Atlantic Gold

Appendix C.2

Evaluation of Potential Human Exposures and Risks related to Emissions from the Beaver Dam Mine Project (Dust deposition; Recreational water usage; and country foods) - April 22, 2020 as Completed for the Updated 2021 Beaver Dam Mine EIS

SCIENCE INTEGRITY KNOWLEDGE

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EVALUATION OF POTENTIAL HUMAN EXPOSURES AND RISKS RELATED TO EMISSIONS FROM THE BEAVER DAM MINE PROJECT (DUST DEPOSITION; RECREATIONAL WATER USAGE; COUNTRY FOODS)

Atlantic Mining NS Inc. Beaver Dam Mine Project

Information Request Response: CEAA 2-38

FINAL REPORT

April 22, 2021

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EXECUTIVE SUMMARY

Atlantic Mining NS Inc. (AMNS) is proposing the construction, operation, decommissioning, and reclamation of an open pit gold mine in Marinette, Nova Scotia. The Beaver Dam Mine Project (the Project) would have an ore production rate of approximately 6,000 tonnes per day, over a five-year period. Ore from the Project would be crushed and transported approximately 31 km by road to the Moose River (Touquoy) mine for processing. Components of the Project include an open pit, material storage facilities (i.e., waste rock, topsoil and organic materials), mine haul roads, mine infrastructure for crushing, water management, hauling, truck maintenance, administration, and road upgrades.

This report assesses the potential for emissions from the mine, released via Project activities, to change the chemistry of air, water and soils in the area, 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, such as recreational swimming, inhalation and incidental ingestion of metals on dusts in air and soil. This assessment is on the Beaver Dam Mine Project focuses on areas outside the property boundary of the Beaver Dam Mine Site and adjacent to the Haul Road. ,which could be accessed by the general public for various activities (e.g., hunting, fishing, camping, plant gathering, hiking and swimming).

The assessment approach follows a standard screening level risk assessment approach, wherein a Problem Formulation is conducted to determine the potential for open exposure pathways, the identification of Chemicals of Potential Concern (COPCs), and receptors, followed by an Exposure and Toxicity Assessment, and Risk Characterization. Methods outlined in Health Canada (2012; 2016a; 2016b; 2018) are followed in the assessment process, along with other guidance documents and approaches (e.g., US EPA OSW 2005).

The Problem Formulation identified the following potential exposure pathways for people using the land in the area of the mine site:

- Inhalation of air containing dusts;
- Incidental soil and dust ingestion, and/or berry/leafy vegetation consumption;
- Consumption of game meats by humans;
- Exposure to surface water via incidental ingestion and dermal contact through recreational activities (e.g., swimming); and
- Consumption of fish by humans.

The nearest residence with a groundwater well is approximately 5 km away from the mine site. Although there are both seasonal and permanent residence along and near the Haul Road that are closer there is no predicted impacts to groundwater associated with the Haul Road (AMNS 2021a). Therefore, consumption of groundwater was not considered an open exposure pathway. Members of the Beaver Dam IR 17 live approximately 5 km away from the proposed mine site, and the lands in the vicinity of the site are actively used by those First Nation members, and likely by other stakeholders. Activities in the area include traditional hunting and plant gathering, fishing, hiking, use of ATVs, and camping (AMSN 2021a).

The assessment included a Baseline scenario, a Project Increment scenario, Baseline + Project Scenario, and a cumulative effects scenario.

Chemicals of Potential Concern (COPCs) were identified through examination of the geochemistry of dusts which could be released by the mine, as well as through predicted future surface water concentrations in the water course which will receive direct effluent discharge (i.e., Killag River; Cameron Flowage). Screening of these sources resulted in several metals/metalloids meriting further assessment (i.e., aluminium; antimony; arsenic; barium; beryllium; boron; cadmium; chromium; cobalt; copper; lead; manganese; mercury; molybdenum; nickel; silver; strontium; vanadium and zinc).

Dust deposition from mine site activities was predicted by GHD (2021a, Appendix C.1 in AMNS 2021a), based on proposed operations and activities at the mine site, using standard methods. Predicted deposition rates were provided for the maximum point of impingement (MPOI) associated with mine site activities, as well as the receptor location with the highest dust deposition rate [e.g., Deepwood Estates (R7)]. These predictions were used to estimate potential future soil, vegetation and game meat concentrations in the Study area, using standard risk assessment equations provided by Health Canada and US EPA (e.g., US EPA OSW, 2005; US EPA, 1993a). Effluent release into the nearby receiving environment (i.e., Cameron Flowage on the Killag River) during construction, operation and post-closure are predicted by GHD (2021c, Appendix Q.1 in AMNS 2021a). These data are used to evaluate potential exposures related to recreational swimming, and fish consumption.

Potential exposures to releases of the COPCs from the proposed Beaver Dam Mine Project for people who could spend time in areas near the Beaver Dam Mine Site or Haul Road were estimated using standardized equations by Health Canada (2012) and US EPA (2003; 2004a). Consumption rates for various foods which could be harvested from the area near the proposed mine, such as leafy vegetation, berries, fish and game meats (e.g., deer; grouse; hare and duck), were identified from the First Nations Food, Nutrition and Environment Study (FNFNES) for the Atlantic region (Chan et al, 2017), and are consistent with traditional knowledge report (Millbrook First Nation and Moccasin Flower Consulting, 2019) and ongoing engagement with Millbrook First Nations. Soil ingestion and dust inhalation exposure rates were identified from Health Canada (2012). Exposure rates from swimming and incidental water ingestion were identified from both Health Canada (2012) and US EPA (2003; 2004a). Chronic Toxicity Reference Values (TRVs), which are exposure levels of COPCs for a life-time below which adverse effects are not anticipated, or which are associated with negligible risk levels, were identified from Health Canada (2010), World Health Organization (2010), US EPA (1996; 1993a) and other notable regulatory agencies. Potential risks were characterized by comparing the predicted exposure levels from all exposure pathways to the TRV, to predict a Risk Quotient (RQ) for non-carcinogens. An RQ less than 0.2 for the Project scenario, or less than 1.0 for the Baseline + Project scenario, are considered to indicate that risks associated with the Project are negligible. For carcinogenic chemicals, an Incremental Lifetime Cancer Risk (ILCR) for all life stages is calculated. A benchmark cancer risk level of 1 in 100,000 (i.e., 1×10^{-5}) is used to assess risk, and cancer risks are deemed negligible when the estimated ILCR is less than the benchmark value of 1 in 100,000 (i.e., ILCR $\leq$ 1.0).

The non-carcinogenic risks from soil and dust exposures, the consumption of country foods harvested from the vicinity of the Mine Site, and recreational water use (i.e., swimming), as well as soil ingestion, are considered to be negligible based on the assessment. The predicted ILCRs for arsenic are below the benchmark ILCR of 1 in 100,000 in all scenarios and assessment cases. Therefore, the potential for adverse health effects from arsenic exposure are considered negligible. The risk assessment results indicate that risks to people consuming country foods from the area, or spending time in the area, will not increase appreciably following mine development.

Uncertainties, limitations and assumptions used in the assessment are discussed in the report.

EVALUTION OF POTENTIAL HUMAN EXPOSURES AND RISKS RELATED TO EMISSION FROM THE BEAVER DAM MINE PROJECT (Dust Deposition; Recreational Water Usage; Country Foods)

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EVALUATION OF POTENTIAL HUMAN EXPOSURES AND RISKS RELATED TO EMISSIONS FROM THE BEAVER DAM MINE PROJECT (DUST DEPOSITION; RECREATIONAL WATER USAGE; COUNTRY FOODS)

RESPONSE TO INFORMATION REQUEST: CEAA 2-38

1 INTRODUCTION

Atlantic Mining NS Inc. (AMNS) is proposing the construction, operation, decommissioning, and reclamation of an open pit gold mine in Marinette, Nova Scotia. The Beaver Dam Mine Project (the Project) would have an ore production rate of approximately 6,000 tonnes per day, over a five-year period. Ore from the Project would be crushed and transported approximately 31 km by road to the Moose River (Touquoy) mine for processing. Components of the Project include an open pit, material storage facilities (i.e., waste rock, topsoil and organic materials), mine haul roads, mine infrastructure for crushing, water management, hauling, truck maintenance, administration, and road upgrades.

An Environmental Assessment commenced in 2015 for the Project, and an Environmental Impact Statement (EIS) for the Beaver Dam Mine Site was submitted for review to both the Canadian Environmental Assessment Agency (CEAA) and Nova Scotia Environment (NSE) in 2017 (AGC 2017). In response to that EIS, Information Requests (IR1s) were issued by CEAA and NSE (CEAA and NSE 2017).

In 2017, an IR (CEAA 1-36 [CEAA and NSE 2017]) related to dust deposition, and potential implications for harvesting and consumption of vegetation for traditional purposes by Indigenous peoples in the area of the Project, which specifically states:

> "Evaluate the potential for dust deposition and subsequent consumption of vegetation (including consumption of metals in dusts) if plants are being harvested and consumed for traditional purposes by Indigenous peoples in areas where fugitive dust emissions may be a concern (e.g. near haul roads)"

AMNS submitted a revised EIS in 2019 (AMNS 2019) and responded to this IR1 (CEAA 1-36) by providing a report entitled: "Evaluation of Exposure Potential Related to Dust Deposition from Haul Road Traffic onto Soils, Berries and Vegetation" (Intrinsik, 2019a). This report provides a human health risk assessment of possible risks associated with exposure to soil, berry and vegetation consumption in the area near the proposed Project.

In response to the review of the Revised 2019 EIS (AMNS 2019) CEAA and NSE provided a second round of Information Requests (IR2s) (CEAA and NSE 2019). An IR2 (CEAA 2-38) specific to the Intrinsik (2019a) report states the following:

> "Provide justification as to why an HHRA is not required to determine significance on Indigenous people.
>
> OR
>
> Conduct a human health risk assessment (HHRA) to provide an estimate of potential human health risks associated with chemicals released at various stages of the proposed project. This should include but is not limited to Indigenous and recreational land users, seasonal residents and/or permanent residents."

Therefore, the purpose of this report is to provide an additional assessment of potential human health impacts related to contaminants released via the Project, which includes both the Mine Site and the Haul Road, associated with the following additional exposure pathways:

- Recreational water usage in the area of Beaver Dam Mine
- Fish consumption
- Consumption of game meats (in additional to vegetation and berries previously assessed)

Note that an assessment of potential changes in air quality, particularly associated with metals in dust, are assessed in a technical memo, in response to IR NSE 2-129 (Appendix A of this report and Appendix C.2 of the Updated 2021 EIA [AMNS 2021a]). IR2s related to Criteria Air Contaminants are provided in CEAA 2-29 and 2-33, based on air quality re-modelling conducted by GHD (2021a, Appendix C.1 of AMNS 2021a). Assessment of potential impacts related to dust deposition on groundwater are discussed in this HHRA report, and in IR2 CEAA 2-36 but based on an assessment conducted by GHD (2021b, Appendix F.9 of AMNS 2021a), the groundwater pathway was not considered to be influenced by Project releases, and hence, was not considered to be an open pathway (Section 2.5 of this report).

This report is meant to build on the Intrinsik (2019a) technical information, and answer questions related to these additional exposure pathways in conjunction with the vegetation and berry exposure pathway already assessed).

This report assesses the potential for emissions from the Project, released via Project activities, to change the chemistry of air, water, and soils in the Project Area (including the Haul Road and the Beaver Dam Mine Site), 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, such as recreational swimming. The focus of this report is on the Beaver Dam Project Area, which could be influenced by mine site or Haul Road activities. In addition, a cumulative effects assessment is provided related to the continued use of the Beaver Dam Haul Road, following closure of the Beaver Dam Mine pit, by AMNS haul trucks bringing concentrate from either Fifteen Mile Stream Gold Project, and/or Cochran Hill Gold Project, to the Touquoy Mine Site for processing, in the event that these additional mine pits are approved. This is referenced in the Cumulative Effects of the Updated 2021 EIS (AMNS 2021a).

The assessment approach used in this report follows a standard screening level risk assessment approach, wherein a Problem Formulation is conducted to determine the potential for open exposure pathways, the identification of Chemicals of Potential Concern (COPCs), and receptors. Methods outlined in Health Canada (2012; 2016a; 2016b; 2018) are followed in the assessment process, along with other guidance documents and approaches. The Problem Formulation is presented in Section 2. Section 3 provides information related to baseline data for the assessment, whereas Section 4 provides a summary of predicted air dispersion of dusts from the Project, based on remodelling conducted by GHD (2021a, Appendix C.1 of AMNS 2021a). Potential changes to recreational water quality, and a screening assessment for this pathway are provided in Section 5; methods for predicting future soils, vegetation, game meats and fish are provided in Section 6, along with an assessment of potential changes to soils and vegetation. Section 7 provides the results of the HHRA for the Project operational period of 5 years, with Section 8 providing the results of a cumulative effects scenario wherein the Haul Road is used for a total of 10 years. Uncertainties and limitations are provided in Section 9, with Conclusions in Section 10, and references provided in Section 12.

This report focuses on exposures which could occur in areas outside the active operations of the Project (referred to as the Project Development Area, or PDA), since these areas were assumed to most likely to be used for foraging activities by humans.

2 PROBLEM FORMULATION

2.1 Methodology

To conduct the Problem Formulation, the following steps were undertaken, as per Health Canada (2016a; 2016b and 2018):

- Define spatial and temporal boundaries;
- Proximity of Project to receptors;
- Identify open exposure pathways;
- Identify human receptors;
- Identify COPCs;
- Develop Conceptual Model; and
- Develop assessment scenarios.

2.2 Problem Formulation Outcomes

2.3 Spatial and Temporal Boundaries

The spatial boundaries of the Project will focus on areas outside of the active Project property boundary, where non-employees could incur exposures associated with emissions from the facility. Therefore, from an air dispersion perspective, the maximum point of impingement (MPOI – highest predicted ground level air concentration outside the property boundary), and a second depositional rate located at a receptor location along the Haul Road route which has seasonal residents but for the purposes of the assessment was assumed to have full time residents and will receive elevated dust deposition (known as Receptor 7, or R7, which is located in Deepwood Estates), were used to assess potential exposures to people (or receptors) in the area.

Based on the Project description (AMNS 2021a), the Project will involve a number of stages, including construction, operations and reclamation. From a temporal boundary perspective, this assessment focuses on the operational time period, as this is the period associated with maximum emission releases. This time period was assumed to last 5 years and was used in the re-assessment of air quality (Appendix C.1 of AMNS 2021a). In addition, a cumulative effects assessment was conducted for the Haul Road, since the Haul Road will continue to be used by the Fifteen Mile Stream Gold Project to haul concentrate from that mine pit to the Touquoy Mine Site, following the closure of the Beaver Dam Mine site. The total additional length of time for Haul Road usage is 5 additional years, following the 5 years of operations at Beaver Dam Mine Site, for a total number of years of Haul Road usage of 10 years.

2.4 Proximity to Residences and Reserves

The Beaver Dam Mine Site is located in an unpopulated area and the nearest village to the property is Sheet Harbour, approximately 20 km to the south along Highway 224. Sheet Harbour has a population of about 800 people and services a broader population of about 5,000 people, mostly distributed in a string of small communities along the eastern shore coastline. The Beaver Lake IR 17 is a satellite community to the Millbrook First Nation. Beaver Lake IR 17 is located approximately 3 km west of the Haul Road at its nearest point and 5 km south of the Beaver Dam Mine Site. The Beaver Lake IR hosts five permanent homes and four seasonal cottages. It abuts Hwy 224 which is a conduit for truck traffic from forestry and other local traffic in in the region. Other residences are located along Hwy 224 in the area outside the boundaries of the IR. Figure 1 displays these residences, along with the boundaries of the IR, and their proximity to the Project Area.

The nearest domestic drinking water well is approximately 5 km away from the proposed mine site, in a southerly direction at the Beaver Lake IR 17. Given the distance to the nearest water well, it is highly improbable that any potable groundwater resources will be affected by the mine site. The closest receptor locations (R1 to R10) are shown on Figure 1, and additional context for each receptor location is provided in Table 2-1. Although residents from the community of Mooseland are closer to the Haul Road at the western end, there are no predicted impacts to groundwater (AMNS 2021a) from Haul Truck traffic and therefore groundwater consumption is not considered an open pathway for assessment.

The Millbrook First Nation completed a traditional land use and resource study (TLURS; MFC, 2019). This study involved a literature review as well as a desktop study, open house meetings, fieldwork, verification sessions and interviews with local land users and Elders. This study had the following objectives:

- Identifying available information outlining historical land use and barriers to land use;
- Describing current land use;
- Discussing how the Project may impact current land use;
- Providing recommendations on how to limit Project impacts; and
- Assisting the proponent and the Crown in better understanding and mitigating or accommodating or compensating for Project impacts.

The TLURS indicates that the Local Study Area (LSA) is a significant area for the Millbrook community, not only the residents at Beaver Dam IR. There are camps within and directly adjacent to the LSA which are used to support harvesting activities and provide peace and solitude to Millbrook members. There is considerable harvesting in the area including large game (e.g., deer), small game (e.g., rabbit and grouse), furbearers (e.g., beaver), fish, berries, wood and medicines.

Table 2-1 Receptor Locations Near the Beaver Dam Mine Site

Structure ID	Structure Description	Receptor?	Distance from PA	Distance from Closest Mine Site	Dwelling Type	Seasonal/ Permanent	Potable Well (Y/N)	Well Type
R1	9 Beaver Dam Mine Road (Marlborough/Goodland Property)	Yes	Directly Adjacent - Northwest side of Hwy 224 and Beaver Dam Mines Road	5 km South of Beaver Dam Mine Site	House	Year round	No	N/A
R2	4112 Highway 224 (Beaver Lake IR 17)	Yes	2.3 km north of Haul Road	5 km South of Beaver Dam Mine Site	House	Year round	Yes	Drilled well
R3	4115 Highway 224 (Cottage on Crown land)	Yes	1.4 km north of Haul Road	5 km South of Beaver Dam Mine Site	cottage	Seasonal	No	N/A
R4	3492 Highway 224 (Hobbs Property)	Yes	Directly Adjacent - East side of Hwy 224 and Beaver Dam Mines Road	5 km South of Beaver Dam Mine Site	hunting camp/cottage	Seasonal	No	N/A
R5	3379 Highway 224 (McLeod Property)	Yes	350 m Southeast of Haul Road	6 km South of Beaver Dam Mine Site	cottage/trailers on site	Seasonal	No - Rainwater harvesting	N/A
R6	3373 Highway 224 (Smith Property)	Yes	425 m Southeast of Haul Road	6 km South of Beaver Dam Mine Site	cottage	Year round	Inconclusive	-
R7	Tangier River (Deepwood Estates Property)	Yes	Directly Adjacent - South side of Haul Road	9 km southeast of Touquoy Mine Site	cottage	Seasonal	Yes	Dug well
R8	Tangier River (Musqudoboit Lumber Co Ltd. Property/John Dickson Lease)	Yes	350 m Southwest of Haul Road	9 km southeast of Touquoy Mine Site	trailer(s)	Seasonal	Inconclusive	-
R9	5579 Mooseland Road (Lloy Property)	Yes	Directly Adjacent - East side of Mooseland Road	5 km East of Touquoy Mine Site	cottage	Seasonal	Yes	Dug well
R10	Scraggy Lake (Abandoned Shack)	No	Directly Adjacent to Touquoy Mine Site	Directly Adjacent to Touquoy Mine Site	old building/falling down	N/A	No	N/A

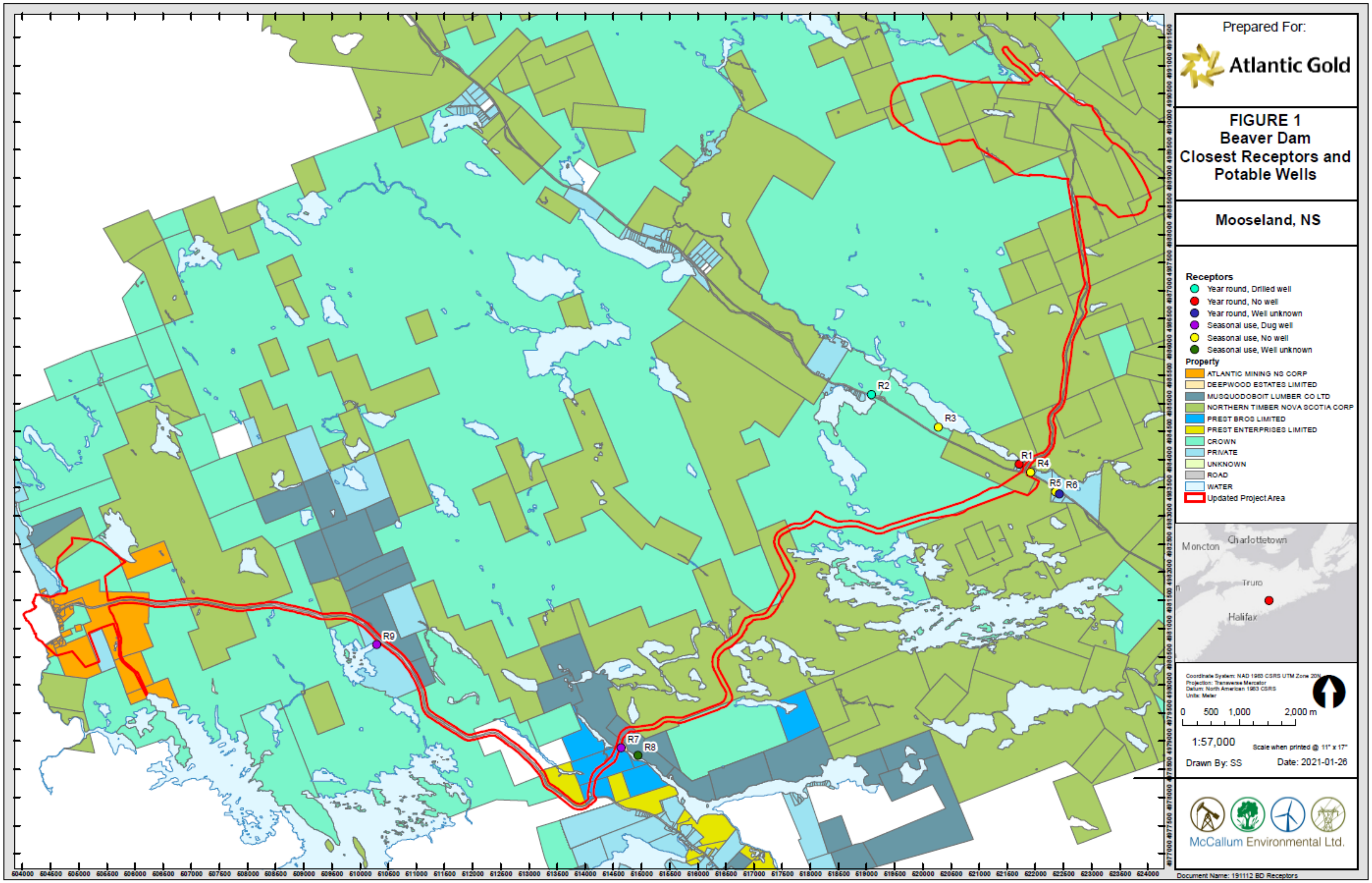

Figure 2-1 Beaver Dam Mine Site and Haul Road (the Project) and Proximity to various Receptor Locations

2.5 Potential Exposure Pathways

The types of activities at the Beaver Dam Mine Site are summarized in GHD (2021a, Appendix C.1 of AMNS 2021a) and include the following:

- Blasting;
- Production drilling;
- Production hauling.
- Material handling in the open pit;
- Production loading;
- Road transport (dust emissions of re-entrained dust); and
- Management of mine rock, ore, and overburden.

Atmospheric emissions from the Project are assessed in Section 6.2, Appendix C.1 (GHD 2021a) of AMNS (2021a). The assessment includes atmospheric dusts, particulate matter and gases, such as nitrogen oxides (NO_x), sulphur dioxide (SO_2), and carbon monoxide (CO). Other compounds, such as volatile organic compounds (VOCs) from combustion of fuels is also present in Section 6.2 and Appendix C.1 (GHD 2021a) of AMNS (2021a). Effluent emissions and releases from the Beaver Dam Mine Site will be released into Cameron Flowage/Killag River, and hence, some exposures could occur downstream of this point.

The potential exposure pathways for off-site receptors could therefore include the following:

- Inhalation of air containing dusts, particulate matter and gases;
- Ingestion of dusts;
- Deposition of dusts onto soils and vegetation, and subsequent (incidental) soil ingestion, and/or vegetation ingestion;
- Uptake of metals from soil or vegetation, uptake of metals in game species, and subsequent consumption by humans;
- Release of effluent into nearby watercourses, and exposure via direct consumption, or incidental consumption through recreational activities;
- Uptake of metals from surface water into fish and subsequent consumption by humans; and
- Consumption of groundwater, in the instance that groundwater wells could be influenced by Project activities.

Some of these pathways have already been assessed in previous submissions, or in other IRs, and hence referrals to where these responses can be found will be provided.

Note that there are no cottages immediately downstream of effluent releases in Cameron Flowage/Killag River and hence, direct consumption of surface waters containing mine effluent is not considered to be an open exposure pathway.

While the Beaver Dam Mine Site is distant to groundwater receptors, groundwater could potentially be influenced by dust or particulate deposition along the Haul Road, for receptor locations close to the Haul Road. This issue has been assessed further to determine the possible influence of deposited dust on groundwater quality at selected receptor locations along the Haul Road, which have groundwater wells (See response to IR2 CEAA 2-36 AMNS 2021b). The assessment focused on the groundwater well location with the highest dust deposition rate (receptor R7; Deepwood Estates), related to Haul Road usage. The assessment assumed 10 years of dust deposition (5 years related to operations of the Project, and an additional 5 years for cumulative effects associated with transport of mined materials from the proposed Fifteen Mile Stream and Cochrane Hill Gold Mine to Touquoy Mine for processing). The receptor location with the highest depositional rate which had a confirmed groundwater well as a source of drinking water is Deepwood Estates, along the proposed Haul Road route. This assessment concludes that potential leaching of metals from dust deposition would not pose a concern to groundwater quality at this location (R7), and hence, would not be expected to pose a concern at other receptor locations with lower rates of dust deposition along the Haul Road. Therefore, this potential exposure pathway did not require further assessment in this risk assessment. Further details on particulate assessment on groundwater is in provided in Appendix F.5 of the Updated 2021 EIS (AMNS 2021a).

Additional screening of various media will assist in determining which pathways require further assessment.

2.6 Potential Human Receptors

The closest residence to the Beaver Dam Mine Site is approximately 5 km away. Human receptors would therefore be those that travel in the area for hunting, fishing, gathering, or recreational purposes, and could include any age group (infant to elderly). Exposures would likely be more of a transient nature, as no full-time dwellings are near the Beaver Dam Mine Site. Based on the recently completed TLURS (MFC, 2019), the lands near the proposed mine site are actively used by community members for both harvesting, camping and seeking peace and solitude. The expected interaction with the Mi'kmaq relates to potential use of the land for traditional hunting, plant gathering, and fishing, as well as visual impact, and light, noise and air quality impacts (AMNS 2021a). In addition to First Nations land use, other recreational activities could be occurring in the area adjacent to the Project (e.g., hunting; ATV or snowmobile riding; and fishing). Full-time residences are located along the Haul Road, and people living in these homes could also experience exposures related to dust generated from Haul Road usage.

2.7 Identification of Chemicals of Potential Concern (COPCs)

COPCs related to dust deposition were identified in Intrinsik (2019a; see Section 3 of that report), using site specific geochemistry data, and standard screening methods. Since most of the dust generated from the Beaver Dam Mine Project is expected to be related to the transportation along haul roads, the chemical composition of the dust considered in this report is specifically associated with the source of metals in road construction, which is proposed to be waste rock related to mining activities at the Beaver Dam Mine Site. The waste rock will be used to construct interior mine roads. The geochemistry data were evaluated by Lorax (2017) and included analysis of 30 samples of waste rock (Intrinsik, 2019a). To characterize metals concentrations on dust, an average concentration (geometric mean) was calculated for each element, and this value was converted from a mg/kg (ppm) concentration to percent. Non-detected elements were assumed to be present at one-half of the detection limit for these calculations. The geochemistry ratio data and calculations are provided in Appendix B, and in Table 2-2. The identified COPCs related to dust deposition are provided in Table 2-2.

Table 2-2 List of Chemicals of Potential Concern (COPCs) and Geochemistry Ratios for Beaver Dam Mine Project

Chemicals of Potential Concern	*Percent Composition in Waste Rock*
Aluminum	2.14E+00
Antimony	1.05E-04
Arsenic	3.34E-03
Barium	7.82E-03
Beryllium	3.84E-05
Boron	5.24E-04
Cadmium	2.56E-05
Chromium	4.09E-03
Cobalt	1.52E-03
Copper	2.62E-03
Lead	6.88E-04
Manganese	5.44E-02
Mercury	2.50E-07
Molybdenum	6.74E-05
Nickel	3.12E-03
Silver	1.26E-05
Strontium	1.15E-03
Vanadium	4.49E-03
Zinc	7.54E-03

With regard to other potential substances released by mining activities, the following can be stated:

- Criteria air contaminants (i.e., TSP, PM_{10}, $PM_{2.5}$, NO_x, SO_2, and VOCs) are assessed in the air quality assessment (GHD 2019a), relative to provincial and federal air quality standards and objectives. These substances were also re-evaluated in a supplemental modelling effort by GHD (2021a, Appendix C.1 of AMNS 2021a), due to updates to the Project Description (AMNS 2021, Section 2). These are not evaluated further in this report, and results of comparisons to air quality guidelines are provided in GHD (2021a).
- Metals in dusts ($PM_{2.5}$ and PM_{10}) merit further evaluation. The specific COPCs identified above (based on the relevant geochemistry of the dust sources) are assessed further in response to IR2 NSE 2-129 (AMNS 2021b). No metals adhered to particulate matter exceeded their respective short term (24-hour) air quality guidelines or long term (chronic) inhalation toxicity reference values. A copy of IR2 NSE 2-129 response is located as Appendix A of this report.

- VOCs were concluded to be insignificant at this site, and hence are not evaluated further (predictions are provided in Appendix C.1 (GHD 2021a) of the Updated 2021 EIS (AMNS 2021a).

For metals from aqueous release of effluent into Cameron Flowage/ Killag River, predicted future concentrations in the receiving environment (GHD 2021c, Appendix Q.1 of AMNS 2021a) were screened against Canadian Drinking Water Quality Guidelines (CDWQG) to identify potential COPCs related to recreational water usage. Section 5 of the report provides further discussion and screening.

2.8 Development of a Conceptual Model

A conceptual model was developed to illustrate the potential sources of contaminants from the Project, and the exposure pathways by which media could be affected and by which people could be exposed. Figure 3-1 provides the Conceptual Model.

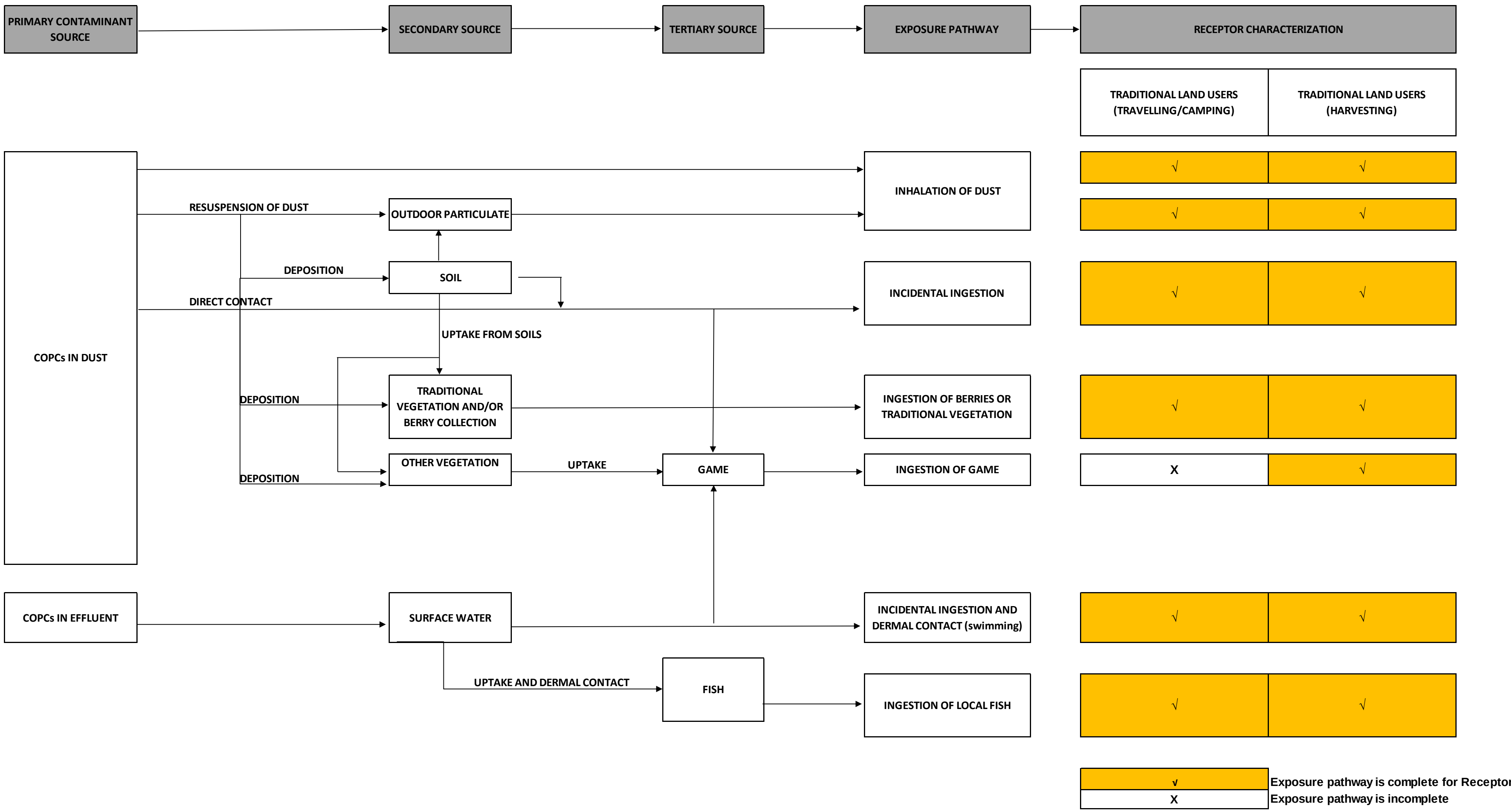

Figure 2-2 Human Health Conceptual Site Model

2.9 Assessment Scenarios

The focus of this assessment is on the operations phase of the Project, as this has been identified as the stage in the Project with the highest potential for impacts, due to the length of operations (i.e., 5 years) and the activities undertaken. When examining potential emissions from the 3 phases of a mine lifecycle (construction, operations, and reclamation, typically, the operations phase represents the highest predicted emissions scenarios, and hence, all predictions presented in this report are related to this phase.

The following scenarios are assessed for the Project operations phase:

Baseline Scenario:

- This scenario predicts potential exposures, and risks, associated with the baseline environment prior to the operation of the Project;

Project Increment Scenario:

- The potential increment provided by the Project alone.

Baseline + Project Scenario:

- The two scenario results were summed to examine the potential exposures or risks associated with the Project, when added to Baseline risks.

In addition, cumulative effects of the Project, in conjunction with other proposed Projects in the area (such as the Fifteen Mile Stream Gold Project, and Cochrane Hill Gold Project) are considered in this submission, since the Haul Road will continue to be used to transport mined materials from these two satellite projects to the Touquoy Mine processing plant (if these projects are approved). The cumulative effects scenario is assessed as a separate scenario, and added to baseline, as per above.

3 ENVIRONMENTAL BASELINE ENVIRONMENTAL MONITORING DATA (AIR, SOILS, BERRIES AND VEGETATION, SURFACE WATER)

3.1 Air

Baseline air data for the Project are discussed in GHD (2021a, Appendix C.1 of AMNS 2021a).

3.2 Soils and Vegetation

Baseline metals sampling in soil and vegetation were originally conducted in August of 2018 along the Haul Road by McCallum Environmental. At soil sampling stations, berries and vegetation (leaves) were also collected. Leaves and berries were sent to the laboratory without any rinsing or washing. Figure 3-1 identifies the sampling stations, and Table 3-1 provides details on the samples collected.

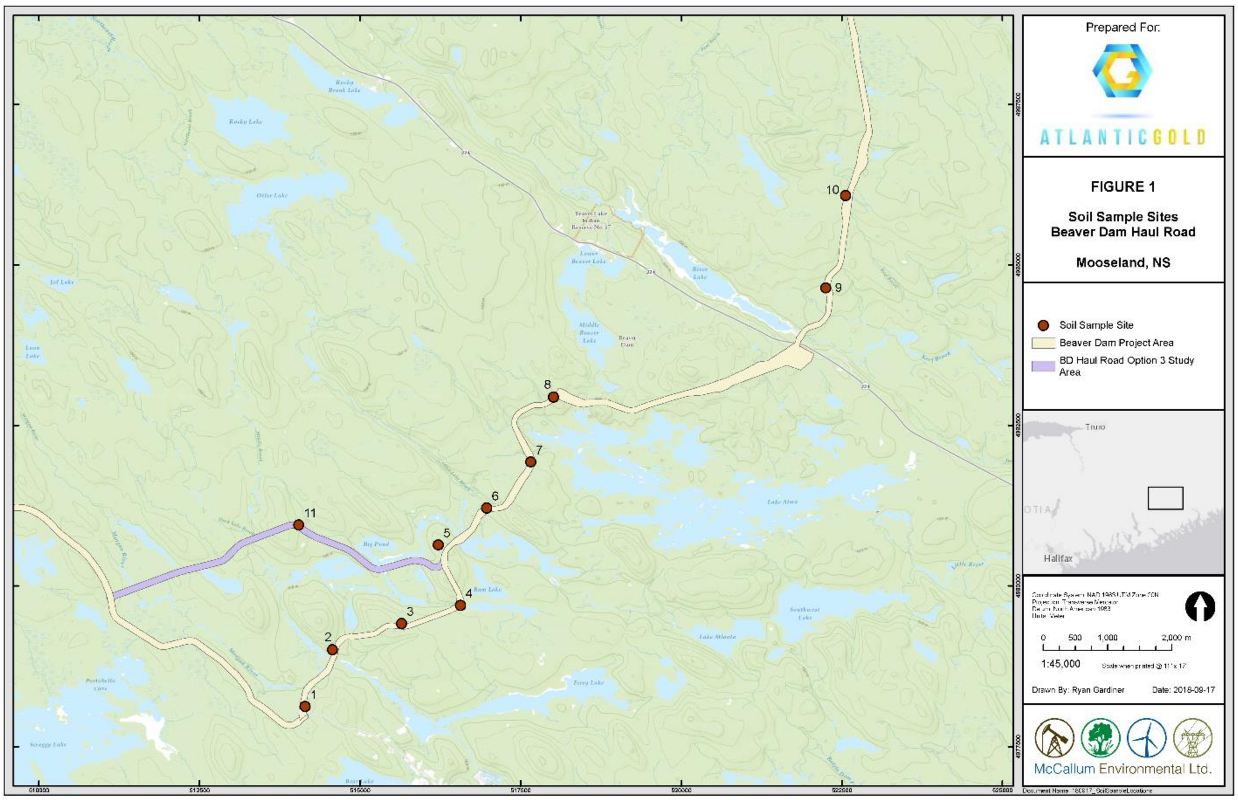

Figure 3-1 Soil, Berry and Vegetation Sampling Stations for Baseline Data Collection

Table 3-1 Sampling Locations, Distance from Haul Road, Berry and Vegetation Type, Sample Numbers and Depth

Site ID	Distance from Road (m)	Berry Type	# of Berries Collected	Vegetation Type	Soil Sample Depth Range (cm)
1	40	Blueberry	20	Blueberry Leaves	10 - 40
2	50	Raspberry	14	Raspberry Leaves	5 - 30
3	25	Blueberry	20	Blueberry Leaves	1 - 20
4	30	Cranberry	20	Sweet Gale Leaves	1 - 20
5	40	Raspberry	15	Raspberry Leaves	3 - 25
6	20	Blackberry	16	Blackberry Leaves	5 - 35
7	20	Bunch Berry	31	Bunch Berry Leaves	5 - 20
8	20	Black Huckle Berry	8	Black Huckle Berry Leaves	20 - 35
9	20	Raspberry	13	Raspberry Leaves	3 - 20
10	25	Blackberry	20	Blackberry Leaves	3 - 25
11	30	Blackberry	11	Blackberry Leaves	10 - 30

Note: all samples were collected on August 31, 2018, with the exception of Sample 11, which was collected on September 5, 2018. Species names are as follows: Blackberry: Rubus alleghaniensis; Black Huckle Berry: Gaylussacia baccata; Blueberry: Vaccinium myrtilloides; Bunch Berry: Cornus Canadensis; Cranberry Vaccinium macrocarpon: Raspberry: Rubus idaeus; Sweet Gale:Myrica gale

The baseline soil, berry and vegetation samples were analyzed by RPC Laboratories in Fredericton, NB for available metals (see Appendix C for laboratory data sheets). Analytical results from these samples are provided in Tables 3-2 (soil), 3-3 (berry) and 3-4 (vegetation).

Table 3-2 Baseline Soil Metal Concentrations in mg/kg (dry weight)

Total Metals by ICPMS	# Detected (of 11)	Min	Max	Average	90th Percentile
Aluminum	11	2060	27400	9402	22400
Antimony	0	<0.1	<0.1	NC	NC
Arsenic	7	<1	14	4	10
Barium	11	6	49	21.8	35
Beryllium	5	<0.1	0.5	0.145	0.4
Bismuth	1	<1	1	0.545	0.5
Boron	6	<1	3	1.41	3
Cadmium	11	0.01	0.16	0.0673	0.11
Calcium	11	90	830	306	610
Chromium	11	2	26	10.2	21
Cobalt	11	0.3	20	4.36	10.2
Copper	10	<1	11	4.23	10
Iron	11	1340	44700	15571	32400
Lead	11	2.9	16.6	9.3	16.4
Lithium	11	1.2	53.9	11.6	29.6
Magnesium	11	210	4500	1532	2850
Manganese	11	27	3450	543	801
Mercury	11	0.01	0.16	0.0627	0.1
Molybdenum	4	<0.1	0.8	0.223	0.5
Nickel	10	<1	18	6.32	14
Potassium	11	120	1020	435	870
Rubidium	11	1.5	26.3	7.96	15
Selenium	3	<1	2	0.909	2
Silver	2	<0.1	0.3	0.0773	0.1
Sodium	2	<50	60	30.5	50
Strontium	11	2	10	6	9
Tellurium	0	<0.1	<0.1	NC	NC
Thallium	1	<0.1	0.2	0.0636	0.05
Tin	0	<1	<1	NC	NC
Uranium	11	0.2	1.2	0.509	0.9
Vanadium	11	3	40	18.6	35
Zinc	11	2	57	17.2	36
Carbon - Organic	11	0.83	9.58	4.07	7.11

Notes:
n = 11
Averages and 90th percentiles were calculated assuming chemicals which were not detected were present at ½ of the detection limit
< sign indicates chemical was not detected, value provided is the reportable detection limit
NC – indicates not calculated. Chemical was not detected in any samples.

Table 3-3 Baseline Berry Metal Concentrations in mg/kg (wet weight)

Total Metals by ICPMS	# Detected (of 11)	Min	Max	Average	90th Percentile
Aluminum	11	0.2	3.3	1.52	3.1
Antimony	0	<0.005	<0.005	NC	NC
Arsenic	0	<0.02	<0.02	NC	NC
Barium	11	0.52	2.93	1.50	2.55
Beryllium	0	<0.005	<0.005	NC	NC
Bismuth	0	<0.05	<0.05	NC	NC
Boron	11	0.64	3.24	1.85	3.05
Cadmium	9	<0.0005	0.0271	0.0124	0.0268
Calcium	11	136	648	281	424
Chromium	10	<0.02	0.11	0.0509	0.08
Cobalt	7	<0.002	0.052	0.0111	0.024
Copper	11	0.25	1.72	0.82	1.16
Iron	11	1	8	4.18	6
Lead	6	<0.002	0.013	0.00282	0.003
Lithium	7	<0.002	0.012	0.00318	0.006
Magnesium	11	70.8	412	220	350
Manganese	11	1.76	112	54.8	97.3
Mercury	0	<0.01	<0.01	NC	NC
Molybdenum	11	0.009	0.052	0.0287	0.046
Nickel	11	0.04	0.82	0.302	0.56
Potassium	11	752	2310	1533	2230
Rubidium	11	2.64	20.1	8.66	13.7
Selenium	0	<0.05	<0.05	NC	NC
Silver	0	<0.005	<0.005	NC	NC
Sodium	11	5	27	15.5	22
Strontium	11	0.87	8.68	2.33	3.72
Tellurium	0	<0.002	<0.002	NC	NC
Thallium	0	<0.002	<0.002	NC	NC
Tin	11	0.017	3.63	0.952	2.15
Uranium	0	<0.002	<0.002	NC	NC
Vanadium	0	<0.02	<0.02	NC	NC
Zinc	11	0.68	5.51	2.19	4.16
% Moisture	--	81.3	91.9	85.1	88.8

Notes: n = 11; Averages and 90th percentiles were calculated assuming chemicals which were not detected were present at ½ of the detection limit;< sign indicates chemical was not detected, value provided is the reportable detection limit NC – indicates not calculated. Chemical was not detected in any samples.

Table 3-4 Baseline Vegetation (Leaves) Metal Concentrations in mg/kg (wet weight)

Total Metals by ICPMS	# Detected (of 11)	Min	Max	Average	90th Percentile
Aluminum	11	7.6	208.0	46.2	70.6
Antimony	0	<0.005	<0.005	NC	NC
Arsenic	1	<0.02	0.04	0.013	0.010
Barium	11	8.5	46.5	24.3	37.4
Beryllium	0	<0.005	<0.005	NC	NC
Bismuth	0	<0.05	<0.05	NC	NC
Boron	11	8.4	25.1	13.3	19.0
Cadmium	11	0.0009	0.0765	0.0274	0.0593
Calcium	11	1150	8910	3196	4120
Chromium	11	0.03	0.14	0.059	0.08
Cobalt	11	0.005	0.069	0.0249	0.053
Copper	11	0.62	3.39	1.66	2.35
Iron	11	17	43	25.3	34.0
Lead	11	0.009	0.327	0.048	0.045
Lithium	11	0.006	0.149	0.027	0.036
Magnesium	11	570	2610	1217	1840
Manganese	11	30.5	1440	751	1430
Mercury	0	<0.01	<0.01	NC	NC
Molybdenum	11	0.01	0.119	0.0481	0.0870
Nickel	11	0.14	0.94	0.57	0.88
Potassium	11	980	3270	2232	3250
Rubidium	11	3.28	25.8	9.0	14.6
Selenium	1	<0.05	0.11	0.0327	0.0250
Silver	0	<0.005	<0.005	NC	NC
Sodium	11	6.0	365.0	44.4	23.0
Strontium	11	8.0	68.1	24.1	30.6
Tellurium	0	<0.002	<0.002	NC	NC
Thallium	4	<0.002	0.0220	0.0034	0.0040
Tin	11	0.006	0.062	0.023	0.055
Uranium	0	<0.002	<0.002	NC	NC
Vanadium	3	<0.02	0.05	0.02	0.04
Zinc	11	2.5	13.3	6.6	11.0
% Moisture	--	55.8	78.2	68.1	77.3

Notes: n = 11; Averages and 90th percentiles were calculated assuming chemicals which were not detected were present at ½ of the detection limit; < sign indicates chemical was not detected, value provided is the reportable detection limit; NC – indicates not calculated. Chemical was not detected in any samples.

To characterize baseline soil, berry and vegetation concentrations, the 90^{th} percentile values were used in the assessment. Where chemical concentrations were not detected in any soil samples, ½ of the detection limit was used in the assessment. Where chemical concentrations were not detected in any berry or leafy vegetation samples, baseline concentrations were predicted using literature-based bio concentration factors from the US EPA OSW (2005) and Baes et al. (1984) (Section 6.3).

3.3 Surface Water

Baseline surface water quality data are available from the Beaver Dam Mine Project area (Table 3-5). Baseline data presented in Intrinsik (2019b) have been updated for the purposes of this assessment, as four 2019 and three 2020 sampling events were conducted and these new data were added to the previously existing baseline data. These data are presented in Intrinsik (2021b), which is a technical memo outlining updates on the aquatic effects assessment for the Beaver Dam Mine Site, based on surface water remodelling conducted by GHD (2021c, Appendix Q.1 of AMNS 2021a). Baseline data from Intrinsik (2021b) have been updated in this assessment to exclude sample SW1 from August 2015, as further investigation indicated that the results were likely influenced by suspended particulate in the surface water which elevated the concentrations of several elements. Although the laboratory did not analyze for Total Suspended Solids (TSS), the influence of suspended particulate is further suspected as the colour and turbidity of the sample were both elevated, indicating that sampling could have been conducted after a rain event, which would stir up particulate (AGC 2017). The COPC list for the aquatic effects assessment differed slightly from the HHRA, and hence the inorganics cited in Table 3-5 reflect the HHRA COPC list.

Table 3-5 Baseline Surface Water Concentrations Collected from Cameron Flowage/Killag River (Total Metals µg/L; N = 7 to 15)[a]

Parameter	Min	Max	Mean[b]	75th Percentile[b]	90th Percentile[b]	# of Non-Detects
Silver	<0.10	<0.10	0.05	0.05	0.05	7/7
Aluminum	140	370	244	290	326	0/15
Arsenic	<1.0	3.9	1.81	2.55	3.30	4/15
Barium	2.2	6	3.36	3.75	5.04	0/7
Beryllium	<1.0	<1.0	0.5	0.5	0.5	7/7
Boron	<50	<50	25	25	25	7/7
Cadmium	<0.010	0.032	0.02	0.024	0.029	1/15
Chromium	<1.0	1.4	0.70	0.75	1.16	5/7
Cobalt	<0.40	0.55	0.27	0.2	0.52	12/15
Copper	<0.50	<2.0	0.71	1	1	13/15
Mercury	<0.013	0.015	0.00707	0.0065	0.0065	14/15
Manganese	25	79	44.7	51.5	66	0/15
Molybdenum	<2.0	22	2.40	1	1	14/15
Nickel	<2.0	2.6	1.11	1	1	14/15
Lead	<0.50	0.56	0.31	0.250	0.528	12/15
Antimony	<1.0	<1.0	0.50	0.5	0.5	15/15
Selenium	<0.50	<1.0	0.42	0.5	0.5	15/15
Strontium	4	10	6.257	7.55	9.58	0/7
Vanadium	<2.0	<2.0	1	1	1	7/7
Zinc	<5.0	7.8	3.48	3.75	6.12	11/15

Notes:

[a] Summary statistics were calculated using the maximum value between duplicate samples and half the detection limit value when a chemical was not detected in a sample.

[b] For parameters measured below the detection limit, half of the detection limit was used when calculating this metric.

< indicates that the concentration is less than the detection limit

3.4 Baseline Fish Tissue

Baseline fish tissue samples were collected from Cameron Flowage/Killag River in August of 2020 as part of a baseline monitoring program for the proposed Beaver Dam Mine. Five yellow perch were captured from Cameron Flowage/Killag River and five yellow perch from a reference location. The skinless, boneless muscle fillet of the yellow perch were analyzed for a suite of metals at RPC Laboratories, New Brunswick. For the purposes of the assessment, yellow perch samples from Cameron Flowage/Killag River were selected for use. Analytical results from these samples are provided in Table 3-6. In addition, one surface water sample was collected from Cameron Flowage/Killag River from the area of fish collection in August 2020 and is also presented in Table 3-6.

Table 3-6 Baseline Fish Tissue Concentrations from Cameron Flowage/Killag River in mg/kg (wet weight)

Total Metals	*# of Detected (of 5)*	*Min*	*Max*	*Average*	*90th Percentile*	*Cameron Flowage/Killag River Water Concentration (mg/L)*
Aluminum	5	0.09	0.75	0.256	0.522	0.2
Antimony	0	<0.005	<0.005	NC	NC	<0.001
Arsenic	5	0.1	0.15	0.126	0.146	0.0055
Barium	2	<0.05	0.11	0.051	0.094	0.0029
Beryllium	0	<0.005	<0.005	NC	NC	<0.001
Bismuth	0	<0.05	<0.05	NC	NC	<0.002
Boron	0	<0.05	<0.05	NC	NC	<0.05
Cadmium	5	0.0005	0.0032	0.00114	0.0022	<0.00001
Calcium	5	276	833	545.8	831.8	0.79
Chromium	0	<0.05	<0.05	NC	NC	<0.001
Cobalt	1	<0.005	0.007	0.0034	0.0052	<0.0004
Copper	5	0.3	2.4	0.79	1.648	<0.0005
Iron	5	2	10	4.4	7.6	0.67
Lead	4	<0.005	0.045	0.0141	0.031	<0.0005
Magnesium	5	265	304	282	297.6	0.36
Manganese	5	0.35	1.04	0.62	0.916	0.037
Mercury	5	0.34	0.61	0.438	0.55	<0.000013
Molybdenum	0	<0.005	<0.005	NC	NC	<0.002
Nickel	0	<0.05	<0.05	NC	NC	<0.002
Potassium	5	3900	4270	4096	4262	0.17
Selenium	5	0.46	0.89	0.616	0.81	<0.0005
Silver	0	<0.005	<0.005	NC	NC	<0.0001
Sodium	5	328	478	362.8	426.4	2.6
Strontium	5	0.71	2.81	1.7	2.682	0.0066
Thallium	5	0.006	0.008	0.0068	0.0076	<0.0001
Tin	1	<0.005	0.011	0.0042	0.0076	<0.002
Uranium	0	<0.005	<0.005	NC	NC	<0.0001
Vanadium	0	<0.05	<0.05	NC	NC	<0.002
Zinc	5	3.7	4.57	4.15	4.47	<0.005

Notes:
n=5 for fish tissue samples
n=1 for Cameron Flowage/Killag River water concentration
Averages and 90th percentiles were calculated assuming chemicals which were not detected were present at ½ of the detection limit
< sign indicates chemical was not detected, value provided is the reportable detection limit
NC – indicates not calculated. Chemical was not detected in any samples.

4 AIR DISPERSION PREDICTIONS

4.1 Air Dispersion Analysis

Air dispersion analysis was provided in GHD (2019a) based on 80-90% dust mitigation along the Haul Road. Using those predictions, Intrinsik (2019a) selected a dust deposition rate of 193 g/m^2/year for the risk assessment of consumption of berries and vegetation and incidental soil ingestion, based on this MPOI value. In addition, a predicted 5-year annual average dust deposition rate at sensitive receptor locations along the Haul Road of 72.5 g/m^2/year was also modelled in Intrinsik (2019a). The potential implications related to soil ingestion, ingestion of berries and vegetation harvested near the Haul Road in areas with these dustfall rates were provided in Intrinsik, 2019a.

In response to the second round IR2 (CEAA and NSE 2019), additional air dispersion modelling was conducted assuming a dust mitigation rate of 80% along the Haul Road, along with infrastructure changes. The MPOI value has now been revised to 136.29 g/m^2/year (GHD, 2021a, Appendix C.1 of AMNS 2021a).

Therefore, the value of 136.29 g/m^2/year was used to represent maximum dustfall associated with the Project, for the current IR response. In addition, the dustfall rate at the receptor location of Deepwood Estates (R7, on Figure 2-1) was also used in the assessment. This receptor location is an area with seasonal residents but for the purposes of the assessment was assumed to have full time residents and has the highest depositional rate of other residential or cottage dwellings along the Beaver Dam Haul Road (GHD 2021a, Appendix C.1 of AMNS 2021a). The deposition rate at this location for the Project Scenario is 49.4 g/m^2/year.

With respect to the cumulative effects scenario, the MPOI deposition rate of 206.10 g/m^2/year and the highest receptor location (R7) deposition rate of 74.8 g/m^2/year were used in the assessment, based on results provided in GHD (2021a, Appendix C.1 of AMNS 2021a).

5 RECREATIONAL WATER QUALITY ASSESSMENT

5.1 Methods

The recreational water quality assessment was conducted based on guidance from Health Canada (2016b). Recreational waters are defined as natural and artificial waterbodies that people may use for leisure (Health Canada 2016b). The Beaver Mine Site is located in a remote area and therefore, it is unlikely that receptors would frequent the waterbodies near to the project for recreational use. However, for the purposes of the assessment, it was assumed that people may swim in nearby waterbodies and thus be exposed to water that has the potential to be impacted by the Beaver Dam Mine Project. The assessment involved identifying waterbody locations that people may use for swimming near to the project area to which surface water monitoring data were available, as well as assessing the potential risks from exposure to possible changes in water quality due to predicted impacts from the project. The Killag River was identified as a waterbody that is deep enough for swimming and was used in the assessment to assess exposure via recreational water use (Figure 5-1).

Cameron Flowage, which is a part of the Killag River located adjacent to the proposed Beaver Dam Mine site, will receive mine effluent. Predictive water quality modelling was conducted for the Cameron Flowage/Killag River by GHD (2019a), and was remodelled in 2021, due to project updates (GHD 2021c, Appendix Q.1 of AMNS 2021a). Only the most recent modelling was used in the recreational swimming scenario (GHD 2021c). The modelling effort involved calculations on a monthly basis for the average year climatic conditions. Using this approach, the months with the greatest potential impact on the receiving environment can be identified. Two potential discharge points into the Cameron Flowage/Killag River system are proposed and include the North Settling Pond and East Settling Pond Discharge point (End of Mine [EOM] scenario only) and the Pit (Post-closure [PC] scenario only). The North Settling Pond and East Settling Pond discharge are anticipated to be decommissioned for the PC scenario (GHD, 2021c, Appendix Q.1 of AMNS 2021a). Water quality was predicted at two distances downstream of the discharge points: 100 m (near field) and approximately 1 km (far field). Figure 5-1 illustrates the mine site layout, and these discharge points. Water quality at these locations and under these scenarios were predicted for a base case (representative of the most likely concentration [median]) and an upper case (representative of the likely worst case [90^{th} percentile]).

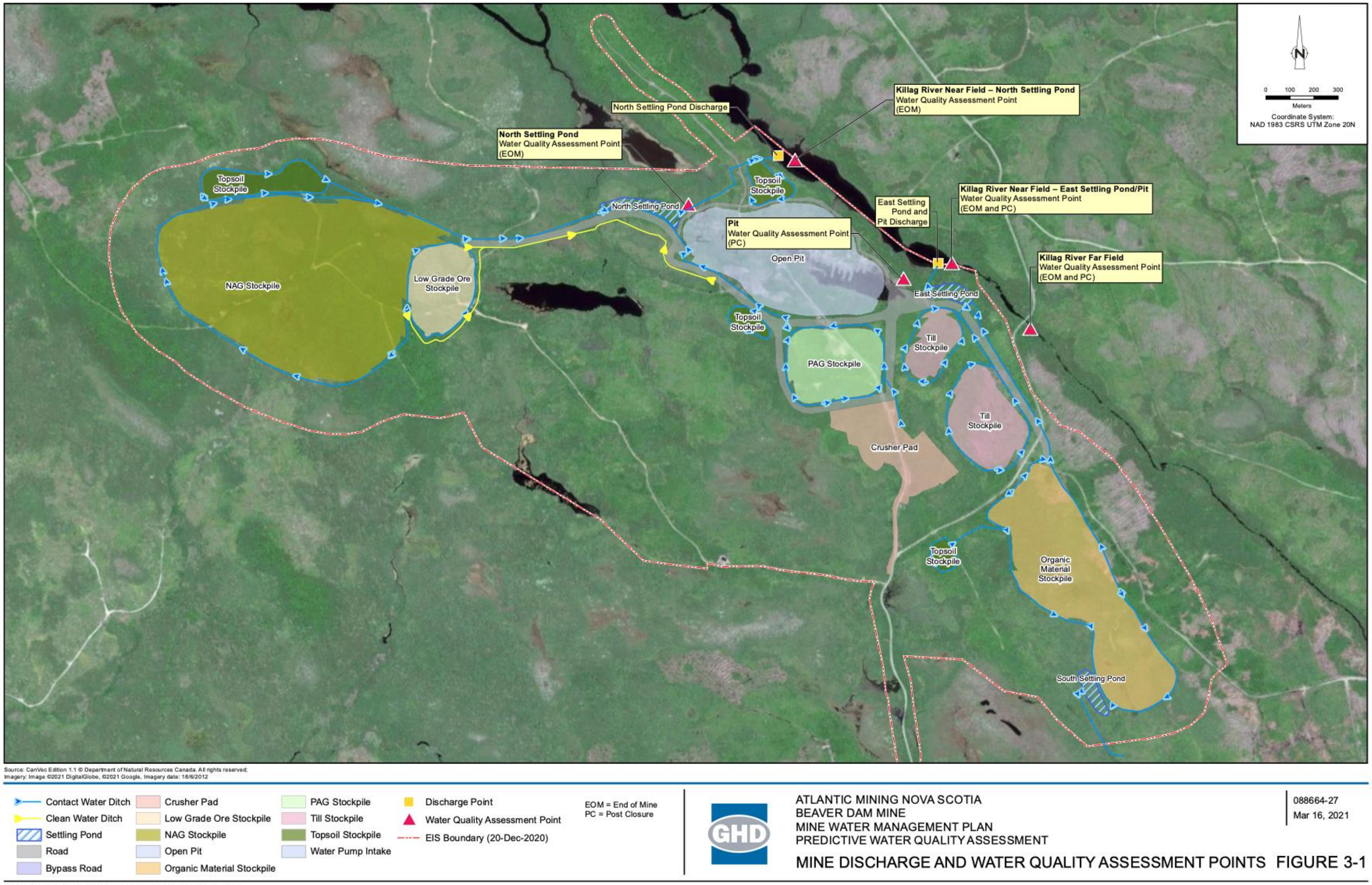

Figure 5-1 Killag River Water Quality Assessment Points (From GHD 2021c, Appendix Q.1 of AMNS 2021a)

Of the various scenarios modelled for the Cameron Flowage/Killag river receiving environment, the near field upper case concentrations of the North Settling Pond (EOM), East Settling Pond (EOM), and Pit (PC) discharge points were conservatively used to assess recreational water quality.

The predicted future water concentrations in the Cameron Flowage/Killag River were compared to Health Canada's Guidelines for Canadian Drinking Water Quality (GCDWQ) (Health Canada 2019). Health Canada (2016b) states that, "*if the project will not result in any exceedance of applicable water quality guidelines or standards at the point of human consumption or exposure, it is reasonable to conclude that negative impacts on human health are not expected from exposure to drinking or recreational water*." Where GCDWQ was not available for a parameter, the Ontario GW1 component value protective of potable groundwater was used instead from MOE (2011). Therefore, only chemicals with predicted concentrations that exceed the GCDWQ (or GW1 component value) were retained for further assessment. Metals that were identified as COPCs in Section 2 (Table 2-1), were carried forward such that potential additive exposures from recreational swimming could be considered in the oral multi pathway risk assessment model. It is worthwhile to note that comparison of water concentrations to the GCDWQ in this assessment is considered to be highly conservative, as the GCDWQ are chronic guidelines developed for the protection of long-term consumption of drinking water, whereas exposures to recreational water is considered to be at a more infrequent basis to which any exposure via ingestion would be incidental.

5.2 Results

All predicted water concentrations were screened against the GCDWQ. Tables 5-1 to 5-3 present the comparisons of the predicted water quality concentrations at the North Settling Pond, East Settling Pond, and Pit discharge points, respectively, under post closure conditions in the upper case scenario. Overall, all water quality parameters were predicted to be below GCDWQ.

To further assess the potential for health risks from exposure to surface water during recreational water use (i.e., swimming), all COPC identified in the selection of COPC (Section 2) were included in the multiple pathway exposure assessment in Section 7 and will be assessed in terms of total estimated exposure from multiple pathways (i.e., recreational water, country foods, soil and dust exposure).

Table 5-1 Comparison of Predicted Recreational Water Quality Concentrations at Near Field North Settling Pond Discharge Point of Cameron Flowage/Killag River to GCDWQ (End of Mine; Upper Case)

Constituent	GCDWQ[a] (MAC) µg/L	90th percentile Baseline Concentration µg/L	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Silver	NR	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Aluminum	OG[b]	326	241.34	241.30	244.29	240.02	236.50	226.13	215.75	212.18	216.78	237.37	241.27	239.66
Arsenic	10	3.3	2.34	2.36	2.08	2.46	2.69	3.38	4.04	4.28	3.94	2.54	2.30	2.45
Cadmium	5	0.029	0.020	0.020	0.019	0.020	0.020	0.020	0.021	0.021	0.021	0.020	0.020	0.020
Cobalt	3[c]	0.52	0.40	0.40	0.36	0.42	0.45	0.54	0.63	0.66	0.62	0.42	0.39	0.41
Copper	2	1.00	0.87	0.87	0.86	0.88	0.89	0.91	0.94	0.95	0.93	0.88	0.87	0.88
Mercury	1	0.0065	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Manganese	120	66	48.17	48.25	47.54	48.48	48.64	49.25	49.61	49.90	49.44	48.05	47.98	48.32
Molybdenum	70[c]	1.0	2.69	2.69	2.33	2.88	3.41	4.99	6.58	7.10	6.42	3.32	2.71	2.93
Nickel	100[c]	1.0	2.59	2.61	2.09	2.83	3.26	4.59	5.85	6.32	5.68	2.99	2.54	2.81
Lead	5	0.528	0.34	0.34	0.34	0.34	0.34	0.35	0.35	0.36	0.35	0.34	0.34	0.34
Antimony	6	0.5	0.49	0.49	0.49	0.49	0.49	0.48	0.48	0.47	0.48	0.49	0.49	0.49
Selenium	50	0.5	0.52	0.52	0.50	0.53	0.55	0.60	0.64	0.66	0.63	0.53	0.52	0.53
Zinc	OG [b]	6.12	3.64	3.65	3.58	3.67	3.70	3.80	3.87	3.91	3.85	3.65	3.63	3.66

Notes: Predicted water quality concentrations are those from the near field northern settling pond discharge point during end of mine in the upper case scenario
[a] Health Canada (2019). Guidelines for Canadian Drinking Water Quality—Summary Table. Water and Air Quality Bureau, Healthy Environments
and Consumer Safety Branch, Health Canada, Ottawa, Ontario. Note the lead guideline was updated to 0.005 mg/L in March of 2019, and hence the new guideline is presented.
[b] MAC value was not available, however an operational guideline (OG) is available, but was not used in the assessment as it is not a health-based guideline
[c] Ontario GW1 component value protective of potable groundwater from MOE (2011) presented as GCDWQ was not available
NR indicates not required
MAC – maximum acceptable concentration
Shaded values indicate a guideline exceedance

Table 5-2 Comparison of Predicted Recreational Water Quality Concentrations at Near Field East Settling Pond Discharge Point of Cameron Flowage/Killag River to GCDWQ (End of Mine; Upper Case)

Constituent	GCDWQ[a] (MAC) µg/L	90th percentile Baseline Concentration µg/L	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Silver	NR	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Aluminum	OG[b]	326	240.84	240.82	243.78	239.51	235.83	225.03	214.20	210.54	215.25	236.61	240.72	239.11
Arsenic	10	3.3	2.33	2.35	2.07	2.44	2.67	3.35	3.99	4.23	3.89	2.53	2.29	2.44
Cadmium	5	0.029	0.020	0.020	0.019	0.020	0.020	0.020	0.021	0.021	0.021	0.020	0.019	0.020
Cobalt	3[c]	0.52	0.40	0.40	0.36	0.41	0.44	0.54	0.62	0.65	0.61	0.42	0.39	0.41
Copper	2	1.00	0.87	0.87	0.86	0.88	0.88	0.91	0.93	0.93	0.92	0.87	0.87	0.88
Mercury	1	0.0065	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Manganese	120	66	48.01	48.09	47.40	48.31	48.41	48.86	49.05	49.30	48.91	47.83	47.82	48.14
Molybdenum	70[c]	1.0	2.67	2.67	2.32	2.86	3.38	4.93	6.49	6.99	6.33	3.29	2.69	2.91
Nickel	100[c]	1.0	2.57	2.60	2.08	2.81	3.24	4.54	5.77	6.24	5.61	2.97	2.52	2.79
Lead	5	0.528	0.34	0.34	0.34	0.34	0.34	0.35	0.35	0.35	0.35	0.34	0.34	0.34
Antimony	6	0.5	0.49	0.49	0.49	0.49	0.49	0.48	0.47	0.47	0.47	0.49	0.49	0.49
Selenium	50	0.5	0.52	0.52	0.49	0.53	0.54	0.59	0.63	0.65	0.63	0.53	0.51	0.53
Zinc	OG[b]	6.12	3.64	3.64	3.57	3.66	3.69	3.77	3.83	3.87	3.82	3.64	3.62	3.65

Notes: Predicted water quality concentrations are those from the near field eastern settling pond discharge point during end of mine in the upper case scenario
[a] Health Canada (2019). Guidelines for Canadian Drinking Water Quality—Summary Table. Water and Air Quality Bureau, Healthy Environments
and Consumer Safety Branch, Health Canada, Ottawa, Ontario. Note the lead guideline was updated to 0.005 mg/L in March of 2019, and hence the new guideline is presented.
[b] MAC value was not available, however an operational guideline (OG) is available, but was not used in the assessment as it is not a health-based guideline
[c] Ontario GW1 component value protective of potable groundwater from MOE (2011) presented as GCDWQ was not available
NR indicates not required
MAC – maximum acceptable concentration
Shaded values indicate a guideline exceedance

Table 5-3 Comparison of Predicted Recreational Water Quality Concentrations at Near Field Pit Discharge Point of Cameron Flowage/Killag River to GCDWQ (Post Closure; Upper Case)

Constituent	GCDWQ[a] (MAC) µg/L	90th percentile Baseline Concentration µg/L	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Silver	NR	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Aluminum	OG[b]	326	242.76	243.01	243.62	242.34	239.82	232.25	223.68	220.94	223.70	238.55	241.77	241.44
Arsenic	10	3.3	1.60	1.60	1.57	1.61	1.62	1.64	1.66	1.67	1.64	1.59	1.59	1.60
Cadmium	5	0.029	0.020	0.021	0.020	0.020	0.021	0.023	0.025	0.026	0.025	0.021	0.020	0.021
Cobalt	3[c]	0.52	0.42	0.43	0.37	0.41	0.49	0.64	0.80	0.85	0.75	0.46	0.40	0.43
Copper	2	1.00	0.84	0.84	0.83	0.84	0.84	0.84	0.84	0.84	0.83	0.83	0.83	0.83
Mercury	1	0.0065	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Manganese	120	66	46.66	46.74	46.34	46.70	46.65	46.35	45.81	45.70	45.56	46.11	46.35	46.54
Molybdenum	70[c]	1.0	1.50	1.52	1.26	1.57	1.75	2.25	2.72	2.90	2.60	1.59	1.44	1.56
Nickel	100[c]	1.0	2.68	2.73	2.11	2.58	3.42	5.25	7.16	7.70	6.58	3.15	2.44	2.76
Lead	5	0.528	0.36	0.36	0.35	0.35	0.37	0.41	0.44	0.45	0.43	0.36	0.35	0.36
Antimony	6	0.5	0.48	0.48	0.48	0.48	0.48	0.46	0.45	0.44	0.45	0.47	0.48	0.48
Selenium	50	0.5	0.46	0.46	0.46	0.46	0.47	0.47	0.47	0.48	0.47	0.46	0.46	0.46
Zinc	OG[b]	6.12	4.42	4.45	4.07	4.32	4.84	5.94	7.09	7.39	6.70	4.68	4.25	4.44

Notes: Predicted water quality concentrations are those from the near field pit lake discharge point during post closure in the upper case scenario
[a] Health Canada (2019). Guidelines for Canadian Drinking Water Quality—Summary Table. Water and Air Quality Bureau, Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario. Note the lead guideline was updated to 0.005 mg/L in March of 2019, and hence the new guideline is presented.
[b] MAC value was not available, however an operational guideline (OG) is available, but was not used in the assessment as it is not a health-based guideline
[c] Ontario GW1 component value protective of potable groundwater from MOE (2011) presented as GCDWQ was not available
NR indicates not required
MAC – maximum acceptable concentration
Shaded values indicate a guideline exceedance

6 PREDICTION OF FUTURE SOIL, VEGETATION AND COUNTRY FOODS – OPERATIONAL PHASE

6.1 Methods

6.1.1 Approach to Predicting Future Soil Concentrations

The methods used to estimate future incremental soil concentrations of metals are provided in Intrinsik 2019a (Section 5.1) and are repeated here.

The approach taken to estimate future incremental soil concentrations of metals utilized the following:

- Geochemistry "fingerprint" ratios for road dust (see Appendix B);
- Deposition rates for areas outside the Beaver Dam Mine PDA based on modelled estimates (MPOI and R7);
- Standardized equations from US EPA OSW (2005) used to predict changes to soils from atmospheric depositional sources.

The predicted increments resulting from these dust deposition rates for areas outside the PDA were subsequently added to the 90th percentile of the measured baseline soil concentrations (see Table 3-2), to calculate the potential future soil concentration.

Incremental increase in soil metal concentrations were calculated using the equations below, as suggested by the US EPA OSW (2005):

$$D_S = \left(\frac{D}{Zs \times BD}\right)$$

Where,

D_S	=	Annual deposition to soil over exposure duration (mg COPC/kg soil-year)
D	=	Yearly deposition rate of contaminant (mg/m^2-year)
Z_s	=	Soil mixing zone depth (assumed two depths, a shallow depth of 2 cm and a 20 cm mixing zone for root uptake, as per US EPA, 2005)
BD	=	Soil bulk density (Default 1.5 g/cm^3; US EPA, 2005)

Soil concentrations were calculated on a mass per mass basis (mg/kg) based on the following equation, as suggested by the US EPA (2005):

$$C_s = \frac{D_s \times [1 - \exp(-kt \times tD)]}{kt}$$

Where,

C_s	=	average soil concentration over deposition duration (mg/kg soil)
D_s	=	deposition to soil (mg COPC/kg-soil/year)

kt	=	chemical soil loss constant due to all processes (degradation or loss due to erosion) (yrs-1)
tD	=	time period over which deposition occurs (yrs)

It was conservatively assumed that no metal losses from soil (e.g., degradation, erosion, runoff), would occur once deposited, and therefore the equation for the average soil concentration over exposure duration was reduced to the following equation:

$$C_s = D_s \times tD$$

Table 6-1 presents the baseline, project increment alone, and the accumulated Project incremental and baseline soil metals concentrations following the 5 year operational period for the Project Area (Maximum Point of Impingement outside the PDA and at Deepwood Estates). Appendix D provides the supporting model worksheets for predicted future concentrations.

Cumulative effects assessment tables are provided in Section 8 of this report.

Table 6-1 Baseline and Predicted Future Soil Concentrations (based on MPOI Annual Average Deposition Rate Outside the PDA and Deposition Rate at Deepwood Estates over 5 years of Operations)

Metal/COPC	Baseline Surface Soil Concentration (90th %ile) (mg/kg)	Incremental Contribution of Dust Deposition at MPOI Outside of PDA (136.29 g/m²/year) over 5 years of operations				Incremental Contribution of Dust Deposition Outside of PDA at Receptor Location with Highest Deposition Rate (49.4 g/m²/year) over 5 years of operations			
		2 cm Soil Depth		20 cm Soil Depth		2 cm Soil Depth		20 cm Soil Depth	
		Project	Project + Baseline	Project	Project + Baseline	Project	Project + Baseline	Project	Project + Baseline
Aluminum	22400	485	22885	48.5	22449	176	22576	17.6	22418
Antimony	0.05	0.0238	0.0738	0.00238	0.0524	0.00862	0.0586	0.000862	0.0509
Arsenic	10	0.759	10.8	0.0759	10.1	0.275	10.3	0.0275	10.0
Barium	35	1.78	36.8	0.178	35.2	0.644	35.6	0.0644	35.1
Beryllium	0.4	0.00872	0.409	0.000872	0.401	0.00316	0.403	0.000316	0.400
Boron	3	0.119	3.12	0.0119	3.01	0.0431	3.04	0.00431	3.00
Cadmium	0.11	0.00581	0.116	0.000581	0.111	0.00211	0.112	0.00021	0.110
Chromium	21	0.930	21.9	0.0930	21.1	0.337	21.3	0.03370	21.0
Cobalt	10.2	0.346	10.5	0.0346	10.2	0.125	10.3	0.01255	10.2
Copper	10	0.596	10.6	0.0596	10.1	0.216	10.2	0.02161	10.0
Lead	16.4	0.156	16.6	0.0156	16.4	0.0567	16.5	0.00567	16.4
Manganese	801	12.4	813	1.24	802	4.48	805	0.448	801
Mercury	0.1	0.0000568	0.100	0.00000568	0.100	0.0000206	0.100	0.00000206	0.100
Methylmercury [a]	0.002	0.00000114	0.00200	0.000000114	0.00200	0.000000412	0.00200	0.0000000412	0.00200
Molybdenum	0.5	0.015	0.515	0.00153	0.502	0.00555	0.506	0.000555	0.501
Nickel	14	0.709	14.7	0.0709	14.1	0.257	14.3	0.0257	14.0
Silver	0.1	0.00286	0.103	0.000286	0.100	0.00104	0.101	0.000104	0.100
Strontium	9	0.260	9.26	0.0260	9.03	0.0944	9.09	0.00944	9.01
Vanadium	35	1.02	36.0	0.102	35.1	0.369	35.4	0.0369	35.0
Zinc	36	1.71	37.7	0.171	36.2	0.621	36.6	0.0621	36.1

Notes:
[a] Not measured; assumed baseline concentration is 2% of total mercury (US EPA 2005)

6.1.2 Approach to Predicting Future Surface Water Concentrations

The Cameron Flowage/Killag River will receive effluent discharge from the Beaver Dam Mine Site and therefore is the focus for assessing potential surface water impacts from the Project. As discussed in the Recreational Water Quality Assessment (Section 5) water quality was predicted at two distances downstream of the discharge points by GHD (2021c, Appendix Q.1 of AMNS 2021a): 100m (near field; two locations in the EOM scenario: North Settling Pond and East Settling Pond; 1 location in the PC scenario: Pit location) and approximately 1 km (far field). Water quality at these locations and under these scenarios were predicted for a base case [representative of the most likely concentration (median)] and an upper case [representative of the likely reasonable worst case (90th percentile)]. For the purposes of assessing the surface water exposure pathways, water quality data from the near field locations (i.e., North Settling Pond and East Settling Pond in the EOM scenario and Pit Lake in the PC scenario) in the upper case were used (predictions provided by GHD, 2021c, Appendix Q.1 of AMNS 2021a). The average monthly concentration was calculated for each of the three locations using the monthly data as presented in Tables 5-1 to 5-3 for the North Pond, East Pond, and Pit Lake locations, respectively; and the highest of the average concentrations amongst the three scenarios was conservatively selected for use for each chemical to assess the surface water exposure pathways. The predicted upper case water concentrations represent an assimilated Baseline + Project scenario; therefore, it was necessary to remove the contribution from the Baseline scenario, in order to assess the incremental impact of the Project. As such, the mean measured baseline concentrations at Killag River (i.e., SW-1), which were used by GHD (2021c, Appendix Q.1 of AMNS 2021a) to represent the conditions before effluent was added to the water quality predictions, were subtracted from the predicted upper case (Baseline + Project) water concentrations in order to determine the Project incremental water concentrations (Table 6-2). The calculated Project incremental concentrations and the measured baseline concentrations from SW-1 were used in the assessment for the prediction of exposures resulting from recreational water use and the consumption of fish captured from Cameron Flowage/Killag River.

Table 6-2 Baseline and Predicted Future Surface Water Quality Concentrations at 100 m Mixing Zone Downstream

Parameter	Baseline[a]	Surface Water Concentrations (µg/L)	
		Mean (Baseline + Project)[b]	Project (calculated)[c]
Aluminum	244	236	0 [d]
Antimony	0.5	0.49	0 [d]
Arsenic	1.81	2.91	1.10
Barium	3.36	n/a	n/a
Beryllium	0.5	n/a	n/a
Boron	25	n/a	n/a
Cadmium	0.0181	0.02	0.00380
Chromium	0.70	n/a	n/a
Cobalt	0.265	0.54	0.273
Copper	0.708	0.894	0.186
Lead	0.307	0.38	0.0753
Manganese	44.7	48.6	3.90
Mercury	0.00707	0.00876	0.00170
Methylmercury[e]	0.000417	0.000517	0.0001
Molybdenum	2.4	4.00	1.60
Nickel	1.11	4.05	2.94
Silver	0.05	0.05	0.00111
Strontium	6.26	n/a	n/a
Vanadium	1	n/a	n/a
Zinc	3.48	5.21	1.73

Notes:
n/a indicates not available. Chemical concentration was not predicted by GHD (2021c)
[a] Baseline value is the mean baseline value, used to represent the condition before effluent was added during the prediction of water quality concentrations.
[b] Baseline + Project concentration represents the worst case (i.e., highest) mean upper case concentration between EOM North Pond and East Pond, and PC Pit, as provided by GHD (2021)
[c] Project water concentrations were calculated by subtracting the mean Baseline concentration from the mean upper case Baseline + Project concentration
[d] Calculated Project water concentration is less than 0, therefore value is assumed 0
[e] Not measured; surface water concentrations assumed to be 5.9% of total mercury (Krabbenhoft et al. 1999)

6.1.3 Approach to Predicting Future Berry and Leafy Vegetation Concentrations

The approach to predicting future berry and leafy vegetation concentrations was based on the following:

- Measured baseline berry and leafy vegetation concentrations from the Beaver Dam Mine Project area (2018) were used for baseline concentrations (Table 3-3 for berry baseline data and Table 3-4 for leaf baseline data);
- Deposition rates for the MPOI outside of the PDA near the Beaver Dam Mine area and at Deepwood Estates based on modelled estimates (see Section 4.0); and

- Standardized equations from US EPA OSW (2005) used to predict changes to berries and leafy vegetation from atmospheric depositional sources.

The predicted increments resulting from these dust deposition rates for the MPOI at the Beaver Dam Mine Site boundary were subsequently added to the 90th percentile of the measured baseline berry (Table 6-3) and leaves (see Table 6-4) concentrations, to calculate the potential future concentration. A detailed description of methods can be found in Section 5.2 of Intrinsik (2019a) but is repeated here. Appendix D provides supporting model worksheets for berry and vegetation predictions.

The measured baseline vegetation concentration was correlated with the measured baseline soil concentration with a site-specific bio-concentration factor (BCF) where applicable; therefore, if soil concentrations increased then berry and leafy vegetation concentrations increased accordingly. BCF values were calculated based on the following equation:

$$BCF = \frac{C_L}{C_S}$$

Where,

BCF	=	Site-specific berry or leaf bio-concentration factor (kg-soil / kg-plant)
C_L	=	90th percentile concentration in berry or leaf (mg-COPC / kg-plant)
C_S	=	90th percentile concentration in soil (mg-COPC / kg-soil)

Site-specific BCFs could not be calculated where chemical concentrations were not detected in any of the baseline berry or leafy vegetation samples. Therefore, in these cases, literature-based BCFs from the US EPA OSW (2005) and Baes *et al*. (1984) were used instead in the assessment.

In addition to uptake of metals via soil, the future concentrations also included uptake via atmospheric deposition. The following equation was used to predict plant concentrations based on deposition (US EPA OSW 2005):

$$Pd = \frac{D \times Rp \times [1.0 - \exp(-kp \times Tp)]}{Yp \times kp}$$

Where,

P_d	=	plant concentration as a result of direct deposition (mg/kg DW)
D	=	deposition (mg/m²/yr)
R_p	=	intercept fraction of edible portions of plant (unitless)
k_p	=	plant surface loss coefficient (yr-1)
T_p	=	length of plant exposure to deposition (yr)
Y_p	=	yield or productivity (kg DW/m²)

The US EPA OSW (2005) recommends values for the intercept fraction of edible portions of plants (Rp) (unitless) based on two aboveground produce classes, exposed fruits and exposed vegetables. The Rp value of 0.053 for exposed fruits and the Rp value of 0.982 for exposed vegetables were assumed for the prediction of berry concentrations and leafy vegetable concentrations, respectively. The kp value is a measure of the amount of chemical lost as a result of removal by wind and water and growth dilution. The length of plant exposure was assumed to be 0.164 years or 60 days (US EPA OSW 2005). The US EPA OSW (2005) recommends a default kp value of 18 yr^{-1}, which corresponds to a 14-day half-life. Finally, the US EPA OSW (2005) recommends using a Yp value of 0.25 kg DW/m^2 for exposed fruits and 5.66 kg DW/m^2 for exposed vegetables. These values were assumed for the prediction of berry concentrations and leafy vegetable concentrations, respectively.

Predicted berry and leaf concentrations are provided in Tables 6-3 and 6-4, and include both root uptake and deposition. Note that baseline berry and leaf data were converted from wet weight (as presented in Table 3-3 and 3-4) to dry weight for calculations in the assessment, based on the average moisture content of the samples using the following equation:

$$C_{DW} = \frac{C_{WW}}{(1 - MC)}$$

Where,

C_{DW}	=	Concentration in berry or leaf in dry weight (mg/kg DW)
C_{WW}	=	Concentration in berry or leaf in wet weight (mg/kg WW)
MC	=	Moisture content in berry or leaf (% / 100%)

Table 6-3 Baseline and Predicted Future Berry Concentrations (mg/kg WW)

Metal/COPC	Baseline Berry Concentration (90th percentile)	Incremental Contribution of Dust Deposition at MPOI Outside of PDA (136.29 g/m²/year) over 5 years of operations		Incremental Contribution of Dust Deposition at Receptor Location with Highest Dust Deposition Rate Outside of PDA (49.4 g/m²/year) over 5 years of operations	
		Project	Project + Baseline	Project	Project + Baseline
Aluminum	3.10	4.86	7.96	1.76	4.86
Antimony	0.000239 [a]	0.000249	0.000489	0.0000904	0.000330
Arsenic	0.00579 [a]	0.00468	0.0105	0.00170	0.00749
Barium	2.55	0.0307	2.58	0.0111	2.56
Beryllium	0.000155 [a]	0.0000876	0.000242	0.0000317	0.000187
Boron	3.05	0.0133	3.06	0.00481	3.05
Cadmium	0.0268	0.000200	0.0270	0.0000724	0.0269
Chromium	0.0800	0.00966	0.0896	0.00350	0.0835
Cobalt	0.0240	0.00354	0.0275	0.00128	0.0253
Copper	1.16	0.0129	1.17	0.00467	1.16
Lead	0.00300	0.00157	0.00457	0.000568	0.00357
Manganese	97.3	0.274	97.6	0.0992	97.4
Mercury	0.01 [a, b]	0.00000133	0.0100	0.000000484	0.0100
Methylmercury [c]	0.0023	0.000000307	0.00230	0.000000111	0.00230
Molybdenum	0.0461	0.000294	0.0463	0.000107	0.0462
Nickel	0.560	0.00993	0.569	0.00360	0.563
Silver	0.00207 [a]	0.0000345	0.00210	0.0000125	0.00208
Strontium	3.72	0.0134	3.73	0.00485	3.72
Vanadium	0.02 [a, b]	0.0103	0.0303	0.00373	0.0237
Zinc	4.16	0.0369	4.20	0.0134	4.17

Notes:
[a] Chemical was not detected in any results. Therefore, baseline concentration was predicted using a literature-based bioconcentration factor (Appendix D).
[b] Baseline concentration predicted using a literature-based bioconcentration factor exceeded the maximum measured baseline berry concentration (i.e., the maximum detection limit). Therefore, the baseline berry concentration was assumed as the maximum detection limit.
[c] Not measured; assumed to be 23% of total mercury (US EPA 2001)

Table 6-4 Baseline and Predicted Future Leafy Vegetation Concentrations (mg/kg WW)

Metal/COPC	Baseline Leaf Concentration (90^{th} %ile) (mg/kg)	Incremental Contribution of Dust Deposition at MPOI Outside of PDA (136.29 g/m^2/year) over 5 years of operations		Incremental Contribution of Dust Deposition at Receptor Location with Highest Dust Deposition Rate Outside of PDA (49.4 g/m^2/year) over 5 years of operations	
		Project	Project + Baseline	Project	Project + Baseline
Aluminum	70.6	8.63	79.2	3.13	73.7
Antimony	0.0032 [a]	0.000568	0.00377	0.000206	0.00341
Arsenic	0.0078	0.0104	0.0182	0.00377	0.0116
Barium	37.4	0.221	37.6	0.0800	37.5
Beryllium	0.00128 [a]	0.000155	0.00144	0.0000562	0.00134
Boron	19.0	0.0774	19.1	0.0281	19.0
Cadmium	0.0592	0.000414	0.0596	0.000150	0.0594
Chromium	0.08	0.0166	0.0966	0.00602	0.0860
Cobalt	0.0531	0.00623	0.0593	0.00226	0.0554
Copper	2.35	0.0244	2.37	0.00885	2.36
Lead	0.0450	0.00277	0.0478	0.00101	0.0460
Manganese	1430	2.42	1433	0.878	1431
Mercury	0.01 [a, b]	0.00000263	0.0100	0.000000952	0.0100
Methylmercury [c]	0.0023	0.000000604	0.00230	0.000000219	0.00230
Molybdenum	0.0870	0.000534	0.0876	0.000193	0.0872
Nickel	0.88	0.0168	0.897	0.00611	0.886
Silver	0.005 [a, b]	0.0000865	0.00509	0.0000314	0.00503
Strontium	30.6	0.0931	30.7	0.0337	30.6
Vanadium	0.04	0.0179	0.0579	0.00650	0.0465
Zinc	11.0	0.0823	11.1	0.0298	11.0

Notes:
[a] Chemical was not detected in any results. Therefore, baseline concentration was predicted using a literature-based bioconcentration factor.
[b] Baseline concentration predicted using a literature-based bioconcentration factor exceeded the maximum measured baseline leaf concentration (i.e., the maximum detection limit). Therefore, the baseline leaf concentration was assumed as the maximum detection limit.
[c] Not measured; assumed to be 23% of total mercury (US EPA 2001)

6.1.4 Approach to Predicting Fish Tissue Concentrations

The following equation was used to predict the chemical concentration in fish from Cameron Flowage/Killag River:

$$C_{fish} = C_{sw} \times BCF$$

Where:

C_{fish} = chemical concentration in fish (mg/kg WW)
C_{sw} = chemical concentration in surface water (mg/L)
BCF = surface water-to-fish bioconcentration factor (L water/kg fish WW)

Bioconcentration factors (BCFs) for fish were calculated based on surface water and fish tissue data from Cameron Flowage/Killag River. BCF values were calculated using yellow perch samples (n = 5) and water concentrations from Cameron Flowage/Killag River. The mean BCF value for each chemical parameter was selected for use as the BCF for this assessment. Where BCFs were not available for a chemical parameter, or, the chemical parameter was not detected in fish tissue and water concentrations from Cameron Flowage/Killag River such that BCFs could not be calculated, surrogate BCF values from Scraggy Lake fish tissue and surface water were used instead. BCF values for Scraggy Lake were calculated using yellow perch samples (n = 10) and water concentrations specific to the location of fish capture in Scraggy Lake. Scraggy Lake is the receiving environment for the Touquoy Mine pit, and the data set used to calculate BCFs was for baseline fish tissue concentrations and surface water concentrations, pre-mining operations. The mean BCF value for Scraggy Lake was selected for use as the BCF, where unavailable from Cameron Flowage/Killag River. If BCFs were not available from both Cameron Flowage/Killag River and Scraggy Lake, then literature-based BCFs were used instead from US EPA (1999).

The following equation was used to calculate the BCFs used to predict chemical concentrations in fish:

$$BCF = \frac{C_{fish}}{C_{sw}}$$

Where:

C_{fish} = chemical concentration in fish (mg/kg WW)
C_{sw} = chemical concentration in surface water (mg/L)

Appendix D provides supporting worksheets for the BCF calculations.

6.1.5 Approach to Predicting Game Meat Concentrations

Based on the Traditional Land Use study conducted by Millbrook First Nation (MFC, 2019), a number of game meats are harvested and consumed from the area, which has been confirmed by ongoing engagement (AMNS 2021a). While harvest rates for each species were not provided, a selection of game species was made based on feeding guilds from the various types of game, to include in the country foods assessment. Deer is among the most heavily consumed game meat in the Atlantic region according to a study by Chan et al. (2017). Therefore, deer consumption was included in the country food assessment. Other species, such as hare, grouse and duck were also included, based on the Traditional Land Use study, and information provided in Chan et al

(2017). The following sections describe the methods used to estimate the daily intake of chemicals via the individual exposure pathways for wildlife (deer, hare, grouse and duck) and the resulting tissue concentrations. The following example calculation is made for deer meat; however, the equations are applicable for all wildlife.

6.1.6 Estimated Daily Intake of Chemicals in Wildlife via all Media

Soil Ingestion

The estimated daily intake of a chemical through incidental ingestion of soil by wildlife was calculated by applying the soil ingestion rate to the chemical concentration in the soil. The soil ingestion rate for deer was obtained from GoC (2012).

$$EDI_{soil} = C_s \times SIR$$

Where:

EDI_{soil} = estimated daily intake of chemical in soil (mg/d)
C_s = chemical concentration in surface soil (mg/kg)
SIR = soil ingestion rate (kg/d)

Food Ingestion

The estimated daily intake of a chemical through food ingestion by wildlife was calculated by applying food ingestion rates obtained from GoC (2012) to the concentration within each media. Deer were assumed to consume a diet of browse (i.e., leafy vegetation) and berries. The diet composition of all wildlife receptors (deer, hare, grouse, and duck) is presented in Table 6-5.

$$EDI_{food} = C_i \times FIR_i$$

Where:

EDI_{food} = estimated daily intake of chemical in food item (mg/d)
C_i = chemical concentration in food item (mg/kg-DW)
FIR_i = food ingestion rate for food item (kg/d) (FIR_i = FIR × % of Diet consisting of food item i)

Table 6-5 Dietary Proportions of Food Intake by Wildlife

Food Item	Deer (FIR = 2.25 kg/day)	Hare (FIR = 0.078 kg/day)	Grouse (FIR = 0.033 kg/day)	Duck (FIR = 0.06 kg/day)
Berries	10%	10%	30%	5%
Leaves	90%	90%	55%	0%
Invertebrates	0%	0%	15%	5%
Aquatic plants	0%	0%	0%	50%
Aquatic invertebrates	0%	0%	0%	40%

Notes:
FIR indicates the total food ingestion rate for the wildlife receptor
Food ingestion rates and dietary proportions are based on GoC (2012)
The food ingestion rate for individual food items is calculated using the following equation: $FIR_i = FIR \times$ % of Diet consisting of food item

Water Ingestion

The estimated daily intake of a chemical through ingestion of surface water by wildlife was calculated by applying the water ingestion rate to the maximum predicted surface water concentration.

$$EDI_{water} = C_{sw} \times WIR$$

Where:

EDI_{water} = estimated daily intake of chemical in surface water (mg/d)
C_{sw} = chemical concentration in surface water (mg/L)
WIR = water ingestion rate (L/d) obtained from GoC 2012

Air and Dust Ingestion

The air inhalation rate for wildlife was predicted using allometric equations for mammals and birds, as provided by the US EPA (1993a).

Inhalation rate for mammals (i.e., deer and hare): $AIR = 0.5458 \times BW^{0.80}$

Inhalation rate for birds (i.e., grouse and duck): $AIR = 0.4089 \times BW^{0.77}$

Where:

AIR = predicted air inhalation rate (m^3/d)

BW = body weight (kg) obtained from GoC (2012)

The estimated daily intake of a chemical through inhalation of predicted ground-level air concentrations by deer was calculated by applying the air inhalation rate to the predicted air and dust concentration.

$$EDI_{inh} = C_{dust} \times AIR \times CF$$

Where:

EDI_{inh} = estimated daily intake of chemical via inhalation (mg/d)
C_{dust} = chemical concentration in dust (µg/m³)
AIR = air inhalation rate (m³/d)
CF = conversion factor from µg to mg (0.001 mg/µg)

Estimated Total Daily Intake

The estimated daily intake for deer from all potential pathways of exposure was calculated as follows:

$$EDI_{total} = EDI_{soil} + EDI_{browse} + EDI_{berries} + EDI_{water} + EDI_{inh}$$

Where:

EDI_{total} = total estimated daily intake of chemical via all routes of exposure (mg/d)
EDI_{soil} = estimated daily intake of chemical from ingestion of soil (mg/d)
EDI_{browse} = estimated daily intake of chemical from consumption of browse (i.e., leafy vegetation) (mg/d)
$EDI_{berries}$ = estimated daily intake of chemical from consumption of berries (mg/d)
EDI_{water} = estimated daily intake of chemical from ingestion of water (mg/d)
EDI_{inh} = estimated daily intake of chemical from inhalation of dust (mg/d)

6.1.7 Wildlife Tissue Concentrations

Biotransfer Factors

Biotransfer factors (BTFs) are used to translate an estimated dose of a chemical to a tissue concentration. BTFs were taken from US EPA OSW (2005) when available, followed by Baes et al. 1984. Appendix D provides the selected BTFs used to predict game meat concentrations.

Tissue Concentrations

Chemical concentrations in deer meat were predicted based on the following equation (US EPA OSW 2005):

$$C_{Deer} = BTF \times EDI_{total}$$

Where:

C_{deer} = chemical concentration in deer meat (mg/kg WW)
BTF = biotransfer factor ([mg/kg tissue] / [mg/d])
EDI_{total} = total estimated daily intake of chemical via all routes of exposure (mg/d)

Appendix D provides the supporting worksheets for predicted game meat concentrations.

6.2 Assessment of Predicted Change in Trace Metals due to Dust deposition on Soils and Vegetation – Operational Phase

6.2.1 Assessment Approach

A screening level assessment of predicted changes to area soils, berries and vegetation is presented in Section 6.6.2. The approach presents comparisons of predicted future soil concentrations to health-based soil quality guidelines (Section 6.6.2.1); and an evaluation of potential future berry and leafy vegetation concentrations, relative to baseline berry and leafy vegetation concentrations (as there are no berry and leafy vegetation guidelines for the protection of humans via consumption) (Section 6.6.2.2).

6.2.2 Results

6.2.2.1 Comparison of Predicted Future Soil Concentrations to Health-Based Soil Quality Guidelines

Total future soil concentrations (predicted increment for the operational time period of 5 years + 90^{th} percentile baseline) for the assessed scenarios [MPOI annual deposition at the site boundary and at Deepwood Estates (R7)] were compared to CCME soil quality guidelines (*e.g.*, CCME, 2018). In addition, predicted future soil concentrations were also compared to Nova Scotia contaminated sites pathway specific soil quality guidelines (NSE, 2014) and the maximum measured baseline soil concentrations. These comparisons were undertaken to gather perspective on whether the incremental soil concentrations, once added to baseline, will exceed soil quality guidelines or indicate a noticeable increase over maximum baseline soil concentrations.

The soil quality guidelines used in these comparisons are derived by Canadian regulatory agencies and are widely used across Canada for determining whether or not chemicals present in soils merit further study. The soil quality guidelines used in the screening level assessment are for an agricultural land use classification (agricultural land use guidelines are the most conservative, relative to guidelines derived for all other land uses). These guidelines are suitable for rural areas. CCME soil quality guidelines were used preferentially and represent the lower of the human and ecologically-based guidelines. In addition, guidelines from Nova Scotia were also used, which are a compilation of guidelines from several jurisdictions, including the CCME. Guidelines presented from Nova Scotia were based on the soil contact/ingestion pathway protective of human health.

In addition to soil quality guideline comparisons, it is also important to consider the naturally occurring metals levels in the existing environment (*i.e.*, baseline conditions). The available baseline dataset for metals levels in soils is small (N = 11 for most elements), but this baseline data provides an indication of existing natural metals soil concentration ranges within the area of the Beaver Dam Mine Project (see Table 3-2). The baseline soil chemistry data provides an additional benchmark of comparison to identify which metals could become noticeably elevated in local soils as a result of ore dust deposition.

Where predicted future metals soil concentrations (baseline + project increment, accumulated over the 5 year operational period considered in the assessment) are below the applicable agricultural land use soil quality guidelines, and within the range of measured baseline soil concentrations (which is the same as being less than the maximum baseline soil concentrations), there is a reasonably high degree of confidence that human health will not be adversely affected. If predicted future metals soil concentrations (baseline + project increment) are greater than both the applicable soil quality guideline and the maximum baseline soil concentration, humans are not necessarily at risk, but further evaluation would be appropriate. Manganese lacked a soil quality guideline, and therefore comparisons could only be made to maximum baseline soil concentrations. Exceedances of future soil concentrations above the baseline maxima were considered to require further discussion/evaluation.

Table 6-6 presents a comparison of the maximum baseline and predicted future concentrations to soil quality guidelines for the MPOI scenario of 136.29 g/m^2/year dust deposition scenario (based on the MPOI annual average deposition at the site boundary), as well as the receptor location with the highest deposition rate (R7; 49.4 g/m^2/year).

Table 6-6 Comparison of Baseline and Predicted Future Soil Concentrations (based on the MPOI annual average deposition rate at the site boundary and deposition rate at Deepwood Estates) to Provincial and Federal Soil Quality Guidelines (mg/kg)

Metal/COPC	Baseline Surface Soil Concentration (90th %ile)	Incremental Contribution of Dust Deposition at the MPOI Outside of PDA (136.29 g/m²/year) over 5 years of operations				Incremental Contribution of Dust Deposition at Receptor Location with Highest Deposition Rate Outside of PDA (49.4 g/m²/year) over 5 years of operations				Soil Quality Guidelines		Max Baseline Surface Soil Concentration
		2 cm Soil Depth		20 cm Soil Depth		2 cm Soil Depth		20 cm Soil Depth				
		Project	Project + Baseline	Project	Project + Baseline	Project	Project + Baseline	Project	Project + Baseline	NSE[a]	CCME[b]	
Aluminum	22400	485	22885	48.5	22449	176	22576	17.6	22418	15400	n/a	27400
Antimony	0.05	0.0238	0.0738	0.00238	0.0524	0.00862	0.0586	0.000862	0.0509	7.5	20	<0.1
Arsenic	10	0.759	10.8	0.0759	10.1	0.275	10.3	0.0275	10.0	31	12	14
Barium	35	1.78	36.8	0.178	35.2	0.644	35.6	0.0644	35.1	10,000	750	49
Beryllium	0.4	0.00872	0.409	0.000872	0.401	0.00316	0.403	0.000316	0.400	38	4	5
Boron	3	0.119	3.12	0.0119	3.01	0.0431	3.04	0.00431	3.00	4,300	2	6
Cadmium	0.11	0.00581	0.116	0.000581	0.111	0.00211	0.112	0.00021	0.110	1.4	1.4	11
Chromium	21	0.930	21.9	0.0930	21.1	0.337	21.3	0.03370	21.0	220	64	26
Cobalt	10.2	0.346	10.5	0.0346	10.2	0.125	10.3	0.01255	10.2	22	40	20
Copper	10	0.596	10.6	0.0596	10.1	0.216	10.2	0.02161	10.0	1100	63	11
Lead	16.4	0.156	16.6	0.0156	16.4	0.0567	16.5	0.00567	16.4	140	70	16.6
Manganese	801	12.4	813	1.24	802	4.48	805	0.448	801	n/a	n/a	3450
Mercury	0.1	0.0000568	0.100	0.00000568	0.100	0.0000206	0.100	0.00000206	0.100	6.6	6.6	0.16
Methylmercury	0.002	0.00000114	0.00200	0.000000114	0.00200	0.000000412	0.00200	0.0000000412	0.00200	1.6	n/a	0.0032
Molybdenum	0.5	0.015	0.515	0.00153	0.502	0.00555	0.506	0.000555	0.501	110	5	0.8
Nickel	14	0.709	14.7	0.0709	14.1	0.257	14.3	0.0257	14.0	330	45	18
Silver	0.1	0.00286	0.103	0.000286	0.100	0.00104	0.101	0.000104	0.100	77	20	2
Strontium	9	0.260	9.26	0.0260	9.03	0.0944	9.09	0.00944	9.01	9400	n/a	10
Vanadium	35	1.02	36.0	0.102	35.1	0.369	35.4	0.0369	35.0	39	130	40
Zinc	36	1.71	37.7	0.171	36.2	0.621	36.6	0.0621	36.1	5600	250	57

Notes:
Shaded values indicate an exceedance of soil quality guidelines
Methylmercury in soils was not measured; assumed baseline concentration is 2% of total mercury (US EPA 2005)
[a] Nova Scotia Environmental Quality Standards (EQS) are the soil contact/ingestion values for coarse/fine-textured soil in an agricultural land use from Nova Scotia Environment (2014)
[b] CCME Soil Quality Guidelines (SQG) are the SQG for the Protection of Environmental and Human Health for the agricultural land use from CCME (2018)
< indicates that the concentration is less than the detection limit

Based on the comparisons presented in Table 6-6, none of the COPC predicted project + baseline concentrations exceed relevant soil quality guidelines, with the exception of aluminum, which exceeds the NSE (2014) soil quality guideline in the two dust deposition scenarios, and boron which exceeds the CCME (1991) soil quality guideline in the two dust deposition scenarios. The boron guideline is set for hot water soluble boron (which has limited applicability to typical environmental conditions; see http://st-ts.ccme.ca/en/index.html?lang=en&factsheet=16#soil_agricultural_concentration). In both cases for aluminum and boron, 90th percentile baseline concentrations exceed the guideline, and contribute more than 95% to the project + baseline soil concentrations, with the Project adding very little to the total. The predicted future + baseline concentrations of aluminium and boron do not exceed their respective maximum baseline soil concentrations, and hence, are within the soil concentration range. The only inorganic compound which lacks a guideline is manganese, and the predicted future + baseline concentrations are also within the baseline soil range. Based on the predicted soil concentrations, dust deposition is not estimated to have a substantial effect on soil quality relative to the existing baseline metals concentrations in soil.

6.2.2.2 Comparison of Predicted Future Berry and Leafy Vegetation Concentrations to Maximum Baseline Concentrations

To evaluate the potential for accumulation of metals in berries and leafy vegetation, predictions of possible future berry and leafy vegetation concentrations were undertaken, relative to the MPOI annual dustfall in the Beaver Dam Mine Project area (136.29 g/m^2/year), and the receptor location with the highest depositional rate (49.4 g/m^2/year) over 5 years. These predictions involved the use of site-specific soil to berry and leafy vegetation uptake factors from the existing baseline data (see Table 3-3 and 3-4), as well as atmospheric deposition onto the plants. Since there are no regulatory benchmarks available related to berry or vegetation metals uptake, the predicted incremental concentrations are added to the 90th percentile of baseline concentrations, and compared to maximum baseline concentrations, for perspective.

Table 6-7 Comparison of Baseline and Predicted Future Berry Concentrations (mg/kg WW)

Metal/COPC	Baseline Berry Concentration (90th percentile) (mg/kg)	Incremental Contribution of Dust Deposition at MPOI Outside of PDA (136.29 g/m²/year) over 5 years of operations		Incremental Contribution of Dust Deposition at Receptor Location with Highest Deposition Rate Outside of PDA (49.4 g/m²/year) over 5 years of operations		Max Baseline Berry Concentration
		Project	Project + Baseline	Project	Project + Baseline	
Aluminum	3.10	4.86	7.96	1.76	4.86	3.3
Antimony	0.000239 [a]	0.000249	0.000489	0.0000904	0.000330	<0.005
Arsenic	0.00579 [a]	0.00468	0.0105	0.00170	0.00749	<0.02
Barium	2.55	0.0307	2.58	0.0111	2.56	2.93
Beryllium	0.000155 [a]	0.0000876	0.000242	0.0000317	0.000187	<0.005
Boron	3.05	0.0133	3.06	0.00481	3.05	3.24
Cadmium	0.0268	0.000200	0.0270	0.0000724	0.0269	0.0271
Chromium	0.0800	0.00966	0.0896	0.00350	0.0835	0.11
Cobalt	0.0240	0.00354	0.0275	0.00128	0.0253	0.052
Copper	1.16	0.0129	1.17	0.00467	1.16	1.72
Lead	0.00300	0.00157	0.00457	0.000568	0.00357	0.013
Manganese	97.3	0.274	97.6	0.0992	97.4	112
Mercury	0.01 [a, b]	0.00000133	0.0100	0.000000484	0.0100	<0.01
Methylmercury [c]	0.0023	0.000000307	0.00230	0.000000111	0.00230	<0.0023
Molybdenum	0.0461	0.000294	0.0463	0.000107	0.0462	0.052
Nickel	0.560	0.00993	0.569	0.00360	0.563	0.82
Silver	0.00207 [a]	0.0000345	0.00210	0.0000125	0.00208	<0.005
Strontium	3.72	0.0134	3.73	0.00485	3.72	8.68
Vanadium	0.02 [a, b]	0.0103	0.0303	0.00373	0.0237	<0.02
Zinc	4.16	0.0369	4.20	0.0134	4.17	5.51

Notes:
Shaded values indicate an exceedance of the maximum measured berry concentration
[a] Chemical was not detected in any results. Therefore, baseline concentration was predicted using a literature-based bioconcentration factor.
[b] Baseline concentration predicted using a literature-based bioconcentration factor exceeded the maximum measured baseline berry concentration (i.e., the maximum detection limit). Therefore, the baseline berry concentration was assumed as the maximum detection limit.
[c] Not measured; assumed to be 23% of total mercury (US EPA 2001)
< indicates that the concentration is less than the detection limit

Table 6-8 Comparison of Baseline and Predicted Future Leafy Vegetation Concentrations (mg/kg WW)

Metal/COPC	Baseline Leaf Concentration (90th percentile) (mg/kg)	Incremental Contribution of Dust Deposition at MPOI Outside of PDA (136.29 g/m²/year) over 5 years of operations		Incremental Contribution of Dust Deposition at Receptor Location with Highest Deposition Rate Outside of PDA (49.4 g/m²/year) over 5 years of operations		Max Baseline Leaf Concentration
		Project	Project + Baseline	Project	Project + Baseline	
Aluminum	70.6	8.63	79.2	3.13	73.7	208
Antimony	0.0032 [a]	0.000568	0.00377	0.000206	0.00341	<0.005
Arsenic	0.0078	0.0104	0.0182	0.00377	0.0116	0.04
Barium	37.4	0.221	37.6	0.0800	37.5	46.5
Beryllium	0.00128 [a]	0.000155	0.00144	0.0000562	0.00134	<0.005
Boron	19.0	0.0774	19.1	0.0281	19.0	25.1
Cadmium	0.0592	0.000414	0.0596	0.000150	0.0594	0.0765
Chromium	0.08	0.0166	0.0966	0.00602	0.0860	0.14
Cobalt	0.0531	0.00623	0.0593	0.00226	0.0554	0.069
Copper	2.35	0.0244	2.37	0.00885	2.36	3.39
Lead	0.0450	0.00277	0.0478	0.00101	0.0460	0.327
Manganese	1430	2.42	1433	0.878	1431	1440
Mercury	0.01 [a, b]	0.00000263	0.0100	0.000000952	0.0100	<0.01
Methylmercury [c]	0.0023	0.000000604	0.00230	0.000000219	0.00230	<0.0023
Molybdenum	0.0870	0.000534	0.0876	0.000193	0.0872	0.119
Nickel	0.88	0.0168	0.897	0.00611	0.886	0.94
Silver	0.005 [a, b]	0.0000865	0.00509	0.0000314	0.00503	<0.005
Strontium	30.6	0.0931	30.7	0.0337	30.6	68.1
Vanadium	0.04	0.0179	0.0579	0.00650	0.0465	0.05
Zinc	11.0	0.0823	11.1	0.0298	11.0	13.3

Notes:
Shaded values indicate an exceedance of the maximum measured leaf concentration
[a] Chemical was not detected in any results. Therefore, baseline concentration was predicted using a literature-based bioconcentration factor.
[b] Baseline concentration predicted using a literature-based bioconcentration factor exceeded the maximum measured baseline leaf concentration (i.e., the maximum detection limit). Therefore, the baseline leaf concentration was assumed as the maximum detection limit.
[c] Not measured; assumed to be 23% of total mercury (US EPA 2001)
< indicates that the concentration is less than the detection limit

Based on the predicted future berry concentrations (Table 6-7), all project + baseline berry concentrations for the operational phase were within the range of baseline with the exceptions of aluminum and vanadium, which were estimated to exceed maximum baseline concentrations, when the Project increment is added to the 90th percentile of baseline (Table 6-7; 136.29 g/m^2/year and 49.4 g/m^2/year deposition rates). In addition, the aluminum Project increment exceeded the maximum baseline concentration at the MPOI outside of the PDA (Table 6-7; 136.29 g/m^2/year).

Based on the predicted leafy vegetation concentrations (Table 6-8), all project + baseline leafy vegetation concentrations for the operational phase were within the range of baseline concentrations, with the exception of silver and vanadium which were estimated to exceed the maximum baseline concentration (Table 6-8; 136.29 g/m^2/year deposition rate). Silver and vanadium contributions from the Project are predicted to be low when compared to the contribution from the baseline concentration to the overall project + baseline leafy vegetation concentrations. In general, the use of MPOI and maximum annual average dust deposition rates are considered to be conservative assumptions when predicting chemical concentrations in environmental media such as soils and vegetation, and the addition of the project increment to the 90th percentile of baseline is also very conservative, when comparing the Project + Baseline outcomes to the maximum baseline concentration.

7 MULTIPATHWAY ASSESSMENT OF HUMAN EXPOSURES FROM CONSUMPTION OF COUNTRY FOODS, RECREATIONAL WATER USAGE AND SOIL AND DUST EXPOSURES – OPERATIONAL PHASE

7.1 Exposure Assessment Methods

The approach to predicting human exposure from soil and dust exposures, recreational water use (i.e., swimming) and consumption of country foods (i.e., berries, leafy vegetation, fish, and game meats such as hare, grouse, duck and deer) was based on and/or considered Health Canada (2012; 2018) guidance as detailed in the sections below. Appendix D provides supporting worksheets for receptor characteristics and other exposure and media variables, as well as predicted exposure levels.

Consumption rates for berries are based on the First Nations Food, Nutrition and Environment Study (FNFNES) for Atlantic Canada by Chan et al. (2017). The daily intake rate of berries/plants by adult (>18 years) heavy consumers (95th percentile) from First Nations in Atlantic Canada was used as a starting point to estimate the consumption rate for berries. This consumption rate was adjusted for the other life stages using consumption ratios from Health Canada (1994). For leafy vegetation, an adult consumption rate for mint and Labrador tea of 3 g/day was obtained from Wein (1989) and Alberta Health and Wellness (AHW 2007). This value was corroborated in a recent study examining the consumption of traditional plants, such as mint and Labrador tea, in two Indigenous communities in northern Alberta (McAuley *et al*. 2016). The study, focuses on Indigenous groups in Northern Alberta, estimated that 1-2 sprigs of mint and 3-4 dried leaves of Labrador tea were consumed by community elders on a daily basis. According to the study authors, these estimates are “within the same range as past studies completed in the Regional Municipality of Wood Buffalo, which estimated the consumption of traditional tea vegetation by adults at approximately 3 g/day” (McAuley *et al*. 2016). In the absence of site specific data, it was assumed that Mi’gmaq community members near the Project may consume comparable amounts of dried vegetation in the form of tea; therefore, these consumption rates were used to estimate exposure via the consumption of leafy vegetation, on a daily basis (as tea). CEAA 2-52 raised the issue that the vegetation samples did not include Labrador tea, which is commonly consumed. At the time the sampling was conducted, specific consumable berries or leaves types that are preferred by people harvesting in the area were not identified, and as such, the field crew sampled the available consumable species that were found along the haul road. In the response to CEAA 2-52 (AMNS 2021b), comparisons of the measured metal levels in sampled vegetation collected as part of this project, to Labrador Tea data collected in the FNFNES (Can et al, 2017) study are provided. These comparisons indicate that the exposure data for the metals data used in the Beaver Dam Mine HHRA are conservative, relative to available from Chan et al (2017). The consumption rates were also adjusted based on the assumption that not all of a person’s berry and leafy vegetation would come from the MPOI area. It is highly probable that harvesting from this area would be occasional and, therefore, a factor of 0.5 was applied to the consumption rates to account for this site use pattern, indicating that half of all berry and leafy vegetation would be harvested from this specific area (MPOI). In addition, to provide a more realistic scenario, metal concentrations in consumed foods at a receptor location along the Haul Road route which was assumed to have full time residents

(Deepwood Estates) were predicted and it was assumed that all of a person's consumed berry and leaves could come from this area.

