.30E-02	9.53E-02	9.56E-02	9.56E-02
Vanadium	6.48E-02	7.01E-02	7.12E-02	7.12E-02	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.28E-02	1.76E-02	1.86E-02	1.86E-02
Zinc	4.13E-01	4.13E-01	4.13E-01	4.13E-01	2.10E+00	2.10E+00	2.10E+00	2.10E+00	3.19E+00	3.19E+00	3.19E+00	3.19E+00

Table B.25

Predicted Forage Concentration Due to Direct Deposition
Animal Product Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Units Conversion Factor (CF) (mg/g)	Annual Deposition Rate (Dr) (refer to table B.7) (g/m^2-yr)	Fraction of Air Concentration In Vapor Phase (Fv) (refer to table B.10) -	Fraction Wet Deposition Adhere to Plant (Fw) (refer to table B.9) -	Interception Fraction Edible Plant Portion Forage (Rp) (refer to table B.9) -	Plant Surface Loss Coefficient Forage (kp) (refer to table B.9) (yr^{-1})	Length of Plant Exposure to Deposition per Harvest of Edible Plant Forage (Tp) (refer to table B.9) (yrs)	Yield of Edible Portion of Plant Forage (Yp) (refer to table B.9) (kg DW/m^2)	Forage Concentration Due to Direct Deposition Forage (Pd) (mg/kg DW)
Particulate Matter									
Total Particulate Matter	1.00E+03	7.69E+02	--	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Particulate Matter (PM10)	1.00E+03	9.49E+01	--	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Particulate Matter (PM2.5)	1.00E+03	3.33E-01	--	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Metals									
Aluminum	1.00E+03	7.69E+01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	3.49E+03
Antimony	1.00E+03	2.31E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.05E-01
Arsenic	1.00E+03	3.00E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.36E+01
Barium	1.00E+03	6.23E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.83E+01
Beryllium	1.00E+03	2.31E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.05E-01
Bismuth	1.00E+03	2.54E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.15E-02
Boron	1.00E+03	1.92E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	8.73E-01
Cadmium	1.00E+03	9.23E-05	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	4.19E-03
Calcium	1.00E+03	1.00E+01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	4.54E+02
Chromium Total	1.00E+03	8.54E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	3.87E+00
Cobalt	1.00E+03	1.38E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	6.28E-01
Copper	1.00E+03	2.85E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.29E+00
Iron	1.00E+03	3.31E+01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.50E+03
Lead	1.00E+03	2.85E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.29E+00
Lithium	1.00E+03	4.69E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.13E+00
Magnesium	1.00E+03	1.15E+01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	5.24E+02
Manganese	1.00E+03	7.09E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	3.22E+01
Mercury, element	1.00E+03	2.03E-04	1.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Mercury, divalent	1.00E+03	--	8.50E-01	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Mercury, methyl	1.00E+03	--	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	0.00E+00
Molybdenum	1.00E+03	6.16E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.79E-02
Nickel	1.00E+03	3.15E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.43E+00
Phosphorus	1.00E+03	5.31E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.41E+01
Potassium	1.00E+03	2.46E+01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.12E+03
Rubidium	1.00E+03	4.59E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.08E-01
Selenium	1.00E+03	2.69E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.22E-02
Silver	1.00E+03	3.85E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.75E-02
Sodium	1.00E+03	1.46E+01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	6.63E+02
Strontium	1.00E+03	1.62E-01	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	7.33E+00
Thallium	1.00E+03	6.08E-04	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.76E-02
Tin	1.00E+03	2.31E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.05E-01
Titanium	1.00E+03	3.23E+00	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	1.47E+02
Uranium	1.00E+03	1.38E-03	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	6.28E-02
Vanadium	1.00E+03	6.16E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	2.79E+00
Zinc	1.00E+03	8.46E-02	0.00E+00	6.00E-01	5.00E-01	1.80E+01	1.20E-01	3.25E-01	3.84E+00

Equation:

$$Pd = \frac{CF \times Hg_{factor} \times Dr \times (1 - Fv) \times Fw \times Rp \times [1.0 - \exp(-kp \times Tp)]}{Yp \times kp}$$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.78), and methylmercury (0.48*0.22)

Table B.26

Forage Predicted Concentration Due to Air-to-Plant Transfer
Animal Product Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Air Concentration In Vapor Phase (Fv) (refer to table B.25) -	Annual Air Predicted Concentration (Coa) (refer to table B.6) (µg/m^3)	Air -to-Plant Biotransfer Factor (Bv_{ag}) (refer to table B.10) (mg/kg DW)/(µg/g air)	Correction Factor for Above Ground Vegetation (1) Forage (VG_{ag}) (refer to table B.9) -	Density of Air (pa) (refer to table B.9) (g/m^3)	Predicted Forage Concentration Due to Air-to-Plant Transfer Forage (Pv) (mg/kg DW)
Particulate Matter						
Total Particulate Matter	--	3.30E+01	--	1.00E+00	1.20E+03	0.00E+00
Particulate Matter (PM10)	--	8.11E+00	--	1.00E+00	1.20E+03	0.00E+00
Particulate Matter (PM2.5)	--	8.47E-01	--	1.00E+00	1.20E+03	0.00E+00
Metals						
Aluminum	0.00E+00	8.85E-02	--	1.00E+00	1.20E+03	0.00E+00
Antimony	0.00E+00	1.57E-05	--	1.00E+00	1.20E+03	0.00E+00
Arsenic	0.00E+00	3.53E-04	--	1.00E+00	1.20E+03	0.00E+00
Barium	0.00E+00	8.84E-02	--	1.00E+00	1.20E+03	0.00E+00
Beryllium	0.00E+00	1.57E-05	--	1.00E+00	1.20E+03	0.00E+00
Bismuth	0.00E+00	8.13E-06	--	1.00E+00	1.20E+03	0.00E+00
Boron	0.00E+00	3.19E-05	--	1.00E+00	1.20E+03	0.00E+00
Cadmium	0.00E+00	5.62E-05	--	1.00E+00	1.20E+03	0.00E+00
Calcium	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Chromium Total	0.00E+00	1.55E-03	--	1.00E+00	1.20E+03	0.00E+00
Cobalt	0.00E+00	3.17E-05	--	1.00E+00	1.20E+03	0.00E+00
Copper	0.00E+00	3.39E-01	--	1.00E+00	1.20E+03	0.00E+00
Iron	0.00E+00	1.03E-01	--	1.00E+00	1.20E+03	0.00E+00
Lead	0.00E+00	1.68E-05	--	1.00E+00	1.20E+03	0.00E+00
Lithium	0.00E+00	7.76E-05	--	1.00E+00	1.20E+03	0.00E+00
Magnesium	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Manganese	0.00E+00	1.61E-03	--	1.00E+00	1.20E+03	0.00E+00
Mercury, element	1.00E+00	2.15E-06	1.00E+00	1.00E+00	1.20E+03	1.79E-09
Mercury, divalent	8.50E-01	--	1.80E+03	1.00E+00	1.20E+03	0.00E+00
Mercury, methyl	0.00E+00	--	1.00E+00	1.00E+00	1.20E+03	0.00E+00
Molybdenum	0.00E+00	3.11E-05	--	1.00E+00	1.20E+03	0.00E+00
Nickel	0.00E+00	1.80E-03	--	1.00E+00	1.20E+03	0.00E+00
Phosphorus	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Potassium	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Rubidium	0.00E+00	4.87E-05	--	1.00E+00	1.20E+03	0.00E+00
Selenium	0.00E+00	1.21E-05	--	1.00E+00	1.20E+03	0.00E+00
Silver	0.00E+00	1.48E-04	--	1.00E+00	1.20E+03	0.00E+00
Sodium	0.00E+00	--	--	1.00E+00	1.20E+03	0.00E+00
Strontium	0.00E+00	5.05E-04	--	1.00E+00	1.20E+03	0.00E+00
Thallium	0.00E+00	9.36E-06	--	1.00E+00	1.20E+03	0.00E+00
Tin	0.00E+00	1.85E-03	--	1.00E+00	1.20E+03	0.00E+00
Titanium	0.00E+00	1.39E-03	--	1.00E+00	1.20E+03	0.00E+00
Uranium	0.00E+00	9.39E-06	--	1.00E+00	1.20E+03	0.00E+00
Vanadium	0.00E+00	3.14E-04	--	1.00E+00	1.20E+03	0.00E+00
Zinc	0.00E+00	1.89E-02	--	1.00E+00	1.20E+03	0.00E+00

Equation: $Pv = Fv \times \frac{Coa \times Bv_{ag} \times VGag \times Hg_{factor}}{pa}$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.78), and methylmercury (0.48*0.22)

Table B.27

Forage Predicted Concentration Due to Root Uptake
Animal Product Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Forage Concentration Due to Direct Deposition (Pd) (refer to table B.25) (mg/kg DW)	Predicted Forage Concentration Due to Air-to-Plant Transfer (Pv) (refer to table B.26) (mg/kg DW)	Predicted Soil Concentration				Plant-Soil Bioconcentration Factor Forage (Br_{forage}) (refer to table B.10) (µg/g DW)/(µg/g soil)	Berry Concentration Dry Weight Baseline (Cfru) (refer to table B.1) (mg/kg DW)	Forage Predicted Concentration Dry Weight				Berry Concentration Wet Weight Baseline (Cfru) (refer to table B.1) (mg/kg FW)	Forage Predicted Concentration Wet Weight			
			Construction (Cs) (refer to table B.16) (mg/kg)	Operations (Cs) (refer to table B.16) (mg/kg)	Reclamation (Cs) (refer to table B.16) (mg/kg)	Post-Closure (Cs) (refer to table B.16) (mg/kg)			Construction (Cfo) (mg/kg DW)	Operations (Cfo) (mg/kg DW)	Reclamation (Cfo) (mg/kg DW)	Post-Closure (Cfo) (mg/kg DW)		Construction (Cfo) (mg/kg FW)	Operations (Cfo) (mg/kg FW)	Reclamation (Cfo) (mg/kg FW)	Post-Closure (Cfo) (mg/kg FW)
Particulate Matter																	
Total Particulate Matter	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	0.00E+00	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Aluminum	3.49E+03	0.00E+00	1.15E+04	3.43E+04	3.96E+04	3.96E+04	4.00E-03	2.60E+01	3.54E+03	3.63E+03	3.65E+03	3.65E+03	3.90E+00	5.31E+02	5.44E+02	5.47E+02	5.47E+02
Antimony	1.05E-01	0.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	2.00E-01	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Arsenic	1.36E+01	0.00E+00	2.08E+01	2.08E+01	2.08E+01	2.08E+01	3.60E-02	1.07E+00	1.44E+01	1.44E+01	1.44E+01	1.44E+01	1.60E-01	2.15E+00	2.15E+00	2.15E+00	2.15E+00
Barium	2.83E+01	0.00E+00	3.66E+01	3.66E+01	3.66E+01	3.66E+01	1.50E-01	2.33E+01	3.38E+01	3.38E+01	3.38E+01	3.38E+01	3.50E+00	5.06E+00	5.06E+00	5.06E+00	5.06E+00
Beryllium	1.05E-01	0.00E+00	6.09E-01	1.07E+00	1.17E+00	1.17E+00	1.00E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Bismuth	1.15E-02	0.00E+00	--	--	--	--	3.50E-02	1.67E-01	--	--	--	--	2.50E-02	--	--	--	--
Boron	8.73E-01	0.00E+00	2.50E+01	2.50E+01	2.50E+01	2.50E+01	4.00E+00	1.27E+01	1.01E+02	1.01E+02	1.01E+02	1.01E+02	1.90E+00	1.51E+01	1.51E+01	1.51E+01	1.51E+01
Cadmium	4.19E-03	0.00E+00	4.62E-01	4.62E-01	4.62E-01	4.62E-01	3.60E-01	2.13E-01	2.13E-01	2.13E-01	2.13E-01	2.13E-01	3.20E-02	3.20E-02	3.20E-02	3.20E-02	3.20E-02
Calcium	4.54E+02	0.00E+00	--	--	--	--	3.50E+00	6.20E+03	--	--	--	--	9.30E+02	--	--	--	--
Chromium Total	3.87E+00	0.00E+00	1.10E+01	1.10E+01	1.10E+01	1.10E+01	7.50E-03	1.07E+00	3.96E+00	3.96E+00	3.96E+00	3.96E+00	1.60E-01	5.94E-01	5.94E-01	5.94E-01	5.94E-01
Cobalt	6.28E-01	0.00E+00	1.84E+00	1.84E+00	1.84E+00	1.84E+00	2.00E-02	5.33E-01	6.65E-01	6.65E-01	6.65E-01	6.65E-01	8.00E-02	9.98E-02	9.98E-02	9.98E-02	9.98E-02
Copper	1.29E+00	0.00E+00	4.62E+00	4.62E+00	4.62E+00	4.62E+00	4.00E-01	7.33E+00	7.33E+00	7.33E+00	7.33E+00	7.33E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
Iron	1.50E+03	0.00E+00	1.38E+04	1.38E+04	1.38E+04	1.38E+04	4.00E-03	3.20E+01	1.56E+03	1.56E+03	1.56E+03	1.56E+03	4.80E+00	2.33E+02	2.33E+02	2.33E+02	2.33E+02
Lead	1.29E+00	0.00E+00	2.40E+01	2.48E+01	2.50E+01	2.50E+01	4.50E-02	3.47E-01	2.37E+00	2.41E+00	2.42E+00	2.42E+00	5.20E-02	3.56E-01	3.61E-01	3.63E-01	3.63E-01
Lithium	2.13E+00	0.00E+00	8.28E+00	1.27E+01	1.32E+01	1.32E+01	2.50E-02	1.13E+00	2.34E+00	2.45E+00	2.46E+00	2.46E+00	1.70E-01	3.50E-01	3.67E-01	3.69E-01	3.69E-01
Magnesium	5.24E+02	0.00E+00	--	--	--	--	1.00E+00	3.33E+02	--	--	--	--	5.00E+01	--	--	--	--
Manganese	3.22E+01	0.00E+00	7.72E+01	7.72E+01	7.72E+01	7.72E+01	2.50E-01	4.20E+02	4.20E+02	4.20E+02	4.20E+02	4.20E+02	6.30E+01	6.30E+01	6.30E+01	6.30E+01	6.30E+01
Mercury, element	0.00E+00	1.79E-09	2.94E-01	2.94E-01	2.94E-01	2.94E-01	0.00E+00	1.67E-02	1.67E-02	1.67E-02	1.67E-02	1.67E-02	2.50E-03	2.50E-03	2.50E-03	2.50E-03	2.50E-03
Mercury, divalent	0.00E+00	0.00E+00	6.31E-03	3.89E-02	4.72E-02	4.72E-02	1.00E+00	--	--	--	--	--	--	--	--	--	--
Mercury, methyl	0.00E+00	0.00E+00	6.06E-08	6.06E-08	6.06E-08	6.06E-08	1.00E+00	--	--	--	--	--	--	--	--	--	--
Molybdenum	2.79E-02	0.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	2.50E-01	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Nickel	1.43E+00	0.00E+00	5.32E+00	5.32E+00	5.32E+00	5.32E+00	3.20E-02	1.07E+00	1.60E+00	1.60E+00	1.60E+00	1.60E+00	1.60E-01	2.40E-01	2.40E-01	2.40E-01	2.40E-01
Phosphorus	2.41E+01	0.00E+00	2.00E+00	2.00E+00	2.00E+00	2.00E+00	3.50E+00	1.07E+03	1.07E+03	1.07E+03	1.07E+03	1.07E+03	1.60E+02	1.60E+02	1.60E+02	1.60E+02	1.60E+02
Potassium	1.12E+03	0.00E+00	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.00E+00	5.73E+03	5.73E+03	5.73E+03	5.73E+03	5.73E+03	8.60E+02	8.60E+02	8.60E+02	8.60E+02	8.60E+02
Rubidium	2.08E-01	0.00E+00	--	--	--	--	1.00E+00	--	--	--	--	--	--	--	--	--	--
Selenium	1.22E-02	0.00E+00	1.78E+00	1.78E+00	1.78E+00	1.78E+00	1.60E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	1.60E-01	1.60E-01	1.60E-01	1.60E-01	1.60E-01
Silver	1.75E-02	0.00E+00	2.50E-01	2.50E-01	2.50E-01	2.50E-01	4.00E-01	2.67E-01	2.67E-01	2.67E-01	2.67E-01	2.67E-01	4.00E-02	4.00E-02	4.00E-02	4.00E-02	4.00E-02
Sodium	6.63E+02	0.00E+00	7.20E+02	1.50E+03	1.51E+03	1.51E+03	7.50E-02	1.67E+02	7.17E+02	7.76E+02	7.77E+02	7.77E+02	2.50E+01	1.08E+02	1.16E+02	1.16E+02	1.16E+02
Strontium	7.33E+00	0.00E+00	5.78E+01	5.78E+01	5.78E+01	5.78E+01	2.50E+00	1.47E+01	1.52E+02	1.52E+02	1.52E+02	1.52E+02	2.20E+00	2.28E+01	2.28E+01	2.28E+01	2.28E+01
Thallium	2.76E-02	0.00E+00	5.00E-02	5.00E-02	5.00E-02	5.00E-02	4.00E-03	7.33E-02	7.33E-02	7.33E-02	7.33E-02	7.33E-02	1.10E-02	1.10E-02	1.10E-02	1.10E-02	1.10E-02
Tin	1.05E-01	0.00E+00	5.23E-01	5.81E-01	5.87E-01	5.87E-01	3.00E-02	8.00E+00	8.00E+00	8.00E+00	8.00E+00	8.00E+00	1.20E+00	1.20E+00	1.20E+00	1.20E+00	1.20E+00
Titanium	1.47E+02	0.00E+00	2.09E+02	1.15E+03	1.35E+03	1.35E+03	5.50E-03	1.67E+00	1.48E+02	1.53E+02	1.54E+02	1.54E+02	2.50E-01	2.22E+01	2.29E+01	2.31E+01	2.31E+01
Uranium	6.28E-02	0.00E+00	6.20E-01	6.35E-01	6.38E-01	6.38E-01	1.00E+00	5.33E-02	6.83E-01	6.98E-01	7.00E-01	7.00E-01	8.00E-03	1.02E-01	1.05E-01	1.05E-01	1.05E-01
Vanadium	2.79E+00	0.00E+00	2.85E+01	3.91E+01	4.14E+01	4.14E+01	5.50E-03	1.07E+00	2.95E+00	3.01E+00	3.02E+00	3.02E+00	1.60E-01	4.42E-01	4.51E-01	4.53E-01	4.53E-01
Zinc	3.84E+00	0.00E+00	2.36E+01	2.36E+01	2.36E+01	2.36E+01	2.50E-01	1.40E+01	1.40E+01	1.40E+01	1.40E+01	1.40E+01	2.10E+00	2.10E+00	2.10E+00	2.10E+00	2.10E+00

Equation: $Cfo = Pd + Pv + Cs \times Br_{forage}$

Table B.28

Predicted Deer Concentrations Due to Plant and Soil Ingestion
Animal Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal (F) (refer to table B.9) (unitless)	Quantity of Forage Ingested by the Animal per day (1) (Qp_i) (refer to table B.9) (kg DW/day)	Predicted Concentration in Forage Ingested				Quantity of Soil Ingested by the Animal (Qs) (refer to table B.9) (kg/day)	Predicted Soil Concentrations				Soil Bioavailability Factor (Bs) (unitless)	Quantity of Water Ingested by the Animal (Qw) (refer to table B.9) (L/day)	Predicted Total Surface Water Concentrations				Biotransfer Factor for Beef Ba_{beef} (refer to table B.10) (day/kg FW tissue)	Biotransfer Factor for Wildlife $Ba_{wildlife}$ (day/kg FW tissue)	Metabolism Factor (MF) (unitless)	Background Concentration in Deer (Cd) (refer to table B.6) (mg/kg FW tissue)	Predicted Concentrations in Deer			
			Construction (Cfo) (refer to table B.27) (mg/kg DW)	Operations (Cfo) (refer to table B.27) (mg/kg DW)	Reclamation (Cfo) (refer to table B.27) (mg/kg DW)	Post-Closure (Cfo) (refer to table B.27) (mg/kg DW)		Construction (Cs) (refer to table B.16) (mg/kg)	Operations (Cs) (refer to table B.16) (mg/kg)	Reclamation (Cs) (refer to table B.16) (mg/kg)	Post-Closure (Cs) (refer to table B.16) (mg/kg)			Construction (Cw) (refer to table B.45) (mg/L)	Operations (Cw) (refer to table B.45) (mg/L)	Reclamation (Cw) (refer to table B.45) (mg/L)	Post-Closure (Cw) (refer to table B.45) (mg/L)					Construction (Cd) (mg/kg FW tissue)	Operations (Cd) (mg/kg FW tissue)	Reclamation (Cd) (mg/kg FW tissue)	Post-Closure (Cd) (mg/kg FW tissue)
Particulate Matter																									
Total Particulate Matter	1.00E+00	2.25E+00	--	--	--	--	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	--	--	1.00E+00	--	--	--	--	--
Particulate Matter (PM10)	1.00E+00	2.25E+00	--	--	--	--	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	--	--	1.00E+00	--	--	--	--	--
Particulate Matter (PM2.5)	1.00E+00	2.25E+00	--	--	--	--	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	--	--	1.00E+00	--	--	--	--	--
Metals																									
Aluminum	1.00E+00	2.25E+00	5.24E+02	5.48E+02	5.54E+02	4.26E+01	4.50E-02	1.15E+04	3.43E+04	3.96E+04	3.96E+04	1.00E+00	4.50E+00	4.30E-01	1.99E-01	2.66E-01	3.61E-01	1.50E-03	1.50E-03	1.00E+00	5.50E-01	2.55E+00	4.16E+00	4.54E+00	2.82E+00
Antimony	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	4.50E+00	5.00E-04	4.39E-03	3.27E-03	2.20E-03	1.00E-03	1.00E-03	1.00E+00	2.45E-03	2.45E-03	2.46E-03	2.46E-03	2.45E-03
Arsenic	1.00E+00	2.25E+00	2.12E+00	2.12E+00	2.12E+00	1.07E+00	4.50E-02	2.08E+01	2.08E+01	2.08E+01	2.08E+01	1.00E+00	4.50E+00	6.77E-01	5.48E-02	5.21E-02	5.12E-02	2.00E-03	2.00E-03	1.00E+00	1.28E-02	1.75E-02	1.28E-02	1.28E-02	1.28E-02
Barium	1.00E+00	2.25E+00	2.33E+01	2.33E+01	2.33E+01	2.33E+01	4.50E-02	3.66E+01	3.66E+01	3.66E+01	3.66E+01	1.00E+00	4.50E+00	3.60E-03	7.09E-03	7.05E-03	5.73E-03	1.50E-04	1.50E-04	1.00E+00	8.12E-03	8.12E-03	8.13E-03	8.13E-03	8.13E-03
Beryllium	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	6.09E-01	1.07E+00	1.17E+00	1.17E+00	1.00E+00	4.50E+00	5.00E-04	4.61E-04	4.71E-04	4.76E-04	1.00E-03	1.00E-03	1.00E+00	2.42E-03	2.43E-03	2.45E-03	2.45E-03	2.45E-03
Bismuth	1.00E+00	2.25E+00	1.67E-01	1.67E-01	1.67E-01	1.67E-01	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	4.00E-04	4.00E-04	1.00E+00	1.70E-04	--	--	--	--
Boron	1.00E+00	2.25E+00	5.65E+01	5.65E+01	5.65E+01	5.64E+01	4.50E-02	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.00E+00	4.50E+00	1.96E+00	1.96E+00	1.96E+00	1.96E+00	8.00E-04	8.00E-04	1.00E+00	2.38E-02	1.10E-01	1.10E-01	1.10E-01	1.09E-01
Cadmium	1.00E+00	2.25E+00	2.13E-01	2.13E-01	2.13E-01	2.13E-01	4.50E-02	4.62E-01	4.62E-01	4.62E-01	4.62E-01	1.00E+00	4.50E+00	2.48E-05	1.98E-05	2.41E-05	3.70E-05	1.20E-04	1.20E-04	1.00E+00	6.01E-05	6.01E-05	6.01E-05	6.01E-05	6.01E-05
Calcium	1.00E+00	2.25E+00	6.20E+03	6.20E+03	6.20E+03	6.20E+03	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	7.00E-04	7.00E-04	1.00E+00	--	--	--	--	--
Chromium Total	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	1.10E+01	1.10E+01	1.10E+01	1.10E+01	1.00E+00	4.50E+00	1.30E-03	8.58E-04	6.87E-04	8.60E-04	5.50E-03	5.50E-03	1.00E+00	1.59E-02	1.59E-02	1.59E-02	1.59E-02	1.59E-02
Cobalt	1.00E+00	2.25E+00	5.33E-01	5.33E-01	5.33E-01	5.33E-01	4.50E-02	1.84E+00	1.84E+00	1.84E+00	1.84E+00	1.00E+00	4.50E+00	2.00E-04	9.91E-04	9.35E-04	9.61E-04	2.00E-02	2.00E-02	1.00E+00	2.57E-02	2.57E-02	2.57E-02	2.57E-02	2.57E-02
Copper	1.00E+00	2.25E+00	7.33E+00	7.33E+00	7.33E+00	7.33E+00	4.50E-02	4.62E+00	4.62E+00	4.62E+00	4.62E+00	1.00E+00	4.50E+00	1.74E-03	1.96E-03	1.86E-03	9.20E-04	1.00E-02	1.00E-02	1.00E+00	1.67E-01	1.67E-01	1.67E-01	1.67E-01	1.67E-01
Iron	1.00E+00	2.25E+00	2.39E+02	2.39E+02	2.39E+02	3.20E+01	4.50E-02	1.38E+04	1.38E+04	1.38E+04	1.38E+04	1.00E+00	4.50E+00	1.17E+00	3.55E-01	4.55E-01	4.28E-01	2.00E-02	2.00E-02	1.00E+00	1.40E+01	2.33E+01	2.32E+01	2.32E+01	1.40E+01
Lead	1.00E+00	2.25E+00	5.15E-01	5.27E-01	5.29E-01	3.47E-01	4.50E-02	2.40E+01	2.48E+01	2.50E+01	2.50E+01	1.00E+00	4.50E+00	7.62E-04	8.22E-04	7.06E-04	9.27E-04	3.00E-04	3.00E-04	1.00E+00	5.56E-04	6.73E-04	6.92E-04	6.96E-04	5.73E-04
Lithium	1.00E+00	2.25E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	4.50E-02	8.28E+00	1.27E+01	1.32E+01	1.32E+01	1.00E+00	4.50E+00	9.93E-03	1.39E-02	1.44E-02	1.44E-02	1.00E-02	1.00E-02	1.00E+00	--	2.97E-02	3.18E-02	3.21E-02	3.21E-02
Magnesium	1.00E+00	2.25E+00	3.33E+02	3.33E+02	3.33E+02	3.33E+02	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	5.00E-03	5.00E-03	1.00E+00	--	--	--	--	--
Manganese	1.00E+00	2.25E+00	4.20E+02	4.20E+02	4.20E+02	4.20E+02	4.50E-02	7.72E+01	7.72E+01	7.72E+01	7.72E+01	1.00E+00	4.50E+00	8.03E-02	7.56E-02	4.92E-02	1.19E-01	4.00E-04	4.00E-04	1.00E+00	3.80E-01	3.80E-01	3.80E-01	3.80E-01	3.80E-01
Mercury, element	1.00E+00	2.25E+00	1.67E-02	1.67E-02	1.67E-02	1.67E-02	4.50E-02	2.94E-01	2.94E-01	2.94E-01	2.94E-01	1.00E+00	4.50E+00	1.36E-04	6.88E-06	7.05E-06	9.69E-06	1.00E+00	1.00E+00	1.00E+00	5.13E-02	5.13E-02	5.13E-02	5.13E-02	5.13E-02
Mercury, divalent	1.00E+00	2.25E+00	1.84E-04	6.40E-04	7.56E-04	6.61E-04	4.50E-02	6.31E-03	3.89E-02	4.72E-02	4.72E-02	1.00E+00	4.50E+00	2.53E-07	1.56E-06	1.89E-06	1.89E-06	5.20E-03	5.20E-03	1.00E+00	--	3.63E-06	1.66E-05	1.99E-05	1.88E-05
Mercury, methyl	1.00E+00	2.25E+00	1.30E-05	1.30E-05	1.30E-05	1.76E-09	4.50E-02	6.06E-08	6.06E-08	6.06E-08	6.06E-08	1.00E+00	4.50E+00	6.01E-13	6.01E-13	6.01E-13	6.01E-13	7.80E-04	7.80E-04	1.00E+00	--	2.27E-08	2.27E-08	2.27E-08	5.21E-12
Molybdenum	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	4.50E+00	1.23E-02	1.23E-02	1.23E-02	1.23E-02	6.00E-03	6.00E-03	1.00E+00	1.47E-02	1.50E-02	1.50E-02	1.50E-02	1.50E-02
Nickel	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	5.32E+00	5.32E+00	5.32E+00	5.32E+00	1.00E+00	4.50E+00	1.00E-03	1.42E-02	6.10E-03	1.13E-02	6.00E-03	6.00E-03	1.00E+00	1.59E-02	1.59E-02	1.62E-02	1.60E-02	1.61E-02
Phosphorus	1.00E+00	2.25E+00	1.07E+03	1.07E+03	1.07E+03	1.07E+03	4.50E-02	2.00E+00	2.00E+00	2.00E+00	2.00E+00	1.00E+00	4.50E+00	1.63E-01	1.63E-01	1.63E-01	1.63E-01	5.50E-02	5.50E-02	1.00E+00	--	1.32E+02	1.32E+02	1.32E+02	1.32E+02
Potassium	1.00E+00	2.25E+00	5.73E+03	5.73E+03	5.73E+03	5.73E+03	4.50E-02	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.00E+00	4.50E+00	7.58E+00	7.58E+00	7.58E+00	7.58E+00	2.00E-02	2.00E-02	1.00E+00	--	2.59E+02	2.59E+02	2.59E+02	2.59E+02
Rubidium	1.00E+00	2.25E+00	3.05E-02	3.05E-02	3.05E-02	0.00E+00	4.50E-02	--	--	--	--	1.00E+00	4.50E+00	--	--	--	--	1.50E-02	1.50E-02	1.00E+00	--	--	--	--	--
Selenium	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	1.78E+00	1.78E+00	1.78E+00	1.78E+00	1.00E+00	4.50E+00	5.00E-04	4.88E-04	4.68E-04	5.58E-04	2.30E-03	2.30E-03	1.00E+00	5.71E-03	5.71E-03	5.71E-03	5.71E-03	5.71E-03
Silver	1.00E+00	2.25E+00	2.67E-01	2.67E-01	2.67E-01	2.67E-01	4.50E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.00E+00	4.50E+00	5.00E-05	7.90E-05	7.04E-05	7.48E-05	3.00E-03	3.00E-03	1.00E+00	1.83E-03	1.83E-03	1.83E-03	1.83E-03	1.83E-03
Sodium	1.00E+00	2.25E+00	1.67E+02	1.83E+02	1.84E+02	1.67E+02	4.50E-02	7.20E+02	1.50E+03	1.51E+03	1.51E+03	1.00E+00	4.50E+00	2.59E+00	4.57E+00	4.61E+00	4.61E+00	5.50E-02	5.50E-02	1.00E+00	--	2.30E+01	2.75E+01	2.77E+01	2.55E+01
Strontium	1.00E+00	2.25E+00	3.21E+01	3.21E+01	3.21E+01	3.10E+01	4.50E-02	5.78E+01	5.78E+01	5.78E+01	5.78E+01	1.00E+00	4.50E+00	4.18E-01	4.18E-01	4.18E-01	4.18E-01	3.00E-04	3.00E-04	1.00E+00	1.07E-02	2.30E-02	2.30E-02	2.30E-02	2.23E-02
Thallium	1.00E+00	2.25E+00	7.33E-02	7.33E-02	7.33E-02	7.33E-02	4.50E-02	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.00E+00	4.50E+00	5.00E-05	7.31E-05	6.61E-05	8.48E-05	4.00E-02	4.00E-02	1.00E+00	6.70E-03	6.70E-03	6.70E-03	6.70E-03	6.71E-03
Tin	1.00E+00	2.25E+00	8.00E+00	8.00E+00	8.00E+00	8.00E+00	4.50E-02	5.23E-01	5.81E-01	5.87E-01	5.87E-01	1.00E+00	4.50E+00	6.80E-04	7.43E-04	7.50E-04	7.50E-04	1.00E-03	1.00E-03	1.00E+00	1.80E-02	1.80E-02	1.80E-02	1.80E-02	1.80E-02
Titanium	1.00E+00	2.25E+00	2.22E+01	2.53E+01	2.59E+01	4.47E+00	4.50E-02	2.09E+02	1.15E+03	1.35E+03	1.35E+03	1.00E+00	4.50E+00	2.19E-01	5.32E-01	6.00E-01	6.00E-01	3.00E-02	3.00E-02	1.00E+00	--	1.81E+00	3.32E+00	3.65E+00	2.20E+00
Uranium	1.00E+00	2.25E+00	6.29E-01	6.44E-01	6.47E-01	6.38E-01	4.50E-02	6.20E-01	6.35E-01	6.38E-01	6.38E-01	1.00E+00	4.50E+00	5.00E-05	9.50E-04	8.52E-04	5.76E-04	2.00E-04	2.00E-04	1.00E+00	2.96E-05	2.89E-04	2.97E-04	2.98E-04	2.93E-04
Vanadium	1.00E+00	2.25E+00	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.50E-02	2.85E+01	3.91E+01	4.14E+01	4.14E+01	1.00E+00	4.50E+00	1.00E-03	2.12E-03	1.49E-03	2.01E-03	2.50E-03	2.50E-03	1.00E+00	8.96E-03	9.22E-03	1.04E-02	1.07E-02	1.07E-02
Zinc	1.00E+00	2.25E+00	1.40E+01	1.40E+01	1.40E+01	1.40E+01	4.50E-02	2.36E+01	2.36E+01	2.36E+01	2.36E+01	1.00E+00	4.50E+00	9.76E-03	7.28E-03	7.18E-03	7.27E-03	9.00E-05	9.00E-05	1.00E+00	2.93E-03	2.93E-03	2.93E-03	2.93E-03	2.93E-03

Equation: $Cd = F \times Qp_i \times Cfo + Qs \times Cs \times Bs + Qw \times Cw \times Ba_{wildlife} \times MF$ where: $Ba_{wildlife} = Ba_{beef}$

Table B.29

Hare Concentrations Due to Plant and Soil Ingestion
Animal Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction of Plant Type Grown on Contaminated Soil and Ingested by the Animal (F) (refer to table B.9) unitless	Quantity of Forage Ingested by the Animal per day (1) (Q_{Pi}) (refer to table B.9) (kg DW/day)	Concentration in Forage Ingested: Construction (Cfo) (refer to table B.27) (mg/kg DW)	Concentration in Forage Ingested: Operations (Cfo) (refer to table B.27) (mg/kg DW)	Concentration in Forage Ingested: Reclamation (Cfo) (refer to table B.27) (mg/kg DW)	Concentration in Forage Ingested: Post-Closure (Cfo) (refer to table B.27) (mg/kg DW)	Quantity of Soil Ingested by the Animal (Qs) (refer to table B.9) (kg/day)	Predicted Soil Concentrations: Construction (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentrations: Operations (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentrations: Reclamation (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentrations: Post-Closure (Cs) (refer to table B.16) (mg/kg)	Soil Bioavailability Factor (Bs) (unitless)	Quantity of Water Ingested by the Animal (Qw) (refer to table B.9) (L/day)	Predicted Total Surface Water Concentrations: Construction (Cw) (refer to table B.45) (mg/L)	Predicted Total Surface Water Concentrations: Operations (Cw) (refer to table B.45) (mg/L)	Predicted Total Surface Water Concentrations: Reclamation (Cw) (refer to table B.45) (mg/L)	Predicted Total Surface Water Concentrations: Post-Closure (Cw) (refer to table B.45) (mg/L)	Biotransfer Factor for Beef Ba_{beef} (refer to table B.10) (day/kg FW tissue)	Biotransfer Factor for Wildlife $Ba_{wildlife}$ (day/kg FW tissue)	Metabolism Factor (MF) (unitless)	Baseline Concentration in Hare (Ch) (refer to table B.7) (mg/kg FW tissue)	Predicted Concentrations in Hare: Construction (Cd) (mg/kg FW tissue)	Predicted Concentrations in Hare: Operations (Cd) (mg/kg FW tissue)	Predicted Concentrations in Hare: Reclamation (Cd) (mg/kg FW tissue)	Predicted Concentrations in Hare: Post-Closure (Cd) (mg/kg FW tissue)
Particulate Matter																										
Total Particulate Matter	1.00E+00	7.80E-02	--	--	--	--	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	--	--	1.00E+00	--	--	--	--	--	--
Particulate Matter (PM10)	1.00E+00	7.80E-02	--	--	--	--	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	--	--	1.00E+00	--	--	--	--	--	--
Particulate Matter (PM2.5)	1.00E+00	7.80E-02	--	--	--	--	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	--	--	1.00E+00	--	--	--	--	--	--
Metals																										
Aluminum	1.00E+00	7.80E-02	5.24E+02	5.48E+02	5.54E+02	4.26E+01	4.91E-03	1.15E+04	3.43E+04	3.96E+04	3.96E+04	1.00E+00	1.30E-01	4.30E-01	1.99E-01	2.66E-01	3.61E-01	1.50E-03	1.50E-03	1.00E+00	5.32E-02	1.46E-01	3.17E-01	3.57E-01	2.97E-01
Antimony	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.30E-01	5.00E-04	4.39E-03	3.27E-03	2.20E-03	1.00E-03	1.00E-03	1.00E+00	8.82E-05	8.82E-05	8.87E-05	8.85E-05	8.84E-05
Arsenic	1.00E+00	7.80E-02	2.12E+00	2.12E+00	2.12E+00	1.07E+00	4.91E-03	2.08E+01	2.08E+01	2.08E+01	2.08E+01	1.00E+00	1.30E-01	6.77E-01	5.48E-02	5.21E-02	5.12E-02	2.00E-03	2.00E-03	1.00E+00	5.47E-04	7.12E-04	5.50E-04	5.49E-04	5.47E-04
Barium	1.00E+00	7.80E-02	2.33E+01	2.33E+01	2.33E+01	2.33E+01	4.91E-03	3.66E+01	3.66E+01	3.66E+01	3.66E+01	1.00E+00	1.30E-01	3.60E-03	7.09E-03	7.05E-03	5.73E-03	1.50E-04	1.50E-04	1.00E+00	3.00E-04	3.00E-04	3.00E-04	3.00E-04	3.00E-04
Beryllium	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	6.09E-01	1.07E+00	1.17E+00	1.17E+00	1.00E+00	1.30E-01	5.00E-04	4.61E-04	4.71E-04	4.76E-04	1.00E-03	1.00E-03	1.00E+00	8.57E-05	8.63E-05	8.85E-05	8.90E-05	8.90E-05
Bismuth	1.00E+00	7.80E-02	1.67E-01	1.67E-01	1.67E-01	1.67E-01	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	4.00E-04	4.00E-04	1.00E+00	7.22E-06	--	--	--	--
Boron	1.00E+00	7.80E-02	5.65E+01	5.65E+01	5.65E+01	5.64E+01	4.91E-03	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.00E+00	1.30E-01	1.96E+00	1.96E+00	1.96E+00	1.96E+00	8.00E-04	8.00E-04	1.00E+00	8.91E-04	3.83E-03	3.83E-03	3.83E-03	3.82E-03
Cadmium	1.00E+00	7.80E-02	2.13E-01	2.13E-01	2.13E-01	2.13E-01	4.91E-03	4.62E-01	4.62E-01	4.62E-01	4.62E-01	1.00E+00	1.30E-01	2.48E-05	1.98E-05	2.41E-05	3.70E-05	1.20E-04	1.20E-04	1.00E+00	2.27E-06	2.27E-06	2.27E-06	2.27E-06	2.27E-06
Calcium	1.00E+00	7.80E-02	6.20E+03	6.20E+03	6.20E+03	6.20E+03	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	7.00E-04	7.00E-04	1.00E+00	--	--	--	--	--
Chromium Total	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	1.10E+01	1.10E+01	1.10E+01	1.10E+01	1.00E+00	1.30E-01	1.30E-03	8.58E-04	6.87E-04	8.60E-04	5.50E-03	5.50E-03	1.00E+00	7.55E-04	7.55E-04	7.55E-04	7.55E-04	7.55E-04
Cobalt	1.00E+00	7.80E-02	5.33E-01	5.33E-01	5.33E-01	5.33E-01	4.91E-03	1.84E+00	1.84E+00	1.84E+00	1.84E+00	1.00E+00	1.30E-01	2.00E-04	9.91E-04	9.35E-04	9.61E-04	2.00E-02	2.00E-02	1.00E+00	1.01E-03	1.01E-03	1.02E-03	1.02E-03	1.02E-03
Copper	1.00E+00	7.80E-02	7.33E+00	7.33E+00	7.33E+00	7.33E+00	4.91E-03	4.62E+00	4.62E+00	4.62E+00	4.62E+00	1.00E+00	1.30E-01	1.74E-03	1.96E-03	1.86E-03	9.20E-04	1.00E-02	1.00E-02	1.00E+00	5.95E-03	5.95E-03	5.95E-03	5.95E-03	5.95E-03
Iron	1.00E+00	7.80E-02	2.39E+02	2.39E+02	2.39E+02	3.20E+01	4.91E-03	1.38E+04	1.38E+04	1.38E+04	1.38E+04	1.00E+00	1.30E-01	1.17E+00	3.55E-01	4.55E-01	4.28E-01	2.00E-02	2.00E-02	1.00E+00	1.41E+00	1.73E+00	1.73E+00	1.73E+00	1.41E+00
Lead	1.00E+00	7.80E-02	5.15E-01	5.27E-01	5.29E-01	3.47E-01	4.91E-03	2.40E+01	2.48E+01	2.50E+01	2.50E+01	1.00E+00	1.30E-01	7.62E-04	8.22E-04	7.06E-04	9.27E-04	3.00E-04	3.00E-04	1.00E+00	4.32E-05	4.75E-05	4.90E-05	4.93E-05	4.50E-05
Lithium	1.00E+00	7.80E-02	1.13E+00	1.13E+00	1.13E+00	1.13E+00	4.91E-03	8.28E+00	1.27E+01	1.32E+01	1.32E+01	1.00E+00	1.30E-01	9.93E-03	1.39E-02	1.44E-02	1.44E-02	1.00E-02	1.00E-02	1.00E+00	--	1.30E-03	1.52E-03	1.55E-03	1.55E-03
Magnesium	1.00E+00	7.80E-02	3.33E+02	3.33E+02	3.33E+02	3.33E+02	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	5.00E-03	5.00E-03	1.00E+00	--	--	--	--	--
Manganese	1.00E+00	7.80E-02	4.20E+02	4.20E+02	4.20E+02	4.20E+02	4.91E-03	7.72E+01	7.72E+01	7.72E+01	7.72E+01	1.00E+00	1.30E-01	8.03E-02	7.56E-02	4.92E-02	1.19E-01	4.00E-04	4.00E-04	1.00E+00	1.33E-02	1.33E-02	1.33E-02	1.33E-02	1.33E-02
Mercury, element	1.00E+00	7.80E-02	1.67E-02	1.67E-02	1.67E-02	1.67E-02	4.91E-03	2.94E-01	2.94E-01	2.94E-01	2.94E-01	1.00E+00	1.30E-01	1.36E-04	6.88E-06	7.05E-06	9.69E-06	1.00E+00	1.00E+00	1.00E+00	2.76E-03	2.76E-03	2.76E-03	2.76E-03	2.76E-03
Mercury, divalent	1.00E+00	7.80E-02	1.84E-04	6.40E-04	7.56E-04	6.61E-04	4.91E-03	6.31E-03	3.89E-02	4.72E-02	4.72E-02	1.00E+00	1.30E-01	2.53E-07	1.56E-06	1.89E-06	1.89E-06	5.20E-03	5.20E-03	1.00E+00	--	2.36E-07	1.25E-06	1.51E-06	1.48E-06
Mercury, methyl	1.00E+00	7.80E-02	1.30E-05	1.30E-05	1.30E-05	1.76E-09	4.91E-03	6.06E-08	6.06E-08	6.06E-08	6.06E-08	1.00E+00	1.30E-01	6.01E-13	6.01E-13	6.01E-13	6.01E-13	7.80E-04	7.80E-04	1.00E+00	--	7.89E-10	7.89E-10	7.89E-10	3.39E-13
Molybdenum	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.30E-01	1.23E-02	1.23E-02	1.23E-02	1.23E-02	6.00E-03	6.00E-03	1.00E+00	5.29E-04	5.38E-04	5.38E-04	5.38E-04	5.38E-04
Nickel	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	5.32E+00	5.32E+00	5.32E+00	5.32E+00	1.00E+00	1.30E-01	1.00E-03	1.42E-02	6.10E-03	1.13E-02	6.00E-03	6.00E-03	1.00E+00	6.57E-04	6.57E-04	6.67E-04	6.61E-04	6.65E-04
Phosphorus	1.00E+00	7.80E-02	1.07E+03	1.07E+03	1.07E+03	1.07E+03	4.91E-03	2.00E+00	2.00E+00	2.00E+00	2.00E+00	1.00E+00	1.30E-01	1.63E-01	1.63E-01	1.63E-01	1.63E-01	5.50E-02	5.50E-02	1.00E+00	--	4.58E+00	4.58E+00	4.58E+00	4.58E+00
Potassium	1.00E+00	7.80E-02	5.73E+03	5.73E+03	5.73E+03	5.73E+03	4.91E-03	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.00E+00	1.30E-01	7.58E+00	7.58E+00	7.58E+00	7.58E+00	2.00E-02	2.00E-02	1.00E+00	--	8.98E+00	8.98E+00	8.98E+00	8.98E+00
Rubidium	1.00E+00	7.80E-02	3.05E-02	3.05E-02	3.05E-02	0.00E+00	4.91E-03	--	--	--	--	1.00E+00	1.30E-01	--	--	--	--	1.50E-02	1.50E-02	1.00E+00	--	--	--	--	--
Selenium	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	1.78E+00	1.78E+00	1.78E+00	1.78E+00	1.00E+00	1.30E-01	5.00E-04	4.88E-04	4.68E-04	5.58E-04	2.30E-03	2.30E-03	1.00E+00	2.12E-04	2.12E-04	2.12E-04	2.12E-04	2.12E-04
Silver	1.00E+00	7.80E-02	2.67E-01	2.67E-01	2.67E-01	2.67E-01	4.91E-03	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.00E+00	1.30E-01	5.00E-05	7.90E-05	7.04E-05	7.48E-05	3.00E-03	3.00E-03	1.00E+00	6.61E-05	6.61E-05	6.61E-05	6.61E-05	6.61E-05
Sodium	1.00E+00	7.80E-02	1.67E+02	1.83E+02	1.84E+02	1.67E+02	4.91E-03	7.20E+02	1.50E+03	1.51E+03	1.51E+03	1.00E+00	1.30E-01	2.59E+00	4.57E+00	4.61E+00	4.61E+00	5.50E-02	5.50E-02	1.00E+00	--	9.28E-01	1.22E+00	1.23E+00	1.16E+00
Strontium	1.00E+00	7.80E-02	3.21E+01	3.21E+01	3.21E+01	3.10E+01	4.91E-03	5.78E+01	5.78E+01	5.78E+01	5.78E+01	1.00E+00	1.30E-01	4.18E-01	4.18E-01	4.18E-01	4.18E-01	3.00E-04	3.00E-04	1.00E+00	4.30E-04	8.52E-04	8.52E-04	8.52E-04	8.27E-04
Thallium	1.00E+00	7.80E-02	7.33E-02	7.33E-02	7.33E-02	7.33E-02	4.91E-03	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.00E+00	1.30E-01	5.00E-05	7.31E-05	6.61E-05	8.48E-05	4.00E-02	4.00E-02	1.00E+00	2.39E-04	2.39E-04	2.39E-04	2.39E-04	2.39E-04
Tin	1.00E+00	7.80E-02	8.00E+00	8.00E+00	8.00E+00	8.00E+00	4.91E-03	5.23E-01	5.81E-01	5.87E-01	5.87E-01	1.00E+00	1.30E-01	6.80E-04	7.43E-04	7.50E-04	7.50E-04	1.00E-03	1.00E-03	1.00E+00	6.27E-04	6.27E-04	6.27E-04	6.27E-04	6.27E-04
Titanium	1.00E+00	7.80E-02	2.22E+01	2.53E+01	2.59E+01	4.47E+00	4.91E-03	2.09E+02	1.15E+03	1.35E+03	1.35E+03	1.00E+00	1.30E-01	2.19E-01	5.32E-01	6.00E-01	6.00E-01	3.00E-02	3.00E-02	1.00E+00	--	8.35E-02	2.30E-01	2.62E-01	2.12E-01
Uranium	1.00E+00	7.80E-02	6.29E-01	6.44E-01	6.47E-01	6.38E-01	4.91E-03	6.20E-01	6.35E-01	6.38E-01	6.38E-01	1.00E+00	1.30E-01	5.00E-05	9.50E-04	8.52E-04	5.76E-04	2.00E-04	2.00E-04	1.00E+00	1.44E-06	1.04E-05	1.07E-05	1.07E-05	1.06E-05
Vanadium	1.00E+00	7.80E-02	1.07E+00	1.07E+00	1.07E+00	1.07E+00	4.91E-03	2.85E+01	3.91E+01	4.14E+01	4.14E+01	1.00E+00	1.30E-01	1.00E-03	2.12E-03	1.49E-03	2.01E-03	2.50E-03	2.50E-03	1.00E+00	5.30E-04	5.59E-04	6.89E-04	7.17E-04	7.17E-04
Zinc	1.00E+00	7.80E-02	1.40E+01	1.40E+01	1.40E+01	1.40E+01	4.91E-03	2.36E+01	2.36E+01	2.36E+01	2.36E+01	1.00E+00	1.30E-01	9.76E-03	7.28E-03	7.18E-03	7.27E-03	9.00E-05	9.00E-05	1.00E+00	1.09E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04

Equation: $Ch = F \times Q_{Pi} \times Cfo + Qs \times Cs \times Bs + Qw \times Cw \times Ba_{wildlife} \times MF$ where: $Ba_{wildlife} = Ba_{beef}$

Table B.30

Deposition to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Annual Deposition Rate (Dr) (refer to table B.7) (g/m^2-yr)	Water Body Surface Area (A_w) (refer to table B.9) (m^2)	Total Wet & Dry Particle and Wet Vapor Direct Deposition to Water (L_{DEP}) (g/yr)
Particulate Matter			
Total Particulate Matter	7.69E+02	2.95E+05	2.27E+08
Particulate Matter (PM10)	9.49E+01	2.95E+05	2.80E+07
Particulate Matter (PM2.5)	3.33E-01	2.95E+05	9.82E+04
Metals			
Aluminum	7.69E+01	2.95E+05	2.27E+07
Antimony	2.31E-03	2.95E+05	6.81E+02
Arsenic	3.00E-01	2.95E+05	8.85E+04
Barium	6.23E-01	2.95E+05	1.84E+05
Beryllium	2.31E-03	2.95E+05	6.81E+02
Bismuth	2.54E-04	2.95E+05	7.49E+01
Boron	1.92E-02	2.95E+05	5.67E+03
Cadmium	9.23E-05	2.95E+05	2.72E+01
Calcium	1.00E+01	2.95E+05	2.95E+06
Chromium Total	8.54E-02	2.95E+05	2.52E+04
Cobalt	1.38E-02	2.95E+05	4.09E+03
Copper	2.85E-02	2.95E+05	8.40E+03
Iron	3.31E+01	2.95E+05	9.76E+06
Lead	2.85E-02	2.95E+05	8.40E+03
Lithium	4.69E-02	2.95E+05	1.38E+04
Magnesium	1.15E+01	2.95E+05	3.40E+06
Manganese	7.09E-01	2.95E+05	2.09E+05
Mercury, element	2.03E-04	2.95E+05	5.87E+01
Mercury, divalent	--	2.95E+05	--
Mercury, methyl	--	2.95E+05	--
Molybdenum	6.16E-04	2.95E+05	1.82E+02
Nickel	3.15E-02	2.95E+05	9.31E+03
Phosphorus	5.31E-01	2.95E+05	1.57E+05
Potassium	2.46E+01	2.95E+05	7.26E+06
Rubidium	4.59E-03	2.95E+05	1.36E+03
Selenium	2.69E-04	2.95E+05	7.94E+01
Silver	3.85E-04	2.95E+05	1.13E+02
Sodium	1.46E+01	2.95E+05	4.31E+06
Strontium	1.62E-01	2.95E+05	4.77E+04
Thallium	6.08E-04	2.95E+05	1.79E+02
Tin	2.31E-03	2.95E+05	6.81E+02
Titanium	3.23E+00	2.95E+05	9.53E+05
Uranium	1.38E-03	2.95E+05	4.09E+02
Vanadium	6.16E-02	2.95E+05	1.82E+04
Zinc	8.46E-02	2.95E+05	2.50E+04

Equation: $L_{DEP} = Hg_{factor} \times Dr \times A_W$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.48), and methylmercury (0)

Table B.31

Liquid Phase Transfer Coefficient
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Diffusivity in Water (Dw) (refer to table B.10) (cm^2/s)	Creek: Current Velocity (μ) (refer to table B.9) (m/s)	Creek: Total Water Body Depth (d_{wc}) (refer to table B.9) (m)	Creek: Units Conversion Factor (CF1) (m^2/cm^2)	Lake: Drag Coefficient (C_d) (refer to table B.9) -	Lake: Average Annual Wind Speed (W) (refer to table B.9) (m/s)	Lake: Density of Air (ρ_a) (refer to table B.9) (g/cm^3)	Lake: Density of Water (ρ_w) (refer to table B.9) (g/cm^3)	Lake: von Karman's Constant (k) (refer to table B.9) -	Lake: Dimensionless Viscous Sublayer Thickness (λ_z) (refer to table B.9) -	Lake: Viscosity of Water at Water Temperature (μ_w) (refer to table B.9) (g/cm-s)	Units Conversion Factor (CF2) (s/yr)	Liquid Phase Transfer Coefficient Creek K_L (m/yr)
Particulate Matter													
Total Particulate Matter	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Particulate Matter (PM10)	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Particulate Matter (PM2.5)	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Metals													
Aluminum	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Antimony	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Arsenic	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Barium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Beryllium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Bismuth	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Boron	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Cadmium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Calcium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Chromium Total	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Cobalt	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Copper	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Iron	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Lead	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Lithium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Magnesium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Manganese	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Mercury, element	6.30E-06	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	7.88E+02
Mercury, divalent	5.20E-06	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	7.16E+02
Mercury, methyl	6.10E-06	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	7.75E+02
Molybdenum	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Nickel	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Phosphorus	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Potassium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Rubidium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Selenium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Silver	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Sodium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Strontium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Thallium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Tin	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Titanium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Uranium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Vanadium	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--
Zinc	--	2.76E-01	2.79E-01	1.00E-04	1.10E-03	3.90E+00	1.20E-03	1.00E+00	4.00E-01	4.00E+00	1.69E-02	3.15E+07	--

Equation: For the Creek, K_L = [Square Root of (($CF1 \times D_w \times \mu$) / d_{wc})] x CF2

Table B.32

Overall Transfer Rate Coefficient
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Liquid Phase Transfer Coefficient Creek (K_{L1}) (refer to table B.31) (m/yr)	Lake: Drag Coefficient (C_d) (refer to table B.9) -	Lake: Average Annual Wind Speed (W) (refer to table B.9) (m/s)	Lake: Density of Air (ρ_a) (refer to table B.9) (g/cm^3)	Lake: von Karman's Constant (k) (refer to table B.9) -	Lake: Dimensionless Viscous Sublayer Thickness (λ_z) (refer to table B.9) -	Lake: Viscosity of Air (μ_a) (refer to table B.9) (g/cm-s)	Lake: Diffusivity in Air (Da) (refer to table B.10) (cm^2/s)	Units Conversion Factor (CF1) (s/yr)	Gas Phase Transfer Coefficient Creek (K_G) (m/yr)	Henry's Law Constant (H) (refer to table B.10) (atm-m^3/mol)	Universal Gas Constant (R) (refer to table B.9) (atm-m^3/mol-K)	Water Body Temperature (T_a) (refer to table B.9) (k)	Temperature Correction Factor θ -	Overall Transfer Rate Coefficient K_v (m/yr)
Particulate Matter															
Total Particulate Matter	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Particulate Matter (PM10)	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Particulate Matter (PM2.5)	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Metals															
Aluminum	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Antimony	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Arsenic	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Barium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Beryllium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Bismuth	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Boron	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Cadmium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Calcium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Chromium Total	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Cobalt	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Copper	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Iron	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Lead	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Lithium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Magnesium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Manganese	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Mercury, element	7.88E+02	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	3.07E-02	3.15E+07	3.65E+04	1.15E-02	8.21E-05	2.80E+02	1.03E+00	5.37E+02
Mercury, divalent	7.16E+02	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	4.50E-02	3.15E+07	3.65E+04	7.10E-10	8.21E-05	2.80E+02	1.03E+00	8.04E-04
Mercury, methyl	7.75E+02	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	5.30E-02	3.15E+07	3.65E+04	7.22E-03	8.21E-05	2.80E+02	1.03E+00	5.17E+02
Molybdenum	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Nickel	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Phosphorus	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Potassium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Rubidium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Selenium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Silver	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Sodium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Strontium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Thallium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Tin	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Titanium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Uranium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Vanadium	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--
Zinc	--	1.10E-03	3.90E+00	1.20E-03	4.00E-01	4.00E+00	1.69E-02	--	3.15E+07	--	--	8.21E-05	2.80E+02	1.03E+00	--

Equation: $K_v = [K_L^{-1} + (K_G \times H/(R \times T_a))^{-1}]^{-1} \times \theta^{(1.8 \times -293)}$

For the Creek K_G = 36500 refer to Table B-9 for K_G

Table B.33

Diffusion Load to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Overall Transfer Rate Coefficient (K_v) (refer to table B.33) (m/yr)	Predicted Air Concentration (Coa) (refer to table B.6) ($\mu g/m^3$)	Water Body Surface Area A_W (refer to table B.30) (m^2)	Henry's Law Constant (H) (refer to table B.10) ($atm\text{-}m^3/mol$)	Universal Gas Constant (R) (refer to table B.9) ($atm\text{-}m^3/mol\text{-}K$)	Water Body Temperature T_a (refer to table B.9) (K)	Units Conversion Factor (CF) (g/ug)	Dry Vapor Phase Diffusion Load to Water Body (L_{dif}) (g/yr)
Particulate Matter								
Total Particulate Matter	--	3.30E+01	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Particulate Matter (PM10)	--	8.11E+00	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Particulate Matter (PM2.5)	--	8.47E-01	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Metals								
Aluminum	--	8.85E-02	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Antimony	--	1.57E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Arsenic	--	3.53E-04	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Barium	--	8.84E-02	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Beryllium	--	1.57E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Bismuth	--	8.13E-06	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Boron	--	3.19E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Cadmium	--	5.62E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Calcium	--	--	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Chromium Total	--	1.55E-03	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Cobalt	--	3.17E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Copper	--	3.39E-01	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Iron	--	1.03E-01	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Lead	--	1.68E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Lithium	--	7.76E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Magnesium	--	--	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Manganese	--	1.61E-03	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Mercury, element	5.37E+02	2.15E-06	2.95E+05	1.15E-02	8.21E-05	2.80E+02	1.00E-06	6.67E-04
Mercury, divalent	8.04E-04	--	2.95E+05	7.10E-10	8.21E-05	2.80E+02	1.00E-06	--
Mercury, methyl	5.17E+02	--	2.95E+05	7.22E-03	8.21E-05	2.80E+02	1.00E-06	--
Molybdenum	--	3.11E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Nickel	--	1.80E-03	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Phosphorus	--	--	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Potassium	--	--	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Rubidium	--	4.87E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Selenium	--	1.21E-05	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Silver	--	1.48E-04	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Sodium	--	--	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Strontium	--	5.05E-04	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Thallium	--	9.36E-06	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Tin	--	1.85E-03	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Titanium	--	1.39E-03	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Uranium	--	9.39E-06	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Vanadium	--	3.14E-04	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--
Zinc	--	1.89E-02	2.95E+05	--	8.21E-05	2.80E+02	1.00E-06	--

Equation:

$$L_{DIF} = \frac{(K_v \times Hg_{factor} \times Coa \times A_w \times CF) \times (R \times T_a)}{H}$$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.48), and methylmercury (0)

Table B.34

Impervious Runoff Load to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Annual Deposition Rate (Dr) (refer to table B.7) (g/m^2-yr)	Impervious Watershed Area (A_I) (refer to table B.9) (m^2)	Runoff Load Impervious Surfaces (L_{RI}) (g/yr)
Particulate Matter			
Total Particulate Matter	7.69E+02	2.95E+05	2.27E+08
Particulate Matter (PM10)	9.49E+01	2.95E+05	2.80E+07
Particulate Matter (PM2.5)	3.33E-01	2.95E+05	9.82E+04
Metals			
Aluminum	7.69E+01	2.95E+05	2.27E+07
Antimony	2.31E-03	2.95E+05	6.81E+02
Arsenic	3.00E-01	2.95E+05	8.85E+04
Barium	6.23E-01	2.95E+05	1.84E+05
Beryllium	2.31E-03	2.95E+05	6.81E+02
Bismuth	2.54E-04	2.95E+05	7.49E+01
Boron	1.92E-02	2.95E+05	5.67E+03
Cadmium	9.23E-05	2.95E+05	2.72E+01
Calcium	1.00E+01	2.95E+05	2.95E+06
Chromium Total	8.54E-02	2.95E+05	2.52E+04
Cobalt	1.38E-02	2.95E+05	4.09E+03
Copper	2.85E-02	2.95E+05	8.40E+03
Iron	3.31E+01	2.95E+05	9.76E+06
Lead	2.85E-02	2.95E+05	8.40E+03
Lithium	4.69E-02	2.95E+05	1.38E+04
Magnesium	1.15E+01	2.95E+05	3.40E+06
Manganese	7.09E-01	2.95E+05	2.09E+05
Mercury, element	2.03E-04	2.95E+05	5.87E+01
Mercury, divalent	--	2.95E+05	--
Mercury, methyl	--	2.95E+05	--
Molybdenum	6.16E-04	2.95E+05	1.82E+02
Nickel	3.15E-02	2.95E+05	9.31E+03
Phosphorus	5.31E-01	2.95E+05	1.57E+05
Potassium	2.46E+01	2.95E+05	7.26E+06
Rubidium	4.59E-03	2.95E+05	1.36E+03
Selenium	2.69E-04	2.95E+05	7.94E+01
Silver	3.85E-04	2.95E+05	1.13E+02
Sodium	1.46E+01	2.95E+05	4.31E+06
Strontium	1.62E-01	2.95E+05	4.77E+04
Thallium	6.08E-04	2.95E+05	1.79E+02
Tin	2.31E-03	2.95E+05	6.81E+02
Titanium	3.23E+00	2.95E+05	9.53E+05
Uranium	1.38E-03	2.95E+05	4.09E+02
Vanadium	6.16E-02	2.95E+05	1.82E+04
Zinc	8.46E-02	2.95E+05	2.50E+04

Equation: $L_{RI} = Hg_{factor} \times Dr \times A_I$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.48), and methylmercury (0)

Table B.35

Pervious Runoff Load to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Average Annual Surface Runoff Pervious Areas (RO) (refer to table B.9) (cm/yr)	Total Watershed Area Receiving Deposition (A_L) (refer to table B.9) (m^2)	Impervious Watershed Area (A_I) (refer to table B.34) (m^2)	Predicted Soil Concentration Construction (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Operations (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Reclamation (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration Post-Closure (Cs) (refer to table B.16) (mg/kg)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	Soil Volumetric Water Content (θ_{sw}) (refer to table B.9) (ml/cm^3)	Soil-Water Partition Coefficient (Kds) (refer to table B.10) (cm^3/g)	Unit Conversion Factor (CF) ($kg\text{-}cm^2/mg\text{-}m^2$)	Runoff Load Pervious Surfaces Construction (L_R) (g/yr)	Runoff Load Pervious Surfaces Operations (L_R) (g/yr)	Runoff Load Pervious Surfaces Reclamation (L_R) (g/yr)	Runoff Load Pervious Surfaces Post-Closure (L_R) (g/yr)
Particulate Matter															
Total Particulate Matter	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Particulate Matter (PM10)	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Particulate Matter (PM2.5)	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Metals															
Aluminum	7.89E+01	3.79E+06	2.95E+05	1.15E+04	3.43E+04	3.96E+04	3.96E+04	1.50E+00	2.00E-01	1.50E+03	1.00E-02	2.12E+07	6.31E+07	7.29E+07	7.29E+07
Antimony	7.89E+01	3.79E+06	2.95E+05	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E+00	2.00E-01	4.50E+01	1.00E-02	6.12E+04	6.12E+04	6.12E+04	6.12E+04
Arsenic	7.89E+01	3.79E+06	2.95E+05	2.08E+01	2.08E+01	2.08E+01	2.08E+01	1.50E+00	2.00E-01	2.90E+01	1.00E-02	1.97E+06	1.97E+06	1.97E+06	1.97E+06
Barium	7.89E+01	3.79E+06	2.95E+05	3.66E+01	3.66E+01	3.66E+01	3.66E+01	1.50E+00	2.00E-01	4.10E+01	1.00E-02	2.46E+06	2.46E+06	2.46E+06	2.46E+06
Beryllium	7.89E+01	3.79E+06	2.95E+05	6.09E-01	1.07E+00	1.17E+00	1.17E+00	1.50E+00	2.00E-01	7.90E+02	1.00E-02	2.13E+03	3.75E+03	4.08E+03	4.08E+03
Bismuth	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Boron	7.89E+01	3.79E+06	2.95E+05	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.50E+00	2.00E-01	3.00E+00	1.00E-02	2.20E+07	2.20E+07	2.20E+07	2.20E+07
Cadmium	7.89E+01	3.79E+06	2.95E+05	4.62E-01	4.62E-01	4.62E-01	4.62E-01	1.50E+00	2.00E-01	7.50E+01	1.00E-02	1.70E+04	1.70E+04	1.70E+04	1.70E+04
Calcium	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Chromium Total	7.89E+01	3.79E+06	2.95E+05	1.10E+01	1.10E+01	1.10E+01	1.10E+01	1.50E+00	2.00E-01	1.90E+01	1.00E-02	1.58E+06	1.58E+06	1.58E+06	1.58E+06
Cobalt	7.89E+01	3.79E+06	2.95E+05	1.84E+00	1.84E+00	1.84E+00	1.84E+00	1.50E+00	2.00E-01	4.50E+01	1.00E-02	1.13E+05	1.13E+05	1.13E+05	1.13E+05
Copper	7.89E+01	3.79E+06	2.95E+05	4.62E+00	4.62E+00	4.62E+00	4.62E+00	1.50E+00	2.00E-01	3.50E+01	1.00E-02	3.63E+05	3.63E+05	3.63E+05	3.63E+05
Iron	7.89E+01	3.79E+06	2.95E+05	1.38E+04	1.38E+04	1.38E+04	1.38E+04	1.50E+00	2.00E-01	2.50E+01	1.00E-02	1.52E+09	1.52E+09	1.52E+09	1.52E+09
Lead	7.89E+01	3.79E+06	2.95E+05	2.40E+01	2.48E+01	2.50E+01	2.50E+01	1.50E+00	2.00E-01	9.00E+02	1.00E-02	7.36E+04	7.62E+04	7.68E+04	7.68E+04
Lithium	7.89E+01	3.79E+06	2.95E+05	8.28E+00	1.27E+01	1.32E+01	1.32E+01	1.50E+00	2.00E-01	3.00E+02	1.00E-02	7.61E+04	1.17E+05	1.22E+05	1.22E+05
Magnesium	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Manganese	7.89E+01	3.79E+06	2.95E+05	7.72E+01	7.72E+01	7.72E+01	7.72E+01	1.50E+00	2.00E-01	6.50E+01	1.00E-02	3.27E+06	3.27E+06	3.27E+06	3.27E+06
Mercury, element	7.89E+01	3.79E+06	2.95E+05	2.94E-01	2.94E-01	2.94E-01	2.94E-01	1.50E+00	2.00E-01	3.30E+03	1.00E-02	2.41E+02	2.41E+02	2.41E+02	2.41E+02
Mercury, divalent	7.89E+01	3.79E+06	2.95E+05	6.31E-03	3.89E-02	4.72E-02	4.72E-02	1.50E+00	2.00E-01	3.30E+03	1.00E-02	1.06E-01	6.51E-01	7.90E-01	7.90E-01
Mercury, methyl	7.89E+01	3.79E+06	2.95E+05	6.06E-08	6.06E-08	6.06E-08	6.06E-08	1.50E+00	2.00E-01	2.00E+01	1.00E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Molybdenum	7.89E+01	3.79E+06	2.95E+05	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E+00	2.00E-01	2.00E+01	1.00E-02	1.37E+05	1.37E+05	1.37E+05	1.37E+05
Nickel	7.89E+01	3.79E+06	2.95E+05	5.32E+00	5.32E+00	5.32E+00	5.32E+00	1.50E+00	2.00E-01	6.50E+01	1.00E-02	2.26E+05	2.26E+05	2.26E+05	2.26E+05
Phosphorus	7.89E+01	3.79E+06	2.95E+05	2.00E+00	2.00E+00	2.00E+00	2.00E+00	1.50E+00	2.00E-01	3.50E+00	1.00E-02	1.52E+06	1.52E+06	1.52E+06	1.52E+06
Potassium	7.89E+01	3.79E+06	2.95E+05	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.50E+00	2.00E-01	5.50E+00	1.00E-02	7.06E+07	7.06E+07	7.06E+07	7.06E+07
Rubidium	7.89E+01	3.79E+06	2.95E+05	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-02	--	--	--	--
Selenium	7.89E+01	3.79E+06	2.95E+05	1.78E+00	1.78E+00	1.78E+00	1.78E+00	1.50E+00	2.00E-01	5.00E+00	1.00E-02	9.58E+05	9.58E+05	9.58E+05	9.58E+05
Silver	7.89E+01	3.79E+06	2.95E+05	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.50E+00	2.00E-01	8.30E+00	1.00E-02	8.19E+04	8.19E+04	8.19E+04	8.19E+04
Sodium	7.89E+01	3.79E+06	2.95E+05	7.20E+02	1.50E+03	1.51E+03	1.51E+03	1.50E+00	2.00E-01	1.00E+02	1.00E-02	1.98E+07	4.13E+07	4.17E+07	4.17E+07
Strontium	7.89E+01	3.79E+06	2.95E+05	5.78E+01	5.78E+01	5.78E+01	5.78E+01	1.50E+00	2.00E-01	3.50E+01	1.00E-02	4.54E+06	4.54E+06	4.54E+06	4.54E+06
Thallium	7.89E+01	3.79E+06	2.95E+05	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.50E+00	2.00E-01	7.10E+01	1.00E-02	1.94E+03	1.94E+03	1.94E+03	1.94E+03
Tin	7.89E+01	3.79E+06	2.95E+05	5.23E-01	5.81E-01	5.87E-01	5.87E-01	1.50E+00	2.00E-01	2.50E+02	1.00E-02	5.77E+03	6.41E+03	6.48E+03	6.48E+03
Titanium	7.89E+01	3.79E+06	2.95E+05	2.09E+02	1.15E+03	1.35E+03	1.35E+03	1.50E+00	2.00E-01	1.00E+03	1.00E-02	5.76E+05	3.16E+06	3.72E+06	3.72E+06
Uranium	7.89E+01	3.79E+06	2.95E+05	6.20E-01	6.35E-01	6.38E-01	6.38E-01	1.50E+00	2.00E-01	4.50E+02	1.00E-02	3.80E+03	3.90E+03	3.91E+03	3.91E+03
Vanadium	7.89E+01	3.79E+06	2.95E+05	2.85E+01	3.91E+01	4.14E+01	4.14E+01	1.50E+00	2.00E-01	1.00E+03	1.00E-02	7.88E+04	1.08E+05	1.14E+05	1.14E+05
Zinc	7.89E+01	3.79E+06	2.95E+05	2.36E+01	2.36E+01	2.36E+01	2.36E+01	1.50E+00	2.00E-01	6.20E+01	1.00E-02	1.05E+06	1.05E+06	1.05E+06	1.05E+06

Equation:

$$L_R = RO \times (A_L - A_I) \times \frac{Cs \times BD}{\theta_{sw} + Kds \times BD} \times CF \times Hg_{factor}$$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.48), and methylmercury (0)

Table B.36

Universal Soil Loss Equation (USLE)
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	USLE Rainfall Factor (RF) (refer to table B.9) (1/yr)	USLE Erodibility Factor K (refer to table B.9) (ton/acre)	USLE Length-Slope Factor (LS) (refer to table B.9) -	USLE Cover Management Factor (C) (refer to table B.9) -	USLE Supporting Practice Factor (P) (refer to table B.9) -	Unit Conversion Factor (CF1) (kg/ton)	Unit Conversion Factor (CF2) (m^2/acre)	Unit Soil Loss X_e (kg/m^2-yr)
Particulate Matter								
Total Particulate Matter	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Particulate Matter (PM10)	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Particulate Matter (PM2.5)	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Metals								
Aluminum	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Antimony	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Arsenic	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Barium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Beryllium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Bismuth	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Boron	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Cadmium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Calcium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Chromium Total	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Cobalt	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Copper	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Iron	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Lead	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Lithium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Magnesium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Manganese	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Mercury, element	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Mercury, divalent	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Mercury, methyl	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Molybdenum	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Nickel	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Phosphorus	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Potassium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Rubidium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Selenium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Silver	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Sodium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Strontium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Thallium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Tin	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Titanium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Uranium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Vanadium	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00
Zinc	1.53E+02	3.90E-01	1.50E+00	1.00E-01	1.00E+00	9.07E+02	4.05E+03	2.01E+00

Equation: X_e = RF x K x LS x C x P x CF1/CF2

Table B.37

Sediment Delivery Ratio
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Empirical Intercept Coefficient (a) (refer to table B.9) -	Total Watershed Area Receiving Deposition (A_L) (refer to table B.35) (m^2)	Empirical Slope Coefficient (b) (refer to table B.9) -	Watershed Sediment Delivery Ratio (SD) -
Particulate Matter				
Total Particulate Matter	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Particulate Matter (PM10)	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Particulate Matter (PM2.5)	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Metals				
Aluminum	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Antimony	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Arsenic	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Barium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Beryllium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Bismuth	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Boron	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Cadmium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Calcium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Chromium Total	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Cobalt	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Copper	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Iron	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Lead	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Lithium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Magnesium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Manganese	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Mercury, element	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Mercury, divalent	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Mercury, methyl	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Molybdenum	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Nickel	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Phosphorus	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Potassium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Rubidium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Selenium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Silver	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Sodium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Strontium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Thallium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Tin	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Titanium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Uranium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Vanadium	1.40E+00	3.79E+06	1.25E-01	2.11E-01
Zinc	1.40E+00	3.79E+06	1.25E-01	2.11E-01

Equation: $SD = a \times (A_L)^{-b}$

Table B.38

Erosion Load to Surface Water
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Unit Soil Loss (X_o) (refer to table B.36) (kg/m^2-yr)	Total Watershed Area Receiving Deposition (A_L) (refer to table B.35) (m^2)	Impervious Watershed Area (A_I) (refer to table B.35) (m^2)	Watershed Sediment Delivery Ratio (SD) (refer to table B.37) -	Soil Enrichment Ratio (ER) -	Predicted Soil Concentration: Construction (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration: Operations (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration: Reclamation (Cs) (refer to table B.16) (mg/kg)	Predicted Soil Concentration: Post-Closure (Cs) (refer to table B.16) (mg/kg)	Soil Bulk Density (BD) (refer to table B.9) (g/cm^3)	Soil Volumetric Water Content (θ_{sw}) (refer to table B.9) (ml/cm^3)	Soil-Water Partition Coefficient (Kds) (refer to table B.35) (cm^3/g)	Unit Conversion Factor (CF) ((g/kg)/(mg/kg))	Erosion Load to Water Body: Construction (L_E) (g/yr)	Erosion Load to Water Body: Operations (L_E) (g/yr)	Erosion Load to Water Body: Reclamation (L_E) (g/yr)	Erosion Load to Water Body: Post-Closure (L_E) (g/yr)
Particulate Matter																	
Total Particulate Matter	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Particulate Matter (PM10)	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Particulate Matter (PM2.5)	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Metals																	
Aluminum	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.15E+04	3.43E+04	3.96E+04	3.96E+04	1.50E+00	2.00E-01	1.50E+03	1.00E-03	1.71E+07	5.08E+07	5.87E+07	5.87E+07
Antimony	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E+00	2.00E-01	4.50E+01	1.00E-03	1.48E+03	1.48E+03	1.48E+03	1.48E+03
Arsenic	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.08E+01	2.08E+01	2.08E+01	2.08E+01	1.50E+00	2.00E-01	2.90E+01	1.00E-03	3.07E+04	3.07E+04	3.07E+04	3.07E+04
Barium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	3.66E+01	3.66E+01	3.66E+01	3.66E+01	1.50E+00	2.00E-01	4.10E+01	1.00E-03	5.41E+04	5.41E+04	5.41E+04	5.41E+04
Beryllium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	6.09E-01	1.07E+00	1.17E+00	1.17E+00	1.50E+00	2.00E-01	7.90E+02	1.00E-03	9.03E+02	1.59E+03	1.73E+03	1.73E+03
Bismuth	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Boron	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.50E+00	2.00E-01	3.00E+00	1.00E-03	3.55E+04	3.55E+04	3.55E+04	3.55E+04
Cadmium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	4.62E-01	4.62E-01	4.62E-01	4.62E-01	1.50E+00	2.00E-01	7.50E+01	1.00E-03	6.84E+02	6.84E+02	6.84E+02	6.84E+02
Calcium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Chromium Total	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.10E+01	1.10E+01	1.10E+01	1.10E+01	1.50E+00	2.00E-01	1.90E+01	1.00E-03	1.62E+04	1.62E+04	1.62E+04	1.62E+04
Cobalt	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.84E+00	1.84E+00	1.84E+00	1.84E+00	1.50E+00	2.00E-01	4.50E+01	1.00E-03	2.72E+03	2.72E+03	2.72E+03	2.72E+03
Copper	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	4.62E+00	4.62E+00	4.62E+00	4.62E+00	1.50E+00	2.00E-01	3.50E+01	1.00E-03	6.83E+03	6.83E+03	6.83E+03	6.83E+03
Iron	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.38E+04	1.38E+04	1.38E+04	1.38E+04	1.50E+00	2.00E-01	2.50E+01	1.00E-03	2.04E+07	2.04E+07	2.04E+07	2.04E+07
Lead	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.40E+01	2.48E+01	2.50E+01	2.50E+01	1.50E+00	2.00E-01	9.00E+02	1.00E-03	3.56E+04	3.69E+04	3.71E+04	3.71E+04
Lithium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	8.28E+00	1.27E+01	1.32E+01	1.32E+01	1.50E+00	2.00E-01	3.00E+02	1.00E-03	1.23E+04	1.88E+04	1.96E+04	1.96E+04
Magnesium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Manganese	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	7.72E+01	7.72E+01	7.72E+01	7.72E+01	1.50E+00	2.00E-01	6.50E+01	1.00E-03	1.14E+05	1.14E+05	1.14E+05	1.14E+05
Mercury, element	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.94E-01	2.94E-01	2.94E-01	2.94E-01	1.50E+00	2.00E-01	3.30E+03	1.00E-03	4.36E+02	4.36E+02	4.36E+02	4.36E+02
Mercury, divalent	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	6.31E-03	3.89E-02	4.72E-02	4.72E-02	1.50E+00	2.00E-01	3.30E+03	1.00E-03	9.36E+00	5.77E+01	7.00E+01	7.00E+01
Mercury, methyl	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	6.06E-08	6.06E-08	6.06E-08	6.06E-08	1.50E+00	2.00E-01	2.00E+01	1.00E-03	8.93E-05	8.93E-05	8.93E-05	8.93E-05
Molybdenum	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.50E+00	2.00E-01	2.00E+01	1.00E-03	1.47E+03	1.47E+03	1.47E+03	1.47E+03
Nickel	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	5.32E+00	5.32E+00	5.32E+00	5.32E+00	1.50E+00	2.00E-01	6.50E+01	1.00E-03	7.87E+03	7.87E+03	7.87E+03	7.87E+03
Phosphorus	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.00E+00	2.00E+00	2.00E+00	2.00E+00	1.50E+00	2.00E-01	3.50E+00	1.00E-03	2.86E+03	2.86E+03	2.86E+03	2.86E+03
Potassium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.44E+02	1.44E+02	1.44E+02	1.44E+02	1.50E+00	2.00E-01	5.50E+00	1.00E-03	2.09E+05	2.09E+05	2.09E+05	2.09E+05
Rubidium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	--	--	--	--	1.50E+00	2.00E-01	--	1.00E-03	--	--	--	--
Selenium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	1.78E+00	1.78E+00	1.78E+00	1.78E+00	1.50E+00	2.00E-01	5.00E+00	1.00E-03	2.57E+03	2.57E+03	2.57E+03	2.57E+03
Silver	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.50E-01	2.50E-01	2.50E-01	2.50E-01	1.50E+00	2.00E-01	8.30E+00	1.00E-03	3.65E+02	3.65E+02	3.65E+02	3.65E+02
Sodium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	7.20E+02	1.50E+03	1.51E+03	1.51E+03	1.50E+00	2.00E-01	1.00E+02	1.00E-03	1.07E+06	2.22E+06	2.24E+06	2.24E+06
Strontium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	5.78E+01	5.78E+01	5.78E+01	5.78E+01	1.50E+00	2.00E-01	3.50E+01	1.00E-03	8.54E+04	8.54E+04	8.54E+04	8.54E+04
Thallium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	5.00E-02	5.00E-02	5.00E-02	5.00E-02	1.50E+00	2.00E-01	7.10E+01	1.00E-03	7.40E+01	7.40E+01	7.40E+01	7.40E+01
Tin	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	5.23E-01	5.81E-01	5.87E-01	5.87E-01	1.50E+00	2.00E-01	2.50E+02	1.00E-03	7.75E+02	8.61E+02	8.70E+02	8.70E+02
Titanium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.09E+02	1.15E+03	1.35E+03	1.35E+03	1.50E+00	2.00E-01	1.00E+03	1.00E-03	3.09E+05	1.70E+06	2.00E+06	2.00E+06
Uranium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	6.20E-01	6.35E-01	6.38E-01	6.38E-01	1.50E+00	2.00E-01	4.50E+02	1.00E-03	9.20E+02	9.42E+02	9.46E+02	9.46E+02
Vanadium	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.85E+01	3.91E+01	4.14E+01	4.14E+01	1.50E+00	2.00E-01	1.00E+03	1.00E-03	4.23E+04	5.80E+04	6.13E+04	6.13E+04
Zinc	2.01E+00	3.79E+06	2.95E+05	2.11E-01	1.00E+00	2.36E+01	2.36E+01	2.36E+01	2.36E+01	1.50E+00	2.00E-01	6.20E+01	1.00E-03	3.49E+04	3.49E+04	3.49E+04	3.49E+04

Equation: $L_E = X_o \times (A_L - A_I) \times SD \times ER \times \frac{Cs \times Kds \times BD}{\theta_{sw} + Kds \times BD} \times CF$

Table B.39

Total Water Body Load
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Total Wet & Dry Particle and Wet Vapor Direct Deposition to Water (L_{DEP}) (refer to table B.30) (g/yr)	Vapor Phase Diffusion to Water (L_{DIF}) (refer to table B.33) (g/yr)	Runoff Load Impervious Surfaces (L_{RI}) (refer to table B.34) (g/yr)	Runoff Load Pervious Surfaces Construction (L_R) (refer to table B.35) (g/yr)	Runoff Load Pervious Surfaces Operations (L_R) (refer to table B.35) (g/yr)	Runoff Load Pervious Surfaces Reclamation (L_R) (refer to table B.35) (g/yr)	Runoff Load Pervious Surfaces Post-Closure (L_R) (refer to table B.35) (g/yr)	Soil Erosion Load Construction (L_E) (refer to table B.38) (g/yr)	Soil Erosion Load Operations (L_E) (refer to table B.38) (g/yr)	Soil Erosion Load Reclamation (L_E) (refer to table B.38) (g/yr)	Soil Erosion Load Post-Closure (L_E) (refer to table B.38) (g/yr)	Total Load to Surface Water Construction (L_T) (g/yr)	Total Load to Surface Water Operations (L_T) (g/yr)	Total Load to Surface Water Reclamation (L_T) (g/yr)	Total Load to Surface Water Post-Closure (L_T) (g/yr)
Particulate Matter															
Total Particulate Matter	2.27E+08	0.00E+00	2.27E+08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.54E+08	4.54E+08	4.54E+08	4.54E+08
Particulate Matter (PM10)	2.80E+07	0.00E+00	2.80E+07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.60E+07	5.60E+07	5.60E+07	5.60E+07
Particulate Matter (PM2.5)	9.82E+04	0.00E+00	9.82E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.96E+05	1.96E+05	1.96E+05	1.96E+05
Metals															
Aluminum	2.27E+07	0.00E+00	2.27E+07	2.12E+07	6.31E+07	7.29E+07	7.29E+07	1.71E+07	5.08E+07	5.87E+07	5.87E+07	8.37E+07	1.59E+08	1.77E+08	1.77E+08
Antimony	6.81E+02	0.00E+00	6.81E+02	6.12E+04	6.12E+04	6.12E+04	6.12E+04	1.48E+03	1.48E+03	1.48E+03	1.48E+03	6.40E+04	6.40E+04	6.40E+04	6.40E+04
Arsenic	8.85E+04	0.00E+00	8.85E+04	1.97E+06	1.97E+06	1.97E+06	1.97E+06	3.07E+04	3.07E+04	3.07E+04	3.07E+04	2.18E+06	2.18E+06	2.18E+06	2.18E+06
Barium	1.84E+05	0.00E+00	1.84E+05	2.46E+06	2.46E+06	2.46E+06	2.46E+06	5.41E+04	5.41E+04	5.41E+04	5.41E+04	2.88E+06	2.88E+06	2.88E+06	2.88E+06
Beryllium	6.81E+02	0.00E+00	6.81E+02	2.13E+03	3.75E+03	4.08E+03	4.08E+03	9.03E+02	1.59E+03	1.73E+03	1.73E+03	4.39E+03	6.70E+03	7.17E+03	7.17E+03
Bismuth	7.49E+01	0.00E+00	7.49E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E+02	1.50E+02	1.50E+02	1.50E+02
Boron	5.67E+03	0.00E+00	5.67E+03	2.20E+07	2.20E+07	2.20E+07	2.20E+07	3.55E+04	3.55E+04	3.55E+04	3.55E+04	2.21E+07	2.21E+07	2.21E+07	2.21E+07
Cadmium	2.72E+01	0.00E+00	2.72E+01	1.70E+04	1.70E+04	1.70E+04	1.70E+04	6.84E+02	6.84E+02	6.84E+02	6.84E+02	1.77E+04	1.77E+04	1.77E+04	1.77E+04
Calcium	2.95E+06	0.00E+00	2.95E+06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.90E+06	5.90E+06	5.90E+06	5.90E+06
Chromium Total	2.52E+04	0.00E+00	2.52E+04	1.58E+06	1.58E+06	1.58E+06	1.58E+06	1.62E+04	1.62E+04	1.62E+04	1.62E+04	1.65E+06	1.65E+06	1.65E+06	1.65E+06
Cobalt	4.09E+03	0.00E+00	4.09E+03	1.13E+05	1.13E+05	1.13E+05	1.13E+05	2.72E+03	2.72E+03	2.72E+03	2.72E+03	1.23E+05	1.23E+05	1.23E+05	1.23E+05
Copper	8.40E+03	0.00E+00	8.40E+03	3.63E+05	3.63E+05	3.63E+05	3.63E+05	6.83E+03	6.83E+03	6.83E+03	6.83E+03	3.87E+05	3.87E+05	3.87E+05	3.87E+05
Iron	9.76E+06	0.00E+00	9.76E+06	1.52E+09	1.52E+09	1.52E+09	1.52E+09	2.04E+07	2.04E+07	2.04E+07	2.04E+07	1.56E+09	1.56E+09	1.56E+09	1.56E+09
Lead	8.40E+03	0.00E+00	8.40E+03	7.36E+04	7.62E+04	7.68E+04	7.68E+04	3.56E+04	3.69E+04	3.71E+04	3.71E+04	1.26E+05	1.30E+05	1.31E+05	1.31E+05
Lithium	1.38E+04	0.00E+00	1.38E+04	7.61E+04	1.17E+05	1.22E+05	1.22E+05	1.23E+04	1.88E+04	1.96E+04	1.96E+04	1.16E+05	1.63E+05	1.69E+05	1.69E+05
Magnesium	3.40E+06	0.00E+00	3.40E+06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.81E+06	6.81E+06	6.81E+06	6.81E+06
Manganese	2.09E+05	0.00E+00	2.09E+05	3.27E+06	3.27E+06	3.27E+06	3.27E+06	1.14E+05	1.14E+05	1.14E+05	1.14E+05	3.81E+06	3.81E+06	3.81E+06	3.81E+06
Mercury, element	5.87E+01	6.67E-04	5.87E+01	2.41E+02	2.41E+02	2.41E+02	2.41E+02	4.36E+02	4.36E+02	4.36E+02	4.36E+02	7.95E+02	7.95E+02	7.95E+02	7.95E+02
Mercury, divalent	0.00E+00	0.00E+00	0.00E+00	1.06E-01	6.51E-01	7.90E-01	7.90E-01	9.36E+00	5.77E+01	7.00E+01	7.00E+01	9.46E+00	5.83E+01	7.08E+01	7.08E+01
Mercury, methyl	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.93E-05	8.93E-05	8.93E-05	8.93E-05	8.93E-05	8.93E-05	8.93E-05	8.93E-05
Molybdenum	1.82E+02	0.00E+00	1.82E+02	1.37E+05	1.37E+05	1.37E+05	1.37E+05	1.47E+03	1.47E+03	1.47E+03	1.47E+03	1.39E+05	1.39E+05	1.39E+05	1.39E+05
Nickel	9.31E+03	0.00E+00	9.31E+03	2.26E+05	2.26E+05	2.26E+05	2.26E+05	7.87E+03	7.87E+03	7.87E+03	7.87E+03	2.52E+05	2.52E+05	2.52E+05	2.52E+05
Phosphorus	1.57E+05	0.00E+00	1.57E+05	1.52E+06	1.52E+06	1.52E+06	1.52E+06	2.86E+03	2.86E+03	2.86E+03	2.86E+03	1.84E+06	1.84E+06	1.84E+06	1.84E+06
Potassium	7.26E+06	0.00E+00	7.26E+06	7.06E+07	7.06E+07	7.06E+07	7.06E+07	2.09E+05	2.09E+05	2.09E+05	2.09E+05	8.54E+07	8.54E+07	8.54E+07	8.54E+07
Rubidium	1.36E+03	0.00E+00	1.36E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.71E+03	2.71E+03	2.71E+03	2.71E+03
Selenium	7.94E+01	0.00E+00	7.94E+01	9.58E+05	9.58E+05	9.58E+05	9.58E+05	2.57E+03	2.57E+03	2.57E+03	2.57E+03	9.60E+05	9.60E+05	9.60E+05	9.60E+05
Silver	1.13E+02	0.00E+00	1.13E+02	8.19E+04	8.19E+04	8.19E+04	8.19E+04	3.65E+02	3.65E+02	3.65E+02	3.65E+02	8.25E+04	8.25E+04	8.25E+04	8.25E+04
Sodium	4.31E+06	0.00E+00	4.31E+06	1.98E+07	4.13E+07	4.17E+07	4.17E+07	1.07E+06	2.22E+06	2.24E+06	2.24E+06	2.95E+07	5.21E+07	5.26E+07	5.26E+07
Strontium	4.77E+04	0.00E+00	4.77E+04	4.54E+06	4.54E+06	4.54E+06	4.54E+06	8.54E+04	8.54E+04	8.54E+04	8.54E+04	4.72E+06	4.72E+06	4.72E+06	4.72E+06
Thallium	1.79E+02	0.00E+00	1.79E+02	1.94E+03	1.94E+03	1.94E+03	1.94E+03	7.40E+01	7.40E+01	7.40E+01	7.40E+01	2.37E+03	2.37E+03	2.37E+03	2.37E+03
Tin	6.81E+02	0.00E+00	6.81E+02	5.77E+03	6.41E+03	6.48E+03	6.48E+03	7.75E+02	8.61E+02	8.70E+02	8.70E+02	7.91E+03	8.64E+03	8.71E+03	8.71E+03
Titanium	9.53E+05	0.00E+00	9.53E+05	5.76E+05	3.16E+06	3.72E+06	3.72E+06	3.09E+05	1.70E+06	2.00E+06	2.00E+06	2.79E+06	6.77E+06	7.63E+06	7.63E+06
Uranium	4.09E+02	0.00E+00	4.09E+02	3.80E+03	3.90E+03	3.91E+03	3.91E+03	9.20E+02	9.42E+02	9.46E+02	9.46E+02	5.54E+03	5.66E+03	5.67E+03	5.67E+03
Vanadium	1.82E+04	0.00E+00	1.82E+04	7.88E+04	1.08E+05	1.14E+05	1.14E+05	4.23E+04	5.80E+04	6.13E+04	6.13E+04	1.57E+05	2.02E+05	2.12E+05	2.12E+05
Zinc	2.50E+04	0.00E+00	2.50E+04	1.05E+06	1.05E+06	1.05E+06	1.05E+06	3.49E+04	3.49E+04	3.49E+04	3.49E+04	1.13E+06	1.13E+06	1.13E+06	1.13E+06

Equation: $L_T = L_{DEP} + L_{DIF} + L_{RI} + L_R + L_E$

Table B.40

Total Water Body (Surface Water and Bed Sediment) Predicted Concentrations
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Total Load to Surface Water				Average Volumetric Flow rate (Vf_x)	Fraction Total Water Body Conc. in Water Column (f_{wc})	Overall Total Water Body Dissipation Rate Constant k_{wt}	Water Body Surface Area (A_w)	Depth of Water Column (d_{wc})	Depth of Upper Benthic Sediment Layer (d_{bs})	Total Water Body Predicted Concentrations Load to Surface Water & Sediment			
	Construction (L_T)	Operations (L_T)	Reclamation (L_T)	Post-Closure (L_T)							Construction (Cwb)	Operations (Cwb)	Reclamation (Cwb)	Post-Closure (Cwb)
	(refer to table B.39)	(refer to table B.39)	(refer to table B.39)	(refer to table B.39)	(refer to table B.9)	(refer to table B.41)	(refer to table B.44)	(refer to table B.30)	(refer to table B.9)	(refer to table B.9)				
Contaminant	(g/yr)	(g/yr)	(g/yr)	(g/yr)	(m^3/yr)	-	(1/yr)	(m^2)	(m)	(m)	(g/m^3 or mg/L)	(g/m^3 or mg/L)	(g/m^3 or mg/L)	(g/m^3 or mg/L)
Particulate Matter														
Total Particulate Matter	4.54E+08	4.54E+08	4.54E+08	4.54E+08	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Particulate Matter (PM10)	5.60E+07	5.60E+07	5.60E+07	5.60E+07	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Particulate Matter (PM2.5)	1.96E+05	1.96E+05	1.96E+05	1.96E+05	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Metals														
Aluminum	8.37E+07	1.59E+08	1.77E+08	1.77E+08	1.25E+07	6.24E-03	1.67E-01	2.95E+05	2.79E-01	3.00E-02	9.01E+02	1.71E+03	1.90E+03	1.90E+03
Antimony	6.40E+04	6.40E+04	6.40E+04	6.40E+04	1.25E+07	1.69E-01	1.39E-01	2.95E+05	2.79E-01	3.00E-02	3.02E-02	3.02E-02	3.02E-02	3.02E-02
Arsenic	2.18E+06	2.18E+06	2.18E+06	2.18E+06	1.25E+07	2.39E-01	1.28E-01	2.95E+05	2.79E-01	3.00E-02	7.29E-01	7.29E-01	7.29E-01	7.29E-01
Barium	2.88E+06	2.88E+06	2.88E+06	2.88E+06	1.25E+07	1.83E-01	1.37E-01	2.95E+05	2.79E-01	3.00E-02	1.26E+00	1.26E+00	1.26E+00	1.26E+00
Beryllium	4.39E+03	6.70E+03	7.17E+03	7.17E+03	1.25E+07	1.17E-02	1.66E-01	2.95E+05	2.79E-01	3.00E-02	2.73E-02	4.16E-02	4.45E-02	4.45E-02
Bismuth	1.50E+02	1.50E+02	1.50E+02	1.50E+02	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Boron	2.21E+07	2.21E+07	2.21E+07	2.21E+07	1.25E+07	7.21E-01	4.68E-02	2.95E+05	2.79E-01	3.00E-02	2.46E+00	2.46E+00	2.46E+00	2.46E+00
Cadmium	1.77E+04	1.77E+04	1.77E+04	1.77E+04	1.25E+07	1.09E-01	1.49E-01	2.95E+05	2.79E-01	3.00E-02	1.29E-02	1.29E-02	1.29E-02	1.29E-02
Calcium	5.90E+06	5.90E+06	5.90E+06	5.90E+06	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Chromium Total	1.65E+06	1.65E+06	1.65E+06	1.65E+06	1.25E+07	3.22E-01	1.14E-01	2.95E+05	2.79E-01	3.00E-02	4.11E-01	4.11E-01	4.11E-01	4.11E-01
Cobalt	2.88E+06	2.88E+06	2.88E+06	2.88E+06	1.25E+07	1.69E-01	1.39E-01	2.95E+05	2.79E-01	3.00E-02	1.36E+00	1.36E+00	1.36E+00	1.36E+00
Copper	4.39E+03	6.70E+03	7.17E+03	7.17E+03	1.25E+07	2.07E-01	1.33E-01	2.95E+05	2.79E-01	3.00E-02	1.69E-03	2.58E-03	2.77E-03	2.77E-03
Iron	1.56E+09	1.56E+09	1.56E+09	1.56E+09	1.25E+07	2.66E-01	1.23E-01	2.95E+05	2.79E-01	3.00E-02	4.67E+02	4.67E+02	4.67E+02	4.67E+02
Lead	1.26E+05	1.30E+05	1.31E+05	1.31E+05	1.25E+07	1.03E-02	1.66E-01	2.95E+05	2.79E-01	3.00E-02	8.78E-01	9.05E-01	9.11E-01	9.11E-01
Lithium	1.16E+05	1.63E+05	1.69E+05	1.69E+05	1.25E+07	3.01E-02	1.63E-01	2.95E+05	2.79E-01	3.00E-02	2.98E-01	4.19E-01	4.34E-01	4.34E-01
Magnesium	6.81E+06	6.81E+06	6.81E+06	6.81E+06	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Manganese	3.81E+06	3.81E+06	3.81E+06	3.81E+06	1.25E+07	1.24E-01	1.47E-01	2.95E+05	2.79E-01	3.00E-02	2.44E+00	2.44E+00	2.44E+00	2.44E+00
Mercury, element	7.95E+02	7.95E+02	7.95E+02	7.95E+02	1.25E+07	5.26E-04	7.80E-01	2.95E+05	2.79E-01	3.00E-02	1.02E-02	1.02E-02	1.02E-02	1.02E-02
Mercury, divalent	9.46E+00	5.83E+01	7.08E+01	7.08E+01	1.25E+07	5.26E-04	1.68E-01	2.95E+05	2.79E-01	3.00E-02	4.34E-04	2.68E-03	3.25E-03	3.25E-03
Mercury, methyl	8.93E-05	8.93E-05	8.93E-05	8.93E-05	1.25E+07	5.48E-02	9.17E+01	2.95E+05	2.79E-01	3.00E-02	9.89E-12	9.89E-12	9.89E-12	9.89E-12
Molybdenum	1.39E+05	1.39E+05	1.39E+05	1.39E+05	1.25E+07	3.11E-01	1.16E-01	2.95E+05	2.79E-01	3.00E-02	3.58E-02	3.58E-02	3.58E-02	3.58E-02
Nickel	2.52E+05	2.52E+05	2.52E+05	2.52E+05	1.25E+07	1.24E-01	1.47E-01	2.95E+05	2.79E-01	3.00E-02	1.62E-01	1.62E-01	1.62E-01	1.62E-01
Phosphorus	1.84E+06	1.84E+06	1.84E+06	1.84E+06	1.25E+07	6.94E-01	5.13E-02	2.95E+05	2.79E-01	3.00E-02	2.13E-01	2.13E-01	2.13E-01	2.13E-01
Potassium	8.54E+07	8.54E+07	8.54E+07	8.54E+07	1.25E+07	6.04E-01	6.65E-02	2.95E+05	2.79E-01	3.00E-02	1.13E+01	1.13E+01	1.13E+01	1.13E+01
Rubidium	2.71E+03	2.71E+03	2.71E+03	2.71E+03	1.25E+07	0.00E+00	--	2.95E+05	2.79E-01	3.00E-02	--	--	--	--
Selenium	9.60E+05	9.60E+05	9.60E+05	9.60E+05	1.25E+07	6.24E-01	6.31E-02	2.95E+05	2.79E-01	3.00E-02	1.23E-01	1.23E-01	1.23E-01	1.23E-01
Silver	8.25E+04	8.25E+04	8.25E+04	8.25E+04	1.25E+07	5.11E-01	8.20E-02	2.95E+05	2.79E-01	3.00E-02	1.29E-02	1.29E-02	1.29E-02	1.29E-02
Sodium	2.95E+07	5.21E+07	5.26E+07	5.26E+07	1.25E+07	8.46E-02	1.53E-01	2.95E+05	2.79E-01	3.00E-02	2.76E+01	4.88E+01	4.92E+01	4.92E+01
Strontium	4.72E+06	4.72E+06	4.72E+06	4.72E+06	1.25E+07	2.07E-01	1.33E-01	2.95E+05	2.79E-01	3.00E-02	1.82E+00	1.82E+00	1.82E+00	1.82E+00
Thallium	2.37E+03	2.37E+03	2.37E+03	2.37E+03	1.25E+07	1.15E-01	1.48E-01	2.95E+05	2.79E-01	3.00E-02	1.64E-03	1.64E-03	1.64E-03	1.64E-03
Tin	7.91E+03	8.64E+03	8.71E+03	8.71E+03	1.25E+07	3.58E-02	1.62E-01	2.95E+05	2.79E-01	3.00E-02	1.71E-02	1.87E-02	1.89E-02	1.89E-02
Titanium	2.79E+06	6.77E+06	7.63E+06	7.63E+06	1.25E+07	9.29E-03	1.66E-01	2.95E+05	2.79E-01	3.00E-02	2.13E+01	5.17E+01	5.83E+01	5.83E+01
Uranium	5.54E+03	5.66E+03	5.67E+03	5.67E+03	1.25E+07	2.03E-02	1.64E-01	2.95E+05	2.79E-01	3.00E-02	2.07E-02	2.11E-02	2.12E-02	2.12E-02
Vanadium	1.57E+05	2.02E+05	2.12E+05	2.12E+05	1.25E+07	9.29E-03	1.66E-01	2.95E+05	2.79E-01	3.00E-02	1.20E+00	1.54E+00	1.62E+00	1.62E+00
Zinc	1.13E+06	1.13E+06	1.13E+06	1.13E+06	1.25E+07	1.29E-01	1.46E-01	2.95E+05	2.79E-01	3.00E-02	6.98E-01	6.98E-01	6.98E-01	6.98E-01

Equation:

$$Cwb = \frac{L_T}{Vf_x \times f_{wc} + k_{wt} \times A_w \times (d_{wc} + d_{bs})}$$

Table B.41

Fraction in Water Column and in Benthic Sediment
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Suspended Sediments/ Surface Water Partition Coefficient (Kdsw) (refer to table B.10) (L/kg)	Total Suspended Solids Concentration (TSS) (refer to table B.9) (mg/L)	Unit Conversion Factor (CF) (kg/mg)	Depth of Water Column (d_{wc}) (refer to table B.9) (m)	Depth of Upper Benthic Sediment Layer (d_{bs}) (refer to table B.9) (m)	Total Water Body Depth (d_z) (m)	Bed Sediment Concentration (C_{BS}) (refer to table B.9) (kg/L)	Bed Sediment Porosity (θ_{bs}) (refer to table B.9) (L_{wat}/L_{sed})	Bed Sediments/ Sediment Pore Water Partition Coefficient (Kdbs) (refer to table B.10) (L/kg)	Fraction Total Water Body Conc. in Water Column (f_{wc}) -	Fraction Total Water Body Conc. in Benthic Sediment (f_{bs}) -
Particulate Matter											
Total Particulate Matter	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Particulate Matter (PM10)	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Particulate Matter (PM2.5)	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Metals											
Aluminum	1.50E+03	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.50E+03	6.24E-03	9.94E-01
Antimony	4.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	4.50E+01	1.69E-01	8.31E-01
Arsenic	2.90E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.90E+01	2.39E-01	7.61E-01
Barium	4.10E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	4.10E+01	1.83E-01	8.17E-01
Beryllium	7.90E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	7.90E+02	1.17E-02	9.88E-01
Bismuth	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Boron	3.00E+00	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	3.00E+00	7.21E-01	2.79E-01
Cadmium	7.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	7.50E+01	1.09E-01	8.91E-01
Calcium	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Chromium Total	1.90E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.90E+01	3.22E-01	6.78E-01
Cobalt	4.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	4.50E+01	1.69E-01	8.31E-01
Copper	3.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	3.50E+01	2.07E-01	7.93E-01
Iron	2.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.50E+01	2.66E-01	7.34E-01
Lead	9.00E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	9.00E+02	1.03E-02	9.90E-01
Lithium	3.00E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	3.00E+02	3.01E-02	9.70E-01
Magnesium	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Manganese	6.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	6.50E+01	1.24E-01	8.76E-01
Mercury, element	4.95E+04	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.64E+04	5.26E-04	9.99E-01
Mercury, divalent	4.95E+04	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.64E+04	5.26E-04	9.99E-01
Mercury, methyl	3.00E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.60E+02	5.48E-02	9.45E-01
Molybdenum	2.00E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.00E+01	3.11E-01	6.89E-01
Nickel	6.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	6.50E+01	1.24E-01	8.76E-01
Phosphorus	3.50E+00	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	3.50E+00	6.94E-01	3.06E-01
Potassium	5.50E+00	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	5.50E+00	6.04E-01	3.96E-01
Rubidium	--	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	--	--	--
Selenium	5.00E+00	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	5.00E+00	6.24E-01	3.76E-01
Silver	8.30E+00	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	8.30E+00	5.11E-01	4.89E-01
Sodium	1.00E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.00E+02	8.46E-02	9.15E-01
Strontium	3.50E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	3.50E+01	2.07E-01	7.93E-01
Thallium	7.10E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	7.10E+01	1.15E-01	8.85E-01
Tin	2.50E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	2.50E+02	3.58E-02	9.64E-01
Titanium	1.00E+03	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.00E+03	9.29E-03	9.91E-01
Uranium	4.50E+02	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	4.50E+02	2.03E-02	9.80E-01
Vanadium	1.00E+03	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	1.00E+03	9.29E-03	9.91E-01
Zinc	6.20E+01	1.00E+01	1.00E-06	2.79E-01	3.00E-02	3.09E-01	1.00E+00	6.00E-01	6.20E+01	1.29E-01	8.71E-01

Equation: $f_{bs} = 1 - f_{wc}$ where: $f_{wc} = \dfrac{(1 + Kdsw \times TSS \times CF) \times d_{wc} / d_z}{(1 + Kdsw \times TSS \times CF) \times d_{wc}/d_z + (\theta_{bs} + Kdbs \times C_{BS}) \times d_{bs} / d_z}$

$d_z = d_{wc} + d_{bs}$

Table B.42

Water Column Volatilization Loss Rate Constant
Surface Water Direct Contact Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Overall Transfer Rate Coefficient (K_V) (refer to table B.32) (m/yr)	Total Water Body Depth (d_z) (refer to table B.41) (m)	Suspended Sediments/ Surface Water Partition Coefficient (Kdsw) (refer to table B.10) (L/kg)	Total Suspended Solids Concentration (TSS) (refer to table B.9) (mg/L)	Unit Conversion Factor (CF) (kg/mg)	Water Column Volatilization Rate Constant k_v (yr^{-1})
Particulate Matter						
Total Particulate Matter	--	3.09E-01	--	1.00E+01	1.00E-06	--
Particulate Matter (PM10)	--	3.09E-01	--	1.00E+01	1.00E-06	--
Particulate Matter (PM2.5)	--	3.09E-01	--	1.00E+01	1.00E-06	--
Metals						
Aluminum	--	3.09E-01	1.50E+03	1.00E+01	1.00E-06	--
Antimony	--	3.09E-01	4.50E+01	1.00E+01	1.00E-06	--
Arsenic	--	3.09E-01	2.90E+01	1.00E+01	1.00E-06	--
Barium	--	3.09E-01	4.10E+01	1.00E+01	1.00E-06	--
Beryllium	--	3.09E-01	7.90E+02	1.00E+01	1.00E-06	--
Bismuth	--	3.09E-01	--	1.00E+01	1.00E-06	--
Boron	--	3.09E-01	3.00E+00	1.00E+01	1.00E-06	--
Cadmium	--	3.09E-01	7.50E+01	1.00E+01	1.00E-06	--
Calcium	--	3.09E-01	--	1.00E+01	1.00E-06	--
Chromium Total	--	3.09E-01	1.90E+01	1.00E+01	1.00E-06	--
Cobalt	--	3.09E-01	4.50E+01	1.00E+01	1.00E-06	--
Copper	--	3.09E-01	3.50E+01	1.00E+01	1.00E-06	--
Iron	--	3.09E-01	2.50E+01	1.00E+01	1.00E-06	--
Lead	--	3.09E-01	9.00E+02	1.00E+01	1.00E-06	--
Lithium	--	3.09E-01	3.00E+02	1.00E+01	1.00E-06	--
Magnesium	--	3.09E-01	--	1.00E+01	1.00E-06	--
Manganese	--	3.09E-01	6.50E+01	1.00E+01	1.00E-06	--
Mercury, element	5.37E+02	3.09E-01	4.95E+04	1.00E+01	1.00E-06	1.16E+03
Mercury, divalent	8.04E-04	3.09E-01	4.95E+04	1.00E+01	1.00E-06	1.74E-03
Mercury, methyl	5.17E+02	3.09E-01	3.00E+02	1.00E+01	1.00E-06	1.67E+03
Molybdenum	--	3.09E-01	2.00E+01	1.00E+01	1.00E-06	--
Nickel	--	3.09E-01	6.50E+01	1.00E+01	1.00E-06	--
Phosphorus	--	3.09E-01	3.50E+00	1.00E+01	1.00E-06	--
Potassium	--	3.09E-01	5.50E+00	1.00E+01	1.00E-06	--
Rubidium	--	3.09E-01	--	1.00E+01	1.00E-06	--
Selenium	--	3.09E-01	5.00E+00	1.00E+01	1.00E-06	--
Silver	--	3.09E-01	8.30E+00	1.00E+01	1.00E-06	--
Sodium	--	3.09E-01	1.00E+02	1.00E+01	1.00E-06	--
Strontium	--	3.09E-01	3.50E+01	1.00E+01	1.00E-06	--
Thallium	--	3.09E-01	7.10E+01	1.00E+01	1.00E-06	--
Tin	--	3.09E-01	2.50E+02	1.00E+01	1.00E-06	--
Titanium	--	3.09E-01	1.00E+03	1.00E+01	1.00E-06	--
Uranium	--	3.09E-01	4.50E+02	1.00E+01	1.00E-06	--
Vanadium	--	3.09E-01	1.00E+03	1.00E+01	1.00E-06	--
Zinc	--	3.09E-01	6.20E+01	1.00E+01	1.00E-06	--

Equation:

$$k_v = \frac{K_v}{d_z \times (1 + Kdsw \times TSS \times CF)}$$

Table B.43

Benthic Burial Rate Constant
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Unit Soil Loss (X_e) (refer to table B.36) (kg/m^2-yr)	Total Watershed Area Receiving Deposition (A_L) (refer to table B.35) (m^2)	Watershed Sediment Delivery Ratio (SD) (refer to table B.37) -	Unit Conversion Factor (CF1) (g/kg)	Avg. Volumetric Flow Rate of Water Body (Vf_x) (refer to table B.9) (m^3/yr)	Total Suspended Solids Concentration (TSS) (refer to table B.9) (mg/L)	Water Body Surface Area (A_W) (refer to table B.33) (m^2)	Unit Conversion Factor (CF2) (kg/mg)	Bed Sediment Concentration (C_{BS}) (refer to table B.9) (g/cm^3)	Depth of Upper Benthic Sediment Layer (d_{bs}) (refer to table B.9) (m)	Benthic Burial Rate Constant (k_b) (yr^{-1})
Particulate Matter											
Total Particulate Matter	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Particulate Matter (PM10)	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Particulate Matter (PM2.5)	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Metals											
Aluminum	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Antimony	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Arsenic	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Barium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Beryllium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Bismuth	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Boron	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Cadmium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Calcium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Chromium Total	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Cobalt	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Copper	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Iron	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Lead	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Lithium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Magnesium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Manganese	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Mercury, element	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Mercury, divalent	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Mercury, methyl	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Molybdenum	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Nickel	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Phosphorus	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Potassium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Rubidium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Selenium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Silver	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Sodium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Strontium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Thallium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Tin	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Titanium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Uranium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Vanadium	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01
Zinc	2.01E+00	3.79E+06	2.11E-01	1.00E+03	1.25E+07	1.00E+01	2.95E+05	1.00E-06	1.00E+00	3.00E-02	1.68E-01

Equation:

$$k_b = \frac{(X_e \times A_L \times SD \times CF1 - Vf_x \times TSS)}{(A_w \times TSS)} \times \frac{(TSS \times CF2)}{(C_{BS} \times d_{bs})}$$

Table B.44

Overall Total Surface River Dissipation Rate Constant
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction Total Water Body Conc. in Water Column (f_{wc}) (refer to table B.41) -	Water Column Volatilization Rate Constant (k_v) (refer to table B.42) (yr^{-1})	Fraction Total Water Body Conc. in Benthic Sediment (f_{bs}) (refer to table B.41) -	Benthic Burial Rate Constant (k_b) (refer to table B.43) (yr^{-1})	Overall Total Water Body Dissipation Rate Constant (k_{wt}) (yr^{-1})
Particulate Matter					
Total Particulate Matter	--	--	--	1.68E-01	--
Particulate Matter (PM10)	--	--	--	1.68E-01	--
Particulate Matter (PM2.5)	--	--	--	1.68E-01	--
Metals					
Aluminum	6.24E-03	--	9.94E-01	1.68E-01	1.67E-01
Antimony	1.69E-01	--	8.31E-01	1.68E-01	1.39E-01
Arsenic	2.39E-01	--	7.61E-01	1.68E-01	1.28E-01
Barium	1.83E-01	--	8.17E-01	1.68E-01	1.37E-01
Beryllium	1.17E-02	--	9.88E-01	1.68E-01	1.66E-01
Bismuth	--	--	--	1.68E-01	--
Boron	7.21E-01	--	2.79E-01	1.68E-01	4.68E-02
Cadmium	1.09E-01	--	8.91E-01	1.68E-01	1.49E-01
Calcium	--	--	--	1.68E-01	--
Chromium Total	3.22E-01	--	6.78E-01	1.68E-01	1.14E-01
Cobalt	1.69E-01	--	8.31E-01	1.68E-01	1.39E-01
Copper	2.07E-01	--	7.93E-01	1.68E-01	1.33E-01
Iron	2.66E-01	--	7.34E-01	1.68E-01	1.23E-01
Lead	1.03E-02	--	9.90E-01	1.68E-01	1.66E-01
Lithium	3.01E-02	--	9.70E-01	1.68E-01	1.63E-01
Magnesium	--	--	--	1.68E-01	--
Manganese	1.24E-01	--	8.76E-01	1.68E-01	1.47E-01
Mercury, element	5.26E-04	1.16E+03	9.99E-01	1.68E-01	7.80E-01
Mercury, divalent	5.26E-04	1.74E-03	9.99E-01	1.68E-01	1.68E-01
Mercury, methyl	5.48E-02	1.67E+03	9.45E-01	1.68E-01	9.17E+01
Molybdenum	3.11E-01	--	6.89E-01	1.68E-01	1.16E-01
Nickel	1.24E-01	--	8.76E-01	1.68E-01	1.47E-01
Phosphorus	6.94E-01	--	3.06E-01	1.68E-01	5.13E-02
Potassium	6.04E-01	--	3.96E-01	1.68E-01	6.65E-02
Rubidium	--	--	--	1.68E-01	--
Selenium	6.24E-01	--	3.76E-01	1.68E-01	6.31E-02
Silver	5.11E-01	--	4.89E-01	1.68E-01	8.20E-02
Sodium	8.46E-02	--	9.15E-01	1.68E-01	1.53E-01
Strontium	2.07E-01	--	7.93E-01	1.68E-01	1.33E-01
Thallium	1.15E-01	--	8.85E-01	1.68E-01	1.48E-01
Tin	3.58E-02	--	9.64E-01	1.68E-01	1.62E-01
Titanium	9.29E-03	--	9.91E-01	1.68E-01	1.66E-01
Uranium	2.03E-02	--	9.80E-01	1.68E-01	1.64E-01
Vanadium	9.29E-03	--	9.91E-01	1.68E-01	1.66E-01
Zinc	1.29E-01	--	8.71E-01	1.68E-01	1.46E-01

Equation: $k_{wt} = f_{wc} \times k_v + f_{bs} \times k_b$

Table B.45

Total Surface Water Predicted Concentrations
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction Total Water Body Conc. in Water Column (f_{wc}) (refer to table B.41) -	Total Water Body Predicted Concentrations Load to Surface Water & Sediment: Construction (Cwb) (refer to table B.40) (mg/L)	Operations (Cwb) (refer to table B.40) (mg/L)	Reclamation (Cwb) (refer to table B.40) (mg/L)	Post-Closure (Cwb) (refer to table B.40) (mg/L)	Depth of Water Column (d_{wc}) (refer to table B.40) (m)	Depth of Upper Benthic Sediment Layer (d_{bs}) (refer to table B.40) (m)	Predicted Total Concentration in Surface Water: Construction (Cw) (1) (mg/L)	Operations (Cw) (1) (mg/L)	Reclamation (Cw) (1) (mg/L)	Post-Closure (Cw) (1) (mg/L)	Predicted Total Concentration in Surface Water (2): Construction (Cw) (2) (mg/L)	Operations (Cw) (2) (mg/L)	Reclamation (Cw) (2) (mg/L)	Post-Closure (Cw) (2) (mg/L)
Particulate Matter															
Total Particulate Matter	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Metals															
Aluminum	6.24E-03	9.01E+02	1.71E+03	1.90E+03	1.90E+03	2.79E-01	3.00E-02	6.23E+00	1.18E+01	1.32E+01	1.32E+01	4.30E-01	1.99E-01	2.66E-01	3.61E-01
Antimony	1.69E-01	3.02E-02	3.02E-02	3.02E-02	3.02E-02	2.79E-01	3.00E-02	5.66E-03	5.66E-03	5.66E-03	5.66E-03	5.00E-04	4.39E-03	3.27E-03	2.20E-03
Arsenic	2.39E-01	7.29E-01	7.29E-01	7.29E-01	7.29E-01	2.79E-01	3.00E-02	1.93E-01	1.93E-01	1.93E-01	1.93E-01	6.77E-01	5.48E-02	5.21E-02	5.12E-02
Barium	1.83E-01	1.26E+00	1.26E+00	1.26E+00	1.26E+00	2.79E-01	3.00E-02	2.54E-01	2.54E-01	2.54E-01	2.54E-01	3.60E-03	7.09E-03	7.05E-03	5.73E-03
Beryllium	1.17E-02	2.73E-02	4.16E-02	4.45E-02	4.45E-02	2.79E-01	3.00E-02	3.54E-04	5.39E-04	5.77E-04	5.77E-04	5.00E-04	4.61E-04	4.71E-04	4.76E-04
Bismuth	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Boron	7.21E-01	2.46E+00	2.46E+00	2.46E+00	2.46E+00	2.79E-01	3.00E-02	1.96E+00	1.96E+00	1.96E+00	1.96E+00	1.96E+00	1.96E+00	1.96E+00	1.96E+00
Cadmium	1.09E-01	1.29E-02	1.29E-02	1.29E-02	1.29E-02	2.79E-01	3.00E-02	1.56E-03	1.56E-03	1.56E-03	1.56E-03	2.48E-05	1.98E-05	2.41E-05	3.70E-05
Calcium	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Chromium Total	3.22E-01	4.11E-01	4.11E-01	4.11E-01	4.11E-01	2.79E-01	3.00E-02	1.46E-01	1.46E-01	1.46E-01	1.46E-01	1.30E-03	8.58E-04	6.87E-04	8.60E-04
Cobalt	1.69E-01	1.36E+00	1.36E+00	1.36E+00	1.36E+00	2.79E-01	3.00E-02	2.54E-01	2.54E-01	2.54E-01	2.54E-01	2.00E-04	9.91E-04	9.35E-04	9.61E-04
Copper	2.07E-01	1.69E-03	2.58E-03	2.77E-03	2.77E-03	2.79E-01	3.00E-02	3.89E-04	5.93E-04	6.34E-04	6.34E-04	1.74E-03	1.96E-03	1.86E-03	9.20E-04
Iron	2.66E-01	4.67E+02	4.67E+02	4.67E+02	4.67E+02	2.79E-01	3.00E-02	1.38E+02	1.38E+02	1.38E+02	1.38E+02	1.17E+00	3.55E-01	4.55E-01	4.28E-01
Lead	1.03E-02	8.78E-01	9.05E-01	9.11E-01	9.11E-01	2.79E-01	3.00E-02	1.00E-02	1.03E-02	1.04E-02	1.04E-02	7.62E-04	8.22E-04	7.06E-04	9.27E-04
Lithium	3.01E-02	2.98E-01	4.19E-01	4.34E-01	4.34E-01	2.79E-01	3.00E-02	9.93E-03	1.39E-02	1.44E-02	1.44E-02	9.93E-03	1.39E-02	1.44E-02	1.44E-02
Magnesium	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Manganese	1.24E-01	2.44E+00	2.44E+00	2.44E+00	2.44E+00	2.79E-01	3.00E-02	3.35E-01	3.35E-01	3.35E-01	3.35E-01	8.03E-02	7.56E-02	4.92E-02	1.19E-01
Mercury, element	5.26E-04	1.02E-02	1.02E-02	1.02E-02	1.02E-02	2.79E-01	3.00E-02	5.97E-06	5.97E-06	5.97E-06	5.97E-06	1.36E-04	6.88E-06	7.05E-06	9.69E-06
Mercury, divalent	5.26E-04	4.34E-04	2.68E-03	3.25E-03	3.25E-03	2.79E-01	3.00E-02	2.53E-07	1.56E-06	1.89E-06	1.89E-06	2.53E-07	1.56E-06	1.89E-06	1.89E-06
Mercury, methyl	5.48E-02	9.89E-12	9.89E-12	9.89E-12	9.89E-12	2.79E-01	3.00E-02	6.01E-13	6.01E-13	6.01E-13	6.01E-13	6.01E-13	6.01E-13	6.01E-13	6.01E-13
Molybdenum	3.11E-01	3.58E-02	3.58E-02	3.58E-02	3.58E-02	2.79E-01	3.00E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02	1.23E-02
Nickel	1.24E-01	1.62E-01	1.62E-01	1.62E-01	1.62E-01	2.79E-01	3.00E-02	2.22E-02	2.22E-02	2.22E-02	2.22E-02	1.00E-03	1.42E-02	6.10E-03	1.13E-02
Phosphorus	6.94E-01	2.13E-01	2.13E-01	2.13E-01	2.13E-01	2.79E-01	3.00E-02	1.63E-01	1.63E-01	1.63E-01	1.63E-01	1.63E-01	1.63E-01	1.63E-01	1.63E-01
Potassium	6.04E-01	1.13E+01	1.13E+01	1.13E+01	1.13E+01	2.79E-01	3.00E-02	7.58E+00	7.58E+00	7.58E+00	7.58E+00	7.58E+00	7.58E+00	7.58E+00	7.58E+00
Rubidium	--	--	--	--	--	2.79E-01	3.00E-02	--	--	--	--	--	--	--	--
Selenium	6.24E-01	1.23E-01	1.23E-01	1.23E-01	1.23E-01	2.79E-01	3.00E-02	8.53E-02	8.53E-02	8.53E-02	8.53E-02	5.00E-04	4.88E-04	4.68E-04	5.58E-04
Silver	5.11E-01	1.29E-02	1.29E-02	1.29E-02	1.29E-02	2.79E-01	3.00E-02	7.32E-03	7.32E-03	7.32E-03	7.32E-03	5.00E-05	7.90E-05	7.04E-05	7.48E-05
Sodium	8.46E-02	2.76E+01	4.88E+01	4.92E+01	4.92E+01	2.79E-01	3.00E-02	2.59E+00	4.57E+00	4.61E+00	4.61E+00	2.59E+00	4.57E+00	4.61E+00	4.61E+00
Strontium	2.07E-01	1.82E+00	1.82E+00	1.82E+00	1.82E+00	2.79E-01	3.00E-02	4.18E-01	4.18E-01	4.18E-01	4.18E-01	4.18E-01	4.18E-01	4.18E-01	4.18E-01
Thallium	1.15E-01	1.64E-03	1.64E-03	1.64E-03	1.64E-03	2.79E-01	3.00E-02	2.09E-04	2.09E-04	2.09E-04	2.09E-04	5.00E-05	7.31E-05	6.61E-05	8.48E-05
Tin	3.58E-02	1.71E-02	1.87E-02	1.89E-02	1.89E-02	2.79E-01	3.00E-02	6.80E-04	7.43E-04	7.50E-04	7.50E-04	6.80E-04	7.43E-04	7.50E-04	7.50E-04
Titanium	9.29E-03	2.13E+01	5.17E+01	5.83E+01	5.83E+01	2.79E-01	3.00E-02	2.19E-01	5.32E-01	6.00E-01	6.00E-01	2.19E-01	5.32E-01	6.00E-01	6.00E-01
Uranium	2.03E-02	2.07E-02	2.11E-02	2.12E-02	2.12E-02	2.79E-01	3.00E-02	4.65E-04	4.75E-04	4.76E-04	4.76E-04	5.00E-05	9.50E-04	8.52E-04	5.76E-04
Vanadium	9.29E-03	1.20E+00	1.54E+00	1.62E+00	1.62E+00	2.79E-01	3.00E-02	1.24E-02	1.59E-02	1.67E-02	1.67E-02	1.00E-03	2.12E-03	1.49E-03	2.01E-03
Zinc	1.29E-01	6.98E-01	6.98E-01	6.98E-01	6.98E-01	2.79E-01	3.00E-02	9.99E-02	9.99E-02	9.99E-02	9.99E-02	9.76E-03	7.28E-03	7.18E-03	7.27E-03

Notes:
(1) Equation: $Cw = f_{wc} \times Cwb \times [(d_{wc} + d_{bs})/d_{wc}]$

(2) Refer to table B.8. For COPCs without values in table B.8, results reported are from the previous equation.

Table B.46

Predicted Dissolved Phase Surface Water Concentrations
Surface Water Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Predicted Total Concentration in Surface Water using GoldSIM software: Construction (Cw) (refer to table B.45) (mg/L)	Operations (Cw) (refer to table B.45) (mg/L)	Reclamation (Cw) (refer to table B.45) (mg/L)	Post-Closure (Cw) (refer to table B.45) (mg/L)	Suspended Sediments/ Surface Water Partition Coefficient (Kdsw) (refer to table B.41) (L/kg)	Total Suspended Solids Concentration (TSS) (refer to table B.41) (mg/L)	Unit Conversion Factor (CF) (kg/mg)	Dissolved Surface Water Predicted Concentration: Construction (Cdw) (mg/L)	Operations (Cdw) (mg/L)	Reclamation (Cdw) (mg/L)	Post-Closure (Cdw) (mg/L)
Particulate Matter											
Total Particulate Matter	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Metals											
Aluminum	4.30E-01	1.99E-01	2.66E-01	3.61E-01	1.50E+03	1.00E+01	1.00E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Antimony	5.00E-04	4.39E-03	3.27E-03	2.20E-03	4.50E+01	1.00E+01	1.00E-06	5.00E-04	4.38E-03	3.26E-03	2.20E-03
Arsenic	6.77E-01	5.48E-02	5.21E-02	5.12E-02	2.90E+01	1.00E+01	1.00E-06	6.77E-01	5.48E-02	5.21E-02	5.12E-02
Barium	3.60E-03	7.09E-03	7.05E-03	5.73E-03	4.10E+01	1.00E+01	1.00E-06	3.60E-03	7.08E-03	7.04E-03	5.72E-03
Beryllium	5.00E-04	4.61E-04	4.71E-04	4.76E-04	7.90E+02	1.00E+01	1.00E-06	4.96E-04	4.57E-04	4.68E-04	4.73E-04
Bismuth	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Boron	1.96E+00	1.96E+00	1.96E+00	1.96E+00	3.00E+00	1.00E+01	1.00E-06	1.96E+00	1.96E+00	1.96E+00	1.96E+00
Cadmium	2.48E-05	1.98E-05	2.41E-05	3.70E-05	7.50E+01	1.00E+01	1.00E-06	2.48E-05	1.98E-05	2.41E-05	3.70E-05
Calcium	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Chromium Total	1.30E-03	8.58E-04	6.87E-04	8.60E-04	1.90E+01	1.00E+01	1.00E-06	1.30E-03	8.58E-04	6.86E-04	8.60E-04
Cobalt	2.00E-04	9.91E-04	9.35E-04	9.61E-04	4.50E+01	1.00E+01	1.00E-06	2.00E-04	9.91E-04	9.35E-04	9.60E-04
Copper	1.74E-03	1.96E-03	1.86E-03	9.20E-04	3.50E+01	1.00E+01	1.00E-06	1.74E-03	1.96E-03	1.85E-03	9.20E-04
Iron	1.17E+00	3.55E-01	4.55E-01	4.28E-01	2.50E+01	1.00E+01	1.00E-06	1.17E+00	3.55E-01	4.55E-01	4.27E-01
Lead	7.62E-04	8.22E-04	7.06E-04	9.27E-04	9.00E+02	1.00E+01	1.00E-06	7.55E-04	8.15E-04	7.00E-04	9.19E-04
Lithium	9.93E-03	1.39E-02	1.44E-02	1.44E-02	3.00E+02	1.00E+01	1.00E-06	9.90E-03	1.39E-02	1.44E-02	1.44E-02
Magnesium	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Manganese	8.03E-02	7.56E-02	4.92E-02	1.19E-01	6.50E+01	1.00E+01	1.00E-06	8.03E-02	7.55E-02	4.92E-02	1.19E-01
Mercury, element	1.36E-04	6.88E-06	7.05E-06	9.69E-06	4.95E+04	1.00E+01	1.00E-06	9.12E-05	4.60E-06	4.72E-06	6.48E-06
Mercury, divalent	2.53E-07	1.56E-06	1.89E-06	1.89E-06	4.95E+04	1.00E+01	1.00E-06	1.69E-07	1.04E-06	1.26E-06	1.26E-06
Mercury, methyl	6.01E-13	6.01E-13	6.01E-13	6.01E-13	3.00E+02	1.00E+01	1.00E-06	5.99E-13	5.99E-13	5.99E-13	5.99E-13
Molybdenum	1.23E-02	1.23E-02	1.23E-02	1.23E-02	2.00E+01	1.00E+01	1.00E-06	1.23E-02	1.23E-02	1.23E-02	1.23E-02
Nickel	1.00E-03	1.42E-02	6.10E-03	1.13E-02	6.50E+01	1.00E+01	1.00E-06	9.99E-04	1.42E-02	6.10E-03	1.13E-02
Phosphorus	1.63E-01	1.63E-01	1.63E-01	1.63E-01	3.50E+00	1.00E+01	1.00E-06	1.63E-01	1.63E-01	1.63E-01	1.63E-01
Potassium	7.58E+00	7.58E+00	7.58E+00	7.58E+00	5.50E+00	1.00E+01	1.00E-06	7.58E+00	7.58E+00	7.58E+00	7.58E+00
Rubidium	--	--	--	--	--	1.00E+01	1.00E-06	--	--	--	--
Selenium	5.00E-04	4.88E-04	4.68E-04	5.58E-04	5.00E+00	1.00E+01	1.00E-06	5.00E-04	4.88E-04	4.68E-04	5.58E-04
Silver	5.00E-05	7.90E-05	7.04E-05	7.48E-05	8.30E+00	1.00E+01	1.00E-06	5.00E-05	7.89E-05	7.04E-05	7.48E-05
Sodium	2.59E+00	4.57E+00	4.61E+00	4.61E+00	1.00E+02	1.00E+01	1.00E-06	2.59E+00	4.57E+00	4.61E+00	4.61E+00
Strontium	4.18E-01	4.18E-01	4.18E-01	4.18E-01	3.50E+01	1.00E+01	1.00E-06	4.18E-01	4.18E-01	4.18E-01	4.18E-01
Thallium	5.00E-05	7.31E-05	6.61E-05	8.48E-05	7.10E+01	1.00E+01	1.00E-06	5.00E-05	7.31E-05	6.61E-05	8.48E-05
Tin	6.80E-04	7.43E-04	7.50E-04	7.50E-04	2.50E+02	1.00E+01	1.00E-06	6.78E-04	7.41E-04	7.48E-04	7.48E-04
Titanium	2.19E-01	5.32E-01	6.00E-01	6.00E-01	1.00E+03	1.00E+01	1.00E-06	2.17E-01	5.27E-01	5.94E-01	5.94E-01
Uranium	5.00E-05	9.50E-04	8.52E-04	5.76E-04	4.50E+02	1.00E+01	1.00E-06	4.98E-05	9.46E-04	8.48E-04	5.73E-04
Vanadium	1.00E-03	2.12E-03	1.49E-03	2.01E-03	1.00E+03	1.00E+01	1.00E-06	9.90E-04	2.10E-03	1.47E-03	1.99E-03
Zinc	9.76E-03	7.28E-03	7.18E-03	7.27E-03	6.20E+01	1.00E+01	1.00E-06	9.75E-03	7.27E-03	7.17E-03	7.26E-03

Equation: $Cdw = \frac{Cw}{1 + Kd_{sw} \times TSS \times CF} \times Hg_{factor}$

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0), divalent mercury (0.968), and methylmercury (0.032)

Table B.47

Predicted Sediment Concentrations
Sediment Equations
Anaconda Goldboro
Goldboro, Nova Scotia

Contaminant	Fraction Total Water Body Conc. in Benthic Sediment: Construction (f_{bs}) (refer to table B.41) -	Total Water Body Concentration Load to River Water & Sediment: Construction (Cwb) (refer to table B.40) (mg/L)	Operations (Cwb) (refer to table B.40) (mg/L)	Reclamation (Cwb) (refer to table B.40) (mg/L)	Post-Closure (Cwb) (refer to table B.40) (mg/L)	Bed Sediments/ Sediment Pore Water Partition Coefficient (Kdbs) (refer to table B.41) (L/kg)	Bed Sediment Porosity (θ_{bs}) (refer to table B.41) (L_{wat}/L_{sed})	Bed Sediment Concentration (C_{BS}) (refer to table B.41) (g/cm^3)	Depth of Water Column (d_{wc}) (refer to table B.40) (m)	Depth of Upper Benthic Sediment Layer (d_{bs}) (refer to table B.40) (m)	Baseline Sediment Concentration (Csed) (refer to table B.1) (mg/kg)	Predicted Sediment Concentration: Construction (Csed) (mg/kg)	Operations (Csed) (mg/kg)	Reclamation (Csed) (mg/kg)	Post-Closure (Csed) (mg/kg)
Particulate Matter															
Total Particulate Matter	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	--	--	--	--
Metals															
Aluminum	9.94E-01	9.01E+02	1.71E+03	1.90E+03	1.90E+03	1.50E+03	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.50E+04	1.50E+04	1.75E+04	1.94E+04	1.94E+04
Antimony	8.31E-01	3.02E-02	3.02E-02	3.02E-02	3.02E-02	4.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	8.10E+01	8.10E+01	8.10E+01	8.10E+01	8.10E+01
Arsenic	7.61E-01	7.29E-01	7.29E-01	7.29E-01	7.29E-01	2.90E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.10E+05	1.10E+05	1.10E+05	1.10E+05	1.10E+05
Barium	8.17E-01	1.26E+00	1.26E+00	1.26E+00	1.26E+00	4.10E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	9.60E+01	9.60E+01	9.60E+01	9.60E+01	9.60E+01
Beryllium	9.88E-01	2.73E-02	4.16E-02	4.45E-02	4.45E-02	7.90E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Bismuth	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	5.40E+00	5.40E+00	5.40E+00	5.40E+00	5.40E+00
Boron	2.79E-01	2.46E+00	2.46E+00	2.46E+00	2.46E+00	3.00E+00	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.50E+01
Cadmium	8.91E-01	1.29E-02	1.29E-02	1.29E-02	1.29E-02	7.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	5.60E-01	5.60E-01	5.60E-01	5.60E-01	5.60E-01
Calcium	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	--	--	--	--
Chromium Total	6.78E-01	4.11E-01	4.11E-01	4.11E-01	4.11E-01	1.90E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.40E+01	2.40E+01	2.40E+01	2.40E+01	2.40E+01
Cobalt	8.31E-01	1.36E+00	1.36E+00	1.36E+00	1.36E+00	4.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.30E+02	1.30E+02	1.30E+02	1.30E+02	1.30E+02
Copper	7.93E-01	1.69E-03	2.58E-03	2.77E-03	2.77E-03	3.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	3.60E+01	3.60E+01	3.60E+01	3.60E+01	3.60E+01
Iron	7.34E-01	4.67E+02	4.67E+02	4.67E+02	4.67E+02	2.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.20E+05	1.20E+05	1.20E+05	1.20E+05	1.20E+05
Lead	9.90E-01	8.78E-01	9.05E-01	9.11E-01	9.11E-01	9.00E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.20E+02	1.20E+02	1.20E+02	1.20E+02	1.20E+02
Lithium	9.70E-01	2.98E-01	4.19E-01	4.34E-01	4.34E-01	3.00E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	3.10E+01	3.10E+01	3.10E+01	3.10E+01	3.10E+01
Magnesium	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	--	--	--	--
Manganese	8.76E-01	2.44E+00	2.44E+00	2.44E+00	2.44E+00	6.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	4.00E+02	4.00E+02	4.00E+02	4.00E+02	4.00E+02
Mercury, element	9.99E-01	1.02E-02	1.02E-02	1.02E-02	1.02E-02	2.64E+04	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.10E+01	1.10E+01	1.10E+01	1.10E+01	1.10E+01
Mercury, divalent	9.99E-01	4.34E-04	2.68E-03	3.25E-03	3.25E-03	2.64E+04	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	4.46E-03	2.75E-02	3.34E-02	3.34E-02
Mercury, methyl	9.45E-01	9.89E-12	9.89E-12	9.89E-12	9.89E-12	1.60E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	9.58E-11	9.58E-11	9.58E-11	9.58E-11
Molybdenum	6.89E-01	3.58E-02	3.58E-02	3.58E-02	3.58E-02	2.00E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	4.30E+00	4.30E+00	4.30E+00	4.30E+00	4.30E+00
Nickel	8.76E-01	1.62E-01	1.62E-01	1.62E-01	1.62E-01	6.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	2.10E+02
Phosphorus	3.06E-01	2.13E-01	2.13E-01	2.13E-01	2.13E-01	3.50E+00	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	5.72E-01	5.72E-01	5.72E-01	5.72E-01
Potassium	3.96E-01	1.13E+01	1.13E+01	1.13E+01	1.13E+01	5.50E+00	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	4.17E+01	4.17E+01	4.17E+01	4.17E+01
Rubidium	--	--	--	--	--	--	6.00E-01	1.00E+00	2.79E-01	3.00E-02	3.90E+01	3.90E+01	3.90E+01	3.90E+01	3.90E+01
Selenium	3.76E-01	1.23E-01	1.23E-01	1.23E-01	1.23E-01	5.00E+00	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.50E+00	2.50E+00	2.50E+00	2.50E+00	2.50E+00
Silver	4.89E-01	1.29E-02	1.29E-02	1.29E-02	1.29E-02	8.30E+00	6.00E-01	1.00E+00	2.79E-01	3.00E-02	3.40E+00	3.40E+00	3.40E+00	3.40E+00	3.40E+00
Sodium	9.15E-01	2.76E+01	4.88E+01	4.92E+01	4.92E+01	1.00E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	2.59E+02	4.57E+02	4.61E+02	4.61E+02
Strontium	7.93E-01	1.82E+00	1.82E+00	1.82E+00	1.82E+00	3.50E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.60E+01	2.60E+01	2.60E+01	2.60E+01	2.60E+01
Thallium	8.85E-01	1.64E-03	1.64E-03	1.64E-03	1.64E-03	7.10E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	3.00E-01	3.00E-01	3.00E-01	3.00E-01	3.00E-01
Tin	9.64E-01	1.71E-02	1.87E-02	1.89E-02	1.89E-02	2.50E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.40E+00	1.40E+00	1.40E+00	1.40E+00	1.40E+00
Titanium	9.91E-01	2.13E+01	5.17E+01	5.83E+01	5.83E+01	1.00E+03	6.00E-01	1.00E+00	2.79E-01	3.00E-02	--	2.17E+02	5.27E+02	5.94E+02	5.94E+02
Uranium	9.80E-01	2.07E-02	2.11E-02	2.12E-02	2.12E-02	4.50E+02	6.00E-01	1.00E+00	2.79E-01	3.00E-02	1.70E+00	1.70E+00	1.70E+00	1.70E+00	1.70E+00
Vanadium	9.91E-01	1.20E+00	1.54E+00	1.62E+00	1.62E+00	1.00E+03	6.00E-01	1.00E+00	2.79E-01	3.00E-02	2.70E+01	2.70E+01	2.70E+01	2.70E+01	2.70E+01
Zinc	8.71E-01	6.98E-01	6.98E-01	6.98E-01	6.98E-01	6.20E+01	6.00E-01	1.00E+00	2.79E-01	3.00E-02	6.40E+01	6.40E+01	6.40E+01	6.40E+01	6.40E+01

Equation:

$$Csed = f_{bs} \times Cwb \times \frac{Kdbs}{\theta_{bs} + Kdbs \times C_{BS}} \times \frac{d_{wc} + d_{bs}}{d_{bs}}$$

Table B.48

Predicted Fish Concentrations from Bioconcentration Factors using Dissolved Phase Water Concentrations
Fish Equations
Anaconda Goldboro
Goldboro, Nova Scotia

	Dissolved Water Predicted Concentration				Sediment Predicted Concentration							Baseline Fish Concentration		Predicted Fish Whole Body Concentration				Predicted Fish Fillet Concentration			
	Construction (Cdw)	Operations (Cdw)	Reclamation (Cdw)	Post-Closure (Cdw)	Construction (Csed)	Operations (Csed)	Reclamation (Csed)	Post-Closure (Csed)	Bioconcentration Factor (BCF)	Bioaccumulation Factor (BAF)	Fraction of Organic Carbon in Bottom Sediment (OC_{sed})	Fillets (Cff)	Remains (Cfr)	Construction (Cfw)	Operations (Cfw)	Reclamation (Cfw)	Post-Closure (Cfw)	Construction (Cff)	Operations (Cff)	Reclamation (Cff)	Post-Closure (Cff)
	(refer to table B.46)	(refer to table B.46)	(refer to table B.46)	(refer to table B.46)	(refer to table B.47)	(refer to table B.47)	(refer to table B.47)	(refer to table B.47)	(refer to table B.10)	(refer to table B.10)	(refer to table B.9)	(refer to table B.1)	(refer to table B.1)								
Contaminant	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(L/kg)	(L/kg)	-	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)
Particulate Matter																					
Total Particulate Matter	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Metals																					
Aluminum	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E+04	1.75E+04	1.94E+04	1.94E+04	5.00E+02	--	7.00E-02	1.30E+00	2.60E+00	2.60E+00	2.60E+00	2.60E+00	2.60E+00	1.30E+00	1.30E+00	1.30E+00	1.30E+00
Antimony	5.00E-04	4.38E-03	3.26E-03	2.20E-03	8.10E+01	8.10E+01	8.10E+01	8.10E+01	4.00E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Arsenic	6.77E-01	5.48E-02	5.21E-02	5.12E-02	1.10E+05	1.10E+05	1.10E+05	1.10E+05	1.14E+02	--	7.00E-02	2.50E-01	5.30E-01	7.71E+01	6.25E+00	5.94E+00	5.83E+00	7.71E+01	6.25E+00	5.94E+00	5.83E+00
Barium	3.60E-03	7.08E-03	7.04E-03	5.72E-03	9.60E+01	9.60E+01	9.60E+01	9.60E+01	6.33E+02	--	7.00E-02	7.50E-01	2.50E+00	2.50E+00	4.48E+00	4.46E+00	3.62E+00	2.28E+00	4.48E+00	4.46E+00	3.62E+00
Beryllium	4.96E-04	4.57E-04	4.68E-04	4.73E-04	1.00E+00	1.00E+00	1.00E+00	1.00E+00	6.20E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Bismuth	--	--	--	--	5.40E+00	5.40E+00	5.40E+00	5.40E+00	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Boron	1.96E+00	1.96E+00	1.96E+00	1.96E+00	2.50E+01	2.50E+01	2.50E+01	2.50E+01	--	--	7.00E-02	7.50E-01	7.50E-01	--	--	--	--	--	--	--	--
Cadmium	2.48E-05	1.98E-05	2.41E-05	3.70E-05	5.60E-01	5.60E-01	5.60E-01	5.60E-01	9.07E+02	--	7.00E-02	2.50E-02	2.50E-02	2.50E-02	2.50E-02	2.50E-02	3.35E-02	2.50E-02	2.50E-02	2.50E-02	3.35E-02
Calcium	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Chromium Total	1.30E-03	8.58E-04	6.86E-04	8.60E-04	2.40E+01	2.40E+01	2.40E+01	2.40E+01	1.90E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Cobalt	2.00E-04	9.91E-04	9.35E-04	9.60E-04	1.30E+02	1.30E+02	1.30E+02	1.30E+02	3.00E+02	--	7.00E-02	1.00E-01	1.00E-01	1.00E-01	2.97E-01	2.80E-01	2.88E-01	1.00E-01	2.97E-01	2.80E-01	2.88E-01
Copper	1.74E-03	1.96E-03	1.85E-03	9.20E-04	3.60E+01	3.60E+01	3.60E+01	3.60E+01	2.00E+02	--	7.00E-02	2.50E-01	1.30E+00	1.30E+00	1.30E+00	1.30E+00	1.30E+00	3.48E-01	3.91E-01	3.71E-01	2.50E-01
Iron	1.17E+00	3.55E-01	4.55E-01	4.27E-01	1.20E+05	1.20E+05	1.20E+05	1.20E+05	2.00E+02	--	7.00E-02	7.50E+00	2.50E+01	2.34E+02	7.10E+01	9.10E+01	8.55E+01	2.34E+02	7.10E+01	9.10E+01	8.55E+01
Lead	7.55E-04	8.15E-04	7.00E-04	9.19E-04	1.20E+02	1.20E+02	1.20E+02	1.20E+02	9.00E-02	--	7.00E-02	9.00E-02	2.20E-01	2.20E-01	2.20E-01	2.20E-01	2.20E-01	9.00E-02	9.00E-02	9.00E-02	9.00E-02
Lithium	9.90E-03	1.39E-02	1.44E-02	1.44E-02	3.10E+01	3.10E+01	3.10E+01	3.10E+01	--	--	7.00E-02	2.50E-01	2.50E-01	--	--	--	--	--	--	--	--
Magnesium	--	--	--	--	--	--	--	--	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Manganese	8.03E-02	7.55E-02	4.92E-02	1.19E-01	4.00E+02	4.00E+02	4.00E+02	4.00E+02	4.00E+02	--	7.00E-02	3.10E+00	6.40E+00	3.21E+01	3.02E+01	1.97E+01	4.74E+01	3.21E+01	3.02E+01	1.97E+01	4.74E+01
Mercury, element	9.12E-05	4.60E-06	4.72E-06	6.48E-06	1.10E+01	1.10E+01	1.10E+01	1.10E+01	--	0.00E+00	7.00E-02	2.50E-03	1.40E+00	1.40E+00	1.40E+00	1.40E+00	1.40E+00	2.50E-03	2.50E-03	2.50E-03	2.50E-03
Mercury, divalent	1.69E-07	1.04E-06	1.26E-06	1.26E-06	4.46E-03	2.75E-02	3.34E-02	3.34E-02	--	1.00E+00	7.00E-02	--	--	1.69E-07	1.04E-06	1.26E-06	1.26E-06	1.69E-07	1.04E-06	1.26E-06	1.26E-06
Mercury, methyl	5.99E-13	5.99E-13	5.99E-13	5.99E-13	9.58E-11	9.58E-11	9.58E-11	9.58E-11	--	6.80E+06	7.00E-02	--	--	4.07E-06	4.07E-06	4.07E-06	4.07E-06	4.07E-06	4.07E-06	4.07E-06	4.07E-06
Molybdenum	1.23E-02	1.23E-02	1.23E-02	1.23E-02	4.30E+00	4.30E+00	4.30E+00	4.30E+00	1.00E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01	2.50E-01
Nickel	9.99E-04	1.42E-02	6.10E-03	1.13E-02	2.10E+02	2.10E+02	2.10E+02	2.10E+02	7.80E+01	--	7.00E-02	2.50E-01	2.50E-01	2.50E-01	1.11E+00	4.76E-01	8.83E-01	2.50E-01	1.11E+00	4.76E-01	8.83E-01
Phosphorus	1.63E-01	1.63E-01	1.63E-01	1.63E-01	5.72E-01	5.72E-01	5.72E-01	5.72E-01	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Potassium	7.58E+00	7.58E+00	7.58E+00	7.58E+00	4.17E+01	4.17E+01	4.17E+01	4.17E+01	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Rubidium	--	--	--	--	3.90E+01	3.90E+01	3.90E+01	3.90E+01	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Selenium	5.00E-04	4.88E-04	4.68E-04	5.58E-04	2.50E+00	2.50E+00	2.50E+00	2.50E+00	1.29E+02	--	7.00E-02	7.50E-01	7.30E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01	7.50E-01
Silver	5.00E-05	7.89E-05	7.04E-05	7.48E-05	3.40E+00	3.40E+00	3.40E+00	3.40E+00	8.77E+01	--	7.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02
Sodium	2.59E+00	4.57E+00	4.61E+00	4.61E+00	2.59E+02	4.57E+02	4.61E+02	4.61E+02	2.00E+01	--	7.00E-02	--	--	5.18E+01	9.14E+01	9.21E+01	9.21E+01	5.18E+01	9.14E+01	9.21E+01	9.21E+01
Strontium	4.18E-01	4.18E-01	4.18E-01	4.18E-01	2.60E+01	2.60E+01	2.60E+01	2.60E+01	6.00E+01	--	7.00E-02	4.40E+01	6.10E+01	6.10E+01	6.10E+01	6.10E+01	6.10E+01	4.40E+01	4.40E+01	4.40E+01	4.40E+01
Thallium	5.00E-05	7.31E-05	6.61E-05	8.48E-05	3.00E-01	3.00E-01	3.00E-01	3.00E-01	1.00E+04	--	7.00E-02	1.00E-02	1.00E-02	5.00E-01	7.31E-01	6.61E-01	8.48E-01	5.00E-01	7.31E-01	6.61E-01	8.48E-01
Tin	6.78E-04	7.41E-04	7.48E-04	7.48E-04	1.40E+00	1.40E+00	1.40E+00	1.40E+00	3.00E+03	--	7.00E-02	2.50E-01	2.50E-01	2.04E+00	2.22E+00	2.24E+00	2.24E+00	2.04E+00	2.22E+00	2.24E+00	2.24E+00
Titanium	2.17E-01	5.27E-01	5.94E-01	5.94E-01	2.17E+02	5.27E+02	5.94E+02	5.94E+02	--	--	7.00E-02	--	--	--	--	--	--	--	--	--	--
Uranium	4.98E-05	9.46E-04	8.48E-04	5.73E-04	1.70E+00	1.70E+00	1.70E+00	1.70E+00	--	--	7.00E-02	1.00E-02	1.00E-02	--	--	--	--	--	--	--	--
Vanadium	9.90E-04	2.10E-03	1.47E-03	1.99E-03	2.70E+01	2.70E+01	2.70E+01	2.70E+01	--	--	7.00E-02	2.50E-01	2.50E-01	--	--	--	--	--	--	--	--
Zinc	9.75E-03	7.27E-03	7.17E-03	7.26E-03	6.40E+01	6.40E+01	6.40E+01	6.40E+01	2.06E+03	--	7.00E-02	1.40E+01	3.00E+01	3.00E+01	3.00E+01	3.00E+01	3.00E+01	2.01E+01	1.50E+01	1.48E+01	1.50E+01

Equation: Cfi = Cdw x BCF or Cfi = Cdw x BAF

Note:

Hg_{factor} = 1 for all COPC with the following exceptions : elemental Hg (0.48 *0), divalent mercury (0.48*0.98), and methylmercury (0.48*0.02)

Table B.49

Predicted Aquatic Plant Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Sediment Concentration				Predicted Aquatic Plant Concentration			
Contaminant	Construction (Csed) (refer to table B.47) (mg/kg)	Operations (Csed) (refer to table B.47) (mg/kg)	Reclamation (Csed) (refer to table B.47) (mg/kg)	Post-Closure (Csed) (refer to table B.47) (mg/kg)	Construction (Cap) (1) (mg/kg FW)	Operations (Cap) (1) (mg/kg FW)	Reclamation (Cap) (1) (mg/kg FW)	Post-Closure (Cap) (1) (mg/kg FW)
Particulate Matter								
Total Particulate Matter	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--
Metals								
Aluminum	1.50E+04	1.75E+04	1.94E+04	1.94E+04	6.46E+00	7.54E+00	8.37E+00	8.37E+00
Antimony	8.10E+01	8.10E+01	8.10E+01	8.10E+01	3.65E-01	3.65E-01	3.65E-01	3.65E-01
Arsenic	1.10E+05	1.10E+05	1.10E+05	1.10E+05	6.19E+02	6.19E+02	6.19E+02	6.19E+02
Barium	9.60E+01	9.60E+01	9.60E+01	9.60E+01	2.25E+00	2.25E+00	2.25E+00	2.25E+00
Beryllium	1.00E+00	1.00E+00	1.00E+00	1.00E+00	8.78E-02	8.78E-02	8.78E-02	8.78E-02
Bismuth	5.40E+00	5.40E+00	5.40E+00	5.40E+00	8.10E-01	8.10E-01	8.10E-01	8.10E-01
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	3.75E+00	3.75E+00	3.75E+00	3.75E+00
Cadmium	5.60E-01	5.60E-01	5.60E-01	5.60E-01	6.80E-02	6.80E-02	6.80E-02	6.80E-02
Calcium	--	--	--	--	--	--	--	--
Chromium Total	2.40E+01	2.40E+01	2.40E+01	2.40E+01	1.48E-01	1.48E-01	1.48E-01	1.48E-01
Cobalt	1.30E+02	1.30E+02	1.30E+02	1.30E+02	1.46E-01	1.46E-01	1.46E-01	1.46E-01
Copper	3.60E+01	3.60E+01	3.60E+01	3.60E+01	1.20E+00	1.20E+00	1.20E+00	1.20E+00
Iron	1.20E+05	1.20E+05	1.20E+05	1.20E+05	1.80E+04	1.80E+04	1.80E+04	1.80E+04
Lead	1.20E+02	1.20E+02	1.20E+02	1.20E+02	5.83E-01	5.83E-01	5.83E-01	5.83E-01
Lithium	3.10E+01	3.10E+01	3.10E+01	3.10E+01	4.65E+00	4.65E+00	4.65E+00	4.65E+00
Magnesium	--	--	--	--	--	--	--	--
Manganese	4.00E+02	4.00E+02	4.00E+02	4.00E+02	4.74E+00	4.74E+00	4.74E+00	4.74E+00
Mercury, element	1.10E+01	1.10E+01	1.10E+01	1.10E+01	1.65E+00	1.65E+00	1.65E+00	1.65E+00
Mercury, divalent	4.46E-03	2.75E-02	3.34E-02	3.34E-02	6.69E-04	4.13E-03	5.01E-03	5.01E-03
Mercury, methyl	9.58E-11	9.58E-11	9.58E-11	9.58E-11	1.44E-11	1.44E-11	1.44E-11	1.44E-11
Molybdenum	4.30E+00	4.30E+00	4.30E+00	4.30E+00	6.45E-01	6.45E-01	6.45E-01	6.45E-01
Nickel	2.10E+02	2.10E+02	2.10E+02	2.10E+02	1.55E+00	1.55E+00	1.55E+00	1.55E+00
Phosphorus	5.72E-01	5.72E-01	5.72E-01	5.72E-01	8.58E-02	8.58E-02	8.58E-02	8.58E-02
Potassium	4.17E+01	4.17E+01	4.17E+01	4.17E+01	6.25E+00	6.25E+00	6.25E+00	6.25E+00
Rubidium	3.90E+01	3.90E+01	3.90E+01	3.90E+01	5.85E+00	5.85E+00	5.85E+00	5.85E+00
Selenium	2.50E+00	2.50E+00	2.50E+00	2.50E+00	2.10E-01	2.10E-01	2.10E-01	2.10E-01
Silver	3.40E+00	3.40E+00	3.40E+00	3.40E+00	7.14E-03	7.14E-03	7.14E-03	7.14E-03
Sodium	2.59E+02	4.57E+02	4.61E+02	4.61E+02	3.88E+01	6.85E+01	6.91E+01	6.91E+01
Strontium	2.60E+01	2.60E+01	2.60E+01	2.60E+01	3.90E+00	3.90E+00	3.90E+00	3.90E+00
Thallium	3.00E-01	3.00E-01	3.00E-01	3.00E-01	4.50E-02	4.50E-02	4.50E-02	4.50E-02
Tin	1.40E+00	1.40E+00	1.40E+00	1.40E+00	2.10E-01	2.10E-01	2.10E-01	2.10E-01
Titanium	2.17E+02	5.27E+02	5.94E+02	5.94E+02	3.26E+01	7.90E+01	8.90E+01	8.90E+01
Uranium	1.70E+00	1.70E+00	1.70E+00	1.70E+00	2.55E-01	2.55E-01	2.55E-01	2.55E-01
Vanadium	2.70E+01	2.70E+01	2.70E+01	2.70E+01	1.96E-02	1.96E-02	1.96E-02	1.96E-02
Zinc	6.40E+01	6.40E+01	6.40E+01	6.40E+01	7.26E+00	7.26E+00	7.26E+00	7.26E+00

Note:

(1) The background aquatic plant concentrations were modelled with equations from the USEPA (2007). Where the equation for aluminum was not available, an uptake factor approach was selected for aluminum, for which the median soil to plant uptake factor of 0.00287 was selected from the dataset summarized in Table D.1 of Appendix D of Bechtel Jacobs (1998).

Table B.50

Predicted Aquatic Invertebrate Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

	Predicted Sediment Concentration				Baseline Aquatic Invertebrate Concentration	Predicted Aquatic Invertebrate Concentration				Final Predicted Aquatic Invertebrate Concentration (wet weight)			
Contaminant	Construction (Csed) (refer to table B.47) (mg/kg)	Operations (Csed) (refer to table B.47) (mg/kg)	Reclamation (Csed) (refer to table B.47) (mg/kg)	Post-Closure (Csed) (refer to table B.47) (mg/kg)	(Cai) (refer to table B.41) (mg/kg FW)	Construction (Cai) (1) (mg/kg FW)	Operations (Cai) (1) (mg/kg FW)	Reclamation (Cai) (1) (mg/kg FW)	Post-Closure (Cai) (1) (mg/kg FW)	Construction (Cai) (1) (mg/kg FW)	Operations (Cai) (1) (mg/kg FW)	Reclamation (Cai) (1) (mg/kg FW)	Post-Closure (Cai) (1) (mg/kg FW)
Particulate Matter													
Total Particulate Matter	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM10)	--	--	--	--	--	--	--	--	--	--	--	--	--
Particulate Matter (PM2.5)	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals													
Aluminum	1.50E+04	1.75E+04	1.94E+04	1.94E+04	1.80E+02	3.15E+03	3.68E+03	4.08E+03	4.08E+03	3.15E+03	3.68E+03	4.08E+03	4.08E+03
Antimony	8.10E+01	8.10E+01	8.10E+01	8.10E+01	5.50E-01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01
Arsenic	1.10E+05	1.10E+05	1.10E+05	1.10E+05	1.70E+02	6.78E+02	6.78E+02	6.78E+02	6.78E+02	6.78E+02	6.78E+02	6.78E+02	6.78E+02
Barium	9.60E+01	9.60E+01	9.60E+01	9.60E+01	1.65E+00	2.02E+01	2.02E+01	2.02E+01	2.02E+01	2.02E+01	2.02E+01	2.02E+01	2.02E+01
Beryllium	1.00E+00	1.00E+00	1.00E+00	1.00E+00	5.50E-01	2.10E-01	2.10E-01	2.10E-01	2.10E-01	5.50E-01	5.50E-01	5.50E-01	5.50E-01
Bismuth	5.40E+00	5.40E+00	5.40E+00	5.40E+00	--	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00	1.13E+00
Boron	2.50E+01	2.50E+01	2.50E+01	2.50E+01	1.65E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
Cadmium	5.60E-01	5.60E-01	5.60E-01	5.60E-01	1.70E-01	1.54E-01	1.54E-01	1.54E-01	1.54E-01	1.70E-01	1.70E-01	1.70E-01	1.70E-01
Calcium	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	2.40E+01	2.40E+01	2.40E+01	2.40E+01	5.50E-01	1.08E+00	1.08E+00	1.08E+00	1.08E+00	1.08E+00	1.08E+00	1.08E+00	1.08E+00
Cobalt	1.30E+02	1.30E+02	1.30E+02	1.30E+02	2.20E-01	2.73E+01	2.73E+01	2.73E+01	2.73E+01	2.73E+01	2.73E+01	2.73E+01	2.73E+01
Copper	3.60E+01	3.60E+01	3.60E+01	3.60E+01	5.10E+00	6.98E+00	6.98E+00	6.98E+00	6.98E+00	6.98E+00	6.98E+00	6.98E+00	6.98E+00
Iron	1.20E+05	1.20E+05	1.20E+05	1.20E+05	1.10E+03	2.52E+04	2.52E+04	2.52E+04	2.52E+04	2.52E+04	2.52E+04	2.52E+04	2.52E+04
Lead	1.20E+02	1.20E+02	1.20E+02	1.20E+02	9.40E-01	1.63E+00	1.63E+00	1.63E+00	1.63E+00	1.63E+00	1.63E+00	1.63E+00	1.63E+00
Lithium	3.10E+01	3.10E+01	3.10E+01	3.10E+01	5.50E-01	6.51E+00	6.51E+00	6.51E+00	6.51E+00	6.51E+00	6.51E+00	6.51E+00	6.51E+00
Magnesium	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	4.00E+02	4.00E+02	4.00E+02	4.00E+02	3.30E+01	8.40E+01	8.40E+01	8.40E+01	8.40E+01	8.40E+01	8.40E+01	8.40E+01	8.40E+01
Mercury, element	1.10E+01	1.10E+01	1.10E+01	1.10E+01	1.90E-01	9.83E-02	9.83E-02	9.83E-02	9.83E-02	1.90E-01	1.90E-01	1.90E-01	1.90E-01
Mercury, divalent	4.46E-03	2.75E-02	3.34E-02	3.34E-02	--	9.37E-04	5.78E-03	7.01E-03	7.01E-03	9.37E-04	5.78E-03	7.01E-03	7.01E-03
Mercury, methyl	9.58E-11	9.58E-11	9.58E-11	9.58E-11	--	2.01E-11	2.01E-11	2.01E-11	2.01E-11	2.01E-11	2.01E-11	2.01E-11	2.01E-11
Molybdenum	4.30E+00	4.30E+00	4.30E+00	4.30E+00	5.50E-01	9.03E-01	9.03E-01	9.03E-01	9.03E-01	9.03E-01	9.03E-01	9.03E-01	9.03E-01
Nickel	2.10E+02	2.10E+02	2.10E+02	2.10E+02	5.50E-01	1.98E+01	1.98E+01	1.98E+01	1.98E+01	1.98E+01	1.98E+01	1.98E+01	1.98E+01
Phosphorus	5.72E-01	5.72E-01	5.72E-01	5.72E-01	--	1.20E-01	1.20E-01	1.20E-01	1.20E-01	1.20E-01	1.20E-01	1.20E-01	1.20E-01
Potassium	4.17E+01	4.17E+01	4.17E+01	4.17E+01	--	8.76E+00	8.76E+00	8.76E+00	8.76E+00	8.76E+00	8.76E+00	8.76E+00	8.76E+00
Rubidium	3.90E+01	3.90E+01	3.90E+01	3.90E+01	--	8.19E+00	8.19E+00	8.19E+00	8.19E+00	8.19E+00	8.19E+00	8.19E+00	8.19E+00
Selenium	2.50E+00	2.50E+00	2.50E+00	2.50E+00	5.50E-01	5.25E-01	5.25E-01	5.25E-01	5.25E-01	5.50E-01	5.50E-01	5.50E-01	5.50E-01
Silver	3.40E+00	3.40E+00	3.40E+00	3.40E+00	1.30E-01	7.14E-01	7.14E-01	7.14E-01	7.14E-01	7.14E-01	7.14E-01	7.14E-01	7.14E-01
Sodium	2.59E+02	4.57E+02	4.61E+02	4.61E+02	--	5.43E+01	9.59E+01	9.67E+01	9.67E+01	5.43E+01	9.59E+01	9.67E+01	9.67E+01
Strontium	2.60E+01	2.60E+01	2.60E+01	2.60E+01	1.65E+00	5.46E+00	5.46E+00	5.46E+00	5.46E+00	5.46E+00	5.46E+00	5.46E+00	5.46E+00
Thallium	3.00E-01	3.00E-01	3.00E-01	3.00E-01	2.20E-02	6.30E-02	6.30E-02	6.30E-02	6.30E-02	6.30E-02	6.30E-02	6.30E-02	6.30E-02
Tin	1.40E+00	1.40E+00	1.40E+00	1.40E+00	5.50E-01	2.94E-01	2.94E-01	2.94E-01	2.94E-01	5.50E-01	5.50E-01	5.50E-01	5.50E-01
Titanium	2.17E+02	5.27E+02	5.94E+02	5.94E+02	--	4.56E+01	1.11E+02	1.25E+02	1.25E+02	4.56E+01	1.11E+02	1.25E+02	1.25E+02
Uranium	1.70E+00	1.70E+00	1.70E+00	1.70E+00	2.20E-02	3.57E-01	3.57E-01	3.57E-01	3.57E-01	3.57E-01	3.57E-01	3.57E-01	3.57E-01
Vanadium	2.70E+01	2.70E+01	2.70E+01	2.70E+01	5.50E-01	5.67E+00	5.67E+00	5.67E+00	5.67E+00	5.67E+00	5.67E+00	5.67E+00	5.67E+00
Zinc	6.40E+01	6.40E+01	6.40E+01	6.40E+01	4.50E+01	3.15E+01	3.15E+01	3.15E+01	3.15E+01	4.50E+01	4.50E+01	4.50E+01	4.50E+01

Note:
(1) The predicted aquatic invertebrate concentrations were modelled with equations from Bechtel Jacobs (1998).

Table B.51

Summary of Predicted Concentrations - Construction (Scenario 2)
Anaconda Goldboro
Goldboro, Nova Scotia

	Terrestrial Environment		Aquatic Environment			Terrestrial Ecosystem								Aquatic Ecosystem			
	Soil	Air	Surface Water-Total	Surface Water-Dissolved phase	Sediment	Leafy Vegetables	Fruit	Roots	Forage	Invertebrates	Prey	Hare	Deer	Plants	Invertebrates	Fish Whole	Fish Fillet
	(Cs)	(Coa)	(Cw)	(Cdw)	(Csed)	(Cv)	(Cfru)	(Cr)	(Cfo)	(Cti)	(Cp)	(Ch)	(Cd)	(Cap)	(Cai)	(Cfw)	(Cff)
Contaminant	(mg/kg)	(mg/m³)	(mg/L)	(mg/L)	(mg/kg)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)
Metals																	
Aluminum	1.15E+04	8.85E-05	4.30E-01	0.00E+00	1.50E+04	6.51E+01	7.85E+01	1.12E+00	5.31E+02	4.20E+02	9.71E+01	1.46E-01	2.55E+00	6.46E+00	3.15E+03	2.60E+00	1.30E+00
Antimony	1.00E+00	1.57E-08	5.00E-04	5.00E-04	8.10E+01	9.64E-03	1.60E-01	4.50E-03	1.60E-01	2.50E-01	4.00E-03	8.82E-05	2.45E-03	3.65E-01	1.70E+01	2.50E-01	2.50E-01
Arsenic	2.08E+01	3.53E-07	6.77E-01	6.77E-01	1.10E+05	2.66E-01	3.19E-01	2.50E-02	2.15E+00	8.00E+00	3.02E-02	7.12E-04	1.75E-02	6.19E+02	6.78E+02	7.71E+01	7.71E+01
Barium	3.66E+01	8.84E-05	3.60E-03	3.60E-03	9.60E+01	6.89E-01	3.50E+00	8.24E-02	5.06E+00	2.40E+01	5.76E-02	3.00E-04	8.12E-03	2.25E+00	2.02E+01	2.50E+00	2.28E+00
Beryllium	6.09E-01	1.57E-08	5.00E-04	4.96E-04	1.00E+00	2.13E-03	1.60E-01	1.37E-04	1.60E-01	2.50E-01	4.00E-03	8.63E-05	2.43E-03	8.78E-02	5.50E-01	2.50E-01	2.50E-01
Bismuth	--	8.13E-09	--	--	5.40E+00	2.09E-04	2.50E-02	--	--	--	--	--	--	8.10E-01	1.13E+00	--	--
Boron	2.50E+01	3.19E-08	1.96E+00	1.96E+00	2.50E+01	8.47E+00	8.47E+00	7.50E+00	1.51E+01	4.00E+00	8.00E+00	3.83E-03	1.10E-01	3.75E+00	5.25E+00	--	--
Cadmium	4.62E-01	5.62E-08	2.48E-05	2.48E-05	5.60E-01	8.39E-03	3.20E-02	4.44E-03	3.20E-02	1.60E+00	6.32E-02	2.27E-06	6.01E-05	6.80E-02	1.70E-01	2.50E-02	2.50E-02
Calcium	--	--	--	--	--	8.22E+00	9.30E+02	--	--	--	--	--	--	--	--	--	--
Chromium	1.10E+01	1.55E-06	1.30E-03	1.30E-03	2.40E+01	7.83E-02	1.60E-01	7.41E-03	5.94E-01	5.80E-01	4.31E-01	7.55E-04	1.59E-02	1.48E-01	1.08E+00	2.50E-01	2.50E-01
Cobalt	1.84E+00	3.17E-08	2.00E-04	2.00E-04	1.30E+02	1.38E-02	8.00E-02	1.93E-03	9.98E-02	2.10E-01	8.15E-03	1.01E-03	2.57E-02	1.46E-01	2.73E+01	1.00E-01	1.00E-01
Copper	4.62E+00	3.39E-04	1.74E-03	1.74E-03	3.60E+01	2.10E-01	1.10E+00	1.73E-01	1.10E+00	1.60E+01	3.08E+00	5.95E-03	1.67E-01	1.20E+00	6.98E+00	1.30E+00	3.48E-01
Iron	1.38E+04	1.03E-04	1.17E+00	1.17E+00	1.20E+05	3.01E+01	3.58E+01	2.07E+00	2.33E+02	2.21E+03	4.42E+03	1.73E+00	2.33E+01	1.80E+04	2.52E+04	2.34E+02	2.34E+02
Lead	2.40E+01	1.68E-08	7.62E-04	7.55E-04	1.20E+02	7.23E-02	7.72E-02	3.24E-02	3.56E-01	1.67E+00	1.41E+00	4.75E-05	6.73E-04	5.83E-01	1.63E+00	2.20E-01	9.00E-02
Lithium	8.28E+00	7.76E-08	9.93E-03	9.90E-03	3.10E+01	4.69E-02	1.70E-01	4.97E-03	3.50E-01	1.32E+00	2.65E+00	1.30E-03	2.97E-02	4.65E+00	6.51E+00	--	--
Magnesium	--	--	--	--	--	9.49E+00	5.00E+01	--	--	--	--	--	--	--	--	--	--
Manganese	7.72E+01	1.61E-06	8.03E-02	8.03E-02	4.00E+02	1.46E+00	6.30E+01	5.79E-01	6.30E+01	1.20E+03	5.06E-01	1.33E-02	3.80E-01	4.74E+00	8.40E+01	3.21E+01	3.21E+01
Mercury	2.94E-01	2.15E-09	1.36E-04	9.12E-05	1.10E+01	2.69E-10	2.50E-03	0.00E+00	2.50E-03	4.70E-02	9.41E-02	2.76E-03	5.13E-02	1.65E+00	1.90E-01	1.40E+00	2.50E-03
Mercury, divalent	6.31E-03	--	2.53E-07	1.69E-07	4.46E-03	2.50E-05	2.75E-05	3.41E-05	--	1.01E-03	2.02E-03	2.36E-07	3.63E-06	6.69E-04	9.37E-04	1.69E-07	1.69E-07
Mercury, methyl	6.06E-08	--	6.01E-13	5.99E-13	9.58E-11	1.60E-06	1.94E-06	9.00E-10	--	9.70E-09	1.94E-08	7.89E-10	2.27E-08	1.44E-11	2.01E-11	4.07E-06	4.07E-06
Molybdenum	1.00E+00	3.11E-08	1.23E-02	1.23E-02	4.30E+00	1.31E-02	1.60E-01	9.00E-03	1.60E-01	6.90E-01	3.20E-01	5.38E-04	1.50E-02	6.45E-01	9.03E-01	2.50E-01	2.50E-01
Nickel	5.32E+00	1.80E-06	1.00E-03	9.99E-04	2.10E+02	3.34E-02	1.60E-01	6.38E-03	2.40E-01	1.10E+00	5.45E-01	6.57E-04	1.59E-02	1.55E+00	1.98E+01	2.50E-01	2.50E-01
Phosphorus	2.00E+00	--	1.63E-01	1.63E-01	5.72E-01	1.49E+00	1.60E+02	1.05E+00	1.60E+02	3.21E-01	6.41E-01	4.58E+00	1.32E+02	8.58E-02	1.20E-01	--	--
Potassium	1.44E+02	--	7.58E+00	7.58E+00	4.17E+01	3.34E+01	8.60E+02	1.19E+01	8.60E+02	2.31E+01	4.61E+01	8.98E+00	2.59E+02	6.25E+00	8.76E+00	--	--
Rubidium	--	4.87E-08	--	--	3.90E+01	3.78E-03	4.58E-03	--	--	--	--	--	--	5.85E+00	8.19E+00	--	--
Selenium	1.78E+00	1.21E-08	5.00E-04	5.00E-04	2.50E+00	5.56E-03	1.60E-01	5.87E-03	1.60E-01	2.50E-01	2.62E-01	2.12E-04	5.71E-03	2.10E-01	5.50E-01	7.50E-01	7.50E-01
Silver	2.50E-01	1.48E-07	5.00E-05	5.00E-05	3.40E+00	5.50E-03	4.00E-02	3.75E-03	4.00E-02	1.80E+00	3.20E-04	6.61E-05	1.83E-03	7.14E-03	7.14E-01	6.00E-02	6.00E-02
Sodium	7.20E+02	--	2.59E+00	2.59E+00	2.59E+02	1.82E+01	2.50E+01	5.94E+00	1.08E+02	1.15E+02	2.30E+02	9.28E-01	2.30E+01	3.88E+01	5.43E+01	5.18E+01	5.18E+01
Strontium	5.78E+01	5.05E-07	4.18E-01	4.18E-01	2.60E+01	4.78E+00	4.81E+00	2.17E+00	2.28E+01	1.00E+01	1.85E+01	8.52E-04	2.30E-02	3.90E+00	5.46E+00	6.10E+01	4.40E+01
Thallium	5.00E-02	9.36E-09	5.00E-05	5.00E-05	3.00E-01	5.06E-04	1.10E-02	3.00E-06	1.10E-02	1.00E-02	1.60E-02	2.39E-04	6.70E-03	4.50E-02	6.30E-02	5.00E-01	5.00E-01
Tin	5.23E-01	1.85E-06	6.80E-04	6.78E-04	1.40E+00	2.61E-03	1.20E+00	4.70E-04	1.20E+00	2.50E-01	1.67E-01	6.27E-04	1.80E-02	2.10E-01	5.50E-01	2.04E+00	2.04E+00
Titanium	2.09E+02	1.39E-06	2.19E-01	2.17E-01	2.17E+02	2.76E+00	3.32E+00	9.39E-02	2.22E+01	3.34E+01	6.68E+01	8.35E-02	1.81E+00	3.26E+01	4.56E+01	--	--
Uranium	6.20E-01	9.39E-09	5.00E-05	4.98E-05	1.70E+00	9.42E-02	9.44E-02	9.30E-02	1.02E-01	9.92E-02	1.98E-01	1.04E-05	2.89E-04	2.55E-01	3.57E-01	--	--
Vanadium	2.85E+01	3.14E-07	1.00E-03	9.90E-04	2.70E+01	6.48E-02	1.60E-01	1.28E-02	4.42E-01	9.30E-01	1.12E-01	5.59E-04	9.22E-03	1.96E-02	5.67E+00	--	--
Zinc	2.36E+01	1.89E-05	9.76E-03	9.75E-03	6.40E+01	4.13E-01	2.10E+00	3.19E+00	2.10E+00	7.90E+01	5.10E-03	1.09E-04	2.93E-03	7.26E+00	4.50E+01	3.00E+01	2.01E+01
Inorganics																	
Nitrate	--	--	2.34E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	1.06E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	1.78E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	6.94E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	--	0.00E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table B.52

Summary of Predicted Concentrations - Operations
(Scenario 3)
Anaconda Goldboro
Goldboro, Nova Scotia

	Terrestrial Environment		Aquatic Environment			Terrestrial Ecosystem								Aquatic Ecosystem			
Contaminant	Soil (Cs) (mg/kg)	Air (Coa) (mg/m³)	Surface Water-Total (Cw) (mg/L)	Surface Water-Dissolved phase (Cdw) (mg/L)	Sediment (Csed) (mg/kg)	Leafy Vegetables (Cv) (mg/kg FW)	Fruit (Cfru) (mg/kg FW)	Roots (Cr) (mg/kg FW)	Forage (Cfo) (mg/kg FW)	Invertebrates (Cti) (mg/kg FW)	Prey (Cp) (mg/kg FW)	Hare (Ch) (mg/kg FW)	Deer (Cd) (mg/kg FW)	Plants (Cap) (mg/kg FW)	Invertebrates (Cai) (mg/kg FW)	Fish Whole (Cfw) (mg/kg FW)	Fish Fillet (Cff) (mg/kg FW)
Metals																	
Aluminum	3.43E+04	8.85E-05	1.99E-01	0.00E+00	1.75E+04	6.88E+01	8.22E+01	3.34E+00	5.44E+02	4.20E+02	2.88E+02	3.17E-01	4.16E+00	7.54E+00	3.68E+03	2.60E+00	1.30E+00
Antimony	1.00E+00	1.57E-08	4.39E-03	4.38E-03	8.10E+01	9.64E-03	1.60E-01	4.50E-03	1.60E-01	2.50E-01	4.00E-03	8.87E-05	2.46E-03	3.65E-01	1.70E+01	2.50E-01	2.50E-01
Arsenic	2.08E+01	3.53E-07	5.48E-02	5.48E-02	1.10E+05	2.66E-01	3.19E-01	2.50E-02	2.15E+00	8.00E+00	3.02E-02	5.50E-04	1.28E-02	6.19E+02	6.78E+02	6.25E+00	6.25E+00
Barium	3.66E+01	8.84E-05	7.09E-03	7.08E-03	9.60E+01	6.89E-01	3.50E+00	8.24E-02	5.06E+00	2.40E+01	5.76E-02	3.00E-04	8.13E-03	2.25E+00	2.02E+01	4.48E+00	4.48E+00
Beryllium	1.07E+00	1.57E-08	4.61E-04	4.57E-04	1.00E+00	2.31E-03	1.60E-01	2.41E-04	1.60E-01	2.50E-01	4.00E-03	8.85E-05	2.45E-03	8.78E-02	5.50E-01	2.50E-01	2.50E-01
Bismuth	--	8.13E-09	--	--	5.40E+00	2.09E-04	2.50E-02	--	--	--	--	--	--	8.10E-01	1.13E+00	--	--
Boron	2.50E+01	3.19E-08	1.96E+00	1.96E+00	2.50E+01	8.47E+00	8.47E+00	7.50E+00	1.51E+01	4.00E+00	8.00E+00	3.83E-03	1.10E-01	3.75E+00	5.25E+00	--	--
Cadmium	4.62E-01	5.62E-08	1.98E-05	1.98E-05	5.60E-01	8.39E-03	3.20E-02	4.44E-03	3.20E-02	1.60E+00	6.32E-02	2.27E-06	6.01E-05	6.80E-02	1.70E-01	2.50E-02	2.50E-02
Calcium	--	--	--	--	--	8.22E+00	9.30E+02	--	--	--	--	--	--	--	--	--	--
Chromium	1.10E+01	1.55E-06	8.58E-04	8.58E-04	2.40E+01	7.83E-02	1.60E-01	7.41E-03	5.94E-01	5.80E-01	4.31E-01	7.55E-04	1.59E-02	1.48E-01	1.08E+00	2.50E-01	2.50E-01
Cobalt	1.84E+00	3.17E-08	9.91E-04	9.91E-04	1.30E+02	1.38E-02	8.00E-02	1.93E-03	9.98E-02	2.10E-01	8.15E-03	1.02E-03	2.57E-02	1.46E-01	2.73E+01	2.97E-01	2.97E-01
Copper	4.62E+00	3.39E-04	1.96E-03	1.96E-03	3.60E+01	2.10E-01	1.10E+00	1.73E-01	1.10E+00	1.60E+01	3.08E+00	5.95E-03	1.67E-01	1.20E+00	6.98E+00	1.30E+00	3.91E-01
Iron	1.38E+04	1.03E-04	3.55E-01	3.55E-01	1.20E+05	3.01E+01	3.58E+01	2.07E+00	2.33E+02	2.21E+03	4.42E+03	1.73E+00	2.32E+01	1.80E+04	2.52E+04	7.10E+01	7.10E+01
Lead	2.48E+01	1.68E-08	8.22E-04	8.15E-04	1.20E+02	7.40E-02	7.90E-02	3.35E-02	3.61E-01	1.72E+00	1.43E+00	4.90E-05	6.92E-04	5.83E-01	1.63E+00	2.20E-01	9.00E-02
Lithium	1.27E+01	7.76E-08	1.39E-02	1.39E-02	3.10E+01	5.13E-02	1.70E-01	7.60E-03	3.67E-01	2.03E+00	4.06E+00	1.52E-03	3.18E-02	4.65E+00	6.51E+00	--	--
Magnesium	--	--	--	--	--	9.49E+00	5.00E+01	--	--	--	--	--	--	--	--	--	--
Manganese	7.72E+01	1.61E-06	7.56E-02	7.55E-02	4.00E+02	1.46E+00	6.30E+01	5.79E-01	6.30E+01	1.20E+03	5.06E-01	1.33E-02	3.80E-01	4.74E+00	8.40E+01	3.02E+01	3.02E+01
Mercury	2.94E-01	2.15E-09	6.88E-06	4.60E-06	1.10E+01	2.69E-10	2.50E-03	0.00E+00	2.50E-03	4.70E-02	9.41E-02	2.76E-03	5.13E-02	1.65E+00	1.90E-01	1.40E+00	2.50E-03
Mercury, divalent	3.89E-02	--	1.56E-06	1.04E-06	2.75E-02	9.35E-05	9.60E-05	2.10E-04	--	6.22E-03	1.24E-02	1.25E-06	1.66E-05	4.13E-03	5.78E-03	1.04E-06	1.04E-06
Mercury, methyl	6.06E-08	--	6.01E-13	5.99E-13	9.58E-11	1.60E-06	1.94E-06	9.00E-10	--	9.70E-09	1.94E-08	7.89E-10	2.27E-08	1.44E-11	2.01E-11	4.07E-06	4.07E-06
Molybdenum	1.00E+00	3.11E-08	1.23E-02	1.23E-02	4.30E+00	1.31E-02	1.60E-01	9.00E-03	1.60E-01	6.90E-01	3.20E-01	5.38E-04	1.50E-02	6.45E-01	9.03E-01	2.50E-01	2.50E-01
Nickel	5.32E+00	1.80E-06	1.42E-02	1.42E-02	2.10E+02	3.34E-02	1.60E-01	6.38E-03	2.40E-01	1.10E+00	5.45E-01	6.67E-04	1.62E-02	1.55E+00	1.98E+01	1.11E+00	1.11E+00
Phosphorus	2.00E+00	--	1.63E-01	1.63E-01	5.72E-01	1.49E+00	1.60E+02	1.05E+00	1.60E+02	3.21E-01	6.41E-01	4.58E+00	1.32E+02	8.58E-02	1.20E-01	--	--
Potassium	1.44E+02	--	7.58E+00	7.58E+00	4.17E+01	3.34E+01	8.60E+02	1.19E+01	8.60E+02	2.31E+01	4.61E+01	8.98E+00	2.59E+02	6.25E+00	8.76E+00	--	--
Rubidium	--	4.87E-08	--	--	3.90E+01	3.78E-03	4.58E-03	--	--	--	--	--	--	5.85E+00	8.19E+00	--	--
Selenium	1.78E+00	1.21E-08	4.88E-04	4.88E-04	2.50E+00	5.56E-03	1.60E-01	5.87E-03	1.60E-01	2.50E-01	2.62E-01	2.12E-04	5.71E-03	2.10E-01	5.50E-01	7.50E-01	7.50E-01
Silver	2.50E-01	1.48E-07	7.90E-05	7.89E-05	3.40E+00	5.50E-03	4.00E-02	3.75E-03	4.00E-02	1.80E+00	3.20E-04	6.61E-05	1.83E-03	7.14E-03	7.14E-01	6.00E-02	6.00E-02
Sodium	1.50E+03	--	4.57E+00	4.57E+00	4.57E+02	2.49E+01	2.75E+01	1.24E+01	1.16E+02	2.40E+02	4.79E+02	1.22E+00	2.75E+01	6.85E+01	9.59E+01	9.14E+01	9.14E+01
Strontium	5.78E+01	5.05E-07	4.18E-01	4.18E-01	2.60E+01	4.78E+00	4.81E+00	2.17E+00	2.28E+01	1.00E+01	1.85E+01	8.52E-04	2.30E-02	3.90E+00	5.46E+00	6.10E+01	4.40E+01
Thallium	5.00E-02	9.36E-09	7.31E-05	7.31E-05	3.00E-01	5.06E-04	1.10E-02	3.00E-06	1.10E-02	1.00E-02	1.60E-02	2.39E-04	6.70E-03	4.50E-02	6.30E-02	7.31E-01	7.31E-01
Tin	5.81E-01	1.85E-06	7.43E-04	7.41E-04	1.40E+00	2.69E-03	1.20E+00	5.23E-04	1.20E+00	2.50E-01	1.86E-01	6.27E-04	1.80E-02	2.10E-01	5.50E-01	2.22E+00	2.22E+00
Titanium	1.15E+03	1.39E-06	5.32E-01	5.27E-01	5.27E+02	3.23E+00	3.79E+00	5.15E-01	2.29E+01	1.83E+02	3.66E+02	2.30E-01	3.32E+00	7.90E+01	1.11E+02	--	--
Uranium	6.35E-01	9.39E-09	9.50E-04	9.46E-04	1.70E+00	9.64E-02	9.67E-02	9.53E-02	1.05E-01	1.02E-01	2.03E-01	1.07E-05	2.97E-04	2.55E-01	3.57E-01	--	--
Vanadium	3.91E+01	3.14E-07	2.12E-03	2.10E-03	2.70E+01	7.01E-02	1.60E-01	1.76E-02	4.51E-01	9.30E-01	1.54E-01	6.89E-04	1.04E-02	1.96E-02	5.67E+00	--	--
Zinc	2.36E+01	1.89E-05	7.28E-03	7.27E-03	6.40E+01	4.13E-01	2.10E+00	3.19E+00	2.10E+00	7.90E+01	5.10E-03	1.09E-04	2.93E-03	7.26E+00	4.50E+01	3.00E+01	1.50E+01
Inorganics																	
Nitrate	--	--	4.82E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	5.94E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	6.83E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	1.87E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	--	4.91E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table B.53

Summary of Predicted Concentrations - Reclamation (Scenario 4)
Anaconda Goldboro
Goldboro, Nova Scotia

	Terrestrial Environment		Aquatic Environment			Terrestrial Ecosystem								Aquatic Ecosystem			
	Soil	Air	Surface Water-Total	Surface Water-Dissolved phase	Sediment	Leafy Vegetables	Fruit	Roots	Forage	Invertebrates	Prey	Hare	Deer	Plants	Invertebrates	Fish Whole	Fish Fillet
	(Cs)	(Coa)	(Cw)	(Cdw)	(Csed)	(Cv)	(Cfru)	(Cr)	(Cfo)	(Cti)	(Cp)	(Ch)	(Cd)	(Cap)	(Cai)	(Cfw)	(Cff)
Contaminant	(mg/kg)	(mg/m³)	(mg/L)	(mg/L)	(mg/kg)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)
Metals																	
Aluminum	3.96E+04	8.85E-05	2.66E-01	0.00E+00	1.94E+04	6.96E+01	8.31E+01	3.86E+00	5.47E+02	4.20E+02	3.33E+02	3.57E-01	4.54E+00	8.37E+00	4.08E+03	2.60E+00	1.30E+00
Antimony	1.00E+00	1.57E-08	3.27E-03	3.26E-03	8.10E+01	9.64E-03	1.60E-01	4.50E-03	1.60E-01	2.50E-01	4.00E-03	8.85E-05	2.46E-03	3.65E-01	1.70E+01	2.50E-01	2.50E-01
Arsenic	2.08E+01	3.53E-07	5.21E-02	5.21E-02	1.10E+05	2.66E-01	3.19E-01	2.50E-02	2.15E+00	8.00E+00	3.02E-02	5.49E-04	1.28E-02	6.19E+02	6.78E+02	5.94E+00	5.94E+00
Barium	3.66E+01	8.84E-05	7.05E-03	7.04E-03	9.60E+01	6.89E-01	3.50E+00	8.24E-02	5.06E+00	2.40E+01	5.76E-02	3.00E-04	8.13E-03	2.25E+00	2.02E+01	4.46E+00	4.46E+00
Beryllium	1.17E+00	1.57E-08	4.71E-04	4.68E-04	1.00E+00	2.35E-03	1.60E-01	2.62E-04	1.60E-01	2.50E-01	4.00E-03	8.90E-05	2.45E-03	8.78E-02	5.50E-01	2.50E-01	2.50E-01
Bismuth	--	8.13E-09	--	--	5.40E+00	2.09E-04	2.50E-02	--	--	--	--	--	--	8.10E-01	1.13E+00	--	--
Boron	2.50E+01	3.19E-08	1.96E+00	1.96E+00	2.50E+01	8.47E+00	8.47E+00	7.50E+00	1.51E+01	4.00E+00	8.00E+00	3.83E-03	1.10E-01	3.75E+00	5.25E+00	--	--
Cadmium	4.62E-01	5.62E-08	2.41E-05	2.41E-05	5.60E-01	8.39E-03	3.20E-02	4.44E-03	3.20E-02	1.60E+00	6.32E-02	2.27E-06	6.01E-05	6.80E-02	1.70E-01	2.50E-02	2.50E-02
Calcium	--	--	--	--	--	8.22E+00	9.30E+02	--	--	--	--	--	--	--	--	--	--
Chromium	1.10E+01	1.55E-06	6.87E-04	6.86E-04	2.40E+01	7.83E-02	1.60E-01	7.41E-03	5.94E-01	5.80E-01	4.31E-01	7.55E-04	1.59E-02	1.48E-01	1.08E+00	2.50E-01	2.50E-01
Cobalt	1.84E+00	3.17E-08	9.35E-04	9.35E-04	1.30E+02	1.38E-02	8.00E-02	1.93E-03	9.98E-02	2.10E-01	8.15E-03	1.02E-03	2.57E-02	1.46E-01	2.73E+01	2.80E-01	2.80E-01
Copper	4.62E+00	3.39E-04	1.86E-03	1.85E-03	3.60E+01	2.10E-01	1.10E+00	1.73E-01	1.10E+00	1.60E+01	3.08E+00	5.95E-03	1.67E-01	1.20E+00	6.98E+00	1.30E+00	3.71E-01
Iron	1.38E+04	1.03E-04	4.55E-01	4.55E-01	1.20E+05	3.01E+01	3.58E+01	2.07E+00	2.33E+02	2.21E+03	4.42E+03	1.73E+00	2.32E+01	1.80E+04	2.52E+04	9.10E+01	9.10E+01
Lead	2.50E+01	1.68E-08	7.06E-04	7.00E-04	1.20E+02	7.44E-02	7.93E-02	3.38E-02	3.63E-01	1.73E+00	1.43E+00	4.93E-05	6.96E-04	5.83E-01	1.63E+00	2.20E-01	9.00E-02
Lithium	1.32E+01	7.76E-08	1.44E-02	1.44E-02	3.10E+01	5.18E-02	1.70E-01	7.93E-03	3.69E-01	2.11E+00	4.23E+00	1.55E-03	3.21E-02	4.65E+00	6.51E+00	--	--
Magnesium	--	--	--	--	--	9.49E+00	5.00E+01	--	--	--	--	--	--	--	--	--	--
Manganese	7.72E+01	1.61E-06	4.92E-02	4.92E-02	4.00E+02	1.46E+00	6.30E+01	5.79E-01	6.30E+01	1.20E+03	5.06E-01	1.33E-02	3.80E-01	4.74E+00	8.40E+01	1.97E+01	1.97E+01
Mercury	2.94E-01	2.15E-09	7.05E-06	4.72E-06	1.10E+01	2.69E-10	2.50E-03	0.00E+00	2.50E-03	4.70E-02	9.41E-02	2.76E-03	5.13E-02	1.65E+00	1.90E-01	1.40E+00	2.50E-03
Mercury, divalent	4.72E-02	--	1.89E-06	1.26E-06	3.34E-02	1.11E-04	1.13E-04	2.55E-04	--	7.55E-03	1.51E-02	1.51E-06	1.99E-05	5.01E-03	7.01E-03	1.26E-06	1.26E-06
Mercury, methyl	6.06E-08	--	6.01E-13	5.99E-13	9.58E-11	1.60E-06	1.94E-06	9.00E-10	--	9.70E-09	1.94E-08	7.89E-10	2.27E-08	1.44E-11	2.01E-11	4.07E-06	4.07E-06
Molybdenum	1.00E+00	3.11E-08	1.23E-02	1.23E-02	4.30E+00	1.31E-02	1.60E-01	9.00E-03	1.60E-01	6.90E-01	3.20E-01	5.38E-04	1.50E-02	6.45E-01	9.03E-01	2.50E-01	2.50E-01
Nickel	5.32E+00	1.80E-06	6.10E-03	6.10E-03	2.10E+02	3.34E-02	1.60E-01	6.38E-03	2.40E-01	1.10E+00	5.45E-01	6.61E-04	1.60E-02	1.55E+00	1.98E+01	4.76E-01	4.76E-01
Phosphorus	2.00E+00	--	1.63E-01	1.63E-01	5.72E-01	1.49E+00	1.60E+02	1.05E+00	1.60E+02	3.21E-01	6.41E-01	4.58E+00	1.32E+02	8.58E-02	1.20E-01	--	--
Potassium	1.44E+02	--	7.58E+00	7.58E+00	4.17E+01	3.34E+01	8.60E+02	1.19E+01	8.60E+02	2.31E+01	4.61E+01	8.98E+00	2.59E+02	6.25E+00	8.76E+00	--	--
Rubidium	--	4.87E-08	--	--	3.90E+01	3.78E-03	4.58E-03	--	--	--	--	--	--	5.85E+00	8.19E+00	--	--
Selenium	1.78E+00	1.21E-08	4.68E-04	4.68E-04	2.50E+00	5.56E-03	1.60E-01	5.87E-03	1.60E-01	2.50E-01	2.62E-01	2.12E-04	5.71E-03	2.10E-01	5.50E-01	7.50E-01	7.50E-01
Silver	2.50E-01	1.48E-07	7.04E-05	7.04E-05	3.40E+00	5.50E-03	4.00E-02	3.75E-03	4.00E-02	1.80E+00	3.20E-04	6.61E-05	1.83E-03	7.14E-03	7.14E-01	6.00E-02	6.00E-02
Sodium	1.51E+03	--	4.61E+00	4.61E+00	4.61E+02	2.51E+01	2.76E+01	1.25E+01	1.16E+02	2.42E+02	4.84E+02	1.23E+00	2.77E+01	6.91E+01	9.67E+01	9.21E+01	9.21E+01
Strontium	5.78E+01	5.05E-07	4.18E-01	4.18E-01	2.60E+01	4.78E+00	4.81E+00	2.17E+00	2.28E+01	1.00E+01	1.85E+01	8.52E-04	2.30E-02	3.90E+00	5.46E+00	6.10E+01	4.40E+01
Thallium	5.00E-02	9.36E-09	6.61E-05	6.61E-05	3.00E-01	5.06E-04	1.10E-02	3.00E-06	1.10E-02	1.00E-02	1.60E-02	2.39E-04	6.70E-03	4.50E-02	6.30E-02	6.61E-01	6.61E-01
Tin	5.87E-01	1.85E-06	7.50E-04	7.48E-04	1.40E+00	2.69E-03	1.20E+00	5.28E-04	1.20E+00	2.50E-01	1.88E-01	6.27E-04	1.80E-02	2.10E-01	5.50E-01	2.24E+00	2.24E+00
Titanium	1.35E+03	1.39E-06	6.00E-01	5.94E-01	5.94E+02	3.33E+00	3.89E+00	6.07E-01	2.31E+01	2.16E+02	4.31E+02	2.62E-01	3.65E+00	8.90E+01	1.25E+02	--	--
Uranium	6.38E-01	9.39E-09	8.52E-04	8.48E-04	1.70E+00	9.68E-02	9.70E-02	9.56E-02	1.05E-01	1.02E-01	2.04E-01	1.07E-05	2.98E-04	2.55E-01	3.57E-01	--	--
Vanadium	4.14E+01	3.14E-07	1.49E-03	1.47E-03	2.70E+01	7.12E-02	1.60E-01	1.86E-02	4.53E-01	9.30E-01	1.63E-01	7.17E-04	1.07E-02	1.96E-02	5.67E+00	--	--
Zinc	2.36E+01	1.89E-05	7.18E-03	7.17E-03	6.40E+01	4.13E-01	2.10E+00	3.19E+00	2.10E+00	7.90E+01	5.10E-03	1.09E-04	2.93E-03	7.26E+00	4.50E+01	3.00E+01	1.48E+01
Inorganics																	
Nitrate	--	--	1.45E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	2.94E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	6.95E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	5.02E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	--	4.51E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table B.54

Summary of Predicted Concentrations - Post-Closure (Scenario 5)
Anaconda Goldboro
Goldboro, Nova Scotia

	Terrestrial Environment		Aquatic Environment			Terrestrial Ecosystem								Aquatic Ecosystem			
	Soil	Air	Surface Water-Total	Surface Water-Dissolved	Sediment	Leafy Vegetables	Fruit	Roots	Forage	Invertebrates	Prey	Hare	Deer	Plants	Invertebrates	Fish Whole	Fish Fillet
	(Cs)	(Coa)	(Cw)	(Cdw)	(Csed)	(Cv)	(Cfru)	(Cr)	(Cfo)	(Cti)	(Cp)	(Ch)	(Cd)	(Cap)	(Cai)	(Cfw)	(Cff)
Contaminant	(mg/kg)	(mg/m³)	(mg/L)	(mg/L)	(mg/kg)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)	(mg/kg FW)
Metals																	
Aluminum	3.96E+04	8.52E-05	3.61E-01	0.00E+00	1.94E+04	6.96E+01	6.39E+00	3.86E+00	5.47E+02	4.20E+02	3.33E+02	2.97E-01	2.82E+00	8.37E+00	4.08E+03	2.60E+00	1.30E+00
Antimony	1.00E+00	1.56E-08	2.20E-03	2.20E-03	8.10E+01	9.64E-03	1.60E-01	4.50E-03	1.60E-01	2.50E-01	4.00E-03	8.84E-05	2.45E-03	3.65E-01	1.70E+01	2.50E-01	2.50E-01
Arsenic	2.08E+01	3.40E-07	5.12E-02	5.12E-02	1.10E+05	2.66E-01	1.60E-01	2.50E-02	2.15E+00	8.00E+00	3.02E-02	5.47E-04	1.28E-02	6.19E+02	6.78E+02	5.83E+00	5.83E+00
Barium	3.66E+01	8.83E-05	5.73E-03	5.72E-03	9.60E+01	6.89E-01	3.50E+00	8.24E-02	5.06E+00	2.40E+01	5.76E-02	3.00E-04	8.13E-03	2.25E+00	2.02E+01	3.62E+00	3.62E+00
Beryllium	1.17E+00	1.56E-08	4.76E-04	4.73E-04	1.00E+00	2.35E-03	1.60E-01	2.62E-04	1.60E-01	2.50E-01	4.00E-03	8.90E-05	2.45E-03	8.78E-02	5.50E-01	2.50E-01	2.50E-01
Bismuth	--	8.12E-09	--	--	5.40E+00	2.09E-04	2.50E-02	--	--	--	--	--	--	8.10E-01	1.13E+00	--	--
Boron	2.50E+01	3.11E-08	1.96E+00	1.96E+00	2.50E+01	8.47E+00	8.45E+00	7.50E+00	1.51E+01	4.00E+00	8.00E+00	3.82E-03	1.09E-01	3.75E+00	5.25E+00	--	--
Cadmium	4.62E-01	5.62E-08	3.70E-05	3.70E-05	5.60E-01	8.39E-03	3.20E-02	4.44E-03	3.20E-02	1.60E+00	6.32E-02	2.27E-06	6.01E-05	6.80E-02	1.70E-01	3.35E-02	3.35E-02
Calcium	--	--	--	--	--	8.22E+00	9.30E+02	--	--	--	--	--	--	--	--	--	--
Chromium	1.10E+01	1.55E-06	8.60E-04	8.60E-04	2.40E+01	7.83E-02	1.60E-01	7.41E-03	5.94E-01	5.80E-01	4.31E-01	7.55E-04	1.59E-02	1.48E-01	1.08E+00	2.50E-01	2.50E-01
Chromium VI	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	1.84E+00	3.11E-08	9.61E-04	9.60E-04	1.30E+02	1.38E-02	8.00E-02	1.93E-03	9.98E-02	2.10E-01	8.15E-03	1.02E-03	2.57E-02	1.46E-01	2.73E+01	2.88E-01	2.88E-01
Copper	4.62E+00	3.39E-04	9.20E-04	9.20E-04	3.60E+01	2.10E-01	1.10E+00	1.73E-01	1.10E+00	1.60E+01	3.08E+00	5.95E-03	1.67E-01	1.20E+00	6.98E+00	1.30E+00	2.50E-01
Iron	1.38E+04	1.02E-04	4.28E-01	4.27E-01	1.20E+05	3.01E+01	4.80E+00	2.07E+00	2.33E+02	2.21E+03	4.42E+03	1.41E+00	1.40E+01	1.80E+04	2.52E+04	8.55E+01	8.55E+01
Lead	2.50E+01	1.56E-08	9.27E-04	9.19E-04	1.20E+02	7.44E-02	5.20E-02	3.38E-02	3.63E-01	1.73E+00	1.43E+00	4.50E-05	5.73E-04	5.83E-01	1.63E+00	2.20E-01	9.00E-02
Lithium	1.32E+01	7.56E-08	1.44E-02	1.44E-02	3.10E+01	5.18E-02	1.70E-01	7.93E-03	3.69E-01	2.11E+00	4.23E+00	1.55E-03	3.21E-02	4.65E+00	6.51E+00	--	--
Magnesium	--	--	--	--	--	9.49E+00	5.00E+01	--	--	--	--	--	--	--	--	--	--
Manganese	7.72E+01	1.58E-06	1.19E-01	1.19E-01	4.00E+02	1.46E+00	6.30E+01	5.79E-01	6.30E+01	1.20E+03	5.06E-01	1.33E-02	3.80E-01	4.74E+00	8.40E+01	4.74E+01	4.74E+01
Mercury	2.94E-01	2.14E-09	9.69E-06	6.48E-06	1.10E+01	2.69E-10	2.50E-03	0.00E+00	2.50E-03	4.70E-02	9.41E-02	2.76E-03	5.13E-02	1.65E+00	1.90E-01	1.40E+00	2.50E-03
Mercury, divalent	4.72E-02	--	1.89E-06	1.26E-06	3.34E-02	1.11E-04	9.91E-05	2.55E-04	--	7.55E-03	1.51E-02	1.48E-06	1.88E-05	5.01E-03	7.01E-03	1.26E-06	1.26E-06
Mercury, methyl	6.06E-08	--	6.01E-13	5.99E-13	9.58E-11	1.60E-06	2.64E-10	9.00E-10	--	9.70E-09	1.94E-08	3.39E-13	5.21E-12	1.44E-11	2.01E-11	4.07E-06	4.07E-06
Molybdenum	1.00E+00	3.11E-08	1.23E-02	1.23E-02	4.30E+00	1.31E-02	1.60E-01	9.00E-03	1.60E-01	6.90E-01	3.20E-01	5.38E-04	1.50E-02	6.45E-01	9.03E-01	2.50E-01	2.50E-01
Nickel	5.32E+00	1.80E-06	1.13E-02	1.13E-02	2.10E+02	3.34E-02	1.60E-01	6.38E-03	2.40E-01	1.10E+00	5.45E-01	6.65E-04	1.61E-02	1.55E+00	1.98E+01	8.83E-01	8.83E-01
Phosphorus	2.00E+00	--	1.63E-01	1.63E-01	5.72E-01	1.49E+00	1.60E+02	1.05E+00	1.60E+02	3.21E-01	6.41E-01	4.58E+00	1.32E+02	8.58E-02	1.20E-01	--	--
Potassium	1.44E+02	--	7.58E+00	7.58E+00	4.17E+01	3.34E+01	8.60E+02	1.19E+01	8.60E+02	2.31E+01	4.61E+01	8.98E+00	2.59E+02	6.25E+00	8.76E+00	--	--
Rubidium	--	4.85E-08	--	--	3.90E+01	3.78E-03	0.00E+00	--	--	--	--	--	--	5.85E+00	8.19E+00	--	--
Selenium	1.78E+00	1.21E-08	5.58E-04	5.58E-04	2.50E+00	5.56E-03	1.60E-01	5.87E-03	1.60E-01	2.50E-01	2.62E-01	2.12E-04	5.71E-03	2.10E-01	5.50E-01	7.50E-01	7.50E-01
Silver	2.50E-01	1.48E-07	7.48E-05	7.48E-05	3.40E+00	5.50E-03	4.00E-02	3.75E-03	4.00E-02	1.80E+00	3.20E-04	6.61E-05	1.83E-03	7.14E-03	7.14E-01	6.00E-02	6.00E-02
Sodium	1.51E+03	--	4.61E+00	4.61E+00	4.61E+02	2.51E+01	2.50E+01	1.25E+01	1.16E+02	2.42E+02	4.84E+02	1.16E+00	2.55E+01	6.91E+01	9.67E+01	9.21E+01	9.21E+01
Strontium	5.78E+01	4.98E-07	4.18E-01	4.18E-01	2.60E+01	4.78E+00	4.65E+00	2.17E+00	2.28E+01	1.00E+01	1.85E+01	8.27E-04	2.23E-02	3.90E+00	5.46E+00	6.10E+01	4.40E+01
Thallium	5.00E-02	9.33E-09	8.48E-05	8.48E-05	3.00E-01	5.06E-04	1.10E-02	3.00E-06	1.10E-02	1.00E-02	1.60E-02	2.39E-04	6.71E-03	4.50E-02	6.30E-02	8.48E-01	8.48E-01
Tin	5.87E-01	1.85E-06	7.50E-04	7.48E-04	1.40E+00	2.69E-03	1.20E+00	5.28E-04	1.20E+00	2.50E-01	1.88E-01	6.27E-04	1.80E-02	2.10E-01	5.50E-01	2.24E+00	2.24E+00
Titanium	1.35E+03	1.25E-06	6.00E-01	5.94E-01	5.94E+02	3.33E+00	6.71E-01	6.07E-01	2.31E+01	2.16E+02	4.31E+02	2.12E-01	2.20E+00	8.90E+01	1.25E+02	--	--
Uranium	6.38E-01	9.33E-09	5.76E-04	5.73E-04	1.70E+00	9.68E-02	9.56E-02	9.56E-02	1.05E-01	1.02E-01	2.04E-01	1.06E-05	2.93E-04	2.55E-01	3.57E-01	--	--
Vanadium	4.14E+01	3.11E-07	2.01E-03	1.99E-03	2.70E+01	7.12E-02	1.60E-01	1.86E-02	4.53E-01	9.30E-01	1.63E-01	7.17E-04	1.07E-02	1.96E-02	5.67E+00	--	--
Zinc	2.36E+01	1.89E-05	7.27E-03	7.26E-03	6.40E+01	4.13E-01	2.10E+00	3.19E+00	2.10E+00	7.90E+01	5.10E-03	1.09E-04	2.93E-03	7.26E+00	4.50E+01	3.00E+01	1.50E+01
Inorganics																	
Nitrate	--	--	7.77E-01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite	--	--	6.00E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	--	--	3.02E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Un-ionized ammonia	--	--	1.68E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	--	--	1.22E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table B.55

Change in Predicted Media Concentrations
Anaconda Goldboro
Goldboro, Nova Scotia

	Change in Predicted Soil Concentration Δ mg/kg				Change in Predicted Surface Water Concentration Δ mg/L				Change in Predicted Sediment Concentration Δ mg/kg			
Contaminant	Construction (Cs) (mg/kg)	Operations (Cs) (mg/kg)	Reclamation (Cs) (mg/kg)	Post-Closure (Cs) (mg/kg)	Construction (Cw) (mg/L)	Operations (Cw) (mg/L)	Reclamation (Cw) (mg/L)	Post-Closure (Cw) (mg/L)	Construction (Csed) (mg/kg)	Operations (Csed) (mg/kg)	Reclamation (Csed) (mg/kg)	Post-Closure (Csed) (mg/kg)
Metals												
Aluminum	4.74E+03	2.75E+04	3.28E+04	3.28E+04	0.00E+00	-2.31E-01	-1.64E-01	-6.93E-02	0.00E+00	2.50E+03	4.45E+03	4.45E+03
Antimony	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.89E-03	2.77E-03	1.70E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Arsenic	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-6.22E-01	-6.25E-01	-6.26E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Barium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.49E-03	3.45E-03	2.13E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Beryllium	1.09E-01	5.72E-01	6.67E-01	6.67E-01	0.00E+00	-3.91E-05	-2.88E-05	-2.37E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bismuth	--	--	--	--	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Boron	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.94E+00	1.94E+00	1.94E+00	1.94E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cadmium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-5.01E-06	-6.90E-07	1.22E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Calcium	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.42E-04	-6.13E-04	-4.40E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cobalt	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.91E-04	7.35E-04	7.61E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Copper	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.16E-04	1.13E-04	-8.22E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Iron	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-8.15E-01	-7.15E-01	-7.42E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lead	1.95E-01	1.05E+00	1.23E+00	1.23E+00	0.00E+00	6.03E-05	-5.59E-05	1.65E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lithium	1.52E+00	5.91E+00	6.45E+00	6.45E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Magnesium	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.73E-03	-3.11E-02	3.84E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, element	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.30E-04	-1.29E-04	-1.27E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mercury, divalent	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, methyl	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nickel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phosphorus	--	--	--	--	1.13E-01	1.13E-01	1.13E-01	1.13E-01	--	--	--	--
Potassium	--	--	--	--	6.78E+00	6.78E+00	6.78E+00	6.78E+00	--	--	--	--
Rubidium	--	--	--	--	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Selenium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.17E-05	-3.17E-05	5.82E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Silver	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sodium	--	--	--	--	-2.93E+00	-9.43E-01	-9.06E-01	-9.06E-01	--	--	--	--
Strontium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.73E-01	3.73E-01	3.73E-01	3.73E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Thallium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tin	2.26E-02	8.11E-02	8.71E-02	8.71E-02	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Titanium	--	--	--	--	2.10E-01	5.22E-01	5.90E-01	5.90E-01	--	--	--	--
Uranium	4.22E-03	1.92E-02	2.16E-02	2.16E-02	0.00E+00	9.00E-04	8.02E-04	5.26E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Vanadium	2.35E+00	1.29E+01	1.52E+01	1.52E+01	--	--	--	--	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Zinc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-2.48E-03	-2.58E-03	-2.49E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Appendix C

Human Health Screening Tables for COPHCs

Table C.1

Identification of Contaminants of Potential Human Health Concern (COPHCs) in Soil
Human Health Risk Assessment
Anaconda Goldboro
Goldboro, Nova Scotia

Medium: Soil
Exposure Medium: Soil

Contaminants	Units	Maximum Predicted EPCs in the PA (1)	Baseline EPCs in the PA (2)	Maximum Predicted EPCs south of the PA (1)	Baseline EPCs south of the PA (2)	Maximum Predicted EPCs in the village (1)	Baseline EPCs in the village (2)	Residents, Recreational Visitors and Indigenous People			COPHCs Y - Yes N - No	Rationales for the Selection of COPHCs
								Screening Values	Pathways	References (3)		
Metals												
Aluminum (Al)	**mg/kg**	**41777**	**9890**	**8760**	**8760**	**9920**	**9920**	**15400**	**Soil contact/Ingestion**	**NSE, 2021**	**Y**	**Screening and baseline values exceeded**
Antimony (Sb)	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	7.5	Soil contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Arsenic (As)	mg/kg	9.1	6	30	30	11	11	31	Soil contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Barium (Ba)	mg/kg	37	37	39	39	42	42	6800	Soil contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Beryllium (Be)	mg/kg	1.4	1.0	0.50	0.50	1.0	1.0	75	Soil contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Bismuth (Bi)	mg/kg	-	1.0	-	1.0	-	1.0	-	-	-	N	No guideline and no TRV
Boron (B)	mg/kg	25	25	25	25	25	25	4300	Soil contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Cadmium (Cd)	mg/kg	0.15	0.15	0.49	0.49	0.38	0.38	1.4	Soil contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Chromium (Cr)	mg/kg	13	13	13	13	13	13	220	Soil contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Cobalt (Co)	mg/kg	2.3	2.3	2.0	2.0	2.4	2.4	22	Soil contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Copper (Cu)	mg/kg	6.6	6.6	4.9	4.9	5.9	5.9	1100	Soil contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Iron (Fe)	mg/kg	16400	16400	15800	15800	16400	16400	11000	Soil contact/Ingestion	NSE, 2021	N	Baseline value not exceeded
Lead (Pb)	mg/kg	20	15	25	25	24	24	140	Soil contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Lithium (Li)	mg/kg	14	8.4	14	8.4	9.3	9.3	32	Soil ingestion	USEPA, 2021	N	Screening value not exceeded
Manganese (Mn)	mg/kg	97	97	87	87	91	91	360	Soil contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Mercury (Hg)	mg/kg	0.16	0.16	0.32	0.32	0.26	0.26	6.6	Soil contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Molybdenum (Mo)	mg/kg	1.0	1.0	1.0	1.0	1.0	1.0	110	Soil contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Nickel (Ni)	mg/kg	6.9	6.9	5.8	5.8	6.9	6.9	200	Soil contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Rubidium (Rb)	mg/kg	-	6	-	6	-	6	-	-	-	N	No guideline and no TRV
Selenium (Se)	mg/kg	0.86	0.86	2.1	2.1	1.5	1.5	80	Soil contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Silver (Ag)	mg/kg	0.25	0.25	0.25	0.25	0.25	0.25	77	Soil contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Strontium (Sr)	mg/kg	19	19	60	60	46	46	9400	Soil contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Thallium (Tl)	mg/kg	0.050	0.050	0.050	0.050	0.050	0.050	1	Soil contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Tin (Sn)	mg/kg	0.59	0.50	0.50	0.50	0.50	0.50	9400	Soil contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Uranium (U)	mg/kg	0.67	0.67	0.65	0.65	0.67	0.67	23	Soil contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Vanadium (V)	mg/kg	39	22	29	29	24	23	39	Soil contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Zinc (Zn)	mg/kg	20	20	26	26	24	24	10000	Soil contact/Ingestion	NSE, 2021	N	Screening value not exceeded

Notes:

(1) Refer to Table B.16 of Appendix B for predicted maximum concentrations.
(2) Refer to Table A.1 of Appendix A for baseline concentrations.
(3) NSE (Nova Scotia Environment), 2021: Contaminated Sites – Ministerial Protocols. September 2021. Consulted at <https://novascotia.ca/nse/contaminatedsites/protocols.asp>
USEPA (United States Environmental Protection Agency), 2021: Regional Screening Levels (RSLs) - Generic Tables. Tables as of November 2021.
Consulted at <https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables>

Table C.2

Identification of Contaminants of Potential Human Health Concern (COPHCs) in Outdoor Air
Human Health Risk Assessment
Anaconda Goldboro
Goldboro, Nova Scotia

Medium: Outdoor Air
Exposure Medium: Outdoor Air

Contaminants	Units	Periods	Predicted Maximum EPCs in all areas (1)	Baseline EPCs in all areas (3)	Residents, Recreational Visitors and Indigenous People			COPHCs Y - Yes N - No	Rationales for the Selection of COPHCs
					Screening Values	Pathways	References (4)		
Metals									
Aluminum	µg/m³	24 hr	0.11	0.085	1.04	Inhalation	USEPA, 2021	N	Screening value not exceeded
Antimony	µg/m³	24 hr	0.000016	0.000016	0.0062	Inhalation	USEPA, 2021	N	Screening value not exceeded
Arsenic	µg/m³	24 hr	0.00043	0.00034	0.0032	Inhalation	USEPA, 2021	N	Screening value not exceeded
Barium	µg/m³	24 hr	0.089	0.088	0.26	Inhalation	USEPA, 2021	N	Screening value not exceeded
Beryllium	µg/m³	24 hr	0.000016	0.000016	0.0042	Inhalation	USEPA, 2021	N	Screening value not exceeded
Boron	µg/m³	24 hr	0.000037	0.000031	4.2	Inhalation	USEPA, 2021	N	Screening value not exceeded
Cadmium	µg/m³	24 hr	0.000056	0.000056	0.002	Inhalation	USEPA, 2021	N	Screening value not exceeded
Chromium	**µg/m³**	**24 hr**	**0.0016**	**0.0015**	**0.00015**	**Inhalation**	**USEPA, 2021**	**Y**	**Screening and baseline values exceeded**
Cobalt	µg/m³	24 hr	0.000035	0.000031	0.00126	Inhalation	USEPA, 2021	N	Screening value not exceeded
Copper	µg/m³	24 hr	0.34	0.34	50	Inhalation	OME, 2020	N	Screening value not exceeded
Iron	µg/m³	24 hr	0.11	0.10	4	Inhalation	OME, 2020	N	Screening value not exceeded
Lead	µg/m³	24 hr	0.000024	0.000016	0.03	Inhalation	USEPA, 2021	N	Screening value not exceeded
Lithium	**µg/m³**	**24 hr**	**0.000090**	**0.000075**	**-**	**-**	**-**	**Y**	**No guideline but TRV available**
Manganese	µg/m³	24 hr	0.0018	**0.0016**	0.0104	Inhalation	USEPA, 2021	N	Screening value not exceeded
Mercury	µg/m³	24 hr	0.0000022	0.0000021	0.062	Inhalation	USEPA, 2021	N	Screening value not exceeded
Molybdenum	µg/m³	24 hr	0.000031	0.000031	0.42	Inhalation	USEPA, 2021	N	Screening value not exceeded
Nickel	µg/m³	24 hr	0.0018	0.0018	0.003	Inhalation	USEPA, 2021	N	Screening value not exceeded
Rubidium	µg/m³	24 hr	0.000050	0.000049	-	-	-	N	No guideline and no TRV
Selenium	µg/m³	24 hr	0.000012	0.000012	4.2	Inhalation	USEPA, 2021	N	Screening value not exceeded
Silver	µg/m³	24 hr	0.00015	0.00015	1	Inhalation	OME, 2020	N	Screening value not exceeded
Strontium	µg/m³	24 hr	0.00055	0.00050	120	Inhalation	OME, 2020	N	Screening value not exceeded
Thallium	µg/m³	24 hr	0.0000095	0.0000093	-	-	-	N	No guideline and no TRV
Tin	µg/m³	24 hr	0.0019	0.0018	10	Inhalation	OME, 2020	N	Screening value not exceeded
Titanium	µg/m³	24 hr	0.0023	0.0012	120	Inhalation	OME, 2020	N	Screening value not exceeded
Uranium	µg/m³	24 hr	0.0000098	0.0000093	0.0084	Inhalation	USEPA, 2021	N	Screening value not exceeded
Vanadium	µg/m³	24 hr	0.00033	0.00031	0.02	Inhalation	USEPA, 2021	N	Screening value not exceeded
Zinc	µg/m³	24 hr	0.019	0.019	120	Inhalation	OME, 2020	N	Screening value not exceeded
Others									
Particulate Matter ≤2.5 µm (PM2.5)	µg/m³	1 hr	261 (2)	9.0	-	-	-	N	Screening value not exceeded
Particulate Matter ≤2.5 µm (PM2.5)	**µg/m³**	**24 hr**	**73 (2)**	**8.0**	**27**	**Inhalation**	**CCME, 2022**	**Y**	**Screening value exceeded**
Particulate Matter ≤2.5 µm (PM2.5)	**µg/m³**	**Annual**	**21 (2)**	**5.0**	**8.8**	**Inhalation**	**CCME, 2022**	**Y**	**Screening value exceeded**
Particulate Matter ≤10 µm (PM10)	**µg/m³**	**24 hr**	**179 (2)**	**11**	**50**	**Inhalation**	**OME, 2020**	**Y**	**Screening value exceeded**
Total Suspended Particulate (TSP)	**µg/m³**	**24 hr**	**689 (2)**	**8.1**	**120**	**Visibility**	**NS, 2020**	**Y**	**Screening value exceeded**
Nitrogen oxides (NO_x)	**µg/m³**	**1 hr**	**607 (2)**	**17**	**400**	**Inhalation**	**NS, 2020**	**Y**	**Screening value exceeded**
Nitrogen oxides (NO_x)	µg/m³	24 hr	174 (2)	19	200	Inhalation	OME, 2020	N	Screening value not exceeded
Nitrogen oxides (NO_x)	µg/m³	Annual	44 (2)	8.0	100	Inhalation	NS, 2020	N	Screening value not exceeded
Sulfur dioxide (SO_2)	µg/m³	1 hr	3.3 (2)	2.4	900	Inhalation	NS, 2020	N	Screening value not exceeded
Sulfur dioxide (SO_2)	µg/m³	24 hr	3.4 (2)	3.1	300	Inhalation	NS, 2020	N	Screening value not exceeded
Sulfur dioxide (SO_2)	µg/m³	Annual	1.7 (2)	1.6	60	Inhalation	NS, 2020	N	Screening value not exceeded

Notes:

(1) Refer to Table A.6 of Appendix B for predicted maximum concentrations.
(2) Refer to Table 3.2.
(3) Refer to Table A.2 of Appendix A for baseline concentrations.
(4) CCME (Canadian Council of Ministers of the Environment), 2022: Canadian Ambient Air Quality Standards (CAAQS). Consulted at: <https://ccme.ca/en/air-quality-report>
NS (Government of Nova Scotia), 2020: Air Quality Regulations made under Section 25 and 112 of the Environment Act, S.N.S. 1994-95, c. 1, O.I.C. 2005-87 (effective March 1, 2005), N.S. Reg. 28/2005 amended to O.I.C. 2020-016 (effective January 21, 2020), N.S. Reg. 8/2020.
OME (Ontario Ministry of the Environment), 2020: Ambient Air Quality Criteria. Human Toxicology and Air Standards Section, Technical Assessment and Standards, Development Branch, Ontario Ministry of the Environment, Conservation and Parks. May 1, 2020.
USEPA (United States Environmental Protection Agency), 2021: Regional Screening Levels (RSLs) - Generic Tables. Tables as of November 2021. Consulted at <https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables>

Table C.3

Identification of Contaminants of Potential Human Health Concern (COPHCs) in Surface Water
Human Health Risk Assessment
Anaconda Goldboro
Goldboro, Nova Scotia

Medium: Surface Water
Exposure Medium: Surface Water

Contaminants	Units	Predicted Maximum EPCs in Goldbrook (1)	Baseline EPCs in Goldbrook (2)	Residents, Recreational Visitors and Indigenous People			COPHCs Y - Yes N - No	Rationales for the Selection of COPHCs
				Screening Values	Pathways	References (3)		
Metals								
Total Aluminum (Al)	mg/L	0.43	0.43	1	Drinking Water	NSE, 2021	N	Screening value not exceeded
Total Antimony (Sb)	mg/L	0.0044	0.00050	0.060	Drinking Water	NSE, 2021	N	Screening value not exceeded
Total Arsenic (As)	mg/L	0.68	0.68	0.1	Drinking Water	NSE, 2021	N	Baseline value not exceeded
Total Barium (Ba)	mg/L	0.0071	0.0036	10	Drinking Water	NSE, 2021	N	Screening value not exceeded
Total Beryllium (Be)	mg/L	0.00050	0.00050	0.04	Drinking Water	NSE, 2021	N	Screening value not exceeded
Total Bismuth (Bi)	mg/L	-	0.0010	-	-	-	N	No guideline and no TRV
Total Boron (B)	mg/L	1.96	0.025	50	Drinking Water	NSE, 2021	N	Screening value not exceeded
Total Cadmium (Cd)	mg/L	0.000037	0.000025	0.05	Drinking Water	NSE, 2021	N	Screening value not exceeded
Total Calcium (Ca)	mg/L	-	4.9	Not toxic	-	HC, 2020	N	Not toxic
Total Chromium (Cr)	mg/L	0.0013	0.0013	0.5	Drinking Water	NSE, 2021	N	Screening value not exceeded
Total Cobalt (Co)	mg/L	0.00099	0.00020	0.038	Drinking Water	NSE, 2021	N	Screening value not exceeded
Total Copper (Cu)	mg/L	0.020	0.0017	20	Drinking Water	NSE, 2021	N	Screening value not exceeded
Total Iron (Fe)	mg/L	1.2	1.2	3	Drinking Water	NSE, 2021	N	Screening value not exceeded
Total Lead (Pb)	mg/L	0.00093	0.00076	0.05	Drinking Water	NSE, 2021	N	Screening value not exceeded
Total Lithium (Li)	**mg/L**	**0.015**	**-**	**-**	**-**	**-**	**Y**	**No guideline, detected, TRV available**
Total Magnesium (Mg)	mg/L	-	0.81	Not toxic	-	HC, 2020	N	Not toxic
Total Manganese (Mn)	mg/L	0.12	0.08	1.2	Drinking Water	NSE, 2021	N	Screening value not exceeded
Total Mercury (Hg)	mg/L	0.00014	0.00014	0.010	Drinking Water	NSE, 2021	N	Screening value not exceeded
Total Molybdenum (Mo)	mg/L	0.012	0.0010	0.7	Drinking Water	NSE, 2021	N	Screening value not exceeded
Total Nickel (Ni)	mg/L	0.014	0.0010	1.0	Drinking Water	NSE, 2021	N	Screening value not exceeded
Total Phosphorus (P)	mg/L	0.16	0.050	-	-	-	N	Not toxic
Total Potassium (K)	mg/L	7.6	0.80	-	-	-	N	Not toxic
Total Selenium (Se)	mg/L	0.00056	0.00050	0.50	Drinking Water	NSE, 2021	N	Screening value not exceeded
Total Silver (Ag)	mg/L	0.000079	0.000050	Not required	Drinking Water	NSE, 2021	N	Not required
Total Sodium (Na)	mg/L	5.5	5.5	2000	Drinking Water	NSE, 2021	N	Screening value not exceeded
Total Strontium (Sr)	mg/L	0.43	0.045	24	Drinking Water	NSE, 2021	N	Screening value not exceeded
Total Thallium (Tl)	mg/L	0.000085	0.000050	0.020	Drinking Water	NSE, 2021	N	Screening value not exceeded
Total Tin (Sn)	mg/L	0.0010	0.0010	24	Drinking Water	NSE, 2021	N	Screening value not exceeded
Total Titanium (Ti)	mg/L	0.60	0.0093	-	-	-	N	No guideline, detected, but no TRV
Total Uranium (U)	mg/L	0.00095	0.000050	0.20	Drinking Water	NSE, 2021	N	Screening value not exceeded
Total Vanadium (V)	mg/L	0.0021	0.0010	0.062	Drinking Water	NSE, 2021	N	Screening value not exceeded
Total Zinc (Zn)	mg/L	0.0098	0.0098	50	Drinking Water	NSE, 2021	N	Screening value not exceeded
Inorganics								
Nitrate (N)	mg/L	4.8	0.23	100	Drinking Water	HC, 2020	N	Screening value not exceeded
Nitrite (N)	mg/L	0.060	0.011	10	Drinking Water	HC, 2020	N	Screening value not exceeded
Ammonia	mg/L	0.18	0.18	-	-	-	N	No guideline and no TRV
Un-ionized ammonia	mg/L	0.019	0.0069	-	-	-	N	No guideline and no TRV

Notes:

(1) Refer to Table B.45 of Appendix B for predicted maximum concentrations.
(2) Refer to Table A.3 of Appendix A for background concentrations. For Un-ionized ammonia, the values are equal to the nitrogen (ammonia nitrogen) concentrations multiplied by a factor of 0.0039.
(3) HC (Health Canada), 2020: Guidelines for Canadian Drinking Water Quality-Summary Table. Water and Air Quality Bureau, Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario. September 2020.
NSE (Nova Scotia Environment), 2021: Contaminated Sites – Ministerial Protocols. September 2021. Consulted at <https://novascotia.ca/nse/contaminatedsites/protocols.asp>

Table C.4

Identification of Contaminants of Potential Human Health Concern (COPHCs) in Sediment
Human Health Risk Assessment
Anaconda Goldboro
Goldboro, Nova Scotia

Medium: Sediment
Exposure Medium: Sediment

Contaminants	Units	Predicted Maximum EPCs in Goldbrook (1)	Baseline EPCs in Goldbrook (2)	Residents, Recreational Visitors and Indigenous People			COPHCs Y - Yes N - No	Rationales for the Selection of COPHCs
				Screening Values	Pathways	References (3)		
Metals								
Aluminum (Al)	**mg/kg**	**20250**	**15000**	**15400**	**Sediment contact/Ingestion**	**NSE, 2021**	**Y**	**Screening and baseline values exceeded**
Antimony (Sb)	mg/kg	81	81	7.5	Sediment contact/Ingestion	NSE, 2021	N	Baseline value not exceeded
Arsenic (As)	mg/kg	110000	110000	31	Sediment contact/Ingestion	NSE, 2021	N	Baseline value not exceeded
Barium (Ba)	mg/kg	96	96	6800	Sediment contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Beryllium (Be)	mg/kg	1.0	1.0	75	Sediment contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Bismuth (Bi)	mg/kg	5.4	5.4	-	-	-	N	No guideline, detected, but no TRV
Boron (B)	mg/kg	25	25	4300	Sediment contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Cadmium (Cd)	mg/kg	0.56	0.56	14	Sediment contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Chromium (Cr)	mg/kg	24	24	220	Sediment contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Cobalt (Co)	mg/kg	130	130	22	Sediment contact/Ingestion	NSE, 2021	N	Baseline value not exceeded
Copper (Cu)	mg/kg	36	36	1100	Sediment contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Iron (Fe)	mg/kg	120000	120000	11000	Sediment contact/Ingestion	NSE, 2021	N	Baseline value not exceeded
Lead (Pb)	mg/kg	120	120	140	Sediment contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Lithium (Li)	mg/kg	31	31	32	Sediment ingestion	USEPA, 2021	N	Screening value not exceeded
Manganese (Mn)	mg/kg	400	400	360	Sediment contact/Ingestion	NSE, 2021	N	Baseline value not exceeded
Mercury (Hg)	mg/kg	11	11	6.6	Sediment contact/Ingestion	NSE, 2021	N	Baseline value not exceeded
Molybdenum (Mo)	mg/kg	4.3	4.3	110	Sediment contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Nickel (Ni)	mg/kg	210	210	200	Sediment contact/Ingestion	NSE, 2021	N	Baseline value not exceeded
Rubidium (Rb)	mg/kg	39	39	-	-	-	N	No guideline, detected, but no TRV
Selenium (Se)	mg/kg	2.5	2.5	80	Sediment contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Silver (Ag)	mg/kg	3.4	3.4	77	Sediment contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Strontium (Sr)	mg/kg	26	26	9400	Sediment contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Thallium (Tl)	mg/kg	0.30	0.30	1	Sediment contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Tin (Sn)	mg/kg	1.4	1.4	9400	Sediment contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Uranium (U)	mg/kg	1.7	1.7	23	Sediment contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Vanadium (V)	mg/kg	27	27	39	Sediment contact/Ingestion	NSE, 2021	N	Screening value not exceeded
Zinc (Zn)	mg/kg	64	64	10000	Sediment contact/Ingestion	NSE, 2021	N	Screening value not exceeded

Notes:

(1) Refer to Table B.47 of Appendix B for predicted concentrations.
(2) Refer to Table A.4 of Appendix A for background concentrations.
(3) NSE (Nova Scotia Environment), 2021: Contaminated Sites – Ministerial Protocols. September 2021. Consulted at <https://novascotia.ca/nse/contaminatedsites/protocols.asp>
USEPA (United States Environmental Protection Agency), 2021: Regional Screening Levels (RSLs) - Generic Tables. Tables as of November 2021.
Consulted at <https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables>

Appendix D

Critical Effects of the COPHCs and Toxicological Profiles

Table D.1 Critical effects of the COPHCs

COPC	Critical effects					
	Acute or subchronic RfD	Acute or subchronic RfC	Chronic RfD	Chronic RfC	SF	UR
Aluminium	Neurological effects, neurodevelopmental effects, and delays in maturation	Not applicable	Decreases in forelimb and hindlimb grip strength and decrease in thermal sensitivity	Psychomotor and cognitive disorders	Not applicable	Not applicable
Chromium	Hematological effects	Not applicable	Gastrointestinal toxicity	Respiratory system toxicity	Bowel cancer	Lung cancer
Lithium	Systemic effects	Not applicable	Not specified	Not applicable	Not applicable	Not applicable

Toxicological profiles of the COPHCs

1. Aluminum

Aluminum is a silver-white flexible metal with a vast number of uses. It is poorly absorbed and efficiently eliminated; however, when absorption does occur, aluminum is distributed mainly in bone, liver, testes, kidneys, and brain.