Consumption rates for fish and game meats (hare, grouse, duck and deer) are also based on the FNFNES for Atlantic Canada by Chan et al. (2017). For fish, the average adult consumer rate for all fish consumption (9 g/day) was selected for use and adjusted for the other life stages using consumption ratios from Health Canada (2007). The average consumer rate was selected as opposed to the heavy consumer rate (95th percentile) as fishing occurs over a broad number of streams in the Study area, and hence, not all fish are anticipated to come from Cameron Flowage immediately adjacent to the mine. The average consumer rate includes consumption of a variety of species, including Atlantic salmon, trout (all types) and smelt (see Table 9b; Chan et al, 2017). Deer, grouse, hare and duck consumption were assessed using the assumptions that the adult heavy consumer rate (95th percentile) was selected for use for consumption of deer (68.4 g/day; all game meat consumption rate), grouse (0.8 g/day), hare (4.9 g/day), and duck (0.6 g/day) (see Table 9b; Chan et al, 2017). The consumption values were adjusted for the other life stages using consumption ratios in Health Canada (2012). Table 7-1 presents the consumption rates for berries, leafy vegetation, fish, and game meats for each life stage. Incidental ingestion of soil and inhalation of re-suspended dust, as well as recreational water exposures via swimming activity (i.e., incidental ingestion of water and dermal contact) were also considered in the exposure assessment. Although consumption rates have been assumed for an Indigenous land user, these consumption rates are considered to also be reasonable representations for other seasonal and recreational land users.

Table 7-1 Consumption Rates for Country Foods

Dust Deposition Scenario	*Environmental Media*	*Consumption Rate (g/day)*				
		Infant	*Toddler*	*Child*	*Adolescent*	*Adult*
Maximum annual deposition at site boundary[a]	Berries	0	3.4	8.0	6.4	9.1
	Leafy vegetation	0	0.5	0.5	1.5	1.5
Annual deposition at R7	Berries	0	6.9	16	12.9	18.2
	Leafy vegetation	0	1.0	1.0	3.0	3.0
All scenarios	Fish	0	4.5	7.4	9.0	9.0
	Deer	0	21.5	31.7	44.3	68.4
	Grouse	0	0.3	0.4	0.5	0.8
	Hare	0	1.5	2.3	3.2	4.9
	Duck	0	0.2	0.3	0.4	0.6

Notes:
[a] For the MPOI scenario, it was assumed that half of all harvested media (i.e., berries and leafy vegetation) would be collected from this area and therefore, a factor of 0.5 was applied to the consumption rates.

7.1.1 Berries

The following equation was used to estimate human exposure via consumption of wild berries (Health Canada, 2012). Consumption rates used to predict berry exposures were obtained from Chan et al. (2017) and adjusted as explained previously.

$$EDI_{berry} = C_b \times IR_{berry}$$

Where:

EDI_{berry} = estimated daily intake of chemical via consumption of berries (µg/d)
Cb = chemical concentration in berries (mg/kg or ug/g WW)
IR_{berry} = berry ingestion rate (g/d)

Note, bio-accessibility of chemical in plant was assumed to be 100%.

7.1.2 Leafy Vegetation

The following equation was used to estimate human exposure via consumption of leafy vegetation (Health Canada, 2012). Consumption rates and equations used to predict exposures were obtained from Chan et al. (2017) and adjusted as explained previously.

$$EDI_{leaves} = C_{leaves} \times IR_{leaves}$$

Where:

EDI_{leaves} = estimated daily intake of chemical via consumption of leafy vegetation (µg/d)
C_{leaves} = total chemical concentration in leafy vegetation (mg/kg or ug/g WW)
IR_{leaves} = leafy vegetation ingestion rate (g/d)

7.1.3 Ingestion of Wild Game (Deer, Hare, Grouse and Duck) and Fish

The following equation was used to estimate human exposure via consumption of wild game (i.e., deer, hare, grouse and duck) and fish (Health Canada 2012).

$$EDI_{animal} = C_{animal} \times IR_{animal}$$

Where:

EDI_{animal} = estimated daily intake of chemical via consumption of wild game or fish (µg/d)
C_{animal} = chemical concentration in animal tissue (mg/kg or ug/g WW)
IR_{animal} = fish or wild game ingestion rate (g/d)

7.1.4 Ingestion of Soil (Incidental)

The following equation was used to estimate human exposure via incidental ingestion of soil. Soil ingestion rates and equations used to predict exposures were based on recommendations from Health Canada (2012).

$$EDI_{soil} = C_s \times SIR$$

Where:

EDI_{soil} = estimated daily intake of chemical via ingestion of soil (µg/d)
C_s = chemical concentration in surface soil (mg/kg or ug/g)
SIR = incidental soil ingestion rate (g/d)

Note that bioaccessibility of metals in soils was assumed to be 100%.

7.1.5 Inhalation of Dust

The following equation was used to estimate human exposure via inhalation of dust. Air inhalation rates and equations used to predict exposures were based on recommendations from Health Canada (2012).

$$EDI_{dust} = C_s \times DL \times AIR \times CF$$

Where:

EDI_{dust} = estimated daily intake of chemical via inhalation of dust (µg/d)
C_s = chemical concentration in surface soil (mg/kg)
DL = dust level (2.5E-07 kg/m^3 as recommended by Health Canada (2012) for vehicle traffic on unpaved roads)
AIR = air inhalation rate (m^3/d)
CF = conversion factor from mg to µg (1000 µg/mg)

7.1.6 Exposures While Swimming

Receptors were assumed to swim in the Killag River and would be exposed via incidental ingestion of water and dermal contact. Receptor exposure parameters were obtained from the US EPA and Health Canada and are presented in Table 7-2. The exposure frequency was based on an assumption of 1 hour swim/day, for 3 days/week over a 3 month time interval. This was assumed to occur at 100 m below the point of discharge from either the North Settling Pond, East Settling Pond or Pit discharge location to the Cameron Flowage/Killag River.

Table 7-2 Receptor Parameters for Swim Exposure Pathway

Parameter	Adult	Adolescent	Child	Toddler	Infant	Units	Comment
Swim Exposure Frequency (SEF)	9.86E-02	9.86E-02	9.86E-02	9.86E-02	0.00E+00	hr/day	Assumed: 1hr/day, for 3 days/week over 3 months/year; swim exposure factor
Swim Ingestion Rate (SWIR)	2.50E-02	2.50E-02	5.00E-02	5.00E-02	0.00E+00	L/day	US EPA 2003; Assumed 1hr / day; swim ingestion rate
Surface Area Total (SAT)	1.76E+04	1.55E+04	1.01E+04	6.13E+03	3.62E+03	cm2	Health Canada (2012); surface area total
Dermal Permeability Coefficient (Kp)	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	cm/hr	US EPA 2004a; used all inorganics value

The following sections describe the methods used to estimate exposures while swimming.

7.1.7 Dermal Exposure to Surface Water

The following equation was used to estimate dermal exposure from swimming based on recommendations from US EPA (2004a) and Health Canada (2012). The predicted surface water concentration was selected for estimating dermal exposure from swimming.

$$EDI_{derm+swim} = C_{sw} \times Kp \times SEF \times SAT \times CF1 \times CF2$$

Where:

$EDI_{derm+swim}$ = estimated daily intake of chemical from dermal contact with surface water (µg/d)
C_{sw} = chemical concentration in surface water (mg/L)
Kp = dermal permeability coefficient in water (cm/hr)
SEF = swim exposure factor (hr/d: 1hr/day x 93 days / 365 days)
SAT = surface area total (cm^2)
CF1 = conversion factor from mg to µg (1,000 µg/mg)
CF2 = conversion factor from L to cm^3 (0.001 L/cm^3)

7.1.8 Surface Water Ingestion (Incidental)

The following equation was used to estimate ingestion exposure from swimming based on recommendations from US EPA (2004a) and Health Canada (2012). The predicted surface water concentration was selected for estimating ingestion exposure from swimming.

$$EDI_{ing+swim} = C_{sw} \times SEF \times SWIR \times CF1$$

Where:

$EDI_{ing+swim}$ = estimated daily intake of chemical from ingestion of surface water during swimming (µg/d)
C_{sw} = chemical concentration in surface water (mg/L)
SEF = swim exposure factor (hr/d: 1hr/day x 93 days / 365 days)
SWIR = swimming ingestion rate (L/hr)
CF1 = conversion factor from mg to µg (1,000 µg/mg)

7.1.9 Total Exposure While Swimming

The following equation was used to estimate total ingestion and dermal exposure from swimming.

$$EDI_{tot\_swim} = EDI_{derm+swim} + EDI_{ing+swim}$$

Where:

EDI_{tot_swim} = estimated daily intake of chemical from ingestion of and dermal contact with surface water during swimming (µg/d)
$EDI_{derm+swim}$ = estimated daily intake of chemical from dermal contact with surface water during swimming (µg/d)
$EDI_{ing+swim}$ = estimated daily intake of chemical from ingestion of surface water during swimming (µg/d)

7.1.10 Total Human Exposure

Total exposure was calculated by summing the individual exposures from each medium (*i.e.*, berry and leafy vegetable intake) for all relevant exposure pathways on a per chemical and per life stage basis (Health Canada, 2012):

$$EDI_{total} = EDI_{berries} + EDI_{leaves} + EDI_{deer} + EDI_{hare} + EDI_{grouse} + EDI_{duck} + EDI_{fish} + EDI_{soil} + EDI_{dust} + EDI_{tot\_swim}$$

Where:

EDI_{total} = total estimated daily intake of chemical via all routes (µg/d)
$EDI_{berries}$ = estimated daily intake of chemical from consumption of berries (µg/d)
EDI_{leaves} = estimated daily intake of chemical from consumption of leaves (µg/d)
EDI_{deer} = estimated daily intake of chemical via consumption of deer (µg/d)
EDI_{hare} = estimated daily intake of chemical via consumption of hare (µg/d)
EDI_{grouse} = estimated daily intake of chemical via consumption of grouse (µg/d)
EDI_{duck} = estimated daily intake of chemical via consumption of duck (µg/d)
EDI_{fish} = estimated daily intake of chemical via consumption of fish (µg/d)
EDI_{soil} = estimated daily intake of chemical via ingestion of soil (µg/d)
EDI_{dust} = estimated daily intake of chemical via inhalation of dust (µg/d)
EDI_{tot_swim} = estimated daily intake of chemical from ingestion of and dermal contact with surface water during swimming (µg/d)

The total estimated daily intake was normalized to body weight as follows:

$$EDI_{total\_BW} = \frac{EDI_{total}}{BW}$$

Where:

EDI_{total_BW} = total estimated daily intake of chemical via all routes adjusted to body weight (µg/kg bw/d)
EDI_{total} = total estimated daily intake of chemical via all routes (µg/d)
BW = body weight (kg)

7.2 Toxicity Assessment and Selection of Toxicity Reference Values (TRVs)

In the selection of exposure limits, preference was generally given to Health Canada. Where exposure limits were not available from Health Canada, they were obtained from a number of other leading scientific and regulatory authorities, including the following:

- United States Environmental Protection Agency (US EPA);
- World Health Organization (WHO);
- Netherlands National Institute for Public Health and the Environment (RIVM); and
- JECFA (Joint FAO/WHO Expert Committee on Food Additives).

To ensure that the most defensible and appropriate exposure limit was selected for each chemical, consideration was given only to exposure limits meeting the following criteria:

- Established or recommended by leading scientific and regulatory authorities.
- Protective of the health of the general public based on the current scientific understanding of the health effects known to be associated with exposures to the COPC.
- Protective of sensitive individuals, typically through the use of appropriate uncertainty factors.
- Supported by adequate and available documentation.

All supporting documents were critically evaluated to identify the most appropriate and defensible limits for use in the assessment. In the case that the above criteria were supported by more than one standard, guideline or objective, the most scientifically defensible limit was selected. Table 7-3 presents the toxicity reference values (TRVs) selected for use in the assessment of risks from exposure to the COPC.

Table 7-3 Toxicity Reference Values used in the Assessment

Chemical of Potential Concern	Chronic Oral Exposure Limits				
	Averaging Time	Type	Value (µg/kg bw/day)	Critical Effect	Agency
Aluminum (Al)	Annual	RfD	143	Developmental, kidney, liver, nervous system and reproductive effects	WHO 2010a,b
Antimony (Sb)	Annual	RfD	0.2	Liver effects	Health Canada 2010
Arsenic (As)	Annual	RfD	0.3	Hyperpigmentation and keratosis	US EPA 1993b
Arsenic (As)_cancer	Annual	RsD	0.006 [a]	Bladder, liver and lung cancer	Health Canada 2010
Barium (Ba)	Annual	RfD	200	Renal effects	Health Canada 2010
Beryllium (Be)	Annual	RfD	2	Gastrointestinal effects	US EPA 1998
Boron (B)	Annual	RfD	200	Developmental effects	US EPA 2004b
Cadmium (Cd)	Annual	RfD	1	Renal effects	Health Canada 2010
Chromium (Cr)	Annual	RfD	1	Hepatotoxicity	Health Canada 2010
Cobalt (Co)	Annual	RfD	1.4	Cardiovascular effects	RIVM 2001
Copper (Cu) (Adult)	Annual	RfD	141	Hepatotoxicity and gastrointestinal effects	Health Canada 2010
Copper (Cu) (Toddler)	Annual	RfD	91	Hepatotoxicity and gastrointestinal effects	Health Canada 2010
Lead (Pb) (Adult)	Annual	Non threshold	1.3	Increased blood pressure	JECFA 2011
Lead (Pb) (Toddler)	Annual	Non threshold	0.6	Neurodevelopmental effects	JECFA 2011
Manganese (Mn) (Adult)	Annual	RfD	156	Neurotoxicity	Health Canada 2010
Manganese (Mn) (Toddler)	Annual	RfD	136	Neurotoxicity	Health Canada 2010
Mercury (Hg)	Annual	RfD	0.3	Nephrotoxicity	Health Canada 2010
Methylmercury (Adult)	Annual	RfD	0.47	Neurotoxicity	Health Canada 2010
Methylmercury (Women of child-bearing age and children <12 years)	Annual	RfD	0.2	Neurodevelopmental toxicity	Health Canada 2010
Molybdenum (Mo) (Adult)	Annual	RfD	28	Reproductive effects	Health Canada 2010
Molybdenum (Mo) (Toddler)	Annual	RfD	23	Reproductive effects	Health Canada 2010
Nickel (Ni)	Annual	RfD	11	Perinatal lethality	Health Canada 2010
Silver (Ag)	Annual	RfD	5	Argyria	US EPA 1996a
Strontium (Sr)	Annual	RfD	600	Developmental effects, skeletal changes	US EPA 1996b
Vanadium (V)	Annual	RfD	2.1	Developmental effects	RIVM 2009
Zinc (Zn) (Adult)	Annual	RfD	570	Reduced iron and copper status	Health Canada 2010
Zinc (Zn) (Toddler)	Annual	RfD	480	Developmental effects	Health Canada 2010

Notes:
a based on a slope factor of 1.80 (mg/kg bw/d)-1 from Health Canada (2010) at a 1 in 100,000 risk level

7.3 Risk Characterization Methods

Risk quotient (RQ) values for non-carcinogens and incremental lifetime cancer risks (ILCRs) for carcinogens (per 100,000) were estimated using the following equations and the calculated exposure estimates.

7.3.1 Non-Carcinogens

The following equation was used to calculate the risk quotients for non–carcinogens (Health Canada, 2012):

$$RQ_i = \frac{EDI_{total\_BW}}{RfD}$$

Where:

RQ_i = risk quotient of chemical for the 'i' life stage of the Indigenous land users (unitless)
EDI_{total_BW} = total estimated daily intake of chemical via all routes adjusted to body weight for the 'i' life stage (µg/kg bw/d)
RfD = chemical-specific reference dose (µg/kg bw/d)

The maximum RQ of all the life stages (i.e., infant, toddler, child, adolescent, and adult) was presented in the report for non-carcinogens. The toddler life stage had the highest RQ of all the life stages.

This assessment included both oral and dermal exposure pathways. An HQ of 0.2 was used as a benchmark to assess the risk level for non-carcinogenic exposures for the Project scenario, whereas the baseline scenario and Baseline + Project scenarios were compared to a HQ of 1.0. An HQ of 0.2 assumes an exposure of 20% of the allowable level to come from the Project related sources (e.g., traditional foods, swimming, soils and dust) and 80% to come from other sources. If the calculated HQ in the Project scenario is greater than the benchmark of 0.2, then further assessment may be required, but because this Project scenario includes a multitude of exposure pathways, a higher HQ apportionment would be considered. An HQ less than the benchmark of 0.2 indicates that the intake of the COPC through the consumption of traditional foods and other Project-related pathways does not exceed the TRV and no adverse health effects are expected. It is noted that the assessment does not include all traditional foods that could be consumed from the area, but through the inclusion of game meats, fish, as well as berries, the representation is considered reasonable.

7.3.2 Carcinogens

The following equation was used to calculate the ILCRs (per 100,000) for carcinogens (Health Canada, 2012):

$$ILCR = \frac{EDI_{total\_BW-inf}}{RsD} \times LAF_{-inf} + \frac{EDI_{total\_BW-tod}}{RsD} \times LAF_{-tod} + \frac{EDI_{total\_BW-child}}{RsD} \times LAF_{-child} + \frac{EDI_{total\_BW-adol}}{RsD} \times LAF_{-adol} + \frac{EDI_{total\_BW-adult}}{RsD} \times LAF_{-adult}$$

Where:

ILCR	=	ILCR of chemical for the sum of the life stages of the Indigenous land users (unitless)
EDI_{total_BW-i}	=	total estimated daily intake of chemical via all routes adjusted to body weight for the 'i' life stage (µg/kg bw/d)
RsD	=	chemical-specific risk-specific dose (µg/kg bw/d)
LAF_{-i}	=	Lifetime adjustment factor for the 'i' life stage for general population (yr-life stage/yr-total)

The sum of the ILCR values of all the life stages (*i.e.*, infant, toddler, child, adolescent, and adult) was presented in the report for carcinogens. For the purposes of assessing carcinogenic substances, a benchmark cancer risk level of 1 in 100,000 (i.e., 1×10^{-5}) is used; cancer risks are deemed negligible when the estimated ILCR is ≤ 1 in 100,000. An ILCR greater than 1 in 100,000 does not necessarily imply that an actual risk exists; rather, an exceedance is an indication that there may be the potential for adverse health effects and further assessment may be required.

With respect to additivity of exposure pathways, for all COPCs assessed in the HHRA, oral TRVs were used to predict risks associated with dermal exposure routes due to a lack of pathway-specific values. Therefore, oral and dermal risk estimates were summed to produce a total oral+dermal HQ for threshold COPCs and a total oral+dermal ILCR for non-threshold COPCs, as per Health Canada (2012).

7.4 Results

7.4.1 Predicted Exposure and Risk

The predicted maximum RQ values (i.e., infant to adult) for the non-carcinogenic COPC are presented in Table 7-4. The predicted RQ values for all COPC based on the MPOI annual deposition rate at the site boundary and the maximum deposition rate at Receptor 7 (Deepwood Estates) are at or below the benchmark RQ value of 1.0 for Baseline + Project, and 0.2 for the Project case alone. As such, adverse health effects from soil and dust exposure, the consumption of country foods harvested from the vicinity of the Mine Site, and recreational water use (i.e., swimming), are not anticipated, and risks associated with exposures are considered to be negligible.

Table 7-4 Chronic Non-Carcinogenic Risk Quotients for the Indigenous Land User

Metal/COPC	Risk Quotients					
	MPOI Annual Deposition Rate at MPOI Outside of PDA			Maximum Annual Deposition Rate Outside of PDA at Receptor Location with Highest Deposition Rate		
	Baseline	Project	Project + Baseline	Baseline	Project	Project + Baseline
Aluminum	8.2E-01	2.7E-02	8.5E-01	8.4E-01	1.3E-02	8.5E-01
Antimony	3.0E-02	9.7E-04	3.1E-02	3.1E-02	4.8E-04	3.1E-02
Arsenic	1.7E-01	1.9E-02	1.9E-01	1.8E-01	9.4E-03	1.9E-01
Barium	9.5E-03	1.1E-04	9.6E-03	1.8E-02	6.4E-05	1.8E-02
Beryllium	5.4E-03	3.4E-05	5.4E-03	5.4E-03	1.7E-05	5.4E-03
Boron	6.8E-03	3.1E-05	6.9E-03	1.3E-02	2.1E-05	1.3E-02
Cadmium	9.2E-03	3.2E-04	9.6E-03	1.7E-02	2.9E-04	1.7E-02
Chromium	1.4E-01	8.3E-03	1.5E-01	1.6E-01	3.9E-03	1.6E-01
Cobalt	5.8E-02	4.0E-03	6.2E-02	6.2E-02	2.4E-03	6.5E-02
Copper	1.3E-02	1.9E-03	1.5E-02	1.7E-02	1.8E-03	1.8E-02
Lead	1.5E-01	4.0E-03	1.5E-01	1.5E-01	2.9E-03	1.5E-01
Manganese	5.3E-01	1.6E-03	5.4E-01	1.0E+00	1.0E-03	1.0E+00
Mercury	8.3E-02	1.8E-02	1.0E-01	8.9E-02	1.8E-02	1.1E-01
Methylmercury (adults)	3.1E-01	7.4E-02	3.8E-01	3.1E-01	7.4E-02	3.8E-01
Methylmercury (women of child-bearing age and children <12 years)	7.3E-01	1.7E-01	9.0E-01	7.3E-01	1.7E-01	9.0E-01
Molybdenum	1.0E-03	1.3E-04	1.2E-03	1.6E-03	1.3E-04	1.7E-03
Nickel	2.5E-02	1.1E-03	2.6E-02	3.8E-02	7.9E-04	3.8E-02
Silver	4.9E-04	1.1E-05	5.0E-04	6.1E-04	8.1E-06	6.2E-04
Strontium	3.8E-03	1.2E-05	3.8E-03	6.6E-03	7.7E-06	6.6E-03
Vanadium	9.0E-02	4.0E-03	9.4E-02	9.2E-02	1.9E-03	9.4E-02
Zinc	6.2E-03	1.7E-03	7.9E-03	8.7E-03	1.7E-03	1.0E-02

Notes:
Shaded values indicate an exceedance of the RQ benchmark of 0.2 for the Project Case or 1.0 for the Project + Baseline Case

The predicted ILCRs for the carcinogenic COPC (*i.e.*, arsenic) are presented in Table 7-5. The predicted ILCRs based on the MPOI annual deposition rate outside of the PDA and the maximum annual average deposition rate at Receptor 7 (Deepwood Estates) are all below the benchmark value of 1 in 100,000. Therefore, the cancer risk from soil and dust exposure, the consumption of country foods collected from the vicinity of the Mine Site, and recreational water use, is considered to be negligible and adverse health effects are not expected.

Table 7-5 Chronic Incremental Lifetime Cancer Risks for the Indigenous Land User

Metal/COPC	Incremental Lifetime Cancer Risks (per 100,000)	
	MPOI Annual Deposition Rate at MPOI Outside of PDA	Maximum Annual Deposition Rate Outside of PDA at Receptor Location with Highest Deposition Rate
	Project	Project
Arsenic	2.6E-01	1.7E-01

7.5 Summary

Project-related non-carcinogenic risks from soil and dust exposures, the consumption of country foods harvested from the vicinity of the Mine Site, and recreational water use (i.e., swimming), as well as soil ingestion and dermal contact, are considered to be negligible, and hence, are not anticipated to result in adverse health effects. For arsenic, predicted ILCRs were below the benchmark ILCR of 1 in 100,000 in all scenarios and assessment cases. Therefore, the potential for Project-related carcinogenic adverse health effects from arsenic exposure are considered negligible.

8 CUMULATIVE EFFECTS ASSESSMENT

8.1 Methods

An additional assessment was conducted to assess the cumulative effects associated with 10 years of dust deposition (i.e., 5 years related to operations of the Beaver Dam Mine Project, and an additional 5 years for cumulative effects associated with transport of mined materials from the proposed Fifteen Mile Stream and Cochrane Hill Mine Projects to Touquoy mine pit for processing).

The methods for predicting future soil, vegetation, fish and game meat concentrations follow those described in Section 6.

Table 8-1 presents the baseline, project increment alone, and the accumulated (cumulative) Project incremental and final total (baseline + cumulative increment) soil metals concentrations following the 10 years of cumulative effects (MPOI outside the PDA and at Deepwood Estates).

Table 8-1 Baseline and Predicted Future Soil Concentrations (based on MPOI Annual Average Deposition Rate Outside the PDA and Deposition Rate at Deepwood Estates over 10 years of Cumulative Effects)

Metal/COPC	Baseline Surface Soil Concentration (90th percentile) (mg/kg)	Incremental Contribution of Dust Deposition at MPOI Outside of PDA (206.10 g/m²/year) over 10 years of operations				Incremental Contribution of Dust Deposition Outside of PDA at Receptor Location with Highest Deposition Rate (74.8 g/m²/year) over 10 years of operations			
		2 cm Soil Depth		20 cm Soil Depth		2 cm Soil Depth		20 cm Soil Depth	
		Project (Cumulative)	Project (Cumulative) + Baseline	Project (Cumulative)	Project (Cumulative) + Baseline	Project (Cumulative)	Project (Cumulative) + Baseline	Project (Cumulative)	Project (Cumulative) + Baseline
Aluminum	22400	1468	23868	147	22547	533	22933	53.3	22453
Antimony	0.05	0.0719	0.122	0.00719	0.0572	0.0261	0.0761	0.00261	0.0526
Arsenic	10	2.30	12.30	0.230	10.2	0.834	10.8	0.0834	10.1
Barium	35	5.37	40.4	0.537	35.5	1.95	36.9	0.195	35.2
Beryllium	0.4	0.0264	0.426	0.00264	0.403	0.00957	0.410	0.000957	0.401
Boron	3	0.360	3.36	0.0360	3.04	0.131	3.13	0.0131	3.01
Cadmium	0.11	0.0176	0.128	0.00176	0.112	0.00638	0.116	0.000638	0.111
Chromium	21	2.81	23.8	0.281	21.3	1.02	22.0	0.102	21.1
Cobalt	10.2	1.05	11.2	0.105	10.3	0.380	10.6	0.0380	10.2
Copper	10	1.80	11.8	0.180	10.2	0.654	10.7	0.0654	10.1
Lead	16.4	0.473	16.9	0.0473	16.4	0.172	16.6	0.0172	16.4
Manganese	801	37.4	838	3.74	805	13.6	815	1.36	802
Mercury	0.1	0.000172	0.100	0.0000172	0.100	0.0000623	0.100	0.00000623	0.100
Methylmercury [a]	0.002	0.00000343	0.00200	0.000000343	0.00200	0.00000125	0.00200	0.000000125	0.00200
Molybdenum	0.5	0.0463	0.546	0.00463	0.505	0.0168	0.517	0.00168	0.502
Nickel	14	2.15	16.1	0.215	14.2	0.779	14.8	0.0779	14.1
Silver	0.1	0.00865	0.109	0.000865	0.101	0.00314	0.103	0.000314	0.100
Strontium	9	0.788	9.79	0.0788	9.08	0.286	9.29	0.0286	9.03
Vanadium	35	3.08	38.1	0.308	35.3	1.12	36.1	0.112	35.1
Zinc	36	5.18	41.2	0.518	36.5	1.88	37.9	0.188	36.2

Notes: [a] Assumed baseline concentration is 2% of total mercury (US EPA 2005)

Tables 8-2 and 8-3 present the baseline, project increment alone, and the accumulated Project incremental and final total (baseline + increment) berry and leafy vegetation concentrations, respectively, following the 10 years of cumulative effects at the MPOI outside the PDA and at Deepwood Estates.

Table 8-2 Baseline and Predicted Future Berry Concentrations (mg/kg WW) - Cumulative Effects Scenario

Metal/COPC	Baseline Berry Concentration (90th percentile)	Incremental Contribution of Dust Deposition at MPOI Outside of PDA (206.10 g/m²/year) over 10 years of operations		Incremental Contribution of Dust Deposition Outside of PDA at Receptor Location with Highest Deposition Rate (74.8 g/m²/year) over 10 years of operations	
		Project (Cumulative)	Project (Cumulative) + Baseline	Project (Cumulative)	Project (Cumulative) + Baseline
Aluminum	3.10	7.36	10.5	2.67	5.77
Antimony	0.000239 [a]	0.000394	0.000634	0.000143	0.000382
Arsenic	0.00579 [a]	0.00714	0.0129	0.00259	0.00838
Barium	2.55	0.0660	2.62	0.0239	2.57
Beryllium	0.000155 [a]	0.000133	0.000288	0.0000482	0.000203
Boron	3.05	0.0383	3.08	0.0139	3.06
Cadmium	0.0268	0.000516	0.0273	0.000187	0.0270
Chromium	0.0800	0.0151	0.0951	0.00549	0.0854
Cobalt	0.0240	0.00548	0.0295	0.00199	0.0260
Copper	1.16	0.0299	1.19	0.0109	1.17
Lead	0.00300	0.00237	0.00537	0.000861	0.00386
Manganese	97.3	0.641	97.9	0.233	97.5
Mercury	0.01 [a, b]	0.00000318	0.0100	0.00000115	0.0100
Methylmercury [c]	0.0023	0.000000731	0.00230	0.000000265	0.00230
Molybdenum	0.0461	0.000658	0.0467	0.000239	0.0463
Nickel	0.560	0.0193	0.579	0.00701	0.567
Silver	0.00207 [a]	0.0000611	0.00213	0.0000222	0.00209
Strontium	3.72	0.0365	3.76	0.0132	3.73
Vanadium	0.02 [a, b]	0.0157	0.0357	0.00569	0.0257
Zinc	4.16	0.0858	4.25	0.0311	4.19

Notes:
[a] Chemical was not detected in any results. Therefore, baseline concentration was predicted using a literature-based bioconcentration factor.
[b] Baseline concentration predicted using a literature-based bioconcentration factor exceeded the maximum measured baseline berry concentration (i.e., the maximum detection limit). Therefore, the baseline berry concentration was assumed as the maximum detection limit.
[c] Not measured; assumed to be 23% of total mercury (US EPA 2001)

Table 8-3 Baseline and Predicted Future Leafy Vegetation Concentrations (mg/kg WW) – Cumulative Effects Scenario

Metal/COPC	Baseline Leaf Concentration (90th percentile) (mg/kg)	Incremental Contribution of Dust Deposition Outside of PDA (206.10 g/m²/year) over 10 years of operations		Incremental Contribution of Dust Deposition Outside of PDA (74.8 g/m²/year) over 10 years of operations	
		Project (Cumulative)	Project (Cumulative) + Baseline	Project (Cumulative)	Project (Cumulative) + Baseline
Aluminum	70.6	13.3	83.9	4.82	75.4
Antimony	0.0032	0.00109	0.00429	0.000395	0.00360
Arsenic	0.0078	0.0158	0.0236	0.00574	0.0135
Barium	37.4	0.621	38.0	0.225	37.6
Beryllium	0.00128	0.000239	0.00152	0.0000866	0.00137
Boron	19.0	0.231	19.2	0.0839	19.1
Cadmium	0.0592	0.00110	0.0603	0.000399	0.0596
Chromium	0.08	0.0256	0.106	0.00930	0.0893
Cobalt	0.0531	0.00969	0.0628	0.00352	0.0566
Copper	2.35	0.0581	2.41	0.0211	2.37
Lead	0.0450	0.00426	0.0493	0.00155	0.0465
Manganese	1430	7.00	1437	2.54	1433
Mercury	0.01 [a, b]	0.00000645	0.0100	0.00000234	0.0100
Methylmercury [c]	0.0023	0.00000148	0.00230	0.000000538	0.00230
Molybdenum	0.0870	0.00121	0.0882	0.000439	0.0875
Nickel	0.88	0.0322	0.912	0.0117	0.892
Silver	0.005 [a, b]	0.000186	0.00519	0.0000676	0.00507
Strontium	30.6	0.275	30.9	0.0997	30.7
Vanadium	0.04	0.0273	0.0673	0.00990	0.0499
Zinc	11.0	0.204	11.2	0.0739	11.1

Notes:
[a] Chemical was not detected in any results. Therefore, baseline concentration was predicted using a literature-based bioconcentration factor.
[b] Baseline concentration predicted using a literature-based bioconcentration factor exceeded the maximum measured baseline leaf concentration (i.e., the maximum detection limit). Therefore, the baseline leaf concentration was assumed as the maximum detection limit.
[c] Not measured; assumed to be 23% of total mercury (US EPA 2001)

8.2 Assessment of Predicted Change in Trace Metals due to Dust deposition on Soils and Vegetation – Cumulative Effects

8.2.1 Comparison of Predicted Future Soil Concentrations to Health-Based Soil Quality Guidelines

Total future soil concentrations (predicted increment for the cumulative period of 10 years + 90th percentile baseline) for the assessed scenarios [MPOI annual deposition at the site boundary and at Deepwood Estates] were compared to CCME soil quality guidelines (e.g., CCME, 2018). In addition, predicted future soil concentrations were also compared to Nova Scotia contaminated sites pathway specific soil quality guidelines (NSE, 2014) and the maximum measured baseline soil concentrations. These comparisons were undertaken to gather perspective on whether the incremental soil concentrations, once added to baseline, will exceed soil quality guidelines or indicate a noticeable increase over maximum baseline soil concentrations and is conducted using the same approach as outlined previously in Section 6.1.1. Table 8-4 presents a comparison of the maximum baseline and predicted future concentrations to soil quality guidelines for the MPOI scenario of 206.10 g/m^2/year dust deposition scenario (based on the MPOI annual average deposition at the site boundary), as well as the receptor location with the highest deposition rate (R7; 74.8 g/m^2/year)

Table 8-4 Comparison of Baseline and Predicted Future Soil Concentrations (based on the MPOI Annual Average Deposition Rate Outside the PDA and Deposition Rate at Deepwood Estates) to Provincial and Federal Soil Quality Guidelines (mg/kg) – Cumulative Effects Scenario

Metal/COPC	Baseline Surface Soil Concentration (90th %ile)	Incremental Contribution of Dust Deposition at MPOI Outside of PDA (206.10 g/m²/year) over 10 years of operations				Incremental Contribution of Dust Deposition Outside of PDA at Receptor Location with Highest Deposition Rate (74.8 g/m²/year) over 10 years of operations				Soil Quality Guidelines		Max Baseline Surface Soil Concentration
		2 cm Soil Depth		20 cm Soil Depth		2 cm Soil Depth		20 cm Soil Depth				
		Project (Cumulative)	Project (Cumulative) + Baseline	Project (Cumulative)	Project (Cumulative) + Baseline	Project (Cumulative)	Project (Cumulative) + Baseline	Project (Cumulative)	Project (Cumulative) + Baseline	NSE[a]	CCME[b]	
Aluminum	22400	1468	23868	147	22547	533	22933	53.3	22453	15,400	n/a	27400
Antimony	0.05	0.0719	0.122	0.00719	0.0572	0.0261	0.0761	0.00261	0.0526	7.5	20	<0.1
Arsenic	10	2.30	12.30	0.230	10.2	0.834	10.8	0.0834	10.1	31	12	14
Barium	35	5.37	40.4	0.537	35.5	1.95	36.9	0.195	35.2	10,000	750	49
Beryllium	0.4	0.0264	0.426	0.00264	0.403	0.00957	0.410	0.000957	0.401	38	4	5
Boron	3	0.360	3.36	0.0360	3.04	0.131	3.13	0.0131	3.01	4,300	2	6
Cadmium	0.11	0.0176	0.128	0.00176	0.112	0.00638	0.116	0.000638	0.111	1.4	1.4	11
Chromium	21	2.81	23.8	0.281	21.3	1.02	22.0	0.102	21.1	220	64	26
Cobalt	10.2	1.05	11.2	0.105	10.3	0.380	10.6	0.0380	10.2	22	40	20
Copper	10	1.80	11.8	0.180	10.2	0.654	10.7	0.0654	10.1	1100	63	11
Lead	16.4	0.473	16.9	0.0473	16.4	0.172	16.6	0.0172	16.4	140	70	16.6
Manganese	801	37.4	838	3.74	805	13.6	815	1.36	802	n/a	n/a	3450
Mercury	0.1	0.000172	0.100	0.0000172	0.100	0.0000623	0.100	0.00000623	0.100	6.6	6.6	0.16
Methylmercury	0.002	0.00000343	0.00200	0.000000343	0.00200	0.00000125	0.00200	0.000000125	0.00200	1.6	n/a	0.0032
Molybdenum	0.5	0.0463	0.546	0.00463	0.505	0.0168	0.517	0.00168	0.502	110	5	0.8
Nickel	14	2.15	16.1	0.215	14.2	0.779	14.8	0.0779	14.1	330	45	18
Silver	0.1	0.00865	0.109	0.000865	0.101	0.00314	0.103	0.000314	0.100	77	20	2
Strontium	9	0.788	9.79	0.0788	9.08	0.286	9.29	0.0286	9.03	9400	n/a	10
Vanadium	35	3.08	38.1	0.308	35.3	1.12	36.1	0.112	35.1	39	130	40
Zinc	36	5.18	41.2	0.518	36.5	1.88	37.9	0.188	36.2	5600	250	57

Notes:
Shaded values indicate an exceedance of soil quality guidelines
[a] Nova Scotia Environmental Quality Standards (EQS) are the soil contact/ingestion values for coarse/fine-textured soil in an agricultural land use from Nova Scotia Environment (2014)
[b] CCME Soil Quality Guidelines (SQG) are the SQG for the Protection of Environmental and Human Health for the agricultural land use from CCME (2018)
< indicates that the concentration is less than the detection limit

Based on the comparisons presented in Table 8-4, all COPC predicted cumulative project + baseline concentrations were below their respective soil quality guidelines, with the following exceptions:

- Aluminum, which exceeds the NSE (2014) soil quality guideline in the two dust deposition scenarios (MPOI and R7);
- Arsenic which marginally exceeds the CCME (1997) soil quality guideline in one dust deposition scenario, but does not exceed the NS Tier 1 Environmental Quality Standard; and
- Boron which exceeds the CCME (1991) soil quality guideline in the two dust deposition scenarios (MPOI and R7), which is set for hot water soluble boron (which has limited applicability to typical environmental conditions), but does not exceed the NS Tier 1 Environmental Quality Standard.

Baseline concentrations of both aluminum and boron exceed these guidelines and contribute to 90 – 99.8% of the project + baseline soil concentrations, with modest contributions from the project. Similarly, baseline concentrations of arsenic contribute to the 83 – 99% of project + baseline soil concentrations. The predicted future + baseline concentrations of aluminium, arsenic and boron do not exceed their respective maximum baseline soil concentrations and are within the soil concentration range. These predicted future concentrations are assessed further in the HHRA model.

8.2.2 Comparison of Predicted Future Berry and Leafy Vegetation Concentrations to Maximum Baseline Concentrations

The potential for accumulation of metals in berries and leafy vegetation were evaluated based on the predictions of potential future berry and leafy vegetation concentrations, relative to the MPOI annual dustfall in the Beaver Dam Mine Project area (206.10 g/m^2/year), and the receptor location with the highest depositional rate (Deepwood Estates; 74.8 g/m^2/year) over 10 years of cumulative dust deposition. These concentrations were predicted using the same approach outlined in Section 6.1.3 Since there are no regulatory benchmarks available related to berry or vegetation metals uptake, the predicted incremental concentrations are added to the 90th percentile of baseline concentrations, and compared to maximum baseline concentrations, for perspective. Tables 8-5 and 8-6 present the comparisons for berries and leafy vegetation, respectively.

Table 8-5 Comparison of Baseline and Predicted Future Berry Concentrations (mg/kg WW) – Cumulative Effects Scenario

Metal/COPC	Baseline Berry Concentration (90th percentile)	Incremental Contribution of Dust Deposition at MPOI Outside of PDA (206.10 g/m²/year) over 10 years of operations		Incremental Contribution of Dust Deposition Outside of PDA at Receptor Location with Highest Deposition Rate (74.8 g/m²/year) over 10 years of operations		Max Baseline Berry Concentration
		Project (Cumulative)	Project (Cumulative) + Baseline	Project (Cumulative)	Project (Cumulative) + Baseline	
Aluminum	3.10	7.36	10.5	2.67	5.77	3.3
Antimony	0.000239 [a]	0.000394	0.000634	0.000143	0.000382	<0.005
Arsenic	0.00579 [a]	0.00714	0.0129	0.00259	0.00838	<0.02
Barium	2.55	0.0660	2.62	0.0239	2.57	2.93
Beryllium	0.000155 [a]	0.000133	0.000288	0.0000482	0.000203	<0.005
Boron	3.05	0.0383	3.08	0.0139	3.06	3.24
Cadmium	0.0268	0.000516	0.0273	0.000187	0.0270	0.0271
Chromium	0.0800	0.0151	0.0951	0.00549	0.0854	0.11
Cobalt	0.0240	0.00548	0.0295	0.00199	0.0260	0.052
Copper	1.16	0.0299	1.19	0.0109	1.17	1.72
Lead	0.00300	0.00237	0.00537	0.000861	0.00386	0.013
Manganese	97.3	0.641	97.9	0.233	97.5	112
Mercury	0.01 [a, b]	0.00000318	0.0100	0.00000115	0.0100	<0.01
Methylmercury [c]	0.0023	0.000000731	0.00230	0.000000265	0.00230	<0.0023
Molybdenum	0.0461	0.000658	0.0467	0.000239	0.0463	0.052
Nickel	0.560	0.0193	0.579	0.00701	0.567	0.82
Silver	0.00207 [a]	0.0000611	0.00213	0.0000222	0.00209	<0.005
Strontium	3.72	0.0365	3.76	0.0132	3.73	8.68
Vanadium	0.02 [a, b]	0.0157	0.0357	0.00569	0.0257	<0.02
Zinc	4.16	0.0858	4.25	0.0311	4.19	5.51

Notes:
Shaded values indicate an exceedance of the maximum measured berry concentration
[a] Chemical was not detected in any results. Therefore, baseline concentration was predicted using a literature-based bioconcentration factor.
[b] Baseline concentration predicted using a literature-based bioconcentration factor exceeded the maximum measured baseline berry concentration (i.e., the maximum detection limit). Therefore, the baseline berry concentration was assumed as the maximum detection limit.
[c] Not measured; Assumed to be 23% of total mercury (US EPA 2001)
< indicates that the concentration is less than the detection limit

Table 8-6 Comparison of Baseline and Predicted Future Leafy Vegetation Concentrations (mg/kg WW) – Cumulative Effects Scenario

Metal/COPC	Baseline Leaf Concentration (90th percentile) (mg/kg)	Incremental Contribution of Dust Deposition at MPOI Outside of PDA (206.10 g/m²/year) over 10 years of operations		Incremental Contribution of Dust Deposition Outside of PDA at Receptor Location with Highest Deposition Rate (74.8 g/m²/year) over 10 years of operations		Max Baseline Leaf Concentration
		Project (Cumulative)	Project (Cumulative) + Baseline	Project (Cumulative)	Project (Cumulative) + Baseline	
Aluminum	70.6	13.3	83.9	4.82	75.4	208
Antimony	0.0032 [a]	0.00109	0.00429	0.000395	0.00360	<0.005
Arsenic	0.0078	0.0158	0.0236	0.00574	0.0135	0.04
Barium	37.4	0.621	38.0	0.225	37.6	46.5
Beryllium	0.00128 [a]	0.000239	0.00152	0.0000866	0.00137	<0.005
Boron	19.0	0.231	19.2	0.0839	19.1	25.1
Cadmium	0.0592	0.00110	0.0603	0.000399	0.0596	0.0765
Chromium	0.08	0.0256	0.106	0.00930	0.0893	0.14
Cobalt	0.0531	0.00969	0.0628	0.00352	0.0566	0.069
Copper	2.35	0.0581	2.41	0.0211	2.37	3.39
Lead	0.0450	0.00426	0.0493	0.00155	0.0465	0.327
Manganese	1430	7.00	1437	2.54	1433	1440
Mercury	0.01 [a, b]	0.00000645	0.0100	0.00000234	0.0100	<0.01
Methylmercury [b]	0.0023	0.00000148	0.00230	0.000000538	0.00230	<0.0023
Molybdenum	0.0870	0.00121	0.0882	0.000439	0.0875	0.119
Nickel	0.88	0.0322	0.912	0.0117	0.892	0.94
Silver	0.005 [a, b]	0.000186	0.00519	0.0000676	0.00507	<0.005
Strontium	30.6	0.275	30.9	0.0997	30.7	68.1
Vanadium	0.04	0.0273	0.0673	0.00990	0.0499	0.05
Zinc	11.0	0.204	11.2	0.0739	11.1	13.3

Notes:
Shaded values indicate an exceedance of the maximum measured leaf concentration
[a] Chemical was not detected in any results. Therefore, baseline concentration was predicted using a literature-based bioconcentration factor.
[b] Baseline concentration predicted using a literature-based bioconcentration factor exceeded the maximum measured baseline leaf concentration (i.e., the maximum detection limit). Therefore, the baseline leaf concentration was assumed as the maximum detection limit.
[c] Not measured; assumed to be 23% of total mercury (US EPA 2001)
< indicates that the concentration is less than the detection limit

Based on the predicted berry concentrations (Table 8-5), all cumulative project + baseline berry concentrations were within the range of baseline with the exceptions of aluminum, cadmium, and vanadium, which were estimated to exceed their respective maximum baseline concentrations (Table 8-5; 206.10 g/m^2/year and 74.8 g/m^2/year deposition rates). Aluminum and vanadium concentrations from the Project are predicted to contribute to the project + baseline scenario exceedances of the max baseline berry concentrations. The cadmium exceedance in the MPOI project + baseline scenario is marginal and contributions from the Project are predicted to be minimal when compared to the contribution from the measured baseline concentration to the overall project + baseline berry concentrations.

Based on the predicted leafy vegetation concentrations (Table 8-6), all project + baseline leafy vegetation concentrations were within the range of baseline concentrations, with the exception of silver and vanadium which was estimated to exceed the maximum baseline concentration (Table 8-6; 206.10 g/m^2/year). Silver and vanadium contributions from the Project are predicted to be low at the receptor location with the maximum deposition rate (Deepwood Estates), when compared to the contribution from the baseline concentration to the overall project + baseline leafy vegetation concentrations. In general, the use of MPOI and maximum annual average dust deposition rates are considered to be conservative assumptions when predicting chemical concentrations in environmental media, and the addition of project increments to 90th percentile baseline concentrations is also considered to be conservative.

In the case of both berries and leaves, potential human health risks associated with the predicted concentrations were assessed further in the HHRA model (Appendix D).

8.3 Multipathway Assessment of Human Exposures from Consumption of Country Foods, Recreational Water Usage, Soil and Dust Exposures – Cumulative Effects

The approach to predicting human exposure from soil and dust exposures, recreational water use (i.e., swimming) and consumption of country foods (i.e., berries, leafy vegetation, fish, and game meats such as hare, grouse, duck and deer) for the cumulative effects assessment remains consistent with that described in Section 7.

8.3.1 Predicted Exposure and Risk

The predicted maximum RQ values (i.e., infant to adult) for the non-carcinogenic COPC are presented in Table 8-7. The predicted RQ values for all COPC based on the MPOI annual deposition rate at the site boundary and the maximum deposition rate at Receptor 7 (Deepwood Estates) are at or below the benchmark RQ value of 1.0 for Baseline + Project, and 0.2 for the Project case alone. As such, adverse health effects from soil and dust exposure, the consumption of country foods harvested from the vicinity of the Mine Site, and recreational water use (i.e., swimming), are not anticipated, and risks are considered to be negligible.

Table 8-7 Chronic Non-Carcinogenic Risk Quotients for the Indigenous Land Users (Cumulative Effects Scenario)

Metal/COPC	Risk Quotients					
	MPOI Annual Deposition Rate at MPOI Outside of PDA			Maximum Annual Deposition Rate Outside of PDA at Receptor Location with Highest Deposition Rate		
	Baseline	Project (Cumulative)	Project (Cumulative) + Baseline	Baseline	Project (Cumulative)	Project (Cumulative) + Baseline
Aluminum	8.2E-01	6.7E-02	8.9E-01	8.4E-01	2.9E-02	8.7E-01
Antimony	3.0E-02	2.4E-03	3.3E-02	3.1E-02	1.1E-03	3.2E-02
Arsenic	1.7E-01	4.6E-02	2.2E-01	1.8E-01	2.0E-02	2.0E-01
Barium	9.5E-03	3.0E-04	9.8E-03	1.8E-02	1.7E-04	1.8E-02
Beryllium	5.4E-03	8.5E-05	5.4E-03	5.4E-03	3.7E-05	5.4E-03
Boron	6.8E-03	9.2E-05	6.9E-03	1.3E-02	6.1E-05	1.3E-02
Cadmium	9.2E-03	4.7E-04	9.7E-03	1.7E-02	3.7E-04	1.7E-02
Chromium	1.4E-01	2.0E-02	1.6E-01	1.6E-01	8.7E-03	1.7E-01
Cobalt	5.8E-02	7.9E-03	6.6E-02	6.2E-02	3.9E-03	6.6E-02
Copper	1.3E-02	2.0E-03	1.5E-02	1.7E-02	1.9E-03	1.8E-02
Lead	1.5E-01	7.0E-03	1.6E-01	1.5E-01	4.2E-03	1.6E-01
Manganese	5.3E-01	4.2E-03	5.4E-01	1.0E+00	2.5E-03	1.0E+00
Mercury	8.3E-02	1.8E-02	1.0E-01	8.9E-02	1.8E-02	1.1E-01
Methylmercury (adults)	3.1E-01	7.4E-02	3.8E-01	3.1E-01	7.4E-02	3.8E-01
Methylmercury (women of child-bearing age and children <12 years	7.3E-01	1.7E-01	9.0E-01	7.3E-01	1.7E-01	9.0E-01
Molybdenum	1.0E-03	1.4E-04	1.2E-03	1.6E-03	1.3E-04	1.7E-03
Nickel	2.5E-02	2.1E-03	2.7E-02	3.8E-02	1.2E-03	3.9E-02
Silver	4.9E-04	1.9E-05	5.1E-04	6.1E-04	1.2E-05	6.2E-04
Strontium	3.8E-03	3.4E-05	3.8E-03	6.6E-03	2.2E-05	6.6E-03
Vanadium	9.0E-02	9.8E-03	1.0E-01	9.2E-02	4.3E-03	9.7E-02
Zinc	6.2E-03	1.7E-03	7.9E-03	8.7E-03	1.7E-03	1.0E-02

Notes:
Shaded values indicate an exceedance of the RQ benchmark of 0.2 for the Project Case or 1.0 for the Project + Baseline Case

The predicted ILCRs for the carcinogenic COPC (*i.e.*, arsenic) for the cumulative effects assessment are presented in Table 8-8. The predicted ILCRs based on the MPOI annual deposition rate outside of the PDA and the maximum annual average deposition rate at Receptor 7 (Deepwood Estates) are all below the benchmark value of 1 in 100,000. Therefore, the cancer risk from soil and dust exposure, the consumption of country foods collected from the vicinity of the Mine Site, and recreational water use, is considered to be negligible and adverse health effects are not expected.

Table 8-8 Chronic Incremental Lifetime Cancer Risks for the Indigenous Land User

Metal/COPC	Incremental Lifetime Cancer Risks (per 100,000)	
	MPOI Annual Deposition Rate at MPOI Outside of PDA	Maximum Annual Deposition Rate Outside of PDA at Receptor Location with Highest Deposition Rate
	Project (Cumulative)	Project (Cumulative)
Arsenic	5.1E-01	2.8E-01

8.3.2 Summary

Non-carcinogenic risks from soil and dust exposures, the consumption of country foods harvested from the vicinity of the Beaver Dam Mine Site, and recreational water use (i.e., swimming), as well as soil ingestion and dermal contact for the cumulative effects scenario of 10 years of dust deposition, are considered to be negligible, and hence, are not anticipated to result in adverse health effects. For arsenic, predicted ILCRs were below the benchmark ILCR of 1 in 100,000 in all scenarios and assessment cases. Therefore, the potential for carcinogenic adverse health effects from arsenic exposure in the cumulative effects scenario of 10 years of dust deposition is considered negligible.

9 UNCERTAINTIES, CONSERVATIVE ASSUMPTIONS AND LIMITATIONS:

As inherent in any risk assessment study, there are limitations, uncertainties and conservative assumptions applicable to this screening level risk assessment, as follows:

- Geochemistry from waste rock obtained from the Beaver Dam Mine Site was used in the assessment to predict the composition of dust fall and the potential exposures related to country foods harvested from the vicinity of the Beaver Dam Mine Site. The use of waste rock in the estimation of potential interior Haul Road dust levels is considered to represent a reasonable assumption, based on the expectation that the Haul Road inside the mine will be constructed of waste rock.
- The use of literature-based BCFs from US EPA OSW (2005) and Baes *et al*. (1984) to predict baseline berry and leafy vegetation concentrations is considered standard practice where site-specific BCFs cannot be calculated. Although this represents a source of uncertainty, predictions in the assessment using the literature-based BCF tended to result in conservative estimations, given that concentrations for those chemicals were not detected in any of the samples.
- The use of fish tissue concentrations and surface water concentrations from samples collected from Scraggy Lake (as opposed to the Killag River) to calculate site-specific fish BCFs, where it was not possible to calculate a site-specific BCF for Cameron Flowage/Killag River due to non-detect values, represents a source of uncertainty. However, due to the lack of detected fish tissue and surface water data from Cameron Flowage/Killag River, data from Scraggy Lake are considered to represent an appropriate surrogate for use in predicting fish BCFs for Killag River.
- The use of literature-based BCFs where site-specific BCFs were not available from Cameron Flowage/Killag River and Scraggy Lake represents a source of uncertainty.
- Site-specific and literature-based BCFs were unavailable for boron. Therefore, future fish concentrations are lacking for this inorganic compound. This represents a source of uncertainty. Boron is present in very low concentrations in waste rock (see Table 2-2; geomean of 0.00052%) and is not reported to bioaccumulate to any significant extent in biological tissues.
- Future surface water predictions were not available for some COPCs (barium, beryllium, boron, chromium, strontium and vanadium). This could affect the recreational swimming exposures and fish consumption risks for these COPCs. While this is an uncertainty in the assessment, the incremental increase in risk related to swimming exposure is likely negligible, as exposure potential associated with this scenario is minimal. For fish consumption, baseline exposure was considered in the assessment, and some incremental increase over baseline could occur in the future scenarios. The Project scenario RQ values range from 0.02 (Chromium – cumulative effects) to 0.000034 (strontium – cumulative effects), and hence, substantial increases in fish tissue would have to be predicted before a non-negligible risk would be predicted.
- For the purposes of calculating summary statistics to represent baseline soil, berry, and leafy vegetation concentrations (*e.g.*, 90th percentile), where a chemical concentration was not detected in a sample, ½ of the detection limit was used for the sample in the calculations. While this is a standard approach, it represents an area of uncertainty due to the absence of an actual detected concentration.

- A 2 cm mixing depth was conservatively used to calculate soil changes, and risk estimates.
- It was assumed that harvesting and consumption of 50% of all berries, leafy vegetation, and 100% of wild game (i.e., deer, hare, grouse, duck and fish) from the Beaver Dam Mine Site boundary for an entire lifespan in the MPOI deposition rate scenario and all berry, leafy vegetation, and wild game harvesting occurred at the receptor location of Deepwood Estates over an entire lifespan in the alternate maximum scenario. In the absence of site-specific consumption information, these assumptions are considered to represent conservative assumptions as it is unlikely that people would continually harvest and consume berries, leafy vegetation, and wild game at such rates in the vicinity of the Mine Site for their entire lifetimes.
- It was assumed that all fish were harvested from Cameron Flowage/Killag River, within 100 m of mine discharge points, which is unlikely. Therefore, the assumption that all fish consumed would be harvested from this area of Cameron Flowage/Killag River is likely conservative.
- The average consumption rate of 9 g/day was used for the adult fish consumption rate. This is likely conservative given that it is unlikely that all fish would be harvested from within 100 m of mine discharge points in Cameron Flowage/Killag River over an entire lifetime.
- It was assumed that swimming in Cameron Flowage/Killag River occurred 3 days per week for 1 hour over 3 months each year (representative of the swimming over the summer months). The Cameron Flowage/Killag River is located in a remote area, although the TLURS study indicates that the area is actively used by Mi'gmaq community members. This assumption is likely highly conservative.
- Bio-accessibility of metals in consumed soil, vegetation, fish and game meats were assumed to be 100%.
- While additivity of metals was not directly considered, potential additivity of toxic effects *via* exposure to multiple chemicals and through multiple routes of exposure can occur. Under typical ambient environmental exposure conditions, humans are exposed to complex mixtures of chemicals, rather than individual compounds. There can be a variety of types of interactions between chemicals in environmental mixtures that can alter the overall absorption, toxicokinetics, toxicodynamics and toxicity of metals in humans and animals. At very high levels of exposure, additivity of chemical toxicity can potentially occur when chemicals have a similar mode or toxicological mechanism of action. If the Project-related increments were summed in the current project (which would mean that all inorganics were assumed to act in an additive fashion, which is implausible), the HQ would equal 0.27 in the operational assessment and 0.36 in the cumulative effects assessment; and hence the HQ benchmark of 0.2 for the Project scenario would be slightly exceeded in the operational and cumulative effects assessments.
- Vegetation was assumed to be unwashed prior to consumption.
- TRVs incorporate several layers of uncertainty factors often ranging from 100 to 1000 and points of departure are typically based on NOAELs.

10 CONCLUSIONS

Based on the assessment conducted, the following can be concluded:

- Metals are naturally occurring in the environment and are present within existing soils and vegetation in the region. Mine activities will result in increased deposition of dust in the vicinity of the Mine Site outside the PDA, particularly related to Haul Road activities;
- Dustfall predictions indicate that the areas outside the PDA that will potentially receive higher dustfall rates are generally located near the Haul Road. Based on the estimated future soil concentrations of all metals considered, some accumulation within vegetation is anticipated to occur, but that accumulation would likely be localized to areas most affected by dust loadings which are generally limited in size and closer to the Beaver Dam Mine Site and Haul Road boundaries;
- It is considered unlikely that ore dust deposition and effluent releases from the Beaver Dam Mine Project at the rates considered in this assessment would result in levels of metals in country foods, soils and dust, and surface water (*via* recreational water use) that would be harmful to human health. Predicted risks associated with consumption of country foods are considered to be negligible; and,
- Cumulative effects of the Beaver Dam project, in conjunction with the possible use of the Haul Road for other proposed Projects in the area (such as the Cochrane Hill Gold Project and Fifteen Mile Stream Gold Project, if approved) are not expected to result in levels of metals in country foods, soils and dust, and surface water (*via* recreational water use) that would be harmful to human health.

11 CLOSURE

Intrinsik Corp. (Intrinsik) has provided this report to AMNS solely for the purpose stated in the report. The information contained in this report was prepared and interpreted exclusively for AMNS and may not be used in any manner by any other party. Intrinsik does not accept any responsibility for the use of this report for any purpose other than as specifically intended by AMNS. Intrinsik does not have, and does not accept, any responsibility or duty of care whether based in negligence or otherwise, in relation to the use of this report in whole or in part by any third party. Any alternate use, including that by a third party, or any reliance on or decision made based on this report, are the sole responsibility of the alternative user or third party. Intrinsik does not accept responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

The HHRA has been performed in accordance with accepted practice and usual standards of thoroughness and competence for the profession of toxicology and human health risk assessment. Any information or facts provided by others and referred to or utilized in the preparation of this report, is believed to be accurate without any independent verification or confirmation by Intrinsik. The information, opinions and recommendations provided within the aforementioned report have been developed using reasonable and responsible practices, and the report was completed to the best of our knowledge and ability.

Intrinsik Corp.

<Original signed by>

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Appendix A – Metals on Particulate Matter and Inhalation Risk
(Response to Round 2, Information Request NSE-2-129 – Question 1)

Date:	February 23, 2021
To:	Veronica Chisholm and Jim Millard, Atlantic Mining NS Inc.
From:	Christine Moore, Intrinsik
cc :	Chris Ng, Intrinsik; Nicholas Maya, Intrinsik; Meghan Milloy, McCallum Environmental Ltd.
Re:	Response to Round 2, Information Request NSE-2-129 – Question 1 (metals on particulate matter and inhalation risk): **FINAL RESPONSE**

IR NSE 2-129: Question 1:

1) Are air emissions of metals a concern for this project? If not, the report should justify why specific metals were not included in the modelling.

Response:

Air emissions of metals are not a concern for this Project (Intrinsik 2021 in AMNS 2021, Appendix C.2). To address this IR, estimates of metals on coarse (particulate matter less than 10 microns; PM_{10}) and fine (particulate matter less than 2.5 microns; $PM_{2.5}$) particulate matter were estimated, and both short term (24 hour; PM_{10} and $PM_{2.5}$) and chronic (annual; $PM_{2.5}$) exposure levels and risks were predicted. Geochemistry from ore and road material at the Beaver Dam Mine Site were used to develop the ratios of metal on dust. Metal selection was based on Intrinsik 2019 (in AMNS 2019, Appendix C.2, Section 3.2) and criteria for 24-hour ambient air quality criteria were selected from Ontario (OMOE, 2012). The methods and results are discussed in the sections below.

Methods

The assessment of potential exposures to metals on particulate matter involves calculation of baseline metals concentrations in ambient air (as measured metals on PM_{10} and $PM_{2.5}$ are not available), as well as prediction of the incremental project concentration (Project Alone), and the Baseline + Project scenario. Atlantic Mining NS Inc. (AMNS) updated the 2021 Environmental Impact Statement (EIS), Appendix C.1 Air Emission Assessment (GHD 2021 in AMNS 2021), wherein GHD conducted air modelling of Project related emissions associated with both the mine site and haul road activities. Health Canada guidance was considered in this assessment (Health Canada, 2016a). Each of these scenarios is discussed as follows:

- **Baseline:** Measured baseline concentrations of 24-hour PM_{10} are available from the study area, but sample numbers were limited. As discussed in GHD (2021 in AMNS 2021, Appendix C.1), PM_{10} samples were collected at nine locations near the Beaver Dam Mine Site and along the Haul Road, as well as two locations near Fifteen Mile Stream project area, and two locations near the Cochrane Hill Project area, and five locations on the Touquoy Mine site. PM_{10} values ranged from 7.1 to 13.1 μg/m^3. GHD (2021 in AMNS 2021, Appendix C.1) selected the maximum value of 13.1 μg/m^3 to represent background 24-hour PM_{10} levels. This value was also used in the current assessment to represent background PM_{10}. No measured baseline was available for 24-hour $PM_{2.5}$, and hence, GHD (2021 in AMNS 2021, Appendix C.1) estimated 24- hour $PM_{2.5}$ based on other existing datasets at 9.0 μg/m^3 (based on NAPS Port Hawkesbury station – 90th percentile of 2014 to 2016 dataset). For annual average $PM_{2.5}$, the annual average concentration at this station was used to represent background (5.7 μg/m^3 ; see Table 4; GHD, 2021 in AMNS 2021, Appendix C.1). To predict baseline metals concentrations on the PM, the geochemistry of dustfall from the Beaver Dam Mine area was used. The specific geochemistry fractions were developed and are provided in Appendix A of Appendix C.2 of the EIS (Intrinsik 2021 in AMNS 2021). These fractions were applied to the baseline 24-hour PM_{10} and $PM_{2.5}$ data, to estimate metals-specific baseline air concentrations. It is recognized that the baseline metals composition on $PM_{2.5}$ and PM_{10} may be different than that estimated in this project, but since the area is naturally enriched in metals, it is anticipated that this approach is a reasonable surrogate in the absence of site-specific data. Note there are no other Projects in the vicinity of this Project that would be anticipated to influence baseline concentrations (the proposed Fifteen Mile Stream Project is approximately 20 km away, and would not be expected to add to the exposures experienced from this mine pit).

- **Project Alone:** To calculate potential exposures to metals in areas near the Project where local land users could spend time, maximum predicted ground level air concentrations in areas outside the Project Development Area (PDA) were used to characterize upper bound exposures. The site-specific geochemistry fractions for the Mine Site (Appendix A of Appendix C.2 of the EIS [Intrinsik 2021 in AMNS 2021]) were applied to these selected concentrations, to estimate possible Project Alone exposure concentrations to metals in ambient air, associated with Mine site or Haul Road activities. For $PM_{2.5}$, a predicted 24-hr concentration of 2.51 μg/m^3 was identified as the Maximum Point of Impingement of the receptors modelled for Project Alone scenario (80% dust mitigation) (see Table 7A, GHD, 2021 in AMNS 2021, Appendix C.1; R1 location). The maximum annual average Project alone $PM_{2.5}$ concentration was 0.96 μg/m^3 at the same location (along the haul road). For PM_{10}, a predicted Project alone concentration of 23.41 μg/m^3 was predicted for the 24-hour assessment as it was the maximum concentration predicted of the modelled receptors (R1 receptor location, along the haul road; Table 7A in GHD, 2021 in AMNS 2021, Appendix C.1).

- **Project + Baseline:** The estimated baseline metals air concentrations were added to the estimated Project alone increment, to calculate an estimated total concentration for each metal in air.

- **Ambient Air Quality Guidelines (Short-Term Exposure Assessment):** To assess the predicted concentrations from an acute or short-term perspective, 24-hour ambient air quality criteria were selected from Ontario (OMOE, 2012).

- **Chronic TRVs**: To conduct the chronic air inhalation assessment, chronic inhalation toxicity reference values (TRV) that are defined as reference concentrations (RfC) for non-carcinogenic metals or risk-specific concentrations (RsC) for carcinogenic compounds, were identified from Health Canada (2010), or, in the absence of a TRV from Health Canada, other regulatory agency TRVs were sought, such as those from United States Environmental Protection Agency's Integrated Risk Information System (US EPA IRIS). If values were not available from Health Canada or US EPA, then the most defensible value from Agency for Toxic Substances & Disease Registry (ATSDR), National Institute of Public Health and the Environment (RIVM), California Office of Environmental Health Hazard Assessment (OEHHA) or World Health Organization (WHO) was selected. Lastly, if these agencies did not recommend a TRV for a metal then the Texas Commission on Environmental Quality (TCEQ) Effects Screening Levels (ESLs) were selected. Table 1 presents the chronic TRVs that were selected for the assessment.

Table 1 Chronic Inhalation TRVs Selected for the Inhalation Assessment

Metals	***Chronic TRV is an RfC / RsC [ug/m³]*** [(a)]	***Endpoint***	***Reference / Comment***
Aluminum	5	Health (not specified)	TCEQ ESL 2016
Antimony	0.5	Health (not specified)	TCEQ ESL 2016
Arsenic	0.0016	Lung cancer	Health Canada 2010
Barium	1	Hematological effects and cardiovascular effects	RIVM 2001
Beryllium	0.004	Lung cancer	US EPA 1998
Boron	5	Health (not specified)	TCEQ ESL 2016
Cadmium	0.001	Lung cancer	Health Canada (2010)
Chromium (III)	0.14	Respiratory irritation	TCEQ 2009
Cobalt	0.1	Respiratory irritation	ATSDR 2004
Copper	1	Respiratory and immunological effects	RIVM 2001
Lead	0.5	Haematological effects or neurological disturbances	WHO 2000
Manganese	0.05	Impairment of neuro-behavioural function	USEPA 1993
Mercury	0.3	Neurological effects	US EPA 1995
Molybdenum	12	Changes in body weight	RIVM 2001
Nickel	0.0077	Lung cancer	Health Canada 2010
Silver	0.01	Health (not specified)	TCEQ ESL 2016
Strontium	2	Health (not specified)	TCEQ ESL 2016
Vanadium	0.1	Respiratory irritation	ATSDR 2012
Zinc	2	Health (not specified)	TCEQ ESL 2016

Notes: n/a = not available

(a) RsC based on 1 in 100,000 risk level (Health Canada 2010).
(b) Selected lowest TRV of available chemicals forms to be conservative.

Results

Tables 2 and 3 present the estimated exposures to ambient metals on $PM_{2.5}$ (24-hour) and PM_{10} (24-hour), respectively, in the baseline, project alone, and baseline + project scenarios, based on the Maximum predicted concentrations along the haul road. These exposure concentrations are compared against Ontario 24-hour ambient air benchmark concentrations from the OMOE (2012). In addition, Table 4 presents the estimated exposure to long-term ambient metals on $PM_{2.5}$ in the baseline, project alone, and baseline + project scenarios, based on Maximum POI predicted concentrations along the haul road (annual exposures).

The results of this assessment indicate that all estimated exposures based on ambient metals on PM_{10} and $PM_{2.5}$ are orders of magnitude below Ontario 24-hour ambient air benchmark concentrations as well as chronic TRVs (assessed based on ambient metals on $PM_{2.5}$). Therefore, given that no chemical exceedances were identified based on the Maximum POI predicted concentrations along the haul road (which is the major source of dust emissions), metals particulate concentrations resulting from emissions at the Beaver Dam Mine Site area are unlikely to present inhalation risks to receptors in the Beaver Dam Project Area.

While additivity of metals was not directly considered, potential additivity of toxic effects *via* exposure to multiple chemicals can occur. Under typical ambient environmental exposure conditions, humans are exposed to complex mixtures of chemicals, rather than individual compounds. There can be a variety of types of interactions between chemicals in environmental mixtures that can alter the overall absorption, toxicokinetics, toxicodynamics and toxicity of metals in humans and animals. Additivity of chemical toxicity occurs when chemicals have a similar mode or toxicological mechanism of action. If all metals in air in the current assessment were considered additive, no change in the conclusions would occur.

With respect to cumulative effects of a possible nine year usage of the haul road, associated with the Fifteen Mile Stream Project and Cochrane Hill Project (if approved) and additional truck usage from other industries, the maximum POI values would increase slightly, as shown in Table 7A of GHD, 2021 in AMNS 2021, Appendix C.1, as follows:

- 24-hr $PM_{2.5}$ increases from 2.51 $\mu g/m^3$ to 3.79 $\mu g/m^3$
- 24-hr PM_{10} increases from 23.41 $\mu g/m^3$ to 35.41 $\mu g/m^3$
- Annual average $PM_{2.5}$ increases from 0.96 $\mu g/m^3$ to 1.46 $\mu g/m^3$

These increased values do not result in any changes to the assessment conclusions.

Table 2 **Estimated Exposures to Ambient Metals on Particulate ($PM_{2.5}$) in Beaver Dam Project Area (24-hour) – Maximum Point of Impingement on Haul Road**

Metals	*Ontario 24- hour Benchmark (µg/m³)*	*Baseline $PM_{2.5}$[1] (µg/m³)*	*Mine outside Project Development Area ($PM_{2.5}$)*		
			% Metals on dust - Mine[2]	*Project Increment $PM_{2.5}$ (2.51 µg/m³)*[2, 3]	*Baseline+Project (µg/m³)*
Aluminum	12	0.192	2.14	0.0536	0.246
Antimony	25	0.00000943	0.000105	0.00000263	0.0000121
Arsenic	0.3	0.000301	0.00334	0.000084	0.000385
Barium	10	0.000703	0.00782	0.000196	0.000900
Beryllium	0.01	0.00000345	0.0000384	0.00000096	0.00000442
Boron	120	0.0000471	0.000524	0.0000131	0.0000603
Cadmium	0.025	0.00000230	0.0000256	0.00000064	0.00000294
Chromium (III)	0.5	0.000368	0.00409	0.000103	0.000471
Cobalt	0.1	0.000137	0.00152	0.0000382	0.000175
Copper	50	0.000236	0.00262	0.000066	0.000302
Lead	0.5	0.0000619	0.000688	0.0000173	0.0000792
Manganese	0.1	0.00489	0.0544	0.00136	0.00626
Mercury	2	0.0000000225	0.000000250	0.00000000628	0.0000000288
Molybdenum	120	0.00000606	0.0000674	0.00000169	0.00000775
Nickel	0.1	0.000281	0.00312	0.000078	0.000359
Silver	1	0.00000113	0.0000126	0.000000316	0.00000145
Strontium	120	0.000103	0.00115	0.0000288	0.000132
Vanadium	2	0.000404	0.00449	0.000113	0.000516
Zinc	120	0.000679	0.00754	0.000189	0.000868

Notes:** All Ontario guidelines were from 'Ontario's Ambient Air Quality Criteria' April 2012. The limiting effect for all metals was "Health", except for Aluminum and Zinc, which were "Particulate". For chemicals where multiple ambient air quality criteria (AAQC) are available from the MOE (2012), the following AAQC were selected for use: the AAQC for manganese (Mn) is the AAQC for Mn in $PM_{2.5}$; the AAQC for nickel (Ni) is the AAQC for Ni in PM_{10}; and, the AAQC for uranium (U) is the AAQC for U in PM_{10}.
[1] Baseline $PM_{2.5}$ values were estimated at 9 µg/m³ (GHD, 2021 in AMNS 2021, Appendix C.1).
[2] Percent composition of particulates based on site geochemistry data (Intrinsik 2021 in AMNS 2021, Appendix C.2, Appendix A).
[3] Project values selected from GHD (2021 in AMNS 2021, Appendix C.1).
Bolded and shaded values indicate an exceedance of the MOE (2012) air quality guidelines

Table 3 Estimated Exposures to Ambient Metals on Particulate (PM_{10}) in Beaver Dam Project Area (24-hour) – Maximum Point of Impingement on Haul Road

Metals	*Ontario 24-hour Benchmark (µg/m³)*	*Baseline PM_{10}[1] (µg/m³)*	*Mine outside Project Development Area (PM_{10})*		
			% Metals on dust – Mine[2]	*Project Increment PM_{10} (23.41 µg/m³)[2,3]*	*Baseline+Project (µg/m³)*
Aluminum	12	0.280	2.14	0.500	0.780
Antimony	25	0.0000137	0.000105	0.0000245	0.0000382
Arsenic	0.3	0.000438	0.00334	0.00078	0.00122
Barium	10	0.00102	0.00782	0.00183	0.00285
Beryllium	0.01	0.00000503	0.0000384	0.0000090	0.0000140
Boron	120	0.0000686	0.000524	0.000123	0.000191
Cadmium	0.025	0.00000335	0.0000256	0.00000599	0.0000093
Chromium (III)	0.5	0.000536	0.00409	0.00096	0.00149
Cobalt	0.1	0.000200	0.00152	0.000357	0.000556
Copper	50	0.000344	0.00262	0.000614	0.00096
Lead	0.5	0.0000902	0.000688	0.000161	0.000251
Manganese	0.2	0.00712	0.0544	0.0127	0.0199
Mercury	2	0.0000000328	0.000000250	0.0000000585	0.000000091
Molybdenum	120	0.00000883	0.0000674	0.0000158	0.0000246
Nickel	0.1	0.000409	0.00312	0.000731	0.00114
Silver	1	0.00000165	0.0000126	0.00000295	0.00000459
Strontium	120	0.000150	0.00115	0.000268	0.000419
Vanadium	2	0.000588	0.00449	0.00105	0.00164
Zinc	120	0.000988	0.00754	0.00177	0.00275

Notes:
All Ontario guidelines were from 'Ontario's Ambient Air Quality Criteria' April 2012. The limiting effect for all metals were "Health", except for Aluminum and Zinc, which were "Particulate". For chemicals where multiple ambient air quality criteria (AAQC) are available from the MOE (2012), the following AAQC were selected for use: the AAQC for manganese (Mn) is the AAQC for Mn in PM_{10}; and the AAQC for nickel (Ni) is the AAQC for Ni in PM_{10}; and, the AAQC for uranium (U) is the AAQC for U in PM_{10}.
[1] Baseline Value is based on the maximum measured baseline PM_{10} value of 13.1 µg/m³ (GHD, 2021 in AMNS 2021, Appendix C.1).
[2] Percent composition of particulates based on site geochemistry data (Intrinsik 2021 in AMNS 2021, Appendix C.2, Appendix A).
[3] Project values selected from GHD (2021 in AMNS 2021, Appendix C.1).
Bolded and shaded values indicate an exceedance of the MOE (2012) air quality guidelines

Table 4 Estimated Exposures and Risks to Long-term Ambient and Incremental Metals on Particulate ($PM_{2.5}$) - Beaver Dam Project Area Maximum Point of Impingement

Metals	***Chronic TRV (µg/m³)***	***Baseline $PM_{2.5}$[1] - Mine (µg/m³)***	***% Metals on dust - Mine[2]***	***Mine outside PDA ($PM_{2.5}$)***	
				Project Increment $PM_{2.5}$ (0.96 µg/m³)[3]	***Baseline+Project (µg/m³)***
Aluminum	5	0.122	2.14	0.0205	0.142
Antimony	0.5	0.00000597	0.000105	0.00000101	0.00000697
Arsenic	0.0016	0.000191	0.00334	0.0000321	0.000223
Barium	1	0.000446	0.00782	0.0000750	0.000521
Beryllium	0.004	0.00000219	0.0000384	0.000000368	0.00000256
Boron	5	0.0000298	0.000524	0.00000503	0.0000349
Cadmium	0.001	0.00000146	0.0000256	0.000000246	0.00000170
Chromium (III)	0.14	0.000233	0.00409	0.0000393	0.000273
Cobalt	0.1	0.0000869	0.00152	0.0000146	0.000101
Copper	1	0.000150	0.00262	0.0000252	0.000175
Lead	0.5	0.0000392	0.000688	0.00000661	0.0000458
Manganese	0.05	0.00310	0.0544	0.000522	0.00362
Mercury	0.3	0.0000000143	0.000000250	0.00000000240	0.0000000167
Molybdenum	12	0.00000384	0.0000674	0.000000647	0.00000449
Nickel	0.0077	0.000178	0.00312	0.0000300	0.000208
Silver	0.01	0.000000717	0.0000126	0.000000121	0.000000838
Strontium	2	0.0000654	0.00115	0.0000110	0.0000764
Vanadium	0.1	0.000256	0.00449	0.0000431	0.000299
Zinc	2	0.000430	0.00754	0.0000724	0.000502

Notes:
[1] Baseline $PM_{2.5}$ value is based on the annual average measured baseline $PM_{2.5}$ value of 5.7 µg/m³ (GHD, 2021 in AMNS 2021, Appendix C.1).
[2] Percent composition of particulates based on site geochemistry data (Intrinsik 2021 in AMNS 2021, Appendix C.2, Appendix A).
[3] Project value is the maximum at site boundary from GHD (2021 in AMNS 2021, Appendix C.1).
Bolded and shaded values indicate an exceedance of the Chronic TRV

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Appendix B – Geochemistry Data for Waste Rock and Calculations of Metals Ratios for Dust Characterization

Geochemistry Data for Waste Rock and Calculations of Metals Ratios for Dust Characterization

The chemical composition of dust deposition used in the evaluation of potential exposures related to soil, berries and vegetation harvested from the vicinity of the haul road was based on the geochemistry of waste rock from the Beaver Dam Mine. The use of waste rock in the estimation of potential haul road dust levels is considered to represent a conservative assumption since much of the road will likely be characterized by local quarry rock as opposed to waste rock. A total of 30 waste rock samples were obtained from Atlantic Gold and analyzed for a suite of metals. The laboratory results were examined and statistical calculations were conducted. Where a chemical concentration was not detected in a sample, half of the detection limit was substituted in place of the non-detect value for statistical calculations. The geometric mean was selected to represent the metal concentrations of the waste rock dust. These geometric means were converted to percent values and applied to the dust deposition rates in the assessment to characterize dust composition.

Sample ID	Hole ID	Sampler	Interval		Lithology	Paste pH	Total S	Sulphate S (CO3)	Sulphate S (HCl)	Sulphide S (calc)	C	CO2	CO3	CaNP	Modified NF	CaNPR	NPR
			From	To			%	%	%	%	%	%	%	kg CaCO3/t	kg CaCO3/t		
LX17-01	BD15-GT02	Lorax (2017)	10	11	GA	7.9	0.36	0.03	0.01	0.33	0.06	0.2	0.3	4.548	9	0.441018182	0.8727273
LX17-02	BD15-GT02	Lorax (2017)	15	16	AG	8.2	0.32	0.03	0.02	0.29	0.05	0.2	0.2	4.548	7	0.501848276	0.7724138
LX17-03	BD15-GT02	Lorax (2017)	26	27	AG	8.5	0.4	0.02	0.01	0.38	0.05	0.2	0.2	4.548	8	0.382989474	0.6736842
LX17-04	BD15-GT02	Lorax (2017)	31	32	AG	7.9	1.14	0.01	0.02	1.13	0.05	0.2	0.2	4.548	8	0.12879292	0.2265487
LX17-05	BD15-GT02	Lorax (2017)	46	47	GA	8.4	0.39	0.01	0.02	0.38	0.19	0.7	0.9	15.918	25	1.340463158	2.1052632
LX17-06	BD15-GT08	Lorax (2017)	91	10	GW	9	0.01	0.01	0.02	0.01	0.1	0.4	0.5	9.096	14	29.1072	44.8
LX17-07	BD15-GT08	Lorax (2017)	14	15	GA	8.5	0.03	0.01	0.03	0.02	0.05	0.2	0.2	4.548	7	7.2768	11.2
LX17-08	BD15-GT08	Lorax (2017)	23	24	GW	8.9	0.01	0.01	0.02	0.01	0.12	0.4	0.6	9.096	16	29.1072	51.2
LX17-09	BD15-GT08	Lorax (2017)	37	38	AG	9.1	0.01	0.02	0.02	0.01	0.05	0.2	0.2	4.548	8	14.5536	25.6
LX17-10	BD14-172	Lorax (2017)	140	141	AG	9.1	0.07	0.01	0.02	0.07	0.17	0.6	0.8	13.644	23	6.237257143	10.514286
LX17-11	BD14-172	Lorax (2017)	170	171	AG	9.1	0.03	0.02	0.03	0.01	0.05	0.2	0.2	4.548	9	14.5536	28.8
LX17-12	BD14-178	Lorax (2017)	7	7.9	AR	8.9	0.02	0.01	0.02	0.02	0.05	0.2	0.2	4.548	6	7.2768	9.6
LX17-13	BD14-178	Lorax (2017)	15	16	AG	9	0.01	0.01	0.01	0.01	0.05	0.2	0.2	4.548	8	14.5536	25.6
LX17-14	BD14-178	Lorax (2017)	30	31	GA	9.1	0.01	0.01	0.01	0.01	0.05	0.2	0.2	4.548	9	14.5536	28.8
LX17-15	BD14-178	Lorax (2017)	58	59	GA	8.7	0.04	0.01	0.02	0.04	0.57	2.1	2.8	47.754	58	38.2032	46.4
LX17-16	BD14-178	Lorax (2017)	49	50	GW	9.1	0.03	0.01	0.01	0.03	0.2	0.7	1	15.918	23	16.9792	24.533333
LX17-17	BD14-178	Lorax (2017)	161	162	GA	8.1	0.48	0.01	0.01	0.48	0.05	0.2	0.2	4.548	6	0.3032	0.4
LX17-18	BD14-178	Lorax (2017)	147	148	GA	8.5	0.14	0.01	0.01	0.14	0.16	0.6	0.8	13.644	18	3.118628571	4.1142857
LX17-19	BD15-GT05	Lorax (2017)	15	16	GA	9	0.3	0.01	0.02	0.3	0.05	0.2	0.2	4.548	5	0.48512	0.5333333
LX17-20	BD15-GT05	Lorax (2017)	25	26	GW	9	0.29	0.01	0.03	0.28	0.05	0.2	0.2	4.548	7	0.519771429	0.8
LX17-21	BD15-GT05	Lorax (2017)	41	42	GW	9.5	0.42	0.01	0.03	0.42	0.05	0.2	0.2	4.548	9	0.346514286	0.6857143
LX17-22	BD15-GT05	Lorax (2017)	57	58	AR	9	0.32	0.01	0.01	0.32	0.05	0.2	0.2	4.548	6	0.4548	0.6
LX17-23	BD14-188	Lorax (2017)	10	11	GA	9	0.05	0.01	0.02	0.05	0.3	1.1	1.5	25.014	34	16.00896	21.76
LX17-24	BD14-188	Lorax (2017)	22	23	AR	8.4	0.18	0.01	0.02	0.18	0.05	0.2	0.2	4.548	9	0.808533333	1.6
LX17-25	BD14-188	Lorax (2017)	38	39	GWKE	9.2	0.01	0.01	0.02	0.01	0.39	1.4	1.9	31.836	41	101.8752	131.2
LX17-26	BD14-188	Lorax (2017)	51	52	GWKE	9.1	0.03	0.01	0.05	0.03	0.05	0.2	0.2	4.548	9	4.8512	9.6
LX17-27	BD14-173	Lorax (2017)	12	13	GWKE	8.9	0.02	0.01	0.02	0.02	0.09	0.3	0.4	6.822	12	10.9152	19.2
LX17-28	BD14-173	Lorax (2017)	22	23	AG	8.7	0.04	0.01	0.04	0.04	0.05	0.2	0.2	4.548	10	3.6384	8
LX17-29	BD14-173	Lorax (2017)	37	38	GA	8.9	0.03	0.01	0.02	0.03	0.16	0.6	0.8	13.644	19	14.5536	20.266667
LX17-30	BD14-173	Lorax (2017)	53	54	GWKE	8.9	0.01	0.01	0.02	0.01	0.6	2.2	3	50.028	58	160.0896	185.6

Sample ID	Hole ID	Sampler	Interval From	To	Hg ppm	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm
LX17-01	BD15-GT02	Lorax (2017)	10	11	0.0025	0.5	1.5	10	5	60	0.5	1	0.4	0.25	13	38	47	3.06	10	0.5	0.43	30
LX17-02	BD15-GT02	Lorax (2017)	15	16	0.0025	0.1	3.22	17	5	80	0.5	1	0.2	0.25	24	37	42	6.22	10	0.5	0.83	40
LX17-03	BD15-GT02	Lorax (2017)	26	27	0.0025	0.1	2.72	157	5	110	0.25	1	0.26	0.25	19	44	55	5.3	10	0.5	0.98	30
LX17-04	BD15-GT02	Lorax (2017)	31	32	0.0025	6.6	2.72	11	5	110	0.6	26	0.25	0.5	29	43	155	6.16	10	0.5	1.11	30
LX17-05	BD15-GT02	Lorax (2017)	46	47	0.0025	0.1	3.3	13	5	150	0.6	1	1.54	0.25	17	52	67	4.54	10	0.5	0.98	30
LX17-06	BD15-GT08	Lorax (2017)	91	10	0.0025	0.1	2.32	11	5	130	0.25	1	0.57	0.25	18	50	25	4.05	10	0.5	0.74	30
LX17-07	BD15-GT08	Lorax (2017)	14	15	0.0025	0.1	3.12	9	5	90	0.25	1	0.2	0.25	23	50	57	5.65	10	0.5	0.76	20
LX17-08	BD15-GT08	Lorax (2017)	23	24	0.0025	0.1	2.2	8	10	40	0.25	1	0.67	0.25	15	48	29	3.85	10	0.5	0.22	20
LX17-09	BD15-GT08	Lorax (2017)	37	38	0.0025	0.1	3.02	15	5	130	0.25	1	0.21	0.25	21	62	67	5.09	10	1	0.9	20
LX17-10	BD14-172	Lorax (2017)	140	141	0.0025	0.1	2.64	15	5	120	0.25	1	0.85	0.25	19	48	4	4.45	10	1	0.85	20
LX17-11	BD14-172	Lorax (2017)	170	171	0.0025	0.1	3.21	28	10	100	0.25	1	0.24	0.25	25	48	13	5.4	10	0.5	0.84	30
LX17-12	BD14-178	Lorax (2017)	7	7.9	0.0025	0.1	2.74	17	5	90	0.5	1	0.2	0.25	20	41	28	4.57	10	0.5	1.08	30
LX17-13	BD14-178	Lorax (2017)	15	16	0.0025	0.1	2.97	8	5	140	0.5	1	0.24	0.25	21	51	26	4.84	10	0.5	1.12	30
LX17-14	BD14-178	Lorax (2017)	30	31	0.0025	0.1	2.42	14	5	190	0.25	1	0.33	0.25	16	54	17	3.81	10	0.5	1.24	20
LX17-15	BD14-178	Lorax (2017)	58	59	0.0025	0.1	2.07	17	5	90	0.5	1	2.3	0.25	14	60	6	3.85	10	0.5	0.46	30
LX17-16	BD14-178	Lorax (2017)	49	50	0.0025	0.1	1.13	10	5	40	0.7	1	0.93	0.25	7	31	18	2.12	10	0.5	0.21	30
LX17-17	BD14-178	Lorax (2017)	161	162	0.0025	0.1	1.97	1915	5	120	0.6	1	0.26	0.25	14	38	51	3.63	10	0.5	0.78	20
LX17-18	BD14-178	Lorax (2017)	147	148	0.0025	0.1	0.69	2800	5	20	0.25	1	0.68	0.25	4	21	13	1.5	5	0.5	0.16	20
LX17-19	BD15-GT05	Lorax (2017)	15	16	0.0025	0.1	2.71	1750	5	90	0.25	1	0.12	0.25	25	39	21	5.12	10	0.5	0.86	30
LX17-20	BD15-GT05	Lorax (2017)	25	26	0.0025	0.1	2.68	231	5	80	0.25	1	0.16	0.25	25	37	35	5.23	10	0.5	0.85	20
LX17-21	BD15-GT05	Lorax (2017)	41	42	0.0025	0.3	1.61	1205	5	130	0.25	1	0.28	0.25	16	39	24	3.24	10	0.5	0.92	20
LX17-22	BD15-GT05	Lorax (2017)	57	58	0.0025	0.1	1.24	116	5	90	0.25	1	0.15	0.25	9	36	18	2.48	10	0.5	0.64	10
LX17-23	BD14-188	Lorax (2017)	10	11	0.0025	0.1	1.99	25	5	130	0.6	1	1.33	0.25	13	41	25	3.28	10	0.5	0.98	30
LX17-24	BD14-188	Lorax (2017)	22	23	0.0025	0.1	2.94	22	5	110	0.7	1	0.36	0.25	19	41	44	4.85	10	0.5	0.99	30
LX17-25	BD14-188	Lorax (2017)	38	39	0.0025	0.1	1.33	8	5	90	0.25	1	1.53	0.25	9	31	28	2.29	10	0.5	0.65	20
LX17-26	BD14-188	Lorax (2017)	51	52	0.0025	0.1	1.24	7	5	30	0.25	1	0.34	0.25	7	24	9	2.37	10	0.5	0.21	20
LX17-27	BD14-173	Lorax (2017)	12	13	0.0025	0.1	1.32	19	5	30	0.5	1	0.51	0.25	7	31	24	2.53	10	0.5	0.15	20
LX17-28	BD14-173	Lorax (2017)	22	23	0.0025	0.1	2.9	29	5	80	0.8	1	0.34	0.25	21	45	39	4.85	10	0.5	0.63	20
LX17-29	BD14-173	Lorax (2017)	37	38	0.0025	0.1	2.12	14	5	30	0.9	1	0.73	0.25	14	40	21	3.91	10	0.5	0.16	30
LX17-30	BD14-173	Lorax (2017)	53	54	0.0025	0.1	2.29	12	5	20	0.5	1	2.2	0.25	16	41	15	4.05	10	0.5	0.18	30

red font is non-detect sample, at half of the detection limit

	Hg	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La
average	0.0025	0.33667	2.2776667	283.767	5.33333	90.6667	0.425	1.83333	0.61267	0.25833	16.6667	42.0333	34.1	4.0763333	9.83333	0.53333	0.697	25.3333
geomean	0.0025	0.12585	2.1368851	33.4357	5.23647	78.161	0.38377	1.11472	0.42801	0.25584	15.2386	40.9337	26.2464	3.8647976	9.7716	0.52365	0.58115	24.4949
75th percentile	0.0025	0.1	2.86	28.75	5	120	0.575	1	0.7175	0.25	21	48	43.5	5.03	10	0.5	0.965	30
95th	0.0025	0.41	3.2155	1840.75	7.75	145.5	0.755	1	1.903	0.25	25	57.3	67	5.9305	10	0.775	1.1155	30
geomean percent	2.50E-07	1.26E-05	2.14E+00	3.34E-03	5.24E-04	7.82E-03	3.84E-05	1.11E-04	4.28E-01	2.56E-05	1.52E-03	4.09E-03	2.62E-03	3.86E+00	9.77E-04	5.24E-05	5.81E-01	2.45E-03

Sample ID	Hole ID	Sampler	Interval From	To	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm	Th ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
LX17-01	BD15-GT02	Lorax (2017)	10	11	0.8	447	15	0.06	27	560	54	0.41	1	6	8	10	0.09	5	5	40	5	63
LX17-02	BD15-GT02	Lorax (2017)	15	16	1.65	634	1	0.02	43	520	10	0.33	1	4	4	10	0.13	5	5	42	5	123
LX17-03	BD15-GT02	Lorax (2017)	26	27	1.33	601	0.5	0.04	37	490	11	0.43	1	7	9	10	0.15	5	5	54	5	102
LX17-04	BD15-GT02	Lorax (2017)	31	32	1.51	675	1	0.03	59	360	179	1.26	1	7	7	10	0.15	5	5	50	5	143
LX17-05	BD15-GT02	Lorax (2017)	46	47	1.06	732	0.5	0.11	45	500	8	0.42	1	8	62	10	0.16	5	5	56	5	80
LX17-06	BD15-GT08	Lorax (2017)	91	10	1.18	624	0.5	0.05	36	540	5	0.005	1	8	13	10	0.16	5	5	54	5	79
LX17-07	BD15-GT08	Lorax (2017)	14	15	1.6	640	0.5	0.03	48	640	4	0.04	1	7	9	10	0.14	5	5	51	5	111
LX17-08	BD15-GT08	Lorax (2017)	23	24	1.35	512	0.5	0.05	36	630	5	0.005	1	6	10	10	0.09	5	5	57	5	78
LX17-09	BD15-GT08	Lorax (2017)	37	38	1.75	680	0.5	0.04	44	660	1	0.01	1	10	7	10	0.15	5	5	72	5	102
LX17-10	BD14-172	Lorax (2017)	140	141	1.52	774	0.5	0.05	43	640	7	0.06	1	7	20	10	0.16	5	5	54	5	103
LX17-11	BD14-172	Lorax (2017)	170	171	1.85	677	0.5	0.03	51	670	5	0.03	1	6	8	10	0.14	5	5	50	5	116
LX17-12	BD14-178	Lorax (2017)	7	7.9	1.43	534	0.5	0.03	44	610	11	0.02	1	6	10	10	0.17	5	5	44	5	89
LX17-13	BD14-178	Lorax (2017)	15	16	1.67	726	0.5	0.04	45	710	3	0.01	1	7	12	10	0.18	5	5	62	5	89
LX17-14	BD14-178	Lorax (2017)	30	31	1.33	578	1	0.06	36	710	3	0.005	1	9	24	10	0.2	5	5	66	5	69
LX17-15	BD14-178	Lorax (2017)	58	59	1.19	800	0.5	0.04	30	750	33	0.04	1	8	35	20	0.15	5	5	76	5	65
LX17-16	BD14-178	Lorax (2017)	49	50	0.58	372	1	0.04	15	520	2	0.03	1	3	15	10	0.09	5	5	29	5	34
LX17-17	BD14-178	Lorax (2017)	161	162	1.04	511	0.5	0.07	27	310	8	0.54	1	6	10	10	0.13	5	5	46	5	67
LX17-18	BD14-178	Lorax (2017)	147	148	0.4	274	1	0.04	6	180	17	0.15	2	2	6	10	0.03	5	5	20	5	43
LX17-19	BD15-GT05	Lorax (2017)	15	16	1.38	463	1	0.02	46	400	4	0.31	1	4	5	10	0.11	5	5	37	5	110
LX17-20	BD15-GT05	Lorax (2017)	25	26	1.43	518	0.5	0.02	38	340	3	0.33	1	4	4	10	0.14	5	5	36	5	105
LX17-21	BD15-GT05	Lorax (2017)	41	42	0.89	359	1	0.05	25	260	33	0.45	1	6	7	10	0.15	5	5	47	5	66
LX17-22	BD15-GT05	Lorax (2017)	57	58	0.75	312	0.5	0.05	15	210	20	0.35	1	6	5	10	0.13	5	5	40	5	57
LX17-23	BD14-188	Lorax (2017)	10	11	1.05	512	0.5	0.05	30	650	7	0.05	1	7	20	10	0.17	5	5	51	5	76
LX17-24	BD14-188	Lorax (2017)	22	23	1.63	621	0.5	0.03	42	650	6	0.19	1	5	16	10	0.15	5	5	45	5	120
LX17-25	BD14-188	Lorax (2017)	38	39	0.69	461	0.5	0.05	18	510	8	0.005	1	5	19	10	0.13	5	5	35	5	50
LX17-26	BD14-188	Lorax (2017)	51	52	0.7	310	1	0.04	15	450	2	0.02	1	3	10	10	0.07	5	5	23	5	38
LX17-27	BD14-173	Lorax (2017)	12	13	0.71	388	0.5	0.04	16	530	3	0.02	2	3	14	10	0.06	5	5	32	5	25
LX17-28	BD14-173	Lorax (2017)	22	23	1.74	687	0.5	0.03	43	690	4	0.04	1	6	24	10	0.09	5	5	49	5	90
LX17-29	BD14-173	Lorax (2017)	37	38	1.24	594	0.5	0.03	33	680	2	0.03	1	3	13	10	0.03	5	5	42	5	64
LX17-30	BD14-173	Lorax (2017)	53	54	1.4	1045	0.5	0.03	38	770	4	0.005	1	4	22	10	0.02	5	5	42	5	75

red font is non-detect sample, at half of the detection limit

	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr	Th	Ti	Tl	U	V	W	Zn
average	1.228333	568.7	1.11667	0.04233	34.3667	538	15.4	0.1865	1.06667	5.76667	14.2667	10.3333	0.124	5	5	46.7333	5	81.0667
geomean	1.154819	543.795	0.67372	0.03942	31.2256	507.551	6.8817	0.05841	1.04729	5.40132	11.4672	10.2337	0.11064	5	5	44.8706	5	75.4452
75th percentile	1.5175	676.5	1	0.05	43.75	657.5	10.75	0.33	1	7	18.25	10	0.15	5	5	54	5	102.75
95th	1.7455	788.3	1	0.0655	49.65	732	44.55	0.4995	1.55	8.55	30.05	10	0.1755	5	5	69.3	5	121.65
geomean percent	1.15E+00	5.44E-02	6.74E-05	3.94E-02	3.12E-03	5.08E-02	6.88E-04	5.84E-02	1.05E-04	5.40E-04	1.15E-03	1.02E-03	1.11E-01	5.00E-04	5.00E-04	4.49E-03	5.00E-04	7.54E-03

Appendix C – Baseline Data Analytical Sheets

Report ID: 288107-IAS
Report Date: 24-Sep-18
Date Received: 06-Sep-18

CERTIFICATE OF ANALYSIS

for
Atlantic Mining NS Group
Atlantic Gold
6749 Moose River Road, RR#2
Middle Musqudoboit, NS B0X 1X0

rpc
921 College Hill Rd
Fredericton NB
Canada E3B 6Z9
Tel: 506.452.1212
Fax: 506.452.0594
www.rpc.ca

Attention: James Millard
Project #: 17-175
Location: Beaver Dam Haul Road

Analysis of Samples

RPC Sample ID:			288107-11	288107-12	288107-13
Client Sample ID:			Berry 1	Berry 2	Berry 3
Date Sampled:			31-Aug-18	31-Aug-18	31-Aug-18
Analytes	**Units**	**RL**			
Moisture	%	0.1	86.0	91.9	86.4

This report relates only to the sample(s) and information provided to the laboratory.

RL = Reporting Limit

<Original signed by>

<Original signed by>

Ross Kean
Department Head
Inorganic Analytical Chemistry

Peter Crowhurst
Analytical Chemist
Inorganic Analytical Chemistry

Report ID: 288107-IAS
Report Date: 24-Sep-18
Date Received: 06-Sep-18

CERTIFICATE OF ANALYSIS
for
Atlantic Mining NS Group
Atlantic Gold
6749 Moose River Road, RR#2
Middle Musqudoboit, NS B0X 1X0

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Tel: 506.452.1212
Fax: 506.452.0594
www.rpc.ca

Attention: James Millard
Project #: 17-175
Location: Beaver Dam Haul Road

Analysis of Samples

RPC Sample ID:			288107-14	288107-15	288107-16
Client Sample ID:			Berry 4	Berry 5	Berry 6
Date Sampled:			31-Aug-18	31-Aug-18	31-Aug-18
Analytes	**Units**	**RL**			
Moisture	%	0.1	88.4	82.4	85.1

Report ID: 288107-IAS
Report Date: 24-Sep-18
Date Received: 06-Sep-18

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www.rpc.ca

Attention: James Millard
Project #: 17-175
Location: Beaver Dam Haul Road

Analysis of Samples

RPC Sample ID:			288107-17	288107-18	288107-19
Client Sample ID:			Berry 7	Berry 8	Berry 9
Date Sampled:			31-Aug-18	31-Aug-18	31-Aug-18
Analytes	**Units**	**RL**			
Moisture	%	0.1	83.2	81.3	84.3

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Report Date: 24-Sep-18
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Fax: 506.452.0594
www.rpc.ca

Attention: James Millard
Project #: 17-175
Location: Beaver Dam Haul Road

Analysis of Samples

RPC Sample ID:			288107-20
Client Sample ID:			Berry 10
Date Sampled:			31-Aug-18
Analytes	**Units**	**RL**	
Moisture	%	0.1	82.2

Report ID: 288107-IAS
Report Date: 24-Sep-18
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CERTIFICATE OF ANALYSIS

for

Atlantic Mining NS Group
Atlantic Gold
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Middle Musqudoboit, NS B0X 1X0

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Tel: 506.452.1212
Fax: 506.452.0594
www.rpc.ca

Attention: James Millard

Project #: 17-175

Location: Beaver Dam Haul Road

Analysis of Samples

RPC Sample ID:			288107-11	288107-12	288107-13
Client Sample ID:			Berry 1	Berry 2	Berry 3
Date Sampled:			31-Aug-18	31-Aug-18	31-Aug-18
Analytes	**Units**	**RL**			
Aluminum	mg/kg	0.1	2.2	0.4	3.1
Antimony	mg/kg	0.005	< 0.005	< 0.005	< 0.005
Arsenic	mg/kg	0.02	< 0.02	< 0.02	< 0.02
Barium	mg/kg	0.05	2.55	1.88	1.14
Beryllium	mg/kg	0.005	< 0.005	< 0.005	< 0.005
Bismuth	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Boron	mg/kg	0.05	1.28	2.52	0.67
Cadmium	mg/kg	0.0005	0.0005	0.0161	< 0.0005
Calcium	mg/kg	2	240	305	197
Chromium	mg/kg	0.02	0.08	0.05	0.05
Cobalt	mg/kg	0.002	< 0.002	0.024	0.003
Copper	mg/kg	0.02	0.79	0.78	0.25
Iron	mg/kg	1	4	5	2
Lead	mg/kg	0.002	0.002	0.003	0.003
Lithium	mg/kg	0.002	0.002	0.004	< 0.002
Magnesium	mg/kg	0.5	91.6	225.	74.7
Manganese	mg/kg	0.02	52.5	75.3	97.3
Mercury	mg/kg	0.01	< 0.01	< 0.01	< 0.01
Molybdenum	mg/kg	0.002	0.021	0.030	0.009
Nickel	mg/kg	0.02	0.12	0.56	0.13
Potassium	mg/kg	1	975	1530	861
Rubidium	mg/kg	0.002	9.63	10.3	3.62
Selenium	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Silver	mg/kg	0.005	< 0.005	< 0.005	< 0.005
Sodium	mg/kg	2	15	27	12
Strontium	mg/kg	0.02	1.55	2.32	2.03
Tellurium	mg/kg	0.002	< 0.002	< 0.002	< 0.002
Thallium	mg/kg	0.002	< 0.002	< 0.002	< 0.002
Tin	mg/kg	0.002	0.481	3.63	0.122
Uranium	mg/kg	0.002	< 0.002	< 0.002	< 0.002
Vanadium	mg/kg	0.02	< 0.02	< 0.02	< 0.02
Zinc	mg/kg	0.02	0.94	3.10	0.68

Report ID: 288107-IAS
Report Date: 24-Sep-18
Date Received: 06-Sep-18

CERTIFICATE OF ANALYSIS

for
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Atlantic Gold
6749 Moose River Road, RR#2
Middle Musqudoboit, NS B0X 1X0

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921 College Hill Rd
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Tel: 506.452.1212
Fax: 506.452.0594
www.rpc.ca

Attention: James Millard
Project #: 17-175
Location: Beaver Dam Haul Road

Analysis of Samples

RPC Sample ID:			288107-14	288107-14 Dup	288107-15
Client Sample ID:			Berry 4	Lab Duplicate	Berry 5
Date Sampled:			31-Aug-18	31-Aug-18	31-Aug-18
Analytes	**Units**	**RL**			
Aluminum	mg/kg	0.1	0.2	0.3	0.3
Antimony	mg/kg	0.005	< 0.005	< 0.005	< 0.005
Arsenic	mg/kg	0.02	< 0.02	< 0.02	< 0.02
Barium	mg/kg	0.05	1.63	1.70	1.23
Beryllium	mg/kg	0.005	< 0.005	< 0.005	< 0.005
Bismuth	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Boron	mg/kg	0.05	0.64	0.64	3.05
Cadmium	mg/kg	0.0005	0.0096	0.0094	0.0231
Calcium	mg/kg	2	138	128	359
Chromium	mg/kg	0.02	< 0.02	< 0.02	0.11
Cobalt	mg/kg	0.002	< 0.002	< 0.002	0.010
Copper	mg/kg	0.02	0.49	0.41	1.03
Iron	mg/kg	1	1	2	8
Lead	mg/kg	0.002	< 0.002	< 0.002	0.003
Lithium	mg/kg	0.002	0.012	0.020	< 0.002
Magnesium	mg/kg	0.5	70.8	66.5	350.
Manganese	mg/kg	0.02	6.02	3.21	88.9
Mercury	mg/kg	0.01	< 0.01	< 0.01	< 0.01
Molybdenum	mg/kg	0.002	0.010	0.011	0.046
Nickel	mg/kg	0.02	0.04	0.06	0.50
Potassium	mg/kg	1	752	640	2230
Rubidium	mg/kg	0.002	2.64	2.13	6.35
Selenium	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Silver	mg/kg	0.005	< 0.005	< 0.005	< 0.005
Sodium	mg/kg	2	5	6	15
Strontium	mg/kg	0.02	0.99	1.42	1.85
Tellurium	mg/kg	0.002	< 0.002	< 0.002	< 0.002
Thallium	mg/kg	0.002	< 0.002	< 0.002	< 0.002
Tin	mg/kg	0.002	0.017	0.013	2.15
Uranium	mg/kg	0.002	< 0.002	< 0.002	< 0.002
Vanadium	mg/kg	0.02	< 0.02	< 0.02	< 0.02
Zinc	mg/kg	0.02	0.79	0.96	5.51

CERTIFICATE OF ANALYSIS

for
Atlantic Mining NS Group
Atlantic Gold
6749 Moose River Road, RR#2
Middle Musqudoboit, NS B0X 1X0

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Fax: 506.452.0594
www.rpc.ca

Attention: James Millard
Project #: 17-175
Location: Beaver Dam Haul Road

Analysis of Samples

RPC Sample ID:			288107-16	288107-17	288107-18
Client Sample ID:			Berry 6	Berry 7	Berry 8
Date Sampled:			31-Aug-18	31-Aug-18	31-Aug-18
Analytes	**Units**	**RL**			
Aluminum	mg/kg	0.1	0.3	2.7	2.6
Antimony	mg/kg	0.005	< 0.005	< 0.005	< 0.005
Arsenic	mg/kg	0.02	< 0.02	< 0.02	< 0.02
Barium	mg/kg	0.05	0.52	1.61	0.96
Beryllium	mg/kg	0.005	< 0.005	< 0.005	< 0.005
Bismuth	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Boron	mg/kg	0.05	1.86	1.32	0.65
Cadmium	mg/kg	0.0005	0.0203	0.0012	< 0.0005
Calcium	mg/kg	2	136	648	154
Chromium	mg/kg	0.02	0.05	0.03	0.08
Cobalt	mg/kg	0.002	0.010	< 0.002	< 0.002
Copper	mg/kg	0.02	0.83	0.30	0.72
Iron	mg/kg	1	3	2	3
Lead	mg/kg	0.002	< 0.002	0.013	< 0.002
Lithium	mg/kg	0.002	< 0.002	0.002	< 0.002
Magnesium	mg/kg	0.5	287.	268.	77.5
Manganese	mg/kg	0.02	112.	1.76	2.21
Mercury	mg/kg	0.01	< 0.01	< 0.01	< 0.01
Molybdenum	mg/kg	0.002	0.042	0.025	0.013
Nickel	mg/kg	0.02	0.20	0.19	0.12
Potassium	mg/kg	1	1520	1900	1210
Rubidium	mg/kg	0.002	12.5	20.1	5.22
Selenium	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Silver	mg/kg	0.005	< 0.005	< 0.005	< 0.005
Sodium	mg/kg	2	9	19	22
Strontium	mg/kg	0.02	0.90	8.68	1.11
Tellurium	mg/kg	0.002	< 0.002	< 0.002	< 0.002
Thallium	mg/kg	0.002	< 0.002	< 0.002	< 0.002
Tin	mg/kg	0.002	0.622	0.392	0.153
Uranium	mg/kg	0.002	< 0.002	< 0.002	< 0.002
Vanadium	mg/kg	0.02	< 0.02	< 0.02	< 0.02
Zinc	mg/kg	0.02	1.36	0.85	0.76

Report ID: 288107-IAS
Report Date: 24-Sep-18
Date Received: 06-Sep-18

CERTIFICATE OF ANALYSIS

for
Atlantic Mining NS Group
Atlantic Gold
6749 Moose River Road, RR#2
Middle Musqudoboit, NS B0X 1X0

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921 College Hill Rd
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Tel: 506.452.1212
Fax: 506.452.0594
www.rpc.ca

Attention: James Millard
Project #: 17-175
Location: Beaver Dam Haul Road

Analysis of Samples

RPC Sample ID:			288107-19	288107-20
Client Sample ID:			Berry 9	Berry 10
Date Sampled:			31-Aug-18	31-Aug-18
Analytes	**Units**	**RL**		
Aluminum	mg/kg	0.1	1.2	0.4
Antimony	mg/kg	0.005	< 0.005	< 0.005
Arsenic	mg/kg	0.02	< 0.02	< 0.02
Barium	mg/kg	0.05	1.53	2.93
Beryllium	mg/kg	0.005	< 0.005	< 0.005
Bismuth	mg/kg	0.05	< 0.05	< 0.05
Boron	mg/kg	0.05	3.24	2.64
Cadmium	mg/kg	0.0005	0.0271	0.0268
Calcium	mg/kg	2	424	353
Chromium	mg/kg	0.02	0.04	0.03
Cobalt	mg/kg	0.002	0.005	0.052
Copper	mg/kg	0.02	0.95	1.72
Iron	mg/kg	1	6	6
Lead	mg/kg	0.002	0.002	< 0.002
Lithium	mg/kg	0.002	0.003	0.002
Magnesium	mg/kg	0.5	250.	412.
Manganese	mg/kg	0.02	82.3	18.8
Mercury	mg/kg	0.01	< 0.01	< 0.01
Molybdenum	mg/kg	0.002	0.035	0.052
Nickel	mg/kg	0.02	0.45	0.82
Potassium	mg/kg	1	1900	1680
Rubidium	mg/kg	0.002	6.03	13.7
Selenium	mg/kg	0.05	< 0.05	< 0.05
Silver	mg/kg	0.005	< 0.005	< 0.005
Sodium	mg/kg	2	15	13
Strontium	mg/kg	0.02	1.63	3.72
Tellurium	mg/kg	0.002	< 0.002	< 0.002
Thallium	mg/kg	0.002	< 0.002	< 0.002
Tin	mg/kg	0.002	1.96	0.231
Uranium	mg/kg	0.002	< 0.002	< 0.002
Vanadium	mg/kg	0.02	< 0.02	< 0.02
Zinc	mg/kg	0.02	4.16	4.16

Report ID: 288107-IAS
Report Date: 24-Sep-18
Date Received: 06-Sep-18

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Atlantic Gold
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Attention: James Millard
Project #: 17-175
Location: Beaver Dam Haul Road

Analysis of Soil

RPC Sample ID:			288107-01	288107-01 Dup	288107-02
Client Sample ID:			Soil 1	Lab Duplicate	Soil 2
Date Sampled:			31-Aug-18	31-Aug-18	31-Aug-18
Analytes	**Units**	**RL**			
Carbon - Organic	mg/kg	0.01	2.19	2.21	5.34

Report ID: 288107-IAS
Report Date: 24-Sep-18
Date Received: 06-Sep-18

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Attention: James Millard
Project #: 17-175
Location: Beaver Dam Haul Road

Analysis of Soil

RPC Sample ID:			288107-03	288107-04	288107-05
Client Sample ID:			Soil 3	Soil 4	Soil 5
Date Sampled:			31-Aug-18	31-Aug-18	31-Aug-18
Analytes	**Units**	**RL**			
Carbon - Organic	mg/kg	0.01	0.83	7.11	5.46

Report ID: 288107-IAS
Report Date: 24-Sep-18
Date Received: 06-Sep-18

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Attention: James Millard
Project #: 17-175
Location: Beaver Dam Haul Road

Analysis of Soil

RPC Sample ID:			288107-06	288107-07	288107-08
Client Sample ID:			Soil 6	Soil 7	Soil 8
Date Sampled:			31-Aug-18	31-Aug-18	31-Aug-18
Analytes	**Units**	**RL**			
Carbon - Organic	mg/kg	0.01	1.18	9.58	1.17

Report ID: 288107-IAS
Report Date: 24-Sep-18
Date Received: 06-Sep-18

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Attention: James Millard
Project #: 17-175
Location: Beaver Dam Haul Road

Analysis of Soil

RPC Sample ID:			288107-09	288107-10
Client Sample ID:			Soil 9	Soil 10
Date Sampled:			31-Aug-18	31-Aug-18
Analytes	**Units**	**RL**		
Carbon - Organic	mg/kg	0.01	2.79	5.78

Report ID: 288107-IAS
Report Date: 24-Sep-18
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Attention: James Millard
Project #: 17-175
Location: Beaver Dam Haul Road

Analysis of Metals in Soil

RPC Sample ID:			288107-01	288107-01 Dup	288107-02
Client Sample ID:			Soil 1	Lab Duplicate	Soil 2
Date Sampled:			31-Aug-18	31-Aug-18	31-Aug-18
Analytes	**Units**	**RL**			
Aluminum	mg/kg	1	6870	7150	12800
Antimony	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Arsenic	mg/kg	1	1	1	14
Barium	mg/kg	1	12	13	14
Beryllium	mg/kg	0.1	< 0.1	< 0.1	0.2
Bismuth	mg/kg	1	< 1	< 1	< 1
Boron	mg/kg	1	3	3	2
Cadmium	mg/kg	0.01	0.04	0.04	0.09
Calcium	mg/kg	50	260	240	150
Chromium	mg/kg	1	10	10	15
Cobalt	mg/kg	0.1	1.4	1.4	2.7
Copper	mg/kg	1	4	4	6
Iron	mg/kg	20	17500	18000	44700
Lead	mg/kg	0.1	6.8	6.9	13.8
Lithium	mg/kg	0.1	3.2	3.5	9.1
Magnesium	mg/kg	10	1060	1130	1690
Manganese	mg/kg	1	67	73	254
Mercury	mg/kg	0.01	0.03	0.03	0.10
Molybdenum	mg/kg	0.1	< 0.1	< 0.1	0.5
Nickel	mg/kg	1	4	4	7
Potassium	mg/kg	20	350	410	250
Rubidium	mg/kg	0.1	7.0	7.2	5.0
Selenium	mg/kg	1	< 1	< 1	2
Silver	mg/kg	0.1	< 0.1	< 0.1	0.3
Sodium	mg/kg	50	< 50	< 50	< 50
Strontium	mg/kg	1	9	8	4
Tellurium	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Thallium	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Tin	mg/kg	1	< 1	< 1	< 1
Uranium	mg/kg	0.1	0.3	0.3	0.5
Vanadium	mg/kg	1	40	40	28
Zinc	mg/kg	1	10	11	18

Report ID: 288107-IAS
Report Date: 24-Sep-18
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Attention: James Millard
Project #: 17-175
Location: Beaver Dam Haul Road

Analysis of Metals in Soil

RPC Sample ID:			288107-03	288107-04	288107-05
Client Sample ID:			Soil 3	Soil 4	Soil 5
Date Sampled:			31-Aug-18	31-Aug-18	31-Aug-18
Analytes	**Units**	**RL**			
Aluminum	mg/kg	1	5070	2260	22400
Antimony	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Arsenic	mg/kg	1	2	< 1	10
Barium	mg/kg	1	12	23	35
Beryllium	mg/kg	0.1	< 0.1	< 0.1	0.4
Bismuth	mg/kg	1	< 1	1	< 1
Boron	mg/kg	1	< 1	2	3
Cadmium	mg/kg	0.01	0.01	0.11	0.08
Calcium	mg/kg	50	90	450	260
Chromium	mg/kg	1	4	3	21
Cobalt	mg/kg	0.1	1.3	0.9	10.2
Copper	mg/kg	1	2	3	11
Iron	mg/kg	20	4780	3200	32400
Lead	mg/kg	0.1	4.2	9.5	16.4
Lithium	mg/kg	0.1	8.3	1.8	29.6
Magnesium	mg/kg	10	680	470	2850
Manganese	mg/kg	1	160	72	801
Mercury	mg/kg	0.01	0.02	0.07	0.16
Molybdenum	mg/kg	0.1	< 0.1	< 0.1	0.8
Nickel	mg/kg	1	3	2	14
Potassium	mg/kg	20	280	210	870
Rubidium	mg/kg	0.1	8.1	2.1	15.0
Selenium	mg/kg	1	< 1	< 1	2
Silver	mg/kg	0.1	< 0.1	0.1	< 0.1
Sodium	mg/kg	50	< 50	< 50	< 50
Strontium	mg/kg	1	3	8	7
Tellurium	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Thallium	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Tin	mg/kg	1	< 1	< 1	< 1
Uranium	mg/kg	0.1	0.3	0.2	0.9
Vanadium	mg/kg	1	6	7	26
Zinc	mg/kg	1	7	7	36

Report ID: 288107-IAS
Report Date: 24-Sep-18
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CERTIFICATE OF ANALYSIS

for
Atlantic Mining NS Group
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Attention: James Millard
Project #: 17-175
Location: Beaver Dam Haul Road

Analysis of Metals in Soil

RPC Sample ID:			288107-06	288107-07	288107-08
Client Sample ID:			Soil 6	Soil 7	Soil 8
Date Sampled:			31-Aug-18	31-Aug-18	31-Aug-18
Analytes	**Units**	**RL**			
Aluminum	mg/kg	1	7700	5760	2060
Antimony	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Arsenic	mg/kg	1	5	< 1	< 1
Barium	mg/kg	1	12	24	6
Beryllium	mg/kg	0.1	0.1	< 0.1	< 0.1
Bismuth	mg/kg	1	< 1	< 1	< 1
Boron	mg/kg	1	< 1	2	< 1
Cadmium	mg/kg	0.01	0.02	0.16	0.02
Calcium	mg/kg	50	140	300	100
Chromium	mg/kg	1	11	4	2
Cobalt	mg/kg	0.1	2.7	0.9	0.3
Copper	mg/kg	1	3	3	< 1
Iron	mg/kg	20	14300	3570	1340
Lead	mg/kg	0.1	5.4	11.0	2.9
Lithium	mg/kg	0.1	11.1	1.7	1.2
Magnesium	mg/kg	10	2240	500	210
Manganese	mg/kg	1	200	54	27
Mercury	mg/kg	0.01	0.02	0.07	0.01
Molybdenum	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Nickel	mg/kg	1	7	2	< 1
Potassium	mg/kg	20	400	360	120
Rubidium	mg/kg	0.1	6.3	6.0	1.5
Selenium	mg/kg	1	< 1	< 1	< 1
Silver	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Sodium	mg/kg	50	< 50	< 50	< 50
Strontium	mg/kg	1	3	7	2
Tellurium	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Thallium	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Tin	mg/kg	1	< 1	< 1	< 1
Uranium	mg/kg	0.1	0.4	0.7	0.4
Vanadium	mg/kg	1	17	12	3
Zinc	mg/kg	1	16	11	2

Report ID: 288107-IAS
Report Date: 24-Sep-18
Date Received: 06-Sep-18

CERTIFICATE OF ANALYSIS

for
Atlantic Mining NS Group
Atlantic Gold
6749 Moose River Road, RR#2
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www.rpc.ca

Attention: James Millard
Project #: 17-175
Location: Beaver Dam Haul Road

Analysis of Metals in Soil

RPC Sample ID:			288107-09	288107-10
Client Sample ID:			Soil 9	Soil 10
Date Sampled:			31-Aug-18	31-Aug-18
Analytes	**Units**	**RL**		
Aluminum	mg/kg	1	3130	7970
Antimony	mg/kg	0.1	< 0.1	< 0.1
Arsenic	mg/kg	1	< 1	2
Barium	mg/kg	1	26	27
Beryllium	mg/kg	0.1	< 0.1	0.1
Bismuth	mg/kg	1	< 1	< 1
Boron	mg/kg	1	< 1	1
Cadmium	mg/kg	0.01	0.06	0.08
Calcium	mg/kg	50	610	830
Chromium	mg/kg	1	4	12
Cobalt	mg/kg	0.1	4.9	2.7
Copper	mg/kg	1	1	3
Iron	mg/kg	20	4190	16100
Lead	mg/kg	0.1	6.4	9.3
Lithium	mg/kg	0.1	2.0	6.0
Magnesium	mg/kg	10	500	2150
Manganese	mg/kg	1	792	95
Mercury	mg/kg	0.01	0.04	0.07
Molybdenum	mg/kg	0.1	< 0.1	0.3
Nickel	mg/kg	1	4	8
Potassium	mg/kg	20	380	550
Rubidium	mg/kg	0.1	5.3	5.0
Selenium	mg/kg	1	< 1	< 1
Silver	mg/kg	0.1	< 0.1	< 0.1
Sodium	mg/kg	50	< 50	50
Strontium	mg/kg	1	6	10
Tellurium	mg/kg	0.1	< 0.1	< 0.1
Thallium	mg/kg	0.1	< 0.1	< 0.1
Tin	mg/kg	1	< 1	< 1
Uranium	mg/kg	0.1	0.3	0.4
Vanadium	mg/kg	1	7	35
Zinc	mg/kg	1	7	18

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General Report Comments

288107-1 to 288107-10
Samples were air dried and sieved at 2 mm. A portion of each was digested according to EPA Method 3050B.
The resulting solutions were analyzed for trace elements by ICP-MS.
Mercury was analyzed by Cold Vapour AAS (SOP 4.M52 & SOP 4.M53).
A portion of each sample was dried and sieved at 2 mm. Total and Inorganic Carbon were determined using combustion/acid evolution infrared methods. Total Organic Carbon is calculated as the difference.