1.1 Non-Carcinogenic Effects

1.1.1 Short-Term Exposure

No information is available regarding the acute toxicity of aluminum in humans following exposure by ingestion or inhalation. Due to the poor absorption and efficient excretion of aluminum, acute oral toxicity is observed only after high doses (ORNL, 2020).

Aluminum is used in antiperspirant products without harmful effects. However, some people are unusually sensitive to these products and may develop skin rashes (ORNL, 2020).

1.1.2 Long-Term Exposure

Aluminum may be involved in cognitive diseases like Alzheimer's disease, "dialysis dementia", and Amyotrophic Lateral Sclerosis and Parkinsonism-Dementia Syndromes of Guam, but other studies have not found this to be true (ORNL, 2020). Studies in animals show that the nervous system is a sensitive target of aluminum toxicity. The animals did not perform as well in tests that measured the strength of their grip or how much they moved around (ATSDR, 2021).

Pulmonary fibrosis has been observed during occupational exposure to aluminum powder and dust. However, this association is inconclusive because of exposure to other irritants, cigarette smoking, or previous occupational exposures (ORNL, 2020). Lung effects have been observed in animals exposed to aluminum dust. Scientists do not know if these effects are due to the aluminum or to the animals breathing in a lot of dust (ATSDR, 2021).

No information is available regarding the chronic toxicity of aluminum in humans following exposure by dermal contact.

1.1.3 Carcinogenic Effects

No information is available regarding the carcinogenicity of aluminum to humans.

1.2 Susceptible Populations

The population that are unusually at risk for aluminum toxicity are individuals with renal failure (ATSDR, 2021).

1.3 Selection of Toxicity Reference Values

1.3.1 Acute Oral Exposure – Non-Carcinogenic Effects

No acute oral TRV is available. However, The ATSDR (2021) derived a subchronic TRV of 1 mg/kg-d based on a NOAEL of 26 mg/kg-d for neurological effects, neurodevelopmental effects, and delays in

maturation in mice that ingested aluminum lactate on gestational days 0–21 and during lactation until day 21, after which the pups were fed a diet containing the same levels of aluminum lactate as the dams on postnatal days 21–35 (Golub and Germann, 2001). An uncertainty factor of 100 (10 to account for the extrapolation from mice to humans and 10 for human variability) and a modifying factor of 0.3 (for possible differences in the bioavailability of the aluminum lactate and the bioavailability of aluminum from drinking water and diet) were applied.

1.3.2 Acute Inhalation Exposure – Non-Carcinogenic Effects

No acute VTR is available for exposure of aluminum by inhalation.

1.3.3 Chronic Oral Exposure – Non-Carcinogenic Effects

The ATSDR (2021) provides an oral RfD for non-carcinogenic effects from aluminum of 1 mg/kg-d based on a LOAEL of 100 mg/kg-d for decreased forelimb and hindlimb grip strength and decreased thermal sensitivity in mice that ingested aluminum lactate on gestation day 1 through 24 months of age (Golub et al., 2000). An uncertainty factor of 300 (3 for use of a minimal LOAEL, 10 for extrapolation from animals to humans, and 10 for human variability) and a modifying factor of 0.3 (for possible differences in the bioavailability of the aluminum lactate and the bioavailability of aluminum from drinking water and diet) were applied.

1.3.4 Chronic Inhalation Exposure – Non-Carcinogenic Effects

The USEPA (2021) provides an RfC for non-carcinogenic effects from aluminum of 0.005 mg/kg-d based on a LOAEL of 1.64 mg/m³ for psychomotor and cognitive impairment in human exposed by inhalation to aluminum for 12 years (Hosevski et al., 1990). An uncertainty factor of 300 (10 for intrahuman variability, 10 for use of a LOAEL and 3 for an incomplete database) was applied.

1.3.5 Oral Exposure – Carcinogenic Effects

No SF is available for oral exposure of aluminum.

1.3.6 Inhalation Exposure – Carcinogenic Effects

No UR is available for exposure by inhalation of aluminum.

1.3.7 Summary of Toxicity Reference Values

The TRVs selected for use in this assessment are presented in the table below.

	Acute oral TRV (mg/kg-d)	Acute inhalation TRV (mg/m³)	Chronic oral RfD (mg/kg-d)	Chronic inhalation RfC (mg/m³)	Oral SF $(mg/kg\text{-}d)^{-1}$	Inhalation UR $(mg/m^3)^{-1}$
Value	1	-	1	0.005	-	-
Reference	ATSDR (2021)	-	ATSDR (2021)	USEPA (2021)	-	-

1.4 References

ATSDR (Agency for Toxic Substances and Disease Registry). (2021). Agency for Toxic Substances and Disease Registry. Consulted at <http://www.atsdr.cdc.gov/>

Golub MS, Germann SL. (2001). Long-term consequences of developmental exposure to aluminum in a suboptimal diet for growth and behavior of Swiss Webster mice. Neurotoxicol Teratol 23(4):365-372.

Golub MS, Germann SL, Han B, et al. (2000). Lifelong feeding of a high aluminum diet to mice. Toxicology 150(1-3):107-117.

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2. Chromium

Elemental chromium does not occur in nature but is present in ores. Two oxidation states of chromium, chromium(III) and chromium(VI), are predominant and stable in the ambient environment.

2.1 Non-Carcinogenic Effects

2.1.1 Short-Term Exposure

Animals given lethal doses of chromium had hypoactivity, lacrimation, mydriasis, diarrhea, changes in body weight, pulmonary congestion, fluid in the stomach and intestine, and erosion and discoloration of the gastrointestinal mucosa (ORNL, 2020).

The inhalation of chromium can cause nasal ulcers and perforation of the nasal septum (ORNL, 2020).

Dermal exposure to chromium can induce dermatitis or the formation of lesions that, without treatment, can develop into deep ulcers or "chrome holes" (ORNL, 2020). The chrome holes usually heal when exposure ceases (ORNL, 2020).

2.1.2 Long-Term Exposure

No information is available regarding the chronic oral toxicity of chromium in humans. Animals appear to tolerate long-term oral exposure to chromium (ORNL, 2020).

Occupational exposure to chromium resulted in respiratory effects including respiratory tract lesions that ranged from nasal itching and soreness to septal ulcerations and perforations.

No information is available regarding the chronic toxicity of chromium in humans following exposure by dermal contact (ORNL, 2020).

2.2 Carcinogenic Effects

The International Agency for Research on Cancer (IARC) has determined that chromium(VI) compounds are carcinogenic to humans. Inhalation of chromium(VI) has been shown to cause lung cancer in workers (ATSDR, 2021).

2.3 Susceptible Populations

Acute studies suggest that female animals are more sensitive to the lethal effects of chromium(VI) (ATSDR, 2021). However, it's not known if human females are more sensitive than males to toxic effects of chromium(VI) (ATSDR, 2021). Some studies show that exposure to high doses during pregnancy may cause miscarriage, low birth weight, and some changes in development of the skeleton and reproductive system (ATSDR, 2021). Developmental effects in animals may be related, in part, to chromium toxicity in the mothers (ATSDR, 2021).

2.4 Selection of Toxicity Reference Values

2.4.1 Acute Oral Exposure – Non-Carcinogenic Effects

An acute oral TRV of 0.005 mg/kg-d was derived by ATSDR (2021) for chromium based on a BMDL of 0.52 mg/kg-d for hematological effects in rats who ingested sodium dichromate dihydrate for 22 days (NTP, 2008). An uncertainty factor of 100 (10 for extrapolation from animals to humans and 10 for human variability) was applied.

2.4.2 Acute Inhalation Exposure – Non-Carcinogenic Effects

No acute TRV for inhalation of chromium is available.

2.4.3 Chronic Oral Exposure – Non-Carcinogenic Effects

HC (2021) provides an oral RfD for non-carcinogenic effects from chromium of 0.0022 mg/kg-d based on a BMDL of 0.67 mg/kg-d for gastrointestinal toxicity in mice exposed orally during 2 years to sodium dichromate dehydrate (HC, 2016). An uncertainty factor of 25 (10 for intraspecies variability and 2.5 for pharmacodynamic interspecies differences) was applied.

2.4.4 Chronic Inhalation Exposure – Non-Carcinogenic Effects

A chronic inhalation TRV of 0.0004 mg/m³ was derived by HC (2021) for chromium based on a BMCL of 0.034 mg/m³ for respiratory tract toxicity in rats exposed to sodium dichromate for 30 to 90 days (USEPA, 1998). An uncertainty factor of 300 (10 for use of a subchronic study, 10 for intraspecies variability, and 3 for pharmacodynamic interspecies differences) was applied.

2.4.5 Oral Exposure – Carcinogenic Effects

A SF of 0.5 $(mg/kg\text{-}d)^{-1}$ was derived by Cal/EPA (2021) for chromium based on a LED of 1.2 mg/kg-d for small intestine cancer in mice exposed orally with sodium dichromate for 2 years (NTP, 2008).

2.4.6 Inhalation Exposure – Carcinogenic Effects

An UR of 76 $(mg/m^3)^{-1}$ was derived by HC (2021) for chromium based on a tolerable concentration of 0.66 µg/m³ for lung cancer in occupational exposure for 1 to 8 years (HC, 1996).

2.4.7 Summary of Toxicity Reference Values

The TRVs selected for use in this assessment are presented in the table below.

	Acute oral TRV (mg/kg-d)	Acute inhalation TRV (mg/m^3)	Chronic oral RfD (mg/kg-d)	Chronic inhalation RfC (mg/m^3)	Oral SF $(mg/kg\text{-}d)^{-1}$	Inhalation UR $(mg/m^3)^{-1}$
Value	0.005	-	0.0022	0.0001	0.5	76
Reference	ATSDR (2021)	-	HC (2021)	HC (2021)	Cal/EPA (2021)	HC (2021)

2.5 References

ATSDR (Agency for Toxic Substances and Disease Registry). (2021). Agency for Toxic Substances and Disease Registry. Consulted at <http://www.atsdr.cdc.gov/>

Cal/EPA (California Environmental Protection Agency). (2021). Office of Environmental Health Hazard Assessment Toxicity Criteria Database. Consulted at <http://www.oehha.ca.gov/risk/ChemicalDB/index.asp>

HC (Health Canada). (1996). Canadian Environmental Protection Act, Priority Substances List, Supporting Documentation: Health-Based Tolerable Daily Intakes/Concentrations and Tumourigenic Doses/Concentrations for Priority Substances (unedited version).

HC (Health Canada). (2016). Guidelines for Canadian Drinking Water Quality: Guideline Technical Document—Chromium. Catalogue No H144-36/2017E-PDF. Water and Air Quality Bureau, Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.

HC (Health Canada). (2021). Federal contaminated site risk assessment in Canada: Toxicological reference values (TRVs). Version 3.0. March 2021.

NTP. (2008). NTP technical report on the toxicology and carcinogenesis studies of sodium dichromate dihydrate (CAS No. 7789-12-0) in F344/N rats and B6C3F1 mice (drinking water studies). Washington, DC: National Toxicology Program. NTP TR 546. August 13, 2008.

ORNL (Oak Ridge National Laboratory). (2020). Risk Assessment Information System. Consulted at https://rais.ornl.gov/

USEPA (United States Environmental Protection Agency). (1998). Toxicological Review of Hexavalent Chromium in Support of Summary Information on the Integrated Risk Information System (IRIS). August 1998. US EPA, Washington, DC.

3. Lithium

Lithium is an alkali metal similar to magnesium and sodium in its properties. It does not occur in nature in its free form but is found in minerals. Lithium compounds are found in natural waters and in some foods.

3.1 Non-Carcinogenic Effects

3.1.1 Short-Term Exposure

In patients, a single large dose of lithium may result in vomiting and diarrhea and effects may occur hours or days later (ORNL, 2020). Effects of lithium toxicity include anorexia, nausea, diarrhea, alopecia, weight gain, thirst, pretibial edema, polyuria, glycosuria, aplastic anemia, tremors, acne, muscle spasm and hypothyroidism (ORNL, 2020).

The inhalation of chromium can cause eye and nasal irritation, coughing, pulmonary lesions as well as skin irritation (ORNL, 2020).

Dermal exposure to lithium can induce chemical burn and eyes irritation or injury (ORNL, 2020).

3.1.2 Long-Term Exposure

Neurologic effects occur during prolonged therapy and can also include effects on memory, motor activity, and associative productivity (ORNL, 2020). During chronic lithium therapy, severe toxic response may be preceded by vomiting, diarrhea, coarse tremors, slurred speech, sluggishness, sleepiness, and vertigo, followed by unconsciousness, muscular fasciculations, seizures, kidney damage, coma, shock, hypotension, and cardiac arrhythmias (ORNL, 2020). Effects of lithium on the thyroid, kidney, skin and vascular system may also occur (ORLN, 2020).

No information is available regarding the chronic toxicity of lithium in humans following exposure by inhalation (ORNL, 2020).

No information is available regarding the chronic toxicity of lithium in humans following exposure by dermal contact (ORNL, 2020).

3.2 Carcinogenic Effects

Little evidence suggests that inorganic or organic lithium compounds are carcinogenic in humans (ORNL, 2020). Some patients on lithium therapy developed leukemia and thyroid tumor (ORNL, 2020).

3.3 Selection of Toxicity Reference Values

3.3.1 Acute Oral Exposure – Non-Carcinogenic Effects

No acute oral TRV is available. However, a subchronic TRV of 0.002 mg/kg-d was derived by the USEPA (2021) for lithium based on a LOAEL of 2.1 mg/kg-d for several effects on organs and systems of human who ingested therapeutic serum. An uncertainty factor of 1000 (10 to extrapolate from a LOAEL to a NOAEL, 10 to protect susceptible individuals and 10 to account for database insufficiencies) was applied.

3.3.2 Acute Inhalation Exposure – Non-Carcinogenic Effects

No acute TRV for inhalation of lithium is available.

3.3.3 Chronic Oral Exposure – Non-Carcinogenic Effects

A chronic TRV of 0.002 mg/kg-d was derived by the USEPA (2021) for lithium based on a LOAEL of 2.1 mg/kg-d for several effects on organs and systems of human who ingested therapeutic serum. An uncertainty factor of 1000 (10 to extrapolate from a LOAEL to a NOAEL, 10 to protect susceptible individuals and 10 to account for database insufficiencies) was applied.

3.3.4 Chronic Inhalation Exposure – Non-Carcinogenic Effects

No chronic TRV for inhalation of lithium is available.

3.3.5 Oral Exposure – Carcinogenic Effects

No oral SF for lithium is available.

3.3.6 Inhalation Exposure – Carcinogenic Effects

No oral UR for lithium is available.

3.3.7 Summary of Toxicity Reference Values

The TRVs selected for use in this assessment are presented in the table below.

	Acute oral TRV (mg/kg-d)	Acute inhalation TRV (mg/m^3)	Chronic oral RfD (mg/kg-d)	Chronic inhalation RfC (mg/m^3)	Oral SF $(mg/kg\text{-}d)^{-1}$	Inhalation UR $(mg/m^3)^{-1}$
Value	0.002	-	Value	0.002	-	-
Reference	USEPA (2021)	-	Reference	USEPA (2021)	-	-

3.4 References

ORNL (Oak Ridge National Laboratory). (2020). Risk Assessment Information System. Consulted at https://rais.ornl.gov/

USEPA (United States Environmental Protection Agency). (2021). Provisional Peer Reviewed Toxicity Values for Superfund (PPRTV). Consulted at <https://hhpprtv.ornl.gov/>

Appendix E

Human Health Risk Calculations

Contaminant of potential human concern	Scenario 1 (baseline concentrations)									
	Concentration in the PA								Concentration in the village	
	Surface soil (Cs_{pa})	Outdoor air (Coa_{pa})	Surface water (Cw_{pa})	Sediment ($Csed_{pa}$)	Berries (Cb_{pa})	Fish fillets (Cf_{pa})	Hare meat (Ch_{pa})	Deer meat (Cd_{pa})	Surface soil (Cs_{v})	Outdoor air (Coa_{v})
	mg/kg	mg/m³	mg/L	mg/kg	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg	mg/m³
Inorganic substance										
Aluminum	9.89E+03	8.52E-05	4.30E-01	1.50E+04	3.90E+00	1.30E+00	7.60E-02	7.58E-01	9.92E+03	8.52E-05
Chromium	1.27E+01	1.55E-06	1.30E-03	2.40E+01	1.60E-01	2.50E-01	8.02E-04	1.64E-02	1.30E+01	1.55E-06
Lithium	8.40E+00	7.56E-08	0.00E+00	3.10E+01	1.70E-01	2.50E-01	0.00E+00	0.00E+00	9.30E+00	7.56E-08

Contaminant of potential human concern	Concentration south of the PA								Concentration at the employee accommodations
	Surface soil (Cs_s)	Outdoor air (Coa_s)	Surface water (Cw_s)	Sediment ($Csed_s$)	Berries (Cb_s)	Fish fillets (Cf_s)	Hare meat (Ch_s)	Deer meat (Cd_s)	Outdoor air (Coa_{ea})
	mg/kg	mg/m³	mg/L	mg/kg	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg FW	mg/m³
Inorganic substance									
Aluminum	8.76E+03	8.52E-05	4.30E-01	1.50E+04	3.90E+00	1.30E+00	6.77E-02	6.82E-01	8.52E-05
Chromium	1.30E+01	1.55E-06	1.30E-03	2.40E+01	1.60E-01	2.50E-01	8.10E-04	1.64E-02	1.55E-06
Lithium	8.40E+00	7.56E-08	0.00E+00	3.10E+01	1.70E-01	2.50E-01	0.00E+00	0.00E+00	7.56E-08

Contaminant of potential human concern	Scenario 2 (predicted total concentrations)									
	Concentration in the PA								Concentration in the village	
	Surface soil (Cs_{pa})	Outdoor air (Coa_{pa})	Surface water (Cw_{pa})	Sediment ($Csed_{pa}$)	Berries (Cb_{pa})	Fish fillets (Cf_{pa})	Hare meat (Ch_{pa})	Deer meat (Cd_{pa})	Surface soil (Cs_{v})	Outdoor air (Coa_{v})
	mg/kg	mg/m³	mg/L	mg/kg	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg	mg/m³
Inorganic substance										
Aluminum	1.45E+04	1.09E-04	4.30E-01	1.50E+04	7.90E+01	1.30E+00	1.69E-01	2.76E+00	9.92E+03	8.75E-05
Chromium	1.27E+01	1.58E-06	1.30E-03	2.40E+01	1.60E-01	2.50E-01	8.02E-04	1.64E-02	1.34E+01	1.55E-06
Lithium	9.61E+00	9.02E-08	0.00E+00	3.10E+01	1.70E-01	2.50E-01	1.37E-03	3.03E-02	9.31E+00	7.70E-08

Contaminant of potential human concern	Concentration south of the PA								Concentration at the employee accommodations
	Surface soil (Cs_s)	Outdoor air (Coa_s)	Surface water (Cw_s)	Sediment ($Csed_s$)	Berries (Cb_s)	Fish fillets (Cf_s)	Hare meat (Ch_s)	Deer meat (Cd_s)	Outdoor air (Coa_{ea})
	mg/kg	mg/m³	mg/L	mg/kg	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg FW	mg/m³
Inorganic substance									
Aluminum	8.76E+03	8.85E-05	4.30E-01	1.50E+04	6.40E+00	1.30E+00	6.96E-02	7.38E-01	1.09E-04
Chromium	1.30E+01	1.55E-06	1.30E-03	2.40E+01	1.60E-01	2.50E-01	8.10E-04	1.64E-02	1.58E-06
Lithium	8.43E+00	7.76E-08	0.00E+00	3.10E+01	1.70E-01	2.50E-01	1.31E-03	2.96E-02	9.02E-08

Contaminant of potential human concern	Scenario 3 (predicted total concentrations)									
	Concentration in the PA								Concentration in the village	
	Surface soil (Cs_{pa})	Outdoor air (Coa_{pa})	Surface water (Cw_{pa})	Sediment ($Csed_{pa}$)	Berries (Cb_{pa})	Fish fillets (Cf_{pa})	Hare meat (Ch_{pa})	Deer meat (Cd_{pa})	Surface soil (Cs_{v})	Outdoor air (Coa_{v})
	mg/kg	mg/m³	mg/L	mg/kg	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg	mg/m³
Inorganic substance										
Aluminum	3.66E+04	1.09E-04	1.99E-01	1.84E+04	8.26E+01	1.30E+00	3.34E-01	4.33E+00	9.92E+03	8.75E-05
Chromium	1.27E+01	1.58E-06	8.58E-04	2.40E+01	1.60E-01	2.50E-01	8.02E-04	1.64E-02	1.34E+01	1.55E-06
Lithium	1.31E+01	9.02E-08	1.43E-02	3.10E+01	1.70E-01	2.50E-01	1.55E-03	3.20E-02	9.31E+00	7.70E-08

Contaminant of potential human concern	Concentration south of the PA								Concentration at the employee accommodations
	Surface soil (Cs_s)	Outdoor air (Coa_s)	Surface water (Cw_s)	Sediment ($Csed_s$)	Berries (Cb_s)	Fish fillets (Cf_s)	Hare meat (Ch_s)	Deer meat (Cd_s)	Outdoor air (Coa_{ea})
	mg/kg	mg/m³	mg/L	mg/kg	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg FW	mg/m³
Inorganic substance									
Aluminum	8.76E+03	8.85E-05	1.99E-01	1.50E+04	6.40E+00	1.30E+00	6.96E-02	7.37E-01	1.09E-04
Chromium	1.30E+01	1.55E-06	8.58E-04	2.40E+01	1.60E-01	2.50E-01	8.10E-04	1.64E-02	1.58E-06
Lithium	8.43E+00	7.76E-08	7.85E-03	3.10E+01	1.70E-01	2.50E-01	1.31E-03	2.96E-02	9.02E-08

Contaminant of potential human concern	Scenario 4 (predicted total concentrations)									
	Concentration in the PA								Concentration in the village	
	Surface soil (Cs_{pa})	Outdoor air (Coa_{pa})	Surface water (Cw_{pa})	Sediment ($Csed_{pa}$)	Berries (Cb_{pa})	Fish fillets (Cf_{pa})	Hare meat (Ch_{pa})	Deer meat (Cd_{pa})	Surface soil (Cs_{v})	Outdoor air (Coa_{v})
	mg/kg	mg/m³	mg/L	mg/kg	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg	mg/m³
Inorganic substance										
Aluminum	4.18E+04	1.09E-04	2.66E-01	2.03E+04	8.34E+01	1.30E+00	3.73E-01	4.70E+00	9.92E+03	8.75E-05
Chromium	1.27E+01	1.58E-06	6.87E-04	2.40E+01	1.60E-01	2.50E-01	8.02E-04	1.64E-02	1.34E+01	1.55E-06
Lithium	1.35E+01	9.02E-08	1.47E-02	3.10E+01	1.70E-01	2.50E-01	1.57E-03	3.22E-02	9.31E+00	7.70E-08

Contaminant of potential human concern	Concentration south of the PA								Concentration at the employee accommodations
	Surface soil (Cs_s)	Outdoor air (Coa_s)	Surface water (Cw_s)	Sediment ($Csed_s$)	Berries (Cb_s)	Fish fillets (Cf_s)	Hare meat (Ch_s)	Deer meat (Cd_s)	Outdoor air (Coa_{ea})
	mg/kg	mg/m³	mg/L	mg/kg	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg FW	mg/m³
Inorganic substance									
Aluminum	8.76E+03	8.85E-05	2.66E-01	1.50E+04	6.40E+00	1.30E+00	6.96E-02	7.37E-01	1.09E-04
Chromium	1.30E+01	1.55E-06	6.87E-04	2.40E+01	1.60E-01	2.50E-01	8.10E-04	1.64E-02	1.58E-06
Lithium	8.43E+00	7.76E-08	7.85E-03	3.10E+01	1.70E-01	2.50E-01	1.31E-03	2.96E-02	9.02E-08

Contaminant of potential human concern	Scenario 5 (predicted total concentrations)									
	Concentration in the PA								Concentration in the village	
	Surface soil (Cs_{pa})	Outdoor air (Coa_{pa})	Surface water (Cw_{pa})	Sediment ($Csed_{pa}$)	Berries (Cb_{pa})	Fish fillets (Cf_{pa})	Hare meat (Ch_{pa})	Deer meat (Cd_{pa})	Surface soil (Cs_{v})	Outdoor air (Coa_{v})
	mg/kg	mg/m³	mg/L	mg/kg	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg	mg/m³
Inorganic substance										
Aluminum	4.18E+04	8.52E-05	3.61E-01	2.03E+04	6.74E+00	1.30E+00	3.13E-01	2.97E+00	9.92E+03	8.52E-05
Chromium	1.27E+01	1.55E-06	8.60E-04	2.40E+01	1.60E-01	2.50E-01	8.02E-04	1.64E-02	1.34E+01	1.55E-06
Lithium	1.35E+01	7.56E-08	1.47E-02	3.10E+01	1.70E-01	2.50E-01	1.57E-03	3.22E-02	9.31E+00	7.56E-08

Contaminant of potential human concern	Concentration south of the PA								Concentration at the employee accommodations
	Surface soil (Cs_s)	Outdoor air (Coa_s)	Surface water (Cw_s)	Sediment ($Csed_s$)	Berries (Cb_s)	Fish fillets (Cf_s)	Hare meat (Ch_s)	Deer meat (Cd_s)	Outdoor air (Coa_{ea})
	mg/kg	mg/m³	mg/L	mg/kg	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg FW	mg/m³
Inorganic substance									
Aluminum	8.76E+03	8.52E-05	3.61E-01	1.50E+04	3.90E+00	1.30E+00	6.77E-02	6.82E-01	8.52E-05
Chromium	1.30E+01	1.55E-06	8.60E-04	2.40E+01	1.60E-01	2.50E-01	8.10E-04	1.64E-02	1.55E-06
Lithium	8.43E+00	7.56E-08	7.85E-03	3.10E+01	1.70E-01	2.50E-01	1.31E-03	2.96E-02	7.56E-08

Contaminant of potential human concern	Scenario 2 (predicted incremental concentrations)									
	Concentration in the PA								Concentration in the village	
	Surface soil (Cs_{pa})	Outdoor air (Coa_{pa})	Surface water (Cw_{pa})	Sediment ($Csed_{pa}$)	Berries (Cb_{pa})	Fish fillets (Cf_{pa})	Hare meat (Ch_{pa})	Deer meat (Cd_{pa})	Surface soil (Cs_{v})	Outdoor air (Coa_{v})
	mg/kg	mg/m³	mg/L	mg/kg	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg	mg/m³
Inorganic substance										
Aluminum	4.61E+03	2.40E-05	0.00E+00	0.00E+00	7.51E+01	0.00E+00	9.25E-02	2.00E+00	0.00E+00	2.25E-06
Chromium	1.00E-02	2.66E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.29E-07	-1.49E-05	4.00E-01	2.50E-09
Lithium	1.21E+00	1.46E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-03	3.03E-02	1.00E-02	1.37E-09

Contaminant of potential human concern	Concentration south of the PA								Concentration at the employee accommodations
	Surface soil (Cs_s)	Outdoor air (Coa_s)	Surface water (Cw_s)	Sediment ($Csed_s$)	Berries (Cb_s)	Fish fillets (Cf_s)	Hare meat (Ch_s)	Deer meat (Cd_s)	Outdoor air (Coa_{ea})
	mg/kg	mg/m³	mg/L	mg/kg	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg FW	mg/m³
Inorganic substance									
Aluminum	0.00E+00	3.30E-06	0.00E+00	0.00E+00	2.50E+00	0.00E+00	1.91E-03	5.62E-02	2.40E-05
Chromium	0.00E+00	3.66E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.66E-08
Lithium	3.00E-02	2.01E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.31E-03	2.96E-02	1.46E-08

Contaminant of potential human concern	Scenario 3 (predicted incremental concentrations)									
	Concentration in the PA								Concentration in the village	
	Surface soil (Cs_{pa})	Outdoor air (Coa_{pa})	Surface water (Cw_{pa})	Sediment ($Csed_{pa}$)	Berries (Cb_{pa})	Fish fillets (Cf_{pa})	Hare meat (Ch_{pa})	Deer meat (Cd_{pa})	Surface soil (Cs_{v})	Outdoor air (Coa_{v})
	mg/kg	mg/m³	mg/L	mg/kg	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg	mg/m³
Inorganic substance										
Aluminum	2.67E+04	2.40E-05	-2.31E-01	3.36E+03	7.87E+01	0.00E+00	2.58E-01	3.57E+00	0.00E+00	2.25E-06
Chromium	1.00E-02	2.66E-08	-4.42E-04	0.00E+00	0.00E+00	0.00E+00	-4.29E-07	-1.49E-05	4.00E-01	2.50E-09
Lithium	4.69E+00	1.46E-08	1.43E-02	0.00E+00	0.00E+00	0.00E+00	1.55E-03	3.20E-02	1.00E-02	1.37E-09

Contaminant of potential human concern	Concentration south of the PA								Concentration at the employee accommodations
	Surface soil (Cs_s)	Outdoor air (Coa_s)	Surface water (Cw_s)	Sediment ($Csed_s$)	Berries (Cb_s)	Fish fillets (Cf_s)	Hare meat (Ch_s)	Deer meat (Cd_s)	Outdoor air (Coa_{ea})
	mg/kg	mg/m³	mg/L	mg/kg	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg FW	mg/m³
Inorganic substance									
Aluminum	0.00E+00	3.30E-06	-2.31E-01	0.00E+00	2.50E+00	0.00E+00	1.90E-03	5.46E-02	2.40E-05
Chromium	0.00E+00	3.66E-09	-4.42E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.66E-08
Lithium	3.00E-02	2.01E-09	7.85E-03	0.00E+00	0.00E+00	0.00E+00	1.31E-03	2.96E-02	1.46E-08

Contaminant of potential human concern	Scenario 4 (predicted incremental concentrations)									
	Concentration in the PA								Concentration in the village	
	Surface soil (Cs_{pa})	Outdoor air (Coa_{pa})	Surface water (Cw_{pa})	Sediment ($Csed_{pa}$)	Berries (Cb_{pa})	Fish fillets (Cf_{pa})	Hare meat (Ch_{pa})	Deer meat (Cd_{pa})	Surface soil (Cs_{v})	Outdoor air (Coa_{v})
	mg/kg	mg/m³	mg/L	mg/kg	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg	mg/m³
Inorganic substance										
Aluminum	3.19E+04	2.40E-05	-1.64E-01	5.25E+03	7.95E+01	0.00E+00	2.97E-01	3.94E+00	0.00E+00	2.25E-06
Chromium	1.00E-02	2.66E-08	-6.13E-04	0.00E+00	0.00E+00	0.00E+00	-4.29E-07	-1.49E-05	4.00E-01	2.50E-09
Lithium	5.11E+00	1.46E-08	1.47E-02	0.00E+00	0.00E+00	0.00E+00	1.57E-03	3.22E-02	1.00E-02	1.37E-09

Contaminant of potential human concern	Concentration south of the PA								Concentration at the employee accommodations
	Surface soil (Cs_s)	Outdoor air (Coa_s)	Surface water (Cw_s)	Sediment ($Csed_s$)	Berries (Cb_s)	Fish fillets (Cf_s)	Hare meat (Ch_s)	Deer meat (Cd_s)	Outdoor air (Coa_{ea})
	mg/kg	mg/m³	mg/L	mg/kg	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg FW	mg/m³
Inorganic substance									
Aluminum	0.00E+00	3.30E-06	-1.64E-01	0.00E+00	2.50E+00	0.00E+00	1.92E-03	5.51E-02	2.40E-05
Chromium	0.00E+00	3.66E-09	-6.13E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.66E-08
Lithium	3.00E-02	2.01E-09	7.85E-03	0.00E+00	0.00E+00	0.00E+00	1.31E-03	2.96E-02	1.46E-08

Contaminant of potential human concern	Scenario 5 (predicted total concentrations)									
	Concentration in the PA								Concentration in the village	
	Surface soil (Cs_{pa})	Outdoor air (Coa_{pa})	Surface water (Cw_{pa})	Sediment ($Csed_{pa}$)	Berries (Cb_{pa})	Fish fillets (Cf_{pa})	Hare meat (Ch_{pa})	Deer meat (Cd_{pa})	Surface soil (Cs_{v})	Outdoor air (Coa_{v})
	mg/kg	mg/m³	mg/L	mg/kg	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg	mg/m³
Inorganic substance										
Aluminum	3.19E+04	0.00E+00	-6.93E-02	5.25E+03	2.84E+00	0.00E+00	2.37E-01	2.22E+00	0.00E+00	0.00E+00
Chromium	1.00E-02	0.00E+00	-4.40E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.00E-01	0.00E+00
Lithium	5.11E+00	0.00E+00	1.47E-02	0.00E+00	0.00E+00	0.00E+00	1.57E-03	3.22E-02	1.00E-02	0.00E+00

Contaminant of potential human concern	Concentration south of the PA								Concentration at the employee accommodations
	Surface soil (Cs_s)	Outdoor air (Coa_s)	Surface water (Cw_s)	Sediment ($Csed_s$)	Berries (Cb_s)	Fish fillets (Cf_s)	Hare meat (Ch_s)	Deer meat (Cd_s)	Outdoor air (Coa_{ea})
	mg/kg	mg/m³	mg/L	mg/kg	mg/kg FW	mg/kg FW	mg/kg FW	mg/kg FW	mg/m³
Inorganic substance									
Aluminum	0.00E+00	0.00E+00	-6.93E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chromium	0.00E+00	0.00E+00	-4.40E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lithium	3.00E-02	0.00E+00	7.85E-03	0.00E+00	0.00E+00	0.00E+00	1.31E-03	2.96E-02	0.00E+00

Contaminant of potential human concern	Oral absolute absorption factor AAForal (unitless)	Reference	Oral relative absorption factor RAForal (unitless)	Relative absorption factor by inhalation RAFinh (unitless)	Skin relative absorption factor RAFderm (unitless)	Reference	Water permeability coefficient Kp_w (cm/hr)	Reference	Mutagenic substance (yes/no)	Reference
Inorganic substance										
Aluminum	1	8	1	1	0.01	16 and 8	1.00E-03	NA	NA	NA
Chromium	0.013	8	1	1	0.1	7	1.00E-03	3	yes	1
Lithium	1	8	1	1	0.01	16 and 8	1.00E-03	NA	NA	NA

NA: Not applicable

Contaminant of potential human concern	Infant				Toddler				Children			
	Oral reference dose (RfDoral)	Inhalation reference concentration for inhalation (RfCinh)	Oral slope factor (SForal)	Inhalation unit risk (URinh)	Oral reference dose (RfDoral)	Inhalation reference concentration for inhalation (RfCinh)	Oral slope factor (SForal)	Inhalation unit risk (URinh)	Oral reference dose (RfDoral)	Inhalation reference concentration for inhalation (RfCinh)	Oral slope factor (SForal)	Inhalation unit risk (URinh)
	mg/kg-d	mg/m^3	$(mg/kg\text{-}d)^{-1}$	$(mg/m^3)^{-1}$	mg/kg-d	mg/m^3	$(mg/kg\text{-}d)^{-1}$	$(mg/m^3)^{-1}$	mg/kg-d	mg/m^3	$(mg/kg\text{-}d)^{-1}$	$(mg/m^3)^{-1}$
Inorganic substance												
Aluminum	1.00E+00	5.00E-03	ND	ND	1.00E+00	5.00E-03	ND	ND	1.00E+00	5.00E-03	ND	ND
Chromium	2.20E-03	1.00E-04	5.00E-01	7.60E+01	2.20E-03	1.00E-04	5.00E-01	7.60E+01	2.20E-03	1.00E-04	5.00E-01	7.60E+01
Lithium	2.00E-03	ND	ND	ND	2.00E-03	ND	ND	ND	2.00E-03	ND	ND	ND

NA: Not applicable
ND: Not available

Contaminant of potential human concern	Teen				Adult				Woman			
	Oral reference dose (RfDoral)	Inhalation reference concentration for inhalation (RfCinh)	Oral slope factor (SForal)	Inhalation unit risk (URinh)	Oral reference dose (RfDoral)	Inhalation reference concentration for inhalation (RfCinh)	Oral slope factor (SForal)	Inhalation unit risk (URinh)	Oral reference dose (RfDoral)	Inhalation reference concentration for inhalation (RfCinh)	Oral slope factor (SForal)	Inhalation unit risk (URinh)
	mg/kg-d	mg/m^3	$(mg/kg\text{-}d)^{-1}$	$(mg/m^3)^{-1}$	mg/kg-d	mg/m^3	$(mg/kg\text{-}d)^{-1}$	$(mg/m^3)^{-1}$	mg/kg-d	mg/m^3	$(mg/kg\text{-}d)^{-1}$	$(mg/m^3)^{-1}$
Inorganic substance												
Aluminum	1.00E+00	5.00E-03	ND	ND	1.00E+00	5.00E-03	ND	ND	1.00E+00	5.00E-03	ND	ND
Chromium	2.20E-03	1.00E-04	5.00E-01	7.60E+01	2.20E-03	1.00E-04	5.00E-01	7.60E+01	2.20E-03	1.00E-04	5.00E-01	7.60E+01
Lithium	2.00E-03	ND	ND	ND	2.00E-03	ND	ND	ND	2.00E-03	ND	ND	ND

NA: Not applicable
ND: Not available

Contaminant of potential human concern	Reference			
	Oral reference dose (RfDoral)	Inhalation reference concentration for inhalation (RfCinh)	Oral slope factor (SForal)	Inhalation unit risk (URinh)
Inorganic substance				
Aluminum	1	15	NA	NA
Chromium	7	7	2	7
Lithium	15	NA	NA	NA

NA: Not applicable
ND: Not available

Contaminant of potential human concern	Infant		Toddler		Children		Teen		Adult		Woman		Reference	
	Oral reference dose (RfDoral)	Inhalation reference concentration for inhalation (RfCinh)	Oral reference dose (RfDoral)	Inhalation reference concentration for inhalation (RfCinh)	Oral reference dose (RfDoral)	Inhalation reference concentration for inhalation (RfCinh)	Oral reference dose (RfDoral)	Inhalation reference concentration for inhalation (RfCinh)	Oral reference dose (RfDoral)	Inhalation reference concentration for inhalation (RfCinh)	Oral reference dose (RfDoral)	Inhalation reference concentration for inhalation (RfCinh)	Oral reference dose (RfDoral)	Inhalation reference concentration for inhalation (RfCinh)
	mg/kg-d	mg/m³	mg/kg-d	mg/m³	mg/kg-d	mg/m³	mg/kg-d	mg/m³	mg/kg-d	mg/m³	mg/kg-d	mg/m³		
Inorganic substance														
Aluminum	1.00E+00	ND	1.00E+00	ND	1.00E+00	ND	1.00E+00	ND	1.00E+00	ND	1.00E+00	ND	1	NA
Chromium	5.00E-03	ND	5.00E-03	ND	5.00E-03	ND	5.00E-03	ND	5.00E-03	ND	5.00E-03	ND	1	NA
Lithium	2.00E-03	ND	2.00E-03	ND	2.00E-03	ND	2.00E-03	ND	2.00E-03	ND	2.00E-03	ND	15	NA

NA: Not applicable
ND: Not available

Calculated dose			Equation*	Reference
Media i ingestion	mg/kg-d	1	$Doral_i = \frac{Ci \times IRi \times Tdi \times Ty \times RAForal}{BW}$	4
Total for ingestion	mg/kg-d	2	$Doral_{tot} = \sum_i Doral$	4
Outdoor air i inhalation	mg/kg-d	3	$Dinh_i = \frac{Coa_i \times InhR \times Tdi \times Th_i \times Ty \times RAFinh}{BW}$	4
Total for inhalation	mg/kg-d	4	$Dinh_{tot} = \sum_i Dinh$	4
Dermal contact with soil i	mg/kg-d	5	$Dderm_{s.i} = \frac{[(Cs_i \times SAh \times SLh)+(Cs_i \times SAal \times SLal)] \times RAFderm \times Tdi \times Ty \times FEi}{BW}$	4
Dermal contact with surface water i	mg/kg-d	6	$Dderm_{w.i} = \frac{Cw_i \times Kp_W \times SA \times Td_i \times Th_i \times Ty \times 0{,}001}{BW \times AAForal}$	11
Dermal contact with sediment i	mg/kg-d	7	$Dderm_{sed.i} = \frac{Csed_i \times (SAh \times SedLh + SAfo \times SedLfo + SAl \times SedLl + SAfe \times SedLfe) \times RAFderm \times Tdi \times Ty \times FEi}{BW}$	6
Total for dermal contact	mg/kg-d	8	$Dderm_{tot} = \sum_i Dderm$	4
Oral equivalent dose	mg/kg-d	9	$Deq = Ding_{tot} + Dinh_{tot} + Dderm_{tot}$ or $Deq = Ding_{tot} + Dderm_{tot}$	NA
Calculated average daily air concentrations corrected as a function of time			**Equation***	**Reference**
Outdoor air i	mg/m³	10	$TAADCoa_i = Coa_i \times RAFinh \times Th_i \times Td_i \times Ty$	4
Total outdoor air	mg/m³	11	$TAADCoa_{tot} = \sum_i TAADCoa$	4
Calculated hazard quotient			**Equation***	**Reference**
Oral	unitless	12	$HQoral_i = \frac{Doral_i}{RFDoral}$	4
Inhalation	unitless	13	$HQinh_i = \frac{TAADCoa_i}{CfDinh}$ or $\frac{Dinh_i}{RFDoral}$	4
Dermal contact	unitless	14	$HQderm_i = \frac{Dderm_i}{RFDoral}$	4
Oral equivalent	unitless	15	$HQeq = \frac{Deq}{RFDoral}$	4
Calculated Incremental lifetime cancer risk			**Equation***	**Reference**
Oral	unitless	16	$ILCRoral = Doral_i \times SForal \times ADAF$	5
Inhalation	unitless	17	$ILCRinh = TAADCoa_i \times URinh \times ADAF$ or $ILCRinh = Dinh_i \times SForal \times ADAF$	5
Dermal contact	unitless	18	$ILCRderm = Dderm_i \times SForal \times ADAF$	5
Oral equivalent	unitless	19	$ILCReq = Deq \times SForal \times ADAF$	5
Sum of each age group i	unitless	20	$\sum_i ILCReq$ / $\sum_i ILCRinh$	5

NA: Not applicable

*The parameters of the equations are presented in the other tables.

Table E.7 References

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16	USEPA (United States Environmental Protection Agency). (2021). Assessing Dermal Exposure from Soil. Region 3 Technical Guidance Manual, Risk Assessment. Consulted at <https://www.epa.gov/risk/assessing-dermal-exposure-soil>
17	WHO (World Health Organization). (2021). World Health Organization. Consulted at <http://www.who.int>

Caracteristics		Scenario 1A						Scenario 1B					
		Infant	Toddler	Children	Teen	Adult	Woman	Infant	Toddler	Children	Teen	Adult	Woman
Daily proportion of hours exposed to outdoor air in the PA	$Thoa_{pa}$ (unitless)	0.42	0.42	0.42	0.42	0.42	0.42	0.00	0.00	0.00	0.00	0.00	0.00
Hours per day exposed to surface water in the PA	Thw_{pa} (hr/d)	2.5	2.5	2.5	2.5	2.3	2.0	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to soil in the PA	Tds_{pa} (unitless)	0.18	0.18	0.18	0.18	0.18	0.18	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to outdoor air in the PA	$Tdoa_{pa}$ (unitless)	0.18	0.18	0.18	0.18	0.18	0.18	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to surface water and sediment in the PA	$Tdwsed_{pa}$ (unitless)	0.18	0.18	0.18	0.18	0.18	0.18	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to soil, outdoor air, surface water and sediment in the PA - COPCs with developmental effects	Td_{pa} (unitless)	0.29	0.29	0.29	0.29	0.29	0.29	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to country food in the PA	Tdf_{pa} (unitless)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily proportion of hours exposed to outdoor air in the village	$Thoa_{v}$ (unitless)	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.02
Annual proportion of days exposed to soil in the village	Tds_{v} (unitless)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Annual proportion of days exposed to outdoor air in the village	$Tdoa_{v}$ (unitless)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Daily proportion of hours exposed to outdoor air south of the PA	$Thoa_{s}$ (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.42	0.42	0.42	0.42	0.42
Hours per day exposed to surface water south of the PA	Thw_{s} (hr/d)	0.00	0.00	0.00	0.00	0.00	0.00	2.50	2.50	2.50	2.50	2.28	1.95
Annual proportion of days exposed to soil, outdoor air, surface water and sediment south of the PA	Td_{s} (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.18	0.18	0.18	0.18	0.18
Annual proportion of days exposed to soil, outdoor air, surface water and sediment south of the PA - COPCs with developmental effects	Td_{s} (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.29	0.29	0.29	0.29	0.29
Annual proportion of days exposed to country food south of the PA	Tdf_{s} (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Lifetime proportion of years exposed (cancer)	Ty (unitless)	0.01	0.06	0.09	0.10	0.75	0.75	0.01	0.06	0.09	0.10	0.75	0.75
Frequency of dermal exposure to soil and sediment in the PA	FEpa (event/d)	1	1	1	1	1	1	0	0	0	0	0	0
Frequency of dermal exposure to soil in the village	FEv (event/d)	1	1	1	1	1	1	1	1	1	1	1	1
Frequency of dermal exposure to soil and sediment south of the PA	FEs (event/d)	0	0	0	0	0	0	1	1	1	1	1	1
Body weight	BW (kg)	8.2	16.5	32.9	59.7	70.7	70.7	8.2	16.5	32.9	59.7	70.7	70.7
Soil ingestion rate	IRs (kg/d)	0.00002	0.00008	0.00002	0.00002	0.00002	0.00002	0.00002	0.00008	0.00002	0.00002	0.00002	0.00002
Sediment ingestion rate	IRsed (kg/d)	0.000019	0.000019	0.000019	0.000019	0.000018	0.000015	0.000019	0.000019	0.000019	0.000019	0.000018	0.000015
Berry ingestion rate	IRb (kg FW/d)	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091
Fish fillet ingestion rate	IRf (kg FW/d)	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020
Hare meat ingestion rate	IRh (kg FW/d)	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Deer meat ingestion rate	IRd (kg FW/d)	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011
Surface water ingestion rate	IRw (L/d)	0.13	0.13	0.13	0.063	0.029	0.024	0.13	0.13	0.13	0.063	0.029	0.024
Inhalation rate	InhR (m^3/d)	2.2	8.3	14.5	15.6	16.6	16.6	2.2	8.3	14.5	15.6	16.6	16.6
Skin surface area	SA (cm^2)	3620	6130	10140	15470	17640	17640	3620	6130	10140	15470	17640	17640
- hands	SAh (cm^2)	320	430	590	800	890	890	320	430	590	800	890	890
- arms	SAa (cm^2)	550	890	1480	2230	2500	2500	550	890	1480	2230	2500	2500
- forearms	SAfo (cm^2)	275	450	740	1120	1250	1250	275	450	740	1120	1250	1250
- legs	SAl (cm^2)	910	1690	3070	4970	5720	5720	910	1690	3070	4970	5720	5720
- feet	SAfe (cm^2)	250	430	720	1080	1190	1190	250	430	720	1080	1190	1190
- arms and legs	SAal (cm^2)	1460	2580	4550	7200	8220	8220	1460	2580	4550	7200	8220	8220
Soil loading to exposed skin - hands	SLh (kg/cm^2/event)	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07
Soil loading to exposed skin - arms and legs	SLal (kg/cm^2/event)	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08
Sediment loading to exposed skin - hands	SedLh (kg/cm^2/event)	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07
Sediment loading to exposed skin - forearms	SedLfo (kg/cm^2/event)	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07
Sediment loading to exposed skin - legs	SedLl (kg/cm^2/event)	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07
Sediment loading to exposed skin - feet	SedLfe (kg/cm^2/event)	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05
Interim age-dependent adjustment factors for cancer effects via a mutagenic mode of action	ADAF (unitless)	10	5	3	2	1	1	10	5	3	2	1	1

NA: Not applicable

Caracteristics		Scenario 2						Scenario 3					
		Infant	Toddler	Children	Teen	Adult	Woman	Infant	Toddler	Children	Teen	Adult	Woman
Daily proportion of hours exposed to outdoor air in the PA	$Thoa_{pa}$ (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hours per day exposed to surface water in the PA	Thw_{pa} (hr/d)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Annual proportion of days exposed to soil in the PA	Tds_{pa} (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to outdoor air in the PA	$Tdoa_{pa}$ (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to surface water and sediment in the PA	$Tdwsed_{pa}$ (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to soil, outdoor air, surface water and sediment in the PA - COPCs with developmental effects	Td_{pa} (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to country food in the PA	Tdf_{pa} (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily proportion of hours exposed to outdoor air in the village	$Thoa_{v}$ (unitless)	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.02
Annual proportion of days exposed to soil in the village	Tds_{v} (unitless)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Annual proportion of days exposed to outdoor air in the village	$Tdoa_{v}$ (unitless)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Daily proportion of hours exposed to outdoor air south of the PA	$Thoa_{s}$ (unitless)	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Hours per day exposed to surface water south of the PA	Thw_{s} (hr/d)	2.50	2.50	2.50	2.50	2.28	1.95	2.50	2.50	2.50	2.50	2.28	1.95
Annual proportion of days exposed to soil, outdoor air, surface water and sediment south of the PA	Td_{s} (unitless)	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Annual proportion of days exposed to soil, outdoor air, surface water and sediment south of the PA - COPCs with developmental effects	Td_{s} (unitless)	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
Annual proportion of days exposed to country food south of the PA	Tdf_{s} (unitless)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lifetime proportion of years exposed (cancer)	Ty (unitless)	0.01	0.03	0.03	0.03	0.03	0.03	0.01	0.06	0.09	0.10	0.14	0.14
Frequency of dermal exposure to soil and sediment in the PA	FEpa (event/d)	0	0	0	0	0	0	0	0	0	0	0	0
Frequency of dermal exposure to soil in the village	FEv (event/d)	1	1	1	1	1	1	1	1	1	1	1	1
Frequency of dermal exposure to soil and sediment south of the PA	FEs (event/d)	1	1	1	1	1	1	1	1	1	1	1	1
Body weight	BW (kg)	8.2	16.5	32.9	59.7	70.7	70.7	8.2	16.5	32.9	59.7	70.7	70.7
Soil ingestion rate	IRs (kg/d)	0.00002	0.00008	0.00002	0.00002	0.00002	0.00002	0.00002	0.00008	0.00002	0.00002	0.00002	0.00002
Sediment ingestion rate	IRsed (kg/d)	0.000019	0.000019	0.000019	0.000019	0.000018	0.000015	0.000019	0.000019	0.000019	0.000019	0.000018	0.000015
Berry ingestion rate	IRb (kg FW/d)	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091
Fish fillet ingestion rate	IRf (kg FW/d)	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020
Hare meat ingestion rate	IRh (kg FW/d)	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Deer meat ingestion rate	IRd (kg FW/d)	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011
Surface water ingestion rate	IRw (L/d)	0.13	0.13	0.13	0.063	0.029	0.024	0.13	0.13	0.13	0.063	0.029	0.024
Inhalation rate	InhR (m^3/d)	2.2	8.3	14.5	15.6	16.6	16.6	2.2	8.3	14.5	15.6	16.6	16.6
Skin surface area	SA (cm^2)	3620	6130	10140	15470	17640	17640	3620	6130	10140	15470	17640	17640
- hands	SAh (cm^2)	320	430	590	800	890	890	320	430	590	800	890	890
- arms	SAa (cm^2)	550	890	1480	2230	2500	2500	550	890	1480	2230	2500	2500
- forearms	SAfo (cm^2)	275	450	740	1120	1250	1250	275	450	740	1120	1250	1250
- legs	SAl (cm^2)	910	1690	3070	4970	5720	5720	910	1690	3070	4970	5720	5720
- feet	SAfe (cm^2)	250	430	720	1080	1190	1190	250	430	720	1080	1190	1190
- arms and legs	SAal (cm^2)	1460	2580	4550	7200	8220	8220	1460	2580	4550	7200	8220	8220
Soil loading to exposed skin - hands	SLh (kg/cm^2/event)	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07
Soil loading to exposed skin - arms and legs	SLal (kg/cm^2/event)	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08
Sediment loading to exposed skin - hands	SedLh (kg/cm^2/event)	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07
Sediment loading to exposed skin - forearms	SedLfo (kg/cm^2/event)	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07
Sediment loading to exposed skin - legs	SedLl (kg/cm^2/event)	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07
Sediment loading to exposed skin - feet	SedLfe (kg/cm^2/event)	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05
Interim age-dependent adjustment factors for cancer effects via a mutagenic mode of action	ADAF (unitless)	10	5	3	2	1	1	10	5	3	2	1	1

NA: Not applicable

Caracteristics		Scenario 4						Scenario 5					
		Infant	Toddler	Children	Teen	Adult	Woman	Infant	Toddler	Children	Teen	Adult	Woman
Daily proportion of hours exposed to outdoor air in the PA	$Thoa_{pa}$ (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.42	0.42	0.42	0.42	0.42
Hours per day exposed to surface water in the PA	Thw_{pa} (hr/d)	0.0	0.0	0.0	0.0	0.0	0.0	2.5	2.5	2.5	2.5	2.3	2.0
Annual proportion of days exposed to soil in the PA	Tds_{pa} (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.18	0.18	0.18	0.18	0.18
Annual proportion of days exposed to outdoor air in the PA	$Tdoa_{pa}$ (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.18	0.18	0.18	0.18	0.18
Annual proportion of days exposed to surface water and sediment in the PA	$Tdwsed_{pa}$ (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.18	0.18	0.18	0.18	0.18
Annual proportion of days exposed to soil, outdoor air, surface water and sediment in the PA - COPCs with developmental effects	Td_{pa} (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.29	0.29	0.29	0.29	0.29
Annual proportion of days exposed to country food in the PA	Tdf_{pa} (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Daily proportion of hours exposed to outdoor air in the village	$Thoa_{v}$ (unitless)	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.02
Annual proportion of days exposed to soil in the village	Tds_{v} (unitless)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Annual proportion of days exposed to outdoor air in the village	$Tdoa_{v}$ (unitless)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Daily proportion of hours exposed to outdoor air south of the PA	$Thoa_{s}$ (unitless)	0.42	0.42	0.42	0.42	0.42	0.42	0.00	0.00	0.00	0.00	0.00	0.00
Hours per day exposed to surface water south of the PA	Thw_{s} (hr/d)	2.50	2.50	2.50	2.50	2.28	1.95	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to soil, outdoor air, surface water and sediment south of the PA	Td_{s} (unitless)	0.18	0.18	0.18	0.18	0.18	0.18	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to soil, outdoor air, surface water and sediment south of the PA - COPCs with developmental effects	Td_{s} (unitless)	0.29	0.29	0.29	0.29	0.29	0.29	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to country food south of the PA	Tdf_{s} (unitless)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Lifetime proportion of years exposed (cancer)	Ty (unitless)	0.01	0.04	0.04	0.04	0.04	0.04	0.01	0.06	0.09	0.10	0.75	0.75
Frequency of dermal exposure to soil and sediment in the PA	FEpa (event/d)	0	0	0	0	0	0	1	1	1	1	1	1
Frequency of dermal exposure to soil in the village	FEv (event/d)	1	1	1	1	1	1	1	1	1	1	1	1
Frequency of dermal exposure to soil and sediment south of the PA	FEs (event/d)	1	1	1	1	1	1	0	0	0	0	0	0
Body weight	BW (kg)	8.2	16.5	32.9	59.7	70.7	70.7	8.2	16.5	32.9	59.7	70.7	70.7
Soil ingestion rate	IRs (kg/d)	0.00002	0.00008	0.00002	0.00002	0.00002	0.00002	0.00002	0.00008	0.00002	0.00002	0.00002	0.00002
Sediment ingestion rate	IRsed (kg/d)	0.000019	0.000019	0.000019	0.000019	0.000018	0.000015	0.000019	0.000019	0.000019	0.000019	0.000018	0.000015
Berry ingestion rate	IRb (kg FW/d)	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091
Fish fillet ingestion rate	IRf (kg FW/d)	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020
Hare meat ingestion rate	IRh (kg FW/d)	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Deer meat ingestion rate	IRd (kg FW/d)	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011
Surface water ingestion rate	IRw (L/d)	0.13	0.13	0.13	0.063	0.029	0.024	0.13	0.13	0.13	0.063	0.029	0.024
Inhalation rate	InhR (m^3/d)	2.2	8.3	14.5	15.6	16.6	16.6	2.2	8.3	14.5	15.6	16.6	16.6
Skin surface area	SA (cm^2)	3620	6130	10140	15470	17640	17640	3620	6130	10140	15470	17640	17640
- hands	SAh (cm^2)	320	430	590	800	890	890	320	430	590	800	890	890
- arms	SAa (cm^2)	550	890	1480	2230	2500	2500	550	890	1480	2230	2500	2500
- forearms	SAfo (cm^2)	275	450	740	1120	1250	1250	275	450	740	1120	1250	1250
- legs	SAl (cm^2)	910	1690	3070	4970	5720	5720	910	1690	3070	4970	5720	5720
- feet	SAfe (cm^2)	250	430	720	1080	1190	1190	250	430	720	1080	1190	1190
- arms and legs	SAal (cm^2)	1460	2580	4550	7200	8220	8220	1460	2580	4550	7200	8220	8220
Soil loading to exposed skin - hands	SLh (kg/cm^2/event)	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07
Soil loading to exposed skin - arms and legs	SLal (kg/cm^2/event)	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08
Sediment loading to exposed skin - hands	SedLh (kg/cm^2/event)	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07
Sediment loading to exposed skin - forearms	SedLfo (kg/cm^2/event)	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07
Sediment loading to exposed skin - legs	SedLl (kg/cm^2/event)	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07
Sediment loading to exposed skin - feet	SedLfe (kg/cm^2/event)	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05
Interim age-dependent adjustment factors for cancer effects via a mutagenic mode of action	ADAF (unitless)	10	5	3	2	1	1	10	5	3	2	1	1

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 1A																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Dorals_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Dorals_{b,pa}$)	Fish fillets in the PA ($Dorals_{f,pa}$)	Hare meat in the PA ($Dorals_{h,pa}$)	Deer meat in the PA ($Dorals_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Dorals_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Dorals_{b,s}$)	Fish fillets south of the PA ($Dorals_{f,s}$)	Hare meat south of the PA ($Dorals_{h,s}$)	Deer meat south of the PA ($Dorals_{d,s}$)	Total ($Dorals_{tot}$)	Outdoor air in the PA ($Dinhs_{oa,pa}$)	Outdoor air in the village ($Dinhs_{oa,v}$)	Outdoor air south of the PA ($Dinhs_{oa,s}$)	Total ($Dinhs_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	4.23E-03	1.15E-03	6.17E-03	4.33E-03	3.12E-03	2.27E-05	9.89E-04	2.42E-02	NA	NA	NA	NA	NA	NA	NA	4.42E-02	1.67E-06	1.91E-07	NA	1.86E-06
Chromium	5.43E-06	3.47E-06	9.88E-06	1.78E-04	6.01E-04	2.40E-07	2.14E-05	3.17E-05	NA	NA	NA	NA	NA	NA	NA	8.50E-04	3.04E-08	3.46E-09	NA	3.38E-08
Lithium	3.59E-06	0.00E+00	1.28E-05	1.89E-04	6.01E-04	0.00E+00	0.00E+00	2.27E-05	NA	NA	NA	NA	NA	NA	NA	8.28E-04	1.48E-09	1.69E-10	NA	1.65E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	9.85E-05	8.33E-05	1.95E-02	5.64E-04	NA	NA	NA	2.03E-02	6.45E-02
Chromium	1.27E-06	1.94E-05	3.13E-04	7.39E-06	NA	NA	NA	3.41E-04	1.19E-03
Lithium	8.37E-08	0.00E+00	4.04E-05	5.29E-07	NA	NA	NA	4.10E-05	8.69E-04

NA: Not applicable.

Contaminant of potential human concern	Toddler - Scenario 1A																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	8.41E-03	5.72E-04	3.07E-03	2.15E-03	1.55E-03	1.13E-05	4.92E-04	4.81E-02	NA	NA	NA	NA	NA	NA	NA	6.44E-02	3.13E-06	3.57E-07	NA	3.49E-06
Chromium	1.08E-05	1.73E-06	4.91E-06	8.82E-05	2.98E-04	1.19E-07	1.06E-05	6.30E-05	NA	NA	NA	NA	NA	NA	NA	4.78E-04	5.69E-08	6.49E-09	NA	6.34E-08
Lithium	7.14E-06	0.00E+00	6.34E-06	9.38E-05	2.98E-04	0.00E+00	0.00E+00	4.51E-05	NA	NA	NA	NA	NA	NA	NA	4.51E-04	2.78E-09	3.17E-10	NA	3.10E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Ddermss.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	7.23E-05	7.01E-05	1.67E-02	4.14E-04	NA	NA	NA	1.73E-02	8.16E-02
Chromium	9.29E-07	1.63E-05	2.68E-04	5.42E-06	NA	NA	NA	2.90E-04	7.68E-04
Lithium	6.14E-08	0.00E+00	3.46E-05	3.88E-07	NA	NA	NA	3.50E-05	4.86E-04

NA: Not applicable.

Contaminant of potential human concern	Children - Scenario 1A																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Dorals_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Dorals_{b,pa}$)	Fish fillets in the PA ($Dorals_{f,pa}$)	Hare meat in the PA ($Dorals_{h,pa}$)	Deer meat in the PA ($Dorals_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Dorals_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Dorals_{b,s}$)	Fish fillets south of the PA ($Dorals_{f,s}$)	Hare meat south of the PA ($Dorals_{h,s}$)	Deer meat south of the PA ($Dorals_{d,s}$)	Total ($Dorals_{tot}$)	Outdoor air in the PA ($Dinhs_{as,pa}$)	Outdoor air in the village ($Dinhs_{as,v}$)	Outdoor air south of the PA ($Dinhs_{as,s}$)	Total ($Dinhs_{col}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	1.05E-03	2.87E-04	1.54E-03	1.08E-03	7.78E-04	5.66E-06	2.47E-04	6.03E-03	NA	NA	NA	NA	NA	NA	NA	1.10E-02	2.74E-06	3.13E-07	NA	3.06E-06
Chromium	1.35E-06	8.66E-07	2.46E-06	4.43E-05	1.50E-04	5.97E-08	5.33E-06	7.90E-06	NA	NA	NA	NA	NA	NA	NA	2.12E-04	4.99E-08	5.69E-09	NA	5.56E-08
Lithium	8.95E-07	0.00E+00	3.18E-06	4.70E-05	1.50E-04	0.00E+00	0.00E+00	5.65E-06	NA	NA	NA	NA	NA	NA	NA	2.06E-04	2.43E-09	2.78E-10	NA	2.71E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	5.51E-05	5.81E-05	1.41E-02	3.15E-04	NA	NA	NA	1.46E-02	2.56E-02
Chromium	7.07E-07	1.35E-05	2.26E-04	4.13E-06	NA	NA	NA	2.45E-04	4.56E-04
Lithium	4.68E-08	0.00E+00	2.92E-05	2.95E-07	NA	NA	NA	2.96E-05	2.36E-04

NA: Not applicable.

Contaminant of potential human concern	Teen - Scenario 1A																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	5.81E-04	7.90E-05	8.48E-04	5.94E-04	4.29E-04	3.12E-06	1.36E-04	3.32E-03	NA	NA	NA	NA	NA	NA	NA	5.99E-03	1.63E-06	1.86E-07	NA	1.81E-06
Chromium	7.46E-07	2.39E-07	1.36E-06	2.44E-05	8.25E-05	3.29E-08	2.94E-06	4.36E-06	NA	NA	NA	NA	NA	NA	NA	1.17E-04	2.96E-08	3.37E-09	NA	3.29E-08
Lithium	4.93E-07	0.00E+00	1.75E-06	2.59E-05	8.25E-05	0.00E+00	0.00E+00	3.12E-06	NA	NA	NA	NA	NA	NA	NA	1.14E-04	1.44E-09	1.65E-10	NA	1.61E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Ddermss.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	4.42E-05	4.89E-05	1.18E-02	2.53E-04	NA	NA	NA	1.21E-02	1.81E-02
Chromium	5.67E-07	1.14E-05	1.88E-04	3.31E-06	NA	NA	NA	2.04E-04	3.20E-04
Lithium	3.75E-08	0.00E+00	2.43E-05	2.37E-07	NA	NA	NA	2.46E-05	1.38E-04

NA: Not applicable.

Contaminant of potential human concern	Adult - Scenario 1A															
	Ingestion (mg/kg-d)															
	Surface soil in the PA ($Dorals_{,pa}$)	Surface water in the PA ($Dorals_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Dorals_{b,pa}$)	Fish fillets in the PA ($Dorals_{f,pa}$)	Hare meat in the PA ($Dorals_{h,pa}$)	Deer meat in the PA ($Dorals_{d,pa}$)	Surface soil in the village ($Dorals_{v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Dorals_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Dorals_{b,s}$)	Fish fillets south of the PA ($Dorals_{f,s}$)	Hare meat south of the PA ($Dorals_{h,s}$)	Deer meat south of the PA ($Dorals_{d,s}$)	Total ($Dorals_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Inorganic substance																
Aluminum	4.91E-04	3.04E-05	6.59E-04	5.02E-04	3.62E-04	2.63E-06	1.15E-04	2.81E-03	NA	NA	NA	NA	NA	NA	NA	4.97E-03
Chromium	6.30E-07	9.19E-08	1.05E-06	2.06E-05	6.97E-05	2.78E-08	2.48E-06	3.68E-06	NA	NA	NA	NA	NA	NA	NA	9.82E-05
Lithium	4.17E-07	0.00E+00	1.36E-06	2.19E-05	6.97E-05	0.00E+00	0.00E+00	2.63E-06	NA	NA	NA	NA	NA	NA	NA	9.60E-05

NA: Not applicable.

Contaminant of potential human concern	Inhalation (mg/kg-d)				Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{o,i}$)	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Ddermѕ.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{o,i}$)	
In the scenario ?	YES	YES	NO		YES	YES	YES	YES	NO	NO	NO		
Equation	3	3	3	4	5	6	7	5	5	6	7	8	9
Inorganic substance													
Aluminum	1.46E-06	4.84E-07	NA	1.95E-06	4.20E-05	4.29E-05	1.10E-02	2.40E-04	NA	NA	NA	1.14E-02	1.63E-02
Chromium	2.66E-08	8.79E-09	NA	3.54E-08	5.39E-07	9.97E-06	1.76E-04	3.15E-06	NA	NA	NA	1.90E-04	2.88E-04
Lithium	1.30E-09	4.29E-10	NA	1.73E-09	3.57E-08	0.00E+00	2.28E-05	2.25E-07	NA	NA	NA	2.31E-05	1.19E-04

NA: Not applicable.

Contaminant of potential human concern	Woman - Scenario 1A																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doralb_{,pa}$)	Fish fillets in the PA ($Doralf_{,pa}$)	Hare meat in the PA ($Doralh_{,pa}$)	Deer meat in the PA ($Doralu_{,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Doralw_{,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doralb_{,s}$)	Fish fillets south of the PA ($Doralf_{,s}$)	Hare meat south of the PA ($Doralh_{,s}$)	Deer meat south of the PA ($Doralu_{,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{as,pa}$)	Outdoor air in the village ($Dinh_{as,v}$)	Outdoor air south of the PA ($Dinh_{as,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	4.91E-04	2.60E-05	5.59E-04	5.02E-04	3.62E-04	2.63E-06	1.15E-04	2.81E-03	NA	NA	NA	NA	NA	NA	NA	4.86E-03	1.46E-06	4.00E-07	NA	1.86E-06
Chromium	6.30E-07	7.86E-08	8.94E-07	2.06E-05	6.97E-05	2.78E-08	2.48E-06	3.68E-06	NA	NA	NA	NA	NA	NA	NA	9.80E-05	2.66E-08	7.27E-09	NA	3.38E-08
Lithium	4.17E-07	0.00E+00	1.15E-06	2.19E-05	6.97E-05	0.00E+00	0.00E+00	2.63E-06	NA	NA	NA	NA	NA	NA	NA	9.57E-05	1.30E-09	3.55E-10	NA	1.65E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Ddermss.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	4.20E-05	3.67E-05	1.10E-02	2.40E-04	NA	NA	NA	1.13E-02	1.62E-02
Chromium	5.39E-07	8.53E-06	1.76E-04	3.15E-06	NA	NA	NA	1.89E-04	2.87E-04
Lithium	3.57E-08	0.00E+00	2.28E-05	2.25E-07	NA	NA	NA	2.31E-05	1.19E-04

NA: Not applicable.

Contaminant of potential human concern	Infant - Scenario 1B																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.42E-02	3.75E-03	1.15E-03	6.17E-03	4.33E-03	3.12E-03	2.02E-05	8.90E-04	4.36E-02	NA	1.91E-07	1.67E-06	1.86E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	3.17E-05	5.56E-06	3.47E-06	9.88E-06	1.78E-04	6.01E-04	2.42E-07	2.15E-05	8.50E-04	NA	3.46E-09	3.04E-08	3.38E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	2.27E-05	3.59E-06	0.00E+00	1.28E-05	1.89E-04	6.01E-04	0.00E+00	0.00E+00	8.28E-04	NA	1.69E-10	1.48E-09	1.65E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	5.64E-04	8.73E-05	8.33E-05	1.95E-02	2.03E-02	6.39E-02
Chromium	NA	NA	NA	7.39E-06	1.30E-06	1.94E-05	3.13E-04	3.41E-04	1.19E-03
Lithium	NA	NA	NA	5.29E-07	8.37E-08	0.00E+00	4.04E-05	4.10E-05	8.69E-04

NA: Not applicable.

Contaminant of potential human concern	Toddler - Scenario 1B																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	4.81E-02	7.45E-03	5.72E-04	3.07E-03	2.15E-03	1.55E-03	1.01E-05	4.42E-04	6.33E-02	NA	3.57E-07	3.13E-06	3.49E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	6.30E-05	1.11E-05	1.73E-06	4.91E-06	8.82E-05	2.98E-04	1.20E-07	1.07E-05	4.78E-04	NA	6.49E-09	5.69E-08	6.34E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	4.51E-05	7.14E-06	0.00E+00	6.34E-06	9.38E-05	2.98E-04	0.00E+00	0.00E+00	4.51E-04	NA	3.17E-10	2.78E-09	3.10E-09

NA: Not applicable.

Contaminant of potential human concern	Children - Scenario 1B																						
	Dermal contact (mg/kg-d)									Ingestion (mg/kg-d)													
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	Oral equivalent dose (Deq) (mg/kg-d)	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)
In the scenario ?	NO	NO	NO	YES	YES	YES	YES			NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES
Equation	5	6	7	5	5	6	7	8	9	1	1	1	1	1	1	1	1	1	1	1	1	1
Inorganic substance																						
Aluminum	NA	NA	NA	4.14E-04	6.40E-05	7.01E-05	1.67E-02	1.73E-02	8.06E-02	NA	NA	NA	NA	NA	NA	NA	6.03E-03	9.34E-04	2.87E-04	1.54E-03	1.08E-03	7.78E-04
Chromium	NA	NA	NA	5.42E-06	9.50E-07	1.63E-05	2.68E-04	2.90E-04	7.69E-04	NA	NA	NA	NA	NA	NA	NA	7.90E-06	1.39E-06	8.66E-07	2.46E-06	4.43E-05	1.50E-04
Lithium	NA	NA	NA	3.88E-07	6.14E-08	0.00E+00	3.46E-05	3.50E-05	4.86E-04	NA	NA	NA	NA	NA	NA	NA	5.65E-06	8.95E-07	0.00E+00	3.18E-06	4.70E-05	1.50E-04

NA: Not applicable.

Contaminant of potential human concern																
				Inhalation (mg/kg-d)				Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES		NO	YES	YES		NO	NO	NO	YES	YES	YES	YES		
Equation	1	1	2	3	3	3	4	5	6	7	5	5	6	7	8	9
Inorganic substance																
Aluminum	5.04E-06	2.22E-04	1.09E-02	NA	3.13E-07	2.74E-06	3.06E-06	NA	NA	NA	3.15E-04	4.88E-05	5.81E-05	1.41E-02	1.46E-02	2.54E-02
Chromium	6.03E-08	5.35E-06	2.12E-04	NA	5.69E-09	4.99E-08	5.56E-08	NA	NA	NA	4.13E-06	7.24E-07	1.35E-05	2.26E-04	2.45E-04	4.57E-04
Lithium	0.00E+00	0.00E+00	2.06E-04	NA	2.78E-10	2.43E-09	2.71E-09	NA	NA	NA	2.95E-07	4.68E-08	0.00E+00	2.92E-05	2.96E-05	2.36E-04

NA: Not applicable.

Contaminant of potential human concern	Teen - Scenario 1B																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Dorals_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Dorals_{b,pa}$)	Fish fillets in the PA ($Dorals_{pa}$)	Hare meat in the PA ($Dorals_{h,pa}$)	Deer meat in the PA ($Dorals_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Dorals_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Dorals_{b,s}$)	Fish fillets south of the PA ($Dorals_{s}$)	Hare meat south of the PA ($Dorals_{h,s}$)	Deer meat south of the PA ($Dorals_{d,s}$)	Total ($Dorals_{tot}$)	Outdoor air in the PA ($Dinhs_{as,pa}$)	Outdoor air in the village ($Dinhs_{as,v}$)	Outdoor air south of the PA ($Dinhs_{as,s}$)	Total ($Dinhs_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	3.32E-03	5.15E-04	7.90E-05	8.48E-04	5.94E-04	4.29E-04	2.78E-06	1.22E-04	5.91E-03	NA	1.86E-07	1.63E-06	1.81E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	4.36E-06	7.64E-07	2.39E-07	1.36E-06	2.44E-05	8.25E-05	3.32E-08	2.95E-06	1.17E-04	NA	3.37E-09	2.96E-08	3.29E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	3.12E-06	4.93E-07	0.00E+00	1.75E-06	2.59E-05	8.25E-05	0.00E+00	0.00E+00	1.14E-04	NA	1.65E-10	1.44E-09	1.61E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Ddermss.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	2.53E-04	3.91E-05	4.89E-05	1.18E-02	1.21E-02	1.80E-02
Chromium	NA	NA	NA	3.31E-06	5.80E-07	1.14E-05	1.88E-04	2.04E-04	3.20E-04
Lithium	NA	NA	NA	2.37E-07	3.75E-08	0.00E+00	2.43E-05	2.46E-05	1.38E-04

NA: Not applicable.

Contaminant of potential human concern	Adult - Scenario 1B																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Dorals_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Dorals_{b,pa}$)	Fish fillets in the PA ($Dorals_{f,pa}$)	Hare meat in the PA ($Dorals_{h,pa}$)	Deer meat in the PA ($Dorals_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Dorals_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Dorals_{b,s}$)	Fish fillets south of the PA ($Dorals_{f,s}$)	Hare meat south of the PA ($Dorals_{h,s}$)	Deer meat south of the PA ($Dorals_{d,s}$)	Total ($Dorals_{tot}$)	Outdoor air in the PA ($Dinhs_{oa,pa}$)	Outdoor air in the village ($Dinhs_{oa,v}$)	Outdoor air south of the PA ($Dinhs_{oa,s}$)	Total ($Dinhs_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	3.04E-05	6.59E-04	5.02E-04	3.62E-04	2.35E-06	1.03E-04	4.90E-03	NA	4.84E-07	1.46E-06	1.95E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	3.68E-06	6.45E-07	9.19E-08	1.05E-06	2.06E-05	6.97E-05	2.81E-08	2.49E-06	9.82E-05	NA	8.79E-09	2.66E-08	3.54E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	2.63E-06	4.17E-07	0.00E+00	1.36E-06	2.19E-05	6.97E-05	0.00E+00	0.00E+00	9.60E-05	NA	4.29E-10	1.30E-09	1.73E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	4.29E-05	1.10E-02	1.13E-02	1.62E-02
Chromium	NA	NA	NA	3.15E-06	5.52E-07	9.97E-06	1.76E-04	1.90E-04	2.88E-04
Lithium	NA	NA	NA	2.25E-07	3.57E-08	0.00E+00	2.28E-05	2.31E-05	1.19E-04

NA: Not applicable.

Contaminant of potential human concern	Woman - Scenario 1B																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{sd,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	2.60E-05	5.59E-04	5.02E-04	3.62E-04	2.35E-06	1.03E-04	4.80E-03	NA	4.00E-07	1.46E-06	1.86E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	3.68E-06	6.45E-07	7.86E-08	8.94E-07	2.06E-05	6.97E-05	2.81E-08	2.49E-06	9.81E-05	NA	7.27E-09	2.66E-08	3.38E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	2.63E-06	4.17E-07	0.00E+00	1.15E-06	2.19E-05	6.97E-05	0.00E+00	0.00E+00	9.57E-05	NA	3.55E-10	1.30E-09	1.65E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	3.67E-05	1.10E-02	1.13E-02	1.61E-02
Chromium	NA	NA	NA	3.15E-06	5.52E-07	8.53E-06	1.76E-04	1.89E-04	2.87E-04
Lithium	NA	NA	NA	2.25E-07	3.57E-08	0.00E+00	2.28E-05	2.31E-05	1.19E-04

NA: Not applicable.

Contaminant of potential human concern	Infant - Scenario 2																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.42E-02	3.75E-03	1.15E-03	6.17E-03	7.10E-03	3.12E-03	2.08E-05	9.63E-04	4.65E-02	NA	1.96E-07	1.74E-06	1.93E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	3.27E-05	5.56E-06	3.47E-06	9.88E-06	1.78E-04	6.01E-04	2.42E-07	2.15E-05	8.51E-04	NA	3.47E-09	3.04E-08	3.39E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	2.27E-05	3.61E-06	0.00E+00	1.28E-05	1.89E-04	6.01E-04	3.91E-07	3.87E-05	8.67E-04	NA	1.72E-10	1.52E-09	1.69E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	5.64E-04	8.73E-05	8.33E-05	1.95E-02	2.03E-02	6.67E-02
Chromium	NA	NA	NA	7.62E-06	1.30E-06	1.94E-05	3.13E-04	3.41E-04	1.19E-03
Lithium	NA	NA	NA	5.29E-07	8.40E-08	0.00E+00	4.04E-05	4.10E-05	9.08E-04

NA: Not applicable.

Contaminant of potential human concern	Toddler - Scenario 2																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	4.81E-02	7.45E-03	5.72E-04	3.07E-03	3.53E-03	1.55E-03	1.03E-05	4.79E-04	6.48E-02	NA	3.67E-07	3.25E-06	3.62E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	6.50E-05	1.11E-05	1.73E-06	4.91E-06	8.82E-05	2.98E-04	1.20E-07	1.07E-05	4.80E-04	NA	6.50E-09	5.71E-08	6.36E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	4.51E-05	7.17E-06	0.00E+00	6.34E-06	9.38E-05	2.98E-04	1.94E-07	1.92E-05	4.70E-04	NA	3.23E-10	2.85E-09	3.17E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Ddermss.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	4.14E-04	6.40E-05	7.01E-05	1.67E-02	1.73E-02	8.20E-02
Chromium	NA	NA	NA	5.59E-06	9.50E-07	1.63E-05	2.68E-04	2.91E-04	7.71E-04
Lithium	NA	NA	NA	3.88E-07	6.16E-08	0.00E+00	3.46E-05	3.50E-05	5.05E-04

NA: Not applicable.

Contaminant of potential human concern	Children - Scenario 2																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Dorals_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Dorals_{b,pa}$)	Fish fillets in the PA ($Dorals_{f,pa}$)	Hare meat in the PA ($Dorals_{h,pa}$)	Deer meat in the PA ($Dorals_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Dorals_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Dorals_{b,s}$)	Fish fillets south of the PA ($Dorals_{f,s}$)	Hare meat south of the PA ($Dorals_{h,s}$)	Deer meat south of the PA ($Dorals_{d,s}$)	Total ($Dorals_{tot}$)	Outdoor air in the PA ($Dinhs_{as,pa}$)	Outdoor air in the village ($Dinhs_{as,v}$)	Outdoor air south of the PA ($Dinhs_{as,s}$)	Total ($Dinhs_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	6.03E-03	9.34E-04	2.87E-04	1.54E-03	1.77E-03	7.78E-04	5.18E-06	2.40E-04	1.16E-02	NA	3.21E-07	2.85E-06	3.17E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	8.15E-06	1.39E-06	8.66E-07	2.46E-06	4.43E-05	1.50E-04	6.03E-08	5.35E-06	2.12E-04	NA	5.70E-09	5.00E-08	5.57E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	5.66E-06	8.99E-07	0.00E+00	3.18E-06	4.70E-05	1.50E-04	9.74E-08	9.64E-06	2.16E-04	NA	2.83E-10	2.50E-09	2.78E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	3.15E-04	4.88E-05	5.81E-05	1.41E-02	1.46E-02	2.61E-02
Chromium	NA	NA	NA	4.26E-06	7.24E-07	1.35E-05	2.26E-04	2.45E-04	4.57E-04
Lithium	NA	NA	NA	2.96E-07	4.69E-08	0.00E+00	2.92E-05	2.96E-05	2.46E-04

NA: Not applicable.

Contaminant of potential human concern	Teen - Scenario 2																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Dorals_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Dorals_{b,pa}$)	Fish fillets in the PA ($Dorals_{f,pa}$)	Hare meat in the PA ($Dorals_{h,pa}$)	Deer meat in the PA ($Dorals_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Dorals_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Dorals_{b,s}$)	Fish fillets south of the PA ($Dorals_{f,s}$)	Hare meat south of the PA ($Dorals_{h,s}$)	Deer meat south of the PA ($Dorals_{d,s}$)	Total ($Dorals_{tot}$)	Outdoor air in the PA ($Dinhs_{oa,pa}$)	Outdoor air in the village ($Dinhs_{oa,v}$)	Outdoor air south of the PA ($Dinhs_{oa,s}$)	Total ($Dinhs_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	3.32E-03	5.15E-04	7.90E-05	8.48E-04	9.75E-04	4.29E-04	2.86E-06	1.32E-04	6.30E-03	NA	1.91E-07	1.69E-06	1.88E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	4.49E-06	7.64E-07	2.39E-07	1.36E-06	2.44E-05	8.25E-05	3.32E-08	2.95E-06	1.17E-04	NA	3.38E-09	2.96E-08	3.30E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	3.12E-06	4.95E-07	0.00E+00	1.75E-06	2.59E-05	8.25E-05	5.37E-08	5.31E-06	1.19E-04	NA	1.68E-10	1.48E-09	1.65E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Ddermss.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	2.53E-04	3.91E-05	4.89E-05	1.18E-02	1.21E-02	1.84E-02
Chromium	NA	NA	NA	3.41E-06	5.80E-07	1.14E-05	1.88E-04	2.04E-04	3.21E-04
Lithium	NA	NA	NA	2.37E-07	3.76E-08	0.00E+00	2.43E-05	2.46E-05	1.44E-04

NA: Not applicable.

Contaminant of potential human concern	Adult - Scenario 2																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Dorals_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Dorals_{b,pa}$)	Fish fillets in the PA ($Dorals_{f,pa}$)	Hare meat in the PA ($Dorals_{h,pa}$)	Deer meat in the PA ($Dorals_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Dorals_{w,s}$)	Sediment south of the PA ($Dorals_{sd,s}$)	Berries south of the PA ($Dorals_{b,s}$)	Fish fillets south of the PA ($Dorals_{f,s}$)	Hare meat south of the PA ($Dorals_{h,s}$)	Deer meat south of the PA ($Dorals_{d,s}$)	Total ($Dorals_{tot}$)	Outdoor air in the PA ($Dinhs_{oa,pa}$)	Outdoor air in the village ($Dinhs_{oa,v}$)	Outdoor air south of the PA ($Dinhs_{oa,s}$)	Total ($Dinhs_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	3.04E-05	6.59E-04	8.23E-04	3.62E-04	2.41E-06	1.12E-04	5.23E-03	NA	4.96E-07	1.52E-06	2.02E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	3.79E-06	6.45E-07	9.19E-08	1.05E-06	2.06E-05	6.97E-05	2.81E-08	2.49E-06	9.84E-05	NA	8.80E-09	2.66E-08	3.54E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	2.63E-06	4.18E-07	0.00E+00	1.36E-06	2.19E-05	6.97E-05	4.53E-08	4.49E-06	1.00E-04	NA	4.37E-10	1.33E-09	1.77E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	4.29E-05	1.10E-02	1.13E-02	1.66E-02
Chromium	NA	NA	NA	3.24E-06	5.52E-07	9.97E-06	1.76E-04	1.90E-04	2.89E-04
Lithium	NA	NA	NA	2.25E-07	3.58E-08	0.00E+00	2.28E-05	2.31E-05	1.24E-04

NA: Not applicable.

Contaminant of potential human concern	Woman - Scenario 2																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doralb_{,pa}$)	Fish fillets in the PA ($Doralf_{,pa}$)	Hare meat in the PA ($Doralh_{,pa}$)	Deer meat in the PA ($Doralu_{,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Doralw_{,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doralb_{,s}$)	Fish fillets south of the PA ($Doralf_{,s}$)	Hare meat south of the PA ($Doralh_{,s}$)	Deer meat south of the PA ($Doralu_{,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{as,pa}$)	Outdoor air in the village ($Dinh_{as,v}$)	Outdoor air south of the PA ($Dinh_{as,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	2.60E-05	5.59E-04	8.23E-04	3.62E-04	2.41E-06	1.12E-04	5.13E-03	NA	4.11E-07	1.52E-06	1.93E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	3.79E-06	6.45E-07	7.86E-08	8.94E-07	2.06E-05	6.97E-05	2.81E-08	2.49E-06	9.82E-05	NA	7.29E-09	2.66E-08	3.39E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	2.63E-06	4.18E-07	0.00E+00	1.15E-06	2.19E-05	6.97E-05	4.53E-08	4.49E-06	1.00E-04	NA	3.61E-10	1.33E-09	1.69E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	3.67E-05	1.10E-02	1.13E-02	1.65E-02
Chromium	NA	NA	NA	3.24E-06	5.52E-07	8.53E-06	1.76E-04	1.89E-04	2.87E-04
Lithium	NA	NA	NA	2.25E-07	3.58E-08	0.00E+00	2.28E-05	2.31E-05	1.23E-04

NA: Not applicable.

Contaminant of potential human concern	Infant - Scenario 3																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Dorals_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Dorals_{b,pa}$)	Fish fillets in the PA ($Dorals_{f,pa}$)	Hare meat in the PA ($Dorals_{h,pa}$)	Deer meat in the PA ($Dorals_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Dorals_{w,s}$)	Sediment south of the PA ($Dorals_{sd,s}$)	Berries south of the PA ($Dorals_{b,s}$)	Fish fillets south of the PA ($Dorals_{f,s}$)	Hare meat south of the PA ($Dorals_{h,s}$)	Deer meat south of the PA ($Dorals_{d,s}$)	Total ($Dorals_{tot}$)	Outdoor air in the PA ($Dinhs_{oa,pa}$)	Outdoor air in the village ($Dinhs_{oa,v}$)	Outdoor air south of the PA ($Dinhs_{oa,s}$)	Total ($Dinhs_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.42E-02	3.75E-03	5.32E-04	6.17E-03	7.10E-03	3.12E-03	2.08E-05	9.61E-04	4.59E-02	NA	1.96E-07	1.74E-06	1.93E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	3.27E-05	5.56E-06	2.29E-06	9.88E-06	1.78E-04	6.01E-04	2.42E-07	2.15E-05	8.50E-04	NA	3.47E-09	3.04E-08	3.39E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	2.27E-05	3.61E-06	2.10E-05	1.28E-05	1.89E-04	6.01E-04	3.91E-07	3.87E-05	8.88E-04	NA	1.72E-10	1.52E-09	1.69E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	5.64E-04	8.73E-05	3.85E-05	1.95E-02	2.02E-02	6.61E-02
Chromium	NA	NA	NA	7.62E-06	1.30E-06	1.28E-05	3.13E-04	3.34E-04	1.18E-03
Lithium	NA	NA	NA	5.29E-07	8.40E-08	1.52E-06	4.04E-05	4.25E-05	9.31E-04

NA: Not applicable.

Contaminant of potential human concern	Toddler - Scenario 3																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	4.81E-02	7.45E-03	2.65E-04	3.07E-03	3.53E-03	1.55E-03	1.03E-05	4.78E-04	6.44E-02	NA	3.67E-07	3.25E-06	3.62E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	6.50E-05	1.11E-05	1.14E-06	4.91E-06	8.82E-05	2.98E-04	1.20E-07	1.07E-05	4.80E-04	NA	6.50E-09	5.71E-08	6.36E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	4.51E-05	7.17E-06	1.04E-05	6.34E-06	9.38E-05	2.98E-04	1.94E-07	1.92E-05	4.81E-04	NA	3.23E-10	2.85E-09	3.17E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Ddermss.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	4.14E-04	6.40E-05	3.24E-05	1.67E-02	1.72E-02	8.17E-02
Chromium	NA	NA	NA	5.59E-06	9.50E-07	1.08E-05	2.68E-04	2.85E-04	7.65E-04
Lithium	NA	NA	NA	3.88E-07	6.16E-08	1.28E-06	3.46E-05	3.63E-05	5.17E-04

NA: Not applicable.

Contaminant of potential human concern	Children - Scenario 3																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralt_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Doralb_{,pa}$)	Fish fillets in the PA ($Doralf_{,pa}$)	Hare meat in the PA ($Doralh_{,pa}$)	Deer meat in the PA ($Doralu_{,pa}$)	Surface soil in the village ($Doralt_{s,v}$)	Surface soil south of the PA ($Doralt_{s,s}$)	Surface water south of the PA ($Doralt_{w,s}$)	Sediment south of the PA ($Doralt_{sed,s}$)	Berries south of the PA ($Doralb_{,s}$)	Fish fillets south of the PA ($Doralf_{,s}$)	Hare meat south of the PA ($Doralh_{,s}$)	Deer meat south of the PA ($Doralu_{,s}$)	Total ($Doralt_{tot}$)	Outdoor air in the PA ($Dinh_{as,pa}$)	Outdoor air in the village ($Dinh_{as,v}$)	Outdoor air south of the PA ($Dinh_{as,s}$)	Total ($Dinh_{c,t}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	6.03E-03	9.34E-04	1.33E-04	1.54E-03	1.77E-03	7.78E-04	5.18E-06	2.40E-04	1.14E-02	NA	3.21E-07	2.85E-06	3.17E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	8.15E-06	1.39E-06	5.72E-07	2.46E-06	4.43E-05	1.50E-04	6.03E-08	5.35E-06	2.12E-04	NA	5.70E-09	5.00E-08	5.57E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	5.66E-06	8.99E-07	5.23E-06	3.18E-06	4.70E-05	1.50E-04	9.74E-08	9.64E-06	2.21E-04	NA	2.83E-10	2.50E-09	2.78E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	3.15E-04	4.88E-05	2.69E-05	1.41E-02	1.45E-02	2.60E-02
Chromium	NA	NA	NA	4.26E-06	7.24E-07	8.92E-06	2.26E-04	2.40E-04	4.52E-04
Lithium	NA	NA	NA	2.96E-07	4.69E-08	1.06E-06	2.92E-05	3.06E-05	2.52E-04

NA: Not applicable.

Contaminant of potential human concern	Teen - Scenario 3																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	3.32E-03	5.15E-04	3.66E-05	8.48E-04	9.75E-04	4.29E-04	2.86E-06	1.32E-04	6.26E-03	NA	1.91E-07	1.69E-06	1.88E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	4.49E-06	7.64E-07	1.58E-07	1.36E-06	2.44E-05	8.25E-05	3.32E-08	2.95E-06	1.17E-04	NA	3.38E-09	2.96E-08	3.30E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	3.12E-06	4.95E-07	1.44E-06	1.75E-06	2.59E-05	8.25E-05	5.37E-08	5.31E-06	1.21E-04	NA	1.68E-10	1.48E-09	1.65E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Ddermss.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	2.53E-04	3.91E-05	2.26E-05	1.18E-02	1.21E-02	1.84E-02
Chromium	NA	NA	NA	3.41E-06	5.80E-07	7.50E-06	1.88E-04	2.00E-04	3.17E-04
Lithium	NA	NA	NA	2.37E-07	3.76E-08	8.92E-07	2.43E-05	2.55E-05	1.46E-04

NA: Not applicable.

Contaminant of potential human concern	Adult - Scenario 3																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Dorals_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Dorals_{b,pa}$)	Fish fillets in the PA ($Dorals_{f,pa}$)	Hare meat in the PA ($Dorals_{h,pa}$)	Deer meat in the PA ($Dorals_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Dorals_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Dorals_{b,s}$)	Fish fillets south of the PA ($Dorals_{f,s}$)	Hare meat south of the PA ($Dorals_{h,s}$)	Deer meat south of the PA ($Dorals_{d,s}$)	Total ($Dorals_{tot}$)	Outdoor air in the PA ($Dinhs_{oa,pa}$)	Outdoor air in the village ($Dinhs_{oa,v}$)	Outdoor air south of the PA ($Dinhs_{oa,s}$)	Total ($Dinhs_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	1.41E-05	6.59E-04	8.23E-04	3.62E-04	2.41E-06	1.11E-04	5.21E-03	NA	4.96E-07	1.52E-06	2.02E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	3.79E-06	6.45E-07	6.07E-08	1.05E-06	2.06E-05	6.97E-05	2.81E-08	2.49E-06	9.83E-05	NA	8.80E-09	2.66E-08	3.54E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	2.63E-06	4.18E-07	5.55E-07	1.36E-06	2.19E-05	6.97E-05	4.53E-08	4.49E-06	1.01E-04	NA	4.37E-10	1.33E-09	1.77E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	1.99E-05	1.10E-02	1.13E-02	1.65E-02
Chromium	NA	NA	NA	3.24E-06	5.52E-07	6.59E-06	1.76E-04	1.87E-04	2.85E-04
Lithium	NA	NA	NA	2.25E-07	3.58E-08	7.83E-07	2.28E-05	2.38E-05	1.25E-04

NA: Not applicable.

Contaminant of potential human concern	Woman - Scenario 3																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doralb_{,pa}$)	Fish fillets in the PA ($Doralf_{,pa}$)	Hare meat in the PA ($Doralh_{,pa}$)	Deer meat in the PA ($Doralu_{,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Doralw_{,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doralb_{,s}$)	Fish fillets south of the PA ($Doralf_{,s}$)	Hare meat south of the PA ($Doralh_{,s}$)	Deer meat south of the PA ($Doralu_{,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{as,pa}$)	Outdoor air in the village ($Dinh_{as,v}$)	Outdoor air south of the PA ($Dinh_{as,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	1.20E-05	5.59E-04	8.23E-04	3.62E-04	2.41E-06	1.11E-04	5.11E-03	NA	4.11E-07	1.52E-06	1.93E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	3.79E-06	6.45E-07	5.19E-08	8.94E-07	2.06E-05	6.97E-05	2.81E-08	2.49E-06	9.82E-05	NA	7.29E-09	2.66E-08	3.39E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	2.63E-06	4.18E-07	4.75E-07	1.15E-06	2.19E-05	6.97E-05	4.53E-08	4.49E-06	1.01E-04	NA	3.61E-10	1.33E-09	1.69E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	1.70E-05	1.10E-02	1.13E-02	1.64E-02
Chromium	NA	NA	NA	3.24E-06	5.52E-07	5.63E-06	1.76E-04	1.86E-04	2.84E-04
Lithium	NA	NA	NA	2.25E-07	3.58E-08	6.70E-07	2.28E-05	2.37E-05	1.24E-04

NA: Not applicable.

Contaminant of potential human concern	Infant - Scenario 4																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.42E-02	3.75E-03	7.12E-04	6.17E-03	7.10E-03	3.12E-03	2.08E-05	9.62E-04	4.60E-02	NA	1.96E-07	1.74E-06	1.93E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	3.27E-05	5.56E-06	1.84E-06	9.88E-06	1.78E-04	6.01E-04	2.42E-07	2.15E-05	8.50E-04	NA	3.47E-09	3.04E-08	3.39E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	2.27E-05	3.61E-06	2.10E-05	1.28E-05	1.89E-04	6.01E-04	3.91E-07	3.87E-05	8.88E-04	NA	1.72E-10	1.52E-09	1.69E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	5.64E-04	8.73E-05	5.15E-05	1.95E-02	2.02E-02	6.63E-02
Chromium	NA	NA	NA	7.62E-06	1.30E-06	1.02E-05	3.13E-04	3.32E-04	1.18E-03
Lithium	NA	NA	NA	5.29E-07	8.40E-08	1.52E-06	4.04E-05	4.25E-05	9.31E-04

NA: Not applicable.

Contaminant of potential human concern	Toddler - Scenario 4																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	4.81E-02	7.45E-03	3.54E-04	3.07E-03	3.53E-03	1.55E-03	1.03E-05	4.78E-04	6.45E-02	NA	3.67E-07	3.25E-06	3.62E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	6.50E-05	1.11E-05	9.12E-07	4.91E-06	8.82E-05	2.98E-04	1.20E-07	1.07E-05	4.79E-04	NA	6.50E-09	5.71E-08	6.36E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	4.51E-05	7.17E-06	1.04E-05	6.34E-06	9.38E-05	2.98E-04	1.94E-07	1.92E-05	4.81E-04	NA	3.23E-10	2.85E-09	3.17E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Ddermss.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	4.14E-04	6.40E-05	4.34E-05	1.67E-02	1.73E-02	8.18E-02
Chromium	NA	NA	NA	5.59E-06	9.50E-07	8.60E-06	2.68E-04	2.83E-04	7.62E-04
Lithium	NA	NA	NA	3.88E-07	6.16E-08	1.28E-06	3.46E-05	3.63E-05	5.17E-04

NA: Not applicable.

Contaminant of potential human concern	Children - Scenario 4																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Dorals_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Dorals_{b,pa}$)	Fish fillets in the PA ($Dorals_{f,pa}$)	Hare meat in the PA ($Dorals_{h,pa}$)	Deer meat in the PA ($Dorals_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Dorals_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Dorals_{b,s}$)	Fish fillets south of the PA ($Dorals_{f,s}$)	Hare meat south of the PA ($Dorals_{h,s}$)	Deer meat south of the PA ($Dorals_{d,s}$)	Total ($Dorals_{tot}$)	Outdoor air in the PA ($Dinhs_{as,pa}$)	Outdoor air in the village ($Dinhs_{as,v}$)	Outdoor air south of the PA ($Dinhs_{as,s}$)	Total ($Dinhs_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	6.03E-03	9.34E-04	1.77E-04	1.54E-03	1.77E-03	7.78E-04	5.18E-06	2.40E-04	1.15E-02	NA	3.21E-07	2.85E-06	3.17E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	8.15E-06	1.39E-06	4.57E-07	2.46E-06	4.43E-05	1.50E-04	6.03E-08	5.35E-06	2.12E-04	NA	5.70E-09	5.00E-08	5.57E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	5.66E-06	8.99E-07	5.23E-06	3.18E-06	4.70E-05	1.50E-04	9.74E-08	9.64E-06	2.21E-04	NA	2.83E-10	2.50E-09	2.78E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	3.15E-04	4.88E-05	3.60E-05	1.41E-02	1.45E-02	2.60E-02
Chromium	NA	NA	NA	4.26E-06	7.24E-07	7.14E-06	2.26E-04	2.38E-04	4.50E-04
Lithium	NA	NA	NA	2.96E-07	4.69E-08	1.06E-06	2.92E-05	3.06E-05	2.52E-04

NA: Not applicable.

Contaminant of potential human concern	Teen - Scenario 4																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	3.32E-03	5.15E-04	4.89E-05	8.48E-04	9.75E-04	4.29E-04	2.86E-06	1.32E-04	6.27E-03	NA	1.91E-07	1.69E-06	1.88E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	4.49E-06	7.64E-07	1.26E-07	1.36E-06	2.44E-05	8.25E-05	3.32E-08	2.95E-06	1.17E-04	NA	3.38E-09	2.96E-08	3.30E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	3.12E-06	4.95E-07	1.44E-06	1.75E-06	2.59E-05	8.25E-05	5.37E-08	5.31E-06	1.21E-04	NA	1.68E-10	1.48E-09	1.65E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Ddermss.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	2.53E-04	3.91E-05	3.02E-05	1.18E-02	1.21E-02	1.84E-02
Chromium	NA	NA	NA	3.41E-06	5.80E-07	6.00E-06	1.88E-04	1.98E-04	3.15E-04
Lithium	NA	NA	NA	2.37E-07	3.76E-08	8.92E-07	2.43E-05	2.55E-05	1.46E-04

NA: Not applicable.

Contaminant of potential human concern	Adult - Scenario 4																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{sd,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{o}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	1.88E-05	6.59E-04	8.23E-04	3.62E-04	2.41E-06	1.12E-04	5.22E-03	NA	4.96E-07	1.52E-06	2.02E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	3.79E-06	6.45E-07	4.85E-08	1.05E-06	2.06E-05	6.97E-05	2.81E-08	2.49E-06	9.83E-05	NA	8.80E-09	2.66E-08	3.54E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	2.63E-06	4.18E-07	5.55E-07	1.36E-06	2.19E-05	6.97E-05	4.53E-08	4.49E-06	1.01E-04	NA	4.37E-10	1.33E-09	1.77E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	2.66E-05	1.10E-02	1.13E-02	1.65E-02
Chromium	NA	NA	NA	3.24E-06	5.52E-07	5.27E-06	1.76E-04	1.86E-04	2.84E-04
Lithium	NA	NA	NA	2.25E-07	3.58E-08	7.83E-07	2.28E-05	2.38E-05	1.25E-04

NA: Not applicable.

Contaminant of potential human concern	Woman - Scenario 4																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doralb_{,pa}$)	Fish fillets in the PA ($Doralf_{,pa}$)	Hare meat in the PA ($Doralh_{,pa}$)	Deer meat in the PA ($Doralu_{,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Doralw_{,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doralb_{,s}$)	Fish fillets south of the PA ($Doralf_{,s}$)	Hare meat south of the PA ($Doralh_{,s}$)	Deer meat south of the PA ($Doralu_{,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{as,pa}$)	Outdoor air in the village ($Dinh_{as,v}$)	Outdoor air south of the PA ($Dinh_{as,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	1.61E-05	5.59E-04	8.23E-04	3.62E-04	2.41E-06	1.12E-04	5.11E-03	NA	4.11E-07	1.52E-06	1.93E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	3.79E-06	6.45E-07	4.15E-08	8.94E-07	2.06E-05	6.97E-05	2.81E-08	2.49E-06	9.81E-05	NA	7.29E-09	2.66E-08	3.39E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	2.63E-06	4.18E-07	4.75E-07	1.15E-06	2.19E-05	6.97E-05	4.53E-08	4.49E-06	1.01E-04	NA	3.61E-10	1.33E-09	1.69E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	2.27E-05	1.10E-02	1.13E-02	1.64E-02
Chromium	NA	NA	NA	3.24E-06	5.52E-07	4.51E-06	1.76E-04	1.85E-04	2.83E-04
Lithium	NA	NA	NA	2.25E-07	3.58E-08	6.70E-07	2.28E-05	2.37E-05	1.24E-04

NA: Not applicable.

Contaminant of potential human concern	Infant - Scenario 5																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Dorals_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Dorals_{b,pa}$)	Fish fillets in the PA ($Dorals_{f,pa}$)	Hare meat in the PA ($Dorals_{h,pa}$)	Deer meat in the PA ($Dorals_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Dorals_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Dorals_{b,s}$)	Fish fillets south of the PA ($Dorals_{f,s}$)	Hare meat south of the PA ($Dorals_{h,s}$)	Deer meat south of the PA ($Dorals_{d,s}$)	Total ($Dorals_{tot}$)	Outdoor air in the PA ($Dinhs_{oa,pa}$)	Outdoor air in the village ($Dinhs_{oa,v}$)	Outdoor air south of the PA ($Dinhs_{oa,s}$)	Total ($Dinhs_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	1.79E-02	9.65E-04	8.34E-03	7.48E-03	3.12E-03	9.36E-05	3.88E-03	2.42E-02	NA	NA	NA	NA	NA	NA	NA	6.59E-02	1.67E-06	1.91E-07	NA	1.86E-06
Chromium	5.44E-06	2.30E-06	9.88E-06	1.78E-04	6.01E-04	2.40E-07	2.14E-05	3.27E-05	NA	NA	NA	NA	NA	NA	NA	8.50E-04	3.04E-08	3.46E-09	NA	3.38E-08
Lithium	5.78E-06	3.93E-05	1.28E-05	1.89E-04	6.01E-04	4.68E-07	4.21E-05	2.27E-05	NA	NA	NA	NA	NA	NA	NA	9.12E-04	1.48E-09	1.69E-10	NA	1.65E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	8.49E-13	6.99E-05	2.64E-02	5.64E-04	NA	NA	NA	2.70E-02	9.29E-02
Chromium	1.54E-13	1.28E-05	3.13E-04	7.62E-06	NA	NA	NA	3.33E-04	1.18E-03
Lithium	7.53E-16	2.85E-06	4.04E-05	5.29E-07	NA	NA	NA	4.37E-05	9.56E-04

NA: Not applicable.

Contaminant of potential human concern	Toddler - Scenario 5																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Dorals_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Dorals_{b,pa}$)	Fish fillets in the PA ($Dorals_{f,pa}$)	Hare meat in the PA ($Dorals_{h,pa}$)	Deer meat in the PA ($Dorals_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Dorals_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Dorals_{b,s}$)	Fish fillets south of the PA ($Dorals_{f,s}$)	Hare meat south of the PA ($Dorals_{h,s}$)	Deer meat south of the PA ($Dorals_{d,s}$)	Total ($Dorals_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	3.55E-02	4.80E-04	4.14E-03	3.72E-03	1.55E-03	4.65E-05	1.93E-03	4.81E-02	NA	NA	NA	NA	NA	NA	NA	9.55E-02	3.13E-06	3.57E-07	NA	3.49E-06
Chromium	1.08E-05	1.14E-06	4.91E-06	8.82E-05	2.98E-04	1.19E-07	1.06E-05	6.50E-05	NA	NA	NA	NA	NA	NA	NA	4.79E-04	5.69E-08	6.49E-09	NA	6.34E-08
Lithium	1.15E-05	1.95E-05	6.34E-06	9.38E-05	2.98E-04	2.33E-07	2.09E-05	4.51E-05	NA	NA	NA	NA	NA	NA	NA	4.96E-04	2.78E-09	3.17E-10	NA	3.10E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Ddermss.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	3.05E-04	5.88E-05	2.26E-02	4.14E-04	NA	NA	NA	2.34E-02	1.19E-01
Chromium	9.29E-07	1.08E-05	2.68E-04	5.59E-06	NA	NA	NA	2.85E-04	7.64E-04
Lithium	9.88E-08	2.39E-06	3.46E-05	3.88E-07	NA	NA	NA	3.75E-05	5.33E-04

NA: Not applicable.

Contaminant of potential human concern	Children - Scenario 5																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Dorals_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Dorals_{b,pa}$)	Fish fillets in the PA ($Dorals_{f,pa}$)	Hare meat in the PA ($Dorals_{h,pa}$)	Deer meat in the PA ($Dorals_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Dorals_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Dorals_{b,s}$)	Fish fillets south of the PA ($Dorals_{f,s}$)	Hare meat south of the PA ($Dorals_{h,s}$)	Deer meat south of the PA ($Dorals_{d,s}$)	Total ($Dorals_{tot}$)	Outdoor air in the PA ($Dinhs_{as,pa}$)	Outdoor air in the village ($Dinhs_{as,v}$)	Outdoor air south of the PA ($Dinhs_{as,s}$)	Total ($Dinhs_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	4.45E-03	2.41E-04	2.08E-03	1.86E-03	7.78E-04	2.33E-05	9.67E-04	6.03E-03	NA	NA	NA	NA	NA	NA	NA	1.64E-02	2.74E-06	3.13E-07	NA	3.06E-06
Chromium	1.35E-06	5.73E-07	2.46E-06	4.43E-05	1.50E-04	5.97E-08	5.33E-06	8.15E-06	NA	NA	NA	NA	NA	NA	NA	2.12E-04	4.99E-08	5.69E-09	NA	5.56E-08
Lithium	1.44E-06	9.80E-06	3.18E-06	4.70E-05	1.50E-04	1.17E-07	1.05E-05	5.66E-06	NA	NA	NA	NA	NA	NA	NA	2.27E-04	2.43E-09	2.78E-10	NA	2.71E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	2.33E-04	4.88E-05	1.91E-02	3.15E-04	NA	NA	NA	1.97E-02	3.61E-02
Chromium	7.08E-07	8.94E-06	2.26E-04	4.26E-06	NA	NA	NA	2.40E-04	4.52E-04
Lithium	7.52E-08	1.99E-06	2.92E-05	2.96E-07	NA	NA	NA	3.16E-05	2.59E-04

NA: Not applicable.

Contaminant of potential human concern	Teen - Scenario 5																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	2.45E-03	6.63E-05	1.14E-03	1.03E-03	4.29E-04	1.29E-05	5.33E-04	3.32E-03	NA	NA	NA	NA	NA	NA	NA	8.99E-03	1.63E-06	1.86E-07	NA	1.81E-06
Chromium	7.47E-07	1.58E-07	1.36E-06	2.44E-05	8.25E-05	3.29E-08	2.94E-06	4.49E-06	NA	NA	NA	NA	NA	NA	NA	1.17E-04	2.96E-08	3.37E-09	NA	3.29E-08
Lithium	7.94E-07	2.70E-06	1.75E-06	2.59E-05	8.25E-05	6.43E-08	5.78E-06	3.12E-06	NA	NA	NA	NA	NA	NA	NA	1.23E-04	1.44E-09	1.65E-10	NA	1.61E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Ddermss.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	1.87E-04	4.10E-05	1.59E-02	2.53E-04	NA	NA	NA	1.64E-02	2.54E-02
Chromium	5.67E-07	7.52E-06	1.88E-04	3.41E-06	NA	NA	NA	2.00E-04	3.17E-04
Lithium	6.03E-08	1.67E-06	2.43E-05	2.37E-07	NA	NA	NA	2.63E-05	1.49E-04

NA: Not applicable.

Contaminant of potential human concern	Adult - Scenario 5																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Dorals_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Dorals_{b,pa}$)	Fish fillets in the PA ($Dorals_{f,pa}$)	Hare meat in the PA ($Dorals_{h,pa}$)	Deer meat in the PA ($Dorals_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Dorals_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Dorals_{b,s}$)	Fish fillets south of the PA ($Dorals_{f,s}$)	Hare meat south of the PA ($Dorals_{h,s}$)	Deer meat south of the PA ($Dorals_{d,s}$)	Total ($Dorals_{tot}$)	Outdoor air in the PA ($Dinhs_{oa,pa}$)	Outdoor air in the village ($Dinhs_{oa,v}$)	Outdoor air south of the PA ($Dinhs_{oa,s}$)	Total ($Dinhs_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	2.07E-03	2.55E-05	8.89E-04	8.68E-04	3.62E-04	1.09E-05	4.50E-04	2.81E-03	NA	NA	NA	NA	NA	NA	NA	7.48E-03	1.46E-06	4.84E-07	NA	1.95E-06
Chromium	6.30E-07	6.08E-08	1.05E-06	2.06E-05	6.97E-05	2.78E-08	2.48E-06	3.79E-06	NA	NA	NA	NA	NA	NA	NA	9.83E-05	2.66E-08	8.79E-09	NA	3.54E-08
Lithium	6.70E-07	1.04E-06	1.36E-06	2.19E-05	6.97E-05	5.43E-08	4.88E-06	2.63E-06	NA	NA	NA	NA	NA	NA	NA	1.02E-04	1.30E-09	4.29E-10	NA	1.73E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	1.77E-04	3.60E-05	1.49E-02	2.40E-04	NA	NA	NA	1.53E-02	2.28E-02
Chromium	5.40E-07	6.60E-06	1.76E-04	3.24E-06	NA	NA	NA	1.87E-04	2.85E-04
Lithium	5.74E-08	1.47E-06	2.28E-05	2.25E-07	NA	NA	NA	2.45E-05	1.27E-04

NA: Not applicable.

Contaminant of potential human concern	Woman - Scenario 5																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doralb_{,pa}$)	Fish fillets in the PA ($Doralf_{,pa}$)	Hare meat in the PA ($Doralh_{,pa}$)	Deer meat in the PA ($Doralu_{,pa}$)	Surface soil in the village ($Dorals_{,v}$)	Surface soil south of the PA ($Dorals_{,s}$)	Surface water south of the PA ($Doralw_{,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doralb_{,s}$)	Fish fillets south of the PA ($Doralf_{,s}$)	Hare meat south of the PA ($Doralh_{,s}$)	Deer meat south of the PA ($Doralu_{,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{as,pa}$)	Outdoor air in the village ($Dinh_{as,v}$)	Outdoor air south of the PA ($Dinh_{as,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	2.07E-03	2.18E-05	7.54E-04	8.68E-04	3.62E-04	1.09E-05	4.50E-04	2.81E-03	NA	NA	NA	NA	NA	NA	NA	7.35E-03	1.46E-06	4.00E-07	NA	1.86E-06
Chromium	6.30E-07	5.20E-08	8.94E-07	2.06E-05	6.97E-05	2.78E-08	2.48E-06	3.79E-06	NA	NA	NA	NA	NA	NA	NA	9.81E-05	2.66E-08	7.27E-09	NA	3.38E-08
Lithium	6.70E-07	8.89E-07	1.15E-06	2.19E-05	6.97E-05	5.43E-08	4.88E-06	2.63E-06	NA	NA	NA	NA	NA	NA	NA	1.02E-04	1.30E-09	3.55E-10	NA	1.65E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Ddermss.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	1.77E-04	3.08E-05	1.49E-02	2.40E-04	NA	NA	NA	1.53E-02	2.27E-02
Chromium	5.40E-07	5.65E-06	1.76E-04	3.24E-06	NA	NA	NA	1.86E-04	2.84E-04
Lithium	5.74E-08	1.25E-06	2.28E-05	2.25E-07	NA	NA	NA	2.43E-05	1.26E-04

NA: Not applicable.

Contaminant of potential human concern	Infant - Scenario 2																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Dorals_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Dorals_{b,pa}$)	Fish fillets in the PA ($Dorals_{f,pa}$)	Hare meat in the PA ($Dorals_{h,pa}$)	Deer meat in the PA ($Dorals_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,sa}$)	Surface water south of the PA ($Dorals_{w,sa}$)	Sediment south of the PA ($Dorals_{sed,sa}$)	Berries south of the PA ($Dorals_{b,sa}$)	Fish fillets south of the PA ($Dorals_{f,sa}$)	Hare meat south of the PA ($Dorals_{h,sa}$)	Deer meat south of the PA ($Dorals_{d,sa}$)	Total ($Dorals_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,sa}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.73E-05	0.00E+00	3.57E-09	4.58E-07	1.78E-05	NA	3.15E-11	4.04E-10	4.35E-10
Chromium	NA	NA	NA	NA	NA	NA	NA	6.10E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.10E-09	NA	3.50E-14	4.48E-13	4.83E-13
Lithium	NA	NA	NA	NA	NA	NA	NA	1.52E-10	8.02E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.44E-09	2.42E-07	2.44E-07	NA	1.92E-14	2.46E-13	2.66E-13

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA
Chromium	NA	NA	NA	1.42E-09	0.00E+00	0.00E+00	0.00E+00	1.42E-09	7.52E-09
Lithium	NA	NA	NA	3.55E-12	1.87E-12	0.00E+00	0.00E+00	5.42E-12	NA

NA: Not applicable.

Contaminant of potential human concern	Toddler - Scenario 2																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.44E-05	0.00E+00	7.11E-09	9.11E-07	3.53E-05	NA	2.36E-10	3.03E-09	3.27E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	4.85E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.85E-08	NA	2.62E-13	3.36E-12	3.62E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	1.21E-09	6.38E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.86E-09	4.81E-07	4.87E-07	NA	1.44E-13	1.85E-12	1.99E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA
Chromium	NA	NA	NA	4.17E-09	0.00E+00	0.00E+00	0.00E+00	4.17E-09	5.27E-08
Lithium	NA	NA	NA	1.04E-11	5.48E-12	0.00E+00	0.00E+00	1.59E-11	NA

NA: Not applicable.

Contaminant of potential human concern	Children - Scenario 2															
	Ingestion (mg/kg-d)															
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Inorganic substance																
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.73E-05	0.00E+00	3.56E-09	4.57E-07	1.77E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	6.08E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.08E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	1.52E-10	7.99E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.44E-09	2.41E-07	2.44E-07

NA: Not applicable.

Contaminant of potential human concern	Inhalation (mg/kg-d)				Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	YES	YES		NO	NO	NO	YES	YES	YES	YES		
Equation	3	3	3	4	5	6	7	5	5	6	7	8	9
Inorganic substance													
Aluminum	NA	2.07E-10	2.65E-09	2.86E-09	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA
Chromium	NA	2.30E-13	2.95E-12	3.18E-12	NA	NA	NA	3.18E-09	0.00E+00	0.00E+00	0.00E+00	3.18E-09	9.26E-09
Lithium	NA	1.26E-13	1.62E-12	1.75E-12	NA	NA	NA	7.94E-12	4.18E-12	0.00E+00	0.00E+00	1.21E-11	NA

NA: Not applicable.

Contaminant of potential human concern	Teen - Scenario 2																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{fpa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{fs}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.52E-06	0.00E+00	1.96E-09	2.52E-07	9.77E-06	NA	1.23E-10	1.57E-09	1.70E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	3.35E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.35E-09	NA	1.36E-13	1.75E-12	1.88E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	8.38E-11	4.41E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.34E-09	1.33E-07	1.34E-07	NA	7.48E-14	9.60E-13	1.03E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{cd}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA
Chromium	NA	NA	NA	2.55E-09	0.00E+00	0.00E+00	0.00E+00	2.55E-09	5.90E-09
Lithium	NA	NA	NA	6.37E-12	3.35E-12	0.00E+00	0.00E+00	9.71E-12	NA

NA: Not applicable.

Contaminant of potential human concern	Adult - Scenario 2																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorал_{s,pa}$)	Surface water in the PA ($Dorал_{w,pa}$)	Sediment in the PA ($Dorал_{Sed,pa}$)	Berries in the PA ($Dorал_{b,pa}$)	Fish fillets in the PA ($Dorал_{f,pa}$)	Hare meat in the PA ($Dorал_{h,pa}$)	Deer meat in the PA ($Dorал_{d,pa}$)	Surface soil in the village ($Dorал_{s,v}$)	Surface soil south of the PA ($Dorал_{s,s}$)	Surface water south of the PA ($Dorал_{w,s}$)	Sediment south of the PA ($Dorал_{Sed,s}$)	Berries south of the PA ($Dorал_{b,s}$)	Fish fillets south of the PA ($Dorал_{f,s}$)	Hare meat south of the PA ($Dorал_{h,s}$)	Deer meat south of the PA ($Dorал_{d,s}$)	Total ($Dorал_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.03E-06	0.00E+00	1.66E-09	2.13E-07	8.25E-06	NA	3.20E-10	1.41E-09	1.73E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	2.83E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.83E-09	NA	3.55E-13	1.57E-12	1.92E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	7.07E-11	3.72E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E-09	1.12E-07	1.13E-07	NA	1.95E-13	8.63E-13	1.06E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Ddermi_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA
Chromium	NA	NA	NA	2.42E-09	0.00E+00	0.00E+00	0.00E+00	2.42E-09	5.25E-09
Lithium	NA	NA	NA	6.05E-12	3.18E-12	0.00E+00	0.00E+00	9.24E-12	NA

NA: Not applicable.

Contaminant of potential human concern	Woman - Scenario 2															
	Ingestion (mg/kg-d)															
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Inorganic substance																
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.03E-06	0.00E+00	1.66E-09	2.13E-07	8.25E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	2.83E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.83E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	7.07E-11	3.72E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E-09	1.12E-07	1.13E-07

NA: Not applicable.

Contaminant of potential human concern	Inhalation (mg/kg-d)				Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	YES	YES		NO	NO	NO	YES	YES	YES	YES		
Equation	3	3	3	4	5	6	7	5	5	6	7	8	9
Inorganic substance													
Aluminum	NA	2.65E-10	1.41E-09	1.68E-09	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA
Chromium	NA	2.94E-13	1.57E-12	1.86E-12	NA	NA	NA	2.42E-09	0.00E+00	0.00E+00	0.00E+00	2.42E-09	5.25E-09
Lithium	NA	1.61E-13	8.63E-13	1.02E-12	NA	NA	NA	6.05E-12	3.18E-12	0.00E+00	0.00E+00	9.24E-12	NA

NA: Not applicable.

Contaminant of potential human concern	Infant - Scenario 3																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	-3.86E-06	0.00E+00	1.73E-05	0.00E+00	3.55E-09	4.45E-07	1.39E-05	NA	3.15E-11	4.04E-10	4.35E-10
Chromium	NA	NA	NA	NA	NA	NA	NA	6.10E-09	0.00E+00	-7.38E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.28E-09	NA	3.50E-14	4.48E-13	4.83E-13
Lithium	NA	NA	NA	NA	NA	NA	NA	1.52E-10	8.02E-11	1.31E-07	0.00E+00	0.00E+00	0.00E+00	2.44E-09	2.42E-07	3.76E-07	NA	1.92E-14	2.46E-13	2.66E-13

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	-2.80E-07	0.00E+00	-2.80E-07	NA
Chromium	NA	NA	NA	1.42E-09	0.00E+00	-4.11E-08	0.00E+00	-3.97E-08	-4.09E-08
Lithium	NA	NA	NA	3.55E-12	1.87E-12	9.50E-09	0.00E+00	9.50E-09	NA

NA: Not applicable.

Contaminant of potential human concern	Toddler - Scenario 3																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	-1.73E-05	0.00E+00	7.75E-05	0.00E+00	1.59E-08	1.99E-06	6.22E-05	NA	5.31E-10	6.82E-09	7.35E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	1.09E-07	0.00E+00	-3.30E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.61E-08	NA	5.90E-13	7.57E-12	8.16E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	2.73E-09	1.43E-09	5.87E-07	0.00E+00	0.00E+00	0.00E+00	1.09E-08	1.08E-06	1.68E-06	NA	3.24E-13	4.16E-12	4.48E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	-2.12E-06	0.00E+00	-2.12E-06	NA
Chromium	NA	NA	NA	9.38E-09	0.00E+00	-3.11E-07	0.00E+00	-3.02E-07	-2.26E-07
Lithium	NA	NA	NA	2.35E-11	1.23E-11	7.19E-08	0.00E+00	7.20E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Children - Scenario 3																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Doralw_{,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	-1.35E-05	0.00E+00	6.04E-05	0.00E+00	1.24E-08	1.55E-06	4.85E-05	NA	7.24E-10	9.29E-09	1.00E-08
Chromium	NA	NA	NA	NA	NA	NA	NA	2.13E-08	0.00E+00	-2.57E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.47E-09	NA	8.04E-13	1.03E-11	1.11E-11
Lithium	NA	NA	NA	NA	NA	NA	NA	5.32E-10	2.80E-10	4.58E-07	0.00E+00	0.00E+00	0.00E+00	8.53E-09	8.44E-07	1.31E-06	NA	4.42E-13	5.67E-12	6.11E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	-2.73E-06	0.00E+00	-2.73E-06	NA
Chromium	NA	NA	NA	1.11E-08	0.00E+00	-4.02E-07	0.00E+00	-3.90E-07	-3.95E-07
Lithium	NA	NA	NA	2.78E-11	1.46E-11	9.28E-08	0.00E+00	9.29E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Teen - Scenario 3															
	Ingestion (mg/kg-d)															
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Inorganic substance																
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	-4.24E-06	0.00E+00	3.81E-05	0.00E+00	7.81E-09	9.79E-07	3.48E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	1.34E-08	0.00E+00	-8.11E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.29E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	3.35E-10	1.76E-10	1.44E-07	0.00E+00	0.00E+00	0.00E+00	5.37E-09	5.31E-07	6.81E-07

NA: Not applicable.

Contaminant of potential human concern	Inhalation (mg/kg-d)				Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	YES	YES		NO	NO	NO	YES	YES	YES	YES		
Equation	3	3	3	4	5	6	7	5	5	6	7	8	9
Inorganic substance													
Aluminum	NA	4.91E-10	6.29E-09	6.79E-09	NA	NA	NA	0.00E+00	0.00E+00	-2.63E-06	0.00E+00	-2.63E-06	NA
Chromium	NA	5.45E-13	6.99E-12	7.53E-12	NA	NA	NA	1.02E-08	0.00E+00	-3.86E-07	0.00E+00	-3.76E-07	-3.70E-07
Lithium	NA	2.99E-13	3.84E-12	4.14E-12	NA	NA	NA	2.55E-11	1.34E-11	8.92E-08	0.00E+00	8.92E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Adult - Scenario 3																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorал_{s,pa}$)	Surface water in the PA ($Dorал_{w,pa}$)	Sediment in the PA ($Dorал_{Sed,pa}$)	Berries in the PA ($Dorал_{b,pa}$)	Fish fillets in the PA ($Dorал_{f,pa}$)	Hare meat in the PA ($Dorал_{h,pa}$)	Deer meat in the PA ($Dorал_{d,pa}$)	Surface soil in the village ($Dorал_{s,v}$)	Surface soil south of the PA ($Dorал_{s,s}$)	Surface water south of the PA ($Dorал_{w,s}$)	Sediment south of the PA ($Dorал_{Sed,s}$)	Berries south of the PA ($Dorал_{b,s}$)	Fish fillets south of the PA ($Dorал_{f,s}$)	Hare meat south of the PA ($Dorал_{h,s}$)	Deer meat south of the PA ($Dorал_{d,s}$)	Total ($Dorал_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																					
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	-2.25E-06	0.00E+00	4.42E-05	0.00E+00	9.07E-09	1.14E-06	4.31E-05	NA	1.76E-09	7.78E-09	9.54E-09	
Chromium	NA	NA	NA	NA	NA	NA	NA	1.56E-08	0.00E+00	-4.29E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E-08	NA	1.95E-12	8.63E-12	1.06E-11	
Lithium	NA	NA	NA	NA	NA	NA	NA	3.89E-10	2.05E-10	7.63E-08	0.00E+00	0.00E+00	0.00E+00	6.23E-09	6.17E-07	7.00E-07	NA	1.07E-12	4.74E-12	5.82E-12	

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	-3.17E-06	0.00E+00	-3.17E-06	NA
Chromium	NA	NA	NA	1.33E-08	0.00E+00	-4.66E-07	0.00E+00	-4.53E-07	-4.41E-07
Lithium	NA	NA	NA	3.33E-11	1.75E-11	1.08E-07	0.00E+00	1.08E-07	NA

NA: Not applicable.

Contaminant of potential human concern	Woman - Scenario 3																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,sa}$)	Surface water south of the PA ($Doral_{w,sa}$)	Sediment south of the PA ($Doral_{sed,sa}$)	Berries south of the PA ($Doral_{b,sa}$)	Fish fillets south of the PA ($Doral_{f,sa}$)	Hare meat south of the PA ($Doral_{h,sa}$)	Deer meat south of the PA ($Doral_{d,sa}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,sa}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	-1.92E-06	0.00E+00	4.42E-05	0.00E+00	9.07E-09	1.14E-06	4.34E-05	NA	1.46E-09	7.78E-09	9.23E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	1.56E-08	0.00E+00	-3.67E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.19E-08	NA	1.62E-12	8.63E-12	1.02E-11
Lithium	NA	NA	NA	NA	NA	NA	NA	3.89E-10	2.05E-10	6.53E-08	0.00E+00	0.00E+00	0.00E+00	6.23E-09	6.17E-07	6.89E-07	NA	8.88E-13	4.74E-12	5.63E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	-2.71E-06	0.00E+00	-2.71E-06	NA
Chromium	NA	NA	NA	1.33E-08	0.00E+00	-3.98E-07	0.00E+00	-3.85E-07	-3.73E-07
Lithium	NA	NA	NA	3.33E-11	1.75E-11	9.21E-08	0.00E+00	9.22E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Infant - Scenario 4																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	-2.74E-06	0.00E+00	1.73E-05	0.00E+00	3.58E-09	4.49E-07	1.50E-05	NA	3.15E-11	4.04E-10	4.35E-10
Chromium	NA	NA	NA	NA	NA	NA	NA	6.10E-09	0.00E+00	-1.02E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.15E-09	NA	3.50E-14	4.48E-13	4.83E-13
Lithium	NA	NA	NA	NA	NA	NA	NA	1.52E-10	8.02E-11	1.31E-07	0.00E+00	0.00E+00	0.00E+00	2.44E-09	2.42E-07	3.76E-07	NA	1.92E-14	2.46E-13	2.66E-13

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	-1.99E-07	0.00E+00	-1.99E-07	NA
Chromium	NA	NA	NA	1.42E-09	0.00E+00	-5.71E-08	0.00E+00	-5.56E-08	-5.98E-08
Lithium	NA	NA	NA	3.55E-12	1.87E-12	9.50E-09	0.00E+00	9.50E-09	NA

NA: Not applicable.

Contaminant of potential human concern	Toddler - Scenario 4																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,sa}$)	Surface water south of the PA ($Doral_{w,sa}$)	Sediment south of the PA ($Doral_{sed,sa}$)	Berries south of the PA ($Doral_{b,sa}$)	Fish fillets south of the PA ($Doral_{f,sa}$)	Hare meat south of the PA ($Doral_{h,sa}$)	Deer meat south of the PA ($Doral_{d,sa}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,sa}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	-8.18E-06	0.00E+00	5.16E-05	0.00E+00	1.07E-08	1.34E-06	4.48E-05	NA	3.54E-10	4.54E-09	4.90E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	7.27E-08	0.00E+00	-3.06E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.22E-08	NA	3.93E-13	5.04E-12	5.44E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	1.82E-09	9.56E-10	3.91E-07	0.00E+00	0.00E+00	0.00E+00	7.29E-09	7.21E-07	1.12E-06	NA	2.16E-13	2.77E-12	2.99E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	-1.00E-06	0.00E+00	-1.00E-06	NA
Chromium	NA	NA	NA	6.25E-09	0.00E+00	-2.88E-07	0.00E+00	-2.82E-07	-2.40E-07
Lithium	NA	NA	NA	1.56E-11	8.23E-12	4.80E-08	0.00E+00	4.80E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Children - Scenario 4																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	-4.10E-06	0.00E+00	2.59E-05	0.00E+00	5.35E-09	6.72E-07	2.25E-05	NA	3.10E-10	3.98E-09	4.29E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	9.12E-09	0.00E+00	-1.53E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-6.21E-09	NA	3.45E-13	4.42E-12	4.76E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	2.28E-10	1.20E-10	1.96E-07	0.00E+00	0.00E+00	0.00E+00	3.65E-09	3.62E-07	5.62E-07	NA	1.89E-13	2.43E-12	2.62E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	-8.32E-07	0.00E+00	-8.32E-07	NA
Chromium	NA	NA	NA	4.76E-09	0.00E+00	-2.39E-07	0.00E+00	-2.34E-07	-2.40E-07
Lithium	NA	NA	NA	1.19E-11	6.27E-12	3.98E-08	0.00E+00	3.98E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Teen - Scenario 4																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{fpa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{fs}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	-1.13E-06	0.00E+00	1.43E-05	0.00E+00	2.95E-09	3.70E-07	1.35E-05	NA	1.84E-10	2.36E-09	2.54E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	5.03E-09	0.00E+00	-4.22E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.03E-10	NA	2.04E-13	2.62E-12	2.82E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	1.26E-10	6.61E-11	5.41E-08	0.00E+00	0.00E+00	0.00E+00	2.01E-09	1.99E-07	2.56E-07	NA	1.12E-13	1.44E-12	1.55E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{cd}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	-6.99E-07	0.00E+00	-6.99E-07	NA
Chromium	NA	NA	NA	3.82E-09	0.00E+00	-2.01E-07	0.00E+00	-1.97E-07	-1.96E-07
Lithium	NA	NA	NA	9.55E-12	5.02E-12	3.34E-08	0.00E+00	3.35E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Adult - Scenario 4																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorал_{s,pa}$)	Surface water in the PA ($Dorал_{w,pa}$)	Sediment in the PA ($Dorал_{Sed,pa}$)	Berries in the PA ($Dorал_{b,pa}$)	Fish fillets in the PA ($Dorал_{f,pa}$)	Hare meat in the PA ($Dorал_{h,pa}$)	Deer meat in the PA ($Dorал_{d,pa}$)	Surface soil in the village ($Dorал_{s,v}$)	Surface soil south of the PA ($Dorал_{s,s}$)	Surface water south of the PA ($Dorал_{w,s}$)	Sediment south of the PA ($Dorал_{Sed,s}$)	Berries south of the PA ($Dorал_{b,s}$)	Fish fillets south of the PA ($Dorал_{f,s}$)	Hare meat south of the PA ($Dorал_{h,s}$)	Deer meat south of the PA ($Dorал_{d,s}$)	Total ($Dorал_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	-4.35E-07	0.00E+00	1.21E-05	0.00E+00	2.49E-09	3.13E-07	1.19E-05	NA	4.80E-10	2.12E-09	2.60E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	4.24E-09	0.00E+00	-1.63E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.62E-09	NA	5.32E-13	2.35E-12	2.89E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	1.06E-10	5.58E-11	2.08E-08	0.00E+00	0.00E+00	0.00E+00	1.70E-09	1.68E-07	1.91E-07	NA	2.93E-13	1.29E-12	1.59E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	-6.14E-07	0.00E+00	-6.14E-07	NA
Chromium	NA	NA	NA	3.63E-09	0.00E+00	-1.76E-07	0.00E+00	-1.73E-07	-1.70E-07
Lithium	NA	NA	NA	9.08E-12	4.78E-12	2.94E-08	0.00E+00	2.94E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Woman - Scenario 4																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Doralw_{,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	-3.72E-07	0.00E+00	1.21E-05	0.00E+00	2.49E-09	3.13E-07	1.20E-05	NA	3.97E-10	2.12E-09	2.52E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	4.24E-09	0.00E+00	-1.39E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.85E-09	NA	4.41E-13	2.35E-12	2.79E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	1.06E-10	5.58E-11	1.78E-08	0.00E+00	0.00E+00	0.00E+00	1.70E-09	1.68E-07	1.88E-07	NA	2.42E-13	1.29E-12	1.54E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	-5.25E-07	0.00E+00	-5.25E-07	NA
Chromium	NA	NA	NA	3.63E-09	0.00E+00	-1.51E-07	0.00E+00	-1.47E-07	-1.44E-07
Lithium	NA	NA	NA	9.08E-12	4.78E-12	2.51E-08	0.00E+00	2.51E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Infant - Scenario 5																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	8.52E-05	-1.16E-06	1.35E-05	1.97E-05	0.00E+00	4.43E-07	1.81E-05	0.00E+00	NA	NA	NA	NA	NA	NA	NA	1.36E-04	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	2.67E-11	-7.34E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.10E-09	NA	NA	NA	NA	NA	NA	NA	-1.22E-09	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	1.37E-08	2.46E-07	0.00E+00	0.00E+00	0.00E+00	2.93E-09	2.63E-07	1.52E-10	NA	NA	NA	NA	NA	NA	NA	5.25E-07	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	0.00E+00	-8.38E-08	4.27E-05	0.00E+00	NA	NA	NA	4.27E-05	NA
Chromium	0.00E+00	-4.09E-08	0.00E+00	1.42E-09	NA	NA	NA	-3.95E-08	-4.07E-08
Lithium	0.00E+00	1.78E-08	0.00E+00	3.55E-12	NA	NA	NA	1.78E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Toddler - Scenario 5																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	1.52E-03	-5.18E-06	6.04E-05	8.82E-05	0.00E+00	1.98E-06	8.08E-05	0.00E+00	NA	NA	NA	NA	NA	NA	NA	1.75E-03	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	4.78E-10	-3.28E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.09E-07	NA	NA	NA	NA	NA	NA	NA	7.67E-08	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	2.44E-07	1.10E-06	0.00E+00	0.00E+00	0.00E+00	1.31E-08	1.18E-06	2.73E-09	NA	NA	NA	NA	NA	NA	NA	2.54E-06	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{cd}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	1.31E-05	-6.35E-07	3.30E-04	0.00E+00	NA	NA	NA	3.42E-04	NA
Chromium	4.11E-11	-3.10E-07	0.00E+00	9.38E-09	NA	NA	NA	-3.00E-07	-2.24E-07
Lithium	2.10E-09	1.35E-07	0.00E+00	2.35E-11	NA	NA	NA	1.37E-07	NA

NA: Not applicable.

Contaminant of potential human concern	Children - Scenario 5																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Doralw_{,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	2.97E-04	-4.04E-06	4.71E-05	6.88E-05	0.00E+00	1.55E-06	6.31E-05	0.00E+00	NA	NA	NA	NA	NA	NA	NA	4.74E-04	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	9.33E-11	-2.56E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.13E-08	NA	NA	NA	NA	NA	NA	NA	-4.26E-09	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	4.77E-08	8.57E-07	0.00E+00	0.00E+00	0.00E+00	1.02E-08	9.18E-07	5.32E-10	NA	NA	NA	NA	NA	NA	NA	1.83E-06	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	1.55E-05	-8.19E-07	4.33E-04	0.00E+00	NA	NA	NA	4.48E-04	NA
Chromium	4.87E-11	-4.00E-07	0.00E+00	1.11E-08	NA	NA	NA	-3.89E-07	-3.93E-07
Lithium	2.49E-09	1.74E-07	0.00E+00	2.78E-11	NA	NA	NA	1.76E-07	NA

NA: Not applicable.

Contaminant of potential human concern	Teen - Scenario 5																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{fpa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Dorals_{s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{fs}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	1.87E-04	-1.27E-06	2.97E-05	4.33E-05	0.00E+00	9.74E-07	3.97E-05	0.00E+00	NA	NA	NA	NA	NA	NA	NA	3.00E-04	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	5.87E-11	-8.07E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.34E-08	NA	NA	NA	NA	NA	NA	NA	5.39E-09	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	3.00E-08	2.70E-07	0.00E+00	0.00E+00	0.00E+00	6.43E-09	5.78E-07	3.35E-10	NA	NA	NA	NA	NA	NA	NA	8.85E-07	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{cd}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	1.42E-05	-7.87E-07	4.12E-04	0.00E+00	NA	NA	NA	4.26E-04	NA
Chromium	4.46E-11	-3.84E-07	0.00E+00	1.02E-08	NA	NA	NA	-3.74E-07	-3.68E-07
Lithium	2.28E-09	1.67E-07	0.00E+00	2.55E-11	NA	NA	NA	1.69E-07	NA

NA: Not applicable.

Contaminant of potential human concern	Adult - Scenario 5																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	1.19E-03	-3.67E-06	1.73E-04	2.74E-04	0.00E+00	6.17E-06	2.52E-04	0.00E+00	NA	NA	NA	NA	NA	NA	NA	1.89E-03	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	3.72E-10	-2.33E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.49E-08	NA	NA	NA	NA	NA	NA	NA	6.19E-08	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	1.90E-07	7.80E-07	0.00E+00	0.00E+00	0.00E+00	4.07E-08	3.66E-06	2.12E-09	NA	NA	NA	NA	NA	NA	NA	4.67E-06	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	1.02E-04	-5.18E-06	2.89E-03	0.00E+00	NA	NA	NA	2.99E-03	NA
Chromium	3.18E-10	-2.53E-06	0.00E+00	7.26E-08	NA	NA	NA	-2.46E-06	-2.39E-06
Lithium	1.63E-08	1.10E-06	0.00E+00	1.82E-10	NA	NA	NA	1.12E-06	NA

NA: Not applicable.

Contaminant of potential human concern	Woman - Scenario 5																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,sa}$)	Surface water south of the PA ($Doral_{w,sa}$)	Sediment south of the PA ($Doral_{sed,sa}$)	Berries south of the PA ($Doral_{b,sa}$)	Fish fillets south of the PA ($Doral_{f,sa}$)	Hare meat south of the PA ($Doral_{h,sa}$)	Deer meat south of the PA ($Doral_{d,sa}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,sa}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	1.19E-03	-3.14E-06	1.47E-04	2.74E-04	0.00E+00	6.17E-06	2.52E-04	0.00E+00	NA	NA	NA	NA	NA	NA	NA	1.86E-03	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	3.72E-10	-1.99E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.49E-08	NA	NA	NA	NA	NA	NA	NA	6.53E-08	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	1.90E-07	6.67E-07	0.00E+00	0.00E+00	0.00E+00	4.07E-08	3.66E-06	2.12E-09	NA	NA	NA	NA	NA	NA	NA	4.56E-06	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	1.02E-04	-4.43E-06	2.89E-03	0.00E+00	NA	NA	NA	2.99E-03	NA
Chromium	3.18E-10	-2.16E-06	0.00E+00	7.26E-08	NA	NA	NA	-2.09E-06	-2.03E-06
Lithium	1.63E-08	9.41E-07	0.00E+00	1.82E-10	NA	NA	NA	9.57E-07	NA

NA: Not applicable.

Contaminant of potential human concern	Infant - Scenario 1A				Toddler - Scenario 1A				Children - Scenario 1A			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	YES	YES	NO		YES	YES	NO		YES	YES	NO	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	6.23E-06	7.10E-07	NA	6.94E-06	6.23E-06	7.10E-07	NA	6.94E-06	6.23E-06	7.10E-07	NA	6.94E-06
Chromium	1.13E-07	1.29E-08	NA	1.26E-07	1.13E-07	1.29E-08	NA	1.26E-07	1.13E-07	1.29E-08	NA	1.26E-07
Lithium	5.52E-09	6.30E-10	NA	6.15E-09	5.52E-09	6.30E-10	NA	6.15E-09	5.52E-09	6.30E-10	NA	6.15E-09

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 1A				Adult - Scenario 1A				Woman - Scenario 1A			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	YES	YES	NO		YES	YES	NO		YES	YES	NO	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	6.23E-06	7.10E-07	NA	6.94E-06	6.23E-06	2.06E-06	NA	8.29E-06	6.23E-06	1.70E-06	NA	7.93E-06
Chromium	1.13E-07	1.29E-08	NA	1.26E-07	1.13E-07	3.74E-08	NA	1.51E-07	1.13E-07	3.10E-08	NA	1.44E-07
Lithium	5.52E-09	6.30E-10	NA	6.15E-09	5.52E-09	1.83E-09	NA	7.35E-09	5.52E-09	1.51E-09	NA	7.04E-09

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 1B				Toddler - Scenario 1B				Children - Scenario 1B			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	7.10E-07	6.23E-06	6.94E-06	NA	7.10E-07	6.23E-06	6.94E-06	NA	7.10E-07	6.23E-06	6.94E-06
Chromium	NA	1.29E-08	1.13E-07	1.26E-07	NA	1.29E-08	1.13E-07	1.26E-07	NA	1.29E-08	1.13E-07	1.26E-07
Lithium	NA	6.30E-10	5.52E-09	6.15E-09	NA	6.30E-10	5.52E-09	6.15E-09	NA	6.30E-10	5.52E-09	6.15E-09

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 1B Inhalation (mg/m³)				Adult - Scenario 1B Inhalation (mg/m³)				Woman - Scenario 1B Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	7.10E-07	6.23E-06	6.94E-06	NA	2.06E-06	6.23E-06	8.29E-06	NA	1.70E-06	6.23E-06	7.93E-06
Chromium	NA	1.29E-08	1.13E-07	1.26E-07	NA	3.74E-08	1.13E-07	1.51E-07	NA	3.10E-08	1.13E-07	1.44E-07
Lithium	NA	6.30E-10	5.52E-09	6.15E-09	NA	1.83E-09	5.52E-09	7.35E-09	NA	1.51E-09	5.52E-09	7.04E-09

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 2				Toddler - Scenario 2				Children - Scenario 2			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	7.29E-07	6.47E-06	7.20E-06	NA	7.29E-07	6.47E-06	7.20E-06	NA	7.29E-07	6.47E-06	7.20E-06
Chromium	NA	1.29E-08	1.13E-07	1.26E-07	NA	1.29E-08	1.13E-07	1.26E-07	NA	1.29E-08	1.13E-07	1.26E-07
Lithium	NA	6.41E-10	5.67E-09	6.31E-09	NA	6.41E-10	5.67E-09	6.31E-09	NA	6.41E-10	5.67E-09	6.31E-09

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 2 Inhalation (mg/m³)				Adult - Scenario 2 Inhalation (mg/m³)				Woman - Scenario 2 Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	7.29E-07	6.47E-06	7.20E-06	NA	2.11E-06	6.47E-06	8.58E-06	NA	1.75E-06	6.47E-06	8.22E-06
Chromium	NA	1.29E-08	1.13E-07	1.26E-07	NA	3.75E-08	1.13E-07	1.51E-07	NA	3.10E-08	1.13E-07	1.44E-07
Lithium	NA	6.41E-10	5.67E-09	6.31E-09	NA	1.86E-09	5.67E-09	7.53E-09	NA	1.54E-09	5.67E-09	7.21E-09

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 3				Toddler - Scenario 3				Children - Scenario 3			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	7.29E-07	6.47E-06	7.20E-06	NA	7.29E-07	6.47E-06	7.20E-06	NA	7.29E-07	6.47E-06	7.20E-06
Chromium	NA	1.29E-08	1.13E-07	1.26E-07	NA	1.29E-08	1.13E-07	1.26E-07	NA	1.29E-08	1.13E-07	1.26E-07
Lithium	NA	6.41E-10	5.67E-09	6.31E-09	NA	6.41E-10	5.67E-09	6.31E-09	NA	6.41E-10	5.67E-09	6.31E-09

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 3				Adult - Scenario 3				Woman - Scenario 3			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	7.29E-07	6.47E-06	7.20E-06	NA	2.11E-06	6.47E-06	8.58E-06	NA	1.75E-06	6.47E-06	8.22E-06
Chromium	NA	1.29E-08	1.13E-07	1.26E-07	NA	3.75E-08	1.13E-07	1.51E-07	NA	3.10E-08	1.13E-07	1.44E-07
Lithium	NA	6.41E-10	5.67E-09	6.31E-09	NA	1.86E-09	5.67E-09	7.53E-09	NA	1.54E-09	5.67E-09	7.21E-09

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 4				Toddler - Scenario 4				Children - Scenario 4			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	7.29E-07	6.47E-06	7.20E-06	NA	7.29E-07	6.47E-06	7.20E-06	NA	7.29E-07	6.47E-06	7.20E-06
Chromium	NA	1.29E-08	1.13E-07	1.26E-07	NA	1.29E-08	1.13E-07	1.26E-07	NA	1.29E-08	1.13E-07	1.26E-07
Lithium	NA	6.41E-10	5.67E-09	6.31E-09	NA	6.41E-10	5.67E-09	6.31E-09	NA	6.41E-10	5.67E-09	6.31E-09

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 4				Adult - Scenario 4				Woman - Scenario 4			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	7.29E-07	6.47E-06	7.20E-06	NA	2.11E-06	6.47E-06	8.58E-06	NA	1.75E-06	6.47E-06	8.22E-06
Chromium	NA	1.29E-08	1.13E-07	1.26E-07	NA	3.75E-08	1.13E-07	1.51E-07	NA	3.10E-08	1.13E-07	1.44E-07
Lithium	NA	6.41E-10	5.67E-09	6.31E-09	NA	1.86E-09	5.67E-09	7.53E-09	NA	1.54E-09	5.67E-09	7.21E-09

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 5				Toddler - Scenario 5				Children - Scenario 5			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	YES	YES	NO		YES	YES	NO		YES	YES	NO	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	6.23E-06	7.10E-07	NA	6.94E-06	6.23E-06	7.10E-07	NA	6.94E-06	6.23E-06	7.10E-07	NA	6.94E-06
Chromium	1.13E-07	1.29E-08	NA	1.26E-07	1.13E-07	1.29E-08	NA	1.26E-07	1.13E-07	1.29E-08	NA	1.26E-07
Lithium	5.52E-09	6.30E-10	NA	6.15E-09	5.52E-09	6.30E-10	NA	6.15E-09	5.52E-09	6.30E-10	NA	6.15E-09

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 5				Adult - Scenario 5				Woman - Scenario 5			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	YES	YES	NO		YES	YES	NO		YES	YES	NO	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	6.23E-06	7.10E-07	NA	6.94E-06	6.23E-06	2.06E-06	NA	8.29E-06	6.23E-06	1.70E-06	NA	7.93E-06
Chromium	1.13E-07	1.29E-08	NA	1.26E-07	1.13E-07	3.74E-08	NA	1.51E-07	1.13E-07	3.10E-08	NA	1.44E-07
Lithium	5.52E-09	6.30E-10	NA	6.15E-09	5.52E-09	1.83E-09	NA	7.35E-09	5.52E-09	1.51E-09	NA	7.04E-09

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 2				Toddler - Scenario 2				Children - Scenario 2			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	1.17E-10	1.51E-09	1.62E-09	NA	4.69E-10	6.02E-09	6.49E-09	NA	4.69E-10	6.02E-09	6.49E-09
Chromium	NA	1.30E-13	1.67E-12	1.80E-12	NA	5.21E-13	6.68E-12	7.21E-12	NA	5.21E-13	6.68E-12	7.21E-12
Lithium	NA	7.16E-14	9.18E-13	9.90E-13	NA	2.86E-13	3.67E-12	3.96E-12	NA	2.86E-13	3.67E-12	3.96E-12

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 2				Adult - Scenario 2				Woman - Scenario 2			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	4.69E-10	6.02E-09	6.49E-09	NA	1.36E-09	6.02E-09	7.38E-09	NA	1.13E-09	6.02E-09	7.15E-09
Chromium	NA	5.21E-13	6.68E-12	7.21E-12	NA	1.51E-12	6.68E-12	8.20E-12	NA	1.25E-12	6.68E-12	7.94E-12
Lithium	NA	2.86E-13	3.67E-12	3.96E-12	NA	8.31E-13	3.67E-12	4.50E-12	NA	6.87E-13	3.67E-12	4.36E-12

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 3				Toddler - Scenario 3				Children - Scenario 3			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	1.17E-10	1.51E-09	1.62E-09	NA	1.06E-09	1.35E-08	1.46E-08	NA	1.64E-09	2.11E-08	2.27E-08
Chromium	NA	1.30E-13	1.67E-12	1.80E-12	NA	1.17E-12	1.50E-11	1.62E-11	NA	1.82E-12	2.34E-11	2.52E-11
Lithium	NA	7.16E-14	9.18E-13	9.90E-13	NA	6.44E-13	8.27E-12	8.91E-12	NA	1.00E-12	1.29E-11	1.39E-11

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 3				Adult - Scenario 3				Woman - Scenario 3			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	1.88E-09	2.41E-08	2.60E-08	NA	7.49E-09	3.31E-08	4.06E-08	NA	6.20E-09	3.31E-08	3.93E-08
Chromium	NA	2.08E-12	2.67E-11	2.88E-11	NA	8.31E-12	3.68E-11	4.51E-11	NA	6.88E-12	3.68E-11	4.36E-11
Lithium	NA	1.15E-12	1.47E-11	1.58E-11	NA	4.57E-12	2.02E-11	2.48E-11	NA	3.78E-12	2.02E-11	2.40E-11

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 4				Toddler - Scenario 4				Children - Scenario 4			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	1.17E-10	1.51E-09	1.62E-09	NA	7.04E-10	9.03E-09	9.74E-09	NA	7.04E-10	9.03E-09	9.74E-09
Chromium	NA	1.30E-13	1.67E-12	1.80E-12	NA	7.82E-13	1.00E-11	1.08E-11	NA	7.82E-13	1.00E-11	1.08E-11
Lithium	NA	7.16E-14	9.18E-13	9.90E-13	NA	4.30E-13	5.51E-12	5.94E-12	NA	4.30E-13	5.51E-12	5.94E-12

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 4				Adult - Scenario 4				Woman - Scenario 4			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	7.04E-10	9.03E-09	9.74E-09	NA	2.04E-09	9.03E-09	1.11E-08	NA	1.69E-09	9.03E-09	1.07E-08
Chromium	NA	7.82E-13	1.00E-11	1.08E-11	NA	2.27E-12	1.00E-11	1.23E-11	NA	1.88E-12	1.00E-11	1.19E-11
Lithium	NA	4.30E-13	5.51E-12	5.94E-12	NA	1.25E-12	5.51E-12	6.76E-12	NA	1.03E-12	5.51E-12	6.54E-12

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 5				Toddler - Scenario 5				Children - Scenario 5			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	YES	YES	NO		YES	YES	NO		YES	YES	NO	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 5				Adult - Scenario 5				Woman - Scenario 5			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	YES	YES	NO		YES	YES	NO		YES	YES	NO	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 1A																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	4.23E-03	1.15E-03	6.17E-03	4.33E-03	3.12E-03	2.27E-05	9.89E-04	2.42E-02	NA	NA	NA	NA	NA	NA	NA	4.42E-02	1.25E-03	1.42E-04	NA	1.39E-03
Chromium	2.47E-03	1.58E-03	4.49E-03	8.07E-02	2.73E-01	1.09E-04	9.71E-03	1.44E-02	NA	NA	NA	NA	NA	NA	NA	3.86E-01	1.13E-03	1.29E-04	NA	1.26E-03
Lithium	1.80E-03	0.00E+00	6.38E-03	9.43E-02	3.00E-01	0.00E+00	0.00E+00	1.13E-02	NA	NA	NA	NA	NA	NA	NA	4.14E-01	7.41E-07	8.45E-08	NA	8.25E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	9.85E-05	8.33E-05	1.95E-02	5.64E-04	NA	NA	NA	2.03E-02	6.45E-02
Chromium	5.75E-04	8.80E-03	1.42E-01	3.36E-03	NA	NA	NA	1.55E-01	5.41E-01
Lithium	4.19E-05	0.00E+00	2.02E-02	2.64E-04	NA	NA	NA	2.05E-02	4.35E-01

NA: Not applicable

Contaminant of potential human concern	Toddler - Scenario 1A																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	8.41E-03	5.72E-04	3.07E-03	2.15E-03	1.55E-03	1.13E-05	4.92E-04	4.81E-02	NA	NA	NA	NA	NA	NA	NA	6.44E-02	1.25E-03	1.42E-04	NA	1.39E-03
Chromium	4.91E-03	7.85E-04	2.23E-03	4.01E-02	1.36E-01	5.41E-05	4.83E-03	2.87E-02	NA	NA	NA	NA	NA	NA	NA	2.17E-01	1.13E-03	1.29E-04	NA	1.26E-03
Lithium	3.57E-03	0.00E+00	3.17E-03	4.69E-02	1.49E-01	0.00E+00	0.00E+00	2.25E-02	NA	NA	NA	NA	NA	NA	NA	2.25E-01	1.39E-06	1.58E-07	NA	1.55E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	7.23E-05	7.01E-05	1.67E-02	4.14E-04	NA	NA	NA	1.73E-02	8.16E-02
Chromium	4.22E-04	7.40E-03	1.22E-01	2.46E-03	NA	NA	NA	1.32E-01	3.49E-01
Lithium	3.07E-05	0.00E+00	1.73E-02	1.94E-04	NA	NA	NA	1.75E-02	2.43E-01

NA: Not applicable

Contaminant of potential human concern	Children - Scenario 1A																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	1.05E-03	2.87E-04	1.54E-03	1.08E-03	7.78E-04	5.66E-06	2.47E-04	6.03E-03	NA	NA	NA	NA	NA	NA	NA	1.10E-02	1.25E-03	1.42E-04	NA	1.39E-03
Chromium	6.15E-04	3.94E-04	1.12E-03	2.01E-02	6.80E-02	2.71E-05	2.42E-03	3.59E-03	NA	NA	NA	NA	NA	NA	NA	9.63E-02	1.13E-03	1.29E-04	NA	1.26E-03
Lithium	4.48E-04	0.00E+00	1.59E-03	2.35E-02	7.48E-02	0.00E+00	0.00E+00	2.83E-03	NA	NA	NA	NA	NA	NA	NA	1.03E-01	1.22E-06	1.39E-07	NA	1.36E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	5.51E-05	5.81E-05	1.41E-02	3.15E-04	NA	NA	NA	1.46E-02	2.56E-02
Chromium	3.22E-04	6.14E-03	1.03E-01	1.88E-03	NA	NA	NA	1.11E-01	2.07E-01
Lithium	2.34E-05	0.00E+00	1.46E-02	1.48E-04	NA	NA	NA	1.48E-02	1.18E-01

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 1A																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	5.81E-04	7.90E-05	8.48E-04	5.94E-04	4.29E-04	3.12E-06	1.36E-04	3.32E-03	NA	NA	NA	NA	NA	NA	NA	5.99E-03	1.25E-03	1.42E-04	NA	1.39E-03
Chromium	3.39E-04	1.08E-04	6.17E-04	1.11E-02	3.75E-02	1.50E-05	1.33E-03	1.98E-03	NA	NA	NA	NA	NA	NA	NA	5.30E-02	1.13E-03	1.29E-04	NA	1.26E-03
Lithium	2.47E-04	0.00E+00	8.76E-04	1.30E-02	4.12E-02	0.00E+00	0.00E+00	1.56E-03	NA	NA	NA	NA	NA	NA	NA	5.69E-02	7.22E-07	8.23E-08	NA	8.04E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	4.42E-05	4.89E-05	1.18E-02	2.53E-04	NA	NA	NA	1.21E-02	1.81E-02
Chromium	2.58E-04	5.16E-03	8.57E-02	1.50E-03	NA	NA	NA	9.26E-02	1.46E-01
Lithium	1.88E-05	0.00E+00	1.22E-02	1.18E-04	NA	NA	NA	1.23E-02	6.92E-02

NA: Not applicable

Contaminant of potential human concern	Adult - Scenario 1A																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	4.91E-04	3.04E-05	6.59E-04	5.02E-04	3.62E-04	2.63E-06	1.15E-04	2.81E-03	NA	NA	NA	NA	NA	NA	NA	4.97E-03	1.25E-03	4.12E-04	NA	1.66E-03
Chromium	2.86E-04	4.18E-05	4.79E-04	9.36E-03	3.17E-02	1.26E-05	1.13E-03	1.67E-03	NA	NA	NA	NA	NA	NA	NA	4.46E-02	1.13E-03	3.74E-04	NA	1.51E-03
Lithium	2.08E-04	0.00E+00	6.81E-04	1.09E-02	3.48E-02	0.00E+00	0.00E+00	1.32E-03	NA	NA	NA	NA	NA	NA	NA	4.80E-02	6.48E-07	2.14E-07	NA	8.63E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	4.20E-05	4.29E-05	1.10E-02	2.40E-04	NA	NA	NA	1.14E-02	1.63E-02
Chromium	2.45E-04	4.53E-03	8.02E-02	1.43E-03	NA	NA	NA	8.64E-02	1.31E-01
Lithium	1.78E-05	0.00E+00	1.14E-02	1.13E-04	NA	NA	NA	1.15E-02	5.95E-02

NA: Not applicable

Contaminant of potential human concern	Woman - Scenario 1A																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	4.91E-04	2.60E-05	5.59E-04	5.02E-04	3.62E-04	2.63E-06	1.15E-04	2.81E-03	NA	NA	NA	NA	NA	NA	NA	4.86E-03	1.25E-03	3.41E-04	NA	1.59E-03
Chromium	2.86E-04	3.57E-05	4.06E-04	9.36E-03	3.17E-02	1.26E-05	1.13E-03	1.67E-03	NA	NA	NA	NA	NA	NA	NA	4.46E-02	1.13E-03	3.10E-04	NA	1.44E-03
Lithium	2.08E-04	0.00E+00	5.77E-04	1.09E-02	3.48E-02	0.00E+00	0.00E+00	1.32E-03	NA	NA	NA	NA	NA	NA	NA	4.79E-02	6.48E-07	1.77E-07	NA	8.26E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	4.20E-05	3.67E-05	1.10E-02	2.40E-04	NA	NA	NA	1.13E-02	1.62E-02
Chromium	2.45E-04	3.88E-03	8.02E-02	1.43E-03	NA	NA	NA	8.58E-02	1.30E-01
Lithium	1.78E-05	0.00E+00	1.14E-02	1.13E-04	NA	NA	NA	1.15E-02	5.94E-02

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 1B																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.42E-02	3.75E-03	1.15E-03	6.17E-03	4.33E-03	3.12E-03	2.02E-05	8.90E-04	4.36E-02	NA	1.42E-04	1.25E-03	1.39E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	1.44E-02	2.53E-03	1.58E-03	4.49E-03	8.07E-02	2.73E-01	1.10E-04	9.76E-03	3.87E-01	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.13E-02	1.80E-03	0.00E+00	6.38E-03	9.43E-02	3.00E-01	0.00E+00	0.00E+00	4.14E-01	NA	8.45E-08	7.41E-07	8.25E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	5.64E-04	8.73E-05	8.33E-05	1.95E-02	2.03E-02	6.39E-02
Chromium	NA	NA	NA	3.36E-03	5.89E-04	8.80E-03	1.42E-01	1.55E-01	5.41E-01
Lithium	NA	NA	NA	2.64E-04	4.19E-05	0.00E+00	2.02E-02	2.05E-02	4.35E-01

NA: Not applicable

Contaminant of potential human concern	Toddler - Scenario 1B																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	4.81E-02	7.45E-03	5.72E-04	3.07E-03	2.15E-03	1.55E-03	1.01E-05	4.42E-04	6.33E-02	NA	1.42E-04	1.25E-03	1.39E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	2.87E-02	5.02E-03	7.85E-04	2.23E-03	4.01E-02	1.36E-01	5.47E-05	4.85E-03	2.17E-01	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	2.25E-02	3.57E-03	0.00E+00	3.17E-03	4.69E-02	1.49E-01	0.00E+00	0.00E+00	2.25E-01	NA	1.58E-07	1.39E-06	1.55E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	4.14E-04	6.40E-05	7.01E-05	1.67E-02	1.73E-02	8.06E-02
Chromium	NA	NA	NA	2.46E-03	4.32E-04	7.40E-03	1.22E-01	1.32E-01	3.49E-01
Lithium	NA	NA	NA	1.94E-04	3.07E-05	0.00E+00	1.73E-02	1.75E-02	2.43E-01

NA: Not applicable

Contaminant of potential human concern	Children - Scenario 1B																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	6.03E-03	9.34E-04	2.87E-04	1.54E-03	1.08E-03	7.78E-04	5.04E-06	2.22E-04	1.09E-02	NA	1.42E-04	1.25E-03	1.39E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	3.59E-03	6.30E-04	3.94E-04	1.12E-03	2.01E-02	6.80E-02	2.74E-05	2.43E-03	9.64E-02	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	2.83E-03	4.48E-04	0.00E+00	1.59E-03	2.35E-02	7.48E-02	0.00E+00	0.00E+00	1.03E-01	NA	1.39E-07	1.22E-06	1.36E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	3.15E-04	4.88E-05	5.81E-05	1.41E-02	1.46E-02	2.54E-02
Chromium	NA	NA	NA	1.88E-03	3.29E-04	6.14E-03	1.03E-01	1.11E-01	2.08E-01
Lithium	NA	NA	NA	1.48E-04	2.34E-05	0.00E+00	1.46E-02	1.48E-02	1.18E-01

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 1B																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	3.32E-03	5.15E-04	7.90E-05	8.48E-04	5.94E-04	4.29E-04	2.78E-06	1.22E-04	5.91E-03	NA	1.42E-04	1.25E-03	1.39E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	1.98E-03	3.47E-04	1.08E-04	6.17E-04	1.11E-02	3.75E-02	1.51E-05	1.34E-03	5.30E-02	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.56E-03	2.47E-04	0.00E+00	8.76E-04	1.30E-02	4.12E-02	0.00E+00	0.00E+00	5.69E-02	NA	8.23E-08	7.22E-07	8.04E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	2.53E-04	3.91E-05	4.89E-05	1.18E-02	1.21E-02	1.80E-02
Chromium	NA	NA	NA	1.50E-03	2.64E-04	5.16E-03	8.57E-02	9.26E-02	1.46E-01
Lithium	NA	NA	NA	1.18E-04	1.88E-05	0.00E+00	1.22E-02	1.23E-02	6.92E-02

NA: Not applicable

Contaminant of potential human concern	Adult - Scenario 1B																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	3.04E-05	6.59E-04	5.02E-04	3.62E-04	2.35E-06	1.03E-04	4.90E-03	NA	4.12E-04	1.25E-03	1.66E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	1.67E-03	2.93E-04	4.18E-05	4.79E-04	9.36E-03	3.17E-02	1.28E-05	1.13E-03	4.47E-02	NA	3.74E-04	1.13E-03	1.51E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.32E-03	2.08E-04	0.00E+00	6.81E-04	1.09E-02	3.48E-02	0.00E+00	0.00E+00	4.80E-02	NA	2.14E-07	6.48E-07	8.63E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	4.29E-05	1.10E-02	1.13E-02	1.62E-02
Chromium	NA	NA	NA	1.43E-03	2.51E-04	4.53E-03	8.02E-02	8.64E-02	1.31E-01
Lithium	NA	NA	NA	1.13E-04	1.78E-05	0.00E+00	1.14E-02	1.15E-02	5.95E-02

NA: Not applicable

Contaminant of potential human concern	Woman - Scenario 1B																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	2.60E-05	5.59E-04	5.02E-04	3.62E-04	2.35E-06	1.03E-04	4.80E-03	NA	3.41E-04	1.25E-03	1.59E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	1.67E-03	2.93E-04	3.57E-05	4.06E-04	9.36E-03	3.17E-02	1.28E-05	1.13E-03	4.46E-02	NA	3.10E-04	1.13E-03	1.44E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.32E-03	2.08E-04	0.00E+00	5.77E-04	1.09E-02	3.48E-02	0.00E+00	0.00E+00	4.79E-02	NA	1.77E-07	6.48E-07	8.26E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	3.67E-05	1.10E-02	1.13E-02	1.61E-02
Chromium	NA	NA	NA	1.43E-03	2.51E-04	3.88E-03	8.02E-02	8.58E-02	1.30E-01
Lithium	NA	NA	NA	1.13E-04	1.78E-05	0.00E+00	1.14E-02	1.15E-02	5.94E-02

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 2																		
	Ingestion (HQoral)															Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.42E-02	3.75E-03	1.15E-03	6.17E-03	7.10E-03	3.12E-03	2.08E-05	9.63E-04	4.65E-02	NA	1.46E-04	1.29E-03	1.44E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	1.49E-02	2.53E-03	1.58E-03	4.49E-03	8.07E-02	2.73E-01	1.10E-04	9.76E-03	3.87E-01	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.14E-02	1.80E-03	0.00E+00	6.38E-03	9.43E-02	3.00E-01	1.95E-04	1.93E-02	4.34E-01	NA	8.60E-08	7.61E-07	8.47E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	5.64E-04	8.73E-05	8.33E-05	1.95E-02	2.03E-02	6.67E-02
Chromium	NA	NA	NA	3.46E-03	5.89E-04	8.80E-03	1.42E-01	1.55E-01	5.42E-01
Lithium	NA	NA	NA	2.65E-04	4.20E-05	0.00E+00	2.02E-02	2.05E-02	4.54E-01

NA: Not applicable

Contaminant of potential human concern	Toddler - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	4.81E-02	7.45E-03	5.72E-04	3.07E-03	3.53E-03	1.55E-03	1.03E-05	4.79E-04	6.48E-02	NA	1.46E-04	1.29E-03	1.44E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	2.95E-02	5.02E-03	7.85E-04	2.23E-03	4.01E-02	1.36E-01	5.47E-05	4.85E-03	2.18E-01	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	2.26E-02	3.58E-03	0.00E+00	3.17E-03	4.69E-02	1.49E-01	9.71E-05	9.61E-03	2.35E-01	NA	1.61E-07	1.43E-06	1.59E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	4.14E-04	6.40E-05	7.01E-05	1.67E-02	1.73E-02	8.20E-02
Chromium	NA	NA	NA	2.54E-03	4.32E-04	7.40E-03	1.22E-01	1.32E-01	3.50E-01
Lithium	NA	NA	NA	1.94E-04	3.08E-05	0.00E+00	1.73E-02	1.75E-02	2.53E-01

NA: Not applicable

Contaminant of potential human concern	Children - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	6.03E-03	9.34E-04	2.87E-04	1.54E-03	1.77E-03	7.78E-04	5.18E-06	2.40E-04	1.16E-02	NA	1.46E-04	1.29E-03	1.44E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	3.70E-03	6.30E-04	3.94E-04	1.12E-03	2.01E-02	6.80E-02	2.74E-05	2.43E-03	9.65E-02	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	2.83E-03	4.49E-04	0.00E+00	1.59E-03	2.35E-02	7.48E-02	4.87E-05	4.82E-03	1.08E-01	NA	1.41E-07	1.25E-06	1.39E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	3.15E-04	4.88E-05	5.81E-05	1.41E-02	1.46E-02	2.61E-02
Chromium	NA	NA	NA	1.93E-03	3.29E-04	6.14E-03	1.03E-01	1.11E-01	2.08E-01
Lithium	NA	NA	NA	1.48E-04	2.35E-05	0.00E+00	1.46E-02	1.48E-02	1.23E-01

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	3.32E-03	5.15E-04	7.90E-05	8.48E-04	9.75E-04	4.29E-04	2.86E-06	1.32E-04	6.30E-03	NA	1.46E-04	1.29E-03	1.44E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	2.04E-03	3.47E-04	1.08E-04	6.17E-04	1.11E-02	3.75E-02	1.51E-05	1.34E-03	5.31E-02	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.56E-03	2.48E-04	0.00E+00	8.76E-04	1.30E-02	4.12E-02	2.68E-05	2.66E-03	5.96E-02	NA	8.38E-08	7.41E-07	8.25E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	2.53E-04	3.91E-05	4.89E-05	1.18E-02	1.21E-02	1.84E-02
Chromium	NA	NA	NA	1.55E-03	2.64E-04	5.16E-03	8.57E-02	9.27E-02	1.46E-01
Lithium	NA	NA	NA	1.19E-04	1.88E-05	0.00E+00	1.22E-02	1.23E-02	7.19E-02

NA: Not applicable

Contaminant of potential human concern	Adult - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	3.04E-05	6.59E-04	8.23E-04	3.62E-04	2.41E-06	1.12E-04	5.23E-03	NA	4.23E-04	1.29E-03	1.72E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	1.72E-03	2.93E-04	4.18E-05	4.79E-04	9.36E-03	3.17E-02	1.28E-05	1.13E-03	4.47E-02	NA	3.75E-04	1.13E-03	1.51E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.32E-03	2.09E-04	0.00E+00	6.81E-04	1.09E-02	3.48E-02	2.27E-05	2.24E-03	5.02E-02	NA	2.18E-07	6.66E-07	8.84E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	4.29E-05	1.10E-02	1.13E-02	1.66E-02
Chromium	NA	NA	NA	1.47E-03	2.51E-04	4.53E-03	8.02E-02	8.65E-02	1.31E-01
Lithium	NA	NA	NA	1.13E-04	1.79E-05	0.00E+00	1.14E-02	1.15E-02	6.18E-02

NA: Not applicable

Contaminant of potential human concern	Woman - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	2.60E-05	5.59E-04	8.23E-04	3.62E-04	2.41E-06	1.12E-04	5.13E-03	NA	3.50E-04	1.29E-03	1.64E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	1.72E-03	2.93E-04	3.57E-05	4.06E-04	9.36E-03	3.17E-02	1.28E-05	1.13E-03	4.46E-02	NA	3.10E-04	1.13E-03	1.44E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.32E-03	2.09E-04	0.00E+00	5.77E-04	1.09E-02	3.48E-02	2.27E-05	2.24E-03	5.01E-02	NA	1.81E-07	6.66E-07	8.46E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	3.67E-05	1.10E-02	1.13E-02	1.65E-02
Chromium	NA	NA	NA	1.47E-03	2.51E-04	3.88E-03	8.02E-02	8.58E-02	1.30E-01
Lithium	NA	NA	NA	1.13E-04	1.79E-05	0.00E+00	1.14E-02	1.15E-02	6.17E-02

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.42E-02	3.75E-03	5.32E-04	6.17E-03	7.10E-03	3.12E-03	2.08E-05	9.61E-04	4.59E-02	NA	1.46E-04	1.29E-03	1.44E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	1.49E-02	2.53E-03	1.04E-03	4.49E-03	8.07E-02	2.73E-01	1.10E-04	9.76E-03	3.86E-01	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.14E-02	1.80E-03	1.05E-02	6.38E-03	9.43E-02	3.00E-01	1.95E-04	1.93E-02	4.44E-01	NA	8.60E-08	7.61E-07	8.47E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	5.64E-04	8.73E-05	3.85E-05	1.95E-02	2.02E-02	6.61E-02
Chromium	NA	NA	NA	3.46E-03	5.89E-04	5.81E-03	1.42E-01	1.52E-01	5.38E-01
Lithium	NA	NA	NA	2.65E-04	4.20E-05	7.60E-04	2.02E-02	2.13E-02	4.65E-01

NA: Not applicable

Contaminant of potential human concern	Toddler - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	4.81E-02	7.45E-03	2.65E-04	3.07E-03	3.53E-03	1.55E-03	1.03E-05	4.78E-04	6.44E-02	NA	1.46E-04	1.29E-03	1.44E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	2.95E-02	5.02E-03	5.18E-04	2.23E-03	4.01E-02	1.36E-01	5.47E-05	4.85E-03	2.18E-01	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	2.26E-02	3.58E-03	5.22E-03	3.17E-03	4.69E-02	1.49E-01	9.71E-05	9.61E-03	2.40E-01	NA	1.61E-07	1.43E-06	1.59E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	4.14E-04	6.40E-05	3.24E-05	1.67E-02	1.72E-02	8.17E-02
Chromium	NA	NA	NA	2.54E-03	4.32E-04	4.89E-03	1.22E-01	1.30E-01	3.48E-01
Lithium	NA	NA	NA	1.94E-04	3.08E-05	6.39E-04	1.73E-02	1.82E-02	2.59E-01

NA: Not applicable

Contaminant of potential human concern	Children - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	6.03E-03	9.34E-04	1.33E-04	1.54E-03	1.77E-03	7.78E-04	5.18E-06	2.40E-04	1.14E-02	NA	1.46E-04	1.29E-03	1.44E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	3.70E-03	6.30E-04	2.60E-04	1.12E-03	2.01E-02	6.80E-02	2.74E-05	2.43E-03	9.63E-02	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	2.83E-03	4.49E-04	2.62E-03	1.59E-03	2.35E-02	7.48E-02	4.87E-05	4.82E-03	1.11E-01	NA	1.41E-07	1.25E-06	1.39E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	3.15E-04	4.88E-05	2.69E-05	1.41E-02	1.45E-02	2.60E-02
Chromium	NA	NA	NA	1.93E-03	3.29E-04	4.06E-03	1.03E-01	1.09E-01	2.05E-01
Lithium	NA	NA	NA	1.48E-04	2.35E-05	5.30E-04	1.46E-02	1.53E-02	1.26E-01

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	3.32E-03	5.15E-04	3.66E-05	8.48E-04	9.75E-04	4.29E-04	2.86E-06	1.32E-04	6.26E-03	NA	1.46E-04	1.29E-03	1.44E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	2.04E-03	3.47E-04	7.16E-05	6.17E-04	1.11E-02	3.75E-02	1.51E-05	1.34E-03	5.30E-02	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.56E-03	2.48E-04	7.21E-04	8.76E-04	1.30E-02	4.12E-02	2.68E-05	2.66E-03	6.03E-02	NA	8.38E-08	7.41E-07	8.25E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	2.53E-04	3.91E-05	2.26E-05	1.18E-02	1.21E-02	1.84E-02
Chromium	NA	NA	NA	1.55E-03	2.64E-04	3.41E-03	8.57E-02	9.09E-02	1.44E-01
Lithium	NA	NA	NA	1.19E-04	1.88E-05	4.46E-04	1.22E-02	1.28E-02	7.31E-02

NA: Not applicable

Contaminant of potential human concern	Adult - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	1.41E-05	6.59E-04	8.23E-04	3.62E-04	2.41E-06	1.11E-04	5.21E-03	NA	4.23E-04	1.29E-03	1.72E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	1.72E-03	2.93E-04	2.76E-05	4.79E-04	9.36E-03	3.17E-02	1.28E-05	1.13E-03	4.47E-02	NA	3.75E-04	1.13E-03	1.51E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.32E-03	2.09E-04	2.78E-04	6.81E-04	1.09E-02	3.48E-02	2.27E-05	2.24E-03	5.05E-02	NA	2.18E-07	6.66E-07	8.84E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	1.99E-05	1.10E-02	1.13E-02	1.65E-02
Chromium	NA	NA	NA	1.47E-03	2.51E-04	2.99E-03	8.02E-02	8.49E-02	1.30E-01
Lithium	NA	NA	NA	1.13E-04	1.79E-05	3.92E-04	1.14E-02	1.19E-02	6.24E-02

NA: Not applicable

Contaminant of potential human concern	Woman - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	1.20E-05	5.59E-04	8.23E-04	3.62E-04	2.41E-06	1.11E-04	5.11E-03	NA	3.50E-04	1.29E-03	1.64E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	1.72E-03	2.93E-04	2.36E-05	4.06E-04	9.36E-03	3.17E-02	1.28E-05	1.13E-03	4.46E-02	NA	3.10E-04	1.13E-03	1.44E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.32E-03	2.09E-04	2.37E-04	5.77E-04	1.09E-02	3.48E-02	2.27E-05	2.24E-03	5.04E-02	NA	1.81E-07	6.66E-07	8.46E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	1.70E-05	1.10E-02	1.13E-02	1.64E-02
Chromium	NA	NA	NA	1.47E-03	2.51E-04	2.56E-03	8.02E-02	8.45E-02	1.29E-01
Lithium	NA	NA	NA	1.13E-04	1.79E-05	3.35E-04	1.14E-02	1.19E-02	6.22E-02

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.42E-02	3.75E-03	7.12E-04	6.17E-03	7.10E-03	3.12E-03	2.08E-05	9.62E-04	4.60E-02	NA	1.46E-04	1.29E-03	1.44E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	1.49E-02	2.53E-03	8.34E-04	4.49E-03	8.07E-02	2.73E-01	1.10E-04	9.76E-03	3.86E-01	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.14E-02	1.80E-03	1.05E-02	6.38E-03	9.43E-02	3.00E-01	1.95E-04	1.93E-02	4.44E-01	NA	8.60E-08	7.61E-07	8.47E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	5.64E-04	8.73E-05	5.15E-05	1.95E-02	2.02E-02	6.63E-02
Chromium	NA	NA	NA	3.46E-03	5.89E-04	4.65E-03	1.42E-01	1.51E-01	5.37E-01
Lithium	NA	NA	NA	2.65E-04	4.20E-05	7.60E-04	2.02E-02	2.13E-02	4.65E-01

NA: Not applicable

Contaminant of potential human concern	Toddler - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	4.81E-02	7.45E-03	3.54E-04	3.07E-03	3.53E-03	1.55E-03	1.03E-05	4.78E-04	6.45E-02	NA	1.46E-04	1.29E-03	1.44E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	2.95E-02	5.02E-03	4.15E-04	2.23E-03	4.01E-02	1.36E-01	5.47E-05	4.85E-03	2.18E-01	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	2.26E-02	3.58E-03	5.22E-03	3.17E-03	4.69E-02	1.49E-01	9.71E-05	9.61E-03	2.40E-01	NA	1.61E-07	1.43E-06	1.59E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	4.14E-04	6.40E-05	4.34E-05	1.67E-02	1.73E-02	8.18E-02
Chromium	NA	NA	NA	2.54E-03	4.32E-04	3.91E-03	1.22E-01	1.29E-01	3.46E-01
Lithium	NA	NA	NA	1.94E-04	3.08E-05	6.39E-04	1.73E-02	1.82E-02	2.59E-01

NA: Not applicable

Contaminant of potential human concern	Children - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	6.03E-03	9.34E-04	1.77E-04	1.54E-03	1.77E-03	7.78E-04	5.18E-06	2.40E-04	1.15E-02	NA	1.46E-04	1.29E-03	1.44E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	3.70E-03	6.30E-04	2.08E-04	1.12E-03	2.01E-02	6.80E-02	2.74E-05	2.43E-03	9.63E-02	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	2.83E-03	4.49E-04	2.62E-03	1.59E-03	2.35E-02	7.48E-02	4.87E-05	4.82E-03	1.11E-01	NA	1.41E-07	1.25E-06	1.39E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	3.15E-04	4.88E-05	3.60E-05	1.41E-02	1.45E-02	2.60E-02
Chromium	NA	NA	NA	1.93E-03	3.29E-04	3.24E-03	1.03E-01	1.08E-01	2.05E-01
Lithium	NA	NA	NA	1.48E-04	2.35E-05	5.30E-04	1.46E-02	1.53E-02	1.26E-01

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	3.32E-03	5.15E-04	4.89E-05	8.48E-04	9.75E-04	4.29E-04	2.86E-06	1.32E-04	6.27E-03	NA	1.46E-04	1.29E-03	1.44E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	2.04E-03	3.47E-04	5.73E-05	6.17E-04	1.11E-02	3.75E-02	1.51E-05	1.34E-03	5.30E-02	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.56E-03	2.48E-04	7.21E-04	8.76E-04	1.30E-02	4.12E-02	2.68E-05	2.66E-03	6.03E-02	NA	8.38E-08	7.41E-07	8.25E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	2.53E-04	3.91E-05	3.02E-05	1.18E-02	1.21E-02	1.84E-02
Chromium	NA	NA	NA	1.55E-03	2.64E-04	2.73E-03	8.57E-02	9.02E-02	1.43E-01
Lithium	NA	NA	NA	1.19E-04	1.88E-05	4.46E-04	1.22E-02	1.28E-02	7.31E-02

NA: Not applicable

Contaminant of potential human concern	Adult - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	1.88E-05	6.59E-04	8.23E-04	3.62E-04	2.41E-06	1.12E-04	5.22E-03	NA	4.23E-04	1.29E-03	1.72E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	1.72E-03	2.93E-04	2.21E-05	4.79E-04	9.36E-03	3.17E-02	1.28E-05	1.13E-03	4.47E-02	NA	3.75E-04	1.13E-03	1.51E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.32E-03	2.09E-04	2.78E-04	6.81E-04	1.09E-02	3.48E-02	2.27E-05	2.24E-03	5.05E-02	NA	2.18E-07	6.66E-07	8.84E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	2.66E-05	1.10E-02	1.13E-02	1.65E-02
Chromium	NA	NA	NA	1.47E-03	2.51E-04	2.39E-03	8.02E-02	8.43E-02	1.29E-01
Lithium	NA	NA	NA	1.13E-04	1.79E-05	3.92E-04	1.14E-02	1.19E-02	6.24E-02

NA: Not applicable

Contaminant of potential human concern	Woman - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	1.61E-05	5.59E-04	8.23E-04	3.62E-04	2.41E-06	1.12E-04	5.11E-03	NA	3.50E-04	1.29E-03	1.64E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	1.72E-03	2.93E-04	1.89E-05	4.06E-04	9.36E-03	3.17E-02	1.28E-05	1.13E-03	4.46E-02	NA	3.10E-04	1.13E-03	1.44E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.32E-03	2.09E-04	2.37E-04	5.77E-04	1.09E-02	3.48E-02	2.27E-05	2.24E-03	5.04E-02	NA	1.81E-07	6.66E-07	8.46E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	2.27E-05	1.10E-02	1.13E-02	1.64E-02
Chromium	NA	NA	NA	1.47E-03	2.51E-04	2.05E-03	8.02E-02	8.40E-02	1.29E-01
Lithium	NA	NA	NA	1.13E-04	1.79E-05	3.35E-04	1.14E-02	1.19E-02	6.22E-02

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	1.79E-02	9.65E-04	8.34E-03	7.48E-03	3.12E-03	9.36E-05	3.88E-03	2.42E-02	NA	NA	NA	NA	NA	NA	NA	6.59E-02	1.25E-03	1.42E-04	NA	1.39E-03
Chromium	2.47E-03	1.05E-03	4.49E-03	8.07E-02	2.73E-01	1.09E-04	9.71E-03	1.49E-02	NA	NA	NA	NA	NA	NA	NA	3.86E-01	1.13E-03	1.29E-04	NA	1.26E-03
Lithium	2.89E-03	1.97E-02	6.38E-03	9.43E-02	3.00E-01	2.34E-04	2.10E-02	1.14E-02	NA	NA	NA	NA	NA	NA	NA	4.56E-01	7.41E-07	8.45E-08	NA	8.25E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	8.49E-13	6.99E-05	2.64E-02	5.64E-04	NA	NA	NA	2.70E-02	9.29E-02
Chromium	7.02E-11	5.82E-03	1.42E-01	3.46E-03	NA	NA	NA	1.51E-01	5.38E-01
Lithium	3.77E-13	1.42E-03	2.02E-02	2.65E-04	NA	NA	NA	2.19E-02	4.78E-01

NA: Not applicable

Contaminant of potential human concern	Toddler - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	3.55E-02	4.80E-04	4.14E-03	3.72E-03	1.55E-03	4.65E-05	1.93E-03	4.81E-02	NA	NA	NA	NA	NA	NA	NA	9.55E-02	1.25E-03	1.42E-04	NA	1.39E-03
Chromium	4.91E-03	5.20E-04	2.23E-03	4.01E-02	1.36E-01	5.41E-05	4.83E-03	2.95E-02	NA	NA	NA	NA	NA	NA	NA	2.18E-01	1.13E-03	1.29E-04	NA	1.26E-03
Lithium	5.74E-03	9.77E-03	3.17E-03	4.69E-02	1.49E-01	1.16E-04	1.05E-02	2.26E-02	NA	NA	NA	NA	NA	NA	NA	2.48E-01	1.39E-06	1.58E-07	NA	1.55E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	3.05E-04	5.88E-05	2.26E-02	4.14E-04	NA	NA	NA	2.34E-02	1.19E-01
Chromium	4.22E-04	4.90E-03	1.22E-01	2.54E-03	NA	NA	NA	1.30E-01	3.47E-01
Lithium	4.94E-05	1.20E-03	1.73E-02	1.94E-04	NA	NA	NA	1.87E-02	2.67E-01

NA: Not applicable

Contaminant of potential human concern	Children - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	4.45E-03	2.41E-04	2.08E-03	1.86E-03	7.78E-04	2.33E-05	9.67E-04	6.03E-03	NA	NA	NA	NA	NA	NA	NA	1.64E-02	1.25E-03	1.42E-04	NA	1.39E-03
Chromium	6.16E-04	2.61E-04	1.12E-03	2.01E-02	6.80E-02	2.71E-05	2.42E-03	3.70E-03	NA	NA	NA	NA	NA	NA	NA	9.63E-02	1.13E-03	1.29E-04	NA	1.26E-03
Lithium	7.20E-04	4.90E-03	1.59E-03	2.35E-02	7.48E-02	5.83E-05	5.24E-03	2.83E-03	NA	NA	NA	NA	NA	NA	NA	1.14E-01	1.22E-06	1.39E-07	NA	1.36E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	2.33E-04	4.88E-05	1.91E-02	3.15E-04	NA	NA	NA	1.97E-02	3.61E-02
Chromium	3.22E-04	4.06E-03	1.03E-01	1.93E-03	NA	NA	NA	1.09E-01	2.05E-01
Lithium	3.76E-05	9.93E-04	1.46E-02	1.48E-04	NA	NA	NA	1.58E-02	1.29E-01

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	2.45E-03	6.63E-05	1.14E-03	1.03E-03	4.29E-04	1.29E-05	5.33E-04	3.32E-03	NA	NA	NA	NA	NA	NA	NA	8.99E-03	1.25E-03	1.42E-04	NA	1.39E-03
Chromium	3.39E-04	7.18E-05	6.17E-04	1.11E-02	3.75E-02	1.50E-05	1.33E-03	2.04E-03	NA	NA	NA	NA	NA	NA	NA	5.30E-02	1.13E-03	1.29E-04	NA	1.26E-03
Lithium	3.97E-04	1.35E-03	8.76E-04	1.30E-02	4.12E-02	3.22E-05	2.89E-03	1.56E-03	NA	NA	NA	NA	NA	NA	NA	6.13E-02	7.22E-07	8.23E-08	NA	8.04E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	1.87E-04	4.10E-05	1.59E-02	2.53E-04	NA	NA	NA	1.64E-02	2.54E-02
Chromium	2.58E-04	3.42E-03	8.57E-02	1.55E-03	NA	NA	NA	9.09E-02	1.44E-01
Lithium	3.02E-05	8.35E-04	1.22E-02	1.19E-04	NA	NA	NA	1.32E-02	7.45E-02

NA: Not applicable

Contaminant of potential human concern	Adult - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	2.07E-03	2.55E-05	8.89E-04	8.68E-04	3.62E-04	1.09E-05	4.50E-04	2.81E-03	NA	NA	NA	NA	NA	NA	NA	7.48E-03	1.25E-03	4.12E-04	NA	1.66E-03
Chromium	2.87E-04	2.76E-05	4.79E-04	9.36E-03	3.17E-02	1.26E-05	1.13E-03	1.72E-03	NA	NA	NA	NA	NA	NA	NA	4.47E-02	1.13E-03	3.74E-04	NA	1.51E-03
Lithium	3.35E-04	5.20E-04	6.81E-04	1.09E-02	3.48E-02	2.72E-05	2.44E-03	1.32E-03	NA	NA	NA	NA	NA	NA	NA	5.11E-02	6.48E-07	2.14E-07	NA	8.63E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	1.77E-04	3.60E-05	1.49E-02	2.40E-04	NA	NA	NA	1.53E-02	2.28E-02
Chromium	2.45E-04	3.00E-03	8.02E-02	1.47E-03	NA	NA	NA	8.49E-02	1.30E-01
Lithium	2.87E-05	7.33E-04	1.14E-02	1.13E-04	NA	NA	NA	1.23E-02	6.34E-02

NA: Not applicable

Contaminant of potential human concern	Woman - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	2.07E-03	2.18E-05	7.54E-04	8.68E-04	3.62E-04	1.09E-05	4.50E-04	2.81E-03	NA	NA	NA	NA	NA	NA	NA	7.35E-03	1.25E-03	3.41E-04	NA	1.59E-03
Chromium	2.87E-04	2.36E-05	4.06E-04	9.36E-03	3.17E-02	1.26E-05	1.13E-03	1.72E-03	NA	NA	NA	NA	NA	NA	NA	4.46E-02	1.13E-03	3.10E-04	NA	1.44E-03
Lithium	3.35E-04	4.45E-04	5.77E-04	1.09E-02	3.48E-02	2.72E-05	2.44E-03	1.32E-03	NA	NA	NA	NA	NA	NA	NA	5.09E-02	6.48E-07	1.77E-07	NA	8.26E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	1.77E-04	3.08E-05	1.49E-02	2.40E-04	NA	NA	NA	1.53E-02	2.27E-02
Chromium	2.45E-04	2.57E-03	8.02E-02	1.47E-03	NA	NA	NA	8.45E-02	1.29E-01
Lithium	2.87E-05	6.27E-04	1.14E-02	1.13E-04	NA	NA	NA	1.22E-02	6.31E-02

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-1.04E-17	-2.60E-18	0.00E+00	0.00E+00	2.77E-03	0.00E+00	5.72E-07	7.33E-05	2.84E-03	NA	3.76E-06	4.82E-05	5.19E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	4.43E-04	-4.34E-19	0.00E+00	0.00E+00	-1.39E-17	0.00E+00	0.00E+00	0.00E+00	4.43E-04	NA	2.08E-07	2.67E-06	2.88E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	1.22E-05	6.41E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.95E-04	1.93E-02	1.96E-02	NA	1.54E-09	1.97E-08	2.12E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-2.17E-19	-8.13E-20	0.00E+00	0.00E+00	0.00E+00	2.84E-03
Chromium	NA	NA	NA	1.03E-04	-1.08E-19	0.00E+00	0.00E+00	1.03E-04	5.47E-04
Lithium	NA	NA	NA	2.84E-07	1.49E-07	0.00E+00	0.00E+00	4.34E-07	1.96E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Toddler - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-2.08E-17	-5.20E-18	0.00E+00	0.00E+00	1.38E-03	0.00E+00	2.84E-07	3.64E-05	1.41E-03	NA	3.76E-06	4.82E-05	5.19E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	8.82E-04	0.00E+00	0.00E+00	0.00E+00	-6.94E-18	0.00E+00	0.00E+00	0.00E+00	8.82E-04	NA	2.08E-07	2.67E-06	2.88E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	2.42E-05	1.28E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.71E-05	9.61E-03	9.75E-03	NA	2.88E-09	3.70E-08	3.98E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-1.63E-19	-5.42E-20	0.00E+00	0.00E+00	0.00E+00	1.41E-03
Chromium	NA	NA	NA	7.58E-05	-1.08E-19	0.00E+00	0.00E+00	7.58E-05	9.57E-04
Lithium	NA	NA	NA	2.08E-07	1.10E-07	0.00E+00	0.00E+00	3.18E-07	9.75E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Children - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-2.60E-18	-6.51E-19	0.00E+00	0.00E+00	6.91E-04	0.00E+00	1.43E-07	1.83E-05	7.09E-04	NA	3.76E-06	4.82E-05	5.19E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	1.11E-04	-1.08E-19	0.00E+00	0.00E+00	-3.47E-18	0.00E+00	0.00E+00	0.00E+00	1.11E-04	NA	2.08E-07	2.67E-06	2.88E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	3.04E-06	1.60E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-05	4.82E-03	4.87E-03	NA	2.52E-09	3.24E-08	3.49E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-5.42E-20	-3.39E-20	0.00E+00	0.00E+00	-1.73E-18	7.09E-04
Chromium	NA	NA	NA	5.78E-05	-5.42E-20	0.00E+00	0.00E+00	5.78E-05	1.68E-04
Lithium	NA	NA	NA	1.59E-07	8.35E-08	0.00E+00	0.00E+00	2.42E-07	4.87E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Teen - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-1.30E-18	-4.34E-19	0.00E+00	0.00E+00	3.81E-04	0.00E+00	7.86E-08	1.01E-05	3.91E-04	NA	3.76E-06	4.82E-05	5.19E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	6.09E-05	-5.42E-20	0.00E+00	0.00E+00	-1.73E-18	0.00E+00	0.00E+00	0.00E+00	6.09E-05	NA	2.08E-07	2.67E-06	2.88E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	1.68E-06	8.81E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.68E-05	2.66E-03	2.69E-03	NA	1.50E-09	1.92E-08	2.07E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-1.08E-19	-3.39E-20	0.00E+00	0.00E+00	-1.73E-18	3.91E-04
Chromium	NA	NA	NA	4.63E-05	-5.42E-20	0.00E+00	0.00E+00	4.63E-05	1.07E-04
Lithium	NA	NA	NA	1.27E-07	6.70E-08	0.00E+00	0.00E+00	1.94E-07	2.69E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Adult - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-1.30E-18	-3.25E-19	0.00E+00	0.00E+00	3.21E-04	0.00E+00	6.63E-08	8.50E-06	3.30E-04	NA	1.09E-05	4.82E-05	5.91E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	5.14E-05	-5.42E-20	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.14E-05	NA	6.05E-07	2.67E-06	3.28E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	1.41E-06	7.44E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.27E-05	2.24E-03	2.27E-03	NA	3.90E-09	1.73E-08	2.12E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-1.08E-19	-3.39E-20	0.00E+00	0.00E+00	0.00E+00	3.30E-04
Chromium	NA	NA	NA	4.40E-05	0.00E+00	0.00E+00	0.00E+00	4.40E-05	9.55E-05
Lithium	NA	NA	NA	1.21E-07	6.37E-08	0.00E+00	0.00E+00	1.85E-07	2.27E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Woman - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-1.30E-18	-3.25E-19	0.00E+00	0.00E+00	3.21E-04	0.00E+00	6.63E-08	8.50E-06	3.30E-04	NA	9.01E-06	4.82E-05	5.72E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	5.14E-05	-5.42E-20	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.14E-05	NA	5.00E-07	2.67E-06	3.17E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	1.41E-06	7.44E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.27E-05	2.24E-03	2.27E-03	NA	3.23E-09	1.73E-08	2.05E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-1.08E-19	-3.39E-20	0.00E+00	0.00E+00	0.00E+00	3.30E-04
Chromium	NA	NA	NA	4.40E-05	0.00E+00	0.00E+00	0.00E+00	4.40E-05	9.55E-05
Lithium	NA	NA	NA	1.21E-07	6.37E-08	0.00E+00	0.00E+00	1.85E-07	2.27E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Infant - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-1.04E-17	-2.60E-18	-6.18E-04	0.00E+00	2.77E-03	0.00E+00	5.68E-07	7.13E-05	2.22E-03	NA	3.76E-06	4.82E-05	5.19E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	4.43E-04	-4.34E-19	-5.37E-04	0.00E+00	-1.39E-17	0.00E+00	0.00E+00	0.00E+00	-9.31E-05	NA	2.08E-07	2.67E-06	2.88E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	1.22E-05	6.41E-06	1.05E-02	0.00E+00	0.00E+00	0.00E+00	1.95E-04	1.93E-02	3.01E-02	NA	1.54E-09	1.97E-08	2.12E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-2.17E-19	-8.13E-20	-4.47E-05	0.00E+00	-4.47E-05	2.18E-03
Chromium	NA	NA	NA	1.03E-04	-1.08E-19	-2.99E-03	0.00E+00	-2.88E-03	-2.98E-03
Lithium	NA	NA	NA	2.84E-07	1.49E-07	7.60E-04	0.00E+00	7.60E-04	3.08E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Toddler - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-2.08E-17	-5.20E-18	-3.07E-04	0.00E+00	1.38E-03	0.00E+00	2.83E-07	3.54E-05	1.11E-03	NA	3.76E-06	4.82E-05	5.19E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	8.82E-04	0.00E+00	-2.67E-04	0.00E+00	-6.94E-18	0.00E+00	0.00E+00	0.00E+00	6.15E-04	NA	2.08E-07	2.67E-06	2.88E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	2.42E-05	1.28E-05	5.22E-03	0.00E+00	0.00E+00	0.00E+00	9.71E-05	9.61E-03	1.50E-02	NA	2.88E-09	3.70E-08	3.98E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-1.63E-19	-5.42E-20	-3.77E-05	0.00E+00	-3.77E-05	1.07E-03
Chromium	NA	NA	NA	7.58E-05	-1.08E-19	-2.51E-03	0.00E+00	-2.44E-03	-1.82E-03
Lithium	NA	NA	NA	2.08E-07	1.10E-07	6.39E-04	0.00E+00	6.40E-04	1.56E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Children - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-2.60E-18	-6.51E-19	-1.54E-04	0.00E+00	6.91E-04	0.00E+00	1.42E-07	1.78E-05	5.55E-04	NA	3.76E-06	4.82E-05	5.19E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	1.11E-04	-1.08E-19	-1.34E-04	0.00E+00	-3.47E-18	0.00E+00	0.00E+00	0.00E+00	-2.32E-05	NA	2.08E-07	2.67E-06	2.88E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	3.04E-06	1.60E-06	2.62E-03	0.00E+00	0.00E+00	0.00E+00	4.87E-05	4.82E-03	7.49E-03	NA	2.52E-09	3.24E-08	3.49E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-5.42E-20	-3.39E-20	-3.12E-05	0.00E+00	-3.12E-05	5.23E-04
Chromium	NA	NA	NA	5.78E-05	-5.42E-20	-2.09E-03	0.00E+00	-2.03E-03	-2.05E-03
Lithium	NA	NA	NA	1.59E-07	8.35E-08	5.30E-04	0.00E+00	5.31E-04	8.02E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Teen - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-1.30E-18	-4.34E-19	-4.24E-05	0.00E+00	3.81E-04	0.00E+00	7.81E-08	9.79E-06	3.48E-04	NA	3.76E-06	4.82E-05	5.19E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	6.09E-05	-5.42E-20	-3.68E-05	0.00E+00	-1.73E-18	0.00E+00	0.00E+00	0.00E+00	2.41E-05	NA	2.08E-07	2.67E-06	2.88E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	1.68E-06	8.81E-07	7.21E-04	0.00E+00	0.00E+00	0.00E+00	2.68E-05	2.66E-03	3.41E-03	NA	1.50E-09	1.92E-08	2.07E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-1.08E-19	-3.39E-20	-2.63E-05	0.00E+00	-2.63E-05	3.22E-04
Chromium	NA	NA	NA	4.63E-05	-5.42E-20	-1.75E-03	0.00E+00	-1.71E-03	-1.68E-03
Lithium	NA	NA	NA	1.27E-07	6.70E-08	4.46E-04	0.00E+00	4.46E-04	3.85E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Adult - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-1.30E-18	-3.25E-19	-1.63E-05	0.00E+00	3.21E-04	0.00E+00	6.59E-08	8.27E-06	3.13E-04	NA	1.09E-05	4.82E-05	5.91E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	5.14E-05	-5.42E-20	-1.42E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.72E-05	NA	6.05E-07	2.67E-06	3.28E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	1.41E-06	7.44E-07	2.78E-04	0.00E+00	0.00E+00	0.00E+00	2.27E-05	2.24E-03	2.55E-03	NA	3.90E-09	1.73E-08	2.12E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-1.08E-19	-3.39E-20	-2.31E-05	0.00E+00	-2.31E-05	2.90E-04
Chromium	NA	NA	NA	4.40E-05	0.00E+00	-1.54E-03	0.00E+00	-1.50E-03	-1.46E-03
Lithium	NA	NA	NA	1.21E-07	6.37E-08	3.92E-04	0.00E+00	3.92E-04	2.94E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Woman - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-1.30E-18	-3.25E-19	-1.40E-05	0.00E+00	3.21E-04	0.00E+00	6.59E-08	8.27E-06	3.16E-04	NA	9.01E-06	4.82E-05	5.72E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	5.14E-05	-5.42E-20	-1.21E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.93E-05	NA	5.00E-07	2.67E-06	3.17E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	1.41E-06	7.44E-07	2.37E-04	0.00E+00	0.00E+00	0.00E+00	2.27E-05	2.24E-03	2.51E-03	NA	3.23E-09	1.73E-08	2.05E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-1.08E-19	-3.39E-20	-1.97E-05	0.00E+00	-1.97E-05	2.96E-04
Chromium	NA	NA	NA	4.40E-05	0.00E+00	-1.32E-03	0.00E+00	-1.27E-03	-1.23E-03
Lithium	NA	NA	NA	1.21E-07	6.37E-08	3.35E-04	0.00E+00	3.35E-04	2.84E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Infant - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-1.04E-17	-2.60E-18	-4.39E-04	0.00E+00	2.77E-03	0.00E+00	5.72E-07	7.19E-05	2.40E-03	NA	3.76E-06	4.82E-05	5.19E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	4.43E-04	-4.34E-19	-7.45E-04	0.00E+00	-1.39E-17	0.00E+00	0.00E+00	0.00E+00	-3.02E-04	NA	2.08E-07	2.67E-06	2.88E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	1.22E-05	6.41E-06	1.05E-02	0.00E+00	0.00E+00	0.00E+00	1.95E-04	1.93E-02	3.01E-02	NA	1.54E-09	1.97E-08	2.12E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-2.17E-19	-8.13E-20	-3.18E-05	0.00E+00	-3.18E-05	2.37E-03
Chromium	NA	NA	NA	1.03E-04	-1.08E-19	-4.15E-03	0.00E+00	-4.05E-03	-4.35E-03
Lithium	NA	NA	NA	2.84E-07	1.49E-07	7.60E-04	0.00E+00	7.60E-04	3.08E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Toddler - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-2.08E-17	-5.20E-18	-2.18E-04	0.00E+00	1.38E-03	0.00E+00	2.84E-07	3.57E-05	1.20E-03	NA	3.76E-06	4.82E-05	5.19E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	8.82E-04	0.00E+00	-3.70E-04	0.00E+00	-6.94E-18	0.00E+00	0.00E+00	0.00E+00	5.11E-04	NA	2.08E-07	2.67E-06	2.88E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	2.42E-05	1.28E-05	5.22E-03	0.00E+00	0.00E+00	0.00E+00	9.71E-05	9.61E-03	1.50E-02	NA	2.88E-09	3.70E-08	3.98E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-1.63E-19	-5.42E-20	-2.67E-05	0.00E+00	-2.67E-05	1.17E-03
Chromium	NA	NA	NA	7.58E-05	-1.08E-19	-3.49E-03	0.00E+00	-3.42E-03	-2.91E-03
Lithium	NA	NA	NA	2.08E-07	1.10E-07	6.39E-04	0.00E+00	6.40E-04	1.56E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Children - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-2.60E-18	-6.51E-19	-1.09E-04	0.00E+00	6.91E-04	0.00E+00	1.43E-07	1.79E-05	5.99E-04	NA	3.76E-06	4.82E-05	5.19E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	1.11E-04	-1.08E-19	-1.86E-04	0.00E+00	-3.47E-18	0.00E+00	0.00E+00	0.00E+00	-7.52E-05	NA	2.08E-07	2.67E-06	2.88E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	3.04E-06	1.60E-06	2.62E-03	0.00E+00	0.00E+00	0.00E+00	4.87E-05	4.82E-03	7.49E-03	NA	2.52E-09	3.24E-08	3.49E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-5.42E-20	-3.39E-20	-2.22E-05	0.00E+00	-2.22E-05	5.77E-04
Chromium	NA	NA	NA	5.78E-05	-5.42E-20	-2.90E-03	0.00E+00	-2.84E-03	-2.92E-03
Lithium	NA	NA	NA	1.59E-07	8.35E-08	5.30E-04	0.00E+00	5.31E-04	8.02E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Teen - Scenario 4																				
	Ingestion (HQoral)																Inhalation (HQinh)				Dermal co
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total	Surface soil in the PA
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES		NO
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13	14
Inorganic substance																					
Aluminum	NA	NA	NA	NA	NA	NA	NA	-1.30E-18	-4.34E-19	-3.01E-05	0.00E+00	3.81E-04	0.00E+00	7.86E-08	9.87E-06	3.60E-04	NA	3.76E-06	4.82E-05	5.19E-05	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	6.09E-05	-5.42E-20	-5.12E-05	0.00E+00	-1.73E-18	0.00E+00	0.00E+00	0.00E+00	9.73E-06	NA	2.08E-07	2.67E-06	2.88E-06	NA
Lithium	NA	NA	NA	NA	NA	NA	NA	1.68E-06	8.81E-07	7.21E-04	0.00E+00	0.00E+00	0.00E+00	2.68E-05	2.66E-03	3.41E-03	NA	1.50E-09	1.92E-08	2.07E-08	NA

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	ntact (HQderm)							Oral equivalent (HQeq)
	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	15
Inorganic substance								
Aluminum	NA	NA	-1.08E-19	-3.39E-20	-1.87E-05	0.00E+00	-1.87E-05	3.42E-04
Chromium	NA	NA	4.63E-05	-5.42E-20	-2.44E-03	0.00E+00	-2.39E-03	-2.38E-03
Lithium	NA	NA	1.27E-07	6.70E-08	4.46E-04	0.00E+00	4.46E-04	3.85E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Adult - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-1.30E-18	-3.25E-19	-1.16E-05	0.00E+00	3.21E-04	0.00E+00	6.64E-08	8.34E-06	3.18E-04	NA	1.09E-05	4.82E-05	5.91E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	5.14E-05	-5.42E-20	-1.97E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.17E-05	NA	6.05E-07	2.67E-06	3.28E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	1.41E-06	7.44E-07	2.78E-04	0.00E+00	0.00E+00	0.00E+00	2.27E-05	2.24E-03	2.55E-03	NA	3.90E-09	1.73E-08	2.12E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-1.08E-19	-3.39E-20	-1.64E-05	0.00E+00	-1.64E-05	3.02E-04
Chromium	NA	NA	NA	4.40E-05	0.00E+00	-2.14E-03	0.00E+00	-2.10E-03	-2.06E-03
Lithium	NA	NA	NA	1.21E-07	6.37E-08	3.92E-04	0.00E+00	3.92E-04	2.94E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Woman - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-1.30E-18	-3.25E-19	-9.93E-06	0.00E+00	3.21E-04	0.00E+00	6.64E-08	8.34E-06	3.20E-04	NA	9.01E-06	4.82E-05	5.72E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	5.14E-05	-5.42E-20	-1.69E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.46E-05	NA	5.00E-07	2.67E-06	3.17E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	1.41E-06	7.44E-07	2.37E-04	0.00E+00	0.00E+00	0.00E+00	2.27E-05	2.24E-03	2.51E-03	NA	3.23E-09	1.73E-08	2.05E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-1.08E-19	-3.39E-20	-1.40E-05	0.00E+00	-1.40E-05	3.06E-04
Chromium	NA	NA	NA	4.40E-05	0.00E+00	-1.83E-03	0.00E+00	-1.79E-03	-1.75E-03
Lithium	NA	NA	NA	1.21E-07	6.37E-08	3.35E-04	0.00E+00	3.35E-04	2.84E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Infant - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	1.36E-02	-1.85E-04	2.16E-03	3.15E-03	0.00E+00	7.09E-05	2.89E-03	-1.04E-17	NA	NA	NA	NA	NA	NA	NA	2.17E-02	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	1.94E-06	-5.34E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.43E-04	NA	NA	NA	NA	NA	NA	NA	-8.87E-05	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	1.09E-03	1.97E-02	0.00E+00	0.00E+00	0.00E+00	2.34E-04	2.10E-02	1.22E-05	NA	NA	NA	NA	NA	NA	NA	4.20E-02	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	-9.85E-05	-1.34E-05	6.84E-03	-2.17E-19	NA	NA	NA	6.73E-03	2.85E-02
Chromium	-5.75E-04	-2.97E-03	0.00E+00	1.03E-04	NA	NA	NA	-3.45E-03	-3.54E-03
Lithium	-4.19E-05	1.42E-03	0.00E+00	2.84E-07	NA	NA	NA	1.38E-03	4.34E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Toddler - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	2.71E-02	-9.21E-05	1.07E-03	1.57E-03	0.00E+00	3.52E-05	1.44E-03	-2.08E-17	NA	NA	NA	NA	NA	NA	NA	3.11E-02	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	3.86E-06	-2.65E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.82E-04	NA	NA	NA	NA	NA	NA	NA	6.20E-04	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	2.17E-03	9.77E-03	0.00E+00	0.00E+00	0.00E+00	1.16E-04	1.05E-02	2.42E-05	NA	NA	NA	NA	NA	NA	NA	2.25E-02	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	2.33E-04	-1.13E-05	5.86E-03	-1.63E-19	NA	NA	NA	6.08E-03	3.72E-02
Chromium	3.32E-07	-2.50E-03	0.00E+00	7.58E-05	NA	NA	NA	-2.43E-03	-1.81E-03
Lithium	1.87E-05	1.20E-03	0.00E+00	2.08E-07	NA	NA	NA	1.22E-03	2.38E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Children - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	3.40E-03	-4.62E-05	5.39E-04	7.86E-04	0.00E+00	1.77E-05	7.21E-04	-2.60E-18	NA	NA	NA	NA	NA	NA	NA	5.42E-03	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	4.85E-07	-1.33E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.11E-04	NA	NA	NA	NA	NA	NA	NA	-2.21E-05	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	2.72E-04	4.90E-03	0.00E+00	0.00E+00	0.00E+00	5.83E-05	5.24E-03	3.04E-06	NA	NA	NA	NA	NA	NA	NA	1.05E-02	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	1.78E-04	-9.36E-06	4.95E-03	-5.42E-20	NA	NA	NA	5.12E-03	1.05E-02
Chromium	2.53E-07	-2.08E-03	0.00E+00	5.78E-05	NA	NA	NA	-2.02E-03	-2.04E-03
Lithium	1.42E-05	9.93E-04	0.00E+00	1.59E-07	NA	NA	NA	1.01E-03	1.15E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Teen - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	1.87E-03	-1.27E-05	2.97E-04	4.33E-04	0.00E+00	9.74E-06	3.97E-04	-1.30E-18	NA	NA	NA	NA	NA	NA	NA	3.00E-03	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	2.67E-07	-3.67E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.09E-05	NA	NA	NA	NA	NA	NA	NA	2.45E-05	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	1.50E-04	1.35E-03	0.00E+00	0.00E+00	0.00E+00	3.22E-05	2.89E-03	1.68E-06	NA	NA	NA	NA	NA	NA	NA	4.42E-03	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	1.42E-04	-7.87E-06	4.12E-03	-1.08E-19	NA	NA	NA	4.26E-03	7.26E-03
Chromium	2.03E-07	-1.75E-03	0.00E+00	4.63E-05	NA	NA	NA	-1.70E-03	-1.67E-03
Lithium	1.14E-05	8.35E-04	0.00E+00	1.27E-07	NA	NA	NA	8.47E-04	5.27E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Adult - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	1.58E-03	-4.90E-06	2.31E-04	3.66E-04	0.00E+00	8.22E-06	3.35E-04	-1.30E-18	NA	NA	NA	NA	NA	NA	NA	2.52E-03	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	2.25E-07	-1.41E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.14E-05	NA	NA	NA	NA	NA	NA	NA	3.75E-05	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	1.27E-04	5.20E-04	0.00E+00	0.00E+00	0.00E+00	2.72E-05	2.44E-03	1.41E-06	NA	NA	NA	NA	NA	NA	NA	3.11E-03	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	1.35E-04	-6.91E-06	3.86E-03	-1.08E-19	NA	NA	NA	3.99E-03	6.50E-03
Chromium	1.93E-07	-1.53E-03	0.00E+00	4.40E-05	NA	NA	NA	-1.49E-03	-1.45E-03
Lithium	1.09E-05	7.33E-04	0.00E+00	1.21E-07	NA	NA	NA	7.44E-04	3.86E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Woman - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	1.58E-03	-4.19E-06	1.96E-04	3.66E-04	0.00E+00	8.22E-06	3.35E-04	-1.30E-18	NA	NA	NA	NA	NA	NA	NA	2.48E-03	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	2.25E-07	-1.21E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.14E-05	NA	NA	NA	NA	NA	NA	NA	3.96E-05	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	1.27E-04	4.45E-04	0.00E+00	0.00E+00	0.00E+00	2.72E-05	2.44E-03	1.41E-06	NA	NA	NA	NA	NA	NA	NA	3.04E-03	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	1.35E-04	-5.91E-06	3.86E-03	-1.08E-19	NA	NA	NA	3.99E-03	6.47E-03
Chromium	1.93E-07	-1.31E-03	0.00E+00	4.40E-05	NA	NA	NA	-1.27E-03	-1.23E-03
Lithium	1.09E-05	6.27E-04	0.00E+00	1.21E-07	NA	NA	NA	6.38E-04	3.68E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Infant - Scenario 2																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	3.05E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.05E-08	NA	9.90E-11	1.27E-09	1.37E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	7.10E-09	0.00E+00	0.00E+00	0.00E+00	7.10E-09	3.76E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Toddler - Scenario 2																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	1.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.21E-07	NA	1.98E-10	2.54E-09	2.74E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	1.04E-08	0.00E+00	0.00E+00	0.00E+00	1.04E-08	1.32E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Children - Scenario 2																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	9.12E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.12E-09	NA	1.19E-10	1.52E-09	1.64E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	4.76E-09	0.00E+00	0.00E+00	0.00E+00	4.76E-09	1.39E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Teen - Scenario 2																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	3.35E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.35E-09	NA	7.92E-11	1.02E-09	1.10E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	2.55E-09	0.00E+00	0.00E+00	0.00E+00	2.55E-09	5.90E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Adult - Scenario 2																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	1.41E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.41E-09	NA	1.15E-10	5.08E-10	6.23E-10
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	1.21E-09	0.00E+00	0.00E+00	0.00E+00	1.21E-09	2.63E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Woman - Scenario 2																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	1.41E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.41E-09	NA	9.51E-11	5.08E-10	6.03E-10
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)	Resident -Scenario 2	
										Oral equivalent (ILCReq)	Inhalation (ILCRinh)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent	Sum of ILCReq of each age group	Sum of ILCRinh of each age group
In the scenario ?	NO	NO	NO	YES	YES	YES	YES				
Equation	18	18	18	18	18	18	18	18	19	20	20
Inorganic substance											
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	1.21E-09	0.00E+00	0.00E+00	0.00E+00	1.21E-09	2.63E-09	2E-07	7E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Infant - Scenario 3																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	3.05E-08	0.00E+00	-3.69E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-6.40E-09	NA	9.90E-11	1.27E-09	1.37E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	7.10E-09	0.00E+00	-2.05E-07	0.00E+00	-1.98E-07	-2.05E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable
Bold values > 1E-05