288107-11 to 288107-20
The samples were homogenized and portions were prepared by Microwave Assisted Digestion in nitric acid (SOP 4.M26).
The resulting solutions were analyzed for trace elements by ICP-MS (SOP 4.M01).
Mercury was analyzed by Cold Vapour AAS (SOP 4.M52 & SOP 4.M53).
Results are reported on an "as received" (wet weight) basis.
† Arsenic could not be reported due to a matrix based interference.

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Project #: 17-175
Location: Beaver Dam Haul Road
QA/QC Report

RPC Sample ID:			CRM088027	RB052177
Type:			CRM NIST1573a	Blank
Analytes	**Units**	**RL**		
Aluminum	mg/kg	0.1	494.	< 0.1
Antimony	mg/kg	0.005	0.026	< 0.005
Arsenic	mg/kg	0.02	†	< 0.02
Barium	mg/kg	0.05	63.9	< 0.05
Beryllium	mg/kg	0.005	0.019	< 0.005
Bismuth	mg/kg	0.05	< 0.05	< 0.05
Boron	mg/kg	0.05	32.5	< 0.05
Cadmium	mg/kg	0.0005	1.53	< 0.0005
Calcium	mg/kg	2	57300	< 2
Chromium	mg/kg	0.02	1.91	< 0.02
Cobalt	mg/kg	0.002	0.551	< 0.002
Copper	mg/kg	0.02	4.36	< 0.02
Iron	mg/kg	1	362	< 1
Lead	mg/kg	0.002	0.585	< 0.002
Lithium	mg/kg	0.002	0.622	< 0.002
Magnesium	mg/kg	0.5	11400	< 0.5
Manganese	mg/kg	0.02	260.	< 0.02
Mercury	mg/kg	0.01	0.03	< 0.01
Molybdenum	mg/kg	0.002	0.559	< 0.002
Nickel	mg/kg	0.02	1.54	< 0.02
Potassium	mg/kg	1	29700	< 1
Rubidium	mg/kg	0.002	16.5	< 0.002
Selenium	mg/kg	0.05	0.10	< 0.05
Silver	mg/kg	0.005	0.012	< 0.005
Sodium	mg/kg	2	136	< 2
Strontium	mg/kg	0.02	102.	< 0.02
Tellurium	mg/kg	0.002	< 0.002	< 0.002
Thallium	mg/kg	0.002	0.042	< 0.002
Tin	mg/kg	0.002	0.034	0.011
Uranium	mg/kg	0.002	0.025	< 0.002
Vanadium	mg/kg	0.02	0.80	< 0.02
Zinc	mg/kg	0.02	30.5	< 0.02

Report ID: 288107-IAS
Report Date: 24-Sep-18
Date Received: 06-Sep-18

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Project #: 17-175
Location: Beaver Dam Haul Road
QA/QC Report

RPC Sample ID:			CRM087844	RB052079
Type:			CRM NIST2709a	Blank
Analytes	**Units**	**RL**		
Aluminum	mg/kg	1	26900	2
Antimony	mg/kg	0.1	0.1	< 0.1
Arsenic	mg/kg	1	8	< 1
Barium	mg/kg	1	437	< 1
Beryllium	mg/kg	0.1	0.8	< 0.1
Bismuth	mg/kg	1	< 1	< 1
Boron	mg/kg	1	37	< 1
Cadmium	mg/kg	0.01	0.35	< 0.01
Calcium	mg/kg	50	14800	< 50
Chromium	mg/kg	1	77	< 1
Cobalt	mg/kg	0.1	12.1	< 0.1
Copper	mg/kg	1	31	< 1
Iron	mg/kg	20	31900	< 20
Lead	mg/kg	0.1	11.6	< 0.1
Lithium	mg/kg	0.1	37.0	< 0.1
Magnesium	mg/kg	10	12400	< 10
Manganese	mg/kg	1	475	< 1
Mercury	mg/kg	0.01	0.89	< 0.01
Molybdenum	mg/kg	0.1	0.9	0.1
Nickel	mg/kg	1	77	< 1
Potassium	mg/kg	20	3740	< 20
Rubidium	mg/kg	0.1	33.7	< 0.1
Selenium	mg/kg	1	1	< 1
Silver	mg/kg	0.1	0.1	< 0.1
Sodium	mg/kg	50	560	< 50
Strontium	mg/kg	1	109	< 1
Tellurium	mg/kg	0.1	< 0.1	< 0.1
Thallium	mg/kg	0.1	0.2	0.2
Tin	mg/kg	1	< 1	5
Uranium	mg/kg	0.1	1.8	< 0.1
Vanadium	mg/kg	1	71	< 1
Zinc	mg/kg	1	97	< 1

CERTIFICATE OF ANALYSIS

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Atlantic Gold
6749 Moose River Road, RR#2
Middle Musqudoboit, NS B0X 1X0

rpc
921 College Hill Rd
Fredericton NB
Canada E3B 6Z9
Tel: 506.452.1212
Fax: 506.452.0594
www.rpc.ca

Methods

Analyte	RPC SOP #	Method Reference	Method Principle
EPA 3050B Digestion	4.M19	EPA 3050B	Nitric Acid/Hydrogen Peroxide Digestion
Trace Metals	4.M01/4.M29	EPA 200.8/EPA 200.7	ICP-MS/ICP-ES
Mercury	4.M53	EPA 245.5	Cold Vapor AAS

Report ID: 290705-IAS
Report Date: 10-Oct-18
Date Received: 26-Sep-18

CERTIFICATE OF ANALYSIS

for
Intrinsik Environmental Sciences Inc
5121 Sackville Street, Suite 506
Halifax, NS B3J 1K1

rpc
921 College Hill Rd
Fredericton NB
Canada E3B 6Z9
Tel: 506.452.1212
Fax: 506.452.0594
www.rpc.ca

Attention: Christine Moore
Project #: Not Available
Location: Atlantic Mining

Analysis of Samples

RPC Sample ID:			290705-01	290705-01 Dup	290705-02
Client Sample ID:			Veg 1	Lab Duplicate	Veg 2
Date Sampled:			31-Aug-18	31-Aug-18	31-Aug-18
Analytes	**Units**	**RL**			
Moisture	%	0.1	56.8	57.9	62.2

This report relates only to the sample(s) and information provided to the laboratory.

RL = Reporting Limit

<Original signed by>

<Original signed by>

Ross Kean
Department Head
Inorganic Analytical Chemistry

Peter Crowhurst
Analytical Chemist
Inorganic Analytical Chemistry

Report ID: 290705-IAS
Report Date: 10-Oct-18
Date Received: 26-Sep-18

CERTIFICATE OF ANALYSIS
for
Intrinsik Environmental
Sciences Inc
5121 Sackville Street, Suite 506
Halifax, NS B3J 1K1

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Tel: 506.452.1212
Fax: 506.452.0594
www.rpc.ca

Attention: Christine Moore
Project #: Not Available
Location: Atlantic Mining

Analysis of Samples

RPC Sample ID:			290705-03	290705-04	290705-05
Client Sample ID:			Veg 3	Veg 4	Veg 5
Date Sampled:			31-Aug-18	31-Aug-18	31-Aug-18
Analytes	**Units**	**RL**			
Moisture	%	0.1	77.3	55.8	71.5

Report ID: 290705-IAS
Report Date: 10-Oct-18
Date Received: 26-Sep-18

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Tel: 506.452.1212
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www.rpc.ca

Attention: Christine Moore
Project #: Not Available
Location: Atlantic Mining

Analysis of Samples

RPC Sample ID:			290705-06	290705-07	290705-08
Client Sample ID:			Veg 6	Veg 7	Veg 8
Date Sampled:			31-Aug-18	31-Aug-18	31-Aug-18
Analytes	**Units**	**RL**			
Moisture	%	0.1	†	72.5	61.8

Report ID: 290705-IAS
Report Date: 10-Oct-18
Date Received: 26-Sep-18

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Intrinsik Environmental Sciences Inc
5121 Sackville Street, Suite 506
Halifax, NS B3J 1K1

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Canada E3B 6Z9
Tel: 506.452.1212
Fax: 506.452.0594
www.rpc.ca

Attention: Christine Moore
Project #: Not Available
Location: Atlantic Mining

Analysis of Samples

RPC Sample ID:			290705-09	290705-10
Client Sample ID:			Veg 9	Veg 10
Date Sampled:			31-Aug-18	31-Aug-18
Analytes	**Units**	**RL**		
Moisture	%	0.1	76.9	78.2

Report ID: 290705-IAS
Report Date: 10-Oct-18
Date Received: 26-Sep-18

CERTIFICATE OF ANALYSIS

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Canada E3B 6Z9
Tel: 506.452.1212
Fax: 506.452.0594
www.rpc.ca

Attention: Christine Moore
Project #: Not Available
Location: Atlantic Mining

Analysis of Samples

RPC Sample ID:			290705-01	290705-01 Dup	290705-02
Client Sample ID:			Veg 1	Lab Duplicate	Veg 2
Date Sampled:			31-Aug-18	31-Aug-18	31-Aug-18
Analytes	**Units**	**RL**			
Aluminum	mg/kg	0.1	47.8	51.0	12.6
Antimony	mg/kg	0.005	< 0.005	< 0.005	< 0.005
Arsenic	mg/kg	0.02	< 0.02	< 0.02	< 0.02
Barium	mg/kg	0.05	46.5	49.2	22.1
Beryllium	mg/kg	0.005	< 0.005	< 0.005	< 0.005
Bismuth	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Boron	mg/kg	0.05	19.0	19.6	15.7
Cadmium	mg/kg	0.0005	0.0019	0.0018	0.0423
Calcium	mg/kg	2	3610	3680	2580
Chromium	mg/kg	0.02	0.08	0.08	0.04
Cobalt	mg/kg	0.002	0.017	0.012	0.037
Copper	mg/kg	0.02	2.28	2.14	2.35
Iron	mg/kg	1	34	32	25
Lead	mg/kg	0.002	0.027	0.028	0.023
Lithium	mg/kg	0.002	0.036	0.030	0.008
Magnesium	mg/kg	0.5	1250	1270	1210
Manganese	mg/kg	0.02	803.	692.	1110
Mercury	mg/kg	0.01	< 0.01	< 0.01	< 0.01
Molybdenum	mg/kg	0.002	0.026	0.025	0.055
Nickel	mg/kg	0.02	0.62	0.62	0.94
Potassium	mg/kg	1	2150	2150	3230
Rubidium	mg/kg	0.002	14.6	14.7	25.8
Selenium	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Silver	mg/kg	0.005	< 0.005	< 0.005	< 0.005
Sodium	mg/kg	2	20	21	7
Strontium	mg/kg	0.02	27.4	27.3	19.8
Tellurium	mg/kg	0.002	< 0.002	< 0.002	< 0.002
Thallium	mg/kg	0.002	< 0.002	< 0.002	0.002
Tin	mg/kg	0.002	0.055	0.020	0.015
Uranium	mg/kg	0.002	< 0.002	< 0.002	< 0.002
Vanadium	mg/kg	0.02	0.04	0.03	< 0.02
Zinc	mg/kg	0.02	5.53	5.41	4.72

Report ID: 290705-IAS
Report Date: 10-Oct-18
Date Received: 26-Sep-18

CERTIFICATE OF ANALYSIS

for
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5121 Sackville Street, Suite 506
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Tel: 506.452.1212
Fax: 506.452.0594
www.rpc.ca

Attention: Christine Moore
Project #: Not Available
Location: Atlantic Mining

Analysis of Samples

RPC Sample ID:			290705-03	290705-04	290705-05
Client Sample ID:			Veg 3	Veg 4	Veg 5
Date Sampled:			31-Aug-18	31-Aug-18	31-Aug-18
Analytes	**Units**	**RL**			
Aluminum	mg/kg	0.1	49.6	7.6	10.0
Antimony	mg/kg	0.005	< 0.005	< 0.005	< 0.005
Arsenic	mg/kg	0.02	< 0.02	< 0.02	< 0.02
Barium	mg/kg	0.05	17.2	18.4	10.3
Beryllium	mg/kg	0.005	< 0.005	< 0.005	< 0.005
Bismuth	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Boron	mg/kg	0.05	8.36	9.09	10.7
Cadmium	mg/kg	0.0005	0.0009	0.0012	0.0422
Calcium	mg/kg	2	1870	2730	2030
Chromium	mg/kg	0.02	0.03	0.05	0.04
Cobalt	mg/kg	0.002	0.028	0.069	0.005
Copper	mg/kg	0.02	0.67	1.82	1.40
Iron	mg/kg	1	19	43	21
Lead	mg/kg	0.002	0.011	0.031	0.011
Lithium	mg/kg	0.002	0.018	0.149	0.006
Magnesium	mg/kg	0.5	570.	1110	1110
Manganese	mg/kg	0.02	1440	554.	921.
Mercury	mg/kg	0.01	< 0.01	< 0.01	< 0.01
Molybdenum	mg/kg	0.002	0.013	0.119	0.045
Nickel	mg/kg	0.02	0.77	0.88	0.23
Potassium	mg/kg	1	980	1900	1740
Rubidium	mg/kg	0.002	3.28	5.96	5.13
Selenium	mg/kg	0.05	0.11	< 0.05	< 0.05
Silver	mg/kg	0.005	< 0.005	< 0.005	< 0.005
Sodium	mg/kg	2	23	365	11
Strontium	mg/kg	0.02	19.0	19.2	10.7
Tellurium	mg/kg	0.002	< 0.002	< 0.002	< 0.002
Thallium	mg/kg	0.002	< 0.002	0.002	< 0.002
Tin	mg/kg	0.002	0.020	0.007	0.015
Uranium	mg/kg	0.002	< 0.002	< 0.002	< 0.002
Vanadium	mg/kg	0.02	< 0.02	< 0.02	< 0.02
Zinc	mg/kg	0.02	2.51	11.0	5.23

Report ID: 290705-IAS
Report Date: 10-Oct-18
Date Received: 26-Sep-18

CERTIFICATE OF ANALYSIS

for
Intrinsik Environmental Sciences Inc
5121 Sackville Street, Suite 506
Halifax, NS B3J 1K1

rpc
921 College Hill Rd
Fredericton NB
Canada E3B 6Z9
Tel: 506.452.1212
Fax: 506.452.0594
www.rpc.ca

Attention: Christine Moore
Project #: Not Available
Location: Atlantic Mining

Analysis of Samples

RPC Sample ID:			290705-06	290705-07	290705-08
Client Sample ID:			Veg 6	Veg 7	Veg 8
Date Sampled:			31-Aug-18	31-Aug-18	31-Aug-18
Analytes	**Units**	**RL**			
Aluminum	mg/kg	0.1	24.6	208.	34.9
Antimony	mg/kg	0.005	< 0.005	< 0.005	< 0.005
Arsenic	mg/kg	0.02	< 0.02	< 0.02	< 0.02
Barium	mg/kg	0.05	8.51	23.7	37.4
Beryllium	mg/kg	0.005	< 0.005	< 0.005	< 0.005
Bismuth	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Boron	mg/kg	0.05	8.73	12.8	9.36
Cadmium	mg/kg	0.0005	0.0254	0.0043	0.0019
Calcium	mg/kg	2	1150	8910	4120
Chromium	mg/kg	0.02	0.07	0.05	0.06
Cobalt	mg/kg	0.002	0.017	0.005	0.011
Copper	mg/kg	0.02	1.56	0.62	1.29
Iron	mg/kg	1	24	23	17
Lead	mg/kg	0.002	0.009	0.327	0.015
Lithium	mg/kg	0.002	0.012	0.020	0.011
Magnesium	mg/kg	0.5	709.	2610	1130
Manganese	mg/kg	0.02	751.	30.5	140.
Mercury	mg/kg	0.01	< 0.01	< 0.01	< 0.01
Molybdenum	mg/kg	0.002	0.023	0.032	0.010
Nickel	mg/kg	0.02	0.20	0.14	0.71
Potassium	mg/kg	1	1040	3270	2250
Rubidium	mg/kg	0.002	5.26	12.5	6.45
Selenium	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Silver	mg/kg	0.005	< 0.005	< 0.005	< 0.005
Sodium	mg/kg	2	13	6	14
Strontium	mg/kg	0.02	7.97	68.1	28.7
Tellurium	mg/kg	0.002	< 0.002	< 0.002	< 0.002
Thallium	mg/kg	0.002	< 0.002	< 0.002	< 0.002
Tin	mg/kg	0.002	0.036	0.017	0.013
Uranium	mg/kg	0.002	< 0.002	< 0.002	< 0.002
Vanadium	mg/kg	0.02	< 0.02	0.05	< 0.02
Zinc	mg/kg	0.02	3.47	5.18	3.23

Report ID: 290705-IAS
Report Date: 10-Oct-18
Date Received: 26-Sep-18

CERTIFICATE OF ANALYSIS

for
Intrinsik Environmental Sciences Inc
5121 Sackville Street, Suite 506
Halifax, NS B3J 1K1

rpc
921 College Hill Rd
Fredericton NB
Canada E3B 6Z9
Tel: 506.452.1212
Fax: 506.452.0594
www.rpc.ca

Attention: Christine Moore
Project #: Not Available
Location: Atlantic Mining

Analysis of Samples

RPC Sample ID:			290705-09	290705-10
Client Sample ID:			Veg 9	Veg 10
Date Sampled:			31-Aug-18	31-Aug-18
Analytes	**Units**	**RL**		
Aluminum	mg/kg	0.1	12.2	30.5
Antimony	mg/kg	0.005	< 0.005	< 0.005
Arsenic	mg/kg	0.02	0.04	< 0.02
Barium	mg/kg	0.05	15.4	32.5
Beryllium	mg/kg	0.005	< 0.005	< 0.005
Bismuth	mg/kg	0.05	< 0.05	< 0.05
Boron	mg/kg	0.05	11.9	15.3
Cadmium	mg/kg	0.0005	0.0765	0.0593
Calcium	mg/kg	2	2640	2260
Chromium	mg/kg	0.02	0.04	0.05
Cobalt	mg/kg	0.002	0.009	0.053
Copper	mg/kg	0.02	1.14	1.79
Iron	mg/kg	1	22	21
Lead	mg/kg	0.002	0.011	0.045
Lithium	mg/kg	0.002	0.015	0.013
Magnesium	mg/kg	0.5	804.	1840
Manganese	mg/kg	0.02	968.	113.
Mercury	mg/kg	0.01	< 0.01	< 0.01
Molybdenum	mg/kg	0.002	0.073	0.087
Nickel	mg/kg	0.02	0.54	0.53
Potassium	mg/kg	1	3250	1540
Rubidium	mg/kg	0.002	6.44	8.31
Selenium	mg/kg	0.05	< 0.05	< 0.05
Silver	mg/kg	0.005	< 0.005	< 0.005
Sodium	mg/kg	2	14	9
Strontium	mg/kg	0.02	12.5	30.6
Tellurium	mg/kg	0.002	< 0.002	< 0.002
Thallium	mg/kg	0.002	0.022	0.004
Tin	mg/kg	0.002	0.008	0.062
Uranium	mg/kg	0.002	< 0.002	< 0.002
Vanadium	mg/kg	0.02	< 0.02	0.04
Zinc	mg/kg	0.02	7.73	10.4

CERTIFICATE OF ANALYSIS

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Tel: 506.452.1212
Fax: 506.452.0594
www.rpc.ca

General Report Comments

The samples were homogenized and portions were prepared by Microwave Assisted Digestion in nitric acid (SOP 4.M26).
The resulting solutions were analyzed for trace elements by ICP-MS (SOP 4.M01).
Mercury was analyzed by Cold Vapour AAS (SOP 4.M52 & SOP 4.M53).
Results are reported on an "as received" (wet weight) basis.
† The sample was mis-placed prior to sub-sampling for Moisture analysis.

Report ID: 289142-IAS Rev01
Report Date: 01-Oct-18
Date Received: 14-Sep-18

*** Revised Report ***

CERTIFICATE OF ANALYSIS

for
Atlantic Mining NS Group
Atlantic Gold
6749 Moose River Road, RR#2
Middle Musqudoboit, NS B0X 1X0

rpc
921 College Hill Rd
Fredericton NB
Canada E3B 6Z9
Tel: 506.452.1212
Fax: 506.452.0594
www.rpc.ca

Attention: James Millard
Project #: 17-175
Location: Beaver Dam Haul Road

Analysis of Samples

RPC Sample ID:			289142-2	289142-3
Client Sample ID:			Berry II	Vegetation II
Date Sampled:			5-Sep-18	5-Sep-18
Analytes	**Units**	**RL**		
Aluminum	mg/kg	0.1	3.3	70.6
Antimony	mg/kg	0.005	< 0.005	< 0.005
Arsenic	mg/kg	0.02	< 0.02	< 0.02
Barium	mg/kg	0.05	0.57	35.4
Beryllium	mg/kg	0.005	< 0.005	< 0.005
Bismuth	mg/kg	0.05	< 0.05	< 0.05
Boron	mg/kg	0.05	2.47	25.1
Cadmium	mg/kg	0.0005	0.0109	0.0455
Calcium	mg/kg	2	140	3260
Chromium	mg/kg	0.02	0.03	0.14
Cobalt	mg/kg	0.002	0.014	0.023
Copper	mg/kg	0.02	1.16	3.39
Iron	mg/kg	1	6	29
Lead	mg/kg	0.002	< 0.002	0.016
Lithium	mg/kg	0.002	0.006	0.013
Magnesium	mg/kg	0.5	310.	1040
Manganese	mg/kg	0.02	65.7	1430
Mercury	mg/kg	0.01	< 0.01	< 0.01
Molybdenum	mg/kg	0.002	0.033	0.046
Nickel	mg/kg	0.02	0.19	0.66
Potassium	mg/kg	1	2310	3200
Rubidium	mg/kg	0.002	5.14	5.24
Selenium	mg/kg	0.05	< 0.05	< 0.05
Silver	mg/kg	0.005	< 0.005	< 0.005
Sodium	mg/kg	2	19	6
Strontium	mg/kg	0.02	0.87	20.9
Tellurium	mg/kg	0.002	< 0.002	< 0.002
Thallium	mg/kg	0.002	< 0.002	< 0.002
Tin	mg/kg	0.002	0.710	0.006
Uranium	mg/kg	0.002	< 0.002	< 0.002
Vanadium	mg/kg	0.02	< 0.02	< 0.02
Zinc	mg/kg	0.02	1.78	13.3

This report relates only to the sample(s) and information provided to the laboratory.

RL = Reporting Limit

<Original signed by>

<Original signed by>

Ross Kean
Department Head
Inorganic Analytical Chemistry

Peter Crowhurst
Analytical Chemist
Inorganic Analytical Chemistry

Report ID: 289142-IAS Rev01
Report Date: 01-Oct-18
Date Received: 14-Sep-18

CERTIFICATE OF ANALYSIS

for
Atlantic Mining NS Group
Atlantic Gold
6749 Moose River Road, RR#2
Middle Musqudoboit, NS B0X 1X0

*** Revised Report ***

rpc
921 College Hill Rd
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Canada E3B 6Z9
Tel: 506.452.1212
Fax: 506.452.0594
www.rpc.ca

Attention: James Millard
Project #: 17-175
Location: Beaver Dam Haul Road

Analysis of Soil

RPC Sample ID:			289142-1	289142-1 Dup
Client Sample ID:			Soil II	Lab Duplicate
Date Sampled:			5-Sep-18	5-Sep-18
Analytes	**Units**	**RL**		
Carbon - Organic	mg/kg	0.01	3.35	3.54

Report ID: 289142-IAS Rev01
Report Date: 01-Oct-18
Date Received: 14-Sep-18

CERTIFICATE OF ANALYSIS

for
Atlantic Mining NS Group
Atlantic Gold
6749 Moose River Road, RR#2
Middle Musqudoboit, NS B0X 1X0

*** Revised Report ***

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Tel: 506.452.1212
Fax: 506.452.0594
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Attention: James Millard
Project #: 17-175
Location: Beaver Dam Haul Road

Analysis of Metals in Soil

RPC Sample ID:			289142-1
Client Sample ID:			Soil II
Date Sampled:			5-Sep-18
Analytes	**Units**	**RL**	
Aluminum	mg/kg	1	27400
Antimony	mg/kg	0.1	< 0.1
Arsenic	mg/kg	1	8
Barium	mg/kg	1	49
Beryllium	mg/kg	0.1	0.5
Bismuth	mg/kg	1	< 1
Boron	mg/kg	1	< 1
Cadmium	mg/kg	0.01	0.07
Calcium	mg/kg	50	180
Chromium	mg/kg	1	26
Cobalt	mg/kg	0.1	20.0
Copper	mg/kg	1	10
Iron	mg/kg	20	29200
Lead	mg/kg	0.1	16.6
Lithium	mg/kg	0.1	53.9
Magnesium	mg/kg	10	4500
Manganese	mg/kg	1	3450
Mercury	mg/kg	0.01	0.10
Molybdenum	mg/kg	0.1	0.5
Nickel	mg/kg	1	18
Potassium	mg/kg	20	1020
Rubidium	mg/kg	0.1	26.3
Selenium	mg/kg	1	2
Silver	mg/kg	0.1	< 0.1
Sodium	mg/kg	50	60
Strontium	mg/kg	1	7
Tellurium	mg/kg	0.1	< 0.1
Thallium	mg/kg	0.1	0.2
Tin	mg/kg	1	< 1
Uranium	mg/kg	0.1	1.2
Vanadium	mg/kg	1	24
Zinc	mg/kg	1	57

CERTIFICATE OF ANALYSIS

for
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General Report Comments

289142-1
Sample was air dried and sieved at 2 mm. A portion was digested according to EPA Method 3050B.
The resulting solution was analyzed for trace elements by ICP-MS.
Mercury was analyzed by Cold Vapour AAS (SOP 4.M52 & SOP 4.M53).
A portion of the sample was dried and sieved at 2 mm. Total and Inorganic Carbon were determined using combustion/acid evolution infrared methods. Total Organic Carbon is calculated as the difference.

289142-2 & 289142-3
The samples were homogenized and portions were prepared by Microwave Assisted Digestion in nitric acid (SOP 4.M26).
The resulting solutions were analyzed for trace elements by ICP-MS (SOP 4.M01).
Mercury was analyzed by Cold Vapour AAS (SOP 4.M52 & SOP 4.M53).
Results are reported on an "as received" (wet weight) basis.

Revision Comments

Incorrect results were reported due to a calculation error.
Results have been revised.

CERTIFICATE OF ANALYSIS

for
Atlantic Mining NS Group
Atlantic Gold
6749 Moose River Road, RR#2
Middle Musqudoboit, NS B0X 1X0

rpc
921 College Hill Rd
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Canada E3B 6Z9
Tel: 506.452.1212
Fax: 506.452.0594
www.rpc.ca

Project #: 17-175
Location: Beaver Dam Haul Road
QA/QC Report

RPC Sample ID:			RB052179
Type:			Blank
Analytes	**Units**	**RL**	
Aluminum	mg/kg	0.1	< 0.1
Antimony	mg/kg	0.005	0.005
Arsenic	mg/kg	0.02	< 0.02
Barium	mg/kg	0.05	< 0.05
Beryllium	mg/kg	0.005	< 0.005
Bismuth	mg/kg	0.05	0.10
Boron	mg/kg	0.05	< 0.05
Cadmium	mg/kg	0.0005	< 0.0005
Calcium	mg/kg	2	< 2
Chromium	mg/kg	0.02	< 0.02
Cobalt	mg/kg	0.002	< 0.002
Copper	mg/kg	0.02	< 0.02
Iron	mg/kg	1	< 1
Lead	mg/kg	0.002	< 0.002
Lithium	mg/kg	0.002	< 0.002
Magnesium	mg/kg	0.5	< 0.5
Manganese	mg/kg	0.02	< 0.02
Mercury	mg/kg	0.01	< 0.01
Molybdenum	mg/kg	0.002	0.004
Nickel	mg/kg	0.02	< 0.02
Potassium	mg/kg	1	< 1
Rubidium	mg/kg	0.002	< 0.002
Selenium	mg/kg	0.05	< 0.05
Silver	mg/kg	0.005	< 0.005
Sodium	mg/kg	2	< 2
Strontium	mg/kg	0.02	< 0.02
Tellurium	mg/kg	0.002	< 0.002
Thallium	mg/kg	0.002	< 0.002
Tin	mg/kg	0.002	0.003
Uranium	mg/kg	0.002	< 0.002
Vanadium	mg/kg	0.02	< 0.02
Zinc	mg/kg	0.02	0.02

Report ID: 289142-IAS Rev01
Report Date: 01-Oct-18
Date Received: 14-Sep-18

CERTIFICATE OF ANALYSIS

for
Atlantic Mining NS Group
Atlantic Gold
6749 Moose River Road, RR#2
Middle Musqudoboit, NS B0X 1X0

rpc
921 College Hill Rd
Fredericton NB
Canada E3B 6Z9
Tel: 506.452.1212
Fax: 506.452.0594
www.rpc.ca

Project #: 17-175
Location: Beaver Dam Haul Road
QA/QC Report

RPC Sample ID:			CRM088117	RB052223
Type:			CRM NIST2709a	Blank
Analytes	**Units**	**RL**		
Aluminum	mg/kg	1	26400	< 1
Antimony	mg/kg	0.1	0.1	< 0.1
Arsenic	mg/kg	1	8	< 1
Barium	mg/kg	1	429	< 1
Beryllium	mg/kg	0.1	0.8	< 0.1
Bismuth	mg/kg	1	< 1	< 1
Boron	mg/kg	1	35	11
Cadmium	mg/kg	0.01	0.36	< 0.01
Calcium	mg/kg	50	13200	< 50
Chromium	mg/kg	1	72	< 1
Cobalt	mg/kg	0.1	11.7	< 0.1
Copper	mg/kg	1	30	< 1
Iron	mg/kg	20	30900	< 20
Lead	mg/kg	0.1	11.4	< 0.1
Lithium	mg/kg	0.1	35.6	< 0.1
Magnesium	mg/kg	10	12500	< 10
Manganese	mg/kg	1	465	< 1
Mercury	mg/kg	0.01	0.81	< 0.01
Molybdenum	mg/kg	0.1	0.4	0.7
Nickel	mg/kg	1	75	< 1
Potassium	mg/kg	20	3710	70
Rubidium	mg/kg	0.1	32.5	< 0.1
Selenium	mg/kg	1	< 1	< 1
Silver	mg/kg	0.1	0.2	< 0.1
Sodium	mg/kg	50	560	< 50
Strontium	mg/kg	1	107	< 1
Tellurium	mg/kg	0.1	< 0.1	< 0.1
Thallium	mg/kg	0.1	0.2	< 0.1
Tin	mg/kg	1	< 1	5
Uranium	mg/kg	0.1	1.8	< 0.1
Vanadium	mg/kg	1	65	< 1
Zinc	mg/kg	1	96	< 1

CERTIFICATE OF ANALYSIS
for
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6749 Moose River Road, RR#2
Middle Musqudoboit, NS B0X 1X0

rpc
921 College Hill Rd
Fredericton NB
Canada E3B 6Z9
Tel: 506.452.1212
Fax: 506.452.0594
www.rpc.ca

Methods

Analyte	RPC SOP #	Method Reference	Method Principle
EPA 3050B Digestion	4.M19	EPA 3050B	Nitric Acid/Hydrogen Peroxide Digestion
Trace Metals	4.M01/4.M29	EPA 200.8/EPA 200.7	ICP-MS/ICP-ES
Mercury	4.M53	EPA 245.5	Cold Vapor AAS

Appendix D – Dust Exposure Model, Human Exposure and Predicted Risk

Operational Assessment

Summary of Maximum RQ or ILCR Values for the Indigenous Receptor				
Area	**Chemical**	**Baseline**	**Project**	**Project + Baseline**
Non-carcinogens				
Haul Road_Max	Aluminum	8.2E-01	2.7E-02	8.5E-01
Haul Road_Max	Antimony	3.0E-02	9.7E-04	3.1E-02
Haul Road_Max	Arsenic	1.7E-01	1.9E-02	1.9E-01
Haul Road_Max	Barium	9.5E-03	1.1E-04	9.6E-03
Haul Road_Max	Beryllium	5.4E-03	3.4E-05	5.4E-03
Haul Road_Max	Boron	6.8E-03	3.1E-05	6.9E-03
Haul Road_Max	Cadmium	9.2E-03	3.2E-04	9.6E-03
Haul Road_Max	Chromium	1.4E-01	8.3E-03	1.5E-01
Haul Road_Max	Cobalt	5.8E-02	4.0E-03	6.2E-02
Haul Road_Max	Copper	1.3E-02	1.9E-03	1.5E-02
Haul Road_Max	Lead	1.5E-01	4.0E-03	1.5E-01
Haul Road_Max	Manganese	5.3E-01	1.6E-03	5.4E-01
Haul Road_Max	Inorganicmercury	8.3E-02	1.8E-02	1.0E-01
Haul Road_Max	Methylmercury	7.3E-01	1.7E-01	9.0E-01
Haul Road_Max	Molybdenum	1.0E-03	1.3E-04	1.2E-03
Haul Road_Max	Nickel	2.5E-02	1.1E-03	2.6E-02
Haul Road_Max	Silver	4.9E-04	1.1E-05	5.0E-04
Haul Road_Max	Strontium	3.8E-03	1.2E-05	3.8E-03
Haul Road_Max	Vanadium	9.0E-02	4.0E-03	9.4E-02
Haul Road_Max	Zinc	6.2E-03	1.7E-03	7.9E-03
Haul Road_Average	Aluminum	8.4E-01	1.3E-02	8.5E-01
Haul Road_Average	Antimony	3.1E-02	4.8E-04	3.1E-02
Haul Road_Average	Arsenic	1.8E-01	9.4E-03	1.9E-01
Haul Road_Average	Barium	1.8E-02	6.4E-05	1.8E-02
Haul Road_Average	Beryllium	5.4E-03	1.7E-05	5.4E-03
Haul Road_Average	Boron	1.3E-02	2.1E-05	1.3E-02
Haul Road_Average	Cadmium	1.7E-02	2.9E-04	1.7E-02
Haul Road_Average	Chromium	1.6E-01	3.9E-03	1.6E-01
Haul Road_Average	Cobalt	6.2E-02	2.4E-03	6.5E-02
Haul Road_Average	Copper	1.7E-02	1.8E-03	1.8E-02
Haul Road_Average	Lead	1.5E-01	2.9E-03	1.5E-01
Haul Road_Average	Manganese	1.0E+00	1.0E-03	1.0E+00
Haul Road_Average	Inorganicmercury	8.9E-02	1.8E-02	1.1E-01
Haul Road_Average	Methylmercury	7.3E-01	1.7E-01	9.0E-01
Haul Road_Average	Molybdenum	1.6E-03	1.3E-04	1.7E-03
Haul Road_Average	Nickel	3.8E-02	7.9E-04	3.8E-02
Haul Road_Average	Silver	6.1E-04	8.1E-06	6.2E-04
Haul Road_Average	Strontium	6.6E-03	7.7E-06	6.6E-03
Haul Road_Average	Vanadium	9.2E-02	1.9E-03	9.4E-02
Haul Road_Average	Zinc	8.7E-03	1.7E-03	1.0E-02
Carcinogens				
Haul Road_Max	Arsenic_cancer	**1.3E+00**	2.6E-01	**1.6E+00**
Haul Road_Average	Arsenic_cancer	**1.5E+00**	1.7E-01	**1.6E+00**

Detailed Summary of Risk Quotient (RQ) Values for Indigenous Receptors

Area	Scenario	Chemical	Abbreviation	Type	Infant	Toddler	Child	Adolescent	Adult	Max	ILCR
Haul Road_Average	Baseline	Aluminum	Haul Road_Average_Baseline_Aluminum	RfD	3.93E-01	8.39E-01	1.54E-01	1.04E-01	9.54E-02	8.39E-01	0.00E+00
Haul Road_Average	Baseline	Antimony	Haul Road_Average_Baseline_Antimony	RfD	6.27E-04	3.10E-02	2.44E-02	1.65E-02	1.41E-02	3.10E-02	0.00E+00
Haul Road_Average	Baseline	Arsenic	Haul Road_Average_Baseline_Arsenic	RfD	8.35E-02	1.78E-01	3.60E-02	1.98E-02	1.83E-02	1.78E-01	0.00E+00
Haul Road_Average	Baseline	Arsenic_cancer	Haul Road_Average_Baseline_Arsenic_cancer	RsD	2.61E-02	5.02E-01	1.57E-01	9.88E-02	6.88E-01	0.00E+00	1.47E+00
Haul Road_Average	Baseline	Barium	Haul Road_Average_Baseline_Barium	RfD	4.39E-04	1.78E-02	1.23E-02	1.24E-02	1.15E-02	1.78E-02	0.00E+00
Haul Road_Average	Baseline	Beryllium	Haul Road_Average_Baseline_Beryllium	RfD	5.01E-04	5.40E-03	3.76E-03	2.49E-03	2.12E-03	5.40E-03	0.00E+00
Haul Road_Average	Baseline	Boron	Haul Road_Average_Baseline_Boron	RfD	3.76E-05	1.29E-02	1.08E-02	8.45E-03	8.45E-03	1.29E-02	0.00E+00
Haul Road_Average	Baseline	Cadmium	Haul Road_Average_Baseline_Cadmium	RfD	2.76E-04	1.66E-02	1.60E-02	9.53E-03	1.01E-02	1.66E-02	0.00E+00
Haul Road_Average	Baseline	Chromium	Haul Road_Average_Baseline_Chromium	RfD	5.26E-02	1.59E-01	6.86E-02	3.87E-02	4.18E-02	1.59E-01	0.00E+00
Haul Road_Average	Baseline	Cobalt	Haul Road_Average_Baseline_Cobalt	RfD	1.83E-02	6.23E-02	2.70E-02	1.79E-02	2.05E-02	6.23E-02	0.00E+00
Haul Road_Average	Baseline	Copper	Haul Road_Average_Baseline_Copper	RfD	2.75E-04	1.66E-02	1.44E-02	9.21E-03	9.37E-03	1.66E-02	0.00E+00
Haul Road_Average	Baseline	Lead	Haul Road_Average_Baseline_Lead	RfD	6.85E-02	1.51E-01	3.15E-02	2.06E-02	1.80E-02	1.51E-01	0.00E+00
Haul Road_Average	Baseline	Manganese	Haul Road_Average_Baseline_Manganese	RfD	1.48E-02	1.00E+00	6.99E-01	7.06E-01	6.59E-01	1.00E+00	0.00E+00
Haul Road_Average	Baseline	Inorganicmercury	Haul Road_Average_Baseline_Inorganicmercury	RfD	8.19E-04	8.94E-02	7.11E-02	4.96E-02	5.78E-02	8.94E-02	0.00E+00
Haul Road_Average	Baseline	Methylmercury	Haul Road_Average_Baseline_Methylmercury	RfD	2.51E-05	7.30E-01	5.96E-01	4.05E-01	3.71E-01	7.30E-01	0.00E+00
Haul Road_Average	Baseline	Molybdenum	Haul Road_Average_Baseline_Molybdenum	RfD	5.45E-05	1.58E-03	1.41E-03	8.46E-04	9.24E-04	1.58E-03	0.00E+00
Haul Road_Average	Baseline	Nickel	Haul Road_Average_Baseline_Nickel	RfD	3.19E-03	3.76E-02	3.19E-02	1.85E-02	2.07E-02	3.76E-02	0.00E+00
Haul Road_Average	Baseline	Silver	Haul Road_Average_Baseline_Silver	RfD	5.01E-05	6.08E-04	4.70E-04	2.99E-04	2.93E-04	6.08E-04	0.00E+00
Haul Road_Average	Baseline	Strontium	Haul Road_Average_Baseline_Strontium	RfD	3.76E-05	6.62E-03	5.28E-03	4.39E-03	4.20E-03	6.62E-03	0.00E+00
Haul Road_Average	Baseline	Vanadium	Haul Road_Average_Baseline_Vanadium	RfD	4.18E-02	9.24E-02	2.05E-02	1.21E-02	1.18E-02	9.24E-02	0.00E+00
Haul Road_Average	Baseline	Zinc	Haul Road_Average_Baseline_Zinc	RfD	1.88E-04	8.68E-03	7.70E-03	4.88E-03	4.78E-03	8.68E-03	0.00E+00
Haul Road_Average	Project	Aluminum	Haul Road_Average_Project_Aluminum	RfD	3.08E-03	1.30E-02	7.85E-03	4.49E-03	4.83E-03	1.30E-02	0.00E+00
Haul Road_Average	Project	Antimony	Haul Road_Average_Project_Antimony	RfD	1.08E-04	4.77E-04	2.91E-04	1.73E-04	1.84E-04	4.77E-04	0.00E+00
Haul Road_Average	Project	Arsenic	Haul Road_Average_Project_Arsenic	RfD	2.30E-03	9.39E-03	4.84E-03	2.73E-03	2.75E-03	9.39E-03	0.00E+00
Haul Road_Average	Project	Arsenic_cancer	Haul Road_Average_Project_Arsenic_cancer	RsD	7.19E-04	2.64E-02	2.12E-02	1.36E-02	1.03E-01	0.00E+00	1.65E-01
Haul Road_Average	Project	Barium	Haul Road_Average_Project_Barium	RfD	8.06E-06	6.40E-05	4.19E-05	3.37E-05	3.28E-05	6.40E-05	0.00E+00
Haul Road_Average	Project	Beryllium	Haul Road_Average_Project_Beryllium	RfD	3.96E-06	1.65E-05	9.97E-06	5.67E-06	6.08E-06	1.65E-05	0.00E+00
Haul Road_Average	Project	Boron	Haul Road_Average_Project_Boron	RfD	5.40E-07	2.06E-05	1.68E-05	1.29E-05	1.29E-05	2.06E-05	0.00E+00
Haul Road_Average	Project	Cadmium	Haul Road_Average_Project_Cadmium	RfD	5.28E-06	2.87E-04	2.37E-04	1.55E-04	1.36E-04	2.87E-04	0.00E+00
Haul Road_Average	Project	Chromium	Haul Road_Average_Project_Chromium	RfD	8.45E-04	3.92E-03	2.44E-03	1.43E-03	1.58E-03	3.92E-03	0.00E+00
Haul Road_Average	Project	Cobalt	Haul Road_Average_Project_Cobalt	RfD	2.25E-04	2.35E-03	1.68E-03	1.09E-03	1.11E-03	2.35E-03	0.00E+00
Haul Road_Average	Project	Copper	Haul Road_Average_Project_Copper	RfD	5.95E-06	1.81E-03	1.50E-03	9.98E-04	8.49E-04	1.81E-03	0.00E+00
Haul Road_Average	Project	Lead	Haul Road_Average_Project_Lead	RfD	2.37E-04	2.95E-03	2.20E-03	1.41E-03	1.26E-03	2.95E-03	0.00E+00
Haul Road_Average	Project	Manganese	Haul Road_Average_Project_Manganese	RfD	8.25E-05	1.02E-03	7.05E-04	5.83E-04	5.53E-04	1.02E-03	0.00E+00
Haul Road_Average	Project	Inorganicmercury	Haul Road_Average_Project_Inorganicmercury	RfD	1.69E-07	1.81E-02	1.38E-02	1.02E-02	1.20E-02	1.81E-02	0.00E+00
Haul Road_Average	Project	Methylmercury	Haul Road_Average_Project_Methylmercury	RfD	5.16E-09	1.74E-01	1.41E-01	9.64E-02	8.81E-02	1.74E-01	0.00E+00
Haul Road_Average	Project	Molybdenum	Haul Road_Average_Project_Molybdenum	RfD	6.04E-07	1.28E-04	9.81E-05	6.19E-05	5.43E-05	1.28E-04	0.00E+00
Haul Road_Average	Project	Nickel	Haul Road_Average_Project_Nickel	RfD	5.86E-05	7.90E-04	5.79E-04	3.56E-04	3.39E-04	7.90E-04	0.00E+00
Haul Road_Average	Project	Silver	Haul Road_Average_Project_Silver	RfD	5.19E-07	8.09E-06	6.18E-06	4.03E-06	3.66E-06	8.09E-06	0.00E+00
Haul Road_Average	Project	Strontium	Haul Road_Average_Project_Strontium	RfD	3.94E-07	7.70E-06	5.86E-06	4.72E-06	4.63E-06	7.70E-06	0.00E+00
Haul Road_Average	Project	Vanadium	Haul Road_Average_Project_Vanadium	RfD	4.41E-04	1.90E-03	1.16E-03	6.65E-04	7.21E-04	1.90E-03	0.00E+00
Haul Road_Average	Project	Zinc	Haul Road_Average_Project_Zinc	RfD	3.24E-06	1.66E-03	1.37E-03	9.15E-04	7.75E-04	1.66E-03	0.00E+00
Haul Road_Max	Baseline	Aluminum	Haul Road_Max_Baseline_Aluminum	RfD	3.93E-01	8.20E-01	1.41E-01	8.94E-02	8.21E-02	8.20E-01	0.00E+00
Haul Road_Max	Baseline	Antimony	Haul Road_Max_Baseline_Antimony	RfD	6.27E-04	3.03E-02	2.39E-02	1.60E-02	1.36E-02	3.03E-02	0.00E+00
Haul Road_Max	Baseline	Arsenic	Haul Road_Max_Baseline_Arsenic	RfD	8.35E-02	1.74E-01	3.09E-02	1.70E-02	1.53E-02	1.74E-01	0.00E+00
Haul Road_Max	Baseline	Arsenic_cancer	Haul Road_Max_Baseline_Arsenic_cancer	RsD	2.61E-02	4.88E-01	1.35E-01	8.52E-02	5.74E-01	0.00E+00	1.31E+00
Haul Road_Max	Baseline	Barium	Haul Road_Max_Baseline_Barium	RfD	4.39E-04	9.52E-03	6.31E-03	6.33E-03	5.88E-03	9.52E-03	0.00E+00
Haul Road_Max	Baseline	Beryllium	Haul Road_Max_Baseline_Beryllium	RfD	5.01E-04	5.36E-03	3.73E-03	2.47E-03	2.09E-03	5.36E-03	0.00E+00
Haul Road_Max	Baseline	Boron	Haul Road_Max_Baseline_Boron	RfD	3.76E-05	6.82E-03	5.66E-03	4.42E-03	4.47E-03	6.82E-03	0.00E+00
Haul Road_Max	Baseline	Cadmium	Haul Road_Max_Baseline_Cadmium	RfD	2.76E-04	9.24E-03	8.58E-03	5.15E-03	5.37E-03	9.24E-03	0.00E+00
Haul Road_Max	Baseline	Chromium	Haul Road_Max_Baseline_Chromium	RfD	5.26E-02	1.40E-01	4.80E-02	2.81E-02	2.98E-02	1.40E-01	0.00E+00
Haul Road_Max	Baseline	Cobalt	Haul Road_Max_Baseline_Cobalt	RfD	1.83E-02	5.76E-02	2.23E-02	1.51E-02	1.75E-02	5.76E-02	0.00E+00
Haul Road_Max	Baseline	Copper	Haul Road_Max_Baseline_Copper	RfD	2.75E-04	1.32E-02	1.09E-02	7.18E-03	7.18E-03	1.32E-02	0.00E+00
Haul Road_Max	Baseline	Lead	Haul Road_Max_Baseline_Lead	RfD	6.85E-02	1.48E-01	2.92E-02	1.82E-02	1.58E-02	1.48E-01	0.00E+00
Haul Road_Max	Baseline	Manganese	Haul Road_Max_Baseline_Manganese	RfD	1.48E-02	5.34E-01	3.65E-01	3.65E-01	3.44E-01	5.34E-01	0.00E+00
Haul Road_Max	Baseline	Inorganicmercury	Haul Road_Max_Baseline_Inorganicmercury	RfD	8.19E-04	8.32E-02	6.45E-02	4.61E-02	1.47E-02	8.32E-02	0.00E+00
Haul Road_Max	Baseline	Methylmercury	Haul Road_Max_Baseline_Methylmercury	RfD	2.51E-05	7.27E-01	5.93E-01	4.04E-01	2.91E-01	7.27E-01	0.00E+00
Haul Road_Max	Baseline	Molybdenum	Haul Road_Max_Baseline_Molybdenum	RfD	5.45E-05	1.04E-03	8.64E-04	5.35E-04	5.86E-04	1.04E-03	0.00E+00
Haul Road_Max	Baseline	Nickel	Haul Road_Max_Baseline_Nickel	RfD	3.19E-03	2.46E-02	1.83E-02	1.10E-02	1.25E-02	2.46E-02	0.00E+00
Haul Road_Max	Baseline	Silver	Haul Road_Max_Baseline_Silver	RfD	5.01E-05	4.92E-04	3.54E-04	2.30E-04	2.18E-04	4.92E-04	0.00E+00
Haul Road_Max	Baseline	Strontium	Haul Road_Max_Baseline_Strontium	RfD	3.76E-05	3.78E-03	3.00E-03	2.44E-03	2.32E-03	3.78E-03	0.00E+00
Haul Road_Max	Baseline	Vanadium	Haul Road_Max_Baseline_Vanadium	RfD	4.18E-02	8.98E-02	1.79E-02	1.06E-02	1.01E-02	8.98E-02	0.00E+00
Haul Road_Max	Baseline	Zinc	Haul Road_Max_Baseline_Zinc	RfD	1.88E-04	6.18E-03	5.24E-03	3.37E-03	3.18E-03	6.18E-03	0.00E+00
Haul Road_Max	Project	Aluminum	Haul Road_Max_Project_Aluminum	RfD	8.51E-03	2.70E-02	1.25E-02	7.20E-03	7.67E-03	2.70E-02	0.00E+00
Haul Road_Max	Project	Antimony	Haul Road_Max_Project_Antimony	RfD	2.98E-04	9.71E-04	4.56E-04	2.72E-04	2.86E-04	9.71E-04	0.00E+00
Haul Road_Max	Project	Arsenic	Haul Road_Max_Project_Arsenic	RfD	6.34E-03	1.86E-02	7.21E-03	4.10E-03	4.08E-03	1.86E-02	0.00E+00
Haul Road_Max	Project	Arsenic_cancer	Haul Road_Max_Project_Arsenic_cancer	RsD	1.98E-03	5.24E-02	3.16E-02	2.05E-02	1.53E-01	0.00E+00	2.59E-01
Haul Road_Max	Project	Barium	Haul Road_Max_Project_Barium	RfD	2.22E-05	1.11E-04	6.16E-05	4.87E-05	4.73E-05	1.11E-04	0.00E+00
Haul Road_Max	Project	Beryllium	Haul Road_Max_Project_Beryllium	RfD	1.09E-05	3.41E-05	1.57E-05	8.98E-06	9.50E-06	3.41E-05	0.00E+00
Haul Road_Max	Project	Boron	Haul Road_Max_Project_Boron	RfD	1.49E-06	3.12E-05	2.44E-05	1.87E-05	1.90E-05	3.12E-05	0.00E+00
Haul Road_Max	Project	Cadmium	Haul Road_Max_Project_Cadmium	RfD	1.46E-05	3.21E-04	2.55E-04	1.65E-04	1.47E-04	3.21E-04	0.00E+00
Haul Road_Max	Project	Chromium	Haul Road_Max_Project_Chromium	RfD	2.33E-03	8.30E-03	4.13E-03	2.49E-03	2.78E-03	8.30E-03	0.00E+00
Haul Road_Max	Project	Cobalt	Haul Road_Max_Project_Cobalt	RfD	6.20E-04	4.04E-03	2.51E-03	1.67E-03	1.81E-03	4.04E-03	0.00E+00
Haul Road_Max	Project	Copper	Haul Road_Max_Project_Copper	RfD	1.64E-05	1.86E-03	1.52E-03	1.02E-03	8.71E-04	1.86E-03	0.00E+00
Haul Road_Max	Project	Lead	Haul Road_Max_Project_Lead	RfD	6.53E-04	3.97E-03	2.53E-03	1.59E-03	1.45E-03	3.97E-03	0.00E+00
Haul Road_Max	Project	Manganese	Haul Road_Max_Project_Manganese	RfD	2.28E-04	1.61E-03	9.85E-04	8.11E-04	7.77E-04	1.61E-03	0.00E+00
Haul Road_Max	Project	Inorganicmercury	Haul Road_Max_Project_Inorganicmercury	RfD	4.65E-07	1.81E-02	1.38E-02	1.02E-02	1.20E-02	1.81E-02	0.00E+00
Haul Road_Max	Project	Methylmercury	Haul Road_Max_Project_Methylmercury	RfD	1.42E-08	1.74E-01	1.41E-01	9.64E-02	8.81E-02	1.74E-01	0.00E+00
Haul Road_Max	Project	Molybdenum	Haul Road_Max_Project_Molybdenum	RfD	1.67E-06	1.32E-04	1.00E-04	6.32E-05	5.58E-05	1.32E-04	0.00E+00
Haul Road_Max	Project	Nickel	Haul Road_Max_Project_Nickel	RfD	1.62E-04	1.13E-03	7.27E-04	4.49E-04	4.45E-04	1.13E-03	0.00E+00
Haul Road_Max	Project	Silver	Haul Road_Max_Project_Silver	RfD	1.43E-06	1.08E-05	7.24E-06	4.71E-06	4.40E-06	1.08E-05	0.00E+00

Haul Road_Max	Project	Strontium	Haul Road_Max_Project_Strontium	RfD	1.09E-06	1.19E-05	8.39E-06	6.71E-06	6.61E-06	1.19E-05	0.00E+00
Haul Road_Max	Project	Vanadium	Haul Road_Max_Project_Vanadium	RfD	1.22E-03	3.97E-03	1.87E-03	1.09E-03	1.18E-03	3.97E-03	0.00E+00
Haul Road_Max	Project	Zinc	Haul Road_Max_Project_Zinc	RfD	8.95E-06	1.68E-03	1.38E-03	9.20E-04	7.80E-04	1.68E-03	0.00E+00

Summary of Soil Concentrations and Comparison to Guidelines

Area	COPC	Baseline	Incremental Contribution of Dust Deposition Outside of PDA over 5 years of operations		Soil Quality Guidelines	
			Project	Project + Baseline	NSE	CCME
Haul Road_Max	Aluminum	2.24E+04	48.5	22449	1.54E+04	n/a
Haul Road_Max	Antimony	5.00E-02	0.00238	0.0524	7.50E+00	2.00E+01
Haul Road_Max	Arsenic	1.00E+01	0.0759	10.1	3.10E+01	1.20E+01
Haul Road_Max	Arsenic_cancer	1.00E+01	0.0759	10.1	n/a	n/a
Haul Road_Max	Barium	3.50E+01	0.178	35.2	1.00E+04	7.50E+02
Haul Road_Max	Beryllium	4.00E-01	0.000872	0.401	3.80E+01	4.00E+00
Haul Road_Max	Boron	3.00E+00	0.0119	3.01	4.30E+03	2.00E+00
Haul Road_Max	Cadmium	1.10E-01	0.000581	0.111	1.40E+00	1.40E+00
Haul Road_Max	Chromium	2.10E+01	0.0930	21.1	2.20E+02	6.40E+01
Haul Road_Max	Cobalt	1.02E+01	0.0346	10.2	2.20E+01	4.00E+01
Haul Road_Max	Copper	1.00E+01	0.0596	10.1	1.10E+03	6.30E+01
Haul Road_Max	Lead	1.64E+01	0.0156	16.4	1.40E+02	7.00E+01
Haul Road_Max	Manganese	8.01E+02	1.24	802	n/a	n/a
Haul Road_Max	Mercury	1.00E-01	0.00000568	0.100	6.60E+00	6.60E+00
Haul Road_Max	Methylmercury	2.00E-03	0.000000114	0.00200	--	--
Haul Road_Max	Molybdenum	5.00E-01	0.00153	0.502	1.10E+02	5.00E+00
Haul Road_Max	Nickel	1.40E+01	0.0709	14.1	3.30E+02	4.50E+01
Haul Road_Max	Silver	1.00E-01	0.000286	0.100	7.70E+01	2.00E+01
Haul Road_Max	Strontium	9.00E+00	0.0260	9.03	9.40E+03	n/a
Haul Road_Max	Vanadium	3.50E+01	0.102	35.1	3.90E+01	1.30E+02
Haul Road_Max	Zinc	3.60E+01	0.171	36.2	5.60E+03	2.50E+02
Haul Road_Average	Aluminum	2.24E+04	17.6	22418	1.54E+04	n/a
Haul Road_Average	Antimony	5.00E-02	0.000862	0.0509	7.50E+00	2.00E+01
Haul Road_Average	Arsenic	1.00E+01	0.0275	10.0	3.10E+01	1.20E+01
Haul Road_Average	Arsenic_cancer	1.00E+01	0.0275	10.0	n/a	n/a
Haul Road_Average	Barium	3.50E+01	0.0644	35.1	1.00E+04	7.50E+02
Haul Road_Average	Beryllium	4.00E-01	0.000316	0.400	3.80E+01	4.00E+00
Haul Road_Average	Boron	3.00E+00	0.00431	3.00	4.30E+03	2.00E+00
Haul Road_Average	Cadmium	1.10E-01	0.00021	0.110	1.40E+00	1.40E+00
Haul Road_Average	Chromium	2.10E+01	0.03370	21.0	2.20E+02	6.40E+01
Haul Road_Average	Cobalt	1.02E+01	0.01255	10.2	2.20E+01	4.00E+01
Haul Road_Average	Copper	1.00E+01	0.02161	10.0	1.10E+03	6.30E+01
Haul Road_Average	Lead	1.64E+01	0.00567	16.4	1.40E+02	7.00E+01
Haul Road_Average	Manganese	8.01E+02	0.448	801	n/a	n/a
Haul Road_Average	Mercury	1.00E-01	0.00000206	0.100	6.60E+00	6.60E+00
Haul Road_Average	Methylmercury	2.00E-03	0.0000000412	0.00200	--	--
Haul Road_Average	Molybdenum	5.00E-01	0.000555	0.501	1.10E+02	5.00E+00
Haul Road_Average	Nickel	1.40E+01	0.0257	14.0	3.30E+02	4.50E+01
Haul Road_Average	Silver	1.00E-01	0.000104	0.100	7.70E+01	2.00E+01
Haul Road_Average	Strontium	9.00E+00	0.00944	9.01	9.40E+03	n/a
Haul Road_Average	Vanadium	3.50E+01	0.0369	35.0	3.90E+01	1.30E+02
Haul Road_Average	Zinc	3.60E+01	0.0621	36.1	5.60E+03	2.50E+02

Summary of Soil Concentrations and Comparison to Guidelines

Area	COPC	Baseline	Incremental Contribution of Dust Deposition Outside of PDA over 5 years of operations		Soil Quality Guidelines	
			Project	Project + Baseline	NSE	CCME
Haul Road_Max	Aluminum	2.24E+04	485	22885	1.54E+04	n/a
Haul Road_Max	Antimony	5.00E-02	0.0238	0.0738	7.50E+00	2.00E+01
Haul Road_Max	Arsenic	1.00E+01	0.759	10.8	3.10E+01	1.20E+01
Haul Road_Max	Arsenic_cancer	1.00E+01	0.759	10.8	n/a	n/a
Haul Road_Max	Barium	3.50E+01	1.78	36.8	1.00E+04	7.50E+02
Haul Road_Max	Beryllium	4.00E-01	0.00872	0.409	3.80E+01	4.00E+00
Haul Road_Max	Boron	3.00E+00	0.119	3.12	4.30E+03	2.00E+00
Haul Road_Max	Cadmium	1.10E-01	0.00581	0.116	1.40E+00	1.40E+00
Haul Road_Max	Chromium	2.10E+01	0.930	21.9	2.20E+02	6.40E+01
Haul Road_Max	Cobalt	1.02E+01	0.346	10.5	2.20E+01	4.00E+01
Haul Road_Max	Copper	1.00E+01	0.596	10.6	1.10E+03	6.30E+01
Haul Road_Max	Lead	1.64E+01	0.156	16.6	1.40E+02	7.00E+01
Haul Road_Max	Manganese	8.01E+02	12.4	813	n/a	n/a
Haul Road_Max	Mercury	1.00E-01	0.0000568	0.100	6.60E+00	6.60E+00
Haul Road_Max	Methylmercury	2.00E-03	0.00000114	0.00200	--	--
Haul Road_Max	Molybdenum	5.00E-01	0.015	0.515	1.10E+02	5.00E+00
Haul Road_Max	Nickel	1.40E+01	0.709	14.7	3.30E+02	4.50E+01
Haul Road_Max	Silver	1.00E-01	0.00286	0.103	7.70E+01	2.00E+01
Haul Road_Max	Strontium	9.00E+00	0.260	9.26	9.40E+03	n/a
Haul Road_Max	Vanadium	3.50E+01	1.02	36.0	3.90E+01	1.30E+02
Haul Road_Max	Zinc	3.60E+01	1.71	37.7	5.60E+03	2.50E+02
Haul Road_Average	Aluminum	2.24E+04	176	22576	1.54E+04	n/a
Haul Road_Average	Antimony	5.00E-02	0.00862	0.0586	7.50E+00	2.00E+01
Haul Road_Average	Arsenic	1.00E+01	0.275	10.3	3.10E+01	1.20E+01
Haul Road_Average	Arsenic_cancer	1.00E+01	0.275	10.3	n/a	n/a
Haul Road_Average	Barium	3.50E+01	0.644	35.6	1.00E+04	7.50E+02
Haul Road_Average	Beryllium	4.00E-01	0.00316	0.403	3.80E+01	4.00E+00
Haul Road_Average	Boron	3.00E+00	0.0431	3.04	4.30E+03	2.00E+00
Haul Road_Average	Cadmium	1.10E-01	0.00211	0.112	1.40E+00	1.40E+00
Haul Road_Average	Chromium	2.10E+01	0.337	21.3	2.20E+02	6.40E+01
Haul Road_Average	Cobalt	1.02E+01	0.125	10.3	2.20E+01	4.00E+01
Haul Road_Average	Copper	1.00E+01	0.216	10.2	1.10E+03	6.30E+01
Haul Road_Average	Lead	1.64E+01	0.0567	16.5	1.40E+02	7.00E+01
Haul Road_Average	Manganese	8.01E+02	4.48	805	n/a	n/a
Haul Road_Average	Mercury	1.00E-01	0.0000206	0.100	6.60E+00	6.60E+00
Haul Road_Average	Methylmercury	2.00E-03	0.000000412	0.00200	--	--
Haul Road_Average	Molybdenum	5.00E-01	0.00555	0.506	1.10E+02	5.00E+00
Haul Road_Average	Nickel	1.40E+01	0.257	14.3	3.30E+02	4.50E+01
Haul Road_Average	Silver	1.00E-01	0.00104	0.101	7.70E+01	2.00E+01
Haul Road_Average	Strontium	9.00E+00	0.0944	9.09	9.40E+03	n/a
Haul Road_Average	Vanadium	3.50E+01	0.369	35.4	3.90E+01	1.30E+02
Haul Road_Average	Zinc	3.60E+01	0.621	36.6	5.60E+03	2.50E+02

Summary of Berry Concentrations Used to Estimate Human Exposures [mg/kg-WW]

Area	COPC	Baseline	Incremental Contribution of Dust Deposition Outside of PDA over 5 years of operations	
			Project	Project + Baseline
Haul Road_Max	Aluminum	3.10E+00	4.86	7.96
Haul Road_Max	Antimony	2.39E-04	0.000249	0.000489
Haul Road_Max	Arsenic	5.79E-03	0.00468	0.0105
Haul Road_Max	Arsenic_cancer	5.79E-03	0.00468	0.0105
Haul Road_Max	Barium	2.55E+00	0.0307	2.58
Haul Road_Max	Beryllium	1.55E-04	0.0000876	0.000242
Haul Road_Max	Boron	3.05E+00	0.0133	3.06
Haul Road_Max	Cadmium	2.68E-02	0.000200	0.0270
Haul Road_Max	Chromium	8.00E-02	0.00966	0.0896
Haul Road_Max	Cobalt	2.40E-02	0.00354	0.0275
Haul Road_Max	Copper	1.16E+00	0.0129	1.17
Haul Road_Max	Lead	3.00E-03	0.00157	0.00457
Haul Road_Max	Manganese	9.73E+01	0.274	97.6
Haul Road_Max	Mercury	1.00E-02	0.00000133	0.0100
Haul Road_Max	Methylmercury	2.30E-03	0.000000307	0.00230
Haul Road_Max	Molybdenum	4.61E-02	0.000294	0.0463
Haul Road_Max	Nickel	5.60E-01	0.00993	0.569
Haul Road_Max	Silver	2.07E-03	0.0000345	0.00210
Haul Road_Max	Strontium	3.72E+00	0.0134	3.73
Haul Road_Max	Vanadium	2.00E-02	0.0103	0.0303
Haul Road_Max	Zinc	4.16E+00	0.0369	4.20
Haul Road_Average	Aluminum	3.10E+00	1.76	4.86
Haul Road_Average	Antimony	2.39E-04	0.0000904	0.000330
Haul Road_Average	Arsenic	5.79E-03	0.00170	0.00749
Haul Road_Average	Arsenic_cancer	5.79E-03	0.00170	0.00749
Haul Road_Average	Barium	2.55E+00	0.0111	2.56
Haul Road_Average	Beryllium	1.55E-04	0.0000317	0.000187
Haul Road_Average	Boron	3.05E+00	0.00481	3.05
Haul Road_Average	Cadmium	2.68E-02	0.0000724	0.0269
Haul Road_Average	Chromium	8.00E-02	0.00350	0.0835
Haul Road_Average	Cobalt	2.40E-02	0.00128	0.0253
Haul Road_Average	Copper	1.16E+00	0.00467	1.16
Haul Road_Average	Lead	3.00E-03	0.000568	0.00357
Haul Road_Average	Manganese	9.73E+01	0.0992	97.4
Haul Road_Average	Mercury	1.00E-02	0.000000484	0.0100
Haul Road_Average	Methylmercury	2.30E-03	0.000000111	0.00230
Haul Road_Average	Molybdenum	4.61E-02	0.000107	0.0462
Haul Road_Average	Nickel	5.60E-01	0.00360	0.563
Haul Road_Average	Silver	2.07E-03	0.0000125	0.00208
Haul Road_Average	Strontium	3.72E+00	0.00485	3.72
Haul Road_Average	Vanadium	2.00E-02	0.00373	0.0237
Haul Road_Average	Zinc	4.16E+00	0.0134	4.17

Summary of Leaves Concentrations Used to Estimate Human Exposures [mg/kg-WW]

Area	COPC	Baseline	Incremental Contribution of Dust Deposition Outside of PDA over 5 years of operations	
			Project	Project + Baseline
Haul Road_Max	Aluminum	7.06E+01	8.63	79.2
Haul Road_Max	Antimony	3.20E-03	0.000568	0.00377
Haul Road_Max	Arsenic	7.80E-03	0.0104	0.0182
Haul Road_Max	Arsenic_cancer	7.80E-03	0.0104	0.0182
Haul Road_Max	Barium	3.74E+01	0.221	37.6
Haul Road_Max	Beryllium	1.28E-03	0.000155	0.00144
Haul Road_Max	Boron	1.90E+01	0.0774	19.1
Haul Road_Max	Cadmium	5.92E-02	0.000414	0.0596
Haul Road_Max	Chromium	8.00E-02	0.0166	0.0966
Haul Road_Max	Cobalt	5.31E-02	0.00623	0.0593
Haul Road_Max	Copper	2.35E+00	0.0244	2.37
Haul Road_Max	Lead	4.50E-02	0.00277	0.0478
Haul Road_Max	Manganese	1.43E+03	2.42	1433
Haul Road_Max	Mercury	1.00E-02	0.00000263	0.0100
Haul Road_Max	Methylmercury	2.30E-03	0.000000604	0.00230
Haul Road_Max	Molybdenum	8.70E-02	0.000534	0.0876
Haul Road_Max	Nickel	8.80E-01	0.0168	0.897
Haul Road_Max	Silver	5.00E-03	0.0000865	0.00509
Haul Road_Max	Strontium	3.06E+01	0.0931	30.7
Haul Road_Max	Vanadium	4.00E-02	0.0179	0.0579
Haul Road_Max	Zinc	1.10E+01	0.0823	11.1
Haul Road_Average	Aluminum	7.06E+01	3.13	73.7
Haul Road_Average	Antimony	3.20E-03	0.000206	0.00341
Haul Road_Average	Arsenic	7.80E-03	0.00377	0.0116
Haul Road_Average	Arsenic_cancer	7.80E-03	0.00377	0.0116
Haul Road_Average	Barium	3.74E+01	0.0800	37.5
Haul Road_Average	Beryllium	1.28E-03	0.0000562	0.00134
Haul Road_Average	Boron	1.90E+01	0.0281	19.0
Haul Road_Average	Cadmium	5.92E-02	0.000150	0.0594
Haul Road_Average	Chromium	8.00E-02	0.00602	0.0860
Haul Road_Average	Cobalt	5.31E-02	0.00226	0.0554
Haul Road_Average	Copper	2.35E+00	0.00885	2.36
Haul Road_Average	Lead	4.50E-02	0.00101	0.0460
Haul Road_Average	Manganese	1.43E+03	0.878	1431
Haul Road_Average	Mercury	1.00E-02	0.000000952	0.0100
Haul Road_Average	Methylmercury	2.30E-03	0.000000219	0.00230
Haul Road_Average	Molybdenum	8.70E-02	0.000193	0.0872
Haul Road_Average	Nickel	8.80E-01	0.00611	0.886
Haul Road_Average	Silver	5.00E-03	0.0000314	0.00503
Haul Road_Average	Strontium	3.06E+01	0.0337	30.6
Haul Road_Average	Vanadium	4.00E-02	0.00650	0.0465
Haul Road_Average	Zinc	1.10E+01	0.0298	11.0

Summary of Predicted Human Exposures for Each Lifestage Category, Scenario and Chemical

					Estimated Daily Intake											
					Soil	Dust	Berries	Leaves	Fish	Deer	Ruffed_Grouse	Snowshoe_Hare	Mallard	Swim: Derm+Ing	Total	RQ
					SIR	AIR	Berries	Leaves	Fish	Deer	Ruffed_Grouse	Snowshoe_Hare	Mallard	Water	EDI	Total
Area	Scenario	Receptor	Chemical	Abbreviation	ug/day	ug/day	ug/day	ug/day	ug/day	ug/day	ug/day	ug/day	ug/day	ug/day	ug/day	Unitless
Haul Road_Max	Baseline	Adult	Aluminum	Haul Road_Max_Baseline_Adult_Aluminum	4.48E+02	9.30E+01	2.82E+01	1.06E+02	2.81E+00	1.50E+02	6.71E-02	9.24E-01	1.79E-01	1.03E+00	8.30E+02	8.21E-02
Haul Road_Max	Baseline	Adult	Antimony	Haul Road_Max_Baseline_Adult_Antimony	1.00E-03	2.08E-04	2.18E-03	4.80E-03	1.80E-01	1.72E-03	1.84E-06	5.02E-06	2.43E-04	2.10E-03	1.92E-01	1.36E-02
Haul Road_Max	Baseline	Adult	Arsenic	Haul Road_Max_Baseline_Adult_Arsenic	2.00E-01	4.15E-02	5.27E-02	1.17E-02	7.46E-03	3.53E-03	7.30E-07	5.04E-06	4.21E-06	7.61E-03	3.25E-01	1.53E-02
Haul Road_Max	Baseline	Adult	Arsenic_cancer	Haul Road_Max_Baseline_Adult_Arsenic_cancer	2.00E-01	4.15E-02	5.27E-02	1.17E-02	7.46E-03	3.53E-03	7.30E-07	5.04E-06	4.21E-06	7.61E-03	3.25E-01	7.65E-01
Haul Road_Max	Baseline	Adult	Barium	Haul Road_Max_Baseline_Adult_Barium	7.00E-01	1.45E-01	2.32E+01	5.61E+01	5.32E-01	2.48E+00	2.90E-04	6.26E-03	6.72E-05	1.41E-02	8.32E+01	5.88E-03
Haul Road_Max	Baseline	Adult	Beryllium	Haul Road_Max_Baseline_Adult_Beryllium	8.00E-03	1.66E-03	1.41E-03	1.92E-03	2.79E-01	1.96E-03	2.78E-06	1.14E-05	2.66E-05	2.10E-03	2.96E-01	2.09E-03
Haul Road_Max	Baseline	Adult	Boron	Haul Road_Max_Baseline_Adult_Boron	6.00E-02	1.25E-02	2.77E+01	2.85E+01	0.00E+00	6.85E+00	8.23E-04	1.70E-02	6.76E-03	1.05E-01	6.33E+01	4.47E-03
Haul Road_Max	Baseline	Adult	Cadmium	Haul Road_Max_Baseline_Adult_Cadmium	2.20E-03	4.57E-04	2.44E-01	8.88E-02	4.10E-02	3.45E-03	7.59E-06	8.78E-06	5.20E-06	8.41E-05	3.80E-01	5.37E-03
Haul Road_Max	Baseline	Adult	Chromium	Haul Road_Max_Baseline_Adult_Chromium	4.20E-01	8.71E-02	7.28E-01	1.20E-01	1.42E-01	5.92E-01	3.26E-03	3.37E-03	8.07E-03	2.94E-03	2.11E+00	2.98E-02
Haul Road_Max	Baseline	Adult	Cobalt	Haul Road_Max_Baseline_Adult_Cobalt	2.04E-01	4.23E-02	2.18E-01	7.97E-02	4.13E-02	1.14E+00	8.86E-04	6.18E-03	2.32E-03	1.14E-03	1.73E+00	1.75E-02
Haul Road_Max	Baseline	Adult	Copper	Haul Road_Max_Baseline_Adult_Copper	2.00E-01	4.15E-02	1.06E+01	3.52E+00	2.02E+01	1.17E+01	4.17E-03	3.06E-02	4.73E-03	2.99E-03	4.62E+01	7.18E-03
Haul Road_Max	Baseline	Adult	Lead	Haul Road_Max_Baseline_Adult_Lead	3.28E-01	6.81E-02	2.73E-02	6.75E-02	1.57E-01	2.11E-02	6.05E-05	1.33E-04	7.70E-05	1.30E-03	6.71E-01	1.58E-02
Haul Road_Max	Baseline	Adult	Manganese	Haul Road_Max_Baseline_Adult_Manganese	1.60E+01	3.32E+00	8.85E+02	2.15E+03	6.74E+00	2.53E+02	2.87E-02	6.33E-01	3.70E-02	1.88E-01	3.31E+03	3.44E-01
Haul Road_Max	Baseline	Adult	Mercury	Haul Road_Max_Baseline_Adult_Mercury	2.00E-03	4.15E-04	9.10E-02	1.50E-02	4.29E+00	2.96E-02	3.20E-04	8.20E-05	1.57E-03	2.97E-05	4.43E+00	0.00E+00
Haul Road_Max	Baseline	Adult	Molybdenum	Haul Road_Max_Baseline_Adult_Molybdenum	1.00E-02	2.08E-03	4.19E-01	1.31E-01	1.08E-01	2.68E-01	1.16E-04	7.13E-04	4.73E-03	1.01E-02	9.53E-01	5.86E-04
Haul Road_Max	Baseline	Adult	Nickel	Haul Road_Max_Baseline_Adult_Nickel	2.80E-01	5.81E-02	5.09E+00	1.32E+00	5.00E-02	2.89E+00	3.92E-03	8.56E-03	1.85E-03	4.67E-03	9.71E+00	1.25E-02
Haul Road_Max	Baseline	Adult	Silver	Haul Road_Max_Baseline_Adult_Silver	2.00E-03	4.15E-04	1.88E-02	7.50E-03	3.95E-02	8.10E-03	3.49E-05	2.50E-05	5.46E-04	2.10E-04	7.71E-02	2.18E-04
Haul Road_Max	Baseline	Adult	Strontium	Haul Road_Max_Baseline_Adult_Strontium	1.80E-01	3.73E-02	3.39E+01	4.59E+01	1.45E+01	4.10E+00	4.86E-04	1.02E-02	2.62E-03	2.63E-02	9.86E+01	2.32E-03
Haul Road_Max	Baseline	Adult	Vanadium	Haul Road_Max_Baseline_Adult_Vanadium	7.00E-01	1.45E-01	1.82E-01	6.00E-02	9.00E-02	3.19E-01	1.38E-04	2.23E-03	9.56E-04	4.21E-03	1.50E+00	1.01E-02
Haul Road_Max	Baseline	Adult	Zinc	Haul Road_Max_Baseline_Adult_Zinc	7.20E-01	1.49E-01	3.79E+01	1.65E+01	5.20E+01	4.77E-01	6.67E-02	1.24E-03	6.10E-02	1.46E-02	1.08E+02	3.18E-03
Haul Road_Max	Baseline	Adolescent	Aluminum	Haul Road_Max_Baseline_Adolescent_Aluminum	4.48E+02	8.74E+01	2.00E+01	1.06E+02	2.81E+00	9.71E+01	4.35E-02	5.99E-01	1.16E-01	9.74E-01	7.63E+02	8.94E-02
Haul Road_Max	Baseline	Adolescent	Antimony	Haul Road_Max_Baseline_Adolescent_Antimony	1.00E-03	1.95E-04	1.54E-03	4.80E-03	1.80E-01	1.11E-03	1.19E-06	3.26E-06	1.58E-04	2.00E-03	1.91E-01	1.60E-02
Haul Road_Max	Baseline	Adolescent	Arsenic	Haul Road_Max_Baseline_Adolescent_Arsenic	2.00E-01	3.90E-02	3.73E-02	1.17E-02	7.46E-03	2.29E-03	4.73E-07	3.26E-06	2.73E-06	7.22E-03	3.05E-01	1.70E-02
Haul Road_Max	Baseline	Adolescent	Arsenic_cancer	Haul Road_Max_Baseline_Adolescent_Arsenic_cancer	2.00E-01	3.90E-02	3.73E-02	1.17E-02	7.46E-03	2.29E-03	4.73E-07	3.26E-06	2.73E-06	7.22E-03	3.05E-01	8.52E-01
Haul Road_Max	Baseline	Adolescent	Barium	Haul Road_Max_Baseline_Adolescent_Barium	7.00E-01	1.37E-01	1.64E+01	5.61E+01	5.32E-01	1.61E+00	1.88E-04	4.05E-03	4.35E-05	1.34E-02	7.55E+01	6.33E-03
Haul Road_Max	Baseline	Adolescent	Beryllium	Haul Road_Max_Baseline_Adolescent_Beryllium	8.00E-03	1.56E-03	9.98E-04	1.92E-03	2.79E-01	1.27E-03	1.80E-06	7.37E-06	1.72E-05	2.00E-03	2.95E-01	2.47E-03
Haul Road_Max	Baseline	Adolescent	Boron	Haul Road_Max_Baseline_Adolescent_Boron	6.00E-02	1.17E-02	1.96E+01	2.85E+01	0.00E+00	4.44E+00	5.34E-04	1.10E-02	4.38E-03	9.98E-02	5.28E+01	4.42E-03
Haul Road_Max	Baseline	Adolescent	Cadmium	Haul Road_Max_Baseline_Adolescent_Cadmium	2.20E-03	4.29E-04	1.73E-01	8.88E-02	4.10E-02	2.23E-03	4.92E-06	5.69E-06	3.37E-06	7.98E-05	3.08E-01	5.15E-03
Haul Road_Max	Baseline	Adolescent	Chromium	Haul Road_Max_Baseline_Adolescent_Chromium	4.20E-01	8.19E-02	5.15E-01	1.20E-01	1.42E-01	3.84E-01	2.11E-03	2.18E-03	5.23E-03	2.79E-03	1.68E+00	2.81E-02
Haul Road_Max	Baseline	Adolescent	Cobalt	Haul Road_Max_Baseline_Adolescent_Cobalt	2.04E-01	3.98E-02	1.55E-01	7.97E-02	4.13E-02	7.38E-01	5.75E-04	4.01E-03	1.51E-03	1.08E-03	1.26E+00	1.51E-02
Haul Road_Max	Baseline	Adolescent	Copper	Haul Road_Max_Baseline_Adolescent_Copper	2.00E-01	3.90E-02	7.47E+00	3.52E+00	2.02E+01	7.56E+00	2.70E-03	1.98E-02	3.07E-03	2.83E-03	3.90E+01	7.18E-03
Haul Road_Max	Baseline	Adolescent	Lead	Haul Road_Max_Baseline_Adolescent_Lead	3.28E-01	6.40E-02	1.93E-02	6.75E-02	1.57E-01	1.37E-02	3.92E-05	8.64E-05	4.99E-05	1.24E-03	6.51E-01	1.82E-02
Haul Road_Max	Baseline	Adolescent	Manganese	Haul Road_Max_Baseline_Adolescent_Manganese	1.60E+01	3.12E+00	6.27E+02	2.15E+03	6.74E+00	1.64E+02	1.86E-02	4.10E-01	2.40E-02	1.78E-01	2.96E+03	3.65E-01
Haul Road_Max	Baseline	Adolescent	Mercury	Haul Road_Max_Baseline_Adolescent_Mercury	2.00E-03	3.90E-04	6.45E-02	1.50E-02	4.29E+00	1.92E-02	2.08E-04	5.32E-05	1.02E-03	2.82E-05	4.39E+00	0.00E+00
Haul Road_Max	Baseline	Adolescent	Molybdenum	Haul Road_Max_Baseline_Adolescent_Molybdenum	1.00E-02	1.95E-03	2.97E-01	1.31E-01	1.08E-01	1.74E-01	7.52E-05	4.62E-04	3.06E-03	9.58E-03	7.34E-01	5.35E-04
Haul Road_Max	Baseline	Adolescent	Nickel	Haul Road_Max_Baseline_Adolescent_Nickel	2.80E-01	5.46E-02	3.61E+00	1.32E+00	5.00E-02	1.87E+00	2.54E-03	5.55E-03	1.20E-03	4.43E-03	7.20E+00	1.10E-02
Haul Road_Max	Baseline	Adolescent	Silver	Haul Road_Max_Baseline_Adolescent_Silver	2.00E-03	3.90E-04	1.33E-02	7.50E-03	3.95E-02	5.25E-03	2.26E-05	1.62E-05	3.54E-04	2.00E-04	6.85E-02	2.30E-04
Haul Road_Max	Baseline	Adolescent	Strontium	Haul Road_Max_Baseline_Adolescent_Strontium	1.80E-01	3.51E-02	2.40E+01	4.59E+01	1.45E+01	2.65E+00	3.15E-04	6.62E-03	1.70E-03	2.50E-02	8.73E+01	2.44E-03
Haul Road_Max	Baseline	Adolescent	Vanadium	Haul Road_Max_Baseline_Adolescent_Vanadium	7.00E-01	1.37E-01	1.29E-01	6.00E-02	9.00E-02	2.06E-01	8.97E-05	1.44E-03	6.20E-04	3.99E-03	1.33E+00	1.06E-02
Haul Road_Max	Baseline	Adolescent	Zinc	Haul Road_Max_Baseline_Adolescent_Zinc	7.20E-01	1.40E-01	2.68E+01	1.65E+01	5.20E+01	3.09E-01	4.32E-02	8.03E-04	3.95E-02	1.39E-02	9.66E+01	3.37E-03
Haul Road_Max	Baseline	Child	Aluminum	Haul Road_Max_Baseline_Child_Aluminum	4.48E+02	8.12E+01	2.48E+01	3.53E+01	2.32E+00	6.94E+01	3.11E-02	4.28E-01	8.31E-02	1.45E+00	6.63E+02	1.41E-01
Haul Road_Max	Baseline	Child	Antimony	Haul Road_Max_Baseline_Child_Antimony	1.00E-03	1.81E-04	1.91E-03	1.60E-03	1.49E-01	7.95E-04	8.50E-07	2.33E-06	1.13E-04	2.97E-03	1.57E-01	2.39E-02
Haul Road_Max	Baseline	Child	Arsenic	Haul Road_Max_Baseline_Child_Arsenic	2.00E-01	3.62E-02	4.63E-02	3.90E-03	6.16E-03	1.63E-03	3.38E-07	2.33E-06	1.95E-06	1.07E-02	3.05E-01	3.09E-02
Haul Road_Max	Baseline	Child	Arsenic_cancer	Haul Road_Max_Baseline_Child_Arsenic_cancer	2.00E-01	3.62E-02	4.63E-02	3.90E-03	6.16E-03	1.63E-03	3.38E-07	2.33E-06	1.95E-06	1.07E-02	3.05E-01	1.55E+00
Haul Road_Max	Baseline	Child	Barium	Haul Road_Max_Baseline_Child_Barium	7.00E-01	1.27E-01	2.04E+01	1.87E+01	4.39E-01	1.15E+00	1.34E-04	2.90E-03	3.11E-05	1.99E-02	4.15E+01	6.31E-03
Haul Road_Max	Baseline	Child	Beryllium	Haul Road_Max_Baseline_Child_Beryllium	8.00E-03	1.45E-03	1.24E-03	6.40E-04	2.30E-01	9.05E-04	1.29E-06	5.26E-06	1.23E-05	2.97E-03	2.45E-01	3.73E-03
Haul Road_Max	Baseline	Child	Boron	Haul Road_Max_Baseline_Child_Boron	6.00E-02	1.09E-02	2.44E+01	9.50E+00	0.00E+00	3.17E+00	3.81E-04	7.89E-03	3.13E-03	1.48E-01	3.73E+01	5.66E-03
Haul Road_Max	Baseline	Child	Cadmium	Haul Road_Max_Baseline_Child_Cadmium	2.20E-03	3.99E-04	2.14E-01	2.96E-02	3.39E-02	1.60E-03	3.52E-06	4.06E-06	2.41E-06	1.19E-04	2.82E-01	8.58E-03
Haul Road_Max	Baseline	Child	Chromium	Haul Road_Max_Baseline_Child_Chromium	4.20E-01	7.61E-02	6.39E-01	4.00E-02	1.17E-01	2.74E-01	1.51E-03	1.56E-03	3.73E-03	4.15E-03	1.58E+00	4.80E-02
Haul Road_Max	Baseline	Child	Cobalt	Haul Road_Max_Baseline_Child_Cobalt	2.04E-01	3.70E-02	1.92E-01	2.66E-02	3.41E-02	5.27E-01	4.10E-04	2.86E-03	1.08E-03	1.60E-03	1.03E+00	2.23E-02
Haul Road_Max	Baseline	Child	Copper	Haul Road_Max_Baseline_Child_Copper	2.00E-01	3.62E-02	9.27E+00	1.17E+00	1.67E+01	5.40E+00	1.93E-03	1.42E-02	2.19E-03	4.21E-03	3.28E+01	1.09E-02
Haul Road_Max	Baseline	Child	Lead	Haul Road_Max_Baseline_Child_Lead	3.28E-01	5.95E-02	2.40E-02	2.25E-02	1.30E-01	9.77E-03	2.80E-05	6.17E-05	3.57E-05	1.84E-03	5.75E-01	2.92E-02
Haul Road_Max	Baseline	Child	Manganese	Haul Road_Max_Baseline_Child_Manganese	1.60E+01	2.90E+00	7.78E+02	7.15E+02	5.56E+00	1.17E+02	1.33E-02	2.93E-01	1.71E-02	2.65E-01	1.64E+03	3.65E-01
Haul Road_Max	Baseline	Child	Mercury	Haul Road_Max_Baseline_Child_Mercury	2.00E-03	3.63E-04	8.00E-02	5.00E-03	3.54E+00	1.37E-02	1.48E-04	3.80E-05	7.26E-04	4.19E-05	3.64E+00	0.00E+00
Haul Road_Max	Baseline	Child	Molybdenum	Haul Road_Max_Baseline_Child_Molybdenum	1.00E-02	1.81E-03	3.68E-01	4.35E-02	8.91E-02	1.24E-01	5.37E-05	3.30E-04	2.19E-03	1.42E-02	6.54E-01	8.64E-04
Haul Road_Max	Baseline	Child	Nickel	Haul Road_Max_Baseline_Child_Nickel	2.80E-01	5.07E-02	4.47E+00	4.40E-01	4.12E-02	1.34E+00	1.81E-03	3.96E-03	8.58E-04	6.58E-03	6.64E+00	1.83E-02
Haul Road_Max	Baseline	Child	Silver	Haul Road_Max_Baseline_Child_Silver	2.00E-03	3.63E-04	1.66E-02	2.50E-03	3.26E-02	3.75E-03	1.62E-05	1.16E-05	2.53E-04	2.97E-04	5.83E-02	3.54E-04
Haul Road_Max	Baseline	Child	Strontium	Haul Road_Max_Baseline_Child_Strontium	1.80E-01	3.26E-02	2.98E+01	1.53E+01	1.20E+01	1.90E+00	2.25E-04	4.73E-03	1.21E-03	3.71E-02	5.92E+01	3.00E-03
Haul Road_Max	Baseline	Child	Vanadium	Haul Road_Max_Baseline_Child_Vanadium	7.00E-01	1.27E-01	1.60E-01	2.00E-02	7.43E-02	1.47E-01	6.41E-05	1.03E-03	4.43E-04	5.93E-03	1.24E+00	1.79E-02
Haul Road_Max	Baseline	Child	Zinc	Haul Road_Max_Baseline_Child_Zinc	7.20E-01	1.30E-01	3.33E+01	5.50E+00	4.29E+01	2.21E-01	3.09E-02	5.73E-04	2.82E-02	2.06E-02	8.28E+01	5.24E-03
Haul Road_Max	Baseline	Toddler	Aluminum	Haul Road_Max_Baseline_Toddler_Aluminum	1.79E+03	4.65E+01	1.07E+01	3.53E+01	1.41E+00	4.72E+01	2.11E-02	2.91E-01	5.65E-02	1.35E+00	1.93E+03	8.20E-01
Haul Road_Max	Baseline	Toddler	Antimony	Haul Road_Max_Baseline_Toddler_Antimony	4.00E-03	1.04E-04	8.23E-04	1.60E-03	9.00E-02	5.41E-04	5.78E-07	1.58E-06	7.66E-05	2.77E-03	9.99E-02	3.03E-02
Haul Road_Max	Baseline	Toddler	Arsenic	Haul Road_Max_Baseline_Toddler_Arsenic	8.00E-01	2.07E-02	1.99E-02	3.90E-03	3.73E-03	1.11E-03	2.30E-07	1.59E-06	1.33E-06	1.00E-02	8.59E-01	1.74E-01
Haul Road_Max	Baseline	Toddler	Arsenic_cancer	Haul Road_Max_Baseline_Toddler_Arsenic_cancer	8.00E-01	2.07E-02	1.99E-02	3.90E-03	3.73E-03	1.11E-03	2.30E-07	1.59E-06	1.33E-06	1.00E-02	8.59E-01	8.68E+00
Haul Road_Max	Baseline	Toddler	Barium	Haul Road_Max_Baseline_Toddler_Barium	2.80E+00	7.26E-02	8.77E+00	1.87E+01	2.66E-01	7.82E-01	9.13E-05	1.97E-03	2.11E-05	1.86E-02	3.14E+01	9.52E-03
Haul Road_Max	Baseline	Toddler	Beryllium	Haul Road_Max_Baseline_Toddler_Beryllium	3.20E-02	8.30E-04	5.32E-04	6.40E-04	1.40E-01	6.16E-04	8.75E-07	3.58E-06	8.37E-06	2.77E-03	1.77E-01	5.36E-03
Haul Road_Max	Baseline	Toddler	Boron	Haul Road_Max_Baseline_Toddler_Boron	2.40E-01	6.23E-03	1.05E+01	9.50E+00	0.00E+00	2.16E+00	2.59E-04	5.36E-03	2.13E-03	1.38E-01	2.25E+01	6.82E-03
Haul Road_Max	Baseline	Toddler	Cadmium	Haul Road_Max_Baseline_Toddler_Cadmium	8.80E-03	2.28E-04	9.21E-02	2.96E-02	2.05E-02	1.08E-03	2.39E-06	2.76E-06	1.64E-06	1.11E-04	1.52E-01	9.24E-03
Haul Road_Max	Baseline	Toddler	Chromium	Haul Road_Max_Baseline_Toddler_Chromium	1.68E+00	4.36E-02	2.75E-01	4.00E-02	7.12E-02	1.86E-01	1.03E-03	1.06E-03	2.54E-03	3.88E-03	2.30E+00	1.40E-01
Haul Road_Max	Baseline	Toddler	Cobalt	Haul Road_Max_Baseline_Toddler_Cobalt	8.16E-01	2.12E-02	8.25E-02	2.66E-02	2.07E-02	3.58E-01	2.79E-04	1.95E-03	7.32E-04	1.49E-03	1.33E+00	5.76E-02
Haul Road_Max	Baseline	Toddler	Copper	Haul Road_Max_Baseline_Toddler_Copper	8.00E-01	2.07E-02	3.99E+00	1.17E+00	1.01E+01	3.67E+00	1.31E-03	9.64E-03	1.49E-03	3.93E-03	1.98E+01	1.32E-02
Haul Road_Max	Baseline	Toddler	Lead	Haul Road_Max_Baseline_Toddler_Lead	1.31E+00	3.40E-02	1.03E-02	2.25E-02	7.87E-02	6.65E-03	1.91E-05	4.20E-05	2.42E-05	1.72E-03	1.47E+00	1.48E-01
Haul Road_Max	Baseline	Toddler	Manganese	Haul Road_Max_Baseline_Toddler_Manganese	6.41E+01	1.66E+00	3.35E+02	7.15E+02	3.37E+00	7.95E+01	9.04E-03	1.99E-01	1.17E-02	2.47E-01	1.20E+03	5.34E-01
Haul Road_Max	Baseline	Toddler	Mercury	Haul Road_Max_Baseline_Toddler_Mercury	8.00E-03	2.08E-04	3.44E-02	5.00E-03	2.14E+00	9.31E-03	1.01E-04	2.58E-05	4.94E-04	3.91E-05	2.20E+00	0.00E+00
Haul Road_Max	Baseline	Toddler	Molybdenum	Haul Road_Max_Baseline_Toddler_Molybdenum	4.00E-02	1.04E-03	1.58E-01	4.35E-02	5.40E-02	8.44E-02	3.65E-05	2.25E-04	1.49E-03	1.33E-02	3.96E-01	1.04E-03
Haul Road_Max	Baseline	Toddler	Nickel	Haul Road_Max_Baseline_Toddler_Nickel	1.12E+00	2.90E-02	1.92E+00	4.40E-01	2.50E-02	9.10E-01	1.23E-03	2.69E-03	5.84E-04	6.15E-03	4.46E+00	2.46E-02
Haul Road_Max	Baseline	Toddler	Silver	Haul Road_Max_Baseline_Toddler_Silver	8.00E-03	2.08E-04	7.12E-03	2.50E-03	1.97E-02	2.55E-03	1.10E-05	7.88E-06	1.72E-04	2.77E-04	4.06E-02	4.92E-04
Haul Road_Max	Baseline	Toddler	Strontium	Haul Road_Max_Baseline_Toddler_Strontium	7.20E-01	1.87E-02	1.28E+01	1.53E+01	7.26E+00	1.29E+00	1.53E-04	3.22E-03	8.24E-04	3.47E-02	3.74E+01	3.78E-03
Haul Road_Max	Baseline	Toddler	Vanadium	Haul Road_Max_Baseline_Toddler_Vanadium	2.80E+00	7.26E-02	6.88E-02	2.00E-02	4.50E-02	1.00E-01	4.36E-05	7.02E-04	3.01E-04	5.54E-03	3.11E+00	8.98E-02
Haul Road_Max	Baseline	Toddler	Zinc	Haul Road_Max_Baseline_Toddler_Zinc	2.88E+00	7.47E-02	1.43E+01	5.50E+00	2.60E+01	1.50E-01	2.10E-02	3.90E-04	1.92E-02	1.93E-02	4.90E+01	6.18E-03
Haul Road_Max	Project	Adult	Aluminum	Haul Road_Max_Project_Adult_Aluminum	9.71E+00	2.01E+00	4.43E+01	1.29E+01	0.00E+00	8.59E+00	1.46E-03	3.33E-02	9.96E-04	0.00E+00	7.76E+01	7.67E-03
Haul Road_Max	Project	Adult	Antimony	Haul Road_Max_Project_Adult_Antimony	4.76E-04	9.87E-05	2.27E-03	8.52E-04	0.00E+00	3.45E-04	1.30E-07	1.25E-06	6.65E-08	0.00E+00	4.04E-03	2.86E-04
Haul Road_Max	Project	Adult	Arsenic	Haul Road_Max_Project_Adult_Arsenic	1.52E-02	3.15E-03	4.26E-02	1.56E-02	4.53E-03	7.66E-04	4.26E-08	6.27E-07	2.27E-06	4.62E-03	8.65E-02	4.08E-03
Haul Road_Max	Project	Adult	Arsenic_cancer	Haul Road_Max_Project_Adult_Arsenic_cancer	1.52E-02	3.15E-03	4.26E-02	1.56E-02	4.53E-03	7.66E-04	4.26E-08	6.27E-07	2.27E-06	4.62E-03	8.65E-02	2.04E-01
Haul Road_Max	Project	Adult	Barium	Haul Road_Max_Project_Adult_Barium	3.55E-02	7.37E-03	2.79E-01	3.31E-01	0.00E+00	1.56E-02	1.95E-06	4.32E-05	3.98E-07	0.00E+00	6.69E-01	4.73E-05
Haul Road_Max	Project	Adult	Beryllium	Haul Road_Max_Project_Adult_Beryllium	1.74E-04	3.62E-05	7.97E-04	2.33E-04	0.00E+00	1.03E-04	2.17E-08	3.99E-07	1.39E-08	0.00E+00	1.34E-03	9.50E-06
Haul Road_Max	Project	Adult	Boron	Haul Road_Max_Project_Adult_Boron	2.38E-03	4.94E-04	1.21E-01	1.16E-01	0.00E+00	2.82E-02	3.43E-06	7.16E-05	2.40E-07	0.00E+00	2.68E-01	1.90E-05
Haul Road_Max	Project	Adult	Cadmium	Haul Road_Max_Project_Adult_Cadmium	1.16E-04	2.41E-05	1.82E-03	6.21E-04	7.79E-03	2.63E-05	1.11E-07	7.66E-08	4.37E-07	1.60E-05	1.04E-02	1.47E-04
Haul Road_Max	Project	Adult	Chromium	Haul Road_Max_Project_Adult_Chromium	1.86E-02	3.86E-03	8.79E-02	2.49E-02	0.00E+00	6.07E-02	2.36E-05	2.35E-04	1.30E-05	0.00E+00	1.96E-01	2.78E-03
Haul Road_Max	Project	Adult	Cobalt	Haul Road_Max_Project_Adult_Cobalt	6.92E-03	1.44E-03	3.23E-02	9.34E-03	4.17E-02	8.42E-02	1.57E-05	3.22E-04	1.79E-03	1.15E-03	1.79E-01	1.81E-03
Haul Road_Max	Project	Adult	Copper	Haul Road_Max_Project_Adult_Copper	1.19E-02	2.47E-03	1.17E-01	3.66E-02	5.30E+00	1.38E-01	6.51E-04	4.40E-04	1.18E-03	7.83E-04	5.60E+00	8.71E-04
Haul Road_Max	Project	Adult	Lead	Haul Road_Max_Project_Adult_Lead	3.13E-03	6.49E-04	1.43E-02	4.16E-03	3.82E-02	5.60E-04	2.97E-07	2.16E-06	1.11E-05	3.17E-04	6.13E-02	1.45E-03
Haul Road_Max	Project	Adult	Manganese	Haul Road_Max_Project_Adult_Manganese	2.47E-01	5.13E-02	2.49E+00	3.63E+00	5.88E-01	4.46E-01	5.77E-05	1.19E-03	3.15E-03	1.64E-02	7.48E+00	7.77E-04
Haul Road_Max	Project	Adult	Mercury	Haul Road_Max_Project_Adult_Mercury	1.14E-06	2.36E-07	1.21E-05	3.94E-06	1.03E+00	1.03E-05	1.10E-05	2.93E-08	3.48E-04	7.13E-06	1.03E+00	0.00E+00
Haul Road_Max	Project	Adult	Molybdenum	Haul Road_Max_Project_Adult_Molybdenum	3.06E-04	6.35E-05	2.68E-03	8.01E-04	7.22E-02	4.81E-03	8.17E-07	1.22E-05	3.13E-03	6.75E-03	9.07E-02	5.58E-05
Haul Road_Max	Project	Adult	Nickel	Haul Road_Max_Project_Adult_Nickel	1.42E-02	2.94E-03	9.04E-02	2.53E-02	1.32E-01	6.84E-02	2.81E-05	2.38E-04	4.07E-04	1.24E-02	3.46E-01	4.45E-04
Haul Road_Max	Project	Adult	Silver	Haul Road_Max_Project_Adult_Silver	5.72E-05	1.19E-05	3.14E-04	1.30E-04	8.76E-04	1.50E-04	1.18E-07	5.14E-07	1.18E-05	4.67E-06	1.56E-03	4.40E-06
Haul Road_Max	Project	Adult	Strontium	Haul Road_Max_Project_Adult_Strontium	5.21E-03	1.08E-03	1.22E-01	1.40E-01	0.00E+00	1.27E-02	1.55E-06	3.29E-05	1.51E-07	0.00E+00	2.80E-01	6.61E-06
Haul Road_Max	Project	Adult	Vanadium	Haul Road_Max_Project_Adult_Vanadium	2.04E-02	4.23E-03	9.36E-02	2.69E-02	0.00E+00	2.99E-02	5.00E-06	1.16E-04	3.45E-06	0.00E+00	1.75E-01	1.18E-03
Haul Road_Max	Project	Adult	Zinc	Haul Road_Max_Project_Adult_Zinc	3.43E-02	7.11E-03	3.36E-01	1.24E-01	2.59E+01	4.07E-03	1.05E-02	1.26E-05	2.11E-02	7.30E-03	2.65E+01	7.80E-04
Haul Road_Max	Project	Adolescent	Aluminum	Haul Road_Max_Project_Adolescent_Aluminum	9.71E+00	1.89E+00	3.14E+01	1.29E+01	0.00E+00	5.57E+00	9.45E-04	2.16E-02	6.46E-04	0.00E+00	6.15E+01	7.20E-03
Haul Road_Max	Project	Adolescent	Antimony	Haul Road_Max_Project_Adolescent_Antimony	4.76E-04	9.28E-05	1.61E-03	8.52E-04	0.00E+00	2.23E-04	8.40E-08	8.08E-07	4.31E-08	0.00E+00	3.25E-03	2.72E-04
Haul Road_Max	Project	Adolescent	Arsenic	Haul Road_Max_Project_Adolescent_Arsenic	1.52E-02	2.96E-03	3.02E-02	1.56E-02	4.53E-03	4.97E-04	2.76E-08	4.07E-07	1.47E-06	4.39E-03	7.33E-02	4.10E-03
Haul Road_Max	Project	Adolescent	Arsenic_cancer	Haul Road_Max_Project_Adolescent_Arsenic_cancer	1.52E-02	2.96E-03	3.02E-02	1.56E-02	4.53E-03	4.97E-04	2.76E-08	4.07E-07	1.47E-06	4.39E-03	7.33E-02	2.05E-01
Haul Road_Max	Project	Adolescent	Barium	Haul Road_Max_Project_Adolescent_Barium	3.55E-02	6.92E-03	1.98E-01	3.31E-01	0.00E+00	1.01E-02	1.26E-06	2.80E-05	2.58E-07	0.00E+00	5.82E-01	4.87E-05
Haul Road_Max	Project	Adolescent	Beryllium	Haul Road_Max_Project_Adolescent_Beryllium	1.74E-04	3.40E-05	5.64E-04	2.33E-04	0.00E+00	6.67E-05	1.41E-08	2.59E-07	8.98E-09	0.00E+00	1.07E-03	8.98E-06
Haul Road_Max	Project	Adolescent	Boron	Haul Road_Max_Project_Adolescent_Boron	2.38E-03	4.64E-04	8.55E-02	1.16E-01	0.00E+00	1.83E-02	2.23E-06	4.64E-05	1.56E-07	0.00E+00	2.23E-01	1.87E-05
Haul Road_Max	Project	Adolescent	Cadmium	Haul Road_Max_Project_Adolescent_Cadmium	1.16E-04	2.27E-05	1.29E-03	6.21E-04	7.79E-03	1.70E-05	7.22E-08	4.97E-08	2.83E-07	1.52E-05	9.87E-03	1.65E-04
Haul Road_Max	Project	Adolescent	Chromium	Haul Road_Max_Project_Adolescent_Chromium	1.86E-02	3.63E-03	6.23E-02	2.49E-02	0.00E+00	3.93E-02	1.53E-05	1.52E-04	8.45E-06	0.00E+00	1.49E-01	2.49E-03
Haul Road_Max	Project	Adolescent	Cobalt	Haul Road_Max_Project_Adolescent_Cobalt	6.92E-03	1.35E-03	2.29E-02	9.34E-03	4.17E-02	5.46E-02	1.01E-05	2.09E-04	1.16E-03	1.09E-03	1.39E-01	1.67E-03
Haul Road_Max	Project	Adolescent	Copper	Haul Road_Max_Project_Adolescent_Copper	1.19E-02	2.33E-03	8.30E-02	3.66E-02	5.30E+00	8.93E-02	4.22E-04	2.85E-04	7.64E-04	7.43E-04	5.52E+00	1.02E-03
Haul Road_Max	Project	Adolescent	Lead	Haul Road_Max_Project_Adolescent_Lead	3.13E-03	6.10E-04	1.01E-02	4.16E-03	3.82E-02	3.63E-04	1.93E-07	1.40E-06	7.22E-06	3.01E-04	5.69E-02	1.59E-03
Haul Road_Max	Project	Adolescent	Manganese	Haul Road_Max_Project_Adolescent_Manganese	2.47E-01	4.82E-02	1.76E+00	3.63E+00	5.88E-01	2.89E-01	3.74E-05	7.71E-04	2.04E-03	1.56E-02	6.59E+00	8.11E-04
Haul Road_Max	Project	Adolescent	Mercury	Haul Road_Max_Project_Adolescent_Mercury	1.14E-06	2.21E-07	8.60E-06	3.94E-06	1.03E+00	6.67E-06	7.11E-06	1.90E-08	2.25E-04	6.76E-06	1.03E+00	0.00E+00
Haul Road_Max	Project	Adolescent	Molybdenum	Haul Road_Max_Project_Adolescent_Molybdenum	3.06E-04	5.97E-05	1.90E-03	8.01E-04	7.22E-02	3.12E-03	5.29E-07	7.93E-06	2.03E-03	6.40E-03	8.68E-02	6.32E-05
Haul Road_Max	Project	Adolescent	Nickel	Haul Road_Max_Project_Adolescent_Nickel	1.42E-02	2.77E-03	6.40E-02	2.53E-02	1.32E-01	4.43E-02	1.82E-05	1.54E-04	2.64E-04	1.17E-02	2.95E-01	4.49E-04
Haul Road_Max	Project	Adolescent	Silver	Haul Road_Max_Project_Adolescent_Silver	5.72E-05	1.11E-05	2.23E-04	1.30E-04	8.76E-04	9.75E-05	7.67E-08	3.33E-07	7.67E-06	4.43E-06	1.41E-03	4.71E-06
Haul Road_Max	Project	Adolescent	Strontium	Haul Road_Max_Project_Adolescent_Strontium	5.21E-03	1.02E-03	8.62E-02	1.40E-01	0.00E+00	8.26E-03	1.00E-06	2.13E-05	9.80E-08	0.00E+00	2.40E-01	6.71E-06
Haul Road_Max	Project	Adolescent	Vanadium	Haul Road_Max_Project_Adolescent_Vanadium	2.04E-02	3.98E-03	6.63E-02	2.69E-02	0.00E+00	1.94E-02	3.24E-06	7.52E-05	2.23E-06	0.00E+00	1.37E-01	1.09E-03
Haul Road_Max	Project	Adolescent	Zinc	Haul Road_Max_Project_Adolescent_Zinc	3.43E-02	6.68E-03	2.38E-01	1.24E-01	2.59E+01	2.64E-03	6.79E-03	8.18E-06	1.37E-02	6.92E-03	2.64E+01	9.20E-04
Haul Road_Max	Project	Child	Aluminum	Haul Road_Max_Project_Child_Aluminum	9.71E+00	1.76E+00	3.89E+01	4.32E+00	0.00E+00	3.98E+00	6.75E-04	1.54E-02	4.61E-04	0.00E+00	5.87E+01	1.25E-02
Haul Road_Max	Project	Child	Antimony	Haul Road_Max_Project_Child_Antimony	4.76E-04	8.62E-05	1.99E-03	2.84E-04	0.00E+00	1.60E-04	6.00E-08	5.77E-07	3.08E-08	0.00E+00	3.00E-03	4.56E-04
Haul Road_Max	Project	Child	Arsenic	Haul Road_Max_Project_Child_Arsenic	1.52E-02	2.75E-03	3.74E-02	5.20E-03	3.74E-03	3.55E-04	1.97E-08	2.90E-07	1.05E-06	6.52E-03	7.12E-02	7.21E-03
Haul Road_Max	Project	Child	Arsenic_cancer	Haul Road_Max_Project_Child_Arsenic_cancer	1.52E-02	2.75E-03	3.74E-02	5.20E-03	3.74E-03	3.55E-04	1.97E-08	2.90E-07	1.05E-06	6.52E-03	7.12E-02	3.61E-01
Haul Road_Max	Project	Child	Barium	Haul Road_Max_Project_Child_Barium	3.55E-02	6.44E-03	2.46E-01	1.10E-01	0.00E+00	7.23E-03	9.03E-07	2.00E-05	1.84E-07	0.00E+00	4.05E-01	6.16E-05
Haul Road_Max	Project	Child	Beryllium	Haul Road_Max_Project_Child_Beryllium	1.74E-04	3.16E-05	7.00E-04	7.75E-05	0.00E+00	4.77E-05	1.01E-08	1.85E-07	6.42E-09	0.00E+00	1.03E-03	1.57E-05
Haul Road_Max	Project	Child	Boron	Haul Road_Max_Project_Child_Boron	2.38E-03	4.31E-04	1.06E-01	3.87E-02	0.00E+00	1.31E-02	1.59E-06	3.31E-05	1.11E-07	0.00E+00	1.61E-01	2.44E-05
Haul Road_Max	Project	Child	Cadmium	Haul Road_Max_Project_Child_Cadmium	1.16E-04	2.11E-05	1.60E-03	2.07E-04	6.43E-03	1.22E-05	5.16E-08	3.55E-08	2.02E-07	2.25E-05	8.40E-03	2.55E-04
Haul Road_Max	Project	Child	Chromium	Haul Road_Max_Project_Child_Chromium	1.86E-02	3.37E-03	7.72E-02	8.30E-03	0.00E+00	2.81E-02	1.09E-05	1.09E-04	6.04E-06	0.00E+00	1.36E-01	4.13E-03
Haul Road_Max	Project	Child	Cobalt	Haul Road_Max_Project_Child_Cobalt	6.92E-03	1.25E-03	2.83E-02	3.11E-03	3.44E-02	3.90E-02	7.25E-06	1.49E-04	8.26E-04	1.62E-03	1.16E-01	2.51E-03
Haul Road_Max	Project	Child	Copper	Haul Road_Max_Project_Child_Copper	1.19E-02	2.16E-03	1.03E-01	1.22E-02	4.37E+00	6.38E-02	3.01E-04	2.04E-04	5.46E-04	1.10E-03	4.56E+00	1.52E-03
Haul Road_Max	Project	Child	Lead	Haul Road_Max_Project_Child_Lead	3.13E-03	5.67E-04	1.25E-02	1.39E-03	3.15E-02	2.59E-04	1.38E-07	9.99E-07	5.16E-06	4.47E-04	4.99E-02	2.53E-03
Haul Road_Max	Project	Child	Manganese	Haul Road_Max_Project_Child_Manganese	2.47E-01	4.48E-02	2.19E+00	1.21E+00	4.85E-01	2.07E-01	2.67E-05	5.50E-04	1.46E-03	2.31E-02	4.41E+00	9.85E-04
Haul Road_Max	Project	Child	Mercury	Haul Road_Max_Project_Child_Mercury	1.14E-06	2.06E-07	1.07E-05	1.31E-06	8.48E-01	4.76E-06	5.08E-06	1.36E-08	1.61E-04	1.01E-05	8.48E-01	0.00E+00
Haul Road_Max	Project	Child	Molybdenum	Haul Road_Max_Project_Child_Molybdenum	3.06E-04	5.55E-05	2.35E-03	2.67E-04	5.95E-02	2.23E-03	3.78E-07	5.66E-06	1.45E-03	9.51E-03	7.57E-02	1.00E-04
Haul Road_Max	Project	Child	Nickel	Haul Road_Max_Project_Child_Nickel	1.42E-02	2.57E-03	7.94E-02	8.42E-03	1.09E-01	3.17E-02	1.30E-05	1.10E-04	1.89E-04	1.74E-02	2.63E-01	7.27E-04
Haul Road_Max	Project	Child	Silver	Haul Road_Max_Project_Child_Silver	5.72E-05	1.04E-05	2.76E-04	4.33E-05	7.23E-04	6.96E-05	5.48E-08	2.38E-07	5.48E-06	6.58E-06	1.19E-03	7.24E-06
Haul Road_Max	Project	Child	Strontium	Haul Road_Max_Project_Child_Strontium	5.21E-03	9.44E-04	1.07E-01	4.65E-02	0.00E+00	5.90E-03	7.17E-07	1.52E-05	7.00E-08	0.00E+00	1.66E-01	8.39E-06
Haul Road_Max	Project	Child	Vanadium	Haul Road_Max_Project_Child_Vanadium	2.04E-02	3.69E-03	8.22E-02	8.96E-03	0.00E+00	1.38E-02	2.31E-06	5.37E-05	1.60E-06	0.00E+00	1.29E-01	1.87E-03
Haul Road_Max	Project	Child	Zinc	Haul Road_Max_Project_Child_Zinc	3.43E-02	6.21E-03	2.95E-01	4.12E-02	2.14E+01	1.88E-03	4.85E-03	5.85E-06	9.79E-03	1.03E-02	2.18E+01	1.38E-03
Haul Road_Max	Project	Toddler	Aluminum	Haul Road_Max_Project_Toddler_Aluminum	3.88E+01	1.01E+00	1.67E+01	4.32E+00	0.00E+00	2.71E+00	4.59E-04	1.05E-02	3.14E-04	0.00E+00	6.36E+01	2.70E-02

Haul Road_Max	Project	Toddler	Antimony	Haul Road_Max_Project_Toddler_Antimony	1.90E-03	4.94E-05	8.57E-04	2.84E-04	0.00E+00	1.08E-04	4.08E-08	3.92E-07	2.09E-08	0.00E+00	3.20E-03	9.71E-04
Haul Road_Max	Project	Toddler	Arsenic	Haul Road_Max_Project_Toddler_Arsenic	6.08E-02	1.58E-03	1.61E-02	5.20E-03	2.27E-03	2.41E-04	1.34E-08	1.97E-07	7.15E-07	6.08E-03	9.22E-02	1.86E-02
Haul Road_Max	Project	Toddler	Arsenic_cancer	Haul Road_Max_Project_Toddler_Arsenic_cancer	6.08E-02	1.58E-03	1.61E-02	5.20E-03	2.27E-03	2.41E-04	1.34E-08	1.97E-07	7.15E-07	6.08E-03	9.22E-02	9.31E-01
Haul Road_Max	Project	Toddler	Barium	Haul Road_Max_Project_Toddler_Barium	1.42E-01	3.68E-03	1.06E-01	1.10E-01	0.00E+00	4.92E-03	6.14E-07	1.36E-05	1.25E-07	0.00E+00	3.67E-01	1.11E-04
Haul Road_Max	Project	Toddler	Beryllium	Haul Road_Max_Project_Toddler_Beryllium	6.97E-04	1.81E-05	3.01E-04	7.75E-05	0.00E+00	3.24E-05	6.84E-09	1.26E-07	4.36E-09	0.00E+00	1.13E-03	3.41E-05
Haul Road_Max	Project	Toddler	Boron	Haul Road_Max_Project_Toddler_Boron	9.52E-03	2.47E-04	4.56E-02	3.87E-02	0.00E+00	8.88E-03	1.08E-06	2.25E-05	7.57E-08	0.00E+00	1.03E-01	3.12E-05
Haul Road_Max	Project	Toddler	Cadmium	Haul Road_Max_Project_Toddler_Cadmium	4.65E-04	1.21E-05	6.87E-04	2.07E-04	3.90E-03	8.27E-06	3.51E-08	2.41E-08	1.37E-07	2.10E-05	5.30E-03	3.21E-04
Haul Road_Max	Project	Toddler	Chromium	Haul Road_Max_Project_Toddler_Chromium	7.44E-02	1.93E-03	3.32E-02	8.30E-03	0.00E+00	1.91E-02	7.44E-06	7.39E-05	4.10E-06	0.00E+00	1.37E-01	8.30E-03
Haul Road_Max	Project	Toddler	Cobalt	Haul Road_Max_Project_Toddler_Cobalt	2.77E-02	7.18E-04	1.22E-02	3.11E-03	2.09E-02	2.65E-02	4.93E-06	1.01E-04	5.62E-04	1.51E-03	9.33E-02	4.04E-03
Haul Road_Max	Project	Toddler	Copper	Haul Road_Max_Project_Toddler_Copper	4.77E-02	1.24E-03	4.43E-02	1.22E-02	2.65E+00	4.34E-02	2.05E-04	1.39E-04	3.71E-04	1.03E-03	2.80E+00	1.86E-03
Haul Road_Max	Project	Toddler	Lead	Haul Road_Max_Project_Toddler_Lead	1.25E-02	3.24E-04	5.39E-03	1.39E-03	1.91E-02	1.76E-04	9.36E-08	6.79E-07	3.51E-06	4.17E-04	3.93E-02	3.97E-03
Haul Road_Max	Project	Toddler	Manganese	Haul Road_Max_Project_Toddler_Manganese	9.88E-01	2.56E-02	9.41E-01	1.21E+00	2.94E-01	1.40E-01	1.82E-05	3.74E-04	9.92E-04	2.16E-02	3.62E+00	1.61E-03
Haul Road_Max	Project	Toddler	Mercury	Haul Road_Max_Project_Toddler_Mercury	4.54E-06	1.18E-07	4.59E-06	1.31E-06	5.14E-01	3.24E-06	3.46E-06	9.22E-09	1.09E-04	9.38E-06	5.14E-01	0.00E+00
Haul Road_Max	Project	Toddler	Molybdenum	Haul Road_Max_Project_Toddler_Molybdenum	1.22E-03	3.18E-05	1.01E-03	2.67E-04	3.61E-02	1.51E-03	2.57E-07	3.85E-06	9.86E-04	8.88E-03	5.00E-02	1.32E-04
Haul Road_Max	Project	Toddler	Nickel	Haul Road_Max_Project_Toddler_Nickel	5.67E-02	1.47E-03	3.41E-02	8.42E-03	6.61E-02	2.15E-02	8.84E-06	7.48E-05	1.28E-04	1.63E-02	2.05E-01	1.13E-03
Haul Road_Max	Project	Toddler	Silver	Haul Road_Max_Project_Toddler_Silver	2.29E-04	5.93E-06	1.19E-04	4.33E-05	4.38E-04	4.73E-05	3.73E-08	1.62E-07	3.72E-06	6.14E-06	8.92E-04	1.08E-05
Haul Road_Max	Project	Toddler	Strontium	Haul Road_Max_Project_Toddler_Strontium	2.08E-02	5.40E-04	4.60E-02	4.65E-02	0.00E+00	4.01E-03	4.87E-07	1.04E-05	4.76E-08	0.00E+00	1.18E-01	1.19E-05
Haul Road_Max	Project	Toddler	Vanadium	Haul Road_Max_Project_Toddler_Vanadium	8.15E-02	2.11E-03	3.53E-02	8.96E-03	0.00E+00	9.40E-03	1.57E-06	3.65E-05	1.09E-06	0.00E+00	1.37E-01	3.97E-03
Haul Road_Max	Project	Toddler	Zinc	Haul Road_Max_Project_Toddler_Zinc	1.37E-01	3.56E-03	1.27E-01	4.12E-02	1.30E+01	1.28E-03	3.30E-03	3.97E-06	6.66E-03	9.60E-03	1.33E+01	1.68E-03
Haul Road_Average	Baseline	Adult	Aluminum	Haul Road_Average_Baseline_Adult_Aluminum	4.48E+02	9.30E+01	5.64E+01	2.12E+02	2.81E+00	1.50E+02	6.71E-02	9.24E-01	1.79E-01	1.03E+00	9.64E+02	9.54E-02
Haul Road_Average	Baseline	Adult	Antimony	Haul Road_Average_Baseline_Adult_Antimony	1.00E-03	2.08E-04	4.35E-03	9.60E-03	1.80E-01	1.72E-03	1.84E-06	5.02E-06	2.43E-04	2.10E-03	1.99E-01	1.41E-02
Haul Road_Average	Baseline	Adult	Arsenic	Haul Road_Average_Baseline_Adult_Arsenic	2.00E-01	4.15E-02	1.05E-01	2.34E-02	7.46E-03	3.53E-03	7.30E-07	5.04E-06	4.21E-06	7.61E-03	3.89E-01	1.83E-02
Haul Road_Average	Baseline	Adult	Arsenic_cancer	Haul Road_Average_Baseline_Adult_Arsenic_cancer	2.00E-01	4.15E-02	1.05E-01	2.34E-02	7.46E-03	3.53E-03	7.30E-07	5.04E-06	4.21E-06	7.61E-03	3.89E-01	9.17E-01
Haul Road_Average	Baseline	Adult	Barium	Haul Road_Average_Baseline_Adult_Barium	7.00E-01	1.45E-01	4.64E+01	1.12E+02	5.32E-01	2.48E+00	2.90E-04	6.26E-03	6.72E-05	1.41E-02	1.63E+02	1.15E-02
Haul Road_Average	Baseline	Adult	Beryllium	Haul Road_Average_Baseline_Adult_Beryllium	8.00E-03	1.66E-03	2.82E-03	3.84E-03	2.79E-01	1.96E-03	2.78E-06	1.14E-05	2.66E-05	2.10E-03	2.99E-01	2.12E-03
Haul Road_Average	Baseline	Adult	Boron	Haul Road_Average_Baseline_Adult_Boron	6.00E-02	1.25E-02	5.54E+01	5.70E+01	0.00E+00	6.85E+00	8.23E-04	1.70E-02	6.76E-03	1.05E-01	1.19E+02	8.45E-03
Haul Road_Average	Baseline	Adult	Cadmium	Haul Road_Average_Baseline_Adult_Cadmium	2.20E-03	4.57E-04	4.88E-01	1.78E-01	4.10E-02	3.45E-03	7.59E-06	8.78E-06	5.20E-06	8.41E-05	7.13E-01	1.01E-02
Haul Road_Average	Baseline	Adult	Chromium	Haul Road_Average_Baseline_Adult_Chromium	4.20E-01	8.71E-02	1.46E+00	2.40E-01	1.42E-01	5.92E-01	3.26E-03	3.37E-03	8.07E-03	2.94E-03	2.95E+00	4.18E-02
Haul Road_Average	Baseline	Adult	Cobalt	Haul Road_Average_Baseline_Adult_Cobalt	2.04E-01	4.23E-02	4.37E-01	1.59E-01	4.13E-02	1.14E+00	8.86E-04	6.18E-03	2.32E-03	1.14E-03	2.03E+00	2.05E-02
Haul Road_Average	Baseline	Adult	Copper	Haul Road_Average_Baseline_Adult_Copper	2.00E-01	4.15E-02	2.11E+01	7.05E+00	2.02E+01	1.17E+01	4.17E-03	3.06E-02	4.73E-03	2.99E-03	6.03E+01	9.37E-03
Haul Road_Average	Baseline	Adult	Lead	Haul Road_Average_Baseline_Adult_Lead	3.28E-01	6.81E-02	5.46E-02	1.35E-01	1.57E-01	2.11E-02	6.05E-05	1.33E-04	7.70E-05	1.30E-03	7.66E-01	1.80E-02
Haul Road_Average	Baseline	Adult	Manganese	Haul Road_Average_Baseline_Adult_Manganese	1.60E+01	3.32E+00	1.77E+03	4.29E+03	6.74E+00	2.53E+02	2.87E-02	6.33E-01	3.70E-02	1.88E-01	6.34E+03	6.59E-01
Haul Road_Average	Baseline	Adult	Mercury	Haul Road_Average_Baseline_Adult_Mercury	2.00E-03	4.15E-04	1.82E-01	3.00E-02	4.29E+00	2.96E-02	3.20E-04	8.20E-05	1.57E-03	2.97E-05	4.53E+00	0.00E+00
Haul Road_Average	Baseline	Adult	Molybdenum	Haul Road_Average_Baseline_Adult_Molybdenum	1.00E-02	2.08E-03	8.38E-01	2.61E-01	1.08E-01	2.68E-01	1.16E-04	7.13E-04	4.73E-03	1.01E-02	1.50E+00	9.24E-04
Haul Road_Average	Baseline	Adult	Nickel	Haul Road_Average_Baseline_Adult_Nickel	2.80E-01	5.81E-02	1.02E+01	2.64E+00	5.00E-02	2.89E+00	3.92E-03	8.56E-03	1.85E-03	4.67E-03	1.61E+01	2.07E-02
Haul Road_Average	Baseline	Adult	Silver	Haul Road_Average_Baseline_Adult_Silver	2.00E-03	4.15E-04	3.77E-02	1.50E-02	3.95E-02	8.10E-03	3.49E-05	2.50E-05	5.46E-04	2.10E-04	1.03E-01	2.93E-04
Haul Road_Average	Baseline	Adult	Strontium	Haul Road_Average_Baseline_Adult_Strontium	1.80E-01	3.73E-02	6.77E+01	9.18E+01	1.45E+01	4.10E+00	4.86E-04	1.02E-02	2.62E-03	2.63E-02	1.78E+02	4.20E-03
Haul Road_Average	Baseline	Adult	Vanadium	Haul Road_Average_Baseline_Adult_Vanadium	7.00E-01	1.45E-01	3.64E-01	1.20E-01	9.00E-02	3.19E-01	1.38E-04	2.23E-03	9.56E-04	4.21E-03	1.75E+00	1.18E-02
Haul Road_Average	Baseline	Adult	Zinc	Haul Road_Average_Baseline_Adult_Zinc	7.20E-01	1.49E-01	7.57E+01	3.30E+01	5.20E+01	4.77E-01	6.67E-02	1.24E-03	6.10E-02	1.46E-02	1.62E+02	4.78E-03
Haul Road_Average	Baseline	Adolescent	Aluminum	Haul Road_Average_Baseline_Adolescent_Aluminum	4.48E+02	8.74E+01	4.00E+01	2.12E+02	2.81E+00	9.71E+01	4.35E-02	5.99E-01	1.16E-01	9.74E-01	8.89E+02	1.04E-01
Haul Road_Average	Baseline	Adolescent	Antimony	Haul Road_Average_Baseline_Adolescent_Antimony	1.00E-03	1.95E-04	3.08E-03	9.60E-03	1.80E-01	1.11E-03	1.19E-06	3.26E-06	1.58E-04	2.00E-03	1.97E-01	1.65E-02
Haul Road_Average	Baseline	Adolescent	Arsenic	Haul Road_Average_Baseline_Adolescent_Arsenic	2.00E-01	3.90E-02	7.47E-02	2.34E-02	7.46E-03	2.29E-03	4.73E-07	3.26E-06	2.73E-06	7.22E-03	3.54E-01	1.98E-02
Haul Road_Average	Baseline	Adolescent	Arsenic_cancer	Haul Road_Average_Baseline_Adolescent_Arsenic_cancer	2.00E-01	3.90E-02	7.47E-02	2.34E-02	7.46E-03	2.29E-03	4.73E-07	3.26E-06	2.73E-06	7.22E-03	3.54E-01	9.88E-01
Haul Road_Average	Baseline	Adolescent	Barium	Haul Road_Average_Baseline_Adolescent_Barium	7.00E-01	1.37E-01	3.29E+01	1.12E+02	5.32E-01	1.61E+00	1.88E-04	4.05E-03	4.35E-05	1.34E-02	1.48E+02	1.24E-02
Haul Road_Average	Baseline	Adolescent	Beryllium	Haul Road_Average_Baseline_Adolescent_Beryllium	8.00E-03	1.56E-03	2.00E-03	3.84E-03	2.79E-01	1.27E-03	1.80E-06	7.37E-06	1.72E-05	2.00E-03	2.98E-01	2.49E-03
Haul Road_Average	Baseline	Adolescent	Boron	Haul Road_Average_Baseline_Adolescent_Boron	6.00E-02	1.17E-02	3.93E+01	5.70E+01	0.00E+00	4.44E+00	5.34E-04	1.10E-02	4.38E-03	9.98E-02	1.01E+02	8.45E-03
Haul Road_Average	Baseline	Adolescent	Cadmium	Haul Road_Average_Baseline_Adolescent_Cadmium	2.20E-03	4.29E-04	3.46E-01	1.78E-01	4.10E-02	2.23E-03	4.92E-06	5.69E-06	3.37E-06	7.98E-05	5.69E-01	9.53E-03
Haul Road_Average	Baseline	Adolescent	Chromium	Haul Road_Average_Baseline_Adolescent_Chromium	4.20E-01	8.19E-02	1.03E+00	2.40E-01	1.42E-01	3.84E-01	2.11E-03	2.18E-03	5.23E-03	2.79E-03	2.31E+00	3.87E-02
Haul Road_Average	Baseline	Adolescent	Cobalt	Haul Road_Average_Baseline_Adolescent_Cobalt	2.04E-01	3.98E-02	3.09E-01	1.59E-01	4.13E-02	7.38E-01	5.75E-04	4.01E-03	1.51E-03	1.08E-03	1.50E+00	1.79E-02
Haul Road_Average	Baseline	Adolescent	Copper	Haul Road_Average_Baseline_Adolescent_Copper	2.00E-01	3.90E-02	1.49E+01	7.05E+00	2.02E+01	7.56E+00	2.70E-03	1.98E-02	3.07E-03	2.83E-03	5.00E+01	9.21E-03
Haul Road_Average	Baseline	Adolescent	Lead	Haul Road_Average_Baseline_Adolescent_Lead	3.28E-01	6.40E-02	3.87E-02	1.35E-01	1.57E-01	1.37E-02	3.92E-05	8.64E-05	4.99E-05	1.24E-03	7.38E-01	2.06E-02
Haul Road_Average	Baseline	Adolescent	Manganese	Haul Road_Average_Baseline_Adolescent_Manganese	1.60E+01	3.12E+00	1.25E+03	4.29E+03	6.74E+00	1.64E+02	1.86E-02	4.10E-01	2.40E-02	1.78E-01	5.74E+03	7.06E-01
Haul Road_Average	Baseline	Adolescent	Mercury	Haul Road_Average_Baseline_Adolescent_Mercury	2.00E-03	3.90E-04	1.29E-01	3.00E-02	4.29E+00	1.92E-02	2.08E-04	5.32E-05	1.02E-03	2.82E-05	4.47E+00	0.00E+00
Haul Road_Average	Baseline	Adolescent	Molybdenum	Haul Road_Average_Baseline_Adolescent_Molybdenum	1.00E-02	1.95E-03	5.94E-01	2.61E-01	1.08E-01	1.74E-01	7.52E-05	4.62E-04	3.06E-03	9.58E-03	1.16E+00	8.46E-04
Haul Road_Average	Baseline	Adolescent	Nickel	Haul Road_Average_Baseline_Adolescent_Nickel	2.80E-01	5.46E-02	7.21E+00	2.64E+00	5.00E-02	1.87E+00	2.54E-03	5.55E-03	1.20E-03	4.43E-03	1.21E+01	1.85E-02
Haul Road_Average	Baseline	Adolescent	Silver	Haul Road_Average_Baseline_Adolescent_Silver	2.00E-03	3.90E-04	2.67E-02	1.50E-02	3.95E-02	5.25E-03	2.26E-05	1.62E-05	3.54E-04	2.00E-04	8.94E-02	2.99E-04
Haul Road_Average	Baseline	Adolescent	Strontium	Haul Road_Average_Baseline_Adolescent_Strontium	1.80E-01	3.51E-02	4.80E+01	9.18E+01	1.45E+01	2.65E+00	3.15E-04	6.62E-03	1.70E-03	2.50E-02	1.57E+02	4.39E-03
Haul Road_Average	Baseline	Adolescent	Vanadium	Haul Road_Average_Baseline_Adolescent_Vanadium	7.00E-01	1.37E-01	2.58E-01	1.20E-01	9.00E-02	2.06E-01	8.97E-05	1.44E-03	6.20E-04	3.99E-03	1.52E+00	1.21E-02
Haul Road_Average	Baseline	Adolescent	Zinc	Haul Road_Average_Baseline_Adolescent_Zinc	7.20E-01	1.40E-01	5.36E+01	3.30E+01	5.20E+01	3.09E-01	4.32E-02	8.03E-04	3.95E-02	1.39E-02	1.40E+02	4.88E-03
Haul Road_Average	Baseline	Child	Aluminum	Haul Road_Average_Baseline_Child_Aluminum	4.48E+02	8.12E+01	4.96E+01	7.06E+01	2.32E+00	6.94E+01	3.11E-02	4.28E-01	8.31E-02	1.45E+00	7.23E+02	1.54E-01
Haul Road_Average	Baseline	Child	Antimony	Haul Road_Average_Baseline_Child_Antimony	1.00E-03	1.81E-04	3.83E-03	3.20E-03	1.49E-01	7.95E-04	8.50E-07	2.33E-06	1.13E-04	2.97E-03	1.61E-01	2.44E-02
Haul Road_Average	Baseline	Child	Arsenic	Haul Road_Average_Baseline_Child_Arsenic	2.00E-01	3.62E-02	9.26E-02	7.80E-03	6.16E-03	1.63E-03	3.38E-07	2.33E-06	1.95E-06	1.07E-02	3.55E-01	3.60E-02
Haul Road_Average	Baseline	Child	Arsenic_cancer	Haul Road_Average_Baseline_Child_Arsenic_cancer	2.00E-01	3.62E-02	9.26E-02	7.80E-03	6.16E-03	1.63E-03	3.38E-07	2.33E-06	1.95E-06	1.07E-02	3.55E-01	1.80E+00
Haul Road_Average	Baseline	Child	Barium	Haul Road_Average_Baseline_Child_Barium	7.00E-01	1.27E-01	4.08E+01	3.74E+01	4.39E-01	1.15E+00	1.34E-04	2.90E-03	3.11E-05	1.99E-02	8.06E+01	1.23E-02
Haul Road_Average	Baseline	Child	Beryllium	Haul Road_Average_Baseline_Child_Beryllium	8.00E-03	1.45E-03	2.48E-03	1.28E-03	2.30E-01	9.05E-04	1.29E-06	5.26E-06	1.23E-05	2.97E-03	2.47E-01	3.76E-03
Haul Road_Average	Baseline	Child	Boron	Haul Road_Average_Baseline_Child_Boron	6.00E-02	1.09E-02	4.87E+01	1.90E+01	0.00E+00	3.17E+00	3.81E-04	7.89E-03	3.13E-03	1.48E-01	7.11E+01	1.08E-02
Haul Road_Average	Baseline	Child	Cadmium	Haul Road_Average_Baseline_Child_Cadmium	2.20E-03	3.99E-04	4.29E-01	5.92E-02	3.39E-02	1.60E-03	3.52E-06	4.06E-06	2.41E-06	1.19E-04	5.26E-01	1.60E-02
Haul Road_Average	Baseline	Child	Chromium	Haul Road_Average_Baseline_Child_Chromium	4.20E-01	7.61E-02	1.28E+00	8.00E-02	1.17E-01	2.74E-01	1.51E-03	1.56E-03	3.73E-03	4.15E-03	2.26E+00	6.86E-02
Haul Road_Average	Baseline	Child	Cobalt	Haul Road_Average_Baseline_Child_Cobalt	2.04E-01	3.70E-02	3.84E-01	5.31E-02	3.41E-02	5.27E-01	4.10E-04	2.86E-03	1.08E-03	1.60E-03	1.25E+00	2.70E-02
Haul Road_Average	Baseline	Child	Copper	Haul Road_Average_Baseline_Child_Copper	2.00E-01	3.62E-02	1.85E+01	2.35E+00	1.67E+01	5.40E+00	1.93E-03	1.42E-02	2.19E-03	4.21E-03	4.32E+01	1.44E-02
Haul Road_Average	Baseline	Child	Lead	Haul Road_Average_Baseline_Child_Lead	3.28E-01	5.95E-02	4.80E-02	4.50E-02	1.30E-01	9.77E-03	2.80E-05	6.17E-05	3.57E-05	1.84E-03	6.22E-01	3.15E-02
Haul Road_Average	Baseline	Child	Manganese	Haul Road_Average_Baseline_Child_Manganese	1.60E+01	2.90E+00	1.56E+03	1.43E+03	5.56E+00	1.17E+02	1.33E-02	2.93E-01	1.71E-02	2.65E-01	3.13E+03	6.99E-01
Haul Road_Average	Baseline	Child	Mercury	Haul Road_Average_Baseline_Child_Mercury	2.00E-03	3.63E-04	1.60E-01	1.00E-02	3.54E+00	1.37E-02	1.48E-04	3.80E-05	7.26E-04	4.19E-05	3.72E+00	0.00E+00
Haul Road_Average	Baseline	Child	Molybdenum	Haul Road_Average_Baseline_Child_Molybdenum	1.00E-02	1.81E-03	7.37E-01	8.70E-02	8.91E-02	1.24E-01	5.37E-05	3.30E-04	2.19E-03	1.42E-02	1.07E+00	1.41E-03
Haul Road_Average	Baseline	Child	Nickel	Haul Road_Average_Baseline_Child_Nickel	2.80E-01	5.07E-02	8.95E+00	8.80E-01	4.12E-02	1.34E+00	1.81E-03	3.96E-03	8.58E-04	6.58E-03	1.16E+01	3.19E-02
Haul Road_Average	Baseline	Child	Silver	Haul Road_Average_Baseline_Child_Silver	2.00E-03	3.63E-04	3.31E-02	5.00E-03	3.26E-02	3.75E-03	1.62E-05	1.16E-05	2.53E-04	2.97E-04	7.74E-02	4.70E-04
Haul Road_Average	Baseline	Child	Strontium	Haul Road_Average_Baseline_Child_Strontium	1.80E-01	3.26E-02	5.95E+01	3.06E+01	1.20E+01	1.90E+00	2.25E-04	4.73E-03	1.21E-03	3.71E-02	1.04E+02	5.28E-03
Haul Road_Average	Baseline	Child	Vanadium	Haul Road_Average_Baseline_Child_Vanadium	7.00E-01	1.27E-01	3.20E-01	4.00E-02	7.43E-02	1.47E-01	6.41E-05	1.03E-03	4.43E-04	5.93E-03	1.42E+00	2.05E-02
Haul Road_Average	Baseline	Child	Zinc	Haul Road_Average_Baseline_Child_Zinc	7.20E-01	1.30E-01	6.65E+01	1.10E+01	4.29E+01	2.21E-01	3.09E-02	5.73E-04	2.82E-02	2.06E-02	1.22E+02	7.70E-03
Haul Road_Average	Baseline	Toddler	Aluminum	Haul Road_Average_Baseline_Toddler_Aluminum	1.79E+03	4.65E+01	2.13E+01	7.06E+01	1.41E+00	4.72E+01	2.11E-02	2.91E-01	5.65E-02	1.35E+00	1.98E+03	8.39E-01
Haul Road_Average	Baseline	Toddler	Antimony	Haul Road_Average_Baseline_Toddler_Antimony	4.00E-03	1.04E-04	1.65E-03	3.20E-03	9.00E-02	5.41E-04	5.78E-07	1.58E-06	7.66E-05	2.77E-03	1.02E-01	3.10E-02
Haul Road_Average	Baseline	Toddler	Arsenic	Haul Road_Average_Baseline_Toddler_Arsenic	8.00E-01	2.07E-02	3.98E-02	7.80E-03	3.73E-03	1.11E-03	2.30E-07	1.59E-06	1.33E-06	1.00E-02	8.83E-01	1.78E-01
Haul Road_Average	Baseline	Toddler	Arsenic_cancer	Haul Road_Average_Baseline_Toddler_Arsenic_cancer	8.00E-01	2.07E-02	3.98E-02	7.80E-03	3.73E-03	1.11E-03	2.30E-07	1.59E-06	1.33E-06	1.00E-02	8.83E-01	8.92E+00
Haul Road_Average	Baseline	Toddler	Barium	Haul Road_Average_Baseline_Toddler_Barium	2.80E+00	7.26E-02	1.75E+01	3.74E+01	2.66E-01	7.82E-01	9.13E-05	1.97E-03	2.11E-05	1.86E-02	5.89E+01	1.78E-02
Haul Road_Average	Baseline	Toddler	Beryllium	Haul Road_Average_Baseline_Toddler_Beryllium	3.20E-02	8.30E-04	1.06E-03	1.28E-03	1.40E-01	6.16E-04	8.75E-07	3.58E-06	8.37E-06	2.77E-03	1.78E-01	5.40E-03
Haul Road_Average	Baseline	Toddler	Boron	Haul Road_Average_Baseline_Toddler_Boron	2.40E-01	6.23E-03	2.09E+01	1.90E+01	0.00E+00	2.16E+00	2.59E-04	5.36E-03	2.13E-03	1.38E-01	4.25E+01	1.29E-02
Haul Road_Average	Baseline	Toddler	Cadmium	Haul Road_Average_Baseline_Toddler_Cadmium	8.80E-03	2.28E-04	1.84E-01	5.92E-02	2.05E-02	1.08E-03	2.39E-06	2.76E-06	1.64E-06	1.11E-04	2.74E-01	1.66E-02
Haul Road_Average	Baseline	Toddler	Chromium	Haul Road_Average_Baseline_Toddler_Chromium	1.68E+00	4.36E-02	5.50E-01	8.00E-02	7.12E-02	1.86E-01	1.03E-03	1.06E-03	2.54E-03	3.88E-03	2.62E+00	1.59E-01
Haul Road_Average	Baseline	Toddler	Cobalt	Haul Road_Average_Baseline_Toddler_Cobalt	8.16E-01	2.12E-02	1.65E-01	5.31E-02	2.07E-02	3.58E-01	2.79E-04	1.95E-03	7.32E-04	1.49E-03	1.44E+00	6.23E-02
Haul Road_Average	Baseline	Toddler	Copper	Haul Road_Average_Baseline_Toddler_Copper	8.00E-01	2.07E-02	7.97E+00	2.35E+00	1.01E+01	3.67E+00	1.31E-03	9.64E-03	1.49E-03	3.93E-03	2.49E+01	1.66E-02
Haul Road_Average	Baseline	Toddler	Lead	Haul Road_Average_Baseline_Toddler_Lead	1.31E+00	3.40E-02	2.06E-02	4.50E-02	7.87E-02	6.65E-03	1.91E-05	4.20E-05	2.42E-05	1.72E-03	1.50E+00	1.51E-01
Haul Road_Average	Baseline	Toddler	Manganese	Haul Road_Average_Baseline_Toddler_Manganese	6.41E+01	1.66E+00	6.69E+02	1.43E+03	3.37E+00	7.95E+01	9.04E-03	1.99E-01	1.17E-02	2.47E-01	2.25E+03	1.00E+00
Haul Road_Average	Baseline	Toddler	Mercury	Haul Road_Average_Baseline_Toddler_Mercury	8.00E-03	2.08E-04	6.88E-02	1.00E-02	2.14E+00	9.31E-03	1.01E-04	2.58E-05	4.94E-04	3.91E-05	2.24E+00	0.00E+00
Haul Road_Average	Baseline	Toddler	Molybdenum	Haul Road_Average_Baseline_Toddler_Molybdenum	4.00E-02	1.04E-03	3.17E-01	8.70E-02	5.40E-02	8.44E-02	3.65E-05	2.25E-04	1.49E-03	1.33E-02	5.98E-01	1.58E-03
Haul Road_Average	Baseline	Toddler	Nickel	Haul Road_Average_Baseline_Toddler_Nickel	1.12E+00	2.90E-02	3.85E+00	8.80E-01	2.50E-02	9.10E-01	1.23E-03	2.69E-03	5.84E-04	6.15E-03	6.82E+00	3.76E-02
Haul Road_Average	Baseline	Toddler	Silver	Haul Road_Average_Baseline_Toddler_Silver	8.00E-03	2.08E-04	1.42E-02	5.00E-03	1.97E-02	2.55E-03	1.10E-05	7.88E-06	1.72E-04	2.77E-04	5.02E-02	6.08E-04
Haul Road_Average	Baseline	Toddler	Strontium	Haul Road_Average_Baseline_Toddler_Strontium	7.20E-01	1.87E-02	2.56E+01	3.06E+01	7.26E+00	1.29E+00	1.53E-04	3.22E-03	8.24E-04	3.47E-02	6.55E+01	6.62E-03
Haul Road_Average	Baseline	Toddler	Vanadium	Haul Road_Average_Baseline_Toddler_Vanadium	2.80E+00	7.26E-02	1.38E-01	4.00E-02	4.50E-02	1.00E-01	4.36E-05	7.02E-04	3.01E-04	5.54E-03	3.20E+00	9.24E-02
Haul Road_Average	Baseline	Toddler	Zinc	Haul Road_Average_Baseline_Toddler_Zinc	2.88E+00	7.47E-02	2.86E+01	1.10E+01	2.60E+01	1.50E-01	2.10E-02	3.90E-04	1.92E-02	1.93E-02	6.88E+01	8.68E-03
Haul Road_Average	Project	Adult	Aluminum	Haul Road_Average_Project_Adult_Aluminum	3.52E+00	7.30E-01	3.21E+01	9.39E+00	0.00E+00	3.11E+00	5.28E-04	1.21E-02	3.61E-04	0.00E+00	4.88E+01	4.83E-03
Haul Road_Average	Project	Adult	Antimony	Haul Road_Average_Project_Adult_Antimony	1.72E-04	3.58E-05	1.65E-03	6.17E-04	0.00E+00	1.25E-04	4.70E-08	4.52E-07	2.41E-08	0.00E+00	2.60E-03	1.84E-04
Haul Road_Average	Project	Adult	Arsenic	Haul Road_Average_Project_Adult_Arsenic	5.51E-03	1.14E-03	3.09E-02	1.13E-02	4.53E-03	2.99E-04	1.83E-08	2.36E-07	2.26E-06	4.62E-03	5.83E-02	2.75E-03
Haul Road_Average	Project	Adult	Arsenic_cancer	Haul Road_Average_Project_Adult_Arsenic_cancer	5.51E-03	1.14E-03	3.09E-02	1.13E-02	4.53E-03	2.99E-04	1.83E-08	2.36E-07	2.26E-06	4.62E-03	5.83E-02	1.37E-01
Haul Road_Average	Project	Adult	Barium	Haul Road_Average_Project_Adult_Barium	1.29E-02	2.67E-03	2.03E-01	2.40E-01	0.00E+00	5.66E-03	7.07E-07	1.57E-05	1.44E-07	0.00E+00	4.64E-01	3.28E-05
Haul Road_Average	Project	Adult	Beryllium	Haul Road_Average_Project_Adult_Beryllium	6.32E-05	1.31E-05	5.78E-04	1.69E-04	0.00E+00	3.73E-05	7.88E-09	1.45E-07	5.02E-09	0.00E+00	8.60E-04	6.08E-06
Haul Road_Average	Project	Adult	Boron	Haul Road_Average_Project_Adult_Boron	8.62E-04	1.79E-04	8.75E-02	8.42E-02	0.00E+00	1.02E-02	1.24E-06	2.59E-05	8.71E-08	0.00E+00	1.83E-01	1.29E-05
Haul Road_Average	Project	Adult	Cadmium	Haul Road_Average_Project_Adult_Cadmium	4.21E-05	8.74E-06	1.32E-03	4.50E-04	7.79E-03	9.61E-06	4.92E-08	2.80E-08	4.09E-07	1.60E-05	9.64E-03	1.36E-04
Haul Road_Average	Project	Adult	Chromium	Haul Road_Average_Project_Adult_Chromium	6.74E-03	1.40E-03	6.37E-02	1.80E-02	0.00E+00	2.20E-02	8.57E-06	8.51E-05	4.72E-06	0.00E+00	1.12E-01	1.58E-03
Haul Road_Average	Project	Adult	Cobalt	Haul Road_Average_Project_Adult_Cobalt	2.51E-03	5.21E-04	2.34E-02	6.77E-03	4.17E-02	3.16E-02	5.78E-06	1.19E-04	1.78E-03	1.15E-03	1.10E-01	1.11E-03
Haul Road_Average	Project	Adult	Copper	Haul Road_Average_Project_Adult_Copper	4.32E-03	8.97E-04	8.50E-02	2.66E-02	5.30E+00	5.03E-02	4.90E-04	1.60E-04	1.11E-03	7.83E-04	5.47E+00	8.49E-04
Haul Road_Average	Project	Adult	Lead	Haul Road_Average_Project_Adult_Lead	1.13E-03	2.35E-04	1.03E-02	3.02E-03	3.82E-02	2.07E-04	1.25E-07	7.91E-07	1.11E-05	3.17E-04	5.35E-02	1.26E-03
Haul Road_Average	Project	Adult	Manganese	Haul Road_Average_Project_Adult_Manganese	8.95E-02	1.86E-02	1.81E+00	2.63E+00	5.88E-01	1.62E-01	2.16E-05	4.32E-04	3.15E-03	1.64E-02	5.32E+00	5.53E-04
Haul Road_Average	Project	Adult	Mercury	Haul Road_Average_Project_Adult_Mercury	4.12E-07	8.54E-08	8.81E-06	2.86E-06	1.03E+00	5.46E-06	7.80E-06	1.42E-08	3.46E-04	7.13E-06	1.03E+00	0.00E+00
Haul Road_Average	Project	Adult	Molybdenum	Haul Road_Average_Project_Adult_Molybdenum	1.11E-04	2.30E-05	1.94E-03	5.80E-04	7.22E-02	3.63E-03	4.86E-07	8.34E-06	3.13E-03	6.75E-03	8.83E-02	5.43E-05
Haul Road_Average	Project	Adult	Nickel	Haul Road_Average_Project_Adult_Nickel	5.14E-03	1.07E-03	6.55E-02	1.83E-02	1.32E-01	2.83E-02	1.05E-05	9.33E-05	3.99E-04	1.24E-02	2.63E-01	3.39E-04
Haul Road_Average	Project	Adult	Silver	Haul Road_Average_Project_Adult_Silver	2.07E-05	4.30E-06	2.28E-04	9.41E-05	8.76E-04	5.52E-05	4.30E-08	1.88E-07	1.18E-05	4.67E-06	1.29E-03	3.66E-06
Haul Road_Average	Project	Adult	Strontium	Haul Road_Average_Project_Adult_Strontium	1.89E-03	3.92E-04	8.82E-02	1.01E-01	0.00E+00	4.62E-03	5.61E-07	1.19E-05	5.48E-08	0.00E+00	1.96E-01	4.63E-06
Haul Road_Average	Project	Adult	Vanadium	Haul Road_Average_Project_Adult_Vanadium	7.39E-03	1.53E-03	6.78E-02	1.95E-02	0.00E+00	1.08E-02	1.81E-06	4.21E-05	1.25E-06	0.00E+00	1.07E-01	7.21E-04
Haul Road_Average	Project	Adult	Zinc	Haul Road_Average_Project_Adult_Zinc	1.24E-02	2.58E-03	2.44E-01	8.95E-02	2.59E+01	1.51E-03	7.49E-03	4.64E-06	1.98E-02	7.30E-03	2.63E+01	7.75E-04
Haul Road_Average	Project	Adolescent	Aluminum	Haul Road_Average_Project_Adolescent_Aluminum	3.52E+00	6.86E-01	2.27E+01	9.39E+00	0.00E+00	2.02E+00	3.43E-04	7.83E-03	2.34E-04	0.00E+00	3.83E+01	4.49E-03
Haul Road_Average	Project	Adolescent	Antimony	Haul Road_Average_Project_Adolescent_Antimony	1.72E-04	3.36E-05	1.17E-03	6.17E-04	0.00E+00	8.10E-05	3.04E-08	2.93E-07	1.56E-08	0.00E+00	2.07E-03	1.73E-04
Haul Road_Average	Project	Adolescent	Arsenic	Haul Road_Average_Project_Adolescent_Arsenic	5.51E-03	1.07E-03	2.19E-02	1.13E-02	4.53E-03	1.94E-04	1.19E-08	1.53E-07	1.46E-06	4.39E-03	4.89E-02	2.73E-03
Haul Road_Average	Project	Adolescent	Arsenic_cancer	Haul Road_Average_Project_Adolescent_Arsenic_cancer	5.51E-03	1.07E-03	2.19E-02	1.13E-02	4.53E-03	1.94E-04	1.19E-08	1.53E-07	1.46E-06	4.39E-03	4.89E-02	1.36E-01
Haul Road_Average	Project	Adolescent	Barium	Haul Road_Average_Project_Adolescent_Barium	1.29E-02	2.51E-03	1.43E-01	2.40E-01	0.00E+00	3.67E-03	4.58E-07	1.01E-05	9.35E-08	0.00E+00	4.03E-01	3.37E-05
Haul Road_Average	Project	Adolescent	Beryllium	Haul Road_Average_Project_Adolescent_Beryllium	6.32E-05	1.23E-05	4.09E-04	1.69E-04	0.00E+00	2.42E-05	5.11E-09	9.37E-08	3.26E-09	0.00E+00	6.78E-04	5.67E-06
Haul Road_Average	Project	Adolescent	Boron	Haul Road_Average_Project_Adolescent_Boron	8.62E-04	1.68E-04	6.20E-02	8.42E-02	0.00E+00	6.62E-03	8.07E-07	1.68E-05	5.65E-08	0.00E+00	1.54E-01	1.29E-05
Haul Road_Average	Project	Adolescent	Cadmium	Haul Road_Average_Project_Adolescent_Cadmium	4.21E-05	8.22E-06	9.33E-04	4.50E-04	7.79E-03	6.23E-06	3.19E-08	1.81E-08	2.65E-07	1.52E-05	9.25E-03	1.55E-04
Haul Road_Average	Project	Adolescent	Chromium	Haul Road_Average_Project_Adolescent_Chromium	6.74E-03	1.31E-03	4.51E-02	1.80E-02	0.00E+00	1.43E-02	5.55E-06	5.52E-05	3.06E-06	0.00E+00	8.56E-02	1.43E-03
Haul Road_Average	Project	Adolescent	Cobalt	Haul Road_Average_Project_Adolescent_Cobalt	2.51E-03	4.89E-04	1.66E-02	6.77E-03	4.17E-02	2.05E-02	3.75E-06	7.71E-05	1.15E-03	1.09E-03	9.09E-02	1.09E-03
Haul Road_Average	Project	Adolescent	Copper	Haul Road_Average_Project_Adolescent_Copper	4.32E-03	8.43E-04	6.02E-02	2.66E-02	5.30E+00	3.26E-02	3.17E-04	1.04E-04	7.17E-04	7.43E-04	5.42E+00	9.98E-04
Haul Road_Average	Project	Adolescent	Lead	Haul Road_Average_Project_Adolescent_Lead	1.13E-03	2.21E-04	7.32E-03	3.02E-03	3.82E-02	1.34E-04	8.08E-08	5.13E-07	7.17E-06	3.01E-04	5.04E-02	1.41E-03
Haul Road_Average	Project	Adolescent	Manganese	Haul Road_Average_Project_Adolescent_Manganese	8.95E-02	1.75E-02	1.28E+00	2.63E+00	5.88E-01	1.05E-01	1.40E-05	2.80E-04	2.04E-03	1.56E-02	4.73E+00	5.83E-04
Haul Road_Average	Project	Adolescent	Mercury	Haul Road_Average_Project_Adolescent_Mercury	4.12E-07	8.03E-08	6.24E-06	2.86E-06	1.03E+00	3.54E-06	5.05E-06	9.21E-09	2.24E-04	6.76E-06	1.03E+00	0.00E+00
Haul Road_Average	Project	Adolescent	Molybdenum	Haul Road_Average_Project_Adolescent_Molybdenum	1.11E-04	2.16E-05	1.37E-03	5.80E-04	7.22E-02	2.35E-03	3.15E-07	5.41E-06	2.03E-03	6.40E-03	8.51E-02	6.19E-05
Haul Road_Average	Project	Adolescent	Nickel	Haul Road_Average_Project_Adolescent_Nickel	5.14E-03	1.00E-03	4.64E-02	1.83E-02	1.32E-01	1.83E-02	6.82E-06	6.04E-05	2.58E-04	1.17E-02	2.33E-01	3.56E-04
Haul Road_Average	Project	Adolescent	Silver	Haul Road_Average_Project_Adolescent_Silver	2.07E-05	4.04E-06	1.61E-04	9.41E-05	8.76E-04	3.58E-05	2.79E-08	1.22E-07	7.65E-06	4.43E-06	1.20E-03	4.03E-06
Haul Road_Average	Project	Adolescent	Strontium	Haul Road_Average_Project_Adolescent_Strontium	1.89E-03	3.68E-04	6.25E-02	1.01E-01	0.00E+00	2.99E-03	3.64E-07	7.73E-06	3.55E-08	0.00E+00	1.69E-01	4.72E-06
Haul Road_Average	Project	Adolescent	Vanadium	Haul Road_Average_Project_Adolescent_Vanadium	7.39E-03	1.44E-03	4.80E-02	1.95E-02	0.00E+00	7.02E-03	1.17E-06	2.73E-05	8.10E-07	0.00E+00	8.34E-02	6.65E-04
Haul Road_Average	Project	Adolescent	Zinc	Haul Road_Average_Project_Adolescent_Zinc	1.24E-02	2.42E-03	1.73E-01	8.95E-02	2.59E+01	9.76E-04	4.86E-03	3.01E-06	1.28E-02	6.92E-03	2.62E+01	9.15E-04
Haul Road_Average	Project	Child	Aluminum	Haul Road_Average_Project_Child_Aluminum	3.52E+00	6.38E-01	2.82E+01	3.13E+00	0.00E+00	1.44E+00	2.45E-04	5.59E-03	1.67E-04	0.00E+00	3.69E+01	7.85E-03
Haul Road_Average	Project	Child	Antimony	Haul Road_Average_Project_Child_Antimony	1.72E-04	3.13E-05	1.45E-03	2.06E-04	0.00E+00	5.78E-05	2.17E-08	2.09E-07	1.12E-08	0.00E+00	1.91E-03	2.91E-04
Haul Road_Average	Project	Child	Arsenic	Haul Road_Average_Project_Child_Arsenic	5.51E-03	9.98E-04	2.71E-02	3.77E-03	3.74E-03	1.39E-04	8.48E-09	1.09E-07	1.04E-06	6.52E-03	4.78E-02	4.84E-03
Haul Road_Average	Project	Child	Arsenic_cancer	Haul Road_Average_Project_Child_Arsenic_cancer	5.51E-03	9.98E-04	2.71E-02	3.77E-03	3.74E-03	1.39E-04	8.48E-09	1.09E-07	1.04E-06	6.52E-03	4.78E-02	2.42E-01
Haul Road_Average	Project	Child	Barium	Haul Road_Average_Project_Child_Barium	1.29E-02	2.33E-03	1.78E-01	8.00E-02	0.00E+00	2.62E-03	3.27E-07	7.25E-06	6.68E-08	0.00E+00	2.76E-01	4.19E-05
Haul Road_Average	Project	Child	Beryllium	Haul Road_Average_Project_Child_Beryllium	6.32E-05	1.15E-05	5.08E-04	5.62E-05	0.00E+00	1.73E-05	3.65E-09	6.69E-08	2.33E-09	0.00E+00	6.56E-04	9.97E-06
Haul Road_Average	Project	Child	Boron	Haul Road_Average_Project_Child_Boron	8.62E-04	1.56E-04	7.69E-02	2.81E-02	0.00E+00	4.73E-03	5.76E-07	1.20E-05	4.03E-08	0.00E+00	1.11E-01	1.68E-05

Haul Road_Average	Project	Child	Cadmium	Haul Road_Average_Project_Child_Cadmium	4.21E-05	7.64E-06	1.16E-03	1.50E-04	6.43E-03	4.45E-06	2.28E-08	1.29E-08	1.89E-07	2.25E-05	7.81E-03	2.37E-04
Haul Road_Average	Project	Child	Chromium	Haul Road_Average_Project_Child_Chromium	6.74E-03	1.22E-03	5.60E-02	6.02E-03	0.00E+00	1.02E-02	3.97E-06	3.94E-05	2.19E-06	0.00E+00	8.02E-02	2.44E-03
Haul Road_Average	Project	Child	Cobalt	Haul Road_Average_Project_Child_Cobalt	2.51E-03	4.55E-04	2.06E-02	2.26E-03	3.44E-02	1.46E-02	2.68E-06	5.51E-05	8.23E-04	1.62E-03	7.73E-02	1.68E-03
Haul Road_Average	Project	Child	Copper	Haul Road_Average_Project_Child_Copper	4.32E-03	7.83E-04	7.47E-02	8.85E-03	4.37E+00	2.33E-02	2.27E-04	7.42E-05	5.12E-04	1.10E-03	4.48E+00	1.50E-03
Haul Road_Average	Project	Child	Lead	Haul Road_Average_Project_Child_Lead	1.13E-03	2.05E-04	9.08E-03	1.01E-03	3.15E-02	9.60E-05	5.77E-08	3.66E-07	5.12E-06	4.47E-04	4.35E-02	2.20E-03
Haul Road_Average	Project	Child	Manganese	Haul Road_Average_Project_Child_Manganese	8.95E-02	1.62E-02	1.59E+00	8.78E-01	4.85E-01	7.50E-02	1.00E-05	2.00E-04	1.46E-03	2.31E-02	3.16E+00	7.05E-04
Haul Road_Average	Project	Child	Mercury	Haul Road_Average_Project_Child_Mercury	4.12E-07	7.46E-08	7.74E-06	9.52E-07	8.48E-01	2.53E-06	3.61E-06	6.58E-09	1.60E-04	1.01E-05	8.48E-01	0.00E+00
Haul Road_Average	Project	Child	Molybdenum	Haul Road_Average_Project_Child_Molybdenum	1.11E-04	2.01E-05	1.70E-03	1.93E-04	5.95E-02	1.68E-03	2.25E-07	3.86E-06	1.45E-03	9.51E-03	7.42E-02	9.81E-05
Haul Road_Average	Project	Child	Nickel	Haul Road_Average_Project_Child_Nickel	5.14E-03	9.32E-04	5.76E-02	6.11E-03	1.09E-01	1.31E-02	4.87E-06	4.32E-05	1.85E-04	1.74E-02	2.10E-01	5.79E-04
Haul Road_Average	Project	Child	Silver	Haul Road_Average_Project_Child_Silver	2.07E-05	3.76E-06	2.00E-04	3.14E-05	7.23E-04	2.55E-05	1.99E-08	8.69E-08	5.46E-06	6.58E-06	1.02E-03	6.18E-06
Haul Road_Average	Project	Child	Strontium	Haul Road_Average_Project_Child_Strontium	1.89E-03	3.42E-04	7.75E-02	3.37E-02	0.00E+00	2.14E-03	2.60E-07	5.52E-06	2.54E-08	0.00E+00	1.16E-01	5.86E-06
Haul Road_Average	Project	Child	Vanadium	Haul Road_Average_Project_Child_Vanadium	7.39E-03	1.34E-03	5.96E-02	6.50E-03	0.00E+00	5.01E-03	8.39E-07	1.95E-05	5.79E-07	0.00E+00	7.99E-02	1.16E-03
Haul Road_Average	Project	Child	Zinc	Haul Road_Average_Project_Child_Zinc	1.24E-02	2.25E-03	2.14E-01	2.98E-02	2.14E+01	6.97E-04	3.47E-03	2.15E-06	9.17E-03	1.03E-02	2.17E+01	1.37E-03
Haul Road_Average	Project	Toddler	Aluminum	Haul Road_Average_Project_Toddler_Aluminum	1.41E+01	3.65E-01	1.21E+01	3.13E+00	0.00E+00	9.81E-01	1.66E-04	3.80E-03	1.14E-04	0.00E+00	3.07E+01	1.30E-02
Haul Road_Average	Project	Toddler	Antimony	Haul Road_Average_Project_Toddler_Antimony	6.90E-04	1.79E-05	6.22E-04	2.06E-04	0.00E+00	3.93E-05	1.48E-08	1.42E-07	7.59E-09	0.00E+00	1.57E-03	4.77E-04
Haul Road_Average	Project	Toddler	Arsenic	Haul Road_Average_Project_Toddler_Arsenic	2.20E-02	5.71E-04	1.17E-02	3.77E-03	2.27E-03	9.42E-05	5.77E-09	7.44E-08	7.10E-07	6.08E-03	4.65E-02	9.39E-03
Haul Road_Average	Project	Toddler	Arsenic_cancer	Haul Road_Average_Project_Toddler_Arsenic_cancer	2.20E-02	5.71E-04	1.17E-02	3.77E-03	2.27E-03	9.42E-05	5.77E-09	7.44E-08	7.10E-07	6.08E-03	4.65E-02	4.69E-01
Haul Road_Average	Project	Toddler	Barium	Haul Road_Average_Project_Toddler_Barium	5.15E-02	1.34E-03	7.65E-02	8.00E-02	0.00E+00	1.78E-03	2.23E-07	4.93E-06	4.54E-08	0.00E+00	2.11E-01	6.40E-05
Haul Road_Average	Project	Toddler	Beryllium	Haul Road_Average_Project_Toddler_Beryllium	2.53E-04	6.56E-06	2.18E-04	5.62E-05	0.00E+00	1.17E-05	2.48E-09	4.55E-08	1.58E-09	0.00E+00	5.46E-04	1.65E-05
Haul Road_Average	Project	Toddler	Boron	Haul Road_Average_Project_Toddler_Boron	3.45E-03	8.95E-05	3.31E-02	2.81E-02	0.00E+00	3.22E-03	3.92E-07	8.17E-06	2.74E-08	0.00E+00	6.79E-02	2.06E-05
Haul Road_Average	Project	Toddler	Cadmium	Haul Road_Average_Project_Toddler_Cadmium	1.69E-04	4.37E-06	4.98E-04	1.50E-04	3.90E-03	3.03E-06	1.55E-08	8.80E-09	1.29E-07	2.10E-05	4.74E-03	2.87E-04
Haul Road_Average	Project	Toddler	Chromium	Haul Road_Average_Project_Toddler_Chromium	2.70E-02	6.99E-04	2.41E-02	6.02E-03	0.00E+00	6.93E-03	2.70E-06	2.68E-05	1.49E-06	0.00E+00	6.47E-02	3.92E-03
Haul Road_Average	Project	Toddler	Cobalt	Haul Road_Average_Project_Toddler_Cobalt	1.00E-02	2.60E-04	8.83E-03	2.26E-03	2.09E-02	9.94E-03	1.82E-06	3.75E-05	5.60E-04	1.51E-03	5.43E-02	2.35E-03
Haul Road_Average	Project	Toddler	Copper	Haul Road_Average_Project_Toddler_Copper	1.73E-02	4.48E-04	3.21E-02	8.85E-03	2.65E+00	1.58E-02	1.54E-04	5.04E-05	3.48E-04	1.03E-03	2.72E+00	1.81E-03
Haul Road_Average	Project	Toddler	Lead	Haul Road_Average_Project_Toddler_Lead	4.53E-03	1.18E-04	3.91E-03	1.01E-03	1.91E-02	6.53E-05	3.92E-08	2.49E-07	3.48E-06	4.17E-04	2.92E-02	2.95E-03
Haul Road_Average	Project	Toddler	Manganese	Haul Road_Average_Project_Toddler_Manganese	3.58E-01	9.29E-03	6.82E-01	8.78E-01	2.94E-01	5.10E-02	6.81E-06	1.36E-04	9.90E-04	2.16E-02	2.30E+00	1.02E-03
Haul Road_Average	Project	Toddler	Mercury	Haul Road_Average_Project_Toddler_Mercury	1.65E-06	4.27E-08	3.33E-06	9.52E-07	5.14E-01	1.72E-06	2.45E-06	4.47E-09	1.09E-04	9.38E-06	5.14E-01	0.00E+00
Haul Road_Average	Project	Toddler	Molybdenum	Haul Road_Average_Project_Toddler_Molybdenum	4.44E-04	1.15E-05	7.33E-04	1.93E-04	3.61E-02	1.14E-03	1.53E-07	2.63E-06	9.86E-04	8.88E-03	4.85E-02	1.28E-04
Haul Road_Average	Project	Toddler	Nickel	Haul Road_Average_Project_Toddler_Nickel	2.06E-02	5.33E-04	2.48E-02	6.11E-03	6.61E-02	8.89E-03	3.31E-06	2.94E-05	1.25E-04	1.63E-02	1.43E-01	7.90E-04
Haul Road_Average	Project	Toddler	Silver	Haul Road_Average_Project_Toddler_Silver	8.29E-05	2.15E-06	8.60E-05	3.14E-05	4.38E-04	1.74E-05	1.35E-08	5.91E-08	3.71E-06	6.14E-06	6.68E-04	8.09E-06
Haul Road_Average	Project	Toddler	Strontium	Haul Road_Average_Project_Toddler_Strontium	7.55E-03	1.96E-04	3.33E-02	3.37E-02	0.00E+00	1.45E-03	1.77E-07	3.76E-06	1.73E-08	0.00E+00	7.63E-02	7.70E-06
Haul Road_Average	Project	Toddler	Vanadium	Haul Road_Average_Project_Toddler_Vanadium	2.96E-02	7.67E-04	2.56E-02	6.50E-03	0.00E+00	3.41E-03	5.70E-07	1.32E-05	3.93E-07	0.00E+00	6.59E-02	1.90E-03
Haul Road_Average	Project	Toddler	Zinc	Haul Road_Average_Project_Toddler_Zinc	4.97E-02	1.29E-03	9.21E-02	2.98E-02	1.30E+01	4.74E-04	2.36E-03	1.46E-06	6.23E-03	9.60E-03	1.32E+01	1.66E-03
Haul Road_Max	Baseline	Infant	Aluminum	Haul Road_Max_Baseline_Infant_Aluminum	4.48E+02	1.23E+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	4.60E+02	3.93E-01
Haul Road_Max	Baseline	Infant	Antimony	Haul Road_Max_Baseline_Infant_Antimony	1.00E-03	2.75E-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	1.03E-03	6.27E-04
Haul Road_Max	Baseline	Infant	Arsenic	Haul Road_Max_Baseline_Infant_Arsenic	2.00E-01	5.50E-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	2.05E-01	8.35E-02
Haul Road_Max	Baseline	Infant	Arsenic_cancer	Haul Road_Max_Baseline_Infant_Arsenic_cancer	2.00E-01	5.50E-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	2.05E-01	4.18E+00
Haul Road_Max	Baseline	Infant	Barium	Haul Road_Max_Baseline_Infant_Barium	7.00E-01	1.93E-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	7.19E-01	4.39E-04
Haul Road_Max	Baseline	Infant	Beryllium	Haul Road_Max_Baseline_Infant_Beryllium	8.00E-03	2.20E-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	8.22E-03	5.01E-04
Haul Road_Max	Baseline	Infant	Boron	Haul Road_Max_Baseline_Infant_Boron	6.00E-02	1.65E-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	6.17E-02	3.76E-05
Haul Road_Max	Baseline	Infant	Cadmium	Haul Road_Max_Baseline_Infant_Cadmium	2.20E-03	6.05E-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	2.26E-03	2.76E-04
Haul Road_Max	Baseline	Infant	Chromium	Haul Road_Max_Baseline_Infant_Chromium	4.20E-01	1.15E-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-01	5.26E-02
Haul Road_Max	Baseline	Infant	Cobalt	Haul Road_Max_Baseline_Infant_Cobalt	2.04E-01	5.61E-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	2.10E-01	1.83E-02
Haul Road_Max	Baseline	Infant	Copper	Haul Road_Max_Baseline_Infant_Copper	2.00E-01	5.50E-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	2.05E-01	2.75E-04
Haul Road_Max	Baseline	Infant	Lead	Haul Road_Max_Baseline_Infant_Lead	3.28E-01	9.02E-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	3.37E-01	6.85E-02
Haul Road_Max	Baseline	Infant	Manganese	Haul Road_Max_Baseline_Infant_Manganese	1.60E+01	4.41E-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	1.65E+01	1.48E-02
Haul Road_Max	Baseline	Infant	Mercury	Haul Road_Max_Baseline_Infant_Mercury	2.00E-03	5.50E-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	2.06E-03	0.00E+00
Haul Road_Max	Baseline	Infant	Molybdenum	Haul Road_Max_Baseline_Infant_Molybdenum	1.00E-02	2.75E-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	1.03E-02	5.45E-05
Haul Road_Max	Baseline	Infant	Nickel	Haul Road_Max_Baseline_Infant_Nickel	2.80E-01	7.70E-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	2.88E-01	3.19E-03
Haul Road_Max	Baseline	Infant	Silver	Haul Road_Max_Baseline_Infant_Silver	2.00E-03	5.50E-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	2.06E-03	5.01E-05
Haul Road_Max	Baseline	Infant	Strontium	Haul Road_Max_Baseline_Infant_Strontium	1.80E-01	4.95E-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	1.85E-01	3.76E-05
Haul Road_Max	Baseline	Infant	Vanadium	Haul Road_Max_Baseline_Infant_Vanadium	7.00E-01	1.93E-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	7.19E-01	4.18E-02
Haul Road_Max	Baseline	Infant	Zinc	Haul Road_Max_Baseline_Infant_Zinc	7.20E-01	1.98E-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	7.40E-01	1.88E-04
Haul Road_Max	Project	Infant	Aluminum	Haul Road_Max_Project_Infant_Aluminum	9.71E+00	2.67E-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	9.97E+00	8.51E-03
Haul Road_Max	Project	Infant	Antimony	Haul Road_Max_Project_Infant_Antimony	4.76E-04	1.31E-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	4.89E-04	2.98E-04
Haul Road_Max	Project	Infant	Arsenic	Haul Road_Max_Project_Infant_Arsenic	1.52E-02	4.18E-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	1.56E-02	6.34E-03
Haul Road_Max	Project	Infant	Arsenic_cancer	Haul Road_Max_Project_Infant_Arsenic_cancer	1.52E-02	4.18E-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	1.56E-02	3.17E-01
Haul Road_Max	Project	Infant	Barium	Haul Road_Max_Project_Infant_Barium	3.55E-02	9.76E-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	3.65E-02	2.22E-05
Haul Road_Max	Project	Infant	Beryllium	Haul Road_Max_Project_Infant_Beryllium	1.74E-04	4.79E-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	1.79E-04	1.09E-05
Haul Road_Max	Project	Infant	Boron	Haul Road_Max_Project_Infant_Boron	2.38E-03	6.54E-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	2.44E-03	1.49E-06
Haul Road_Max	Project	Infant	Cadmium	Haul Road_Max_Project_Infant_Cadmium	1.16E-04	3.20E-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	1.19E-04	1.46E-05
Haul Road_Max	Project	Infant	Chromium	Haul Road_Max_Project_Infant_Chromium	1.86E-02	5.11E-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	1.91E-02	2.33E-03
Haul Road_Max	Project	Infant	Cobalt	Haul Road_Max_Project_Infant_Cobalt	6.92E-03	1.90E-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	7.11E-03	6.20E-04
Haul Road_Max	Project	Infant	Copper	Haul Road_Max_Project_Infant_Copper	1.19E-02	3.28E-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	1.23E-02	1.64E-05
Haul Road_Max	Project	Infant	Lead	Haul Road_Max_Project_Infant_Lead	3.13E-03	8.60E-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	3.21E-03	6.53E-04
Haul Road_Max	Project	Infant	Manganese	Haul Road_Max_Project_Infant_Manganese	2.47E-01	6.79E-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	2.54E-01	2.28E-04
Haul Road_Max	Project	Infant	Mercury	Haul Road_Max_Project_Infant_Mercury	1.14E-06	3.12E-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	1.17E-06	0.00E+00
Haul Road_Max	Project	Infant	Molybdenum	Haul Road_Max_Project_Infant_Molybdenum	3.06E-04	8.42E-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	3.14E-04	1.67E-06
Haul Road_Max	Project	Infant	Nickel	Haul Road_Max_Project_Infant_Nickel	1.42E-02	3.90E-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	1.46E-02	1.62E-04
Haul Road_Max	Project	Infant	Silver	Haul Road_Max_Project_Infant_Silver	5.72E-05	1.57E-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	5.87E-05	1.43E-06
Haul Road_Max	Project	Infant	Strontium	Haul Road_Max_Project_Infant_Strontium	5.21E-03	1.43E-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	5.35E-03	1.09E-06
Haul Road_Max	Project	Infant	Vanadium	Haul Road_Max_Project_Infant_Vanadium	2.04E-02	5.61E-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	2.09E-02	1.22E-03
Haul Road_Max	Project	Infant	Zinc	Haul Road_Max_Project_Infant_Zinc	3.43E-02	9.43E-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	3.52E-02	8.95E-06
Haul Road_Average	Baseline	Infant	Aluminum	Haul Road_Average_Baseline_Infant_Aluminum	4.48E+02	1.23E+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	4.60E+02	3.93E-01
Haul Road_Average	Baseline	Infant	Antimony	Haul Road_Average_Baseline_Infant_Antimony	1.00E-03	2.75E-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	1.03E-03	6.27E-04
Haul Road_Average	Baseline	Infant	Arsenic	Haul Road_Average_Baseline_Infant_Arsenic	2.00E-01	5.50E-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	2.05E-01	8.35E-02
Haul Road_Average	Baseline	Infant	Arsenic_cancer	Haul Road_Average_Baseline_Infant_Arsenic_cancer	2.00E-01	5.50E-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	2.05E-01	4.18E+00
Haul Road_Average	Baseline	Infant	Barium	Haul Road_Average_Baseline_Infant_Barium	7.00E-01	1.93E-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	7.19E-01	4.39E-04
Haul Road_Average	Baseline	Infant	Beryllium	Haul Road_Average_Baseline_Infant_Beryllium	8.00E-03	2.20E-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	8.22E-03	5.01E-04
Haul Road_Average	Baseline	Infant	Boron	Haul Road_Average_Baseline_Infant_Boron	6.00E-02	1.65E-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	6.17E-02	3.76E-05
Haul Road_Average	Baseline	Infant	Cadmium	Haul Road_Average_Baseline_Infant_Cadmium	2.20E-03	6.05E-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	2.26E-03	2.76E-04
Haul Road_Average	Baseline	Infant	Chromium	Haul Road_Average_Baseline_Infant_Chromium	4.20E-01	1.15E-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-01	5.26E-02
Haul Road_Average	Baseline	Infant	Cobalt	Haul Road_Average_Baseline_Infant_Cobalt	2.04E-01	5.61E-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	2.10E-01	1.83E-02
Haul Road_Average	Baseline	Infant	Copper	Haul Road_Average_Baseline_Infant_Copper	2.00E-01	5.50E-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	2.05E-01	2.75E-04
Haul Road_Average	Baseline	Infant	Lead	Haul Road_Average_Baseline_Infant_Lead	3.28E-01	9.02E-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	3.37E-01	6.85E-02
Haul Road_Average	Baseline	Infant	Manganese	Haul Road_Average_Baseline_Infant_Manganese	1.60E+01	4.41E-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	1.65E+01	1.48E-02
Haul Road_Average	Baseline	Infant	Mercury	Haul Road_Average_Baseline_Infant_Mercury	2.00E-03	5.50E-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	2.06E-03	0.00E+00
Haul Road_Average	Baseline	Infant	Molybdenum	Haul Road_Average_Baseline_Infant_Molybdenum	1.00E-02	2.75E-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	1.03E-02	5.45E-05
Haul Road_Average	Baseline	Infant	Nickel	Haul Road_Average_Baseline_Infant_Nickel	2.80E-01	7.70E-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	2.88E-01	3.19E-03
Haul Road_Average	Baseline	Infant	Silver	Haul Road_Average_Baseline_Infant_Silver	2.00E-03	5.50E-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	2.06E-03	5.01E-05
Haul Road_Average	Baseline	Infant	Strontium	Haul Road_Average_Baseline_Infant_Strontium	1.80E-01	4.95E-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	1.85E-01	3.76E-05
Haul Road_Average	Baseline	Infant	Vanadium	Haul Road_Average_Baseline_Infant_Vanadium	7.00E-01	1.93E-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	7.19E-01	4.18E-02
Haul Road_Average	Baseline	Infant	Zinc	Haul Road_Average_Baseline_Infant_Zinc	7.20E-01	1.98E-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	7.40E-01	1.88E-04
Haul Road_Average	Project	Infant	Aluminum	Haul Road_Average_Project_Infant_Aluminum	3.52E+00	9.68E-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	3.62E+00	3.08E-03
Haul Road_Average	Project	Infant	Antimony	Haul Road_Average_Project_Infant_Antimony	1.72E-04	4.74E-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	1.77E-04	1.08E-04
Haul Road_Average	Project	Infant	Arsenic	Haul Road_Average_Project_Infant_Arsenic	5.51E-03	1.51E-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	5.66E-03	2.30E-03
Haul Road_Average	Project	Infant	Arsenic_cancer	Haul Road_Average_Project_Infant_Arsenic_cancer	5.51E-03	1.51E-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	5.66E-03	1.15E-01
Haul Road_Average	Project	Infant	Barium	Haul Road_Average_Project_Infant_Barium	1.29E-02	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	1.32E-02	8.06E-06
Haul Road_Average	Project	Infant	Beryllium	Haul Road_Average_Project_Infant_Beryllium	6.32E-05	1.74E-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	6.49E-05	3.96E-06
Haul Road_Average	Project	Infant	Boron	Haul Road_Average_Project_Infant_Boron	8.62E-04	2.37E-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	8.86E-04	5.40E-07
Haul Road_Average	Project	Infant	Cadmium	Haul Road_Average_Project_Infant_Cadmium	4.21E-05	1.16E-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	4.33E-05	5.28E-06
Haul Road_Average	Project	Infant	Chromium	Haul Road_Average_Project_Infant_Chromium	6.74E-03	1.85E-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	6.93E-03	8.45E-04
Haul Road_Average	Project	Infant	Cobalt	Haul Road_Average_Project_Infant_Cobalt	2.51E-03	6.90E-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	2.58E-03	2.25E-04
Haul Road_Average	Project	Infant	Copper	Haul Road_Average_Project_Infant_Copper	4.32E-03	1.19E-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	4.44E-03	5.95E-06
Haul Road_Average	Project	Infant	Lead	Haul Road_Average_Project_Infant_Lead	1.13E-03	3.12E-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	1.16E-03	2.37E-04
Haul Road_Average	Project	Infant	Manganese	Haul Road_Average_Project_Infant_Manganese	8.95E-02	2.46E-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	9.20E-02	8.25E-05
Haul Road_Average	Project	Infant	Mercury	Haul Road_Average_Project_Infant_Mercury	4.12E-07	1.13E-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	4.23E-07	0.00E+00
Haul Road_Average	Project	Infant	Molybdenum	Haul Road_Average_Project_Infant_Molybdenum	1.11E-04	3.05E-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	1.14E-04	6.04E-07
Haul Road_Average	Project	Infant	Nickel	Haul Road_Average_Project_Infant_Nickel	5.14E-03	1.41E-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	5.28E-03	5.86E-05
Haul Road_Average	Project	Infant	Silver	Haul Road_Average_Project_Infant_Silver	2.07E-05	5.70E-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	2.13E-05	5.19E-07
Haul Road_Average	Project	Infant	Strontium	Haul Road_Average_Project_Infant_Strontium	1.89E-03	5.19E-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	1.94E-03	3.94E-07
Haul Road_Average	Project	Infant	Vanadium	Haul Road_Average_Project_Infant_Vanadium	7.39E-03	2.03E-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	7.59E-03	4.41E-04
Haul Road_Average	Project	Infant	Zinc	Haul Road_Average_Project_Infant_Zinc	1.24E-02	3.42E-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	1.28E-02	3.24E-06
InorganicMercury																
Haul Road_Max	Baseline	Adult	Mercury	Haul Road_Max_Baseline_Adult_Inorganicmercury	1.96E-03	4.07E-04	7.01E-02	1.16E-02	2.14E-01	1.27E-02	1.06E-04	3.53E-05	5.18E-04	2.80E-05	3.12E-01	1.47E-02
Haul Road_Max	Baseline	Adolescent	Mercury	Haul Road_Max_Baseline_Adolescent_Inorganicmercury	1.96E-03	3.82E-04	4.96E-02	1.16E-02	2.14E-01	5.48E-01	6.85E-05	2.29E-05	3.36E-04	2.66E-05	8.26E-01	4.61E-02
Haul Road_Max	Baseline	Child	Mercury	Haul Road_Max_Baseline_Child_Inorganicmercury	1.96E-03	3.55E-04	6.16E-02	3.85E-03	1.77E-01	3.91E-01	4.89E-05	1.63E-05	2.40E-04	3.95E-05	6.36E-01	6.45E-02
Haul Road_Max	Baseline	Toddler	Mercury	Haul Road_Max_Baseline_Toddler_Inorganicmercury	7.84E-03	2.03E-04	2.65E-02	3.85E-03	1.07E-01	2.66E-01	3.33E-05	1.11E-05	1.63E-04	3.68E-05	4.12E-01	8.32E-02
Haul Road_Max	Project	Adult	Mercury	Haul Road_Max_Project_Adult_Inorganicmercury	1.11E-06	2.31E-07	9.35E-06	3.03E-06	5.14E-02	2.03E-01	3.62E-06	1.26E-08	1.15E-04	6.71E-06	2.54E-01	1.20E-02
Haul Road_Max	Project	Adolescent	Mercury	Haul Road_Max_Project_Adolescent_Inorganicmercury	1.11E-06	2.17E-07	6.63E-06	3.03E-06	5.14E-02	1.31E-01	2.35E-06	8.16E-09	7.43E-05	6.36E-06	1.83E-01	1.02E-02
Haul Road_Max	Project	Child	Mercury	Haul Road_Max_Project_Child_Inorganicmercury	1.11E-06	2.02E-07	8.22E-06	1.01E-06	4.24E-02	9.38E-02	1.68E-06	5.83E-09	5.31E-05	9.46E-06	1.36E-01	1.38E-02
Haul Road_Max	Project	Toddler	Mercury	Haul Road_Max_Project_Toddler_Inorganicmercury	4.45E-06	1.15E-07	3.53E-06	1.01E-06	2.57E-02	6.38E-02	1.14E-06	3.97E-09	3.61E-05	8.83E-06	8.95E-02	1.81E-02
Haul Road_Average	Baseline	Adult	Mercury	Haul Road_Average_Baseline_Adult_Inorganicmercury	1.96E-03	4.07E-04	1.40E-01	2.31E-02	2.14E-01	8.45E-01	1.06E-04	3.53E-05	5.18E-04	2.80E-05	1.23E+00	5.78E-02
Haul Road_Average	Baseline	Adolescent	Mercury	Haul Road_Average_Baseline_Adolescent_Inorganicmercury	1.96E-03	3.82E-04	9.93E-02	2.31E-02	2.14E-01	5.48E-01	6.85E-05	2.29E-05	3.36E-04	2.66E-05	8.88E-01	4.96E-02
Haul Road_Average	Baseline	Child	Mercury	Haul Road_Average_Baseline_Child_Inorganicmercury	1.96E-03	3.55E-04	1.23E-01	7.70E-03	1.77E-01	3.91E-01	4.89E-05	1.63E-05	2.40E-04	3.95E-05	7.02E-01	7.11E-02
Haul Road_Average	Baseline	Toddler	Mercury	Haul Road_Average_Baseline_Toddler_Inorganicmercury	7.84E-03	2.03E-04	5.29E-02	7.70E-03	1.07E-01	2.66E-01	3.33E-05	1.11E-05	1.63E-04	3.68E-05	4.42E-01	8.94E-02
Haul Road_Average	Project	Adult	Mercury	Haul Road_Average_Project_Adult_Inorganicmercury	4.03E-07	8.37E-08	6.78E-06	2.20E-06	5.14E-02	2.03E-01	2.57E-06	6.11E-09	1.14E-04	6.71E-06	2.54E-01	1.20E-02
Haul Road_Average	Project	Adolescent	Mercury	Haul Road_Average_Project_Adolescent_Inorganicmercury	4.03E-07	7.87E-08	4.80E-06	2.20E-06	5.14E-02	1.31E-01	1.67E-06	3.96E-09	7.40E-05	6.36E-06	1.83E-01	1.02E-02
Haul Road_Average	Project	Child	Mercury	Haul Road_Average_Project_Child_Inorganicmercury	4.03E-07	7.31E-08	5.96E-06	7.33E-07	4.24E-02	9.38E-02	1.19E-06	2.83E-09	5.29E-05	9.46E-06	1.36E-01	1.38E-02
Haul Road_Average	Project	Toddler	Mercury	Haul Road_Average_Project_Toddler_Inorganicmercury	1.61E-06	4.19E-08	2.56E-06	7.33E-07	2.57E-02	6.38E-02	8.10E-07	1.92E-09	3.60E-05	8.83E-06	8.95E-02	1.81E-02
Haul Road_Max	Baseline	Infant	Mercury	Haul Road_Max_Baseline_Infant_Inorganicmercury	1.96E-03	5.39E-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	2.01E-03	8.19E-04
Haul Road_Max	Project	Infant	Mercury	Haul Road_Max_Project_Infant_Inorganicmercury	1.11E-06	3.06E-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	1.14E-06	4.65E-07
Haul Road_Average	Baseline	Infant	Mercury	Haul Road_Average_Baseline_Infant_Inorganicmercury	1.96E-03	5.39E-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	2.01E-03	8.19E-04
Haul Road_Average	Project	Infant	Mercury	Haul Road_Average_Project_Infant_Inorganicmercury	4.03E-07	1.11E-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	4.15E-07	1.69E-07
MethylMercury																
Haul Road_Max	Baseline	Adult	Mercury	Haul Road_Max_Baseline_Adult_Methylmercury	4.00E-05	8.30E-06	2.09E-02	3.45E-03	4.07E+00	1.69E-02	2.15E-04	4.67E-05	1.05E-03	1.75E-06	4.12E+00	2.91E-01
Haul Road_Max	Baseline	Adolescent	Mercury	Haul Road_Max_Baseline_Adolescent_Methylmercury	4.00E-05	7.80E-06	1.48E-02	3.45E-03	4.07E+00	7.26E-01	1.39E-04	3.03E-05	6.81E-04	1.67E-06	4.82E+00	4.04E-01
Haul Road_Max	Baseline	Child	Mercury	Haul Road_Max_Baseline_Child_Methylmercury	4.00E-05	7.25E-06	1.84E-02	1.15E-03	3.36E+00	5.19E-01	9.94E-05	2.16E-05	4.87E-04	2.47E-06	3.90E+00	5.93E-01
Haul Road_Max	Baseline	Toddler	Mercury	Haul Road_Max_Baseline_Toddler_Methylmercury	1.60E-04	4.15E-06	7.91E-03	1.15E-03	2.04E+00	3.53E-01	6.76E-05	1.47E-05	3.31E-04	2.31E-06	2.40E+00	7.27E-01
Haul Road_Max	Project	Adult	Mercury	Haul Road_Max_Project_Adult_Methylmercury	2.27E-08	4.71E-09	2.79E-06	9.06E-07	9.76E-01	2.69E-01	7.35E-06	1.67E-08	2.33E-04	4.20E-07	1.25E+00	8.81E-02
Haul Road_Max	Project	Adolescent	Mercury	Haul Road_Max_Project_Adolescent_Methylmercury	2.27E-08	4.43E-09	1.98E-06	9.06E-07	9.76E-01	1.74E-01	4.77E-06	1.08E-08	1.51E-04	3.99E-07	1.15E+00	9.64E-02
Haul Road_Max	Project	Child	Mercury	Haul Road_Max_Project_Child_Methylmercury	2.27E-08	4.12E-09	2.46E-06	3.02E-07	8.05E-01	1.24E-01	3.40E-06	7.73E-09	1.08E-04	5.93E-07	9.30E-01	1.41E-01
Haul Road_Max	Project	Toddler	Mercury	Haul Road_Max_Project_Toddler_Methylmercury	9.09E-08	2.36E-09	1.06E-06	3.02E-07	4.88E-01	8.46E-02	2.32E-06	5.26E-09	7.33E-05	5.53E-07	5.73E-01	1.74E-01
Haul Road_Average	Baseline	Adult	Mercury	Haul Road_Average_Baseline_Adult_Methylmercury	4.00E-05	8.30E-06	4.19E-02	6.90E-03	4.07E+00	1.12E+00	2.15E-04	4.67E-05	1.05E-03	1.75E-06	5.24E+00	3.71E-01

Haul Road_Average	Baseline	Adolescent	Mercury	Haul Road_Average_Baseline_Adolescent_Methylmercury	4.00E-05	7.80E-06	2.97E-02	6.90E-03	4.07E+00	7.26E-01	1.39E-04	3.03E-05	6.81E-04	1.67E-06	4.84E+00	4.05E-01
Haul Road_Average	Baseline	Child	Mercury	Haul Road_Average_Baseline_Child_Methylmercury	4.00E-05	7.25E-06	3.68E-02	2.30E-03	3.36E+00	5.19E-01	9.94E-05	2.16E-05	4.87E-04	2.47E-06	3.92E+00	5.96E-01
Haul Road_Average	Baseline	Toddler	Mercury	Haul Road_Average_Baseline_Toddler_Methylmercury	1.60E-04	4.15E-06	1.58E-02	2.30E-03	2.04E+00	3.53E-01	6.76E-05	1.47E-05	3.31E-04	2.31E-06	2.41E+00	7.30E-01
Haul Road_Average	Project	Adult	Mercury	Haul Road_Average_Project_Adult_Methylmercury	8.23E-09	1.71E-09	2.03E-06	6.57E-07	9.76E-01	2.69E-01	5.22E-06	8.10E-09	2.32E-04	4.20E-07	1.25E+00	8.81E-02
Haul Road_Average	Project	Adolescent	Mercury	Haul Road_Average_Project_Adolescent_Methylmercury	8.23E-09	1.61E-09	1.43E-06	6.57E-07	9.76E-01	1.74E-01	3.39E-06	5.25E-09	1.50E-04	3.99E-07	1.15E+00	9.64E-02
Haul Road_Average	Project	Child	Mercury	Haul Road_Average_Project_Child_Methylmercury	8.23E-09	1.49E-09	1.78E-06	2.19E-07	8.05E-01	1.24E-01	2.42E-06	3.75E-09	1.07E-04	5.93E-07	9.30E-01	1.41E-01
Haul Road_Average	Project	Toddler	Mercury	Haul Road_Average_Project_Toddler_Methylmercury	3.29E-08	8.54E-10	7.65E-07	2.19E-07	4.88E-01	8.46E-02	1.64E-06	2.55E-09	7.30E-05	5.53E-07	5.73E-01	1.74E-01
Haul Road_Max	Baseline	Infant	Mercury	Haul Road_Max_Baseline_Infant_Methylmercury	4.00E-05	1.10E-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	4.11E-05	2.51E-05
Haul Road_Max	Project	Infant	Mercury	Haul Road_Max_Project_Infant_Methylmercury	2.27E-08	6.25E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.33E-08	1.42E-08
Haul Road_Average	Baseline	Infant	Mercury	Haul Road_Average_Baseline_Infant_Methylmercury	4.00E-05	1.10E-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	4.11E-05	2.51E-05
Haul Road_Average	Project	Infant	Mercury	Haul Road_Average_Project_Infant_Methylmercury	8.23E-09	2.26E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.46E-09	5.16E-09

Summary of Predicted Exposures and Game Meat Concentrations

				1	2	3	4	5	6	7	8	9	10	11	12
					EDI										
					Soil	Water	Dust	Berries	Leaves	Invert	Aquatic_Plant	Aquatic_Invert	Total	Total	Game Meat
					EDI	EDI	EDI	EDI	EDI	EDI	EDI	EDI	EDI	EDI	Concentration
Area	Scenario	Receptor	COPC	Abbreviation	mg/day	mg/day	mg/day	mg/day	mg/day	mg/day	mg/day	mg/day	mg/day	mg/kg-BW/day	mg/kg ww
Haul Road_Max	Baseline	Ruffed_Grouse	Aluminum	Haul Road_Max_Baseline_Ruffed_Grouse_Aluminur	14.83776	0.00942816	0.0014491	0.205347312	4.0184496	36.86255848	0	0	55.93499266	101.3315084	0.083902489
Haul Road_Max	Baseline	Ruffed_Grouse	Antimony	Haul Road_Max_Baseline_Ruffed_Grouse_Antimony	0.00003312	0.00001932	3.2346E-09	1.58479E-05	0.00018216	0.002045884	0	0	0.002296336	0.004160028	2.29634E-06
Haul Road_Max	Baseline	Ruffed_Grouse	Arsenic	Haul Road_Max_Baseline_Ruffed_Grouse_Arsenic	0.006624	6.99384E-05	6.46919E-07	0.000383659	0.000444015	0.038100367	0	0	0.045622626	0.082649685	9.12453E-07
Haul Road_Max	Baseline	Ruffed_Grouse	Arsenic_cancer	Haul Road_Max_Baseline_Ruffed_Grouse_Arsenic_	0.006624	6.99384E-05	6.46919E-07	0.000383659	0.000444015	0.038100367	0	0	0.045622626	0.082649685	9.12453E-07
Haul Road_Max	Baseline	Ruffed_Grouse	Barium	Haul Road_Max_Baseline_Ruffed_Grouse_Barium	0.023184	0.00012983	2.26422E-06	0.168912	2.1294504	0.095633998	0	0	2.417312492	4.379189298	0.000362597
Haul Road_Max	Baseline	Ruffed_Grouse	Beryllium	Haul Road_Max_Baseline_Ruffed_Grouse_Beryllium	0.00026496	0.00001932	2.58768E-08	1.0254E-05	0.000072864	0.003105	0	0	0.003472424	0.006290623	3.47242E-06
Haul Road_Max	Baseline	Ruffed_Grouse	Boron	Haul Road_Max_Baseline_Ruffed_Grouse_Boron	0.0019872	0.000966	1.94076E-07	0.2017008	1.0820304	0	0	0	1.286684594	2.330950352	0.001029348
Haul Road_Max	Baseline	Ruffed_Grouse	Cadmium	Haul Road_Max_Baseline_Ruffed_Grouse_Cadmium	0.000072864	7.728E-07	7.11611E-09	0.001775265	0.00336996	0.04447002	0	0	0.049688889	0.090016103	9.49058E-06
Haul Road_Max	Baseline	Ruffed_Grouse	Chromium	Haul Road_Max_Baseline_Ruffed_Grouse_Chromiur	0.0139104	0.000027048	1.35853E-06	0.005295888	0.004554	0.716602965	0	0	0.740391659	1.341289238	0.004072154
Haul Road_Max	Baseline	Ruffed_Grouse	Cobalt	Haul Road_Max_Baseline_Ruffed_Grouse_Cobalt	0.00675648	1.04328E-05	6.59858E-07	0.00158976	0.003023856	0.044022688	0	0	0.055403877	0.100369343	0.001108078
Haul Road_Max	Baseline	Ruffed_Grouse	Copper	Haul Road_Max_Baseline_Ruffed_Grouse_Copper	0.006624	2.74344E-05	6.46919E-07	0.07680528	0.13370544	0.304442209	0	0	0.521605011	0.944936614	0.00521605
Haul Road_Max	Baseline	Ruffed_Grouse	Lead	Haul Road_Max_Baseline_Ruffed_Grouse_Lead	0.01086336	1.19784E-05	1.06095E-06	0.00019872	0.00256117	0.238651614	0	0	0.252287903	0.457043302	7.56864E-05
Haul Road_Max	Baseline	Ruffed_Grouse	Manganese	Haul Road_Max_Baseline_Ruffed_Grouse_Mangane	0.5305824	0.001727208	5.18182E-05	6.4454832	81.407304	1.321279696	0	0	89.70642832	162.5116455	0.035882571
Haul Road_Max	Baseline	Ruffed_Grouse	Mercury	Haul Road_Max_Baseline_Ruffed_Grouse_Mercury	0.00006624	2.73185E-07	6.46919E-09	0.0006624	0.00056925	0.015455391	0	0	0.016753561	0.030350654	0.00040041
Haul Road_Max	Baseline	Ruffed_Grouse	Molybdenum	Haul Road_Max_Baseline_Ruffed_Grouse_Molybde	0.0003312	0.000092736	3.2346E-08	0.003050352	0.004954752	0.015742351	0	0	0.024171423	0.04378881	0.000145029
Haul Road_Max	Baseline	Ruffed_Grouse	Nickel	Haul Road_Max_Baseline_Ruffed_Grouse_Nickel	0.0092736	4.28904E-05	9.05687E-07	0.03706128	0.050094	0.7198632	0	0	0.816335877	1.478869342	0.004898015
Haul Road_Max	Baseline	Ruffed_Grouse	Silver	Haul Road_Max_Baseline_Ruffed_Grouse_Silver	0.00006624	0.000001932	6.46919E-09	0.000137117	0.000284625	0.014056336	0	0	0.014546256	0.026351913	4.36388E-05
Haul Road_Max	Baseline	Ruffed_Grouse	Strontium	Haul Road_Max_Baseline_Ruffed_Grouse_Strontiur	0.0059616	0.000241886	5.82227E-07	0.2464128	1.7414496	0.032695649	0	0	2.026762118	3.671670503	0.000608029
Haul Road_Max	Baseline	Ruffed_Grouse	Vanadium	Haul Road_Max_Baseline_Ruffed_Grouse_Vanadiur	0.023184	0.00003864	2.26422E-06	0.0013248	0.002277	0.04238325	0	0	0.069209955	0.125380352	0.000173025
Haul Road_Max	Baseline	Ruffed_Grouse	Zinc	Haul Road_Max_Baseline_Ruffed_Grouse_Zinc	0.0238464	0.000134467	2.32891E-06	0.275555088	0.6266304	8.604090692	0	0	9.530259376	17.26496264	0.08338977
Haul Road_Max	Project	Ruffed_Grouse	Aluminum	Haul Road_Max_Project_Ruffed_Grouse_Aluminum	0.32152463	0	3.1401E-05	0.322129418	0.491355942	0.079878775	0	0	1.214920166	2.200942329	0.00182238
Haul Road_Max	Project	Ruffed_Grouse	Antimony	Haul Road_Max_Project_Ruffed_Grouse_Antimony	1.5758E-05	0	1.53898E-09	1.65199E-05	3.23217E-05	9.73403E-05	0	0	0.000161941	0.000293372	1.61941E-07
Haul Road_Max	Project	Ruffed_Grouse	Arsenic	Haul Road_Max_Project_Ruffed_Grouse_Arsenic	0.000503087	4.24589E-05	4.9133E-08	0.000309949	0.000592425	0.001215005	0	0	0.002662975	0.00482423	5.32595E-08
Haul Road_Max	Project	Ruffed_Grouse	Arsenic_cancer	Haul Road_Max_Project_Ruffed_Grouse_Arsenic_ca	0.000503087	4.24589E-05	4.9133E-08	0.000309949	0.000592425	0.001215005	0	0	0.002662975	0.00482423	5.32595E-08
Haul Road_Max	Project	Ruffed_Grouse	Barium	Haul Road_Max_Project_Ruffed_Grouse_Barium	0.001176043	0	1.14856E-07	0.002033459	0.012567344	0.000485118	0	0	0.016262079	0.029460288	2.43931E-06
Haul Road_Max	Project	Ruffed_Grouse	Beryllium	Haul Road_Max_Project_Ruffed_Grouse_Beryllium	5.77432E-06	0	5.63937E-10	5.79953E-06	8.82676E-06	6.76678E-06	0	0	2.71679E-05	4.92173E-05	2.71679E-08
Haul Road_Max	Project	Ruffed_Grouse	Boron	Haul Road_Max_Project_Ruffed_Grouse_Boron	7.87901E-05	0	7.69488E-09	0.000878549	0.004408396	0	0	0	0.005365742	0.009720548	4.29259E-06
Haul Road_Max	Project	Ruffed_Grouse	Cadmium	Haul Road_Max_Project_Ruffed_Grouse_Cadmium	3.84953E-06	1.46717E-07	3.75956E-10	1.32305E-05	2.35827E-05	0.000688285	0	0	0.000729095	0.001320824	1.39257E-07
Haul Road_Max	Project	Ruffed_Grouse	Chromium	Haul Road_Max_Project_Ruffed_Grouse_Chromium	0.000615905	0	6.01511E-08	0.00063966	0.000944713	0.003172873	0	0	0.005373211	0.009734079	2.95527E-05
Haul Road_Max	Project	Ruffed_Grouse	Cobalt	Haul Road_Max_Project_Ruffed_Grouse_Cobalt	0.000229287	1.05404E-05	2.23928E-08	0.000234796	0.00035445	0.000149395	0	0	0.00097849	0.001772627	1.95698E-05
Haul Road_Max	Project	Ruffed_Grouse	Copper	Haul Road_Max_Project_Ruffed_Grouse_Copper	0.000394914	7.19486E-06	3.85684E-08	0.000853013	0.001389948	0.078741868	0	0	0.081386975	0.147440173	0.00081387
Haul Road_Max	Project	Ruffed_Grouse	Lead	Haul Road_Max_Project_Ruffed_Grouse_Lead	0.000103545	2.9109E-06	1.01125E-08	0.000103786	0.000157875	0.000870864	0	0	0.001238991	0.002244549	3.71697E-07
Haul Road_Max	Project	Ruffed_Grouse	Manganese	Haul Road_Max_Project_Ruffed_Grouse_Manganes	0.008182158	0.000150774	7.99094E-07	0.018125864	0.137821363	0.015969422	0	0	0.180250379	0.326540542	7.21002E-05
Haul Road_Max	Project	Ruffed_Grouse	Mercury	Haul Road_Max_Project_Ruffed_Grouse_Mercury	3.7616E-08	6.54764E-08	3.67369E-12	8.84164E-08	1.49566E-07	0.000573704	0	0	0.000574045	0.001039936	1.37197E-05
Haul Road_Max	Project	Ruffed_Grouse	Molybdenum	Haul Road_Max_Project_Ruffed_Grouse_Molybden	1.01371E-05	6.19762E-05	9.90022E-10	1.94785E-05	3.03822E-05	4.81831E-05	0	0	0.000170158	0.000308257	1.02095E-06
Haul Road_Max	Project	Ruffed_Grouse	Nickel	Haul Road_Max_Project_Ruffed_Grouse_Nickel	0.000469833	0.000113546	4.58853E-08	0.000657833	0.000959072	0.003647082	0	0	0.005847411	0.010593137	3.50845E-05
Haul Road_Max	Project	Ruffed_Grouse	Silver	Haul Road_Max_Project_Ruffed_Grouse_Silver	1.8936E-06	4.2875E-08	1.84934E-10	2.28651E-06	4.92548E-06	4.01827E-05	0	0	4.93314E-05	8.93684E-05	1.47994E-07
Haul Road_Max	Project	Ruffed_Grouse	Strontium	Haul Road_Max_Project_Ruffed_Grouse_Strontium	0.00017254	0	1.68508E-08	0.000885791	0.005299087	9.46274E-05	0	0	0.006452061	0.011688517	1.93562E-06
Haul Road_Max	Project	Ruffed_Grouse	Vanadium	Haul Road_Max_Project_Ruffed_Grouse_Vanadium	0.000675142	0	6.59364E-08	0.000681048	0.001020103	0.000123424	0	0	0.002499784	0.004528594	6.24946E-06
Haul Road_Max	Project	Ruffed_Grouse	Zinc	Haul Road_Max_Project_Ruffed_Grouse_Zinc	0.00113518	6.70341E-05	1.10865E-07	0.002447492	0.004687046	1.489263389	0	0	1.497600252	2.713043935	0.013104002
Haul Road_Average	Baseline	Ruffed_Grouse	Aluminum	Haul Road_Average_Baseline_Ruffed_Grouse_Alum	14.83776	0.00942816	0.0014491	0.205347312	4.0184496	36.86255848	0	0	55.93499266	101.3315084	0.083902489
Haul Road_Average	Baseline	Ruffed_Grouse	Antimony	Haul Road_Average_Baseline_Ruffed_Grouse_Antin	0.00003312	0.00001932	3.2346E-09	1.58479E-05	0.00018216	0.002045884	0	0	0.002296336	0.004160028	2.29634E-06
Haul Road_Average	Baseline	Ruffed_Grouse	Arsenic	Haul Road_Average_Baseline_Ruffed_Grouse_Arser	0.006624	6.99384E-05	6.46919E-07	0.000383659	0.000444015	0.038100367	0	0	0.045622626	0.082649685	9.12453E-07
Haul Road_Average	Baseline	Ruffed_Grouse	Arsenic_cancer	Haul Road_Average_Baseline_Ruffed_Grouse_Arser	0.006624	6.99384E-05	6.46919E-07	0.000383659	0.000444015	0.038100367	0	0	0.045622626	0.082649685	9.12453E-07
Haul Road_Average	Baseline	Ruffed_Grouse	Barium	Haul Road_Average_Baseline_Ruffed_Grouse_Bariu	0.023184	0.00012983	2.26422E-06	0.168912	2.1294504	0.095633998	0	0	2.417312492	4.379189298	0.000362597
Haul Road_Average	Baseline	Ruffed_Grouse	Beryllium	Haul Road_Average_Baseline_Ruffed_Grouse_Beryl	0.00026496	0.00001932	2.58768E-08	1.0254E-05	0.000072864	0.003105	0	0	0.003472424	0.006290623	3.47242E-06
Haul Road_Average	Baseline	Ruffed_Grouse	Boron	Haul Road_Average_Baseline_Ruffed_Grouse_Boror	0.0019872	0.000966	1.94076E-07	0.2017008	1.0820304	0	0	0	1.286684594	2.330950352	0.001029348
Haul Road_Average	Baseline	Ruffed_Grouse	Cadmium	Haul Road_Average_Baseline_Ruffed_Grouse_Cadm	0.000072864	7.728E-07	7.11611E-09	0.001775265	0.00336996	0.04447002	0	0	0.049688889	0.090016103	9.49058E-06
Haul Road_Average	Baseline	Ruffed_Grouse	Chromium	Haul Road_Average_Baseline_Ruffed_Grouse_Chror	0.0139104	0.000027048	1.35853E-06	0.005295888	0.004554	0.716602965	0	0	0.740391659	1.341289238	0.004072154
Haul Road_Average	Baseline	Ruffed_Grouse	Cobalt	Haul Road_Average_Baseline_Ruffed_Grouse_Coba	0.00675648	1.04328E-05	6.59858E-07	0.00158976	0.003023856	0.044022688	0	0	0.055403877	0.100369343	0.001108078
Haul Road_Average	Baseline	Ruffed_Grouse	Copper	Haul Road_Average_Baseline_Ruffed_Grouse_Copp	0.006624	2.74344E-05	6.46919E-07	0.07680528	0.13370544	0.304442209	0	0	0.521605011	0.944936614	0.00521605
Haul Road_Average	Baseline	Ruffed_Grouse	Lead	Haul Road_Average_Baseline_Ruffed_Grouse_Lead	0.01086336	1.19784E-05	1.06095E-06	0.00019872	0.00256117	0.238651614	0	0	0.252287903	0.457043302	7.56864E-05
Haul Road_Average	Baseline	Ruffed_Grouse	Manganese	Haul Road_Average_Baseline_Ruffed_Grouse_Mang	0.5305824	0.001727208	5.18182E-05	6.4454832	81.407304	1.321279696	0	0	89.70642832	162.5116455	0.035882571
Haul Road_Average	Baseline	Ruffed_Grouse	Mercury	Haul Road_Average_Baseline_Ruffed_Grouse_Merc	0.00006624	2.73185E-07	6.46919E-09	0.0006624	0.00056925	0.015455391	0	0	0.016753561	0.030350654	0.00040041
Haul Road_Average	Baseline	Ruffed_Grouse	Molybdenum	Haul Road_Average_Baseline_Ruffed_Grouse_Moly	0.0003312	0.000092736	3.2346E-08	0.003050352	0.004954752	0.015742351	0	0	0.024171423	0.04378881	0.000145029
Haul Road_Average	Baseline	Ruffed_Grouse	Nickel	Haul Road_Average_Baseline_Ruffed_Grouse_Nicke	0.0092736	4.28904E-05	9.05687E-07	0.03706128	0.050094	0.7198632	0	0	0.816335877	1.478869342	0.004898015
Haul Road_Average	Baseline	Ruffed_Grouse	Silver	Haul Road_Average_Baseline_Ruffed_Grouse_Silver	0.00006624	0.000001932	6.46919E-09	0.000137117	0.000284625	0.014056336	0	0	0.014546256	0.026351913	4.36388E-05
Haul Road_Average	Baseline	Ruffed_Grouse	Strontium	Haul Road_Average_Baseline_Ruffed_Grouse_Stron	0.0059616	0.000241886	5.82227E-07	0.2464128	1.7414496	0.032695649	0	0	2.026762118	3.671670503	0.000608029
Haul Road_Average	Baseline	Ruffed_Grouse	Vanadium	Haul Road_Average_Baseline_Ruffed_Grouse_Vana	0.023184	0.00003864	2.26422E-06	0.0013248	0.002277	0.04238325	0	0	0.069209955	0.125380352	0.000173025
Haul Road_Average	Baseline	Ruffed_Grouse	Zinc	Haul Road_Average_Baseline_Ruffed_Grouse_Zinc	0.0238464	0.000134467	2.32891E-06	0.275555088	0.6266304	8.604090692	0	0	9.530259376	17.26496264	0.08338977
Haul Road_Average	Project	Ruffed_Grouse	Aluminum	Haul Road_Average_Project_Ruffed_Grouse_Alumir	0.116540586	0	1.13817E-05	0.116759807	0.178098048	0.028953052	0	0	0.440362874	0.79775883	0.000660544
Haul Road_Average	Project	Ruffed_Grouse	Antimony	Haul Road_Average_Project_Ruffed_Grouse_Antim	5.71169E-06	0	5.57821E-10	5.98783E-06	1.17154E-05	3.52822E-05	0	0	5.86977E-05	0.000106336	5.86977E-08
Haul Road_Average	Project	Ruffed_Grouse	Arsenic	Haul Road_Average_Project_Ruffed_Grouse_Arseni	0.00018235	4.24589E-05	1.78089E-08	0.000112345	0.000214732	0.000593496	0	0	0.0011454	0.002074999	2.2908E-08
Haul Road_Average	Project	Ruffed_Grouse	Arsenic_cancer	Haul Road_Average_Project_Ruffed_Grouse_Arseni	0.00018235	4.24589E-05	1.78089E-08	0.000112345	0.000214732	0.000593496	0	0	0.0011454	0.002074999	2.2908E-08
Haul Road_Average	Project	Ruffed_Grouse	Barium	Haul Road_Average_Project_Ruffed_Grouse_Barium	0.000426271	0	4.16309E-08	0.000737053	0.004555189	0.000175837	0	0	0.005894392	0.010678246	8.84159E-07
Haul Road_Average	Project	Ruffed_Grouse	Beryllium	Haul Road_Average_Project_Ruffed_Grouse_Berylli	2.09297E-06	0	2.04406E-10	2.10211E-06	3.19937E-06	2.4527E-06	0	0	9.84736E-06	1.78394E-05	9.84736E-09
Haul Road_Average	Project	Ruffed_Grouse	Boron	Haul Road_Average_Project_Ruffed_Grouse_Boron	2.85585E-05	0	2.7891E-09	0.000318441	0.001597878	0	0	0	0.00194488	0.003523333	1.5559E-06
Haul Road_Average	Project	Ruffed_Grouse	Cadmium	Haul Road_Average_Project_Ruffed_Grouse_Cadmi	1.39531E-06	1.46717E-07	1.3627E-10	4.79555E-06	8.54783E-06	0.000307173	0	0	0.000322058	0.000583439	6.15131E-08
Haul Road_Average	Project	Ruffed_Grouse	Chromium	Haul Road_Average_Project_Ruffed_Grouse_Chrom	0.000223242	0	2.18025E-08	0.000231853	0.000342423	0.001150047	0	0	0.001947587	0.003528238	1.07117E-05
Haul Road_Average	Project	Ruffed_Grouse	Cobalt	Haul Road_Average_Project_Ruffed_Grouse_Cobalt	8.31079E-05	1.05404E-05	8.11656E-09	8.51047E-05	0.000128475	5.415E-05	0	0	0.000361386	0.000654684	7.22772E-06
Haul Road_Average	Project	Ruffed_Grouse	Copper	Haul Road_Average_Project_Ruffed_Grouse_Coppe	0.000143141	7.19486E-06	1.39796E-08	0.000309185	0.000503804	0.060235303	0	0	0.061198642	0.110867105	0.000611986
Haul Road_Average	Project	Ruffed_Grouse	Lead	Haul Road_Average_Project_Ruffed_Grouse_Lead	3.75312E-05	2.9109E-06	3.6654E-09	3.76185E-05	5.72238E-05	0.000383951	0	0	0.000519239	0.00094065	1.55772E-07
Haul Road_Average	Project	Ruffed_Grouse	Manganese	Haul Road_Average_Project_Ruffed_Grouse_Manga	0.002965725	0.000150774	2.89641E-07	0.006569944	0.049955059	0.007992939	0	0	0.06763473	0.122526685	2.70539E-05
Haul Road_Average	Project	Ruffed_Grouse	Mercury	Haul Road_Average_Project_Ruffed_Grouse_Mercu	1.36344E-08	6.54764E-08	1.33158E-12	3.20476E-08	5.42121E-08	0.000407571	0	0	0.000407737	0.000738653	9.7449E-06
Haul Road_Average	Project	Ruffed_Grouse	Molybdenum	Haul Road_Average_Project_Ruffed_Grouse_Molyb	3.67433E-06	6.19762E-05	3.58846E-10	7.06021E-06	1.10124E-05	1.74645E-05	0	0	0.000101188	0.000183312	6.07129E-07
Haul Road_Average	Project	Ruffed_Grouse	Nickel	Haul Road_Average_Project_Ruffed_Grouse_Nickel	0.000170297	0.000113546	1.66317E-08	0.00023844	0.000347628	0.00132193	0	0	0.002191857	0.003970755	1.31511E-05
Haul Road_Average	Project	Ruffed_Grouse	Silver	Haul Road_Average_Project_Ruffed_Grouse_Silver	6.86358E-07	4.2875E-08	6.70317E-11	8.28775E-07	1.7853E-06	1.45647E-05	0	0	1.79081E-05	3.24422E-05	5.37243E-08
Haul Road_Average	Project	Ruffed_Grouse	Strontium	Haul Road_Average_Project_Ruffed_Grouse_Stronti	6.25392E-05	0	6.10777E-09	0.000321066	0.00192072	3.42989E-05	0	0	0.00233863	0.004236648	7.01589E-07
Haul Road_Average	Project	Ruffed_Grouse	Vanadium	Haul Road_Average_Project_Ruffed_Grouse_Vanad	0.000244714	0	2.38995E-08	0.000246854	0.000369749	4.47367E-05	0	0	0.000906078	0.001641445	2.26519E-06
Haul Road_Average	Project	Ruffed_Grouse	Zinc	Haul Road_Average_Project_Ruffed_Grouse_Zinc	0.00041146	6.70341E-05	4.01844E-08	0.000887124	0.001698878	1.067602911	0	0	1.070667447	1.93961494	0.00936834
Haul Road_Max	Baseline	Snowshoe_Hare	Aluminum	Haul Road_Max_Baseline_Snowshoe_Hare_Aluminu	110.0736	0.03172	0.003770303	0.1612026	15.48612	0	0	0	125.7564129	96.73570223	0.188634619
Haul Road_Max	Baseline	Snowshoe_Hare	Antimony	Haul Road_Max_Baseline_Snowshoe_Hare_Antimor	0.0002457	0.000065	8.41586E-09	0.000012441	0.000702	0	0	0	0.001025149	0.000788576	1.02515E-06
Haul Road_Max	Baseline	Snowshoe_Hare	Arsenic	Haul Road_Max_Baseline_Snowshoe_Hare_Arsenic	0.04914	0.0002353	1.68317E-06	0.000301181	0.001711125	0	0	0	0.05138929	0.039530223	1.02779E-06
Haul Road_Max	Baseline	Snowshoe_Hare	Arsenic_cancer	Haul Road_Max_Baseline_Snowshoe_Hare_Arsenic_	0.04914	0.0002353	1.68317E-06	0.000301181	0.001711125	0	0	0	0.05138929	0.039530223	1.02779E-06
Haul Road_Max	Baseline	Snowshoe_Hare	Barium	Haul Road_Max_Baseline_Snowshoe_Hare_Barium	0.17199	0.0004368	5.8911E-06	0.1326	8.20638	0	0	0	8.511412691	6.547240532	0.001276712
Haul Road_Max	Baseline	Snowshoe_Hare	Beryllium	Haul Road_Max_Baseline_Snowshoe_Hare_Berylliu	0.0019656	0.000065	6.73268E-08	8.0496E-06	0.0002808	0	0	0	0.002319517	0.001784244	2.31952E-06
Haul Road_Max	Baseline	Snowshoe_Hare	Boron	Haul Road_Max_Baseline_Snowshoe_Hare_Boron	0.014742	0.00325	5.04951E-07	0.15834	4.16988	0	0	0	4.346212505	3.343240388	0.00347697
Haul Road_Max	Baseline	Snowshoe_Hare	Cadmium	Haul Road_Max_Baseline_Snowshoe_Hare_Cadmiu	0.00054054	0.0000026	1.85149E-08	0.001393626	0.012987	0	0	0	0.014923785	0.011479834	1.79085E-06
Haul Road_Max	Baseline	Snowshoe_Hare	Chromium	Haul Road_Max_Baseline_Snowshoe_Hare_Chromiu	0.103194	0.000091	3.53466E-06	0.0041574	0.01755	0	0	0	0.124995935	0.096150719	0.000687478
Haul Road_Max	Baseline	Snowshoe_Hare	Cobalt	Haul Road_Max_Baseline_Snowshoe_Hare_Cobalt	0.0501228	0.0000351	1.71683E-06	0.001248	0.0116532	0	0	0	0.063060817	0.048508321	0.001261216
Haul Road_Max	Baseline	Snowshoe_Hare	Copper	Haul Road_Max_Baseline_Snowshoe_Hare_Copper	0.04914	0.0000923	1.68317E-06	0.060294	0.515268	0	0	0	0.624795983	0.480612295	0.00624796
Haul Road_Max	Baseline	Snowshoe_Hare	Lead	Haul Road_Max_Baseline_Snowshoe_Hare_Lead	0.0805896	0.0000403	2.7604E-06	0.000156	0.00987012	0	0	0	0.09065878	0.069737523	2.71976E-05
Haul Road_Max	Baseline	Snowshoe_Hare	Manganese	Haul Road_Max_Baseline_Snowshoe_Hare_Mangan	3.936114	0.005811	0.000134822	5.05986	313.7238	0	0	0	322.7257198	248.2505537	0.129090288
Haul Road_Max	Baseline	Snowshoe_Hare	Mercury	Haul Road_Max_Baseline_Snowshoe_Hare_Mercury	0.0004914	9.191E-07	1.68317E-08	0.00052	0.00219375	0	0	0	0.003206086	0.00246622	1.67358E-05
Haul Road_Max	Baseline	Snowshoe_Hare	Molybdenum	Haul Road_Max_Baseline_Snowshoe_Hare_Molybd	0.002457	0.000312	8.41586E-08	0.0023946	0.0190944	0	0	0	0.024258084	0.018660065	0.000145549
Haul Road_Max	Baseline	Snowshoe_Hare	Nickel	Haul Road_Max_Baseline_Snowshoe_Hare_Nickel	0.068796	0.0001443	2.35644E-06	0.029094	0.19305	0	0	0	0.291086656	0.223912813	0.00174652
Haul Road_Max	Baseline	Snowshoe_Hare	Silver	Haul Road_Max_Baseline_Snowshoe_Hare_Silver	0.0004914	0.0000065	1.68317E-08	0.00010764	0.001096875	0	0	0	0.001702432	0.001309563	5.1073E-06
Haul Road_Max	Baseline	Snowshoe_Hare	Strontium	Haul Road_Max_Baseline_Snowshoe_Hare_Strontiu	0.044226	0.0008138	1.51485E-06	0.19344	6.71112	0	0	0	6.949601315	5.345847165	0.00208488
Haul Road_Max	Baseline	Snowshoe_Hare	Vanadium	Haul Road_Max_Baseline_Snowshoe_Hare_Vanadiu	0.17199	0.00013	5.8911E-06	0.00104	0.008775	0	0	0	0.181940891	0.139954532	0.000454852
Haul Road_Max	Baseline	Snowshoe_Hare	Zinc	Haul Road_Max_Baseline_Snowshoe_Hare_Zinc	0.176904	0.0004524	6.05942E-06	0.2163174	2.41488	0	0	0	2.808559859	2.160430661	0.00025277
Haul Road_Max	Project	Snowshoe_Hare	Aluminum	Haul Road_Max_Project_Snowshoe_Hare_Aluminur	2.385223478	0	8.17E-05	0.252879374	1.893565389	0	0	0	4.531749941	3.485961493	0.006797625
Haul Road_Max	Project	Snowshoe_Hare	Antimony	Haul Road_Max_Project_Snowshoe_Hare_Antimony	0.000116901	0	4.00414E-09	1.29685E-05	0.00012456	0	0	0	0.000254433	0.000195718	2.54433E-07
Haul Road_Max	Project	Snowshoe_Hare	Arsenic	Haul Road_Max_Project_Snowshoe_Hare_Arsenic	0.003732139	0.000142848	1.27835E-07	0.000243318	0.002283061	0	0	0	0.006401494	0.004924226	1.2803E-07
Haul Road_Max	Project	Snowshoe_Hare	Arsenic_cancer	Haul Road_Max_Project_Snowshoe_Hare_Arsenic_	0.003732139	0.000142848	1.27835E-07	0.000243318	0.002283061	0	0	0	0.006401494	0.004924226	1.2803E-07
Haul Road_Max	Project	Snowshoe_Hare	Barium	Haul Road_Max_Project_Snowshoe_Hare_Barium	0.008724451	0	2.98835E-07	0.001596315	0.048431463	0	0	0	0.058752528	0.045194252	8.81288E-06
Haul Road_Max	Project	Snowshoe_Hare	Beryllium	Haul Road_Max_Project_Snowshoe_Hare_Beryllium	4.28366E-05	0	1.46726E-09	4.55277E-06	3.40162E-05	0	0	0	8.1407E-05	6.26208E-05	8.1407E-08
Haul Road_Max	Project	Snowshoe_Hare	Boron	Haul Road_Max_Project_Snowshoe_Hare_Boron	0.000584503	0	2.00207E-08	0.000689682	0.016988876	0	0	0	0.018263081	0.014048524	1.46105E-05
Haul Road_Max	Project	Snowshoe_Hare	Cadmium	Haul Road_Max_Project_Snowshoe_Hare_Cadmium	2.85576E-05	4.93611E-07	9.78172E-10	1.03862E-05	9.08819E-05	0	0	0	0.00013032	0.000100246	1.56384E-08
Haul Road_Max	Project	Snowshoe_Hare	Chromium	Haul Road_Max_Project_Snowshoe_Hare_Chromiur	0.004569078	0	1.56503E-07	0.000502148	0.003640693	0	0	0	0.008712076	0.006701597	4.79164E-05
Haul Road_Max	Project	Snowshoe_Hare	Cobalt	Haul Road_Max_Project_Snowshoe_Hare_Cobalt	0.00170096	3.5462E-05	5.82622E-08	0.00018432	0.001365963	0	0	0	0.003286764	0.00252828	6.57353E-05
Haul Road_Max	Project	Snowshoe_Hare	Copper	Haul Road_Max_Project_Snowshoe_Hare_Copper	0.002929659	2.42063E-05	1.00348E-07	0.000669635	0.005356518	0	0	0	0.00898012	0.006907784	8.98012E-05
Haul Road_Max	Project	Snowshoe_Hare	Lead	Haul Road_Max_Project_Snowshoe_Hare_Lead	0.000768146	9.7934E-06	2.6311E-08	8.14744E-05	0.000608412	0	0	0	0.001467852	0.001129117	4.40356E-07
Haul Road_Max	Project	Snowshoe_Hare	Manganese	Haul Road_Max_Project_Snowshoe_Hare_Mangane	0.060699163	0.000507261	2.0791E-06	0.014229241	0.531129758	0	0	0	0.606567502	0.466590386	0.000242627
Haul Road_Max	Project	Snowshoe_Hare	Mercury	Haul Road_Max_Project_Snowshoe_Hare_Mercury	2.79054E-07	2.20288E-07	9.55831E-12	6.9409E-08	5.76391E-07	0	0	0	1.14515E-06	8.80886E-07	5.97769E-09
Haul Road_Max	Project	Snowshoe_Hare	Molybdenum	Haul Road_Max_Project_Snowshoe_Hare_Molybde	7.52021E-05	0.000208512	2.57586E-09	1.52911E-05	0.000117086	0	0	0	0.000416094	0.000320072	2.49656E-06
Haul Road_Max	Project	Snowshoe_Hare	Nickel	Haul Road_Max_Project_Snowshoe_Hare_Nickel	0.003485449	0.000382013	1.19386E-07	0.000516414	0.003696028	0	0	0	0.008080024	0.006215403	4.84801E-05
Haul Road_Max	Project	Snowshoe_Hare	Silver	Haul Road_Max_Project_Snowshoe_Hare_Silver	1.40476E-05	1.44248E-07	4.81167E-10	1.79497E-06	1.89816E-05	0	0	0	3.49689E-05	2.68992E-05	1.04907E-07
Haul Road_Max	Project	Snowshoe_Hare	Strontium	Haul Road_Max_Project_Snowshoe_Hare_Strontiur	0.001279984	0	4.38427E-08	0.000695367	0.020421381	0	0	0	0.022396776	0.017228289	6.71903E-06
Haul Road_Max	Project	Snowshoe_Hare	Vanadium	Haul Road_Max_Project_Snowshoe_Hare_Vanadiur	0.005008529	0	1.71555E-07	0.000534639	0.003931227	0	0	0	0.009474567	0.007288128	2.36864E-05
Haul Road_Max	Project	Snowshoe_Hare	Zinc	Haul Road_Max_Project_Snowshoe_Hare_Zinc	0.008421308	0.000225529	2.88451E-07	0.00192134	0.018062727	0	0	0	0.028631193	0.022023994	2.57681E-06
Haul Road_Average	Baseline	Snowshoe_Hare	Aluminum	Haul Road_Average_Baseline_Snowshoe_Hare_Alur	110.0736	0.03172	0.003770303	0.1612026	15.48612	0	0	0	125.7564129	96.73570223	0.188634619
Haul Road_Average	Baseline	Snowshoe_Hare	Antimony	Haul Road_Average_Baseline_Snowshoe_Hare_Anti	0.0002457	0.000065	8.41586E-09	0.000012441	0.000702	0	0	0	0.001025149	0.000788576	1.02515E-06
Haul Road_Average	Baseline	Snowshoe_Hare	Arsenic	Haul Road_Average_Baseline_Snowshoe_Hare_Arse	0.04914	0.0002353	1.68317E-06	0.000301181	0.001711125	0	0	0	0.05138929	0.039530223	1.02779E-06
Haul Road_Average	Baseline	Snowshoe_Hare	Arsenic_cancer	Haul Road_Average_Baseline_Snowshoe_Hare_Arse	0.04914	0.0002353	1.68317E-06	0.000301181	0.001711125	0	0	0	0.05138929	0.039530223	1.02779E-06
Haul Road_Average	Baseline	Snowshoe_Hare	Barium	Haul Road_Average_Baseline_Snowshoe_Hare_Bari	0.17199	0.0004368	5.8911E-06	0.1326	8.20638	0	0	0	8.511412691	6.547240532	0.001276712
Haul Road_Average	Baseline	Snowshoe_Hare	Beryllium	Haul Road_Average_Baseline_Snowshoe_Hare_Bery	0.0019656	0.000065	6.73268E-08	8.0496E-06	0.0002808	0	0	0	0.002319517	0.001784244	2.31952E-06
Haul Road_Average	Baseline	Snowshoe_Hare	Boron	Haul Road_Average_Baseline_Snowshoe_Hare_Borc	0.014742	0.00325	5.04951E-07	0.15834	4.16988	0	0	0	4.346212505	3.343240388	0.00347697
Haul Road_Average	Baseline	Snowshoe_Hare	Cadmium	Haul Road_Average_Baseline_Snowshoe_Hare_Cad	0.00054054	0.0000026	1.85149E-08	0.001393626	0.012987	0	0	0	0.014923785	0.011479834	1.79085E-06
Haul Road_Average	Baseline	Snowshoe_Hare	Chromium	Haul Road_Average_Baseline_Snowshoe_Hare_Chrc	0.103194	0.000091	3.53466E-06	0.0041574	0.01755	0	0	0	0.124995935	0.096150719	0.000687478
Haul Road_Average	Baseline	Snowshoe_Hare	Cobalt	Haul Road_Average_Baseline_Snowshoe_Hare_Cob	0.0501228	0.0000351	1.71683E-06	0.001248	0.0116532	0	0	0	0.063060817	0.048508321	0.001261216
Haul Road_Average	Baseline	Snowshoe_Hare	Copper	Haul Road_Average_Baseline_Snowshoe_Hare_Cop	0.04914	0.0000923	1.68317E-06	0.060294	0.515268	0	0	0	0.624795983	0.480612295	0.00624796
Haul Road_Average	Baseline	Snowshoe_Hare	Lead	Haul Road_Average_Baseline_Snowshoe_Hare_Leac	0.0805896	0.0000403	2.7604E-06	0.000156	0.00987012	0	0	0	0.09065878	0.069737523	2.71976E-05
Haul Road_Average	Baseline	Snowshoe_Hare	Manganese	Haul Road_Average_Baseline_Snowshoe_Hare_Mar	3.936114	0.005811	0.000134822	5.05986	313.7238	0	0	0	322.7257198	248.2505537	0.129090288
Haul Road_Average	Baseline	Snowshoe_Hare	Mercury	Haul Road_Average_Baseline_Snowshoe_Hare_Mer	0.0004914	9.191E-07	1.68317E-08	0.00052	0.00219375	0	0	0	0.003206086	0.00246622	1.67358E-05
Haul Road_Average	Baseline	Snowshoe_Hare	Molybdenum	Haul Road_Average_Baseline_Snowshoe_Hare_Mol	0.002457	0.000312	8.41586E-08	0.0023946	0.0190944	0	0	0	0.024258084	0.018660065	0.000145549
Haul Road_Average	Baseline	Snowshoe_Hare	Nickel	Haul Road_Average_Baseline_Snowshoe_Hare_Nick	0.068796	0.0001443	2.35644E-06	0.029094	0.19305	0	0	0	0.291086656	0.223912813	0.00174652
Haul Road_Average	Baseline	Snowshoe_Hare	Silver	Haul Road_Average_Baseline_Snowshoe_Hare_Silve	0.0004914	0.0000065	1.68317E-08	0.00010764	0.001096875	0	0	0	0.001702432	0.001309563	5.1073E-06
Haul Road_Average	Baseline	Snowshoe_Hare	Strontium	Haul Road_Average_Baseline_Snowshoe_Hare_Stro	0.044226	0.0008138	1.51485E-06	0.19344	6.71112	0	0	0	6.949601315	5.345847165	0.00208488
Haul Road_Average	Baseline	Snowshoe_Hare	Vanadium	Haul Road_Average_Baseline_Snowshoe_Hare_Van	0.17199	0.00013	5.8911E-06	0.00104	0.008775	0	0	0	0.181940891	0.139954532	0.000454852
Haul Road_Average	Baseline	Snowshoe_Hare	Zinc	Haul Road_Average_Baseline_Snowshoe_Hare_Zinc	0.176904	0.0004524	6.05942E-06	0.2163174	2.41488	0	0	0	2.808559859	2.160430661	0.00025277
Haul Road_Average	Project	Snowshoe_Hare	Aluminum	Haul Road_Average_Project_Snowshoe_Hare_Alum	0.864553801	0	2.96132E-05	0.091659269	0.686346233	0	0	0	1.642588915	1.263529935	0.002463883