Contaminant of potential human concern	Toddler - Scenario 3																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	2.73E-07	0.00E+00	-8.25E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.90E-07	NA	4.46E-10	5.72E-09	6.16E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	2.35E-08	0.00E+00	-7.78E-07	0.00E+00	-7.54E-07	-5.64E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Children - Scenario 3																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	3.19E-08	0.00E+00	-3.86E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-6.70E-09	NA	4.16E-10	5.33E-09	5.75E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	1.67E-08	0.00E+00	-6.02E-07	0.00E+00	-5.86E-07	-5.92E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Teen - Scenario 3																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	1.34E-08	0.00E+00	-8.11E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.29E-09	NA	3.17E-10	4.06E-09	4.38E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	1.02E-08	0.00E+00	-3.86E-07	0.00E+00	-3.76E-07	-3.70E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Adult - Scenario 3																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	7.78E-09	0.00E+00	-2.15E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.63E-09	NA	6.32E-10	2.79E-09	3.43E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	6.66E-09	0.00E+00	-2.33E-07	0.00E+00	-2.26E-07	-2.21E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Woman - Scenario 3																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	7.78E-09	0.00E+00	-1.84E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.94E-09	NA	5.23E-10	2.79E-09	3.32E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)	Resident -Scenario 3	
										Oral equivalent (ILCReq)	Inhalation (ILCRinh)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent	Sum of ILCReq of each age group	Sum of ILCRinh of each age group
In the scenario ?	NO	NO	NO	YES	YES	YES	YES				
Equation	18	18	18	18	18	18	18	18	19	20	20
Inorganic substance											
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	6.66E-09	0.00E+00	-1.99E-07	0.00E+00	-1.93E-07	-1.87E-07	-2E-06	2E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Infant - Scenario 4																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	3.05E-08	0.00E+00	-5.12E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-2.07E-08	NA	9.90E-11	1.27E-09	1.37E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	7.10E-09	0.00E+00	-2.85E-07	0.00E+00	-2.78E-07	-2.99E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Toddler - Scenario 4																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	1.82E-07	0.00E+00	-7.64E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.05E-07	NA	2.97E-10	3.81E-09	4.11E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	1.56E-08	0.00E+00	-7.20E-07	0.00E+00	-7.05E-07	-5.99E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Children - Scenario 4																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	1.37E-08	0.00E+00	-2.30E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-9.31E-09	NA	1.78E-10	2.29E-09	2.46E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	7.15E-09	0.00E+00	-3.59E-07	0.00E+00	-3.51E-07	-3.61E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Teen - Scenario 4																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	5.03E-09	0.00E+00	-4.22E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.03E-10	NA	1.19E-10	1.52E-09	1.64E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	3.82E-09	0.00E+00	-2.01E-07	0.00E+00	-1.97E-07	-1.96E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Adult - Scenario 4																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	2.12E-09	0.00E+00	-8.13E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.31E-09	NA	1.72E-10	7.62E-10	9.34E-10
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	1.82E-09	0.00E+00	-8.82E-08	0.00E+00	-8.64E-08	-8.51E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Woman - Scenario 4																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	2.12E-09	0.00E+00	-6.95E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.43E-09	NA	1.43E-10	7.62E-10	9.05E-10
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)	Resident -Scenario 4	
										Oral equivalent (ILCReq)	Inhalation (ILCRinh)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent	Sum of ILCReq of each age group	Sum of ILCRinh of each age group
In the scenario ?	NO	NO	NO	YES	YES	YES	YES				
Equation	18	18	18	18	18	18	18	18	19	20	20
Inorganic substance											
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	1.82E-09	0.00E+00	-7.55E-08	0.00E+00	-7.37E-08	-7.22E-08	-2E-06	1E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Infant - Scenario 5																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	1.34E-10	-3.67E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.05E-08	NA	NA	NA	NA	NA	NA	NA	-6.10E-09	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	0.00E+00	-2.04E-07	0.00E+00	7.10E-09	NA	NA	NA	-1.97E-07	-2.03E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Toddler - Scenario 5																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	1.20E-09	-8.21E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.73E-07	NA	NA	NA	NA	NA	NA	NA	1.92E-07	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	1.03E-10	-7.74E-07	0.00E+00	2.35E-08	NA	NA	NA	-7.51E-07	-5.59E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Children - Scenario 5																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	1.40E-10	-3.84E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.19E-08	NA	NA	NA	NA	NA	NA	NA	-6.38E-09	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	7.31E-11	-6.00E-07	0.00E+00	1.67E-08	NA	NA	NA	-5.83E-07	-5.89E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable
Bold values > 1E-05

Contaminant of potential human concern	Teen - Scenario 5																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	5.87E-11	-8.07E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.34E-08	NA	NA	NA	NA	NA	NA	NA	5.39E-09	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	4.46E-11	-3.84E-07	0.00E+00	1.02E-08	NA	NA	NA	-3.74E-07	-3.68E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Adult - Scenario 5																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	1.86E-10	-1.17E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.24E-08	NA	NA	NA	NA	NA	NA	NA	3.10E-08	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	1.59E-10	-1.26E-06	0.00E+00	3.63E-08	NA	NA	NA	-1.23E-06	-1.20E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Woman - Scenario 5																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	1.86E-10	-9.97E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.24E-08	NA	NA	NA	NA	NA	NA	NA	3.27E-08	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)	Resident -Scenario 5	
										Oral equivalent (ILCReq)	Inhalation (ILCRinh)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent	Sum of ILCReq of each age group	Sum of ILCRinh of each age group
In the scenario ?	YES	YES	YES	YES	NO	NO	NO				
Equation	18	18	18	18	18	18	18	18	19	20	20
Inorganic substance											
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	1.59E-10	-1.08E-06	0.00E+00	3.63E-08	NA	NA	NA	-1.05E-06	-1.01E-06	-3E-06	0E+00
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Caracteristics		Scenario 1A						Scenario 1B						Scenario 2					
		Infant	Toddler	Children	Teen	Adult	Woman	Infant	Toddler	Children	Teen	Adult	Woman	Infant	Toddler	Children	Teen	Adult	Woman
Daily proportion of hours exposed to outdoor air in the PA	$Thoa_{pa}$ (unitless)	0.42	0.42	0.42	0.42	0.42	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hours per day exposed to surface water in the PA	Thw_{pa} (hr/d)	2.5	2.5	2.5	2.5	2.3	2.0	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0
Annual proportion of days exposed to soil in the PA	Tds_{pa} (unitless)	0.18	0.18	0.18	0.18	0.18	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to outdoor air in the PA	$Tdoa_{pa}$ (unitless)	0.18	0.18	0.18	0.18	0.18	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to surface water and sediment in the PA	$Tdwsed_{pa}$ (unitless)	0.18	0.18	0.18	0.18	0.18	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to soil, outdoor air, surface water and sediment in the PA - COPCs with developmental effects	Td_{pa} (unitless)	0.29	0.29	0.29	0.29	0.29	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to country food in the PA	Tdf_{pa} (unitless)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily proportion of hours exposed to outdoor air in the village	$Thoa_v$ (unitless)	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.02
Annual proportion of days exposed to soil in the village	Tds_v (unitless)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Annual proportion of days exposed to outdoor air in the village	$Tdoa_v$ (unitless)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Daily proportion of hours exposed to outdoor air south of the PA	$Thoa_s$ (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Hours per day exposed to surface water south of the PA	Thw_s (hr/d)	0.00	0.00	0.00	0.00	0.00	0.00	2.50	2.50	2.50	2.50	2.28	1.95	2.50	2.50	2.50	2.50	2.28	1.95
Annual proportion of days exposed to soil, outdoor air, surface water and sediment south of the PA	Td_s (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Annual proportion of days exposed to soil, outdoor air, surface water and sediment south of the PA - COPCs with developmental effects	Td_s (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
Annual proportion of days exposed to country food south of the PA	Tdf_s (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lifetime proportion of years exposed (cancer)	Ty (unitless)	0.01	0.06	0.09	0.10	0.75	0.75	0.01	0.06	0.09	0.10	0.75	0.75	0.01	0.03	0.03	0.03	0.03	0.03
Frequency of dermal exposure to soil and sediment in the PA	FEpa (event/d)	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Frequency of dermal exposure to soil in the village	FEv (event/d)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Frequency of dermal exposure to soil and sediment south of the PA	FEs (event/d)	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
Body weight	BW (kg)	8.2	16.5	32.9	59.7	70.7	70.7	8.2	16.5	32.9	59.7	70.7	70.7	8.2	16.5	32.9	59.7	70.7	70.7
Soil ingestion rate	IRs (kg/d)	0.00002	0.00008	0.00002	0.00002	0.00002	0.00002	0.00002	0.00008	0.00002	0.00002	0.00002	0.00002	0.00002	0.00008	0.00002	0.00002	0.00002	0.00002
Sediment ingestion rate	IRsed (kg/d)	0.000019	0.000019	0.000019	0.000019	0.000018	0.000015	0.000019	0.000019	0.000019	0.000019	0.000018	0.000015	0.000019	0.000019	0.000019	0.000019	0.000018	0.000015
Berry ingestion rate	IRb (kg FW/d)	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018
Fish fillet ingestion rate	IRf (kg FW/d)	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039
Hare meat ingestion rate	IRh (kg FW/d)	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049
Deer meat ingestion rate	IRd (kg FW/d)	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021
Surface water ingestion rate	IRw (L/d)	0.13	0.13	0.13	0.063	0.029	0.024	0.13	0.13	0.13	0.063	0.029	0.024	0.13	0.13	0.13	0.063	0.029	0.024
Inhalation rate	InhR (m^3/d)	2.2	8.3	14.5	15.6	16.6	16.6	2.2	8.3	14.5	15.6	16.6	16.6	2.2	8.3	14.5	15.6	16.6	16.6
Skin surface area	SA (cm^2)	3620	6130	10140	15470	17640	17640	3620	6130	10140	15470	17640	17640	3620	6130	10140	15470	17640	17640
- hands	SAh (cm^2)	320	430	590	800	890	890	320	430	590	800	890	890	320	430	590	800	890	890
- arms	SAa (cm^2)	550	890	1480	2230	2500	2500	550	890	1480	2230	2500	2500	550	890	1480	2230	2500	2500
- forearms	SAfo (cm^2)	275	450	740	1120	1250	1250	275	450	740	1120	1250	1250	275	450	740	1120	1250	1250
- legs	SAl (cm^2)	910	1690	3070	4970	5720	5720	910	1690	3070	4970	5720	5720	910	1690	3070	4970	5720	5720
- feet	SAfe (cm^2)	250	430	720	1080	1190	1190	250	430	720	1080	1190	1190	250	430	720	1080	1190	1190
- arms and legs	SAal (cm^2)	1460	2580	4550	7200	8220	8220	1460	2580	4550	7200	8220	8220	1460	2580	4550	7200	8220	8220
Soil loading to exposed skin - hands	SLh (kg/cm^2/event)	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07
Soil loading to exposed skin - arms and legs	SLal (kg/cm^2/event)	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08
Sediment loading to exposed skin - hands	SedLh (kg/cm^2/event)	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07
Sediment loading to exposed skin - forearms	SedLfo (kg/cm^2/event)	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07
Sediment loading to exposed skin - legs	SedLl (kg/cm^2/event)	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07
Sediment loading to exposed skin - feet	SedLfe (kg/cm^2/event)	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05
Interim age-dependent adjustment factors for cancer effects via a mutagenic mode of action	ADAF (unitless)	10	5	3	2	1	1	10	5	3	2	1	1	10	5	3	2	1	1

NA: Not applicable

Caracteristics		Scenario 3						Scenario 4						Scenario 5					
		Infant	Toddler	Children	Teen	Adult	Woman	Infant	Toddler	Children	Teen	Adult	Woman	Infant	Toddler	Children	Teen	Adult	Woman
Daily proportion of hours exposed to outdoor air in the PA	$Thoa_{pa}$ (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.42	0.42	0.42	0.42	0.42
Hours per day exposed to surface water in the PA	Thw_{pa} (hr/d)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	2.5	2.5	2.5	2.3	2.0
Annual proportion of days exposed to soil in the PA	Tds_{pa} (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.18	0.18	0.18	0.18	0.18
Annual proportion of days exposed to outdoor air in the PA	$Tdoa_{pa}$ (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.18	0.18	0.18	0.18	0.18
Annual proportion of days exposed to surface water and sediment in the PA	$Tdwsed_{pa}$ (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.18	0.18	0.18	0.18	0.18
Annual proportion of days exposed to soil, outdoor air, surface water and sediment in the PA - COPCs with developmental effects	Td_{pa} (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.29	0.29	0.29	0.29	0.29
Annual proportion of days exposed to country food in the PA	Tdf_{pa} (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Daily proportion of hours exposed to outdoor air in the village	$Thoa_v$ (unitless)	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.02
Annual proportion of days exposed to soil in the village	Tds_v (unitless)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Annual proportion of days exposed to outdoor air in the village	$Tdoa_v$ (unitless)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Daily proportion of hours exposed to outdoor air south of the PA	$Thoa_s$ (unitless)	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.00	0.00	0.00	0.00	0.00	0.00
Hours per day exposed to surface water south of the PA	Thw_s (hr/d)	2.50	2.50	2.50	2.50	2.28	1.95	2.50	2.50	2.50	2.50	2.28	1.95	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to soil, outdoor air, surface water and sediment south of the PA	Td_s (unitless)	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to soil, outdoor air, surface water and sediment south of the PA - COPCs with developmental effects	Td_s (unitless)	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to country food south of the PA	Tdf_s (unitless)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Lifetime proportion of years exposed (cancer)	Ty (unitless)	0.01	0.06	0.09	0.10	0.14	0.14	0.01	0.04	0.04	0.04	0.04	0.04	0.01	0.06	0.09	0.10	0.75	0.75
Frequency of dermal exposure to soil and sediment in the PA	FEpa (event/d)	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
Frequency of dermal exposure to soil in the village	FEv (event/d)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Frequency of dermal exposure to soil and sediment south of the PA	FEs (event/d)	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
Body weight	BW (kg)	8.2	16.5	32.9	59.7	70.7	70.7	8.2	16.5	32.9	59.7	70.7	70.7	8.2	16.5	32.9	59.7	70.7	70.7
Soil ingestion rate	IRs (kg/d)	0.00002	0.00008	0.00002	0.00002	0.00002	0.00002	0.00002	0.00008	0.00002	0.00002	0.00002	0.00002	0.00002	0.00008	0.00002	0.00002	0.00002	0.00002
Sediment ingestion rate	IRsed (kg/d)	0.000019	0.000019	0.000019	0.000019	0.000018	0.000015	0.000019	0.000019	0.000019	0.000019	0.000018	0.000015	0.000019	0.000019	0.000019	0.000019	0.000018	0.000015
Berry ingestion rate	IRb (kg FW/d)	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018
Fish fillet ingestion rate	IRf (kg FW/d)	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039
Hare meat ingestion rate	IRh (kg FW/d)	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049
Deer meat ingestion rate	IRd (kg FW/d)	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021
Surface water ingestion rate	IRw (L/d)	0.13	0.13	0.13	0.063	0.029	0.024	0.13	0.13	0.13	0.063	0.029	0.024	0.13	0.13	0.13	0.063	0.029	0.024
Inhalation rate	InhR (m^3/d)	2.2	8.3	14.5	15.6	16.6	16.6	2.2	8.3	14.5	15.6	16.6	16.6	2.2	8.3	14.5	15.6	16.6	16.6
Skin surface area	SA (cm^2)	3620	6130	10140	15470	17640	17640	3620	6130	10140	15470	17640	17640	3620	6130	10140	15470	17640	17640
- hands	SAh (cm^2)	320	430	590	800	890	890	320	430	590	800	890	890	320	430	590	800	890	890
- arms	SAa (cm^2)	550	890	1480	2230	2500	2500	550	890	1480	2230	2500	2500	550	890	1480	2230	2500	2500
- forearms	SAfo (cm^2)	275	450	740	1120	1250	1250	275	450	740	1120	1250	1250	275	450	740	1120	1250	1250
- legs	SAl (cm^2)	910	1690	3070	4970	5720	5720	910	1690	3070	4970	5720	5720	910	1690	3070	4970	5720	5720
- feet	SAfe (cm^2)	250	430	720	1080	1190	1190	250	430	720	1080	1190	1190	250	430	720	1080	1190	1190
- arms and legs	SAal (cm^2)	1460	2580	4550	7200	8220	8220	1460	2580	4550	7200	8220	8220	1460	2580	4550	7200	8220	8220
Soil loading to exposed skin - hands	SLh (kg/cm^2/event)	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07
Soil loading to exposed skin - arms and legs	SLal (kg/cm^2/event)	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08
Sediment loading to exposed skin - hands	SedLh (kg/cm^2/event)	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07
Sediment loading to exposed skin - forearms	SedLfo (kg/cm^2/event)	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07
Sediment loading to exposed skin - legs	SedLl (kg/cm^2/event)	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07
Sediment loading to exposed skin - feet	SedLfe (kg/cm^2/event)	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05
Interim age-dependent adjustment factors for cancer effects via a mutagenic mode of action	ADAF (unitless)	10	5	3	2	1	1	10	5	3	2	1	1	10	5	3	2	1	1

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 1A																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	4.23E-03	1.15E-03	6.17E-03	8.66E-03	6.25E-03	4.54E-05	1.98E-03	2.42E-02	NA	NA	NA	NA	NA	NA	NA	5.27E-02	1.67E-06	1.91E-07	NA	1.86E-06
Chromium	5.43E-06	3.47E-06	9.88E-06	3.55E-04	1.20E-03	4.79E-07	4.27E-05	3.17E-05	NA	NA	NA	NA	NA	NA	NA	1.65E-03	3.04E-08	3.46E-09	NA	3.38E-08
Lithium	3.59E-06	0.00E+00	1.28E-05	3.77E-04	1.20E-03	0.00E+00	0.00E+00	2.27E-05	NA	NA	NA	NA	NA	NA	NA	1.62E-03	1.48E-09	1.69E-10	NA	1.65E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	9.85E-05	8.33E-05	1.95E-02	5.64E-04	NA	NA	NA	2.03E-02	7.30E-02
Chromium	1.27E-06	1.94E-05	3.13E-04	7.39E-06	NA	NA	NA	3.41E-04	1.99E-03
Lithium	8.37E-08	0.00E+00	4.04E-05	5.29E-07	NA	NA	NA	4.10E-05	1.66E-03

NA: Not applicable.

Contaminant of potential human concern	Toddler - Scenario 1A																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,sa}$)	Surface water south of the PA ($Doral_{w,sa}$)	Sediment south of the PA ($Dorals_{sed,sa}$)	Berries south of the PA ($Doral_{b,sa}$)	Fish fillets south of the PA ($Doral_{f,sa}$)	Hare meat south of the PA ($Doral_{h,sa}$)	Deer meat south of the PA ($Doral_{d,sa}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,sa}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	8.41E-03	5.72E-04	3.07E-03	4.30E-03	3.10E-03	2.26E-05	9.83E-04	4.81E-02	NA	NA	NA	NA	NA	NA	NA	6.86E-02	3.13E-06	3.57E-07	NA	3.49E-06
Chromium	1.08E-05	1.73E-06	4.91E-06	1.76E-04	5.97E-04	2.38E-07	2.12E-05	6.30E-05	NA	NA	NA	NA	NA	NA	NA	8.75E-04	5.69E-08	6.49E-09	NA	6.34E-08
Lithium	7.14E-06	0.00E+00	6.34E-06	1.88E-04	5.97E-04	0.00E+00	0.00E+00	4.51E-05	NA	NA	NA	NA	NA	NA	NA	8.43E-04	2.78E-09	3.17E-10	NA	3.10E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	7.23E-05	7.01E-05	1.67E-02	4.14E-04	NA	NA	NA	1.73E-02	8.59E-02
Chromium	9.29E-07	1.63E-05	2.68E-04	5.42E-06	NA	NA	NA	2.90E-04	1.17E-03
Lithium	6.14E-08	0.00E+00	3.46E-05	3.88E-07	NA	NA	NA	3.50E-05	8.78E-04

NA: Not applicable.

Contaminant of potential human concern	Children - Scenario 1A																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Doralw_{,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	1.05E-03	2.87E-04	1.54E-03	2.16E-03	1.56E-03	1.13E-05	4.93E-04	6.03E-03	NA	NA	NA	NA	NA	NA	NA	1.31E-02	2.74E-06	3.13E-07	NA	3.06E-06
Chromium	1.35E-06	8.66E-07	2.46E-06	8.85E-05	2.99E-04	1.19E-07	1.06E-05	7.90E-06	NA	NA	NA	NA	NA	NA	NA	4.11E-04	4.99E-08	5.69E-09	NA	5.56E-08
Lithium	8.95E-07	0.00E+00	3.18E-06	9.40E-05	2.99E-04	0.00E+00	0.00E+00	5.65E-06	NA	NA	NA	NA	NA	NA	NA	4.03E-04	2.43E-09	2.78E-10	NA	2.71E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	5.51E-05	5.81E-05	1.41E-02	3.15E-04	NA	NA	NA	1.46E-02	2.77E-02
Chromium	7.07E-07	1.35E-05	2.26E-04	4.13E-06	NA	NA	NA	2.45E-04	6.56E-04
Lithium	4.68E-08	0.00E+00	2.92E-05	2.95E-07	NA	NA	NA	2.96E-05	4.33E-04

NA: Not applicable.

Contaminant of potential human concern	Teen - Scenario 1A																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{fpa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{fs}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	5.81E-04	7.90E-05	8.48E-04	1.19E-03	8.58E-04	6.24E-06	2.72E-04	3.32E-03	NA	NA	NA	NA	NA	NA	NA	7.16E-03	1.63E-06	1.86E-07	NA	1.81E-06
Chromium	7.46E-07	2.39E-07	1.36E-06	4.88E-05	1.65E-04	6.58E-08	5.87E-06	4.36E-06	NA	NA	NA	NA	NA	NA	NA	2.26E-04	2.96E-08	3.37E-09	NA	3.29E-08
Lithium	4.93E-07	0.00E+00	1.75E-06	5.18E-05	1.65E-04	0.00E+00	0.00E+00	3.12E-06	NA	NA	NA	NA	NA	NA	NA	2.22E-04	1.44E-09	1.65E-10	NA	1.61E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	4.42E-05	4.89E-05	1.18E-02	2.53E-04	NA	NA	NA	1.21E-02	1.93E-02
Chromium	5.67E-07	1.14E-05	1.88E-04	3.31E-06	NA	NA	NA	2.04E-04	4.30E-04
Lithium	3.75E-08	0.00E+00	2.43E-05	2.37E-07	NA	NA	NA	2.46E-05	2.47E-04

NA: Not applicable.

Contaminant of potential human concern	Adult - Scenario 1A																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	4.91E-04	3.04E-05	6.59E-04	1.00E-03	7.24E-04	5.27E-06	2.30E-04	2.81E-03	NA	NA	NA	NA	NA	NA	NA	5.95E-03	1.46E-06	4.84E-07	NA	1.95E-06
Chromium	6.30E-07	9.19E-08	1.05E-06	4.12E-05	1.39E-04	5.56E-08	4.95E-06	3.68E-06	NA	NA	NA	NA	NA	NA	NA	1.91E-04	2.66E-08	8.79E-09	NA	3.54E-08
Lithium	4.17E-07	0.00E+00	1.36E-06	4.38E-05	1.39E-04	0.00E+00	0.00E+00	2.63E-06	NA	NA	NA	NA	NA	NA	NA	1.87E-04	1.30E-09	4.29E-10	NA	1.73E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	4.20E-05	4.29E-05	1.10E-02	2.40E-04	NA	NA	NA	1.14E-02	1.73E-02
Chromium	5.39E-07	9.97E-06	1.76E-04	3.15E-06	NA	NA	NA	1.90E-04	3.81E-04
Lithium	3.57E-08	0.00E+00	2.28E-05	2.25E-07	NA	NA	NA	2.31E-05	2.11E-04

NA: Not applicable.

Contaminant of potential human concern	Woman - Scenario 1A																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Dorals_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Dorals_{b,pa}$)	Fish fillets in the PA ($Dorals_{f,pa}$)	Hare meat in the PA ($Dorals_{h,pa}$)	Deer meat in the PA ($Dorals_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Dorals_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Dorals_{b,s}$)	Fish fillets south of the PA ($Dorals_{f,s}$)	Hare meat south of the PA ($Dorals_{h,s}$)	Deer meat south of the PA ($Dorals_{d,s}$)	Total ($Dorals_{tot}$)	Outdoor air in the PA ($Dinhs_{oa,pa}$)	Outdoor air in the village ($Dinhs_{oa,v}$)	Outdoor air south of the PA ($Dinhs_{oa,s}$)	Total ($Dinhs_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	4.91E-04	2.60E-05	5.59E-04	1.00E-03	7.24E-04	5.27E-06	2.30E-04	2.81E-03	NA	NA	NA	NA	NA	NA	NA	5.84E-03	1.46E-06	4.00E-07	NA	1.86E-06
Chromium	6.30E-07	7.86E-08	8.94E-07	4.12E-05	1.39E-04	5.56E-08	4.95E-06	3.68E-06	NA	NA	NA	NA	NA	NA	NA	1.91E-04	2.66E-08	7.27E-09	NA	3.38E-08
Lithium	4.17E-07	0.00E+00	1.15E-06	4.38E-05	1.39E-04	0.00E+00	0.00E+00	2.63E-06	NA	NA	NA	NA	NA	NA	NA	1.87E-04	1.30E-09	3.55E-10	NA	1.65E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	4.20E-05	3.67E-05	1.10E-02	2.40E-04	NA	NA	NA	1.13E-02	1.72E-02
Chromium	5.39E-07	8.53E-06	1.76E-04	3.15E-06	NA	NA	NA	1.89E-04	3.79E-04
Lithium	3.57E-08	0.00E+00	2.28E-05	2.25E-07	NA	NA	NA	2.31E-05	2.10E-04

NA: Not applicable.

Contaminant of potential human concern	Infant - Scenario 1B																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.42E-02	3.75E-03	1.15E-03	6.17E-03	8.66E-03	6.25E-03	4.05E-05	1.78E-03	5.20E-02	NA	1.91E-07	1.67E-06	1.86E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	3.17E-05	5.56E-06	3.47E-06	9.88E-06	3.55E-04	1.20E-03	4.84E-07	4.29E-05	1.65E-03	NA	3.46E-09	3.04E-08	3.38E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	2.27E-05	3.59E-06	0.00E+00	1.28E-05	3.77E-04	1.20E-03	0.00E+00	0.00E+00	1.62E-03	NA	1.69E-10	1.48E-09	1.65E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	5.64E-04	8.73E-05	8.33E-05	1.95E-02	2.03E-02	7.23E-02
Chromium	NA	NA	NA	7.39E-06	1.30E-06	1.94E-05	3.13E-04	3.41E-04	1.99E-03
Lithium	NA	NA	NA	5.29E-07	8.37E-08	0.00E+00	4.04E-05	4.10E-05	1.66E-03

NA: Not applicable.

Contaminant of potential human concern	Toddler - Scenario 1B																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,sa}$)	Surface water south of the PA ($Doral_{w,sa}$)	Sediment south of the PA ($Dorals_{sed,sa}$)	Berries south of the PA ($Doral_{b,sa}$)	Fish fillets south of the PA ($Doral_{f,sa}$)	Hare meat south of the PA ($Doral_{h,sa}$)	Deer meat south of the PA ($Doral_{d,sa}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,sa}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	4.81E-02	7.45E-03	5.72E-04	3.07E-03	4.30E-03	3.10E-03	2.01E-05	8.84E-04	6.75E-02	NA	3.57E-07	3.13E-06	3.49E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	6.30E-05	1.11E-05	1.73E-06	4.91E-06	1.76E-04	5.97E-04	2.41E-07	2.13E-05	8.76E-04	NA	6.49E-09	5.69E-08	6.34E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	4.51E-05	7.14E-06	0.00E+00	6.34E-06	1.88E-04	5.97E-04	0.00E+00	0.00E+00	8.43E-04	NA	3.17E-10	2.78E-09	3.10E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	4.14E-04	6.40E-05	7.01E-05	1.67E-02	1.73E-02	8.48E-02
Chromium	NA	NA	NA	5.42E-06	9.50E-07	1.63E-05	2.68E-04	2.90E-04	1.17E-03
Lithium	NA	NA	NA	3.88E-07	6.14E-08	0.00E+00	3.46E-05	3.50E-05	8.78E-04

NA: Not applicable.

Contaminant of potential human concern	Children - Scenario 1B																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	6.03E-03	9.34E-04	2.87E-04	1.54E-03	2.16E-03	1.56E-03	1.01E-05	4.44E-04	1.30E-02	NA	3.13E-07	2.74E-06	3.06E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	7.90E-06	1.39E-06	8.66E-07	2.46E-06	8.85E-05	2.99E-04	1.21E-07	1.07E-05	4.11E-04	NA	5.69E-09	4.99E-08	5.56E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	5.65E-06	8.95E-07	0.00E+00	3.18E-06	9.40E-05	2.99E-04	0.00E+00	0.00E+00	4.03E-04	NA	2.78E-10	2.43E-09	2.71E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	3.15E-04	4.88E-05	5.81E-05	1.41E-02	1.46E-02	2.75E-02
Chromium	NA	NA	NA	4.13E-06	7.24E-07	1.35E-05	2.26E-04	2.45E-04	6.56E-04
Lithium	NA	NA	NA	2.95E-07	4.68E-08	0.00E+00	2.92E-05	2.96E-05	4.33E-04

NA: Not applicable.

Contaminant of potential human concern	Teen - Scenario 1B																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{fpa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{fs}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	3.32E-03	5.15E-04	7.90E-05	8.48E-04	1.19E-03	8.58E-04	5.56E-06	2.44E-04	7.06E-03	NA	1.86E-07	1.63E-06	1.81E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	4.36E-06	7.64E-07	2.39E-07	1.36E-06	4.88E-05	1.65E-04	6.65E-08	5.90E-06	2.26E-04	NA	3.37E-09	2.96E-08	3.29E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	3.12E-06	4.93E-07	0.00E+00	1.75E-06	5.18E-05	1.65E-04	0.00E+00	0.00E+00	2.22E-04	NA	1.65E-10	1.44E-09	1.61E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Ddermss.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	2.53E-04	3.91E-05	4.89E-05	1.18E-02	1.21E-02	1.92E-02
Chromium	NA	NA	NA	3.31E-06	5.80E-07	1.14E-05	1.88E-04	2.04E-04	4.30E-04
Lithium	NA	NA	NA	2.37E-07	3.75E-08	0.00E+00	2.43E-05	2.46E-05	2.47E-04

NA: Not applicable.

Contaminant of potential human concern	Adult - Scenario 1B																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	3.04E-05	6.59E-04	1.00E-03	7.24E-04	4.69E-06	2.06E-04	5.87E-03	NA	4.84E-07	1.46E-06	1.95E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	3.68E-06	6.45E-07	9.19E-08	1.05E-06	4.12E-05	1.39E-04	5.61E-08	4.98E-06	1.91E-04	NA	8.79E-09	2.66E-08	3.54E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	2.63E-06	4.17E-07	0.00E+00	1.36E-06	4.38E-05	1.39E-04	0.00E+00	0.00E+00	1.87E-04	NA	4.29E-10	1.30E-09	1.73E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	4.29E-05	1.10E-02	1.13E-02	1.72E-02
Chromium	NA	NA	NA	3.15E-06	5.52E-07	9.97E-06	1.76E-04	1.90E-04	3.81E-04
Lithium	NA	NA	NA	2.25E-07	3.57E-08	0.00E+00	2.28E-05	2.31E-05	2.11E-04

NA: Not applicable.

Contaminant of potential human concern	Woman - Scenario 1B																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Doralw_{,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	2.60E-05	5.59E-04	1.00E-03	7.24E-04	4.69E-06	2.06E-04	5.76E-03	NA	4.00E-07	1.46E-06	1.86E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	3.68E-06	6.45E-07	7.86E-08	8.94E-07	4.12E-05	1.39E-04	5.61E-08	4.98E-06	1.91E-04	NA	7.27E-09	2.66E-08	3.38E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	2.63E-06	4.17E-07	0.00E+00	1.15E-06	4.38E-05	1.39E-04	0.00E+00	0.00E+00	1.87E-04	NA	3.55E-10	1.30E-09	1.65E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	3.67E-05	1.10E-02	1.13E-02	1.71E-02
Chromium	NA	NA	NA	3.15E-06	5.52E-07	8.53E-06	1.76E-04	1.89E-04	3.80E-04
Lithium	NA	NA	NA	2.25E-07	3.57E-08	0.00E+00	2.28E-05	2.31E-05	2.10E-04

NA: Not applicable.

Contaminant of potential human concern	Infant - Scenario 2																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.42E-02	3.75E-03	1.15E-03	6.17E-03	1.42E-02	6.25E-03	4.16E-05	1.93E-03	5.77E-02	NA	1.96E-07	1.74E-06	1.93E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	3.27E-05	5.56E-06	3.47E-06	9.88E-06	3.55E-04	1.20E-03	4.84E-07	4.29E-05	1.65E-03	NA	3.47E-09	3.04E-08	3.39E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	2.27E-05	3.61E-06	0.00E+00	1.28E-05	3.77E-04	1.20E-03	7.82E-07	7.74E-05	1.70E-03	NA	1.72E-10	1.52E-09	1.69E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	5.64E-04	8.73E-05	8.33E-05	1.95E-02	2.03E-02	7.79E-02
Chromium	NA	NA	NA	7.62E-06	1.30E-06	1.94E-05	3.13E-04	3.41E-04	1.99E-03
Lithium	NA	NA	NA	5.29E-07	8.40E-08	0.00E+00	4.04E-05	4.10E-05	1.74E-03

NA: Not applicable.

Contaminant of potential human concern	Toddler - Scenario 2																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,sa}$)	Surface water south of the PA ($Doral_{w,sa}$)	Sediment south of the PA ($Doral_{sed,sa}$)	Berries south of the PA ($Doral_{b,sa}$)	Fish fillets south of the PA ($Doral_{f,sa}$)	Hare meat south of the PA ($Doral_{h,sa}$)	Deer meat south of the PA ($Doral_{d,sa}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,sa}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	4.81E-02	7.45E-03	5.72E-04	3.07E-03	7.06E-03	3.10E-03	2.07E-05	9.57E-04	7.03E-02	NA	3.67E-07	3.25E-06	3.62E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	6.50E-05	1.11E-05	1.73E-06	4.91E-06	1.76E-04	5.97E-04	2.41E-07	2.13E-05	8.78E-04	NA	6.50E-09	5.71E-08	6.36E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	4.51E-05	7.17E-06	0.00E+00	6.34E-06	1.88E-04	5.97E-04	3.89E-07	3.85E-05	8.82E-04	NA	3.23E-10	2.85E-09	3.17E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	4.14E-04	6.40E-05	7.01E-05	1.67E-02	1.73E-02	8.76E-02
Chromium	NA	NA	NA	5.59E-06	9.50E-07	1.63E-05	2.68E-04	2.91E-04	1.17E-03
Lithium	NA	NA	NA	3.88E-07	6.16E-08	0.00E+00	3.46E-05	3.50E-05	9.17E-04

NA: Not applicable.

Contaminant of potential human concern	Children - Scenario 2																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Doralw_{,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	6.03E-03	9.34E-04	2.87E-04	1.54E-03	3.54E-03	1.56E-03	1.04E-05	4.80E-04	1.44E-02	NA	3.21E-07	2.85E-06	3.17E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	8.15E-06	1.39E-06	8.66E-07	2.46E-06	8.85E-05	2.99E-04	1.21E-07	1.07E-05	4.12E-04	NA	5.70E-09	5.00E-08	5.57E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	5.66E-06	8.99E-07	0.00E+00	3.18E-06	9.40E-05	2.99E-04	1.95E-07	1.93E-05	4.23E-04	NA	2.83E-10	2.50E-09	2.78E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	3.15E-04	4.88E-05	5.81E-05	1.41E-02	1.46E-02	2.89E-02
Chromium	NA	NA	NA	4.26E-06	7.24E-07	1.35E-05	2.26E-04	2.45E-04	6.56E-04
Lithium	NA	NA	NA	2.96E-07	4.69E-08	0.00E+00	2.92E-05	2.96E-05	4.52E-04

NA: Not applicable.

Contaminant of potential human concern	Teen - Scenario 2																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{fpa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{sd,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{fs}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	3.32E-03	5.15E-04	7.90E-05	8.48E-04	1.95E-03	8.58E-04	5.71E-06	2.65E-04	7.84E-03	NA	1.91E-07	1.69E-06	1.88E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	4.49E-06	7.64E-07	2.39E-07	1.36E-06	4.88E-05	1.65E-04	6.65E-08	5.90E-06	2.27E-04	NA	3.38E-09	2.96E-08	3.30E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	3.12E-06	4.95E-07	0.00E+00	1.75E-06	5.18E-05	1.65E-04	1.07E-07	1.06E-05	2.33E-04	NA	1.68E-10	1.48E-09	1.65E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Ddermss.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	2.53E-04	3.91E-05	4.89E-05	1.18E-02	1.21E-02	2.00E-02
Chromium	NA	NA	NA	3.41E-06	5.80E-07	1.14E-05	1.88E-04	2.04E-04	4.30E-04
Lithium	NA	NA	NA	2.37E-07	3.76E-08	0.00E+00	2.43E-05	2.46E-05	2.58E-04

NA: Not applicable.

Contaminant of potential human concern	Adult - Scenario 2																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($DoralS_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	3.04E-05	6.59E-04	1.65E-03	7.24E-04	4.82E-06	2.23E-04	6.53E-03	NA	4.96E-07	1.52E-06	2.02E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	3.79E-06	6.45E-07	9.19E-08	1.05E-06	4.12E-05	1.39E-04	5.61E-08	4.98E-06	1.91E-04	NA	8.80E-09	2.66E-08	3.54E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	2.63E-06	4.18E-07	0.00E+00	1.36E-06	4.38E-05	1.39E-04	9.07E-08	8.97E-06	1.97E-04	NA	4.37E-10	1.33E-09	1.77E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	4.29E-05	1.10E-02	1.13E-02	1.79E-02
Chromium	NA	NA	NA	3.24E-06	5.52E-07	9.97E-06	1.76E-04	1.90E-04	3.81E-04
Lithium	NA	NA	NA	2.25E-07	3.58E-08	0.00E+00	2.28E-05	2.31E-05	2.20E-04

NA: Not applicable.

Contaminant of potential human concern	Woman - Scenario 2																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Dorals_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Dorals_{b,pa}$)	Fish fillets in the PA ($Dorals_{f,pa}$)	Hare meat in the PA ($Dorals_{h,pa}$)	Deer meat in the PA ($Dorals_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,a}$)	Surface water south of the PA ($Dorals_{w,a}$)	Sediment south of the PA ($Dorals_{sed,a}$)	Berries south of the PA ($Dorals_{b,a}$)	Fish fillets south of the PA ($Dorals_{f,a}$)	Hare meat south of the PA ($Dorals_{h,a}$)	Deer meat south of the PA ($Dorals_{d,a}$)	Total ($Dorals_{tot}$)	Outdoor air in the PA ($Dinhs_{oa,pa}$)	Outdoor air in the village ($Dinhs_{oa,v}$)	Outdoor air south of the PA ($Dinhs_{oa,a}$)	Total ($Dinhs_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	2.60E-05	5.59E-04	1.65E-03	7.24E-04	4.82E-06	2.23E-04	6.42E-03	NA	4.11E-07	1.52E-06	1.93E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	3.79E-06	6.45E-07	7.86E-08	8.94E-07	4.12E-05	1.39E-04	5.61E-08	4.98E-06	1.91E-04	NA	7.29E-09	2.66E-08	3.39E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	2.63E-06	4.18E-07	0.00E+00	1.15E-06	4.38E-05	1.39E-04	9.07E-08	8.97E-06	1.96E-04	NA	3.61E-10	1.33E-09	1.69E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	3.67E-05	1.10E-02	1.13E-02	1.78E-02
Chromium	NA	NA	NA	3.24E-06	5.52E-07	8.53E-06	1.76E-04	1.89E-04	3.80E-04
Lithium	NA	NA	NA	2.25E-07	3.58E-08	0.00E+00	2.28E-05	2.31E-05	2.19E-04

NA: Not applicable.

Contaminant of potential human concern	Infant - Scenario 3																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.42E-02	3.75E-03	5.32E-04	6.17E-03	1.42E-02	6.25E-03	4.16E-05	1.92E-03	5.71E-02	NA	1.96E-07	1.74E-06	1.93E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	3.27E-05	5.56E-06	2.29E-06	9.88E-06	3.55E-04	1.20E-03	4.84E-07	4.29E-05	1.65E-03	NA	3.47E-09	3.04E-08	3.39E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	2.27E-05	3.61E-06	2.10E-05	1.28E-05	3.77E-04	1.20E-03	7.82E-07	7.74E-05	1.72E-03	NA	1.72E-10	1.52E-09	1.69E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	5.64E-04	8.73E-05	3.85E-05	1.95E-02	2.02E-02	7.73E-02
Chromium	NA	NA	NA	7.62E-06	1.30E-06	1.28E-05	3.13E-04	3.34E-04	1.98E-03
Lithium	NA	NA	NA	5.29E-07	8.40E-08	1.52E-06	4.04E-05	4.25E-05	1.76E-03

NA: Not applicable.

Contaminant of potential human concern	Toddler - Scenario 3																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,sa}$)	Surface water south of the PA ($Doral_{w,sa}$)	Sediment south of the PA ($Dorals_{sed,sa}$)	Berries south of the PA ($Doral_{b,sa}$)	Fish fillets south of the PA ($Doral_{f,sa}$)	Hare meat south of the PA ($Doral_{h,sa}$)	Deer meat south of the PA ($Doral_{d,sa}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,sa}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	4.81E-02	7.45E-03	2.65E-04	3.07E-03	7.06E-03	3.10E-03	2.07E-05	9.55E-04	7.00E-02	NA	3.67E-07	3.25E-06	3.62E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	6.50E-05	1.11E-05	1.14E-06	4.91E-06	1.76E-04	5.97E-04	2.41E-07	2.13E-05	8.77E-04	NA	6.50E-09	5.71E-08	6.36E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	4.51E-05	7.17E-06	1.04E-05	6.34E-06	1.88E-04	5.97E-04	3.89E-07	3.85E-05	8.92E-04	NA	3.23E-10	2.85E-09	3.17E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	4.14E-04	6.40E-05	3.24E-05	1.67E-02	1.72E-02	8.73E-02
Chromium	NA	NA	NA	5.59E-06	9.50E-07	1.08E-05	2.68E-04	2.85E-04	1.16E-03
Lithium	NA	NA	NA	3.88E-07	6.16E-08	1.28E-06	3.46E-05	3.63E-05	9.29E-04

NA: Not applicable.

Contaminant of potential human concern	Children - Scenario 3																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	6.03E-03	9.34E-04	1.33E-04	1.54E-03	3.54E-03	1.56E-03	1.04E-05	4.79E-04	1.42E-02	NA	3.21E-07	2.85E-06	3.17E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	8.15E-06	1.39E-06	5.72E-07	2.46E-06	8.85E-05	2.99E-04	1.21E-07	1.07E-05	4.11E-04	NA	5.70E-09	5.00E-08	5.57E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	5.66E-06	8.99E-07	5.23E-06	3.18E-06	9.40E-05	2.99E-04	1.95E-07	1.93E-05	4.28E-04	NA	2.83E-10	2.50E-09	2.78E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	3.15E-04	4.88E-05	2.69E-05	1.41E-02	1.45E-02	2.87E-02
Chromium	NA	NA	NA	4.26E-06	7.24E-07	8.92E-06	2.26E-04	2.40E-04	6.51E-04
Lithium	NA	NA	NA	2.96E-07	4.69E-08	1.06E-06	2.92E-05	3.06E-05	4.59E-04

NA: Not applicable.

Contaminant of potential human concern	Teen - Scenario 3																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Dorals_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Dorals_{b,pa}$)	Fish fillets in the PA ($Dorals_{f,pa}$)	Hare meat in the PA ($Dorals_{h,pa}$)	Deer meat in the PA ($Dorals_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Dorals_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Dorals_{b,s}$)	Fish fillets south of the PA ($Dorals_{f,s}$)	Hare meat south of the PA ($Dorals_{h,s}$)	Deer meat south of the PA ($Dorals_{d,s}$)	Total ($Dorals_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	3.32E-03	5.15E-04	3.66E-05	8.48E-04	1.95E-03	8.58E-04	5.71E-06	2.64E-04	7.80E-03	NA	1.91E-07	1.69E-06	1.88E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	4.49E-06	7.64E-07	1.58E-07	1.36E-06	4.88E-05	1.65E-04	6.65E-08	5.90E-06	2.26E-04	NA	3.38E-09	2.96E-08	3.30E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	3.12E-06	4.95E-07	1.44E-06	1.75E-06	5.18E-05	1.65E-04	1.07E-07	1.06E-05	2.34E-04	NA	1.68E-10	1.48E-09	1.65E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Ddermss.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	2.53E-04	3.91E-05	2.26E-05	1.18E-02	1.21E-02	1.99E-02
Chromium	NA	NA	NA	3.41E-06	5.80E-07	7.50E-06	1.88E-04	2.00E-04	4.26E-04
Lithium	NA	NA	NA	2.37E-07	3.76E-08	8.92E-07	2.43E-05	2.55E-05	2.60E-04

NA: Not applicable.

Contaminant of potential human concern	Adult - Scenario 3																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorал_{s,pa}$)	Surface water in the PA ($Dorал_{w,pa}$)	Sediment in the PA ($DoralS_{ed,pa}$)	Berries in the PA ($Dorал_{b,pa}$)	Fish fillets in the PA ($Dorал_{f,pa}$)	Hare meat in the PA ($Dorал_{h,pa}$)	Deer meat in the PA ($Dorал_{d,pa}$)	Surface soil in the village ($Dorал_{s,v}$)	Surface soil south of the PA ($Dorал_{s,s}$)	Surface water south of the PA ($Dorал_{w,s}$)	Sediment south of the PA ($Dorал_{sed,s}$)	Berries south of the PA ($Dorал_{b,s}$)	Fish fillets south of the PA ($Dorал_{f,s}$)	Hare meat south of the PA ($Dorал_{h,s}$)	Deer meat south of the PA ($Dorал_{d,s}$)	Total ($Dorал_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	1.41E-05	6.59E-04	1.65E-03	7.24E-04	4.82E-06	2.23E-04	6.51E-03	NA	4.96E-07	1.52E-06	2.02E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	3.79E-06	6.45E-07	6.07E-08	1.05E-06	4.12E-05	1.39E-04	5.61E-08	4.98E-06	1.91E-04	NA	8.80E-09	2.66E-08	3.54E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	2.63E-06	4.18E-07	5.55E-07	1.36E-06	4.38E-05	1.39E-04	9.07E-08	8.97E-06	1.97E-04	NA	4.37E-10	1.33E-09	1.77E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	1.99E-05	1.10E-02	1.13E-02	1.78E-02
Chromium	NA	NA	NA	3.24E-06	5.52E-07	6.59E-06	1.76E-04	1.87E-04	3.78E-04
Lithium	NA	NA	NA	2.25E-07	3.58E-08	7.83E-07	2.28E-05	2.38E-05	2.21E-04

NA: Not applicable.

Contaminant of potential human concern	Woman - Scenario 3																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Doralw_{,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	1.20E-05	5.59E-04	1.65E-03	7.24E-04	4.82E-06	2.23E-04	6.41E-03	NA	4.11E-07	1.52E-06	1.93E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	3.79E-06	6.45E-07	5.19E-08	8.94E-07	4.12E-05	1.39E-04	5.61E-08	4.98E-06	1.91E-04	NA	7.29E-09	2.66E-08	3.39E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	2.63E-06	4.18E-07	4.75E-07	1.15E-06	4.38E-05	1.39E-04	9.07E-08	8.97E-06	1.97E-04	NA	3.61E-10	1.33E-09	1.69E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	1.70E-05	1.10E-02	1.13E-02	1.77E-02
Chromium	NA	NA	NA	3.24E-06	5.52E-07	5.63E-06	1.76E-04	1.86E-04	3.77E-04
Lithium	NA	NA	NA	2.25E-07	3.58E-08	6.70E-07	2.28E-05	2.37E-05	2.21E-04

NA: Not applicable.

Contaminant of potential human concern	Infant - Scenario 4																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.42E-02	3.75E-03	7.12E-04	6.17E-03	1.42E-02	6.25E-03	4.16E-05	1.92E-03	5.72E-02	NA	1.96E-07	1.74E-06	1.93E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	3.27E-05	5.56E-06	1.84E-06	9.88E-06	3.55E-04	1.20E-03	4.84E-07	4.29E-05	1.65E-03	NA	3.47E-09	3.04E-08	3.39E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	2.27E-05	3.61E-06	2.10E-05	1.28E-05	3.77E-04	1.20E-03	7.82E-07	7.74E-05	1.72E-03	NA	1.72E-10	1.52E-09	1.69E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	5.64E-04	8.73E-05	5.15E-05	1.95E-02	2.02E-02	7.75E-02
Chromium	NA	NA	NA	7.62E-06	1.30E-06	1.02E-05	3.13E-04	3.32E-04	1.98E-03
Lithium	NA	NA	NA	5.29E-07	8.40E-08	1.52E-06	4.04E-05	4.25E-05	1.76E-03

NA: Not applicable.

Contaminant of potential human concern	Toddler - Scenario 4																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doralw_{,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	4.81E-02	7.45E-03	3.54E-04	3.07E-03	7.06E-03	3.10E-03	2.07E-05	9.56E-04	7.01E-02	NA	3.67E-07	3.25E-06	3.62E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	6.50E-05	1.11E-05	9.12E-07	4.91E-06	1.76E-04	5.97E-04	2.41E-07	2.13E-05	8.77E-04	NA	6.50E-09	5.71E-08	6.36E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	4.51E-05	7.17E-06	1.04E-05	6.34E-06	1.88E-04	5.97E-04	3.89E-07	3.85E-05	8.92E-04	NA	3.23E-10	2.85E-09	3.17E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	4.14E-04	6.40E-05	4.34E-05	1.67E-02	1.73E-02	8.74E-02
Chromium	NA	NA	NA	5.59E-06	9.50E-07	8.60E-06	2.68E-04	2.83E-04	1.16E-03
Lithium	NA	NA	NA	3.88E-07	6.16E-08	1.28E-06	3.46E-05	3.63E-05	9.29E-04

NA: Not applicable.

Contaminant of potential human concern	Children - Scenario 4																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Doralw_{,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	6.03E-03	9.34E-04	1.77E-04	1.54E-03	3.54E-03	1.56E-03	1.04E-05	4.79E-04	1.43E-02	NA	3.21E-07	2.85E-06	3.17E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	8.15E-06	1.39E-06	4.57E-07	2.46E-06	8.85E-05	2.99E-04	1.21E-07	1.07E-05	4.11E-04	NA	5.70E-09	5.00E-08	5.57E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	5.66E-06	8.99E-07	5.23E-06	3.18E-06	9.40E-05	2.99E-04	1.95E-07	1.93E-05	4.28E-04	NA	2.83E-10	2.50E-09	2.78E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	3.15E-04	4.88E-05	3.60E-05	1.41E-02	1.45E-02	2.88E-02
Chromium	NA	NA	NA	4.26E-06	7.24E-07	7.14E-06	2.26E-04	2.38E-04	6.49E-04
Lithium	NA	NA	NA	2.96E-07	4.69E-08	1.06E-06	2.92E-05	3.06E-05	4.59E-04

NA: Not applicable.

Contaminant of potential human concern	Teen - Scenario 4																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Dorals_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Dorals_{b,pa}$)	Fish fillets in the PA ($Dorals_{fpa}$)	Hare meat in the PA ($Dorals_{h,pa}$)	Deer meat in the PA ($Dorals_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Dorals_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Dorals_{b,s}$)	Fish fillets south of the PA ($Dorals_{fs}$)	Hare meat south of the PA ($Dorals_{h,s}$)	Deer meat south of the PA ($Dorals_{d,s}$)	Total ($Dorals_{tot}$)	Outdoor air in the PA ($Dinhs_{oa,pa}$)	Outdoor air in the village ($Dinhs_{oa,v}$)	Outdoor air south of the PA ($Dinhs_{oa,s}$)	Total ($Dinhs_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	3.32E-03	5.15E-04	4.89E-05	8.48E-04	1.95E-03	8.58E-04	5.71E-06	2.64E-04	7.81E-03	NA	1.91E-07	1.69E-06	1.88E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	4.49E-06	7.64E-07	1.26E-07	1.36E-06	4.88E-05	1.65E-04	6.65E-08	5.90E-06	2.26E-04	NA	3.38E-09	2.96E-08	3.30E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	3.12E-06	4.95E-07	1.44E-06	1.75E-06	5.18E-05	1.65E-04	1.07E-07	1.06E-05	2.34E-04	NA	1.68E-10	1.48E-09	1.65E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Ddermss.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	2.53E-04	3.91E-05	3.02E-05	1.18E-02	1.21E-02	1.99E-02
Chromium	NA	NA	NA	3.41E-06	5.80E-07	6.00E-06	1.88E-04	1.98E-04	4.25E-04
Lithium	NA	NA	NA	2.37E-07	3.76E-08	8.92E-07	2.43E-05	2.55E-05	2.60E-04

NA: Not applicable.

Contaminant of potential human concern	Adult - Scenario 4																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	1.88E-05	6.59E-04	1.65E-03	7.24E-04	4.82E-06	2.23E-04	6.52E-03	NA	4.96E-07	1.52E-06	2.02E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	3.79E-06	6.45E-07	4.85E-08	1.05E-06	4.12E-05	1.39E-04	5.61E-08	4.98E-06	1.91E-04	NA	8.80E-09	2.66E-08	3.54E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	2.63E-06	4.18E-07	5.55E-07	1.36E-06	4.38E-05	1.39E-04	9.07E-08	8.97E-06	1.97E-04	NA	4.37E-10	1.33E-09	1.77E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	2.66E-05	1.10E-02	1.13E-02	1.78E-02
Chromium	NA	NA	NA	3.24E-06	5.52E-07	5.27E-06	1.76E-04	1.86E-04	3.77E-04
Lithium	NA	NA	NA	2.25E-07	3.58E-08	7.83E-07	2.28E-05	2.38E-05	2.21E-04

NA: Not applicable.

Contaminant of potential human concern	Woman - Scenario 4																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Doralw_{,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	1.61E-05	5.59E-04	1.65E-03	7.24E-04	4.82E-06	2.23E-04	6.41E-03	NA	4.11E-07	1.52E-06	1.93E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	3.79E-06	6.45E-07	4.15E-08	8.94E-07	4.12E-05	1.39E-04	5.61E-08	4.98E-06	1.91E-04	NA	7.29E-09	2.66E-08	3.39E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	2.63E-06	4.18E-07	4.75E-07	1.15E-06	4.38E-05	1.39E-04	9.07E-08	8.97E-06	1.97E-04	NA	3.61E-10	1.33E-09	1.69E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	2.27E-05	1.10E-02	1.13E-02	1.77E-02
Chromium	NA	NA	NA	3.24E-06	5.52E-07	4.51E-06	1.76E-04	1.85E-04	3.76E-04
Lithium	NA	NA	NA	2.25E-07	3.58E-08	6.70E-07	2.28E-05	2.37E-05	2.21E-04

NA: Not applicable.

Contaminant of potential human concern	Infant - Scenario 5																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	1.79E-02	9.65E-04	8.34E-03	1.50E-02	6.25E-03	1.87E-04	7.76E-03	2.42E-02	NA	NA	NA	NA	NA	NA	NA	8.05E-02	1.67E-06	1.91E-07	NA	1.86E-06
Chromium	5.44E-06	2.30E-06	9.88E-06	3.55E-04	1.20E-03	4.79E-07	4.27E-05	3.27E-05	NA	NA	NA	NA	NA	NA	NA	1.65E-03	3.04E-08	3.46E-09	NA	3.38E-08
Lithium	5.78E-06	3.93E-05	1.28E-05	3.77E-04	1.20E-03	9.36E-07	8.41E-05	2.27E-05	NA	NA	NA	NA	NA	NA	NA	1.74E-03	1.48E-09	1.69E-10	NA	1.65E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	8.49E-13	6.99E-05	2.64E-02	5.64E-04	NA	NA	NA	2.70E-02	1.08E-01
Chromium	1.54E-13	1.28E-05	3.13E-04	7.62E-06	NA	NA	NA	3.33E-04	1.98E-03
Lithium	7.53E-16	2.85E-06	4.04E-05	5.29E-07	NA	NA	NA	4.37E-05	1.79E-03

NA: Not applicable.

Contaminant of potential human concern	Toddler - Scenario 5																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,sa}$)	Surface water south of the PA ($Doral_{w,sa}$)	Sediment south of the PA ($Dorals_{sed,sa}$)	Berries south of the PA ($Doral_{b,sa}$)	Fish fillets south of the PA ($Doral_{f,sa}$)	Hare meat south of the PA ($Doral_{h,sa}$)	Deer meat south of the PA ($Doral_{d,sa}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,sa}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	3.55E-02	4.80E-04	4.14E-03	7.44E-03	3.10E-03	9.30E-05	3.86E-03	4.81E-02	NA	NA	NA	NA	NA	NA	NA	1.03E-01	3.13E-06	3.57E-07	NA	3.49E-06
Chromium	1.08E-05	1.14E-06	4.91E-06	1.76E-04	5.97E-04	2.38E-07	2.12E-05	6.50E-05	NA	NA	NA	NA	NA	NA	NA	8.77E-04	5.69E-08	6.49E-09	NA	6.34E-08
Lithium	1.15E-05	1.95E-05	6.34E-06	1.88E-04	5.97E-04	4.65E-07	4.18E-05	4.51E-05	NA	NA	NA	NA	NA	NA	NA	9.09E-04	2.78E-09	3.17E-10	NA	3.10E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	3.05E-04	5.88E-05	2.26E-02	4.14E-04	NA	NA	NA	2.34E-02	1.26E-01
Chromium	9.29E-07	1.08E-05	2.68E-04	5.59E-06	NA	NA	NA	2.85E-04	1.16E-03
Lithium	9.88E-08	2.39E-06	3.46E-05	3.88E-07	NA	NA	NA	3.75E-05	9.47E-04

NA: Not applicable.

Contaminant of potential human concern	Children - Scenario 5																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Doralw_{,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	4.45E-03	2.41E-04	2.08E-03	3.73E-03	1.56E-03	4.67E-05	1.93E-03	6.03E-03	NA	NA	NA	NA	NA	NA	NA	2.01E-02	2.74E-06	3.13E-07	NA	3.06E-06
Chromium	1.35E-06	5.73E-07	2.46E-06	8.85E-05	2.99E-04	1.19E-07	1.06E-05	8.15E-06	NA	NA	NA	NA	NA	NA	NA	4.11E-04	4.99E-08	5.69E-09	NA	5.56E-08
Lithium	1.44E-06	9.80E-06	3.18E-06	9.40E-05	2.99E-04	2.33E-07	2.10E-05	5.66E-06	NA	NA	NA	NA	NA	NA	NA	4.35E-04	2.43E-09	2.78E-10	NA	2.71E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	2.33E-04	4.88E-05	1.91E-02	3.15E-04	NA	NA	NA	1.97E-02	3.98E-02
Chromium	7.08E-07	8.94E-06	2.26E-04	4.26E-06	NA	NA	NA	2.40E-04	6.51E-04
Lithium	7.52E-08	1.99E-06	2.92E-05	2.96E-07	NA	NA	NA	3.16E-05	4.66E-04

NA: Not applicable.

Contaminant of potential human concern	Teen - Scenario 5																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{fpa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{fs}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	2.45E-03	6.63E-05	1.14E-03	2.06E-03	8.58E-04	2.57E-05	1.07E-03	3.32E-03	NA	NA	NA	NA	NA	NA	NA	1.10E-02	1.63E-06	1.86E-07	NA	1.81E-06
Chromium	7.47E-07	1.58E-07	1.36E-06	4.88E-05	1.65E-04	6.58E-08	5.87E-06	4.49E-06	NA	NA	NA	NA	NA	NA	NA	2.26E-04	2.96E-08	3.37E-09	NA	3.29E-08
Lithium	7.94E-07	2.70E-06	1.75E-06	5.18E-05	1.65E-04	1.29E-07	1.16E-05	3.12E-06	NA	NA	NA	NA	NA	NA	NA	2.37E-04	1.44E-09	1.65E-10	NA	1.61E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Ddermss.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	1.87E-04	4.10E-05	1.59E-02	2.53E-04	NA	NA	NA	1.64E-02	2.74E-02
Chromium	5.67E-07	7.52E-06	1.88E-04	3.41E-06	NA	NA	NA	2.00E-04	4.26E-04
Lithium	6.03E-08	1.67E-06	2.43E-05	2.37E-07	NA	NA	NA	2.63E-05	2.63E-04

NA: Not applicable.

Contaminant of potential human concern	Adult - Scenario 5																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	2.07E-03	2.55E-05	8.89E-04	1.74E-03	7.24E-04	2.17E-05	9.00E-04	2.81E-03	NA	NA	NA	NA	NA	NA	NA	9.18E-03	1.46E-06	4.84E-07	NA	1.95E-06
Chromium	6.30E-07	6.08E-08	1.05E-06	4.12E-05	1.39E-04	5.56E-08	4.95E-06	3.79E-06	NA	NA	NA	NA	NA	NA	NA	1.91E-04	2.66E-08	8.79E-09	NA	3.54E-08
Lithium	6.70E-07	1.04E-06	1.36E-06	4.38E-05	1.39E-04	1.09E-07	9.76E-06	2.63E-06	NA	NA	NA	NA	NA	NA	NA	1.99E-04	1.30E-09	4.29E-10	NA	1.73E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	1.77E-04	3.60E-05	1.49E-02	2.40E-04	NA	NA	NA	1.53E-02	2.45E-02
Chromium	5.40E-07	6.60E-06	1.76E-04	3.24E-06	NA	NA	NA	1.87E-04	3.78E-04
Lithium	5.74E-08	1.47E-06	2.28E-05	2.25E-07	NA	NA	NA	2.45E-05	2.23E-04

NA: Not applicable.

Contaminant of potential human concern	Woman - Scenario 5																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Dorals_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Dorals_{b,pa}$)	Fish fillets in the PA ($Dorals_{f,pa}$)	Hare meat in the PA ($Dorals_{h,pa}$)	Deer meat in the PA ($Dorals_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,sa}$)	Surface water south of the PA ($Dorals_{w,sa}$)	Sediment south of the PA ($Dorals_{sed,sa}$)	Berries south of the PA ($Dorals_{b,sa}$)	Fish fillets south of the PA ($Dorals_{f,sa}$)	Hare meat south of the PA ($Dorals_{h,sa}$)	Deer meat south of the PA ($Dorals_{d,sa}$)	Total ($Dorals_{tot}$)	Outdoor air in the PA ($Dinhs_{oa,pa}$)	Outdoor air in the village ($Dinhs_{oa,v}$)	Outdoor air south of the PA ($Dinhs_{oa,sa}$)	Total ($Dinhs_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	2.07E-03	2.18E-05	7.54E-04	1.74E-03	7.24E-04	2.17E-05	9.00E-04	2.81E-03	NA	NA	NA	NA	NA	NA	NA	9.04E-03	1.46E-06	4.00E-07	NA	1.86E-06
Chromium	6.30E-07	5.20E-08	8.94E-07	4.12E-05	1.39E-04	5.56E-08	4.95E-06	3.79E-06	NA	NA	NA	NA	NA	NA	NA	1.91E-04	2.66E-08	7.27E-09	NA	3.38E-08
Lithium	6.70E-07	8.89E-07	1.15E-06	4.38E-05	1.39E-04	1.09E-07	9.76E-06	2.63E-06	NA	NA	NA	NA	NA	NA	NA	1.98E-04	1.30E-09	3.55E-10	NA	1.65E-09

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	1.77E-04	3.08E-05	1.49E-02	2.40E-04	NA	NA	NA	1.53E-02	2.44E-02
Chromium	5.40E-07	5.65E-06	1.76E-04	3.24E-06	NA	NA	NA	1.86E-04	3.77E-04
Lithium	5.74E-08	1.25E-06	2.28E-05	2.25E-07	NA	NA	NA	2.43E-05	2.23E-04

NA: Not applicable.

Contaminant of potential human concern	Infant - Scenario 2																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,sa}$)	Surface water south of the PA ($Doral_{w,sa}$)	Sediment south of the PA ($Dorals_{sed,sa}$)	Berries south of the PA ($Doral_{b,sa}$)	Fish fillets south of the PA ($Doral_{f,sa}$)	Hare meat south of the PA ($Doral_{h,sa}$)	Deer meat south of the PA ($Doral_{d,sa}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,sa}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2		3	3	3	4
Inorganic substance																					
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.46E-05	0.00E+00	7.15E-09	9.16E-07	3.56E-05		NA	3.15E-11	4.04E-10	4.35E-10
Chromium	NA	NA	NA	NA	NA	NA	NA	6.10E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.10E-09		NA	3.50E-14	4.48E-13	4.83E-13
Lithium	NA	NA	NA	NA	NA	NA	NA	1.52E-10	8.02E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.89E-09	4.84E-07	4.89E-07		NA	1.92E-14	2.46E-13	2.66E-13

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA
Chromium	NA	NA	NA	1.42E-09	0.00E+00	0.00E+00	0.00E+00	1.42E-09	7.52E-09
Lithium	NA	NA	NA	3.55E-12	1.87E-12	0.00E+00	0.00E+00	5.42E-12	NA

NA: Not applicable.

Contaminant of potential human concern	Toddler - Scenario 2																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,sa}$)	Surface water south of the PA ($Doral_{w,sa}$)	Sediment south of the PA ($Dorals_{sed,sa}$)	Berries south of the PA ($Doral_{b,sa}$)	Fish fillets south of the PA ($Doral_{f,sa}$)	Hare meat south of the PA ($Doral_{h,sa}$)	Deer meat south of the PA ($Doral_{d,sa}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,sa}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.89E-05	0.00E+00	1.42E-08	1.82E-06	7.07E-05	NA	2.36E-10	3.03E-09	3.27E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	4.85E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.85E-08	NA	2.62E-13	3.36E-12	3.62E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	1.21E-09	6.38E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.71E-09	9.61E-07	9.73E-07	NA	1.44E-13	1.85E-12	1.99E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA
Chromium	NA	NA	NA	4.17E-09	0.00E+00	0.00E+00	0.00E+00	4.17E-09	5.27E-08
Lithium	NA	NA	NA	1.04E-11	5.48E-12	0.00E+00	0.00E+00	1.59E-11	NA

NA: Not applicable.

Contaminant of potential human concern	Children - Scenario 2																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.45E-05	0.00E+00	7.13E-09	9.14E-07	3.55E-05	NA	2.07E-10	2.65E-09	2.86E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	6.08E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.08E-09	NA	2.30E-13	2.95E-12	3.18E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	1.52E-10	7.99E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-09	4.82E-07	4.87E-07	NA	1.26E-13	1.62E-12	1.75E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA
Chromium	NA	NA	NA	3.18E-09	0.00E+00	0.00E+00	0.00E+00	3.18E-09	9.26E-09
Lithium	NA	NA	NA	7.94E-12	4.18E-12	0.00E+00	0.00E+00	1.21E-11	NA

NA: Not applicable.

Contaminant of potential human concern	Teen - Scenario 2																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.90E-05	0.00E+00	3.93E-09	5.03E-07	1.95E-05	NA	1.23E-10	1.57E-09	1.70E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	3.35E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.35E-09	NA	1.36E-13	1.75E-12	1.88E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	8.38E-11	4.41E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.68E-09	2.66E-07	2.68E-07	NA	7.48E-14	9.60E-13	1.03E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA
Chromium	NA	NA	NA	2.55E-09	0.00E+00	0.00E+00	0.00E+00	2.55E-09	5.90E-09
Lithium	NA	NA	NA	6.37E-12	3.35E-12	0.00E+00	0.00E+00	9.71E-12	NA

NA: Not applicable.

Contaminant of potential human concern	Adult - Scenario 2																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorал_{s,pa}$)	Surface water in the PA ($Dorал_{w,pa}$)	Sediment in the PA ($DoralS_{ed,pa}$)	Berries in the PA ($Dorал_{b,pa}$)	Fish fillets in the PA ($Dorал_{(p)a}$)	Hare meat in the PA ($Dorал_{h,pa}$)	Deer meat in the PA ($Dorал_{d,pa}$)	Surface soil in the village ($Dorал_{s,v}$)	Surface soil south of the PA ($Dorал_{s,s}$)	Surface water south of the PA ($Dorал_{w,s}$)	Sediment south of the PA ($Dorал_{sed,s}$)	Berries south of the PA ($Dorал_{b,s}$)	Fish fillets south of the PA ($Dorал_{s}$)	Hare meat south of the PA ($Dorал_{h,s}$)	Deer meat south of the PA ($Dorал_{d,s}$)	Total ($Dorал_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.61E-05	0.00E+00	3.32E-09	4.25E-07	1.65E-05	NA	3.20E-10	1.41E-09	1.73E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	2.83E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.83E-09	NA	3.55E-13	1.57E-12	1.92E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	7.07E-11	3.72E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.27E-09	2.24E-07	2.27E-07	NA	1.95E-13	8.63E-13	1.06E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA
Chromium	NA	NA	NA	2.42E-09	0.00E+00	0.00E+00	0.00E+00	2.42E-09	5.25E-09
Lithium	NA	NA	NA	6.05E-12	3.18E-12	0.00E+00	0.00E+00	9.24E-12	NA

NA: Not applicable.

Contaminant of potential human concern	Woman - Scenario 2																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.61E-05	0.00E+00	3.32E-09	4.25E-07	1.65E-05	NA	2.65E-10	1.41E-09	1.68E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	2.83E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.83E-09	NA	2.94E-13	1.57E-12	1.86E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	7.07E-11	3.72E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.27E-09	2.24E-07	2.27E-07	NA	1.61E-13	8.63E-13	1.02E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA
Chromium	NA	NA	NA	2.42E-09	0.00E+00	0.00E+00	0.00E+00	2.42E-09	5.25E-09
Lithium	NA	NA	NA	6.05E-12	3.18E-12	0.00E+00	0.00E+00	9.24E-12	NA

NA: Not applicable.

Contaminant of potential human concern	Infant - Scenario 3																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Doral_{Sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{Sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	-3.86E-06	0.00E+00	3.46E-05	0.00E+00	7.11E-09	8.91E-07	3.17E-05	NA	3.15E-11	4.04E-10	4.35E-10
Chromium	NA	NA	NA	NA	NA	NA	NA	6.10E-09	0.00E+00	-7.38E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.28E-09	NA	3.50E-14	4.48E-13	4.83E-13
Lithium	NA	NA	NA	NA	NA	NA	NA	1.52E-10	8.02E-11	1.31E-07	0.00E+00	0.00E+00	0.00E+00	4.89E-09	4.84E-07	6.20E-07	NA	1.92E-14	2.46E-13	2.66E-13

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	-2.80E-07	0.00E+00	-2.80E-07	NA
Chromium	NA	NA	NA	1.42E-09	0.00E+00	-4.11E-08	0.00E+00	-3.97E-08	-4.09E-08
Lithium	NA	NA	NA	3.55E-12	1.87E-12	9.50E-09	0.00E+00	9.50E-09	NA

NA: Not applicable.

Contaminant of potential human concern	Toddler - Scenario 3																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,sa}$)	Surface water south of the PA ($Doral_{w,sa}$)	Sediment south of the PA ($Dorals_{sed,sa}$)	Berries south of the PA ($Doral_{b,sa}$)	Fish fillets south of the PA ($Doral_{f,sa}$)	Hare meat south of the PA ($Doral_{h,sa}$)	Deer meat south of the PA ($Doral_{d,sa}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,sa}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	-1.73E-05	0.00E+00	1.55E-04	0.00E+00	3.18E-08	3.98E-06	1.42E-04	NA	5.31E-10	6.82E-09	7.35E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	1.09E-07	0.00E+00	-3.30E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.61E-08	NA	5.90E-13	7.57E-12	8.16E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	2.73E-09	1.43E-09	5.87E-07	0.00E+00	0.00E+00	0.00E+00	2.19E-08	2.16E-06	2.78E-06	NA	3.24E-13	4.16E-12	4.48E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{cd}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	-2.12E-06	0.00E+00	-2.12E-06	NA
Chromium	NA	NA	NA	9.38E-09	0.00E+00	-3.11E-07	0.00E+00	-3.02E-07	-2.26E-07
Lithium	NA	NA	NA	2.35E-11	1.23E-11	7.19E-08	0.00E+00	7.20E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Children - Scenario 3																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	-1.35E-05	0.00E+00	1.21E-04	0.00E+00	2.48E-08	3.11E-06	1.11E-04	NA	7.24E-10	9.29E-09	1.00E-08
Chromium	NA	NA	NA	NA	NA	NA	NA	2.13E-08	0.00E+00	-2.57E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.47E-09	NA	8.04E-13	1.03E-11	1.11E-11
Lithium	NA	NA	NA	NA	NA	NA	NA	5.32E-10	2.80E-10	4.58E-07	0.00E+00	0.00E+00	0.00E+00	1.71E-08	1.69E-06	2.16E-06	NA	4.42E-13	5.67E-12	6.11E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	-2.73E-06	0.00E+00	-2.73E-06	NA
Chromium	NA	NA	NA	1.11E-08	0.00E+00	-4.02E-07	0.00E+00	-3.90E-07	-3.95E-07
Lithium	NA	NA	NA	2.78E-11	1.46E-11	9.28E-08	0.00E+00	9.29E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Teen - Scenario 3																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{fpa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{fs}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	-4.24E-06	0.00E+00	7.61E-05	0.00E+00	1.56E-08	1.96E-06	7.39E-05	NA	4.91E-10	6.29E-09	6.79E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	1.34E-08	0.00E+00	-8.11E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.29E-09	NA	5.45E-13	6.99E-12	7.53E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	3.35E-10	1.76E-10	1.44E-07	0.00E+00	0.00E+00	0.00E+00	1.07E-08	1.06E-06	1.22E-06	NA	2.99E-13	3.84E-12	4.14E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	-2.63E-06	0.00E+00	-2.63E-06	NA
Chromium	NA	NA	NA	1.02E-08	0.00E+00	-3.86E-07	0.00E+00	-3.76E-07	-3.70E-07
Lithium	NA	NA	NA	2.55E-11	1.34E-11	8.92E-08	0.00E+00	8.92E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Adult - Scenario 3																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorал_{s,pa}$)	Surface water in the PA ($Dorал_{w,pa}$)	Sediment in the PA ($DoralS_{ed,pa}$)	Berries in the PA ($Dorал_{b,pa}$)	Fish fillets in the PA ($Dorал_{(pa)}$)	Hare meat in the PA ($Dorал_{h,pa}$)	Deer meat in the PA ($Dorал_{d,pa}$)	Surface soil in the village ($Dorал_{s,v}$)	Surface soil south of the PA ($Dorал_{s,s}$)	Surface water south of the PA ($Dorал_{w,s}$)	Sediment south of the PA ($Dorал_{sed,s}$)	Berries south of the PA ($Dorал_{b,s}$)	Fish fillets south of the PA ($Dorал_{s}$)	Hare meat south of the PA ($Dorал_{h,s}$)	Deer meat south of the PA ($Dorал_{d,s}$)	Total ($Dorал_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	-2.25E-06	0.00E+00	8.84E-05	0.00E+00	1.81E-08	2.27E-06	8.84E-05	NA	1.76E-09	7.78E-09	9.54E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	1.56E-08	0.00E+00	-4.29E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E-08	NA	1.95E-12	8.63E-12	1.06E-11
Lithium	NA	NA	NA	NA	NA	NA	NA	3.89E-10	2.05E-10	7.63E-08	0.00E+00	0.00E+00	0.00E+00	1.25E-08	1.23E-06	1.32E-06	NA	1.07E-12	4.74E-12	5.82E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	-3.17E-06	0.00E+00	-3.17E-06	NA
Chromium	NA	NA	NA	1.33E-08	0.00E+00	-4.66E-07	0.00E+00	-4.53E-07	-4.41E-07
Lithium	NA	NA	NA	3.33E-11	1.75E-11	1.08E-07	0.00E+00	1.08E-07	NA

NA: Not applicable.

Contaminant of potential human concern	Woman - Scenario 3																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	-1.92E-06	0.00E+00	8.84E-05	0.00E+00	1.81E-08	2.27E-06	8.88E-05	NA	1.46E-09	7.78E-09	9.23E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	1.56E-08	0.00E+00	-3.67E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.19E-08	NA	1.62E-12	8.63E-12	1.02E-11
Lithium	NA	NA	NA	NA	NA	NA	NA	3.89E-10	2.05E-10	6.53E-08	0.00E+00	0.00E+00	0.00E+00	1.25E-08	1.23E-06	1.31E-06	NA	8.88E-13	4.74E-12	5.63E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	-2.71E-06	0.00E+00	-2.71E-06	NA
Chromium	NA	NA	NA	1.33E-08	0.00E+00	-3.98E-07	0.00E+00	-3.85E-07	-3.73E-07
Lithium	NA	NA	NA	3.33E-11	1.75E-11	9.21E-08	0.00E+00	9.22E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Infant - Scenario 4																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	-2.74E-06	0.00E+00	3.46E-05	0.00E+00	7.15E-09	8.98E-07	3.28E-05	NA	3.15E-11	4.04E-10	4.35E-10
Chromium	NA	NA	NA	NA	NA	NA	NA	6.10E-09	0.00E+00	-1.02E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.15E-09	NA	3.50E-14	4.48E-13	4.83E-13
Lithium	NA	NA	NA	NA	NA	NA	NA	1.52E-10	8.02E-11	1.31E-07	0.00E+00	0.00E+00	0.00E+00	4.89E-09	4.84E-07	6.20E-07	NA	1.92E-14	2.46E-13	2.66E-13

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	-1.99E-07	0.00E+00	-1.99E-07	NA
Chromium	NA	NA	NA	1.42E-09	0.00E+00	-5.71E-08	0.00E+00	-5.56E-08	-5.98E-08
Lithium	NA	NA	NA	3.55E-12	1.87E-12	9.50E-09	0.00E+00	9.50E-09	NA

NA: Not applicable.

Contaminant of potential human concern	Toddler - Scenario 4																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,sa}$)	Surface water south of the PA ($Doral_{w,sa}$)	Sediment south of the PA ($Doral_{sed,sa}$)	Berries south of the PA ($Doral_{b,sa}$)	Fish fillets south of the PA ($Doral_{f,sa}$)	Hare meat south of the PA ($Doral_{h,sa}$)	Deer meat south of the PA ($Doral_{d,sa}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,sa}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	-8.18E-06	0.00E+00	1.03E-04	0.00E+00	2.13E-08	2.68E-06	9.78E-05	NA	3.54E-10	4.54E-09	4.90E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	7.27E-08	0.00E+00	-3.06E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.22E-08	NA	3.93E-13	5.04E-12	5.44E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	1.82E-09	9.56E-10	3.91E-07	0.00E+00	0.00E+00	0.00E+00	1.46E-08	1.44E-06	1.85E-06	NA	2.16E-13	2.77E-12	2.99E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	-1.00E-06	0.00E+00	-1.00E-06	NA
Chromium	NA	NA	NA	6.25E-09	0.00E+00	-2.88E-07	0.00E+00	-2.82E-07	-2.40E-07
Lithium	NA	NA	NA	1.56E-11	8.23E-12	4.80E-08	0.00E+00	4.80E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Children - Scenario 4																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	-4.10E-06	0.00E+00	5.18E-05	0.00E+00	1.07E-08	1.34E-06	4.91E-05	NA	3.10E-10	3.98E-09	4.29E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	9.12E-09	0.00E+00	-1.53E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-6.21E-09	NA	3.45E-13	4.42E-12	4.76E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	2.28E-10	1.20E-10	1.96E-07	0.00E+00	0.00E+00	0.00E+00	7.31E-09	7.23E-07	9.27E-07	NA	1.89E-13	2.43E-12	2.62E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	-8.32E-07	0.00E+00	-8.32E-07	NA
Chromium	NA	NA	NA	4.76E-09	0.00E+00	-2.39E-07	0.00E+00	-2.34E-07	-2.40E-07
Lithium	NA	NA	NA	1.19E-11	6.27E-12	3.98E-08	0.00E+00	3.98E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Teen - Scenario 4																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{fpa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{fs}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	-1.13E-06	0.00E+00	2.85E-05	0.00E+00	5.90E-09	7.40E-07	2.82E-05	NA	1.84E-10	2.36E-09	2.54E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	5.03E-09	0.00E+00	-4.22E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.03E-10	NA	2.04E-13	2.62E-12	2.82E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	1.26E-10	6.61E-11	5.41E-08	0.00E+00	0.00E+00	0.00E+00	4.03E-09	3.99E-07	4.57E-07	NA	1.12E-13	1.44E-12	1.55E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{cd}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	-6.99E-07	0.00E+00	-6.99E-07	NA
Chromium	NA	NA	NA	3.82E-09	0.00E+00	-2.01E-07	0.00E+00	-1.97E-07	-1.96E-07
Lithium	NA	NA	NA	9.55E-12	5.02E-12	3.34E-08	0.00E+00	3.35E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Adult - Scenario 4																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorал_{s,pa}$)	Surface water in the PA ($Dorал_{w,pa}$)	Sediment in the PA ($DoralS_{ed,pa}$)	Berries in the PA ($Dorал_{b,pa}$)	Fish fillets in the PA ($Dorал_{(pa)}$)	Hare meat in the PA ($Dorал_{h,pa}$)	Deer meat in the PA ($Dorал_{d,pa}$)	Surface soil in the village ($Dorал_{s,v}$)	Surface soil south of the PA ($Dorал_{s,s}$)	Surface water south of the PA ($Dorал_{w,s}$)	Sediment south of the PA ($Dorал_{sed,s}$)	Berries south of the PA ($Dorал_{b,s}$)	Fish fillets south of the PA ($Dorал_{s}$)	Hare meat south of the PA ($Dorал_{h,s}$)	Deer meat south of the PA ($Dorал_{d,s}$)	Total ($Dorал_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	-4.35E-07	0.00E+00	2.41E-05	0.00E+00	4.98E-09	6.25E-07	2.43E-05	NA	4.80E-10	2.12E-09	2.60E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	4.24E-09	0.00E+00	-1.63E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.62E-09	NA	5.32E-13	2.35E-12	2.89E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	1.06E-10	5.58E-11	2.08E-08	0.00E+00	0.00E+00	0.00E+00	3.40E-09	3.37E-07	3.61E-07	NA	2.93E-13	1.29E-12	1.59E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Ddermi_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	-6.14E-07	0.00E+00	-6.14E-07	NA
Chromium	NA	NA	NA	3.63E-09	0.00E+00	-1.76E-07	0.00E+00	-1.73E-07	-1.70E-07
Lithium	NA	NA	NA	9.08E-12	4.78E-12	2.94E-08	0.00E+00	2.94E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Woman - Scenario 4																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Doralw_{,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	-3.72E-07	0.00E+00	2.41E-05	0.00E+00	4.98E-09	6.25E-07	2.44E-05	NA	3.97E-10	2.12E-09	2.52E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	4.24E-09	0.00E+00	-1.39E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.85E-09	NA	4.41E-13	2.35E-12	2.79E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	1.06E-10	5.58E-11	1.78E-08	0.00E+00	0.00E+00	0.00E+00	3.40E-09	3.37E-07	3.58E-07	NA	2.42E-13	1.29E-12	1.54E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	0.00E+00	0.00E+00	-5.25E-07	0.00E+00	-5.25E-07	NA
Chromium	NA	NA	NA	3.63E-09	0.00E+00	-1.51E-07	0.00E+00	-1.47E-07	-1.44E-07
Lithium	NA	NA	NA	9.08E-12	4.78E-12	2.51E-08	0.00E+00	2.51E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Infant - Scenario 5																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	8.52E-05	-1.16E-06	1.35E-05	3.94E-05	0.00E+00	8.86E-07	3.61E-05	0.00E+00	NA	NA	NA	NA	NA	NA	NA	1.74E-04	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	2.67E-11	-7.34E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.10E-09	NA	NA	NA	NA	NA	NA	NA	-1.22E-09	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	1.37E-08	2.46E-07	0.00E+00	0.00E+00	0.00E+00	5.85E-09	5.26E-07	1.52E-10	NA	NA	NA	NA	NA	NA	NA	7.91E-07	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	0.00E+00	-8.38E-08	4.27E-05	0.00E+00	NA	NA	NA	4.27E-05	NA
Chromium	0.00E+00	-4.09E-08	0.00E+00	1.42E-09	NA	NA	NA	-3.95E-08	-4.07E-08
Lithium	0.00E+00	1.78E-08	0.00E+00	3.55E-12	NA	NA	NA	1.78E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Toddler - Scenario 5																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,sa}$)	Surface water south of the PA ($Doral_{w,sa}$)	Sediment south of the PA ($Doral_{sed,sa}$)	Berries south of the PA ($Doral_{b,sa}$)	Fish fillets south of the PA ($Doral_{f,sa}$)	Hare meat south of the PA ($Doral_{h,sa}$)	Deer meat south of the PA ($Doral_{d,sa}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,sa}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	1.52E-03	-5.18E-06	6.04E-05	1.76E-04	0.00E+00	3.96E-06	1.62E-04	0.00E+00	NA	NA	NA	NA	NA	NA	NA	1.92E-03	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	4.78E-10	-3.28E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.09E-07	NA	NA	NA	NA	NA	NA	NA	7.67E-08	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	2.44E-07	1.10E-06	0.00E+00	0.00E+00	0.00E+00	2.62E-08	2.35E-06	2.73E-09	NA	NA	NA	NA	NA	NA	NA	3.72E-06	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	1.31E-05	-6.35E-07	3.30E-04	0.00E+00	NA	NA	NA	3.42E-04	NA
Chromium	4.11E-11	-3.10E-07	0.00E+00	9.38E-09	NA	NA	NA	-3.00E-07	-2.24E-07
Lithium	2.10E-09	1.35E-07	0.00E+00	2.35E-11	NA	NA	NA	1.37E-07	NA

NA: Not applicable.

Contaminant of potential human concern	Children - Scenario 5																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	2.97E-04	-4.04E-06	4.71E-05	1.38E-04	0.00E+00	3.09E-06	1.26E-04	0.00E+00	NA	NA	NA	NA	NA	NA	NA	6.07E-04	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	9.33E-11	-2.56E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.13E-08	NA	NA	NA	NA	NA	NA	NA	-4.26E-09	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	4.77E-08	8.57E-07	0.00E+00	0.00E+00	0.00E+00	2.04E-08	1.84E-06	5.32E-10	NA	NA	NA	NA	NA	NA	NA	2.76E-06	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	1.55E-05	-8.19E-07	4.33E-04	0.00E+00	NA	NA	NA	4.48E-04	NA
Chromium	4.87E-11	-4.00E-07	0.00E+00	1.11E-08	NA	NA	NA	-3.89E-07	-3.93E-07
Lithium	2.49E-09	1.74E-07	0.00E+00	2.78E-11	NA	NA	NA	1.76E-07	NA

NA: Not applicable.

Contaminant of potential human concern	Teen - Scenario 5																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{fpa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{sd,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{fs}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	1.87E-04	-1.27E-06	2.97E-05	8.66E-05	0.00E+00	1.95E-06	7.94E-05	0.00E+00	NA	NA	NA	NA	NA	NA	NA	3.84E-04	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	5.87E-11	-8.07E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.34E-08	NA	NA	NA	NA	NA	NA	NA	5.39E-09	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	3.00E-08	2.70E-07	0.00E+00	0.00E+00	0.00E+00	1.29E-08	1.16E-06	3.35E-10	NA	NA	NA	NA	NA	NA	NA	1.47E-06	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{cd}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	1.42E-05	-7.87E-07	4.12E-04	0.00E+00	NA	NA	NA	4.26E-04	NA
Chromium	4.46E-11	-3.84E-07	0.00E+00	1.02E-08	NA	NA	NA	-3.74E-07	-3.68E-07
Lithium	2.28E-09	1.67E-07	0.00E+00	2.55E-11	NA	NA	NA	1.69E-07	NA

NA: Not applicable.

Contaminant of potential human concern	Adult - Scenario 5																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	1.19E-03	-3.67E-06	1.73E-04	5.49E-04	0.00E+00	1.23E-05	5.03E-04	0.00E+00	NA	NA	NA	NA	NA	NA	NA	2.42E-03	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	3.72E-10	-2.33E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.49E-08	NA	NA	NA	NA	NA	NA	NA	6.19E-08	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	1.90E-07	7.80E-07	0.00E+00	0.00E+00	0.00E+00	8.15E-08	7.32E-06	2.12E-09	NA	NA	NA	NA	NA	NA	NA	8.37E-06	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	1.02E-04	-5.18E-06	2.89E-03	0.00E+00	NA	NA	NA	2.99E-03	NA
Chromium	3.18E-10	-2.53E-06	0.00E+00	7.26E-08	NA	NA	NA	-2.46E-06	-2.39E-06
Lithium	1.63E-08	1.10E-06	0.00E+00	1.82E-10	NA	NA	NA	1.12E-06	NA

NA: Not applicable.

Contaminant of potential human concern	Woman - Scenario 5																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	1.19E-03	-3.14E-06	1.47E-04	5.49E-04	0.00E+00	1.23E-05	5.03E-04	0.00E+00	NA	NA	NA	NA	NA	NA	NA	2.39E-03	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	3.72E-10	-1.99E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.49E-08	NA	NA	NA	NA	NA	NA	NA	6.53E-08	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	1.90E-07	6.67E-07	0.00E+00	0.00E+00	0.00E+00	8.15E-08	7.32E-06	2.12E-09	NA	NA	NA	NA	NA	NA	NA	8.26E-06	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{c,d}$)	
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	1.02E-04	-4.43E-06	2.89E-03	0.00E+00	NA	NA	NA	2.99E-03	NA
Chromium	3.18E-10	-2.16E-06	0.00E+00	7.26E-08	NA	NA	NA	-2.09E-06	-2.03E-06
Lithium	1.63E-08	9.41E-07	0.00E+00	1.82E-10	NA	NA	NA	9.57E-07	NA

NA: Not applicable.

Contaminant of potential human concern	Infant - Scenario 1A				Toddler - Scenario 1A				Children - Scenario 1A			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	YES	YES	NO		YES	YES	NO		YES	YES	NO	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	6.23E-06	7.10E-07	NA	6.94E-06	6.23E-06	7.10E-07	NA	6.94E-06	6.23E-06	7.10E-07	NA	6.94E-06
Chromium	1.13E-07	1.29E-08	NA	1.26E-07	1.13E-07	1.29E-08	NA	1.26E-07	1.13E-07	1.29E-08	NA	1.26E-07
Lithium	5.52E-09	6.30E-10	NA	6.15E-09	5.52E-09	6.30E-10	NA	6.15E-09	5.52E-09	6.30E-10	NA	6.15E-09

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 1A				Adult - Scenario 1A				Woman - Scenario 1A			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	YES	YES	NO		YES	YES	NO		YES	YES	NO	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	6.23E-06	7.10E-07	NA	6.94E-06	6.23E-06	2.06E-06	NA	8.29E-06	6.23E-06	1.70E-06	NA	7.93E-06
Chromium	1.13E-07	1.29E-08	NA	1.26E-07	1.13E-07	3.74E-08	NA	1.51E-07	1.13E-07	3.10E-08	NA	1.44E-07
Lithium	5.52E-09	6.30E-10	NA	6.15E-09	5.52E-09	1.83E-09	NA	7.35E-09	5.52E-09	1.51E-09	NA	7.04E-09

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 1B Inhalation (mg/m³)				Toddler - Scenario 1B Inhalation (mg/m³)				Children - Scenario 1B Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	7.10E-07	6.23E-06	6.94E-06	NA	7.10E-07	6.23E-06	6.94E-06	NA	7.10E-07	6.23E-06	6.94E-06
Chromium	NA	1.29E-08	1.13E-07	1.26E-07	NA	1.29E-08	1.13E-07	1.26E-07	NA	1.29E-08	1.13E-07	1.26E-07
Lithium	NA	6.30E-10	5.52E-09	6.15E-09	NA	6.30E-10	5.52E-09	6.15E-09	NA	6.30E-10	5.52E-09	6.15E-09

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 1B				Adult - Scenario 1B				Woman - Scenario 1B			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	7.10E-07	6.23E-06	6.94E-06	NA	2.06E-06	6.23E-06	8.29E-06	NA	1.70E-06	6.23E-06	7.93E-06
Chromium	NA	1.29E-08	1.13E-07	1.26E-07	NA	3.74E-08	1.13E-07	1.51E-07	NA	3.10E-08	1.13E-07	1.44E-07
Lithium	NA	6.30E-10	5.52E-09	6.15E-09	NA	1.83E-09	5.52E-09	7.35E-09	NA	1.51E-09	5.52E-09	7.04E-09

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 2				Toddler - Scenario 2				Children - Scenario 2			
	Inhalation (mg/m^3)				Inhalation (mg/m^3)				Inhalation (mg/m^3)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	7.29E-07	6.47E-06	7.20E-06	NA	7.29E-07	6.47E-06	7.20E-06	NA	7.29E-07	6.47E-06	7.20E-06
Chromium	NA	1.29E-08	1.13E-07	1.26E-07	NA	1.29E-08	1.13E-07	1.26E-07	NA	1.29E-08	1.13E-07	1.26E-07
Lithium	NA	6.41E-10	5.67E-09	6.31E-09	NA	6.41E-10	5.67E-09	6.31E-09	NA	6.41E-10	5.67E-09	6.31E-09

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 2				Adult - Scenario 2				Woman - Scenario 2			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	7.29E-07	6.47E-06	7.20E-06	NA	2.11E-06	6.47E-06	8.58E-06	NA	1.75E-06	6.47E-06	8.22E-06
Chromium	NA	1.29E-08	1.13E-07	1.26E-07	NA	3.75E-08	1.13E-07	1.51E-07	NA	3.10E-08	1.13E-07	1.44E-07
Lithium	NA	6.41E-10	5.67E-09	6.31E-09	NA	1.86E-09	5.67E-09	7.53E-09	NA	1.54E-09	5.67E-09	7.21E-09

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 3				Toddler - Scenario 3				Children - Scenario 3			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	7.29E-07	6.47E-06	7.20E-06	NA	7.29E-07	6.47E-06	7.20E-06	NA	7.29E-07	6.47E-06	7.20E-06
Chromium	NA	1.29E-08	1.13E-07	1.26E-07	NA	1.29E-08	1.13E-07	1.26E-07	NA	1.29E-08	1.13E-07	1.26E-07
Lithium	NA	6.41E-10	5.67E-09	6.31E-09	NA	6.41E-10	5.67E-09	6.31E-09	NA	6.41E-10	5.67E-09	6.31E-09

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 3				Adult - Scenario 3				Woman - Scenario 3			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	7.29E-07	6.47E-06	7.20E-06	NA	2.11E-06	6.47E-06	8.58E-06	NA	1.75E-06	6.47E-06	8.22E-06
Chromium	NA	1.29E-08	1.13E-07	1.26E-07	NA	3.75E-08	1.13E-07	1.51E-07	NA	3.10E-08	1.13E-07	1.44E-07
Lithium	NA	6.41E-10	5.67E-09	6.31E-09	NA	1.86E-09	5.67E-09	7.53E-09	NA	1.54E-09	5.67E-09	7.21E-09

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 4				Toddler - Scenario 4				Children - Scenario 4			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	7.29E-07	6.47E-06	7.20E-06	NA	7.29E-07	6.47E-06	7.20E-06	NA	7.29E-07	6.47E-06	7.20E-06
Chromium	NA	1.29E-08	1.13E-07	1.26E-07	NA	1.29E-08	1.13E-07	1.26E-07	NA	1.29E-08	1.13E-07	1.26E-07
Lithium	NA	6.41E-10	5.67E-09	6.31E-09	NA	6.41E-10	5.67E-09	6.31E-09	NA	6.41E-10	5.67E-09	6.31E-09

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 4				Adult - Scenario 4				Woman - Scenario 4			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	7.29E-07	6.47E-06	7.20E-06	NA	2.11E-06	6.47E-06	8.58E-06	NA	1.75E-06	6.47E-06	8.22E-06
Chromium	NA	1.29E-08	1.13E-07	1.26E-07	NA	3.75E-08	1.13E-07	1.51E-07	NA	3.10E-08	1.13E-07	1.44E-07
Lithium	NA	6.41E-10	5.67E-09	6.31E-09	NA	1.86E-09	5.67E-09	7.53E-09	NA	1.54E-09	5.67E-09	7.21E-09

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 5				Toddler - Scenario 5				Children - Scenario 5			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	YES	YES	NO		YES	YES	NO		YES	YES	NO	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	6.23E-06	7.10E-07	NA	6.94E-06	6.23E-06	7.10E-07	NA	6.94E-06	6.23E-06	7.10E-07	NA	6.94E-06
Chromium	1.13E-07	1.29E-08	NA	1.26E-07	1.13E-07	1.29E-08	NA	1.26E-07	1.13E-07	1.29E-08	NA	1.26E-07
Lithium	5.52E-09	6.30E-10	NA	6.15E-09	5.52E-09	6.30E-10	NA	6.15E-09	5.52E-09	6.30E-10	NA	6.15E-09

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 5				Adult - Scenario 5				Woman - Scenario 5			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	YES	YES	NO		YES	YES	NO		YES	YES	NO	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	6.23E-06	7.10E-07	NA	6.94E-06	6.23E-06	2.06E-06	NA	8.29E-06	6.23E-06	1.70E-06	NA	7.93E-06
Chromium	1.13E-07	1.29E-08	NA	1.26E-07	1.13E-07	3.74E-08	NA	1.51E-07	1.13E-07	3.10E-08	NA	1.44E-07
Lithium	5.52E-09	6.30E-10	NA	6.15E-09	5.52E-09	1.83E-09	NA	7.35E-09	5.52E-09	1.51E-09	NA	7.04E-09

NA: Not applicable

Contaminant of potential human concern	Infant - Scen	Infant - Scenario 2				Toddler - Scenario 2				Children - Scenario 2			
	Inhalation (m	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA (TAADCoa$_{pa}$)	Time-adjusted average daily outdoor air concentration in the PA (TAADCoa$_{pa}$)	Time-adjusted average daily outdoor air concentration in the village (TAADCoa$_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA (TAADCoa$_{s}$)	Total time-adjusted average daily outdoor air concentration (TAADCoa$_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA (TAADCoa$_{pa}$)	Time-adjusted average daily outdoor air concentration in the village (TAADCoa$_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA (TAADCoa$_{s}$)	Total time-adjusted average daily outdoor air concentration (TAADCoa$_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA (TAADCoa$_{pa}$)	Time-adjusted average daily outdoor air concentration in the village (TAADCoa$_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA (TAADCoa$_{s}$)	Total time-adjusted average daily outdoor air concentration (TAADCoa$_{tot}$)
In the scenario ?	YES	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance													
Aluminum	0.00E+00	NA	1.17E-10	1.51E-09	1.62E-09	NA	4.69E-10	6.02E-09	6.49E-09	NA	4.69E-10	6.02E-09	6.49E-09
Chromium	0.00E+00	NA	1.30E-13	1.67E-12	1.80E-12	NA	5.21E-13	6.68E-12	7.21E-12	NA	5.21E-13	6.68E-12	7.21E-12
Lithium	0.00E+00	NA	7.16E-14	9.18E-13	9.90E-13	NA	2.86E-13	3.67E-12	3.96E-12	NA	2.86E-13	3.67E-12	3.96E-12

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 2				Adult - Scenario 2				Woman - Scenario 2			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	4.69E-10	6.02E-09	6.49E-09	NA	1.36E-09	6.02E-09	7.38E-09	NA	1.13E-09	6.02E-09	7.15E-09
Chromium	NA	5.21E-13	6.68E-12	7.21E-12	NA	1.51E-12	6.68E-12	8.20E-12	NA	1.25E-12	6.68E-12	7.94E-12
Lithium	NA	2.86E-13	3.67E-12	3.96E-12	NA	8.31E-13	3.67E-12	4.50E-12	NA	6.87E-13	3.67E-12	4.36E-12

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 3				Toddler - Scenario 3				Children - Scenario 3			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_v$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_s$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_v$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_s$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_v$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_s$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	1.17E-10	1.51E-09	1.62E-09	NA	1.06E-09	1.35E-08	1.46E-08	NA	1.64E-09	2.11E-08	2.27E-08
Chromium	NA	1.30E-13	1.67E-12	1.80E-12	NA	1.17E-12	1.50E-11	1.62E-11	NA	1.82E-12	2.34E-11	2.52E-11
Lithium	NA	7.16E-14	9.18E-13	9.90E-13	NA	6.44E-13	8.27E-12	8.91E-12	NA	1.00E-12	1.29E-11	1.39E-11

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 3				Adult - Scenario 3				Woman - Scenario 3			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	1.88E-09	2.41E-08	2.60E-08	NA	7.49E-09	3.31E-08	4.06E-08	NA	6.20E-09	3.31E-08	3.93E-08
Chromium	NA	2.08E-12	2.67E-11	2.88E-11	NA	8.31E-12	3.68E-11	4.51E-11	NA	6.88E-12	3.68E-11	4.36E-11
Lithium	NA	1.15E-12	1.47E-11	1.58E-11	NA	4.57E-12	2.02E-11	2.48E-11	NA	3.78E-12	2.02E-11	2.40E-11

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 4				Toddler - Scenario 4				Children - Scenario 4			
	Inhalation (mg/m^3)				Inhalation (mg/m^3)				Inhalation (mg/m^3)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	1.17E-10	1.51E-09	1.62E-09	NA	7.04E-10	9.03E-09	9.74E-09	NA	7.04E-10	9.03E-09	9.74E-09
Chromium	NA	1.30E-13	1.67E-12	1.80E-12	NA	7.82E-13	1.00E-11	1.08E-11	NA	7.82E-13	1.00E-11	1.08E-11
Lithium	NA	7.16E-14	9.18E-13	9.90E-13	NA	4.30E-13	5.51E-12	5.94E-12	NA	4.30E-13	5.51E-12	5.94E-12

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 4				Adult - Scenario 4				Woman - Scenario 4			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	YES	YES		NO	YES	YES		NO	YES	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	7.04E-10	9.03E-09	9.74E-09	NA	2.04E-09	9.03E-09	1.11E-08	NA	1.69E-09	9.03E-09	1.07E-08
Chromium	NA	7.82E-13	1.00E-11	1.08E-11	NA	2.27E-12	1.00E-11	1.23E-11	NA	1.88E-12	1.00E-11	1.19E-11
Lithium	NA	4.30E-13	5.51E-12	5.94E-12	NA	1.25E-12	5.51E-12	6.76E-12	NA	1.03E-12	5.51E-12	6.54E-12

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 5				Toddler - Scenario 5				Children - Scenario 5			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	YES	YES	NO		YES	YES	NO		YES	YES	NO	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 5				Adult - Scenario 5				Woman - Scenario 5			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	YES	YES	NO		YES	YES	NO		YES	YES	NO	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 1A																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	4.23E-03	1.15E-03	6.17E-03	8.66E-03	6.25E-03	4.54E-05	1.98E-03	2.42E-02	NA	NA	NA	NA	NA	NA	NA	5.27E-02	1.25E-03	1.42E-04	NA	1.39E-03
Chromium	2.47E-03	1.58E-03	4.49E-03	1.61E-01	5.46E-01	2.18E-04	1.94E-02	1.44E-02	NA	NA	NA	NA	NA	NA	NA	7.50E-01	1.13E-03	1.29E-04	NA	1.26E-03
Lithium	1.80E-03	0.00E+00	6.38E-03	1.89E-01	6.01E-01	0.00E+00	0.00E+00	1.13E-02	NA	NA	NA	NA	NA	NA	NA	8.09E-01	7.41E-07	8.45E-08	NA	8.25E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	9.85E-05	8.33E-05	1.95E-02	5.64E-04	NA	NA	NA	2.03E-02	7.30E-02
Chromium	5.75E-04	8.80E-03	1.42E-01	3.36E-03	NA	NA	NA	1.55E-01	9.05E-01
Lithium	4.19E-05	0.00E+00	2.02E-02	2.64E-04	NA	NA	NA	2.05E-02	8.29E-01

NA: Not applicable

Contaminant of potential human concern	Toddler - Scenario 1A																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	8.41E-03	5.72E-04	3.07E-03	4.30E-03	3.10E-03	2.26E-05	9.83E-04	4.81E-02	NA	NA	NA	NA	NA	NA	NA	6.86E-02	1.25E-03	1.42E-04	NA	1.39E-03
Chromium	4.91E-03	7.85E-04	2.23E-03	8.02E-02	2.71E-01	1.08E-04	9.65E-03	2.87E-02	NA	NA	NA	NA	NA	NA	NA	3.98E-01	1.13E-03	1.29E-04	NA	1.26E-03
Lithium	3.57E-03	0.00E+00	3.17E-03	9.38E-02	2.98E-01	0.00E+00	0.00E+00	2.25E-02	NA	NA	NA	NA	NA	NA	NA	4.22E-01	1.39E-06	1.58E-07	NA	1.55E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	7.23E-05	7.01E-05	1.67E-02	4.14E-04	NA	NA	NA	1.73E-02	8.59E-02
Chromium	4.22E-04	7.40E-03	1.22E-01	2.46E-03	NA	NA	NA	1.32E-01	5.30E-01
Lithium	3.07E-05	0.00E+00	1.73E-02	1.94E-04	NA	NA	NA	1.75E-02	4.39E-01

NA: Not applicable

Contaminant of potential human concern	Children - Scenario 1A																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	1.05E-03	2.87E-04	1.54E-03	2.16E-03	1.56E-03	1.13E-05	4.93E-04	6.03E-03	NA	NA	NA	NA	NA	NA	NA	1.31E-02	1.25E-03	1.42E-04	NA	1.39E-03
Chromium	6.15E-04	3.94E-04	1.12E-03	4.02E-02	1.36E-01	5.43E-05	4.84E-03	3.59E-03	NA	NA	NA	NA	NA	NA	NA	1.87E-01	1.13E-03	1.29E-04	NA	1.26E-03
Lithium	4.48E-04	0.00E+00	1.59E-03	4.70E-02	1.50E-01	0.00E+00	0.00E+00	2.83E-03	NA	NA	NA	NA	NA	NA	NA	2.02E-01	1.22E-06	1.39E-07	NA	1.36E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	5.51E-05	5.81E-05	1.41E-02	3.15E-04	NA	NA	NA	1.46E-02	2.77E-02
Chromium	3.22E-04	6.14E-03	1.03E-01	1.88E-03	NA	NA	NA	1.11E-01	2.98E-01
Lithium	2.34E-05	0.00E+00	1.46E-02	1.48E-04	NA	NA	NA	1.48E-02	2.16E-01

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 1A																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	5.81E-04	7.90E-05	8.48E-04	1.19E-03	8.58E-04	6.24E-06	2.72E-04	3.32E-03	NA	NA	NA	NA	NA	NA	NA	7.16E-03	1.25E-03	1.42E-04	NA	1.39E-03
Chromium	3.39E-04	1.08E-04	6.17E-04	2.22E-02	7.50E-02	2.99E-05	2.67E-03	1.98E-03	NA	NA	NA	NA	NA	NA	NA	1.03E-01	1.13E-03	1.29E-04	NA	1.26E-03
Lithium	2.47E-04	0.00E+00	8.76E-04	2.59E-02	8.25E-02	0.00E+00	0.00E+00	1.56E-03	NA	NA	NA	NA	NA	NA	NA	1.11E-01	7.22E-07	8.23E-08	NA	8.04E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	4.42E-05	4.89E-05	1.18E-02	2.53E-04	NA	NA	NA	1.21E-02	1.93E-02
Chromium	2.58E-04	5.16E-03	8.57E-02	1.50E-03	NA	NA	NA	9.26E-02	1.96E-01
Lithium	1.88E-05	0.00E+00	1.22E-02	1.18E-04	NA	NA	NA	1.23E-02	1.23E-01

NA: Not applicable

Contaminant of potential human concern	Adult - Scenario 1A																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	4.91E-04	3.04E-05	6.59E-04	1.00E-03	7.24E-04	5.27E-06	2.30E-04	2.81E-03	NA	NA	NA	NA	NA	NA	NA	5.95E-03	1.25E-03	4.12E-04	NA	1.66E-03
Chromium	2.86E-04	4.18E-05	4.79E-04	1.87E-02	6.33E-02	2.53E-05	2.25E-03	1.67E-03	NA	NA	NA	NA	NA	NA	NA	8.68E-02	1.13E-03	3.74E-04	NA	1.51E-03
Lithium	2.08E-04	0.00E+00	6.81E-04	2.19E-02	6.97E-02	0.00E+00	0.00E+00	1.32E-03	NA	NA	NA	NA	NA	NA	NA	9.37E-02	6.48E-07	2.14E-07	NA	8.63E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	4.20E-05	4.29E-05	1.10E-02	2.40E-04	NA	NA	NA	1.14E-02	1.73E-02
Chromium	2.45E-04	4.53E-03	8.02E-02	1.43E-03	NA	NA	NA	8.64E-02	1.73E-01
Lithium	1.78E-05	0.00E+00	1.14E-02	1.13E-04	NA	NA	NA	1.15E-02	1.05E-01

NA: Not applicable

Contaminant of potential human concern	Woman - Scenario 1A																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	4.91E-04	2.60E-05	5.59E-04	1.00E-03	7.24E-04	5.27E-06	2.30E-04	2.81E-03	NA	NA	NA	NA	NA	NA	NA	5.84E-03	1.25E-03	3.41E-04	NA	1.59E-03
Chromium	2.86E-04	3.57E-05	4.06E-04	1.87E-02	6.33E-02	2.53E-05	2.25E-03	1.67E-03	NA	NA	NA	NA	NA	NA	NA	8.67E-02	1.13E-03	3.10E-04	NA	1.44E-03
Lithium	2.08E-04	0.00E+00	5.77E-04	2.19E-02	6.97E-02	0.00E+00	0.00E+00	1.32E-03	NA	NA	NA	NA	NA	NA	NA	9.36E-02	6.48E-07	1.77E-07	NA	8.26E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	4.20E-05	3.67E-05	1.10E-02	2.40E-04	NA	NA	NA	1.13E-02	1.72E-02
Chromium	2.45E-04	3.88E-03	8.02E-02	1.43E-03	NA	NA	NA	8.58E-02	1.72E-01
Lithium	1.78E-05	0.00E+00	1.14E-02	1.13E-04	NA	NA	NA	1.15E-02	1.05E-01

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 1B																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.42E-02	3.75E-03	1.15E-03	6.17E-03	8.66E-03	6.25E-03	4.05E-05	1.78E-03	5.20E-02	NA	1.42E-04	1.25E-03	1.39E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	1.44E-02	2.53E-03	1.58E-03	4.49E-03	1.61E-01	5.46E-01	2.20E-04	1.95E-02	7.50E-01	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.13E-02	1.80E-03	0.00E+00	6.38E-03	1.89E-01	6.01E-01	0.00E+00	0.00E+00	8.09E-01	NA	8.45E-08	7.41E-07	8.25E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	5.64E-04	8.73E-05	8.33E-05	1.95E-02	2.03E-02	7.23E-02
Chromium	NA	NA	NA	3.36E-03	5.89E-04	8.80E-03	1.42E-01	1.55E-01	9.05E-01
Lithium	NA	NA	NA	2.64E-04	4.19E-05	0.00E+00	2.02E-02	2.05E-02	8.29E-01

NA: Not applicable

Contaminant of potential human concern	Toddler - Scenario 1B																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	4.81E-02	7.45E-03	5.72E-04	3.07E-03	4.30E-03	3.10E-03	2.01E-05	8.84E-04	6.75E-02	NA	1.42E-04	1.25E-03	1.39E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	2.87E-02	5.02E-03	7.85E-04	2.23E-03	8.02E-02	2.71E-01	1.09E-04	9.70E-03	3.98E-01	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	2.25E-02	3.57E-03	0.00E+00	3.17E-03	9.38E-02	2.98E-01	0.00E+00	0.00E+00	4.22E-01	NA	1.58E-07	1.39E-06	1.55E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	4.14E-04	6.40E-05	7.01E-05	1.67E-02	1.73E-02	8.48E-02
Chromium	NA	NA	NA	2.46E-03	4.32E-04	7.40E-03	1.22E-01	1.32E-01	5.30E-01
Lithium	NA	NA	NA	1.94E-04	3.07E-05	0.00E+00	1.73E-02	1.75E-02	4.39E-01

NA: Not applicable

Contaminant of potential human concern	Children - Scenario 1B																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	6.03E-03	9.34E-04	2.87E-04	1.54E-03	2.16E-03	1.56E-03	1.01E-05	4.44E-04	1.30E-02	NA	1.42E-04	1.25E-03	1.39E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	3.59E-03	6.30E-04	3.94E-04	1.12E-03	4.02E-02	1.36E-01	5.48E-05	4.86E-03	1.87E-01	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	2.83E-03	4.48E-04	0.00E+00	1.59E-03	4.70E-02	1.50E-01	0.00E+00	0.00E+00	2.02E-01	NA	1.39E-07	1.22E-06	1.36E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	3.15E-04	4.88E-05	5.81E-05	1.41E-02	1.46E-02	2.75E-02
Chromium	NA	NA	NA	1.88E-03	3.29E-04	6.14E-03	1.03E-01	1.11E-01	2.98E-01
Lithium	NA	NA	NA	1.48E-04	2.34E-05	0.00E+00	1.46E-02	1.48E-02	2.16E-01