Haul Road_Average	Project	Snowshoe_Hare	Antimony	Haul Road_Average_Project_Snowshoe_Hare_Antim	4.23721E-05	0	1.45135E-09	4.70059E-06	4.51482E-05	0	0	0	9.22223E-05	7.09402E-05	9.22223E-08
Haul Road_Average	Project	Snowshoe_Hare	Arsenic	Haul Road_Average_Project_Snowshoe_Hare_Arser	0.00135276	0.000142848	4.63355E-08	8.81936E-05	0.000827524	0	0	0	0.002411372	0.001854902	4.82274E-08
Haul Road_Average	Project	Snowshoe_Hare	Arsenic_cancer	Haul Road_Average_Project_Snowshoe_Hare_Arser	0.00135276	0.000142848	4.63355E-08	8.81936E-05	0.000827524	0	0	0	0.002411372	0.001854902	4.82274E-08
Haul Road_Average	Project	Snowshoe_Hare	Barium	Haul Road_Average_Project_Snowshoe_Hare_Bariu	0.003162285	0	1.08316E-07	0.000578604	0.017554583	0	0	0	0.021295581	0.016381216	3.19434E-06
Haul Road_Average	Project	Snowshoe_Hare	Beryllium	Haul Road_Average_Project_Snowshoe_Hare_Beryl	1.55267E-05	0	5.31828E-10	1.65021E-06	1.23296E-05	0	0	0	2.9507E-05	2.26977E-05	2.9507E-08
Haul Road_Average	Project	Snowshoe_Hare	Boron	Haul Road_Average_Project_Snowshoe_Hare_Boror	0.00021186	0	7.25676E-09	0.000249984	0.006157829	0	0	0	0.00661968	0.005092062	5.29574E-06
Haul Road_Average	Project	Snowshoe_Hare	Cadmium	Haul Road_Average_Project_Snowshoe_Hare_Cadm	1.03511E-05	4.93611E-07	3.54551E-10	3.76462E-06	3.29413E-05	0	0	0	4.75509E-05	3.65776E-05	5.70611E-09
Haul Road_Average	Project	Snowshoe_Hare	Chromium	Haul Road_Average_Project_Snowshoe_Hare_Chror	0.001656119	0	5.67263E-08	0.00018201	0.001319614	0	0	0	0.0031578	0.002429077	1.73679E-05
Haul Road_Average	Project	Snowshoe_Hare	Cobalt	Haul Road_Average_Project_Snowshoe_Hare_Coba	0.000616534	3.5462E-05	2.11179E-08	6.68092E-05	0.00049511	0	0	0	0.001213937	0.000933797	2.42787E-05
Haul Road_Average	Project	Snowshoe_Hare	Copper	Haul Road_Average_Project_Snowshoe_Hare_Copp	0.001061891	2.42063E-05	3.63725E-08	0.000242718	0.001941536	0	0	0	0.003270388	0.002515683	3.27039E-05
Haul Road_Average	Project	Snowshoe_Hare	Lead	Haul Road_Average_Project_Snowshoe_Hare_Lead	0.000278424	9.7934E-06	9.53674E-09	2.95314E-05	0.000220526	0	0	0	0.000538285	0.000414065	1.61485E-07
Haul Road_Average	Project	Snowshoe_Hare	Manganese	Haul Road_Average_Project_Snowshoe_Hare_Mang	0.022001165	0.000507261	7.53596E-07	0.005157565	0.192514556	0	0	0	0.2201813	0.169370231	8.80725E-05
Haul Road_Average	Project	Snowshoe_Hare	Mercury	Haul Road_Average_Project_Snowshoe_Hare_Merc	1.01146E-07	2.20288E-07	3.46453E-12	2.51582E-08	2.0892E-07	0	0	0	5.55516E-07	4.2732E-07	2.89979E-09
Haul Road_Average	Project	Snowshoe_Hare	Molybdenum	Haul Road_Average_Project_Snowshoe_Hare_Moly	2.72579E-05	0.000208512	9.33654E-10	5.54244E-06	4.24392E-05	0	0	0	0.000283753	0.000218271	1.70252E-06
Haul Road_Average	Project	Snowshoe_Hare	Nickel	Haul Road_Average_Project_Snowshoe_Hare_Nicke	0.001263344	0.000382013	4.32728E-08	0.000187181	0.001339671	0	0	0	0.003172252	0.002440194	1.90335E-05
Haul Road_Average	Project	Snowshoe_Hare	Silver	Haul Road_Average_Project_Snowshoe_Hare_Silver	5.09173E-06	1.44248E-07	1.74405E-10	6.50608E-07	6.88011E-06	0	0	0	1.27669E-05	9.82067E-06	3.83006E-08
Haul Road_Average	Project	Snowshoe_Hare	Strontium	Haul Road_Average_Project_Snowshoe_Hare_Stron	0.000463946	0	1.58913E-08	0.000252044	0.007401983	0	0	0	0.008117989	0.006244607	2.4354E-06
Haul Road_Average	Project	Snowshoe_Hare	Vanadium	Haul Road_Average_Project_Snowshoe_Hare_Vana	0.001815404	0	6.21822E-08	0.000193787	0.001424922	0	0	0	0.003434174	0.002641673	8.58544E-06
Haul Road_Average	Project	Snowshoe_Hare	Zinc	Haul Road_Average_Project_Snowshoe_Hare_Zinc	0.003052407	0.000225529	1.04553E-07	0.000696414	0.006547059	0	0	0	0.010521514	0.008093472	9.46936E-07
Haul Road_Max	Baseline	Mallard	Aluminum	Haul Road_Max_Baseline_Mallard_Aluminum	44.352	0.017568	0.002634964	0.062001	0	22.25999908	0.432290822	132.2805333	199.4070272	166.1725227	0.299110541
Haul Road_Max	Baseline	Mallard	Antimony	Haul Road_Max_Baseline_Mallard_Antimony	0.000099	0.000036	5.88162E-09	0.000004785	0	0.001235437	0.403781265	0.000466667	0.40562316	0.3380193	0.000405623
Haul Road_Max	Baseline	Mallard	Arsenic	Haul Road_Max_Baseline_Mallard_Arsenic	0.0198	0.00013032	1.17632E-06	0.000115839	0	0.023007468	0.290355675	0.017617333	0.351027812	0.292523176	7.02056E-06
Haul Road_Max	Baseline	Mallard	Arsenic_cancer	Haul Road_Max_Baseline_Mallard_Arsenic_cancer	0.0198	0.00013032	1.17632E-06	0.000115839	0	0.023007468	0.290355675	0.017617333	0.351027812	0.292523176	7.02056E-06
Haul Road_Max	Baseline	Mallard	Barium	Haul Road_Max_Baseline_Mallard_Barium	0.0693	0.00024192	4.11713E-06	0.051	0	0.057749999	0.478295982	0.0896	0.746192018	0.621826681	0.000111929
Haul Road_Max	Baseline	Mallard	Beryllium	Haul Road_Max_Baseline_Mallard_Beryllium	0.000792	0.000036	4.70529E-08	0.000003096	0	0.001875	0.038598751	0.003	0.044304894	0.036920745	4.43049E-05
Haul Road_Max	Baseline	Mallard	Boron	Haul Road_Max_Baseline_Mallard_Boron	0.00594	0.0018	3.52897E-07	0.0609	0	0	0.46875	13.55333333	14.09072369	11.74226974	0.011272579
Haul Road_Max	Baseline	Mallard	Cadmium	Haul Road_Max_Baseline_Mallard_Cadmium	0.0002178	0.00000144	1.29396E-08	0.00053601	0	0.026853877	0.0085629	0.009229333	0.045401373	0.037834477	8.67166E-06
Haul Road_Max	Baseline	Mallard	Chromium	Haul Road_Max_Baseline_Mallard_Chromium	0.04158	0.0000504	2.47028E-06	0.001599	0	0.432731259	1.688599527	0.28	2.444562656	2.037135547	0.013445095
Haul Road_Max	Baseline	Mallard	Cobalt	Haul Road_Max_Baseline_Mallard_Cobalt	0.020196	0.00001944	1.19985E-06	0.00048	0	0.026583749	0	0.146376	0.193656389	0.161380324	0.003873128
Haul Road_Max	Baseline	Mallard	Copper	Haul Road_Max_Baseline_Mallard_Copper	0.0198	0.00005112	1.17632E-06	0.02319	0	0.183841914	0.210300229	0.351970667	0.789155106	0.657629255	0.007891551
Haul Road_Max	Baseline	Mallard	Lead	Haul Road_Max_Baseline_Mallard_Lead	0.032472	0.00002232	1.92917E-06	0.00006	0	0.144113293	0.042140624	0.209105333	0.4279155	0.35659625	0.000128375
Haul Road_Max	Baseline	Mallard	Manganese	Haul Road_Max_Baseline_Mallard_Manganese	1.58598	0.0032184	9.42235E-05	1.9461	0	0.797874212	125.71875	24.23336	154.2853768	128.5711474	0.061714151
Haul Road_Max	Baseline	Mallard	Mercury	Haul Road_Max_Baseline_Mallard_Mercury	0.000198	5.0904E-07	1.17632E-08	0.0002	0	0.009332966	0.095849365	0.003832883	0.109413734	0.091178112	0.002614988
Haul Road_Max	Baseline	Mallard	Molybdenum	Haul Road_Max_Baseline_Mallard_Molybdenum	0.00099	0.0001728	5.88162E-08	0.000921	0	0.009506251	0	1.30112	1.312710109	1.093925091	0.007876261
Haul Road_Max	Baseline	Mallard	Nickel	Haul Road_Max_Baseline_Mallard_Nickel	0.02772	0.00007992	1.64685E-06	0.01119	0	0.4347	0.037071224	0.004144	0.514906791	0.429088993	0.003089441
Haul Road_Max	Baseline	Mallard	Silver	Haul Road_Max_Baseline_Mallard_Silver	0.000198	0.0000036	1.17632E-08	0.0000414	0	0.008488125	0.292802989	0.001986667	0.303520793	0.252933994	0.000910562
Haul Road_Max	Baseline	Mallard	Strontium	Haul Road_Max_Baseline_Mallard_Strontium	0.01782	0.00045072	1.05869E-06	0.0744	0	0.019743749	11.03325033	3.393754667	14.53942053	12.11618377	0.004361826
Haul Road_Max	Baseline	Mallard	Vanadium	Haul Road_Max_Baseline_Mallard_Vanadium	0.0693	0.000072	4.11713E-06	0.0004	0	0.02559375	0	0.542133333	0.637503201	0.531252667	0.001593758
Haul Road_Max	Baseline	Mallard	Zinc	Haul Road_Max_Baseline_Mallard_Zinc	0.07128	0.00025056	4.23476E-06	0.083199	0	5.19570694	4.144027591	2.124192	11.61866033	9.682216938	0.101663278
Haul Road_Max	Project	Mallard	Aluminum	Haul Road_Max_Project_Mallard_Aluminum	0.961079057	0	5.7098E-05	0.097261298	0	0.048235975	0	0	1.106633428	0.922194523	0.00165995
Haul Road_Max	Project	Mallard	Antimony	Haul Road_Max_Project_Mallard_Antimony	4.71028E-05	0	2.79839E-09	4.98789E-06	0	5.87804E-05	0	0	0.000110874	9.23949E-05	1.10874E-07
Haul Road_Max	Project	Mallard	Arsenic	Haul Road_Max_Project_Mallard_Arsenic	0.001503792	7.91159E-05	8.93407E-08	9.35838E-05	0	0.000733699	0.176271971	0.010695304	0.189377556	0.15781463	3.78755E-06
Haul Road_Max	Project	Mallard	Arsenic_cancer	Haul Road_Max_Project_Mallard_Arsenic_cancer	0.001503792	7.91159E-05	8.93407E-08	9.35838E-05	0	0.000733699	0.176271971	0.010695304	0.189377556	0.15781463	3.78755E-06
Haul Road_Max	Project	Mallard	Barium	Haul Road_Max_Project_Mallard_Barium	0.003515347	0	2.08848E-07	0.000613967	0	0.000292946	0	0	0.004422468	0.00368539	6.6337E-07
Haul Road_Max	Project	Mallard	Beryllium	Haul Road_Max_Project_Mallard_Beryllium	1.72602E-05	0	1.02543E-09	1.75107E-06	0	4.08622E-06	0	0	2.30985E-05	1.92487E-05	2.30985E-08
Haul Road_Max	Project	Mallard	Boron	Haul Road_Max_Project_Mallard_Boron	0.000235514	0	1.39919E-08	0.000265262	0	0	0	0	0.00050079	0.000417325	4.00632E-07
Haul Road_Max	Project	Mallard	Cadmium	Haul Road_Max_Project_Mallard_Cadmium	1.15067E-05	2.73385E-07	6.83618E-10	3.99471E-06	0	0.000415631	0.001625671	0.001752194	0.003809272	0.003174393	7.27571E-07
Haul Road_Max	Project	Mallard	Chromium	Haul Road_Max_Project_Mallard_Chromium	0.00184102	0	1.09376E-07	0.000193134	0	0.001915986	0	0	0.00395025	0.003291875	2.17264E-05
Haul Road_Max	Project	Mallard	Cobalt	Haul Road_Max_Project_Mallard_Cobalt	0.000685369	1.96405E-05	4.07179E-08	7.08925E-05	0	9.02142E-05	0	0.147885693	0.148751849	0.123959874	0.002975037
Haul Road_Max	Project	Mallard	Copper	Haul Road_Max_Project_Mallard_Copper	0.001180449	1.34066E-05	7.01308E-08	0.000257552	0	0.047549437	0.055152694	0.092306747	0.196460355	0.163716963	0.001964604
Haul Road_Max	Project	Mallard	Lead	Haul Road_Max_Project_Mallard_Lead	0.000309509	5.42404E-06	1.8388E-08	3.13363E-05	0	0.000525884	0.010240695	0.050815191	0.061928058	0.051606715	1.85784E-05
Haul Road_Max	Project	Mallard	Manganese	Haul Road_Max_Project_Mallard_Manganese	0.024457538	0.000280944	1.45303E-06	0.005472785	0	0.009643371	10.97439194	2.11540745	13.12965548	10.94137957	0.005251862
Haul Road_Max	Project	Mallard	Mercury	Haul Road_Max_Project_Mallard_Mercury	1.12439E-07	1.22006E-07	6.68005E-12	2.66958E-08	0	0.00034644	0.022972994	0.000918658	0.024238353	0.020198628	0.000579297
Haul Road_Max	Project	Mallard	Molybdenum	Haul Road_Max_Project_Mallard_Molybdenum	3.03012E-05	0.000115484	1.8002E-09	5.88118E-06	0	2.9096E-05	0	0.869549303	0.869730067	0.724775056	0.00521838
Haul Road_Max	Project	Mallard	Nickel	Haul Road_Max_Project_Mallard_Nickel	0.001404393	0.000211576	8.34354E-08	0.000198621	0	0.002202344	0.09814062	0.010970631	0.113128268	0.094273557	0.00067877
Haul Road_Max	Project	Mallard	Silver	Haul Road_Max_Project_Mallard_Silver	5.66021E-06	7.98913E-08	3.36274E-10	6.90372E-07	0	2.42649E-05	0.00649789	4.40881E-05	0.006572673	0.005477228	1.9718E-05
Haul Road_Max	Project	Mallard	Strontium	Haul Road_Max_Project_Mallard_Strontium	0.000515744	0	3.06405E-08	0.000267449	0	5.71421E-05	0	0	0.000840366	0.000700305	2.5211E-07
Haul Road_Max	Project	Mallard	Vanadium	Haul Road_Max_Project_Mallard_Vanadium	0.002018089	0	1.19895E-07	0.00020563	0	7.45317E-05	0	0	0.002298371	0.001915309	5.74593E-06
Haul Road_Max	Project	Mallard	Zinc	Haul Road_Max_Project_Mallard_Zinc	0.003393201	0.000124908	2.01591E-07	0.000738977	0	0.899313641	2.065865457	1.058944452	4.028380838	3.356984032	0.035248332
Haul Road_Average	Baseline	Mallard	Aluminum	Haul Road_Average_Baseline_Mallard_Aluminum	44.352	0.017568	0.002634964	0.062001	0	22.25999908	0.432290822	132.2805333	199.4070272	166.1725227	0.299110541
Haul Road_Average	Baseline	Mallard	Antimony	Haul Road_Average_Baseline_Mallard_Antimony	0.000099	0.000036	5.88162E-09	0.000004785	0	0.001235437	0.403781265	0.000466667	0.40562316	0.3380193	0.000405623
Haul Road_Average	Baseline	Mallard	Arsenic	Haul Road_Average_Baseline_Mallard_Arsenic	0.0198	0.00013032	1.17632E-06	0.000115839	0	0.023007468	0.290355675	0.017617333	0.351027812	0.292523176	7.02056E-06
Haul Road_Average	Baseline	Mallard	Arsenic_cancer	Haul Road_Average_Baseline_Mallard_Arsenic_canc	0.0198	0.00013032	1.17632E-06	0.000115839	0	0.023007468	0.290355675	0.017617333	0.351027812	0.292523176	7.02056E-06
Haul Road_Average	Baseline	Mallard	Barium	Haul Road_Average_Baseline_Mallard_Barium	0.0693	0.00024192	4.11713E-06	0.051	0	0.057749999	0.478295982	0.0896	0.746192018	0.621826681	0.000111929
Haul Road_Average	Baseline	Mallard	Beryllium	Haul Road_Average_Baseline_Mallard_Beryllium	0.000792	0.000036	4.70529E-08	0.000003096	0	0.001875	0.038598751	0.003	0.044304894	0.036920745	4.43049E-05
Haul Road_Average	Baseline	Mallard	Boron	Haul Road_Average_Baseline_Mallard_Boron	0.00594	0.0018	3.52897E-07	0.0609	0	0	0.46875	13.55333333	14.09072369	11.74226974	0.011272579
Haul Road_Average	Baseline	Mallard	Cadmium	Haul Road_Average_Baseline_Mallard_Cadmium	0.0002178	0.00000144	1.29396E-08	0.00053601	0	0.026853877	0.0085629	0.009229333	0.045401373	0.037834477	8.67166E-06
Haul Road_Average	Baseline	Mallard	Chromium	Haul Road_Average_Baseline_Mallard_Chromium	0.04158	0.0000504	2.47028E-06	0.001599	0	0.432731259	1.688599527	0.28	2.444562656	2.037135547	0.013445095
Haul Road_Average	Baseline	Mallard	Cobalt	Haul Road_Average_Baseline_Mallard_Cobalt	0.020196	0.00001944	1.19985E-06	0.00048	0	0.026583749	0	0.146376	0.193656389	0.161380324	0.003873128
Haul Road_Average	Baseline	Mallard	Copper	Haul Road_Average_Baseline_Mallard_Copper	0.0198	0.00005112	1.17632E-06	0.02319	0	0.183841914	0.210300229	0.351970667	0.789155106	0.657629255	0.007891551
Haul Road_Average	Baseline	Mallard	Lead	Haul Road_Average_Baseline_Mallard_Lead	0.032472	0.00002232	1.92917E-06	0.00006	0	0.144113293	0.042140624	0.209105333	0.4279155	0.35659625	0.000128375
Haul Road_Average	Baseline	Mallard	Manganese	Haul Road_Average_Baseline_Mallard_Manganese	1.58598	0.0032184	9.42235E-05	1.9461	0	0.797874212	125.71875	24.23336	154.2853768	128.5711474	0.061714151
Haul Road_Average	Baseline	Mallard	Mercury	Haul Road_Average_Baseline_Mallard_Mercury	0.000198	5.0904E-07	1.17632E-08	0.0002	0	0.009332966	0.095849365	0.003832883	0.109413734	0.091178112	0.002614988
Haul Road_Average	Baseline	Mallard	Molybdenum	Haul Road_Average_Baseline_Mallard_Molybdenun	0.00099	0.0001728	5.88162E-08	0.000921	0	0.009506251	0	1.30112	1.312710109	1.093925091	0.007876261
Haul Road_Average	Baseline	Mallard	Nickel	Haul Road_Average_Baseline_Mallard_Nickel	0.02772	0.00007992	1.64685E-06	0.01119	0	0.4347	0.037071224	0.004144	0.514906791	0.429088993	0.003089441
Haul Road_Average	Baseline	Mallard	Silver	Haul Road_Average_Baseline_Mallard_Silver	0.000198	0.0000036	1.17632E-08	0.0000414	0	0.008488125	0.292802989	0.001986667	0.303520793	0.252933994	0.000910562
Haul Road_Average	Baseline	Mallard	Strontium	Haul Road_Average_Baseline_Mallard_Strontium	0.01782	0.00045072	1.05869E-06	0.0744	0	0.019743749	11.03325033	3.393754667	14.53942053	12.11618377	0.004361826
Haul Road_Average	Baseline	Mallard	Vanadium	Haul Road_Average_Baseline_Mallard_Vanadium	0.0693	0.000072	4.11713E-06	0.0004	0	0.02559375	0	0.542133333	0.637503201	0.531252667	0.001593758
Haul Road_Average	Baseline	Mallard	Zinc	Haul Road_Average_Baseline_Mallard_Zinc	0.07128	0.00025056	4.23476E-06	0.083199	0	5.19570694	4.144027591	2.124192	11.61866033	9.682216938	0.101663278
Haul Road_Average	Project	Mallard	Aluminum	Haul Road_Average_Project_Mallard_Aluminum	0.348355011	0	2.06959E-05	0.035253565	0	0.017483727	0	0	0.401112999	0.334260833	0.000601669
Haul Road_Average	Project	Mallard	Antimony	Haul Road_Average_Project_Mallard_Antimony	1.7073E-05	0	1.01431E-09	1.80792E-06	0	2.13057E-05	0	0	4.01876E-05	3.34897E-05	4.01876E-08
Haul Road_Average	Project	Mallard	Arsenic	Haul Road_Average_Project_Mallard_Arsenic	0.000545068	7.91159E-05	3.23826E-08	3.39206E-05	0	0.000358391	0.176271971	0.010695304	0.187983804	0.15665317	3.75968E-06
Haul Road_Average	Project	Mallard	Arsenic_cancer	Haul Road_Average_Project_Mallard_Arsenic_cance	0.000545068	7.91159E-05	3.23826E-08	3.39206E-05	0	0.000358391	0.176271971	0.010695304	0.187983804	0.15665317	3.75968E-06
Haul Road_Average	Project	Mallard	Barium	Haul Road_Average_Project_Mallard_Barium	0.001274181	0	7.56994E-08	0.00022254	0	0.000106182	0	0	0.001602978	0.001335815	2.40447E-07
Haul Road_Average	Project	Mallard	Beryllium	Haul Road_Average_Project_Mallard_Beryllium	6.25617E-06	0	3.71681E-10	6.34696E-07	0	1.4811E-06	0	0	8.37233E-06	6.97695E-06	8.37233E-09
Haul Road_Average	Project	Mallard	Boron	Haul Road_Average_Project_Mallard_Boron	8.53649E-05	0	5.07155E-09	9.61476E-05	0	0	0	0	0.000181518	0.000151265	1.45214E-07
Haul Road_Average	Project	Mallard	Cadmium	Haul Road_Average_Project_Mallard_Cadmium	4.17076E-06	2.73385E-07	2.47786E-10	1.44793E-06	0	0.000185491	0.001625671	0.001752194	0.003569248	0.002974374	6.81726E-07
Haul Road_Average	Project	Mallard	Chromium	Haul Road_Average_Project_Mallard_Chromium	0.000667301	0	3.96445E-08	7.00038E-05	0	0.000694473	0	0	0.001431817	0.001193181	7.87499E-06
Haul Road_Average	Project	Mallard	Cobalt	Haul Road_Average_Project_Mallard_Cobalt	0.00024842	1.96405E-05	1.47587E-08	2.56959E-05	0	3.26993E-05	0	0.147885693	0.148212164	0.123510136	0.002964243
Haul Road_Average	Project	Mallard	Copper	Haul Road_Average_Project_Mallard_Copper	0.000427868	1.34066E-05	2.54198E-08	9.3353E-05	0	0.036373975	0.055152694	0.092306747	0.184368069	0.153640058	0.001843681
Haul Road_Average	Project	Mallard	Lead	Haul Road_Average_Project_Mallard_Lead	0.000112186	5.42404E-06	6.66497E-09	1.13582E-05	0	0.000231854	0.010240695	0.050815191	0.061416715	0.051180596	1.8425E-05
Haul Road_Average	Project	Mallard	Manganese	Haul Road_Average_Project_Mallard_Manganese	0.008864938	0.000280944	5.26668E-07	0.001983679	0	0.004826654	10.97439194	2.11540745	13.10575613	10.92146344	0.005242302
Haul Road_Average	Project	Mallard	Mercury	Haul Road_Average_Project_Mallard_Mercury	4.0755E-08	1.22006E-07	2.42127E-12	9.67621E-09	0	0.000246118	0.022972994	0.000918658	0.024137943	0.020114952	0.000576897
Haul Road_Average	Project	Mallard	Molybdenum	Haul Road_Average_Project_Mallard_Molybdenum	1.0983E-05	0.000115484	6.52506E-10	2.13171E-06	0	1.05462E-05	0	0.869549303	0.869688448	0.724740373	0.005218131
Haul Road_Average	Project	Mallard	Nickel	Haul Road_Average_Project_Mallard_Nickel	0.00050904	0.000211576	3.02422E-08	7.19926E-05	0	0.000798267	0.09814062	0.010970631	0.110702156	0.092251797	0.000664213
Haul Road_Average	Project	Mallard	Silver	Haul Road_Average_Project_Mallard_Silver	2.05161E-06	7.98913E-08	1.21887E-10	2.50234E-07	0	8.79512E-06	0.00649789	4.40881E-05	0.006553155	0.005460962	1.96595E-05
Haul Road_Average	Project	Mallard	Strontium	Haul Road_Average_Project_Mallard_Strontium	0.000186938	0	1.1106E-08	9.69402E-05	0	2.07119E-05	0	0	0.000304601	0.000253834	9.13803E-08
Haul Road_Average	Project	Mallard	Vanadium	Haul Road_Average_Project_Mallard_Vanadium	0.000731481	0	4.34575E-08	7.45333E-05	0	2.70149E-05	0	0	0.000833073	0.000694227	2.08268E-06
Haul Road_Average	Project	Mallard	Zinc	Haul Road_Average_Project_Mallard_Zinc	0.001229908	0.000124908	7.30691E-08	0.000267851	0	0.644687748	2.065865457	1.058944452	3.771120398	3.142600332	0.032997303
Haul Road_Max	Baseline	Deer	Aluminum	Haul Road_Max_Baseline_Deer_Aluminum	1008	1.098	0.096665291	4.650075	446.715	0	0	0	1460.55974	19.47412987	2.19083961
Haul Road_Max	Baseline	Deer	Antimony	Haul Road_Max_Baseline_Deer_Antimony	0.00225	0.00225	2.15771E-07	0.000358875	0.02025	0	0	0	0.025109091	0.000334788	2.51091E-05
Haul Road_Max	Baseline	Deer	Arsenic	Haul Road_Max_Baseline_Deer_Arsenic	0.45	0.008145	4.31541E-05	0.008687925	0.049359375	0	0	0	0.516235454	0.006883139	5.16235E-05
Haul Road_Max	Baseline	Deer	Arsenic_cancer	Haul Road_Max_Baseline_Deer_Arsenic_cancer	0.45	0.008145	4.31541E-05	0.008687925	0.049359375	0	0	0	0.516235454	0.006883139	5.16235E-05
Haul Road_Max	Baseline	Deer	Barium	Haul Road_Max_Baseline_Deer_Barium	1.575	0.01512	0.00015104	3.825	236.7225	0	0	0	242.137771	3.228503614	0.036320666
Haul Road_Max	Baseline	Deer	Beryllium	Haul Road_Max_Baseline_Deer_Beryllium	0.018	0.00225	1.72617E-06	0.0002322	0.0081	0	0	0	0.028583926	0.000381119	2.85839E-05
Haul Road_Max	Baseline	Deer	Boron	Haul Road_Max_Baseline_Deer_Boron	0.135	0.1125	1.29462E-05	4.5675	120.285	0	0	0	125.1000129	1.668000173	0.10008001
Haul Road_Max	Baseline	Deer	Cadmium	Haul Road_Max_Baseline_Deer_Cadmium	0.00495	0.00009	4.74696E-07	0.04020075	0.374625	0	0	0	0.419866225	0.005598216	5.03839E-05
Haul Road_Max	Baseline	Deer	Chromium	Haul Road_Max_Baseline_Deer_Chromium	0.945	0.00315	9.06237E-05	0.119925	0.50625	0	0	0	1.574415624	0.020992208	0.008659286
Haul Road_Max	Baseline	Deer	Cobalt	Haul Road_Max_Baseline_Deer_Cobalt	0.459	0.001215	4.40172E-05	0.036	0.33615	0	0	0	0.832409017	0.011098787	0.01664818
Haul Road_Max	Baseline	Deer	Copper	Haul Road_Max_Baseline_Deer_Copper	0.45	0.003195	4.31541E-05	1.73925	14.8635	0	0	0	17.05598815	0.227413175	0.170559882
Haul Road_Max	Baseline	Deer	Lead	Haul Road_Max_Baseline_Deer_Lead	0.738	0.001395	7.07728E-05	0.0045	0.284715	0	0	0	1.028680773	0.013715744	0.000308604
Haul Road_Max	Baseline	Deer	Manganese	Haul Road_Max_Baseline_Deer_Manganese	36.045	0.20115	0.003456647	145.9575	9049.725	0	0	0	9231.932107	123.0924281	3.692772843
Haul Road_Max	Baseline	Deer	Mercury	Haul Road_Max_Baseline_Deer_Mercury	0.0045	0.000031815	4.31542E-07	0.015	0.06328125	0	0	0	0.082813497	0.00110418	0.000432286
Haul Road_Max	Baseline	Deer	Molybdenum	Haul Road_Max_Baseline_Deer_Molybdenum	0.0225	0.0108	2.15771E-06	0.069075	0.5508	0	0	0	0.653177158	0.008709029	0.003919063
Haul Road_Max	Baseline	Deer	Nickel	Haul Road_Max_Baseline_Deer_Nickel	0.63	0.004995	6.04158E-05	0.83925	5.56875	0	0	0	7.043055416	0.093907406	0.042258332
Haul Road_Max	Baseline	Deer	Silver	Haul Road_Max_Baseline_Deer_Silver	0.0045	0.000225	4.31542E-07	0.003105	0.031640625	0	0	0	0.039471057	0.000526281	0.000118413
Haul Road_Max	Baseline	Deer	Strontium	Haul Road_Max_Baseline_Deer_Strontium	0.405	0.02817	3.88387E-05	5.58	193.59	0	0	0	199.6032088	2.661376118	0.059880963
Haul Road_Max	Baseline	Deer	Vanadium	Haul Road_Max_Baseline_Deer_Vanadium	1.575	0.0045	0.00015104	0.03	0.253125	0	0	0	1.86277604	0.024837014	0.00465694
Haul Road_Max	Baseline	Deer	Zinc	Haul Road_Max_Baseline_Deer_Zinc	1.62	0.01566	0.000155355	6.239925	69.66	0	0	0	77.53574035	1.033809871	0.006978217
Haul Road_Max	Project	Deer	Aluminum	Haul Road_Max_Project_Deer_Aluminum	21.84270584	0	0.002094674	7.294597323	54.62207853	0	0	0	83.76147637	1.116819685	0.125642215
Haul Road_Max	Project	Deer	Antimony	Haul Road_Max_Project_Deer_Antimony	0.001070518	0	1.02661E-07	0.000374091	0.003593069	0	0	0	0.005037781	6.71704E-05	5.03778E-06
Haul Road_Max	Project	Deer	Arsenic	Haul Road_Max_Project_Deer_Arsenic	0.034177102	0.004944747	3.27752E-06	0.007018784	0.06585752	0	0	0	0.112001429	0.001493352	1.12001E-05
Haul Road_Max	Project	Deer	Arsenic_cancer	Haul Road_Max_Project_Deer_Arsenic_cancer	0.034177102	0.004944747	3.27752E-06	0.007018784	0.06585752	0	0	0	0.112001429	0.001493352	1.12001E-05
Haul Road_Max	Project	Deer	Barium	Haul Road_Max_Project_Deer_Barium	0.079894241	0	7.66171E-06	0.046047543	1.397061436	0	0	0	1.523010882	0.020306812	0.000228452
Haul Road_Max	Project	Deer	Beryllium	Haul Road_Max_Project_Deer_Beryllium	0.000392277	0	3.76186E-08	0.00013133	0.000981235	0	0	0	0.00150488	2.00651E-05	1.50488E-06
Haul Road_Max	Project	Deer	Boron	Haul Road_Max_Project_Deer_Boron	0.005352589	0	5.13303E-07	0.019894678	0.49006374	0	0	0	0.51531152	0.00687082	0.000412249
Haul Road_Max	Project	Deer	Cadmium	Haul Road_Max_Project_Deer_Cadmium	0.000261517	1.70866E-05	2.5079E-08	0.000299603	0.002621592	0	0	0	0.003199824	4.26643E-05	3.83979E-07
Haul Road_Max	Project	Deer	Chromium	Haul Road_Max_Project_Deer_Chromium	0.041841374	0	4.01251E-06	0.014485046	0.105020003	0	0	0	0.161350436	0.002151339	0.000887427
Haul Road_Max	Project	Deer	Cobalt	Haul Road_Max_Project_Deer_Cobalt	0.015576559	0.001227531	1.49376E-06	0.005316937	0.039402767	0	0	0	0.061525288	0.000820337	0.001230506
Haul Road_Max	Project	Deer	Copper	Haul Road_Max_Project_Deer_Copper	0.02682838	0.000837911	2.57279E-06	0.019316408	0.154514951	0	0	0	0.201500222	0.00268667	0.002015002
Haul Road_Max	Project	Deer	Lead	Haul Road_Max_Project_Deer_Lead	0.007034306	0.000339002	6.74577E-07	0.002350224	0.017550339	0	0	0	0.027274547	0.000363661	8.18236E-06
Haul Road_Max	Project	Deer	Manganese	Haul Road_Max_Project_Deer_Manganese	0.555853143	0.017559026	5.33053E-05	0.410458868	15.32105072	0	0	0	16.30497506	0.217399667	0.00652199
Haul Road_Max	Project	Deer	Mercury	Haul Road_Max_Project_Deer_Mercury	2.55544E-06	7.62536E-06	2.45062E-10	2.00218E-06	1.66267E-05	0	0	0	2.88099E-05	3.84132E-07	1.50388E-07
Haul Road_Max	Project	Deer	Molybdenum	Haul Road_Max_Project_Deer_Molybdenum	0.000688664	0.00721773	6.60416E-08	0.000441089	0.003377472	0	0	0	0.01172502	0.000156334	7.03501E-05
Haul Road_Max	Project	Deer	Nickel	Haul Road_Max_Project_Deer_Nickel	0.03191803	0.013223528	3.06088E-06	0.01489657	0.106616205	0	0	0	0.166657393	0.002222099	0.000999944
Haul Road_Max	Project	Deer	Silver	Haul Road_Max_Project_Deer_Silver	0.000128641	4.9932E-06	1.23364E-08	5.17779E-05	0.000547546	0	0	0	0.000732971	9.77294E-06	2.19891E-06
Haul Road_Max	Project	Deer	Strontium	Haul Road_Max_Project_Deer_Strontium	0.011721463	0	1.12407E-06	0.020058667	0.589078306	0	0	0	0.620859559	0.008278127	0.000186258
Haul Road_Max	Project	Deer	Vanadium	Haul Road_Max_Project_Deer_Vanadium	0.045865651	0	4.39843E-06	0.015422281	0.113400788	0	0	0	0.174693118	0.002329242	0.000436733
Haul Road_Max	Project	Deer	Zinc	Haul Road_Max_Project_Deer_Zinc	0.077118203	0.007806766	7.39549E-06	0.05542328	0.521040212	0	0	0	0.661395856	0.008818611	5.95256E-05
Haul Road_Average	Baseline	Deer	Aluminum	Haul Road_Average_Baseline_Deer_Aluminum	1008	1.098	0.096665291	4.650075	446.715	0	0	0	1460.55974	19.47412987	2.19083961
Haul Road_Average	Baseline	Deer	Antimony	Haul Road_Average_Baseline_Deer_Antimony	0.00225	0.00225	2.15771E-07	0.000358875	0.02025	0	0	0	0.025109091	0.000334788	2.51091E-05
Haul Road_Average	Baseline	Deer	Arsenic	Haul Road_Average_Baseline_Deer_Arsenic	0.45	0.008145	4.31541E-05	0.008687925	0.049359375	0	0	0	0.516235454	0.006883139	5.16235E-05
Haul Road_Average	Baseline	Deer	Arsenic_cancer	Haul Road_Average_Baseline_Deer_Arsenic_cancer	0.45	0.008145	4.31541E-05	0.008687925	0.049359375	0	0	0	0.516235454	0.006883139	5.16235E-05
Haul Road_Average	Baseline	Deer	Barium	Haul Road_Average_Baseline_Deer_Barium	1.575	0.01512	0.00015104	3.825	236.7225	0	0	0	242.137771	3.228503614	0.036320666
Haul Road_Average	Baseline	Deer	Beryllium	Haul Road_Average_Baseline_Deer_Beryllium	0.018	0.00225	1.72617E-06	0.0002322	0.0081	0	0	0	0.028583926	0.000381119	2.85839E-05
Haul Road_Average	Baseline	Deer	Boron	Haul Road_Average_Baseline_Deer_Boron	0.135	0.1125	1.29462E-05	4.5675	120.285	0	0	0	125.1000129	1.668000173	0.10008001

Haul Road_Average	Baseline	Deer	Cadmium	Haul Road_Average_Baseline_Deer_Cadmium	0.00495	0.00009	4.74696E-07	0.04020075	0.374625	0	0	0	0.419866225	0.005598216	5.03839E-05
Haul Road_Average	Baseline	Deer	Chromium	Haul Road_Average_Baseline_Deer_Chromium	0.945	0.00315	9.06237E-05	0.119925	0.50625	0	0	0	1.574415624	0.020992208	0.008659286
Haul Road_Average	Baseline	Deer	Cobalt	Haul Road_Average_Baseline_Deer_Cobalt	0.459	0.001215	4.40172E-05	0.036	0.33615	0	0	0	0.832409017	0.011098787	0.01664818
Haul Road_Average	Baseline	Deer	Copper	Haul Road_Average_Baseline_Deer_Copper	0.45	0.003195	4.31541E-05	1.73925	14.8635	0	0	0	17.05598815	0.227413175	0.170559882
Haul Road_Average	Baseline	Deer	Lead	Haul Road_Average_Baseline_Deer_Lead	0.738	0.001395	7.07728E-05	0.0045	0.284715	0	0	0	1.028680773	0.013715744	0.000308604
Haul Road_Average	Baseline	Deer	Manganese	Haul Road_Average_Baseline_Deer_Manganese	36.045	0.20115	0.003456647	145.9575	9049.725	0	0	0	9231.932107	123.0924281	3.692772843
Haul Road_Average	Baseline	Deer	Mercury	Haul Road_Average_Baseline_Deer_Mercury	0.0045	0.000031815	4.31542E-07	0.015	0.06328125	0	0	0	0.082813497	0.00110418	0.000432286
Haul Road_Average	Baseline	Deer	Molybdenum	Haul Road_Average_Baseline_Deer_Molybdenum	0.0225	0.0108	2.15771E-06	0.069075	0.5508	0	0	0	0.653177158	0.008709029	0.003919063
Haul Road_Average	Baseline	Deer	Nickel	Haul Road_Average_Baseline_Deer_Nickel	0.63	0.004995	6.04158E-05	0.83925	5.56875	0	0	0	7.043055416	0.093907406	0.042258332
Haul Road_Average	Baseline	Deer	Silver	Haul Road_Average_Baseline_Deer_Silver	0.0045	0.000225	4.31542E-07	0.003105	0.031640625	0	0	0	0.039471057	0.000526281	0.000118413
Haul Road_Average	Baseline	Deer	Strontium	Haul Road_Average_Baseline_Deer_Strontium	0.405	0.02817	3.88387E-05	5.58	193.59	0	0	0	199.6032088	2.661376118	0.059880963
Haul Road_Average	Baseline	Deer	Vanadium	Haul Road_Average_Baseline_Deer_Vanadium	1.575	0.0045	0.00015104	0.03	0.253125	0	0	0	1.86277604	0.024837014	0.00465694
Haul Road_Average	Baseline	Deer	Zinc	Haul Road_Average_Baseline_Deer_Zinc	1.62	0.01566	0.000155355	6.239925	69.66	0	0	0	77.53574035	1.033809871	0.006978217
Haul Road_Average	Project	Deer	Aluminum	Haul Road_Average_Project_Deer_Aluminum	7.917159348	0	0.000759241	2.644017372	19.79844902	0	0	0	30.36038498	0.404805133	0.045540577
Haul Road_Average	Project	Deer	Antimony	Haul Road_Average_Project_Deer_Antimony	0.000388022	0	3.72106E-08	0.000135594	0.001302352	0	0	0	0.001826006	2.43468E-05	1.82601E-06
Haul Road_Average	Project	Deer	Arsenic	Haul Road_Average_Project_Deer_Arsenic	0.012387915	0.004944747	1.18798E-06	0.002544045	0.023870873	0	0	0	0.043748768	0.000583317	4.37488E-06
Haul Road_Average	Project	Deer	Arsenic_cancer	Haul Road_Average_Project_Deer_Arsenic_cancer	0.012387915	0.004944747	1.18798E-06	0.002544045	0.023870873	0	0	0	0.043748768	0.000583317	4.37488E-06
Haul Road_Average	Project	Deer	Barium	Haul Road_Average_Project_Deer_Barium	0.028958657	0	2.77708E-06	0.016690502	0.506382212	0	0	0	0.552034148	0.007360455	8.28051E-05
Haul Road_Average	Project	Deer	Beryllium	Haul Road_Average_Project_Deer_Beryllium	0.000142186	0	1.36353E-08	4.76022E-05	0.000355661	0	0	0	0.000545462	7.27283E-06	5.45462E-07
Haul Road_Average	Project	Deer	Boron	Haul Road_Average_Project_Deer_Boron	0.001940112	0	1.86053E-07	0.007211073	0.177629676	0	0	0	0.186781047	0.002490414	0.000149425
Haul Road_Average	Project	Deer	Cadmium	Haul Road_Average_Project_Deer_Cadmium	9.479E-05	1.70866E-05	9.09018E-09	0.000108595	0.000950229	0	0	0	0.001170709	1.56095E-05	1.40485E-07
Haul Road_Average	Project	Deer	Chromium	Haul Road_Average_Project_Deer_Chromium	0.015165926	0	1.45438E-06	0.005250284	0.0380658	0	0	0	0.058483465	0.00077978	0.000321659
Haul Road_Average	Project	Deer	Cobalt	Haul Road_Average_Project_Deer_Cobalt	0.005645917	0.001227531	5.41433E-07	0.00192719	0.014282022	0	0	0	0.023083202	0.000307776	0.000461664
Haul Road_Average	Project	Deer	Copper	Haul Road_Average_Project_Deer_Copper	0.009724279	0.000837911	9.3254E-07	0.007001471	0.056005857	0	0	0	0.07357045	0.000980939	0.000735705
Haul Road_Average	Project	Deer	Lead	Haul Road_Average_Project_Deer_Lead	0.002549672	0.000339002	2.44509E-07	0.000851868	0.006361338	0	0	0	0.010102124	0.000134695	3.03064E-06
Haul Road_Average	Project	Deer	Manganese	Haul Road_Average_Project_Deer_Manganese	0.201475868	0.017559026	1.93212E-05	0.148775901	5.553304498	0	0	0	5.921134615	0.078948462	0.002368454
Haul Road_Average	Project	Deer	Mercury	Haul Road_Average_Project_Deer_Mercury	9.2625E-07	7.62536E-06	8.88256E-11	7.25716E-07	6.02654E-06	0	0	0	1.5304E-05	2.04053E-07	7.98866E-08
Haul Road_Average	Project	Deer	Molybdenum	Haul Road_Average_Project_Deer_Molybdenum	0.000249615	0.00721773	2.39376E-08	0.000159878	0.001224207	0	0	0	0.008851453	0.000118019	5.31087E-05
Haul Road_Average	Project	Deer	Nickel	Haul Road_Average_Project_Deer_Nickel	0.011569085	0.013223528	1.10945E-06	0.005399446	0.038644363	0	0	0	0.068837532	0.000917834	0.000413025
Haul Road_Average	Project	Deer	Silver	Haul Road_Average_Project_Deer_Silver	4.66276E-05	4.9932E-06	4.4715E-09	1.87675E-05	0.000198465	0	0	0	0.000268858	3.58477E-06	8.06573E-07
Haul Road_Average	Project	Deer	Strontium	Haul Road_Average_Project_Deer_Strontium	0.004248589	0	4.07432E-07	0.007270512	0.213518737	0	0	0	0.225038246	0.00300051	6.75115E-05
Haul Road_Average	Project	Deer	Vanadium	Haul Road_Average_Project_Deer_Vanadium	0.016624574	0	1.59427E-06	0.005589997	0.04110352	0	0	0	0.063319685	0.000844262	0.000158299
Haul Road_Average	Project	Deer	Zinc	Haul Road_Average_Project_Deer_Zinc	0.027952448	0.007806766	2.68059E-06	0.020088854	0.188857482	0	0	0	0.244708232	0.003262776	2.20237E-05

Predicted Media Concentrations

Area	Scenario	COPC	Abbreviation	Deposition [mg/m2/yr]	Soil Measured [mg/kg]	Soil Deposition [mg/kg]	Soil Total [mg/kg]	Surface Soil Measured [mg/kg]	Surface Soil Deposition [mg/kg]	Surface Soil Total [mg/kg]	Berries Soil [mg/kg-DW]	Berries Deposition [mg/kg-DW]	Berries Total [mg/kg-DW]	Berries Total [mg/kg-WW]	Leaves Soil [mg/kg-DW]	Leaves Deposition [mg/kg-DW]	Leaves Total [mg/kg-DW]	Leaves Total [mg/kg-WW]	Dust [ug/m3]	Water [mg/L]	Fish [mg/kg-WW]	Invert Soil [mg/kg-WW]	Aquatic_Plant Water [mg/kg-WW]	Aquatic_Invert Water [mg/kg-WW]	Deer [mg/kg-WW]	Ruffed_Grouse [mg/kg-WW]	Snowshoe_Hare [mg/kg-WW]	Mallard [mg/kg-WW]
Haul Road_Max	Baseline	Aluminum	Haul Road_Max_Baseline_Aluminum	0.00E+00	2.24E+04	0.00E+00	2.24E+04	2.24E+04	0.00E+00	2.24E+04	2.07E+01	0.00E+00	2.07E+01	3.10E+00	2.21E+02	0.00E+00	2.21E+02	7.06E+01	5.60E+00	2.44E-01	3.12E-01	1.19E+03	2.31E+00	9.92E+02	2.19E+00	8.39E-02	1.89E-01	2.99E-01
Haul Road_Max	Baseline	Antimony	Haul Road_Max_Baseline_Antimony	0.00E+00	5.00E-02	0.00E+00	5.00E-02	5.00E-02	0.00E+00	5.00E-02	1.60E-03	0.00E+00	1.60E-03	2.39E-04	1.00E-02	0.00E+00	1.00E-02	3.20E-03	1.25E-05	5.00E-04	2.00E-02	6.59E-02	2.15E+00	3.50E-03	2.51E-05	2.30E-06	1.03E-06	4.06E-04
Haul Road_Max	Baseline	Arsenic	Haul Road_Max_Baseline_Arsenic	0.00E+00	1.00E+01	0.00E+00	1.00E+01	1.00E+01	0.00E+00	1.00E+01	6.33E-02	0.00E+00	6.33E-02	5.79E-03	3.13E-02	0.00E+00	3.13E-02	7.80E-03	2.50E-03	1.81E-03	8.29E-04	1.23E+00	1.55E+00	1.32E-01	5.16E-05	9.12E-07	1.03E-06	7.02E-06
Haul Road_Max	Baseline	Arsenic_cancer	Haul Road_Max_Baseline_Arsenic_cancer	0.00E+00	1.00E+01	0.00E+00	1.00E+01	1.00E+01	0.00E+00	1.00E+01	6.33E-02	0.00E+00	6.33E-02	5.79E-03	3.13E-02	0.00E+00	3.13E-02	7.80E-03	2.50E-03	1.81E-03	8.29E-04	1.23E+00	1.55E+00	1.32E-01	5.16E-05	9.12E-07	1.03E-06	7.02E-06
Haul Road_Max	Baseline	Barium	Haul Road_Max_Baseline_Barium	0.00E+00	3.50E+01	0.00E+00	3.50E+01	3.50E+01	0.00E+00	3.50E+01	1.70E+01	0.00E+00	1.70E+01	2.55E+00	1.17E+02	0.00E+00	1.17E+02	3.74E+01	8.75E-03	3.36E-03	5.91E-02	3.08E+00	2.55E+00	6.72E-01	3.63E-02	3.63E-04	1.28E-03	1.12E-04
Haul Road_Max	Baseline	Beryllium	Haul Road_Max_Baseline_Beryllium	0.00E+00	4.00E-01	0.00E+00	4.00E-01	4.00E-01	0.00E+00	4.00E-01	1.03E-03	0.00E+00	1.03E-03	1.55E-04	4.00E-03	0.00E+00	4.00E-03	1.28E-03	1.00E-04	5.00E-04	3.10E-02	1.00E-01	2.06E-01	2.25E-02	2.86E-05	3.47E-06	2.32E-06	4.43E-05
Haul Road_Max	Baseline	Boron	Haul Road_Max_Baseline_Boron	0.00E+00	3.00E+00	0.00E+00	3.00E+00	3.00E+00	0.00E+00	3.00E+00	2.03E+01	0.00E+00	2.03E+01	3.05E+00	5.94E+01	0.00E+00	5.94E+01	1.90E+01	7.50E-04	2.50E-02	0.00E+00	0.00E+00	2.50E+00	1.02E+02	1.00E-01	1.03E-03	3.48E-03	1.13E-02
Haul Road_Max	Baseline	Cadmium	Haul Road_Max_Baseline_Cadmium	0.00E+00	1.10E-01	0.00E+00	1.10E-01	1.10E-01	0.00E+00	1.10E-01	1.79E-01	0.00E+00	1.79E-01	2.68E-02	1.85E-01	0.00E+00	1.85E-01	5.92E-02	2.75E-05	2.00E-05	4.56E-03	1.43E+00	4.57E-02	6.92E-02	5.04E-05	9.49E-06	1.79E-06	8.67E-06
Haul Road_Max	Baseline	Chromium	Haul Road_Max_Baseline_Chromium	0.00E+00	2.10E+01	0.00E+00	2.10E+01	2.10E+01	0.00E+00	2.10E+01	5.33E-01	0.00E+00	5.33E-01	8.00E-02	2.50E-01	0.00E+00	2.50E-01	8.00E-02	5.25E-03	7.00E-04	1.58E-02	2.31E+01	9.01E+00	2.10E+00	8.66E-03	4.07E-03	6.87E-04	1.34E-02
Haul Road_Max	Baseline	Cobalt	Haul Road_Max_Baseline_Cobalt	0.00E+00	1.02E+01	0.00E+00	1.02E+01	1.02E+01	0.00E+00	1.02E+01	1.60E-01	0.00E+00	1.60E-01	2.40E-02	1.66E-01	0.00E+00	1.66E-01	5.31E-02	2.55E-03	2.70E-04	4.59E-03	1.42E+00	0.00E+00	1.10E+00	1.66E-02	1.11E-03	1.26E-03	3.87E-03
Haul Road_Max	Baseline	Copper	Haul Road_Max_Baseline_Copper	0.00E+00	1.00E+01	0.00E+00	1.00E+01	1.00E+01	0.00E+00	1.00E+01	7.73E+00	0.00E+00	7.73E+00	1.16E+00	7.34E+00	0.00E+00	7.34E+00	2.35E+00	2.50E-03	7.10E-04	2.24E+00	9.80E+00	1.12E+00	2.64E+00	1.71E-01	5.22E-03	6.25E-03	7.89E-03
Haul Road_Max	Baseline	Lead	Haul Road_Max_Baseline_Lead	0.00E+00	1.64E+01	0.00E+00	1.64E+01	1.64E+01	0.00E+00	1.64E+01	2.00E-02	0.00E+00	2.00E-02	3.00E-03	1.41E-01	0.00E+00	1.41E-01	4.50E-02	4.10E-03	3.10E-04	1.75E-02	7.69E+00	2.25E-01	1.57E+00	3.09E-04	7.57E-05	2.72E-05	1.28E-04
Haul Road_Max	Baseline	Manganese	Haul Road_Max_Baseline_Manganese	0.00E+00	8.01E+02	0.00E+00	8.01E+02	8.01E+02	0.00E+00	8.01E+02	6.49E+02	0.00E+00	6.49E+02	9.73E+01	4.47E+03	0.00E+00	4.47E+03	1.43E+03	2.00E-01	4.47E-02	7.49E-01	4.26E+01	6.71E+02	1.82E+02	3.69E+00	3.59E-02	1.29E-01	6.17E-02
Haul Road_Max	Baseline	Mercury	Haul Road_Max_Baseline_Mercury	0.00E+00	1.00E-01	0.00E+00	1.00E-01	1.00E-01	0.00E+00	1.00E-01	9.00E-02	0.00E+00	9.00E-02	1.00E-02	9.00E-02	0.00E+00	9.00E-02	1.00E-02	2.50E-05	7.07E-06	4.76E-01	4.98E-01	5.11E-01	2.87E-02	4.32E-04	4.00E-04	1.67E-05	2.61E-03
Haul Road_Max	Baseline	Molybdenum	Haul Road_Max_Baseline_Molybdenum	0.00E+00	5.00E-01	0.00E+00	5.00E-01	5.00E-01	0.00E+00	5.00E-01	3.07E-01	0.00E+00	3.07E-01	4.61E-02	2.72E-01	0.00E+00	2.72E-01	8.70E-02	1.25E-04	2.40E-03	1.20E-02	5.07E-01	0.00E+00	9.76E+00	3.92E-03	1.45E-04	1.46E-04	7.88E-03
Haul Road_Max	Baseline	Nickel	Haul Road_Max_Baseline_Nickel	0.00E+00	1.40E+01	0.00E+00	1.40E+01	1.40E+01	0.00E+00	1.40E+01	3.73E+00	0.00E+00	3.73E+00	5.60E-01	2.75E+00	0.00E+00	2.75E+00	8.80E-01	3.50E-03	1.11E-03	5.55E-03	2.32E+01	1.98E-01	3.11E-02	4.23E-02	4.90E-03	1.75E-03	3.09E-03
Haul Road_Max	Baseline	Silver	Haul Road_Max_Baseline_Silver	0.00E+00	1.00E-01	0.00E+00	1.00E-01	1.00E-01	0.00E+00	1.00E-01	1.38E-02	0.00E+00	1.38E-02	2.07E-03	4.00E-02	0.00E+00	4.00E-02	5.00E-03	2.50E-05	5.00E-05	4.39E-03	4.53E-01	1.56E+00	1.49E-02	1.18E-04	4.36E-05	5.11E-06	9.11E-04
Haul Road_Max	Baseline	Strontium	Haul Road_Max_Baseline_Strontium	0.00E+00	9.00E+00	0.00E+00	9.00E+00	9.00E+00	0.00E+00	9.00E+00	2.48E+01	0.00E+00	2.48E+01	3.72E+00	9.56E+01	0.00E+00	9.56E+01	3.06E+01	2.25E-03	6.26E-03	1.61E+00	1.05E+00	5.88E+01	2.55E+01	5.99E-02	6.08E-04	2.08E-03	4.36E-03
Haul Road_Max	Baseline	Vanadium	Haul Road_Max_Baseline_Vanadium	0.00E+00	3.50E+01	0.00E+00	3.50E+01	3.50E+01	0.00E+00	3.50E+01	1.93E-01	0.00E+00	1.93E-01	2.00E-02	1.25E-01	0.00E+00	1.25E-01	4.00E-02	8.75E-03	1.00E-03	1.00E-02	1.37E+00	0.00E+00	4.07E+00	4.66E-03	1.73E-04	4.55E-04	1.59E-03
Haul Road_Max	Baseline	Zinc	Haul Road_Max_Baseline_Zinc	0.00E+00	3.60E+01	0.00E+00	3.60E+01	3.60E+01	0.00E+00	3.60E+01	2.77E+01	0.00E+00	2.77E+01	4.16E+00	3.44E+01	0.00E+00	3.44E+01	1.10E+01	9.00E-03	3.48E-03	5.78E+00	2.77E+02	2.21E+01	1.59E+01	6.98E-03	8.34E-02	2.53E-04	1.02E-01
Haul Road_Max	Project	Aluminum	Haul Road_Max_Project_Aluminum	2.91E+03	0.00E+00	4.85E+01	4.85E+01	0.00E+00	4.85E+02	4.85E+02	4.48E-02	3.24E+01	3.24E+01	4.86E+00	4.78E-01	2.65E+01	2.70E+01	8.63E+00	1.21E-01	0.00E+00	0.00E+00	2.57E+00	0.00E+00	0.00E+00	1.26E-01	1.82E-03	6.80E-03	1.66E-03
Haul Road_Max	Project	Antimony	Haul Road_Max_Project_Antimony	1.43E-01	0.00E+00	2.38E-03	2.38E-03	0.00E+00	2.38E-02	2.38E-02	7.59E-05	1.59E-03	1.66E-03	2.49E-04	4.76E-04	1.30E-03	1.77E-03	5.68E-04	5.95E-06	0.00E+00	0.00E+00	3.13E-03	0.00E+00	0.00E+00	5.04E-06	1.62E-07	2.54E-07	1.11E-07
Haul Road_Max	Project	Arsenic	Haul Road_Max_Project_Arsenic	4.56E+00	0.00E+00	7.59E-02	7.59E-02	0.00E+00	7.59E-01	7.59E-01	4.81E-04	5.07E-02	5.11E-02	4.68E-03	2.37E-04	4.15E-02	4.17E-02	1.04E-02	1.90E-04	1.10E-03	5.03E-04	3.91E-02	9.40E-01	8.02E-02	1.12E-05	5.33E-08	1.28E-07	3.79E-06
Haul Road_Max	Project	Arsenic_cancer	Haul Road_Max_Project_Arsenic_cancer	4.56E+00	0.00E+00	7.59E-02	7.59E-02	0.00E+00	7.59E-01	7.59E-01	4.81E-04	5.07E-02	5.11E-02	4.68E-03	2.37E-04	4.15E-02	4.17E-02	1.04E-02	1.90E-04	1.10E-03	5.03E-04	3.91E-02	9.40E-01	8.02E-02	1.12E-05	5.33E-08	1.28E-07	3.79E-06
Haul Road_Max	Project	Barium	Haul Road_Max_Project_Barium	1.07E+01	0.00E+00	1.78E-01	1.78E-01	0.00E+00	1.78E+00	1.78E+00	8.62E-02	1.18E-01	2.05E-01	3.07E-02	5.93E-01	9.69E-02	6.90E-01	2.21E-01	4.44E-04	0.00E+00	0.00E+00	1.56E-02	0.00E+00	0.00E+00	2.28E-04	2.44E-06	8.81E-06	6.63E-07
Haul Road_Max	Project	Beryllium	Haul Road_Max_Project_Beryllium	5.23E-02	0.00E+00	8.72E-04	8.72E-04	0.00E+00	8.72E-03	8.72E-03	2.25E-06	5.81E-04	5.84E-04	8.76E-05	8.72E-06	4.76E-04	4.85E-04	1.55E-04	2.18E-06	0.00E+00	0.00E+00	2.18E-04	0.00E+00	0.00E+00	1.50E-06	2.72E-08	8.14E-08	2.31E-08
Haul Road_Max	Project	Boron	Haul Road_Max_Project_Boron	7.14E-01	0.00E+00	1.19E-02	1.19E-02	0.00E+00	1.19E-01	1.19E-01	8.05E-02	7.93E-03	8.84E-02	1.33E-02	2.36E-01	6.49E-03	2.42E-01	7.74E-02	2.97E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.12E-04	4.29E-06	1.46E-05	4.01E-07
Haul Road_Max	Project	Cadmium	Haul Road_Max_Project_Cadmium	3.49E-02	0.00E+00	5.81E-04	5.81E-04	0.00E+00	5.81E-03	5.81E-03	9.44E-04	3.88E-04	1.33E-03	2.00E-04	9.77E-04	3.17E-04	1.29E-03	4.14E-04	1.45E-06	3.80E-06	8.66E-04	2.22E-02	8.67E-03	1.31E-02	3.84E-07	1.39E-07	1.56E-08	7.28E-07
Haul Road_Max	Project	Chromium	Haul Road_Max_Project_Chromium	5.58E+00	0.00E+00	9.30E-02	9.30E-02	0.00E+00	9.30E-01	9.30E-01	2.36E-03	6.20E-02	6.44E-02	9.66E-03	1.11E-03	5.08E-02	5.19E-02	1.66E-02	2.32E-04	0.00E+00	0.00E+00	1.02E-01	0.00E+00	0.00E+00	8.87E-04	2.96E-05	4.79E-05	2.17E-05
Haul Road_Max	Project	Cobalt	Haul Road_Max_Project_Cobalt	2.08E+00	0.00E+00	3.46E-02	3.46E-02	0.00E+00	3.46E-01	3.46E-01	5.43E-04	2.31E-02	2.36E-02	3.54E-03	5.63E-04	1.89E-02	1.95E-02	6.23E-03	8.65E-05	2.73E-04	4.64E-03	4.81E-03	0.00E+00	1.11E+00	1.23E-03	1.96E-05	6.57E-05	2.98E-03
Haul Road_Max	Project	Copper	Haul Road_Max_Project_Copper	3.58E+00	0.00E+00	5.96E-02	5.96E-02	0.00E+00	5.96E-01	5.96E-01	4.61E-02	3.98E-02	8.59E-02	1.29E-02	4.38E-02	3.25E-02	7.63E-02	2.44E-02	1.49E-04	1.86E-04	5.88E-01	2.54E+00	2.94E-01	6.92E-01	2.02E-03	8.14E-04	8.98E-05	1.96E-03
Haul Road_Max	Project	Lead	Haul Road_Max_Project_Lead	9.38E-01	0.00E+00	1.56E-02	1.56E-02	0.00E+00	1.56E-01	1.56E-01	1.91E-05	1.04E-02	1.04E-02	1.57E-03	1.34E-04	8.53E-03	8.67E-03	2.77E-03	3.91E-05	7.53E-05	4.25E-03	2.80E-02	5.46E-02	3.81E-01	8.18E-06	3.72E-07	4.40E-07	1.86E-05
Haul Road_Max	Project	Manganese	Haul Road_Max_Project_Manganese	7.41E+01	0.00E+00	1.24E+00	1.24E+00	0.00E+00	1.24E+01	1.24E+01	1.00E+00	8.24E-01	1.82E+00	2.74E-01	6.89E+00	6.74E-01	7.57E+00	2.42E+00	3.09E-03	3.90E-03	6.54E-02	5.14E-01	5.85E+01	1.59E+01	6.52E-03	7.21E-05	2.43E-04	5.25E-03
Haul Road_Max	Project	Mercury	Haul Road_Max_Project_Mercury	3.41E-04	0.00E+00	5.68E-06	5.68E-06	0.00E+00	5.68E-05	5.68E-05	5.11E-06	3.79E-06	8.90E-06	1.33E-06	5.11E-06	3.10E-06	8.21E-06	2.63E-06	1.42E-08	1.69E-06	1.14E-01	1.85E-02	1.23E-01	6.89E-03	1.50E-07	1.37E-05	5.98E-09	5.79E-04
Haul Road_Max	Project	Molybdenum	Haul Road_Max_Project_Molybdenum	9.18E-02	0.00E+00	1.53E-03	1.53E-03	0.00E+00	1.53E-02	1.53E-02	9.40E-04	1.02E-03	1.96E-03	2.94E-04	8.33E-04	8.35E-04	1.67E-03	5.34E-04	3.83E-06	1.60E-03	8.02E-03	1.55E-03	0.00E+00	6.52E+00	7.04E-05	1.02E-06	2.50E-06	5.22E-03
Haul Road_Max	Project	Nickel	Haul Road_Max_Project_Nickel	4.26E+00	0.00E+00	7.09E-02	7.09E-02	0.00E+00	7.09E-01	7.09E-01	1.89E-02	4.73E-02	6.62E-02	9.93E-03	1.39E-02	3.87E-02	5.26E-02	1.68E-02	1.77E-04	2.94E-03	1.47E-02	1.17E-01	5.23E-01	8.23E-02	1.00E-03	3.51E-05	4.85E-05	6.79E-04
Haul Road_Max	Project	Silver	Haul Road_Max_Project_Silver	1.72E-02	0.00E+00	2.86E-04	2.86E-04	0.00E+00	2.86E-03	2.86E-03	3.94E-05	1.91E-04	2.30E-04	3.45E-05	1.14E-04	1.56E-04	2.70E-04	8.65E-05	7.15E-07	1.11E-06	9.73E-05	1.29E-03	3.47E-02	3.31E-04	2.20E-06	1.48E-07	1.05E-07	1.97E-05
Haul Road_Max	Project	Strontium	Haul Road_Max_Project_Strontium	1.56E+00	0.00E+00	2.60E-02	2.60E-02	0.00E+00	2.60E-01	2.60E-01	7.18E-02	1.74E-02	8.91E-02	1.34E-02	2.77E-01	1.42E-02	2.91E-01	9.31E-02	6.51E-05	0.00E+00	0.00E+00	3.05E-03	0.00E+00	0.00E+00	1.86E-04	1.94E-06	6.72E-06	2.52E-07
Haul Road_Max	Project	Vanadium	Haul Road_Max_Project_Vanadium	6.12E+00	0.00E+00	1.02E-01	1.02E-01	0.00E+00	1.02E+00	1.02E+00	5.61E-04	6.80E-02	6.85E-02	1.03E-02	3.64E-04	5.56E-02	5.60E-02	1.79E-02	2.55E-04	0.00E+00	0.00E+00	3.98E-03	0.00E+00	0.00E+00	4.37E-04	6.25E-06	2.37E-05	5.75E-06
Haul Road_Max	Project	Zinc	Haul Road_Max_Project_Zinc	1.03E+01	0.00E+00	1.71E-01	1.71E-01	0.00E+00	1.71E+00	1.71E+00	1.32E-01	1.14E-01	2.46E-01	3.69E-02	1.64E-01	9.35E-02	2.57E-01	8.23E-02	4.28E-04	1.73E-03	2.88E+00	4.80E+01	1.10E+01	7.94E+00	5.95E-05	1.31E-02	2.58E-06	3.52E-02
Haul Road_Average	Baseline	Aluminum	Haul Road_Average_Baseline_Aluminum	0.00E+00	2.24E+04	0.00E+00	2.24E+04	2.24E+04	0.00E+00	2.24E+04	2.07E+01	0.00E+00	2.07E+01	3.10E+00	2.21E+02	0.00E+00	2.21E+02	7.06E+01	5.60E+00	2.44E-01	3.12E-01	1.19E+03	2.31E+00	9.92E+02	2.19E+00	8.39E-02	1.89E-01	2.99E-01
Haul Road_Average	Baseline	Antimony	Haul Road_Average_Baseline_Antimony	0.00E+00	5.00E-02	0.00E+00	5.00E-02	5.00E-02	0.00E+00	5.00E-02	1.60E-03	0.00E+00	1.60E-03	2.39E-04	1.00E-02	0.00E+00	1.00E-02	3.20E-03	1.25E-05	5.00E-04	2.00E-02	6.59E-02	2.15E+00	3.50E-03	2.51E-05	2.30E-06	1.03E-06	4.06E-04
Haul Road_Average	Baseline	Arsenic	Haul Road_Average_Baseline_Arsenic	0.00E+00	1.00E+01	0.00E+00	1.00E+01	1.00E+01	0.00E+00	1.00E+01	6.33E-02	0.00E+00	6.33E-02	5.79E-03	3.13E-02	0.00E+00	3.13E-02	7.80E-03	2.50E-03	1.81E-03	8.29E-04	1.23E+00	1.55E+00	1.32E-01	5.16E-05	9.12E-07	1.03E-06	7.02E-06
Haul Road_Average	Baseline	Arsenic_cancer	Haul Road_Average_Baseline_Arsenic_cancer	0.00E+00	1.00E+01	0.00E+00	1.00E+01	1.00E+01	0.00E+00	1.00E+01	6.33E-02	0.00E+00	6.33E-02	5.79E-03	3.13E-02	0.00E+00	3.13E-02	7.80E-03	2.50E-03	1.81E-03	8.29E-04	1.23E+00	1.55E+00	1.32E-01	5.16E-05	9.12E-07	1.03E-06	7.02E-06
Haul Road_Average	Baseline	Barium	Haul Road_Average_Baseline_Barium	0.00E+00	3.50E+01	0.00E+00	3.50E+01	3.50E+01	0.00E+00	3.50E+01	1.70E+01	0.00E+00	1.70E+01	2.55E+00	1.17E+02	0.00E+00	1.17E+02	3.74E+01	8.75E-03	3.36E-03	5.91E-02	3.08E+00	2.55E+00	6.72E-01	3.63E-02	3.63E-04	1.28E-03	1.12E-04
Haul Road_Average	Baseline	Beryllium	Haul Road_Average_Baseline_Beryllium	0.00E+00	4.00E-01	0.00E+00	4.00E-01	4.00E-01	0.00E+00	4.00E-01	1.03E-03	0.00E+00	1.03E-03	1.55E-04	4.00E-03	0.00E+00	4.00E-03	1.28E-03	1.00E-04	5.00E-04	3.10E-02	1.00E-01	2.06E-01	2.25E-02	2.86E-05	3.47E-06	2.32E-06	4.43E-05
Haul Road_Average	Baseline	Boron	Haul Road_Average_Baseline_Boron	0.00E+00	3.00E+00	0.00E+00	3.00E+00	3.00E+00	0.00E+00	3.00E+00	2.03E+01	0.00E+00	2.03E+01	3.05E+00	5.94E+01	0.00E+00	5.94E+01	1.90E+01	7.50E-04	2.50E-02	0.00E+00	0.00E+00	2.50E+00	1.02E+02	1.00E-01	1.03E-03	3.48E-03	1.13E-02
Haul Road_Average	Baseline	Cadmium	Haul Road_Average_Baseline_Cadmium	0.00E+00	1.10E-01	0.00E+00	1.10E-01	1.10E-01	0.00E+00	1.10E-01	1.79E-01	0.00E+00	1.79E-01	2.68E-02	1.85E-01	0.00E+00	1.85E-01	5.92E-02	2.75E-05	2.00E-05	4.56E-03	1.43E+00	4.57E-02	6.92E-02	5.04E-05	9.49E-06	1.79E-06	8.67E-06
Haul Road_Average	Baseline	Chromium	Haul Road_Average_Baseline_Chromium	0.00E+00	2.10E+01	0.00E+00	2.10E+01	2.10E+01	0.00E+00	2.10E+01	5.33E-01	0.00E+00	5.33E-01	8.00E-02	2.50E-01	0.00E+00	2.50E-01	8.00E-02	5.25E-03	7.00E-04	1.58E-02	2.31E+01	9.01E+00	2.10E+00	8.66E-03	4.07E-03	6.87E-04	1.34E-02
Haul Road_Average	Baseline	Cobalt	Haul Road_Average_Baseline_Cobalt	0.00E+00	1.02E+01	0.00E+00	1.02E+01	1.02E+01	0.00E+00	1.02E+01	1.60E-01	0.00E+00	1.60E-01	2.40E-02	1.66E-01	0.00E+00	1.66E-01	5.31E-02	2.55E-03	2.70E-04	4.59E-03	1.42E+00	0.00E+00	1.10E+00	1.66E-02	1.11E-03	1.26E-03	3.87E-03
Haul Road_Average	Baseline	Copper	Haul Road_Average_Baseline_Copper	0.00E+00	1.00E+01	0.00E+00	1.00E+01	1.00E+01	0.00E+00	1.00E+01	7.73E+00	0.00E+00	7.73E+00	1.16E+00	7.34E+00	0.00E+00	7.34E+00	2.35E+00	2.50E-03	7.10E-04	2.24E+00	9.80E+00	1.12E+00	2.64E+00	1.71E-01	5.22E-03	6.25E-03	7.89E-03
Haul Road_Average	Baseline	Lead	Haul Road_Average_Baseline_Lead	0.00E+00	1.64E+01	0.00E+00	1.64E+01	1.64E+01	0.00E+00	1.64E+01	2.00E-02	0.00E+00	2.00E-02	3.00E-03	1.41E-01	0.00E+00	1.41E-01	4.50E-02	4.10E-03	3.10E-04	1.75E-02	7.69E+00	2.25E-01	1.57E+00	3.09E-04	7.57E-05	2.72E-05	1.28E-04
Haul Road_Average	Baseline	Manganese	Haul Road_Average_Baseline_Manganese	0.00E+00	8.01E+02	0.00E+00	8.01E+02	8.01E+02	0.00E+00	8.01E+02	6.49E+02	0.00E+00	6.49E+02	9.73E+01	4.47E+03	0.00E+00	4.47E+03	1.43E+03	2.00E-01	4.47E-02	7.49E-01	4.26E+01	6.71E+02	1.82E+02	3.69E+00	3.59E-02	1.29E-01	6.17E-02
Haul Road_Average	Baseline	Mercury	Haul Road_Average_Baseline_Mercury	0.00E+00	1.00E-01	0.00E+00	1.00E-01	1.00E-01	0.00E+00	1.00E-01	9.00E-02	0.00E+00	9.00E-02	1.00E-02	9.00E-02	0.00E+00	9.00E-02	1.00E-02	2.50E-05	7.07E-06	4.76E-01	4.98E-01	5.11E-01	2.87E-02	4.32E-04	4.00E-04	1.67E-05	2.61E-03
Haul Road_Average	Baseline	Molybdenum	Haul Road_Average_Baseline_Molybdenum	0.00E+00	5.00E-01	0.00E+00	5.00E-01	5.00E-01	0.00E+00	5.00E-01	3.07E-01	0.00E+00	3.07E-01	4.61E-02	2.72E-01	0.00E+00	2.72E-01	8.70E-02	1.25E-04	2.40E-03	1.20E-02	5.07E-01	0.00E+00	9.76E+00	3.92E-03	1.45E-04	1.46E-04	7.88E-03
Haul Road_Average	Baseline	Nickel	Haul Road_Average_Baseline_Nickel	0.00E+00	1.40E+01	0.00E+00	1.40E+01	1.40E+01	0.00E+00	1.40E+01	3.73E+00	0.00E+00	3.73E+00	5.60E-01	2.75E+00	0.00E+00	2.75E+00	8.80E-01	3.50E-03	1.11E-03	5.55E-03	2.32E+01	1.98E-01	3.11E-02	4.23E-02	4.90E-03	1.75E-03	3.09E-03
Haul Road_Average	Baseline	Silver	Haul Road_Average_Baseline_Silver	0.00E+00	1.00E-01	0.00E+00	1.00E-01	1.00E-01	0.00E+00	1.00E-01	1.38E-02	0.00E+00	1.38E-02	2.07E-03	4.00E-02	0.00E+00	4.00E-02	5.00E-03	2.50E-05	5.00E-05	4.39E-03	4.53E-01	1.56E+00	1.49E-02	1.18E-04	4.36E-05	5.11E-06	9.11E-04
Haul Road_Average	Baseline	Strontium	Haul Road_Average_Baseline_Strontium	0.00E+00	9.00E+00	0.00E+00	9.00E+00	9.00E+00	0.00E+00	9.00E+00	2.48E+01	0.00E+00	2.48E+01	3.72E+00	9.56E+01	0.00E+00	9.56E+01	3.06E+01	2.25E-03	6.26E-03	1.61E+00	1.05E+00	5.88E+01	2.55E+01	5.99E-02	6.08E-04	2.08E-03	4.36E-03
Haul Road_Average	Baseline	Vanadium	Haul Road_Average_Baseline_Vanadium	0.00E+00	3.50E+01	0.00E+00	3.50E+01	3.50E+01	0.00E+00	3.50E+01	1.93E-01	0.00E+00	1.93E-01	2.00E-02	1.25E-01	0.00E+00	1.25E-01	4.00E-02	8.75E-03	1.00E-03	1.00E-02	1.37E+00	0.00E+00	4.07E+00	4.66E-03	1.73E-04	4.55E-04	1.59E-03
Haul Road_Average	Baseline	Zinc	Haul Road_Average_Baseline_Zinc	0.00E+00	3.60E+01	0.00E+00	3.60E+01	3.60E+01	0.00E+00	3.60E+01	2.77E+01	0.00E+00	2.77E+01	4.16E+00	3.44E+01	0.00E+00	3.44E+01	1.10E+01	9.00E-03	3.48E-03	5.78E+00	2.77E+02	2.21E+01	1.59E+01	6.98E-03	8.34E-02	2.53E-04	1.02E-01
Haul Road_Average	Project	Aluminum	Haul Road_Average_Project_Aluminum	1.06E+03	0.00E+00	1.76E+01	1.76E+01	0.00E+00	1.76E+02	1.76E+02	1.62E-02	1.17E+01	1.18E+01	1.76E+00	1.73E-01	9.60E+00	9.78E+00	3.13E+00	4.40E-02	0.00E+00	0.00E+00	9.32E-01	0.00E+00	0.00E+00	4.55E-02	6.61E-04	2.46E-03	6.02E-04
Haul Road_Average	Project	Antimony	Haul Road_Average_Project_Antimony	5.17E-02	0.00E+00	8.62E-04	8.62E-04	0.00E+00	8.62E-03	8.62E-03	2.75E-05	5.75E-04	6.03E-04	9.04E-05	1.72E-04	4.71E-04	6.43E-04	2.06E-04	2.16E-06	0.00E+00	0.00E+00	1.14E-03	0.00E+00	0.00E+00	1.83E-06	5.87E-08	9.22E-08	4.02E-08
Haul Road_Average	Project	Arsenic	Haul Road_Average_Project_Arsenic	1.65E+00	0.00E+00	2.75E-02	2.75E-02	0.00E+00	2.75E-01	2.75E-01	1.74E-04	1.84E-02	1.85E-02	1.70E-03	8.60E-05	1.50E-02	1.51E-02	3.77E-03	6.88E-05	1.10E-03	5.03E-04	1.91E-02	9.40E-01	8.02E-02	4.37E-06	2.29E-08	4.82E-08	3.76E-06
Haul Road_Average	Project	Arsenic_cancer	Haul Road_Average_Project_Arsenic_cancer	1.65E+00	0.00E+00	2.75E-02	2.75E-02	0.00E+00	2.75E-01	2.75E-01	1.74E-04	1.84E-02	1.85E-02	1.70E-03	8.60E-05	1.50E-02	1.51E-02	3.77E-03	6.88E-05	1.10E-03	5.03E-04	1.91E-02	9.40E-01	8.02E-02	4.37E-06	2.29E-08	4.82E-08	3.76E-06
Haul Road_Average	Project	Barium	Haul Road_Average_Project_Barium	3.86E+00	0.00E+00	6.44E-02	6.44E-02	0.00E+00	6.44E-01	6.44E-01	3.13E-02	4.29E-02	7.42E-02	1.11E-02	2.15E-01	3.51E-02	2.50E-01	8.00E-02	1.61E-04	0.00E+00	0.00E+00	5.66E-03	0.00E+00	0.00E+00	8.28E-05	8.84E-07	3.19E-06	2.40E-07
Haul Road_Average	Project	Beryllium	Haul Road_Average_Project_Beryllium	1.90E-02	0.00E+00	3.16E-04	3.16E-04	0.00E+00	3.16E-03	3.16E-03	8.15E-07	2.11E-04	2.12E-04	3.17E-05	3.16E-06	1.72E-04	1.76E-04	5.62E-05	7.90E-07	0.00E+00	0.00E+00	7.90E-05	0.00E+00	0.00E+00	5.45E-07	9.85E-09	2.95E-08	8.37E-09
Haul Road_Average	Project	Boron	Haul Road_Average_Project_Boron	2.59E-01	0.00E+00	4.31E-03	4.31E-03	0.00E+00	4.31E-02	4.31E-02	2.92E-02	2.88E-03	3.20E-02	4.81E-03	8.54E-02	2.35E-03	8.77E-02	2.81E-02	1.08E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.49E-04	1.56E-06	5.30E-06	1.45E-07
Haul Road_Average	Project	Cadmium	Haul Road_Average_Project_Cadmium	1.26E-02	0.00E+00	2.11E-04	2.11E-04	0.00E+00	2.11E-03	2.11E-03	3.42E-04	1.40E-04	4.83E-04	7.24E-05	3.54E-04	1.15E-04	4.69E-04	1.50E-04	5.27E-07	3.80E-06	8.66E-04	9.89E-03	8.67E-03	1.31E-02	1.40E-07	6.15E-08	5.71E-09	6.82E-07
Haul Road_Average	Project	Chromium	Haul Road_Average_Project_Chromium	2.02E+00	0.00E+00	3.37E-02	3.37E-02	0.00E+00	3.37E-01	3.37E-01	8.55E-04	2.25E-02	2.33E-02	3.50E-03	4.01E-04	1.84E-02	1.88E-02	6.02E-03	8.43E-05	0.00E+00	0.00E+00	3.70E-02	0.00E+00	0.00E+00	3.22E-04	1.07E-05	1.74E-05	7.87E-06
Haul Road_Average	Project	Cobalt	Haul Road_Average_Project_Cobalt	7.53E-01	0.00E+00	1.25E-02	1.25E-02	0.00E+00	1.25E-01	1.25E-01	1.97E-04	8.37E-03	8.57E-03	1.28E-03	2.04E-04	6.85E-03	7.05E-03	2.26E-03	3.14E-05	2.73E-04	4.64E-03	1.74E-03	0.00E+00	1.11E+00	4.62E-04	7.23E-06	2.43E-05	2.96E-03
Haul Road_Average	Project	Copper	Haul Road_Average_Project_Copper	1.30E+00	0.00E+00	2.16E-02	2.16E-02	0.00E+00	2.16E-01	2.16E-01	1.67E-02	1.44E-02	3.11E-02	4.67E-03	1.59E-02	1.18E-02	2.77E-02	8.85E-03	5.40E-05	1.86E-04	5.88E-01	1.94E+00	2.94E-01	6.92E-01	7.36E-04	6.12E-04	3.27E-05	1.84E-03
Haul Road_Average	Project	Lead	Haul Road_Average_Project_Lead	3.40E-01	0.00E+00	5.67E-03	5.67E-03	0.00E+00	5.67E-02	5.67E-02	6.91E-06	3.78E-03	3.79E-03	5.68E-04	4.86E-05	3.09E-03	3.14E-03	1.01E-03	1.42E-05	7.53E-05	4.25E-03	1.24E-02	5.46E-02	3.81E-01	3.03E-06	1.56E-07	1.61E-07	1.84E-05
Haul Road_Average	Project	Manganese	Haul Road_Average_Project_Manganese	2.69E+01	0.00E+00	4.48E-01	4.48E-01	0.00E+00	4.48E+00	4.48E+00	3.63E-01	2.99E-01	6.61E-01	9.92E-02	2.50E+00	2.44E-01	2.74E+00	8.78E-01	1.12E-03	3.90E-03	6.54E-02	2.57E-01	5.85E+01	1.59E+01	2.37E-03	2.71E-05	8.81E-05	5.24E-03
Haul Road_Average	Project	Mercury	Haul Road_Average_Project_Mercury	1.24E-04	0.00E+00	2.06E-06	2.06E-06	0.00E+00	2.06E-05	2.06E-05	1.85E-06	1.37E-06	3.23E-06	4.84E-07	1.85E-06	1.12E-06	2.98E-06	9.52E-07	5.15E-09	1.69E-06	1.14E-01	1.31E-02	1.23E-01	6.89E-03	7.99E-08	9.74E-06	2.90E-09	5.77E-04
Haul Road_Average	Project	Molybdenum	Haul Road_Average_Project_Molybdenum	3.33E-02	0.00E+00	5.55E-04	5.55E-04	0.00E+00	5.55E-03	5.55E-03	3.41E-04	3.70E-04	7.11E-04	1.07E-04	3.02E-04	3.03E-04	6.05E-04	1.93E-04	1.39E-06	1.60E-03	8.02E-03	5.62E-04	0.00E+00	6.52E+00	5.31E-05	6.07E-07	1.70E-06	5.22E-03
Haul Road_Average	Project	Nickel	Haul Road_Average_Project_Nickel	1.54E+00	0.00E+00	2.57E-02	2.57E-02	0.00E+00	2.57E-01	2.57E-01	6.85E-03	1.71E-02	2.40E-02	3.60E-03	5.05E-03	1.40E-02	1.91E-02	6.11E-03	6.43E-05	2.94E-03	1.47E-02	4.26E-02	5.23E-01	8.23E-02	4.13E-04	1.32E-05	1.90E-05	6.64E-04
Haul Road_Average	Project	Silver	Haul Road_Average_Project_Silver	6.22E-03	0.00E+00	1.04E-04	1.04E-04	0.00E+00	1.04E-03	1.04E-03	1.43E-05	6.91E-05	8.34E-05	1.25E-05	4.14E-05	5.66E-05	9.80E-05	3.14E-05	2.59E-07	1.11E-06	9.73E-05	4.69E-04	3.47E-02	3.31E-04	8.07E-07	5.37E-08	3.83E-08	1.97E-05
Haul Road_Average	Project	Strontium	Haul Road_Average_Project_Strontium	5.66E-01	0.00E+00	9.44E-03	9.44E-03	0.00E+00	9.44E-02	9.44E-02	2.60E-02	6.30E-03	3.23E-02	4.85E-03	1.00E-01	5.15E-03	1.05E-01	3.37E-02	2.36E-05	0.00E+00	0.00E+00	1.10E-03	0.00E+00	0.00E+00	6.75E-05	7.02E-07	2.44E-06	9.14E-08
Haul Road_Average	Project	Vanadium	Haul Road_Average_Project_Vanadium	2.22E+00	0.00E+00	3.69E-02	3.69E-02	0.00E+00	3.69E-01	3.69E-01	2.03E-04	2.46E-02	2.48E-02	3.73E-03	1.32E-04	2.02E-02	2.03E-02	6.50E-03	9.24E-05	0.00E+00	0.00E+00	1.44E-03	0.00E+00	0.00E+00	1.58E-04	2.27E-06	8.59E-06	2.08E-06
Haul Road_Average	Project	Zinc	Haul Road_Average_Project_Zinc	3.73E+00	0.00E+00	6.21E-02	6.21E-02	0.00E+00	6.21E-01	6.21E-01	4.79E-02	4.14E-02	8.93E-02	1.34E-02	5.94E-02	3.39E-02	9.33E-02	2.98E-02	1.55E-04	1.73E-03	2.88E+00	3.44E+01	1.10E+01	7.94E+00	2.20E-05	9.37E-03	9.47E-07	3.30E-02

Notes
Adjusted for chemical apportionment
Baseline predicted concentration exceeded max measured baseline. Therefore, defaulted to max measured concentration (i.e., max detection limit)

Guidelines and Exposure Limits

Chemical	Exposure Limit Type	Nova Scotia EQS [mg/kg]	CCME SQG [mg/kg]	Human Oral Exposure Limit [µg/kg/day]
Aluminum	RfD	15400	n/a	143
Antimony	RfD	7.5	20	0.2
Arsenic	RfD	31	12	0.3
Arsenic_cancer	RsD	n/a	n/a	0.006
Barium	RfD	10000	750	200
Beryllium	RfD	38	4	2
Boron	RfD	4300	2	200
Cadmium	RfD	1.4	1.4	1
Chromium	RfD	220	64	1
Cobalt	RfD	22	40	1.4
Copper	RfD	1100	63	91
Lead	RfD	140	70	0.6
Manganese	RfD	n/a	n/a	136
Inorganicmercury	RfD	6.6	6.6	0.3
Methylmercury	RfD	--	--	0.2
Molybdenum	RfD	110	5	23
Nickel	RfD	330	45	11
Silver	RfD	77	20	5
Strontium	RfD	9400	n/a	600
Vanadium	RfD	39	130	2.1
Zinc	RfD	5600	250	480

Notes:

n/a - guideline value was not available

Nova Scotia Environmental Quality Standards (EQS) are the soil contact/ingestion values for coarse/fine-textured soil in an agricultural land use from Nova Scotia Environment (2014)

CCME Soil Quality Guidelines (SQG) are the SQG for the Protection of Environmental and Human Health for the agricultural land use from CCME (2017)

Human Receptor Exposure Variables

Receptor	Variable	Abbreviation	Value	Units	Reference/Comment
Adolescent	AIR	Adolescent_AIR	15.6	m3/d	Health Canada (2012); air inhalation rate
Adult	AIR	Adult_AIR	16.6	m3/d	Health Canada (2012); air inhalation rate
Child	AIR	Child_AIR	14.5	m3/d	Health Canada (2012); air inhalation rate
Toddler	AIR	Toddler_AIR	8.3	m3/d	Health Canada (2012); air inhalation rate
Infant	AIR	Infant_AIR	2.2	m3/d	Health Canada (2012); air inhalation rate
Adolescent	Berries	Adolescent_Berries	6.4	g/d	Calculated based on ingestion ratio for strawberries and blueberries combined for adolescent:adult from Health Canada (1994)
Adult	Berries	Adult_Berries	9.1	g/d	Chan et al. (2017); Heavy consumer total for berries/plants (Table 9a) - assumed receptors collecting 1/2 of annual berry consumption from MPOI
Child	Berries	Child_Berries	8.0	g/d	Calculated based on ingestion ratio for strawberries and blueberries combined for child:adult from Health Canada (1994)
Toddler	Berries	Toddler_Berries	3.4	g/d	Calculated based on ingestion ratio for strawberries and blueberries combined for toddler:adult from Health Canada (1994)
Infant	Berries	Infant_Berries	0	g/d	assumed, diet entirely breast milk
Adolescent	Berries_All	Adolescent_Berries_All	12.9	g/d	Calculated based on ingestion ratio for strawberries and blueberries combined for adolescent:adult from Health Canada (1994)
Adult	Berries_All	Adult_Berries_All	18.2	g/d	Chan et al. (2017); Heavy consumer total for berries/plants (Table 9a)
Child	Berries_All	Child_Berries_All	16.0	g/d	Calculated based on ingestion ratio for strawberries and blueberries combined for child:adult from Health Canada (1994)
Toddler	Berries_All	Toddler_Berries_All	6.9	g/d	Calculated based on ingestion ratio for strawberries and blueberries combined for toddler:adult from Health Canada (1994)
Infant	Berries_All	Infant_Berries_All	0	g/d	assumed, diet entirely breast milk
Adolescent	Berries_ratio	Adolescent_Berries_ratio	0.71	Unitless	Health Canada (1994); Ingestion rate ratio adolescent:adult for strawberries and blueberries combined
Child	Berries_ratio	Child_Berries_ratio	0.88	Unitless	Health Canada (1994); Ingestion rate ratio child:adult for strawberries and blueberries combined
Toddler	Berries_ratio	Toddler_Berries_ratio	0.38	Unitless	Health Canada (1994); Ingestion rate ratio toddler:adult for strawberries and blueberries combined
Infant	Berries_ratio	Infant_Berries_ratio	0.068788501	Unitless	Health Canada (1994); Ingestion rate ratio infant:adult for strawberries and blueberries combined
Adolescent	BW	Adolescent_BW	59.7	kg	Health Canada (2012); body weight
Adult	BW	Adult_BW	70.7	kg	Health Canada (2012); body weight
Child	BW	Child_BW	32.9	kg	Health Canada (2012); body weight
Toddler	BW	Toddler_BW	16.5	kg	Health Canada (2012); body weight
Infant	BW	Infant_BW	8.2	kg	Health Canada (2012); body weight
Adolescent	LAF	Adolescent_LAF	0.1	yr-lifestage/yr-total	Health Canada (2012); lifetime adjustment factor for gen. pop.
Adult	LAF	Adult_LAF	0.75	yr-lifestage/yr-total	Health Canada (2012); lifetime adjustment factor for gen. pop.
Child	LAF	Child_LAF	0.0875	yr-lifestage/yr-total	Health Canada (2012); lifetime adjustment factor for gen. pop.
Toddler	LAF	Toddler_LAF	0.05625	yr-lifestage/yr-total	Health Canada (2012); lifetime adjustment factor for gen. pop.
Infant	LAF	Infant_LAF	0.00625	yr-lifestage/yr-total	Health Canada (2012); lifetime adjustment factor for gen. pop.
Adolescent	Leaves	Adolescent_Leaves	1.5	g/d	Wein (1989); AHW (2007) - assumed receptors collecting 1/2 of annual leaf consumption from MPOI
Adult	Leaves	Adult_Leaves	1.5	g/d	Wein (1989); AHW (2007) - assumed receptors collecting 1/2 of annual leaf consumption from MPOI
Child	Leaves	Child_Leaves	0.5	g/d	Wein (1989); AHW (2007) - assumed receptors collecting 1/2 of annual leaf consumption from MPOI
Toddler	Leaves	Toddler_Leaves	0.5	g/d	Wein (1989); AHW (2007) - assumed receptors collecting 1/2 of annual leaf consumption from MPOI
Infant	Leaves	Infant_Leaves	0	g/d	assumed, diet entirely breast milk
Adolescent	Leaves_All	Adolescent_Leaves_All	3.0	g/d	Wein (1989); AHW (2007)
Adult	Leaves_All	Adult_Leaves_All	3.0	g/d	Wein (1989); AHW (2007)
Child	Leaves_All	Child_Leaves_All	1.0	g/d	Wein (1989); AHW (2007)
Toddler	Leaves_All	Toddler_Leaves_All	1.0	g/d	Wein (1989); AHW (2007)
Infant	Leaves_All	Infant_Leaves_All	0	g/d	assumed, diet entirely breast milk
Adolescent	Leaves_ratio	Adolescent_Leaves_ratio	0.88	Unitless	Health Canada (2012); Ingestion ratio adolescent:adult for other vegetable for general population
Child	Leaves_ratio	Child_Leaves_ratio	0.72	Unitless	Health Canada (2012); Ingestion ratio child:adult for other vegetable for general population
Toddler	Leaves_ratio	Toddler_Leaves_ratio	0.49	Unitless	Health Canada (2012); Ingestion ratio toddler:adult for other vegetable for general population
Infant	Leaves_ratio	Infant_Leaves_ratio	0.525547445	Unitless	Health Canada (2012); Ingestion ratio infant:adult for other vegetable for general population
Adolescent	SIR	Adolescent_SIR	0.02	g/d	Health Canada (2012); soil ingestion rate
Adult	SIR	Adult_SIR	0.02	g/d	Health Canada (2012); soil ingestion rate
Child	SIR	Child_SIR	0.02	g/d	Health Canada (2012); soil ingestion rate
Toddler	SIR	Toddler_SIR	0.08	g/d	Health Canada (2012); soil ingestion rate
Infant	SIR	Infant_SIR	0.02	g/d	Health Canada (2012); soil ingestion rate
Adolescent	Fish	Adolescent_Fish	9	g/d	Calculated based on ingestion ratio in Health Canada (2007) and adult ingestion rate
Adult	Fish	Adult_Fish	9	g/d	Chan et al. (2017) FNFNES for Atlantic Region; adult average consumer Table 9b
Child	Fish	Child_Fish	7.425	g/d	Calculated based on ingestion ratio in Health Canada (2007) and adult ingestion rate
Toddler	Fish	Toddler_Fish	4.5	g/d	Calculated based on ingestion ratio in Health Canada (2007) and adult ingestion rate
Infant	Fish	Infant_Fish	0	g/d	Calculated based on ingestion ratio in Health Canada (2007) and adult ingestion rate
Adolescent	Fish_ratio	Adolescent_Fish_ratio	1	Unitless	Fish ingestion ratio from Health Canada (2007)
Child	Fish_ratio	Child_Fish_ratio	0.825	Unitless	Fish ingestion ratio from Health Canada (2007)
Toddler	Fish_ratio	Toddler_Fish_ratio	0.5	Unitless	Fish ingestion ratio from Health Canada (2007)
Infant	Fish_ratio	Infant_Fish_ratio	0	Unitless	Fish ingestion ratio from Health Canada (2007)
Adolescent	Deer	Adolescent_Deer	44.3	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Adult	Deer	Adult_Deer	68.4	g/d	Chan et al. (2017) FNFNES for Atlantic Region; adult heavy consumer (95th percentile) Table 9b
Child	Deer	Child_Deer	31.7	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Toddler	Deer	Toddler_Deer	21.5	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Infant	Deer	Infant_Deer	0	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Adolescent	Deer_ratio	Adolescent_Deer_ratio	0.648	Unitless	Wild game ratio from Health Canada (2012)

Child	Deer_ratio	Child_Deer_ratio	0.463	Unitless	Wild game ratio from Health Canada (2012)
Toddler	Deer_ratio	Toddler_Deer_ratio	0.315	Unitless	Wild game ratio from Health Canada (2012)
Infant	Deer_ratio	Infant_Deer_ratio	0	Unitless	Wild game ratio from Health Canada (2012)
Adolescent	Ruffed_Grouse	Adolescent_Ruffed_Grouse	0.5	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Adult	Ruffed_Grouse	Adult_Ruffed_Grouse	0.8	g/d	Chan et al. (2017) FNFNES for Atlantic Region; adult heavy consumer (95th percentile) Table 9b
Child	Ruffed_Grouse	Child_Ruffed_Grouse	0.4	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Toddler	Ruffed_Grouse	Toddler_Ruffed_Grouse	0.3	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Infant	Ruffed_Grouse	Infant_Ruffed_Grouse	0	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Adolescent	Ruffed_Grouse_ratio	Adolescent_Ruffed_Grouse_ratio	0.648	Unitless	Wild game ratio from Health Canada (2012)
Child	Ruffed_Grouse_ratio	Child_Ruffed_Grouse_ratio	0.463	Unitless	Wild game ratio from Health Canada (2012)
Toddler	Ruffed_Grouse_ratio	Toddler_Ruffed_Grouse_ratio	0.315	Unitless	Wild game ratio from Health Canada (2012)
Infant	Ruffed_Grouse_ratio	Infant_Ruffed_Grouse_ratio	0	Unitless	Wild game ratio from Health Canada (2012)
Adolescent	Snowshoe_Hare	Adolescent_Snowshoe_Hare	3.2	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Adult	Snowshoe_Hare	Adult_Snowshoe_Hare	4.9	g/d	Chan et al. (2017) FNFNES for Atlantic Region; adult heavy consumer (95th percentile) Table 9b
Child	Snowshoe_Hare	Child_Snowshoe_Hare	2.3	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Toddler	Snowshoe_Hare	Toddler_Snowshoe_Hare	1.5	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Infant	Snowshoe_Hare	Infant_Snowshoe_Hare	0	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Adolescent	Snowshoe_Hare_ratio	Adolescent_Snowshoe_Hare_ratio	0.648	Unitless	Wild game ratio from Health Canada (2012)
Child	Snowshoe_Hare_ratio	Child_Snowshoe_Hare_ratio	0.463	Unitless	Wild game ratio from Health Canada (2012)
Toddler	Snowshoe_Hare_ratio	Toddler_Snowshoe_Hare_ratio	0.315	Unitless	Wild game ratio from Health Canada (2012)
Infant	Snowshoe_Hare_ratio	Infant_Snowshoe_Hare_ratio	0	Unitless	Wild game ratio from Health Canada (2012)
Adolescent	Mallard	Adolescent_Mallard	0.4	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Adult	Mallard	Adult_Mallard	0.6	g/d	Chan et al. (2017) FNFNES for Atlantic Region; adult heavy consumer (95th percentile) Table 9b
Child	Mallard	Child_Mallard	0.3	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Toddler	Mallard	Toddler_Mallard	0.2	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Infant	Mallard	Infant_Mallard	0	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Adolescent	Mallard_ratio	Adolescent_Mallard_ratio	0.648	Unitless	Wild game ratio from Health Canada (2012)
Child	Mallard_ratio	Child_Mallard_ratio	0.463	Unitless	Wild game ratio from Health Canada (2012)
Toddler	Mallard_ratio	Toddler_Mallard_ratio	0.315	Unitless	Wild game ratio from Health Canada (2012)
Infant	Mallard_ratio	Infant_Mallard_ratio	0	Unitless	Wild game ratio from Health Canada (2012)
Adolescent	SAT	Adolescent_SAT	15470	cm^2	Health Canada (2009); surface area total
Adult	SAT	Adult_SAT	17640	cm^2	Health Canada (2009); surface area total
Child	SAT	Child_SAT	10140	cm^2	Health Canada (2009); surface area total
Infant	SAT	Infant_SAT	3620	cm^2	Health Canada (2009); surface area total
Toddler	SAT	Toddler_SAT	6130	cm^2	Health Canada (2009); surface area total
Adolescent	SEF	Adolescent_SEF	9.86E-02	hr/d	Assumed: 1hr/day for 3 days/week over 3 months in a year; swim exposure factor
Adult	SEF	Adult_SEF	9.86E-02	hr/d	Assumed: 1hr/day for 3 days/week over 3 months in a year; swim exposure factor
Child	SEF	Child_SEF	9.86E-02	hr/d	Assumed: 1hr/day for 3 days/week over 3 months in a year; swim exposure factor
Infant	SEF	Infant_SEF	0.00E+00	hr/d	Assumed not to be swimming
Toddler	SEF	Toddler_SEF	9.86E-02	hr/d	Assumed: 1hr/day for 3 days/week over 3 months in a year; swim exposure factor
Adolescent	SW_IR	Adolescent_SW_IR	0.025	L/d	US EPA 2003; Assumed 1hr / day; swim ingestion rate
Adult	SW_IR	Adult_SW_IR	0.025	L/d	US EPA 2003; Assumed 1hr / day; swim ingestion rate
Child	SW_IR	Child_SW_IR	0.05	L/d	US EPA 2003; Assumed 1hr / day; swim ingestion rate
Infant	SW_IR	Infant_SW_IR	0	L/d	US EPA 2003; Assumed 1hr / day; swim ingestion rate
Toddler	SW_IR	Toddler_SW_IR	0.05	L/d	US EPA 2003; Assumed 1hr / day; swim ingestion rate

Wildlife Receptor Exposure Variables

Receptor	Variable	Abbreviation	Value	Units	Reference/Comment
Deer	AIR	Deer_AIR	17.3	m^3/day	Allometric equation for mammals 3-20; US EPA (1993)
Deer	BW	Deer_BW	75	kg-WW	White-tailed deer; GOC 2012
Deer	Per_SIR	Deer_Per_SIR	2%	% of Diet	White-tailed deer; <2.0% of dry food ingestion rate; GOC 2012
Deer	SIR	Deer_SIR	0.045	kg-soil/day	Calculated; See estimation of Soil Ingestion Rate
Deer	WIR	Deer_WIR	4.5	L/day	White-tailed deer; GOC 2012
Deer	FIR	Deer_FIR	2.25	kg-DW/day	White-tailed deer; GOC 2012
Ruffed_Grouse	AIR	Ruffed_Grouse_AIR	0.25876778	m^3/day	Allometric equation for birds 3-19 (US EPA 1993)
Ruffed_Grouse	BW	Ruffed_Grouse_BW	0.552	kg-WW	Ruffed grouse; GOC 2012
Ruffed_Grouse	Per_SIR	Ruffed_Grouse_Per_SIR	2%	% of Diet	Ruffed grouse; GOC 2012
Ruffed_Grouse	SIR	Ruffed_Grouse_SIR	0.0006624	kg-soil/day	Calculated; See estimation of Soil / Sediment Ingestion Rate
Ruffed_Grouse	WIR	Ruffed_Grouse_WIR	0.03864	L/day	Ruffed grouse; GOC 2012
Ruffed_Grouse	FIR	Ruffed_Grouse_FIR	0.03312	kg-DW/day	Ruffed grouse; GOC 2012
Snowshoe_Hare	AIR	Snowshoe_Hare_AIR	0.673268372	m^3/day	Allometric equation for mammals 3-20; US EPA (1993)
Snowshoe_Hare	BW	Snowshoe_Hare_BW	1.3	kg-WW	Snowshoe Hare; GOC 2012
Snowshoe_Hare	Per_SIR	Snowshoe_Hare_Per_SIR	6%	% of Diet	Snowshoe Hare; GOC 2012
Snowshoe_Hare	SIR	Snowshoe_Hare_SIR	0.004914	kg-soil/day	Calculated; See estimation of Soil / Sediment Ingestion Rate
Snowshoe_Hare	WIR	Snowshoe_Hare_WIR	0.13	L/day	Snowshoe Hare; GOC 2012
Snowshoe_Hare	FIR	Snowshoe_Hare_FIR	0.078	kg-DW/day	Snowshoe hare; GOC 2012
Mallard	AIR	Mallard_AIR	0.470529298	m^3/day	Allometric equation for birds 3-19 (US EPA 1993)
Mallard	BW	Mallard_BW	1.2	kg-WW	Mallard; GOC 2012
Mallard	Per_SIR	Mallard_Per_SIR	3.3%	% of Diet	3.3% apportioned to diet source; GOC 2012
Mallard	SIR	Mallard_SIR	0.00198	kg-soil/day	Calculated; See estimation of Soil / Sediment Ingestion Rate
Mallard	WIR	Mallard_WIR	0.072	L/day	Mallard; GOC 2012
Mallard	FIR	Mallard_FIR	0.06	kg-DW/day	Mallard; GOC 2012

Predicted Soil or Sediment Ingestion Rates for Wildlife [kg/day] (GOC 2012)

Receptor	Variable Name	Soil Ingestion Rate [kg/day]	Per_SIR	FIR [kg-DW/kg-BW/day]
Deer	Deer_SIR	0.045	2%	0.03
Ruffed_Grouse	Ruffed_Grouse_SIR	0.000662	2%	0.06
Snowshoe_Hare	Snowshoe_Hare_SIR	0.004914	6.3%	0.06
Mallard	Mallard_SIR	0.00198	3.3%	0.05

Receptor Dietary Composition [media % of diet]

Receptor	Media	Abbreviation	Value
Deer	Berries	Deer_Berries	10%
Deer	Leaves	Deer_Leaves	90%
Deer	Invert	Deer_Invert	0%
Deer	Aquatic_Plant	Deer_Aquatic_Plant	0%
Deer	Aquatic_Invert	Deer_Aquatic_Invert	0%
Ruffed_Grouse	Berries	Ruffed_Grouse_Berries	30%
Ruffed_Grouse	Leaves	Ruffed_Grouse_Leaves	55%
Ruffed_Grouse	Invert	Ruffed_Grouse_Invert	15%
Ruffed_Grouse	Aquatic_Plant	Ruffed_Grouse_Aquatic_Pl	0%
Ruffed_Grouse	Aquatic_Invert	Ruffed_Grouse_Aquatic_In	0%
Snowshoe_Hare	Berries	Snowshoe_Hare_Berries	10%
Snowshoe_Hare	Leaves	Snowshoe_Hare_Leaves	90%
Snowshoe_Hare	Invert	Snowshoe_Hare_Invert	0%
Snowshoe_Hare	Aquatic_Plant	Snowshoe_Hare_Aquatic_P	0%
Snowshoe_Hare	Aquatic_Invert	Snowshoe_Hare_Aquatic_I	0%
Mallard	Berries	Mallard_Berries	5%
Mallard	Leaves	Mallard_Leaves	0%
Mallard	Invert	Mallard_Invert	5%
Mallard	Aquatic_Plant	Mallard_Aquatic_Plant	50%
Mallard	Aquatic_Invert	Mallard_Aquatic_Invert	40%

Exposure Point Concentrations Assumed for the Assessment

ID	Area	Scenario	Media	COPC	Abbreviation	Value	Units	Comment
1	Haul Road_Max	Baseline	Soil	Aluminum	Haul Road_Max_Baseline_Soil_Aluminum	22400	mg/kg	90th percentile of samples
2	Haul Road_Max	Baseline	Soil	Antimony	Haul Road_Max_Baseline_Soil_Antimony	0.05	mg/kg	90th percentile of samples
3	Haul Road_Max	Baseline	Soil	Arsenic	Haul Road_Max_Baseline_Soil_Arsenic	10	mg/kg	90th percentile of samples
4	Haul Road_Max	Baseline	Soil	Arsenic_cancer	Haul Road_Max_Baseline_Soil_Arsenic_cancer	10	mg/kg	90th percentile of samples
5	Haul Road_Max	Baseline	Soil	Barium	Haul Road_Max_Baseline_Soil_Barium	35	mg/kg	90th percentile of samples
6	Haul Road_Max	Baseline	Soil	Beryllium	Haul Road_Max_Baseline_Soil_Beryllium	0.4	mg/kg	90th percentile of samples
7	Haul Road_Max	Baseline	Soil	Boron	Haul Road_Max_Baseline_Soil_Boron	3	mg/kg	90th percentile of samples
8	Haul Road_Max	Baseline	Soil	Cadmium	Haul Road_Max_Baseline_Soil_Cadmium	0.11	mg/kg	90th percentile of samples
9	Haul Road_Max	Baseline	Soil	Chromium	Haul Road_Max_Baseline_Soil_Chromium	21	mg/kg	90th percentile of samples
10	Haul Road_Max	Baseline	Soil	Cobalt	Haul Road_Max_Baseline_Soil_Cobalt	10.2	mg/kg	90th percentile of samples
11	Haul Road_Max	Baseline	Soil	Copper	Haul Road_Max_Baseline_Soil_Copper	10	mg/kg	90th percentile of samples
12	Haul Road_Max	Baseline	Soil	Lead	Haul Road_Max_Baseline_Soil_Lead	16.4	mg/kg	90th percentile of samples
13	Haul Road_Max	Baseline	Soil	Manganese	Haul Road_Max_Baseline_Soil_Manganese	801	mg/kg	90th percentile of samples
14	Haul Road_Max	Baseline	Soil	Mercury	Haul Road_Max_Baseline_Soil_Mercury	0.1	mg/kg	90th percentile of samples
15	Haul Road_Max	Baseline	Soil	Molybdenum	Haul Road_Max_Baseline_Soil_Molybdenum	0.5	mg/kg	90th percentile of samples
16	Haul Road_Max	Baseline	Soil	Nickel	Haul Road_Max_Baseline_Soil_Nickel	14	mg/kg	90th percentile of samples
17	Haul Road_Max	Baseline	Soil	Silver	Haul Road_Max_Baseline_Soil_Silver	0.1	mg/kg	90th percentile of samples
18	Haul Road_Max	Baseline	Soil	Strontium	Haul Road_Max_Baseline_Soil_Strontium	9	mg/kg	90th percentile of samples
19	Haul Road_Max	Baseline	Soil	Vanadium	Haul Road_Max_Baseline_Soil_Vanadium	35	mg/kg	90th percentile of samples
20	Haul Road_Max	Baseline	Soil	Zinc	Haul Road_Max_Baseline_Soil_Zinc	36	mg/kg	90th percentile of samples
21	Haul Road_Max	Project	Soil	Aluminum	Haul Road_Max_Project_Soil_Aluminum	0	mg/kg	
22	Haul Road_Max	Project	Soil	Antimony	Haul Road_Max_Project_Soil_Antimony	0	mg/kg	
23	Haul Road_Max	Project	Soil	Arsenic	Haul Road_Max_Project_Soil_Arsenic	0	mg/kg	
24	Haul Road_Max	Project	Soil	Arsenic_cancer	Haul Road_Max_Project_Soil_Arsenic_cancer	0	mg/kg	
25	Haul Road_Max	Project	Soil	Barium	Haul Road_Max_Project_Soil_Barium	0	mg/kg	
26	Haul Road_Max	Project	Soil	Beryllium	Haul Road_Max_Project_Soil_Beryllium	0	mg/kg	
27	Haul Road_Max	Project	Soil	Boron	Haul Road_Max_Project_Soil_Boron	0	mg/kg	
28	Haul Road_Max	Project	Soil	Cadmium	Haul Road_Max_Project_Soil_Cadmium	0	mg/kg	
29	Haul Road_Max	Project	Soil	Chromium	Haul Road_Max_Project_Soil_Chromium	0	mg/kg	
30	Haul Road_Max	Project	Soil	Cobalt	Haul Road_Max_Project_Soil_Cobalt	0	mg/kg	
31	Haul Road_Max	Project	Soil	Copper	Haul Road_Max_Project_Soil_Copper	0	mg/kg	
32	Haul Road_Max	Project	Soil	Lead	Haul Road_Max_Project_Soil_Lead	0	mg/kg	
33	Haul Road_Max	Project	Soil	Manganese	Haul Road_Max_Project_Soil_Manganese	0	mg/kg	
34	Haul Road_Max	Project	Soil	Mercury	Haul Road_Max_Project_Soil_Mercury	0	mg/kg	
35	Haul Road_Max	Project	Soil	Molybdenum	Haul Road_Max_Project_Soil_Molybdenum	0	mg/kg	
36	Haul Road_Max	Project	Soil	Nickel	Haul Road_Max_Project_Soil_Nickel	0	mg/kg	
37	Haul Road_Max	Project	Soil	Silver	Haul Road_Max_Project_Soil_Silver	0	mg/kg	
38	Haul Road_Max	Project	Soil	Strontium	Haul Road_Max_Project_Soil_Strontium	0	mg/kg	
39	Haul Road_Max	Project	Soil	Vanadium	Haul Road_Max_Project_Soil_Vanadium	0	mg/kg	
40	Haul Road_Max	Project	Soil	Zinc	Haul Road_Max_Project_Soil_Zinc	0	mg/kg	
1	Haul Road_Max	Baseline	Surface Soil	Aluminum	Haul Road_Max_Baseline_Surface Soil_Aluminum	22400	mg/kg	90th percentile of samples
2	Haul Road_Max	Baseline	Surface Soil	Antimony	Haul Road_Max_Baseline_Surface Soil_Antimony	0.05	mg/kg	90th percentile of samples
3	Haul Road_Max	Baseline	Surface Soil	Arsenic	Haul Road_Max_Baseline_Surface Soil_Arsenic	10	mg/kg	90th percentile of samples
4	Haul Road_Max	Baseline	Surface Soil	Arsenic_cancer	Haul Road_Max_Baseline_Surface Soil_Arsenic_cancer	10	mg/kg	90th percentile of samples
5	Haul Road_Max	Baseline	Surface Soil	Barium	Haul Road_Max_Baseline_Surface Soil_Barium	35	mg/kg	90th percentile of samples
6	Haul Road_Max	Baseline	Surface Soil	Beryllium	Haul Road_Max_Baseline_Surface Soil_Beryllium	0.4	mg/kg	90th percentile of samples
7	Haul Road_Max	Baseline	Surface Soil	Boron	Haul Road_Max_Baseline_Surface Soil_Boron	3	mg/kg	90th percentile of samples
8	Haul Road_Max	Baseline	Surface Soil	Cadmium	Haul Road_Max_Baseline_Surface Soil_Cadmium	0.11	mg/kg	90th percentile of samples
9	Haul Road_Max	Baseline	Surface Soil	Chromium	Haul Road_Max_Baseline_Surface Soil_Chromium	21	mg/kg	90th percentile of samples
10	Haul Road_Max	Baseline	Surface Soil	Cobalt	Haul Road_Max_Baseline_Surface Soil_Cobalt	10.2	mg/kg	90th percentile of samples
11	Haul Road_Max	Baseline	Surface Soil	Copper	Haul Road_Max_Baseline_Surface Soil_Copper	10	mg/kg	90th percentile of samples
12	Haul Road_Max	Baseline	Surface Soil	Lead	Haul Road_Max_Baseline_Surface Soil_Lead	16.4	mg/kg	90th percentile of samples
13	Haul Road_Max	Baseline	Surface Soil	Manganese	Haul Road_Max_Baseline_Surface Soil_Manganese	801	mg/kg	90th percentile of samples
14	Haul Road_Max	Baseline	Surface Soil	Mercury	Haul Road_Max_Baseline_Surface Soil_Mercury	0.1	mg/kg	90th percentile of samples
15	Haul Road_Max	Baseline	Surface Soil	Molybdenum	Haul Road_Max_Baseline_Surface Soil_Molybdenum	0.5	mg/kg	90th percentile of samples
16	Haul Road_Max	Baseline	Surface Soil	Nickel	Haul Road_Max_Baseline_Surface Soil_Nickel	14	mg/kg	90th percentile of samples
17	Haul Road_Max	Baseline	Surface Soil	Silver	Haul Road_Max_Baseline_Surface Soil_Silver	0.1	mg/kg	90th percentile of samples
18	Haul Road_Max	Baseline	Surface Soil	Strontium	Haul Road_Max_Baseline_Surface Soil_Strontium	9	mg/kg	90th percentile of samples
19	Haul Road_Max	Baseline	Surface Soil	Vanadium	Haul Road_Max_Baseline_Surface Soil_Vanadium	35	mg/kg	90th percentile of samples
20	Haul Road_Max	Baseline	Surface Soil	Zinc	Haul Road_Max_Baseline_Surface Soil_Zinc	36	mg/kg	90th percentile of samples
21	Haul Road_Max	Project	Surface Soil	Aluminum	Haul Road_Max_Project_Surface Soil_Aluminum	0	mg/kg	
22	Haul Road_Max	Project	Surface Soil	Antimony	Haul Road_Max_Project_Surface Soil_Antimony	0	mg/kg	
23	Haul Road_Max	Project	Surface Soil	Arsenic	Haul Road_Max_Project_Surface Soil_Arsenic	0	mg/kg	
24	Haul Road_Max	Project	Surface Soil	Arsenic_cancer	Haul Road_Max_Project_Surface Soil_Arsenic_cancer	0	mg/kg	
25	Haul Road_Max	Project	Surface Soil	Barium	Haul Road_Max_Project_Surface Soil_Barium	0	mg/kg	
26	Haul Road_Max	Project	Surface Soil	Beryllium	Haul Road_Max_Project_Surface Soil_Beryllium	0	mg/kg	
27	Haul Road_Max	Project	Surface Soil	Boron	Haul Road_Max_Project_Surface Soil_Boron	0	mg/kg	
28	Haul Road_Max	Project	Surface Soil	Cadmium	Haul Road_Max_Project_Surface Soil_Cadmium	0	mg/kg	
29	Haul Road_Max	Project	Surface Soil	Chromium	Haul Road_Max_Project_Surface Soil_Chromium	0	mg/kg	
30	Haul Road_Max	Project	Surface Soil	Cobalt	Haul Road_Max_Project_Surface Soil_Cobalt	0	mg/kg	
31	Haul Road_Max	Project	Surface Soil	Copper	Haul Road_Max_Project_Surface Soil_Copper	0	mg/kg	
32	Haul Road_Max	Project	Surface Soil	Lead	Haul Road_Max_Project_Surface Soil_Lead	0	mg/kg	
33	Haul Road_Max	Project	Surface Soil	Manganese	Haul Road_Max_Project_Surface Soil_Manganese	0	mg/kg	
34	Haul Road_Max	Project	Surface Soil	Mercury	Haul Road_Max_Project_Surface Soil_Mercury	0	mg/kg	
35	Haul Road_Max	Project	Surface Soil	Molybdenum	Haul Road_Max_Project_Surface Soil_Molybdenum	0	mg/kg	
36	Haul Road_Max	Project	Surface Soil	Nickel	Haul Road_Max_Project_Surface Soil_Nickel	0	mg/kg	
37	Haul Road_Max	Project	Surface Soil	Silver	Haul Road_Max_Project_Surface Soil_Silver	0	mg/kg	
38	Haul Road_Max	Project	Surface Soil	Strontium	Haul Road_Max_Project_Surface Soil_Strontium	0	mg/kg	
39	Haul Road_Max	Project	Surface Soil	Vanadium	Haul Road_Max_Project_Surface Soil_Vanadium	0	mg/kg	
40	Haul Road_Max	Project	Surface Soil	Zinc	Haul Road_Max_Project_Surface Soil_Zinc	0	mg/kg	
41	Haul Road_Max	Baseline	Berries	Aluminum	Haul Road_Max_Baseline_Berries_Aluminum	20.667	mg/kg-DW	90th percentile of samples
42	Haul Road_Max	Baseline	Berries	Antimony	Haul Road_Max_Baseline_Berries_Antimony	0.0167	mg/kg-DW	90th percentile of samples
43	Haul Road_Max	Baseline	Berries	Arsenic	Haul Road_Max_Baseline_Berries_Arsenic	0.0667	mg/kg-DW	90th percentile of samples
44	Haul Road_Max	Baseline	Berries	Arsenic_cancer	Haul Road_Max_Baseline_Berries_Arsenic_cancer	0.0667	mg/kg-DW	90th percentile of samples
45	Haul Road_Max	Baseline	Berries	Barium	Haul Road_Max_Baseline_Berries_Barium	17	mg/kg-DW	90th percentile of samples
46	Haul Road_Max	Baseline	Berries	Beryllium	Haul Road_Max_Baseline_Berries_Beryllium	0.0167	mg/kg-DW	90th percentile of samples
47	Haul Road_Max	Baseline	Berries	Boron	Haul Road_Max_Baseline_Berries_Boron	20.3	mg/kg-DW	90th percentile of samples
48	Haul Road_Max	Baseline	Berries	Cadmium	Haul Road_Max_Baseline_Berries_Cadmium	0.17867	mg/kg-DW	90th percentile of samples
49	Haul Road_Max	Baseline	Berries	Chromium	Haul Road_Max_Baseline_Berries_Chromium	0.533	mg/kg-DW	90th percentile of samples
50	Haul Road_Max	Baseline	Berries	Cobalt	Haul Road_Max_Baseline_Berries_Cobalt	0.16	mg/kg-DW	90th percentile of samples
51	Haul Road_Max	Baseline	Berries	Copper	Haul Road_Max_Baseline_Berries_Copper	7.73	mg/kg-DW	90th percentile of samples
52	Haul Road_Max	Baseline	Berries	Lead	Haul Road_Max_Baseline_Berries_Lead	0.02	mg/kg-DW	90th percentile of samples
53	Haul Road_Max	Baseline	Berries	Manganese	Haul Road_Max_Baseline_Berries_Manganese	648.7	mg/kg-DW	90th percentile of samples
54	Haul Road_Max	Baseline	Berries	Mercury	Haul Road_Max_Baseline_Berries_Mercury	0.0333	mg/kg-DW	90th percentile of samples
55	Haul Road_Max	Baseline	Berries	Molybdenum	Haul Road_Max_Baseline_Berries_Molybdenum	0.307	mg/kg-DW	90th percentile of samples
56	Haul Road_Max	Baseline	Berries	Nickel	Haul Road_Max_Baseline_Berries_Nickel	3.73	mg/kg-DW	90th percentile of samples
57	Haul Road_Max	Baseline	Berries	Silver	Haul Road_Max_Baseline_Berries_Silver	0.0167	mg/kg-DW	90th percentile of samples
58	Haul Road_Max	Baseline	Berries	Strontium	Haul Road_Max_Baseline_Berries_Strontium	24.8	mg/kg-DW	90th percentile of samples
59	Haul Road_Max	Baseline	Berries	Vanadium	Haul Road_Max_Baseline_Berries_Vanadium	0.0667	mg/kg-DW	90th percentile of samples
60	Haul Road_Max	Baseline	Berries	Zinc	Haul Road_Max_Baseline_Berries_Zinc	27.733	mg/kg-DW	90th percentile of samples
61	Haul Road_Max	Project	Berries	Aluminum	Haul Road_Max_Project_Berries_Aluminum	0	mg/kg-DW	
62	Haul Road_Max	Project	Berries	Antimony	Haul Road_Max_Project_Berries_Antimony	0	mg/kg-DW	
63	Haul Road_Max	Project	Berries	Arsenic	Haul Road_Max_Project_Berries_Arsenic	0	mg/kg-DW	
64	Haul Road_Max	Project	Berries	Arsenic_cancer	Haul Road_Max_Project_Berries_Arsenic_cancer	0	mg/kg-DW	
65	Haul Road_Max	Project	Berries	Barium	Haul Road_Max_Project_Berries_Barium	0	mg/kg-DW	
66	Haul Road_Max	Project	Berries	Beryllium	Haul Road_Max_Project_Berries_Beryllium	0	mg/kg-DW	
67	Haul Road_Max	Project	Berries	Boron	Haul Road_Max_Project_Berries_Boron	0	mg/kg-DW	
68	Haul Road_Max	Project	Berries	Cadmium	Haul Road_Max_Project_Berries_Cadmium	0	mg/kg-DW	
69	Haul Road_Max	Project	Berries	Chromium	Haul Road_Max_Project_Berries_Chromium	0	mg/kg-DW	
70	Haul Road_Max	Project	Berries	Cobalt	Haul Road_Max_Project_Berries_Cobalt	0	mg/kg-DW	
71	Haul Road_Max	Project	Berries	Copper	Haul Road_Max_Project_Berries_Copper	0	mg/kg-DW	
72	Haul Road_Max	Project	Berries	Lead	Haul Road_Max_Project_Berries_Lead	0	mg/kg-DW	
73	Haul Road_Max	Project	Berries	Manganese	Haul Road_Max_Project_Berries_Manganese	0	mg/kg-DW	
74	Haul Road_Max	Project	Berries	Mercury	Haul Road_Max_Project_Berries_Mercury	0	mg/kg-DW	
75	Haul Road_Max	Project	Berries	Molybdenum	Haul Road_Max_Project_Berries_Molybdenum	0	mg/kg-DW	
76	Haul Road_Max	Project	Berries	Nickel	Haul Road_Max_Project_Berries_Nickel	0	mg/kg-DW	
77	Haul Road_Max	Project	Berries	Silver	Haul Road_Max_Project_Berries_Silver	0	mg/kg-DW	
78	Haul Road_Max	Project	Berries	Strontium	Haul Road_Max_Project_Berries_Strontium	0	mg/kg-DW	
79	Haul Road_Max	Project	Berries	Vanadium	Haul Road_Max_Project_Berries_Vanadium	0	mg/kg-DW	
80	Haul Road_Max	Project	Berries	Zinc	Haul Road_Max_Project_Berries_Zinc	0	mg/kg-DW	
81	Haul Road_Max	Baseline	Leaves	Aluminum	Haul Road_Max_Baseline_Leaves_Aluminum	220.6	mg/kg-DW	90th percentile of samples
82	Haul Road_Max	Baseline	Leaves	Antimony	Haul Road_Max_Baseline_Leaves_Antimony	0.008	mg/kg-DW	90th percentile of samples
83	Haul Road_Max	Baseline	Leaves	Arsenic	Haul Road_Max_Baseline_Leaves_Arsenic	0.03125	mg/kg-DW	90th percentile of samples
84	Haul Road_Max	Baseline	Leaves	Arsenic_cancer	Haul Road_Max_Baseline_Leaves_Arsenic_cancer	0.03125	mg/kg-DW	90th percentile of samples
85	Haul Road_Max	Baseline	Leaves	Barium	Haul Road_Max_Baseline_Leaves_Barium	117	mg/kg-DW	90th percentile of samples
86	Haul Road_Max	Baseline	Leaves	Beryllium	Haul Road_Max_Baseline_Leaves_Beryllium	0.008	mg/kg-DW	90th percentile of samples
87	Haul Road_Max	Baseline	Leaves	Boron	Haul Road_Max_Baseline_Leaves_Boron	59.400	mg/kg-DW	90th percentile of samples
88	Haul Road_Max	Baseline	Leaves	Cadmium	Haul Road_Max_Baseline_Leaves_Cadmium	0.185	mg/kg-DW	90th percentile of samples
89	Haul Road_Max	Baseline	Leaves	Chromium	Haul Road_Max_Baseline_Leaves_Chromium	0.250	mg/kg-DW	90th percentile of samples
90	Haul Road_Max	Baseline	Leaves	Cobalt	Haul Road_Max_Baseline_Leaves_Cobalt	0.166	mg/kg-DW	90th percentile of samples
91	Haul Road_Max	Baseline	Leaves	Copper	Haul Road_Max_Baseline_Leaves_Copper	7.34	mg/kg-DW	90th percentile of samples
92	Haul Road_Max	Baseline	Leaves	Lead	Haul Road_Max_Baseline_Leaves_Lead	0.141	mg/kg-DW	90th percentile of samples
93	Haul Road_Max	Baseline	Leaves	Manganese	Haul Road_Max_Baseline_Leaves_Manganese	4469	mg/kg-DW	90th percentile of samples
94	Haul Road_Max	Baseline	Leaves	Mercury	Haul Road_Max_Baseline_Leaves_Mercury	0.0156	mg/kg-DW	90th percentile of samples
95	Haul Road_Max	Baseline	Leaves	Molybdenum	Haul Road_Max_Baseline_Leaves_Molybdenum	0.272	mg/kg-DW	90th percentile of samples
96	Haul Road_Max	Baseline	Leaves	Nickel	Haul Road_Max_Baseline_Leaves_Nickel	2.750	mg/kg-DW	90th percentile of samples
97	Haul Road_Max	Baseline	Leaves	Silver	Haul Road_Max_Baseline_Leaves_Silver	0.008	mg/kg-DW	90th percentile of samples
98	Haul Road_Max	Baseline	Leaves	Strontium	Haul Road_Max_Baseline_Leaves_Strontium	95.6	mg/kg-DW	90th percentile of samples

99	Haul Road_Max	Baseline	Leaves	Vanadium	Haul Road_Max_Baseline_Leaves_Vanadium	0.125	mg/kg-DW	90th percentile of samples
100	Haul Road_Max	Baseline	Leaves	Zinc	Haul Road_Max_Baseline_Leaves_Zinc	34.4	mg/kg-DW	90th percentile of samples
101	Haul Road_Max	Project	Leaves	Aluminum	Haul Road_Max_Project_Leaves_Aluminum	0	mg/kg-DW	
102	Haul Road_Max	Project	Leaves	Antimony	Haul Road_Max_Project_Leaves_Antimony	0	mg/kg-DW	
103	Haul Road_Max	Project	Leaves	Arsenic	Haul Road_Max_Project_Leaves_Arsenic	0	mg/kg-DW	
104	Haul Road_Max	Project	Leaves	Arsenic_cancer	Haul Road_Max_Project_Leaves_Arsenic_cancer	0	mg/kg-DW	
105	Haul Road_Max	Project	Leaves	Barium	Haul Road_Max_Project_Leaves_Barium	0	mg/kg-DW	
106	Haul Road_Max	Project	Leaves	Beryllium	Haul Road_Max_Project_Leaves_Beryllium	0	mg/kg-DW	
107	Haul Road_Max	Project	Leaves	Boron	Haul Road_Max_Project_Leaves_Boron	0	mg/kg-DW	
108	Haul Road_Max	Project	Leaves	Cadmium	Haul Road_Max_Project_Leaves_Cadmium	0	mg/kg-DW	
109	Haul Road_Max	Project	Leaves	Chromium	Haul Road_Max_Project_Leaves_Chromium	0	mg/kg-DW	
110	Haul Road_Max	Project	Leaves	Cobalt	Haul Road_Max_Project_Leaves_Cobalt	0	mg/kg-DW	
111	Haul Road_Max	Project	Leaves	Copper	Haul Road_Max_Project_Leaves_Copper	0	mg/kg-DW	
112	Haul Road_Max	Project	Leaves	Lead	Haul Road_Max_Project_Leaves_Lead	0	mg/kg-DW	
113	Haul Road_Max	Project	Leaves	Manganese	Haul Road_Max_Project_Leaves_Manganese	0	mg/kg-DW	
114	Haul Road_Max	Project	Leaves	Mercury	Haul Road_Max_Project_Leaves_Mercury	0	mg/kg-DW	
115	Haul Road_Max	Project	Leaves	Molybdenum	Haul Road_Max_Project_Leaves_Molybdenum	0	mg/kg-DW	
116	Haul Road_Max	Project	Leaves	Nickel	Haul Road_Max_Project_Leaves_Nickel	0	mg/kg-DW	
117	Haul Road_Max	Project	Leaves	Silver	Haul Road_Max_Project_Leaves_Silver	0	mg/kg-DW	
118	Haul Road_Max	Project	Leaves	Strontium	Haul Road_Max_Project_Leaves_Strontium	0	mg/kg-DW	
119	Haul Road_Max	Project	Leaves	Vanadium	Haul Road_Max_Project_Leaves_Vanadium	0	mg/kg-DW	
120	Haul Road_Max	Project	Leaves	Zinc	Haul Road_Max_Project_Leaves_Zinc	0	mg/kg-DW	
121	Haul Road_Average	Baseline	Soil	Aluminum	Haul Road_Average_Baseline_Soil_Aluminum	22400	mg/kg	90th percentile of samples
122	Haul Road_Average	Baseline	Soil	Antimony	Haul Road_Average_Baseline_Soil_Antimony	0.05	mg/kg	90th percentile of samples
123	Haul Road_Average	Baseline	Soil	Arsenic	Haul Road_Average_Baseline_Soil_Arsenic	10	mg/kg	90th percentile of samples
124	Haul Road_Average	Baseline	Soil	Arsenic_cancer	Haul Road_Average_Baseline_Soil_Arsenic_cancer	10	mg/kg	90th percentile of samples
125	Haul Road_Average	Baseline	Soil	Barium	Haul Road_Average_Baseline_Soil_Barium	35	mg/kg	90th percentile of samples
126	Haul Road_Average	Baseline	Soil	Beryllium	Haul Road_Average_Baseline_Soil_Beryllium	0.4	mg/kg	90th percentile of samples
127	Haul Road_Average	Baseline	Soil	Boron	Haul Road_Average_Baseline_Soil_Boron	3	mg/kg	90th percentile of samples
128	Haul Road_Average	Baseline	Soil	Cadmium	Haul Road_Average_Baseline_Soil_Cadmium	0.11	mg/kg	90th percentile of samples
129	Haul Road_Average	Baseline	Soil	Chromium	Haul Road_Average_Baseline_Soil_Chromium	21	mg/kg	90th percentile of samples
130	Haul Road_Average	Baseline	Soil	Cobalt	Haul Road_Average_Baseline_Soil_Cobalt	10.2	mg/kg	90th percentile of samples
131	Haul Road_Average	Baseline	Soil	Copper	Haul Road_Average_Baseline_Soil_Copper	10	mg/kg	90th percentile of samples
132	Haul Road_Average	Baseline	Soil	Lead	Haul Road_Average_Baseline_Soil_Lead	16.4	mg/kg	90th percentile of samples
133	Haul Road_Average	Baseline	Soil	Manganese	Haul Road_Average_Baseline_Soil_Manganese	801	mg/kg	90th percentile of samples
134	Haul Road_Average	Baseline	Soil	Mercury	Haul Road_Average_Baseline_Soil_Mercury	0.1	mg/kg	90th percentile of samples
135	Haul Road_Average	Baseline	Soil	Molybdenum	Haul Road_Average_Baseline_Soil_Molybdenum	0.5	mg/kg	90th percentile of samples
136	Haul Road_Average	Baseline	Soil	Nickel	Haul Road_Average_Baseline_Soil_Nickel	14	mg/kg	90th percentile of samples
137	Haul Road_Average	Baseline	Soil	Silver	Haul Road_Average_Baseline_Soil_Silver	0.1	mg/kg	90th percentile of samples
138	Haul Road_Average	Baseline	Soil	Strontium	Haul Road_Average_Baseline_Soil_Strontium	9	mg/kg	90th percentile of samples
139	Haul Road_Average	Baseline	Soil	Vanadium	Haul Road_Average_Baseline_Soil_Vanadium	35	mg/kg	90th percentile of samples
140	Haul Road_Average	Baseline	Soil	Zinc	Haul Road_Average_Baseline_Soil_Zinc	36	mg/kg	90th percentile of samples
141	Haul Road_Average	Project	Soil	Aluminum	Haul Road_Average_Project_Soil_Aluminum	0	mg/kg	
142	Haul Road_Average	Project	Soil	Antimony	Haul Road_Average_Project_Soil_Antimony	0	mg/kg	
143	Haul Road_Average	Project	Soil	Arsenic	Haul Road_Average_Project_Soil_Arsenic	0	mg/kg	
144	Haul Road_Average	Project	Soil	Arsenic_cancer	Haul Road_Average_Project_Soil_Arsenic_cancer	0	mg/kg	
145	Haul Road_Average	Project	Soil	Barium	Haul Road_Average_Project_Soil_Barium	0	mg/kg	
146	Haul Road_Average	Project	Soil	Beryllium	Haul Road_Average_Project_Soil_Beryllium	0	mg/kg	
147	Haul Road_Average	Project	Soil	Boron	Haul Road_Average_Project_Soil_Boron	0	mg/kg	
148	Haul Road_Average	Project	Soil	Cadmium	Haul Road_Average_Project_Soil_Cadmium	0	mg/kg	
149	Haul Road_Average	Project	Soil	Chromium	Haul Road_Average_Project_Soil_Chromium	0	mg/kg	
150	Haul Road_Average	Project	Soil	Cobalt	Haul Road_Average_Project_Soil_Cobalt	0	mg/kg	
151	Haul Road_Average	Project	Soil	Copper	Haul Road_Average_Project_Soil_Copper	0	mg/kg	
152	Haul Road_Average	Project	Soil	Lead	Haul Road_Average_Project_Soil_Lead	0	mg/kg	
153	Haul Road_Average	Project	Soil	Manganese	Haul Road_Average_Project_Soil_Manganese	0	mg/kg	
154	Haul Road_Average	Project	Soil	Mercury	Haul Road_Average_Project_Soil_Mercury	0	mg/kg	
155	Haul Road_Average	Project	Soil	Molybdenum	Haul Road_Average_Project_Soil_Molybdenum	0	mg/kg	
156	Haul Road_Average	Project	Soil	Nickel	Haul Road_Average_Project_Soil_Nickel	0	mg/kg	
157	Haul Road_Average	Project	Soil	Silver	Haul Road_Average_Project_Soil_Silver	0	mg/kg	
158	Haul Road_Average	Project	Soil	Strontium	Haul Road_Average_Project_Soil_Strontium	0	mg/kg	
159	Haul Road_Average	Project	Soil	Vanadium	Haul Road_Average_Project_Soil_Vanadium	0	mg/kg	
160	Haul Road_Average	Project	Soil	Zinc	Haul Road_Average_Project_Soil_Zinc	0	mg/kg	
121	Haul Road_Average	Baseline	Surface Soil	Aluminum	Haul Road_Average_Baseline_Surface Soil_Aluminum	22400	mg/kg	90th percentile of samples
122	Haul Road_Average	Baseline	Surface Soil	Antimony	Haul Road_Average_Baseline_Surface Soil_Antimony	0.05	mg/kg	90th percentile of samples
123	Haul Road_Average	Baseline	Surface Soil	Arsenic	Haul Road_Average_Baseline_Surface Soil_Arsenic	10	mg/kg	90th percentile of samples
124	Haul Road_Average	Baseline	Surface Soil	Arsenic_cancer	Haul Road_Average_Baseline_Surface Soil_Arsenic_cance	10	mg/kg	90th percentile of samples
125	Haul Road_Average	Baseline	Surface Soil	Barium	Haul Road_Average_Baseline_Surface Soil_Barium	35	mg/kg	90th percentile of samples
126	Haul Road_Average	Baseline	Surface Soil	Beryllium	Haul Road_Average_Baseline_Surface Soil_Beryllium	0.4	mg/kg	90th percentile of samples
127	Haul Road_Average	Baseline	Surface Soil	Boron	Haul Road_Average_Baseline_Surface Soil_Boron	3	mg/kg	90th percentile of samples
128	Haul Road_Average	Baseline	Surface Soil	Cadmium	Haul Road_Average_Baseline_Surface Soil_Cadmium	0.11	mg/kg	90th percentile of samples
129	Haul Road_Average	Baseline	Surface Soil	Chromium	Haul Road_Average_Baseline_Surface Soil_Chromium	21	mg/kg	90th percentile of samples
130	Haul Road_Average	Baseline	Surface Soil	Cobalt	Haul Road_Average_Baseline_Surface Soil_Cobalt	10.2	mg/kg	90th percentile of samples
131	Haul Road_Average	Baseline	Surface Soil	Copper	Haul Road_Average_Baseline_Surface Soil_Copper	10	mg/kg	90th percentile of samples
132	Haul Road_Average	Baseline	Surface Soil	Lead	Haul Road_Average_Baseline_Surface Soil_Lead	16.4	mg/kg	90th percentile of samples
133	Haul Road_Average	Baseline	Surface Soil	Manganese	Haul Road_Average_Baseline_Surface Soil_Manganese	801	mg/kg	90th percentile of samples
134	Haul Road_Average	Baseline	Surface Soil	Mercury	Haul Road_Average_Baseline_Surface Soil_Mercury	0.1	mg/kg	90th percentile of samples
135	Haul Road_Average	Baseline	Surface Soil	Molybdenum	Haul Road_Average_Baseline_Surface Soil_Molybdenum	0.5	mg/kg	90th percentile of samples
136	Haul Road_Average	Baseline	Surface Soil	Nickel	Haul Road_Average_Baseline_Surface Soil_Nickel	14	mg/kg	90th percentile of samples
137	Haul Road_Average	Baseline	Surface Soil	Silver	Haul Road_Average_Baseline_Surface Soil_Silver	0.1	mg/kg	90th percentile of samples
138	Haul Road_Average	Baseline	Surface Soil	Strontium	Haul Road_Average_Baseline_Surface Soil_Strontium	9	mg/kg	90th percentile of samples
139	Haul Road_Average	Baseline	Surface Soil	Vanadium	Haul Road_Average_Baseline_Surface Soil_Vanadium	35	mg/kg	90th percentile of samples
140	Haul Road_Average	Baseline	Surface Soil	Zinc	Haul Road_Average_Baseline_Surface Soil_Zinc	36	mg/kg	90th percentile of samples
141	Haul Road_Average	Project	Surface Soil	Aluminum	Haul Road_Average_Project_Surface Soil_Aluminum	0	mg/kg	
142	Haul Road_Average	Project	Surface Soil	Antimony	Haul Road_Average_Project_Surface Soil_Antimony	0	mg/kg	
143	Haul Road_Average	Project	Surface Soil	Arsenic	Haul Road_Average_Project_Surface Soil_Arsenic	0	mg/kg	
144	Haul Road_Average	Project	Surface Soil	Arsenic_cancer	Haul Road_Average_Project_Surface Soil_Arsenic_cancer	0	mg/kg	
145	Haul Road_Average	Project	Surface Soil	Barium	Haul Road_Average_Project_Surface Soil_Barium	0	mg/kg	
146	Haul Road_Average	Project	Surface Soil	Beryllium	Haul Road_Average_Project_Surface Soil_Beryllium	0	mg/kg	
147	Haul Road_Average	Project	Surface Soil	Boron	Haul Road_Average_Project_Surface Soil_Boron	0	mg/kg	
148	Haul Road_Average	Project	Surface Soil	Cadmium	Haul Road_Average_Project_Surface Soil_Cadmium	0	mg/kg	
149	Haul Road_Average	Project	Surface Soil	Chromium	Haul Road_Average_Project_Surface Soil_Chromium	0	mg/kg	
150	Haul Road_Average	Project	Surface Soil	Cobalt	Haul Road_Average_Project_Surface Soil_Cobalt	0	mg/kg	
151	Haul Road_Average	Project	Surface Soil	Copper	Haul Road_Average_Project_Surface Soil_Copper	0	mg/kg	
152	Haul Road_Average	Project	Surface Soil	Lead	Haul Road_Average_Project_Surface Soil_Lead	0	mg/kg	
153	Haul Road_Average	Project	Surface Soil	Manganese	Haul Road_Average_Project_Surface Soil_Manganese	0	mg/kg	
154	Haul Road_Average	Project	Surface Soil	Mercury	Haul Road_Average_Project_Surface Soil_Mercury	0	mg/kg	
155	Haul Road_Average	Project	Surface Soil	Molybdenum	Haul Road_Average_Project_Surface Soil_Molybdenum	0	mg/kg	
156	Haul Road_Average	Project	Surface Soil	Nickel	Haul Road_Average_Project_Surface Soil_Nickel	0	mg/kg	
157	Haul Road_Average	Project	Surface Soil	Silver	Haul Road_Average_Project_Surface Soil_Silver	0	mg/kg	
158	Haul Road_Average	Project	Surface Soil	Strontium	Haul Road_Average_Project_Surface Soil_Strontium	0	mg/kg	
159	Haul Road_Average	Project	Surface Soil	Vanadium	Haul Road_Average_Project_Surface Soil_Vanadium	0	mg/kg	
160	Haul Road_Average	Project	Surface Soil	Zinc	Haul Road_Average_Project_Surface Soil_Zinc	0	mg/kg	
161	Haul Road_Average	Baseline	Berries	Aluminum	Haul Road_Average_Baseline_Berries_Aluminum	20.667	mg/kg-DW	90th percentile of samples
162	Haul Road_Average	Baseline	Berries	Antimony	Haul Road_Average_Baseline_Berries_Antimony	0.0167	mg/kg-DW	90th percentile of samples
163	Haul Road_Average	Baseline	Berries	Arsenic	Haul Road_Average_Baseline_Berries_Arsenic	0.0667	mg/kg-DW	90th percentile of samples
164	Haul Road_Average	Baseline	Berries	Arsenic_cancer	Haul Road_Average_Baseline_Berries_Arsenic_cancer	0.0667	mg/kg-DW	90th percentile of samples
165	Haul Road_Average	Baseline	Berries	Barium	Haul Road_Average_Baseline_Berries_Barium	17	mg/kg-DW	90th percentile of samples
166	Haul Road_Average	Baseline	Berries	Beryllium	Haul Road_Average_Baseline_Berries_Beryllium	0.0167	mg/kg-DW	90th percentile of samples
167	Haul Road_Average	Baseline	Berries	Boron	Haul Road_Average_Baseline_Berries_Boron	20.3	mg/kg-DW	90th percentile of samples
168	Haul Road_Average	Baseline	Berries	Cadmium	Haul Road_Average_Baseline_Berries_Cadmium	0.17867	mg/kg-DW	90th percentile of samples
169	Haul Road_Average	Baseline	Berries	Chromium	Haul Road_Average_Baseline_Berries_Chromium	0.533	mg/kg-DW	90th percentile of samples
170	Haul Road_Average	Baseline	Berries	Cobalt	Haul Road_Average_Baseline_Berries_Cobalt	0.16	mg/kg-DW	90th percentile of samples
171	Haul Road_Average	Baseline	Berries	Copper	Haul Road_Average_Baseline_Berries_Copper	7.73	mg/kg-DW	90th percentile of samples
172	Haul Road_Average	Baseline	Berries	Lead	Haul Road_Average_Baseline_Berries_Lead	0.02	mg/kg-DW	90th percentile of samples
173	Haul Road_Average	Baseline	Berries	Manganese	Haul Road_Average_Baseline_Berries_Manganese	648.7	mg/kg-DW	90th percentile of samples
174	Haul Road_Average	Baseline	Berries	Mercury	Haul Road_Average_Baseline_Berries_Mercury	0.0333	mg/kg-DW	90th percentile of samples
175	Haul Road_Average	Baseline	Berries	Molybdenum	Haul Road_Average_Baseline_Berries_Molybdenum	0.307	mg/kg-DW	90th percentile of samples
176	Haul Road_Average	Baseline	Berries	Nickel	Haul Road_Average_Baseline_Berries_Nickel	3.73	mg/kg-DW	90th percentile of samples
177	Haul Road_Average	Baseline	Berries	Silver	Haul Road_Average_Baseline_Berries_Silver	0.0167	mg/kg-DW	90th percentile of samples
178	Haul Road_Average	Baseline	Berries	Strontium	Haul Road_Average_Baseline_Berries_Strontium	24.8	mg/kg-DW	90th percentile of samples
179	Haul Road_Average	Baseline	Berries	Vanadium	Haul Road_Average_Baseline_Berries_Vanadium	0.0667	mg/kg-DW	90th percentile of samples
180	Haul Road_Average	Baseline	Berries	Zinc	Haul Road_Average_Baseline_Berries_Zinc	27.733	mg/kg-DW	90th percentile of samples
181	Haul Road_Average	Project	Berries	Aluminum	Haul Road_Average_Project_Berries_Aluminum	0	mg/kg-DW	
182	Haul Road_Average	Project	Berries	Antimony	Haul Road_Average_Project_Berries_Antimony	0	mg/kg-DW	
183	Haul Road_Average	Project	Berries	Arsenic	Haul Road_Average_Project_Berries_Arsenic	0	mg/kg-DW	
184	Haul Road_Average	Project	Berries	Arsenic_cancer	Haul Road_Average_Project_Berries_Arsenic_cancer	0	mg/kg-DW	
185	Haul Road_Average	Project	Berries	Barium	Haul Road_Average_Project_Berries_Barium	0	mg/kg-DW	
186	Haul Road_Average	Project	Berries	Beryllium	Haul Road_Average_Project_Berries_Beryllium	0	mg/kg-DW	
187	Haul Road_Average	Project	Berries	Boron	Haul Road_Average_Project_Berries_Boron	0	mg/kg-DW	
188	Haul Road_Average	Project	Berries	Cadmium	Haul Road_Average_Project_Berries_Cadmium	0	mg/kg-DW	
189	Haul Road_Average	Project	Berries	Chromium	Haul Road_Average_Project_Berries_Chromium	0	mg/kg-DW	
190	Haul Road_Average	Project	Berries	Cobalt	Haul Road_Average_Project_Berries_Cobalt	0	mg/kg-DW	
191	Haul Road_Average	Project	Berries	Copper	Haul Road_Average_Project_Berries_Copper	0	mg/kg-DW	
192	Haul Road_Average	Project	Berries	Lead	Haul Road_Average_Project_Berries_Lead	0	mg/kg-DW	
193	Haul Road_Average	Project	Berries	Manganese	Haul Road_Average_Project_Berries_Manganese	0	mg/kg-DW	
194	Haul Road_Average	Project	Berries	Mercury	Haul Road_Average_Project_Berries_Mercury	0	mg/kg-DW	
195	Haul Road_Average	Project	Berries	Molybdenum	Haul Road_Average_Project_Berries_Molybdenum	0	mg/kg-DW	
196	Haul Road_Average	Project	Berries	Nickel	Haul Road_Average_Project_Berries_Nickel	0	mg/kg-DW	
197	Haul Road_Average	Project	Berries	Silver	Haul Road_Average_Project_Berries_Silver	0	mg/kg-DW	
198	Haul Road_Average	Project	Berries	Strontium	Haul Road_Average_Project_Berries_Strontium	0	mg/kg-DW	

199	Haul Road_Average	Project	Berries	Vanadium	Haul Road_Average_Project_Berries_Vanadium	0	mg/kg-DW	
200	Haul Road_Average	Project	Berries	Zinc	Haul Road_Average_Project_Berries_Zinc	0	mg/kg-DW	
201	Haul Road_Average	Baseline	Leaves	Aluminum	Haul Road_Average_Baseline_Leaves_Aluminum	220.6	mg/kg-DW	90th percentile of samples
202	Haul Road_Average	Baseline	Leaves	Antimony	Haul Road_Average_Baseline_Leaves_Antimony	0.00781	mg/kg-DW	90th percentile of samples
203	Haul Road_Average	Baseline	Leaves	Arsenic	Haul Road_Average_Baseline_Leaves_Arsenic	0.03125	mg/kg-DW	90th percentile of samples
204	Haul Road_Average	Baseline	Leaves	Arsenic_cancer	Haul Road_Average_Baseline_Leaves_Arsenic_cancer	0.03125	mg/kg-DW	90th percentile of samples
205	Haul Road_Average	Baseline	Leaves	Barium	Haul Road_Average_Baseline_Leaves_Barium	116.9	mg/kg-DW	90th percentile of samples
206	Haul Road_Average	Baseline	Leaves	Beryllium	Haul Road_Average_Baseline_Leaves_Beryllium	0.00781	mg/kg-DW	90th percentile of samples
207	Haul Road_Average	Baseline	Leaves	Boron	Haul Road_Average_Baseline_Leaves_Boron	59.4	mg/kg-DW	90th percentile of samples
208	Haul Road_Average	Baseline	Leaves	Cadmium	Haul Road_Average_Baseline_Leaves_Cadmium	0.185	mg/kg-DW	90th percentile of samples
209	Haul Road_Average	Baseline	Leaves	Chromium	Haul Road_Average_Baseline_Leaves_Chromium	0.25	mg/kg-DW	90th percentile of samples
210	Haul Road_Average	Baseline	Leaves	Cobalt	Haul Road_Average_Baseline_Leaves_Cobalt	0.166	mg/kg-DW	90th percentile of samples
211	Haul Road_Average	Baseline	Leaves	Copper	Haul Road_Average_Baseline_Leaves_Copper	7.34	mg/kg-DW	90th percentile of samples
212	Haul Road_Average	Baseline	Leaves	Lead	Haul Road_Average_Baseline_Leaves_Lead	0.1406	mg/kg-DW	90th percentile of samples
213	Haul Road_Average	Baseline	Leaves	Manganese	Haul Road_Average_Baseline_Leaves_Manganese	4469	mg/kg-DW	90th percentile of samples
214	Haul Road_Average	Baseline	Leaves	Mercury	Haul Road_Average_Baseline_Leaves_Mercury	0.01563	mg/kg-DW	90th percentile of samples
215	Haul Road_Average	Baseline	Leaves	Molybdenum	Haul Road_Average_Baseline_Leaves_Molybdenum	0.272	mg/kg-DW	90th percentile of samples
216	Haul Road_Average	Baseline	Leaves	Nickel	Haul Road_Average_Baseline_Leaves_Nickel	2.75	mg/kg-DW	90th percentile of samples
217	Haul Road_Average	Baseline	Leaves	Silver	Haul Road_Average_Baseline_Leaves_Silver	0.00781	mg/kg-DW	90th percentile of samples
218	Haul Road_Average	Baseline	Leaves	Strontium	Haul Road_Average_Baseline_Leaves_Strontium	95.6	mg/kg-DW	90th percentile of samples
219	Haul Road_Average	Baseline	Leaves	Vanadium	Haul Road_Average_Baseline_Leaves_Vanadium	0.125	mg/kg-DW	90th percentile of samples
220	Haul Road_Average	Baseline	Leaves	Zinc	Haul Road_Average_Baseline_Leaves_Zinc	34.4	mg/kg-DW	90th percentile of samples
221	Haul Road_Average	Project	Leaves	Aluminum	Haul Road_Average_Project_Leaves_Aluminum	0	mg/kg-DW	
222	Haul Road_Average	Project	Leaves	Antimony	Haul Road_Average_Project_Leaves_Antimony	0	mg/kg-DW	
223	Haul Road_Average	Project	Leaves	Arsenic	Haul Road_Average_Project_Leaves_Arsenic	0	mg/kg-DW	
224	Haul Road_Average	Project	Leaves	Arsenic_cancer	Haul Road_Average_Project_Leaves_Arsenic_cancer	0	mg/kg-DW	
225	Haul Road_Average	Project	Leaves	Barium	Haul Road_Average_Project_Leaves_Barium	0	mg/kg-DW	
226	Haul Road_Average	Project	Leaves	Beryllium	Haul Road_Average_Project_Leaves_Beryllium	0	mg/kg-DW	
227	Haul Road_Average	Project	Leaves	Boron	Haul Road_Average_Project_Leaves_Boron	0	mg/kg-DW	
228	Haul Road_Average	Project	Leaves	Cadmium	Haul Road_Average_Project_Leaves_Cadmium	0	mg/kg-DW	
229	Haul Road_Average	Project	Leaves	Chromium	Haul Road_Average_Project_Leaves_Chromium	0	mg/kg-DW	
230	Haul Road_Average	Project	Leaves	Cobalt	Haul Road_Average_Project_Leaves_Cobalt	0	mg/kg-DW	
231	Haul Road_Average	Project	Leaves	Copper	Haul Road_Average_Project_Leaves_Copper	0	mg/kg-DW	
232	Haul Road_Average	Project	Leaves	Lead	Haul Road_Average_Project_Leaves_Lead	0	mg/kg-DW	
233	Haul Road_Average	Project	Leaves	Manganese	Haul Road_Average_Project_Leaves_Manganese	0	mg/kg-DW	
234	Haul Road_Average	Project	Leaves	Mercury	Haul Road_Average_Project_Leaves_Mercury	0	mg/kg-DW	
235	Haul Road_Average	Project	Leaves	Molybdenum	Haul Road_Average_Project_Leaves_Molybdenum	0	mg/kg-DW	
236	Haul Road_Average	Project	Leaves	Nickel	Haul Road_Average_Project_Leaves_Nickel	0	mg/kg-DW	
237	Haul Road_Average	Project	Leaves	Silver	Haul Road_Average_Project_Leaves_Silver	0	mg/kg-DW	
238	Haul Road_Average	Project	Leaves	Strontium	Haul Road_Average_Project_Leaves_Strontium	0	mg/kg-DW	
239	Haul Road_Average	Project	Leaves	Vanadium	Haul Road_Average_Project_Leaves_Vanadium	0	mg/kg-DW	
240	Haul Road_Average	Project	Leaves	Zinc	Haul Road_Average_Project_Leaves_Zinc	0	mg/kg-DW	
241	Haul Road_Max	Baseline	Water	Aluminum	Haul Road_Max_Baseline_Water_Aluminum	0.244	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
242	Haul Road_Max	Baseline	Water	Antimony	Haul Road_Max_Baseline_Water_Antimony	0.0005	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
243	Haul Road_Max	Baseline	Water	Arsenic	Haul Road_Max_Baseline_Water_Arsenic	0.00181	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
244	Haul Road_Max	Baseline	Water	Arsenic_cancer	Haul Road_Max_Baseline_Water_Arsenic_cancer	0.00181	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
245	Haul Road_Max	Baseline	Water	Barium	Haul Road_Max_Baseline_Water_Barium	0.00336	mg/L	Mean baseline concentration from Killag River (chemical only analyzed in 2019/2020 samples)
246	Haul Road_Max	Baseline	Water	Beryllium	Haul Road_Max_Baseline_Water_Beryllium	0.0005	mg/L	Mean baseline concentration from Killag River (chemical only analyzed in 2019/2020 samples)
247	Haul Road_Max	Baseline	Water	Boron	Haul Road_Max_Baseline_Water_Boron	0.025	mg/L	Mean baseline concentration from Killag River (chemical only analyzed in 2019/2020 samples)
248	Haul Road_Max	Baseline	Water	Cadmium	Haul Road_Max_Baseline_Water_Cadmium	0.00002	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
249	Haul Road_Max	Baseline	Water	Chromium	Haul Road_Max_Baseline_Water_Chromium	0.0007	mg/L	Mean baseline concentration from Killag River (chemical only analyzed in 2019/2020 samples)
250	Haul Road_Max	Baseline	Water	Cobalt	Haul Road_Max_Baseline_Water_Cobalt	0.00027	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
251	Haul Road_Max	Baseline	Water	Copper	Haul Road_Max_Baseline_Water_Copper	0.00071	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
252	Haul Road_Max	Baseline	Water	Lead	Haul Road_Max_Baseline_Water_Lead	0.00031	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
253	Haul Road_Max	Baseline	Water	Manganese	Haul Road_Max_Baseline_Water_Manganese	0.0447	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
254	Haul Road_Max	Baseline	Water	Mercury	Haul Road_Max_Baseline_Water_Mercury	7.07E-06	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
255	Haul Road_Max	Baseline	Water	Molybdenum	Haul Road_Max_Baseline_Water_Molybdenum	0.0024	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
256	Haul Road_Max	Baseline	Water	Nickel	Haul Road_Max_Baseline_Water_Nickel	0.00111	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
257	Haul Road_Max	Baseline	Water	Silver	Haul Road_Max_Baseline_Water_Silver	0.00005	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
258	Haul Road_Max	Baseline	Water	Strontium	Haul Road_Max_Baseline_Water_Strontium	0.00626	mg/L	Mean baseline concentration from Killag River (chemical only analyzed in 2019/2020 samples)
259	Haul Road_Max	Baseline	Water	Vanadium	Haul Road_Max_Baseline_Water_Vanadium	0.001	mg/L	Mean baseline concentration from Killag River (chemical only analyzed in 2019/2020 samples)
260	Haul Road_Max	Baseline	Water	Zinc	Haul Road_Max_Baseline_Water_Zinc	0.00348	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
261	Haul Road_Max	Project	Water	Aluminum	Haul Road_Max_Project_Water_Aluminum	0	mg/L	Calculated project case concentration is less than '0'; therefore, assumed concentration is '0'
262	Haul Road_Max	Project	Water	Antimony	Haul Road_Max_Project_Water_Antimony	0	mg/L	Calculated project case concentration is less than '0'; therefore, assumed concentration is '0'
263	Haul Road_Max	Project	Water	Arsenic	Haul Road_Max_Project_Water_Arsenic	0.00109883	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
264	Haul Road_Max	Project	Water	Arsenic_cancer	Haul Road_Max_Project_Water_Arsenic_cancer	0.00109883	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
265	Haul Road_Max	Project	Water	Barium	Haul Road_Max_Project_Water_Barium	0	mg/L	not predicted
266	Haul Road_Max	Project	Water	Beryllium	Haul Road_Max_Project_Water_Beryllium	0	mg/L	not predicted
267	Haul Road_Max	Project	Water	Boron	Haul Road_Max_Project_Water_Boron	0	mg/L	not predicted
268	Haul Road_Max	Project	Water	Cadmium	Haul Road_Max_Project_Water_Cadmium	3.797E-06	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
269	Haul Road_Max	Project	Water	Chromium	Haul Road_Max_Project_Water_Chromium	0	mg/L	not predicted
270	Haul Road_Max	Project	Water	Cobalt	Haul Road_Max_Project_Water_Cobalt	0.00027278	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
271	Haul Road_Max	Project	Water	Copper	Haul Road_Max_Project_Water_Copper	0.0001862	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
272	Haul Road_Max	Project	Water	Lead	Haul Road_Max_Project_Water_Lead	7.5334E-05	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
273	Haul Road_Max	Project	Water	Manganese	Haul Road_Max_Project_Water_Manganese	0.00390201	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
274	Haul Road_Max	Project	Water	Mercury	Haul Road_Max_Project_Water_Mercury	1.69E-06	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
275	Haul Road_Max	Project	Water	Molybdenum	Haul Road_Max_Project_Water_Molybdenum	0.00160394	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
276	Haul Road_Max	Project	Water	Nickel	Haul Road_Max_Project_Water_Nickel	0.00293856	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
277	Haul Road_Max	Project	Water	Silver	Haul Road_Max_Project_Water_Silver	1.1096E-06	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
278	Haul Road_Max	Project	Water	Strontium	Haul Road_Max_Project_Water_Strontium	0	mg/L	not predicted
279	Haul Road_Max	Project	Water	Vanadium	Haul Road_Max_Project_Water_Vanadium	0	mg/L	not predicted
280	Haul Road_Max	Project	Water	Zinc	Haul Road_Max_Project_Water_Zinc	0.00173484	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
281	Haul Road_Average	Baseline	Water	Aluminum	Haul Road_Average_Baseline_Water_Aluminum	0.244	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
282	Haul Road_Average	Baseline	Water	Antimony	Haul Road_Average_Baseline_Water_Antimony	0.0005	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
283	Haul Road_Average	Baseline	Water	Arsenic	Haul Road_Average_Baseline_Water_Arsenic	0.00181	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
284	Haul Road_Average	Baseline	Water	Arsenic_cancer	Haul Road_Average_Baseline_Water_Arsenic_cancer	0.00181	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
285	Haul Road_Average	Baseline	Water	Barium	Haul Road_Average_Baseline_Water_Barium	0.00336	mg/L	Mean baseline concentration from Killag River (chemical only analyzed in 2019/2020 samples)
286	Haul Road_Average	Baseline	Water	Beryllium	Haul Road_Average_Baseline_Water_Beryllium	0.0005	mg/L	Mean baseline concentration from Killag River (chemical only analyzed in 2019/2020 samples)
287	Haul Road_Average	Baseline	Water	Boron	Haul Road_Average_Baseline_Water_Boron	0.025	mg/L	Mean baseline concentration from Killag River (chemical only analyzed in 2019/2020 samples)
288	Haul Road_Average	Baseline	Water	Cadmium	Haul Road_Average_Baseline_Water_Cadmium	0.00002	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
289	Haul Road_Average	Baseline	Water	Chromium	Haul Road_Average_Baseline_Water_Chromium	0.0007	mg/L	Mean baseline concentration from Killag River (chemical only analyzed in 2019/2020 samples)
290	Haul Road_Average	Baseline	Water	Cobalt	Haul Road_Average_Baseline_Water_Cobalt	0.00027	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
291	Haul Road_Average	Baseline	Water	Copper	Haul Road_Average_Baseline_Water_Copper	0.00071	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
292	Haul Road_Average	Baseline	Water	Lead	Haul Road_Average_Baseline_Water_Lead	0.00031	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
293	Haul Road_Average	Baseline	Water	Manganese	Haul Road_Average_Baseline_Water_Manganese	0.0447	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
294	Haul Road_Average	Baseline	Water	Mercury	Haul Road_Average_Baseline_Water_Mercury	7.07E-06	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
295	Haul Road_Average	Baseline	Water	Molybdenum	Haul Road_Average_Baseline_Water_Molybdenum	0.0024	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
296	Haul Road_Average	Baseline	Water	Nickel	Haul Road_Average_Baseline_Water_Nickel	0.00111	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
297	Haul Road_Average	Baseline	Water	Silver	Haul Road_Average_Baseline_Water_Silver	0.00005	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
298	Haul Road_Average	Baseline	Water	Strontium	Haul Road_Average_Baseline_Water_Strontium	0.00626	mg/L	Mean baseline concentration from Killag River (chemical only analyzed in 2019/2020 samples)
299	Haul Road_Average	Baseline	Water	Vanadium	Haul Road_Average_Baseline_Water_Vanadium	0.001	mg/L	Mean baseline concentration from Killag River (chemical only analyzed in 2019/2020 samples)
300	Haul Road_Average	Baseline	Water	Zinc	Haul Road_Average_Baseline_Water_Zinc	0.00348	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
301	Haul Road_Average	Project	Water	Aluminum	Haul Road_Average_Project_Water_Aluminum	0	mg/L	Calculated project case concentration is less than '0'; therefore, assumed concentration is '0'
302	Haul Road_Average	Project	Water	Antimony	Haul Road_Average_Project_Water_Antimony	0	mg/L	Calculated project case concentration is less than '0'; therefore, assumed concentration is '0'
303	Haul Road_Average	Project	Water	Arsenic	Haul Road_Average_Project_Water_Arsenic	0.00109883	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
304	Haul Road_Average	Project	Water	Arsenic_cancer	Haul Road_Average_Project_Water_Arsenic_cancer	0.00109883	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
305	Haul Road_Average	Project	Water	Barium	Haul Road_Average_Project_Water_Barium	0	mg/L	not predicted
306	Haul Road_Average	Project	Water	Beryllium	Haul Road_Average_Project_Water_Beryllium	0	mg/L	not predicted
307	Haul Road_Average	Project	Water	Boron	Haul Road_Average_Project_Water_Boron	0	mg/L	not predicted
308	Haul Road_Average	Project	Water	Cadmium	Haul Road_Average_Project_Water_Cadmium	3.797E-06	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
309	Haul Road_Average	Project	Water	Chromium	Haul Road_Average_Project_Water_Chromium	0	mg/L	not predicted
310	Haul Road_Average	Project	Water	Cobalt	Haul Road_Average_Project_Water_Cobalt	0.00027278	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
311	Haul Road_Average	Project	Water	Copper	Haul Road_Average_Project_Water_Copper	0.0001862	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
312	Haul Road_Average	Project	Water	Lead	Haul Road_Average_Project_Water_Lead	7.5334E-05	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
313	Haul Road_Average	Project	Water	Manganese	Haul Road_Average_Project_Water_Manganese	0.00390201	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
314	Haul Road_Average	Project	Water	Mercury	Haul Road_Average_Project_Water_Mercury	1.69E-06	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
315	Haul Road_Average	Project	Water	Molybdenum	Haul Road_Average_Project_Water_Molybdenum	0.00160394	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
316	Haul Road_Average	Project	Water	Nickel	Haul Road_Average_Project_Water_Nickel	0.00293856	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
317	Haul Road_Average	Project	Water	Silver	Haul Road_Average_Project_Water_Silver	1.1096E-06	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
318	Haul Road_Average	Project	Water	Strontium	Haul Road_Average_Project_Water_Strontium	0	mg/L	not predicted
319	Haul Road_Average	Project	Water	Vanadium	Haul Road_Average_Project_Water_Vanadium	0	mg/L	not predicted
320	Haul Road_Average	Project	Water	Zinc	Haul Road_Average_Project_Water_Zinc	0.00173484	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
321	Haul Road_Max	Baseline	Soil	Methylmercury	Haul Road_Max_Baseline_Soil_Methylmercury	2.00E-03	mg/kg	Assumed 2% of total mercury (US EPA 2005)
322	Haul Road_Max	Project	Soil	Methylmercury	Haul Road_Max_Project_Soil_Methylmercury	0.00E+00	mg/kg	Assumed 2% of total mercury (US EPA 2005)
323	Haul Road_Max	Baseline	Surface Soil	Methylmercury	Haul Road_Max_Baseline_Surface Soil_Methylmercury	2.00E-03	mg/kg	Assumed 2% of total mercury (US EPA 2005)
324	Haul Road_Max	Project	Surface Soil	Methylmercury	Haul Road_Max_Project_Surface Soil_Methylmercury	0.00E+00	mg/kg	Assumed 2% of total mercury (US EPA 2005)
325	Haul Road_Average	Baseline	Soil	Methylmercury	Haul Road_Average_Baseline_Soil_Methylmercury	2.00E-03	mg/kg	Assumed 2% of total mercury (US EPA 2005)
326	Haul Road_Average	Project	Soil	Methylmercury	Haul Road_Average_Project_Soil_Methylmercury	0.00E+00	mg/kg	Assumed 2% of total mercury (US EPA 2005)
327	Haul Road_Average	Baseline	Surface Soil	Methylmercury	Haul Road_Average_Baseline_Surface Soil_Methylmercur	2.00E-03	mg/kg	Assumed 2% of total mercury (US EPA 2005)
328	Haul Road_Average	Project	Surface Soil	Methylmercury	Haul Road_Average_Project_Surface Soil_Methylmercury	0.00E+00	mg/kg	Assumed 2% of total mercury (US EPA 2005)
329	Haul Road_Max	Baseline	Water	Methylmercury	Haul Road_Max_Baseline_Water_Methylmercury	4.17E-07	mg/L	Assumed 5.9% of mercury (95UCLM; Krabbenhoft et al., 1999)
330	Haul Road_Max	Project	Water	Methylmercury	Haul Road_Max_Project_Water_Methylmercury	1.00E-07	mg/L	Assumed 5.9% of mercury (95UCLM; Krabbenhoft et al., 1999)
331	Haul Road_Average	Baseline	Water	Methylmercury	Haul Road_Average_Baseline_Water_Methylmercury	4.17E-07	mg/L	Assumed 5.9% of mercury (95UCLM; Krabbenhoft et al., 1999)
332	Haul Road_Average	Project	Water	Methylmercury	Haul Road_Average_Project_Water_Methylmercury	1.00E-07	mg/L	Assumed 5.9% of mercury (95UCLM; Krabbenhoft et al., 1999)

Bio-concentration Factors (BCFs)

Media	COPC	Abbreviation	Uptake Factor	Units	Comment
Berries	Aluminum	Berries_Aluminum	0.000922634	DW Basis	Based on site-specific data
Berries	Antimony	Berries_Antimony	0.0319	DW Basis	COPC 100% ND in berries; BCF based on US EPA OSW 2005
Berries	Arsenic	Berries_Arsenic	0.00633	DW Basis	COPC 100% ND in berries; BCF based on US EPA OSW 2005
Berries	Arsenic_cancer	Berries_Arsenic_cancer	0.00633	DW Basis	COPC 100% ND in berries; BCF based on US EPA OSW 2005
Berries	Barium	Berries_Barium	0.485714286	DW Basis	Based on site-specific data
Berries	Beryllium	Berries_Beryllium	0.00258	DW Basis	COPC 100% ND in berries; BCF based on US EPA OSW 2005
Berries	Boron	Berries_Boron	6.766666667	DW Basis	Based on site-specific data
Berries	Cadmium	Berries_Cadmium	1.624272727	DW Basis	Based on site-specific data
Berries	Chromium	Berries_Chromium	0.025380952	DW Basis	Based on site-specific data
Berries	Cobalt	Berries_Cobalt	0.015686275	DW Basis	Based on site-specific data
Berries	Copper	Berries_Copper	0.773	DW Basis	Based on site-specific data
Berries	Lead	Berries_Lead	0.001219512	DW Basis	Based on site-specific data
Berries	Manganese	Berries_Manganese	0.809862672	DW Basis	Based on site-specific data
Berries	Mercury	Berries_Mercury	0.9	DW Basis	COPC 100% ND in berries; BCF based on Baes et al. 1984
Berries	Methylmercury	Berries_Methylmercury	0.198	DW Basis	Assumed 22% of total mercury for plants (US EPA 2005)
Berries	Molybdenum	Berries_Molybdenum	0.614	DW Basis	Based on site-specific data
Berries	Nickel	Berries_Nickel	0.266428571	DW Basis	Based on site-specific data
Berries	Silver	Berries_Silver	0.138	DW Basis	COPC 100% ND in berries; BCF based on US EPA OSW 2005
Berries	Strontium	Berries_Strontium	2.755555556	DW Basis	Based on site-specific data
Berries	Vanadium	Berries_Vanadium	0.0055	DW Basis	COPC 100% ND in berries; BCF based on Baes et al. 1984
Berries	Zinc	Berries_Zinc	0.770361111	DW Basis	Based on site-specific data
Leaves	Aluminum	Leaves_Aluminum	0.009848214	DW Basis	Based on site-specific data
Leaves	Antimony	Leaves_Antimony	0.2	DW Basis	COPC 100% ND in leaves; BCF based on US EPA OSW 2005
Leaves	Arsenic	Leaves_Arsenic	0.003125	DW Basis	Based on site-specific data
Leaves	Arsenic_cancer	Leaves_Arsenic_cancer	0.003125	DW Basis	Based on site-specific data
Leaves	Barium	Leaves_Barium	3.34	DW Basis	Based on site-specific data
Leaves	Beryllium	Leaves_Beryllium	0.01	DW Basis	COPC 100% ND in leaves; BCF based on US EPA OSW 2005
Leaves	Boron	Leaves_Boron	19.8	DW Basis	Based on site-specific data
Leaves	Cadmium	Leaves_Cadmium	1.681818182	DW Basis	Based on site-specific data
Leaves	Chromium	Leaves_Chromium	0.011904762	DW Basis	Based on site-specific data
Leaves	Cobalt	Leaves_Cobalt	0.01627451	DW Basis	Based on site-specific data
Leaves	Copper	Leaves_Copper	0.734	DW Basis	Based on site-specific data
Leaves	Lead	Leaves_Lead	0.008573171	DW Basis	Based on site-specific data
Leaves	Manganese	Leaves_Manganese	5.579275905	DW Basis	Based on site-specific data
Leaves	Mercury	Leaves_Mercury	0.9	DW Basis	COPC 100% ND in leaves; BCF based on Baes et al. 1984
Leaves	Methylmercury	Leaves_Methylmercury	0.198	DW Basis	Assumed 22% of total mercury for plants (US EPA 2005)
Leaves	Molybdenum	Leaves_Molybdenum	0.544	DW Basis	Based on site-specific data
Leaves	Nickel	Leaves_Nickel	0.196428571	DW Basis	Based on site-specific data
Leaves	Silver	Leaves_Silver	0.4	DW Basis	COPC 100% ND in leaves; BCF based on US EPA OSW 2005
Leaves	Strontium	Leaves_Strontium	10.62222222	DW Basis	Based on site-specific data
Leaves	Vanadium	Leaves_Vanadium	0.003571429	DW Basis	Based on site-specific data
Leaves	Zinc	Leaves_Zinc	0.955555556	DW Basis	Based on site-specific data
Fish	Aluminum	Fish_Aluminum	1.28	L/kg-WW	Site-specific BCFs based on Cameron Flowage
Fish	Antimony	Fish_Antimony	40	L/kg-WW	Water-to-fish bioconcentration factor from US EPA (1999) Appendix C
Fish	Arsenic	Fish_Arsenic	22.90909091	L/kg-WW	Site-specific BCFs based on Cameron Flowage
Fish	Arsenic_cancer	Fish_Arsenic_cancer	22.90909091	L/kg-WW	Site-specific BCFs based on Cameron Flowage
Fish	Barium	Fish_Barium	17.5862069	L/kg-WW	Site-specific BCFs based on Cameron Flowage
Fish	Beryllium	Fish_Beryllium	62	L/kg-WW	Water-to-fish bioconcentration factor from US EPA (1999) Appendix C
Fish	Boron	Fish_Boron			no site-specific or literature-based BCFs available
Fish	Cadmium	Fish_Cadmium	228	L/kg-WW	Site-specific BCFs based on Cameron Flowage
Fish	Chromium	Fish_Chromium	22.6	L/kg-WW	Site-specific BCFs based on surrogate data from Scraggy Lake
Fish	Cobalt	Fish_Cobalt	17	L/kg-WW	Site-specific BCFs based on Cameron Flowage
Fish	Copper	Fish_Copper	3160	L/kg-WW	Site-specific BCFs based on Cameron Flowage
Fish	Lead	Fish_Lead	56.4	L/kg-WW	Site-specific BCFs based on Cameron Flowage
Fish	Manganese	Fish_Manganese	16.75675676	L/kg-WW	Site-specific BCFs based on Cameron Flowage
Fish	Mercury	Fish_Mercury	67384.61538	L/kg-WW	Site-specific BCFs based on Cameron Flowage
Fish	Molybdenum	Fish_Molybdenum	5	L/kg-WW	Site-specific BCFs based on surrogate data from Scraggy Lake
Fish	Nickel	Fish_Nickel	5	L/kg-WW	Site-specific BCFs based on surrogate data from Scraggy Lake
Fish	Silver	Fish_Silver	87.71	L/kg-WW	Water-to-fish bioconcentration factor from US EPA (1999) Appendix C
Fish	Strontium	Fish_Strontium	257.5757576	L/kg-WW	Site-specific BCFs based on Cameron Flowage
Fish	Vanadium	Fish_Vanadium	10	L/kg-WW	Site-specific BCFs based on surrogate data from Scraggy Lake
Fish	Zinc	Fish_Zinc	1660	L/kg-WW	Site-specific BCFs based on Cameron Flowage

Literature Derived Regression Models and Bio-concentration Factors for the ERA [DW basis]

Media	Chemical	Abbreviation	Constant	Slope	UF	Site Specific	Reference/Comment
Aquatic_Plant	Aluminum	Aquatic_Plant_Aluminum			9.45E+00	No	ATSDR 2008; Based on sampled tufts of aquatic moss Vuori et al. (1990)
Aquatic_Plant	Antimony	Aquatic_Plant_Antimony			4.31E+03	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Arsenic	Aquatic_Plant_Arsenic			8.56E+02	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Arsenic_cancer	Aquatic_Plant_Arsenic_cancer			8.56E+02	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Barium	Aquatic_Plant_Barium			7.59E+02	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Beryllium	Aquatic_Plant_Beryllium			4.12E+02	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Boron	Aquatic_Plant_Boron			1.00E+02	No	ATSDR 2010; Assumed <100
Aquatic_Plant	Cadmium	Aquatic_Plant_Cadmium			2.28E+03	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Chromium	Aquatic_Plant_Chromium			1.29E+04	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Chromium(VI)	Aquatic_Plant_Chromium(VI)			1.29E+04	No	Assumed = Cr
Aquatic_Plant	Cobalt	Aquatic_Plant_Cobalt			0.00E+00	No	No data
Aquatic_Plant	Copper	Aquatic_Plant_Copper			1.58E+03	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Lead	Aquatic_Plant_Lead			7.25E+02	No	ATSDR 2007; BCF for algae Eisler (1988)
Aquatic_Plant	Lithium	Aquatic_Plant_Lithium			0.00E+00	No	No data
Aquatic_Plant	Manganese	Aquatic_Plant_Manganese			1.50E+04	No	ATSDR 2012; Used mid-point value of 10,000-20,000
Aquatic_Plant	Mercury	Aquatic_Plant_Mercury			7.23E+04	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Methylmercury	Aquatic_Plant_Methylmercury			2.34E+05	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Molybdenum	Aquatic_Plant_Molybdenum			0.00E+00	No	No data
Aquatic_Plant	Nickel	Aquatic_Plant_Nickel			1.78E+02	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Selenium	Aquatic_Plant_Selenium			5.39E+03	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Silver	Aquatic_Plant_Silver			3.12E+04	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Strontium	Aquatic_Plant_Strontium			9.40E+03	No	ATSDR 2004; Maximum for floating vascular macrophytes
Aquatic_Plant	Thallium	Aquatic_Plant_Thallium			4.38E+04	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Tin	Aquatic_Plant_Tin			1.00E+02	No	ATSDR 2005
Aquatic_Plant	Titanium	Aquatic_Plant_Titanium			0.00E+00	No	No data
Aquatic_Plant	Uranium	Aquatic_Plant_Uranium			0.00E+00	No	No data
Aquatic_Plant	Vanadium	Aquatic_Plant_Vanadium			0.00E+00	No	No data
Aquatic_Plant	Zinc	Aquatic_Plant_Zinc			6.35E+03	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Invert	Aluminum	Invert_Aluminum			5.30E-02	No	Sample et al 1998 App C, Table C.1
Invert	Antimony	Invert_Antimony			1.32E+00	No	US EPA OSW 1999 App C, Table C-1 Soil-to-Invert BCF
Invert	Arsenic	Invert_Arsenic	-1.42E+00	7.06E-01		No	Sample et al 1998, Table 12
Invert	Arsenic_cancer	Invert_Arsenic_cancer	-1.42E+00	7.06E-01		No	Sample et al 1998, Table 12
Invert	Barium	Invert_Barium			8.80E-02	No	Sample et al 1998 App C, Table C.1
Invert	Beryllium	Invert_Beryllium			2.50E-01	No	Sample et al 1998 App C, Table C.1
Invert	Boron	Invert_Boron			0.00E+00	No	Not available
Invert	Cadmium	Invert_Cadmium	2.11E+00	7.95E-01		No	Sample et al 1998, Table 12
Invert	Chromium	Invert_Chromium			1.10E+00	No	Sample et al 1998 App C, Table C.1
Invert	Chromium(VI)	Invert_Chromium(VI)			1.10E+00	No	Assumed = Cr
Invert	Cobalt	Invert_Cobalt			1.39E-01	No	Sample et al 1998 App C, Table C.1
Invert	Copper	Invert_Copper	1.68E+00	2.64E-01		No	Sample et al 1998, Table 12
Invert	Lead	Invert_Lead	-2.18E-01	8.07E-01		No	Sample et al 1998, Table 12
Invert	Lithium	Invert_Lithium			8.30E-02	No	Sample et al 1998 App C, Table C.1
Invert	Manganese	Invert_Manganese	-8.09E-01	6.82E-01		No	Sample et al 1998, Table 12
Invert	Mercury	Invert_Mercury	7.81E-02	3.37E-01		No	Sample et al 1998, Table 12
Invert	Methylmercury	Invert_Methylmercury	7.81E-02	3.37E-01		No	Assumed same as mercury
Invert	Molybdenum	Invert_Molybdenum			1.01E+00	No	Sample et al 1998 App C, Table C.1
Invert	Nickel	Invert_Nickel			1.66E+00	No	Sample et al 1998 App C, Table C.1
Invert	Selenium	Invert_Selenium	-7.50E-02	7.33E-01		No	Sample et al 1998, Table 12
Invert	Silver	Invert_Silver			4.53E+00	No	Sample et al 1998 App C, Table C.1
Invert	Strontium	Invert_Strontium			1.17E-01	No	Sample et al 1998 App C, Table C.1
Invert	Thallium	Invert_Thallium			0.00E+00	No	no data
Invert	Tin	Invert_Tin			0.00E+00	No	no data
Invert	Titanium	Invert_Titanium			0.00E+00	No	no data
Invert	Uranium	Invert_Uranium			3.30E-02	No	Sample et al 1998 App C, Table C.1
Invert	Vanadium	Invert_Vanadium			3.90E-02	No	Sample et al 1998 App C, Table C.1
Invert	Zinc	Invert_Zinc	4.45E+00	3.28E-01		No	Sample et al 1998, Table 12
Aquatic_Invert	Aluminum	Aquatic_Invert_Aluminum			4.07E+03	No	US EPA 1999 App C, Table C-3
Aquatic_Invert	Antimony	Aquatic_Invert_Antimony			7.00E+00	No	US EPA 1999 App C, Table C-3
Aquatic_Invert	Arsenic	Aquatic_Invert_Arsenic			7.30E+01	No	US EPA 1999 App C, Table C-3
Aquatic_Invert	Arsenic_cancer	Aquatic_Invert_Arsenic_cancer			7.30E+01	No	US EPA 1999 App C, Table C-3
Aquatic_Invert	Barium	Aquatic_Invert_Barium			2.00E+02	No	US EPA 1999 App C, Table C-3
Aquatic_Invert	Beryllium	Aquatic_Invert_Beryllium			4.50E+01	No	US EPA 1999 App C, Table C-3
Aquatic_Invert	Boron	Aquatic_Invert_Boron			4.07E+03	No	US EPA 1999 App C, Table C-3; not available - arithmetic mean of the recommended values for 14 inorganics with laboratory data available, as per US EPA 1999
Aquatic_Invert	Cadmium	Aquatic_Invert_Cadmium			3.46E+03	No	US EPA 1999 App C, Table C-3
Aquatic_Invert	Chromium	Aquatic_Invert_Chromium			3.00E+03	No	US EPA 1999 App C, Table C-3
Aquatic_Invert	Cobalt	Aquatic_Invert_Cobalt			4.07E+03	No	US EPA 1999 App C, Table C-3; not available - arithmetic mean of the recommended values for 14 inorganics with laboratory data available, as per US EPA 1999
Aquatic_Invert	Copper	Aquatic_Invert_Copper			3.72E+03	No	US EPA 1999 App C, Table C-3
Aquatic_Invert	Lead	Aquatic_Invert_Lead			5.06E+03	No	US EPA 1999 App C, Table C-3
Aquatic_Invert	Manganese	Aquatic_Invert_Manganese			4.07E+03	No	US EPA 1999 App C, Table C-3; not available - arithmetic mean of the recommended values for 14 inorganics with laboratory data available, as per US EPA 1999
Aquatic_Invert	Mercury	Aquatic_Invert_Mercury			4.07E+03	No	US EPA 1999 App C, Table C-3; not available - arithmetic mean of the recommended values for 14 inorganics with laboratory data available, as per US EPA 1999
Aquatic_Invert	Molybdenum	Aquatic_Invert_Molybdenum			4.07E+03	No	US EPA 1999 App C, Table C-3; not available - arithmetic mean of the recommended values for 14 inorganics with laboratory data available, as per US EPA 1999
Aquatic_Invert	Nickel	Aquatic_Invert_Nickel			2.80E+01	No	US EPA 1999 App C, Table C-3
Aquatic_Invert	Silver	Aquatic_Invert_Silver			2.98E+02	No	US EPA 1999 App C, Table C-3
Aquatic_Invert	Strontium	Aquatic_Invert_Strontium			4.07E+03	No	US EPA 1999 App C, Table C-3; not available - arithmetic mean of the recommended values for 14 inorganics with laboratory data available, as per US EPA 1999
Aquatic_Invert	Vanadium	Aquatic_Invert_Vanadium			4.07E+03	No	US EPA 1999 App C, Table C-3; not available - arithmetic mean of the recommended values for 14 inorganics with laboratory data available, as per US EPA 1999
Aquatic_Invert	Zinc	Aquatic_Invert_Zinc			4.58E+03	No	US EPA 1999 App C, Table C-3

Methyl Mercury Content of Foods

Food	Value	Reference
Berries	23%	US EPA 2001; Based on leafy vegetables
Leaves	23%	US EPA 2001; Based on leafy vegetables
Ruffed_Grouse	67%	US EPA 2001; Volume 3 Table 3-23, based on chicken
Snowshoe_Hare	57%	US EPA 2001; Volume 3 Table 3-23, based on wild deer
Mallard	67%	US EPA 2001; Volume 3 Table 3-23, based on chicken
Deer	57%	US EPA 2001; Volume 3 Table 3-23, based on wild deer

Bio transfer factors [day/kg FW]

Receptor	Chemical	Abbreviation	Value	Comment
Deer	Aluminum	Deer_Aluminum	0.0015	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Antimony	Deer_Antimony	0.001	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Arsenic	Deer_Arsenic	0.002	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Arsenic_cancer	Deer_Arsenic_cancer	0.002	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Barium	Deer_Barium	0.00015	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Beryllium	Deer_Beryllium	0.001	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Boron	Deer_Boron	0.0008	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Cadmium	Deer_Cadmium	0.00012	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Chromium	Deer_Chromium	0.0055	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Cobalt	Deer_Cobalt	0.02	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Copper	Deer_Copper	0.01	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Lead	Deer_Lead	0.0003	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Manganese	Deer_Manganese	0.0004	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Mercury	Deer_Mercury	0.00522	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Methylmercury	Deer_Methylmercury	0.00522	Assumed same as mercury
Deer	Molybdenum	Deer_Molybdenum	0.006	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Nickel	Deer_Nickel	0.006	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Silver	Deer_Silver	0.003	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Strontium	Deer_Strontium	0.0003	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Vanadium	Deer_Vanadium	0.0025	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Zinc	Deer_Zinc	0.00009	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Aluminum	Ruffed_Grouse_Aluminu	0.0015	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Antimony	Ruffed_Grouse_Antimor	0.001	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Arsenic	Ruffed_Grouse_Arsenic	0.002	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Arsenic_cancer	Ruffed_Grouse_Arsenic_	0.002	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Barium	Ruffed_Grouse_Barium	0.00015	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Beryllium	Ruffed_Grouse_Berylliu	0.001	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Boron	Ruffed_Grouse_Boron	0.0008	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Cadmium	Ruffed_Grouse_Cadmiu	0.000191	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Chromium	Ruffed_Grouse_Chromiu	0.0055	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Cobalt	Ruffed_Grouse_Cobalt	0.02	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Copper	Ruffed_Grouse_Copper	0.01	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Lead	Ruffed_Grouse_Lead	0.0003	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Manganese	Ruffed_Grouse_Mangan	0.0004	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Mercury	Ruffed_Grouse_Mercury	0.0239	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Methylmercury	Ruffed_Grouse_Methylr	0.0239	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Molybdenum	Ruffed_Grouse_Molybd	0.006	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Nickel	Ruffed_Grouse_Nickel	0.006	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Silver	Ruffed_Grouse_Silver	0.003	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Strontium	Ruffed_Grouse_Strontiu	0.0003	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Vanadium	Ruffed_Grouse_Vanadiu	0.0025	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Zinc	Ruffed_Grouse_Zinc	0.00875	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Aluminum	Snowshoe_Hare_Alumir	0.0015	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Antimony	Snowshoe_Hare_Antimo	0.001	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Arsenic	Snowshoe_Hare_Arseni	0.002	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Arsenic_cancer	Snowshoe_Hare_Arseni	0.002	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Barium	Snowshoe_Hare_Barium	0.00015	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Beryllium	Snowshoe_Hare_Berylliu	0.001	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Boron	Snowshoe_Hare_Boron	0.0008	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Cadmium	Snowshoe_Hare_Cadmiu	0.00012	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Chromium	Snowshoe_Hare_Chrom	0.0055	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Cobalt	Snowshoe_Hare_Cobalt	0.02	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Copper	Snowshoe_Hare_Coppe	0.01	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Lead	Snowshoe_Hare_Lead	0.0003	Literature based BTF (US EPA 2005; Baes et al 1984)

Snowshoe_Hare	Manganese	Snowshoe_Hare_Manga	0.0004	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Mercury	Snowshoe_Hare_Mercu	0.00522	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Methylmercury	Snowshoe_Hare_Methy	0.00522	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Molybdenum	Snowshoe_Hare_Molyb	0.006	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Nickel	Snowshoe_Hare_Nickel	0.006	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Silver	Snowshoe_Hare_Silver	0.003	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Strontium	Snowshoe_Hare_Stronti	0.0003	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Vanadium	Snowshoe_Hare_Vanadi	0.0025	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Zinc	Snowshoe_Hare_Zinc	0.00009	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Aluminum	Mallard_Aluminum	0.0015	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Antimony	Mallard_Antimony	0.001	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Arsenic	Mallard_Arsenic	0.002	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Arsenic_cancer	Mallard_Arsenic_cancer	0.002	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Barium	Mallard_Barium	0.00015	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Beryllium	Mallard_Beryllium	0.001	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Boron	Mallard_Boron	0.0008	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Cadmium	Mallard_Cadmium	0.000191	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Chromium	Mallard_Chromium	0.0055	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Cobalt	Mallard_Cobalt	0.02	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Copper	Mallard_Copper	0.01	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Lead	Mallard_Lead	0.0003	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Manganese	Mallard_Manganese	0.0004	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Mercury	Mallard_Mercury	0.0239	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Methylmercury	Mallard_Methylmercury	0.0239	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Molybdenum	Mallard_Molybdenum	0.006	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Nickel	Mallard_Nickel	0.006	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Silver	Mallard_Silver	0.003	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Strontium	Mallard_Strontium	0.0003	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Vanadium	Mallard_Vanadium	0.0025	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Zinc	Mallard_Zinc	0.00875	Literature based BTF (US EPA 2005; Baes et al 1984)

Site-Specific BCF Calculation

Area	Chemical	Measured Concentrations [mg/kg-DW]			Site-specific BCFs	
		Soil	Berries	Leaves	Berries	Leaves
Haul Road_Max	Aluminum	22400	20.667	220.6	0.000922634	0.009848214
Haul Road_Max	Antimony	0.05	0.0167	0.00781	0.334	0.1562
Haul Road_Max	Arsenic	10	0.0667	0.03125	0.00667	0.003125
Haul Road_Max	Arsenic_cancer	10	0.0667	0.03125	0.00667	0.003125
Haul Road_Max	Barium	35	17	116.9	0.485714286	3.34
Haul Road_Max	Beryllium	0.4	0.0167	0.00781	0.04175	0.019525
Haul Road_Max	Boron	3	20.3	59.4	6.766666667	19.8
Haul Road_Max	Cadmium	0.11	0.17867	0.185	1.624272727	1.681818182
Haul Road_Max	Chromium	21	0.533	0.25	0.025380952	0.011904762
Haul Road_Max	Cobalt	10.2	0.16	0.166	0.015686275	0.01627451
Haul Road_Max	Copper	10	7.73	7.34	0.773	0.734
Haul Road_Max	Lead	16.4	0.02	0.1406	0.001219512	0.008573171
Haul Road_Max	Manganese	801	648.7	4469	0.809862672	5.579275905
Haul Road_Max	Mercury	0.1	0.0333	0.01563	0.333	0.1563
Haul Road_Max	Molybdenum	0.5	0.307	0.272	0.614	0.544
Haul Road_Max	Nickel	14	3.73	2.75	0.266428571	0.196428571
Haul Road_Max	Silver	0.1	0.0167	0.00781	0.167	0.0781
Haul Road_Max	Strontium	9	24.8	95.6	2.755555556	10.62222222
Haul Road_Max	Vanadium	35	0.0667	0.125	0.001905714	0.003571429
Haul Road_Max	Zinc	36	27.733	34.4	0.770361111	0.955555556
Haul Road_Average	Aluminum	22400	20.667	220.6	0.000922634	0.009848214
Haul Road_Average	Antimony	0.05	0.0167	0.00781	0.334	0.1562
Haul Road_Average	Arsenic	10	0.0667	0.03125	0.00667	0.003125
Haul Road_Average	Arsenic_cancer	10	0.0667	0.03125	0.00667	0.003125
Haul Road_Average	Barium	35	17	116.9	0.485714286	3.34
Haul Road_Average	Beryllium	0.4	0.0167	0.00781	0.04175	0.019525
Haul Road_Average	Boron	3	20.3	59.4	6.766666667	19.8
Haul Road_Average	Cadmium	0.11	0.17867	0.185	1.624272727	1.681818182
Haul Road_Average	Chromium	21	0.533	0.25	0.025380952	0.011904762
Haul Road_Average	Cobalt	10.2	0.16	0.166	0.015686275	0.01627451
Haul Road_Average	Copper	10	7.73	7.34	0.773	0.734
Haul Road_Average	Lead	16.4	0.02	0.1406	0.001219512	0.008573171
Haul Road_Average	Manganese	801	648.7	4469	0.809862672	5.579275905
Haul Road_Average	Mercury	0.1	0.0333	0.01563	0.333	0.1563
Haul Road_Average	Molybdenum	0.5	0.307	0.272	0.614	0.544
Haul Road_Average	Nickel	14	3.73	2.75	0.266428571	0.196428571
Haul Road_Average	Silver	0.1	0.0167	0.00781	0.167	0.0781
Haul Road_Average	Strontium	9	24.8	95.6	2.755555556	10.62222222
Haul Road_Average	Vanadium	35	0.0667	0.125	0.001905714	0.003571429
Haul Road_Average	Zinc	36	27.733	34.4	0.770361111	0.955555556

Predicted Total Dust Deposition Rates

Area	Scenario	Abbreviation	Value [mg/m2/yr]	Value [g/m2/yr]	Comment
Haul Road_Max	Baseline	Haul Road_Max_Baseline	0	0	
Haul Road_Max	Project	Haul Road_Max_Project	136290	136.29	Annual MPOI deposition rate
Haul Road_Average	Baseline	Haul Road_Average_Baseline	0	0	
Haul Road_Average	Project	Haul Road_Average_Project	49400	49.4	Depostion rate for R7 (Deepwood Estates) receptor location

Site-specific Metal Composition of Dust [%]

Area	COPC	Abbreviation	Value	Comment / Reference
Haul Road_Max	Aluminum	Haul Road_Max_Aluminum	2.136885%	Based on geomean of dust samples
Haul Road_Max	Antimony	Haul Road_Max_Antimony	0.000105%	Based on geomean of dust samples
Haul Road_Max	Arsenic	Haul Road_Max_Arsenic	0.003344%	Based on geomean of dust samples
Haul Road_Max	Arsenic_cancer	Haul Road_Max_Arsenic_cancer	0.003344%	Based on geomean of dust samples
Haul Road_Max	Barium	Haul Road_Max_Barium	0.007816%	Based on geomean of dust samples
Haul Road_Max	Beryllium	Haul Road_Max_Beryllium	0.000038%	Based on geomean of dust samples
Haul Road_Max	Boron	Haul Road_Max_Boron	0.000524%	Based on geomean of dust samples
Haul Road_Max	Cadmium	Haul Road_Max_Cadmium	0.000026%	Based on geomean of dust samples
Haul Road_Max	Chromium	Haul Road_Max_Chromium	0.004093%	Based on geomean of dust samples
Haul Road_Max	Cobalt	Haul Road_Max_Cobalt	0.001524%	Based on geomean of dust samples
Haul Road_Max	Copper	Haul Road_Max_Copper	0.002625%	Based on geomean of dust samples
Haul Road_Max	Lead	Haul Road_Max_Lead	0.000688%	Based on geomean of dust samples
Haul Road_Max	Manganese	Haul Road_Max_Manganese	0.054379%	Based on geomean of dust samples
Haul Road_Max	Mercury	Haul Road_Max_Mercury	0.00000025%	Based on geomean of dust samples
Haul Road_Max	Methylmercury	Haul Road_Max_Methylmercury	0.00000001%	Assumed 2% of total mercury (US EPA 2005)
Haul Road_Max	Molybdenum	Haul Road_Max_Molybdenum	0.000067%	Based on geomean of dust samples
Haul Road_Max	Nickel	Haul Road_Max_Nickel	0.003123%	Based on geomean of dust samples
Haul Road_Max	Silver	Haul Road_Max_Silver	0.000013%	Based on geomean of dust samples
Haul Road_Max	Strontium	Haul Road_Max_Strontium	0.001147%	Based on geomean of dust samples
Haul Road_Max	Vanadium	Haul Road_Max_Vanadium	0.004487%	Based on geomean of dust samples
Haul Road_Max	Zinc	Haul Road_Max_Zinc	0.007545%	Based on geomean of dust samples
Haul Road_Average	Aluminum	Haul Road_Average_Aluminum	2.136885%	Based on geomean of dust samples
Haul Road_Average	Antimony	Haul Road_Average_Antimony	0.000105%	Based on geomean of dust samples
Haul Road_Average	Arsenic	Haul Road_Average_Arsenic	0.003344%	Based on geomean of dust samples
Haul Road_Average	Arsenic_cancer	Haul Road_Average_Arsenic_cancer	0.003344%	Based on geomean of dust samples
Haul Road_Average	Barium	Haul Road_Average_Barium	0.007816%	Based on geomean of dust samples
Haul Road_Average	Beryllium	Haul Road_Average_Beryllium	0.000038%	Based on geomean of dust samples
Haul Road_Average	Boron	Haul Road_Average_Boron	0.000524%	Based on geomean of dust samples
Haul Road_Average	Cadmium	Haul Road_Average_Cadmium	0.000026%	Based on geomean of dust samples
Haul Road_Average	Chromium	Haul Road_Average_Chromium	0.004093%	Based on geomean of dust samples
Haul Road_Average	Cobalt	Haul Road_Average_Cobalt	0.001524%	Based on geomean of dust samples
Haul Road_Average	Copper	Haul Road_Average_Copper	0.002625%	Based on geomean of dust samples
Haul Road_Average	Lead	Haul Road_Average_Lead	0.000688%	Based on geomean of dust samples
Haul Road_Average	Manganese	Haul Road_Average_Manganese	0.054379%	Based on geomean of dust samples
Haul Road_Average	Mercury	Haul Road_Average_Mercury	0.00000025%	Based on geomean of dust samples
Haul Road_Average	Methylmercury	Haul Road_Average_Methylmercury	0.00000001%	Assumed 2% of total mercury (US EPA 2005)
Haul Road_Average	Molybdenum	Haul Road_Average_Molybdenum	0.000067%	Based on geomean of dust samples
Haul Road_Average	Nickel	Haul Road_Average_Nickel	0.003123%	Based on geomean of dust samples
Haul Road_Average	Silver	Haul Road_Average_Silver	0.000013%	Based on geomean of dust samples
Haul Road_Average	Strontium	Haul Road_Average_Strontium	0.001147%	Based on geomean of dust samples
Haul Road_Average	Vanadium	Haul Road_Average_Vanadium	0.004487%	Based on geomean of dust samples
Haul Road_Average	Zinc	Haul Road_Average_Zinc	0.007545%	Based on geomean of dust samples

Soil Degradation Loss Constant [yr^{-1}]

COPC	Value	Half-life [Days]	Reference / Comment
Aluminum	2.53E-02	1.00E+04	Assumed
Antimony	2.53E-02	1.00E+04	Assumed
Arsenic	2.53E-02	1.00E+04	Assumed
Arsenic_cancer	2.53E-02	1.00E+04	Assumed
Barium	2.53E-02	1.00E+04	Assumed
Beryllium	2.53E-02	1.00E+04	Assumed
Boron	2.53E-02	1.00E+04	Assumed
Cadmium	2.53E-02	1.00E+04	Assumed
Chromium	2.53E-02	1.00E+04	Assumed
Cobalt	2.53E-02	1.00E+04	Assumed
Copper	2.53E-02	1.00E+04	Assumed
Lead	2.53E-02	1.00E+04	Assumed
Manganese	2.53E-02	1.00E+04	Assumed
Mercury	2.53E-02	1.00E+04	Assumed
Methylmercury	2.53E-02	1.00E+04	Assumed
Molybdenum	2.53E-02	1.00E+04	Assumed
Nickel	2.53E-02	1.00E+04	Assumed
Silver	2.53E-02	1.00E+04	Assumed
Strontium	2.53E-02	1.00E+04	Assumed
Vanadium	2.53E-02	1.00E+04	Assumed
Zinc	2.53E-02	1.00E+04	Assumed

Dermal permeability coefficient in water [cm/hr]

Chemical	Value	Reference
Aluminum	0.001	US EPA 2004; used all inorganics value
Antimony	0.001	US EPA 2004; used all inorganics value
Arsenic	0.001	US EPA 2004; used all inorganics value
Arsenic_cancer	0.001	US EPA 2004; used all inorganics value
Barium	0.001	US EPA 2004; used all inorganics value
Beryllium	0.001	US EPA 2004; used all inorganics value
Boron	0.001	US EPA 2004; used all inorganics value
Cadmium	0.001	US EPA 2004; used all inorganics value
Chromium	0.001	US EPA 2004; used all inorganics value
Cobalt	0.001	US EPA 2004; used all inorganics value
Copper	0.001	US EPA 2004; used all inorganics value
Lead	0.001	US EPA 2004; used all inorganics value
Manganese	0.001	US EPA 2004; used all inorganics value
Mercury	0.001	US EPA 2004; used all inorganics value
Methylmercury	0.001	US EPA 2004; used all inorganics value
Molybdenum	0.001	US EPA 2004; used all inorganics value
Nickel	0.001	US EPA 2004; used all inorganics value
Silver	0.001	US EPA 2004; used all inorganics value
Strontium	0.001	US EPA 2004; used all inorganics value
Vanadium	0.001	US EPA 2004; used all inorganics value
Zinc	0.001	US EPA 2004; used all inorganics value

Chemical Apportionment Assumed for Berries and Leaves

Media	Chemical	Abbreviation	Value	Reference / Comment
Berries	Aluminum	Berries_Aluminum	100%	Assumed most conservative value
Berries	Antimony	Berries_Antimony	100%	Assumed most conservative value
Berries	Arsenic	Berries_Arsenic	61%	Schoof et al. 1999; 95UCLM of fruits
Berries	Arsenic_cancer	Berries_Arsenic_cancer	61%	Schoof et al. 1999; 95UCLM of fruits
Berries	Barium	Berries_Barium	100%	Assumed most conservative value
Berries	Beryllium	Berries_Beryllium	100%	Assumed most conservative value
Berries	Boron	Berries_Boron	100%	Assumed most conservative value
Berries	Cadmium	Berries_Cadmium	100%	Assumed most conservative value
Berries	Chromium	Berries_Chromium	100%	Assumed most conservative value
Berries	Cobalt	Berries_Cobalt	100%	Assumed most conservative value
Berries	Copper	Berries_Copper	100%	Assumed most conservative value
Berries	Lead	Berries_Lead	100%	Assumed most conservative value
Berries	Manganese	Berries_Manganese	100%	Assumed most conservative value
Berries	Mercury	Berries_Mercury	100%	Assumed most conservative value
Berries	Methylmercury	Berries_Methylmercury	100%	Assumed most conservative value
Berries	Molybdenum	Berries_Molybdenum	100%	Assumed most conservative value
Berries	Nickel	Berries_Nickel	100%	Assumed most conservative value
Berries	Silver	Berries_Silver	100%	Assumed most conservative value
Berries	Strontium	Berries_Strontium	100%	Assumed most conservative value
Berries	Vanadium	Berries_Vanadium	100%	Assumed most conservative value
Berries	Zinc	Berries_Zinc	100%	Assumed most conservative value
Leaves	Aluminum	Leaves_Aluminum	100%	Assumed most conservative value
Leaves	Antimony	Leaves_Antimony	100%	Assumed most conservative value
Leaves	Arsenic	Leaves_Arsenic	78%	Schoof et al. 1999; 95UCLM of vegetables
Leaves	Arsenic_cancer	Leaves_Arsenic_cancer	78%	Schoof et al. 1999; 95UCLM of vegetables
Leaves	Barium	Leaves_Barium	100%	Assumed most conservative value
Leaves	Beryllium	Leaves_Beryllium	100%	Assumed most conservative value
Leaves	Boron	Leaves_Boron	100%	Assumed most conservative value
Leaves	Cadmium	Leaves_Cadmium	100%	Assumed most conservative value
Leaves	Chromium	Leaves_Chromium	100%	Assumed most conservative value
Leaves	Cobalt	Leaves_Cobalt	100%	Assumed most conservative value
Leaves	Copper	Leaves_Copper	100%	Assumed most conservative value
Leaves	Lead	Leaves_Lead	100%	Assumed most conservative value
Leaves	Manganese	Leaves_Manganese	100%	Assumed most conservative value
Leaves	Mercury	Leaves_Mercury	100%	Assumed most conservative value
Leaves	Methylmercury	Leaves_Methylmercury	100%	Assumed most conservative value
Leaves	Molybdenum	Leaves_Molybdenum	100%	Assumed most conservative value
Leaves	Nickel	Leaves_Nickel	100%	Assumed most conservative value
Leaves	Silver	Leaves_Silver	100%	Assumed most conservative value
Leaves	Strontium	Leaves_Strontium	100%	Assumed most conservative value
Leaves	Vanadium	Leaves_Vanadium	100%	Assumed most conservative value
Leaves	Zinc	Leaves_Zinc	100%	Assumed most conservative value
Fish	Aluminum	Fish_Aluminum	100%	Assumed most conservative value
Fish	Antimony	Fish_Antimony	100%	Assumed most conservative value
Fish	Arsenic	Fish_Arsenic	2%	Schoof et al. 1999
Fish	Arsenic_cancer	Fish_Arsenic_cancer	2%	Schoof et al. 1999
Fish	Barium	Fish_Barium	100%	Assumed most conservative value
Fish	Beryllium	Fish_Beryllium	100%	Assumed most conservative value
Fish	Boron	Fish_Boron	100%	Assumed most conservative value
Fish	Cadmium	Fish_Cadmium	100%	Assumed most conservative value
Fish	Chromium	Fish_Chromium	100%	Assumed most conservative value

Fish	Cobalt	Fish_Cobalt	100%	Assumed most conservative value
Fish	Copper	Fish_Copper	100%	Assumed most conservative value
Fish	Lead	Fish_Lead	100%	Assumed most conservative value
Fish	Manganese	Fish_Manganese	100%	Assumed most conservative value
Fish	Mercury	Fish_Mercury	100%	Assumed most conservative value
Fish	Methylmercury	Fish_Methylmercury	100%	Assumed most conservative value
Fish	Molybdenum	Fish_Molybdenum	100%	Assumed most conservative value
Fish	Nickel	Fish_Nickel	100%	Assumed most conservative value
Fish	Silver	Fish_Silver	100%	Assumed most conservative value
Fish	Strontium	Fish_Strontium	100%	Assumed most conservative value
Fish	Vanadium	Fish_Vanadium	100%	Assumed most conservative value
Fish	Zinc	Fish_Zinc	100%	Assumed most conservative value
Deer	Aluminum	Deer_Aluminum	100%	Assumed most conservative value
Deer	Antimony	Deer_Antimony	100%	Assumed most conservative value
Deer	Arsenic	Deer_Arsenic	5%	Schoof et al. 1999
Deer	Arsenic_cancer	Deer_Arsenic_cancer	5%	Schoof et al. 1999
Deer	Barium	Deer_Barium	100%	Assumed most conservative value
Deer	Beryllium	Deer_Beryllium	100%	Assumed most conservative value
Deer	Boron	Deer_Boron	100%	Assumed most conservative value
Deer	Cadmium	Deer_Cadmium	100%	Assumed most conservative value
Deer	Chromium	Deer_Chromium	100%	Assumed most conservative value
Deer	Cobalt	Deer_Cobalt	100%	Assumed most conservative value
Deer	Copper	Deer_Copper	100%	Assumed most conservative value
Deer	Lead	Deer_Lead	100%	Assumed most conservative value
Deer	Manganese	Deer_Manganese	100%	Assumed most conservative value
Deer	Mercury	Deer_Mercury	100%	Assumed most conservative value
Deer	Methylmercury	Deer_Methylmercury	100%	Assumed most conservative value
Deer	Molybdenum	Deer_Molybdenum	100%	Assumed most conservative value
Deer	Nickel	Deer_Nickel	100%	Assumed most conservative value
Deer	Silver	Deer_Silver	100%	Assumed most conservative value
Deer	Strontium	Deer_Strontium	100%	Assumed most conservative value
Deer	Vanadium	Deer_Vanadium	100%	Assumed most conservative value
Deer	Zinc	Deer_Zinc	100%	Assumed most conservative value
Ruffed_Gro	Aluminum	Ruffed_Grouse_Aluminum	100%	Assumed most conservative value
Ruffed_Gro	Antimony	Ruffed_Grouse_Antimony	100%	Assumed most conservative value
Ruffed_Gro	Arsenic	Ruffed_Grouse_Arsenic	1%	Schoof et al. 1999
Ruffed_Gro	Arsenic_cancer	Ruffed_Grouse_Arsenic_cancer	1%	Schoof et al. 1999
Ruffed_Gro	Barium	Ruffed_Grouse_Barium	100%	Assumed most conservative value
Ruffed_Gro	Beryllium	Ruffed_Grouse_Beryllium	100%	Assumed most conservative value
Ruffed_Gro	Boron	Ruffed_Grouse_Boron	100%	Assumed most conservative value
Ruffed_Gro	Cadmium	Ruffed_Grouse_Cadmium	100%	Assumed most conservative value
Ruffed_Gro	Chromium	Ruffed_Grouse_Chromium	100%	Assumed most conservative value
Ruffed_Gro	Cobalt	Ruffed_Grouse_Cobalt	100%	Assumed most conservative value
Ruffed_Gro	Copper	Ruffed_Grouse_Copper	100%	Assumed most conservative value
Ruffed_Gro	Lead	Ruffed_Grouse_Lead	100%	Assumed most conservative value
Ruffed_Gro	Manganese	Ruffed_Grouse_Manganese	100%	Assumed most conservative value
Ruffed_Gro	Mercury	Ruffed_Grouse_Mercury	100%	Assumed most conservative value
Ruffed_Gro	Methylmercury	Ruffed_Grouse_Methylmercury	100%	Assumed most conservative value
Ruffed_Gro	Molybdenum	Ruffed_Grouse_Molybdenum	100%	Assumed most conservative value
Ruffed_Gro	Nickel	Ruffed_Grouse_Nickel	100%	Assumed most conservative value
Ruffed_Gro	Silver	Ruffed_Grouse_Silver	100%	Assumed most conservative value
Ruffed_Gro	Strontium	Ruffed_Grouse_Strontium	100%	Assumed most conservative value
Ruffed_Gro	Vanadium	Ruffed_Grouse_Vanadium	100%	Assumed most conservative value

Ruffed_Gro	Zinc	Ruffed_Grouse_Zinc	100%	Assumed most conservative value
Snowshoe_	Aluminum	Snowshoe_Hare_Aluminum	100%	Assumed most conservative value
Snowshoe_	Antimony	Snowshoe_Hare_Antimony	100%	Assumed most conservative value
Snowshoe_	Arsenic	Snowshoe_Hare_Arsenic	1%	Schoof et al. 1999
Snowshoe_	Arsenic_cancer	Snowshoe_Hare_Arsenic_cancer	1%	Schoof et al. 1999
Snowshoe_	Barium	Snowshoe_Hare_Barium	100%	Assumed most conservative value
Snowshoe_	Beryllium	Snowshoe_Hare_Beryllium	100%	Assumed most conservative value
Snowshoe_	Boron	Snowshoe_Hare_Boron	100%	Assumed most conservative value
Snowshoe_	Cadmium	Snowshoe_Hare_Cadmium	100%	Assumed most conservative value
Snowshoe_	Chromium	Snowshoe_Hare_Chromium	100%	Assumed most conservative value
Snowshoe_	Cobalt	Snowshoe_Hare_Cobalt	100%	Assumed most conservative value
Snowshoe_	Copper	Snowshoe_Hare_Copper	100%	Assumed most conservative value
Snowshoe_	Lead	Snowshoe_Hare_Lead	100%	Assumed most conservative value
Snowshoe_	Manganese	Snowshoe_Hare_Manganese	100%	Assumed most conservative value
Snowshoe_	Mercury	Snowshoe_Hare_Mercury	100%	Assumed most conservative value
Snowshoe_	Methylmercury	Snowshoe_Hare_Methylmercury	100%	Assumed most conservative value
Snowshoe_	Molybdenum	Snowshoe_Hare_Molybdenum	100%	Assumed most conservative value
Snowshoe_	Nickel	Snowshoe_Hare_Nickel	100%	Assumed most conservative value
Snowshoe_	Silver	Snowshoe_Hare_Silver	100%	Assumed most conservative value
Snowshoe_	Strontium	Snowshoe_Hare_Strontium	100%	Assumed most conservative value
Snowshoe_	Vanadium	Snowshoe_Hare_Vanadium	100%	Assumed most conservative value
Snowshoe_	Zinc	Snowshoe_Hare_Zinc	100%	Assumed most conservative value
Mallard	Aluminum	Mallard_Aluminum	100%	Assumed most conservative value
Mallard	Antimony	Mallard_Antimony	100%	Assumed most conservative value
Mallard	Arsenic	Mallard_Arsenic	1%	Schoof et al. 1999
Mallard	Arsenic_cancer	Mallard_Arsenic_cancer	1%	Schoof et al. 1999
Mallard	Barium	Mallard_Barium	100%	Assumed most conservative value
Mallard	Beryllium	Mallard_Beryllium	100%	Assumed most conservative value
Mallard	Boron	Mallard_Boron	100%	Assumed most conservative value
Mallard	Cadmium	Mallard_Cadmium	100%	Assumed most conservative value
Mallard	Chromium	Mallard_Chromium	100%	Assumed most conservative value
Mallard	Cobalt	Mallard_Cobalt	100%	Assumed most conservative value
Mallard	Copper	Mallard_Copper	100%	Assumed most conservative value
Mallard	Lead	Mallard_Lead	100%	Assumed most conservative value
Mallard	Manganese	Mallard_Manganese	100%	Assumed most conservative value
Mallard	Mercury	Mallard_Mercury	100%	Assumed most conservative value
Mallard	Methylmercury	Mallard_Methylmercury	100%	Assumed most conservative value
Mallard	Molybdenum	Mallard_Molybdenum	100%	Assumed most conservative value
Mallard	Nickel	Mallard_Nickel	100%	Assumed most conservative value
Mallard	Silver	Mallard_Silver	100%	Assumed most conservative value
Mallard	Strontium	Mallard_Strontium	100%	Assumed most conservative value
Mallard	Vanadium	Mallard_Vanadium	100%	Assumed most conservative value
Mallard	Zinc	Mallard_Zinc	100%	Assumed most conservative value

Time Period of Deposition [years]

Variable	Value	Comment
Time	5	Life of facility

Moisture Content

Variable	Value	Comment
Berries	85%	Project specific average
Invert	84%	Suter et al. 2000 (Table 3.5)
Aquatic_Plant	84%	Suter et al. 2000 (Table 3.5)
Aquatic_Invert	82%	Suter et al. 2000 (Table 3.5)
Leaves	68%	Project specific average

Soil Mixing Depth for Deposition

Variable	Value	Units	Reference
Surface Soil Mixing Depth = Depth1	0.02	m	
Soil Mixing Depth for Plants = Depth2	0.2	m	US EPA OSW 2005
Soil Bulk Density	1500	kg/m^3	US EPA OSW 2005

Parameters Used to Predict Deposition for Vegetation

Parameter	Abbreviation	Value	Units	Reference/Comment
Yield or Standing Biomass for berries	Yp	0.25	kg-dw/m2	US EPA OSW 2005; exposed fruits
Yield or Standing Biomass for leaves	Yp	5.66	kg-dw/m2	US EPA OSW 2005; exposed vegetables
Plant Surface Loss Coefficient	Kp	18	$year^{-1}$	US EPA OSW 2005
Period of Exposure	Tp	0.164	years	US EPA OSW 2005
Intercept Fraction of the Edible Portion of Plant for berries	Rp	0.053	unitless	US EPA OSW 2005; exposed fruits
Intercept Fraction of the Edible Portion of Plant for leaves	Rp	0.982	unitless	US EPA OSW 2005; exposed vegetables

Food Preparation

Variable	Value	Units
Washing and peeling factor (WPF)	100%	%

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Cumulative Effects Assessment