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 1B																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	3.32E-03	5.15E-04	7.90E-05	8.48E-04	1.19E-03	8.58E-04	5.56E-06	2.44E-04	7.06E-03	NA	1.42E-04	1.25E-03	1.39E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	1.98E-03	3.47E-04	1.08E-04	6.17E-04	2.22E-02	7.50E-02	3.02E-05	2.68E-03	1.03E-01	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.56E-03	2.47E-04	0.00E+00	8.76E-04	2.59E-02	8.25E-02	0.00E+00	0.00E+00	1.11E-01	NA	8.23E-08	7.22E-07	8.04E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	2.53E-04	3.91E-05	4.89E-05	1.18E-02	1.21E-02	1.92E-02
Chromium	NA	NA	NA	1.50E-03	2.64E-04	5.16E-03	8.57E-02	9.26E-02	1.96E-01
Lithium	NA	NA	NA	1.18E-04	1.88E-05	0.00E+00	1.22E-02	1.23E-02	1.23E-01

NA: Not applicable

Contaminant of potential human concern	Adult - Scenario 1B																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	3.04E-05	6.59E-04	1.00E-03	7.24E-04	4.69E-06	2.06E-04	5.87E-03	NA	4.12E-04	1.25E-03	1.66E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	1.67E-03	2.93E-04	4.18E-05	4.79E-04	1.87E-02	6.33E-02	2.55E-05	2.26E-03	8.68E-02	NA	3.74E-04	1.13E-03	1.51E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.32E-03	2.08E-04	0.00E+00	6.81E-04	2.19E-02	6.97E-02	0.00E+00	0.00E+00	9.37E-02	NA	2.14E-07	6.48E-07	8.63E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	4.29E-05	1.10E-02	1.13E-02	1.72E-02
Chromium	NA	NA	NA	1.43E-03	2.51E-04	4.53E-03	8.02E-02	8.64E-02	1.73E-01
Lithium	NA	NA	NA	1.13E-04	1.78E-05	0.00E+00	1.14E-02	1.15E-02	1.05E-01

NA: Not applicable

Contaminant of potential human concern	Woman - Scenario 1B																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	2.60E-05	5.59E-04	1.00E-03	7.24E-04	4.69E-06	2.06E-04	5.76E-03	NA	3.41E-04	1.25E-03	1.59E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	1.67E-03	2.93E-04	3.57E-05	4.06E-04	1.87E-02	6.33E-02	2.55E-05	2.26E-03	8.67E-02	NA	3.10E-04	1.13E-03	1.44E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.32E-03	2.08E-04	0.00E+00	5.77E-04	2.19E-02	6.97E-02	0.00E+00	0.00E+00	9.36E-02	NA	1.77E-07	6.48E-07	8.26E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	3.67E-05	1.10E-02	1.13E-02	1.71E-02
Chromium	NA	NA	NA	1.43E-03	2.51E-04	3.88E-03	8.02E-02	8.58E-02	1.73E-01
Lithium	NA	NA	NA	1.13E-04	1.78E-05	0.00E+00	1.14E-02	1.15E-02	1.05E-01

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.42E-02	3.75E-03	1.15E-03	6.17E-03	1.42E-02	6.25E-03	4.16E-05	1.93E-03	5.77E-02	NA	1.46E-04	1.29E-03	1.44E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	1.49E-02	2.53E-03	1.58E-03	4.49E-03	1.61E-01	5.46E-01	2.20E-04	1.95E-02	7.51E-01	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.14E-02	1.80E-03	0.00E+00	6.38E-03	1.89E-01	6.01E-01	3.91E-04	3.87E-02	8.48E-01	NA	8.60E-08	7.61E-07	8.47E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	5.64E-04	8.73E-05	8.33E-05	1.95E-02	2.03E-02	7.79E-02
Chromium	NA	NA	NA	3.46E-03	5.89E-04	8.80E-03	1.42E-01	1.55E-01	9.06E-01
Lithium	NA	NA	NA	2.65E-04	4.20E-05	0.00E+00	2.02E-02	2.05E-02	8.68E-01

NA: Not applicable

Contaminant of potential human concern	Toddler - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	4.81E-02	7.45E-03	5.72E-04	3.07E-03	7.06E-03	3.10E-03	2.07E-05	9.57E-04	7.03E-02	NA	1.46E-04	1.29E-03	1.44E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	2.95E-02	5.02E-03	7.85E-04	2.23E-03	8.02E-02	2.71E-01	1.09E-04	9.70E-03	3.99E-01	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	2.26E-02	3.58E-03	0.00E+00	3.17E-03	9.38E-02	2.98E-01	1.94E-04	1.92E-02	4.41E-01	NA	1.61E-07	1.43E-06	1.59E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	4.14E-04	6.40E-05	7.01E-05	1.67E-02	1.73E-02	8.76E-02
Chromium	NA	NA	NA	2.54E-03	4.32E-04	7.40E-03	1.22E-01	1.32E-01	5.31E-01
Lithium	NA	NA	NA	1.94E-04	3.08E-05	0.00E+00	1.73E-02	1.75E-02	4.59E-01

NA: Not applicable

Contaminant of potential human concern	Children - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	6.03E-03	9.34E-04	2.87E-04	1.54E-03	3.54E-03	1.56E-03	1.04E-05	4.80E-04	1.44E-02	NA	1.46E-04	1.29E-03	1.44E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	3.70E-03	6.30E-04	3.94E-04	1.12E-03	4.02E-02	1.36E-01	5.48E-05	4.86E-03	1.87E-01	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	2.83E-03	4.49E-04	0.00E+00	1.59E-03	4.70E-02	1.50E-01	9.74E-05	9.64E-03	2.11E-01	NA	1.41E-07	1.25E-06	1.39E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	3.15E-04	4.88E-05	5.81E-05	1.41E-02	1.46E-02	2.89E-02
Chromium	NA	NA	NA	1.93E-03	3.29E-04	6.14E-03	1.03E-01	1.11E-01	2.98E-01
Lithium	NA	NA	NA	1.48E-04	2.35E-05	0.00E+00	1.46E-02	1.48E-02	2.26E-01

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	3.32E-03	5.15E-04	7.90E-05	8.48E-04	1.95E-03	8.58E-04	5.71E-06	2.65E-04	7.84E-03	NA	1.46E-04	1.29E-03	1.44E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	2.04E-03	3.47E-04	1.08E-04	6.17E-04	2.22E-02	7.50E-02	3.02E-05	2.68E-03	1.03E-01	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.56E-03	2.48E-04	0.00E+00	8.76E-04	2.59E-02	8.25E-02	5.37E-05	5.31E-03	1.16E-01	NA	8.38E-08	7.41E-07	8.25E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	2.53E-04	3.91E-05	4.89E-05	1.18E-02	1.21E-02	2.00E-02
Chromium	NA	NA	NA	1.55E-03	2.64E-04	5.16E-03	8.57E-02	9.27E-02	1.96E-01
Lithium	NA	NA	NA	1.19E-04	1.88E-05	0.00E+00	1.22E-02	1.23E-02	1.29E-01

NA: Not applicable

Contaminant of potential human concern	Adult - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	3.04E-05	6.59E-04	1.65E-03	7.24E-04	4.82E-06	2.23E-04	6.53E-03	NA	4.23E-04	1.29E-03	1.72E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	1.72E-03	2.93E-04	4.18E-05	4.79E-04	1.87E-02	6.33E-02	2.55E-05	2.26E-03	8.69E-02	NA	3.75E-04	1.13E-03	1.51E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.32E-03	2.09E-04	0.00E+00	6.81E-04	2.19E-02	6.97E-02	4.53E-05	4.49E-03	9.83E-02	NA	2.18E-07	6.66E-07	8.84E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	4.29E-05	1.10E-02	1.13E-02	1.79E-02
Chromium	NA	NA	NA	1.47E-03	2.51E-04	4.53E-03	8.02E-02	8.65E-02	1.73E-01
Lithium	NA	NA	NA	1.13E-04	1.79E-05	0.00E+00	1.14E-02	1.15E-02	1.10E-01

NA: Not applicable

Contaminant of potential human concern	Woman - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	2.60E-05	5.59E-04	1.65E-03	7.24E-04	4.82E-06	2.23E-04	6.42E-03	NA	3.50E-04	1.29E-03	1.64E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	1.72E-03	2.93E-04	3.57E-05	4.06E-04	1.87E-02	6.33E-02	2.55E-05	2.26E-03	8.68E-02	NA	3.10E-04	1.13E-03	1.44E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.32E-03	2.09E-04	0.00E+00	5.77E-04	2.19E-02	6.97E-02	4.53E-05	4.49E-03	9.82E-02	NA	1.81E-07	6.66E-07	8.46E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	3.67E-05	1.10E-02	1.13E-02	1.78E-02
Chromium	NA	NA	NA	1.47E-03	2.51E-04	3.88E-03	8.02E-02	8.58E-02	1.73E-01
Lithium	NA	NA	NA	1.13E-04	1.79E-05	0.00E+00	1.14E-02	1.15E-02	1.10E-01

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.42E-02	3.75E-03	5.32E-04	6.17E-03	1.42E-02	6.25E-03	4.16E-05	1.92E-03	5.71E-02	NA	1.46E-04	1.29E-03	1.44E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	1.49E-02	2.53E-03	1.04E-03	4.49E-03	1.61E-01	5.46E-01	2.20E-04	1.95E-02	7.50E-01	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.14E-02	1.80E-03	1.05E-02	6.38E-03	1.89E-01	6.01E-01	3.91E-04	3.87E-02	8.58E-01	NA	8.60E-08	7.61E-07	8.47E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	5.64E-04	8.73E-05	3.85E-05	1.95E-02	2.02E-02	7.73E-02
Chromium	NA	NA	NA	3.46E-03	5.89E-04	5.81E-03	1.42E-01	1.52E-01	9.02E-01
Lithium	NA	NA	NA	2.65E-04	4.20E-05	7.60E-04	2.02E-02	2.13E-02	8.80E-01

NA: Not applicable

Contaminant of potential human concern	Toddler - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	4.81E-02	7.45E-03	2.65E-04	3.07E-03	7.06E-03	3.10E-03	2.07E-05	9.55E-04	7.00E-02	NA	1.46E-04	1.29E-03	1.44E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	2.95E-02	5.02E-03	5.18E-04	2.23E-03	8.02E-02	2.71E-01	1.09E-04	9.70E-03	3.99E-01	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	2.26E-02	3.58E-03	5.22E-03	3.17E-03	9.38E-02	2.98E-01	1.94E-04	1.92E-02	4.46E-01	NA	1.61E-07	1.43E-06	1.59E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	4.14E-04	6.40E-05	3.24E-05	1.67E-02	1.72E-02	8.73E-02
Chromium	NA	NA	NA	2.54E-03	4.32E-04	4.89E-03	1.22E-01	1.30E-01	5.28E-01
Lithium	NA	NA	NA	1.94E-04	3.08E-05	6.39E-04	1.73E-02	1.82E-02	4.64E-01

NA: Not applicable

Contaminant of potential human concern	Children - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	6.03E-03	9.34E-04	1.33E-04	1.54E-03	3.54E-03	1.56E-03	1.04E-05	4.79E-04	1.42E-02	NA	1.46E-04	1.29E-03	1.44E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	3.70E-03	6.30E-04	2.60E-04	1.12E-03	4.02E-02	1.36E-01	5.48E-05	4.86E-03	1.87E-01	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	2.83E-03	4.49E-04	2.62E-03	1.59E-03	4.70E-02	1.50E-01	9.74E-05	9.64E-03	2.14E-01	NA	1.41E-07	1.25E-06	1.39E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	3.15E-04	4.88E-05	2.69E-05	1.41E-02	1.45E-02	2.87E-02
Chromium	NA	NA	NA	1.93E-03	3.29E-04	4.06E-03	1.03E-01	1.09E-01	2.96E-01
Lithium	NA	NA	NA	1.48E-04	2.35E-05	5.30E-04	1.46E-02	1.53E-02	2.29E-01

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	3.32E-03	5.15E-04	3.66E-05	8.48E-04	1.95E-03	8.58E-04	5.71E-06	2.64E-04	7.80E-03	NA	1.46E-04	1.29E-03	1.44E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	2.04E-03	3.47E-04	7.16E-05	6.17E-04	2.22E-02	7.50E-02	3.02E-05	2.68E-03	1.03E-01	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.56E-03	2.48E-04	7.21E-04	8.76E-04	2.59E-02	8.25E-02	5.37E-05	5.31E-03	1.17E-01	NA	8.38E-08	7.41E-07	8.25E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	2.53E-04	3.91E-05	2.26E-05	1.18E-02	1.21E-02	1.99E-02
Chromium	NA	NA	NA	1.55E-03	2.64E-04	3.41E-03	8.57E-02	9.09E-02	1.94E-01
Lithium	NA	NA	NA	1.19E-04	1.88E-05	4.46E-04	1.22E-02	1.28E-02	1.30E-01

NA: Not applicable

Contaminant of potential human concern	Adult - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	1.41E-05	6.59E-04	1.65E-03	7.24E-04	4.82E-06	2.23E-04	6.51E-03	NA	4.23E-04	1.29E-03	1.72E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	1.72E-03	2.93E-04	2.76E-05	4.79E-04	1.87E-02	6.33E-02	2.55E-05	2.26E-03	8.69E-02	NA	3.75E-04	1.13E-03	1.51E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.32E-03	2.09E-04	2.78E-04	6.81E-04	2.19E-02	6.97E-02	4.53E-05	4.49E-03	9.86E-02	NA	2.18E-07	6.66E-07	8.84E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	1.99E-05	1.10E-02	1.13E-02	1.78E-02
Chromium	NA	NA	NA	1.47E-03	2.51E-04	2.99E-03	8.02E-02	8.49E-02	1.72E-01
Lithium	NA	NA	NA	1.13E-04	1.79E-05	3.92E-04	1.14E-02	1.19E-02	1.10E-01

NA: Not applicable

Contaminant of potential human concern	Woman - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	1.20E-05	5.59E-04	1.65E-03	7.24E-04	4.82E-06	2.23E-04	6.41E-03	NA	3.50E-04	1.29E-03	1.64E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	1.72E-03	2.93E-04	2.36E-05	4.06E-04	1.87E-02	6.33E-02	2.55E-05	2.26E-03	8.68E-02	NA	3.10E-04	1.13E-03	1.44E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.32E-03	2.09E-04	2.37E-04	5.77E-04	2.19E-02	6.97E-02	4.53E-05	4.49E-03	9.84E-02	NA	1.81E-07	6.66E-07	8.46E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	1.70E-05	1.10E-02	1.13E-02	1.77E-02
Chromium	NA	NA	NA	1.47E-03	2.51E-04	2.56E-03	8.02E-02	8.45E-02	1.71E-01
Lithium	NA	NA	NA	1.13E-04	1.79E-05	3.35E-04	1.14E-02	1.19E-02	1.10E-01

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.42E-02	3.75E-03	7.12E-04	6.17E-03	1.42E-02	6.25E-03	4.16E-05	1.92E-03	5.72E-02	NA	1.46E-04	1.29E-03	1.44E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	1.49E-02	2.53E-03	8.34E-04	4.49E-03	1.61E-01	5.46E-01	2.20E-04	1.95E-02	7.50E-01	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.14E-02	1.80E-03	1.05E-02	6.38E-03	1.89E-01	6.01E-01	3.91E-04	3.87E-02	8.58E-01	NA	8.60E-08	7.61E-07	8.47E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	5.64E-04	8.73E-05	5.15E-05	1.95E-02	2.02E-02	7.75E-02
Chromium	NA	NA	NA	3.46E-03	5.89E-04	4.65E-03	1.42E-01	1.51E-01	9.01E-01
Lithium	NA	NA	NA	2.65E-04	4.20E-05	7.60E-04	2.02E-02	2.13E-02	8.80E-01

NA: Not applicable

Contaminant of potential human concern	Toddler - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	4.81E-02	7.45E-03	3.54E-04	3.07E-03	7.06E-03	3.10E-03	2.07E-05	9.56E-04	7.01E-02	NA	1.46E-04	1.29E-03	1.44E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	2.95E-02	5.02E-03	4.15E-04	2.23E-03	8.02E-02	2.71E-01	1.09E-04	9.70E-03	3.99E-01	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	2.26E-02	3.58E-03	5.22E-03	3.17E-03	9.38E-02	2.98E-01	1.94E-04	1.92E-02	4.46E-01	NA	1.61E-07	1.43E-06	1.59E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	4.14E-04	6.40E-05	4.34E-05	1.67E-02	1.73E-02	8.74E-02
Chromium	NA	NA	NA	2.54E-03	4.32E-04	3.91E-03	1.22E-01	1.29E-01	5.27E-01
Lithium	NA	NA	NA	1.94E-04	3.08E-05	6.39E-04	1.73E-02	1.82E-02	4.64E-01

NA: Not applicable

Contaminant of potential human concern	Children - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	6.03E-03	9.34E-04	1.77E-04	1.54E-03	3.54E-03	1.56E-03	1.04E-05	4.79E-04	1.43E-02	NA	1.46E-04	1.29E-03	1.44E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	3.70E-03	6.30E-04	2.08E-04	1.12E-03	4.02E-02	1.36E-01	5.48E-05	4.86E-03	1.87E-01	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	2.83E-03	4.49E-04	2.62E-03	1.59E-03	4.70E-02	1.50E-01	9.74E-05	9.64E-03	2.14E-01	NA	1.41E-07	1.25E-06	1.39E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	3.15E-04	4.88E-05	3.60E-05	1.41E-02	1.45E-02	2.88E-02
Chromium	NA	NA	NA	1.93E-03	3.29E-04	3.24E-03	1.03E-01	1.08E-01	2.95E-01
Lithium	NA	NA	NA	1.48E-04	2.35E-05	5.30E-04	1.46E-02	1.53E-02	2.29E-01

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	3.32E-03	5.15E-04	4.89E-05	8.48E-04	1.95E-03	8.58E-04	5.71E-06	2.64E-04	7.81E-03	NA	1.46E-04	1.29E-03	1.44E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	2.04E-03	3.47E-04	5.73E-05	6.17E-04	2.22E-02	7.50E-02	3.02E-05	2.68E-03	1.03E-01	NA	1.29E-04	1.13E-03	1.26E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.56E-03	2.48E-04	7.21E-04	8.76E-04	2.59E-02	8.25E-02	5.37E-05	5.31E-03	1.17E-01	NA	8.38E-08	7.41E-07	8.25E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	2.53E-04	3.91E-05	3.02E-05	1.18E-02	1.21E-02	1.99E-02
Chromium	NA	NA	NA	1.55E-03	2.64E-04	2.73E-03	8.57E-02	9.02E-02	1.93E-01
Lithium	NA	NA	NA	1.19E-04	1.88E-05	4.46E-04	1.22E-02	1.28E-02	1.30E-01

NA: Not applicable

Contaminant of potential human concern	Adult - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	1.88E-05	6.59E-04	1.65E-03	7.24E-04	4.82E-06	2.23E-04	6.52E-03	NA	4.23E-04	1.29E-03	1.72E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	1.72E-03	2.93E-04	2.21E-05	4.79E-04	1.87E-02	6.33E-02	2.55E-05	2.26E-03	8.69E-02	NA	3.75E-04	1.13E-03	1.51E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.32E-03	2.09E-04	2.78E-04	6.81E-04	2.19E-02	6.97E-02	4.53E-05	4.49E-03	9.86E-02	NA	2.18E-07	6.66E-07	8.84E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	2.66E-05	1.10E-02	1.13E-02	1.78E-02
Chromium	NA	NA	NA	1.47E-03	2.51E-04	2.39E-03	8.02E-02	8.43E-02	1.71E-01
Lithium	NA	NA	NA	1.13E-04	1.79E-05	3.92E-04	1.14E-02	1.19E-02	1.10E-01

NA: Not applicable

Contaminant of potential human concern	Woman - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	2.81E-03	4.35E-04	1.61E-05	5.59E-04	1.65E-03	7.24E-04	4.82E-06	2.23E-04	6.41E-03	NA	3.50E-04	1.29E-03	1.64E-03
Chromium	NA	NA	NA	NA	NA	NA	NA	1.72E-03	2.93E-04	1.89E-05	4.06E-04	1.87E-02	6.33E-02	2.55E-05	2.26E-03	8.68E-02	NA	3.10E-04	1.13E-03	1.44E-03
Lithium	NA	NA	NA	NA	NA	NA	NA	1.32E-03	2.09E-04	2.37E-04	5.77E-04	2.19E-02	6.97E-02	4.53E-05	4.49E-03	9.84E-02	NA	1.81E-07	6.66E-07	8.46E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	2.40E-04	3.72E-05	2.27E-05	1.10E-02	1.13E-02	1.77E-02
Chromium	NA	NA	NA	1.47E-03	2.51E-04	2.05E-03	8.02E-02	8.40E-02	1.71E-01
Lithium	NA	NA	NA	1.13E-04	1.79E-05	3.35E-04	1.14E-02	1.19E-02	1.10E-01

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	1.79E-02	9.65E-04	8.34E-03	1.50E-02	6.25E-03	1.87E-04	7.76E-03	2.42E-02	NA	NA	NA	NA	NA	NA	NA	8.05E-02	1.25E-03	1.42E-04	NA	1.39E-03
Chromium	2.47E-03	1.05E-03	4.49E-03	1.61E-01	5.46E-01	2.18E-04	1.94E-02	1.49E-02	NA	NA	NA	NA	NA	NA	NA	7.50E-01	1.13E-03	1.29E-04	NA	1.26E-03
Lithium	2.89E-03	1.97E-02	6.38E-03	1.89E-01	6.01E-01	4.68E-04	4.21E-02	1.14E-02	NA	NA	NA	NA	NA	NA	NA	8.72E-01	7.41E-07	8.45E-08	NA	8.25E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	8.49E-13	6.99E-05	2.64E-02	5.64E-04	NA	NA	NA	2.70E-02	1.08E-01
Chromium	7.02E-11	5.82E-03	1.42E-01	3.46E-03	NA	NA	NA	1.51E-01	9.01E-01
Lithium	3.77E-13	1.42E-03	2.02E-02	2.65E-04	NA	NA	NA	2.19E-02	8.94E-01

NA: Not applicable

Contaminant of potential human concern	Toddler - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	3.55E-02	4.80E-04	4.14E-03	7.44E-03	3.10E-03	9.30E-05	3.86E-03	4.81E-02	NA	NA	NA	NA	NA	NA	NA	1.03E-01	1.25E-03	1.42E-04	NA	1.39E-03
Chromium	4.91E-03	5.20E-04	2.23E-03	8.02E-02	2.71E-01	1.08E-04	9.65E-03	2.95E-02	NA	NA	NA	NA	NA	NA	NA	3.99E-01	1.13E-03	1.29E-04	NA	1.26E-03
Lithium	5.74E-03	9.77E-03	3.17E-03	9.38E-02	2.98E-01	2.33E-04	2.09E-02	2.26E-02	NA	NA	NA	NA	NA	NA	NA	4.55E-01	1.39E-06	1.58E-07	NA	1.55E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	3.05E-04	5.88E-05	2.26E-02	4.14E-04	NA	NA	NA	2.34E-02	1.26E-01
Chromium	4.22E-04	4.90E-03	1.22E-01	2.54E-03	NA	NA	NA	1.30E-01	5.28E-01
Lithium	4.94E-05	1.20E-03	1.73E-02	1.94E-04	NA	NA	NA	1.87E-02	4.73E-01

NA: Not applicable

Contaminant of potential human concern	Children - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	4.45E-03	2.41E-04	2.08E-03	3.73E-03	1.56E-03	4.67E-05	1.93E-03	6.03E-03	NA	NA	NA	NA	NA	NA	NA	2.01E-02	1.25E-03	1.42E-04	NA	1.39E-03
Chromium	6.16E-04	2.61E-04	1.12E-03	4.02E-02	1.36E-01	5.43E-05	4.84E-03	3.70E-03	NA	NA	NA	NA	NA	NA	NA	1.87E-01	1.13E-03	1.29E-04	NA	1.26E-03
Lithium	7.20E-04	4.90E-03	1.59E-03	4.70E-02	1.50E-01	1.17E-04	1.05E-02	2.83E-03	NA	NA	NA	NA	NA	NA	NA	2.17E-01	1.22E-06	1.39E-07	NA	1.36E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	2.33E-04	4.88E-05	1.91E-02	3.15E-04	NA	NA	NA	1.97E-02	3.98E-02
Chromium	3.22E-04	4.06E-03	1.03E-01	1.93E-03	NA	NA	NA	1.09E-01	2.96E-01
Lithium	3.76E-05	9.93E-04	1.46E-02	1.48E-04	NA	NA	NA	1.58E-02	2.33E-01

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	2.45E-03	6.63E-05	1.14E-03	2.06E-03	8.58E-04	2.57E-05	1.07E-03	3.32E-03	NA	NA	NA	NA	NA	NA	NA	1.10E-02	1.25E-03	1.42E-04	NA	1.39E-03
Chromium	3.39E-04	7.18E-05	6.17E-04	2.22E-02	7.50E-02	2.99E-05	2.67E-03	2.04E-03	NA	NA	NA	NA	NA	NA	NA	1.03E-01	1.13E-03	1.29E-04	NA	1.26E-03
Lithium	3.97E-04	1.35E-03	8.76E-04	2.59E-02	8.25E-02	6.43E-05	5.78E-03	1.56E-03	NA	NA	NA	NA	NA	NA	NA	1.18E-01	7.22E-07	8.23E-08	NA	8.04E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	1.87E-04	4.10E-05	1.59E-02	2.53E-04	NA	NA	NA	1.64E-02	2.74E-02
Chromium	2.58E-04	3.42E-03	8.57E-02	1.55E-03	NA	NA	NA	9.09E-02	1.94E-01
Lithium	3.02E-05	8.35E-04	1.22E-02	1.19E-04	NA	NA	NA	1.32E-02	1.32E-01

NA: Not applicable

Contaminant of potential human concern	Adult - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	2.07E-03	2.55E-05	8.89E-04	1.74E-03	7.24E-04	2.17E-05	9.00E-04	2.81E-03	NA	NA	NA	NA	NA	NA	NA	9.18E-03	1.25E-03	4.12E-04	NA	1.66E-03
Chromium	2.87E-04	2.76E-05	4.79E-04	1.87E-02	6.33E-02	2.53E-05	2.25E-03	1.72E-03	NA	NA	NA	NA	NA	NA	NA	8.68E-02	1.13E-03	3.74E-04	NA	1.51E-03
Lithium	3.35E-04	5.20E-04	6.81E-04	2.19E-02	6.97E-02	5.43E-05	4.88E-03	1.32E-03	NA	NA	NA	NA	NA	NA	NA	9.93E-02	6.48E-07	2.14E-07	NA	8.63E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	1.77E-04	3.60E-05	1.49E-02	2.40E-04	NA	NA	NA	1.53E-02	2.45E-02
Chromium	2.45E-04	3.00E-03	8.02E-02	1.47E-03	NA	NA	NA	8.49E-02	1.72E-01
Lithium	2.87E-05	7.33E-04	1.14E-02	1.13E-04	NA	NA	NA	1.23E-02	1.12E-01

NA: Not applicable

Contaminant of potential human concern	Woman - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	2.07E-03	2.18E-05	7.54E-04	1.74E-03	7.24E-04	2.17E-05	9.00E-04	2.81E-03	NA	NA	NA	NA	NA	NA	NA	9.04E-03	1.25E-03	3.41E-04	NA	1.59E-03
Chromium	2.87E-04	2.36E-05	4.06E-04	1.87E-02	6.33E-02	2.53E-05	2.25E-03	1.72E-03	NA	NA	NA	NA	NA	NA	NA	8.68E-02	1.13E-03	3.10E-04	NA	1.44E-03
Lithium	3.35E-04	4.45E-04	5.77E-04	2.19E-02	6.97E-02	5.43E-05	4.88E-03	1.32E-03	NA	NA	NA	NA	NA	NA	NA	9.91E-02	6.48E-07	1.77E-07	NA	8.26E-07

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	1.77E-04	3.08E-05	1.49E-02	2.40E-04	NA	NA	NA	1.53E-02	2.44E-02
Chromium	2.45E-04	2.57E-03	8.02E-02	1.47E-03	NA	NA	NA	8.45E-02	1.71E-01
Lithium	2.87E-05	6.27E-04	1.14E-02	1.13E-04	NA	NA	NA	1.22E-02	1.11E-01

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-1.04E-17	-2.60E-18	0.00E+00	0.00E+00	5.54E-03	0.00E+00	1.14E-06	1.47E-04	5.69E-03	NA	3.76E-06	4.82E-05	5.19E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	4.43E-04	-4.34E-19	0.00E+00	0.00E+00	-2.78E-17	0.00E+00	0.00E+00	0.00E+00	4.43E-04	NA	2.08E-07	2.67E-06	2.88E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	1.22E-05	6.41E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.91E-04	3.87E-02	3.91E-02	NA	1.54E-09	1.97E-08	2.12E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-2.17E-19	-8.13E-20	0.00E+00	0.00E+00	0.00E+00	5.69E-03
Chromium	NA	NA	NA	1.03E-04	-1.08E-19	0.00E+00	0.00E+00	1.03E-04	5.47E-04
Lithium	NA	NA	NA	2.84E-07	1.49E-07	0.00E+00	0.00E+00	4.34E-07	3.91E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Toddler - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-2.08E-17	-5.20E-18	0.00E+00	0.00E+00	2.75E-03	0.00E+00	5.69E-07	7.29E-05	2.83E-03	NA	3.76E-06	4.82E-05	5.19E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	8.82E-04	0.00E+00	0.00E+00	0.00E+00	-1.39E-17	0.00E+00	0.00E+00	0.00E+00	8.82E-04	NA	2.08E-07	2.67E-06	2.88E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	2.42E-05	1.28E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.94E-04	1.92E-02	1.95E-02	NA	2.88E-09	3.70E-08	3.98E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-1.63E-19	-5.42E-20	0.00E+00	0.00E+00	0.00E+00	2.83E-03
Chromium	NA	NA	NA	7.58E-05	-1.08E-19	0.00E+00	0.00E+00	7.58E-05	9.57E-04
Lithium	NA	NA	NA	2.08E-07	1.10E-07	0.00E+00	0.00E+00	3.18E-07	1.95E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Children - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-2.60E-18	-6.51E-19	0.00E+00	0.00E+00	1.38E-03	0.00E+00	2.85E-07	3.65E-05	1.42E-03	NA	3.76E-06	4.82E-05	5.19E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	1.11E-04	-1.08E-19	0.00E+00	0.00E+00	-6.94E-18	0.00E+00	0.00E+00	0.00E+00	1.11E-04	NA	2.08E-07	2.67E-06	2.88E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	3.04E-06	1.60E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.74E-05	9.64E-03	9.74E-03	NA	2.52E-09	3.24E-08	3.49E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-5.42E-20	-3.39E-20	0.00E+00	0.00E+00	-1.73E-18	1.42E-03
Chromium	NA	NA	NA	5.78E-05	-5.42E-20	0.00E+00	0.00E+00	5.78E-05	1.68E-04
Lithium	NA	NA	NA	1.59E-07	8.35E-08	0.00E+00	0.00E+00	2.42E-07	9.74E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Teen - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-1.30E-18	-4.34E-19	0.00E+00	0.00E+00	7.61E-04	0.00E+00	1.57E-07	2.01E-05	7.82E-04	NA	3.76E-06	4.82E-05	5.19E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	6.09E-05	-5.42E-20	0.00E+00	0.00E+00	-3.47E-18	0.00E+00	0.00E+00	0.00E+00	6.09E-05	NA	2.08E-07	2.67E-06	2.88E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	1.68E-06	8.81E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.37E-05	5.31E-03	5.37E-03	NA	1.50E-09	1.92E-08	2.07E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-1.08E-19	-3.39E-20	0.00E+00	0.00E+00	-1.73E-18	7.82E-04
Chromium	NA	NA	NA	4.63E-05	-5.42E-20	0.00E+00	0.00E+00	4.63E-05	1.07E-04
Lithium	NA	NA	NA	1.27E-07	6.70E-08	0.00E+00	0.00E+00	1.94E-07	5.37E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Adult - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-1.30E-18	-3.25E-19	0.00E+00	0.00E+00	6.43E-04	0.00E+00	1.33E-07	1.70E-05	6.60E-04	NA	1.09E-05	4.82E-05	5.91E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	5.14E-05	-5.42E-20	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.14E-05	NA	6.05E-07	2.67E-06	3.28E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	1.41E-06	7.44E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.53E-05	4.49E-03	4.53E-03	NA	3.90E-09	1.73E-08	2.12E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-1.08E-19	-3.39E-20	0.00E+00	0.00E+00	0.00E+00	6.60E-04
Chromium	NA	NA	NA	4.40E-05	0.00E+00	0.00E+00	0.00E+00	4.40E-05	9.55E-05
Lithium	NA	NA	NA	1.21E-07	6.37E-08	0.00E+00	0.00E+00	1.85E-07	4.53E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Woman - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-1.30E-18	-3.25E-19	0.00E+00	0.00E+00	6.43E-04	0.00E+00	1.33E-07	1.70E-05	6.60E-04	NA	9.01E-06	4.82E-05	5.72E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	5.14E-05	-5.42E-20	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.14E-05	NA	5.00E-07	2.67E-06	3.17E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	1.41E-06	7.44E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.53E-05	4.49E-03	4.53E-03	NA	3.23E-09	1.73E-08	2.05E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-1.08E-19	-3.39E-20	0.00E+00	0.00E+00	0.00E+00	6.60E-04
Chromium	NA	NA	NA	4.40E-05	0.00E+00	0.00E+00	0.00E+00	4.40E-05	9.55E-05
Lithium	NA	NA	NA	1.21E-07	6.37E-08	0.00E+00	0.00E+00	1.85E-07	4.53E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Infant - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-1.04E-17	-2.60E-18	-6.18E-04	0.00E+00	5.54E-03	0.00E+00	1.14E-06	1.43E-04	5.07E-03	NA	3.76E-06	4.82E-05	5.19E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	4.43E-04	-4.34E-19	-5.37E-04	0.00E+00	-2.78E-17	0.00E+00	0.00E+00	0.00E+00	-9.31E-05	NA	2.08E-07	2.67E-06	2.88E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	1.22E-05	6.41E-06	1.05E-02	0.00E+00	0.00E+00	0.00E+00	3.91E-04	3.87E-02	4.96E-02	NA	1.54E-09	1.97E-08	2.12E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-2.17E-19	-8.13E-20	-4.47E-05	0.00E+00	-4.47E-05	5.02E-03
Chromium	NA	NA	NA	1.03E-04	-1.08E-19	-2.99E-03	0.00E+00	-2.88E-03	-2.98E-03
Lithium	NA	NA	NA	2.84E-07	1.49E-07	7.60E-04	0.00E+00	7.60E-04	5.03E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Toddler - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-2.08E-17	-5.20E-18	-3.07E-04	0.00E+00	2.75E-03	0.00E+00	5.65E-07	7.08E-05	2.52E-03	NA	3.76E-06	4.82E-05	5.19E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	8.82E-04	0.00E+00	-2.67E-04	0.00E+00	-1.39E-17	0.00E+00	0.00E+00	0.00E+00	6.15E-04	NA	2.08E-07	2.67E-06	2.88E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	2.42E-05	1.28E-05	5.22E-03	0.00E+00	0.00E+00	0.00E+00	1.94E-04	1.92E-02	2.47E-02	NA	2.88E-09	3.70E-08	3.98E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-1.63E-19	-5.42E-20	-3.77E-05	0.00E+00	-3.77E-05	2.48E-03
Chromium	NA	NA	NA	7.58E-05	-1.08E-19	-2.51E-03	0.00E+00	-2.44E-03	-1.82E-03
Lithium	NA	NA	NA	2.08E-07	1.10E-07	6.39E-04	0.00E+00	6.40E-04	2.53E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Children - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-2.60E-18	-6.51E-19	-1.54E-04	0.00E+00	1.38E-03	0.00E+00	2.83E-07	3.55E-05	1.26E-03	NA	3.76E-06	4.82E-05	5.19E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	1.11E-04	-1.08E-19	-1.34E-04	0.00E+00	-6.94E-18	0.00E+00	0.00E+00	0.00E+00	-2.32E-05	NA	2.08E-07	2.67E-06	2.88E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	3.04E-06	1.60E-06	2.62E-03	0.00E+00	0.00E+00	0.00E+00	9.74E-05	9.64E-03	1.24E-02	NA	2.52E-09	3.24E-08	3.49E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-5.42E-20	-3.39E-20	-3.12E-05	0.00E+00	-3.12E-05	1.23E-03
Chromium	NA	NA	NA	5.78E-05	-5.42E-20	-2.09E-03	0.00E+00	-2.03E-03	-2.05E-03
Lithium	NA	NA	NA	1.59E-07	8.35E-08	5.30E-04	0.00E+00	5.31E-04	1.29E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Teen - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-1.30E-18	-4.34E-19	-4.24E-05	0.00E+00	7.61E-04	0.00E+00	1.56E-07	1.96E-05	7.39E-04	NA	3.76E-06	4.82E-05	5.19E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	6.09E-05	-5.42E-20	-3.68E-05	0.00E+00	-3.47E-18	0.00E+00	0.00E+00	0.00E+00	2.41E-05	NA	2.08E-07	2.67E-06	2.88E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	1.68E-06	8.81E-07	7.21E-04	0.00E+00	0.00E+00	0.00E+00	5.37E-05	5.31E-03	6.09E-03	NA	1.50E-09	1.92E-08	2.07E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-1.08E-19	-3.39E-20	-2.63E-05	0.00E+00	-2.63E-05	7.12E-04
Chromium	NA	NA	NA	4.63E-05	-5.42E-20	-1.75E-03	0.00E+00	-1.71E-03	-1.68E-03
Lithium	NA	NA	NA	1.27E-07	6.70E-08	4.46E-04	0.00E+00	4.46E-04	6.54E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Adult - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-1.30E-18	-3.25E-19	-1.63E-05	0.00E+00	6.43E-04	0.00E+00	1.32E-07	1.65E-05	6.43E-04	NA	1.09E-05	4.82E-05	5.91E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	5.14E-05	-5.42E-20	-1.42E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.72E-05	NA	6.05E-07	2.67E-06	3.28E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	1.41E-06	7.44E-07	2.78E-04	0.00E+00	0.00E+00	0.00E+00	4.53E-05	4.49E-03	4.81E-03	NA	3.90E-09	1.73E-08	2.12E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-1.08E-19	-3.39E-20	-2.31E-05	0.00E+00	-2.31E-05	6.20E-04
Chromium	NA	NA	NA	4.40E-05	0.00E+00	-1.54E-03	0.00E+00	-1.50E-03	-1.46E-03
Lithium	NA	NA	NA	1.21E-07	6.37E-08	3.92E-04	0.00E+00	3.92E-04	5.20E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Woman - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-1.30E-18	-3.25E-19	-1.40E-05	0.00E+00	6.43E-04	0.00E+00	1.32E-07	1.65E-05	6.45E-04	NA	9.01E-06	4.82E-05	5.72E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	5.14E-05	-5.42E-20	-1.21E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.93E-05	NA	5.00E-07	2.67E-06	3.17E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	1.41E-06	7.44E-07	2.37E-04	0.00E+00	0.00E+00	0.00E+00	4.53E-05	4.49E-03	4.77E-03	NA	3.23E-09	1.73E-08	2.05E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-1.08E-19	-3.39E-20	-1.97E-05	0.00E+00	-1.97E-05	6.26E-04
Chromium	NA	NA	NA	4.40E-05	0.00E+00	-1.32E-03	0.00E+00	-1.27E-03	-1.23E-03
Lithium	NA	NA	NA	1.21E-07	6.37E-08	3.35E-04	0.00E+00	3.35E-04	5.11E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Infant - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-1.04E-17	-2.60E-18	-4.39E-04	0.00E+00	5.54E-03	0.00E+00	1.14E-06	1.44E-04	5.25E-03	NA	3.76E-06	4.82E-05	5.19E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	4.43E-04	-4.34E-19	-7.45E-04	0.00E+00	-2.78E-17	0.00E+00	0.00E+00	0.00E+00	-3.02E-04	NA	2.08E-07	2.67E-06	2.88E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	1.22E-05	6.41E-06	1.05E-02	0.00E+00	0.00E+00	0.00E+00	3.91E-04	3.87E-02	4.96E-02	NA	1.54E-09	1.97E-08	2.12E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-2.17E-19	-8.13E-20	-3.18E-05	0.00E+00	-3.18E-05	5.22E-03
Chromium	NA	NA	NA	1.03E-04	-1.08E-19	-4.15E-03	0.00E+00	-4.05E-03	-4.35E-03
Lithium	NA	NA	NA	2.84E-07	1.49E-07	7.60E-04	0.00E+00	7.60E-04	5.03E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Toddler - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-2.08E-17	-5.20E-18	-2.18E-04	0.00E+00	2.75E-03	0.00E+00	5.69E-07	7.14E-05	2.61E-03	NA	3.76E-06	4.82E-05	5.19E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	8.82E-04	0.00E+00	-3.70E-04	0.00E+00	-1.39E-17	0.00E+00	0.00E+00	0.00E+00	5.11E-04	NA	2.08E-07	2.67E-06	2.88E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	2.42E-05	1.28E-05	5.22E-03	0.00E+00	0.00E+00	0.00E+00	1.94E-04	1.92E-02	2.47E-02	NA	2.88E-09	3.70E-08	3.98E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-1.63E-19	-5.42E-20	-2.67E-05	0.00E+00	-2.67E-05	2.58E-03
Chromium	NA	NA	NA	7.58E-05	-1.08E-19	-3.49E-03	0.00E+00	-3.42E-03	-2.91E-03
Lithium	NA	NA	NA	2.08E-07	1.10E-07	6.39E-04	0.00E+00	6.40E-04	2.53E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Children - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-2.60E-18	-6.51E-19	-1.09E-04	0.00E+00	1.38E-03	0.00E+00	2.85E-07	3.58E-05	1.31E-03	NA	3.76E-06	4.82E-05	5.19E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	1.11E-04	-1.08E-19	-1.86E-04	0.00E+00	-6.94E-18	0.00E+00	0.00E+00	0.00E+00	-7.52E-05	NA	2.08E-07	2.67E-06	2.88E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	3.04E-06	1.60E-06	2.62E-03	0.00E+00	0.00E+00	0.00E+00	9.74E-05	9.64E-03	1.24E-02	NA	2.52E-09	3.24E-08	3.49E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-5.42E-20	-3.39E-20	-2.22E-05	0.00E+00	-2.22E-05	1.29E-03
Chromium	NA	NA	NA	5.78E-05	-5.42E-20	-2.90E-03	0.00E+00	-2.84E-03	-2.92E-03
Lithium	NA	NA	NA	1.59E-07	8.35E-08	5.30E-04	0.00E+00	5.31E-04	1.29E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Teen - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-1.30E-18	-4.34E-19	-3.01E-05	0.00E+00	7.61E-04	0.00E+00	1.57E-07	1.97E-05	7.51E-04	NA	3.76E-06	4.82E-05	5.19E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	6.09E-05	-5.42E-20	-5.12E-05	0.00E+00	-3.47E-18	0.00E+00	0.00E+00	0.00E+00	9.73E-06	NA	2.08E-07	2.67E-06	2.88E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	1.68E-06	8.81E-07	7.21E-04	0.00E+00	0.00E+00	0.00E+00	5.37E-05	5.31E-03	6.09E-03	NA	1.50E-09	1.92E-08	2.07E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-1.08E-19	-3.39E-20	-1.87E-05	0.00E+00	-1.87E-05	7.32E-04
Chromium	NA	NA	NA	4.63E-05	-5.42E-20	-2.44E-03	0.00E+00	-2.39E-03	-2.38E-03
Lithium	NA	NA	NA	1.27E-07	6.70E-08	4.46E-04	0.00E+00	4.46E-04	6.54E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Adult - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-1.30E-18	-3.25E-19	-1.16E-05	0.00E+00	6.43E-04	0.00E+00	1.33E-07	1.67E-05	6.48E-04	NA	1.09E-05	4.82E-05	5.91E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	5.14E-05	-5.42E-20	-1.97E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.17E-05	NA	6.05E-07	2.67E-06	3.28E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	1.41E-06	7.44E-07	2.78E-04	0.00E+00	0.00E+00	0.00E+00	4.53E-05	4.49E-03	4.81E-03	NA	3.90E-09	1.73E-08	2.12E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-1.08E-19	-3.39E-20	-1.64E-05	0.00E+00	-1.64E-05	6.32E-04
Chromium	NA	NA	NA	4.40E-05	0.00E+00	-2.14E-03	0.00E+00	-2.10E-03	-2.06E-03
Lithium	NA	NA	NA	1.21E-07	6.37E-08	3.92E-04	0.00E+00	3.92E-04	5.20E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Woman - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	-1.30E-18	-3.25E-19	-9.93E-06	0.00E+00	6.43E-04	0.00E+00	1.33E-07	1.67E-05	6.50E-04	NA	9.01E-06	4.82E-05	5.72E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	5.14E-05	-5.42E-20	-1.69E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.46E-05	NA	5.00E-07	2.67E-06	3.17E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	1.41E-06	7.44E-07	2.37E-04	0.00E+00	0.00E+00	0.00E+00	4.53E-05	4.49E-03	4.77E-03	NA	3.23E-09	1.73E-08	2.05E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	-1.08E-19	-3.39E-20	-1.40E-05	0.00E+00	-1.40E-05	6.36E-04
Chromium	NA	NA	NA	4.40E-05	0.00E+00	-1.83E-03	0.00E+00	-1.79E-03	-1.75E-03
Lithium	NA	NA	NA	1.21E-07	6.37E-08	3.35E-04	0.00E+00	3.35E-04	5.11E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Infant - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	1.36E-02	-1.85E-04	2.16E-03	6.31E-03	0.00E+00	1.42E-04	5.78E-03	-1.04E-17	NA	NA	NA	NA	NA	NA	NA	2.78E-02	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	1.94E-06	-5.34E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.43E-04	NA	NA	NA	NA	NA	NA	NA	-8.87E-05	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	1.09E-03	1.97E-02	0.00E+00	0.00E+00	0.00E+00	4.68E-04	4.21E-02	1.22E-05	NA	NA	NA	NA	NA	NA	NA	6.33E-02	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	-9.85E-05	-1.34E-05	6.84E-03	-2.17E-19	NA	NA	NA	6.73E-03	3.46E-02
Chromium	-5.75E-04	-2.97E-03	0.00E+00	1.03E-04	NA	NA	NA	-3.45E-03	-3.54E-03
Lithium	-4.19E-05	1.42E-03	0.00E+00	2.84E-07	NA	NA	NA	1.38E-03	6.47E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Toddler - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	2.71E-02	-9.21E-05	1.07E-03	3.13E-03	0.00E+00	7.05E-05	2.87E-03	-2.08E-17	NA	NA	NA	NA	NA	NA	NA	3.42E-02	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	3.86E-06	-2.65E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.82E-04	NA	NA	NA	NA	NA	NA	NA	6.20E-04	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	2.17E-03	9.77E-03	0.00E+00	0.00E+00	0.00E+00	2.33E-04	2.09E-02	2.42E-05	NA	NA	NA	NA	NA	NA	NA	3.31E-02	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	2.33E-04	-1.13E-05	5.86E-03	-1.63E-19	NA	NA	NA	6.08E-03	4.02E-02
Chromium	3.32E-07	-2.50E-03	0.00E+00	7.58E-05	NA	NA	NA	-2.43E-03	-1.81E-03
Lithium	1.87E-05	1.20E-03	0.00E+00	2.08E-07	NA	NA	NA	1.22E-03	3.43E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Children - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	3.40E-03	-4.62E-05	5.39E-04	1.57E-03	0.00E+00	3.53E-05	1.44E-03	-2.60E-18	NA	NA	NA	NA	NA	NA	NA	6.94E-03	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	4.85E-07	-1.33E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.11E-04	NA	NA	NA	NA	NA	NA	NA	-2.21E-05	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	2.72E-04	4.90E-03	0.00E+00	0.00E+00	0.00E+00	1.17E-04	1.05E-02	3.04E-06	NA	NA	NA	NA	NA	NA	NA	1.58E-02	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	1.78E-04	-9.36E-06	4.95E-03	-5.42E-20	NA	NA	NA	5.12E-03	1.21E-02
Chromium	2.53E-07	-2.08E-03	0.00E+00	5.78E-05	NA	NA	NA	-2.02E-03	-2.04E-03
Lithium	1.42E-05	9.93E-04	0.00E+00	1.59E-07	NA	NA	NA	1.01E-03	1.68E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Teen - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	1.87E-03	-1.27E-05	2.97E-04	8.66E-04	0.00E+00	1.95E-05	7.94E-04	-1.30E-18	NA	NA	NA	NA	NA	NA	NA	3.84E-03	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	2.67E-07	-3.67E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.09E-05	NA	NA	NA	NA	NA	NA	NA	2.45E-05	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	1.50E-04	1.35E-03	0.00E+00	0.00E+00	0.00E+00	6.43E-05	5.78E-03	1.68E-06	NA	NA	NA	NA	NA	NA	NA	7.34E-03	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	1.42E-04	-7.87E-06	4.12E-03	-1.08E-19	NA	NA	NA	4.26E-03	8.10E-03
Chromium	2.03E-07	-1.75E-03	0.00E+00	4.63E-05	NA	NA	NA	-1.70E-03	-1.67E-03
Lithium	1.14E-05	8.35E-04	0.00E+00	1.27E-07	NA	NA	NA	8.47E-04	8.19E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Adult - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	1.58E-03	-4.90E-06	2.31E-04	7.32E-04	0.00E+00	1.64E-05	6.71E-04	-1.30E-18	NA	NA	NA	NA	NA	NA	NA	3.23E-03	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	2.25E-07	-1.41E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.14E-05	NA	NA	NA	NA	NA	NA	NA	3.75E-05	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	1.27E-04	5.20E-04	0.00E+00	0.00E+00	0.00E+00	5.43E-05	4.88E-03	1.41E-06	NA	NA	NA	NA	NA	NA	NA	5.58E-03	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	1.35E-04	-6.91E-06	3.86E-03	-1.08E-19	NA	NA	NA	3.99E-03	7.21E-03
Chromium	1.93E-07	-1.53E-03	0.00E+00	4.40E-05	NA	NA	NA	-1.49E-03	-1.45E-03
Lithium	1.09E-05	7.33E-04	0.00E+00	1.21E-07	NA	NA	NA	7.44E-04	6.33E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Woman - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	1.58E-03	-4.19E-06	1.96E-04	7.32E-04	0.00E+00	1.64E-05	6.71E-04	-1.30E-18	NA	NA	NA	NA	NA	NA	NA	3.19E-03	0.00E+00	0.00E+00	NA	0.00E+00
Chromium	2.25E-07	-1.21E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.14E-05	NA	NA	NA	NA	NA	NA	NA	3.96E-05	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	1.27E-04	4.45E-04	0.00E+00	0.00E+00	0.00E+00	5.43E-05	4.88E-03	1.41E-06	NA	NA	NA	NA	NA	NA	NA	5.51E-03	0.00E+00	0.00E+00	NA	0.00E+00

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	1.35E-04	-5.91E-06	3.86E-03	-1.08E-19	NA	NA	NA	3.99E-03	7.18E-03
Chromium	1.93E-07	-1.31E-03	0.00E+00	4.40E-05	NA	NA	NA	-1.27E-03	-1.23E-03
Lithium	1.09E-05	6.27E-04	0.00E+00	1.21E-07	NA	NA	NA	6.38E-04	6.14E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Infant - Sc	Infant - Scenario 2																			
	Ingestion	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																					
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	0.00E+00	NA	NA	NA	NA	NA	NA	NA	3.05E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.05E-08	NA	9.90E-11	1.27E-09	1.37E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	7.10E-09	0.00E+00	0.00E+00	0.00E+00	7.10E-09	3.76E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Toddler - Scenario 2																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	1.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.21E-07	NA	1.98E-10	2.54E-09	2.74E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	1.04E-08	0.00E+00	0.00E+00	0.00E+00	1.04E-08	1.32E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Children - Scenario 2																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	9.12E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.12E-09	NA	1.19E-10	1.52E-09	1.64E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	4.76E-09	0.00E+00	0.00E+00	0.00E+00	4.76E-09	1.39E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable
Bold values > 1E-05

Contaminant of potential human concern	Teen - Scenario 2																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	3.35E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.35E-09	NA	7.92E-11	1.02E-09	1.10E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	2.55E-09	0.00E+00	0.00E+00	0.00E+00	2.55E-09	5.90E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Adult - Scenario 2																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	1.41E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.41E-09	NA	1.15E-10	5.08E-10	6.23E-10
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	1.21E-09	0.00E+00	0.00E+00	0.00E+00	1.21E-09	2.63E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Woman - Scenario 2																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	1.41E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.41E-09	NA	9.51E-11	5.08E-10	6.03E-10
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)	Indigenous people -Scenario	
										Oral equivalent (ILCReq)	Inhalation (ILCRinh)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent	Sum of ILCReq of each age group	Sum of ILCRinh of each age group
In the scenario ?	NO	NO	NO	YES	YES	YES	YES				
Equation	18	18	18	18	18	18	18	18	19	20	20
Inorganic substance											
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	1.21E-09	0.00E+00	0.00E+00	0.00E+00	1.21E-09	2.63E-09	1.92E-07	7.47E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Infant - Scenario 3																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	3.05E-08	0.00E+00	-3.69E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-6.40E-09	NA	9.90E-11	1.27E-09	1.37E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	7.10E-09	0.00E+00	-2.05E-07	0.00E+00	-1.98E-07	-2.05E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Toddler - Scenario 3																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	2.73E-07	0.00E+00	-8.25E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.90E-07	NA	4.46E-10	5.72E-09	6.16E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	2.35E-08	0.00E+00	-7.78E-07	0.00E+00	-7.54E-07	-5.64E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Children - Scenario 3																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	3.19E-08	0.00E+00	-3.86E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-6.70E-09	NA	4.16E-10	5.33E-09	5.75E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	1.67E-08	0.00E+00	-6.02E-07	0.00E+00	-5.86E-07	-5.92E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Teen - Scenario 3																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	1.34E-08	0.00E+00	-8.11E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.29E-09	NA	3.17E-10	4.06E-09	4.38E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	1.02E-08	0.00E+00	-3.86E-07	0.00E+00	-3.76E-07	-3.70E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Adult - Scenario 3																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	7.78E-09	0.00E+00	-2.15E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.63E-09	NA	6.32E-10	2.79E-09	3.43E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	6.66E-09	0.00E+00	-2.33E-07	0.00E+00	-2.26E-07	-2.21E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable
Bold values > 1E-05

Contaminant of potential human concern	Woman - Scenario 3																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	7.78E-09	0.00E+00	-1.84E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.94E-09	NA	5.23E-10	2.79E-09	3.32E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)	Indigenous people -Scenario 3 Oral equivalent (ILCReq)	Inhalation (ILCRinh)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent	Sum of ILCReq of each age group	Sum of ILCRinh of each age group
In the scenario ?	NO	NO	NO	YES	YES	YES	YES				
Equation	18	18	18	18	18	18	18	18	19	20	20
Inorganic substance											
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	6.66E-09	0.00E+00	-1.99E-07	0.00E+00	-1.93E-07	-1.87E-07	-1.95E-06	2.11E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Infant - Scenario 4																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	3.05E-08	0.00E+00	-5.12E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-2.07E-08	NA	9.90E-11	1.27E-09	1.37E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	7.10E-09	0.00E+00	-2.85E-07	0.00E+00	-2.78E-07	-2.99E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Toddler - Scenario 4																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	1.82E-07	0.00E+00	-7.64E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.05E-07	NA	2.97E-10	3.81E-09	4.11E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	1.56E-08	0.00E+00	-7.20E-07	0.00E+00	-7.05E-07	-5.99E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Children - Scenario 4																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	1.37E-08	0.00E+00	-2.30E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-9.31E-09	NA	1.78E-10	2.29E-09	2.46E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	7.15E-09	0.00E+00	-3.59E-07	0.00E+00	-3.51E-07	-3.61E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Teen - Scenario 4																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	5.03E-09	0.00E+00	-4.22E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.03E-10	NA	1.19E-10	1.52E-09	1.64E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	3.82E-09	0.00E+00	-2.01E-07	0.00E+00	-1.97E-07	-1.96E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Adult - Scenario 4																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	2.12E-09	0.00E+00	-8.13E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.31E-09	NA	1.72E-10	7.62E-10	9.34E-10
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	YES	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	1.82E-09	0.00E+00	-8.82E-08	0.00E+00	-8.64E-08	-8.51E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Woman - Scenario 4																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES		NO	YES	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	2.12E-09	0.00E+00	-6.95E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.43E-09	NA	1.43E-10	7.62E-10	9.05E-10
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)	Indigenous people -Scenario 4 Oral equivalent (ILCReq)	Inhalation (ILCRinh)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent	Sum of ILCReq of each age group	Sum of ILCRinh of each age group
In the scenario ?	NO	NO	NO	YES	YES	YES	YES				
Equation	18	18	18	18	18	18	18	18	19	20	20
Inorganic substance											
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	1.82E-09	0.00E+00	-7.55E-08	0.00E+00	-7.37E-08	-7.22E-08	-1.54E-06	1.05E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Infant - Scenario 5																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	1.34E-10	-3.67E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.05E-08	NA	NA	NA	NA	NA	NA	NA	-6.10E-09	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	0.00E+00	-2.04E-07	0.00E+00	7.10E-09	NA	NA	NA	-1.97E-07	-2.03E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Toddler - Scenario 5																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	1.20E-09	-8.21E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.73E-07	NA	NA	NA	NA	NA	NA	NA	1.92E-07	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	1.03E-10	-7.74E-07	0.00E+00	2.35E-08	NA	NA	NA	-7.51E-07	-5.59E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Children - Scenario 5																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	1.40E-10	-3.84E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.19E-08	NA	NA	NA	NA	NA	NA	NA	-6.38E-09	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	7.31E-11	-6.00E-07	0.00E+00	1.67E-08	NA	NA	NA	-5.83E-07	-5.89E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Teen - Scenario 5																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	5.87E-11	-8.07E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.34E-08	NA	NA	NA	NA	NA	NA	NA	5.39E-09	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	4.46E-11	-3.84E-07	0.00E+00	1.02E-08	NA	NA	NA	-3.74E-07	-3.68E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Adult - Scenario 5																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	1.86E-10	-1.17E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.24E-08	NA	NA	NA	NA	NA	NA	NA	3.10E-08	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	YES	NO	NO	NO		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	1.59E-10	-1.26E-06	0.00E+00	3.63E-08	NA	NA	NA	-1.23E-06	-1.20E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Woman - Scenario 5																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO		YES	YES	NO	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	1.86E-10	-9.97E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.24E-08	NA	NA	NA	NA	NA	NA	NA	3.27E-08	0.00E+00	0.00E+00	NA	0.00E+00
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)	Indigenous people -Scenario	
										Oral equivalent (ILCReq)	Inhalation (ILCRinh)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent	Sum of ILCReq of each age group	Sum of ILCRinh of each age group
In the scenario ?	YES	YES	YES	YES	NO	NO	NO				
Equation	18	18	18	18	18	18	18	18	19	20	20
Inorganic substance											
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	1.59E-10	-1.08E-06	0.00E+00	3.63E-08	NA	NA	NA	-1.05E-06	-1.01E-06	-2.92E-06	0.00E+00
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Caracteristics		Scenario 1A						Scenario 1B						Scenario 2					
		Infant	Toddler	Children	Teen	Adult	Woman	Infant	Toddler	Children	Teen	Adult	Woman	Infant	Toddler	Children	Teen	Adult	Woman
Daily proportion of hours exposed to outdoor air in the PA	$Thoa_{pa}$ (unitless)	0.42	0.42	0.42	0.42	0.42	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hours per day exposed to surface water in the PA	Thw_{pa} (hr/d)	2.5	2.5	2.5	2.5	2.3	2.0	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0
Annual proportion of days exposed to soil in the PA	Tds_{pa} (unitless)	0.04	0.04	0.04	0.04	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to outdoor air in the PA	$Tdoa_{pa}$ (unitless)	0.04	0.04	0.04	0.04	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to surface water and sediment in the PA	$Tdwsed_{pa}$ (unitless)	0.04	0.04	0.04	0.04	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to soil, outdoor air, surface water and sediment in the PA - COPCs with developmental effects	Td_{pa} (unitless)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to country food in the PA	Tdf_{pa} (unitless)	0.04	0.04	0.04	0.04	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily proportion of hours exposed to outdoor air in the village	$Thoa_v$ (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to soil in the village	Tds_v (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to outdoor air in the village	$Tdoa_v$ (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily proportion of hours exposed to outdoor air south of the PA	$Thoa_s$ (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Hours per day exposed to surface water south of the PA	Thw_s (hr/d)	0.00	0.00	0.00	0.00	0.00	0.00	2.50	2.50	2.50	2.50	2.28	1.95	2.50	2.50	2.50	2.50	2.28	1.95
Annual proportion of days exposed to soil, outdoor air, surface water and sediment south of the PA	Td_s (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Annual proportion of days exposed to soil, outdoor air, surface water and sediment south of the PA - COPCs with developmental effects	Td_s (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Annual proportion of days exposed to country food south of the PA	Tdf_s (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Lifetime proportion of years exposed (cancer)	Ty (unitless)	0.01	0.06	0.09	0.10	0.75	0.75	0.01	0.06	0.09	0.10	0.75	0.75	0.01	0.03	0.03	0.03	0.03	0.03
Frequency of dermal exposure to soil and sediment in the PA	FEpa (event/d)	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Frequency of dermal exposure to soil in the village	FEv (event/d)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Frequency of dermal exposure to soil and sediment south of the PA	FEs (event/d)	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
Body weight	BW (kg)	8.2	16.5	32.9	59.7	70.7	70.7	8.2	16.5	32.9	59.7	70.7	70.7	8.2	16.5	32.9	59.7	70.7	70.7
Soil ingestion rate	IRs (kg/d)	0.00002	0.00008	0.00002	0.00002	0.00002	0.00002	0.00002	0.00008	0.00002	0.00002	0.00002	0.00002	0.00002	0.00008	0.00002	0.00002	0.00002	0.00002
Sediment ingestion rate	IRsed (kg/d)	0.000019	0.000019	0.000019	0.000019	0.000018	0.000015	0.000019	0.000019	0.000019	0.000019	0.000018	0.000015	0.000019	0.000019	0.000019	0.000019	0.000018	0.000015
Berry ingestion rate	IRb (kg FW/d)	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091
Fish fillet ingestion rate	IRf (kg FW/d)	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020
Hare meat ingestion rate	IRh (kg FW/d)	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Deer meat ingestion rate	IRd (kg FW/d)	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011
Surface water ingestion rate	IRw (L/d)	0.13	0.13	0.13	0.063	0.029	0.024	0.13	0.13	0.13	0.063	0.029	0.024	0.13	0.13	0.13	0.063	0.029	0.024
Inhalation rate	InhR (m^3/d)	2.2	8.3	14.5	15.6	16.6	16.6	2.2	8.3	14.5	15.6	16.6	16.6	2.2	8.3	14.5	15.6	16.6	16.6
Skin surface area	SA (cm^2)	3620	6130	10140	15470	17640	17640	3620	6130	10140	15470	17640	17640	3620	6130	10140	15470	17640	17640
- hands	SAh (cm^2)	320	430	590	800	890	890	320	430	590	800	890	890	320	430	590	800	890	890
- arms	SAa (cm^2)	550	890	1480	2230	2500	2500	550	890	1480	2230	2500	2500	550	890	1480	2230	2500	2500
- forearms	SAfo (cm^2)	275	450	740	1120	1250	1250	275	450	740	1120	1250	1250	275	450	740	1120	1250	1250
- legs	SAl (cm^2)	910	1690	3070	4970	5720	5720	910	1690	3070	4970	5720	5720	910	1690	3070	4970	5720	5720
- feet	SAfe (cm^2)	250	430	720	1080	1190	1190	250	430	720	1080	1190	1190	250	430	720	1080	1190	1190
- arms and legs	SAal (cm^2)	1460	2580	4550	7200	8220	8220	1460	2580	4550	7200	8220	8220	1460	2580	4550	7200	8220	8220
Soil loading to exposed skin - hands	SLh (kg/cm^2/event)	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07
Soil loading to exposed skin - arms and legs	SLal (kg/cm^2/event)	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08
Sediment loading to exposed skin - hands	SedLh (kg/cm^2/event)	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07
Sediment loading to exposed skin - forearms	SedLfo (kg/cm^2/event)	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07
Sediment loading to exposed skin - legs	SedLl (kg/cm^2/event)	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07
Sediment loading to exposed skin - feet	SedLfe (kg/cm^2/event)	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05
Interim age-dependent adjustment factors for cancer effects via a mutagenic mode of action	ADAF (unitless)	10	5	3	2	1	1	10	5	3	2	1	1	10	5	3	2	1	1

NA: Not applicable

Caracteristics		Scenario 3						Scenario 4						Scenario 5					
		Infant	Toddler	Children	Teen	Adult	Woman	Infant	Toddler	Children	Teen	Adult	Woman	Infant	Toddler	Children	Teen	Adult	Woman
Daily proportion of hours exposed to outdoor air in the PA	$Thoa_{pa}$ (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.42	0.42	0.42	0.42	0.42
Hours per day exposed to surface water in the PA	Thw_{pa} (hr/d)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	2.5	2.5	2.5	2.3	2.0
Annual proportion of days exposed to soil in the PA	Tds_{pa} (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.04	0.04	0.04	0.04
Annual proportion of days exposed to outdoor air in the PA	$Tdoa_{pa}$ (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.04	0.04	0.04	0.04	0.04
Annual proportion of days exposed to surface water and sediment in the PA	$Tdwsed_{pa}$ (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.04	0.04	0.04	0.04	0.04
Annual proportion of days exposed to soil, outdoor air, surface water and sediment in the PA - COPCs with developmental effects	Td_{pa} (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Annual proportion of days exposed to country food in the PA	Tdf_{pa} (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.04	0.04	0.04	0.04
Daily proportion of hours exposed to outdoor air in the village	$Thoa_v$ (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to soil in the village	Tds_v (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to outdoor air in the village	$Tdoa_v$ (unitless)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily proportion of hours exposed to outdoor air south of the PA	$Thoa_s$ (unitless)	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.00	0.00	0.00	0.00	0.00	0.00
Hours per day exposed to surface water south of the PA	Thw_s (hr/d)	2.50	2.50	2.50	2.50	2.28	1.95	2.50	2.50	2.50	2.50	2.28	1.95	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to soil, outdoor air, surface water and sediment south of the PA	Td_s (unitless)	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to soil, outdoor air, surface water and sediment south of the PA - COPCs with developmental effects	Td_s (unitless)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual proportion of days exposed to country food south of the PA	Tdf_s (unitless)	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00
Lifetime proportion of years exposed (cancer)	Ty (unitless)	0.01	0.06	0.09	0.10	0.14	0.14	0.01	0.04	0.04	0.04	0.04	0.04	0.01	0.06	0.09	0.10	0.75	0.75
Frequency of dermal exposure to soil and sediment in the PA	FEpa (event/d)	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
Frequency of dermal exposure to soil in the village	FEv (event/d)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Frequency of dermal exposure to soil and sediment south of the PA	FEs (event/d)	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
Body weight	BW (kg)	8.2	16.5	32.9	59.7	70.7	70.7	8.2	16.5	32.9	59.7	70.7	70.7	8.2	16.5	32.9	59.7	70.7	70.7
Soil ingestion rate	IRs (kg/d)	0.00002	0.00008	0.00002	0.00002	0.00002	0.00002	0.00002	0.00008	0.00002	0.00002	0.00002	0.00002	0.00002	0.00008	0.00002	0.00002	0.00002	0.00002
Sediment ingestion rate	IRsed (kg/d)	0.000019	0.000019	0.000019	0.000019	0.000018	0.000015	0.000019	0.000019	0.000019	0.000019	0.000018	0.000015	0.000019	0.000019	0.000019	0.000019	0.000018	0.000015
Berry ingestion rate	IRb (kg FW/d)	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091
Fish fillet ingestion rate	IRf (kg FW/d)	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020
Hare meat ingestion rate	IRh (kg FW/d)	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Deer meat ingestion rate	IRd (kg FW/d)	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011
Surface water ingestion rate	IRw (L/d)	0.13	0.13	0.13	0.063	0.029	0.024	0.13	0.13	0.13	0.063	0.029	0.024	0.13	0.13	0.13	0.063	0.029	0.024
Inhalation rate	InhR (m^3/d)	2.2	8.3	14.5	15.6	16.6	16.6	2.2	8.3	14.5	15.6	16.6	16.6	2.2	8.3	14.5	15.6	16.6	16.6
Skin surface area	SA (cm^2)	3620	6130	10140	15470	17640	17640	3620	6130	10140	15470	17640	17640	3620	6130	10140	15470	17640	17640
- hands	SAh (cm^2)	320	430	590	800	890	890	320	430	590	800	890	890	320	430	590	800	890	890
- arms	SAa (cm^2)	550	890	1480	2230	2500	2500	550	890	1480	2230	2500	2500	550	890	1480	2230	2500	2500
- forearms	SAfo (cm^2)	275	450	740	1120	1250	1250	275	450	740	1120	1250	1250	275	450	740	1120	1250	1250
- legs	SAl (cm^2)	910	1690	3070	4970	5720	5720	910	1690	3070	4970	5720	5720	910	1690	3070	4970	5720	5720
- feet	SAfe (cm^2)	250	430	720	1080	1190	1190	250	430	720	1080	1190	1190	250	430	720	1080	1190	1190
- arms and legs	SAal (cm^2)	1460	2580	4550	7200	8220	8220	1460	2580	4550	7200	8220	8220	1460	2580	4550	7200	8220	8220
Soil loading to exposed skin - hands	SLh (kg/cm^2/event)	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07	1.00E-07
Soil loading to exposed skin - arms and legs	SLal (kg/cm^2/event)	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08	1.00E-08
Sediment loading to exposed skin - hands	SedLh (kg/cm^2/event)	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07	4.90E-07
Sediment loading to exposed skin - forearms	SedLfo (kg/cm^2/event)	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07	1.70E-07
Sediment loading to exposed skin - legs	SedLl (kg/cm^2/event)	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07	7.00E-07
Sediment loading to exposed skin - feet	SedLfe (kg/cm^2/event)	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05	2.10E-05
Interim age-dependent adjustment factors for cancer effects via a mutagenic mode of action	ADAF (unitless)	10	5	3	2	1	1	10	5	3	2	1	1	10	5	3	2	1	1

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 1A																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{to}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{at}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	2.41E-02	6.56E-03	3.52E-02	4.33E-03	3.12E-03	2.27E-05	9.89E-04	NA	NA	NA	NA	NA	NA	NA	NA	7.44E-02	9.53E-06	NA	NA	9.53E-06
Chromium	3.10E-05	1.98E-05	5.63E-05	1.78E-04	6.01E-04	2.40E-07	2.14E-05	NA	NA	NA	NA	NA	NA	NA	NA	9.07E-04	1.73E-07	NA	NA	1.73E-07
Lithium	2.05E-05	0.00E+00	7.28E-05	1.89E-04	6.01E-04	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	8.83E-04	8.45E-09	NA	NA	8.45E-09

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,sd}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	5.62E-04	4.75E-04	1.11E-01	NA	NA	NA	NA	1.12E-01	1.87E-01
Chromium	7.22E-06	1.10E-04	1.78E-03	NA	NA	NA	NA	1.90E-03	2.81E-03
Lithium	4.77E-07	0.00E+00	2.30E-04	NA	NA	NA	NA	2.31E-04	1.11E-03

NA: Not applicable

Contaminant of potential human concern	Toddler - Scenario 1A																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	4.80E-02	3.26E-03	1.75E-02	2.15E-03	1.55E-03	1.13E-05	4.92E-04	NA	NA	NA	NA	NA	NA	NA	NA	7.29E-02	1.79E-05	NA	NA	1.79E-05
Chromium	6.16E-05	9.85E-06	2.80E-05	8.82E-05	2.98E-04	1.19E-07	1.06E-05	NA	NA	NA	NA	NA	NA	NA	NA	4.97E-04	3.25E-07	NA	NA	3.25E-07
Lithium	4.07E-05	0.00E+00	3.62E-05	9.38E-05	2.98E-04	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	4.69E-04	1.58E-08	NA	NA	1.58E-08

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Ddermss.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	4.12E-04	4.00E-04	9.55E-02	NA	NA	NA	NA	9.63E-02	1.69E-01
Chromium	5.30E-06	9.29E-05	1.53E-03	NA	NA	NA	NA	1.63E-03	2.12E-03
Lithium	3.50E-07	0.00E+00	1.97E-04	NA	NA	NA	NA	1.98E-04	6.67E-04

NA: Not applicable

Contaminant of potential human concern	Children - Scenario 1A																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	6.01E-03	1.64E-03	8.78E-03	1.08E-03	7.78E-04	5.66E-06	2.47E-04	NA	NA	NA	NA	NA	NA	NA	NA	1.85E-02	1.57E-05	NA	NA	1.57E-05
Chromium	7.72E-06	4.94E-06	1.40E-05	4.43E-05	1.50E-04	5.97E-08	5.32E-06	NA	NA	NA	NA	NA	NA	NA	NA	2.26E-04	2.84E-07	NA	NA	2.84E-07
Lithium	5.11E-06	0.00E+00	1.81E-05	4.70E-05	1.50E-04	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	2.20E-04	1.39E-08	NA	NA	1.39E-08

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,spa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	3.14E-04	3.32E-04	8.06E-02	NA	NA	NA	NA	8.13E-02	9.98E-02
Chromium	4.03E-06	7.71E-05	1.29E-03	NA	NA	NA	NA	1.37E-03	1.60E-03
Lithium	2.67E-07	0.00E+00	1.67E-04	NA	NA	NA	NA	1.67E-04	3.87E-04

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 1A																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Doral_{Sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{to}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{to}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	3.31E-03	4.51E-04	4.84E-03	5.94E-04	4.29E-04	3.12E-06	1.36E-04	NA	NA	NA	NA	NA	NA	NA	NA	9.76E-03	9.28E-06	NA	NA	9.28E-06
Chromium	4.25E-06	1.36E-06	7.74E-06	2.44E-05	8.25E-05	3.29E-08	2.93E-06	NA	NA	NA	NA	NA	NA	NA	NA	1.23E-04	1.69E-07	NA	NA	1.69E-07
Lithium	2.81E-06	0.00E+00	1.00E-05	2.59E-05	8.25E-05	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	1.21E-04	8.23E-09	NA	NA	8.23E-09

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	2.52E-04	2.79E-04	6.72E-02	NA	NA	NA	NA	6.77E-02	7.75E-02
Chromium	3.23E-06	6.48E-05	1.08E-03	NA	NA	NA	NA	1.14E-03	1.27E-03
Lithium	2.14E-07	0.00E+00	1.39E-04	NA	NA	NA	NA	1.39E-04	2.60E-04

NA: Not applicable

Contaminant of potential human concern	Adult - Scenario 1A																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	2.80E-03	1.73E-04	3.76E-03	5.02E-04	3.62E-04	2.63E-06	1.15E-04	NA	NA	NA	NA	NA	NA	NA	NA	7.71E-03	8.34E-06	NA	NA	8.34E-06
Chromium	3.59E-06	5.24E-07	6.01E-06	2.06E-05	6.97E-05	2.78E-08	2.48E-06	NA	NA	NA	NA	NA	NA	NA	NA	1.03E-04	1.52E-07	NA	NA	1.52E-07
Lithium	2.38E-06	0.00E+00	7.77E-06	2.19E-05	6.97E-05	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	1.02E-04	7.40E-09	NA	NA	7.40E-09

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	2.39E-04	2.45E-04	6.29E-02	NA	NA	NA	NA	6.34E-02	7.11E-02
Chromium	3.08E-06	5.69E-05	1.01E-03	NA	NA	NA	NA	1.07E-03	1.17E-03
Lithium	2.03E-07	0.00E+00	1.30E-04	NA	NA	NA	NA	1.30E-04	2.32E-04

NA: Not applicable

Contaminant of potential human concern	Woman - Scenario 1A																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{fs}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	2.80E-03	1.48E-04	3.19E-03	5.02E-04	3.62E-04	2.63E-06	1.15E-04	NA	NA	NA	NA	NA	NA	NA	NA	7.11E-03	8.34E-06	NA	NA	8.34E-06
Chromium	3.59E-06	4.48E-07	5.10E-06	2.06E-05	6.97E-05	2.78E-08	2.48E-06	NA	NA	NA	NA	NA	NA	NA	NA	1.02E-04	1.52E-07	NA	NA	1.52E-07
Lithium	2.38E-06	0.00E+00	6.58E-06	2.19E-05	6.97E-05	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	1.01E-04	7.40E-09	NA	NA	7.40E-09

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms,m)	Surface water south of the PA ($Dderm_{w,a}$)	Sediment south of the PA ($Dderm_{sed,a}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	2.39E-04	2.09E-04	6.29E-02	NA	NA	NA	NA	6.33E-02	7.05E-02
Chromium	3.08E-06	4.87E-05	1.01E-03	NA	NA	NA	NA	1.06E-03	1.16E-03
Lithium	2.03E-07	0.00E+00	1.30E-04	NA	NA	NA	NA	1.30E-04	2.31E-04

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 1B																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.14E-02	6.56E-03	3.52E-02	4.33E-03	3.12E-03	2.02E-05	8.90E-04	7.15E-02	NA	NA	9.53E-06	9.53E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	3.17E-05	1.98E-05	5.63E-05	1.78E-04	6.01E-04	2.42E-07	2.15E-05	9.08E-04	NA	NA	1.73E-07	1.73E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	2.05E-05	0.00E+00	7.28E-05	1.89E-04	6.01E-04	0.00E+00	0.00E+00	8.83E-04	NA	NA	8.45E-09	8.45E-09

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,sd}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	4.98E-04	4.75E-04	1.11E-01	1.12E-01	1.84E-01
Chromium	NA	NA	NA	NA	7.39E-06	1.10E-04	1.78E-03	1.90E-03	2.81E-03
Lithium	NA	NA	NA	NA	4.77E-07	0.00E+00	2.30E-04	2.31E-04	1.11E-03

NA: Not applicable

Contaminant of potential human concern	Toddler - Scenario 1B																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	4.25E-02	3.26E-03	1.75E-02	2.15E-03	1.55E-03	1.01E-05	4.42E-04	6.74E-02	NA	NA	1.79E-05	1.79E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	6.30E-05	9.85E-06	2.80E-05	8.82E-05	2.98E-04	1.20E-07	1.07E-05	4.98E-04	NA	NA	3.25E-07	3.25E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	4.07E-05	0.00E+00	3.62E-05	9.38E-05	2.98E-04	0.00E+00	0.00E+00	4.69E-04	NA	NA	1.58E-08	1.58E-08

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Ddermss.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	3.65E-04	4.00E-04	9.55E-02	9.62E-02	1.64E-01
Chromium	NA	NA	NA	NA	5.42E-06	9.29E-05	1.53E-03	1.63E-03	2.12E-03
Lithium	NA	NA	NA	NA	3.50E-07	0.00E+00	1.97E-04	1.98E-04	6.67E-04

NA: Not applicable

Contaminant of potential human concern	Children - Scenario 1B																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	5.33E-03	1.64E-03	8.78E-03	1.08E-03	7.78E-04	5.04E-06	2.22E-04	1.78E-02	NA	NA	1.57E-05	1.57E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	7.90E-06	4.94E-06	1.40E-05	4.43E-05	1.50E-04	6.03E-08	5.35E-06	2.26E-04	NA	NA	2.84E-07	2.84E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	5.11E-06	0.00E+00	1.81E-05	4.70E-05	1.50E-04	0.00E+00	0.00E+00	2.20E-04	NA	NA	1.39E-08	1.39E-08

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,spa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.78E-04	3.32E-04	8.06E-02	8.12E-02	9.91E-02
Chromium	NA	NA	NA	NA	4.13E-06	7.71E-05	1.29E-03	1.37E-03	1.60E-03
Lithium	NA	NA	NA	NA	2.67E-07	0.00E+00	1.67E-04	1.67E-04	3.87E-04

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 1B																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)		
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.93E-03	4.51E-04	4.84E-03	5.94E-04	4.29E-04	2.78E-06	1.22E-04	9.37E-03	NA	NA	9.28E-06	9.28E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	4.36E-06	1.36E-06	7.74E-06	2.44E-05	8.25E-05	3.32E-08	2.95E-06	1.23E-04	NA	NA	1.69E-07	1.69E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	2.81E-06	0.00E+00	1.00E-05	2.59E-05	8.25E-05	0.00E+00	0.00E+00	1.21E-04	NA	NA	8.23E-09	8.23E-09

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.23E-04	2.79E-04	6.72E-02	6.77E-02	7.71E-02
Chromium	NA	NA	NA	NA	3.31E-06	6.48E-05	1.08E-03	1.14E-03	1.27E-03
Lithium	NA	NA	NA	NA	2.14E-07	0.00E+00	1.39E-04	1.39E-04	2.60E-04

NA: Not applicable

Contaminant of potential human concern	Adult - Scenario 1B																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($DoralS_{sd,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.48E-03	1.73E-04	3.76E-03	5.02E-04	3.62E-04	2.35E-06	1.03E-04	7.38E-03	NA	NA	8.34E-06	8.34E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	3.68E-06	5.24E-07	6.01E-06	2.06E-05	6.97E-05	2.81E-08	2.49E-06	1.03E-04	NA	NA	1.52E-07	1.52E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	2.38E-06	0.00E+00	7.77E-06	2.19E-05	6.97E-05	0.00E+00	0.00E+00	1.02E-04	NA	NA	7.40E-09	7.40E-09

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.12E-04	2.45E-04	6.29E-02	6.33E-02	7.07E-02
Chromium	NA	NA	NA	NA	3.15E-06	5.69E-05	1.01E-03	1.07E-03	1.17E-03
Lithium	NA	NA	NA	NA	2.03E-07	0.00E+00	1.30E-04	1.30E-04	2.32E-04

NA: Not applicable

Contaminant of potential human concern	Woman - Scenario 1B																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Dorals_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Dorals_{b,pa}$)	Fish fillets in the PA ($Dorals_{f,pa}$)	Hare meat in the PA ($Dorals_{h,pa}$)	Deer meat in the PA ($Dorals_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Dorals_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Dorals_{b,s}$)	Fish fillets south of the PA ($Dorals_{f,s}$)	Hare meat south of the PA ($Dorals_{h,s}$)	Deer meat south of the PA ($Dorals_{d,s}$)	Total ($Dorals_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.48E-03	1.48E-04	3.19E-03	5.02E-04	3.62E-04	2.35E-06	1.03E-04	6.78E-03	NA	NA	8.34E-06	8.34E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	3.68E-06	4.48E-07	5.10E-06	2.06E-05	6.97E-05	2.81E-08	2.49E-06	1.02E-04	NA	NA	1.52E-07	1.52E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	2.38E-06	0.00E+00	6.58E-06	2.19E-05	6.97E-05	0.00E+00	0.00E+00	1.01E-04	NA	NA	7.40E-09	7.40E-09

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms,m)	Surface water south of the PA ($Dderm_{w,a}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.12E-04	2.09E-04	6.29E-02	6.33E-02	7.01E-02
Chromium	NA	NA	NA	NA	3.15E-06	4.87E-05	1.01E-03	1.06E-03	1.16E-03
Lithium	NA	NA	NA	NA	2.03E-07	0.00E+00	1.30E-04	1.30E-04	2.31E-04

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 2																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.14E-02	6.56E-03	3.52E-02	7.10E-03	3.12E-03	2.08E-05	9.63E-04	7.43E-02	NA	NA	9.90E-06	9.90E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	3.17E-05	1.98E-05	5.63E-05	1.78E-04	6.01E-04	2.42E-07	2.15E-05	9.08E-04	NA	NA	1.74E-07	1.74E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	2.06E-05	0.00E+00	7.28E-05	1.89E-04	6.01E-04	3.91E-07	3.87E-05	9.22E-04	NA	NA	8.68E-09	8.68E-09

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,sd}$)	Sediment south of the PA ($Dderm_{s,ed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	4.98E-04	4.75E-04	1.11E-01	1.12E-01	1.87E-01
Chromium	NA	NA	NA	NA	7.39E-06	1.10E-04	1.78E-03	1.90E-03	2.81E-03
Lithium	NA	NA	NA	NA	4.79E-07	0.00E+00	2.30E-04	2.31E-04	1.15E-03

NA: Not applicable

Contaminant of potential human concern	Toddler - Scenario 2																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	4.25E-02	3.26E-03	1.75E-02	3.53E-03	1.55E-03	1.03E-05	4.79E-04	6.88E-02	NA	NA	1.86E-05	1.86E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	6.30E-05	9.85E-06	2.80E-05	8.82E-05	2.98E-04	1.20E-07	1.07E-05	4.98E-04	NA	NA	3.25E-07	3.25E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	4.09E-05	0.00E+00	3.62E-05	9.38E-05	2.98E-04	1.94E-07	1.92E-05	4.89E-04	NA	NA	1.63E-08	1.63E-08

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Ddermss.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	3.65E-04	4.00E-04	9.55E-02	9.62E-02	1.65E-01
Chromium	NA	NA	NA	NA	5.42E-06	9.29E-05	1.53E-03	1.63E-03	2.12E-03
Lithium	NA	NA	NA	NA	3.52E-07	0.00E+00	1.97E-04	1.98E-04	6.86E-04

NA: Not applicable

Contaminant of potential human concern	Children - Scenario 2																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	5.33E-03	1.64E-03	8.78E-03	1.77E-03	7.78E-04	5.18E-06	2.40E-04	1.85E-02	NA	NA	1.63E-05	1.63E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	7.90E-06	4.94E-06	1.40E-05	4.43E-05	1.50E-04	6.03E-08	5.35E-06	2.26E-04	NA	NA	2.85E-07	2.85E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	5.12E-06	0.00E+00	1.81E-05	4.70E-05	1.50E-04	9.74E-08	9.64E-06	2.30E-04	NA	NA	1.43E-08	1.43E-08

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,spa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.78E-04	3.32E-04	8.06E-02	8.12E-02	9.98E-02
Chromium	NA	NA	NA	NA	4.13E-06	7.71E-05	1.29E-03	1.37E-03	1.60E-03
Lithium	NA	NA	NA	NA	2.68E-07	0.00E+00	1.67E-04	1.67E-04	3.97E-04

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 2																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Dorals_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Dorals_{b,pa}$)	Fish fillets in the PA ($Dorals_{f,pa}$)	Hare meat in the PA ($Dorals_{h,pa}$)	Deer meat in the PA ($Dorals_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Dorals_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Dorals_{b,s}$)	Fish fillets south of the PA ($Dorals_{fs}$)	Hare meat south of the PA ($Dorals_{h,s}$)	Deer meat south of the PA ($Dorals_{d,s}$)	Total ($Dorals_{to}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{to}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.93E-03	4.51E-04	4.84E-03	9.75E-04	4.29E-04	2.86E-06	1.32E-04	9.76E-03	NA	NA	9.64E-06	9.64E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	4.36E-06	1.36E-06	7.74E-06	2.44E-05	8.25E-05	3.32E-08	2.95E-06	1.23E-04	NA	NA	1.69E-07	1.69E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	2.82E-06	0.00E+00	1.00E-05	2.59E-05	8.25E-05	5.37E-08	5.31E-06	1.27E-04	NA	NA	8.45E-09	8.45E-09

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.23E-04	2.79E-04	6.72E-02	6.77E-02	7.75E-02
Chromium	NA	NA	NA	NA	3.31E-06	6.48E-05	1.08E-03	1.14E-03	1.27E-03
Lithium	NA	NA	NA	NA	2.15E-07	0.00E+00	1.39E-04	1.39E-04	2.66E-04

NA: Not applicable

Contaminant of potential human concern	Adult - Scenario 2																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.48E-03	1.73E-04	3.76E-03	8.23E-04	3.62E-04	2.41E-06	1.12E-04	7.71E-03	NA	NA	8.66E-06	8.66E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	3.68E-06	5.24E-07	6.01E-06	2.06E-05	6.97E-05	2.81E-08	2.49E-06	1.03E-04	NA	NA	1.52E-07	1.52E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	2.38E-06	0.00E+00	7.77E-06	2.19E-05	6.97E-05	4.53E-08	4.49E-06	1.06E-04	NA	NA	7.59E-09	7.59E-09

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.12E-04	2.45E-04	6.29E-02	6.33E-02	7.11E-02
Chromium	NA	NA	NA	NA	3.15E-06	5.69E-05	1.01E-03	1.07E-03	1.17E-03
Lithium	NA	NA	NA	NA	2.04E-07	0.00E+00	1.30E-04	1.30E-04	2.36E-04

NA: Not applicable

Contaminant of potential human concern	Woman - Scenario 2																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.48E-03	1.48E-04	3.19E-03	8.23E-04	3.62E-04	2.41E-06	1.12E-04	7.11E-03	NA	NA	8.66E-06	8.66E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	3.68E-06	4.48E-07	5.10E-06	2.06E-05	6.97E-05	2.81E-08	2.49E-06	1.02E-04	NA	NA	1.52E-07	1.52E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	2.38E-06	0.00E+00	6.58E-06	2.19E-05	6.97E-05	4.53E-08	4.49E-06	1.05E-04	NA	NA	7.59E-09	7.59E-09

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Ddermis.m)	Surface water south of the PA ($Dderm_{w,a}$)	Sediment south of the PA ($Dderm_{sed,a}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.12E-04	2.09E-04	6.29E-02	6.33E-02	7.04E-02
Chromium	NA	NA	NA	NA	3.15E-06	4.87E-05	1.01E-03	1.06E-03	1.16E-03
Lithium	NA	NA	NA	NA	2.04E-07	0.00E+00	1.30E-04	1.30E-04	2.35E-04

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 3																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.14E-02	3.04E-03	3.52E-02	7.10E-03	3.12E-03	2.08E-05	9.61E-04	7.08E-02	NA	NA	9.90E-06	9.90E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	3.17E-05	1.31E-05	5.63E-05	1.78E-04	6.01E-04	2.42E-07	2.15E-05	9.01E-04	NA	NA	1.74E-07	1.74E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	2.06E-05	1.20E-04	7.28E-05	1.89E-04	6.01E-04	3.91E-07	3.87E-05	1.04E-03	NA	NA	8.68E-09	8.68E-09

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,sd}$)	Sediment south of the PA ($Dderm_{s,sd,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	4.98E-04	2.20E-04	1.11E-01	1.12E-01	1.83E-01
Chromium	NA	NA	NA	NA	7.39E-06	7.29E-05	1.78E-03	1.86E-03	2.76E-03
Lithium	NA	NA	NA	NA	4.79E-07	8.67E-06	2.30E-04	2.39E-04	1.28E-03

NA: Not applicable

Contaminant of potential human concern	Toddler - Scenario 3																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	4.25E-02	1.51E-03	1.75E-02	3.53E-03	1.55E-03	1.03E-05	4.78E-04	6.70E-02	NA	NA	1.86E-05	1.86E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	6.30E-05	6.50E-06	2.80E-05	8.82E-05	2.98E-04	1.20E-07	1.07E-05	4.95E-04	NA	NA	3.25E-07	3.25E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	4.09E-05	5.95E-05	3.62E-05	9.38E-05	2.98E-04	1.94E-07	1.92E-05	5.48E-04	NA	NA	1.63E-08	1.63E-08

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Ddermss.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	3.65E-04	1.85E-04	9.55E-02	9.60E-02	1.63E-01
Chromium	NA	NA	NA	NA	5.42E-06	6.13E-05	1.53E-03	1.59E-03	2.09E-03
Lithium	NA	NA	NA	NA	3.52E-07	7.29E-06	1.97E-04	2.05E-04	7.53E-04

NA: Not applicable

Contaminant of potential human concern	Children - Scenario 3																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	5.33E-03	7.57E-04	8.78E-03	1.77E-03	7.78E-04	5.18E-06	2.40E-04	1.77E-02	NA	NA	1.63E-05	1.63E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	7.90E-06	3.26E-06	1.40E-05	4.43E-05	1.50E-04	6.03E-08	5.35E-06	2.25E-04	NA	NA	2.85E-07	2.85E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	5.12E-06	2.98E-05	1.81E-05	4.70E-05	1.50E-04	9.74E-08	9.64E-06	2.60E-04	NA	NA	1.43E-08	1.43E-08

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,spa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.78E-04	1.53E-04	8.06E-02	8.11E-02	9.87E-02
Chromium	NA	NA	NA	NA	4.13E-06	5.09E-05	1.29E-03	1.35E-03	1.57E-03
Lithium	NA	NA	NA	NA	2.68E-07	6.05E-06	1.67E-04	1.73E-04	4.33E-04

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 3																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Dorals_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Dorals_{b,pa}$)	Fish fillets in the PA ($Dorals_{f,pa}$)	Hare meat in the PA ($Dorals_{h,pa}$)	Deer meat in the PA ($Dorals_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Dorals_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Dorals_{b,s}$)	Fish fillets south of the PA ($Dorals_{f,s}$)	Hare meat south of the PA ($Dorals_{h,s}$)	Deer meat south of the PA ($Dorals_{d,s}$)	Total ($Dorals_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.93E-03	2.09E-04	4.84E-03	9.75E-04	4.29E-04	2.86E-06	1.32E-04	9.52E-03	NA	NA	9.64E-06	9.64E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	4.36E-06	8.99E-07	7.74E-06	2.44E-05	8.25E-05	3.32E-08	2.95E-06	1.23E-04	NA	NA	1.69E-07	1.69E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	2.82E-06	8.22E-06	1.00E-05	2.59E-05	8.25E-05	5.37E-08	5.31E-06	1.35E-04	NA	NA	8.45E-09	8.45E-09

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.23E-04	1.29E-04	6.72E-02	6.75E-02	7.71E-02
Chromium	NA	NA	NA	NA	3.31E-06	4.28E-05	1.08E-03	1.12E-03	1.24E-03
Lithium	NA	NA	NA	NA	2.15E-07	5.09E-06	1.39E-04	1.44E-04	2.79E-04

NA: Not applicable

Contaminant of potential human concern	Adult - Scenario 3																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.48E-03	8.03E-05	3.76E-03	8.23E-04	3.62E-04	2.41E-06	1.11E-04	7.62E-03	NA	NA	8.66E-06	8.66E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	3.68E-06	3.46E-07	6.01E-06	2.06E-05	6.97E-05	2.81E-08	2.49E-06	1.03E-04	NA	NA	1.52E-07	1.52E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	2.38E-06	3.17E-06	7.77E-06	2.19E-05	6.97E-05	4.53E-08	4.49E-06	1.09E-04	NA	NA	7.59E-09	7.59E-09

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.12E-04	1.13E-04	6.29E-02	6.32E-02	7.08E-02
Chromium	NA	NA	NA	NA	3.15E-06	3.76E-05	1.01E-03	1.05E-03	1.15E-03
Lithium	NA	NA	NA	NA	2.04E-07	4.47E-06	1.30E-04	1.35E-04	2.44E-04

NA: Not applicable

Contaminant of potential human concern	Woman - Scenario 3																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Dorals_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Dorals_{b,pa}$)	Fish fillets in the PA ($Dorals_{f,pa}$)	Hare meat in the PA ($Dorals_{h,pa}$)	Deer meat in the PA ($Dorals_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Dorals_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Dorals_{b,s}$)	Fish fillets south of the PA ($Dorals_{f,s}$)	Hare meat south of the PA ($Dorals_{h,s}$)	Deer meat south of the PA ($Dorals_{d,s}$)	Total ($Dorals_{tot}$)	Outdoor air in the PA ($Dinhs_{oa,pa}$)	Outdoor air in the village ($Dinhs_{oa,v}$)	Outdoor air south of the PA ($Dinhs_{oa,s}$)	Total ($Dinhs_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.48E-03	6.87E-05	3.19E-03	8.23E-04	3.62E-04	2.41E-06	1.11E-04	7.03E-03	NA	NA	8.66E-06	8.66E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	3.68E-06	2.96E-07	5.10E-06	2.06E-05	6.97E-05	2.81E-08	2.49E-06	1.02E-04	NA	NA	1.52E-07	1.52E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	2.38E-06	2.71E-06	6.58E-06	2.19E-05	6.97E-05	4.53E-08	4.49E-06	1.08E-04	NA	NA	7.59E-09	7.59E-09

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms,m)	Surface water south of the PA ($Dderm_{w,a}$)	Sediment south of the PA ($Dderm_{sed,a}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.12E-04	9.69E-05	6.29E-02	6.32E-02	7.02E-02
Chromium	NA	NA	NA	NA	3.15E-06	3.21E-05	1.01E-03	1.04E-03	1.14E-03
Lithium	NA	NA	NA	NA	2.04E-07	3.82E-06	1.30E-04	1.34E-04	2.42E-04

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 4																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{to}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{at}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.14E-02	4.06E-03	3.52E-02	7.10E-03	3.12E-03	2.08E-05	9.62E-04	7.18E-02	NA	NA	9.90E-06	9.90E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	3.17E-05	1.05E-05	5.63E-05	1.78E-04	6.01E-04	2.42E-07	2.15E-05	8.98E-04	NA	NA	1.74E-07	1.74E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	2.06E-05	1.20E-04	7.28E-05	1.89E-04	6.01E-04	3.91E-07	3.87E-05	1.04E-03	NA	NA	8.68E-09	8.68E-09

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,sd}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	4.98E-04	2.94E-04	1.11E-01	1.12E-01	1.84E-01
Chromium	NA	NA	NA	NA	7.39E-06	5.83E-05	1.78E-03	1.85E-03	2.75E-03
Lithium	NA	NA	NA	NA	4.79E-07	8.67E-06	2.30E-04	2.39E-04	1.28E-03

NA: Not applicable

Contaminant of potential human concern	Toddler - Scenario 4																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	4.25E-02	2.02E-03	1.75E-02	3.53E-03	1.55E-03	1.03E-05	4.78E-04	6.76E-02	NA	NA	1.86E-05	1.86E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	6.30E-05	5.20E-06	2.80E-05	8.82E-05	2.98E-04	1.20E-07	1.07E-05	4.94E-04	NA	NA	3.25E-07	3.25E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	4.09E-05	5.95E-05	3.62E-05	9.38E-05	2.98E-04	1.94E-07	1.92E-05	5.48E-04	NA	NA	1.63E-08	1.63E-08

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Ddermss.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	3.65E-04	2.47E-04	9.55E-02	9.61E-02	1.64E-01
Chromium	NA	NA	NA	NA	5.42E-06	4.91E-05	1.53E-03	1.58E-03	2.08E-03
Lithium	NA	NA	NA	NA	3.52E-07	7.29E-06	1.97E-04	2.05E-04	7.53E-04

NA: Not applicable

Contaminant of potential human concern	Children - Scenario 4																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	5.33E-03	1.01E-03	8.78E-03	1.77E-03	7.78E-04	5.18E-06	2.40E-04	1.79E-02	NA	NA	1.63E-05	1.63E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	7.90E-06	2.61E-06	1.40E-05	4.43E-05	1.50E-04	6.03E-08	5.35E-06	2.24E-04	NA	NA	2.85E-07	2.85E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	5.12E-06	2.98E-05	1.81E-05	4.70E-05	1.50E-04	9.74E-08	9.64E-06	2.60E-04	NA	NA	1.43E-08	1.43E-08

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,spa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.78E-04	2.05E-04	8.06E-02	8.11E-02	9.90E-02
Chromium	NA	NA	NA	NA	4.13E-06	4.07E-05	1.29E-03	1.33E-03	1.56E-03
Lithium	NA	NA	NA	NA	2.68E-07	6.05E-06	1.67E-04	1.73E-04	4.33E-04

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 4																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Dorals_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Dorals_{b,pa}$)	Fish fillets in the PA ($Dorals_{f,pa}$)	Hare meat in the PA ($Dorals_{h,pa}$)	Deer meat in the PA ($Dorals_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Dorals_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Dorals_{b,s}$)	Fish fillets south of the PA ($Dorals_{f,s}$)	Hare meat south of the PA ($Dorals_{h,s}$)	Deer meat south of the PA ($Dorals_{d,s}$)	Total ($Dorals_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.93E-03	2.79E-04	4.84E-03	9.75E-04	4.29E-04	2.86E-06	1.32E-04	9.59E-03	NA	NA	9.64E-06	9.64E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	4.36E-06	7.19E-07	7.74E-06	2.44E-05	8.25E-05	3.32E-08	2.95E-06	1.23E-04	NA	NA	1.69E-07	1.69E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	2.82E-06	8.22E-06	1.00E-05	2.59E-05	8.25E-05	5.37E-08	5.31E-06	1.35E-04	NA	NA	8.45E-09	8.45E-09

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.23E-04	1.72E-04	6.72E-02	6.76E-02	7.72E-02
Chromium	NA	NA	NA	NA	3.31E-06	3.42E-05	1.08E-03	1.11E-03	1.24E-03
Lithium	NA	NA	NA	NA	2.15E-07	5.09E-06	1.39E-04	1.44E-04	2.79E-04

NA: Not applicable

Contaminant of potential human concern	Adult - Scenario 4																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($DoralS_{sd,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.48E-03	1.07E-04	3.76E-03	8.23E-04	3.62E-04	2.41E-06	1.12E-04	7.64E-03	NA	NA	8.66E-06	8.66E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	3.68E-06	2.77E-07	6.01E-06	2.06E-05	6.97E-05	2.81E-08	2.49E-06	1.03E-04	NA	NA	1.52E-07	1.52E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	2.38E-06	3.17E-06	7.77E-06	2.19E-05	6.97E-05	4.53E-08	4.49E-06	1.09E-04	NA	NA	7.59E-09	7.59E-09

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.12E-04	1.51E-04	6.29E-02	6.33E-02	7.09E-02
Chromium	NA	NA	NA	NA	3.15E-06	3.00E-05	1.01E-03	1.04E-03	1.14E-03
Lithium	NA	NA	NA	NA	2.04E-07	4.47E-06	1.30E-04	1.35E-04	2.44E-04

NA: Not applicable

Contaminant of potential human concern	Woman - Scenario 4																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.48E-03	9.18E-05	3.19E-03	8.23E-04	3.62E-04	2.41E-06	1.12E-04	7.06E-03	NA	NA	8.66E-06	8.66E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	3.68E-06	2.37E-07	5.10E-06	2.06E-05	6.97E-05	2.81E-08	2.49E-06	1.02E-04	NA	NA	1.52E-07	1.52E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	2.38E-06	2.71E-06	6.58E-06	2.19E-05	6.97E-05	4.53E-08	4.49E-06	1.08E-04	NA	NA	7.59E-09	7.59E-09

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms,m)	Surface water south of the PA ($Dderm_{w,a}$)	Sediment south of the PA ($Dderm_{sed,a}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.12E-04	1.30E-04	6.29E-02	6.32E-02	7.03E-02
Chromium	NA	NA	NA	NA	3.15E-06	2.57E-05	1.01E-03	1.04E-03	1.14E-03
Lithium	NA	NA	NA	NA	2.04E-07	3.82E-06	1.30E-04	1.34E-04	2.42E-04

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 5																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	1.02E-01	5.50E-03	4.75E-02	7.48E-03	3.12E-03	9.36E-05	3.88E-03	NA	NA	NA	NA	NA	NA	NA	NA	1.70E-01	9.53E-06	NA	NA	9.53E-06
Chromium	3.10E-05	1.31E-05	5.63E-05	1.78E-04	6.01E-04	2.40E-07	2.14E-05	NA	NA	NA	NA	NA	NA	NA	NA	9.00E-04	1.73E-07	NA	NA	1.73E-07
Lithium	3.30E-05	2.24E-04	7.28E-05	1.89E-04	6.01E-04	4.68E-07	4.21E-05	NA	NA	NA	NA	NA	NA	NA	NA	1.16E-03	8.45E-09	NA	NA	8.45E-09

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,sd}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	2.37E-03	3.99E-04	1.50E-01	NA	NA	NA	NA	1.53E-01	3.23E-01
Chromium	7.22E-06	7.30E-05	1.78E-03	NA	NA	NA	NA	1.86E-03	2.76E-03
Lithium	7.68E-07	1.62E-05	2.30E-04	NA	NA	NA	NA	2.47E-04	1.41E-03

NA: Not applicable

Contaminant of potential human concern	Toddler - Scenario 5																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	2.03E-01	2.74E-03	2.36E-02	3.72E-03	1.55E-03	4.65E-05	1.93E-03	NA	NA	NA	NA	NA	NA	NA	NA	2.36E-01	1.79E-05	NA	NA	1.79E-05
Chromium	6.16E-05	6.52E-06	2.80E-05	8.82E-05	2.98E-04	1.19E-07	1.06E-05	NA	NA	NA	NA	NA	NA	NA	NA	4.94E-04	3.25E-07	NA	NA	3.25E-07
Lithium	6.55E-05	1.11E-04	3.62E-05	9.38E-05	2.98E-04	2.33E-07	2.09E-05	NA	NA	NA	NA	NA	NA	NA	NA	6.26E-04	1.58E-08	NA	NA	1.58E-08

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Ddermss.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	1.74E-03	3.35E-04	1.29E-01	NA	NA	NA	NA	1.31E-01	3.67E-01
Chromium	5.30E-06	6.15E-05	1.53E-03	NA	NA	NA	NA	1.59E-03	2.09E-03
Lithium	5.63E-07	1.37E-05	1.97E-04	NA	NA	NA	NA	2.11E-04	8.38E-04

NA: Not applicable

Contaminant of potential human concern	Children - Scenario 5																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Doral_{Sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{Sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	2.54E-02	1.37E-03	1.18E-02	1.86E-03	7.78E-04	2.33E-05	9.67E-04	NA	NA	NA	NA	NA	NA	NA	NA	4.23E-02	1.57E-05	NA	NA	1.57E-05
Chromium	7.73E-06	3.27E-06	1.40E-05	4.43E-05	1.50E-04	5.97E-08	5.32E-06	NA	NA	NA	NA	NA	NA	NA	NA	2.24E-04	2.84E-07	NA	NA	2.84E-07
Lithium	8.21E-06	5.59E-05	1.81E-05	4.70E-05	1.50E-04	1.17E-07	1.05E-05	NA	NA	NA	NA	NA	NA	NA	NA	2.90E-04	1.39E-08	NA	NA	1.39E-08

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,spa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	1.33E-03	2.78E-04	1.09E-01	NA	NA	NA	NA	1.10E-01	1.53E-01
Chromium	4.04E-06	5.10E-05	1.29E-03	NA	NA	NA	NA	1.35E-03	1.57E-03
Lithium	4.29E-07	1.13E-05	1.67E-04	NA	NA	NA	NA	1.78E-04	4.68E-04

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 5																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{to}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{to}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	1.40E-02	3.78E-04	6.53E-03	1.03E-03	4.29E-04	1.29E-05	5.33E-04	NA	NA	NA	NA	NA	NA	NA	NA	2.29E-02	9.28E-06	NA	NA	9.28E-06
Chromium	4.26E-06	9.01E-07	7.74E-06	2.44E-05	8.25E-05	3.29E-08	2.93E-06	NA	NA	NA	NA	NA	NA	NA	NA	1.23E-04	1.69E-07	NA	NA	1.69E-07
Lithium	4.53E-06	1.54E-05	1.00E-05	2.59E-05	8.25E-05	6.43E-08	5.78E-06	NA	NA	NA	NA	NA	NA	NA	NA	1.44E-04	8.23E-09	NA	NA	8.23E-09

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	1.06E-03	2.34E-04	9.07E-02	NA	NA	NA	NA	9.20E-02	1.15E-01
Chromium	3.24E-06	4.29E-05	1.08E-03	NA	NA	NA	NA	1.12E-03	1.24E-03
Lithium	3.44E-07	9.53E-06	1.39E-04	NA	NA	NA	NA	1.49E-04	2.93E-04

NA: Not applicable

Contaminant of potential human concern	Adult - Scenario 5																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($DoralS_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	1.18E-02	1.46E-04	5.07E-03	8.68E-04	3.62E-04	1.09E-05	4.50E-04	NA	NA	NA	NA	NA	NA	NA	NA	1.87E-02	8.34E-06	NA	NA	8.34E-06
Chromium	3.60E-06	3.47E-07	6.01E-06	2.06E-05	6.97E-05	2.78E-08	2.48E-06	NA	NA	NA	NA	NA	NA	NA	NA	1.03E-04	1.52E-07	NA	NA	1.52E-07
Lithium	3.82E-06	5.93E-06	7.77E-06	2.19E-05	6.97E-05	5.43E-08	4.88E-06	NA	NA	NA	NA	NA	NA	NA	NA	1.14E-04	7.40E-09	NA	NA	7.40E-09

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	1.01E-03	2.05E-04	8.49E-02	NA	NA	NA	NA	8.61E-02	1.05E-01
Chromium	3.08E-06	3.77E-05	1.01E-03	NA	NA	NA	NA	1.05E-03	1.15E-03
Lithium	3.27E-07	8.37E-06	1.30E-04	NA	NA	NA	NA	1.39E-04	2.53E-04

NA: Not applicable

Contaminant of potential human concern	Woman - Scenario 5																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{fs}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	1.18E-02	1.24E-04	4.30E-03	8.68E-04	3.62E-04	1.09E-05	4.50E-04	NA	NA	NA	NA	NA	NA	NA	NA	1.79E-02	8.34E-06	NA	NA	8.34E-06
Chromium	3.60E-06	2.97E-07	5.10E-06	2.06E-05	6.97E-05	2.78E-08	2.48E-06	NA	NA	NA	NA	NA	NA	NA	NA	1.02E-04	1.52E-07	NA	NA	1.52E-07
Lithium	3.82E-06	5.07E-06	6.58E-06	2.19E-05	6.97E-05	5.43E-08	4.88E-06	NA	NA	NA	NA	NA	NA	NA	NA	1.12E-04	7.40E-09	NA	NA	7.40E-09

NA: Not applicable

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	1.01E-03	1.76E-04	8.49E-02	NA	NA	NA	NA	8.61E-02	1.04E-01
Chromium	3.08E-06	3.22E-05	1.01E-03	NA	NA	NA	NA	1.04E-03	1.14E-03
Lithium	3.27E-07	7.15E-06	1.30E-04	NA	NA	NA	NA	1.37E-04	2.49E-04

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 2																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Doral_{Sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,sa}$)	Surface water south of the PA ($Doral_{w,sa}$)	Sediment south of the PA ($Doral_{sed,sa}$)	Berries south of the PA ($Doral_{b,sa}$)	Fish fillets south of the PA ($Doral_{f,sa}$)	Hare meat south of the PA ($Doral_{h,sa}$)	Deer meat south of the PA ($Doral_{d,sa}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,sa}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	6.64E-07	0.00E+00	1.37E-10	1.76E-08	6.82E-07	NA	NA	8.84E-11	8.84E-11
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	9.81E-14	9.81E-14
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	1.75E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.37E-11	9.27E-09	9.39E-09	NA	NA	5.39E-14	5.39E-14

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA
Chromium	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lithium	NA	NA	NA	NA	4.09E-13	0.00E+00	0.00E+00	4.09E-13	NA

NA: Not applicable.

Contaminant of potential human concern	Toddler - Scenario 2																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Doral_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,sa}$)	Surface water south of the PA ($Doral_{w,sa}$)	Sediment south of the PA ($Doral_{sed,sa}$)	Berries south of the PA ($Doral_{b,sa}$)	Fish fillets south of the PA ($Doral_{f,sa}$)	Hare meat south of the PA ($Doral_{h,sa}$)	Deer meat south of the PA ($Doral_{d,sa}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,sa}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	1.32E-06	0.00E+00	2.73E-10	3.49E-08	1.36E-06	NA	NA	6.63E-10	6.63E-10
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	7.36E-13	7.36E-13
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	1.39E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.86E-10	1.84E-08	1.88E-08	NA	NA	4.04E-13	4.04E-13

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA
Chromium	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lithium	NA	NA	NA	NA	1.20E-12	0.00E+00	0.00E+00	1.20E-12	NA

NA: Not applicable.

Contaminant of potential human concern	Children - Scenario 2																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Doralw_{,s}$)	Sediment south of the PA ($Dorals_{sd,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	6.62E-07	0.00E+00	1.37E-10	1.75E-08	6.80E-07	NA	NA	5.81E-10	5.81E-10
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	6.44E-13	6.44E-13
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	1.75E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.34E-11	9.25E-09	9.36E-09	NA	NA	3.54E-13	3.54E-13

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Derm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA
Chromium	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lithium	NA	NA	NA	NA	9.14E-13	0.00E+00	0.00E+00	9.14E-13	NA

NA: Not applicable.

Contaminant of potential human concern	Teen - Scenario 2																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{fpa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{fs}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	3.65E-07	0.00E+00	7.53E-11	9.66E-09	3.75E-07	NA	NA	3.44E-10	3.44E-10
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	3.82E-13	3.82E-13
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	9.64E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.15E-11	5.10E-09	5.16E-09	NA	NA	2.10E-13	2.10E-13

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{cd}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA
Chromium	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lithium	NA	NA	NA	NA	7.32E-13	0.00E+00	0.00E+00	7.32E-13	NA

NA: Not applicable.