Summary of Maximum RQ or ILCR Values for the Indigenous Receptor				
Area	**Chemical**	**Baseline**	**Project**	**Project + Baseline**
Non-carcinogens				
Haul Road_Max	Aluminum	8.2E-01	6.7E-02	8.9E-01
Haul Road_Max	Antimony	3.0E-02	2.4E-03	3.3E-02
Haul Road_Max	Arsenic	1.7E-01	4.6E-02	2.2E-01
Haul Road_Max	Barium	9.5E-03	3.0E-04	9.8E-03
Haul Road_Max	Beryllium	5.4E-03	8.5E-05	5.4E-03
Haul Road_Max	Boron	6.8E-03	9.2E-05	6.9E-03
Haul Road_Max	Cadmium	9.2E-03	4.7E-04	9.7E-03
Haul Road_Max	Chromium	1.4E-01	2.0E-02	1.6E-01
Haul Road_Max	Cobalt	5.8E-02	7.9E-03	6.6E-02
Haul Road_Max	Copper	1.3E-02	2.0E-03	1.5E-02
Haul Road_Max	Lead	1.5E-01	7.0E-03	1.6E-01
Haul Road_Max	Manganese	5.3E-01	4.2E-03	5.4E-01
Haul Road_Max	Inorganicmercury	8.3E-02	1.8E-02	1.0E-01
Haul Road_Max	Methylmercury	7.3E-01	1.7E-01	9.0E-01
Haul Road_Max	Molybdenum	1.0E-03	1.4E-04	1.2E-03
Haul Road_Max	Nickel	2.5E-02	2.1E-03	2.7E-02
Haul Road_Max	Silver	4.9E-04	1.9E-05	5.1E-04
Haul Road_Max	Strontium	3.8E-03	3.4E-05	3.8E-03
Haul Road_Max	Vanadium	9.0E-02	9.8E-03	1.0E-01
Haul Road_Max	Zinc	6.2E-03	1.7E-03	7.9E-03
Haul Road_Average	Aluminum	8.4E-01	2.9E-02	8.7E-01
Haul Road_Average	Antimony	3.1E-02	1.1E-03	3.2E-02
Haul Road_Average	Arsenic	1.8E-01	2.0E-02	2.0E-01
Haul Road_Average	Barium	1.8E-02	1.7E-04	1.8E-02
Haul Road_Average	Beryllium	5.4E-03	3.7E-05	5.4E-03
Haul Road_Average	Boron	1.3E-02	6.1E-05	1.3E-02
Haul Road_Average	Cadmium	1.7E-02	3.7E-04	1.7E-02
Haul Road_Average	Chromium	1.6E-01	8.7E-03	1.7E-01
Haul Road_Average	Cobalt	6.2E-02	3.9E-03	6.6E-02
Haul Road_Average	Copper	1.7E-02	1.9E-03	1.8E-02
Haul Road_Average	Lead	1.5E-01	4.2E-03	1.6E-01
Haul Road_Average	Manganese	1.0E+00	2.5E-03	1.0E+00
Haul Road_Average	Inorganicmercury	8.9E-02	1.8E-02	1.1E-01
Haul Road_Average	Methylmercury	7.3E-01	1.7E-01	9.0E-01
Haul Road_Average	Molybdenum	1.6E-03	1.3E-04	1.7E-03
Haul Road_Average	Nickel	3.8E-02	1.2E-03	3.9E-02
Haul Road_Average	Silver	6.1E-04	1.2E-05	6.2E-04
Haul Road_Average	Strontium	6.6E-03	2.2E-05	6.6E-03
Haul Road_Average	Vanadium	9.2E-02	4.3E-03	9.7E-02
Haul Road_Average	Zinc	8.7E-03	1.7E-03	1.0E-02
Carcinogens				
Haul Road_Max	Arsenic_cancer	**1.3E+00**	5.1E-01	**1.8E+00**
Haul Road_Average	Arsenic_cancer	**1.5E+00**	2.8E-01	**1.8E+00**

Detailed Summary of Risk Quotient (RQ) Values for Indigenous Receptors

Area	Scenario	Chemical	Abbreviation	Type	Infant	Toddler	Child	Adolescent	Adult	Max	ILCR
Haul Road_Average	Baseline	Aluminum	Haul Road_Average_Baseline_Aluminum	RfD	3.93E-01	8.39E-01	1.54E-01	1.04E-01	9.54E-02	8.39E-01	0.00E+00
Haul Road_Average	Baseline	Antimony	Haul Road_Average_Baseline_Antimony	RfD	6.27E-04	3.10E-02	2.44E-02	1.65E-02	1.41E-02	3.10E-02	0.00E+00
Haul Road_Average	Baseline	Arsenic	Haul Road_Average_Baseline_Arsenic	RfD	8.35E-02	1.78E-01	3.60E-02	1.98E-02	1.83E-02	1.78E-01	0.00E+00
Haul Road_Average	Baseline	Arsenic_cancer	Haul Road_Average_Baseline_Arsenic_cancer	RsD	2.61E-02	5.02E-01	1.57E-01	9.88E-02	6.88E-01	0.00E+00	1.47E+00
Haul Road_Average	Baseline	Barium	Haul Road_Average_Baseline_Barium	RfD	4.39E-04	1.78E-02	1.23E-02	1.24E-02	1.15E-02	1.78E-02	0.00E+00
Haul Road_Average	Baseline	Beryllium	Haul Road_Average_Baseline_Beryllium	RfD	5.01E-04	5.40E-03	3.76E-03	2.49E-03	2.12E-03	5.40E-03	0.00E+00
Haul Road_Average	Baseline	Boron	Haul Road_Average_Baseline_Boron	RfD	3.76E-05	1.29E-02	1.08E-02	8.45E-03	8.45E-03	1.29E-02	0.00E+00
Haul Road_Average	Baseline	Cadmium	Haul Road_Average_Baseline_Cadmium	RfD	2.76E-04	1.66E-02	1.60E-02	9.53E-03	1.01E-02	1.66E-02	0.00E+00
Haul Road_Average	Baseline	Chromium	Haul Road_Average_Baseline_Chromium	RfD	5.26E-02	1.59E-01	6.86E-02	3.87E-02	4.18E-02	1.59E-01	0.00E+00
Haul Road_Average	Baseline	Cobalt	Haul Road_Average_Baseline_Cobalt	RfD	1.83E-02	6.23E-02	2.70E-02	1.79E-02	2.05E-02	6.23E-02	0.00E+00
Haul Road_Average	Baseline	Copper	Haul Road_Average_Baseline_Copper	RfD	2.75E-04	1.66E-02	1.44E-02	9.21E-03	9.37E-03	1.66E-02	0.00E+00
Haul Road_Average	Baseline	Lead	Haul Road_Average_Baseline_Lead	RfD	6.85E-02	1.51E-01	3.15E-02	2.06E-02	1.80E-02	1.51E-01	0.00E+00
Haul Road_Average	Baseline	Manganese	Haul Road_Average_Baseline_Manganese	RfD	1.48E-02	1.00E+00	6.99E-01	7.06E-01	6.59E-01	1.00E+00	0.00E+00
Haul Road_Average	Baseline	Inorganicmercury	Haul Road_Average_Baseline_Inorganicmercury	RfD	8.19E-04	8.94E-02	7.11E-02	4.96E-02	5.78E-02	8.94E-02	0.00E+00
Haul Road_Average	Baseline	Methylmercury	Haul Road_Average_Baseline_Methylmercury	RfD	2.51E-05	7.30E-01	5.96E-01	4.05E-01	3.71E-01	7.30E-01	0.00E+00
Haul Road_Average	Baseline	Molybdenum	Haul Road_Average_Baseline_Molybdenum	RfD	5.45E-05	1.58E-03	1.41E-03	8.46E-04	9.24E-04	1.58E-03	0.00E+00
Haul Road_Average	Baseline	Nickel	Haul Road_Average_Baseline_Nickel	RfD	3.19E-03	3.76E-02	3.19E-02	1.85E-02	2.07E-02	3.76E-02	0.00E+00
Haul Road_Average	Baseline	Silver	Haul Road_Average_Baseline_Silver	RfD	5.01E-05	6.08E-04	4.70E-04	2.99E-04	2.93E-04	6.08E-04	0.00E+00
Haul Road_Average	Baseline	Strontium	Haul Road_Average_Baseline_Strontium	RfD	3.76E-05	6.62E-03	5.28E-03	4.39E-03	4.20E-03	6.62E-03	0.00E+00
Haul Road_Average	Baseline	Vanadium	Haul Road_Average_Baseline_Vanadium	RfD	4.18E-02	9.24E-02	2.05E-02	1.21E-02	1.18E-02	9.24E-02	0.00E+00
Haul Road_Average	Baseline	Zinc	Haul Road_Average_Baseline_Zinc	RfD	1.88E-04	8.68E-03	7.70E-03	4.88E-03	4.78E-03	8.68E-03	0.00E+00
Haul Road_Average	Project	Aluminum	Haul Road_Average_Project_Aluminum	RfD	9.34E-03	2.92E-02	1.34E-02	7.68E-03	8.11E-03	2.92E-02	0.00E+00
Haul Road_Average	Project	Antimony	Haul Road_Average_Project_Antimony	RfD	3.27E-04	1.09E-03	5.21E-04	3.21E-04	3.32E-04	1.09E-03	0.00E+00
Haul Road_Average	Project	Arsenic	Haul Road_Average_Project_Arsenic	RfD	6.96E-03	2.03E-02	7.84E-03	4.46E-03	4.44E-03	2.03E-02	0.00E+00
Haul Road_Average	Project	Arsenic_cancer	Haul Road_Average_Project_Arsenic_cancer	RsD	2.18E-03	5.71E-02	3.43E-02	2.23E-02	1.67E-01	0.00E+00	2.83E-01
Haul Road_Average	Project	Barium	Haul Road_Average_Project_Barium	RfD	2.44E-05	1.68E-04	1.01E-04	8.72E-05	8.31E-05	1.68E-04	0.00E+00
Haul Road_Average	Project	Beryllium	Haul Road_Average_Project_Beryllium	RfD	1.20E-05	3.72E-05	1.70E-05	9.69E-06	1.02E-05	3.72E-05	0.00E+00
Haul Road_Average	Project	Boron	Haul Road_Average_Project_Boron	RfD	1.64E-06	6.06E-05	4.92E-05	3.80E-05	3.81E-05	6.06E-05	0.00E+00
Haul Road_Average	Project	Cadmium	Haul Road_Average_Project_Cadmium	RfD	1.60E-05	3.72E-04	3.04E-04	1.94E-04	1.78E-04	3.72E-04	0.00E+00
Haul Road_Average	Project	Chromium	Haul Road_Average_Project_Chromium	RfD	2.56E-03	8.75E-03	4.29E-03	2.53E-03	2.76E-03	8.75E-03	0.00E+00
Haul Road_Average	Project	Cobalt	Haul Road_Average_Project_Cobalt	RfD	6.80E-04	3.90E-03	2.36E-03	1.53E-03	1.62E-03	3.90E-03	0.00E+00
Haul Road_Average	Project	Copper	Haul Road_Average_Project_Copper	RfD	1.80E-05	1.89E-03	1.55E-03	1.03E-03	8.86E-04	1.89E-03	0.00E+00
Haul Road_Average	Project	Lead	Haul Road_Average_Project_Lead	RfD	7.17E-04	4.16E-03	2.61E-03	1.64E-03	1.50E-03	4.16E-03	0.00E+00
Haul Road_Average	Project	Manganese	Haul Road_Average_Project_Manganese	RfD	2.50E-04	2.55E-03	1.63E-03	1.46E-03	1.38E-03	2.55E-03	0.00E+00
Haul Road_Average	Project	Inorganicmercury	Haul Road_Average_Project_Inorganicmercury	RfD	5.10E-07	1.81E-02	1.38E-02	1.02E-02	1.20E-02	1.81E-02	0.00E+00
Haul Road_Average	Project	Methylmercury	Haul Road_Average_Project_Methylmercury	RfD	1.56E-08	1.74E-01	1.41E-01	9.64E-02	8.81E-02	1.74E-01	0.00E+00
Haul Road_Average	Project	Molybdenum	Haul Road_Average_Project_Molybdenum	RfD	1.83E-06	1.34E-04	1.02E-04	6.44E-05	5.70E-05	1.34E-04	0.00E+00
Haul Road_Average	Project	Nickel	Haul Road_Average_Project_Nickel	RfD	1.77E-04	1.23E-03	8.13E-04	4.93E-04	4.90E-04	1.23E-03	0.00E+00
Haul Road_Average	Project	Silver	Haul Road_Average_Project_Silver	RfD	1.57E-06	1.17E-05	7.84E-06	5.14E-06	4.81E-06	1.17E-05	0.00E+00
Haul Road_Average	Project	Strontium	Haul Road_Average_Project_Strontium	RfD	1.19E-06	2.21E-05	1.64E-05	1.36E-05	1.32E-05	2.21E-05	0.00E+00
Haul Road_Average	Project	Vanadium	Haul Road_Average_Project_Vanadium	RfD	1.34E-03	4.25E-03	1.98E-03	1.14E-03	1.22E-03	4.25E-03	0.00E+00
Haul Road_Average	Project	Zinc	Haul Road_Average_Project_Zinc	RfD	9.82E-06	1.69E-03	1.39E-03	9.29E-04	7.90E-04	1.69E-03	0.00E+00
Haul Road_Max	Baseline	Aluminum	Haul Road_Max_Baseline_Aluminum	RfD	3.93E-01	8.20E-01	1.41E-01	8.94E-02	8.21E-02	8.20E-01	0.00E+00
Haul Road_Max	Baseline	Antimony	Haul Road_Max_Baseline_Antimony	RfD	6.27E-04	3.03E-02	2.39E-02	1.60E-02	1.36E-02	3.03E-02	0.00E+00
Haul Road_Max	Baseline	Arsenic	Haul Road_Max_Baseline_Arsenic	RfD	8.35E-02	1.74E-01	3.09E-02	1.70E-02	1.53E-02	1.74E-01	0.00E+00
Haul Road_Max	Baseline	Arsenic_cancer	Haul Road_Max_Baseline_Arsenic_cancer	RsD	2.61E-02	4.88E-01	1.35E-01	8.52E-02	5.74E-01	0.00E+00	1.31E+00
Haul Road_Max	Baseline	Barium	Haul Road_Max_Baseline_Barium	RfD	4.39E-04	9.52E-03	6.31E-03	6.33E-03	5.88E-03	9.52E-03	0.00E+00
Haul Road_Max	Baseline	Beryllium	Haul Road_Max_Baseline_Beryllium	RfD	5.01E-04	5.36E-03	3.73E-03	2.47E-03	2.09E-03	5.36E-03	0.00E+00
Haul Road_Max	Baseline	Boron	Haul Road_Max_Baseline_Boron	RfD	3.76E-05	6.82E-03	5.66E-03	4.42E-03	4.47E-03	6.82E-03	0.00E+00
Haul Road_Max	Baseline	Cadmium	Haul Road_Max_Baseline_Cadmium	RfD	2.76E-04	9.24E-03	8.58E-03	5.15E-03	5.37E-03	9.24E-03	0.00E+00
Haul Road_Max	Baseline	Chromium	Haul Road_Max_Baseline_Chromium	RfD	5.26E-02	1.40E-01	4.80E-02	2.81E-02	2.98E-02	1.40E-01	0.00E+00
Haul Road_Max	Baseline	Cobalt	Haul Road_Max_Baseline_Cobalt	RfD	1.83E-02	5.76E-02	2.23E-02	1.51E-02	1.75E-02	5.76E-02	0.00E+00
Haul Road_Max	Baseline	Copper	Haul Road_Max_Baseline_Copper	RfD	2.75E-04	1.32E-02	1.09E-02	7.18E-03	7.18E-03	1.32E-02	0.00E+00
Haul Road_Max	Baseline	Lead	Haul Road_Max_Baseline_Lead	RfD	6.85E-02	1.48E-01	2.92E-02	1.82E-02	1.58E-02	1.48E-01	0.00E+00
Haul Road_Max	Baseline	Manganese	Haul Road_Max_Baseline_Manganese	RfD	1.48E-02	5.34E-01	3.65E-01	3.65E-01	3.44E-01	5.34E-01	0.00E+00
Haul Road_Max	Baseline	Inorganicmercury	Haul Road_Max_Baseline_Inorganicmercury	RfD	8.19E-04	8.32E-02	6.45E-02	4.61E-02	1.47E-02	8.32E-02	0.00E+00
Haul Road_Max	Baseline	Methylmercury	Haul Road_Max_Baseline_Methylmercury	RfD	2.51E-05	7.27E-01	5.93E-01	4.04E-01	2.91E-01	7.27E-01	0.00E+00
Haul Road_Max	Baseline	Molybdenum	Haul Road_Max_Baseline_Molybdenum	RfD	5.45E-05	1.04E-03	8.64E-04	5.35E-04	5.86E-04	1.04E-03	0.00E+00
Haul Road_Max	Baseline	Nickel	Haul Road_Max_Baseline_Nickel	RfD	3.19E-03	2.46E-02	1.83E-02	1.10E-02	1.25E-02	2.46E-02	0.00E+00
Haul Road_Max	Baseline	Silver	Haul Road_Max_Baseline_Silver	RfD	5.01E-05	4.92E-04	3.54E-04	2.30E-04	2.18E-04	4.92E-04	0.00E+00
Haul Road_Max	Baseline	Strontium	Haul Road_Max_Baseline_Strontium	RfD	3.76E-05	3.78E-03	3.00E-03	2.44E-03	2.32E-03	3.78E-03	0.00E+00
Haul Road_Max	Baseline	Vanadium	Haul Road_Max_Baseline_Vanadium	RfD	4.18E-02	8.98E-02	1.79E-02	1.06E-02	1.01E-02	8.98E-02	0.00E+00
Haul Road_Max	Baseline	Zinc	Haul Road_Max_Baseline_Zinc	RfD	1.88E-04	6.18E-03	5.24E-03	3.37E-03	3.18E-03	6.18E-03	0.00E+00
Haul Road_Max	Project	Aluminum	Haul Road_Max_Project_Aluminum	RfD	2.57E-02	6.68E-02	2.29E-02	1.33E-02	1.37E-02	6.68E-02	0.00E+00
Haul Road_Max	Project	Antimony	Haul Road_Max_Project_Antimony	RfD	9.02E-04	2.44E-03	8.72E-04	5.34E-04	5.44E-04	2.44E-03	0.00E+00
Haul Road_Max	Project	Arsenic	Haul Road_Max_Project_Arsenic	RfD	1.92E-02	4.64E-02	1.32E-02	7.51E-03	7.30E-03	4.64E-02	0.00E+00
Haul Road_Max	Project	Arsenic_cancer	Haul Road_Max_Project_Arsenic_cancer	RsD	6.00E-03	1.31E-01	5.77E-02	3.76E-02	2.74E-01	0.00E+00	5.06E-01
Haul Road_Max	Project	Barium	Haul Road_Max_Project_Barium	RfD	6.73E-05	3.01E-04	1.50E-04	1.27E-04	1.21E-04	3.01E-04	0.00E+00
Haul Road_Max	Project	Beryllium	Haul Road_Max_Project_Beryllium	RfD	3.30E-05	8.49E-05	2.88E-05	1.65E-05	1.70E-05	8.49E-05	0.00E+00
Haul Road_Max	Project	Boron	Haul Road_Max_Project_Boron	RfD	4.51E-06	9.19E-05	7.13E-05	5.50E-05	5.57E-05	9.19E-05	0.00E+00
Haul Road_Max	Project	Cadmium	Haul Road_Max_Project_Cadmium	RfD	4.40E-05	4.67E-04	3.52E-04	2.22E-04	2.07E-04	4.67E-04	0.00E+00
Haul Road_Max	Project	Chromium	Haul Road_Max_Project_Chromium	RfD	7.05E-03	2.02E-02	7.75E-03	4.68E-03	5.12E-03	2.02E-02	0.00E+00
Haul Road_Max	Project	Cobalt	Haul Road_Max_Project_Cobalt	RfD	1.87E-03	7.95E-03	4.02E-03	2.68E-03	2.99E-03	7.95E-03	0.00E+00
Haul Road_Max	Project	Copper	Haul Road_Max_Project_Copper	RfD	4.97E-05	2.02E-03	1.62E-03	1.08E-03	9.39E-04	2.02E-03	0.00E+00
Haul Road_Max	Project	Lead	Haul Road_Max_Project_Lead	RfD	1.97E-03	6.97E-03	3.28E-03	2.02E-03	1.86E-03	6.97E-03	0.00E+00
Haul Road_Max	Project	Manganese	Haul Road_Max_Project_Manganese	RfD	6.88E-04	4.23E-03	2.37E-03	2.09E-03	1.99E-03	4.23E-03	0.00E+00
Haul Road_Max	Project	Inorganicmercury	Haul Road_Max_Project_Inorganicmercury	RfD	1.41E-06	1.81E-02	1.38E-02	1.02E-02	1.20E-02	1.81E-02	0.00E+00
Haul Road_Max	Project	Methylmercury	Haul Road_Max_Project_Methylmercury	RfD	4.30E-08	1.74E-01	1.41E-01	9.64E-02	8.81E-02	1.74E-01	0.00E+00
Haul Road_Max	Project	Molybdenum	Haul Road_Max_Project_Molybdenum	RfD	5.04E-06	1.45E-04	1.07E-04	6.74E-05	6.05E-05	1.45E-04	0.00E+00
Haul Road_Max	Project	Nickel	Haul Road_Max_Project_Nickel	RfD	4.89E-04	2.12E-03	1.14E-03	7.00E-04	7.23E-04	2.12E-03	0.00E+00
Haul Road_Max	Project	Silver	Haul Road_Max_Project_Silver	RfD	4.33E-06	1.90E-05	1.02E-05	6.67E-06	6.45E-06	1.90E-05	0.00E+00

Haul Road_Max	Project	Strontium	Haul Road_Max_Project_Strontium	RfD	3.29E-06	3.43E-05	2.36E-05	1.93E-05	1.89E-05	3.43E-05	0.00E+00
Haul Road_Max	Project	Vanadium	Haul Road_Max_Project_Vanadium	RfD	3.68E-03	9.77E-03	3.45E-03	2.02E-03	2.13E-03	9.77E-03	0.00E+00
Haul Road_Max	Project	Zinc	Haul Road_Max_Project_Zinc	RfD	2.71E-05	1.74E-03	1.41E-03	9.40E-04	8.01E-04	1.74E-03	0.00E+00

Summary of Soil Concentrations and Comparison to Guidelines

Area	COPC	Baseline	Incremental Contribution of Dust Deposition Outside of PDA over 10 years of operations		Soil Quality Guidelines	
			Project	Project + Baseline	NSE	CCME
Haul Road_Max	Aluminum	2.24E+04	1.47E+02	2.25E+04	1.54E+04	n/a
Haul Road_Max	Antimony	5.00E-02	7.19E-03	5.72E-02	7.50E+00	2.00E+01
Haul Road_Max	Arsenic	1.00E+01	2.30E-01	1.02E+01	3.10E+01	1.20E+01
Haul Road_Max	Arsenic_cancer	1.00E+01	2.30E-01	1.02E+01	n/a	n/a
Haul Road_Max	Barium	3.50E+01	5.37E-01	3.55E+01	1.00E+04	7.50E+02
Haul Road_Max	Beryllium	4.00E-01	2.64E-03	4.03E-01	3.80E+01	4.00E+00
Haul Road_Max	Boron	3.00E+00	3.60E-02	3.04E+00	4.30E+03	2.00E+00
Haul Road_Max	Cadmium	1.10E-01	1.76E-03	1.12E-01	1.40E+00	1.40E+00
Haul Road_Max	Chromium	2.10E+01	2.81E-01	2.13E+01	2.20E+02	6.40E+01
Haul Road_Max	Cobalt	1.02E+01	1.05E-01	1.03E+01	2.20E+01	4.00E+01
Haul Road_Max	Copper	1.00E+01	1.80E-01	1.02E+01	1.10E+03	6.30E+01
Haul Road_Max	Lead	1.64E+01	4.73E-02	1.64E+01	1.40E+02	7.00E+01
Haul Road_Max	Manganese	8.01E+02	3.74E+00	8.05E+02	n/a	n/a
Haul Road_Max	Mercury	1.00E-01	1.72E-05	1.00E-01	6.60E+00	6.60E+00
Haul Road_Max	Methylmercury	2.00E-03	3.43E-07	2.00E-03	--	--
Haul Road_Max	Molybdenum	5.00E-01	4.63E-03	5.05E-01	1.10E+02	5.00E+00
Haul Road_Max	Nickel	1.40E+01	2.15E-01	1.42E+01	3.30E+02	4.50E+01
Haul Road_Max	Silver	1.00E-01	8.65E-04	1.01E-01	7.70E+01	2.00E+01
Haul Road_Max	Strontium	9.00E+00	7.88E-02	9.08E+00	9.40E+03	n/a
Haul Road_Max	Vanadium	3.50E+01	3.08E-01	3.53E+01	3.90E+01	1.30E+02
Haul Road_Max	Zinc	3.60E+01	5.18E-01	3.65E+01	5.60E+03	2.50E+02
Haul Road_Average	Aluminum	2.24E+04	5.33E+01	2.25E+04	1.54E+04	n/a
Haul Road_Average	Antimony	5.00E-02	2.61E-03	5.26E-02	7.50E+00	2.00E+01
Haul Road_Average	Arsenic	1.00E+01	8.34E-02	1.01E+01	3.10E+01	1.20E+01
Haul Road_Average	Arsenic_cancer	1.00E+01	8.34E-02	1.01E+01	n/a	n/a
Haul Road_Average	Barium	3.50E+01	1.95E-01	3.52E+01	1.00E+04	7.50E+02
Haul Road_Average	Beryllium	4.00E-01	9.57E-04	4.01E-01	3.80E+01	4.00E+00
Haul Road_Average	Boron	3.00E+00	1.31E-02	3.01E+00	4.30E+03	2.00E+00
Haul Road_Average	Cadmium	1.10E-01	6.38E-04	1.11E-01	1.40E+00	1.40E+00
Haul Road_Average	Chromium	2.10E+01	1.02E-01	2.11E+01	2.20E+02	6.40E+01
Haul Road_Average	Cobalt	1.02E+01	3.80E-02	1.02E+01	2.20E+01	4.00E+01
Haul Road_Average	Copper	1.00E+01	6.54E-02	1.01E+01	1.10E+03	6.30E+01
Haul Road_Average	Lead	1.64E+01	1.72E-02	1.64E+01	1.40E+02	7.00E+01
Haul Road_Average	Manganese	8.01E+02	1.36E+00	8.02E+02	n/a	n/a
Haul Road_Average	Mercury	1.00E-01	6.23E-06	1.00E-01	6.60E+00	6.60E+00
Haul Road_Average	Methylmercury	2.00E-03	1.25E-07	2.00E-03	--	--
Haul Road_Average	Molybdenum	5.00E-01	1.68E-03	5.02E-01	1.10E+02	5.00E+00
Haul Road_Average	Nickel	1.40E+01	7.79E-02	1.41E+01	3.30E+02	4.50E+01
Haul Road_Average	Silver	1.00E-01	3.14E-04	1.00E-01	7.70E+01	2.00E+01
Haul Road_Average	Strontium	9.00E+00	2.86E-02	9.03E+00	9.40E+03	n/a
Haul Road_Average	Vanadium	3.50E+01	1.12E-01	3.51E+01	3.90E+01	1.30E+02
Haul Road_Average	Zinc	3.60E+01	1.88E-01	3.62E+01	5.60E+03	2.50E+02

Summary of Soil Concentrations and Comparison to Guidelines

Area	COPC	Baseline	Incremental Contribution of Dust Deposition Outside of PDA over 10 years of operations		Soil Quality Guidelines	
			Project	Project + Baseline	NSE	CCME
Haul Road_Max	Aluminum	2.24E+04	1.47E+03	2.39E+04	1.54E+04	n/a
Haul Road_Max	Antimony	5.00E-02	7.19E-02	1.22E-01	7.50E+00	2.00E+01
Haul Road_Max	Arsenic	1.00E+01	2.30E+00	1.23E+01	3.10E+01	1.20E+01
Haul Road_Max	Arsenic_cancer	1.00E+01	2.30E+00	1.23E+01	n/a	n/a
Haul Road_Max	Barium	3.50E+01	5.37E+00	4.04E+01	1.00E+04	7.50E+02
Haul Road_Max	Beryllium	4.00E-01	2.64E-02	4.26E-01	3.80E+01	4.00E+00
Haul Road_Max	Boron	3.00E+00	3.60E-01	3.36E+00	4.30E+03	2.00E+00
Haul Road_Max	Cadmium	1.10E-01	1.76E-02	1.28E-01	1.40E+00	1.40E+00
Haul Road_Max	Chromium	2.10E+01	2.81E+00	2.38E+01	2.20E+02	6.40E+01
Haul Road_Max	Cobalt	1.02E+01	1.05E+00	1.12E+01	2.20E+01	4.00E+01
Haul Road_Max	Copper	1.00E+01	1.80E+00	1.18E+01	1.10E+03	6.30E+01
Haul Road_Max	Lead	1.64E+01	4.73E-01	1.69E+01	1.40E+02	7.00E+01
Haul Road_Max	Manganese	8.01E+02	3.74E+01	8.38E+02	n/a	n/a
Haul Road_Max	Mercury	1.00E-01	1.72E-04	1.00E-01	6.60E+00	6.60E+00
Haul Road_Max	Methylmercury	2.00E-03	3.43E-06	2.00E-03	--	--
Haul Road_Max	Molybdenum	5.00E-01	4.63E-02	5.46E-01	1.10E+02	5.00E+00
Haul Road_Max	Nickel	1.40E+01	2.15E+00	1.61E+01	3.30E+02	4.50E+01
Haul Road_Max	Silver	1.00E-01	8.65E-03	1.09E-01	7.70E+01	2.00E+01
Haul Road_Max	Strontium	9.00E+00	7.88E-01	9.79E+00	9.40E+03	n/a
Haul Road_Max	Vanadium	3.50E+01	3.08E+00	3.81E+01	3.90E+01	1.30E+02
Haul Road_Max	Zinc	3.60E+01	5.18E+00	4.12E+01	5.60E+03	2.50E+02
Haul Road_Average	Aluminum	2.24E+04	5.33E+02	2.29E+04	1.54E+04	n/a
Haul Road_Average	Antimony	5.00E-02	2.61E-02	7.61E-02	7.50E+00	2.00E+01
Haul Road_Average	Arsenic	1.00E+01	8.34E-01	1.08E+01	3.10E+01	1.20E+01
Haul Road_Average	Arsenic_cancer	1.00E+01	8.34E-01	1.08E+01	n/a	n/a
Haul Road_Average	Barium	3.50E+01	1.95E+00	3.69E+01	1.00E+04	7.50E+02
Haul Road_Average	Beryllium	4.00E-01	9.57E-03	4.10E-01	3.80E+01	4.00E+00
Haul Road_Average	Boron	3.00E+00	1.31E-01	3.13E+00	4.30E+03	2.00E+00
Haul Road_Average	Cadmium	1.10E-01	6.38E-03	1.16E-01	1.40E+00	1.40E+00
Haul Road_Average	Chromium	2.10E+01	1.02E+00	2.20E+01	2.20E+02	6.40E+01
Haul Road_Average	Cobalt	1.02E+01	3.80E-01	1.06E+01	2.20E+01	4.00E+01
Haul Road_Average	Copper	1.00E+01	6.54E-01	1.07E+01	1.10E+03	6.30E+01
Haul Road_Average	Lead	1.64E+01	1.72E-01	1.66E+01	1.40E+02	7.00E+01
Haul Road_Average	Manganese	8.01E+02	1.36E+01	8.15E+02	n/a	n/a
Haul Road_Average	Mercury	1.00E-01	6.23E-05	1.00E-01	6.60E+00	6.60E+00
Haul Road_Average	Methylmercury	2.00E-03	1.25E-06	2.00E-03	--	--
Haul Road_Average	Molybdenum	5.00E-01	1.68E-02	5.17E-01	1.10E+02	5.00E+00
Haul Road_Average	Nickel	1.40E+01	7.79E-01	1.48E+01	3.30E+02	4.50E+01
Haul Road_Average	Silver	1.00E-01	3.14E-03	1.03E-01	7.70E+01	2.00E+01
Haul Road_Average	Strontium	9.00E+00	2.86E-01	9.29E+00	9.40E+03	n/a
Haul Road_Average	Vanadium	3.50E+01	1.12E+00	3.61E+01	3.90E+01	1.30E+02
Haul Road_Average	Zinc	3.60E+01	1.88E+00	3.79E+01	5.60E+03	2.50E+02

Summary of Berry Concentrations Used to Estimate Human Exposures [mg/kg-WW]

Area	COPC	Baseline	Incremental Contribution of Dust Deposition Outside of PDA over 10 years of operations	
			Project	Project + Baseline
Haul Road_Max	Aluminum	3.10E+00	7.36E+00	1.05E+01
Haul Road_Max	Antimony	2.39E-04	3.94E-04	6.34E-04
Haul Road_Max	Arsenic	5.79E-03	7.14E-03	1.29E-02
Haul Road_Max	Arsenic_cancer	5.79E-03	7.14E-03	1.29E-02
Haul Road_Max	Barium	2.55E+00	6.60E-02	2.62E+00
Haul Road_Max	Beryllium	1.55E-04	1.33E-04	2.88E-04
Haul Road_Max	Boron	3.05E+00	3.83E-02	3.08E+00
Haul Road_Max	Cadmium	2.68E-02	5.16E-04	2.73E-02
Haul Road_Max	Chromium	8.00E-02	1.51E-02	9.51E-02
Haul Road_Max	Cobalt	2.40E-02	5.48E-03	2.95E-02
Haul Road_Max	Copper	1.16E+00	2.99E-02	1.19E+00
Haul Road_Max	Lead	3.00E-03	2.37E-03	5.37E-03
Haul Road_Max	Manganese	9.73E+01	6.41E-01	9.79E+01
Haul Road_Max	Mercury	1.00E-02	3.18E-06	1.00E-02
Haul Road_Max	Methylmercury	2.30E-03	7.31E-07	2.30E-03
Haul Road_Max	Molybdenum	4.61E-02	6.58E-04	4.67E-02
Haul Road_Max	Nickel	5.60E-01	1.93E-02	5.79E-01
Haul Road_Max	Silver	2.07E-03	6.11E-05	2.13E-03
Haul Road_Max	Strontium	3.72E+00	3.65E-02	3.76E+00
Haul Road_Max	Vanadium	2.00E-02	1.57E-02	3.57E-02
Haul Road_Max	Zinc	4.16E+00	8.58E-02	4.25E+00
Haul Road_Average	Aluminum	3.10E+00	2.67E+00	5.77E+00
Haul Road_Average	Antimony	2.39E-04	1.43E-04	3.82E-04
Haul Road_Average	Arsenic	5.79E-03	2.59E-03	8.38E-03
Haul Road_Average	Arsenic_cancer	5.79E-03	2.59E-03	8.38E-03
Haul Road_Average	Barium	2.55E+00	2.39E-02	2.57E+00
Haul Road_Average	Beryllium	1.55E-04	4.82E-05	2.03E-04
Haul Road_Average	Boron	3.05E+00	1.39E-02	3.06E+00
Haul Road_Average	Cadmium	2.68E-02	1.87E-04	2.70E-02
Haul Road_Average	Chromium	8.00E-02	5.49E-03	8.54E-02
Haul Road_Average	Cobalt	2.40E-02	1.99E-03	2.60E-02
Haul Road_Average	Copper	1.16E+00	1.09E-02	1.17E+00
Haul Road_Average	Lead	3.00E-03	8.61E-04	3.86E-03
Haul Road_Average	Manganese	9.73E+01	2.33E-01	9.75E+01
Haul Road_Average	Mercury	1.00E-02	1.15E-06	1.00E-02
Haul Road_Average	Methylmercury	2.30E-03	2.65E-07	2.30E-03
Haul Road_Average	Molybdenum	4.61E-02	2.39E-04	4.63E-02
Haul Road_Average	Nickel	5.60E-01	7.01E-03	5.67E-01
Haul Road_Average	Silver	2.07E-03	2.22E-05	2.09E-03
Haul Road_Average	Strontium	3.72E+00	1.32E-02	3.73E+00
Haul Road_Average	Vanadium	2.00E-02	5.69E-03	2.57E-02
Haul Road_Average	Zinc	4.16E+00	3.11E-02	4.19E+00

Summary of Leaves Concentrations Used to Estimate Human Exposures [mg/kg-WW]

Area	COPC	Baseline	Incremental Contribution of Dust Deposition Outside of PDA over 10 years of operations	
			Project	Project + Baseline
Haul Road_Max	Aluminum	7.06E+01	1.33E+01	8.39E+01
Haul Road_Max	Antimony	3.20E-03	1.09E-03	4.29E-03
Haul Road_Max	Arsenic	7.80E-03	1.58E-02	2.36E-02
Haul Road_Max	Arsenic_cancer	7.80E-03	1.58E-02	2.36E-02
Haul Road_Max	Barium	3.74E+01	6.21E-01	3.80E+01
Haul Road_Max	Beryllium	1.28E-03	2.39E-04	1.52E-03
Haul Road_Max	Boron	1.90E+01	2.31E-01	1.92E+01
Haul Road_Max	Cadmium	5.92E-02	1.10E-03	6.03E-02
Haul Road_Max	Chromium	8.00E-02	2.56E-02	1.06E-01
Haul Road_Max	Cobalt	5.31E-02	9.69E-03	6.28E-02
Haul Road_Max	Copper	2.35E+00	5.81E-02	2.41E+00
Haul Road_Max	Lead	4.50E-02	4.26E-03	4.93E-02
Haul Road_Max	Manganese	1.43E+03	7.00E+00	1.44E+03
Haul Road_Max	Mercury	1.00E-02	6.45E-06	1.00E-02
Haul Road_Max	Methylmercury	2.30E-03	1.48E-06	2.30E-03
Haul Road_Max	Molybdenum	8.70E-02	1.21E-03	8.82E-02
Haul Road_Max	Nickel	8.80E-01	3.22E-02	9.12E-01
Haul Road_Max	Silver	5.00E-03	1.86E-04	5.19E-03
Haul Road_Max	Strontium	3.06E+01	2.75E-01	3.09E+01
Haul Road_Max	Vanadium	4.00E-02	2.73E-02	6.73E-02
Haul Road_Max	Zinc	1.10E+01	2.04E-01	1.12E+01
Haul Road_Average	Aluminum	7.06E+01	4.82E+00	7.54E+01
Haul Road_Average	Antimony	3.20E-03	3.95E-04	3.60E-03
Haul Road_Average	Arsenic	7.80E-03	5.74E-03	1.35E-02
Haul Road_Average	Arsenic_cancer	7.80E-03	5.74E-03	1.35E-02
Haul Road_Average	Barium	3.74E+01	2.25E-01	3.76E+01
Haul Road_Average	Beryllium	1.28E-03	8.66E-05	1.37E-03
Haul Road_Average	Boron	1.90E+01	8.39E-02	1.91E+01
Haul Road_Average	Cadmium	5.92E-02	3.99E-04	5.96E-02
Haul Road_Average	Chromium	8.00E-02	9.30E-03	8.93E-02
Haul Road_Average	Cobalt	5.31E-02	3.52E-03	5.66E-02
Haul Road_Average	Copper	2.35E+00	2.11E-02	2.37E+00
Haul Road_Average	Lead	4.50E-02	1.55E-03	4.65E-02
Haul Road_Average	Manganese	1.43E+03	2.54E+00	1.43E+03
Haul Road_Average	Mercury	1.00E-02	2.34E-06	1.00E-02
Haul Road_Average	Methylmercury	2.30E-03	5.38E-07	2.30E-03
Haul Road_Average	Molybdenum	8.70E-02	4.39E-04	8.75E-02
Haul Road_Average	Nickel	8.80E-01	1.17E-02	8.92E-01
Haul Road_Average	Silver	5.00E-03	6.76E-05	5.07E-03
Haul Road_Average	Strontium	3.06E+01	9.97E-02	3.07E+01
Haul Road_Average	Vanadium	4.00E-02	9.90E-03	4.99E-02
Haul Road_Average	Zinc	1.10E+01	7.39E-02	1.11E+01

Summary of Predicted Human Exposures for Each Lifestage Category, Scenario and Chemical

					Estimated Daily Intake											
					Soil	Dust	Berries	Leaves	Fish	Deer	Ruffed_Grouse	Snowshoe_Hare	Mallard	Swim: Derm+Ing	Total	RQ
					SIR	AIR	Berries	Leaves	Fish	Deer	Ruffed_Grouse	Snowshoe_Hare	Mallard	Water	EDI	Total
Area	Scenario	Receptor	Chemical	Abbreviation	ug/day	ug/day	ug/day	ug/day	ug/day	ug/day	ug/day	ug/day	ug/day	ug/day	ug/day	Unitless
Haul Road_Max	Baseline	Adult	Aluminum	Haul Road_Max_Baseline_Adult_Aluminum	4.48E+02	9.30E+01	2.82E+01	1.06E+02	2.81E+00	1.50E+02	6.71E-02	9.24E-01	1.79E-01	1.03E+00	8.30E+02	8.21E-02
Haul Road_Max	Baseline	Adult	Antimony	Haul Road_Max_Baseline_Adult_Antimony	1.00E-03	2.08E-04	2.18E-03	4.80E-03	1.80E-01	1.72E-03	1.84E-06	5.02E-06	2.43E-04	2.10E-03	1.92E-01	1.36E-02
Haul Road_Max	Baseline	Adult	Arsenic	Haul Road_Max_Baseline_Adult_Arsenic	2.00E-01	4.15E-02	5.27E-02	1.17E-02	7.46E-03	3.53E-03	7.30E-07	5.04E-06	4.21E-06	7.61E-03	3.25E-01	1.53E-02
Haul Road_Max	Baseline	Adult	Arsenic_cancer	Haul Road_Max_Baseline_Adult_Arsenic_cancer	2.00E-01	4.15E-02	5.27E-02	1.17E-02	7.46E-03	3.53E-03	7.30E-07	5.04E-06	4.21E-06	7.61E-03	3.25E-01	7.65E-01
Haul Road_Max	Baseline	Adult	Barium	Haul Road_Max_Baseline_Adult_Barium	7.00E-01	1.45E-01	2.32E+01	5.61E+01	5.32E-01	2.48E+00	2.90E-04	6.26E-03	6.72E-05	1.41E-02	8.32E+01	5.88E-03
Haul Road_Max	Baseline	Adult	Beryllium	Haul Road_Max_Baseline_Adult_Beryllium	8.00E-03	1.66E-03	1.41E-03	1.92E-03	2.79E-01	1.96E-03	2.78E-06	1.14E-05	2.66E-05	2.10E-03	2.96E-01	2.09E-03
Haul Road_Max	Baseline	Adult	Boron	Haul Road_Max_Baseline_Adult_Boron	6.00E-02	1.25E-02	2.77E+01	2.85E+01	0.00E+00	6.85E+00	8.23E-04	1.70E-02	6.76E-03	1.05E-01	6.33E+01	4.47E-03
Haul Road_Max	Baseline	Adult	Cadmium	Haul Road_Max_Baseline_Adult_Cadmium	2.20E-03	4.57E-04	2.44E-01	8.88E-02	4.10E-02	3.45E-03	7.59E-06	8.78E-06	5.20E-06	8.41E-05	3.80E-01	5.37E-03
Haul Road_Max	Baseline	Adult	Chromium	Haul Road_Max_Baseline_Adult_Chromium	4.20E-01	8.71E-02	7.28E-01	1.20E-01	1.42E-01	5.92E-01	3.26E-03	3.37E-03	8.07E-03	2.94E-03	2.11E+00	2.98E-02
Haul Road_Max	Baseline	Adult	Cobalt	Haul Road_Max_Baseline_Adult_Cobalt	2.04E-01	4.23E-02	2.18E-01	7.97E-02	4.13E-02	1.14E+00	8.86E-04	6.18E-03	2.32E-03	1.14E-03	1.73E+00	1.75E-02
Haul Road_Max	Baseline	Adult	Copper	Haul Road_Max_Baseline_Adult_Copper	2.00E-01	4.15E-02	1.06E+01	3.52E+00	2.02E+01	1.17E+01	4.17E-03	3.06E-02	4.73E-03	2.99E-03	4.62E+01	7.18E-03
Haul Road_Max	Baseline	Adult	Lead	Haul Road_Max_Baseline_Adult_Lead	3.28E-01	6.81E-02	2.73E-02	6.75E-02	1.57E-01	2.11E-02	6.05E-05	1.33E-04	7.70E-05	1.30E-03	6.71E-01	1.58E-02
Haul Road_Max	Baseline	Adult	Manganese	Haul Road_Max_Baseline_Adult_Manganese	1.60E+01	3.32E+00	8.85E+02	2.15E+03	6.74E+00	2.53E+02	2.87E-02	6.33E-01	3.70E-02	1.88E-01	3.31E+03	3.44E-01
Haul Road_Max	Baseline	Adult	Mercury	Haul Road_Max_Baseline_Adult_Mercury	2.00E-03	4.15E-04	9.10E-02	1.50E-02	4.29E+00	2.96E-02	3.20E-04	8.20E-05	1.57E-03	2.97E-05	4.43E+00	0.00E+00
Haul Road_Max	Baseline	Adult	Molybdenum	Haul Road_Max_Baseline_Adult_Molybdenum	1.00E-02	2.08E-03	4.19E-01	1.31E-01	1.08E-01	2.68E-01	1.16E-04	7.13E-04	4.73E-03	1.01E-02	9.53E-01	5.86E-04
Haul Road_Max	Baseline	Adult	Nickel	Haul Road_Max_Baseline_Adult_Nickel	2.80E-01	5.81E-02	5.09E+00	1.32E+00	5.00E-02	2.89E+00	3.92E-03	8.56E-03	1.85E-03	4.67E-03	9.71E+00	1.25E-02
Haul Road_Max	Baseline	Adult	Silver	Haul Road_Max_Baseline_Adult_Silver	2.00E-03	4.15E-04	1.88E-02	7.50E-03	3.95E-02	8.10E-03	3.49E-05	2.50E-05	5.46E-04	2.10E-04	7.71E-02	2.18E-04
Haul Road_Max	Baseline	Adult	Strontium	Haul Road_Max_Baseline_Adult_Strontium	1.80E-01	3.73E-02	3.39E+01	4.59E+01	1.45E+01	4.10E+00	4.86E-04	1.02E-02	2.62E-03	2.63E-02	9.86E+01	2.32E-03
Haul Road_Max	Baseline	Adult	Vanadium	Haul Road_Max_Baseline_Adult_Vanadium	7.00E-01	1.45E-01	1.82E-01	6.00E-02	9.00E-02	3.19E-01	1.38E-04	2.23E-03	9.56E-04	4.21E-03	1.50E+00	1.01E-02
Haul Road_Max	Baseline	Adult	Zinc	Haul Road_Max_Baseline_Adult_Zinc	7.20E-01	1.49E-01	3.79E+01	1.65E+01	5.20E+01	4.77E-01	6.67E-02	1.24E-03	6.10E-02	1.46E-02	1.08E+02	3.18E-03
Haul Road_Max	Baseline	Adolescent	Aluminum	Haul Road_Max_Baseline_Adolescent_Aluminum	4.48E+02	8.74E+01	2.00E+01	1.06E+02	2.81E+00	9.71E+01	4.35E-02	5.99E-01	1.16E-01	9.74E-01	7.63E+02	8.94E-02
Haul Road_Max	Baseline	Adolescent	Antimony	Haul Road_Max_Baseline_Adolescent_Antimony	1.00E-03	1.95E-04	1.54E-03	4.80E-03	1.80E-01	1.11E-03	1.19E-06	3.26E-06	1.58E-04	2.00E-03	1.91E-01	1.60E-02
Haul Road_Max	Baseline	Adolescent	Arsenic	Haul Road_Max_Baseline_Adolescent_Arsenic	2.00E-01	3.90E-02	3.73E-02	1.17E-02	7.46E-03	2.29E-03	4.73E-07	3.26E-06	2.73E-06	7.22E-03	3.05E-01	1.70E-02
Haul Road_Max	Baseline	Adolescent	Arsenic_cancer	Haul Road_Max_Baseline_Adolescent_Arsenic_cancer	2.00E-01	3.90E-02	3.73E-02	1.17E-02	7.46E-03	2.29E-03	4.73E-07	3.26E-06	2.73E-06	7.22E-03	3.05E-01	8.52E-01
Haul Road_Max	Baseline	Adolescent	Barium	Haul Road_Max_Baseline_Adolescent_Barium	7.00E-01	1.37E-01	1.64E+01	5.61E+01	5.32E-01	1.61E+00	1.88E-04	4.05E-03	4.35E-05	1.34E-02	7.55E+01	6.33E-03
Haul Road_Max	Baseline	Adolescent	Beryllium	Haul Road_Max_Baseline_Adolescent_Beryllium	8.00E-03	1.56E-03	9.98E-04	1.92E-03	2.79E-01	1.27E-03	1.80E-06	7.37E-06	1.72E-05	2.00E-03	2.95E-01	2.47E-03
Haul Road_Max	Baseline	Adolescent	Boron	Haul Road_Max_Baseline_Adolescent_Boron	6.00E-02	1.17E-02	1.96E+01	2.85E+01	0.00E+00	4.44E+00	5.34E-04	1.10E-02	4.38E-03	9.98E-02	5.28E+01	4.42E-03
Haul Road_Max	Baseline	Adolescent	Cadmium	Haul Road_Max_Baseline_Adolescent_Cadmium	2.20E-03	4.29E-04	1.73E-01	8.88E-02	4.10E-02	2.23E-03	4.92E-06	5.69E-06	3.37E-06	7.98E-05	3.08E-01	5.15E-03
Haul Road_Max	Baseline	Adolescent	Chromium	Haul Road_Max_Baseline_Adolescent_Chromium	4.20E-01	8.19E-02	5.15E-01	1.20E-01	1.42E-01	3.84E-01	2.11E-03	2.18E-03	5.23E-03	2.79E-03	1.68E+00	2.81E-02
Haul Road_Max	Baseline	Adolescent	Cobalt	Haul Road_Max_Baseline_Adolescent_Cobalt	2.04E-01	3.98E-02	1.55E-01	7.97E-02	4.13E-02	7.38E-01	5.75E-04	4.01E-03	1.51E-03	1.08E-03	1.26E+00	1.51E-02
Haul Road_Max	Baseline	Adolescent	Copper	Haul Road_Max_Baseline_Adolescent_Copper	2.00E-01	3.90E-02	7.47E+00	3.52E+00	2.02E+01	7.56E+00	2.70E-03	1.98E-02	3.07E-03	2.83E-03	3.90E+01	7.18E-03
Haul Road_Max	Baseline	Adolescent	Lead	Haul Road_Max_Baseline_Adolescent_Lead	3.28E-01	6.40E-02	1.93E-02	6.75E-02	1.57E-01	1.37E-02	3.92E-05	8.64E-05	4.99E-05	1.24E-03	6.51E-01	1.82E-02
Haul Road_Max	Baseline	Adolescent	Manganese	Haul Road_Max_Baseline_Adolescent_Manganese	1.60E+01	3.12E+00	6.27E+02	2.15E+03	6.74E+00	1.64E+02	1.86E-02	4.10E-01	2.40E-02	1.78E-01	2.96E+03	3.65E-01
Haul Road_Max	Baseline	Adolescent	Mercury	Haul Road_Max_Baseline_Adolescent_Mercury	2.00E-03	3.90E-04	6.45E-02	1.50E-02	4.29E+00	1.92E-02	2.08E-04	5.32E-05	1.02E-03	2.82E-05	4.39E+00	0.00E+00
Haul Road_Max	Baseline	Adolescent	Molybdenum	Haul Road_Max_Baseline_Adolescent_Molybdenum	1.00E-02	1.95E-03	2.97E-01	1.31E-01	1.08E-01	1.74E-01	7.52E-05	4.62E-04	3.06E-03	9.58E-03	7.34E-01	5.35E-04
Haul Road_Max	Baseline	Adolescent	Nickel	Haul Road_Max_Baseline_Adolescent_Nickel	2.80E-01	5.46E-02	3.61E+00	1.32E+00	5.00E-02	1.87E+00	2.54E-03	5.55E-03	1.20E-03	4.43E-03	7.20E+00	1.10E-02
Haul Road_Max	Baseline	Adolescent	Silver	Haul Road_Max_Baseline_Adolescent_Silver	2.00E-03	3.90E-04	1.33E-02	7.50E-03	3.95E-02	5.25E-03	2.26E-05	1.62E-05	3.54E-04	2.00E-04	6.85E-02	2.30E-04
Haul Road_Max	Baseline	Adolescent	Strontium	Haul Road_Max_Baseline_Adolescent_Strontium	1.80E-01	3.51E-02	2.40E+01	4.59E+01	1.45E+01	2.65E+00	3.15E-04	6.62E-03	1.70E-03	2.50E-02	8.73E+01	2.44E-03
Haul Road_Max	Baseline	Adolescent	Vanadium	Haul Road_Max_Baseline_Adolescent_Vanadium	7.00E-01	1.37E-01	1.29E-01	6.00E-02	9.00E-02	2.06E-01	8.97E-05	1.44E-03	6.20E-04	3.99E-03	1.33E+00	1.06E-02
Haul Road_Max	Baseline	Adolescent	Zinc	Haul Road_Max_Baseline_Adolescent_Zinc	7.20E-01	1.40E-01	2.68E+01	1.65E+01	5.20E+01	3.09E-01	4.32E-02	8.03E-04	3.95E-02	1.39E-02	9.66E+01	3.37E-03
Haul Road_Max	Baseline	Child	Aluminum	Haul Road_Max_Baseline_Child_Aluminum	4.48E+02	8.12E+01	2.48E+01	3.53E+01	2.32E+00	6.94E+01	3.11E-02	4.28E-01	8.31E-02	1.45E+00	6.63E+02	1.41E-01
Haul Road_Max	Baseline	Child	Antimony	Haul Road_Max_Baseline_Child_Antimony	1.00E-03	1.81E-04	1.91E-03	1.60E-03	1.49E-01	7.95E-04	8.50E-07	2.33E-06	1.13E-04	2.97E-03	1.57E-01	2.39E-02
Haul Road_Max	Baseline	Child	Arsenic	Haul Road_Max_Baseline_Child_Arsenic	2.00E-01	3.62E-02	4.63E-02	3.90E-03	6.16E-03	1.63E-03	3.38E-07	2.33E-06	1.95E-06	1.07E-02	3.05E-01	3.09E-02
Haul Road_Max	Baseline	Child	Arsenic_cancer	Haul Road_Max_Baseline_Child_Arsenic_cancer	2.00E-01	3.62E-02	4.63E-02	3.90E-03	6.16E-03	1.63E-03	3.38E-07	2.33E-06	1.95E-06	1.07E-02	3.05E-01	1.55E+00
Haul Road_Max	Baseline	Child	Barium	Haul Road_Max_Baseline_Child_Barium	7.00E-01	1.27E-01	2.04E+01	1.87E+01	4.39E-01	1.15E+00	1.34E-04	2.90E-03	3.11E-05	1.99E-02	4.15E+01	6.31E-03
Haul Road_Max	Baseline	Child	Beryllium	Haul Road_Max_Baseline_Child_Beryllium	8.00E-03	1.45E-03	1.24E-03	6.40E-04	2.30E-01	9.05E-04	1.29E-06	5.26E-06	1.23E-05	2.97E-03	2.45E-01	3.73E-03
Haul Road_Max	Baseline	Child	Boron	Haul Road_Max_Baseline_Child_Boron	6.00E-02	1.09E-02	2.44E+01	9.50E+00	0.00E+00	3.17E+00	3.81E-04	7.89E-03	3.13E-03	1.48E-01	3.73E+01	5.66E-03
Haul Road_Max	Baseline	Child	Cadmium	Haul Road_Max_Baseline_Child_Cadmium	2.20E-03	3.99E-04	2.14E-01	2.96E-02	3.39E-02	1.60E-03	3.52E-06	4.06E-06	2.41E-06	1.19E-04	2.82E-01	8.58E-03
Haul Road_Max	Baseline	Child	Chromium	Haul Road_Max_Baseline_Child_Chromium	4.20E-01	7.61E-02	6.39E-01	4.00E-02	1.17E-01	2.74E-01	1.51E-03	1.56E-03	3.73E-03	4.15E-03	1.58E+00	4.80E-02
Haul Road_Max	Baseline	Child	Cobalt	Haul Road_Max_Baseline_Child_Cobalt	2.04E-01	3.70E-02	1.92E-01	2.66E-02	3.41E-02	5.27E-01	4.10E-04	2.86E-03	1.08E-03	1.60E-03	1.03E+00	2.23E-02
Haul Road_Max	Baseline	Child	Copper	Haul Road_Max_Baseline_Child_Copper	2.00E-01	3.62E-02	9.27E+00	1.17E+00	1.67E+01	5.40E+00	1.93E-03	1.42E-02	2.19E-03	4.21E-03	3.28E+01	1.09E-02
Haul Road_Max	Baseline	Child	Lead	Haul Road_Max_Baseline_Child_Lead	3.28E-01	5.95E-02	2.40E-02	2.25E-02	1.30E-01	9.77E-03	2.80E-05	6.17E-05	3.57E-05	1.84E-03	5.75E-01	2.92E-02
Haul Road_Max	Baseline	Child	Manganese	Haul Road_Max_Baseline_Child_Manganese	1.60E+01	2.90E+00	7.78E+02	7.15E+02	5.56E+00	1.17E+02	1.33E-02	2.93E-01	1.71E-02	2.65E-01	1.64E+03	3.65E-01
Haul Road_Max	Baseline	Child	Mercury	Haul Road_Max_Baseline_Child_Mercury	2.00E-03	3.63E-04	8.00E-02	5.00E-03	3.54E+00	1.37E-02	1.48E-04	3.80E-05	7.26E-04	4.19E-05	3.64E+00	0.00E+00
Haul Road_Max	Baseline	Child	Molybdenum	Haul Road_Max_Baseline_Child_Molybdenum	1.00E-02	1.81E-03	3.68E-01	4.35E-02	8.91E-02	1.24E-01	5.37E-05	3.30E-04	2.19E-03	1.42E-02	6.54E-01	8.64E-04
Haul Road_Max	Baseline	Child	Nickel	Haul Road_Max_Baseline_Child_Nickel	2.80E-01	5.07E-02	4.47E+00	4.40E-01	4.12E-02	1.34E+00	1.81E-03	3.96E-03	8.58E-04	6.58E-03	6.64E+00	1.83E-02
Haul Road_Max	Baseline	Child	Silver	Haul Road_Max_Baseline_Child_Silver	2.00E-03	3.63E-04	1.66E-02	2.50E-03	3.26E-02	3.75E-03	1.62E-05	1.16E-05	2.53E-04	2.97E-04	5.83E-02	3.54E-04
Haul Road_Max	Baseline	Child	Strontium	Haul Road_Max_Baseline_Child_Strontium	1.80E-01	3.26E-02	2.98E+01	1.53E+01	1.20E+01	1.90E+00	2.25E-04	4.73E-03	1.21E-03	3.71E-02	5.92E+01	3.00E-03
Haul Road_Max	Baseline	Child	Vanadium	Haul Road_Max_Baseline_Child_Vanadium	7.00E-01	1.27E-01	1.60E-01	2.00E-02	7.43E-02	1.47E-01	6.41E-05	1.03E-03	4.43E-04	5.93E-03	1.24E+00	1.79E-02
Haul Road_Max	Baseline	Child	Zinc	Haul Road_Max_Baseline_Child_Zinc	7.20E-01	1.30E-01	3.33E+01	5.50E+00	4.29E+01	2.21E-01	3.09E-02	5.73E-04	2.82E-02	2.06E-02	8.28E+01	5.24E-03
Haul Road_Max	Baseline	Toddler	Aluminum	Haul Road_Max_Baseline_Toddler_Aluminum	1.79E+03	4.65E+01	1.07E+01	3.53E+01	1.41E+00	4.72E+01	2.11E-02	2.91E-01	5.65E-02	1.35E+00	1.93E+03	8.20E-01
Haul Road_Max	Baseline	Toddler	Antimony	Haul Road_Max_Baseline_Toddler_Antimony	4.00E-03	1.04E-04	8.23E-04	1.60E-03	9.00E-02	5.41E-04	5.78E-07	1.58E-06	7.66E-05	2.77E-03	9.99E-02	3.03E-02
Haul Road_Max	Baseline	Toddler	Arsenic	Haul Road_Max_Baseline_Toddler_Arsenic	8.00E-01	2.07E-02	1.99E-02	3.90E-03	3.73E-03	1.11E-03	2.30E-07	1.59E-06	1.33E-06	1.00E-02	8.59E-01	1.74E-01
Haul Road_Max	Baseline	Toddler	Arsenic_cancer	Haul Road_Max_Baseline_Toddler_Arsenic_cancer	8.00E-01	2.07E-02	1.99E-02	3.90E-03	3.73E-03	1.11E-03	2.30E-07	1.59E-06	1.33E-06	1.00E-02	8.59E-01	8.68E+00
Haul Road_Max	Baseline	Toddler	Barium	Haul Road_Max_Baseline_Toddler_Barium	2.80E+00	7.26E-02	8.77E+00	1.87E+01	2.66E-01	7.82E-01	9.13E-05	1.97E-03	2.11E-05	1.86E-02	3.14E+01	9.52E-03
Haul Road_Max	Baseline	Toddler	Beryllium	Haul Road_Max_Baseline_Toddler_Beryllium	3.20E-02	8.30E-04	5.32E-04	6.40E-04	1.40E-01	6.16E-04	8.75E-07	3.58E-06	8.37E-06	2.77E-03	1.77E-01	5.36E-03
Haul Road_Max	Baseline	Toddler	Boron	Haul Road_Max_Baseline_Toddler_Boron	2.40E-01	6.23E-03	1.05E+01	9.50E+00	0.00E+00	2.16E+00	2.59E-04	5.36E-03	2.13E-03	1.38E-01	2.25E+01	6.82E-03
Haul Road_Max	Baseline	Toddler	Cadmium	Haul Road_Max_Baseline_Toddler_Cadmium	8.80E-03	2.28E-04	9.21E-02	2.96E-02	2.05E-02	1.08E-03	2.39E-06	2.76E-06	1.64E-06	1.11E-04	1.52E-01	9.24E-03
Haul Road_Max	Baseline	Toddler	Chromium	Haul Road_Max_Baseline_Toddler_Chromium	1.68E+00	4.36E-02	2.75E-01	4.00E-02	7.12E-02	1.86E-01	1.03E-03	1.06E-03	2.54E-03	3.88E-03	2.30E+00	1.40E-01
Haul Road_Max	Baseline	Toddler	Cobalt	Haul Road_Max_Baseline_Toddler_Cobalt	8.16E-01	2.12E-02	8.25E-02	2.66E-02	2.07E-02	3.58E-01	2.79E-04	1.95E-03	7.32E-04	1.49E-03	1.33E+00	5.76E-02
Haul Road_Max	Baseline	Toddler	Copper	Haul Road_Max_Baseline_Toddler_Copper	8.00E-01	2.07E-02	3.99E+00	1.17E+00	1.01E+01	3.67E+00	1.31E-03	9.64E-03	1.49E-03	3.93E-03	1.98E+01	1.32E-02
Haul Road_Max	Baseline	Toddler	Lead	Haul Road_Max_Baseline_Toddler_Lead	1.31E+00	3.40E-02	1.03E-02	2.25E-02	7.87E-02	6.65E-03	1.91E-05	4.20E-05	2.42E-05	1.72E-03	1.47E+00	1.48E-01
Haul Road_Max	Baseline	Toddler	Manganese	Haul Road_Max_Baseline_Toddler_Manganese	6.41E+01	1.66E+00	3.35E+02	7.15E+02	3.37E+00	7.95E+01	9.04E-03	1.99E-01	1.17E-02	2.47E-01	1.20E+03	5.34E-01
Haul Road_Max	Baseline	Toddler	Mercury	Haul Road_Max_Baseline_Toddler_Mercury	8.00E-03	2.08E-04	3.44E-02	5.00E-03	2.14E+00	9.31E-03	1.01E-04	2.58E-05	4.94E-04	3.91E-05	2.20E+00	0.00E+00
Haul Road_Max	Baseline	Toddler	Molybdenum	Haul Road_Max_Baseline_Toddler_Molybdenum	4.00E-02	1.04E-03	1.58E-01	4.35E-02	5.40E-02	8.44E-02	3.65E-05	2.25E-04	1.49E-03	1.33E-02	3.96E-01	1.04E-03
Haul Road_Max	Baseline	Toddler	Nickel	Haul Road_Max_Baseline_Toddler_Nickel	1.12E+00	2.90E-02	1.92E+00	4.40E-01	2.50E-02	9.10E-01	1.23E-03	2.69E-03	5.84E-04	6.15E-03	4.46E+00	2.46E-02
Haul Road_Max	Baseline	Toddler	Silver	Haul Road_Max_Baseline_Toddler_Silver	8.00E-03	2.08E-04	7.12E-03	2.50E-03	1.97E-02	2.55E-03	1.10E-05	7.88E-06	1.72E-04	2.77E-04	4.06E-02	4.92E-04
Haul Road_Max	Baseline	Toddler	Strontium	Haul Road_Max_Baseline_Toddler_Strontium	7.20E-01	1.87E-02	1.28E+01	1.53E+01	7.26E+00	1.29E+00	1.53E-04	3.22E-03	8.24E-04	3.47E-02	3.74E+01	3.78E-03
Haul Road_Max	Baseline	Toddler	Vanadium	Haul Road_Max_Baseline_Toddler_Vanadium	2.80E+00	7.26E-02	6.88E-02	2.00E-02	4.50E-02	1.00E-01	4.36E-05	7.02E-04	3.01E-04	5.54E-03	3.11E+00	8.98E-02
Haul Road_Max	Baseline	Toddler	Zinc	Haul Road_Max_Baseline_Toddler_Zinc	2.88E+00	7.47E-02	1.43E+01	5.50E+00	2.60E+01	1.50E-01	2.10E-02	3.90E-04	1.92E-02	1.93E-02	4.90E+01	6.18E-03
Haul Road_Max	Project	Adult	Aluminum	Haul Road_Max_Project_Adult_Aluminum	2.94E+01	6.09E+00	6.70E+01	1.99E+01	0.00E+00	1.65E+01	2.95E-03	7.73E-02	2.88E-03	0.00E+00	1.39E+02	1.37E-02
Haul Road_Max	Project	Adult	Antimony	Haul Road_Max_Project_Adult_Antimony	1.44E-03	2.99E-04	3.59E-03	1.63E-03	0.00E+00	7.33E-04	3.44E-07	3.00E-06	1.97E-07	0.00E+00	7.70E-03	5.44E-04
Haul Road_Max	Project	Adult	Arsenic	Haul Road_Max_Project_Adult_Arsenic	4.59E-02	9.53E-03	6.50E-02	2.37E-02	4.53E-03	1.50E-03	8.95E-08	1.50E-06	2.32E-06	4.62E-03	1.55E-01	7.30E-03
Haul Road_Max	Project	Adult	Arsenic_cancer	Haul Road_Max_Project_Adult_Arsenic_cancer	4.59E-02	9.53E-03	6.50E-02	2.37E-02	4.53E-03	1.50E-03	8.95E-08	1.50E-06	2.32E-06	4.62E-03	1.55E-01	3.65E-01
Haul Road_Max	Project	Adult	Barium	Haul Road_Max_Project_Adult_Barium	1.07E-01	2.23E-02	6.00E-01	9.31E-01	0.00E+00	4.38E-02	5.37E-06	1.22E-04	1.16E-06	0.00E+00	1.71E+00	1.21E-04
Haul Road_Max	Project	Adult	Beryllium	Haul Road_Max_Project_Adult_Beryllium	5.27E-04	1.09E-04	1.21E-03	3.58E-04	0.00E+00	1.98E-04	4.83E-08	9.25E-07	4.03E-08	0.00E+00	2.40E-03	1.70E-05
Haul Road_Max	Project	Adult	Boron	Haul Road_Max_Project_Adult_Boron	7.19E-03	1.49E-03	3.49E-01	3.47E-01	0.00E+00	8.40E-02	1.02E-05	2.13E-04	7.10E-07	0.00E+00	7.88E-01	5.57E-05
Haul Road_Max	Project	Adult	Cadmium	Haul Road_Max_Project_Adult_Cadmium	3.52E-04	7.29E-05	4.70E-03	1.65E-03	7.79E-03	7.01E-05	2.70E-07	2.09E-07	5.07E-07	1.60E-05	1.46E-02	2.07E-04
Haul Road_Max	Project	Adult	Chromium	Haul Road_Max_Project_Adult_Chromium	5.62E-02	1.17E-02	1.38E-01	3.84E-02	0.00E+00	1.17E-01	6.13E-05	5.45E-04	3.85E-05	0.00E+00	3.62E-01	5.12E-03
Haul Road_Max	Project	Adult	Cobalt	Haul Road_Max_Project_Adult_Cobalt	2.09E-02	4.34E-03	4.99E-02	1.45E-02	4.17E-02	1.61E-01	3.31E-05	7.44E-04	1.80E-03	1.15E-03	2.96E-01	2.99E-03
Haul Road_Max	Project	Adult	Copper	Haul Road_Max_Project_Adult_Copper	3.61E-02	7.48E-03	2.72E-01	8.71E-02	5.30E+00	3.38E-01	8.96E-04	1.14E-03	1.29E-03	7.83E-04	6.04E+00	9.39E-04
Haul Road_Max	Project	Adult	Lead	Haul Road_Max_Project_Adult_Lead	9.46E-03	1.96E-03	2.16E-02	6.39E-03	3.82E-02	1.07E-03	6.82E-07	4.98E-06	1.14E-05	3.17E-04	7.90E-02	1.86E-03
Haul Road_Max	Project	Adult	Manganese	Haul Road_Max_Project_Adult_Manganese	7.47E-01	1.55E-01	5.83E+00	1.05E+01	5.88E-01	1.28E+00	1.60E-04	3.43E-03	3.17E-03	1.64E-02	1.91E+01	1.99E-03
Haul Road_Max	Project	Adult	Mercury	Haul Road_Max_Project_Adult_Mercury	3.43E-06	7.13E-07	2.89E-05	9.67E-06	1.03E+00	2.17E-05	1.59E-05	6.76E-08	3.50E-04	7.13E-06	1.03E+00	0.00E+00
Haul Road_Max	Project	Adult	Molybdenum	Haul Road_Max_Project_Adult_Molybdenum	9.26E-04	1.92E-04	5.99E-03	1.81E-03	7.22E-02	7.36E-03	1.68E-06	2.16E-05	3.13E-03	6.75E-03	9.84E-02	6.05E-05
Haul Road_Max	Project	Adult	Nickel	Haul Road_Max_Project_Adult_Nickel	4.29E-02	8.90E-03	1.76E-01	4.83E-02	1.32E-01	1.41E-01	7.53E-05	5.58E-04	4.34E-04	1.24E-02	5.62E-01	7.23E-04
Haul Road_Max	Project	Adult	Silver	Haul Road_Max_Project_Adult_Silver	1.73E-04	3.59E-05	5.56E-04	2.79E-04	8.76E-04	3.41E-04	3.41E-07	1.27E-06	1.19E-05	4.67E-06	2.28E-03	6.45E-06
Haul Road_Max	Project	Adult	Strontium	Haul Road_Max_Project_Adult_Strontium	1.58E-02	3.27E-03	3.32E-01	4.12E-01	0.00E+00	3.75E-02	4.53E-06	9.71E-05	4.43E-07	0.00E+00	8.01E-01	1.89E-05
Haul Road_Max	Project	Adult	Vanadium	Haul Road_Max_Project_Adult_Vanadium	6.17E-02	1.28E-02	1.43E-01	4.09E-02	0.00E+00	5.73E-02	1.00E-05	2.69E-04	9.96E-06	0.00E+00	3.16E-01	2.13E-03
Haul Road_Max	Project	Adult	Zinc	Haul Road_Max_Project_Adult_Zinc	1.04E-01	2.15E-02	7.81E-01	3.06E-01	2.59E+01	1.02E-02	1.51E-02	3.30E-05	2.33E-02	7.30E-03	2.72E+01	8.01E-04
Haul Road_Max	Project	Adolescent	Aluminum	Haul Road_Max_Project_Adolescent_Aluminum	2.94E+01	5.73E+00	4.75E+01	1.99E+01	0.00E+00	1.07E+01	1.91E-03	5.01E-02	1.87E-03	0.00E+00	1.13E+02	1.33E-02
Haul Road_Max	Project	Adolescent	Antimony	Haul Road_Max_Project_Adolescent_Antimony	1.44E-03	2.81E-04	2.54E-03	1.63E-03	0.00E+00	4.75E-04	2.23E-07	1.95E-06	1.28E-07	0.00E+00	6.37E-03	5.34E-04
Haul Road_Max	Project	Adolescent	Arsenic	Haul Road_Max_Project_Adolescent_Arsenic	4.59E-02	8.96E-03	4.60E-02	2.37E-02	4.53E-03	9.72E-04	5.80E-08	9.70E-07	1.50E-06	4.39E-03	1.35E-01	7.51E-03
Haul Road_Max	Project	Adolescent	Arsenic_cancer	Haul Road_Max_Project_Adolescent_Arsenic_cancer	4.59E-02	8.96E-03	4.60E-02	2.37E-02	4.53E-03	9.72E-04	5.80E-08	9.70E-07	1.50E-06	4.39E-03	1.35E-01	3.76E-01
Haul Road_Max	Project	Adolescent	Barium	Haul Road_Max_Project_Adolescent_Barium	1.07E-01	2.09E-02	4.25E-01	9.31E-01	0.00E+00	2.84E-02	3.48E-06	7.91E-05	7.49E-07	0.00E+00	1.51E+00	1.27E-04
Haul Road_Max	Project	Adolescent	Beryllium	Haul Road_Max_Project_Adolescent_Beryllium	5.27E-04	1.03E-04	8.57E-04	3.58E-04	0.00E+00	1.28E-04	3.13E-08	6.00E-07	2.61E-08	0.00E+00	1.97E-03	1.65E-05
Haul Road_Max	Project	Adolescent	Boron	Haul Road_Max_Project_Adolescent_Boron	7.19E-03	1.40E-03	2.47E-01	3.47E-01	0.00E+00	5.45E-02	6.61E-06	1.38E-04	4.60E-07	0.00E+00	6.57E-01	5.50E-05
Haul Road_Max	Project	Adolescent	Cadmium	Haul Road_Max_Project_Adolescent_Cadmium	3.52E-04	6.85E-05	3.33E-03	1.65E-03	7.79E-03	4.54E-05	1.75E-07	1.35E-07	3.29E-07	1.52E-05	1.32E-02	2.22E-04
Haul Road_Max	Project	Adolescent	Chromium	Haul Road_Max_Project_Adolescent_Chromium	5.62E-02	1.10E-02	9.76E-02	3.84E-02	0.00E+00	7.59E-02	3.97E-05	3.53E-04	2.50E-05	0.00E+00	2.80E-01	4.68E-03
Haul Road_Max	Project	Adolescent	Cobalt	Haul Road_Max_Project_Adolescent_Cobalt	2.09E-02	4.08E-03	3.53E-02	1.45E-02	4.17E-02	1.05E-01	2.15E-05	4.82E-04	1.17E-03	1.09E-03	2.24E-01	2.68E-03
Haul Road_Max	Project	Adolescent	Copper	Haul Road_Max_Project_Adolescent_Copper	3.61E-02	7.03E-03	1.93E-01	8.71E-02	5.30E+00	2.19E-01	5.80E-04	7.36E-04	8.37E-04	7.43E-04	5.84E+00	1.08E-03
Haul Road_Max	Project	Adolescent	Lead	Haul Road_Max_Project_Adolescent_Lead	9.46E-03	1.84E-03	1.53E-02	6.39E-03	3.82E-02	6.93E-04	4.42E-07	3.23E-06	7.39E-06	3.01E-04	7.22E-02	2.02E-03
Haul Road_Max	Project	Adolescent	Manganese	Haul Road_Max_Project_Adolescent_Manganese	7.47E-01	1.46E-01	4.13E+00	1.05E+01	5.88E-01	8.32E-01	1.04E-04	2.23E-03	2.05E-03	1.56E-02	1.70E+01	2.09E-03
Haul Road_Max	Project	Adolescent	Mercury	Haul Road_Max_Project_Adolescent_Mercury	3.43E-06	6.70E-07	2.05E-05	9.67E-06	1.03E+00	1.41E-05	1.03E-05	4.38E-08	2.27E-04	6.76E-06	1.03E+00	0.00E+00
Haul Road_Max	Project	Adolescent	Molybdenum	Haul Road_Max_Project_Adolescent_Molybdenum	9.26E-04	1.81E-04	4.24E-03	1.81E-03	7.22E-02	4.77E-03	1.09E-06	1.40E-05	2.03E-03	6.40E-03	9.26E-02	6.74E-05
Haul Road_Max	Project	Adolescent	Nickel	Haul Road_Max_Project_Adolescent_Nickel	4.29E-02	8.37E-03	1.24E-01	4.83E-02	1.32E-01	9.11E-02	4.88E-05	3.62E-04	2.81E-04	1.17E-02	4.60E-01	7.00E-04
Haul Road_Max	Project	Adolescent	Silver	Haul Road_Max_Project_Adolescent_Silver	1.73E-04	3.37E-05	3.94E-04	2.79E-04	8.76E-04	2.21E-04	2.21E-07	8.26E-07	7.74E-06	4.43E-06	1.99E-03	6.67E-06
Haul Road_Max	Project	Adolescent	Strontium	Haul Road_Max_Project_Adolescent_Strontium	1.58E-02	3.07E-03	2.35E-01	4.12E-01	0.00E+00	2.43E-02	2.93E-06	6.29E-05	2.87E-07	0.00E+00	6.91E-01	1.93E-05
Haul Road_Max	Project	Adolescent	Vanadium	Haul Road_Max_Project_Adolescent_Vanadium	6.17E-02	1.20E-02	1.01E-01	4.09E-02	0.00E+00	3.71E-02	6.49E-06	1.74E-04	6.46E-06	0.00E+00	2.53E-01	2.02E-03
Haul Road_Max	Project	Adolescent	Zinc	Haul Road_Max_Project_Adolescent_Zinc	1.04E-01	2.02E-02	5.53E-01	3.06E-01	2.59E+01	6.62E-03	9.81E-03	2.14E-05	1.51E-02	6.92E-03	2.69E+01	9.40E-04
Haul Road_Max	Project	Child	Aluminum	Haul Road_Max_Project_Child_Aluminum	2.94E+01	5.32E+00	5.89E+01	6.64E+00	0.00E+00	7.66E+00	1.37E-03	3.58E-02	1.33E-03	0.00E+00	1.08E+02	2.29E-02
Haul Road_Max	Project	Child	Antimony	Haul Road_Max_Project_Child_Antimony	1.44E-03	2.61E-04	3.15E-03	5.44E-04	0.00E+00	3.39E-04	1.59E-07	1.39E-06	9.11E-08	0.00E+00	5.74E-03	8.72E-04
Haul Road_Max	Project	Child	Arsenic	Haul Road_Max_Project_Child_Arsenic	4.59E-02	8.33E-03	5.71E-02	7.91E-03	3.74E-03	6.94E-04	4.14E-08	6.93E-07	1.07E-06	6.52E-03	1.30E-01	1.32E-02
Haul Road_Max	Project	Child	Arsenic_cancer	Haul Road_Max_Project_Child_Arsenic_cancer	4.59E-02	8.33E-03	5.71E-02	7.91E-03	3.74E-03	6.94E-04	4.14E-08	6.93E-07	1.07E-06	6.52E-03	1.30E-01	6.60E-01
Haul Road_Max	Project	Child	Barium	Haul Road_Max_Project_Child_Barium	1.07E-01	1.95E-02	5.28E-01	3.10E-01	0.00E+00	2.03E-02	2.49E-06	5.65E-05	5.35E-07	0.00E+00	9.85E-01	1.50E-04
Haul Road_Max	Project	Child	Beryllium	Haul Road_Max_Project_Child_Beryllium	5.27E-04	9.56E-05	1.06E-03	1.19E-04	0.00E+00	9.17E-05	2.23E-08	4.28E-07	1.87E-08	0.00E+00	1.90E-03	2.88E-05
Haul Road_Max	Project	Child	Boron	Haul Road_Max_Project_Child_Boron	7.19E-03	1.30E-03	3.06E-01	1.16E-01	0.00E+00	3.89E-02	4.72E-06	9.88E-05	3.29E-07	0.00E+00	4.69E-01	7.13E-05
Haul Road_Max	Project	Child	Cadmium	Haul Road_Max_Project_Child_Cadmium	3.52E-04	6.37E-05	4.13E-03	5.50E-04	6.43E-03	3.25E-05	1.25E-07	9.66E-08	2.35E-07	2.25E-05	1.16E-02	3.52E-04
Haul Road_Max	Project	Child	Chromium	Haul Road_Max_Project_Child_Chromium	5.62E-02	1.02E-02	1.21E-01	1.28E-02	0.00E+00	5.42E-02	2.84E-05	2.52E-04	1.78E-05	0.00E+00	2.55E-01	7.75E-03
Haul Road_Max	Project	Child	Cobalt	Haul Road_Max_Project_Child_Cobalt	2.09E-02	3.79E-03	4.39E-02	4.84E-03	3.44E-02	7.47E-02	1.53E-05	3.44E-04	8.35E-04	1.62E-03	1.85E-01	4.02E-03
Haul Road_Max	Project	Child	Copper	Haul Road_Max_Project_Child_Copper	3.61E-02	6.54E-03	2.39E-01	2.90E-02	4.37E+00	1.57E-01	4.15E-04	5.26E-04	5.98E-04	1.10E-03	4.84E+00	1.62E-03
Haul Road_Max	Project	Child	Lead	Haul Road_Max_Project_Child_Lead	9.46E-03	1.71E-03	1.90E-02	2.13E-03	3.15E-02	4.95E-04	3.16E-07	2.31E-06	5.28E-06	4.47E-04	6.48E-02	3.28E-03
Haul Road_Max	Project	Child	Manganese	Haul Road_Max_Project_Child_Manganese	7.47E-01	1.35E-01	5.12E+00	3.50E+00	4.85E-01	5.94E-01	7.40E-05	1.59E-03	1.47E-03	2.31E-02	1.06E+01	2.37E-03
Haul Road_Max	Project	Child	Mercury	Haul Road_Max_Project_Child_Mercury	3.43E-06	6.23E-07	2.54E-05	3.22E-06	8.48E-01	1.01E-05	7.38E-06	3.13E-08	1.62E-04	1.01E-05	8.48E-01	0.00E+00
Haul Road_Max	Project	Child	Molybdenum	Haul Road_Max_Project_Child_Molybdenum	9.26E-04	1.68E-04	5.26E-03	6.05E-04	5.95E-02	3.41E-03	7.80E-07	1.00E-05	1.45E-03	9.51E-03	8.09E-02	1.07E-04
Haul Road_Max	Project	Child	Nickel	Haul Road_Max_Project_Child_Nickel	4.29E-02	7.78E-03	1.54E-01	1.61E-02	1.09E-01	6.51E-02	3.48E-05	2.59E-04	2.01E-04	1.74E-02	4.13E-01	1.14E-03
Haul Road_Max	Project	Child	Silver	Haul Road_Max_Project_Child_Silver	1.73E-04	3.13E-05	4.89E-04	9.31E-05	7.23E-04	1.58E-04	1.58E-07	5.90E-07	5.53E-06	6.58E-06	1.68E-03	1.02E-05
Haul Road_Max	Project	Child	Strontium	Haul Road_Max_Project_Child_Strontium	1.58E-02	2.86E-03	2.92E-01	1.37E-01	0.00E+00	1.74E-02	2.10E-06	4.49E-05	2.05E-07	0.00E+00	4.65E-01	2.36E-05
Haul Road_Max	Project	Child	Vanadium	Haul Road_Max_Project_Child_Vanadium	6.17E-02	1.12E-02	1.25E-01	1.36E-02	0.00E+00	2.65E-02	4.64E-06	1.24E-04	4.61E-06	0.00E+00	2.38E-01	3.45E-03
Haul Road_Max	Project	Child	Zinc	Haul Road_Max_Project_Child_Zinc	1.04E-01	1.88E-02	6.86E-01	1.02E-01	2.14E+01	4.73E-03	7.01E-03	1.53E-05	1.08E-02	1.03E-02	2.23E+01	1.41E-03
Haul Road_Max	Project	Toddler	Aluminum	Haul Road_Max_Project_Toddler_Aluminum	1.17E+02	3.05E+00	2.53E+01	6.64E+00	0.00E+00	5.21E+00	9.29E-04	2.43E-02	9.07E-04	0.00E+00	1.58E+02	6.68E-02

Haul Road_Max	Project	Toddler	Antimony	Haul Road_Max_Project_Toddler_Antimony	5.76E-03	1.49E-04	1.36E-03	5.44E-04	0.00E+00	2.31E-04	1.08E-07	9.46E-07	6.20E-08	0.00E+00	8.04E-03	2.44E-03
Haul Road_Max	Project	Toddler	Arsenic	Haul Road_Max_Project_Toddler_Arsenic	1.84E-01	4.77E-03	2.46E-02	7.91E-03	2.27E-03	4.72E-04	2.82E-08	4.71E-07	7.30E-07	6.08E-03	2.30E-01	4.64E-02
Haul Road_Max	Project	Toddler	Arsenic_cancer	Haul Road_Max_Project_Toddler_Arsenic_cancer	1.84E-01	4.77E-03	2.46E-02	7.91E-03	2.27E-03	4.72E-04	2.82E-08	4.71E-07	7.30E-07	6.08E-03	2.30E-01	2.32E+00
Haul Road_Max	Project	Toddler	Barium	Haul Road_Max_Project_Toddler_Barium	4.30E-01	1.11E-02	2.27E-01	3.10E-01	0.00E+00	1.38E-02	1.69E-06	3.84E-05	3.64E-07	0.00E+00	9.92E-01	3.01E-04
Haul Road_Max	Project	Toddler	Beryllium	Haul Road_Max_Project_Toddler_Beryllium	2.11E-03	5.47E-05	4.57E-04	1.19E-04	0.00E+00	6.24E-05	1.52E-08	2.91E-07	1.27E-08	0.00E+00	2.80E-03	8.49E-05
Haul Road_Max	Project	Toddler	Boron	Haul Road_Max_Project_Toddler_Boron	2.88E-02	7.46E-04	1.32E-01	1.16E-01	0.00E+00	2.65E-02	3.21E-06	6.72E-05	2.23E-07	0.00E+00	3.03E-01	9.19E-05
Haul Road_Max	Project	Toddler	Cadmium	Haul Road_Max_Project_Toddler_Cadmium	1.41E-03	3.65E-05	1.77E-03	5.50E-04	3.90E-03	2.21E-05	8.50E-08	6.57E-08	1.60E-07	2.10E-05	7.71E-03	4.67E-04
Haul Road_Max	Project	Toddler	Chromium	Haul Road_Max_Project_Toddler_Chromium	2.25E-01	5.84E-03	5.20E-02	1.28E-02	0.00E+00	3.69E-02	1.93E-05	1.72E-04	1.21E-05	0.00E+00	3.33E-01	2.02E-02
Haul Road_Max	Project	Toddler	Cobalt	Haul Road_Max_Project_Toddler_Cobalt	8.38E-02	2.17E-03	1.89E-02	4.84E-03	2.09E-02	5.08E-02	1.04E-05	2.34E-04	5.68E-04	1.51E-03	1.84E-01	7.95E-03
Haul Road_Max	Project	Toddler	Copper	Haul Road_Max_Project_Toddler_Copper	1.44E-01	3.74E-03	1.03E-01	2.90E-02	2.65E+00	1.06E-01	2.82E-04	3.58E-04	4.07E-04	1.03E-03	3.04E+00	2.02E-03
Haul Road_Max	Project	Toddler	Lead	Haul Road_Max_Project_Toddler_Lead	3.78E-02	9.81E-04	8.16E-03	2.13E-03	1.91E-02	3.37E-04	2.15E-07	1.57E-06	3.59E-06	4.17E-04	6.90E-02	6.97E-03
Haul Road_Max	Project	Toddler	Manganese	Haul Road_Max_Project_Toddler_Manganese	2.99E+00	7.75E-02	2.20E+00	3.50E+00	2.94E-01	4.04E-01	5.03E-05	1.08E-03	9.97E-04	2.16E-02	9.49E+00	4.23E-03
Haul Road_Max	Project	Toddler	Mercury	Haul Road_Max_Project_Toddler_Mercury	1.37E-05	3.56E-07	1.09E-05	3.22E-06	5.14E-01	6.85E-06	5.02E-06	2.13E-08	1.10E-04	9.38E-06	5.14E-01	0.00E+00
Haul Road_Max	Project	Toddler	Molybdenum	Haul Road_Max_Project_Toddler_Molybdenum	3.70E-03	9.60E-05	2.26E-03	6.05E-04	3.61E-02	2.32E-03	5.30E-07	6.81E-06	9.86E-04	8.88E-03	5.49E-02	1.45E-04
Haul Road_Max	Project	Toddler	Nickel	Haul Road_Max_Project_Toddler_Nickel	1.72E-01	4.45E-03	6.64E-02	1.61E-02	6.61E-02	4.43E-02	2.37E-05	1.76E-04	1.37E-04	1.63E-02	3.86E-01	2.12E-03
Haul Road_Max	Project	Toddler	Silver	Haul Road_Max_Project_Toddler_Silver	6.92E-04	1.79E-05	2.10E-04	9.31E-05	4.38E-04	1.07E-04	1.07E-07	4.01E-07	3.76E-06	6.14E-06	1.57E-03	1.90E-05
Haul Road_Max	Project	Toddler	Strontium	Haul Road_Max_Project_Toddler_Strontium	6.30E-02	1.63E-03	1.26E-01	1.37E-01	0.00E+00	1.18E-02	1.43E-06	3.06E-05	1.40E-07	0.00E+00	3.39E-01	3.43E-05
Haul Road_Max	Project	Toddler	Vanadium	Haul Road_Max_Project_Toddler_Vanadium	2.47E-01	6.40E-03	5.39E-02	1.36E-02	0.00E+00	1.80E-02	3.15E-06	8.46E-05	3.14E-06	0.00E+00	3.39E-01	9.77E-03
Haul Road_Max	Project	Toddler	Zinc	Haul Road_Max_Project_Toddler_Zinc	4.15E-01	1.08E-02	2.95E-01	1.02E-01	1.30E+01	3.22E-03	4.76E-03	1.04E-05	7.32E-03	9.60E-03	1.38E+01	1.74E-03
Haul Road_Average	Baseline	Adult	Aluminum	Haul Road_Average_Baseline_Adult_Aluminum	4.48E+02	9.30E+01	5.64E+01	2.12E+02	2.81E+00	1.50E+02	6.71E-02	9.24E-01	1.79E-01	1.03E+00	9.64E+02	9.54E-02
Haul Road_Average	Baseline	Adult	Antimony	Haul Road_Average_Baseline_Adult_Antimony	1.00E-03	2.08E-04	4.35E-03	9.60E-03	1.80E-01	1.72E-03	1.84E-06	5.02E-06	2.43E-04	2.10E-03	1.99E-01	1.41E-02
Haul Road_Average	Baseline	Adult	Arsenic	Haul Road_Average_Baseline_Adult_Arsenic	2.00E-01	4.15E-02	1.05E-01	2.34E-02	7.46E-03	3.53E-03	7.30E-07	5.04E-06	4.21E-06	7.61E-03	3.89E-01	1.83E-02
Haul Road_Average	Baseline	Adult	Arsenic_cancer	Haul Road_Average_Baseline_Adult_Arsenic_cancer	2.00E-01	4.15E-02	1.05E-01	2.34E-02	7.46E-03	3.53E-03	7.30E-07	5.04E-06	4.21E-06	7.61E-03	3.89E-01	9.17E-01
Haul Road_Average	Baseline	Adult	Barium	Haul Road_Average_Baseline_Adult_Barium	7.00E-01	1.45E-01	4.64E+01	1.12E+02	5.32E-01	2.48E+00	2.90E-04	6.26E-03	6.72E-05	1.41E-02	1.63E+02	1.15E-02
Haul Road_Average	Baseline	Adult	Beryllium	Haul Road_Average_Baseline_Adult_Beryllium	8.00E-03	1.66E-03	2.82E-03	3.84E-03	2.79E-01	1.96E-03	2.78E-06	1.14E-05	2.66E-05	2.10E-03	2.99E-01	2.12E-03
Haul Road_Average	Baseline	Adult	Boron	Haul Road_Average_Baseline_Adult_Boron	6.00E-02	1.25E-02	5.54E+01	5.70E+01	0.00E+00	6.85E+00	8.23E-04	1.70E-02	6.76E-03	1.05E-01	1.19E+02	8.45E-03
Haul Road_Average	Baseline	Adult	Cadmium	Haul Road_Average_Baseline_Adult_Cadmium	2.20E-03	4.57E-04	4.88E-01	1.78E-01	4.10E-02	3.45E-03	7.59E-06	8.78E-06	5.20E-06	8.41E-05	7.13E-01	1.01E-02
Haul Road_Average	Baseline	Adult	Chromium	Haul Road_Average_Baseline_Adult_Chromium	4.20E-01	8.71E-02	1.46E+00	2.40E-01	1.42E-01	5.92E-01	3.26E-03	3.37E-03	8.07E-03	2.94E-03	2.95E+00	4.18E-02
Haul Road_Average	Baseline	Adult	Cobalt	Haul Road_Average_Baseline_Adult_Cobalt	2.04E-01	4.23E-02	4.37E-01	1.59E-01	4.13E-02	1.14E+00	8.86E-04	6.18E-03	2.32E-03	1.14E-03	2.03E+00	2.05E-02
Haul Road_Average	Baseline	Adult	Copper	Haul Road_Average_Baseline_Adult_Copper	2.00E-01	4.15E-02	2.11E+01	7.05E+00	2.02E+01	1.17E+01	4.17E-03	3.06E-02	4.73E-03	2.99E-03	6.03E+01	9.37E-03
Haul Road_Average	Baseline	Adult	Lead	Haul Road_Average_Baseline_Adult_Lead	3.28E-01	6.81E-02	5.46E-02	1.35E-01	1.57E-01	2.11E-02	6.05E-05	1.33E-04	7.70E-05	1.30E-03	7.66E-01	1.80E-02
Haul Road_Average	Baseline	Adult	Manganese	Haul Road_Average_Baseline_Adult_Manganese	1.60E+01	3.32E+00	1.77E+03	4.29E+03	6.74E+00	2.53E+02	2.87E-02	6.33E-01	3.70E-02	1.88E-01	6.34E+03	6.59E-01
Haul Road_Average	Baseline	Adult	Mercury	Haul Road_Average_Baseline_Adult_Mercury	2.00E-03	4.15E-04	1.82E-01	3.00E-02	4.29E+00	2.96E-02	3.20E-04	8.20E-05	1.57E-03	2.97E-05	4.53E+00	0.00E+00
Haul Road_Average	Baseline	Adult	Molybdenum	Haul Road_Average_Baseline_Adult_Molybdenum	1.00E-02	2.08E-03	8.38E-01	2.61E-01	1.08E-01	2.68E-01	1.16E-04	7.13E-04	4.73E-03	1.01E-02	1.50E+00	9.24E-04
Haul Road_Average	Baseline	Adult	Nickel	Haul Road_Average_Baseline_Adult_Nickel	2.80E-01	5.81E-02	1.02E+01	2.64E+00	5.00E-02	2.89E+00	3.92E-03	8.56E-03	1.85E-03	4.67E-03	1.61E+01	2.07E-02
Haul Road_Average	Baseline	Adult	Silver	Haul Road_Average_Baseline_Adult_Silver	2.00E-03	4.15E-04	3.77E-02	1.50E-02	3.95E-02	8.10E-03	3.49E-05	2.50E-05	5.46E-04	2.10E-04	1.03E-01	2.93E-04
Haul Road_Average	Baseline	Adult	Strontium	Haul Road_Average_Baseline_Adult_Strontium	1.80E-01	3.73E-02	6.77E+01	9.18E+01	1.45E+01	4.10E+00	4.86E-04	1.02E-02	2.62E-03	2.63E-02	1.78E+02	4.20E-03
Haul Road_Average	Baseline	Adult	Vanadium	Haul Road_Average_Baseline_Adult_Vanadium	7.00E-01	1.45E-01	3.64E-01	1.20E-01	9.00E-02	3.19E-01	1.38E-04	2.23E-03	9.56E-04	4.21E-03	1.75E+00	1.18E-02
Haul Road_Average	Baseline	Adult	Zinc	Haul Road_Average_Baseline_Adult_Zinc	7.20E-01	1.49E-01	7.57E+01	3.30E+01	5.20E+01	4.77E-01	6.67E-02	1.24E-03	6.10E-02	1.46E-02	1.62E+02	4.78E-03
Haul Road_Average	Baseline	Adolescent	Aluminum	Haul Road_Average_Baseline_Adolescent_Aluminum	4.48E+02	8.74E+01	4.00E+01	2.12E+02	2.81E+00	9.71E+01	4.35E-02	5.99E-01	1.16E-01	9.74E-01	8.89E+02	1.04E-01
Haul Road_Average	Baseline	Adolescent	Antimony	Haul Road_Average_Baseline_Adolescent_Antimony	1.00E-03	1.95E-04	3.08E-03	9.60E-03	1.80E-01	1.11E-03	1.19E-06	3.26E-06	1.58E-04	2.00E-03	1.97E-01	1.65E-02
Haul Road_Average	Baseline	Adolescent	Arsenic	Haul Road_Average_Baseline_Adolescent_Arsenic	2.00E-01	3.90E-02	7.47E-02	2.34E-02	7.46E-03	2.29E-03	4.73E-07	3.26E-06	2.73E-06	7.22E-03	3.54E-01	1.98E-02
Haul Road_Average	Baseline	Adolescent	Arsenic_cancer	Haul Road_Average_Baseline_Adolescent_Arsenic_cancer	2.00E-01	3.90E-02	7.47E-02	2.34E-02	7.46E-03	2.29E-03	4.73E-07	3.26E-06	2.73E-06	7.22E-03	3.54E-01	9.88E-01
Haul Road_Average	Baseline	Adolescent	Barium	Haul Road_Average_Baseline_Adolescent_Barium	7.00E-01	1.37E-01	3.29E+01	1.12E+02	5.32E-01	1.61E+00	1.88E-04	4.05E-03	4.35E-05	1.34E-02	1.48E+02	1.24E-02
Haul Road_Average	Baseline	Adolescent	Beryllium	Haul Road_Average_Baseline_Adolescent_Beryllium	8.00E-03	1.56E-03	2.00E-03	3.84E-03	2.79E-01	1.27E-03	1.80E-06	7.37E-06	1.72E-05	2.00E-03	2.98E-01	2.49E-03
Haul Road_Average	Baseline	Adolescent	Boron	Haul Road_Average_Baseline_Adolescent_Boron	6.00E-02	1.17E-02	3.93E+01	5.70E+01	0.00E+00	4.44E+00	5.34E-04	1.10E-02	4.38E-03	9.98E-02	1.01E+02	8.45E-03
Haul Road_Average	Baseline	Adolescent	Cadmium	Haul Road_Average_Baseline_Adolescent_Cadmium	2.20E-03	4.29E-04	3.46E-01	1.78E-01	4.10E-02	2.23E-03	4.92E-06	5.69E-06	3.37E-06	7.98E-05	5.69E-01	9.53E-03
Haul Road_Average	Baseline	Adolescent	Chromium	Haul Road_Average_Baseline_Adolescent_Chromium	4.20E-01	8.19E-02	1.03E+00	2.40E-01	1.42E-01	3.84E-01	2.11E-03	2.18E-03	5.23E-03	2.79E-03	2.31E+00	3.87E-02
Haul Road_Average	Baseline	Adolescent	Cobalt	Haul Road_Average_Baseline_Adolescent_Cobalt	2.04E-01	3.98E-02	3.09E-01	1.59E-01	4.13E-02	7.38E-01	5.75E-04	4.01E-03	1.51E-03	1.08E-03	1.50E+00	1.79E-02
Haul Road_Average	Baseline	Adolescent	Copper	Haul Road_Average_Baseline_Adolescent_Copper	2.00E-01	3.90E-02	1.49E+01	7.05E+00	2.02E+01	7.56E+00	2.70E-03	1.98E-02	3.07E-03	2.83E-03	5.00E+01	9.21E-03
Haul Road_Average	Baseline	Adolescent	Lead	Haul Road_Average_Baseline_Adolescent_Lead	3.28E-01	6.40E-02	3.87E-02	1.35E-01	1.57E-01	1.37E-02	3.92E-05	8.64E-05	4.99E-05	1.24E-03	7.38E-01	2.06E-02
Haul Road_Average	Baseline	Adolescent	Manganese	Haul Road_Average_Baseline_Adolescent_Manganese	1.60E+01	3.12E+00	1.25E+03	4.29E+03	6.74E+00	1.64E+02	1.86E-02	4.10E-01	2.40E-02	1.78E-01	5.74E+03	7.06E-01
Haul Road_Average	Baseline	Adolescent	Mercury	Haul Road_Average_Baseline_Adolescent_Mercury	2.00E-03	3.90E-04	1.29E-01	3.00E-02	4.29E+00	1.92E-02	2.08E-04	5.32E-05	1.02E-03	2.82E-05	4.47E+00	0.00E+00
Haul Road_Average	Baseline	Adolescent	Molybdenum	Haul Road_Average_Baseline_Adolescent_Molybdenum	1.00E-02	1.95E-03	5.94E-01	2.61E-01	1.08E-01	1.74E-01	7.52E-05	4.62E-04	3.06E-03	9.58E-03	1.16E+00	8.46E-04
Haul Road_Average	Baseline	Adolescent	Nickel	Haul Road_Average_Baseline_Adolescent_Nickel	2.80E-01	5.46E-02	7.21E+00	2.64E+00	5.00E-02	1.87E+00	2.54E-03	5.55E-03	1.20E-03	4.43E-03	1.21E+01	1.85E-02
Haul Road_Average	Baseline	Adolescent	Silver	Haul Road_Average_Baseline_Adolescent_Silver	2.00E-03	3.90E-04	2.67E-02	1.50E-02	3.95E-02	5.25E-03	2.26E-05	1.62E-05	3.54E-04	2.00E-04	8.94E-02	2.99E-04
Haul Road_Average	Baseline	Adolescent	Strontium	Haul Road_Average_Baseline_Adolescent_Strontium	1.80E-01	3.51E-02	4.80E+01	9.18E+01	1.45E+01	2.65E+00	3.15E-04	6.62E-03	1.70E-03	2.50E-02	1.57E+02	4.39E-03
Haul Road_Average	Baseline	Adolescent	Vanadium	Haul Road_Average_Baseline_Adolescent_Vanadium	7.00E-01	1.37E-01	2.58E-01	1.20E-01	9.00E-02	2.06E-01	8.97E-05	1.44E-03	6.20E-04	3.99E-03	1.52E+00	1.21E-02
Haul Road_Average	Baseline	Adolescent	Zinc	Haul Road_Average_Baseline_Adolescent_Zinc	7.20E-01	1.40E-01	5.36E+01	3.30E+01	5.20E+01	3.09E-01	4.32E-02	8.03E-04	3.95E-02	1.39E-02	1.40E+02	4.88E-03
Haul Road_Average	Baseline	Child	Aluminum	Haul Road_Average_Baseline_Child_Aluminum	4.48E+02	8.12E+01	4.96E+01	7.06E+01	2.32E+00	6.94E+01	3.11E-02	4.28E-01	8.31E-02	1.45E+00	7.23E+02	1.54E-01
Haul Road_Average	Baseline	Child	Antimony	Haul Road_Average_Baseline_Child_Antimony	1.00E-03	1.81E-04	3.83E-03	3.20E-03	1.49E-01	7.95E-04	8.50E-07	2.33E-06	1.13E-04	2.97E-03	1.61E-01	2.44E-02
Haul Road_Average	Baseline	Child	Arsenic	Haul Road_Average_Baseline_Child_Arsenic	2.00E-01	3.62E-02	9.26E-02	7.80E-03	6.16E-03	1.63E-03	3.38E-07	2.33E-06	1.95E-06	1.07E-02	3.55E-01	3.60E-02
Haul Road_Average	Baseline	Child	Arsenic_cancer	Haul Road_Average_Baseline_Child_Arsenic_cancer	2.00E-01	3.62E-02	9.26E-02	7.80E-03	6.16E-03	1.63E-03	3.38E-07	2.33E-06	1.95E-06	1.07E-02	3.55E-01	1.80E+00
Haul Road_Average	Baseline	Child	Barium	Haul Road_Average_Baseline_Child_Barium	7.00E-01	1.27E-01	4.08E+01	3.74E+01	4.39E-01	1.15E+00	1.34E-04	2.90E-03	3.11E-05	1.99E-02	8.06E+01	1.23E-02
Haul Road_Average	Baseline	Child	Beryllium	Haul Road_Average_Baseline_Child_Beryllium	8.00E-03	1.45E-03	2.48E-03	1.28E-03	2.30E-01	9.05E-04	1.29E-06	5.26E-06	1.23E-05	2.97E-03	2.47E-01	3.76E-03
Haul Road_Average	Baseline	Child	Boron	Haul Road_Average_Baseline_Child_Boron	6.00E-02	1.09E-02	4.87E+01	1.90E+01	0.00E+00	3.17E+00	3.81E-04	7.89E-03	3.13E-03	1.48E-01	7.11E+01	1.08E-02
Haul Road_Average	Baseline	Child	Cadmium	Haul Road_Average_Baseline_Child_Cadmium	2.20E-03	3.99E-04	4.29E-01	5.92E-02	3.39E-02	1.60E-03	3.52E-06	4.06E-06	2.41E-06	1.19E-04	5.26E-01	1.60E-02
Haul Road_Average	Baseline	Child	Chromium	Haul Road_Average_Baseline_Child_Chromium	4.20E-01	7.61E-02	1.28E+00	8.00E-02	1.17E-01	2.74E-01	1.51E-03	1.56E-03	3.73E-03	4.15E-03	2.26E+00	6.86E-02
Haul Road_Average	Baseline	Child	Cobalt	Haul Road_Average_Baseline_Child_Cobalt	2.04E-01	3.70E-02	3.84E-01	5.31E-02	3.41E-02	5.27E-01	4.10E-04	2.86E-03	1.08E-03	1.60E-03	1.25E+00	2.70E-02
Haul Road_Average	Baseline	Child	Copper	Haul Road_Average_Baseline_Child_Copper	2.00E-01	3.62E-02	1.85E+01	2.35E+00	1.67E+01	5.40E+00	1.93E-03	1.42E-02	2.19E-03	4.21E-03	4.32E+01	1.44E-02
Haul Road_Average	Baseline	Child	Lead	Haul Road_Average_Baseline_Child_Lead	3.28E-01	5.95E-02	4.80E-02	4.50E-02	1.30E-01	9.77E-03	2.80E-05	6.17E-05	3.57E-05	1.84E-03	6.22E-01	3.15E-02
Haul Road_Average	Baseline	Child	Manganese	Haul Road_Average_Baseline_Child_Manganese	1.60E+01	2.90E+00	1.56E+03	1.43E+03	5.56E+00	1.17E+02	1.33E-02	2.93E-01	1.71E-02	2.65E-01	3.13E+03	6.99E-01
Haul Road_Average	Baseline	Child	Mercury	Haul Road_Average_Baseline_Child_Mercury	2.00E-03	3.63E-04	1.60E-01	1.00E-02	3.54E+00	1.37E-02	1.48E-04	3.80E-05	7.26E-04	4.19E-05	3.72E+00	0.00E+00
Haul Road_Average	Baseline	Child	Molybdenum	Haul Road_Average_Baseline_Child_Molybdenum	1.00E-02	1.81E-03	7.37E-01	8.70E-02	8.91E-02	1.24E-01	5.37E-05	3.30E-04	2.19E-03	1.42E-02	1.07E+00	1.41E-03
Haul Road_Average	Baseline	Child	Nickel	Haul Road_Average_Baseline_Child_Nickel	2.80E-01	5.07E-02	8.95E+00	8.80E-01	4.12E-02	1.34E+00	1.81E-03	3.96E-03	8.58E-04	6.58E-03	1.16E+01	3.19E-02
Haul Road_Average	Baseline	Child	Silver	Haul Road_Average_Baseline_Child_Silver	2.00E-03	3.63E-04	3.31E-02	5.00E-03	3.26E-02	3.75E-03	1.62E-05	1.16E-05	2.53E-04	2.97E-04	7.74E-02	4.70E-04
Haul Road_Average	Baseline	Child	Strontium	Haul Road_Average_Baseline_Child_Strontium	1.80E-01	3.26E-02	5.95E+01	3.06E+01	1.20E+01	1.90E+00	2.25E-04	4.73E-03	1.21E-03	3.71E-02	1.04E+02	5.28E-03
Haul Road_Average	Baseline	Child	Vanadium	Haul Road_Average_Baseline_Child_Vanadium	7.00E-01	1.27E-01	3.20E-01	4.00E-02	7.43E-02	1.47E-01	6.41E-05	1.03E-03	4.43E-04	5.93E-03	1.42E+00	2.05E-02
Haul Road_Average	Baseline	Child	Zinc	Haul Road_Average_Baseline_Child_Zinc	7.20E-01	1.30E-01	6.65E+01	1.10E+01	4.29E+01	2.21E-01	3.09E-02	5.73E-04	2.82E-02	2.06E-02	1.22E+02	7.70E-03
Haul Road_Average	Baseline	Toddler	Aluminum	Haul Road_Average_Baseline_Toddler_Aluminum	1.79E+03	4.65E+01	2.13E+01	7.06E+01	1.41E+00	4.72E+01	2.11E-02	2.91E-01	5.65E-02	1.35E+00	1.98E+03	8.39E-01
Haul Road_Average	Baseline	Toddler	Antimony	Haul Road_Average_Baseline_Toddler_Antimony	4.00E-03	1.04E-04	1.65E-03	3.20E-03	9.00E-02	5.41E-04	5.78E-07	1.58E-06	7.66E-05	2.77E-03	1.02E-01	3.10E-02
Haul Road_Average	Baseline	Toddler	Arsenic	Haul Road_Average_Baseline_Toddler_Arsenic	8.00E-01	2.07E-02	3.98E-02	7.80E-03	3.73E-03	1.11E-03	2.30E-07	1.59E-06	1.33E-06	1.00E-02	8.83E-01	1.78E-01
Haul Road_Average	Baseline	Toddler	Arsenic_cancer	Haul Road_Average_Baseline_Toddler_Arsenic_cancer	8.00E-01	2.07E-02	3.98E-02	7.80E-03	3.73E-03	1.11E-03	2.30E-07	1.59E-06	1.33E-06	1.00E-02	8.83E-01	8.92E+00
Haul Road_Average	Baseline	Toddler	Barium	Haul Road_Average_Baseline_Toddler_Barium	2.80E+00	7.26E-02	1.75E+01	3.74E+01	2.66E-01	7.82E-01	9.13E-05	1.97E-03	2.11E-05	1.86E-02	5.89E+01	1.78E-02
Haul Road_Average	Baseline	Toddler	Beryllium	Haul Road_Average_Baseline_Toddler_Beryllium	3.20E-02	8.30E-04	1.06E-03	1.28E-03	1.40E-01	6.16E-04	8.75E-07	3.58E-06	8.37E-06	2.77E-03	1.78E-01	5.40E-03
Haul Road_Average	Baseline	Toddler	Boron	Haul Road_Average_Baseline_Toddler_Boron	2.40E-01	6.23E-03	2.09E+01	1.90E+01	0.00E+00	2.16E+00	2.59E-04	5.36E-03	2.13E-03	1.38E-01	4.25E+01	1.29E-02
Haul Road_Average	Baseline	Toddler	Cadmium	Haul Road_Average_Baseline_Toddler_Cadmium	8.80E-03	2.28E-04	1.84E-01	5.92E-02	2.05E-02	1.08E-03	2.39E-06	2.76E-06	1.64E-06	1.11E-04	2.74E-01	1.66E-02
Haul Road_Average	Baseline	Toddler	Chromium	Haul Road_Average_Baseline_Toddler_Chromium	1.68E+00	4.36E-02	5.50E-01	8.00E-02	7.12E-02	1.86E-01	1.03E-03	1.06E-03	2.54E-03	3.88E-03	2.62E+00	1.59E-01
Haul Road_Average	Baseline	Toddler	Cobalt	Haul Road_Average_Baseline_Toddler_Cobalt	8.16E-01	2.12E-02	1.65E-01	5.31E-02	2.07E-02	3.58E-01	2.79E-04	1.95E-03	7.32E-04	1.49E-03	1.44E+00	6.23E-02
Haul Road_Average	Baseline	Toddler	Copper	Haul Road_Average_Baseline_Toddler_Copper	8.00E-01	2.07E-02	7.97E+00	2.35E+00	1.01E+01	3.67E+00	1.31E-03	9.64E-03	1.49E-03	3.93E-03	2.49E+01	1.66E-02
Haul Road_Average	Baseline	Toddler	Lead	Haul Road_Average_Baseline_Toddler_Lead	1.31E+00	3.40E-02	2.06E-02	4.50E-02	7.87E-02	6.65E-03	1.91E-05	4.20E-05	2.42E-05	1.72E-03	1.50E+00	1.51E-01
Haul Road_Average	Baseline	Toddler	Manganese	Haul Road_Average_Baseline_Toddler_Manganese	6.41E+01	1.66E+00	6.69E+02	1.43E+03	3.37E+00	7.95E+01	9.04E-03	1.99E-01	1.17E-02	2.47E-01	2.25E+03	1.00E+00
Haul Road_Average	Baseline	Toddler	Mercury	Haul Road_Average_Baseline_Toddler_Mercury	8.00E-03	2.08E-04	6.88E-02	1.00E-02	2.14E+00	9.31E-03	1.01E-04	2.58E-05	4.94E-04	3.91E-05	2.24E+00	0.00E+00
Haul Road_Average	Baseline	Toddler	Molybdenum	Haul Road_Average_Baseline_Toddler_Molybdenum	4.00E-02	1.04E-03	3.17E-01	8.70E-02	5.40E-02	8.44E-02	3.65E-05	2.25E-04	1.49E-03	1.33E-02	5.98E-01	1.58E-03
Haul Road_Average	Baseline	Toddler	Nickel	Haul Road_Average_Baseline_Toddler_Nickel	1.12E+00	2.90E-02	3.85E+00	8.80E-01	2.50E-02	9.10E-01	1.23E-03	2.69E-03	5.84E-04	6.15E-03	6.82E+00	3.76E-02
Haul Road_Average	Baseline	Toddler	Silver	Haul Road_Average_Baseline_Toddler_Silver	8.00E-03	2.08E-04	1.42E-02	5.00E-03	1.97E-02	2.55E-03	1.10E-05	7.88E-06	1.72E-04	2.77E-04	5.02E-02	6.08E-04
Haul Road_Average	Baseline	Toddler	Strontium	Haul Road_Average_Baseline_Toddler_Strontium	7.20E-01	1.87E-02	2.56E+01	3.06E+01	7.26E+00	1.29E+00	1.53E-04	3.22E-03	8.24E-04	3.47E-02	6.55E+01	6.62E-03
Haul Road_Average	Baseline	Toddler	Vanadium	Haul Road_Average_Baseline_Toddler_Vanadium	2.80E+00	7.26E-02	1.38E-01	4.00E-02	4.50E-02	1.00E-01	4.36E-05	7.02E-04	3.01E-04	5.54E-03	3.20E+00	9.24E-02
Haul Road_Average	Baseline	Toddler	Zinc	Haul Road_Average_Baseline_Toddler_Zinc	2.88E+00	7.47E-02	2.86E+01	1.10E+01	2.60E+01	1.50E-01	2.10E-02	3.90E-04	1.92E-02	1.93E-02	6.88E+01	8.68E-03
Haul Road_Average	Project	Adult	Aluminum	Haul Road_Average_Project_Adult_Aluminum	1.07E+01	2.21E+00	4.86E+01	1.45E+01	0.00E+00	6.00E+00	1.07E-03	2.80E-02	1.05E-03	0.00E+00	8.20E+01	8.11E-03
Haul Road_Average	Project	Adult	Antimony	Haul Road_Average_Project_Adult_Antimony	5.22E-04	1.08E-04	2.60E-03	1.19E-03	0.00E+00	2.66E-04	1.25E-07	1.09E-06	7.15E-08	0.00E+00	4.69E-03	3.32E-04
Haul Road_Average	Project	Adult	Arsenic	Haul Road_Average_Project_Adult_Arsenic	1.67E-02	3.46E-03	4.72E-02	1.72E-02	4.53E-03	5.66E-04	3.83E-08	5.52E-07	2.27E-06	4.62E-03	9.43E-02	4.44E-03
Haul Road_Average	Project	Adult	Arsenic_cancer	Haul Road_Average_Project_Adult_Arsenic_cancer	1.67E-02	3.46E-03	4.72E-02	1.72E-02	4.53E-03	5.66E-04	3.83E-08	5.52E-07	2.27E-06	4.62E-03	9.43E-02	2.22E-01
Haul Road_Average	Project	Adult	Barium	Haul Road_Average_Project_Adult_Barium	3.90E-02	8.09E-03	4.36E-01	6.76E-01	0.00E+00	1.59E-02	1.95E-06	4.43E-05	4.19E-07	0.00E+00	1.17E+00	8.31E-05
Haul Road_Average	Project	Adult	Beryllium	Haul Road_Average_Project_Adult_Beryllium	1.91E-04	3.97E-05	8.78E-04	2.60E-04	0.00E+00	7.19E-05	1.75E-08	3.36E-07	1.46E-08	0.00E+00	1.44E-03	1.02E-05
Haul Road_Average	Project	Adult	Boron	Haul Road_Average_Project_Adult_Boron	2.61E-03	5.42E-04	2.53E-01	2.52E-01	0.00E+00	3.05E-02	3.70E-06	7.75E-05	2.58E-07	0.00E+00	5.38E-01	3.81E-05
Haul Road_Average	Project	Adult	Cadmium	Haul Road_Average_Project_Adult_Cadmium	1.28E-04	2.65E-05	3.41E-03	1.20E-03	7.79E-03	2.55E-05	1.19E-07	7.59E-08	4.40E-07	1.60E-05	1.26E-02	1.78E-04
Haul Road_Average	Project	Adult	Chromium	Haul Road_Average_Project_Adult_Chromium	2.04E-02	4.24E-03	1.00E-01	2.79E-02	0.00E+00	4.25E-02	2.22E-05	1.98E-04	1.40E-05	0.00E+00	1.95E-01	2.76E-03
Haul Road_Average	Project	Adult	Cobalt	Haul Road_Average_Project_Adult_Cobalt	7.60E-03	1.58E-03	3.62E-02	1.05E-02	4.17E-02	5.96E-02	1.21E-05	2.72E-04	1.79E-03	1.15E-03	1.60E-01	1.62E-03
Haul Road_Average	Project	Adult	Copper	Haul Road_Average_Project_Adult_Copper	1.31E-02	2.72E-03	1.98E-01	6.33E-02	5.30E+00	1.23E-01	6.65E-04	4.13E-04	1.19E-03	7.83E-04	5.70E+00	8.86E-04
Haul Road_Average	Project	Adult	Lead	Haul Road_Average_Project_Adult_Lead	3.43E-03	7.12E-04	1.57E-02	4.64E-03	3.82E-02	3.93E-04	2.88E-07	1.82E-06	1.12E-05	3.17E-04	6.34E-02	1.50E-03
Haul Road_Average	Project	Adult	Manganese	Haul Road_Average_Project_Adult_Manganese	2.71E-01	5.63E-02	4.23E+00	7.62E+00	5.88E-01	4.66E-01	5.95E-05	1.25E-03	3.15E-03	1.64E-02	1.33E+01	1.38E-03
Haul Road_Average	Project	Adult	Mercury	Haul Road_Average_Project_Adult_Mercury	1.25E-06	2.59E-07	2.10E-05	7.02E-06	1.03E+00	9.63E-06	1.13E-05	2.81E-08	3.48E-04	7.13E-06	1.03E+00	0.00E+00
Haul Road_Average	Project	Adult	Molybdenum	Haul Road_Average_Project_Adult_Molybdenum	3.36E-04	6.97E-05	4.35E-03	1.32E-03	7.22E-02	4.56E-03	8.01E-07	1.18E-05	3.13E-03	6.75E-03	9.27E-02	5.70E-05
Haul Road_Average	Project	Adult	Nickel	Haul Road_Average_Project_Adult_Nickel	1.56E-02	3.23E-03	1.28E-01	3.51E-02	1.32E-01	5.45E-02	2.77E-05	2.10E-04	4.08E-04	1.24E-02	3.81E-01	4.90E-04
Haul Road_Average	Project	Adult	Silver	Haul Road_Average_Project_Adult_Silver	6.28E-05	1.30E-05	4.04E-04	2.03E-04	8.76E-04	1.25E-04	1.24E-07	4.64E-07	1.18E-05	4.67E-06	1.70E-03	4.81E-06
Haul Road_Average	Project	Adult	Strontium	Haul Road_Average_Project_Adult_Strontium	5.72E-03	1.19E-03	2.41E-01	2.99E-01	0.00E+00	1.36E-02	1.64E-06	3.52E-05	1.61E-07	0.00E+00	5.61E-01	1.32E-05
Haul Road_Average	Project	Adult	Vanadium	Haul Road_Average_Project_Adult_Vanadium	2.24E-02	4.64E-03	1.04E-01	2.97E-02	0.00E+00	2.08E-02	3.63E-06	9.76E-05	3.62E-06	0.00E+00	1.81E-01	1.22E-03
Haul Road_Average	Project	Adult	Zinc	Haul Road_Average_Project_Adult_Zinc	3.76E-02	7.81E-03	5.67E-01	2.22E-01	2.59E+01	3.74E-03	1.08E-02	1.20E-05	2.13E-02	7.30E-03	2.68E+01	7.90E-04
Haul Road_Average	Project	Adolescent	Aluminum	Haul Road_Average_Project_Adolescent_Aluminum	1.07E+01	2.08E+00	3.45E+01	1.45E+01	0.00E+00	3.89E+00	6.94E-04	1.82E-02	6.77E-04	0.00E+00	6.56E+01	7.68E-03
Haul Road_Average	Project	Adolescent	Antimony	Haul Road_Average_Project_Adolescent_Antimony	5.22E-04	1.02E-04	1.85E-03	1.19E-03	0.00E+00	1.72E-04	8.10E-08	7.07E-07	4.63E-08	0.00E+00	3.83E-03	3.21E-04
Haul Road_Average	Project	Adolescent	Arsenic	Haul Road_Average_Project_Adolescent_Arsenic	1.67E-02	3.25E-03	3.34E-02	1.72E-02	4.53E-03	3.67E-04	2.48E-08	3.58E-07	1.47E-06	4.39E-03	7.99E-02	4.46E-03
Haul Road_Average	Project	Adolescent	Arsenic_cancer	Haul Road_Average_Project_Adolescent_Arsenic_cancer	1.67E-02	3.25E-03	3.34E-02	1.72E-02	4.53E-03	3.67E-04	2.48E-08	3.58E-07	1.47E-06	4.39E-03	7.99E-02	2.23E-01
Haul Road_Average	Project	Adolescent	Barium	Haul Road_Average_Project_Adolescent_Barium	3.90E-02	7.60E-03	3.09E-01	6.76E-01	0.00E+00	1.03E-02	1.26E-06	2.87E-05	2.72E-07	0.00E+00	1.04E+00	8.72E-05
Haul Road_Average	Project	Adolescent	Beryllium	Haul Road_Average_Project_Adolescent_Beryllium	1.91E-04	3.73E-05	6.22E-04	2.60E-04	0.00E+00	4.66E-05	1.14E-08	2.18E-07	9.49E-09	0.00E+00	1.16E-03	9.69E-06
Haul Road_Average	Project	Adolescent	Boron	Haul Road_Average_Project_Adolescent_Boron	2.61E-03	5.09E-04	1.79E-01	2.52E-01	0.00E+00	1.98E-02	2.40E-06	5.02E-05	1.67E-07	0.00E+00	4.54E-01	3.80E-05
Haul Road_Average	Project	Adolescent	Cadmium	Haul Road_Average_Project_Adolescent_Cadmium	1.28E-04	2.49E-05	2.42E-03	1.20E-03	7.79E-03	1.65E-05	7.73E-08	4.92E-08	2.85E-07	1.52E-05	1.16E-02	1.94E-04
Haul Road_Average	Project	Adolescent	Chromium	Haul Road_Average_Project_Adolescent_Chromium	2.04E-02	3.98E-03	7.08E-02	2.79E-02	0.00E+00	2.76E-02	1.44E-05	1.28E-04	9.06E-06	0.00E+00	1.51E-01	2.53E-03
Haul Road_Average	Project	Adolescent	Cobalt	Haul Road_Average_Project_Adolescent_Cobalt	7.60E-03	1.48E-03	2.57E-02	1.05E-02	4.17E-02	3.86E-02	7.86E-06	1.76E-04	1.16E-03	1.09E-03	1.28E-01	1.53E-03
Haul Road_Average	Project	Adolescent	Copper	Haul Road_Average_Project_Adolescent_Copper	1.31E-02	2.55E-03	1.40E-01	6.33E-02	5.30E+00	7.98E-02	4.31E-04	2.68E-04	7.69E-04	7.43E-04	5.60E+00	1.03E-03
Haul Road_Average	Project	Adolescent	Lead	Haul Road_Average_Project_Adolescent_Lead	3.43E-03	6.69E-04	1.11E-02	4.64E-03	3.82E-02	2.54E-04	1.87E-07	1.18E-06	7.23E-06	3.01E-04	5.86E-02	1.64E-03
Haul Road_Average	Project	Adolescent	Manganese	Haul Road_Average_Project_Adolescent_Manganese	2.71E-01	5.29E-02	3.00E+00	7.62E+00	5.88E-01	3.02E-01	3.86E-05	8.08E-04	2.04E-03	1.56E-02	1.18E+01	1.46E-03
Haul Road_Average	Project	Adolescent	Mercury	Haul Road_Average_Project_Adolescent_Mercury	1.25E-06	2.43E-07	1.49E-05	7.02E-06	1.03E+00	6.24E-06	7.34E-06	1.82E-08	2.25E-04	6.76E-06	1.03E+00	0.00E+00
Haul Road_Average	Project	Adolescent	Molybdenum	Haul Road_Average_Project_Adolescent_Molybdenum	3.36E-04	6.55E-05	3.08E-03	1.32E-03	7.22E-02	2.96E-03	5.19E-07	7.62E-06	2.03E-03	6.40E-03	8.84E-02	6.44E-05
Haul Road_Average	Project	Adolescent	Nickel	Haul Road_Average_Project_Adolescent_Nickel	1.56E-02	3.04E-03	9.03E-02	3.51E-02	1.32E-01	3.53E-02	1.79E-05	1.36E-04	2.65E-04	1.17E-02	3.24E-01	4.93E-04
Haul Road_Average	Project	Adolescent	Silver	Haul Road_Average_Project_Adolescent_Silver	6.28E-05	1.22E-05	2.86E-04	2.03E-04	8.76E-04	8.07E-05	8.02E-08	3.01E-07	7.67E-06	4.43E-06	1.53E-03	5.14E-06
Haul Road_Average	Project	Adolescent	Strontium	Haul Road_Average_Project_Adolescent_Strontium	5.72E-03	1.12E-03	1.71E-01	2.99E-01	0.00E+00	8.83E-03	1.06E-06	2.28E-05	1.04E-07	0.00E+00	4.86E-01	1.36E-05
Haul Road_Average	Project	Adolescent	Vanadium	Haul Road_Average_Project_Adolescent_Vanadium	2.24E-02	4.36E-03	7.33E-02	2.97E-02	0.00E+00	1.35E-02	2.36E-06	6.32E-05	2.34E-06	0.00E+00	1.43E-01	1.14E-03
Haul Road_Average	Project	Adolescent	Zinc	Haul Road_Average_Project_Adolescent_Zinc	3.76E-02	7.34E-03	4.02E-01	2.22E-01	2.59E+01	2.42E-03	7.00E-03	7.81E-06	1.38E-02	6.92E-03	2.66E+01	9.29E-04
Haul Road_Average	Project	Child	Aluminum	Haul Road_Average_Project_Child_Aluminum	1.07E+01	1.93E+00	4.27E+01	4.82E+00	0.00E+00	2.78E+00	4.96E-04	1.30E-02	4.84E-04	0.00E+00	6.30E+01	1.34E-02
Haul Road_Average	Project	Child	Antimony	Haul Road_Average_Project_Child_Antimony	5.22E-04	9.47E-05	2.29E-03	3.95E-04	0.00E+00	1.23E-04	5.78E-08	5.05E-07	3.31E-08	0.00E+00	3.43E-03	5.21E-04
Haul Road_Average	Project	Child	Arsenic	Haul Road_Average_Project_Child_Arsenic	1.67E-02	3.02E-03	4.15E-02	5.74E-03	3.74E-03	2.62E-04	1.77E-08	2.56E-07	1.05E-06	6.52E-03	7.74E-02	7.84E-03
Haul Road_Average	Project	Child	Arsenic_cancer	Haul Road_Average_Project_Child_Arsenic_cancer	1.67E-02	3.02E-03	4.15E-02	5.74E-03	3.74E-03	2.62E-04	1.77E-08	2.56E-07	1.05E-06	6.52E-03	7.74E-02	3.92E-01
Haul Road_Average	Project	Child	Barium	Haul Road_Average_Project_Child_Barium	3.90E-02	7.06E-03	3.83E-01	2.25E-01	0.00E+00	7.36E-03	9.02E-07	2.05E-05	1.94E-07	0.00E+00	6.62E-01	1.01E-04
Haul Road_Average	Project	Child	Beryllium	Haul Road_Average_Project_Child_Beryllium	1.91E-04	3.47E-05	7.72E-04	8.66E-05	0.00E+00	3.33E-05	8.11E-09	1.55E-07	6.78E-09	0.00E+00	1.12E-03	1.70E-05
Haul Road_Average	Project	Child	Boron	Haul Road_Average_Project_Child_Boron	2.61E-03	4.73E-04	2.22E-01	8.39E-02	0.00E+00	1.41E-02	1.71E-06	3.59E-05	1.19E-07	0.00E+00	3.24E-01	4.92E-05