Contaminant of potential human concern	Adult - Scenario 2																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorал_{s,pa}$)	Surface water in the PA ($Dorал_{w,pa}$)	Sediment in the PA ($DoralS_{ed,pa}$)	Berries in the PA ($Dorал_{b,pa}$)	Fish fillets in the PA ($Dorал_{f,pa}$)	Hare meat in the PA ($Dorал_{h,pa}$)	Deer meat in the PA ($Dorал_{d,pa}$)	Surface soil in the village ($Dorал_{s,v}$)	Surface soil south of the PA ($Dorал_{s,s}$)	Surface water south of the PA ($Dorал_{w,s}$)	Sediment south of the PA ($Dorал_{sed,s}$)	Berries south of the PA ($Dorал_{b,s}$)	Fish fillets south of the PA ($Dorал_{f,s}$)	Hare meat south of the PA ($Dorал_{h,s}$)	Deer meat south of the PA ($Dorал_{d,s}$)	Total ($Dorал_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	3.08E-07	0.00E+00	6.36E-11	8.15E-09	3.16E-07	NA	NA	3.09E-10	3.09E-10
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	3.43E-13	3.43E-13
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	8.14E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.35E-11	4.30E-09	4.35E-09	NA	NA	1.89E-13	1.89E-13

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA
Chromium	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lithium	NA	NA	NA	NA	6.97E-13	0.00E+00	0.00E+00	6.97E-13	NA

NA: Not applicable.

Contaminant of potential human concern	Woman - Scenario 2																			
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	3.08E-07	0.00E+00	6.36E-11	8.15E-09	3.16E-07	NA	NA	3.09E-10	3.09E-10
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	3.43E-13	3.43E-13
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	8.14E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.35E-11	4.30E-09	4.35E-09	NA	NA	1.89E-13	1.89E-13

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA
Chromium	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lithium	NA	NA	NA	NA	6.97E-13	0.00E+00	0.00E+00	6.97E-13	NA

NA: Not applicable.

Contaminant of potential human concern	Infant - Scenario 3																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-8.45E-07	0.00E+00	6.64E-07	0.00E+00	1.36E-10	1.71E-08	-1.63E-07	NA	NA	8.84E-11	8.84E-11
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-1.61E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.61E-09	NA	NA	9.81E-14	9.81E-14
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	1.75E-11	2.87E-08	0.00E+00	0.00E+00	0.00E+00	9.37E-11	9.27E-09	3.81E-08	NA	NA	5.39E-14	5.39E-14

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	0.00E+00	-6.12E-08	0.00E+00	-6.12E-08	NA
Chromium	NA	NA	NA	NA	0.00E+00	-8.99E-09	0.00E+00	-8.99E-09	-1.06E-08
Lithium	NA	NA	NA	NA	4.09E-13	2.08E-09	0.00E+00	2.08E-09	NA

NA: Not applicable.

Contaminant of potential human concern	Toddler - Scenario 3																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,sa}$)	Surface water south of the PA ($Doral_{w,sa}$)	Sediment south of the PA ($Doral_{sed,sa}$)	Berries south of the PA ($Doral_{b,sa}$)	Fish fillets south of the PA ($Doral_{f,sa}$)	Hare meat south of the PA ($Doral_{h,sa}$)	Deer meat south of the PA ($Doral_{d,sa}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,sa}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-3.78E-06	0.00E+00	2.97E-06	0.00E+00	6.10E-10	7.64E-08	-7.31E-07	NA	NA	1.49E-09	1.49E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-7.22E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-7.22E-09	NA	NA	1.65E-12	1.65E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	3.14E-10	1.28E-07	0.00E+00	0.00E+00	0.00E+00	4.19E-10	4.15E-08	1.71E-07	NA	NA	9.09E-13	9.09E-13

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	0.00E+00	-4.63E-07	0.00E+00	-4.63E-07	NA
Chromium	NA	NA	NA	NA	0.00E+00	-6.81E-08	0.00E+00	-6.81E-08	-7.53E-08
Lithium	NA	NA	NA	NA	2.70E-12	1.57E-08	0.00E+00	1.57E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Children - Scenario 3																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Doral_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-2.95E-06	0.00E+00	2.32E-06	0.00E+00	4.76E-10	5.96E-08	-5.70E-07	NA	NA	2.03E-09	2.03E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-5.63E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-5.63E-09	NA	NA	2.26E-12	2.26E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	6.12E-11	1.00E-07	0.00E+00	0.00E+00	0.00E+00	3.27E-10	3.24E-08	1.33E-07	NA	NA	1.24E-12	1.24E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	0.00E+00	-5.98E-07	0.00E+00	-5.98E-07	NA
Chromium	NA	NA	NA	NA	0.00E+00	-8.78E-08	0.00E+00	-8.78E-08	-9.35E-08
Lithium	NA	NA	NA	NA	3.20E-12	2.03E-08	0.00E+00	2.03E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Teen - Scenario 3																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{fpa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{fs}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-9.28E-07	0.00E+00	1.46E-06	0.00E+00	2.99E-10	3.76E-08	5.69E-07	NA	NA	1.38E-09	1.38E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-1.77E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.77E-09	NA	NA	1.53E-12	1.53E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	3.85E-11	3.15E-08	0.00E+00	0.00E+00	0.00E+00	2.06E-10	2.04E-08	5.22E-08	NA	NA	8.40E-13	8.40E-13

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{cal}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	0.00E+00	-5.74E-07	0.00E+00	-5.74E-07	NA
Chromium	NA	NA	NA	NA	0.00E+00	-8.44E-08	0.00E+00	-8.44E-08	-8.62E-08
Lithium	NA	NA	NA	NA	2.93E-12	1.95E-08	0.00E+00	1.95E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Adult - Scenario 3																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorал_{s,pa}$)	Surface water in the PA ($Dorал_{w,pa}$)	Sediment in the PA ($Dorал_{Sed,pa}$)	Berries in the PA ($Dorал_{b,pa}$)	Fish fillets in the PA ($Dorал_{f,pa}$)	Hare meat in the PA ($Dorал_{h,pa}$)	Deer meat in the PA ($Dorал_{d,pa}$)	Surface soil in the village ($Dorал_{s,v}$)	Surface soil south of the PA ($Dorал_{s,s}$)	Surface water south of the PA ($Dorал_{w,s}$)	Sediment south of the PA ($Dorал_{Sed,s}$)	Berries south of the PA ($Dorал_{b,s}$)	Fish fillets south of the PA ($Dorал_{f,s}$)	Hare meat south of the PA ($Dorал_{h,s}$)	Deer meat south of the PA ($Dorал_{d,s}$)	Total ($Dorал_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-4.92E-07	0.00E+00	1.70E-06	0.00E+00	3.48E-10	4.36E-08	1.25E-06	NA	NA	1.70E-09	1.70E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-9.39E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-9.39E-10	NA	NA	1.89E-12	1.89E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	4.48E-11	1.67E-08	0.00E+00	0.00E+00	0.00E+00	2.39E-10	2.37E-08	4.06E-08	NA	NA	1.04E-12	1.04E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	0.00E+00	-6.94E-07	0.00E+00	-6.94E-07	NA
Chromium	NA	NA	NA	NA	0.00E+00	-1.02E-07	0.00E+00	-1.02E-07	-1.03E-07
Lithium	NA	NA	NA	NA	3.83E-12	2.36E-08	0.00E+00	2.36E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Woman - Scenario 3																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-4.20E-07	0.00E+00	1.70E-06	0.00E+00	3.48E-10	4.36E-08	1.32E-06	NA	NA	1.70E-09	1.70E-09
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-8.03E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-8.03E-10	NA	NA	1.89E-12	1.89E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	4.48E-11	1.43E-08	0.00E+00	0.00E+00	0.00E+00	2.39E-10	2.37E-08	3.82E-08	NA	NA	1.04E-12	1.04E-12

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	0.00E+00	-5.93E-07	0.00E+00	-5.93E-07	NA
Chromium	NA	NA	NA	NA	0.00E+00	-8.72E-08	0.00E+00	-8.72E-08	-8.80E-08
Lithium	NA	NA	NA	NA	3.83E-12	2.01E-08	0.00E+00	2.02E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Infant - Scenario 4																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-6.00E-07	0.00E+00	6.64E-07	0.00E+00	1.37E-10	1.72E-08	8.16E-08	NA	NA	8.84E-11	8.84E-11
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-2.24E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-2.24E-09	NA	NA	9.81E-14	9.81E-14
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	1.75E-11	2.87E-08	0.00E+00	0.00E+00	0.00E+00	9.37E-11	9.27E-09	3.81E-08	NA	NA	5.39E-14	5.39E-14

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	0.00E+00	-4.34E-08	0.00E+00	-4.34E-08	NA
Chromium	NA	NA	NA	NA	0.00E+00	-1.25E-08	0.00E+00	-1.25E-08	-1.47E-08
Lithium	NA	NA	NA	NA	4.09E-13	2.08E-09	0.00E+00	2.08E-09	NA

NA: Not applicable.

Contaminant of potential human concern	Toddler - Scenario 4																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Doral_{Sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,sa}$)	Surface water south of the PA ($Doral_{w,sa}$)	Sediment south of the PA ($Doral_{sed,sa}$)	Berries south of the PA ($Doral_{b,sa}$)	Fish fillets south of the PA ($Doral_{f,sa}$)	Hare meat south of the PA ($Doral_{h,sa}$)	Deer meat south of the PA ($Doral_{d,sa}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,sa}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-1.79E-06	0.00E+00	1.98E-06	0.00E+00	4.09E-10	5.14E-08	2.43E-07	NA	NA	9.94E-10	9.94E-10
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-6.68E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-6.68E-09	NA	NA	1.10E-12	1.10E-12
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	2.09E-10	8.56E-08	0.00E+00	0.00E+00	0.00E+00	2.79E-10	2.77E-08	1.14E-07	NA	NA	6.06E-13	6.06E-13

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	0.00E+00	-2.19E-07	0.00E+00	-2.19E-07	NA
Chromium	NA	NA	NA	NA	0.00E+00	-6.30E-08	0.00E+00	-6.30E-08	-6.97E-08
Lithium	NA	NA	NA	NA	1.80E-12	1.05E-08	0.00E+00	1.05E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Children - Scenario 4																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{sd,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Doralw_{,s}$)	Sediment south of the PA ($Dorals_{sd,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-8.97E-07	0.00E+00	9.93E-07	0.00E+00	2.05E-10	2.58E-08	1.22E-07	NA	NA	8.71E-10	8.71E-10
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-3.35E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-3.35E-09	NA	NA	9.67E-13	9.67E-13
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	2.62E-11	4.29E-08	0.00E+00	0.00E+00	0.00E+00	1.40E-10	1.39E-08	5.69E-08	NA	NA	5.31E-13	5.31E-13

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	0.00E+00	-1.82E-07	0.00E+00	-1.82E-07	NA
Chromium	NA	NA	NA	NA	0.00E+00	-5.23E-08	0.00E+00	-5.23E-08	-5.56E-08
Lithium	NA	NA	NA	NA	1.37E-12	8.70E-09	0.00E+00	8.70E-09	NA

NA: Not applicable.

Contaminant of potential human concern	Teen - Scenario 4																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Doral_{Sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Doral_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-2.47E-07	0.00E+00	5.47E-07	0.00E+00	1.13E-10	1.42E-08	3.15E-07	NA	NA	5.16E-10	5.16E-10
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-9.24E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-9.24E-10	NA	NA	5.73E-13	5.73E-13
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	1.45E-11	1.18E-08	0.00E+00	0.00E+00	0.00E+00	7.72E-11	7.64E-09	1.96E-08	NA	NA	3.15E-13	3.15E-13

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{cal}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	0.00E+00	-1.53E-07	0.00E+00	-1.53E-07	NA
Chromium	NA	NA	NA	NA	0.00E+00	-4.40E-08	0.00E+00	-4.40E-08	-4.49E-08
Lithium	NA	NA	NA	NA	1.10E-12	7.32E-09	0.00E+00	7.32E-09	NA

NA: Not applicable.

Contaminant of potential human concern	Adult - Scenario 4																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorал_{s,pa}$)	Surface water in the PA ($Dorал_{w,pa}$)	Sediment in the PA ($DoralS_{ed,pa}$)	Berries in the PA ($Dorал_{b,pa}$)	Fish fillets in the PA ($Dorал_{f,pa}$)	Hare meat in the PA ($Dorал_{h,pa}$)	Deer meat in the PA ($Dorал_{d,pa}$)	Surface soil in the village ($Dorал_{s,v}$)	Surface soil south of the PA ($Dorал_{s,s}$)	Surface water south of the PA ($Dorал_{w,s}$)	Sediment south of the PA ($Dorал_{sed,s}$)	Berries south of the PA ($Dorал_{b,s}$)	Fish fillets south of the PA ($Dorал_{f,s}$)	Hare meat south of the PA ($Dorал_{h,s}$)	Deer meat south of the PA ($Dorал_{d,s}$)	Total ($Dorал_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-9.52E-08	0.00E+00	4.62E-07	0.00E+00	9.55E-11	1.20E-08	3.79E-07	NA	NA	4.64E-10	4.64E-10
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-3.56E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-3.56E-10	NA	NA	5.15E-13	5.15E-13
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	1.22E-11	4.55E-09	0.00E+00	0.00E+00	0.00E+00	6.52E-11	6.45E-09	1.11E-08	NA	NA	2.83E-13	2.83E-13

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	0.00E+00	-1.34E-07	0.00E+00	-1.34E-07	NA
Chromium	NA	NA	NA	NA	0.00E+00	-3.86E-08	0.00E+00	-3.86E-08	-3.90E-08
Lithium	NA	NA	NA	NA	1.04E-12	6.43E-09	0.00E+00	6.43E-09	NA

NA: Not applicable.

Contaminant of potential human concern	Woman - Scenario 4																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Doral_{Sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,sa}$)	Surface water south of the PA ($Doral_{w,sa}$)	Sediment south of the PA ($Doral_{sed,sa}$)	Berries south of the PA ($Doral_{b,sa}$)	Fish fillets south of the PA ($Doral_{f,sa}$)	Hare meat south of the PA ($Doral_{h,sa}$)	Deer meat south of the PA ($Doral_{d,sa}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,sa}$)	Total ($Dinh_{tot}$)
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-8.14E-08	0.00E+00	4.62E-07	0.00E+00	9.55E-11	1.20E-08	3.93E-07	NA	NA	4.64E-10	4.64E-10
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-3.04E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-3.04E-10	NA	NA	5.15E-13	5.15E-13
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	1.22E-11	3.89E-09	0.00E+00	0.00E+00	0.00E+00	6.52E-11	6.45E-09	1.04E-08	NA	NA	2.83E-13	2.83E-13

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	NA	NA	NA	NA	0.00E+00	-1.15E-07	0.00E+00	-1.15E-07	NA
Chromium	NA	NA	NA	NA	0.00E+00	-3.30E-08	0.00E+00	-3.30E-08	-3.33E-08
Lithium	NA	NA	NA	NA	1.04E-12	5.50E-09	0.00E+00	5.50E-09	NA

NA: Not applicable.

Contaminant of potential human concern	Infant - Scenario 5																		
	Ingestion (mg/kg-d)																Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	1.86E-05	-6.60E-06	7.70E-05	7.56E-07	0.00E+00	1.70E-08	6.93E-07	NA	NA	NA	NA	NA	NA	NA	NA	9.05E-05	0.00E+00	NA	NA	0.00E+00
Chromium	5.85E-12	-4.19E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	-4.19E-08	0.00E+00	NA	NA	0.00E+00
Lithium	2.99E-09	1.40E-06	0.00E+00	0.00E+00	0.00E+00	1.12E-10	1.01E-08	NA	NA	NA	NA	NA	NA	NA	NA	1.41E-06	0.00E+00	NA	NA	0.00E+00

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	0.00E+00	-4.78E-07	2.44E-04	NA	NA	NA	NA	2.43E-04	NA
Chromium	0.00E+00	-2.33E-07	0.00E+00	NA	NA	NA	NA	-2.33E-07	-2.75E-07
Lithium	0.00E+00	1.01E-07	0.00E+00	NA	NA	NA	NA	1.01E-07	NA

NA: Not applicable.

Contaminant of potential human concern	Toddler - Scenario 5																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,sa}$)	Surface water south of the PA ($Doral_{w,sa}$)	Sediment south of the PA ($Dorals_{ed,sa}$)	Berries south of the PA ($Doral_{b,sa}$)	Fish fillets south of the PA ($Doral_{f,sa}$)	Hare meat south of the PA ($Doral_{h,sa}$)	Deer meat south of the PA ($Doral_{d,sa}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,sa}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	3.34E-04	-1.13E-06	1.32E-05	3.38E-06	0.00E+00	7.60E-08	3.10E-06	NA	NA	NA	NA	NA	NA	NA	NA	3.52E-04	0.00E+00	NA	NA	0.00E+00
Chromium	1.05E-10	-7.19E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	-7.08E-09	0.00E+00	NA	NA	0.00E+00
Lithium	5.35E-08	2.40E-07	0.00E+00	0.00E+00	0.00E+00	5.02E-10	4.51E-08	NA	NA	NA	NA	NA	NA	NA	NA	3.39E-07	0.00E+00	NA	NA	0.00E+00

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	2.87E-06	-1.39E-07	7.21E-05	NA	NA	NA	NA	7.48E-05	NA
Chromium	9.00E-12	-6.78E-08	0.00E+00	NA	NA	NA	NA	-6.78E-08	-7.48E-08
Lithium	4.60E-10	2.95E-08	0.00E+00	NA	NA	NA	NA	2.99E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Children - Scenario 5																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	6.51E-05	-8.84E-07	1.03E-05	2.64E-06	0.00E+00	5.93E-08	2.42E-06	NA	NA	NA	NA	NA	NA	NA	NA	7.96E-05	0.00E+00	NA	NA	0.00E+00
Chromium	2.04E-11	-5.61E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	-5.59E-09	0.00E+00	NA	NA	0.00E+00
Lithium	1.04E-08	1.88E-07	0.00E+00	0.00E+00	0.00E+00	3.92E-10	3.52E-08	NA	NA	NA	NA	NA	NA	NA	NA	2.34E-07	0.00E+00	NA	NA	0.00E+00

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	3.40E-06	-1.79E-07	9.47E-05	NA	NA	NA	NA	9.79E-05	NA
Chromium	1.07E-11	-8.74E-08	0.00E+00	NA	NA	NA	NA	-8.74E-08	-9.30E-08
Lithium	5.45E-10	3.80E-08	0.00E+00	NA	NA	NA	NA	3.86E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Teen - Scenario 5																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{fpa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Doral_{s,v}$)	Surface soil south of the PA ($Doral_{s,s}$)	Surface water south of the PA ($Doral_{w,s}$)	Sediment south of the PA ($Dorals_{ed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{fs}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	4.10E-05	-2.78E-07	6.49E-06	1.66E-06	0.00E+00	3.73E-08	1.52E-06	NA	NA	NA	NA	NA	NA	NA	NA	5.04E-05	0.00E+00	NA	NA	0.00E+00
Chromium	1.28E-11	-1.77E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	-1.75E-09	0.00E+00	NA	NA	0.00E+00
Lithium	6.57E-09	5.91E-08	0.00E+00	0.00E+00	0.00E+00	2.47E-10	2.22E-08	NA	NA	NA	NA	NA	NA	NA	NA	8.80E-08	0.00E+00	NA	NA	0.00E+00

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	3.11E-06	-1.72E-07	9.02E-05	NA	NA	NA	NA	9.31E-05	NA
Chromium	9.77E-12	-8.40E-08	0.00E+00	NA	NA	NA	NA	-8.40E-08	-8.58E-08
Lithium	4.99E-10	3.65E-08	0.00E+00	NA	NA	NA	NA	3.70E-08	NA

NA: Not applicable.

Contaminant of potential human concern	Adult - Scenario 5																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Doral_{s,pa}$)	Surface water in the PA ($Doral_{w,pa}$)	Sediment in the PA ($Dorals_{ed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Dorals_{w,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Dorals_{b,s}$)	Fish fillets south of the PA ($Dorals_{f,s}$)	Hare meat south of the PA ($Dorals_{h,s}$)	Deer meat south of the PA ($Dorals_{d,s}$)	Total ($Dorals_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	2.59E-04	-8.04E-07	3.78E-05	1.05E-05	0.00E+00	2.36E-07	9.65E-06	NA	NA	NA	NA	NA	NA	NA	NA	3.17E-04	0.00E+00	NA	NA	0.00E+00
Chromium	8.14E-11	-5.10E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	-5.02E-09	0.00E+00	NA	NA	0.00E+00
Lithium	4.16E-08	1.71E-07	0.00E+00	0.00E+00	0.00E+00	1.56E-09	1.40E-07	NA	NA	NA	NA	NA	NA	NA	NA	3.54E-07	0.00E+00	NA	NA	0.00E+00

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	2.22E-05	-1.13E-06	6.33E-04	NA	NA	NA	NA	6.54E-04	NA
Chromium	6.97E-11	-5.53E-07	0.00E+00	NA	NA	NA	NA	-5.53E-07	-5.58E-07
Lithium	3.56E-09	2.41E-07	0.00E+00	NA	NA	NA	NA	2.44E-07	NA

NA: Not applicable.

Contaminant of potential human concern	Woman - Scenario 5																		
	Ingestion (mg/kg-d)															Inhalation (mg/kg-d)			
	Surface soil in the PA ($Dorals_{s,pa}$)	Surface water in the PA ($Doralw_{,pa}$)	Sediment in the PA ($Dorals_{sed,pa}$)	Berries in the PA ($Doral_{b,pa}$)	Fish fillets in the PA ($Doral_{f,pa}$)	Hare meat in the PA ($Doral_{h,pa}$)	Deer meat in the PA ($Doral_{d,pa}$)	Surface soil in the village ($Dorals_{s,v}$)	Surface soil south of the PA ($Dorals_{s,s}$)	Surface water south of the PA ($Doralw_{,s}$)	Sediment south of the PA ($Dorals_{sed,s}$)	Berries south of the PA ($Doral_{b,s}$)	Fish fillets south of the PA ($Doral_{f,s}$)	Hare meat south of the PA ($Doral_{h,s}$)	Deer meat south of the PA ($Doral_{d,s}$)	Total ($Doral_{tot}$)	Outdoor air in the PA ($Dinh_{oa,pa}$)	Outdoor air in the village ($Dinh_{oa,v}$)	Outdoor air south of the PA ($Dinh_{oa,s}$)	Total ($Dinh_{tot}$)
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	3	4
Inorganic substance																				
Aluminum	2.59E-04	-6.87E-07	3.21E-05	1.05E-05	0.00E+00	2.36E-07	9.65E-06	NA	NA	NA	NA	NA	NA	NA	NA	3.11E-04	0.00E+00	NA	NA	0.00E+00
Chromium	8.14E-11	-4.36E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	-4.28E-09	0.00E+00	NA	NA	0.00E+00
Lithium	4.16E-08	1.46E-07	0.00E+00	0.00E+00	0.00E+00	1.56E-09	1.40E-07	NA	NA	NA	NA	NA	NA	NA	NA	3.29E-07	0.00E+00	NA	NA	0.00E+00

NA: Not applicable.

Contaminant of potential human concern	Dermal contact (mg/kg-d)								Oral equivalent dose (Deq) (mg/kg-d)
	Surface soil in the PA ($Dderm_{s,pa}$)	Surface water in the PA ($Dderm_{w,pa}$)	Sediment in the PA ($Dderm_{sed,pa}$)	Surface soil in the village ($Dderm_{s,v}$)	Surface soil south of the PA (Dderms.m)	Surface water south of the PA ($Dderm_{w,s}$)	Sediment south of the PA ($Dderm_{sed,s}$)	Total ($Dderm_{tot}$)	
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	5	6	7	5	5	6	7	8	9
Inorganic substance									
Aluminum	2.22E-05	-9.70E-07	6.33E-04	NA	NA	NA	NA	6.54E-04	NA
Chromium	6.97E-11	-4.73E-07	0.00E+00	NA	NA	NA	NA	-4.73E-07	-4.77E-07
Lithium	3.56E-09	2.06E-07	0.00E+00	NA	NA	NA	NA	2.09E-07	NA

NA: Not applicable.

Contaminant of potential human concern	Infant - Scenario 1A				Toddler - Scenario 1A				Children - Scenario 1A			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	YES	NO	NO		YES	NO	NO		YES	NO	NO	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	3.55E-05	NA	NA	3.55E-05	3.55E-05	NA	NA	3.55E-05	3.55E-05	NA	NA	3.55E-05
Chromium	6.45E-07	NA	NA	6.45E-07	6.45E-07	NA	NA	6.45E-07	6.45E-07	NA	NA	6.45E-07
Lithium	3.15E-08	NA	NA	3.15E-08	3.15E-08	NA	NA	3.15E-08	3.15E-08	NA	NA	3.15E-08

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 1A				Adult - Scenario 1A				Woman - Scenario 1A			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	YES	NO	NO		YES	NO	NO		YES	NO	NO	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	3.55E-05	NA	NA	3.55E-05	3.55E-05	NA	NA	3.55E-05	3.55E-05	NA	NA	3.55E-05
Chromium	6.45E-07	NA	NA	6.45E-07	6.45E-07	NA	NA	6.45E-07	6.45E-07	NA	NA	6.45E-07
Lithium	3.15E-08	NA	NA	3.15E-08	3.15E-08	NA	NA	3.15E-08	3.15E-08	NA	NA	3.15E-08

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 1B Inhalation (mg/m³)				Toddler - Scenario 1B Inhalation (mg/m³)				Children - Scenario 1B Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	NO	YES		NO	NO	YES		NO	NO	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	NA	3.55E-05	3.55E-05	NA	NA	3.55E-05	3.55E-05	NA	NA	3.55E-05	3.55E-05
Chromium	NA	NA	6.45E-07	6.45E-07	NA	NA	6.45E-07	6.45E-07	NA	NA	6.45E-07	6.45E-07
Lithium	NA	NA	3.15E-08	3.15E-08	NA	NA	3.15E-08	3.15E-08	NA	NA	3.15E-08	3.15E-08

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 1B				Adult - Scenario 1B				Woman - Scenario 1B			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	NO	YES		NO	NO	YES		NO	NO	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	NA	3.55E-05	3.55E-05	NA	NA	3.55E-05	3.55E-05	NA	NA	3.55E-05	3.55E-05
Chromium	NA	NA	6.45E-07	6.45E-07	NA	NA	6.45E-07	6.45E-07	NA	NA	6.45E-07	6.45E-07
Lithium	NA	NA	3.15E-08	3.15E-08	NA	NA	3.15E-08	3.15E-08	NA	NA	3.15E-08	3.15E-08

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 2				Toddler - Scenario 2				Children - Scenario 2			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	NO	YES		NO	NO	YES		NO	NO	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	NA	3.69E-05	3.69E-05	NA	NA	3.69E-05	3.69E-05	NA	NA	3.69E-05	3.69E-05
Chromium	NA	NA	6.47E-07	6.47E-07	NA	NA	6.47E-07	6.47E-07	NA	NA	6.47E-07	6.47E-07
Lithium	NA	NA	3.23E-08	3.23E-08	NA	NA	3.23E-08	3.23E-08	NA	NA	3.23E-08	3.23E-08

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 2				Adult - Scenario 2				Woman - Scenario 2			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA (TAADCoa$_{pa}$)	Time-adjusted average daily outdoor air concentration in the village (TAADCoa$_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA (TAADCoa$_{s}$)	Total time-adjusted average daily outdoor air concentration (TAADCoa$_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA (TAADCoa$_{pa}$)	Time-adjusted average daily outdoor air concentration in the village (TAADCoa$_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA (TAADCoa$_{s}$)	Total time-adjusted average daily outdoor air concentration (TAADCoa$_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA (TAADCoa$_{pa}$)	Time-adjusted average daily outdoor air concentration in the village (TAADCoa$_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA (TAADCoa$_{s}$)	Total time-adjusted average daily outdoor air concentration (TAADCoa$_{tot}$)
In the scenario ?	NO	NO	YES		NO	NO	YES		NO	NO	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	NA	3.69E-05	3.69E-05	NA	NA	3.69E-05	3.69E-05	NA	NA	3.69E-05	3.69E-05
Chromium	NA	NA	6.47E-07	6.47E-07	NA	NA	6.47E-07	6.47E-07	NA	NA	6.47E-07	6.47E-07
Lithium	NA	NA	3.23E-08	3.23E-08	NA	NA	3.23E-08	3.23E-08	NA	NA	3.23E-08	3.23E-08

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 3				Toddler - Scenario 3				Children - Scenario 3			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	NO	YES		NO	NO	YES		NO	NO	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	NA	3.69E-05	3.69E-05	NA	NA	3.69E-05	3.69E-05	NA	NA	3.69E-05	3.69E-05
Chromium	NA	NA	6.47E-07	6.47E-07	NA	NA	6.47E-07	6.47E-07	NA	NA	6.47E-07	6.47E-07
Lithium	NA	NA	3.23E-08	3.23E-08	NA	NA	3.23E-08	3.23E-08	NA	NA	3.23E-08	3.23E-08

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 3				Adult - Scenario 3				Woman - Scenario 3			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	NO	YES		NO	NO	YES		NO	NO	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	NA	3.69E-05	3.69E-05	NA	NA	3.69E-05	3.69E-05	NA	NA	3.69E-05	3.69E-05
Chromium	NA	NA	6.47E-07	6.47E-07	NA	NA	6.47E-07	6.47E-07	NA	NA	6.47E-07	6.47E-07
Lithium	NA	NA	3.23E-08	3.23E-08	NA	NA	3.23E-08	3.23E-08	NA	NA	3.23E-08	3.23E-08

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 4				Toddler - Scenario 4				Children - Scenario 4			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	NO	YES		NO	NO	YES		NO	NO	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	NA	3.69E-05	3.69E-05	NA	NA	3.69E-05	3.69E-05	NA	NA	3.69E-05	3.69E-05
Chromium	NA	NA	6.47E-07	6.47E-07	NA	NA	6.47E-07	6.47E-07	NA	NA	6.47E-07	6.47E-07
Lithium	NA	NA	3.23E-08	3.23E-08	NA	NA	3.23E-08	3.23E-08	NA	NA	3.23E-08	3.23E-08

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 4				Adult - Scenario 4				Woman - Scenario 4			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	NO	YES		NO	NO	YES		NO	NO	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	NA	3.69E-05	3.69E-05	NA	NA	3.69E-05	3.69E-05	NA	NA	3.69E-05	3.69E-05
Chromium	NA	NA	6.47E-07	6.47E-07	NA	NA	6.47E-07	6.47E-07	NA	NA	6.47E-07	6.47E-07
Lithium	NA	NA	3.23E-08	3.23E-08	NA	NA	3.23E-08	3.23E-08	NA	NA	3.23E-08	3.23E-08

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 5				Toddler - Scenario 5				Children - Scenario 5			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	YES	NO	NO		YES	NO	NO		YES	NO	NO	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	3.55E-05	NA	NA	3.55E-05	3.55E-05	NA	NA	3.55E-05	3.55E-05	NA	NA	3.55E-05
Chromium	6.45E-07	NA	NA	6.45E-07	6.45E-07	NA	NA	6.45E-07	6.45E-07	NA	NA	6.45E-07
Lithium	3.15E-08	NA	NA	3.15E-08	3.15E-08	NA	NA	3.15E-08	3.15E-08	NA	NA	3.15E-08

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 5				Adult - Scenario 5				Woman - Scenario 5			
	Inhalation (mg/m^3)				Inhalation (mg/m^3)				Inhalation (mg/m^3)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	YES	NO	NO		YES	NO	NO		YES	NO	NO	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	3.55E-05	NA	NA	3.55E-05	3.55E-05	NA	NA	3.55E-05	3.55E-05	NA	NA	3.55E-05
Chromium	6.45E-07	NA	NA	6.45E-07	6.45E-07	NA	NA	6.45E-07	6.45E-07	NA	NA	6.45E-07
Lithium	3.15E-08	NA	NA	3.15E-08	3.15E-08	NA	NA	3.15E-08	3.15E-08	NA	NA	3.15E-08

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 2 Inhalation (mg/m^3)				Toddler - Scenario 2 Inhalation (mg/m^3)				Children - Scenario 2 Inhalation (mg/m^3)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	NO	YES		NO	NO	YES		NO	NO	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	NA	3.29E-10	3.29E-10	NA	NA	1.32E-09	1.32E-09	NA	NA	1.32E-09	1.32E-09
Chromium	NA	NA	3.66E-13	3.66E-13	NA	NA	1.46E-12	1.46E-12	NA	NA	1.46E-12	1.46E-12
Lithium	NA	NA	2.01E-13	2.01E-13	NA	NA	8.04E-13	8.04E-13	NA	NA	8.04E-13	8.04E-13

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 2				Adult - Scenario 2				Woman - Scenario 2			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	NO	YES		NO	NO	YES		NO	NO	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	NA	1.32E-09	1.32E-09	NA	NA	1.32E-09	1.32E-09	NA	NA	1.32E-09	1.32E-09
Chromium	NA	NA	1.46E-12	1.46E-12	NA	NA	1.46E-12	1.46E-12	NA	NA	1.46E-12	1.46E-12
Lithium	NA	NA	8.04E-13	8.04E-13	NA	NA	8.04E-13	8.04E-13	NA	NA	8.04E-13	8.04E-13

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 3				Toddler - Scenario 3				Children - Scenario 3			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	NO	YES		NO	NO	YES		NO	NO	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	NA	3.29E-10	3.29E-10	NA	NA	2.96E-09	2.96E-09	NA	NA	4.61E-09	4.61E-09
Chromium	NA	NA	3.66E-13	3.66E-13	NA	NA	3.29E-12	3.29E-12	NA	NA	5.12E-12	5.12E-12
Lithium	NA	NA	2.01E-13	2.01E-13	NA	NA	1.81E-12	1.81E-12	NA	NA	2.81E-12	2.81E-12

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 3				Adult - Scenario 3				Woman - Scenario 3			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	NO	YES		NO	NO	YES		NO	NO	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	NA	5.27E-09	5.27E-09	NA	NA	7.25E-09	7.25E-09	NA	NA	7.25E-09	7.25E-09
Chromium	NA	NA	5.85E-12	5.85E-12	NA	NA	8.04E-12	8.04E-12	NA	NA	8.04E-12	8.04E-12
Lithium	NA	NA	3.21E-12	3.21E-12	NA	NA	4.42E-12	4.42E-12	NA	NA	4.42E-12	4.42E-12

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 4				Toddler - Scenario 4				Children - Scenario 4			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	NO	YES		NO	NO	YES		NO	NO	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	NA	3.29E-10	3.29E-10	NA	NA	1.98E-09	1.98E-09	NA	NA	1.98E-09	1.98E-09
Chromium	NA	NA	3.66E-13	3.66E-13	NA	NA	2.19E-12	2.19E-12	NA	NA	2.19E-12	2.19E-12
Lithium	NA	NA	2.01E-13	2.01E-13	NA	NA	1.21E-12	1.21E-12	NA	NA	1.21E-12	1.21E-12

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 4				Adult - Scenario 4				Woman - Scenario 4			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	NO	NO	YES		NO	NO	YES		NO	NO	YES	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	NA	NA	1.98E-09	1.98E-09	NA	NA	1.98E-09	1.98E-09	NA	NA	1.98E-09	1.98E-09
Chromium	NA	NA	2.19E-12	2.19E-12	NA	NA	2.19E-12	2.19E-12	NA	NA	2.19E-12	2.19E-12
Lithium	NA	NA	1.21E-12	1.21E-12	NA	NA	1.21E-12	1.21E-12	NA	NA	1.21E-12	1.21E-12

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 5				Toddler - Scenario 5				Children - Scenario 5			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	YES	NO	NO		YES	NO	NO		YES	NO	NO	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	0.00E+00	NA	NA	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	NA	NA	0.00E+00
Chromium	0.00E+00	NA	NA	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	NA	NA	0.00E+00
Lithium	0.00E+00	NA	NA	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	NA	NA	0.00E+00

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 5				Adult - Scenario 5				Woman - Scenario 5			
	Inhalation (mg/m³)				Inhalation (mg/m³)				Inhalation (mg/m³)			
	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)	Time-adjusted average daily outdoor air concentration in the PA ($TAADCoa_{pa}$)	Time-adjusted average daily outdoor air concentration in the village ($TAADCoa_{v}$)	Time-adjusted average daily outdoor air concentration south of the PA ($TAADCoa_{s}$)	Total time-adjusted average daily outdoor air concentration ($TAADCoa_{tot}$)
In the scenario ?	YES	NO	NO		YES	NO	NO		YES	NO	NO	
Equation	10	10	10	11	10	10	10	11	10	10	10	11
Inorganic substance												
Aluminum	0.00E+00	NA	NA	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	NA	NA	0.00E+00
Chromium	0.00E+00	NA	NA	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	NA	NA	0.00E+00
Lithium	0.00E+00	NA	NA	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	NA	NA	0.00E+00

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 1A																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	2.41E-02	6.56E-03	3.52E-02	4.33E-03	3.12E-03	2.27E-05	9.89E-04	NA	NA	NA	NA	NA	NA	NA	NA	7.44E-02	9.53E-06	NA	NA	9.53E-06
Chromium	6.20E-03	3.96E-03	1.13E-02	3.55E-02	1.20E-01	4.79E-05	4.27E-03	NA	NA	NA	NA	NA	NA	NA	NA	1.81E-01	3.46E-05	NA	NA	3.46E-05
Lithium	1.02E-02	0.00E+00	3.64E-02	9.43E-02	3.00E-01	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	4.41E-01	4.23E-06	NA	NA	4.23E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	5.62E-04	4.75E-04	1.11E-01	NA	NA	NA	NA	1.12E-01	1.87E-01
Chromium	1.44E-03	2.21E-02	3.57E-01	NA	NA	NA	NA	3.80E-01	5.61E-01
Lithium	2.39E-04	0.00E+00	1.15E-01	NA	NA	NA	NA	1.15E-01	5.57E-01

NA: Not applicable

Contaminant of potential human concern	Toddler - Scenario 1A																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	4.80E-02	3.26E-03	1.75E-02	2.15E-03	1.55E-03	1.13E-05	4.92E-04	NA	NA	NA	NA	NA	NA	NA	NA	7.29E-02	1.79E-05	NA	NA	1.79E-05
Chromium	1.23E-02	1.97E-03	5.60E-03	1.76E-02	5.97E-02	2.38E-05	2.12E-03	NA	NA	NA	NA	NA	NA	NA	NA	9.94E-02	6.49E-05	NA	NA	6.49E-05
Lithium	2.04E-02	0.00E+00	1.81E-02	4.69E-02	1.49E-01	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	2.35E-01	7.92E-06	NA	NA	7.92E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	4.12E-04	4.00E-04	9.55E-02	NA	NA	NA	NA	9.63E-02	1.69E-01
Chromium	1.06E-03	1.86E-02	3.05E-01	NA	NA	NA	NA	3.25E-01	4.25E-01
Lithium	1.75E-04	0.00E+00	9.86E-02	NA	NA	NA	NA	9.88E-02	3.33E-01

NA: Not applicable

Contaminant of potential human concern	Children - Scenario 1A																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	6.01E-03	1.64E-03	8.78E-03	1.08E-03	7.78E-04	5.66E-06	2.47E-04	NA	NA	NA	NA	NA	NA	NA	NA	1.85E-02	1.57E-05	NA	NA	1.57E-05
Chromium	1.54E-03	9.88E-04	2.81E-03	8.85E-03	2.99E-02	1.19E-05	1.06E-03	NA	NA	NA	NA	NA	NA	NA	NA	4.52E-02	5.69E-05	NA	NA	5.69E-05
Lithium	2.55E-03	0.00E+00	9.07E-03	2.35E-02	7.48E-02	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	1.10E-01	6.94E-06	NA	NA	6.94E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	3.14E-04	3.32E-04	8.06E-02	NA	NA	NA	NA	8.13E-02	9.98E-02
Chromium	8.07E-04	1.54E-02	2.58E-01	NA	NA	NA	NA	2.74E-01	3.19E-01
Lithium	1.33E-04	0.00E+00	8.33E-02	NA	NA	NA	NA	8.34E-02	1.93E-01

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 1A																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	3.31E-03	4.51E-04	4.84E-03	5.94E-04	4.29E-04	3.12E-06	1.36E-04	NA	NA	NA	NA	NA	NA	NA	NA	9.76E-03	9.28E-06	NA	NA	9.28E-06
Chromium	8.51E-04	2.72E-04	1.55E-03	4.88E-03	1.65E-02	6.58E-06	5.87E-04	NA	NA	NA	NA	NA	NA	NA	NA	2.46E-02	3.37E-05	NA	NA	3.37E-05
Lithium	1.41E-03	0.00E+00	5.00E-03	1.30E-02	4.12E-02	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	6.06E-02	4.12E-06	NA	NA	4.12E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	2.52E-04	2.79E-04	6.72E-02	NA	NA	NA	NA	6.77E-02	7.75E-02
Chromium	6.47E-04	1.30E-02	2.15E-01	NA	NA	NA	NA	2.29E-01	2.53E-01
Lithium	1.07E-04	0.00E+00	6.94E-02	NA	NA	NA	NA	6.95E-02	1.30E-01

NA: Not applicable

Contaminant of potential human concern	Adult - Scenario 1A																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	2.80E-03	1.73E-04	3.76E-03	5.02E-04	3.62E-04	2.63E-06	1.15E-04	NA	NA	NA	NA	NA	NA	NA	NA	7.71E-03	8.34E-06	NA	NA	8.34E-06
Chromium	7.19E-04	1.05E-04	1.20E-03	4.12E-03	1.39E-02	5.56E-06	4.95E-04	NA	NA	NA	NA	NA	NA	NA	NA	2.06E-02	3.03E-05	NA	NA	3.03E-05
Lithium	1.19E-03	0.00E+00	3.88E-03	1.09E-02	3.48E-02	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	5.08E-02	3.70E-06	NA	NA	3.70E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	2.39E-04	2.45E-04	6.29E-02	NA	NA	NA	NA	6.34E-02	7.11E-02
Chromium	6.15E-04	1.14E-02	2.01E-01	NA	NA	NA	NA	2.13E-01	2.34E-01
Lithium	1.02E-04	0.00E+00	6.50E-02	NA	NA	NA	NA	6.51E-02	1.16E-01

NA: Not applicable

Contaminant of potential human concern	Woman - Scenario 1A																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	2.80E-03	1.48E-04	3.19E-03	5.02E-04	3.62E-04	2.63E-06	1.15E-04	NA	NA	NA	NA	NA	NA	NA	NA	7.11E-03	8.34E-06	NA	NA	8.34E-06
Chromium	7.19E-04	8.96E-05	1.02E-03	4.12E-03	1.39E-02	5.56E-06	4.95E-04	NA	NA	NA	NA	NA	NA	NA	NA	2.04E-02	3.03E-05	NA	NA	3.03E-05
Lithium	1.19E-03	0.00E+00	3.29E-03	1.09E-02	3.48E-02	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	5.03E-02	3.70E-06	NA	NA	3.70E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	2.39E-04	2.09E-04	6.29E-02	NA	NA	NA	NA	6.33E-02	7.05E-02
Chromium	6.15E-04	9.73E-03	2.01E-01	NA	NA	NA	NA	2.12E-01	2.32E-01
Lithium	1.02E-04	0.00E+00	6.50E-02	NA	NA	NA	NA	6.51E-02	1.15E-01

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 1B																		
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.14E-02	6.56E-03	3.52E-02	4.33E-03	3.12E-03	2.02E-05	8.90E-04	7.15E-02	NA	NA	9.53E-06	9.53E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	6.34E-03	3.96E-03	1.13E-02	3.55E-02	1.20E-01	4.84E-05	4.29E-03	1.82E-01	NA	NA	3.46E-05	3.46E-05
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	1.02E-02	0.00E+00	3.64E-02	9.43E-02	3.00E-01	0.00E+00	0.00E+00	4.41E-01	NA	NA	4.23E-06	4.23E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	4.98E-04	4.75E-04	1.11E-01	1.12E-01	1.84E-01
Chromium	NA	NA	NA	NA	1.48E-03	2.21E-02	3.57E-01	3.80E-01	5.62E-01
Lithium	NA	NA	NA	NA	2.39E-04	0.00E+00	1.15E-01	1.15E-01	5.57E-01

NA: Not applicable

Contaminant of potential human concern	Toddler - Scenario 1B																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	4.25E-02	3.26E-03	1.75E-02	2.15E-03	1.55E-03	1.01E-05	4.42E-04	6.74E-02	NA	NA	1.79E-05	1.79E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	1.26E-02	1.97E-03	5.60E-03	1.76E-02	5.97E-02	2.41E-05	2.13E-03	9.97E-02	NA	NA	6.49E-05	6.49E-05
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	2.04E-02	0.00E+00	1.81E-02	4.69E-02	1.49E-01	0.00E+00	0.00E+00	2.35E-01	NA	NA	7.92E-06	7.92E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	3.65E-04	4.00E-04	9.55E-02	9.62E-02	1.64E-01
Chromium	NA	NA	NA	NA	1.08E-03	1.86E-02	3.05E-01	3.25E-01	4.25E-01
Lithium	NA	NA	NA	NA	1.75E-04	0.00E+00	9.86E-02	9.88E-02	3.33E-01

NA: Not applicable

Contaminant of potential human concern	Children - Scenario 1B																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	5.33E-03	1.64E-03	8.78E-03	1.08E-03	7.78E-04	5.04E-06	2.22E-04	1.78E-02	NA	NA	1.57E-05	1.57E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	1.58E-03	9.88E-04	2.81E-03	8.85E-03	2.99E-02	1.21E-05	1.07E-03	4.52E-02	NA	NA	5.69E-05	5.69E-05
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	2.55E-03	0.00E+00	9.07E-03	2.35E-02	7.48E-02	0.00E+00	0.00E+00	1.10E-01	NA	NA	6.94E-06	6.94E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.78E-04	3.32E-04	8.06E-02	8.12E-02	9.91E-02
Chromium	NA	NA	NA	NA	8.26E-04	1.54E-02	2.58E-01	2.74E-01	3.20E-01
Lithium	NA	NA	NA	NA	1.33E-04	0.00E+00	8.33E-02	8.34E-02	1.93E-01

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 1B																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.93E-03	4.51E-04	4.84E-03	5.94E-04	4.29E-04	2.78E-06	1.22E-04	9.37E-03	NA	NA	9.28E-06	9.28E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	8.71E-04	2.72E-04	1.55E-03	4.88E-03	1.65E-02	6.65E-06	5.90E-04	2.47E-02	NA	NA	3.37E-05	3.37E-05
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	1.41E-03	0.00E+00	5.00E-03	1.30E-02	4.12E-02	0.00E+00	0.00E+00	6.06E-02	NA	NA	4.12E-06	4.12E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.23E-04	2.79E-04	6.72E-02	6.77E-02	7.71E-02
Chromium	NA	NA	NA	NA	6.62E-04	1.30E-02	2.15E-01	2.29E-01	2.53E-01
Lithium	NA	NA	NA	NA	1.07E-04	0.00E+00	6.94E-02	6.95E-02	1.30E-01

NA: Not applicable

Contaminant of potential human concern	Adult - Scenario 1B																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.48E-03	1.73E-04	3.76E-03	5.02E-04	3.62E-04	2.35E-06	1.03E-04	7.38E-03	NA	NA	8.34E-06	8.34E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	7.36E-04	1.05E-04	1.20E-03	4.12E-03	1.39E-02	5.61E-06	4.98E-04	2.06E-02	NA	NA	3.03E-05	3.03E-05
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	1.19E-03	0.00E+00	3.88E-03	1.09E-02	3.48E-02	0.00E+00	0.00E+00	5.08E-02	NA	NA	3.70E-06	3.70E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.12E-04	2.45E-04	6.29E-02	6.33E-02	7.07E-02
Chromium	NA	NA	NA	NA	6.30E-04	1.14E-02	2.01E-01	2.13E-01	2.34E-01
Lithium	NA	NA	NA	NA	1.02E-04	0.00E+00	6.50E-02	6.51E-02	1.16E-01

NA: Not applicable

Contaminant of potential human concern	Woman - Scenario 1B																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.48E-03	1.48E-04	3.19E-03	5.02E-04	3.62E-04	2.35E-06	1.03E-04	6.78E-03	NA	NA	8.34E-06	8.34E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	7.36E-04	8.96E-05	1.02E-03	4.12E-03	1.39E-02	5.61E-06	4.98E-04	2.04E-02	NA	NA	3.03E-05	3.03E-05
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	1.19E-03	0.00E+00	3.29E-03	1.09E-02	3.48E-02	0.00E+00	0.00E+00	5.03E-02	NA	NA	3.70E-06	3.70E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.12E-04	2.09E-04	6.29E-02	6.33E-02	7.01E-02
Chromium	NA	NA	NA	NA	6.30E-04	9.73E-03	2.01E-01	2.12E-01	2.32E-01
Lithium	NA	NA	NA	NA	1.02E-04	0.00E+00	6.50E-02	6.51E-02	1.15E-01

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.14E-02	6.56E-03	3.52E-02	7.10E-03	3.12E-03	2.08E-05	9.63E-04	7.43E-02	NA	NA	9.90E-06	9.90E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	6.34E-03	3.96E-03	1.13E-02	3.55E-02	1.20E-01	4.84E-05	4.29E-03	1.82E-01	NA	NA	3.47E-05	3.47E-05
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	1.03E-02	0.00E+00	3.64E-02	9.43E-02	3.00E-01	1.95E-04	1.93E-02	4.61E-01	NA	NA	4.34E-06	4.34E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	4.98E-04	4.75E-04	1.11E-01	1.12E-01	1.87E-01
Chromium	NA	NA	NA	NA	1.48E-03	2.21E-02	3.57E-01	3.80E-01	5.62E-01
Lithium	NA	NA	NA	NA	2.40E-04	0.00E+00	1.15E-01	1.15E-01	5.76E-01

NA: Not applicable

Contaminant of potential human concern	Toddler - Scenario 2																		
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	4.25E-02	3.26E-03	1.75E-02	3.53E-03	1.55E-03	1.03E-05	4.79E-04	6.88E-02	NA	NA	1.86E-05	1.86E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	1.26E-02	1.97E-03	5.60E-03	1.76E-02	5.97E-02	2.41E-05	2.13E-03	9.97E-02	NA	NA	6.51E-05	6.51E-05
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	2.04E-02	0.00E+00	1.81E-02	4.69E-02	1.49E-01	9.71E-05	9.61E-03	2.44E-01	NA	NA	8.13E-06	8.13E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	3.65E-04	4.00E-04	9.55E-02	9.62E-02	1.65E-01
Chromium	NA	NA	NA	NA	1.08E-03	1.86E-02	3.05E-01	3.25E-01	4.25E-01
Lithium	NA	NA	NA	NA	1.76E-04	0.00E+00	9.86E-02	9.88E-02	3.43E-01

NA: Not applicable

Contaminant of potential human concern	Children - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	5.33E-03	1.64E-03	8.78E-03	1.77E-03	7.78E-04	5.18E-06	2.40E-04	1.85E-02	NA	NA	1.63E-05	1.63E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	1.58E-03	9.88E-04	2.81E-03	8.85E-03	2.99E-02	1.21E-05	1.07E-03	4.52E-02	NA	NA	5.70E-05	5.70E-05
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	2.56E-03	0.00E+00	9.07E-03	2.35E-02	7.48E-02	4.87E-05	4.82E-03	1.15E-01	NA	NA	7.13E-06	7.13E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.78E-04	3.32E-04	8.06E-02	8.12E-02	9.98E-02
Chromium	NA	NA	NA	NA	8.26E-04	1.54E-02	2.58E-01	2.74E-01	3.20E-01
Lithium	NA	NA	NA	NA	1.34E-04	0.00E+00	8.33E-02	8.34E-02	1.98E-01

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.93E-03	4.51E-04	4.84E-03	9.75E-04	4.29E-04	2.86E-06	1.32E-04	9.76E-03	NA	NA	9.64E-06	9.64E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	8.71E-04	2.72E-04	1.55E-03	4.88E-03	1.65E-02	6.65E-06	5.90E-04	2.47E-02	NA	NA	3.38E-05	3.38E-05
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	1.41E-03	0.00E+00	5.00E-03	1.30E-02	4.12E-02	2.68E-05	2.66E-03	6.33E-02	NA	NA	4.22E-06	4.22E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.23E-04	2.79E-04	6.72E-02	6.77E-02	7.75E-02
Chromium	NA	NA	NA	NA	6.62E-04	1.30E-02	2.15E-01	2.29E-01	2.53E-01
Lithium	NA	NA	NA	NA	1.07E-04	0.00E+00	6.94E-02	6.95E-02	1.33E-01

NA: Not applicable

Contaminant of potential human concern	Adult - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.48E-03	1.73E-04	3.76E-03	8.23E-04	3.62E-04	2.41E-06	1.12E-04	7.71E-03	NA	NA	8.66E-06	8.66E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	7.36E-04	1.05E-04	1.20E-03	4.12E-03	1.39E-02	5.61E-06	4.98E-04	2.06E-02	NA	NA	3.04E-05	3.04E-05
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	1.19E-03	0.00E+00	3.88E-03	1.09E-02	3.48E-02	2.27E-05	2.24E-03	5.31E-02	NA	NA	3.80E-06	3.80E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.12E-04	2.45E-04	6.29E-02	6.33E-02	7.11E-02
Chromium	NA	NA	NA	NA	6.30E-04	1.14E-02	2.01E-01	2.13E-01	2.34E-01
Lithium	NA	NA	NA	NA	1.02E-04	0.00E+00	6.50E-02	6.51E-02	1.18E-01

NA: Not applicable

Contaminant of potential human concern	Woman - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.48E-03	1.48E-04	3.19E-03	8.23E-04	3.62E-04	2.41E-06	1.12E-04	7.11E-03	NA	NA	8.66E-06	8.66E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	7.36E-04	8.96E-05	1.02E-03	4.12E-03	1.39E-02	5.61E-06	4.98E-04	2.04E-02	NA	NA	3.04E-05	3.04E-05
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	1.19E-03	0.00E+00	3.29E-03	1.09E-02	3.48E-02	2.27E-05	2.24E-03	5.25E-02	NA	NA	3.80E-06	3.80E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.12E-04	2.09E-04	6.29E-02	6.33E-02	7.04E-02
Chromium	NA	NA	NA	NA	6.30E-04	9.73E-03	2.01E-01	2.12E-01	2.32E-01
Lithium	NA	NA	NA	NA	1.02E-04	0.00E+00	6.50E-02	6.51E-02	1.18E-01

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.14E-02	3.04E-03	3.52E-02	7.10E-03	3.12E-03	2.08E-05	9.61E-04	7.08E-02	NA	NA	9.90E-06	9.90E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	6.34E-03	2.62E-03	1.13E-02	3.55E-02	1.20E-01	4.84E-05	4.29E-03	1.80E-01	NA	NA	3.47E-05	3.47E-05
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	1.03E-02	5.99E-02	3.64E-02	9.43E-02	3.00E-01	1.95E-04	1.93E-02	5.21E-01	NA	NA	4.34E-06	4.34E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	4.98E-04	2.20E-04	1.11E-01	1.12E-01	1.83E-01
Chromium	NA	NA	NA	NA	1.48E-03	1.46E-02	3.57E-01	3.73E-01	5.53E-01
Lithium	NA	NA	NA	NA	2.40E-04	4.33E-03	1.15E-01	1.20E-01	6.40E-01

NA: Not applicable

Contaminant of potential human concern	Toddler - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	4.25E-02	1.51E-03	1.75E-02	3.53E-03	1.55E-03	1.03E-05	4.78E-04	6.70E-02	NA	NA	1.86E-05	1.86E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	1.26E-02	1.30E-03	5.60E-03	1.76E-02	5.97E-02	2.41E-05	2.13E-03	9.90E-02	NA	NA	6.51E-05	6.51E-05
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	2.04E-02	2.97E-02	1.81E-02	4.69E-02	1.49E-01	9.71E-05	9.61E-03	2.74E-01	NA	NA	8.13E-06	8.13E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	3.65E-04	1.85E-04	9.55E-02	9.60E-02	1.63E-01
Chromium	NA	NA	NA	NA	1.08E-03	1.23E-02	3.05E-01	3.19E-01	4.18E-01
Lithium	NA	NA	NA	NA	1.76E-04	3.65E-03	9.86E-02	1.02E-01	3.77E-01

NA: Not applicable

Contaminant of potential human concern	Children - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	5.33E-03	7.57E-04	8.78E-03	1.77E-03	7.78E-04	5.18E-06	2.40E-04	1.77E-02	NA	NA	1.63E-05	1.63E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	1.58E-03	6.52E-04	2.81E-03	8.85E-03	2.99E-02	1.21E-05	1.07E-03	4.49E-02	NA	NA	5.70E-05	5.70E-05
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	2.56E-03	1.49E-02	9.07E-03	2.35E-02	7.48E-02	4.87E-05	4.82E-03	1.30E-01	NA	NA	7.13E-06	7.13E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.78E-04	1.53E-04	8.06E-02	8.11E-02	9.87E-02
Chromium	NA	NA	NA	NA	8.26E-04	1.02E-02	2.58E-01	2.69E-01	3.14E-01
Lithium	NA	NA	NA	NA	1.34E-04	3.03E-03	8.33E-02	8.65E-02	2.16E-01

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.93E-03	2.09E-04	4.84E-03	9.75E-04	4.29E-04	2.86E-06	1.32E-04	9.52E-03	NA	NA	9.64E-06	9.64E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	8.71E-04	1.80E-04	1.55E-03	4.88E-03	1.65E-02	6.65E-06	5.90E-04	2.46E-02	NA	NA	3.38E-05	3.38E-05
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	1.41E-03	4.11E-03	5.00E-03	1.30E-02	4.12E-02	2.68E-05	2.66E-03	6.74E-02	NA	NA	4.22E-06	4.22E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.23E-04	1.29E-04	6.72E-02	6.75E-02	7.71E-02
Chromium	NA	NA	NA	NA	6.62E-04	8.56E-03	2.15E-01	2.24E-01	2.49E-01
Lithium	NA	NA	NA	NA	1.07E-04	2.54E-03	6.94E-02	7.21E-02	1.39E-01

NA: Not applicable

Contaminant of potential human concern	Adult - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.48E-03	8.03E-05	3.76E-03	8.23E-04	3.62E-04	2.41E-06	1.11E-04	7.62E-03	NA	NA	8.66E-06	8.66E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	7.36E-04	6.92E-05	1.20E-03	4.12E-03	1.39E-02	5.61E-06	4.98E-04	2.06E-02	NA	NA	3.04E-05	3.04E-05
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	1.19E-03	1.58E-03	3.88E-03	1.09E-02	3.48E-02	2.27E-05	2.24E-03	5.47E-02	NA	NA	3.80E-06	3.80E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.12E-04	1.13E-04	6.29E-02	6.32E-02	7.08E-02
Chromium	NA	NA	NA	NA	6.30E-04	7.51E-03	2.01E-01	2.09E-01	2.30E-01
Lithium	NA	NA	NA	NA	1.02E-04	2.23E-03	6.50E-02	6.73E-02	1.22E-01

NA: Not applicable

Contaminant of potential human concern	Woman - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.48E-03	6.87E-05	3.19E-03	8.23E-04	3.62E-04	2.41E-06	1.11E-04	7.03E-03	NA	NA	8.66E-06	8.66E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	7.36E-04	5.92E-05	1.02E-03	4.12E-03	1.39E-02	5.61E-06	4.98E-04	2.04E-02	NA	NA	3.04E-05	3.04E-05
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	1.19E-03	1.35E-03	3.29E-03	1.09E-02	3.48E-02	2.27E-05	2.24E-03	5.39E-02	NA	NA	3.80E-06	3.80E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.12E-04	9.69E-05	6.29E-02	6.32E-02	7.02E-02
Chromium	NA	NA	NA	NA	6.30E-04	6.43E-03	2.01E-01	2.08E-01	2.29E-01
Lithium	NA	NA	NA	NA	1.02E-04	1.91E-03	6.50E-02	6.70E-02	1.21E-01

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 4																		
	Ingestion (HQoral)																Inhalation (HQinh)		
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.14E-02	4.06E-03	3.52E-02	7.10E-03	3.12E-03	2.08E-05	9.62E-04	7.18E-02	NA	NA	9.90E-06	9.90E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	6.34E-03	2.09E-03	1.13E-02	3.55E-02	1.20E-01	4.84E-05	4.29E-03	1.80E-01	NA	NA	3.47E-05	3.47E-05
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	1.03E-02	5.99E-02	3.64E-02	9.43E-02	3.00E-01	1.95E-04	1.93E-02	5.21E-01	NA	NA	4.34E-06	4.34E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	4.98E-04	2.94E-04	1.11E-01	1.12E-01	1.84E-01
Chromium	NA	NA	NA	NA	1.48E-03	1.17E-02	3.57E-01	3.70E-01	5.49E-01
Lithium	NA	NA	NA	NA	2.40E-04	4.33E-03	1.15E-01	1.20E-01	6.40E-01

NA: Not applicable

Contaminant of potential human concern	Toddler - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	4.25E-02	2.02E-03	1.75E-02	3.53E-03	1.55E-03	1.03E-05	4.78E-04	6.76E-02	NA	NA	1.86E-05	1.86E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	1.26E-02	1.04E-03	5.60E-03	1.76E-02	5.97E-02	2.41E-05	2.13E-03	9.87E-02	NA	NA	6.51E-05	6.51E-05
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	2.04E-02	2.97E-02	1.81E-02	4.69E-02	1.49E-01	9.71E-05	9.61E-03	2.74E-01	NA	NA	8.13E-06	8.13E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	3.65E-04	2.47E-04	9.55E-02	9.61E-02	1.64E-01
Chromium	NA	NA	NA	NA	1.08E-03	9.81E-03	3.05E-01	3.16E-01	4.15E-01
Lithium	NA	NA	NA	NA	1.76E-04	3.65E-03	9.86E-02	1.02E-01	3.77E-01

NA: Not applicable

Contaminant of potential human concern	Children - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	5.33E-03	1.01E-03	8.78E-03	1.77E-03	7.78E-04	5.18E-06	2.40E-04	1.79E-02	NA	NA	1.63E-05	1.63E-05
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	1.58E-03	5.22E-04	2.81E-03	8.85E-03	2.99E-02	1.21E-05	1.07E-03	4.48E-02	NA	NA	5.70E-05	5.70E-05
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	2.56E-03	1.49E-02	9.07E-03	2.35E-02	7.48E-02	4.87E-05	4.82E-03	1.30E-01	NA	NA	7.13E-06	7.13E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.78E-04	2.05E-04	8.06E-02	8.11E-02	9.90E-02
Chromium	NA	NA	NA	NA	8.26E-04	8.14E-03	2.58E-01	2.67E-01	3.12E-01
Lithium	NA	NA	NA	NA	1.34E-04	3.03E-03	8.33E-02	8.65E-02	2.16E-01

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.93E-03	2.79E-04	4.84E-03	9.75E-04	4.29E-04	2.86E-06	1.32E-04	9.59E-03	NA	NA	9.64E-06	9.64E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	8.71E-04	1.44E-04	1.55E-03	4.88E-03	1.65E-02	6.65E-06	5.90E-04	2.45E-02	NA	NA	3.38E-05	3.38E-05
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	1.41E-03	4.11E-03	5.00E-03	1.30E-02	4.12E-02	2.68E-05	2.66E-03	6.74E-02	NA	NA	4.22E-06	4.22E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.23E-04	1.72E-04	6.72E-02	6.76E-02	7.72E-02
Chromium	NA	NA	NA	NA	6.62E-04	6.84E-03	2.15E-01	2.23E-01	2.47E-01
Lithium	NA	NA	NA	NA	1.07E-04	2.54E-03	6.94E-02	7.21E-02	1.39E-01

NA: Not applicable

Contaminant of potential human concern	Adult - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.48E-03	1.07E-04	3.76E-03	8.23E-04	3.62E-04	2.41E-06	1.12E-04	7.64E-03	NA	NA	8.66E-06	8.66E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	7.36E-04	5.54E-05	1.20E-03	4.12E-03	1.39E-02	5.61E-06	4.98E-04	2.05E-02	NA	NA	3.04E-05	3.04E-05
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	1.19E-03	1.58E-03	3.88E-03	1.09E-02	3.48E-02	2.27E-05	2.24E-03	5.47E-02	NA	NA	3.80E-06	3.80E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.12E-04	1.51E-04	6.29E-02	6.33E-02	7.09E-02
Chromium	NA	NA	NA	NA	6.30E-04	6.01E-03	2.01E-01	2.08E-01	2.28E-01
Lithium	NA	NA	NA	NA	1.02E-04	2.23E-03	6.50E-02	6.73E-02	1.22E-01

NA: Not applicable

Contaminant of potential human concern	Woman - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	2.48E-03	9.18E-05	3.19E-03	8.23E-04	3.62E-04	2.41E-06	1.12E-04	7.06E-03	NA	NA	8.66E-06	8.66E-06
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	7.36E-04	4.73E-05	1.02E-03	4.12E-03	1.39E-02	5.61E-06	4.98E-04	2.04E-02	NA	NA	3.04E-05	3.04E-05
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	1.19E-03	1.35E-03	3.29E-03	1.09E-02	3.48E-02	2.27E-05	2.24E-03	5.39E-02	NA	NA	3.80E-06	3.80E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	2.12E-04	1.30E-04	6.29E-02	6.32E-02	7.03E-02
Chromium	NA	NA	NA	NA	6.30E-04	5.14E-03	2.01E-01	2.07E-01	2.27E-01
Lithium	NA	NA	NA	NA	1.02E-04	1.91E-03	6.50E-02	6.70E-02	1.21E-01

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	1.02E-01	5.50E-03	4.75E-02	7.48E-03	3.12E-03	9.36E-05	3.88E-03	NA	NA	NA	NA	NA	NA	NA	NA	1.70E-01	9.53E-06	NA	NA	9.53E-06
Chromium	6.20E-03	2.62E-03	1.13E-02	3.55E-02	1.20E-01	4.79E-05	4.27E-03	NA	NA	NA	NA	NA	NA	NA	NA	1.80E-01	3.46E-05	NA	NA	3.46E-05
Lithium	1.65E-02	1.12E-01	3.64E-02	9.43E-02	3.00E-01	2.34E-04	2.10E-02	NA	NA	NA	NA	NA	NA	NA	NA	5.81E-01	4.23E-06	NA	NA	4.23E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	2.37E-03	3.99E-04	1.50E-01	NA	NA	NA	NA	1.53E-01	3.23E-01
Chromium	1.44E-03	1.46E-02	3.57E-01	NA	NA	NA	NA	3.73E-01	5.53E-01
Lithium	3.84E-04	8.12E-03	1.15E-01	NA	NA	NA	NA	1.24E-01	7.04E-01

NA: Not applicable

Contaminant of potential human concern	Toddler - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	2.03E-01	2.74E-03	2.36E-02	3.72E-03	1.55E-03	4.65E-05	1.93E-03	NA	NA	NA	NA	NA	NA	NA	NA	2.36E-01	1.79E-05	NA	NA	1.79E-05
Chromium	1.23E-02	1.30E-03	5.60E-03	1.76E-02	5.97E-02	2.38E-05	2.12E-03	NA	NA	NA	NA	NA	NA	NA	NA	9.87E-02	6.49E-05	NA	NA	6.49E-05
Lithium	3.28E-02	5.57E-02	1.81E-02	4.69E-02	1.49E-01	1.16E-04	1.05E-02	NA	NA	NA	NA	NA	NA	NA	NA	3.13E-01	7.92E-06	NA	NA	7.92E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	1.74E-03	3.35E-04	1.29E-01	NA	NA	NA	NA	1.31E-01	3.67E-01
Chromium	1.06E-03	1.23E-02	3.05E-01	NA	NA	NA	NA	3.19E-01	4.18E-01
Lithium	2.82E-04	6.83E-03	9.86E-02	NA	NA	NA	NA	1.06E-01	4.19E-01

NA: Not applicable

Contaminant of potential human concern	Children - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	2.54E-02	1.37E-03	1.18E-02	1.86E-03	7.78E-04	2.33E-05	9.67E-04	NA	NA	NA	NA	NA	NA	NA	NA	4.23E-02	1.57E-05	NA	NA	1.57E-05
Chromium	1.55E-03	6.54E-04	2.81E-03	8.85E-03	2.99E-02	1.19E-05	1.06E-03	NA	NA	NA	NA	NA	NA	NA	NA	4.49E-02	5.69E-05	NA	NA	5.69E-05
Lithium	4.11E-03	2.79E-02	9.07E-03	2.35E-02	7.48E-02	5.83E-05	5.24E-03	NA	NA	NA	NA	NA	NA	NA	NA	1.45E-01	6.94E-06	NA	NA	6.94E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	1.33E-03	2.78E-04	1.09E-01	NA	NA	NA	NA	1.10E-01	1.53E-01
Chromium	8.07E-04	1.02E-02	2.58E-01	NA	NA	NA	NA	2.69E-01	3.14E-01
Lithium	2.15E-04	5.67E-03	8.33E-02	NA	NA	NA	NA	8.92E-02	2.34E-01

NA: Not applicable

Contaminant of potential human concern	Teen - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	1.40E-02	3.78E-04	6.53E-03	1.03E-03	4.29E-04	1.29E-05	5.33E-04	NA	NA	NA	NA	NA	NA	NA	NA	2.29E-02	9.28E-06	NA	NA	9.28E-06
Chromium	8.52E-04	1.80E-04	1.55E-03	4.88E-03	1.65E-02	6.58E-06	5.87E-04	NA	NA	NA	NA	NA	NA	NA	NA	2.45E-02	3.37E-05	NA	NA	3.37E-05
Lithium	2.26E-03	7.70E-03	5.00E-03	1.30E-02	4.12E-02	3.22E-05	2.89E-03	NA	NA	NA	NA	NA	NA	NA	NA	7.21E-02	4.12E-06	NA	NA	4.12E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	1.06E-03	2.34E-04	9.07E-02	NA	NA	NA	NA	9.20E-02	1.15E-01
Chromium	6.47E-04	8.58E-03	2.15E-01	NA	NA	NA	NA	2.24E-01	2.49E-01
Lithium	1.72E-04	4.76E-03	6.94E-02	NA	NA	NA	NA	7.44E-02	1.46E-01

NA: Not applicable

Contaminant of potential human concern	Adult - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	1.18E-02	1.46E-04	5.07E-03	8.68E-04	3.62E-04	1.09E-05	4.50E-04	NA	NA	NA	NA	NA	NA	NA	NA	1.87E-02	8.34E-06	NA	NA	8.34E-06
Chromium	7.19E-04	6.94E-05	1.20E-03	4.12E-03	1.39E-02	5.56E-06	4.95E-04	NA	NA	NA	NA	NA	NA	NA	NA	2.05E-02	3.03E-05	NA	NA	3.03E-05
Lithium	1.91E-03	2.96E-03	3.88E-03	1.09E-02	3.48E-02	2.72E-05	2.44E-03	NA	NA	NA	NA	NA	NA	NA	NA	5.70E-02	3.70E-06	NA	NA	3.70E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	1.01E-03	2.05E-04	8.49E-02	NA	NA	NA	NA	8.61E-02	1.05E-01
Chromium	6.16E-04	7.53E-03	2.01E-01	NA	NA	NA	NA	2.09E-01	2.30E-01
Lithium	1.64E-04	4.18E-03	6.50E-02	NA	NA	NA	NA	6.93E-02	1.26E-01

NA: Not applicable

Contaminant of potential human concern	Woman - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	1.18E-02	1.24E-04	4.30E-03	8.68E-04	3.62E-04	1.09E-05	4.50E-04	NA	NA	NA	NA	NA	NA	NA	NA	1.79E-02	8.34E-06	NA	NA	8.34E-06
Chromium	7.19E-04	5.93E-05	1.02E-03	4.12E-03	1.39E-02	5.56E-06	4.95E-04	NA	NA	NA	NA	NA	NA	NA	NA	2.03E-02	3.03E-05	NA	NA	3.03E-05
Lithium	1.91E-03	2.54E-03	3.29E-03	1.09E-02	3.48E-02	2.72E-05	2.44E-03	NA	NA	NA	NA	NA	NA	NA	NA	5.60E-02	3.70E-06	NA	NA	3.70E-06

NA: Not applicable

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	1.01E-03	1.76E-04	8.49E-02	NA	NA	NA	NA	8.61E-02	1.04E-01
Chromium	6.16E-04	6.44E-03	2.01E-01	NA	NA	NA	NA	2.08E-01	2.29E-01
Lithium	1.64E-04	3.58E-03	6.50E-02	NA	NA	NA	NA	6.87E-02	1.25E-01

NA: Not applicable

Contaminant of potential human concern	Infant - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	-1.39E-17	0.00E+00	0.00E+00	2.77E-03	0.00E+00	5.72E-07	7.33E-05	2.84E-03	NA	NA	3.69E-07	3.69E-07
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	-1.73E-18	0.00E+00	0.00E+00	-6.94E-18	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	8.18E-08	8.18E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	3.66E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.95E-04	1.93E-02	1.96E-02	NA	NA	1.12E-07	1.12E-07

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	-4.34E-19	0.00E+00	0.00E+00	0.00E+00	2.85E-03
Chromium	NA	NA	NA	NA	-2.17E-19	0.00E+00	0.00E+00	0.00E+00	8.18E-08
Lithium	NA	NA	NA	NA	8.52E-07	0.00E+00	0.00E+00	8.52E-07	1.96E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Toddler - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	-2.78E-17	0.00E+00	0.00E+00	1.38E-03	0.00E+00	2.84E-07	3.64E-05	1.41E-03	NA	NA	6.91E-07	6.91E-07
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	-1.73E-18	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-2.78E-17	NA	NA	1.53E-07	1.53E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	7.27E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.71E-05	9.61E-03	9.78E-03	NA	NA	2.11E-07	2.11E-07

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	-2.71E-19	0.00E+00	0.00E+00	0.00E+00	1.41E-03
Chromium	NA	NA	NA	NA	-2.17E-19	0.00E+00	0.00E+00	0.00E+00	1.53E-07
Lithium	NA	NA	NA	NA	6.25E-07	0.00E+00	0.00E+00	6.25E-07	9.78E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Children - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	-3.47E-18	0.00E+00	0.00E+00	6.91E-04	0.00E+00	1.43E-07	1.83E-05	7.09E-04	NA	NA	6.05E-07	6.05E-07
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	-2.17E-19	0.00E+00	0.00E+00	-1.73E-18	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	1.34E-07	1.34E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	9.12E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.87E-05	4.82E-03	4.88E-03	NA	NA	1.85E-07	1.85E-07

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	-1.63E-19	0.00E+00	0.00E+00	0.00E+00	7.10E-04
Chromium	NA	NA	NA	NA	-1.08E-19	0.00E+00	0.00E+00	0.00E+00	1.34E-07
Lithium	NA	NA	NA	NA	4.76E-07	0.00E+00	0.00E+00	4.76E-07	4.88E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Teen - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	-1.73E-18	0.00E+00	0.00E+00	3.81E-04	0.00E+00	7.86E-08	1.01E-05	3.91E-04	NA	NA	3.59E-07	3.59E-07
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	-2.17E-19	0.00E+00	0.00E+00	-8.67E-19	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	7.97E-08	7.97E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	5.03E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.68E-05	2.66E-03	2.69E-03	NA	NA	1.09E-07	1.09E-07

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	-1.36E-19	0.00E+00	0.00E+00	0.00E+00	3.91E-04
Chromium	NA	NA	NA	NA	-2.17E-19	0.00E+00	0.00E+00	0.00E+00	7.97E-08
Lithium	NA	NA	NA	NA	3.82E-07	0.00E+00	0.00E+00	3.82E-07	2.69E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Adult - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	-1.73E-18	0.00E+00	0.00E+00	3.21E-04	0.00E+00	6.63E-08	8.50E-06	3.30E-04	NA	NA	3.23E-07	3.23E-07
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	-1.08E-19	0.00E+00	0.00E+00	-8.67E-19	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	7.16E-08	7.16E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	4.24E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.27E-05	2.24E-03	2.27E-03	NA	NA	9.84E-08	9.84E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	-1.63E-19	0.00E+00	0.00E+00	0.00E+00	3.30E-04
Chromium	NA	NA	NA	NA	-2.17E-19	0.00E+00	0.00E+00	0.00E+00	7.16E-08
Lithium	NA	NA	NA	NA	3.63E-07	0.00E+00	0.00E+00	3.63E-07	2.27E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Woman - Scenario 2																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	-1.73E-18	0.00E+00	0.00E+00	3.21E-04	0.00E+00	6.63E-08	8.50E-06	3.30E-04	NA	NA	3.23E-07	3.23E-07
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	-1.08E-19	0.00E+00	0.00E+00	-8.67E-19	0.00E+00	0.00E+00	0.00E+00	-3.47E-18	NA	NA	7.16E-08	7.16E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	4.24E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.27E-05	2.24E-03	2.27E-03	NA	NA	9.84E-08	9.84E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	-1.63E-19	0.00E+00	0.00E+00	0.00E+00	3.30E-04
Chromium	NA	NA	NA	NA	-2.17E-19	0.00E+00	0.00E+00	0.00E+00	7.16E-08
Lithium	NA	NA	NA	NA	3.63E-07	0.00E+00	0.00E+00	3.63E-07	2.27E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Infant - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	-1.39E-17	-3.52E-03	0.00E+00	2.77E-03	0.00E+00	5.68E-07	7.13E-05	-6.81E-04	NA	NA	3.69E-07	3.69E-07
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	-1.73E-18	-1.35E-03	0.00E+00	-6.94E-18	0.00E+00	0.00E+00	0.00E+00	-1.35E-03	NA	NA	8.18E-08	8.18E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	3.66E-05	5.99E-02	0.00E+00	0.00E+00	0.00E+00	1.95E-04	1.93E-02	7.94E-02	NA	NA	1.12E-07	1.12E-07

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	-4.34E-19	-2.55E-04	0.00E+00	-2.55E-04	-9.36E-04
Chromium	NA	NA	NA	NA	-2.17E-19	-7.50E-03	0.00E+00	-7.50E-03	-8.84E-03
Lithium	NA	NA	NA	NA	8.52E-07	4.33E-03	0.00E+00	4.33E-03	8.38E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Toddler - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	-2.78E-17	-1.75E-03	0.00E+00	1.38E-03	0.00E+00	2.83E-07	3.54E-05	-3.39E-04	NA	NA	6.91E-07	6.91E-07
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	-1.73E-18	-6.69E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-6.69E-04	NA	NA	1.53E-07	1.53E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	7.27E-05	2.97E-02	0.00E+00	0.00E+00	0.00E+00	9.71E-05	9.61E-03	3.95E-02	NA	NA	2.11E-07	2.11E-07

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	-2.71E-19	-2.15E-04	0.00E+00	-2.15E-04	-5.53E-04
Chromium	NA	NA	NA	NA	-2.17E-19	-6.31E-03	0.00E+00	-6.31E-03	-6.98E-03
Lithium	NA	NA	NA	NA	6.25E-07	3.65E-03	0.00E+00	3.65E-03	4.32E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Children - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	-3.47E-18	-8.78E-04	0.00E+00	6.91E-04	0.00E+00	1.42E-07	1.78E-05	-1.70E-04	NA	NA	6.05E-07	6.05E-07
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	-2.17E-19	-3.36E-04	0.00E+00	-1.73E-18	0.00E+00	0.00E+00	0.00E+00	-3.36E-04	NA	NA	1.34E-07	1.34E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	9.12E-06	1.49E-02	0.00E+00	0.00E+00	0.00E+00	4.87E-05	4.82E-03	1.98E-02	NA	NA	1.85E-07	1.85E-07

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	-1.63E-19	-1.78E-04	0.00E+00	-1.78E-04	-3.47E-04
Chromium	NA	NA	NA	NA	-1.08E-19	-5.23E-03	0.00E+00	-5.23E-03	-5.57E-03
Lithium	NA	NA	NA	NA	4.76E-07	3.03E-03	0.00E+00	3.03E-03	2.28E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Teen - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	-1.73E-18	-2.42E-04	0.00E+00	3.81E-04	0.00E+00	7.81E-08	9.79E-06	1.48E-04	NA	NA	3.59E-07	3.59E-07
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	-2.17E-19	-9.25E-05	0.00E+00	-8.67E-19	0.00E+00	0.00E+00	0.00E+00	-9.25E-05	NA	NA	7.97E-08	7.97E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	5.03E-06	4.11E-03	0.00E+00	0.00E+00	0.00E+00	2.68E-05	2.66E-03	6.80E-03	NA	NA	1.09E-07	1.09E-07

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	-1.36E-19	-1.50E-04	0.00E+00	-1.50E-04	-9.76E-07
Chromium	NA	NA	NA	NA	-2.17E-19	-4.40E-03	0.00E+00	-4.40E-03	-4.49E-03
Lithium	NA	NA	NA	NA	3.82E-07	2.54E-03	0.00E+00	2.54E-03	9.34E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Adult - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	-1.73E-18	-9.32E-05	0.00E+00	3.21E-04	0.00E+00	6.59E-08	8.27E-06	2.37E-04	NA	NA	3.23E-07	3.23E-07
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	-1.08E-19	-3.56E-05	0.00E+00	-8.67E-19	0.00E+00	0.00E+00	0.00E+00	-3.56E-05	NA	NA	7.16E-08	7.16E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	4.24E-06	1.58E-03	0.00E+00	0.00E+00	0.00E+00	2.27E-05	2.24E-03	3.85E-03	NA	NA	9.84E-08	9.84E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	-1.63E-19	-1.32E-04	0.00E+00	-1.32E-04	1.05E-04
Chromium	NA	NA	NA	NA	-2.17E-19	-3.86E-03	0.00E+00	-3.86E-03	-3.90E-03
Lithium	NA	NA	NA	NA	3.63E-07	2.23E-03	0.00E+00	2.23E-03	6.09E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Woman - Scenario 3																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	-1.73E-18	-7.97E-05	0.00E+00	3.21E-04	0.00E+00	6.59E-08	8.27E-06	2.50E-04	NA	NA	3.23E-07	3.23E-07
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	-1.08E-19	-3.04E-05	0.00E+00	-8.67E-19	0.00E+00	0.00E+00	0.00E+00	-3.04E-05	NA	NA	7.16E-08	7.16E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	4.24E-06	1.35E-03	0.00E+00	0.00E+00	0.00E+00	2.27E-05	2.24E-03	3.62E-03	NA	NA	9.84E-08	9.84E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	-1.63E-19	-1.12E-04	0.00E+00	-1.12E-04	1.38E-04
Chromium	NA	NA	NA	NA	-2.17E-19	-3.31E-03	0.00E+00	-3.31E-03	-3.34E-03
Lithium	NA	NA	NA	NA	3.63E-07	1.91E-03	0.00E+00	1.91E-03	5.53E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Infant - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	-1.39E-17	-2.50E-03	0.00E+00	2.77E-03	0.00E+00	5.72E-07	7.19E-05	3.40E-04	NA	NA	3.69E-07	3.69E-07
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	-1.73E-18	-1.87E-03	0.00E+00	-6.94E-18	0.00E+00	0.00E+00	0.00E+00	-1.87E-03	NA	NA	8.18E-08	8.18E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	3.66E-05	5.99E-02	0.00E+00	0.00E+00	0.00E+00	1.95E-04	1.93E-02	7.94E-02	NA	NA	1.12E-07	1.12E-07

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	-4.34E-19	-1.81E-04	0.00E+00	-1.81E-04	1.60E-04
Chromium	NA	NA	NA	NA	-2.17E-19	-1.04E-02	0.00E+00	-1.04E-02	-1.23E-02
Lithium	NA	NA	NA	NA	8.52E-07	4.33E-03	0.00E+00	4.33E-03	8.38E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Toddler - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	-2.78E-17	-1.24E-03	0.00E+00	1.38E-03	0.00E+00	2.84E-07	3.57E-05	1.69E-04	NA	NA	6.91E-07	6.91E-07
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	-1.73E-18	-9.29E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-9.29E-04	NA	NA	1.53E-07	1.53E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	7.27E-05	2.97E-02	0.00E+00	0.00E+00	0.00E+00	9.71E-05	9.61E-03	3.95E-02	NA	NA	2.11E-07	2.11E-07

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	-2.71E-19	-1.53E-04	0.00E+00	-1.53E-04	1.74E-05
Chromium	NA	NA	NA	NA	-2.17E-19	-8.76E-03	0.00E+00	-8.76E-03	-9.69E-03
Lithium	NA	NA	NA	NA	6.25E-07	3.65E-03	0.00E+00	3.65E-03	4.32E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Children - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	-3.47E-18	-6.24E-04	0.00E+00	6.91E-04	0.00E+00	1.43E-07	1.79E-05	8.49E-05	NA	NA	6.05E-07	6.05E-07
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	-2.17E-19	-4.66E-04	0.00E+00	-1.73E-18	0.00E+00	0.00E+00	0.00E+00	-4.66E-04	NA	NA	1.34E-07	1.34E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	9.12E-06	1.49E-02	0.00E+00	0.00E+00	0.00E+00	4.87E-05	4.82E-03	1.98E-02	NA	NA	1.85E-07	1.85E-07

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	-1.63E-19	-1.27E-04	0.00E+00	-1.27E-04	-4.11E-05
Chromium	NA	NA	NA	NA	-1.08E-19	-7.27E-03	0.00E+00	-7.27E-03	-7.74E-03
Lithium	NA	NA	NA	NA	4.76E-07	3.03E-03	0.00E+00	3.03E-03	2.28E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Teen - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	-1.73E-18	-1.72E-04	0.00E+00	3.81E-04	0.00E+00	7.86E-08	9.87E-06	2.19E-04	NA	NA	3.59E-07	3.59E-07
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	-2.17E-19	-1.28E-04	0.00E+00	-8.67E-19	0.00E+00	0.00E+00	0.00E+00	-1.28E-04	NA	NA	7.97E-08	7.97E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	5.03E-06	4.11E-03	0.00E+00	0.00E+00	0.00E+00	2.68E-05	2.66E-03	6.80E-03	NA	NA	1.09E-07	1.09E-07

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	-1.36E-19	-1.06E-04	0.00E+00	-1.06E-04	1.13E-04
Chromium	NA	NA	NA	NA	-2.17E-19	-6.11E-03	0.00E+00	-6.11E-03	-6.24E-03
Lithium	NA	NA	NA	NA	3.82E-07	2.54E-03	0.00E+00	2.54E-03	9.34E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Adult - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	-1.73E-18	-6.62E-05	0.00E+00	3.21E-04	0.00E+00	6.64E-08	8.34E-06	2.64E-04	NA	NA	3.23E-07	3.23E-07
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	-1.08E-19	-4.95E-05	0.00E+00	-8.67E-19	0.00E+00	0.00E+00	0.00E+00	-4.95E-05	NA	NA	7.16E-08	7.16E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	4.24E-06	1.58E-03	0.00E+00	0.00E+00	0.00E+00	2.27E-05	2.24E-03	3.85E-03	NA	NA	9.84E-08	9.84E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	-1.63E-19	-9.34E-05	0.00E+00	-9.34E-05	1.71E-04
Chromium	NA	NA	NA	NA	-2.17E-19	-5.37E-03	0.00E+00	-5.37E-03	-5.42E-03
Lithium	NA	NA	NA	NA	3.63E-07	2.23E-03	0.00E+00	2.23E-03	6.09E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Woman - Scenario 4																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	-1.73E-18	-5.66E-05	0.00E+00	3.21E-04	0.00E+00	6.64E-08	8.34E-06	2.73E-04	NA	NA	3.23E-07	3.23E-07
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	-1.08E-19	-4.23E-05	0.00E+00	-8.67E-19	0.00E+00	0.00E+00	0.00E+00	-4.23E-05	NA	NA	7.16E-08	7.16E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	4.24E-06	1.35E-03	0.00E+00	0.00E+00	0.00E+00	2.27E-05	2.24E-03	3.62E-03	NA	NA	9.84E-08	9.84E-08

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	NA	NA	NA	NA	-1.63E-19	-7.99E-05	0.00E+00	-7.99E-05	1.94E-04
Chromium	NA	NA	NA	NA	-2.17E-19	-4.59E-03	0.00E+00	-4.59E-03	-4.63E-03
Lithium	NA	NA	NA	NA	3.63E-07	1.91E-03	0.00E+00	1.91E-03	5.53E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Infant - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	7.78E-02	-1.06E-03	1.23E-02	3.15E-03	0.00E+00	7.09E-05	2.89E-03	NA	NA	NA	NA	NA	NA	NA	NA	9.52E-02	0.00E+00	NA	NA	0.00E+00
Chromium	4.88E-06	-1.34E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	-1.34E-03	0.00E+00	NA	NA	0.00E+00
Lithium	6.23E-03	1.12E-01	0.00E+00	0.00E+00	0.00E+00	2.34E-04	2.10E-02	NA	NA	NA	NA	NA	NA	NA	NA	1.40E-01	0.00E+00	NA	NA	0.00E+00

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	1.81E-03	-7.65E-05	3.90E-02	NA	NA	NA	NA	4.07E-02	1.36E-01
Chromium	1.14E-06	-7.46E-03	0.00E+00	NA	NA	NA	NA	-7.46E-03	-8.83E-03
Lithium	1.45E-04	8.12E-03	0.00E+00	NA	NA	NA	NA	8.26E-03	1.48E-01

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Toddler - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	1.55E-01	-5.25E-04	6.13E-03	1.57E-03	0.00E+00	3.52E-05	1.44E-03	NA	NA	NA	NA	NA	NA	NA	NA	1.63E-01	0.00E+00	NA	NA	0.00E+00
Chromium	9.70E-06	-6.66E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	-6.56E-04	0.00E+00	NA	NA	0.00E+00
Lithium	1.24E-02	5.57E-02	0.00E+00	0.00E+00	0.00E+00	1.16E-04	1.05E-02	NA	NA	NA	NA	NA	NA	NA	NA	7.87E-02	0.00E+00	NA	NA	0.00E+00

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	1.33E-03	-6.44E-05	3.34E-02	NA	NA	NA	NA	3.47E-02	1.98E-01
Chromium	8.34E-07	-6.28E-03	0.00E+00	NA	NA	NA	NA	-6.28E-03	-6.94E-03
Lithium	1.07E-04	6.83E-03	0.00E+00	NA	NA	NA	NA	6.94E-03	8.56E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Children - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	1.94E-02	-2.63E-04	3.07E-03	7.86E-04	0.00E+00	1.77E-05	7.21E-04	NA	NA	NA	NA	NA	NA	NA	NA	2.37E-02	0.00E+00	NA	NA	0.00E+00
Chromium	1.22E-06	-3.34E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	-3.33E-04	0.00E+00	NA	NA	0.00E+00
Lithium	1.55E-03	2.79E-02	0.00E+00	0.00E+00	0.00E+00	5.83E-05	5.24E-03	NA	NA	NA	NA	NA	NA	NA	NA	3.48E-02	0.00E+00	NA	NA	0.00E+00

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	1.01E-03	-5.34E-05	2.82E-02	NA	NA	NA	NA	2.92E-02	5.29E-02
Chromium	6.35E-07	-5.21E-03	0.00E+00	NA	NA	NA	NA	-5.21E-03	-5.54E-03
Lithium	8.12E-05	5.67E-03	0.00E+00	NA	NA	NA	NA	5.75E-03	4.05E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Teen - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	1.07E-02	-7.26E-05	1.69E-03	4.33E-04	0.00E+00	9.74E-06	3.97E-04	NA	NA	NA	NA	NA	NA	NA	NA	1.31E-02	0.00E+00	NA	NA	0.00E+00
Chromium	6.70E-07	-9.20E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	-9.14E-05	0.00E+00	NA	NA	0.00E+00
Lithium	8.56E-04	7.70E-03	0.00E+00	0.00E+00	0.00E+00	3.22E-05	2.89E-03	NA	NA	NA	NA	NA	NA	NA	NA	1.15E-02	0.00E+00	NA	NA	0.00E+00

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	8.12E-04	-4.49E-05	2.35E-02	NA	NA	NA	NA	2.43E-02	3.74E-02
Chromium	5.09E-07	-4.38E-03	0.00E+00	NA	NA	NA	NA	-4.38E-03	-4.47E-03
Lithium	6.51E-05	4.76E-03	0.00E+00	NA	NA	NA	NA	4.83E-03	1.63E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Adult - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	9.02E-03	-2.79E-05	1.32E-03	3.66E-04	0.00E+00	8.22E-06	3.35E-04	NA	NA	NA	NA	NA	NA	NA	NA	1.10E-02	0.00E+00	NA	NA	0.00E+00
Chromium	5.66E-07	-3.54E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	-3.49E-05	0.00E+00	NA	NA	0.00E+00
Lithium	7.23E-04	2.96E-03	0.00E+00	0.00E+00	0.00E+00	2.72E-05	2.44E-03	NA	NA	NA	NA	NA	NA	NA	NA	6.15E-03	0.00E+00	NA	NA	0.00E+00

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	7.72E-04	-3.94E-05	2.20E-02	NA	NA	NA	NA	2.27E-02	3.38E-02
Chromium	4.84E-07	-3.85E-03	0.00E+00	NA	NA	NA	NA	-3.85E-03	-3.88E-03
Lithium	6.19E-05	4.18E-03	0.00E+00	NA	NA	NA	NA	4.24E-03	1.04E-02

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Woman - Scenario 5																			
	Ingestion (HQoral)																Inhalation (HQinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	13
Inorganic substance																				
Aluminum	9.02E-03	-2.39E-05	1.11E-03	3.66E-04	0.00E+00	8.22E-06	3.35E-04	NA	NA	NA	NA	NA	NA	NA	NA	1.08E-02	0.00E+00	NA	NA	0.00E+00
Chromium	5.66E-07	-3.03E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	-2.97E-05	0.00E+00	NA	NA	0.00E+00
Lithium	7.23E-04	2.54E-03	0.00E+00	0.00E+00	0.00E+00	2.72E-05	2.44E-03	NA	NA	NA	NA	NA	NA	NA	NA	5.72E-03	0.00E+00	NA	NA	0.00E+00

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Dermal contact (HQderm)								Oral equivalent (HQeq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	14	14	14	14	14	14	14	14	15
Inorganic substance									
Aluminum	7.72E-04	-3.37E-05	2.20E-02	NA	NA	NA	NA	2.28E-02	3.36E-02
Chromium	4.84E-07	-3.29E-03	0.00E+00	NA	NA	NA	NA	-3.29E-03	-3.32E-03
Lithium	6.19E-05	3.58E-03	0.00E+00	NA	NA	NA	NA	3.64E-03	9.36E-03

NA: Not applicable

Bold values > 0.2

Contaminant of potential human concern	Infant - Scenario 2																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	2.78E-10	2.78E-10
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Toddler - Scenario 2																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	5.56E-10	5.56E-10
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Children - Scenario 2																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	3.33E-10	3.33E-10
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable
Bold values > 1E-05

Contaminant of potential human concern	Teen - Scenario 2																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	2.22E-10	2.22E-10
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Adult - Scenario 2																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	1.11E-10	1.11E-10
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Woman - Scenario 2																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	1.11E-10	1.11E-10
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)	Resident -Scenario 2	
										Oral equivalent (ILCReq)	Inhalation (ILCRinh)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent	Sum of ILCReq of each age group	Sum of ILCRinh of each age group
In the scenario ?	NO	NO	NO	NO	YES	YES	YES				
Equation	18	18	18	18	18	18	18	18	19	20	20
Inorganic substance											
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0E+00	2E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Infant - Scenario 3																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-8.07E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-8.07E-09	NA	NA	2.78E-10	2.78E-10
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	0.00E+00	-4.49E-08	0.00E+00	-4.49E-08	-5.30E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Toddler - Scenario 3																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-1.80E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.80E-08	NA	NA	1.25E-09	1.25E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	0.00E+00	-1.70E-07	0.00E+00	-1.70E-07	-1.88E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Children - Scenario 3																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-8.45E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-8.45E-09	NA	NA	1.17E-09	1.17E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	0.00E+00	-1.32E-07	0.00E+00	-1.32E-07	-1.40E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable
Bold values > 1E-05

Contaminant of potential human concern	Teen - Scenario 3																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-1.77E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.77E-09	NA	NA	8.89E-10	8.89E-10
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	0.00E+00	-8.44E-08	0.00E+00	-8.44E-08	-8.62E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Adult - Scenario 3																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-4.69E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.69E-10	NA	NA	6.11E-10	6.11E-10
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	0.00E+00	-5.10E-08	0.00E+00	-5.10E-08	-5.14E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Woman - Scenario 3																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-4.01E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.01E-10	NA	NA	6.11E-10	6.11E-10
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)	Resident -Scenario 3	
										Oral equivalent (ILCReq)	Inhalation (ILCRinh)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent	Sum of ILCReq of each age group	Sum of ILCRinh of each age group
In the scenario ?	NO	NO	NO	NO	YES	YES	YES				
Equation	18	18	18	18	18	18	18	18	19	20	20
Inorganic substance											
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	0.00E+00	-4.36E-08	0.00E+00	-4.36E-08	-4.40E-08	-5E-07	4E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Infant - Scenario 4																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-1.12E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.12E-08	NA	NA	2.78E-10	2.78E-10
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	0.00E+00	-6.24E-08	0.00E+00	-6.24E-08	-7.36E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Toddler - Scenario 4																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-1.67E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.67E-08	NA	NA	8.33E-10	8.33E-10
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	0.00E+00	-1.58E-07	0.00E+00	-1.58E-07	-1.74E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Children - Scenario 4																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-5.03E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-5.03E-09	NA	NA	5.00E-10	5.00E-10
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	0.00E+00	-7.84E-08	0.00E+00	-7.84E-08	-8.35E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Teen - Scenario 4																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-9.24E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-9.24E-10	NA	NA	3.33E-10	3.33E-10
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	0.00E+00	-4.40E-08	0.00E+00	-4.40E-08	-4.49E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Adult - Scenario 4																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-1.78E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.78E-10	NA	NA	1.67E-10	1.67E-10
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	NO	NO	NO	NO	YES	YES	YES		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	0.00E+00	-1.93E-08	0.00E+00	-1.93E-08	-1.95E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Woman - Scenario 4																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES		NO	NO	YES	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	0.00E+00	-1.52E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.52E-10	NA	NA	1.67E-10	1.67E-10
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)	Resident -Scenario 4	
										Oral equivalent (ILCReq)	Inhalation (ILCRinh)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent	Sum of ILCReq of each age group	Sum of ILCRinh of each age group
In the scenario ?	NO	NO	NO	NO	YES	YES	YES				
Equation	18	18	18	18	18	18	18	18	19	20	20
Inorganic substance											
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	0.00E+00	-1.65E-08	0.00E+00	-1.65E-08	-1.67E-08	-4E-07	2E-09
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Infant - Scenario 5																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	2.92E-11	-2.09E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	-2.09E-07	0.00E+00	NA	NA	0.00E+00
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	0.00E+00	-1.17E-06	0.00E+00	NA	NA	NA	NA	-1.17E-06	-1.38E-06
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Toddler - Scenario 5																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	2.62E-10	-1.80E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	-1.77E-08	0.00E+00	NA	NA	0.00E+00
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	2.25E-11	-1.69E-07	0.00E+00	NA	NA	NA	NA	-1.69E-07	-1.87E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Children - Scenario 5																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	3.06E-11	-8.41E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	-8.38E-09	0.00E+00	NA	NA	0.00E+00
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	1.60E-11	-1.31E-07	0.00E+00	NA	NA	NA	NA	-1.31E-07	-1.40E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Teen - Scenario 5																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	1.28E-11	-1.77E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	-1.75E-09	0.00E+00	NA	NA	0.00E+00
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	9.77E-12	-8.40E-08	0.00E+00	NA	NA	NA	NA	-8.40E-08	-8.58E-08
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Adult - Scenario 5																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	4.07E-11	-2.55E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	-2.51E-09	0.00E+00	NA	NA	0.00E+00
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent
In the scenario ?	YES	YES	YES	NO	NO	NO	NO		
Equation	18	18	18	18	18	18	18	18	19
Inorganic substance									
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	3.48E-11	-2.77E-07	0.00E+00	NA	NA	NA	NA	-2.77E-07	-2.79E-07
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Woman - Scenario 5																			
	Ingestion (ILCRoral)																Inhalation (ILCRinh)			
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Berries in the PA	Fish fillets in the PA	Hare meat in the PA	Deer meat in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PAA	Berries south of the PA	Fish fillets south of the PA	Hare meat south of the PA	Deer meat south of the PA	Total	Outdoor air in the PA	Outdoor air in the village	Outdoor air south of the PA	Total
In the scenario ?	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO		YES	NO	NO	
Equation	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	17	17	17	17
Inorganic substance																				
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	4.07E-11	-2.18E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	-2.14E-09	0.00E+00	NA	NA	0.00E+00
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Contaminant of potential human concern	Dermal contact (ILCRderm)								Oral equivalent (ILCReq)	Resident -Scenario 5	
										Oral equivalent (ILCReq)	Inhalation (ILCRinh)
	Surface soil in the PA	Surface water in the PA	Sediment in the PA	Surface soil in the village	Surface soil south of the PA	Surface water south of the PA	Sediment south of the PA	Total	Oral equivalent	Sum of ILCReq of each age group	Sum of ILCRinh of each age group
In the scenario ?	YES	YES	YES	NO	NO	NO	NO				
Equation	18	18	18	18	18	18	18	18	19	20	20
Inorganic substance											
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	3.48E-11	-2.37E-07	0.00E+00	NA	NA	NA	NA	-2.37E-07	-2.39E-07	-2E-06	0E+00
Lithium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA: Not applicable

Bold values > 1E-05

Table E.32 Characteristics of workers

Caracteristics		Scenario 2	Scenario 3	Scenario 4
		Worker	Worker	Worker
Daily proportion of hours exposed to outdoor air at the employee accommodations	$Thoa_{pa}$ (unitless)	0.083	0.083	0.083
Annual proportion of days exposed to outdoor air at the employee accommodations	$Tdoa_{pa}$ (unitless)	0.66	0.66	0.66
Lifetime proportion of years exposed (cancer)	Ty (unitless)	0.025	0.14	0.038
Body weight	BW (kg)	70.7	70.7	70.7
Inhalation rate	InhR (m^3/d)	33.6	33.6	33.6
Interim age-dependent adjustment factors for cancer effects via a mutagenic mode of action	ADAF (unitless)	1	1	1

Contaminant of potential human concern	Worker - Scenario 1	Worker - Scenario 2	Worker - Scenario 3	Worker - Scenario 4
	Inhalation (mg/kg-d)	Inhalation (mg/kg-d)	Inhalation (mg/kg-d)	Inhalation (mg/kg-d)
	Outdoor air in the employee accommodations ($Dinh_{oa.ea}$)	Outdoor air in the employee accommodations ($Dinh_{oa.ea}$)	Outdoor air in the employee accommodations ($Dinh_{oa.ea}$)	Outdoor air in the employee accommodations ($Dinh_{oa.ea}$)
Equation	3	3	3	3
Inorganic substance				
Aluminum	2.22E-06	2.84E-06	2.84E-06	2.84E-06
Chromium	4.03E-08	4.10E-08	4.10E-08	4.10E-08
Lithium	1.97E-09	2.35E-09	2.35E-09	2.35E-09

Contaminant of potential human concern	Worker - Scenario 2 Inhalation (mg/kg-d) Outdoor air in the employee accommodations ($Dinh_{oa.ea}$)	Worker - Scenario 3 Inhalation (mg/kg-d) Outdoor air in the employee accommodations ($Dinh_{oa.ea}$)	Worker - Scenario 4 Inhalation (mg/kg-d) Outdoor air in the employee accommodations ($Dinh_{oa.ea}$)
Equation	3	3	3
Inorganic substance			
Aluminum	1.56E-08	8.59E-08	2.34E-08
Chromium	1.73E-11	9.54E-11	2.60E-11
Lithium	9.53E-12	5.24E-11	1.43E-11

Contaminant of potential human concern	Worker - Scenario 1	Worker - Scenario 2	Worker - Scenario 3	Worker - Scenario 4
	Inhalation (mg/m^3)	Inhalation (mg/m^3)	Inhalation (mg/m^3)	Inhalation (mg/m^3)
	Time-adjusted average daily outdoor air concentration at the employee accommodations ($TAADCoa_{ea}$)	Time-adjusted average daily outdoor air concentration at the employee accommodations ($TAADCoa_{ea}$)	Time-adjusted average daily outdoor air concentration at the employee accommodations ($TAADCoa_{ea}$)	Time-adjusted average daily outdoor air concentration at the employee accommodations ($TAADCoa_{ea}$)
Equation	10	10	10	10
Inorganic substance				
Aluminum	4.67E-06	5.99E-06	5.99E-06	5.99E-06
Chromium	8.49E-08	8.63E-08	8.63E-08	8.63E-08
Lithium	4.14E-09	4.94E-09	4.94E-09	4.94E-09

Contaminant of potential human concern	Worker - Scenario 1	Worker - Scenario 2	Worker - Scenario 3	Worker - Scenario 4
	Inhalation (mg/m³)	Inhalation (mg/m³)	Inhalation (mg/m³)	Inhalation (mg/m³)
	Time-adjusted average daily outdoor air concentration at the employee accommodations ($TAADCoa_{ea}$)	Time-adjusted average daily outdoor air concentration at the employee accommodations ($TAADCoa_{ea}$)	Time-adjusted average daily outdoor air concentration at the employee accommodations ($TAADCoa_{ea}$)	Time-adjusted average daily outdoor air concentration at the employee accommodations ($TAADCoa_{ea}$)
Equation	10	10	10	10
Inorganic substance				
Aluminum	2.04E-06	1.50E-07	8.23E-07	2.24E-07
Chromium	3.71E-08	2.16E-09	1.19E-08	3.24E-09
Lithium	1.81E-09	1.24E-10	6.80E-10	1.85E-10

Contaminant of potential human concern	Worker - Scenario 2	Worker - Scenario 3	Worker - Scenario 4
	HQinh	HQinh	HQinh
	Outdoor air at the employee accommodations	Outdoor air at the employee accommodations	Outdoor air at the employee accommodations
Equation	13	13	13
Inorganic substance			
Aluminum	1E-03	1E-03	1E-03
Chromium	9E-04	9E-04	9E-04
Lithium	1E-06	1E-06	1E-06

Bolded values > 0.2

Contaminant of potential human concern	Worker - Scenario 2	Worker - Scenario 3	Worker - Scenario 4	Worker - Sum of scenarios 2 and 4
	ILCRinh	ILCRinh	ILCRinh	ILCRinh
	Outdoor air at the employee accommodations	Outdoor air at the employee accommodations	Outdoor air at the employee accommodations	Outdoor air at the employee accommodations
Equation	17	17	17	
Inorganic substance				
Aluminum	NA	NA	NA	NA
Chromium	5E-13	3E-12	7E-13	1E-12
Lithium	NA	NA	NA	NA

NA: Not applicable
Bolded values > 1E-05

Appendix F

Ecological Screening Tables for COPECs

Table F.1

Identification of Contaminants of Potential Ecological Concern (COPECs) in Soil
Ecological Risk Assessment
Anaconda Goldboro
Goldboro, Nova Scotia
Lake Area

Medium: Soil
Exposure Medium: Soil

Contaminants	Units	Overall 90th Percentile Background Concentration	Predicted Maximum Concentrations (1)	Predicted Concentration exceeded background?	Terrestrial Invertebrates and Plants - Agricultural Land			Birds and Mammals			COPECs Y - Yes N - No	Rationales for the Selection of COPECs
					Guideline	Pathways	References (2)	Guideline	Pathways	References (2)		
Metals												
Aluminum (Al)	mg/kg	11000	42565.0	Yes	-	-	-	-	-	-	N	Detected, no screening value, below pH solubility
Antimony (Sb)	mg/kg	1.0	1.0	No	20	Soil contact	Atlantic RBCA (2021)	25	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Arsenic (As)	mg/kg	6.1	9.1	Yes	17.1	Soil contact	Atlantic RBCA (2021)	380	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Barium (Ba)	mg/kg	43	43.0	No	750	Soil contact	Atlantic RBCA (2021)	400	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Beryllium (Be)	mg/kg	1.0	1.4	Yes	5	Soil contact	Atlantic RBCA (2021)	13	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Bismuth (Bi)	mg/kg	1.0	-	Yes	-	-	-	-	-	-	N	Not predicted, No screening value
Boron (B)	mg/kg	25	25	No	36	Soil contact	USEPA (2018)	120	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Cadmium (Cd)	mg/kg	0.15	0.15	No	10	Soil contact	Atlantic RBCA (2021)	3.8	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Chromium (Cr)	mg/kg	14	14.0	No	64	Soil contact	Atlantic RBCA (2021)	160	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Cobalt (Co)	mg/kg	2.6	2.6	No	20	Soil contact	Atlantic RBCA (2021)	180	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Copper (Cu)	mg/kg	7.1	7.1	No	63	Soil contact	Atlantic RBCA (2021)	300	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Iron (Fe)	mg/kg	17000	17000.0	No	-	-	-	-	-	-	N	Background not exceeded
Lead (Pb)	mg/kg	16	20.6	Yes	300	Soil contact	Atlantic RBCA (2021)	70	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Lithium (Li)	**mg/kg**	**10**	**13.8**	**Yes**	**2**	**Soil contact**	**USEPA (2018)**	**75**	**Soil and food ingestion**	**USEPA (2018)**	**Y**	**Screening value exceeded**
Manganese (Mn)	mg/kg	99	99.0	No	220	Soil contact	USEPA (2018)	4000	Soil and food ingestion	USEPA (2018)	N	Screening value not exceeded
Mercury (Hg)	mg/kg	0.18	0.18	No	12	Soil contact	Atlantic RBCA (2021)	20	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Molybdenum (Mo)	mg/kg	1.0	1.0	No	4	Soil contact	Atlantic RBCA (2021)	6.9	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Nickel (Ni)	mg/kg	7.3	7.3	No	45	Soil contact	Atlantic RBCA (2021)	528	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Rubidium (Rb)	mg/kg	6.9	-	Yes	-	-	-	-	-	-	N	Not predicted, No screening value
Selenium (Se)	mg/kg	0.87	0.87	No	1	Soil contact	Atlantic RBCA (2021)	4.5	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Silver (Ag)	mg/kg	0.25	0.25	No	20	Soil contact	Atlantic RBCA (2021)	4.2	Soil and food ingestion	USEPA (2018)	N	Screening value not exceeded
Strontium (Sr)	mg/kg	23	23.0	No	-	-	-	96	Soil and food ingestion	USEPA (2018)	N	Screening value not exceeded
Thallium (Tl)	mg/kg	0.05	0.05	No	1.4	Soil contact	Atlantic RBCA (2021)	1	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Tin (Sn)	mg/kg	0.50	0.59	Yes	5	Soil contact	Atlantic RBCA (2021)	-	-	-	N	Screening value not exceeded
Uranium (U)	mg/kg	0.67	0.67	No	500	Soil contact	Atlantic RBCA (2021)	33	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Vanadium (V)	**mg/kg**	**23**	**39.4**	**Yes**	**130**	**Soil contact**	**Atlantic RBCA (2021)**	**18**	**Soil and food ingestion**	**Atlantic RBCA (2021)**	**Y**	**Screening value exceeded**
Zinc (Zn)	mg/kg	20	20.0	No	200	Soil contact	Atlantic RBCA (2021)	640	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded

Notes:

(1) Refer to Table B.16 of Appendix B for predicted maximum concentrations.
(2) Atlantic RBCA. (2021). Environmental Quality Standards and Pathway Specific Standards.
Consulted at < https://atlanticrbca.com/wp-content/files_mf/1627923620Atlantic_RBCA_EQS_and_PSS_Tables_July_2021.pdf>
USEPA (United States Environmental Protection Agency). 2018. Region 4 Ecological Risk Assessment Supplemental Guidance

Table F.2

Identification of Contaminants of Potential Ecological Concern (COPECs) in Soil
Ecological Risk Assessment
Anaconda Goldboro
Goldboro, Nova Scotia
Creek Area

Medium: Soil
Exposure Medium: Soil

Contaminants	Units	Overall 90th Percentile Background Concentration	Predicted Maximum Concentrations (1)	Predicted Concentration exceeded background?	Terrestrial Invertebrates and Plants - Agricultural Land			Birds and Mammals			COPECs Y - Yes N - No	Rationales for the Selection of COPECs
					Guideline	Pathways	References (2)	Guideline	Pathways	References (2)		
Metals												
Aluminum (Al)	mg/kg	6800	39582.6	Yes	-	-	-	-	-	-	N	Detected, no screening value, below pH solubility
Antimony (Sb)	mg/kg	1.0	1.0	No	20	Soil contact	Atlantic RBCA (2021)	25	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Arsenic (As)	mg/kg	20.8	20.8	No	17.1	Soil contact	Atlantic RBCA (2021)	380	Soil and food ingestion	Atlantic RBCA (2021)	N	Background not exceeded
Barium (Ba)	mg/kg	36.6	36.6	No	750	Soil contact	Atlantic RBCA (2021)	400	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Beryllium (Be)	mg/kg	0.5	1.2	Yes	5	Soil contact	Atlantic RBCA (2021)	13	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Bismuth (Bi)	mg/kg	1.0	-	Yes	-	-	-	-	-	-	N	Not predicted, No screening value
Boron (B)	mg/kg	25	25	No	36	Soil contact	USEPA (2018)	120	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Cadmium (Cd)	mg/kg	0.46	0.46	No	10	Soil contact	Atlantic RBCA (2021)	3.8	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Chromium (Cr)	mg/kg	11.0	11.0	No	64	Soil contact	Atlantic RBCA (2021)	160	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Cobalt (Co)	mg/kg	1.8	1.8	No	20	Soil contact	Atlantic RBCA (2021)	180	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Copper (Cu)	mg/kg	4.62	4.6	No	63	Soil contact	Atlantic RBCA (2021)	300	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Iron (Fe)	mg/kg	13800	13800	No	-	-	-	-	-	-	N	Background not exceeded
Lead (Pb)	mg/kg	23.8	25.0	Yes	300	Soil contact	Atlantic RBCA (2021)	70	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Lithium (Li)	**mg/kg**	**6.76**	**13.2**	**Yes**	**2**	**Soil contact**	**USEPA (2018)**	**75**	**Soil and food ingestion**	**USEPA (2018)**	**Y**	**Screening value exceeded**
Manganese (Mn)	mg/kg	77.2	77.2	No	220	Soil contact	USEPA (2018)	4000	Soil and food ingestion	USEPA (2018)	N	Screening value not exceeded
Mercury (Hg)	mg/kg	0.29	0.29	No	12	Soil contact	Atlantic RBCA (2021)	20	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Molybdenum (Mo)	mg/kg	1.0	1.0	No	4	Soil contact	Atlantic RBCA (2021)	6.9	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Nickel (Ni)	mg/kg	5.3	5.3	No	45	Soil contact	Atlantic RBCA (2021)	528	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Rubidium (Rb)	mg/kg	5.6	-	Yes	-	-	-	-	-	-	N	Not predicted, No screening value
Selenium (Se)	mg/kg	1.8	1.8	No	1	Soil contact	Atlantic RBCA (2021)	4.5	Soil and food ingestion	Atlantic RBCA (2021)	N	Background not exceeded
Silver (Ag)	mg/kg	0.25	0.25	No	20	Soil contact	Atlantic RBCA (2021)	4.2	Soil and food ingestion	USEPA (2018)	N	Screening value not exceeded
Strontium (Sr)	mg/kg	57.8	57.8	No	-	-	-	96	Soil and food ingestion	USEPA (2018)	N	Screening value not exceeded
Thallium (Tl)	mg/kg	0.05	0.05	No	1.4	Soil contact	Atlantic RBCA (2021)	1	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Tin (Sn)	mg/kg	0.50	0.59	Yes	5	Soil contact	Atlantic RBCA (2021)	-	-	-	N	Screening value not exceeded
Uranium (U)	mg/kg	0.62	0.64	Yes	500	Soil contact	Atlantic RBCA (2021)	33	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded
Vanadium (V)	**mg/kg**	**26.2**	**41.4**	**Yes**	**130**	**Soil contact**	**Atlantic RBCA (2021)**	**18**	**Soil and food ingestion**	**Atlantic RBCA (2021)**	**Y**	**Screening value exceeded**
Zinc (Zn)	mg/kg	23.6	23.6	No	200	Soil contact	Atlantic RBCA (2021)	640	Soil and food ingestion	Atlantic RBCA (2021)	N	Screening value not exceeded

Notes:

(1) Refer to Table B.16 of Appendix B for predicted maximum concentrations.

(2) Atlantic RBCA. (2021). Environmental Quality Standards and Pathway Specific Standards.
Consulted at < https://atlanticrbca.com/wp-content/files_mf/1627923620Atlantic_RBCA_EQS_and_PSS_Tables_July_2021.pdf>

USEPA (United States Environmental Protection Agency). 2018. Region 4 Ecological Risk Assessment Supplemental Guidance

Table F.3

Identification of Contaminants of Potential Ecological Concern (COPECs) in Surface Water
Ecological Risk Assessment
Anaconda Goldboro
Goldboro, Nova Scotia
Lake Area

Medium: Surface Water
Exposure Medium: Surface Water

Contaminants	Units	Overall 95th Percentile Background Concentration	Predicted Maximum Concentrations (1)	Predicted Concentration exceeded background?	Aquatic plants, Invertebrates and Fishes			COPECs Y - Yes N - No	Rationales for the Selection of COPECs
					Guideline	Pathways	References (2)		
Calculated Parameters									
Nitrate (N)	mg/L	0.06	4.93	Yes	13	Water direct contact	NSE(2021)	N	Screening value not exceeded
Inorganics									
Nitrite (N)	mg/L	0.016	0.06	Yes	0.06	Water direct contact	NSE(2021)	N	Screening value not exceeded
Nitrogen (Ammonia Nitrogen)	mg/L	0.065	0.065	No	0.016	Water direct contact	CCME(2021)	N	Screening value exceeded, background not exceeded
Cyanide	mg/L	-	0.005	No	0.005	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total metals									
Total Aluminum (Al)	mg/L	0.50	0.50	No	0.005	Water direct contact	NSE(2021)	N	Screening value exceeded, background not exceeded
Total Antimony (Sb)	mg/L	0.0007	0.0045	Yes	0.009	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Arsenic (As)	mg/L	0.062	0.06	No	0.005	Water direct contact	NSE(2021)	N	Screening value exceeded, background not exceeded
Total Barium (Ba)	mg/L	0.003	0.007	Yes	1	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Beryllium (Be)	mg/L	0.00067	0.00067	No	0.00015	Water direct contact	NSE(2021)	N	Screening value exceeded, background not exceeded
Total Bismuth (Bi)	mg/L	0.001	-	Yes	-	-	-	N	Not predicted, No screening value
Total Boron (B)	**mg/L**	**0.025**	**6.04**	**Yes**	**1.5**	**Water direct contact**	**NSE(2021)**	**Y**	**Screening value exceeded**
Total Cadmium (Cd)	mg/L	0.00004	0.00004	Yes	0.00009	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Calcium (Ca)	mg/L	0.754	-	Yes	116	Water direct contact	USEPA(2018)	N	Not predicted
Total Chromium (Cr)	mg/L	0.0005	0.0009	Yes	0.0089	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Cobalt (Co)	mg/L	0.0003	0.001	Yes	0.001	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Copper (Cu)	mg/L	0.001	0.002	Yes	0.002	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Iron (Fe)	mg/L	0.698	0.698	No	0.3	Water direct contact	NSE(2021)	N	Screening value exceeded, background not exceeded
Total Lead (Pb)	mg/L	0.00097	0.0010	Yes	0.001	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Lithium (Li)	mg/L	17.0	0.0438	No	-	-	-	N	No Screening value, background not exceeded
Total Magnesium (Mg)	mg/L	0.640	-	Yes	82	Water direct contact	USEPA(2018)	N	Not predicted, no data
Total Manganese (Mn)	mg/L	0.025	0.13	Yes	0.43	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Mercury (Hg)	mg/L	0.000010	0.000011	Yes	0.000026	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Molybdenum (Mo)	mg/L	0.001	0.04	Yes	0.073	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Nickel (Ni)	mg/L	0.001	0.01	Yes	0.025	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Phosphorus (P)	mg/L	0.050	0.52	Yes	1	Water direct contact	USEPA(2018)	N	Screening value not exceeded
Total Potassium (K)	mg/L	0.378	24.2	Yes	53	Water direct contact	USEPA(2018)	N	Screening value not exceeded
Total Selenium (Se)	mg/L	0.0005	0.0006	Yes	0.001	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Silver (Ag)	mg/L	0.00005	0.00008	Yes	0.00025	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Sodium (Na)	mg/L	4.7	14.3	Yes	680	Water direct contact	USEPA(2018)	N	Screening value not exceeded
Total Strontium (Sr)	mg/L	0.009	0.53	Yes	21	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Thallium (Tl)	mg/L	0.00005	0.00009	Yes	0.0008	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Tin (Sn)	mg/L	0.001	0.002	Yes	0.18	Water direct contact	USEPA(2018)	N	Screening value not exceeded
Total Titanium (Ti)	mg/L	0.009	1.54	Yes	--	--	--	N	No screening value, no data
Total Uranium (U)	mg/L	0.0001	0.0010	Yes	0.015	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Vanadium (V)	mg/L	0.001	0.0022	Yes	0.12	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Zinc (Zn)	mg/L	0.0118	0.0118	No	0.007	Water direct contact	NSE(2021)	N	Screening value exceeded, background not exceeded

Notes:

(1) Refer to Table B.45 of Appendix B for predicted maximum concentrations.
(2) CCME (2021). Canadian Water Quality Guidelines for the Protection of Aquatic Life
NSE (Nova Scotia Environment), 2021: Contaminated Sites – Ministerial Protocols. September 2021. Consulted at <https://novascotia.ca/nse/contaminatedsites/protocols.asp>
USEPA (United States Environmental Protection Agency), 2021: Regional Screening Levels (RSLs) - Generic Tables. Tables as of November 2021.
Consulted at <https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables>

Table F.4

Identification of Contaminants of Potential Ecological Concern (COPECs) in Surface Water
Ecological Risk Assessment
Anaconda Goldboro
Goldboro, Nova Scotia
Creek Area

Medium: Surface Water
Exposure Medium: Surface Water

Contaminants	Units	Overall 95th Percentile Background Concentration	Predicted Maximum Concentrations (1)	Predicted Concentration exceeded background?	Aquatic plants, Invertebrates and Fishes			COPECs Y - Yes N - No	Rationales for the Selection of COPECs
					Guideline	Pathways	References (2)		
Calculated Parameters									
Nitrate (N)	mg/L	0.23	4.82	Yes	13	Water direct contact	NSE(2021)	N	Screening value not exceeded
Inorganics									
Nitrite (N)	mg/L	0.011	0.06	Yes	0.06	Water direct contact	NSE(2021)	N	Screening value not exceeded
Nitrogen (Ammonia Nitrogen)	mg/L	0.178	0.178	No	0.016	Water direct contact	CCME(2021)	N	Screening value exceeded, background not exceeded
Cyanide	mg/L	-	0.005	No	0.005	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total metals									
Total Aluminum (Al)	mg/L	0.43	0.43	No	0.005	Water direct contact	NSE(2021)	N	Screening value exceeded, background not exceeded
Total Antimony (Sb)	mg/L	0.0005	0.0044	Yes	0.009	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Arsenic (As)	mg/L	0.68	0.68	No	0.005	Water direct contact	NSE(2021)	N	Screening value exceeded, background not exceeded
Total Barium (Ba)	mg/L	0.004	0.007	Yes	1	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Beryllium (Be)	mg/L	0.00050	0.00050	No	0.00015	Water direct contact	NSE(2021)	N	Screening value exceeded, background not exceeded
Total Bismuth (Bi)	mg/L	0.00100	-	Yes	-	-	-	N	Not predicted, No screening value
Total Boron (B)	**mg/L**	**0.025**	**1.96**	**Yes**	**1.5**	**Water direct contact**	**NSE(2021)**	**Y**	**Screening value exceeded**
Total Cadmium (Cd)	mg/L	0.000025	0.000037	Yes	0.00009	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Calcium (Ca)	mg/L	4.9	-	Yes	116	Water direct contact	USEPA(2018)	N	Not predicted, no data
Total Chromium (Cr)	mg/L	0.0013	0.0013	No	0.0089	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Cobalt (Co)	mg/L	0.00020	0.00099	Yes	0.001	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Copper (Cu)	mg/L	0.0017	0.0020	Yes	0.002	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Iron (Fe)	mg/L	1.17	1.17	No	0.3	Water direct contact	NSE(2021)	N	Screening value exceeded, background not exceeded
Total Lead (Pb)	mg/L	0.00076	0.00093	Yes	0.001	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Lithium (Li)	mg/L	31.0	0.01443	No	-	-	-	N	No guideline, background not exceeded
Total Magnesium (Mg)	mg/L	0.81	-	Yes	82	Water direct contact	USEPA(2018)	N	Not predicted, no data
Total Manganese (Mn)	mg/L	0.08	0.12	Yes	0.43	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Mercury (Hg)	mg/L	0.000136	0.000136	No	0.000026	Water direct contact	NSE(2021)	N	Screening value exceeded, background not exceeded
Total Molybdenum (Mo)	mg/L	0.001	0.01	Yes	0.073	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Nickel (Ni)	mg/L	0.0010	0.0142	Yes	0.025	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Phosphorus (P)	mg/L	0.05	0.16	Yes	1	Water direct contact	USEPA(2018)	N	Screening value not exceeded
Total Potassium (K)	mg/L	0.8	7.6	Yes	53	Water direct contact	USEPA(2018)	N	Screening value not exceeded
Total Selenium (Se)	mg/L	0.0005	0.0006	Yes	0.001	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Silver (Ag)	mg/L	0.00005	0.00008	Yes	0.00025	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Sodium (Na)	mg/L	5.5	4.6	No	680	Water direct contact	USEPA(2018)	N	Screening value not exceeded
Total Strontium (Sr)	mg/L	0.045	0.42	Yes	21	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Thallium (Tl)	mg/L	0.00005	0.00008	Yes	0.0008	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Tin (Sn)	mg/L	0.001	0.001	No	0.18	Water direct contact	USEPA(2018)	N	Screening value not exceeded
Total Titanium (Ti)	mg/L	0.009	0.60	Yes	-	-	-	N	No screening value, no data
Total Uranium (U)	mg/L	0.00005	0.0010	Yes	0.015	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Vanadium (V)	mg/L	0.001	0.002	Yes	0.12	Water direct contact	NSE(2021)	N	Screening value not exceeded
Total Zinc (Zn)	mg/L	0.0098	0.0098	No	0.007	Water direct contact	NSE(2021)	N	Screening value exceeded, background not exceeded

Notes:

(1) Refer to Table B.45 of Appendix B for predicted maximum concentrations.

(2) CCME (2021). Canadian Water Quality Guidelines for the Protection of Aquatic Life
NSE (Nova Scotia Environment), 2021: Contaminated Sites – Ministerial Protocols. September 2021. Consulted at <https://novascotia.ca/nse/contaminatedsites/protocols.asp>
USEPA (United States Environmental Protection Agency), 2021: Regional Screening Levels (RSLs) - Generic Tables. Tables as of November 2021.
Consulted at <https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables>

Table F.5

Identification of Contaminants of Potential Ecological Concern (COPECs) in Sediment
Ecological Risk Assessment
Anaconda Goldboro
Goldboro, Nova Scotia
Lake Area

Medium: Sediment
Exposure Medium: Sediment

Contaminants	Units	Overall Maximum Background Concentratio	Predicted Maximum Concentrations (1)	Predicted Concentration exceeded background?	Aquatic plants, Invertebrates and Fishes			COPECs Y - Yes N - No	Rationales for the Selection of COPECs
					Guideline	Pathways	References (2)		
Metals									
Aluminum (Al)	mg/kg	9800	48670	Yes	58030	Sediment direct contact	USDE (1997)	N	Screening value not exceeded
Antimony (Sb)	mg/kg	5.3	5	No	25	Sediment direct contact	NSE (2021)	N	Screening value exceeded, background not exceeded
Arsenic (As)	mg/kg	15000	15000	No	17	Sediment direct contact	NSE (2021)	N	Screening value exceeded, background not exceeded
Barium (Ba)	mg/kg	71	71	No	20	Sediment direct contact	USEPA (2018)	N	Screening value exceeded, background not exceeded
Beryllium (Be)	**mg/kg**	**1.0**	**1.4**	**Yes**	**1.2**	**Sediment direct contact**	**Crommentuijn et al. (2000)**	**Y**	**Screening value exceeded**
Bismuth (Bi)	mg/kg	1	1.0	No	-	-	-	N	Background not exceeded
Boron (B)	mg/kg	25	25	No	-	-	-	N	Background not exceeded
Cadmium (Cd)	mg/kg	0.15	0.2	No	3.5	Sediment direct contact	NSE (2021)	N	Screening value not exceeded
Chromium (Cr)	mg/kg	16	16	No	90	Sediment direct contact	NSE (2021)	N	Screening value not exceeded
Cobalt (Co)	mg/kg	4.1	41	Yes	50	Sediment direct contact	OME (2011)	N	Screening value exceeded, background not exceeded
Copper (Cu)	mg/kg	15	15	No	197	Sediment direct contact	NSE (2021)	N	Screening value not exceeded
Iron (Fe)	mg/kg	37000	37000	No	43766	Sediment direct contact	NSE (2021)	N	Screening value exceeded, background not exceeded
Lead (Pb)	mg/kg	49	49	No	91.3	Sediment direct contact	NSE (2021)	N	Screening value exceeded, background not exceeded
Lithium (Li)	mg/kg	17	17	No	-	-	-	N	Background not exceeded
Manganese (Mn)	mg/kg	210	210	No	1100	Sediment direct contact	NSE (2021)	N	Screening value not exceeded
Mercury (Hg)	mg/kg	2.7	2.7	No	0.486	Sediment direct contact	NSE (2021)	N	Screening value exceeded, background not exceeded
Molybdenum (Mo)	mg/kg	1	1.0	No	250	Sediment direct contact	Crommentuijn et al. (2000)	N	Screening value not exceeded
Nickel (Ni)	mg/kg	13	13	No	75	Sediment direct contact	NSE (2021)	N	Screening value exceeded, background not exceeded
Rubidium (Rb)	mg/kg	21	21	No	-	-	-	N	Background not exceeded
Selenium (Se)	mg/kg	1.1	1.1	No	2	Sediment direct contact	NSE (2021)	N	Screening value exceeded, background not exceeded
Silver (Ag)	mg/kg	0.3	0.3	No	0.5	Sediment direct contact	NSE (2021)	N	Screening value exceeded, background not exceeded
Strontium (Sr)	mg/kg	13	18	Yes	-	-	-	N	Detected, No screening value, no data for comparison
Thallium (Tl)	mg/kg	0.17	0.2	No	2.6	Sediment direct contact	Crommentuijn et al. (2000)	N	Screening value not exceeded
Tin (Sn)	mg/kg	0.5	0.6	Yes	22000	Sediment direct contact	Crommentuijn et al. (2000)	N	Screening value not exceeded
Uranium (U)	mg/kg	0.6	0.6	Yes	100	Sediment direct contact	USEPA (2018)	N	Screening value not exceeded
Vanadium (V)	mg/kg	18	40.1	**Yes**	56	Sediment direct contact	Crommentuijn et al. (2000)	N	Screening value not exceeded
Zinc (Zn)	mg/kg	39	39	No	315	Sediment direct contact	NSE (2021)	N	Screening value not exceeded

Notes:

(1) Refer to Table B.47 of Appendix B for predicted maximum concentrations.

(2) Crommentuijn, T., D. Sijm, J. de Bruijn, M. van den Hoop, K. van Leeuwen and E. van de Plassche. (2000). Maximum permissible and negligible concentrations for metals and metalloids in the Netherlands, taking into account background concentrations. Journal of Environmental Management. 60 (2): 121-143. October 2000.

NSE (Nova Scotia Environment), 2021: Contaminated Sites – Ministerial Protocols. September 2021. Consulted at <https://novascotia.ca/nse/contaminatedsites/protocols.asp>

OME (Ontario Ministry of the Environment). (2020). Ambient Air Quality Criteria. Human Toxicology and Air Standards Section, Technical Assessment and Standards, Development Branch, Ontario Ministry of the Environment, Conservation and Parks. May 1, 2020.

USDE (United States Department of Energy), 1997: Toxicological Benchmarks for Screening Contaminants of Potential Concern for Effects on Sediment-Associated Biota: 1997 Revision
Consulted at ,https://rais.ornl.gov/documents/ECO_BENCH_EPA_ARCS.pdf>

USEPA (United States Environmental Protection Agency), 2021: Regional Screening Levels (RSLs) - Generic Tables. Tables as of November 2021.
Consulted at <https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables>

Table F.6

Identification of Contaminants of Potential Ecological Concern (COPECs) in Sediment
Ecological Risk Assessment
Anaconda Goldboro
Goldboro, Nova Scotia
Creek Area

Medium: Sediment
Exposure Medium: Sediment

Contaminants	Units	Overall Maximum Background Concentratio	Predicted Maximum Concentrations (1)	Predicted Concentration exceeded background?	Aquatic plants, Invertebrates and Fishes			COPECs Y - Yes N - No	Rationales for the Selection of COPECs
					Guideline	Pathways	References (2)		
Metals									
Aluminum (Al)	mg/kg	15000	19449	Yes	58030	Sediment direct contact	USDE (1997)	N	Screening value not exceeded
Antimony (Sb)	mg/kg	81	81	No	25	Sediment direct contact	NSE (2021)	N	Screening value exceeded, background not exceeded
Arsenic (As)	mg/kg	110000	110000	No	17	Sediment direct contact	NSE (2021)	N	Screening value exceeded, background not exceeded
Barium (Ba)	mg/kg	96	96	No	20	Sediment direct contact	USEPA (2018)	N	Screening value exceeded, background not exceeded
Beryllium (Be)	mg/kg	1.0	1.0	No	1.2	Sediment direct contact	Crommentuijn et al. (2000)	N	Background not exceeded
Bismuth (Bi)	mg/kg	5.4	5.4	No	-	-	-	N	Background not exceeded
Boron (B)	mg/kg	25	25	No	-	-	-	N	Background not exceeded
Cadmium (Cd)	mg/kg	0.56	0.56	No	3.5	Sediment direct contact	NSE (2021)	N	Screening value not exceeded
Chromium (Cr)	mg/kg	24	24	No	90	Sediment direct contact	NSE (2021)	N	Screening value not exceeded
Cobalt (Co)	mg/kg	130	130	No	50	Sediment direct contact	OME (2011)	N	Screening value exceeded, background not exceeded
Copper (Cu)	mg/kg	36	36	No	197	Sediment direct contact	NSE (2021)	N	Screening value not exceeded
Iron (Fe)	mg/kg	120000	120000	No	43766	Sediment direct contact	NSE (2021)	N	Screening value exceeded, background not exceeded
Lead (Pb)	mg/kg	120	120	No	91.3	Sediment direct contact	NSE (2021)	N	Screening value exceeded, background not exceeded
Lithium (Li)	mg/kg	31	31	No	-	-	-	N	Background not exceeded
Manganese (Mn)	mg/kg	400	400	No	1100	Sediment direct contact	NSE (2021)	N	Screening value not exceeded
Mercury (Hg)	mg/kg	11	11	No	0.486	Sediment direct contact	NSE (2021)	N	Screening value exceeded, background not exceeded
Molybdenum (Mo)	mg/kg	4.3	4.3	No	250	Sediment direct contact	Crommentuijn et al. (2000)	N	Screening value not exceeded
Nickel (Ni)	mg/kg	210	210	No	75	Sediment direct contact	NSE (2021)	N	Screening value exceeded, background not exceeded
Rubidium (Rb)	mg/kg	39	39	No	-	-	-	N	Background not exceeded
Selenium (Se)	mg/kg	2.5	2.5	No	2	Sediment direct contact	NSE (2021)	N	Screening value exceeded, background not exceeded
Silver (Ag)	mg/kg	3.4	3.4	No	0.5	Sediment direct contact	NSE (2021)	N	Screening value exceeded, background not exceeded
Strontium (Sr)	mg/kg	26	26	No	-	-	-	N	Background not exceeded
Thallium (Tl)	mg/kg	0.3	0.3	No	2.6	Sediment direct contact	Crommentuijn et al. (2000)	N	Screening value not exceeded
Tin (Sn)	mg/kg	1.4	1.4	No	22000	Sediment direct contact	Crommentuijn et al. (2000)	N	Screening value not exceeded
Uranium (U)	mg/kg	1.7	1.7	No	100	Sediment direct contact	USEPA (2018)	N	Screening value not exceeded
Vanadium (V)	mg/kg	27	27	No	56	Sediment direct contact	Crommentuijn et al. (2000)	N	Screening value not exceeded
Zinc (Zn)	mg/kg	64	64	No	315	Sediment direct contact	NSE (2021)	N	Screening value not exceeded

Notes:

(1) Refer to Table B.47 of Appendix B for predicted maximum concentrations.

(2) Crommentuijn, T., D. Sijm, J. de Bruijn, M. van den Hoop, K. van Leeuwen and E. van de Plassche. (2000). Maximum permissible and negligible concentrations for metals and metalloids in the Netherlands, taking into account background concentrations. Journal of Environmental Management. 60 (2): 121-143. October 2000.

NSE (Nova Scotia Environment), 2021: Contaminated Sites – Ministerial Protocols. September 2021. Consulted at <https://novascotia.ca/nse/contaminatedsites/protocols.asp>

OME (Ontario Ministry of the Environment). (2020). Ambient Air Quality Criteria. Human Toxicology and Air Standards Section, Technical Assessment and Standards, Development Branch, Ontario Ministry of the Environment, Conservation and Parks. May 1, 2020.

USDE (United States Department of Energy), 1997: Toxicological Benchmarks for Screening Contaminants of Potential Concern for Effects on Sediment-Associated Biota: 1997 Revision
Consulted at ,https://rais.ornl.gov/documents/ECO_BENCH_EPA_ARCS.pdf>

USEPA (United States Environmental Protection Agency), 2021: Regional Screening Levels (RSLs) - Generic Tables. Tables as of November 2021.
Consulted at <https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables>

Appendix G

Ecological Risk Calculations

Table G.1

Summary of Receptor Characteristics
Anaconda Goldboro
Goldboro, Nova Scotia

	Diet Group Proportions (x/1)													
Species	**Aquatic Plants**	**Aquatic Invertebrates**	**Fish**	**Terrestrial Plants**	**Terrestrial Invertebrates**	**Prey**	**Wet Food Ingestion Rate (kg wet food/ kg BW/day)**	**Water Ingestion Rate (L/kg BW/day)**	**Incidental Ingestion SEDIMENT Rate (kg dw/kg ww/day)**	**Incidental Ingestion SOIL Rate (kg dw/kg ww/day)**	**Inhalation Exposure (m^3/day)**	**Home/Forage range (ha)**	**Contaminated Area Lake (ha)**	**Contaminated Area Creek (ha)**
Moose	0.2	0	0	0.8	0	0	0.051	0.05	0.00008	0.00032	--	460	851	582.5
American Mink	0	0.25	0.3	0	0.1	0.35	0.140	0.03	0.00154	0.00126	0.44	770	17.94	5.13
(Shorebird) Spotted Sandpiper	0.05	0.3	0.025	0	0.6	0.025	0.701	0.17	0.00135	0.00225	0.036	0.25	17.94	5.13
Meadow Vole	0	0	0	1	0	0	0.330	0.21	0	0.00792	0.048	0.06	851	582.5
Snowshoe Hare	0	0	0	1	0	0	0.124	0.1	0	0.00378	--	1.6	851	582.5
White-tailed Deer	0	0	0	1	0	0	0.062	0.06	0	0.0006	--	30	851	582.5
Red Fox	0	0	0	0.15	0.25	0.6	0.090	0.09	0	0.00252	1.85	156	851	582.5
Deer Mouse	0	0	0	0.5	0.5	0	0.270	0.19	0	0.0054	0.024	0.0595	851	582.5
Black Bear	0	0	0.05	0.8	0.025	0.125	0.071	0.06	0.00003	0.00057	--	300	851	582.5
Barn Swallow	0	0	0	0.01	0.99	0	0.902	0.22	0	0.0052	--	80	851	582.5
Red-tailed Hawk	0	0	0.025	0	0	0.975	0.100	0.06	0.00005	0.00195	0.45	697	851	582.5
American Kestrel	0	0	0	0	0.51	0.49	1.071	0.115	0	0.0062	0.084	131	851	582.5
American Robin	0	0	0	0.6	0.4	0	1.210	0.14	0	0.0484	--	0.16	851	582.5

Sources:

Government of Canada (GC). (2012). Federal Contaminated Sites Action Plan (FCSAP) - Ecological Risk Assessment Guidance. March 2012.
Consulted at <https://publications.gc.ca/collections/collection_2014/ec/En14-19-1-2013-eng.pdf>

USEPA (United States Environmental Protection Agency). (1993). Wildlife exposure factors handbook.
Consulted at <https://rais.ornl.gov/documents/WEFHV1.PDF>

Table G.2

Soil Exposure Guidelines for Terrestrial Plants and Terrestrial Invertebrates
Anaconda Goldboro
Goldboron, Nova Scotia

COPEC	Guideline Concentrations for Terrestrial Invertebrates and Plants - Agricultural Land (mg/kg)	Exposure Pathway	References
Metals			
Beryllium (Be)	5	Soil contact	Atlantic RBCA, 2021
Boron (B)	NA	--	--
Lithium (Li)	NA	--	--
Vanadium (V)	130	Soil contact	Atlantic RBCA, 2021

Notes:

NA - Not Available

References:

Atlantic RBCA, 2021: Environmental Quality Standards and Pathway Specific Standards. Consulted at

< https://atlanticrbca.com/wp-content/files_mf/1627923620Atlantic_RBCA_EQS_and_PSS_Tables_July_2021.pdf>

Table G.3

Sediment Exposure Guidelines for Aquatic Plants and Benthic Invertebrates
Anaconda Goldboro
Goldboron, Nova Scotia

COPEC	Guidelines Concentrations for Aquatic Plants, Invertebrates and Fish (mg/kg)	Exposure Pathways	References
Metals			
Beryllium (Be)	1.2	Sediment direct contact	Crommentuijn et al., 2000
Boron (B)	NA	--	--
Lithium (Li)	NA	--	--
Vanadium (V)	56	Sediment direct contact	Crommentuijn et al., 2000

Notes:

NA - Not Available

Sources:

Crommentuijn, T., D. Sijm, J. de Bruijn, M. van den Hoop, K. van Leeuwen and E. van de Plassche. (2000). Maximum permissible and negligible concentrations for metals and metalloids in the Netherlands, taking into account background concentrations. Journal of Environmental Management. 60 (2): 121-143. October 2000.

NSE (Nova Scotia Environment), 2021: Contaminated sites – Ministerial protocols. September 2021. Consulted at <https://novascotia.ca/nse/contaminatedsites/protocols.asp>

Table G.4

Toxicity Reference Values for Fish Tissue
Anaconda Goldboro
Goldboron, Nova Scotia

COPEC	Fish Tissue Benchmark Concentrations (mg/kg) 25th Percentile (Range)	Basis	Fish Tissue TRV (mg/kg) [(a)]
Metals			
Beryllium	NA	--	NA
Boron	NA	--	NA
Lithium	NA	--	NA
Vanadium	(0.41 - 3.12)	4 values (2 fish species)	0.41

Notes:

NA - Not Available

(a) For COPECs with greater than 10 data points, the 25th percentile was calculated and applied as the fish tissue TRV. The 25th percentile is a statistic that is used by CCME to develop soil quality guidelines protective of agricultural/residential/ parkland land uses. For COPCs with less than 10 data points, the minimum of the range of tissue concentrations associated within an effect was applied as the fish tissue TRV.

Sources:

Jarvinen, A.W. and G.T. Ankley, 1999. Linkage of Effects to Tissue Residues: Development of a Comprehensive Database for Aquatic Organisms Exposed to Inorganic and Organic Chemicals, SETAC Technical Publication Series.

Table G.5

Surface Water Exposure Guidelines for Fish and Pelagic Invertebrates
Anaconda Goldboro
Goldboron, Nova Scotia

COPEC	Guidelines for Aquatic Plants, Invertebrates and Fish (mg/L)	Pathways for Aquatic Plants, Invertebrates and Fish	References
Inorganics			
Total Beryllium (Be)	0.00015	Water direct contact	NSE, 2021
Total Boron (B)	1.5	Water direct contact	NSE, 2021
Total Lithium (Li)	NA	--	--
Total Vanadium (V)	0.12	Water direct contact	NSE, 2021

Notes:

NA - Not Available

Sources:

Canadian Council of Ministers of the Environment (CCME), 2021: Canadian Environmental Quality Guidelines-Summary table.

Consulted at <https://ccme.ca/en/summary-table>

NSE (Nova Scotia Environment), 2021: Contaminated sites – Ministerial protocols. September 2021.

Consulted at <https://novascotia.ca/nse/contaminatedsites/protocols.asp>

Table G.6

Toxicity Reference Values for Wildlife
Anaconda Goldboro
Goldboron, Nova Scotia

	Avian Wildlife				Mammalian Wildlife			
COPEC	**NOAEL (mg/kg-day)**	**Source**	**LOAEL (mg/kg-day)**	**Source**	**NOAEL (mg/kg-day)**	**Source**	**LOAEL (mg/kg-day)**	**Source**
Metals								
Beryllium	NA	-	NA	-	0.66	Sample et al., 1996	6.6	Sample et al., 1996
Boron	NA	-	NA	-	28	Sample et al., 1996	93.6	Sample et al., 1996
Lithium	NA	-	NA	-	9.4	Sample et al., 1996	18.8	Sample et al., 1996
Vanadium	1.9	EcoSSL	2	EcoSSL	6	EcoSSL	9.4	EcoSSL

Notes:

LOAEL - Lowest Observed Adverse Effect Level
NOAEL - No Observed Adverse Effect Level
NA - Not Available
(a) Only NOAEL values below the LOAEL TRV (7.6 mg/kg/day) for antimony in mammals were included in the calculation given that the NOAEL for all studies generated a TRV (70 mg/kg/day) that is approximately an order of magnitude greater than the LOAEL TRV (7.6 mg/kg/day).
(b) LOAEL not available; the LOAEL is set to the NOAEL x 10, consistent with the approach in Sample et al., 1996.
(c) NOAEL not available, the NOAEL is set to the LOAEL / 10, consistent with the approach in Sample et al., 1996.

Sources:

EcoSSL: United States Environmental Protection Agency Guidance for Developing Ecological Soil Screening Levels Ecological Soil Screening Levels (EcoSSLs), OSWER Directive 9285.7-55.
Geometric mean of NOAELs and LOAELs for survival, growth, and reproduction identified in the chemical-specific Eco-SSL source documents were applied
Sample et al., 1996: Sample, B. E., Opresko, D. M., & Suter II, G. W. 1996. Toxicological Benchmarks for Wildlife: 1996 Revision. Risk Assessment Program, Health Sciences Research Division. Tennessee: Oak Ridge.

Table G.7

Estimate of Exposure Ratios for Terrestrial Plants and Terrestrial Invertebrates - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline			Construction			Operation			Reclamation			Post-Closure			Terrestrial Plants and Invertebrates Δ ER			
COPEC	Measured Soil (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Measured Soil (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Measured Soil (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Measured Soil (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Measured Soil (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Construction	Operation	Reclamation	Post-Closure
Beryllium	1E+00	5E+00	2E-01	1E+00	5E+00	2E-01	1E+00	5E+00	3E-01	1E+00	5E+00	3E-01	1E+00	5E+00	3E-01	1.E-02	7.E-02	9.E-02	9.E-02
Boron	3E+01	NA	--	3E+01	NA	--	3E+01	NA	--	3E+01	NA	--	3E+01	NA	--	--	--	--	--
Lithium	1E+01	NA	--	1E+01	NA	--	1E+01	NA	--	1E+01	NA	--	1E+01	NA	--	--	--	--	--
Vanadium	2E+01	1E+02	2E-01	3E+01	1E+02	2E-01	4E+01	1E+02	3E-01	4E+01	1E+02	3E-01	4E+01	1E+02	3E-01	2.E-02	1.E-01	1.E-01	1.E-01

Table G.8

Estimate of Exposure Ratios for Aquatic Plants and Benthic Invertebrates - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline			Construction			Operation			Reclamation			Post-Closure			Aquatic Plants and Invertebrates Δ ER			
COPEC	Measured Sediment (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Predicted Sediment (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Predicted Sediment (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Predicted Sediment (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Predicted Sediment (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Construction	Operation	Reclamation	Post-Closure
Beryllium	1E+00	1E+00	8E-01	1E+00	1E+00	9E-01	1E+00	1E+00	1E+00	1E+00	1E+00	1E+00	1E+00	1E+00	1E+00	1E-01	3E-01	3E-01	3E-01
Boron	3E+01	NA	--	3E+01	NA	--	3E+01	NA	--	3E+01	NA	--	3E+01	NA	--	--	--	--	--
Lithium	2E+01	NA	--	2E+01	NA	--	2E+01	NA	--	2E+01	NA	--	2E+01	NA	--	--	--	--	--
Vanadium	2E+01	6E+01	3E-01	3E+01	6E+01	5E-01	4E+01	6E+01	7E-01	4E+01	6E+01	7E-01	4E+01	6E+01	7E-01	2E-01	4E-01	4E-01	4E-01

Table G.9

Estimate of Exposure Ratios for Fish Using Whole Body Tissue Concentrations - Lake Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline			Construction			Operation			Reclamation			Post-Closure			Fish Δ ER			
COPEC	Measured Fish (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Predicted Fish (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Predicted Fish (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Predicted Fish (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Predicted Fish (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Construction	Operation	Reclamation	Post-Closure
Beryllium	3E-01	NA	--	3E-01	NA	--	3E-01	NA	--	3E-01	NA	--	3E-01	NA	--	--	--	--	--
Boron	8E-01	NA	--	--	NA	--	--	NA	--	--	NA	--	--	NA	--	--	--	--	--
Lithium	3E-01	NA	--	--	NA	--	--	NA	--	--	NA	--	--	NA	--	--	--	--	--
Uranium	1E-02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	3E-01	4E-01	6E-01	--	4E-01	--	--	4E-01	--	--	4E-01	--	--	4E-01	--	--	--	--	--

Table G.10

Estimate of Exposure Ratios for Fish and Pelagic Invertebrates Using Surface Water Guidelines - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline			Construction			Operation			Reclamation			Post-Closure			Surface Water Δ ER			
COPEC	Measured Water (mg/L)	Guideline (mg/kg)	Exposure Ratio	Predicted Water (mg/L)	Guideline (mg/kg)	Exposure Ratio	Predicted Water (mg/L)	Guideline (mg/kg)	Exposure Ratio	Predicted Water (mg/L)	Guideline (mg/kg)	Exposure Ratio	Predicted Water (mg/L)	Guideline (mg/kg)	Exposure Ratio	Construction	Operation	Reclamation	Post-Closure
Beryllium	7E-04	2E-04	4E+00	7E-04	2E-04	4E+00	5E-04	2E-04	3E+00	5E-04	2E-04	3E+00	5E-04	2E-04	3E+00	≤0	≤0	≤0	≤0
Boron	3E-02	2E+00	2E-02	6E+00	2E+00	--	6E+00	2E+00	--	6E+00	2E+00	--	6E+00	2E+00	--	--	--	--	--
Lithium	--	NA	--	4E-02	NA	--	4E-02	NA	--	4E-02	NA	--	4E-02	NA	--	--	--	--	--
Vanadium	1E-03	1E-01	8E-03	1E-03	1E-01	8E-03	2E-03	1E-01	2E-02	2E-03	1E-01	1E-02	2E-03	1E-01	2E-02	≤0	1E-02	5E-03	9E-03

Table G.11

Estimate of Hazard Quotients for Mink - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline								
	Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	2E-03	2E-05	1E-03	3E-02	4E-02	2E-02	8E-04	7E+00	1E-04
Boron	4E-02	8E-04	3E-02	5E-01	6E-01	2E-02	1E-02	9E+01	1E-04
Lithium	3E-02	--	1E-02	2E-01	--	2E-02	--	2E+01	--
Vanadium	3E-02	3E-05	3E-02	5E-02	1E-01	2E-02	2E-03	9E+00	3E-04

Table G.11

Estimate of Hazard Quotients for Mink - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Construction								
	Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	2E-03	2E-05	1E-03	3E-02	4E-02	2E-02	9E-04	7E+00	1E-04
Boron	4E-02	2E-01	3E-02	--	--	2E-02	--	9E+01	--
Lithium	3E-02	--	1E-02	--	--	2E-02	--	2E+01	--
Vanadium	4E-02	3E-05	3E-02	--	--	2E-02	--	9E+00	--

Table G.11

Estimate of Hazard Quotients for Mink - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation								
	Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	2E-03	1E-05	2E-03	3E-02	4E-02	2E-02	9E-04	7E+00	1E-04
Boron	4E-02	2E-01	3E-02	--	--	2E-02	--	9E+01	--
Lithium	3E-02	--	2E-02	--	--	2E-02	--	2E+01	--
Vanadium	6E-02	6E-05	5E-02	--	--	2E-02	--	9E+00	--

Table G.11

Estimate of Hazard Quotients for Mink - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

Reclamation

Dose								
Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
2E-03	2E-05	2E-03	3E-02	4E-02	2E-02	9E-04	7E+00	1E-04
4E-02	2E-01	3E-02	--	--	2E-02	--	9E+01	--
3E-02	--	2E-02	--	--	2E-02	--	2E+01	--
6E-02	5E-05	5E-02	--	--	2E-02	--	9E+00	--

Table G.11

Estimate of Hazard Quotients for Mink - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure												
	Dose									Δ HQ (from Baseline)			
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	2E-03	2E-05	2E-03	3E-02	4E-02	2E-02	9E-04	7E+00	1E-04	1E-06	4E-06	4E-06	4E-06
Boron	4E-02	2E-01	3E-02	--	--	2E-02	--	9E+01	--	--	--	--	--
Lithium	3E-02	--	2E-02	--	--	2E-02	--	2E+01	--	--	--	--	--
Vanadium	6E-02	6E-05	5E-02	--	--	2E-02	--	9E+00	--	--	--	--	--

Table G.12

Estimate of Hazard Quotients for Vole - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	1E-04	8E-03	5E-02	6E-02	1E+00	6E-02	7E+00	9E-03	0E+00	1E-04	8E-03	5E-02	6E-02	1E+00	6E-02	7E+00	9E-03
Boron	0E+00	5E-03	2E-01	6E-01	8E-01	1E+00	8E-01	9E+01	--	0E+00	1E+00	2E-01	--	--	1E+00	--	9E+01	--
Lithium	0E+00	--	8E-02	6E-02	--	1E+00	--	2E+01	--	0E+00	--	9E-02	--	--	1E+00	--	2E+01	--
Vanadium	0E+00	2E-04	2E-01	5E-02	2E-01	1E+00	2E-01	9E+00	3E-02	0E+00	2E-04	2E-01	--	--	1E+00	--	9E+00	--

Table G.12

Estimate of Hazard Quotients for Vole - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	1E-04	1E-02	5E-02	6E-02	1E+00	6E-02	7E+00	1E-02	0E+00	1E-04	1E-02	5E-02	6E-02	1E+00	6E-02	7E+00	1E-02
Boron	0E+00	1E+00	2E-01	--	--	1E+00	--	9E+01	--	0E+00	1E+00	2E-01	--	--	1E+00	--	9E+01	--
Lithium	0E+00	--	1E-01	--	--	1E+00	--	2E+01	--	0E+00	--	1E-01	--	--	1E+00	--	2E+01	--
Vanadium	0E+00	5E-04	3E-01	--	--	1E+00	--	9E+00	--	0E+00	3E-04	3E-01	--	--	1E+00	--	9E+00	--

Table G.12

Estimate of Hazard Quotients for Vole - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure									Δ HQ (from Baseline)			
	Dose												
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	0E+00	1E-04	1E-02	5E-02	6E-02	1E+00	6E-02	7E+00	1E-02	8E-05	4E-04	5E-04	5E-04
Boron	0E+00	1E+00	2E-01	--	--	1E+00	--	9E+01	--	--	--	--	--
Lithium	0E+00	--	1E-01	--	--	1E+00	--	2E+01	--	--	--	--	--
Vanadium	0E+00	4E-04	3E-01	--	--	1E+00	--	9E+00	--	--	--	--	--

Table G.13

Estimate of Hazard Quotients for Deer Mouse - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	1E-04	5E-03	6E-02	6E-02	1E+00	6E-02	7E+00	9E-03	0E+00	1E-04	6E-03	6E-02	6E-02	1E+00	6E-02	7E+00	9E-03
Boron	0E+00	5E-03	1E-01	6E-01	7E-01	1E+00	7E-01	9E+01	--	0E+00	1E+00	1E-01	--	--	1E+00	--	9E+01	--
Lithium	0E+00	--	5E-02	6E-02	--	1E+00	--	2E+01	--	0E+00	--	6E-02	--	--	1E+00	--	2E+01	--
Vanadium	0E+00	2E-04	1E-01	1E-01	3E-01	1E+00	3E-01	9E+00	3E-02	0E+00	2E-04	1E-01	--	--	1E+00	--	9E+00	--

Table G.13

Estimate of Hazard Quotients for Deer Mouse - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	9E-05	7E-03	6E-02	6E-02	1E+00	6E-02	7E+00	1E-02	0E+00	1E-04	8E-03	6E-02	6E-02	1E+00	6E-02	7E+00	1E-02
Boron	0E+00	1E+00	1E-01	--	--	1E+00	--	9E+01	--	0E+00	1E+00	1E-01	--	--	1E+00	--	9E+01	--
Lithium	0E+00	--	7E-02	--	--	1E+00	--	2E+01	--	0E+00	--	7E-02	--	--	1E+00	--	2E+01	--
Vanadium	0E+00	4E-04	2E-01	--	--	1E+00	--	9E+00	--	0E+00	3E-04	2E-01	--	--	1E+00	--	9E+00	--

Table G.13

Estimate of Hazard Quotients for Deer Mouse - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure									Δ HQ (from Baseline)			
	Dose												
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	0E+00	1E-04	8E-03	6E-02	6E-02	1E+00	6E-02	7E+00	1E-02	6E-05	3E-04	3E-04	3E-04
Boron	0E+00	1E+00	1E-01	--	--	1E+00	--	9E+01	--	--	--	--	--
Lithium	0E+00	--	7E-02	--	--	1E+00	--	2E+01	--	--	--	--	--
Vanadium	0E+00	4E-04	2E-01	--	--	1E+00	--	9E+00	--	--	--	--	--

Table G.14

Estimate of Hazard Quotients for Moose - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	8E-05	3E-05	3E-04	7E-03	8E-03	1E+00	8E-03	7E-01	1E-02	9E-05	3E-05	3E-04	8E-03	8E-03	1E+00	8E-03	7E-01	1E-02
Boron	2E-03	1E-03	8E-03	1E-01	1E-01	1E+00	1E-01	3E+01	--	2E-03	3E-01	8E-03	--	--	1E+00	--	3E+01	--
Lithium	1E-03	--	3E-03	3E-02	--	1E+00	--	9E+00	--	1E-03	--	3E-03	--	--	1E+00	--	9E+00	--
Vanadium	1E-03	5E-05	7E-03	7E-03	2E-02	1E+00	2E-02	6E+00	3E-03	2E-03	5E-05	8E-03	--	--	1E+00	--	6E+00	--

Table G.14

Estimate of Hazard Quotients for Moose - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	1E-04	2E-05	4E-04	8E-03	8E-03	1E+00	8E-03	7E-01	1E-02	1E-04	3E-05	5E-04	8E-03	8E-03	1E+00	8E-03	7E-01	1E-02
Boron	2E-03	3E-01	8E-03	--	--	1E+00	--	3E+01	--	2E-03	3E-01	8E-03	--	--	1E+00	--	3E+01	--
Lithium	1E-03	--	4E-03	--	--	1E+00	--	9E+00	--	1E-03	--	4E-03	--	--	1E+00	--	9E+00	--
Vanadium	3E-03	1E-04	1E-02	--	--	1E+00	--	6E+00	--	3E-03	8E-05	1E-02	--	--	1E+00	--	6E+00	--

Table G.14

Estimate of Hazard Quotients for Moose - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure												
	Dose									Δ HQ (from Baseline)			
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	1E-04	3E-05	5E-04	8E-03	8E-03	1E+00	8E-03	7E-01	1E-02	2E-04	5E-04	6E-04	6E-04
Boron	2E-03	3E-01	8E-03	--	--	1E+00	--	3E+01	--	--	--	--	--
Lithium	1E-03	--	4E-03	--	--	1E+00	--	9E+00	--	--	--	--	--
Vanadium	3E-03	1E-04	1E-02	--	--	1E+00	--	6E+00	--	--	--	--	--

Table G.15

Estimate of Hazard Quotients for White-Tailed Deer - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	4E-05	6E-04	1E-02	1E-02	1E+00	1E-02	7E+00	2E-03	0E+00	4E-05	6E-04	1E-02	1E-02	1E+00	1E-02	7E+00	2E-03
Boron	0E+00	2E-03	2E-02	1E-01	1E-01	1E+00	1E-01	9E+01	--	0E+00	4E-01	2E-02	--	--	1E+00	--	9E+01	--
Lithium	0E+00	--	6E-03	1E-02	--	1E+00	--	2E+01	--	0E+00	--	7E-03	--	--	1E+00	--	2E+01	--
Vanadium	0E+00	6E-05	1E-02	1E-02	2E-02	1E+00	2E-02	9E+00	3E-03	0E+00	6E-05	2E-02	--	--	1E+00	--	9E+00	--

Table G.15

Estimate of Hazard Quotients for White-Tailed Deer - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	3E-05	8E-04	1E-02	1E-02	1E+00	1E-02	7E+00	2E-03	0E+00	3E-05	9E-04	1E-02	1E-02	1E+00	1E-02	7E+00	2E-03
Boron	0E+00	4E-01	2E-02	--	--	1E+00	--	9E+01	--	0E+00	4E-01	2E-02	--	--	1E+00	--	9E+01	--
Lithium	0E+00	--	8E-03	--	--	1E+00	--	2E+01	--	0E+00	--	8E-03	--	--	1E+00	--	2E+01	--
Vanadium	0E+00	1E-04	2E-02	--	--	1E+00	--	9E+00	--	0E+00	9E-05	2E-02	--	--	1E+00	--	9E+00	--

Table G.15

Estimate of Hazard Quotients for White-Tailed Deer - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure									Δ HQ (from Baseline)			
	Dose												
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	0E+00	3E-05	9E-04	1E-02	1E-02	1E+00	1E-02	7E+00	2E-03	6E-06	3E-05	4E-05	4E-05
Boron	0E+00	4E-01	2E-02	--	--	1E+00	--	9E+01	--	--	--	--	--
Lithium	0E+00	--	8E-03	--	--	1E+00	--	2E+01	--	--	--	--	--
Vanadium	0E+00	1E-04	2E-02	--	--	1E+00	--	9E+00	--	--	--	--	--

Table G.16

Estimate of Hazard Quotients for Black Bear - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	3E-05	4E-05	6E-04	1E-02	1E-02	1E+00	1E-02	7E+00	2E-03	3E-05	4E-05	6E-04	1E-02	1E-02	1E+00	1E-02	7E+00	2E-03
Boron	8E-04	2E-03	1E-02	2E-01	2E-01	1E+00	2E-01	9E+01	--	8E-04	4E-01	1E-02	--	--	1E+00	--	9E+01	--
Lithium	5E-04	--	6E-03	4E-02	--	1E+00	--	2E+01	--	5E-04	--	6E-03	--	--	1E+00	--	2E+01	--
Vanadium	5E-04	6E-05	1E-02	1E-02	3E-02	1E+00	3E-02	9E+00	3E-03	9E-04	6E-05	1E-02	--	--	1E+00	--	9E+00	--

Table G.16

Estimate of Hazard Quotients for Black Bear - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	4E-05	3E-05	8E-04	1E-02	1E-02	1E+00	1E-02	7E+00	2E-03	4E-05	3E-05	8E-04	1E-02	1E-02	1E+00	1E-02	7E+00	2E-03
Boron	8E-04	4E-01	1E-02	--	--	1E+00	--	9E+01	--	8E-04	4E-01	1E-02	--	--	1E+00	--	9E+01	--
Lithium	5E-04	--	8E-03	--	--	1E+00	--	2E+01	--	5E-04	--	8E-03	--	--	1E+00	--	2E+01	--
Vanadium	1E-03	1E-04	2E-02	--	--	1E+00	--	9E+00	--	1E-03	9E-05	2E-02	--	--	1E+00	--	9E+00	--

Table G.16

Estimate of Hazard Quotients for Black Bear - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure									Δ HQ (from Baseline)			
	Dose												
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	4E-05	3E-05	8E-04	1E-02	1E-02	1E+00	1E-02	7E+00	2E-03	7E-06	3E-05	4E-05	4E-05
Boron	8E-04	4E-01	1E-02	--	--	1E+00	--	9E+01	--	--	--	--	--
Lithium	5E-04	--	8E-03	--	--	1E+00	--	2E+01	--	--	--	--	--
Vanadium	1E-03	1E-04	2E-02	--	--	1E+00	--	9E+00	--	--	--	--	--

Table G.17

Estimate of Hazard Quotients for Snowshoe Hare - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	7E-05	4E-03	2E-02	2E-02	1E+00	2E-02	7E+00	4E-03	0E+00	7E-05	4E-03	2E-02	2E-02	1E+00	2E-02	7E+00	4E-03
Boron	0E+00	3E-03	9E-02	2E-01	3E-01	1E+00	3E-01	9E+01	--	0E+00	6E-01	9E-02	--	--	1E+00	--	9E+01	--
Lithium	0E+00	--	4E-02	2E-02	--	1E+00	--	2E+01	--	0E+00	--	4E-02	--	--	1E+00	--	2E+01	--
Vanadium	0E+00	1E-04	9E-02	2E-02	1E-01	1E+00	1E-01	9E+00	1E-02	0E+00	1E-04	1E-01	--	--	1E+00	--	9E+00	--

Table G.17

Estimate of Hazard Quotients for Snowshoe Hare - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	5E-05	5E-03	2E-02	3E-02	1E+00	3E-02	7E+00	4E-03	0E+00	5E-05	5E-03	2E-02	3E-02	1E+00	3E-02	7E+00	4E-03
Boron	0E+00	6E-01	9E-02	--	--	1E+00	--	9E+01	--	0E+00	6E-01	9E-02	--	--	1E+00	--	9E+01	--
Lithium	0E+00	--	5E-02	--	--	1E+00	--	2E+01	--	0E+00	--	5E-02	--	--	1E+00	--	2E+01	--
Vanadium	0E+00	2E-04	1E-01	--	--	1E+00	--	9E+00	--	0E+00	2E-04	1E-01	--	--	1E+00	--	9E+00	--

Table G.17

Estimate of Hazard Quotients for Snowshoe Hare - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure									Δ HQ (from Baseline)			
	Dose												
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	0E+00	5E-05	5E-03	2E-02	3E-02	1E+00	3E-02	7E+00	4E-03	4E-05	2E-04	2E-04	2E-04
Boron	0E+00	6E-01	9E-02	--	--	1E+00	--	9E+01	--	--	--	--	--
Lithium	0E+00	--	5E-02	--	--	1E+00	--	2E+01	--	--	--	--	--
Vanadium	0E+00	2E-04	1E-01	--	--	1E+00	--	9E+00	--	--	--	--	--

Table G.18

Estimate of Hazard Quotients for Red Fox - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	6E-05	3E-03	8E-03	1E-02	1E+00	1E-02	7E+00	2E-03	0E+00	6E-05	3E-03	8E-03	1E-02	1E+00	1E-02	7E+00	2E-03
Boron	0E+00	2E-03	6E-02	5E-01	6E-01	1E+00	6E-01	9E+01	--	0E+00	5E-01	6E-02	--	--	1E+00	--	9E+01	--
Lithium	0E+00	--	3E-02	2E-01	--	1E+00	--	2E+01	--	0E+00	--	3E-02	--	--	1E+00	--	2E+01	--
Vanadium	0E+00	9E-05	6E-02	3E-02	9E-02	1E+00	9E-02	9E+00	9E-03	0E+00	9E-05	6E-02	--	--	1E+00	--	9E+00	--

Table G.18

Estimate of Hazard Quotients for Red Fox - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	4E-05	3E-03	8E-03	1E-02	1E+00	1E-02	7E+00	2E-03	0E+00	5E-05	4E-03	8E-03	1E-02	1E+00	1E-02	7E+00	2E-03
Boron	0E+00	5E-01	6E-02	--	--	1E+00	--	9E+01	--	0E+00	5E-01	6E-02	--	--	1E+00	--	9E+01	--
Lithium	0E+00	--	3E-02	--	--	1E+00	--	2E+01	--	0E+00	--	3E-02	--	--	1E+00	--	2E+01	--
Vanadium	0E+00	2E-04	9E-02	--	--	1E+00	--	9E+00	--	0E+00	1E-04	1E-01	--	--	1E+00	--	9E+00	--

Table G.18

Estimate of Hazard Quotients for Red Fox - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure									Δ HQ (from Baseline)			
	Dose												
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	0E+00	5E-05	4E-03	8E-03	1E-02	1E+00	1E-02	7E+00	2E-03	3E-05	1E-04	2E-04	2E-04
Boron	0E+00	5E-01	6E-02	--	--	1E+00	--	9E+01	--	--	--	--	--
Lithium	0E+00	--	3E-02	--	--	1E+00	--	2E+01	--	--	--	--	--
Vanadium	0E+00	2E-04	1E-01	--	--	1E+00	--	9E+00	--	--	--	--	--

Table G.19

Estimate of Hazard Quotients for Spotted Sandpiper - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	1E-03	1E-04	2E-03	2E-01	2E-01	1E+00	2E-01	NA	--	2E-03	1E-04	2E-03	2E-01	2E-01	1E+00	2E-01	NA	--
Boron	3E-02	4E-03	6E-02	2E+00	2E+00	1E+00	2E+00	NA	--	3E-02	--	6E-02	--	--	1E+00	--	NA	--
Lithium	2E-02	--	2E-02	4E-01	--	1E+00	--	NA	--	2E-02	--	2E-02	--	--	1E+00	--	NA	--
Vanadium	2E-02	2E-04	5E-02	5E-01	6E-01	1E+00	6E-01	2E+00	3E-01	4E-02	2E-04	6E-02	--	--	1E+00	--	2E+00	--

Table G.19

Estimate of Hazard Quotients for Spotted Sandpiper - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	2E-03	8E-05	3E-03	2E-01	2E-01	1E+00	2E-01	NA	--	2E-03	9E-05	3E-03	2E-01	2E-01	1E+00	2E-01	NA	--
Boron	3E-02	--	6E-02	--	--	1E+00	--	NA	--	3E-02	--	6E-02	--	--	1E+00	--	NA	--
Lithium	2E-02	--	3E-02	--	--	1E+00	--	NA	--	2E-02	--	3E-02	--	--	1E+00	--	NA	--
Vanadium	5E-02	4E-04	8E-02	--	--	1E+00	--	2E+00	--	5E-02	3E-04	9E-02	--	--	1E+00	--	2E+00	--

Table G.19

Estimate of Hazard Quotients for Spotted Sandpiper - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure									Δ HQ (from Baseline)			
	Dose												
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	2E-03	9E-05	3E-03	2E-01	2E-01	1E+00	2E-01	NA	--	--	--	--	--
Boron	3E-02	--	6E-02	--	--	1E+00	--	NA	--	--	--	--	--
Lithium	2E-02	--	3E-02	--	--	1E+00	--	NA	--	--	--	--	--
Vanadium	5E-02	4E-04	9E-02	--	--	1E+00	--	2E+00	--	--	--	--	--

Table G.20

Estimate of Hazard Quotients for Red-Tailed Hawk - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	5E-05	4E-05	2E-03	1E-03	3E-03	1E+00	3E-03	NA	--	6E-05	4E-05	2E-03	1E-03	3E-03	1E+00	3E-03	NA	--
Boron	1E-03	2E-03	5E-02	8E-01	8E-01	1E+00	8E-01	NA	--	1E-03	--	5E-02	--	--	1E+00	--	NA	--
Lithium	9E-04	--	2E-02	3E-01	--	1E+00	--	NA	--	9E-04	--	2E-02	--	--	1E+00	--	NA	--
Vanadium	9E-04	6E-05	4E-02	9E-03	6E-02	1E+00	6E-02	2E+00	3E-02	1E-03	6E-05	5E-02	--	--	1E+00	--	2E+00	--

Table G.20

Estimate of Hazard Quotients for Red-Tailed Hawk - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	7E-05	3E-05	3E-03	1E-03	4E-03	1E+00	4E-03	NA	--	7E-05	3E-05	3E-03	1E-03	4E-03	1E+00	4E-03	NA	--
Boron	1E-03	--	5E-02	--	--	1E+00	--	NA	--	1E-03	--	5E-02	--	--	1E+00	--	NA	--
Lithium	9E-04	--	3E-02	--	--	1E+00	--	NA	--	9E-04	--	3E-02	--	--	1E+00	--	NA	--
Vanadium	2E-03	1E-04	7E-02	--	--	1E+00	--	2E+00	--	2E-03	9E-05	8E-02	--	--	1E+00	--	2E+00	--

Table G.20

Estimate of Hazard Quotients for Red-Tailed Hawk - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure									Δ HQ (from Baseline)			
	Dose												
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	7E-05	3E-05	3E-03	1E-03	4E-03	1E+00	4E-03	NA	--	--	--	--	--
Boron	1E-03	--	5E-02	--	--	1E+00	--	NA	--	--	--	--	--
Lithium	9E-04	--	3E-02	--	--	1E+00	--	NA	--	--	--	--	--
Vanadium	2E-03	1E-04	8E-02	--	--	1E+00	--	2E+00	--	--	--	--	--

Table G.21

Estimate of Hazard Quotients for Red-Tailed Hawk for SOCI Species - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	5E-05	4E-05	2E-03	1E-03	3E-03	1E+00	3E-03	NA	--	6E-05	4E-05	2E-03	1E-03	3E-03	1E+00	3E-03	NA	--
Boron	1E-03	2E-03	5E-02	8E-01	8E-01	1E+00	8E-01	NA	--	1E-03	--	5E-02	--	--	1E+00	--	NA	--
Lithium	9E-04	--	2E-02	3E-01	--	1E+00	--	NA	--	9E-04	--	2E-02	--	--	1E+00	--	NA	--
Vanadium	9E-04	6E-05	4E-02	9E-03	6E-02	1E+00	6E-02	2E+00	3E-02	1E-03	6E-05	5E-02	--	--	1E+00	--	2E+00	--

Table G.21

Estimate of Hazard Quotients for Red-Tailed Hawk for SOCI Species - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	7E-05	3E-05	3E-03	1E-03	4E-03	1E+00	4E-03	NA	--	7E-05	3E-05	3E-03	1E-03	4E-03	1E+00	4E-03	NA	--
Boron	1E-03	--	5E-02	--	--	1E+00	--	NA	--	1E-03	--	5E-02	--	--	1E+00	--	NA	--
Lithium	9E-04	--	3E-02	--	--	1E+00	--	NA	--	9E-04	--	3E-02	--	--	1E+00	--	NA	--
Vanadium	2E-03	1E-04	7E-02	--	--	1E+00	--	2E+00	--	2E-03	9E-05	8E-02	--	--	1E+00	--	2E+00	--

Table G.21

Estimate of Hazard Quotients for Red-Tailed Hawk for SOCI Species - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure									Δ HQ (from Baseline)			
	Dose												
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	7E-05	3E-05	3E-03	1E-03	4E-03	1E+00	4E-03	NA	--	--	--	--	--
Boron	1E-03	--	5E-02	--	--	1E+00	--	NA	--	--	--	--	--
Lithium	9E-04	--	3E-02	--	--	1E+00	--	NA	--	--	--	--	--
Vanadium	2E-03	1E-04	8E-02	--	--	1E+00	--	2E+00	--	--	--	--	--

Table G.22

Estimate of Hazard Quotients for Barn Swallow - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	1E-04	5E-03	2E-01	2E-01	1E+00	2E-01	NA	--	0E+00	1E-04	6E-03	2E-01	2E-01	1E+00	2E-01	NA	--
Boron	0E+00	6E-03	1E-01	2E+00	2E+00	1E+00	2E+00	NA	--	0E+00	--	1E-01	--	--	1E+00	--	NA	--
Lithium	0E+00	--	5E-02	2E-01	--	1E+00	--	NA	--	0E+00	--	6E-02	--	--	1E+00	--	NA	--
Vanadium	0E+00	2E-04	1E-01	8E-01	1E+00	1E+00	1E+00	2E+00	5E-01	0E+00	2E-04	1E-01	--	--	1E+00	--	2E+00	--

Table G.22

Estimate of Hazard Quotients for Barn Swallow - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	1E-04	7E-03	2E-01	2E-01	1E+00	2E-01	NA	--	0E+00	1E-04	7E-03	2E-01	2E-01	1E+00	2E-01	NA	--
Boron	0E+00	--	1E-01	--	--	1E+00	--	NA	--	0E+00	--	1E-01	--	--	1E+00	--	NA	--
Lithium	0E+00	--	7E-02	--	--	1E+00	--	NA	--	0E+00	--	7E-02	--	--	1E+00	--	NA	--
Vanadium	0E+00	5E-04	2E-01	--	--	1E+00	--	2E+00	--	0E+00	3E-04	2E-01	--	--	1E+00	--	2E+00	--

Table G.22

Estimate of Hazard Quotients for Barn Swallow - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure									Δ HQ (from Baseline)			
	Dose												
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	0E+00	1E-04	7E-03	2E-01	2E-01	1E+00	2E-01	NA	--	--	--	--	--
Boron	0E+00	--	1E-01	--	--	1E+00	--	NA	--	--	--	--	--
Lithium	0E+00	--	7E-02	--	--	1E+00	--	NA	--	--	--	--	--
Vanadium	0E+00	5E-04	2E-01	--	--	1E+00	--	2E+00	--	--	--	--	--

Table G.23

Estimate of Hazard Quotients for Barn Swallow for SAR/SOCI Species - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	1E-04	5E-03	2E-01	2E-01	1E+00	2E-01	NA	--	0E+00	1E-04	6E-03	2E-01	2E-01	1E+00	2E-01	NA	--
Boron	0E+00	6E-03	1E-01	2E+00	2E+00	1E+00	2E+00	NA	--	0E+00	--	1E-01	--	--	1E+00	--	NA	--
Lithium	0E+00	--	5E-02	2E-01	--	1E+00	--	NA	--	0E+00	--	6E-02	--	--	1E+00	--	NA	--
Vanadium	0E+00	2E-04	1E-01	8E-01	1E+00	1E+00	1E+00	2E+00	5E-01	0E+00	2E-04	1E-01	--	--	1E+00	--	2E+00	--

Table G.23

Estimate of Hazard Quotients for Barn Swallow for SAR/SOCI Species - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	1E-04	7E-03	2E-01	2E-01	1E+00	2E-01	NA	--	0E+00	1E-04	7E-03	2E-01	2E-01	1E+00	2E-01	NA	--
Boron	0E+00	--	1E-01	--	--	1E+00	--	NA	--	0E+00	--	1E-01	--	--	1E+00	--	NA	--
Lithium	0E+00	--	7E-02	--	--	1E+00	--	NA	--	0E+00	--	7E-02	--	--	1E+00	--	NA	--
Vanadium	0E+00	5E-04	2E-01	--	--	1E+00	--	2E+00	--	0E+00	3E-04	2E-01	--	--	1E+00	--	2E+00	--

Table G.23

Estimate of Hazard Quotients for Barn Swallow for SAR/SOCI Species - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure									Δ HQ (from Baseline)			
	Dose												
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	0E+00	1E-04	7E-03	2E-01	2E-01	1E+00	2E-01	NA	--	--	--	--	--
Boron	0E+00	--	1E-01	--	--	1E+00	--	NA	--	--	--	--	--
Lithium	0E+00	--	7E-02	--	--	1E+00	--	NA	--	--	--	--	--
Vanadium	0E+00	5E-04	2E-01	--	--	1E+00	--	2E+00	--	--	--	--	--

Table G.24

Estimate of Hazard Quotients for American Robin - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	9E-05	5E-02	2E-01	3E-01	1E+00	3E-01	NA	--	0E+00	9E-05	5E-02	2E-01	3E-01	1E+00	3E-01	NA	--
Boron	0E+00	4E-03	1E+00	2E+00	4E+00	1E+00	4E+00	NA	--	0E+00	--	1E+00	--	--	1E+00	--	NA	--
Lithium	0E+00	--	5E-01	2E-01	--	1E+00	--	NA	--	0E+00	--	5E-01	--	--	1E+00	--	NA	--
Vanadium	0E+00	1E-04	1E+00	6E-01	2E+00	1E+00	2E+00	2E+00	8E-01	0E+00	1E-04	1E+00	--	--	1E+00	--	2E+00	--

Table G.24

Estimate of Hazard Quotients for American Robin - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	7E-05	7E-02	2E-01	3E-01	1E+00	3E-01	NA	--	0E+00	7E-05	7E-02	2E-01	3E-01	1E+00	3E-01	NA	--
Boron	0E+00	--	1E+00	--	--	1E+00	--	NA	--	0E+00	--	1E+00	--	--	1E+00	--	NA	--
Lithium	0E+00	--	7E-01	--	--	1E+00	--	NA	--	0E+00	--	7E-01	--	--	1E+00	--	NA	--
Vanadium	0E+00	3E-04	2E+00	--	--	1E+00	--	2E+00	--	0E+00	2E-04	2E+00	--	--	1E+00	--	2E+00	--

Table G.24

Estimate of Hazard Quotients for American Robin - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure												
	Dose									Δ HQ (from Baseline)			
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	0E+00	7E-05	7E-02	2E-01	3E-01	1E+00	3E-01	NA	--	--	--	--	--
Boron	0E+00	--	1E+00	--	--	1E+00	--	NA	--	--	--	--	--
Lithium	0E+00	--	7E-01	--	--	1E+00	--	NA	--	--	--	--	--
Vanadium	0E+00	3E-04	2E+00	--	--	1E+00	--	2E+00	--	--	--	--	--

Table G.25

Estimate of Hazard Quotients for American Robin for SAR/SOCI Species - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	9E-05	5E-02	2E-01	3E-01	1E+00	3E-01	NA	--	0E+00	9E-05	5E-02	2E-01	3E-01	1E+00	3E-01	NA	--
Boron	0E+00	4E-03	1E+00	2E+00	4E+00	1E+00	4E+00	NA	--	0E+00	--	1E+00	--	--	1E+00	--	NA	--
Lithium	0E+00	--	5E-01	2E-01	--	1E+00	--	NA	--	0E+00	--	5E-01	--	--	1E+00	--	NA	--
Vanadium	0E+00	1E-04	1E+00	6E-01	2E+00	1E+00	2E+00	2E+00	9E-01	0E+00	1E-04	1E+00	--	--	1E+00	--	2E+00	--

Table G.25

Estimate of Hazard Quotients for American Robin for SAR/SOCI Species - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	7E-05	7E-02	2E-01	3E-01	1E+00	3E-01	NA	--	0E+00	7E-05	7E-02	2E-01	3E-01	1E+00	3E-01	NA	--
Boron	0E+00	--	1E+00	--	--	1E+00	--	NA	--	0E+00	--	1E+00	--	--	1E+00	--	NA	--
Lithium	0E+00	--	7E-01	--	--	1E+00	--	NA	--	0E+00	--	7E-01	--	--	1E+00	--	NA	--
Vanadium	0E+00	3E-04	2E+00	--	--	1E+00	--	2E+00	--	0E+00	2E-04	2E+00	--	--	1E+00	--	2E+00	--

Table G.25

Estimate of Hazard Quotients for American Robin for SAR/SOCI Species - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure									Δ HQ (from Baseline)			
	Dose												
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	0E+00	7E-05	7E-02	2E-01	3E-01	1E+00	3E-01	NA	--	--	--	--	--
Boron	0E+00	--	1E+00	--	--	1E+00	--	NA	--	--	--	--	--
Lithium	0E+00	--	7E-01	--	--	1E+00	--	NA	--	--	--	--	--
Vanadium	0E+00	3E-04	2E+00	--	--	1E+00	--	2E+00	--	--	--	--	--

Table G.26

Estimate of Hazard Quotients for American Kestrel - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	8E-05	6E-03	1E-01	1E-01	1E+00	1E-01	NA	--	0E+00	8E-05	7E-03	1E-01	1E-01	1E+00	1E-01	NA	--
Boron	0E+00	3E-03	2E-01	5E+00	6E+00	1E+00	6E+00	NA	--	0E+00	--	2E-01	--	--	1E+00	--	NA	--
Lithium	0E+00	--	6E-02	2E+00	--	1E+00	--	NA	--	0E+00	--	7E-02	--	--	1E+00	--	NA	--
Vanadium	0E+00	1E-04	1E-01	6E-01	7E-01	1E+00	7E-01	2E+00	4E-01	0E+00	1E-04	2E-01	--	--	1E+00	--	2E+00	--

Table G.26

Estimate of Hazard Quotients for American Kestrel - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	5E-05	8E-03	1E-01	1E-01	1E+00	1E-01	NA	--	0E+00	6E-05	9E-03	1E-01	1E-01	1E+00	1E-01	NA	--
Boron	0E+00	--	2E-01	--	--	1E+00	--	NA	--	0E+00	--	2E-01	--	--	1E+00	--	NA	--
Lithium	0E+00	--	8E-02	--	--	1E+00	--	NA	--	0E+00	--	9E-02	--	--	1E+00	--	NA	--
Vanadium	0E+00	2E-04	2E-01	--	--	1E+00	--	2E+00	--	0E+00	2E-04	2E-01	--	--	1E+00	--	2E+00	--

Table G.26

Estimate of Hazard Quotients for American Kestrel - Lake
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure									Δ HQ (from Baseline)			
	Dose												
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	0E+00	6E-05	9E-03	1E-01	1E-01	1E+00	1E-01	NA	--	--	--	--	--
Boron	0E+00	--	2E-01	--	--	1E+00	--	NA	--	--	--	--	--
Lithium	0E+00	--	9E-02	--	--	1E+00	--	NA	--	--	--	--	--
Vanadium	0E+00	2E-04	2E-01	--	--	1E+00	--	2E+00	--	--	--	--	--

Table G.27

Estimate of Exposure Ratios for Terrestrial Plants and Terrestrial Invertebrates - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline			Construction			Operation			Reclamation			Post-Closure			Terrestrial Plants and Invertebrates Δ ER			
COPEC	Measured Soil (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Predicted Soil (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Predicted Soil (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Predicted Soil (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Predicted Soil (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Construction	Operation	Reclamation	Post-Closure
Beryllium	5E-01	5E+00	1E-01	6E-01	5E+00	1E-01	1E+00	5E+00	2E-01	1E+00	5E+00	2E-01	1E+00	5E+00	2E-01	2.E-02	1.E-01	1.E-01	1.E-01
Boron	3E+01	NA	--	3E+01	NA	--	3E+01	NA	--	3E+01	NA	--	3E+01	NA	--	--	--	--	--
Lithium	7E+00	NA	--	8E+00	NA	--	1E+01	NA	--	1E+01	NA	--	1E+01	NA	--	--	--	--	--
Vanadium	3E+01	1E+02	2E-01	3E+01	1E+02	2E-01	4E+01	1E+02	3E-01	4E+01	1E+02	3E-01	4E+01	1E+02	3E-01	2.E-02	1.E-01	1.E-01	1.E-01

Table G.28

Estimate of Exposure Ratios for Aquatic Plants and Benthic Invertebrates - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline			Construction			Operation			Reclamation			Post-Closure			Aquatic Plants and Invertebrates Δ ER			
COPEC	Measured Sediment (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Predicted Sediment (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Predicted Sediment (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Predicted Sediment (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Predicted Sediment (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Construction	Operation	Reclamation	Post-Closure
Beryllium	1E+00	1E+00	8E-01	1E+00	1E+00	8E-01	1E+00	1E+00	8E-01	1E+00	1E+00	8E-01	1E+00	1E+00	8E-01	≤0	≤0	≤0	≤0
Boron	3E+01	NA	--	3E+01	NA	--	3E+01	NA	--	3E+01	NA	--	3E+01	NA	--	--	--	--	--
Lithium	3E+01	NA	--	3E+01	NA	--	3E+01	NA	--	3E+01	NA	--	3E+01	NA	--	--	--	--	--
Vanadium	3E+01	6E+01	5E-01	3E+01	6E+01	5E-01	3E+01	6E+01	5E-01	3E+01	6E+01	5E-01	3E+01	6E+01	5E-01	≤0	≤0	≤0	≤0

Table G.29

Estimate of Exposure Ratios for for Fish Using Whole Body Tissue Concentrations - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline			Construction			Operation			Reclamation			Post-Closure			Fish Δ ER			
COPEC	Measured Fish (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Predicted Fish (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Predicted Fish (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Predicted Fish (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Predicted Fish (mg/kg)	Guideline (mg/kg)	Exposure Ratio	Construction	Operation	Reclamation	Post-Closure
Beryllium	3E-01	NA	--	3E-01	NA	--	3E-01	NA	--	3E-01	NA	--	3E-01	NA	--	--	--	--	--
Boron	8E-01	NA	--	--	NA	--	--	NA	--	--	NA	--	--	NA	--	--	--	--	--
Lithium	3E-01	NA	--	--	NA	--	--	NA	--	--	NA	--	--	NA	--	--	--	--	--
Vanadium	3E-01	4E-01	6E-01	--	4E-01	--	--	4E-01	--	--	4E-01	--	--	4E-01	--	--	--	--	--

Table G.30

Estimate of Exposure Ratios for for Fish Using Surface Water Guidelines - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline			Construction			Operation			Reclamation			Post-Closure			Surface Water Δ ER			
COPEC	Measured Water (mg/L)	Guideline (mg/kg)	Exposure Ratio	Predicted Water (mg/L)	Guideline (mg/kg)	Exposure Ratio	Predicted Water (mg/L)	Guideline (mg/kg)	Exposure Ratio	Predicted Water (mg/L)	Guideline (mg/kg)	Exposure Ratio	Predicted Water (mg/L)	Guideline (mg/kg)	Exposure Ratio	Construction	Operation	Reclamation	Post-Closure
Beryllium	5E-04	2E-04	3E+00	5E-04	2E-04	3E+00	5E-04	2E-04	3E+00	5E-04	2E-04	3E+00	5E-04	2E-04	3E+00	≤0	≤0	≤0	≤0
Boron	3E-02	2E+00	2E-02	2E+00	2E+00	--	2E+00	2E+00	--	2E+00	2E+00	--	2E+00	2E+00	--	--	--	--	--
Lithium	--	NA	--	1E-02	NA	--	1E-02	NA	--	1E-02	NA	--	1E-02	NA	--	--	--	--	--
Vanadium	1E-03	1E-01	8E-03	1E-03	1E-01	8E-03	2E-03	1E-01	2E-02	1E-03	1E-01	1E-02	2E-03	1E-01	2E-02	≤0	9E-03	4E-03	8E-03

Table G.31

Estimate of Hazard Quotients for Mink - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	2E-03	2E-05	6E-04	3E-02	4E-02	7E-03	2E-04	7E+00	4E-05	2E-03	2E-05	8E-04	3E-02	4E-02	7E-03	2E-04	7E+00	4E-05
Boron	4E-02	8E-04	3E-02	5E-01	6E-01	7E-03	4E-03	9E+01	--	4E-02	6E-02	3E-02	--	--	7E-03	--	9E+01	--
Lithium	5E-02	--	9E-03	1E-01	--	7E-03	--	2E+01	--	5E-02	--	1E-02	--	--	7E-03	--	2E+01	--
Vanadium	4E-02	3E-05	3E-02	5E-02	1E-01	7E-03	8E-04	9E+00	9E-05	4E-02	3E-05	4E-02	--	--	7E-03	--	9E+00	--

Table G.31

Estimate of Hazard Quotients for Mink - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	2E-03	1E-05	1E-03	3E-02	4E-02	7E-03	2E-04	7E+00	4E-05	2E-03	1E-05	1E-03	3E-02	4E-02	7E-03	2E-04	7E+00	4E-05
Boron	4E-02	6E-02	3E-02	--	--	7E-03	--	9E+01	--	4E-02	6E-02	3E-02	--	--	7E-03	--	9E+01	--
Lithium	5E-02	--	2E-02	--	--	7E-03	--	2E+01	--	5E-02	--	2E-02	--	--	7E-03	--	2E+01	--
Vanadium	4E-02	6E-05	5E-02	--	--	7E-03	--	9E+00	--	4E-02	4E-05	5E-02	--	--	7E-03	--	9E+00	--

Table G.31

Estimate of Hazard Quotients for Mink - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure												
	Dose									Δ HQ (from Baseline)			
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	2E-03	1E-05	1E-03	3E-02	4E-02	7E-03	2E-04	7E+00	4E-05	1E-07	7E-07	8E-07	8E-07
Boron	4E-02	6E-02	3E-02	--	--	7E-03	--	9E+01	--	--	--	--	--
Lithium	5E-02	--	2E-02	--	--	7E-03	--	2E+01	--	--	--	--	--
Vanadium	4E-02	6E-05	5E-02	--	--	7E-03	--	9E+00	--	--	--	--	--

Table G.32

Estimate of Hazard Quotients for Vole - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	1E-04	4E-03	5E-02	6E-02	1E+00	6E-02	7E+00	9E-03	0E+00	1E-04	5E-03	5E-02	6E-02	1E+00	6E-02	7E+00	9E-03
Boron	0E+00	5E-03	2E-01	6E-01	8E-01	1E+00	8E-01	9E+01	--	0E+00	4E-01	2E-01	--	--	1E+00	--	9E+01	--
Lithium	0E+00	--	5E-02	6E-02	--	1E+00	--	2E+01	--	0E+00	--	7E-02	--	--	1E+00	--	2E+01	--
Vanadium	0E+00	2E-04	2E-01	5E-02	3E-01	1E+00	3E-01	9E+00	3E-02	0E+00	2E-04	2E-01	--	--	1E+00	--	9E+00	--

Table G.32

Estimate of Hazard Quotients for Vole - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	1E-04	8E-03	5E-02	6E-02	1E+00	6E-02	7E+00	9E-03	0E+00	1E-04	9E-03	5E-02	6E-02	1E+00	6E-02	7E+00	9E-03
Boron	0E+00	4E-01	2E-01	--	--	1E+00	--	9E+01	--	0E+00	4E-01	2E-01	--	--	1E+00	--	9E+01	--
Lithium	0E+00	--	1E-01	--	--	1E+00	--	2E+01	--	0E+00	--	1E-01	--	--	1E+00	--	2E+01	--
Vanadium	0E+00	4E-04	3E-01	--	--	1E+00	--	9E+00	--	0E+00	3E-04	3E-01	--	--	1E+00	--	9E+00	--

Table G.32

Estimate of Hazard Quotients for Vole - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure									Δ HQ (from Baseline)			
	Dose												
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	0E+00	1E-04	9E-03	5E-02	6E-02	1E+00	6E-02	7E+00	9E-03	1E-04	7E-04	8E-04	8E-04
Boron	0E+00	4E-01	2E-01	--	--	1E+00	--	9E+01	--	--	--	--	--
Lithium	0E+00	--	1E-01	--	--	1E+00	--	2E+01	--	--	--	--	--
Vanadium	0E+00	4E-04	3E-01	--	--	1E+00	--	9E+00	--	--	--	--	--

Table G.33

Estimate of Hazard Quotients for Deer Mouse - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	1E-04	3E-03	6E-02	6E-02	1E+00	6E-02	7E+00	9E-03	0E+00	1E-04	3E-03	6E-02	6E-02	1E+00	6E-02	7E+00	9E-03
Boron	0E+00	5E-03	1E-01	6E-01	7E-01	1E+00	7E-01	9E+01	--	0E+00	4E-01	1E-01	--	--	1E+00	--	9E+01	--
Lithium	0E+00	--	4E-02	6E-02	--	1E+00	--	2E+01	--	0E+00	--	4E-02	--	--	1E+00	--	2E+01	--
Vanadium	0E+00	2E-04	1E-01	1E-01	3E-01	1E+00	3E-01	9E+00	3E-02	0E+00	2E-04	2E-01	--	--	1E+00	--	9E+00	--

Table G.33

Estimate of Hazard Quotients for Deer Mouse - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	9E-05	6E-03	6E-02	6E-02	1E+00	6E-02	7E+00	9E-03	0E+00	9E-05	6E-03	6E-02	6E-02	1E+00	6E-02	7E+00	9E-03
Boron	0E+00	4E-01	1E-01	--	--	1E+00	--	9E+01	--	0E+00	4E-01	1E-01	--	--	1E+00	--	9E+01	--
Lithium	0E+00	--	7E-02	--	--	1E+00	--	2E+01	--	0E+00	--	7E-02	--	--	1E+00	--	2E+01	--
Vanadium	0E+00	4E-04	2E-01	--	--	1E+00	--	9E+00	--	0E+00	3E-04	2E-01	--	--	1E+00	--	9E+00	--

Table G.33

Estimate of Hazard Quotients for Deer Mouse - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure									Δ HQ (from Baseline)			
	Dose												
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	0E+00	9E-05	6E-03	6E-02	6E-02	1E+00	6E-02	7E+00	9E-03	9E-05	5E-04	5E-04	5E-04
Boron	0E+00	4E-01	1E-01	--	--	1E+00	--	9E+01	--	--	--	--	--
Lithium	0E+00	--	7E-02	--	--	1E+00	--	2E+01	--	--	--	--	--
Vanadium	0E+00	4E-04	2E-01	--	--	1E+00	--	9E+00	--	--	--	--	--

Table G.34

Estimate of Hazard Quotients for Moose - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	8E-05	3E-05	2E-04	7E-03	8E-03	1E+00	8E-03	7E-01	1E-02	8E-05	3E-05	2E-04	7E-03	8E-03	1E+00	8E-03	7E-01	1E-02
Boron	2E-03	1E-03	8E-03	1E-01	1E-01	1E+00	1E-01	3E+01	--	2E-03	1E-01	8E-03	--	--	1E+00	--	3E+01	--
Lithium	2E-03	--	2E-03	5E-02	--	1E+00	--	9E+00	--	2E-03	--	3E-03	--	--	1E+00	--	9E+00	--
Vanadium	2E-03	5E-05	8E-03	7E-03	2E-02	1E+00	2E-02	6E+00	3E-03	2E-03	5E-05	9E-03	--	--	1E+00	--	6E+00	--

Table G.34

Estimate of Hazard Quotients for Moose - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	8E-05	2E-05	3E-04	7E-03	8E-03	1E+00	8E-03	7E-01	1E-02	8E-05	2E-05	4E-04	7E-03	8E-03	1E+00	8E-03	7E-01	1E-02
Boron	2E-03	1E-01	8E-03	--	--	1E+00	--	3E+01	--	2E-03	1E-01	8E-03	--	--	1E+00	--	3E+01	--
Lithium	2E-03	--	4E-03	--	--	1E+00	--	9E+00	--	2E-03	--	4E-03	--	--	1E+00	--	9E+00	--
Vanadium	2E-03	1E-04	1E-02	--	--	1E+00	--	6E+00	--	2E-03	7E-05	1E-02	--	--	1E+00	--	6E+00	--

Table G.34

Estimate of Hazard Quotients for Moose - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure									Δ HQ (from Baseline)			
	Dose												
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	8E-05	2E-05	4E-04	7E-03	8E-03	1E+00	8E-03	7E-01	1E-02	5E-05	3E-04	3E-04	3E-04
Boron	2E-03	1E-01	8E-03	--	--	1E+00	--	3E+01	--	--	--	--	--
Lithium	2E-03	--	4E-03	--	--	1E+00	--	9E+00	--	--	--	--	--
Vanadium	2E-03	1E-04	1E-02	--	--	1E+00	--	6E+00	--	--	--	--	--

Table G.35

Estimate of Hazard Quotients for White-Tailed Deer - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	3E-05	3E-04	1E-02	1E-02	1E+00	1E-02	7E+00	2E-03	0E+00	3E-05	4E-04	1E-02	1E-02	1E+00	1E-02	7E+00	2E-03
Boron	0E+00	2E-03	2E-02	1E-01	1E-01	1E+00	1E-01	9E+01	--	0E+00	1E-01	2E-02	--	--	1E+00	--	9E+01	--
Lithium	0E+00	--	4E-03	1E-02	--	1E+00	--	2E+01	--	0E+00	--	5E-03	--	--	1E+00	--	2E+01	--
Vanadium	0E+00	6E-05	2E-02	1E-02	3E-02	1E+00	3E-02	9E+00	3E-03	0E+00	6E-05	2E-02	--	--	1E+00	--	9E+00	--

Table G.35

Estimate of Hazard Quotients for White-Tailed Deer - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	3E-05	6E-04	1E-02	1E-02	1E+00	1E-02	7E+00	2E-03	0E+00	3E-05	7E-04	1E-02	1E-02	1E+00	1E-02	7E+00	2E-03
Boron	0E+00	1E-01	2E-02	--	--	1E+00	--	9E+01	--	0E+00	1E-01	2E-02	--	--	1E+00	--	9E+01	--
Lithium	0E+00	--	8E-03	--	--	1E+00	--	2E+01	--	0E+00	--	8E-03	--	--	1E+00	--	2E+01	--
Vanadium	0E+00	1E-04	2E-02	--	--	1E+00	--	9E+00	--	0E+00	9E-05	2E-02	--	--	1E+00	--	9E+00	--

Table G.35

Estimate of Hazard Quotients for White-Tailed Deer - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure									Δ HQ (from Baseline)			
	Dose												
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	0E+00	3E-05	7E-04	1E-02	1E-02	1E+00	1E-02	7E+00	2E-03	1E-05	5E-05	6E-05	6E-05
Boron	0E+00	1E-01	2E-02	--	--	1E+00	--	9E+01	--	--	--	--	--
Lithium	0E+00	--	8E-03	--	--	1E+00	--	2E+01	--	--	--	--	--
Vanadium	0E+00	1E-04	2E-02	--	--	1E+00	--	9E+00	--	--	--	--	--

Table G.36

Estimate of Hazard Quotients for Black Bear - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	3E-05	3E-05	3E-04	1E-02	1E-02	1E+00	1E-02	7E+00	2E-03	3E-05	3E-05	3E-04	1E-02	1E-02	1E+00	1E-02	7E+00	2E-03
Boron	8E-04	2E-03	1E-02	2E-01	2E-01	1E+00	2E-01	9E+01	--	8E-04	1E-01	1E-02	--	--	1E+00	--	9E+01	--
Lithium	9E-04	--	4E-03	3E-02	--	1E+00	--	2E+01	--	9E-04	--	5E-03	--	--	1E+00	--	2E+01	--
Vanadium	8E-04	6E-05	1E-02	1E-02	3E-02	1E+00	3E-02	9E+00	3E-03	8E-04	6E-05	2E-02	--	--	1E+00	--	9E+00	--

Table G.36

Estimate of Hazard Quotients for Black Bear - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	3E-05	3E-05	6E-04	1E-02	1E-02	1E+00	1E-02	7E+00	2E-03	3E-05	3E-05	7E-04	1E-02	1E-02	1E+00	1E-02	7E+00	2E-03
Boron	8E-04	1E-01	1E-02	--	--	1E+00	--	9E+01	--	8E-04	1E-01	1E-02	--	--	1E+00	--	9E+01	--
Lithium	9E-04	--	7E-03	--	--	1E+00	--	2E+01	--	9E-04	--	8E-03	--	--	1E+00	--	2E+01	--
Vanadium	8E-04	1E-04	2E-02	--	--	1E+00	--	9E+00	--	8E-04	9E-05	2E-02	--	--	1E+00	--	9E+00	--

Table G.36

Estimate of Hazard Quotients for Black Bear - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure												
	Dose									Δ HQ (from Baseline)			
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	3E-05	3E-05	7E-04	1E-02	1E-02	1E+00	1E-02	7E+00	2E-03	9E-06	5E-05	6E-05	6E-05
Boron	8E-04	1E-01	1E-02	--	--	1E+00	--	9E+01	--	--	--	--	--
Lithium	9E-04	--	8E-03	--	--	1E+00	--	2E+01	--	--	--	--	--
Vanadium	8E-04	1E-04	2E-02	--	--	1E+00	--	9E+00	--	--	--	--	--

Table G.37

Estimate of Hazard Quotients for Snowshoe Hare - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	5E-05	2E-03	2E-02	2E-02	1E+00	2E-02	7E+00	3E-03	0E+00	5E-05	2E-03	2E-02	2E-02	1E+00	2E-02	7E+00	3E-03
Boron	0E+00	3E-03	9E-02	2E-01	3E-01	1E+00	3E-01	9E+01	--	0E+00	2E-01	9E-02	--	--	1E+00	--	9E+01	--
Lithium	0E+00	--	3E-02	2E-02	--	1E+00	--	2E+01	--	0E+00	--	3E-02	--	--	1E+00	--	2E+01	--
Vanadium	0E+00	1E-04	1E-01	2E-02	1E-01	1E+00	1E-01	9E+00	1E-02	0E+00	1E-04	1E-01	--	--	1E+00	--	9E+00	--

Table G.37

Estimate of Hazard Quotients for Snowshoe Hare - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	5E-05	4E-03	2E-02	2E-02	1E+00	2E-02	7E+00	4E-03	0E+00	5E-05	4E-03	2E-02	2E-02	1E+00	2E-02	7E+00	4E-03
Boron	0E+00	2E-01	9E-02	--	--	1E+00	--	9E+01	--	0E+00	2E-01	9E-02	--	--	1E+00	--	9E+01	--
Lithium	0E+00	--	5E-02	--	--	1E+00	--	2E+01	--	0E+00	--	5E-02	--	--	1E+00	--	2E+01	--
Vanadium	0E+00	2E-04	1E-01	--	--	1E+00	--	9E+00	--	0E+00	1E-04	2E-01	--	--	1E+00	--	9E+00	--

Table G.37

Estimate of Hazard Quotients for Snowshoe Hare - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure									Δ HQ (from Baseline)			
	Dose												
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	0E+00	5E-05	4E-03	2E-02	2E-02	1E+00	2E-02	7E+00	4E-03	6E-05	3E-04	4E-04	4E-04
Boron	0E+00	2E-01	9E-02	--	--	1E+00	--	9E+01	--	--	--	--	--
Lithium	0E+00	--	5E-02	--	--	1E+00	--	2E+01	--	--	--	--	--
Vanadium	0E+00	2E-04	2E-01	--	--	1E+00	--	9E+00	--	--	--	--	--

Table G.38

Estimate of Hazard Quotients for Red Fox - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	5E-05	1E-03	8E-03	9E-03	1E+00	9E-03	7E+00	1E-03	0E+00	5E-05	2E-03	8E-03	1E-02	1E+00	1E-02	7E+00	1E-03
Boron	0E+00	2E-03	6E-02	5E-01	6E-01	1E+00	6E-01	9E+01	--	0E+00	2E-01	6E-02	--	--	1E+00	--	9E+01	--
Lithium	0E+00	--	2E-02	1E-01	--	1E+00	--	2E+01	--	0E+00	--	2E-02	--	--	1E+00	--	2E+01	--
Vanadium	0E+00	9E-05	7E-02	3E-02	9E-02	1E+00	9E-02	9E+00	1E-02	0E+00	9E-05	7E-02	--	--	1E+00	--	9E+00	--

Table G.38

Estimate of Hazard Quotients for Red Fox - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	4E-05	3E-03	8E-03	1E-02	1E+00	1E-02	7E+00	2E-03	0E+00	4E-05	3E-03	8E-03	1E-02	1E+00	1E-02	7E+00	2E-03
Boron	0E+00	2E-01	6E-02	--	--	1E+00	--	9E+01	--	0E+00	2E-01	6E-02	--	--	1E+00	--	9E+01	--
Lithium	0E+00	--	3E-02	--	--	1E+00	--	2E+01	--	0E+00	--	3E-02	--	--	1E+00	--	2E+01	--
Vanadium	0E+00	2E-04	1E-01	--	--	1E+00	--	9E+00	--	0E+00	1E-04	1E-01	--	--	1E+00	--	9E+00	--

Table G.38

Estimate of Hazard Quotients for Red Fox - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure												
	Dose									Δ HQ (from Baseline)			
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	0E+00	4E-05	3E-03	8E-03	1E-02	1E+00	1E-02	7E+00	2E-03	4E-05	2E-04	3E-04	3E-04
Boron	0E+00	2E-01	6E-02	--	--	1E+00	--	9E+01	--	--	--	--	--
Lithium	0E+00	--	3E-02	--	--	1E+00	--	2E+01	--	--	--	--	--
Vanadium	0E+00	2E-04	1E-01	--	--	1E+00	--	9E+00	--	--	--	--	--

Table G.39

Estimate of Hazard Quotients for Spotted Sandpiper - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	1E-03	9E-05	1E-03	2E-01	2E-01	1E+00	2E-01	NA	--	1E-03	9E-05	1E-03	2E-01	2E-01	1E+00	2E-01	NA	--
Boron	3E-02	4E-03	6E-02	2E+00	2E+00	1E+00	2E+00	NA	--	3E-02	--	6E-02	--	--	1E+00	--	NA	--
Lithium	4E-02	--	2E-02	4E-01	--	1E+00	--	NA	--	4E-02	--	2E-02	--	--	1E+00	--	NA	--
Vanadium	4E-02	2E-04	6E-02	5E-01	6E-01	1E+00	6E-01	2E+00	3E-01	4E-02	2E-04	6E-02	--	--	1E+00	--	2E+00	--

Table G.39

Estimate of Hazard Quotients for Spotted Sandpiper - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	1E-03	8E-05	2E-03	2E-01	2E-01	1E+00	2E-01	NA	--	1E-03	8E-05	3E-03	2E-01	2E-01	1E+00	2E-01	NA	--
Boron	3E-02	--	6E-02	--	--	1E+00	--	NA	--	3E-02	--	6E-02	--	--	1E+00	--	NA	--
Lithium	4E-02	--	3E-02	--	--	1E+00	--	NA	--	4E-02	--	3E-02	--	--	1E+00	--	NA	--
Vanadium	4E-02	4E-04	9E-02	--	--	1E+00	--	2E+00	--	4E-02	3E-04	9E-02	--	--	1E+00	--	2E+00	--

Table G.39

Estimate of Hazard Quotients for Spotted Sandpiper - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure									Δ HQ (from Baseline)			
	Dose												
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	1E-03	8E-05	3E-03	2E-01	2E-01	1E+00	2E-01	NA	--	--	--	--	--
Boron	3E-02	--	6E-02	--	--	1E+00	--	NA	--	--	--	--	--
Lithium	4E-02	--	3E-02	--	--	1E+00	--	NA	--	--	--	--	--
Vanadium	4E-02	3E-04	9E-02	--	--	1E+00	--	2E+00	--	--	--	--	--

Table G.40

Estimate of Hazard Quotients for Red-Tailed Hawk - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	5E-05	3E-05	1E-03	1E-03	2E-03	8E-01	2E-03	NA	--	5E-05	3E-05	1E-03	1E-03	2E-03	8E-01	2E-03	NA	--
Boron	1E-03	2E-03	5E-02	8E-01	8E-01	8E-01	7E-01	NA	--	1E-03	--	5E-02	--	--	8E-01	--	NA	--
Lithium	2E-03	--	1E-02	2E-01	--	8E-01	--	NA	--	2E-03	--	2E-02	--	--	8E-01	--	NA	--
Vanadium	1E-03	6E-05	5E-02	1E-02	6E-02	8E-01	5E-02	2E+00	3E-02	1E-03	6E-05	6E-02	--	--	8E-01	--	2E+00	--

Table G.40

Estimate of Hazard Quotients for Red-Tailed Hawk - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	5E-05	3E-05	2E-03	1E-03	3E-03	8E-01	3E-03	NA	--	5E-05	3E-05	2E-03	1E-03	3E-03	8E-01	3E-03	NA	--
Boron	1E-03	--	5E-02	--	--	8E-01	--	NA	--	1E-03	--	5E-02	--	--	8E-01	--	NA	--
Lithium	2E-03	--	2E-02	--	--	8E-01	--	NA	--	2E-03	--	3E-02	--	--	8E-01	--	NA	--
Vanadium	1E-03	1E-04	8E-02	--	--	8E-01	--	2E+00	--	1E-03	9E-05	8E-02	--	--	8E-01	--	2E+00	--

Table G.40

Estimate of Hazard Quotients for Red-Tailed Hawk - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure									Δ HQ (from Baseline)			
	Dose												
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	5E-05	3E-05	2E-03	1E-03	3E-03	8E-01	3E-03	NA	--	--	--	--	--
Boron	1E-03	--	5E-02	--	--	8E-01	--	NA	--	--	--	--	--
Lithium	2E-03	--	3E-02	--	--	8E-01	--	NA	--	--	--	--	--
Vanadium	1E-03	1E-04	8E-02	--	--	8E-01	--	2E+00	--	--	--	--	--

Table G.41

Estimate of Hazard Quotients for Red-Tailed Hawk for SOCI Species - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	5E-05	3E-05	1E-03	1E-03	2E-03	1E+00	2E-03	NA	--	5E-05	3E-05	1E-03	1E-03	2E-03	1E+00	2E-03	NA	--
Boron	1E-03	2E-03	5E-02	8E-01	8E-01	1E+00	8E-01	NA	--	1E-03	--	5E-02	--	--	1E+00	--	NA	--
Lithium	2E-03	--	1E-02	2E-01	--	1E+00	--	NA	--	2E-03	--	2E-02	--	--	1E+00	--	NA	--
Vanadium	1E-03	6E-05	5E-02	1E-02	6E-02	1E+00	6E-02	2E+00	3E-02	1E-03	6E-05	6E-02	--	--	1E+00	--	2E+00	--

Table G.41

Estimate of Hazard Quotients for Red-Tailed Hawk for SOCI Species - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	5E-05	3E-05	2E-03	1E-03	3E-03	1E+00	3E-03	NA	--	5E-05	3E-05	2E-03	1E-03	3E-03	1E+00	3E-03	NA	--
Boron	1E-03	--	5E-02	--	--	1E+00	--	NA	--	1E-03	--	5E-02	--	--	1E+00	--	NA	--
Lithium	2E-03	--	2E-02	--	--	1E+00	--	NA	--	2E-03	--	3E-02	--	--	1E+00	--	NA	--
Vanadium	1E-03	1E-04	8E-02	--	--	1E+00	--	2E+00	--	1E-03	9E-05	8E-02	--	--	1E+00	--	2E+00	--

Table G.41

Estimate of Hazard Quotients for Red-Tailed Hawk for SOCI Species - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure									Δ HQ (from Baseline)			
	Dose												
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	5E-05	3E-05	2E-03	1E-03	3E-03	1E+00	3E-03	NA	--	--	--	--	--
Boron	1E-03	--	5E-02	--	--	1E+00	--	NA	--	--	--	--	--
Lithium	2E-03	--	3E-02	--	--	1E+00	--	NA	--	--	--	--	--
Vanadium	1E-03	1E-04	8E-02	--	--	1E+00	--	2E+00	--	--	--	--	--

Table G.42

Estimate of Hazard Quotients for Barn Swallow - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	1E-04	3E-03	2E-01	2E-01	1E+00	2E-01	NA	--	0E+00	1E-04	3E-03	2E-01	2E-01	1E+00	2E-01	NA	--
Boron	0E+00	6E-03	1E-01	2E+00	2E+00	1E+00	2E+00	NA	--	0E+00	--	1E-01	--	--	1E+00	--	NA	--
Lithium	0E+00	--	4E-02	2E-01	--	1E+00	--	NA	--	0E+00	--	4E-02	--	--	1E+00	--	NA	--
Vanadium	0E+00	2E-04	1E-01	8E-01	1E+00	1E+00	1E+00	2E+00	5E-01	0E+00	2E-04	1E-01	--	--	1E+00	--	2E+00	--

Table G.42

Estimate of Hazard Quotients for Barn Swallow - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	1E-04	6E-03	2E-01	2E-01	1E+00	2E-01	NA	--	0E+00	1E-04	6E-03	2E-01	2E-01	1E+00	2E-01	NA	--
Boron	0E+00	--	1E-01	--	--	1E+00	--	NA	--	0E+00	--	1E-01	--	--	1E+00	--	NA	--
Lithium	0E+00	--	7E-02	--	--	1E+00	--	NA	--	0E+00	--	7E-02	--	--	1E+00	--	NA	--
Vanadium	0E+00	5E-04	2E-01	--	--	1E+00	--	2E+00	--	0E+00	3E-04	2E-01	--	--	1E+00	--	2E+00	--

Table G.42

Estimate of Hazard Quotients for Barn Swallow - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure									Δ HQ (from Baseline)			
	Dose												
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	0E+00	1E-04	6E-03	2E-01	2E-01	1E+00	2E-01	NA	--	--	--	--	--
Boron	0E+00	--	1E-01	--	--	1E+00	--	NA	--	--	--	--	--
Lithium	0E+00	--	7E-02	--	--	1E+00	--	NA	--	--	--	--	--
Vanadium	0E+00	4E-04	2E-01	--	--	1E+00	--	2E+00	--	--	--	--	--

Table G.43

Estimate of Hazard Quotients for Barn Swallow for SAR/SOCI Species - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	1E-04	3E-03	2E-01	2E-01	1E+00	2E-01	NA	--	0E+00	1E-04	3E-03	2E-01	2E-01	1E+00	2E-01	NA	--
Boron	0E+00	6E-03	1E-01	2E+00	2E+00	1E+00	2E+00	NA	--	0E+00	--	1E-01	--	--	1E+00	--	NA	--
Lithium	0E+00	--	4E-02	2E-01	--	1E+00	--	NA	--	0E+00	--	4E-02	--	--	1E+00	--	NA	--
Vanadium	0E+00	2E-04	1E-01	8E-01	1E+00	1E+00	1E+00	2E+00	5E-01	0E+00	2E-04	1E-01	--	--	1E+00	--	2E+00	--

Table G.43

Estimate of Hazard Quotients for Barn Swallow for SAR/SOCI Species - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	1E-04	6E-03	2E-01	2E-01	1E+00	2E-01	NA	--	0E+00	1E-04	6E-03	2E-01	2E-01	1E+00	2E-01	NA	--
Boron	0E+00	--	1E-01	--	--	1E+00	--	NA	--	0E+00	--	1E-01	--	--	1E+00	--	NA	--
Lithium	0E+00	--	7E-02	--	--	1E+00	--	--	--	0E+00	--	7E-02	--	--	1E+00	--	NA	--
Vanadium	0E+00	5E-04	2E-01	--	--	1E+00	--	2E+00	--	0E+00	3E-04	2E-01	--	--	1E+00	--	2E+00	--

Table G.43

Estimate of Hazard Quotients for Barn Swallow for SAR/SOCI Species - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure									Δ HQ (from Baseline)			
	Dose												
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	0E+00	1E-04	6E-03	2E-01	2E-01	1E+00	2E-01	NA	--	--	--	--	--
Boron	0E+00	--	1E-01	--	--	1E+00	--	NA	--	--	--	--	--
Lithium	0E+00	--	7E-02	--	--	1E+00	--	NA	--	--	--	--	--
Vanadium	0E+00	4E-04	2E-01	--	--	1E+00	--	2E+00	--	--	--	--	--

Table G.44

Estimate of Hazard Quotients for American Robin - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	7E-05	2E-02	2E-01	3E-01	1E+00	3E-01	NA	--	0E+00	7E-05	3E-02	2E-01	3E-01	1E+00	3E-01	NA	--
Boron	0E+00	4E-03	1E+00	2E+00	4E+00	1E+00	4E+00	NA	--	0E+00	--	1E+00	--	--	1E+00	--	NA	--
Lithium	0E+00	--	3E-01	2E-01	--	1E+00	--	NA	--	0E+00	--	4E-01	--	--	1E+00	--	NA	--
Vanadium	0E+00	1E-04	1E+00	6E-01	2E+00	1E+00	2E+00	2E+00	9E-01	0E+00	1E-04	1E+00	--	--	1E+00	--	2E+00	--

Table G.44

Estimate of Hazard Quotients for American Robin - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	6E-05	5E-02	2E-01	3E-01	1E+00	3E-01	NA	--	0E+00	7E-05	6E-02	2E-01	3E-01	1E+00	3E-01	NA	--
Boron	0E+00	--	1E+00	--	--	1E+00	--	NA	--	0E+00	--	1E+00	--	--	1E+00	--	NA	--
Lithium	0E+00	--	6E-01	--	--	1E+00	--	NA	--	0E+00	--	6E-01	--	--	1E+00	--	NA	--
Vanadium	0E+00	3E-04	2E+00	--	--	1E+00	--	2E+00	--	0E+00	2E-04	2E+00	--	--	1E+00	--	2E+00	--

Table G.44

Estimate of Hazard Quotients for American Robin - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure												
	Dose									Δ HQ (from Baseline)			
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	0E+00	7E-05	6E-02	2E-01	3E-01	1E+00	3E-01	NA	--	--	--	--	--
Boron	0E+00	--	1E+00	--	--	1E+00	--	NA	--	--	--	--	--
Lithium	0E+00	--	6E-01	--	--	1E+00	--	NA	--	--	--	--	--
Vanadium	0E+00	3E-04	2E+00	--	--	1E+00	--	2E+00	--	--	--	--	--

Table G.45

Estimate of Hazard Quotients for American Robin for SAR/SOCI Species - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	7E-05	2E-02	2E-01	3E-01	1E+00	3E-01	NA	--	0E+00	7E-05	3E-02	2E-01	3E-01	1E+00	3E-01	NA	--
Boron	0E+00	4E-03	1E+00	2E+00	4E+00	1E+00	4E+00	NA	--	0E+00	--	1E+00	--	--	1E+00	--	NA	--
Lithium	0E+00	--	3E-01	2E-01	--	1E+00	--	NA	--	0E+00	--	4E-01	--	--	1E+00	--	NA	--
Vanadium	0E+00	1E-04	1E+00	6E-01	2E+00	1E+00	2E+00	2E+00	1E+00	0E+00	1E-04	1E+00	--	--	1E+00	--	2E+00	--

Table G.45

Estimate of Hazard Quotients for American Robin for SAR/SOCI Species - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	6E-05	5E-02	2E-01	3E-01	1E+00	3E-01	NA	--	0E+00	7E-05	6E-02	2E-01	3E-01	1E+00	3E-01	NA	--
Boron	0E+00	--	1E+00	--	--	1E+00	--	NA	--	0E+00	--	1E+00	--	--	1E+00	--	NA	--
Lithium	0E+00	--	6E-01	--	--	1E+00	--	NA	--	0E+00	--	6E-01	--	--	1E+00	--	NA	--
Vanadium	0E+00	3E-04	2E+00	--	--	1E+00	--	2E+00	--	0E+00	2E-04	2E+00	--	--	1E+00	--	2E+00	--

Table G.45

Estimate of Hazard Quotients for American Robin for SAR/SOCI Species - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure									Δ HQ (from Baseline)			
	Dose												
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	0E+00	7E-05	6E-02	2E-01	3E-01	1E+00	3E-01	NA	--	--	--	--	--
Boron	0E+00	--	1E+00	--	--	1E+00	--	NA	--	--	--	--	--
Lithium	0E+00	--	6E-01	--	--	1E+00	--	NA	--	--	--	--	--
Vanadium	0E+00	3E-04	2E+00	--	--	1E+00	--	2E+00	--	--	--	--	--

Table G.46

Estimate of Hazard Quotients for American Kestrel - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Baseline									Construction								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	6E-05	3E-03	1E-01	1E-01	1E+00	1E-01	NA	--	0E+00	6E-05	4E-03	1E-01	1E-01	1E+00	1E-01	NA	--
Boron	0E+00	3E-03	2E-01	5E+00	6E+00	1E+00	6E+00	NA	--	0E+00	--	2E-01	--	--	1E+00	--	NA	--
Lithium	0E+00	--	4E-02	1E+00	--	1E+00	--	NA	--	0E+00	--	5E-02	--	--	1E+00	--	NA	--
Vanadium	0E+00	1E-04	2E-01	6E-01	7E-01	1E+00	7E-01	2E+00	4E-01	0E+00	1E-04	2E-01	--	--	1E+00	--	2E+00	--

Table G.46

Estimate of Hazard Quotients for American Kestrel - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Operation									Reclamation								
	Dose									Dose								
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient
Beryllium	0E+00	5E-05	7E-03	1E-01	1E-01	1E+00	1E-01	NA	--	0E+00	5E-05	7E-03	1E-01	1E-01	1E+00	1E-01	NA	--
Boron	0E+00	--	2E-01	--	--	1E+00	--	NA	--	0E+00	--	2E-01	--	--	1E+00	--	NA	--
Lithium	0E+00	--	8E-02	--	--	1E+00	--	NA	--	0E+00	--	8E-02	--	--	1E+00	--	NA	--
Vanadium	0E+00	2E-04	2E-01	--	--	1E+00	--	2E+00	--	0E+00	2E-04	3E-01	--	--	1E+00	--	2E+00	--

Table G.46

Estimate of Hazard Quotients for American Kestrel - Creek
Anaconda Goldboro
Goldboron, Nova Scotia

	Post-Closure									Δ HQ (from Baseline)			
	Dose												
COPEC	Sediment (mg/kg BW/day)	Water (mg/kg BW/day)	Soil (mg/kg BW/day)	Food (mg/kg BW/day	Total	Dose Adjustment Factor (DAF)	Total (Adjusted)	TRV	Hazard Quotient	Construction	Operation	Reclamation	Post-Closure
Beryllium	0E+00	5E-05	7E-03	1E-01	1E-01	1E+00	1E-01	NA	--	--	--	--	--
Boron	0E+00	--	2E-01	--	--	1E+00	--	NA	--	--	--	--	--
Lithium	0E+00	--	8E-02	--	--	1E+00	--	NA	--	--	--	--	--
Vanadium	0E+00	2E-04	3E-01	--	--	1E+00	--	2E+00	--	--	--	--	--


GHD