Haul Road_Average	Project	Child	Cadmium	Haul Road_Average_Project_Child_Cadmium	1.28E-04	2.31E-05	3.00E-03	3.99E-04	6.43E-03	1.18E-05	5.52E-08	3.51E-08	2.04E-07	2.25E-05	1.00E-02	3.04E-04
Haul Road_Average	Project	Child	Chromium	Haul Road_Average_Project_Child_Chromium	2.04E-02	3.70E-03	8.79E-02	9.30E-03	0.00E+00	1.97E-02	1.03E-05	9.16E-05	6.47E-06	0.00E+00	1.41E-01	4.29E-03
Haul Road_Average	Project	Child	Cobalt	Haul Road_Average_Project_Child_Cobalt	7.60E-03	1.38E-03	3.18E-02	3.52E-03	3.44E-02	2.76E-02	5.62E-06	1.26E-04	8.27E-04	1.62E-03	1.09E-01	2.36E-03
Haul Road_Average	Project	Child	Copper	Haul Road_Average_Project_Child_Copper	1.31E-02	2.37E-03	1.74E-01	2.11E-02	4.37E+00	5.70E-02	3.08E-04	1.91E-04	5.49E-04	1.10E-03	4.64E+00	1.55E-03
Haul Road_Average	Project	Child	Lead	Haul Road_Average_Project_Child_Lead	3.43E-03	6.22E-04	1.38E-02	1.55E-03	3.15E-02	1.82E-04	1.33E-07	8.42E-07	5.17E-06	4.47E-04	5.16E-02	2.61E-03
Haul Road_Average	Project	Child	Manganese	Haul Road_Average_Project_Child_Manganese	2.71E-01	4.91E-02	3.72E+00	2.54E+00	4.85E-01	2.16E-01	2.76E-05	5.77E-04	1.46E-03	2.31E-02	7.31E+00	1.63E-03
Haul Road_Average	Project	Child	Mercury	Haul Road_Average_Project_Child_Mercury	1.25E-06	2.26E-07	1.84E-05	2.34E-06	8.48E-01	4.46E-06	5.24E-06	1.30E-08	1.61E-04	1.01E-05	8.48E-01	0.00E+00
Haul Road_Average	Project	Child	Molybdenum	Haul Road_Average_Project_Child_Molybdenum	3.36E-04	6.09E-05	3.82E-03	4.39E-04	5.95E-02	2.11E-03	3.71E-07	5.44E-06	1.45E-03	9.51E-03	7.73E-02	1.02E-04
Haul Road_Average	Project	Child	Nickel	Haul Road_Average_Project_Child_Nickel	1.56E-02	2.82E-03	1.12E-01	1.17E-02	1.09E-01	2.52E-02	1.28E-05	9.72E-05	1.89E-04	1.74E-02	2.94E-01	8.13E-04
Haul Road_Average	Project	Child	Silver	Haul Road_Average_Project_Child_Silver	6.28E-05	1.14E-05	3.55E-04	6.76E-05	7.23E-04	5.77E-05	5.73E-08	2.15E-07	5.48E-06	6.58E-06	1.29E-03	7.84E-06
Haul Road_Average	Project	Child	Strontium	Haul Road_Average_Project_Child_Strontium	5.72E-03	1.04E-03	2.12E-01	9.97E-02	0.00E+00	6.30E-03	7.61E-07	1.63E-05	7.45E-08	0.00E+00	3.25E-01	1.64E-05
Haul Road_Average	Project	Child	Vanadium	Haul Road_Average_Project_Child_Vanadium	2.24E-02	4.06E-03	9.10E-02	9.90E-03	0.00E+00	9.62E-03	1.68E-06	4.52E-05	1.67E-06	0.00E+00	1.37E-01	1.98E-03
Haul Road_Average	Project	Child	Zinc	Haul Road_Average_Project_Child_Zinc	3.76E-02	6.82E-03	4.98E-01	7.39E-02	2.14E+01	1.73E-03	5.00E-03	5.58E-06	9.86E-03	1.03E-02	2.20E+01	1.39E-03
Haul Road_Average	Project	Toddler	Aluminum	Haul Road_Average_Project_Toddler_Aluminum	4.26E+01	1.11E+00	1.84E+01	4.82E+00	0.00E+00	1.89E+00	3.37E-04	8.83E-03	3.29E-04	0.00E+00	6.88E+01	2.92E-02
Haul Road_Average	Project	Toddler	Antimony	Haul Road_Average_Project_Toddler_Antimony	2.09E-03	5.42E-05	9.84E-04	3.95E-04	0.00E+00	8.38E-05	3.93E-08	3.43E-07	2.25E-08	0.00E+00	3.61E-03	1.09E-03
Haul Road_Average	Project	Toddler	Arsenic	Haul Road_Average_Project_Toddler_Arsenic	6.67E-02	1.73E-03	1.78E-02	5.74E-03	2.27E-03	1.78E-04	1.20E-08	1.74E-07	7.16E-07	6.08E-03	1.01E-01	2.03E-02
Haul Road_Average	Project	Toddler	Arsenic_cancer	Haul Road_Average_Project_Toddler_Arsenic_cancer	6.67E-02	1.73E-03	1.78E-02	5.74E-03	2.27E-03	1.78E-04	1.20E-08	1.74E-07	7.16E-07	6.08E-03	1.01E-01	1.02E+00
Haul Road_Average	Project	Toddler	Barium	Haul Road_Average_Project_Toddler_Barium	1.56E-01	4.04E-03	1.65E-01	2.25E-01	0.00E+00	5.00E-03	6.13E-07	1.39E-05	1.32E-07	0.00E+00	5.55E-01	1.68E-04
Haul Road_Average	Project	Toddler	Beryllium	Haul Road_Average_Project_Toddler_Beryllium	7.65E-04	1.99E-05	3.32E-04	8.66E-05	0.00E+00	2.26E-05	5.51E-09	1.06E-07	4.61E-09	0.00E+00	1.23E-03	3.72E-05
Haul Road_Average	Project	Toddler	Boron	Haul Road_Average_Project_Toddler_Boron	1.04E-02	2.71E-04	9.56E-02	8.39E-02	0.00E+00	9.60E-03	1.16E-06	2.44E-05	8.11E-08	0.00E+00	2.00E-01	6.06E-05
Haul Road_Average	Project	Toddler	Cadmium	Haul Road_Average_Project_Toddler_Cadmium	5.10E-04	1.32E-05	1.29E-03	3.99E-04	3.90E-03	8.04E-06	3.76E-08	2.39E-08	1.39E-07	2.10E-05	6.14E-03	3.72E-04
Haul Road_Average	Project	Toddler	Chromium	Haul Road_Average_Project_Toddler_Chromium	8.16E-02	2.12E-03	3.78E-02	9.30E-03	0.00E+00	1.34E-02	7.00E-06	6.23E-05	4.40E-06	0.00E+00	1.44E-01	8.75E-03
Haul Road_Average	Project	Toddler	Cobalt	Haul Road_Average_Project_Toddler_Cobalt	3.04E-02	7.88E-04	1.37E-02	3.52E-03	2.09E-02	1.88E-02	3.82E-06	8.57E-05	5.62E-04	1.51E-03	9.02E-02	3.90E-03
Haul Road_Average	Project	Toddler	Copper	Haul Road_Average_Project_Toddler_Copper	5.24E-02	1.36E-03	7.47E-02	2.11E-02	2.65E+00	3.88E-02	2.09E-04	1.30E-04	3.73E-04	1.03E-03	2.84E+00	1.89E-03
Haul Road_Average	Project	Toddler	Lead	Haul Road_Average_Project_Toddler_Lead	1.37E-02	3.56E-04	5.92E-03	1.55E-03	1.91E-02	1.24E-04	9.07E-08	5.72E-07	3.51E-06	4.17E-04	4.12E-02	4.16E-03
Haul Road_Average	Project	Toddler	Manganese	Haul Road_Average_Project_Toddler_Manganese	1.08E+00	2.81E-02	1.60E+00	2.54E+00	2.94E-01	1.47E-01	1.87E-05	3.93E-04	9.92E-04	2.16E-02	5.72E+00	2.55E-03
Haul Road_Average	Project	Toddler	Mercury	Haul Road_Average_Project_Toddler_Mercury	4.99E-06	1.29E-07	7.93E-06	2.34E-06	5.14E-01	3.03E-06	3.57E-06	8.86E-09	1.09E-04	9.38E-06	5.14E-01	0.00E+00
Haul Road_Average	Project	Toddler	Molybdenum	Haul Road_Average_Project_Toddler_Molybdenum	1.34E-03	3.49E-05	1.64E-03	4.39E-04	3.61E-02	1.44E-03	2.52E-07	3.70E-06	9.86E-04	8.88E-03	5.09E-02	1.34E-04
Haul Road_Average	Project	Toddler	Nickel	Haul Road_Average_Project_Toddler_Nickel	6.23E-02	1.62E-03	4.82E-02	1.17E-02	6.61E-02	1.72E-02	8.71E-06	6.61E-05	1.29E-04	1.63E-02	2.24E-01	1.23E-03
Haul Road_Average	Project	Toddler	Silver	Haul Road_Average_Project_Toddler_Silver	2.51E-04	6.51E-06	1.53E-04	6.76E-05	4.38E-04	3.92E-05	3.89E-08	1.46E-07	3.73E-06	6.14E-06	9.65E-04	1.17E-05
Haul Road_Average	Project	Toddler	Strontium	Haul Road_Average_Project_Toddler_Strontium	2.29E-02	5.93E-04	9.11E-02	9.97E-02	0.00E+00	4.29E-03	5.17E-07	1.11E-05	5.07E-08	0.00E+00	2.19E-01	2.21E-05
Haul Road_Average	Project	Toddler	Vanadium	Haul Road_Average_Project_Toddler_Vanadium	8.95E-02	2.32E-03	3.91E-02	9.90E-03	0.00E+00	6.54E-03	1.14E-06	3.07E-05	1.14E-06	0.00E+00	1.47E-01	4.25E-03
Haul Road_Average	Project	Toddler	Zinc	Haul Road_Average_Project_Toddler_Zinc	1.50E-01	3.90E-03	2.14E-01	7.39E-02	1.30E+01	1.18E-03	3.40E-03	3.79E-06	6.70E-03	9.60E-03	1.34E+01	1.69E-03
Haul Road_Max	Baseline	Infant	Aluminum	Haul Road_Max_Baseline_Infant_Aluminum	4.48E+02	1.23E+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	4.60E+02	3.93E-01
Haul Road_Max	Baseline	Infant	Antimony	Haul Road_Max_Baseline_Infant_Antimony	1.00E-03	2.75E-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	1.03E-03	6.27E-04
Haul Road_Max	Baseline	Infant	Arsenic	Haul Road_Max_Baseline_Infant_Arsenic	2.00E-01	5.50E-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	2.05E-01	8.35E-02
Haul Road_Max	Baseline	Infant	Arsenic_cancer	Haul Road_Max_Baseline_Infant_Arsenic_cancer	2.00E-01	5.50E-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	2.05E-01	4.18E+00
Haul Road_Max	Baseline	Infant	Barium	Haul Road_Max_Baseline_Infant_Barium	7.00E-01	1.93E-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	7.19E-01	4.39E-04
Haul Road_Max	Baseline	Infant	Beryllium	Haul Road_Max_Baseline_Infant_Beryllium	8.00E-03	2.20E-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	8.22E-03	5.01E-04
Haul Road_Max	Baseline	Infant	Boron	Haul Road_Max_Baseline_Infant_Boron	6.00E-02	1.65E-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	6.17E-02	3.76E-05
Haul Road_Max	Baseline	Infant	Cadmium	Haul Road_Max_Baseline_Infant_Cadmium	2.20E-03	6.05E-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	2.26E-03	2.76E-04
Haul Road_Max	Baseline	Infant	Chromium	Haul Road_Max_Baseline_Infant_Chromium	4.20E-01	1.15E-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-01	5.26E-02
Haul Road_Max	Baseline	Infant	Cobalt	Haul Road_Max_Baseline_Infant_Cobalt	2.04E-01	5.61E-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	2.10E-01	1.83E-02
Haul Road_Max	Baseline	Infant	Copper	Haul Road_Max_Baseline_Infant_Copper	2.00E-01	5.50E-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	2.05E-01	2.75E-04
Haul Road_Max	Baseline	Infant	Lead	Haul Road_Max_Baseline_Infant_Lead	3.28E-01	9.02E-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	3.37E-01	6.85E-02
Haul Road_Max	Baseline	Infant	Manganese	Haul Road_Max_Baseline_Infant_Manganese	1.60E+01	4.41E-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	1.65E+01	1.48E-02
Haul Road_Max	Baseline	Infant	Mercury	Haul Road_Max_Baseline_Infant_Mercury	2.00E-03	5.50E-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	2.06E-03	0.00E+00
Haul Road_Max	Baseline	Infant	Molybdenum	Haul Road_Max_Baseline_Infant_Molybdenum	1.00E-02	2.75E-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	1.03E-02	5.45E-05
Haul Road_Max	Baseline	Infant	Nickel	Haul Road_Max_Baseline_Infant_Nickel	2.80E-01	7.70E-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	2.88E-01	3.19E-03
Haul Road_Max	Baseline	Infant	Silver	Haul Road_Max_Baseline_Infant_Silver	2.00E-03	5.50E-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	2.06E-03	5.01E-05
Haul Road_Max	Baseline	Infant	Strontium	Haul Road_Max_Baseline_Infant_Strontium	1.80E-01	4.95E-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	1.85E-01	3.76E-05
Haul Road_Max	Baseline	Infant	Vanadium	Haul Road_Max_Baseline_Infant_Vanadium	7.00E-01	1.93E-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	7.19E-01	4.18E-02
Haul Road_Max	Baseline	Infant	Zinc	Haul Road_Max_Baseline_Infant_Zinc	7.20E-01	1.98E-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	7.40E-01	1.88E-04
Haul Road_Max	Project	Infant	Aluminum	Haul Road_Max_Project_Infant_Aluminum	2.94E+01	8.07E-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	3.02E+01	2.57E-02
Haul Road_Max	Project	Infant	Antimony	Haul Road_Max_Project_Infant_Antimony	1.44E-03	3.96E-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	1.48E-03	9.02E-04
Haul Road_Max	Project	Infant	Arsenic	Haul Road_Max_Project_Infant_Arsenic	4.59E-02	1.26E-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	4.72E-02	1.92E-02
Haul Road_Max	Project	Infant	Arsenic_cancer	Haul Road_Max_Project_Infant_Arsenic_cancer	4.59E-02	1.26E-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	4.72E-02	9.59E-01
Haul Road_Max	Project	Infant	Barium	Haul Road_Max_Project_Infant_Barium	1.07E-01	2.95E-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	1.10E-01	6.73E-05
Haul Road_Max	Project	Infant	Beryllium	Haul Road_Max_Project_Infant_Beryllium	5.27E-04	1.45E-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	5.42E-04	3.30E-05
Haul Road_Max	Project	Infant	Boron	Haul Road_Max_Project_Infant_Boron	7.19E-03	1.98E-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	7.39E-03	4.51E-06
Haul Road_Max	Project	Infant	Cadmium	Haul Road_Max_Project_Infant_Cadmium	3.52E-04	9.67E-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	3.61E-04	4.40E-05
Haul Road_Max	Project	Infant	Chromium	Haul Road_Max_Project_Infant_Chromium	5.62E-02	1.55E-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	5.78E-02	7.05E-03
Haul Road_Max	Project	Infant	Cobalt	Haul Road_Max_Project_Infant_Cobalt	2.09E-02	5.76E-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	2.15E-02	1.87E-03
Haul Road_Max	Project	Infant	Copper	Haul Road_Max_Project_Infant_Copper	3.61E-02	9.92E-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	3.71E-02	4.97E-05
Haul Road_Max	Project	Infant	Lead	Haul Road_Max_Project_Infant_Lead	9.46E-03	2.60E-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	9.72E-03	1.97E-03
Haul Road_Max	Project	Infant	Manganese	Haul Road_Max_Project_Infant_Manganese	7.47E-01	2.05E-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	7.68E-01	6.88E-04
Haul Road_Max	Project	Infant	Mercury	Haul Road_Max_Project_Infant_Mercury	3.43E-06	9.45E-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	3.53E-06	0.00E+00
Haul Road_Max	Project	Infant	Molybdenum	Haul Road_Max_Project_Infant_Molybdenum	9.26E-04	2.55E-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	9.51E-04	5.04E-06
Haul Road_Max	Project	Infant	Nickel	Haul Road_Max_Project_Infant_Nickel	4.29E-02	1.18E-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	4.41E-02	4.89E-04
Haul Road_Max	Project	Infant	Silver	Haul Road_Max_Project_Infant_Silver	1.73E-04	4.76E-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	1.78E-04	4.33E-06
Haul Road_Max	Project	Infant	Strontium	Haul Road_Max_Project_Infant_Strontium	1.58E-02	4.33E-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	1.62E-02	3.29E-06
Haul Road_Max	Project	Infant	Vanadium	Haul Road_Max_Project_Infant_Vanadium	6.17E-02	1.70E-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	6.33E-02	3.68E-03
Haul Road_Max	Project	Infant	Zinc	Haul Road_Max_Project_Infant_Zinc	1.04E-01	2.85E-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	1.07E-01	2.71E-05
Haul Road_Average	Baseline	Infant	Aluminum	Haul Road_Average_Baseline_Infant_Aluminum	4.48E+02	1.23E+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	4.60E+02	3.93E-01
Haul Road_Average	Baseline	Infant	Antimony	Haul Road_Average_Baseline_Infant_Antimony	1.00E-03	2.75E-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	1.03E-03	6.27E-04
Haul Road_Average	Baseline	Infant	Arsenic	Haul Road_Average_Baseline_Infant_Arsenic	2.00E-01	5.50E-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	2.05E-01	8.35E-02
Haul Road_Average	Baseline	Infant	Arsenic_cancer	Haul Road_Average_Baseline_Infant_Arsenic_cancer	2.00E-01	5.50E-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	2.05E-01	4.18E+00
Haul Road_Average	Baseline	Infant	Barium	Haul Road_Average_Baseline_Infant_Barium	7.00E-01	1.93E-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	7.19E-01	4.39E-04
Haul Road_Average	Baseline	Infant	Beryllium	Haul Road_Average_Baseline_Infant_Beryllium	8.00E-03	2.20E-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	8.22E-03	5.01E-04
Haul Road_Average	Baseline	Infant	Boron	Haul Road_Average_Baseline_Infant_Boron	6.00E-02	1.65E-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	6.17E-02	3.76E-05
Haul Road_Average	Baseline	Infant	Cadmium	Haul Road_Average_Baseline_Infant_Cadmium	2.20E-03	6.05E-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	2.26E-03	2.76E-04
Haul Road_Average	Baseline	Infant	Chromium	Haul Road_Average_Baseline_Infant_Chromium	4.20E-01	1.15E-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-01	5.26E-02
Haul Road_Average	Baseline	Infant	Cobalt	Haul Road_Average_Baseline_Infant_Cobalt	2.04E-01	5.61E-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	2.10E-01	1.83E-02
Haul Road_Average	Baseline	Infant	Copper	Haul Road_Average_Baseline_Infant_Copper	2.00E-01	5.50E-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	2.05E-01	2.75E-04
Haul Road_Average	Baseline	Infant	Lead	Haul Road_Average_Baseline_Infant_Lead	3.28E-01	9.02E-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	3.37E-01	6.85E-02
Haul Road_Average	Baseline	Infant	Manganese	Haul Road_Average_Baseline_Infant_Manganese	1.60E+01	4.41E-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	1.65E+01	1.48E-02
Haul Road_Average	Baseline	Infant	Mercury	Haul Road_Average_Baseline_Infant_Mercury	2.00E-03	5.50E-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	2.06E-03	0.00E+00
Haul Road_Average	Baseline	Infant	Molybdenum	Haul Road_Average_Baseline_Infant_Molybdenum	1.00E-02	2.75E-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	1.03E-02	5.45E-05
Haul Road_Average	Baseline	Infant	Nickel	Haul Road_Average_Baseline_Infant_Nickel	2.80E-01	7.70E-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	2.88E-01	3.19E-03
Haul Road_Average	Baseline	Infant	Silver	Haul Road_Average_Baseline_Infant_Silver	2.00E-03	5.50E-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	2.06E-03	5.01E-05
Haul Road_Average	Baseline	Infant	Strontium	Haul Road_Average_Baseline_Infant_Strontium	1.80E-01	4.95E-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	1.85E-01	3.76E-05
Haul Road_Average	Baseline	Infant	Vanadium	Haul Road_Average_Baseline_Infant_Vanadium	7.00E-01	1.93E-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	7.19E-01	4.18E-02
Haul Road_Average	Baseline	Infant	Zinc	Haul Road_Average_Baseline_Infant_Zinc	7.20E-01	1.98E-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	7.40E-01	1.88E-04
Haul Road_Average	Project	Infant	Aluminum	Haul Road_Average_Project_Infant_Aluminum	1.07E+01	2.93E-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	1.09E+01	9.34E-03
Haul Road_Average	Project	Infant	Antimony	Haul Road_Average_Project_Infant_Antimony	5.22E-04	1.44E-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	5.37E-04	3.27E-04
Haul Road_Average	Project	Infant	Arsenic	Haul Road_Average_Project_Infant_Arsenic	1.67E-02	4.59E-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	1.71E-02	6.96E-03
Haul Road_Average	Project	Infant	Arsenic_cancer	Haul Road_Average_Project_Infant_Arsenic_cancer	1.67E-02	4.59E-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	1.71E-02	3.48E-01
Haul Road_Average	Project	Infant	Barium	Haul Road_Average_Project_Infant_Barium	3.90E-02	1.07E-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	4.00E-02	2.44E-05
Haul Road_Average	Project	Infant	Beryllium	Haul Road_Average_Project_Infant_Beryllium	1.91E-04	5.26E-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	1.97E-04	1.20E-05
Haul Road_Average	Project	Infant	Boron	Haul Road_Average_Project_Infant_Boron	2.61E-03	7.18E-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	2.68E-03	1.64E-06
Haul Road_Average	Project	Infant	Cadmium	Haul Road_Average_Project_Infant_Cadmium	1.28E-04	3.51E-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	1.31E-04	1.60E-05
Haul Road_Average	Project	Infant	Chromium	Haul Road_Average_Project_Infant_Chromium	2.04E-02	5.61E-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	2.10E-02	2.56E-03
Haul Road_Average	Project	Infant	Cobalt	Haul Road_Average_Project_Infant_Cobalt	7.60E-03	2.09E-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	7.81E-03	6.80E-04
Haul Road_Average	Project	Infant	Copper	Haul Road_Average_Project_Infant_Copper	1.31E-02	3.60E-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	1.34E-02	1.80E-05
Haul Road_Average	Project	Infant	Lead	Haul Road_Average_Project_Infant_Lead	3.43E-03	9.44E-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	3.53E-03	7.17E-04
Haul Road_Average	Project	Infant	Manganese	Haul Road_Average_Project_Infant_Manganese	2.71E-01	7.46E-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	2.79E-01	2.50E-04
Haul Road_Average	Project	Infant	Mercury	Haul Road_Average_Project_Infant_Mercury	1.25E-06	3.43E-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	1.28E-06	0.00E+00
Haul Road_Average	Project	Infant	Molybdenum	Haul Road_Average_Project_Infant_Molybdenum	3.36E-04	9.24E-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	3.45E-04	1.83E-06
Haul Road_Average	Project	Infant	Nickel	Haul Road_Average_Project_Infant_Nickel	1.56E-02	4.28E-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	1.60E-02	1.77E-04
Haul Road_Average	Project	Infant	Silver	Haul Road_Average_Project_Infant_Silver	6.28E-05	1.73E-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	6.45E-05	1.57E-06
Haul Road_Average	Project	Infant	Strontium	Haul Road_Average_Project_Infant_Strontium	5.72E-03	1.57E-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	5.88E-03	1.19E-06
Haul Road_Average	Project	Infant	Vanadium	Haul Road_Average_Project_Infant_Vanadium	2.24E-02	6.15E-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	2.30E-02	1.34E-03
Haul Road_Average	Project	Infant	Zinc	Haul Road_Average_Project_Infant_Zinc	3.76E-02	1.03E-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	3.87E-02	9.82E-06
InorganicMercury																
Haul Road_Max	Baseline	Adult	Mercury	Haul Road_Max_Baseline_Adult_Inorganicmercury	1.96E-03	4.07E-04	7.01E-02	1.16E-02	2.14E-01	1.27E-02	1.06E-04	3.53E-05	5.18E-04	2.80E-05	3.12E-01	1.47E-02
Haul Road_Max	Baseline	Adolescent	Mercury	Haul Road_Max_Baseline_Adolescent_Inorganicmercury	1.96E-03	3.82E-04	4.96E-02	1.16E-02	2.14E-01	5.48E-01	6.85E-05	2.29E-05	3.36E-04	2.66E-05	8.26E-01	4.61E-02
Haul Road_Max	Baseline	Child	Mercury	Haul Road_Max_Baseline_Child_Inorganicmercury	1.96E-03	3.55E-04	6.16E-02	3.85E-03	1.77E-01	3.91E-01	4.89E-05	1.63E-05	2.40E-04	3.95E-05	6.36E-01	6.45E-02
Haul Road_Max	Baseline	Toddler	Mercury	Haul Road_Max_Baseline_Toddler_Inorganicmercury	7.84E-03	2.03E-04	2.65E-02	3.85E-03	1.07E-01	2.66E-01	3.33E-05	1.11E-05	1.63E-04	3.68E-05	4.12E-01	8.32E-02
Haul Road_Max	Project	Adult	Mercury	Haul Road_Max_Project_Adult_Inorganicmercury	3.37E-06	6.99E-07	2.23E-05	7.45E-06	5.14E-02	2.03E-01	5.26E-06	2.91E-08	1.15E-04	6.71E-06	2.54E-01	1.20E-02
Haul Road_Max	Project	Adolescent	Mercury	Haul Road_Max_Project_Adolescent_Inorganicmercury	3.37E-06	6.56E-07	1.58E-05	7.45E-06	5.14E-02	1.31E-01	3.41E-06	1.88E-08	7.48E-05	6.36E-06	1.83E-01	1.02E-02
Haul Road_Max	Project	Child	Mercury	Haul Road_Max_Project_Child_Inorganicmercury	3.37E-06	6.10E-07	1.96E-05	2.48E-06	4.24E-02	9.38E-02	2.44E-06	1.35E-08	5.34E-05	9.46E-06	1.36E-01	1.38E-02
Haul Road_Max	Project	Toddler	Mercury	Haul Road_Max_Project_Toddler_Inorganicmercury	1.35E-05	3.49E-07	8.41E-06	2.48E-06	2.57E-02	6.38E-02	1.66E-06	9.15E-09	3.63E-05	8.83E-06	8.96E-02	1.81E-02
Haul Road_Average	Baseline	Adult	Mercury	Haul Road_Average_Baseline_Adult_Inorganicmercury	1.96E-03	4.07E-04	1.40E-01	2.31E-02	2.14E-01	8.45E-01	1.06E-04	3.53E-05	5.18E-04	2.80E-05	1.23E+00	5.78E-02
Haul Road_Average	Baseline	Adolescent	Mercury	Haul Road_Average_Baseline_Adolescent_Inorganicmercury	1.96E-03	3.82E-04	9.93E-02	2.31E-02	2.14E-01	5.48E-01	6.85E-05	2.29E-05	3.36E-04	2.66E-05	8.88E-01	4.96E-02
Haul Road_Average	Baseline	Child	Mercury	Haul Road_Average_Baseline_Child_Inorganicmercury	1.96E-03	3.55E-04	1.23E-01	7.70E-03	1.77E-01	3.91E-01	4.89E-05	1.63E-05	2.40E-04	3.95E-05	7.02E-01	7.11E-02
Haul Road_Average	Baseline	Toddler	Mercury	Haul Road_Average_Baseline_Toddler_Inorganicmercury	7.84E-03	2.03E-04	5.29E-02	7.70E-03	1.07E-01	2.66E-01	3.33E-05	1.11E-05	1.63E-04	3.68E-05	4.42E-01	8.94E-02
Haul Road_Average	Project	Adult	Mercury	Haul Road_Average_Project_Adult_Inorganicmercury	1.22E-06	2.54E-07	1.62E-05	5.40E-06	5.14E-02	2.03E-01	3.74E-06	1.21E-08	1.15E-04	6.71E-06	2.54E-01	1.20E-02
Haul Road_Average	Project	Adolescent	Mercury	Haul Road_Average_Project_Adolescent_Inorganicmercury	1.22E-06	2.38E-07	1.14E-05	5.40E-06	5.14E-02	1.31E-01	2.42E-06	7.84E-09	7.44E-05	6.36E-06	1.83E-01	1.02E-02
Haul Road_Average	Project	Child	Mercury	Haul Road_Average_Project_Child_Inorganicmercury	1.22E-06	2.21E-07	1.42E-05	1.80E-06	4.24E-02	9.38E-02	1.73E-06	5.60E-09	5.31E-05	9.46E-06	1.36E-01	1.38E-02
Haul Road_Average	Project	Toddler	Mercury	Haul Road_Average_Project_Toddler_Inorganicmercury	4.89E-06	1.27E-07	6.11E-06	1.80E-06	2.57E-02	6.38E-02	1.18E-06	3.81E-09	3.61E-05	8.83E-06	8.95E-02	1.81E-02
Haul Road_Max	Baseline	Infant	Mercury	Haul Road_Max_Baseline_Infant_Inorganicmercury	1.96E-03	5.39E-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	2.01E-03	8.19E-04
Haul Road_Max	Project	Infant	Mercury	Haul Road_Max_Project_Infant_Inorganicmercury	3.37E-06	9.26E-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	3.46E-06	1.41E-06
Haul Road_Average	Baseline	Infant	Mercury	Haul Road_Average_Baseline_Infant_Inorganicmercury	1.96E-03	5.39E-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	2.01E-03	8.19E-04
Haul Road_Average	Project	Infant	Mercury	Haul Road_Average_Project_Infant_Inorganicmercury	1.22E-06	3.36E-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	1.26E-06	5.10E-07
MethylMercury																
Haul Road_Max	Baseline	Adult	Mercury	Haul Road_Max_Baseline_Adult_Methylmercury	4.00E-05	8.30E-06	2.09E-02	3.45E-03	4.07E+00	1.69E-02	2.15E-04	4.67E-05	1.05E-03	1.75E-06	4.12E+00	2.91E-01
Haul Road_Max	Baseline	Adolescent	Mercury	Haul Road_Max_Baseline_Adolescent_Methylmercury	4.00E-05	7.80E-06	1.48E-02	3.45E-03	4.07E+00	7.26E-01	1.39E-04	3.03E-05	6.81E-04	1.67E-06	4.82E+00	4.04E-01
Haul Road_Max	Baseline	Child	Mercury	Haul Road_Max_Baseline_Child_Methylmercury	4.00E-05	7.25E-06	1.84E-02	1.15E-03	3.36E+00	5.19E-01	9.94E-05	2.16E-05	4.87E-04	2.47E-06	3.90E+00	5.93E-01
Haul Road_Max	Baseline	Toddler	Mercury	Haul Road_Max_Baseline_Toddler_Methylmercury	1.60E-04	4.15E-06	7.91E-03	1.15E-03	2.04E+00	3.53E-01	6.76E-05	1.47E-05	3.31E-04	2.31E-06	2.40E+00	7.27E-01
Haul Road_Max	Project	Adult	Mercury	Haul Road_Max_Project_Adult_Methylmercury	6.87E-08	1.43E-08	6.65E-06	2.22E-06	9.76E-01	2.69E-01	1.07E-05	3.85E-08	2.34E-04	4.20E-07	1.25E+00	8.81E-02
Haul Road_Max	Project	Adolescent	Mercury	Haul Road_Max_Project_Adolescent_Methylmercury	6.87E-08	1.34E-08	4.71E-06	2.22E-06	9.76E-01	1.74E-01	6.92E-06	2.50E-08	1.52E-04	3.99E-07	1.15E+00	9.64E-02
Haul Road_Max	Project	Child	Mercury	Haul Road_Max_Project_Child_Methylmercury	6.87E-08	1.25E-08	5.85E-06	7.41E-07	8.05E-01	1.24E-01	4.94E-06	1.78E-08	1.09E-04	5.93E-07	9.30E-01	1.41E-01
Haul Road_Max	Project	Toddler	Mercury	Haul Road_Max_Project_Toddler_Methylmercury	2.75E-07	7.13E-09	2.51E-06	7.41E-07	4.88E-01	8.46E-02	3.36E-06	1.21E-08	7.38E-05	5.53E-07	5.73E-01	1.74E-01
Haul Road_Average	Baseline	Adult	Mercury	Haul Road_Average_Baseline_Adult_Methylmercury	4.00E-05	8.30E-06	4.19E-02	6.90E-03	4.07E+00	1.12E+00	2.15E-04	4.67E-05	1.05E-03	1.75E-06	5.24E+00	3.71E-01

Haul Road_Average	Baseline	Adolescent	Mercury	Haul Road_Average_Baseline_Adolescent_Methylmercury	4.00E-05	7.80E-06	2.97E-02	6.90E-03	4.07E+00	7.26E-01	1.39E-04	3.03E-05	6.81E-04	1.67E-06	4.84E+00	4.05E-01
Haul Road_Average	Baseline	Child	Mercury	Haul Road_Average_Baseline_Child_Methylmercury	4.00E-05	7.25E-06	3.68E-02	2.30E-03	3.36E+00	5.19E-01	9.94E-05	2.16E-05	4.87E-04	2.47E-06	3.92E+00	5.96E-01
Haul Road_Average	Baseline	Toddler	Mercury	Haul Road_Average_Baseline_Toddler_Methylmercury	1.60E-04	4.15E-06	1.58E-02	2.30E-03	2.04E+00	3.53E-01	6.76E-05	1.47E-05	3.31E-04	2.31E-06	2.41E+00	7.30E-01
Haul Road_Average	Project	Adult	Mercury	Haul Road_Average_Project_Adult_Methylmercury	2.49E-08	5.17E-09	4.83E-06	1.61E-06	9.76E-01	2.69E-01	7.59E-06	1.60E-08	2.33E-04	4.20E-07	1.25E+00	8.81E-02
Haul Road_Average	Project	Adolescent	Mercury	Haul Road_Average_Project_Adolescent_Methylmercury	2.49E-08	4.86E-09	3.42E-06	1.61E-06	9.76E-01	1.74E-01	4.92E-06	1.04E-08	1.51E-04	3.99E-07	1.15E+00	9.64E-02
Haul Road_Average	Project	Child	Mercury	Haul Road_Average_Project_Child_Methylmercury	2.49E-08	4.52E-09	4.24E-06	5.38E-07	8.05E-01	1.24E-01	3.51E-06	7.42E-09	1.08E-04	5.93E-07	9.30E-01	1.41E-01
Haul Road_Average	Project	Toddler	Mercury	Haul Road_Average_Project_Toddler_Methylmercury	9.97E-08	2.59E-09	1.82E-06	5.38E-07	4.88E-01	8.46E-02	2.39E-06	5.05E-09	7.33E-05	5.53E-07	5.73E-01	1.74E-01
Haul Road_Max	Baseline	Infant	Mercury	Haul Road_Max_Baseline_Infant_Methylmercury	4.00E-05	1.10E-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	4.11E-05	2.51E-05
Haul Road_Max	Project	Infant	Mercury	Haul Road_Max_Project_Infant_Methylmercury	6.87E-08	1.89E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.06E-08	4.30E-08
Haul Road_Average	Baseline	Infant	Mercury	Haul Road_Average_Baseline_Infant_Methylmercury	4.00E-05	1.10E-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	4.11E-05	2.51E-05
Haul Road_Average	Project	Infant	Mercury	Haul Road_Average_Project_Infant_Methylmercury	2.49E-08	6.86E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.56E-08	1.56E-08

Summary of Predicted Exposures and Game Meat Concentrations

				1	2	3	4	5	6	7	8	9	10	11	12
					EDI										
					Soil	Water	Dust	Berries	Leaves	Invert	Aquatic_Plant	Aquatic_Invert	Total	Total	Game Meat
					EDI	EDI	EDI	EDI	EDI	EDI	EDI	EDI	EDI	EDI	Concentration
Area	**Scenario**	**Receptor**	**COPC**	**Abbreviation**	**mg/day**	**mg/day**	**mg/day**	**mg/day**	**mg/day**	**mg/day**	**mg/day**	**mg/day**	**mg/day**	**mg/kg-BW/day**	**mg/kg ww**
Haul Road_Max	Baseline	Ruffed_Grouse	Aluminum	Haul Road_Max_Baseline_Ruffed_Grouse_Aluminur	14.83776	0.00942816	0.0014491	0.205347312	4.0184496	36.86255848	0	0	55.93499266	101.3315084	0.083902489
Haul Road_Max	Baseline	Ruffed_Grouse	Antimony	Haul Road_Max_Baseline_Ruffed_Grouse_Antimony	0.00003312	0.00001932	3.2346E-09	1.58479E-05	0.00018216	0.002045884	0	0	0.002296336	0.004160028	2.29634E-06
Haul Road_Max	Baseline	Ruffed_Grouse	Arsenic	Haul Road_Max_Baseline_Ruffed_Grouse_Arsenic	0.006624	6.99384E-05	6.46919E-07	0.000383659	0.000444015	0.038100367	0	0	0.045622626	0.082649685	9.12453E-07
Haul Road_Max	Baseline	Ruffed_Grouse	Arsenic_cancer	Haul Road_Max_Baseline_Ruffed_Grouse_Arsenic_c	0.006624	6.99384E-05	6.46919E-07	0.000383659	0.000444015	0.038100367	0	0	0.045622626	0.082649685	9.12453E-07
Haul Road_Max	Baseline	Ruffed_Grouse	Barium	Haul Road_Max_Baseline_Ruffed_Grouse_Barium	0.023184	0.00012983	2.26422E-06	0.168912	2.1294504	0.095633998	0	0	2.417312492	4.379189298	0.000362597
Haul Road_Max	Baseline	Ruffed_Grouse	Beryllium	Haul Road_Max_Baseline_Ruffed_Grouse_Beryllium	0.00026496	0.00001932	2.58768E-08	1.0254E-05	0.000072864	0.003105	0	0	0.003472424	0.006290623	3.47242E-06
Haul Road_Max	Baseline	Ruffed_Grouse	Boron	Haul Road_Max_Baseline_Ruffed_Grouse_Boron	0.0019872	0.000966	1.94076E-07	0.2017008	1.0820304	0	0	0	1.286684594	2.330950352	0.001029348
Haul Road_Max	Baseline	Ruffed_Grouse	Cadmium	Haul Road_Max_Baseline_Ruffed_Grouse_Cadmium	0.000072864	7.728E-07	7.11611E-09	0.001775265	0.00336996	0.04447002	0	0	0.049688889	0.090016103	9.49058E-06
Haul Road_Max	Baseline	Ruffed_Grouse	Chromium	Haul Road_Max_Baseline_Ruffed_Grouse_Chromiur	0.0139104	0.000027048	1.35853E-06	0.005295888	0.004554	0.716602965	0	0	0.740391659	1.341289238	0.004072154
Haul Road_Max	Baseline	Ruffed_Grouse	Cobalt	Haul Road_Max_Baseline_Ruffed_Grouse_Cobalt	0.00675648	1.04328E-05	6.59858E-07	0.00158976	0.003023856	0.044022688	0	0	0.055403877	0.100369343	0.001108078
Haul Road_Max	Baseline	Ruffed_Grouse	Copper	Haul Road_Max_Baseline_Ruffed_Grouse_Copper	0.006624	2.74344E-05	6.46919E-07	0.07680528	0.13370544	0.304442209	0	0	0.521605011	0.944936614	0.00521605
Haul Road_Max	Baseline	Ruffed_Grouse	Lead	Haul Road_Max_Baseline_Ruffed_Grouse_Lead	0.01086336	1.19784E-05	1.06095E-06	0.00019872	0.00256117	0.238651614	0	0	0.252287903	0.457043302	7.56864E-05
Haul Road_Max	Baseline	Ruffed_Grouse	Manganese	Haul Road_Max_Baseline_Ruffed_Grouse_Mangane	0.5305824	0.001727208	5.18182E-05	6.4454832	81.407304	1.321279696	0	0	89.70642832	162.5116455	0.035882571
Haul Road_Max	Baseline	Ruffed_Grouse	Mercury	Haul Road_Max_Baseline_Ruffed_Grouse_Mercury	0.00006624	2.73185E-07	6.46919E-09	0.0006624	0.00056925	0.015455391	0	0	0.016753561	0.030350654	0.00040041
Haul Road_Max	Baseline	Ruffed_Grouse	Molybdenum	Haul Road_Max_Baseline_Ruffed_Grouse_Molybde	0.0003312	0.000092736	3.2346E-08	0.003050352	0.004954752	0.015742351	0	0	0.024171423	0.04378881	0.000145029
Haul Road_Max	Baseline	Ruffed_Grouse	Nickel	Haul Road_Max_Baseline_Ruffed_Grouse_Nickel	0.0092736	4.28904E-05	9.05687E-07	0.03706128	0.050094	0.7198632	0	0	0.816335877	1.478869342	0.004898015
Haul Road_Max	Baseline	Ruffed_Grouse	Silver	Haul Road_Max_Baseline_Ruffed_Grouse_Silver	0.00006624	0.000001932	6.46919E-09	0.000137117	0.000284625	0.014056336	0	0	0.014546256	0.026351913	4.36388E-05
Haul Road_Max	Baseline	Ruffed_Grouse	Strontium	Haul Road_Max_Baseline_Ruffed_Grouse_Strontiun	0.0059616	0.000241886	5.82227E-07	0.2464128	1.7414496	0.032695649	0	0	2.026762118	3.671670503	0.000608029
Haul Road_Max	Baseline	Ruffed_Grouse	Vanadium	Haul Road_Max_Baseline_Ruffed_Grouse_Vanadiur	0.023184	0.00003864	2.26422E-06	0.0013248	0.002277	0.04238325	0	0	0.069209955	0.125380352	0.000173025
Haul Road_Max	Baseline	Ruffed_Grouse	Zinc	Haul Road_Max_Baseline_Ruffed_Grouse_Zinc	0.0238464	0.000134467	2.32891E-06	0.275555088	0.6266304	8.604090692	0	0	9.530259376	17.26496264	0.08338977
Haul Road_Max	Project	Ruffed_Grouse	Aluminum	Haul Road_Max_Project_Ruffed_Grouse_Aluminum	0.972429722	0	9.49704E-05	0.487802377	0.756204541	0.241588002	0	0	2.458119613	4.453115241	0.003687179
Haul Road_Max	Project	Ruffed_Grouse	Antimony	Haul Road_Max_Project_Ruffed_Grouse_Antimony	4.76591E-05	0	4.65453E-09	2.61219E-05	6.19836E-05	0.000294399	0	0	0.000430168	0.00077929	4.30168E-07
Haul Road_Max	Project	Ruffed_Grouse	Arsenic	Haul Road_Max_Project_Ruffed_Grouse_Arsenic	0.001521553	4.24589E-05	1.48599E-07	0.000473117	0.000900974	0.002654073	0	0	0.005592325	0.010131023	1.11846E-07
Haul Road_Max	Project	Ruffed_Grouse	Arsenic_cancer	Haul Road_Max_Project_Ruffed_Grouse_Arsenic_ca	0.001521553	4.24589E-05	1.48599E-07	0.000473117	0.000900974	0.002654073	0	0	0.005592325	0.010131023	1.11846E-07
Haul Road_Max	Project	Ruffed_Grouse	Barium	Haul Road_Max_Project_Ruffed_Grouse_Barium	0.003556864	0	3.47374E-07	0.004370746	0.035339444	0.001467207	0	0	0.044734608	0.081040956	6.71019E-06
Haul Road_Max	Project	Ruffed_Grouse	Beryllium	Haul Road_Max_Project_Ruffed_Grouse_Beryllium	1.7464E-05	0	1.70559E-09	8.80394E-06	1.35881E-05	2.04657E-05	0	0	6.03234E-05	0.000109282	6.03234E-08
Haul Road_Max	Project	Ruffed_Grouse	Boron	Haul Road_Max_Project_Ruffed_Grouse_Boron	0.000238295	0	2.32726E-08	0.002537906	0.013154043	0	0	0	0.015930267	0.02885918	1.27442E-05
Haul Road_Max	Project	Ruffed_Grouse	Cadmium	Haul Road_Max_Project_Ruffed_Grouse_Cadmium	1.16426E-05	1.46717E-07	1.13705E-09	3.41904E-05	6.25857E-05	0.00165913	0	0	0.001767696	0.003202349	3.3763E-07
Haul Road_Max	Project	Ruffed_Grouse	Chromium	Haul Road_Max_Project_Ruffed_Grouse_Chromium	0.001862764	0	1.81923E-07	0.001002763	0.001459103	0.009596144	0	0	0.013920955	0.025219122	7.65653E-05
Haul Road_Max	Project	Ruffed_Grouse	Cobalt	Haul Road_Max_Project_Ruffed_Grouse_Cobalt	0.000693463	1.05404E-05	6.77257E-08	0.000363221	0.000551523	0.000451835	0	0	0.002070649	0.003751176	4.1413E-05
Haul Road_Max	Project	Ruffed_Grouse	Copper	Haul Road_Max_Project_Ruffed_Grouse_Copper	0.00119439	7.19486E-06	1.16648E-07	0.001982388	0.003307341	0.105461928	0	0	0.111953358	0.202814054	0.001119534
Haul Road_Max	Project	Ruffed_Grouse	Lead	Haul Road_Max_Project_Ruffed_Grouse_Lead	0.000313165	2.9109E-06	3.05846E-08	0.000157233	0.000242433	0.002127307	0	0	0.00284308	0.005150506	8.52924E-07
Haul Road_Max	Project	Ruffed_Grouse	Manganese	Haul Road_Max_Project_Ruffed_Grouse_Manganes	0.02474639	0.000150774	2.41681E-06	0.042441114	0.398257793	0.03396944	0	0	0.499567928	0.905014362	0.000199827
Haul Road_Max	Project	Ruffed_Grouse	Mercury	Haul Road_Max_Project_Ruffed_Grouse_Mercury	1.13767E-07	6.54764E-08	1.11108E-11	2.10498E-07	3.66963E-07	0.000832946	0	0	0.000833702	0.001510331	1.99255E-05
Haul Road_Max	Project	Ruffed_Grouse	Molybdenum	Haul Road_Max_Project_Ruffed_Grouse_Molybden	3.06591E-05	6.19762E-05	2.99426E-09	4.35742E-05	6.88775E-05	0.000145726	0	0	0.000350816	0.000635537	2.1049E-06
Haul Road_Max	Project	Ruffed_Grouse	Nickel	Haul Road_Max_Project_Ruffed_Grouse_Nickel	0.00142098	0.000113546	1.38777E-07	0.001278727	0.001834116	0.011030354	0	0	0.015677862	0.028401924	9.40672E-05
Haul Road_Max	Project	Ruffed_Grouse	Silver	Haul Road_Max_Project_Ruffed_Grouse_Silver	5.72706E-06	4.2875E-08	5.59321E-10	4.05045E-06	1.05983E-05	0.00012153	0	0	0.000141949	0.000257154	4.25848E-07
Haul Road_Max	Project	Ruffed_Grouse	Strontium	Haul Road_Max_Project_Ruffed_Grouse_Strontium	0.000521835	0	5.0964E-08	0.002417967	0.015635064	0.000286194	0	0	0.018861112	0.034168681	5.65833E-06
Haul Road_Max	Project	Ruffed_Grouse	Vanadium	Haul Road_Max_Project_Ruffed_Grouse_Vanadium	0.002041923	0	1.9942E-07	0.001038315	0.001552644	0.000373289	0	0	0.005006371	0.009069512	1.25159E-05
Haul Road_Max	Project	Ruffed_Grouse	Zinc	Haul Road_Max_Project_Ruffed_Grouse_Zinc	0.003433276	6.70341E-05	3.35304E-07	0.005684785	0.011598773	2.141030065	0	0	2.161814268	3.916330196	0.018915875
Haul Road_Average	Baseline	Ruffed_Grouse	Aluminum	Haul Road_Average_Baseline_Ruffed_Grouse_Alum	14.83776	0.00942816	0.0014491	0.205347312	4.0184496	36.86255848	0	0	55.93499266	101.3315084	0.083902489
Haul Road_Average	Baseline	Ruffed_Grouse	Antimony	Haul Road_Average_Baseline_Ruffed_Grouse_Antim	0.00003312	0.00001932	3.2346E-09	1.58479E-05	0.00018216	0.002045884	0	0	0.002296336	0.004160028	2.29634E-06
Haul Road_Average	Baseline	Ruffed_Grouse	Arsenic	Haul Road_Average_Baseline_Ruffed_Grouse_Arser	0.006624	6.99384E-05	6.46919E-07	0.000383659	0.000444015	0.038100367	0	0	0.045622626	0.082649685	9.12453E-07
Haul Road_Average	Baseline	Ruffed_Grouse	Arsenic_cancer	Haul Road_Average_Baseline_Ruffed_Grouse_Arser	0.006624	6.99384E-05	6.46919E-07	0.000383659	0.000444015	0.038100367	0	0	0.045622626	0.082649685	9.12453E-07
Haul Road_Average	Baseline	Ruffed_Grouse	Barium	Haul Road_Average_Baseline_Ruffed_Grouse_Bariu	0.023184	0.00012983	2.26422E-06	0.168912	2.1294504	0.095633998	0	0	2.417312492	4.379189298	0.000362597
Haul Road_Average	Baseline	Ruffed_Grouse	Beryllium	Haul Road_Average_Baseline_Ruffed_Grouse_Beryl	0.00026496	0.00001932	2.58768E-08	1.0254E-05	0.000072864	0.003105	0	0	0.003472424	0.006290623	3.47242E-06
Haul Road_Average	Baseline	Ruffed_Grouse	Boron	Haul Road_Average_Baseline_Ruffed_Grouse_Boror	0.0019872	0.000966	1.94076E-07	0.2017008	1.0820304	0	0	0	1.286684594	2.330950352	0.001029348
Haul Road_Average	Baseline	Ruffed_Grouse	Cadmium	Haul Road_Average_Baseline_Ruffed_Grouse_Cadm	0.000072864	7.728E-07	7.11611E-09	0.001775265	0.00336996	0.04447002	0	0	0.049688889	0.090016103	9.49058E-06
Haul Road_Average	Baseline	Ruffed_Grouse	Chromium	Haul Road_Average_Baseline_Ruffed_Grouse_Chror	0.0139104	0.000027048	1.35853E-06	0.005295888	0.004554	0.716602965	0	0	0.740391659	1.341289238	0.004072154
Haul Road_Average	Baseline	Ruffed_Grouse	Cobalt	Haul Road_Average_Baseline_Ruffed_Grouse_Coba	0.00675648	1.04328E-05	6.59858E-07	0.00158976	0.003023856	0.044022688	0	0	0.055403877	0.100369343	0.001108078
Haul Road_Average	Baseline	Ruffed_Grouse	Copper	Haul Road_Average_Baseline_Ruffed_Grouse_Copp	0.006624	2.74344E-05	6.46919E-07	0.07680528	0.13370544	0.304442209	0	0	0.521605011	0.944936614	0.00521605
Haul Road_Average	Baseline	Ruffed_Grouse	Lead	Haul Road_Average_Baseline_Ruffed_Grouse_Lead	0.01086336	1.19784E-05	1.06095E-06	0.00019872	0.00256117	0.238651614	0	0	0.252287903	0.457043302	7.56864E-05
Haul Road_Average	Baseline	Ruffed_Grouse	Manganese	Haul Road_Average_Baseline_Ruffed_Grouse_Mang	0.5305824	0.001727208	5.18182E-05	6.4454832	81.407304	1.321279696	0	0	89.70642832	162.5116455	0.035882571
Haul Road_Average	Baseline	Ruffed_Grouse	Mercury	Haul Road_Average_Baseline_Ruffed_Grouse_Merc	0.00006624	2.73185E-07	6.46919E-09	0.0006624	0.00056925	0.015455391	0	0	0.016753561	0.030350654	0.00040041
Haul Road_Average	Baseline	Ruffed_Grouse	Molybdenum	Haul Road_Average_Baseline_Ruffed_Grouse_Moly	0.0003312	0.000092736	3.2346E-08	0.003050352	0.004954752	0.015742351	0	0	0.024171423	0.04378881	0.000145029
Haul Road_Average	Baseline	Ruffed_Grouse	Nickel	Haul Road_Average_Baseline_Ruffed_Grouse_Nicke	0.0092736	4.28904E-05	9.05687E-07	0.03706128	0.050094	0.7198632	0	0	0.816335877	1.478869342	0.004898015
Haul Road_Average	Baseline	Ruffed_Grouse	Silver	Haul Road_Average_Baseline_Ruffed_Grouse_Silver	0.00006624	0.000001932	6.46919E-09	0.000137117	0.000284625	0.014056336	0	0	0.014546256	0.026351913	4.36388E-05
Haul Road_Average	Baseline	Ruffed_Grouse	Strontium	Haul Road_Average_Baseline_Ruffed_Grouse_Stron	0.0059616	0.000241886	5.82227E-07	0.2464128	1.7414496	0.032695649	0	0	2.026762118	3.671670503	0.000608029
Haul Road_Average	Baseline	Ruffed_Grouse	Vanadium	Haul Road_Average_Baseline_Ruffed_Grouse_Vana	0.023184	0.00003864	2.26422E-06	0.0013248	0.002277	0.04238325	0	0	0.069209955	0.125380352	0.000173025
Haul Road_Average	Baseline	Ruffed_Grouse	Zinc	Haul Road_Average_Baseline_Ruffed_Grouse_Zinc	0.0238464	0.000134467	2.32891E-06	0.275555088	0.6266304	8.604090692	0	0	9.530259376	17.26496264	0.08338977
Haul Road_Average	Project	Ruffed_Grouse	Aluminum	Haul Road_Average_Project_Ruffed_Grouse_Alumir	0.352924529	0	3.44677E-05	0.177038419	0.274449793	0.087679681	0	0	0.89212689	1.616171902	0.00133819
Haul Road_Average	Project	Ruffed_Grouse	Antimony	Haul Road_Average_Project_Ruffed_Grouse_Antimc	1.72969E-05	0	1.68927E-09	9.48043E-06	2.24957E-05	0.000106846	0	0	0.000156121	0.000282828	1.56121E-07
Haul Road_Average	Project	Ruffed_Grouse	Arsenic	Haul Road_Average_Project_Ruffed_Grouse_Arseni	0.000552218	4.24589E-05	5.39313E-08	0.000171709	0.000326991	0.001297622	0	0	0.002391053	0.004331618	4.78211E-08
Haul Road_Average	Project	Ruffed_Grouse	Arsenic_cancer	Haul Road_Average_Project_Ruffed_Grouse_Arseni	0.000552218	4.24589E-05	5.39313E-08	0.000171709	0.000326991	0.001297622	0	0	0.002391053	0.004331618	4.78211E-08
Haul Road_Average	Project	Ruffed_Grouse	Barium	Haul Road_Average_Project_Ruffed_Grouse_Barium	0.001290895	0	1.26073E-07	0.001586278	0.012825767	0.000532494	0	0	0.016235559	0.029412245	2.43533E-06
Haul Road_Average	Project	Ruffed_Grouse	Beryllium	Haul Road_Average_Project_Ruffed_Grouse_Berylli	6.33823E-06	0	6.19011E-10	3.19522E-06	4.93154E-06	7.42762E-06	0	0	2.18932E-05	3.96616E-05	2.18932E-08
Haul Road_Average	Project	Ruffed_Grouse	Boron	Haul Road_Average_Project_Ruffed_Grouse_Boron	8.64847E-05	0	8.44635E-09	0.000921084	0.004774005	0	0	0	0.005781582	0.01047388	4.62527E-06
Haul Road_Average	Project	Ruffed_Grouse	Cadmium	Haul Road_Average_Project_Ruffed_Grouse_Cadmi	4.22547E-06	1.46717E-07	4.12672E-10	1.24088E-05	2.27143E-05	0.000741208	0	0	0.000780704	0.001414318	1.49114E-07
Haul Road_Average	Project	Ruffed_Grouse	Chromium	Haul Road_Average_Project_Ruffed_Grouse_Chrom	0.000676054	0	6.60254E-08	0.000363933	0.000529553	0.003482734	0	0	0.005052341	0.009152791	2.77879E-05
Haul Road_Average	Project	Ruffed_Grouse	Cobalt	Haul Road_Average_Project_Ruffed_Grouse_Cobalt	0.000251679	1.05404E-05	2.45797E-08	0.000131824	0.000200165	0.000163985	0	0	0.000758217	0.001373581	1.51643E-05
Haul Road_Average	Project	Ruffed_Grouse	Copper	Haul Road_Average_Project_Ruffed_Grouse_Coppe	0.000433481	7.19486E-06	4.2335E-08	0.000719469	0.001200335	0.080702895	0	0	0.083063417	0.150477205	0.000830634
Haul Road_Average	Project	Ruffed_Grouse	Lead	Haul Road_Average_Project_Ruffed_Grouse_Lead	0.000113657	2.9109E-06	1.11001E-08	5.70647E-05	8.79863E-05	0.000938875	0	0	0.001200505	0.002174828	3.60152E-07
Haul Road_Average	Project	Ruffed_Grouse	Manganese	Haul Road_Average_Project_Ruffed_Grouse_Manga	0.008981223	0.000150774	8.77133E-07	0.01540318	0.144539945	0.0170172	0	0	0.186093199	0.337125361	7.44373E-05
Haul Road_Average	Project	Ruffed_Grouse	Mercury	Haul Road_Average_Project_Ruffed_Grouse_Mercu	4.12896E-08	6.54764E-08	4.03246E-12	7.6396E-08	1.33182E-07	0.000591999	0	0	0.000592316	0.001073036	1.41563E-05
Haul Road_Average	Project	Ruffed_Grouse	Molybdenum	Haul Road_Average_Project_Ruffed_Grouse_Molyb	1.11271E-05	6.19762E-05	1.08671E-09	1.58144E-05	2.49978E-05	5.28886E-05	0	0	0.000166805	0.000302183	1.00083E-06
Haul Road_Average	Project	Ruffed_Grouse	Nickel	Haul Road_Average_Project_Ruffed_Grouse_Nickel	0.000515717	0.000113546	5.03665E-08	0.000464089	0.000665657	0.004003253	0	0	0.005762313	0.010438973	3.45739E-05
Haul Road_Average	Project	Ruffed_Grouse	Silver	Haul Road_Average_Project_Ruffed_Grouse_Silver	2.07852E-06	4.2875E-08	2.02995E-10	1.47003E-06	3.84644E-06	4.41069E-05	0	0	5.1545E-05	9.33787E-05	1.54635E-07
Haul Road_Average	Project	Ruffed_Grouse	Strontium	Haul Road_Average_Project_Ruffed_Grouse_Stronti	0.00018939	0	1.84964E-08	0.000877554	0.005674443	0.000103869	0	0	0.006845275	0.012400861	2.05358E-06
Haul Road_Average	Project	Ruffed_Grouse	Vanadium	Haul Road_Average_Project_Ruffed_Grouse_Vanad	0.000741076	0	7.23757E-08	0.000376836	0.000563502	0.000135478	0	0	0.001816965	0.003291604	4.54241E-06
Haul Road_Average	Project	Ruffed_Grouse	Zinc	Haul Road_Average_Project_Ruffed_Grouse_Zinc	0.001246041	6.70341E-05	1.21692E-07	0.002063182	0.00420955	1.535482576	0	0	1.543068505	2.795413958	0.013501849
Haul Road_Max	Baseline	Snowshoe_Hare	Aluminum	Haul Road_Max_Baseline_Snowshoe_Hare_Aluminu	110.0736	0.03172	0.003770303	0.1612026	15.48612	0	0	0	125.7564129	96.73570223	0.188634619
Haul Road_Max	Baseline	Snowshoe_Hare	Antimony	Haul Road_Max_Baseline_Snowshoe_Hare_Antimor	0.0002457	0.000065	8.41586E-09	0.000012441	0.000702	0	0	0	0.001025149	0.000788576	1.02515E-06
Haul Road_Max	Baseline	Snowshoe_Hare	Arsenic	Haul Road_Max_Baseline_Snowshoe_Hare_Arsenic	0.04914	0.0002353	1.68317E-06	0.000301181	0.001711125	0	0	0	0.05138929	0.039530223	1.02779E-06
Haul Road_Max	Baseline	Snowshoe_Hare	Arsenic_cancer	Haul Road_Max_Baseline_Snowshoe_Hare_Arsenic_	0.04914	0.0002353	1.68317E-06	0.000301181	0.001711125	0	0	0	0.05138929	0.039530223	1.02779E-06
Haul Road_Max	Baseline	Snowshoe_Hare	Barium	Haul Road_Max_Baseline_Snowshoe_Hare_Barium	0.17199	0.0004368	5.8911E-06	0.1326	8.20638	0	0	0	8.511412691	6.547240532	0.001276712
Haul Road_Max	Baseline	Snowshoe_Hare	Beryllium	Haul Road_Max_Baseline_Snowshoe_Hare_Berylliu	0.0019656	0.000065	6.73268E-08	8.0496E-06	0.0002808	0	0	0	0.002319517	0.001784244	2.31952E-06
Haul Road_Max	Baseline	Snowshoe_Hare	Boron	Haul Road_Max_Baseline_Snowshoe_Hare_Boron	0.014742	0.00325	5.04951E-07	0.15834	4.16988	0	0	0	4.346212505	3.343240388	0.00347697
Haul Road_Max	Baseline	Snowshoe_Hare	Cadmium	Haul Road_Max_Baseline_Snowshoe_Hare_Cadmiu	0.00054054	0.0000026	1.85149E-08	0.001393626	0.012987	0	0	0	0.014923785	0.011479834	1.79085E-06
Haul Road_Max	Baseline	Snowshoe_Hare	Chromium	Haul Road_Max_Baseline_Snowshoe_Hare_Chromiu	0.103194	0.000091	3.53466E-06	0.0041574	0.01755	0	0	0	0.124995935	0.096150719	0.000687478
Haul Road_Max	Baseline	Snowshoe_Hare	Cobalt	Haul Road_Max_Baseline_Snowshoe_Hare_Cobalt	0.0501228	0.0000351	1.71683E-06	0.001248	0.0116532	0	0	0	0.063060817	0.048508321	0.001261216
Haul Road_Max	Baseline	Snowshoe_Hare	Copper	Haul Road_Max_Baseline_Snowshoe_Hare_Copper	0.04914	0.0000923	1.68317E-06	0.060294	0.515268	0	0	0	0.624795983	0.480612295	0.00624796
Haul Road_Max	Baseline	Snowshoe_Hare	Lead	Haul Road_Max_Baseline_Snowshoe_Hare_Lead	0.0805896	0.0000403	2.7604E-06	0.000156	0.00987012	0	0	0	0.09065878	0.069737523	2.71976E-05
Haul Road_Max	Baseline	Snowshoe_Hare	Manganese	Haul Road_Max_Baseline_Snowshoe_Hare_Mangan	3.936114	0.005811	0.000134822	5.05986	313.7238	0	0	0	322.7257198	248.2505537	0.129090288
Haul Road_Max	Baseline	Snowshoe_Hare	Mercury	Haul Road_Max_Baseline_Snowshoe_Hare_Mercury	0.0004914	9.191E-07	1.68317E-08	0.00052	0.00219375	0	0	0	0.003206086	0.00246622	1.67358E-05
Haul Road_Max	Baseline	Snowshoe_Hare	Molybdenum	Haul Road_Max_Baseline_Snowshoe_Hare_Molybd	0.002457	0.000312	8.41586E-08	0.0023946	0.0190944	0	0	0	0.024258084	0.018660065	0.000145549
Haul Road_Max	Baseline	Snowshoe_Hare	Nickel	Haul Road_Max_Baseline_Snowshoe_Hare_Nickel	0.068796	0.0001443	2.35644E-06	0.029094	0.19305	0	0	0	0.291086656	0.223912813	0.00174652
Haul Road_Max	Baseline	Snowshoe_Hare	Silver	Haul Road_Max_Baseline_Snowshoe_Hare_Silver	0.0004914	0.0000065	1.68317E-08	0.00010764	0.001096875	0	0	0	0.001702432	0.001309563	5.1073E-06
Haul Road_Max	Baseline	Snowshoe_Hare	Strontium	Haul Road_Max_Baseline_Snowshoe_Hare_Strontiu	0.044226	0.0008138	1.51485E-06	0.19344	6.71112	0	0	0	6.949601315	5.345847165	0.00208488
Haul Road_Max	Baseline	Snowshoe_Hare	Vanadium	Haul Road_Max_Baseline_Snowshoe_Hare_Vanadiu	0.17199	0.00013	5.8911E-06	0.00104	0.008775	0	0	0	0.181940891	0.139954532	0.000454852
Haul Road_Max	Baseline	Snowshoe_Hare	Zinc	Haul Road_Max_Baseline_Snowshoe_Hare_Zinc	0.176904	0.0004524	6.05942E-06	0.2163174	2.41488	0	0	0	2.808559859	2.160430661	0.00025277
Haul Road_Max	Project	Snowshoe_Hare	Aluminum	Haul Road_Max_Project_Snowshoe_Hare_Aluminur	7.213948752	0	0.000247096	0.382936649	2.914226985	0	0	0	10.51135948	8.08566114	0.015767039
Haul Road_Max	Project	Snowshoe_Hare	Antimony	Haul Road_Max_Project_Snowshoe_Hare_Antimony	0.000353558	0	1.21103E-08	2.05063E-05	0.00023887	0	0	0	0.000612946	0.000471497	6.12946E-07
Haul Road_Max	Project	Snowshoe_Hare	Arsenic	Haul Road_Max_Project_Snowshoe_Hare_Arsenic	0.011287606	0.000142848	3.86629E-07	0.000371408	0.003472134	0	0	0	0.015274384	0.011749526	3.05488E-07
Haul Road_Max	Project	Snowshoe_Hare	Arsenic_cancer	Haul Road_Max_Project_Snowshoe_Hare_Arsenic_c	0.011287606	0.000142848	3.86629E-07	0.000371408	0.003472134	0	0	0	0.015274384	0.011749526	3.05488E-07
Haul Road_Max	Project	Snowshoe_Hare	Barium	Haul Road_Max_Project_Snowshoe_Hare_Barium	0.02638652	0	9.03806E-07	0.003431141	0.136189556	0	0	0	0.166008121	0.127698555	2.49012E-05
Haul Road_Max	Project	Snowshoe_Hare	Beryllium	Haul Road_Max_Project_Snowshoe_Hare_Beryllium	0.000129557	0	4.43764E-09	6.91131E-06	5.23652E-05	0	0	0	0.000188837	0.00014526	1.88837E-07
Haul Road_Max	Project	Snowshoe_Hare	Boron	Haul Road_Max_Project_Snowshoe_Hare_Boron	0.00176779	0	6.05513E-08	0.001992317	0.050692457	0	0	0	0.054452625	0.041886634	4.35621E-05
Haul Road_Max	Project	Snowshoe_Hare	Cadmium	Haul Road_Max_Project_Snowshoe_Hare_Cadmium	8.63707E-05	4.93611E-07	2.95842E-09	2.68403E-05	0.00024119	0	0	0	0.000354898	0.000272998	4.25877E-08
Haul Road_Max	Project	Snowshoe_Hare	Chromium	Haul Road_Max_Project_Snowshoe_Hare_Chromiur	0.013818872	0	4.73332E-07	0.000787193	0.005623025	0	0	0	0.020229563	0.015561203	0.000111263
Haul Road_Max	Project	Snowshoe_Hare	Cobalt	Haul Road_Max_Project_Snowshoe_Hare_Cobalt	0.005144441	3.5462E-05	1.7621E-07	0.000285137	0.002125434	0	0	0	0.00759065	0.005838962	0.000151813
Haul Road_Max	Project	Snowshoe_Hare	Copper	Haul Road_Max_Project_Snowshoe_Hare_Copper	0.008860558	2.42063E-05	3.03497E-07	0.001556222	0.01274568	0	0	0	0.02318697	0.017836131	0.00023187
Haul Road_Max	Project	Snowshoe_Hare	Lead	Haul Road_Max_Project_Snowshoe_Hare_Lead	0.002323207	9.7934E-06	7.95758E-08	0.000123432	0.000934277	0	0	0	0.003390789	0.002608299	1.01724E-06
Haul Road_Max	Project	Snowshoe_Hare	Manganese	Haul Road_Max_Project_Snowshoe_Hare_Mangane	0.183580557	0.000507261	6.2881E-06	0.0333173	1.534787937	0	0	0	1.752199343	1.347845649	0.00070088
Haul Road_Max	Project	Snowshoe_Hare	Mercury	Haul Road_Max_Project_Snowshoe_Hare_Mercury	8.43979E-07	2.20288E-07	2.89085E-11	1.65246E-07	1.41419E-06	0	0	0	2.64373E-06	2.03364E-06	1.38003E-08
Haul Road_Max	Project	Snowshoe_Hare	Molybdenum	Haul Road_Max_Project_Snowshoe_Hare_Molybde	0.000227444	0.000208512	7.79053E-09	3.42068E-05	0.000265437	0	0	0	0.000735608	0.000565852	4.41365E-06
Haul Road_Max	Project	Snowshoe_Hare	Nickel	Haul Road_Max_Project_Snowshoe_Hare_Nickel	0.010541507	0.000382013	3.61074E-07	0.001003832	0.007068233	0	0	0	0.018995946	0.014612266	0.000113976
Haul Road_Max	Project	Snowshoe_Hare	Silver	Haul Road_Max_Project_Snowshoe_Hare_Silver	4.24861E-05	1.44248E-07	1.45526E-09	3.1797E-06	4.08432E-05	0	0	0	8.66546E-05	6.66574E-05	2.59964E-07
Haul Road_Max	Project	Snowshoe_Hare	Strontium	Haul Road_Max_Project_Snowshoe_Hare_Strontiun	0.003871225	0	1.32599E-07	0.001898163	0.060253705	0	0	0	0.066023226	0.050787097	1.9807E-05
Haul Road_Max	Project	Snowshoe_Hare	Vanadium	Haul Road_Max_Project_Snowshoe_Hare_Vanadiur	0.015147961	0	5.18856E-07	0.000815102	0.00598351	0	0	0	0.021947093	0.016882379	5.48677E-05
Haul Road_Max	Project	Snowshoe_Hare	Zinc	Haul Road_Max_Project_Snowshoe_Hare_Zinc	0.025469682	0.000225529	8.72402E-07	0.004462694	0.044698827	0	0	0	0.074857604	0.057582772	6.73718E-06
Haul Road_Average	Baseline	Snowshoe_Hare	Aluminum	Haul Road_Average_Baseline_Snowshoe_Hare_Alur	110.0736	0.03172	0.003770303	0.1612026	15.48612	0	0	0	125.7564129	96.73570223	0.188634619
Haul Road_Average	Baseline	Snowshoe_Hare	Antimony	Haul Road_Average_Baseline_Snowshoe_Hare_Anti	0.0002457	0.000065	8.41586E-09	0.000012441	0.000702	0	0	0	0.001025149	0.000788576	1.02515E-06
Haul Road_Average	Baseline	Snowshoe_Hare	Arsenic	Haul Road_Average_Baseline_Snowshoe_Hare_Arse	0.04914	0.0002353	1.68317E-06	0.000301181	0.001711125	0	0	0	0.05138929	0.039530223	1.02779E-06
Haul Road_Average	Baseline	Snowshoe_Hare	Arsenic_cancer	Haul Road_Average_Baseline_Snowshoe_Hare_Arse	0.04914	0.0002353	1.68317E-06	0.000301181	0.001711125	0	0	0	0.05138929	0.039530223	1.02779E-06
Haul Road_Average	Baseline	Snowshoe_Hare	Barium	Haul Road_Average_Baseline_Snowshoe_Hare_Bari	0.17199	0.0004368	5.8911E-06	0.1326	8.20638	0	0	0	8.511412691	6.547240532	0.001276712
Haul Road_Average	Baseline	Snowshoe_Hare	Beryllium	Haul Road_Average_Baseline_Snowshoe_Hare_Bery	0.0019656	0.000065	6.73268E-08	8.0496E-06	0.0002808	0	0	0	0.002319517	0.001784244	2.31952E-06
Haul Road_Average	Baseline	Snowshoe_Hare	Boron	Haul Road_Average_Baseline_Snowshoe_Hare_Borc	0.014742	0.00325	5.04951E-07	0.15834	4.16988	0	0	0	4.346212505	3.343240388	0.00347697
Haul Road_Average	Baseline	Snowshoe_Hare	Cadmium	Haul Road_Average_Baseline_Snowshoe_Hare_Cadi	0.00054054	0.0000026	1.85149E-08	0.001393626	0.012987	0	0	0	0.014923785	0.011479834	1.79085E-06
Haul Road_Average	Baseline	Snowshoe_Hare	Chromium	Haul Road_Average_Baseline_Snowshoe_Hare_Chrc	0.103194	0.000091	3.53466E-06	0.0041574	0.01755	0	0	0	0.124995935	0.096150719	0.000687478
Haul Road_Average	Baseline	Snowshoe_Hare	Cobalt	Haul Road_Average_Baseline_Snowshoe_Hare_Cob	0.0501228	0.0000351	1.71683E-06	0.001248	0.0116532	0	0	0	0.063060817	0.048508321	0.001261216
Haul Road_Average	Baseline	Snowshoe_Hare	Copper	Haul Road_Average_Baseline_Snowshoe_Hare_Cop	0.04914	0.0000923	1.68317E-06	0.060294	0.515268	0	0	0	0.624795983	0.480612295	0.00624796
Haul Road_Average	Baseline	Snowshoe_Hare	Lead	Haul Road_Average_Baseline_Snowshoe_Hare_Leac	0.0805896	0.0000403	2.7604E-06	0.000156	0.00987012	0	0	0	0.09065878	0.069737523	2.71976E-05
Haul Road_Average	Baseline	Snowshoe_Hare	Manganese	Haul Road_Average_Baseline_Snowshoe_Hare_Mar	3.936114	0.005811	0.000134822	5.05986	313.7238	0	0	0	322.7257198	248.2505537	0.129090288
Haul Road_Average	Baseline	Snowshoe_Hare	Mercury	Haul Road_Average_Baseline_Snowshoe_Hare_Mer	0.0004914	9.191E-07	1.68317E-08	0.00052	0.00219375	0	0	0	0.003206086	0.00246622	1.67358E-05
Haul Road_Average	Baseline	Snowshoe_Hare	Molybdenum	Haul Road_Average_Baseline_Snowshoe_Hare_Mol	0.002457	0.000312	8.41586E-08	0.0023946	0.0190944	0	0	0	0.024258084	0.018660065	0.000145549
Haul Road_Average	Baseline	Snowshoe_Hare	Nickel	Haul Road_Average_Baseline_Snowshoe_Hare_Nick	0.068796	0.0001443	2.35644E-06	0.029094	0.19305	0	0	0	0.291086656	0.223912813	0.00174652
Haul Road_Average	Baseline	Snowshoe_Hare	Silver	Haul Road_Average_Baseline_Snowshoe_Hare_Silve	0.0004914	0.0000065	1.68317E-08	0.00010764	0.001096875	0	0	0	0.001702432	0.001309563	5.1073E-06
Haul Road_Average	Baseline	Snowshoe_Hare	Strontium	Haul Road_Average_Baseline_Snowshoe_Hare_Stro	0.044226	0.0008138	1.51485E-06	0.19344	6.71112	0	0	0	6.949601315	5.345847165	0.00208488
Haul Road_Average	Baseline	Snowshoe_Hare	Vanadium	Haul Road_Average_Baseline_Snowshoe_Hare_Van	0.17199	0.00013	5.8911E-06	0.00104	0.008775	0	0	0	0.181940891	0.139954532	0.000454852
Haul Road_Average	Baseline	Snowshoe_Hare	Zinc	Haul Road_Average_Baseline_Snowshoe_Hare_Zinc	0.176904	0.0004524	6.05942E-06	0.2163174	2.41488	0	0	0	2.808559859	2.160430661	0.00025277
Haul Road_Average	Project	Snowshoe_Hare	Aluminum	Haul Road_Average_Project_Snowshoe_Hare_Alum	2.618162944	0	8.96788E-05	0.138979436	1.057662246	0	0	0	3.814894304	2.93453408	0.005722341

Haul Road_Average	Project	Snowshoe_Hare	Antimony	Haul Road_Average_Project_Snowshoe_Hare_Antim	0.000128317	0	4.39519E-09	7.44237E-06	8.66931E-05	0	0	0	0.000222457	0.000171121	2.22457E-07
Haul Road_Average	Project	Snowshoe_Hare	Arsenic	Haul Road_Average_Project_Snowshoe_Hare_Arser	0.004096618	0.000142848	1.4032E-07	0.000134795	0.001260144	0	0	0	0.005634546	0.004334266	1.12691E-07
Haul Road_Average	Project	Snowshoe_Hare	Arsenic_cancer	Haul Road_Average_Project_Snowshoe_Hare_Arser	0.004096618	0.000142848	1.4032E-07	0.000134795	0.001260144	0	0	0	0.005634546	0.004334266	1.12691E-07
Haul Road_Average	Project	Snowshoe_Hare	Barium	Haul Road_Average_Project_Snowshoe_Hare_Bariu	0.009576476	0	3.28019E-07	0.001245266	0.049427362	0	0	0	0.060249432	0.046345717	9.03741E-06
Haul Road_Average	Project	Snowshoe_Hare	Beryllium	Haul Road_Average_Project_Snowshoe_Hare_Beryl	4.702E-05	0	1.61056E-09	2.50833E-06	1.90049E-05	0	0	0	6.85349E-05	5.27192E-05	6.85349E-08
Haul Road_Average	Project	Snowshoe_Hare	Boron	Haul Road_Average_Project_Snowshoe_Hare_Boror	0.000641585	0	2.19759E-08	0.000723073	0.018397844	0	0	0	0.019762524	0.015201942	1.581E-05
Haul Road_Average	Project	Snowshoe_Hare	Cadmium	Haul Road_Average_Project_Snowshoe_Hare_Cadm	3.13466E-05	4.93611E-07	1.0737E-09	9.74118E-06	8.75352E-05	0	0	0	0.000129118	9.93213E-05	1.54941E-08
Haul Road_Average	Project	Snowshoe_Hare	Chromium	Haul Road_Average_Project_Snowshoe_Hare_Chror	0.005015291	0	1.71787E-07	0.000285697	0.002040768	0	0	0	0.007341927	0.005647636	4.03806E-05
Haul Road_Average	Project	Snowshoe_Hare	Cobalt	Haul Road_Average_Project_Snowshoe_Hare_Coba	0.001867075	3.5462E-05	6.39521E-08	0.000103485	0.000771385	0	0	0	0.002777471	0.002136516	5.55494E-05
Haul Road_Average	Project	Snowshoe_Hare	Copper	Haul Road_Average_Project_Snowshoe_Hare_Copp	0.003215768	2.42063E-05	1.10148E-07	0.000564801	0.004625797	0	0	0	0.008430682	0.00648514	8.43068E-05
Haul Road_Average	Project	Snowshoe_Hare	Lead	Haul Road_Average_Project_Snowshoe_Hare_Lead	0.000843163	9.7934E-06	2.88805E-08	4.47972E-05	0.000339078	0	0	0	0.00123686	0.000951431	3.71058E-07
Haul Road_Average	Project	Snowshoe_Hare	Manganese	Haul Road_Average_Project_Snowshoe_Hare_Mang	0.066627009	0.000507261	2.28215E-06	0.012091868	0.557021528	0	0	0	0.636249949	0.489423038	0.0002545
Haul Road_Average	Project	Snowshoe_Hare	Mercury	Haul Road_Average_Project_Snowshoe_Hare_Merc	3.06306E-07	2.20288E-07	1.04918E-11	5.99727E-08	5.13251E-07	0	0	0	1.09983E-06	8.46022E-07	5.74111E-09
Haul Road_Average	Project	Snowshoe_Hare	Molybdenum	Haul Road_Average_Project_Snowshoe_Hare_Moly	8.25463E-05	0.000208512	2.82742E-09	1.24147E-05	9.63352E-05	0	0	0	0.000399811	0.000307547	2.39887E-06
Haul Road_Average	Project	Snowshoe_Hare	Nickel	Haul Road_Average_Project_Snowshoe_Hare_Nicke	0.003825836	0.000382013	1.31045E-07	0.000364321	0.002565278	0	0	0	0.007137579	0.005490446	4.28255E-05
Haul Road_Average	Project	Snowshoe_Hare	Silver	Haul Road_Average_Project_Snowshoe_Hare_Silver	1.54195E-05	1.44248E-07	5.28157E-10	1.15401E-06	1.48232E-05	0	0	0	3.15415E-05	2.42627E-05	9.46245E-08
Haul Road_Average	Project	Snowshoe_Hare	Strontium	Haul Road_Average_Project_Snowshoe_Hare_Stron	0.001404986	0	4.81244E-08	0.000688901	0.021867915	0	0	0	0.02396185	0.018432193	7.18856E-06
Haul Road_Average	Project	Snowshoe_Hare	Vanadium	Haul Road_Average_Project_Snowshoe_Hare_Vana	0.005497659	0	1.88309E-07	0.000295826	0.002171599	0	0	0	0.007965272	0.006127132	1.99132E-05
Haul Road_Average	Project	Snowshoe_Hare	Zinc	Haul Road_Average_Project_Snowshoe_Hare_Zinc	0.009243728	0.000225529	3.16621E-07	0.001619648	0.016222573	0	0	0	0.027311794	0.021009072	2.45806E-06
Haul Road_Max	Baseline	Mallard	Aluminum	Haul Road_Max_Baseline_Mallard_Aluminum	44.352	0.017568	0.002634964	0.062001	0	22.25999908	0.432290822	132.2805333	199.4070272	166.1725227	0.299110541
Haul Road_Max	Baseline	Mallard	Antimony	Haul Road_Max_Baseline_Mallard_Antimony	0.000099	0.000036	5.88162E-09	0.000004785	0	0.001235437	0.403781265	0.000466667	0.40562316	0.3380193	0.000405623
Haul Road_Max	Baseline	Mallard	Arsenic	Haul Road_Max_Baseline_Mallard_Arsenic	0.0198	0.00013032	1.17632E-06	0.000115839	0	0.023007468	0.290355675	0.017617333	0.351027812	0.292523176	7.02056E-06
Haul Road_Max	Baseline	Mallard	Arsenic_cancer	Haul Road_Max_Baseline_Mallard_Arsenic_cancer	0.0198	0.00013032	1.17632E-06	0.000115839	0	0.023007468	0.290355675	0.017617333	0.351027812	0.292523176	7.02056E-06
Haul Road_Max	Baseline	Mallard	Barium	Haul Road_Max_Baseline_Mallard_Barium	0.0693	0.00024192	4.11713E-06	0.051	0	0.057749999	0.478295982	0.0896	0.746192018	0.621826681	0.000111929
Haul Road_Max	Baseline	Mallard	Beryllium	Haul Road_Max_Baseline_Mallard_Beryllium	0.000792	0.000036	4.70529E-08	0.000003096	0	0.001875	0.038598751	0.003	0.044304894	0.036920745	4.43049E-05
Haul Road_Max	Baseline	Mallard	Boron	Haul Road_Max_Baseline_Mallard_Boron	0.00594	0.0018	3.52897E-07	0.0609	0	0	0.46875	13.55333333	14.09072369	11.74226974	0.011272579
Haul Road_Max	Baseline	Mallard	Cadmium	Haul Road_Max_Baseline_Mallard_Cadmium	0.0002178	0.00000144	1.29396E-08	0.00053601	0	0.026853877	0.0085629	0.009229333	0.045401373	0.037834477	8.67166E-06
Haul Road_Max	Baseline	Mallard	Chromium	Haul Road_Max_Baseline_Mallard_Chromium	0.04158	0.0000504	2.47028E-06	0.001599	0	0.432731259	1.688599527	0.28	2.444562656	2.037135547	0.013445095
Haul Road_Max	Baseline	Mallard	Cobalt	Haul Road_Max_Baseline_Mallard_Cobalt	0.020196	0.00001944	1.19985E-06	0.00048	0	0.026583749	0	0.146376	0.193656389	0.161380324	0.003873128
Haul Road_Max	Baseline	Mallard	Copper	Haul Road_Max_Baseline_Mallard_Copper	0.0198	0.00005112	1.17632E-06	0.02319	0	0.183841914	0.210300229	0.351970667	0.789155106	0.657629255	0.007891551
Haul Road_Max	Baseline	Mallard	Lead	Haul Road_Max_Baseline_Mallard_Lead	0.032472	0.00002232	1.92917E-06	0.00006	0	0.144113293	0.042140624	0.209105333	0.4279155	0.35659625	0.000128375
Haul Road_Max	Baseline	Mallard	Manganese	Haul Road_Max_Baseline_Mallard_Manganese	1.58598	0.0032184	9.42235E-05	1.9461	0	0.797874212	125.71875	24.23336	154.2853768	128.5711474	0.061714151
Haul Road_Max	Baseline	Mallard	Mercury	Haul Road_Max_Baseline_Mallard_Mercury	0.000198	5.0904E-07	1.17632E-08	0.0002	0	0.009332966	0.095849365	0.003832883	0.109413734	0.091178112	0.002614988
Haul Road_Max	Baseline	Mallard	Molybdenum	Haul Road_Max_Baseline_Mallard_Molybdenum	0.00099	0.0001728	5.88162E-08	0.000921	0	0.009506251	0	1.30112	1.312710109	1.093925091	0.007876261
Haul Road_Max	Baseline	Mallard	Nickel	Haul Road_Max_Baseline_Mallard_Nickel	0.02772	0.00007992	1.64685E-06	0.01119	0	0.4347	0.037071224	0.004144	0.514906791	0.429088993	0.003089441
Haul Road_Max	Baseline	Mallard	Silver	Haul Road_Max_Baseline_Mallard_Silver	0.000198	0.0000036	1.17632E-08	0.0000414	0	0.008488125	0.292802989	0.001986667	0.303520793	0.252933994	0.000910562
Haul Road_Max	Baseline	Mallard	Strontium	Haul Road_Max_Baseline_Mallard_Strontium	0.01782	0.00045072	1.05869E-06	0.0744	0	0.019743749	11.03325033	3.393754667	14.53942053	12.11618377	0.004361826
Haul Road_Max	Baseline	Mallard	Vanadium	Haul Road_Max_Baseline_Mallard_Vanadium	0.0693	0.000072	4.11713E-06	0.0004	0	0.02559375	0	0.542133333	0.637503201	0.531252667	0.001593758
Haul Road_Max	Baseline	Mallard	Zinc	Haul Road_Max_Baseline_Mallard_Zinc	0.07128	0.00025056	4.23476E-06	0.083199	0	5.19570694	4.144027591	2.124192	11.61866033	9.682216938	0.101663278
Haul Road_Max	Project	Mallard	Aluminum	Haul Road_Max_Project_Mallard_Aluminum	2.906719277	0	0.000172689	0.147283327	0	0.145886475	0	0	3.200061768	2.66671814	0.004800093
Haul Road_Max	Project	Mallard	Antimony	Haul Road_Max_Project_Mallard_Antimony	0.000142459	0	8.46354E-09	7.88704E-06	0	0.000177777	0	0	0.000328132	0.000273443	3.28132E-07
Haul Road_Max	Project	Mallard	Arsenic	Haul Road_Max_Project_Mallard_Arsenic	0.00454812	7.91159E-05	2.70205E-07	0.000142849	0	0.001602701	0.176271971	0.010695304	0.193340332	0.161116943	3.86681E-06
Haul Road_Max	Project	Mallard	Arsenic_cancer	Haul Road_Max_Project_Mallard_Arsenic_cancer	0.00454812	7.91159E-05	2.70205E-07	0.000142849	0	0.001602701	0.176271971	0.010695304	0.193340332	0.161116943	3.86681E-06
Haul Road_Max	Project	Mallard	Barium	Haul Road_Max_Project_Mallard_Barium	0.010631931	0	6.31646E-07	0.00131967	0	0.000885994	0	0	0.012838227	0.010698522	1.92573E-06
Haul Road_Max	Project	Mallard	Beryllium	Haul Road_Max_Project_Mallard_Beryllium	5.22023E-05	0	3.10135E-09	2.6582E-06	0	1.23585E-05	0	0	6.72221E-05	5.60184E-05	6.72221E-08
Haul Road_Max	Project	Mallard	Boron	Haul Road_Max_Project_Mallard_Boron	0.000712296	0	4.23177E-08	0.000766276	0	0	0	0	0.001478614	0.001232179	1.18289E-06
Haul Road_Max	Project	Mallard	Cadmium	Haul Road_Max_Project_Mallard_Cadmium	3.48014E-05	2.73385E-07	2.06756E-09	1.03232E-05	0	0.00100189	0.001625671	0.001752194	0.004425155	0.003687629	8.45205E-07
Haul Road_Max	Project	Mallard	Chromium	Haul Road_Max_Project_Mallard_Chromium	0.005568044	0	3.30799E-07	0.000302767	0	0.005794773	0	0	0.011665914	0.009721595	6.41625E-05
Haul Road_Max	Project	Mallard	Cobalt	Haul Road_Max_Project_Mallard_Cobalt	0.002072852	1.96405E-05	1.23149E-07	0.000109668	0	0.000272847	0	0.147885693	0.150360823	0.125300686	0.003007216
Haul Road_Max	Project	Mallard	Copper	Haul Road_Max_Project_Mallard_Copper	0.003570188	1.34066E-05	2.12106E-07	0.000598547	0	0.063684739	0.055152694	0.092306747	0.215326534	0.179438778	0.002153265
Haul Road_Max	Project	Mallard	Lead	Haul Road_Max_Project_Mallard_Lead	0.000936091	5.42404E-06	5.56134E-08	4.74738E-05	0	0.001284606	0.010240695	0.050815191	0.063329536	0.052774613	1.89989E-05
Haul Road_Max	Project	Mallard	Manganese	Haul Road_Max_Project_Mallard_Manganese	0.073970188	0.000280944	4.39459E-06	0.012814346	0	0.020512947	10.97439194	2.11540745	13.19738221	10.99781851	0.005278953
Haul Road_Max	Project	Mallard	Mercury	Haul Road_Max_Project_Mallard_Mercury	3.40065E-07	1.22006E-07	2.02034E-11	6.3556E-08	0	0.000502987	0.022972994	0.000918658	0.024395165	0.020329304	0.000583044
Haul Road_Max	Project	Mallard	Molybdenum	Haul Road_Max_Project_Mallard_Molybdenum	9.1644E-05	0.000115484	5.44459E-09	1.31565E-05	0	8.79991E-05	0	0.869549303	0.869857591	0.724881326	0.005219146
Haul Road_Max	Project	Mallard	Nickel	Haul Road_Max_Project_Mallard_Nickel	0.004247494	0.000211576	2.52345E-07	0.000386089	0	0.006660842	0.09814062	0.010970631	0.120617504	0.100514587	0.000723705
Haul Road_Max	Project	Mallard	Silver	Haul Road_Max_Project_Mallard_Silver	1.71189E-05	7.98913E-08	1.01704E-09	1.22296E-06	0	7.33877E-05	0.00649789	4.40881E-05	0.006633788	0.005528157	1.99014E-05
Haul Road_Max	Project	Mallard	Strontium	Haul Road_Max_Project_Mallard_Strontium	0.001559834	0	9.26702E-08	0.000730063	0	0.000172823	0	0	0.002462812	0.002052343	7.38844E-07
Haul Road_Max	Project	Mallard	Vanadium	Haul Road_Max_Project_Mallard_Vanadium	0.006103574	0	3.62615E-07	0.000313501	0	0.000225416	0	0	0.006642854	0.005535712	1.66071E-05
Haul Road_Max	Project	Mallard	Zinc	Haul Road_Max_Project_Mallard_Zinc	0.010262509	0.000124908	6.09698E-07	0.001716421	0	1.292892551	2.065865457	1.058944452	4.429806909	3.691505757	0.03876081
Haul Road_Average	Baseline	Mallard	Aluminum	Haul Road_Average_Baseline_Mallard_Aluminum	44.352	0.017568	0.002634964	0.062001	0	22.25999908	0.432290822	132.2805333	199.4070272	166.1725227	0.299110541
Haul Road_Average	Baseline	Mallard	Antimony	Haul Road_Average_Baseline_Mallard_Antimony	0.000099	0.000036	5.88162E-09	0.000004785	0	0.001235437	0.403781265	0.000466667	0.40562316	0.3380193	0.000405623
Haul Road_Average	Baseline	Mallard	Arsenic	Haul Road_Average_Baseline_Mallard_Arsenic	0.0198	0.00013032	1.17632E-06	0.000115839	0	0.023007468	0.290355675	0.017617333	0.351027812	0.292523176	7.02056E-06
Haul Road_Average	Baseline	Mallard	Arsenic_cancer	Haul Road_Average_Baseline_Mallard_Arsenic_canc	0.0198	0.00013032	1.17632E-06	0.000115839	0	0.023007468	0.290355675	0.017617333	0.351027812	0.292523176	7.02056E-06
Haul Road_Average	Baseline	Mallard	Barium	Haul Road_Average_Baseline_Mallard_Barium	0.0693	0.00024192	4.11713E-06	0.051	0	0.057749999	0.478295982	0.0896	0.746192018	0.621826681	0.000111929
Haul Road_Average	Baseline	Mallard	Beryllium	Haul Road_Average_Baseline_Mallard_Beryllium	0.000792	0.000036	4.70529E-08	0.000003096	0	0.001875	0.038598751	0.003	0.044304894	0.036920745	4.43049E-05
Haul Road_Average	Baseline	Mallard	Boron	Haul Road_Average_Baseline_Mallard_Boron	0.00594	0.0018	3.52897E-07	0.0609	0	0	0.46875	13.55333333	14.09072369	11.74226974	0.011272579
Haul Road_Average	Baseline	Mallard	Cadmium	Haul Road_Average_Baseline_Mallard_Cadmium	0.0002178	0.00000144	1.29396E-08	0.00053601	0	0.026853877	0.0085629	0.009229333	0.045401373	0.037834477	8.67166E-06
Haul Road_Average	Baseline	Mallard	Chromium	Haul Road_Average_Baseline_Mallard_Chromium	0.04158	0.0000504	2.47028E-06	0.001599	0	0.432731259	1.688599527	0.28	2.444562656	2.037135547	0.013445095
Haul Road_Average	Baseline	Mallard	Cobalt	Haul Road_Average_Baseline_Mallard_Cobalt	0.020196	0.00001944	1.19985E-06	0.00048	0	0.026583749	0	0.146376	0.193656389	0.161380324	0.003873128
Haul Road_Average	Baseline	Mallard	Copper	Haul Road_Average_Baseline_Mallard_Copper	0.0198	0.00005112	1.17632E-06	0.02319	0	0.183841914	0.210300229	0.351970667	0.789155106	0.657629255	0.007891551
Haul Road_Average	Baseline	Mallard	Lead	Haul Road_Average_Baseline_Mallard_Lead	0.032472	0.00002232	1.92917E-06	0.00006	0	0.144113293	0.042140624	0.209105333	0.4279155	0.35659625	0.000128375
Haul Road_Average	Baseline	Mallard	Manganese	Haul Road_Average_Baseline_Mallard_Manganese	1.58598	0.0032184	9.42235E-05	1.9461	0	0.797874212	125.71875	24.23336	154.2853768	128.5711474	0.061714151
Haul Road_Average	Baseline	Mallard	Mercury	Haul Road_Average_Baseline_Mallard_Mercury	0.000198	5.0904E-07	1.17632E-08	0.0002	0	0.009332966	0.095849365	0.003832883	0.109413734	0.091178112	0.002614988
Haul Road_Average	Baseline	Mallard	Molybdenum	Haul Road_Average_Baseline_Mallard_Molybdenun	0.00099	0.0001728	5.88162E-08	0.000921	0	0.009506251	0	1.30112	1.312710109	1.093925091	0.007876261
Haul Road_Average	Baseline	Mallard	Nickel	Haul Road_Average_Baseline_Mallard_Nickel	0.02772	0.00007992	1.64685E-06	0.01119	0	0.4347	0.037071224	0.004144	0.514906791	0.429088993	0.003089441
Haul Road_Average	Baseline	Mallard	Silver	Haul Road_Average_Baseline_Mallard_Silver	0.000198	0.0000036	1.17632E-08	0.0000414	0	0.008488125	0.292802989	0.001986667	0.303520793	0.252933994	0.000910562
Haul Road_Average	Baseline	Mallard	Strontium	Haul Road_Average_Baseline_Mallard_Strontium	0.01782	0.00045072	1.05869E-06	0.0744	0	0.019743749	11.03325033	3.393754667	14.53942053	12.11618377	0.004361826
Haul Road_Average	Baseline	Mallard	Vanadium	Haul Road_Average_Baseline_Mallard_Vanadium	0.0693	0.000072	4.11713E-06	0.0004	0	0.02559375	0	0.542133333	0.637503201	0.531252667	0.001593758
Haul Road_Average	Baseline	Mallard	Zinc	Haul Road_Average_Baseline_Mallard_Zinc	0.07128	0.00025056	4.23476E-06	0.083199	0	5.19570694	4.144027591	2.124192	11.61866033	9.682216938	0.101663278
Haul Road_Average	Project	Mallard	Aluminum	Haul Road_Average_Project_Mallard_Aluminum	1.05493745	0	6.26741E-05	0.053453629	0	0.052946667	0	0	1.16140042	0.967833684	0.001742101
Haul Road_Average	Project	Mallard	Antimony	Haul Road_Average_Project_Mallard_Antimony	5.17028E-05	0	3.07168E-09	2.86245E-06	0	6.45208E-05	0	0	0.000119089	9.9241E-05	1.19089E-07
Haul Road_Average	Project	Mallard	Arsenic	Haul Road_Average_Project_Mallard_Arsenic	0.001650652	7.91159E-05	9.80657E-08	5.18444E-05	0	0.000783588	0.176271971	0.010695304	0.189532574	0.157943812	3.79065E-06
Haul Road_Average	Project	Mallard	Arsenic_cancer	Haul Road_Average_Project_Mallard_Arsenic_cance	0.001650652	7.91159E-05	9.80657E-08	5.18444E-05	0	0.000783588	0.176271971	0.010695304	0.189532574	0.157943812	3.79065E-06
Haul Road_Average	Project	Mallard	Barium	Haul Road_Average_Project_Mallard_Barium	0.003858653	0	2.29244E-07	0.000478949	0	0.000321554	0	0	0.004659386	0.003882821	6.98908E-07
Haul Road_Average	Project	Mallard	Beryllium	Haul Road_Average_Project_Mallard_Beryllium	1.89458E-05	0	1.12558E-09	9.6474E-07	0	4.48528E-06	0	0	2.43969E-05	2.03308E-05	2.43969E-08
Haul Road_Average	Project	Mallard	Boron	Haul Road_Average_Project_Mallard_Boron	0.000258514	0	1.53584E-08	0.000278105	0	0	0	0	0.000536634	0.000447195	4.29308E-07
Haul Road_Average	Project	Mallard	Cadmium	Haul Road_Average_Project_Mallard_Cadmium	1.26305E-05	2.73385E-07	7.5038E-10	3.74661E-06	0	0.000447589	0.001625671	0.001752194	0.003842106	0.003201755	7.33842E-07
Haul Road_Average	Project	Mallard	Chromium	Haul Road_Average_Project_Mallard_Chromium	0.002020813	0	1.20057E-07	0.000109883	0	0.0021031	0	0	0.004233917	0.003528264	2.32865E-05
Haul Road_Average	Project	Mallard	Cobalt	Haul Road_Average_Project_Mallard_Cobalt	0.000752301	1.96405E-05	4.46944E-08	3.98019E-05	0	9.90245E-05	0	0.147885693	0.148796506	0.123997088	0.00297593
Haul Road_Average	Project	Mallard	Copper	Haul Road_Average_Project_Mallard_Copper	0.001295731	1.34066E-05	7.69797E-08	0.000217231	0	0.048733632	0.055152694	0.092306747	0.197719518	0.164766265	0.001977195
Haul Road_Average	Project	Mallard	Lead	Haul Road_Average_Project_Mallard_Lead	0.000339736	5.42404E-06	2.01838E-08	1.72297E-05	0	0.000566954	0.010240695	0.050815191	0.061985249	0.051654374	1.85956E-05
Haul Road_Average	Project	Mallard	Manganese	Haul Road_Average_Project_Mallard_Manganese	0.026846048	0.000280944	1.59493E-06	0.004650719	0	0.010276087	10.97439194	2.11540745	13.13185478	10.94321232	0.005252742
Haul Road_Average	Project	Mallard	Mercury	Haul Road_Average_Project_Mallard_Mercury	1.2342E-07	1.22006E-07	7.33242E-12	2.30664E-08	0	0.000357488	0.022972994	0.000918658	0.024249409	0.02020784	0.000579561
Haul Road_Average	Project	Mallard	Molybdenum	Haul Road_Average_Project_Mallard_Molybdenum	3.32604E-05	0.000115484	1.97601E-09	4.77488E-06	0	3.19376E-05	0	0.869549303	0.869734761	0.724778968	0.005218409
Haul Road_Average	Project	Mallard	Nickel	Haul Road_Average_Project_Mallard_Nickel	0.001541545	0.000211576	9.15836E-08	0.000140124	0	0.002417424	0.09814062	0.010970631	0.113422011	0.094518342	0.000680532
Haul Road_Average	Project	Mallard	Silver	Haul Road_Average_Project_Mallard_Silver	6.21298E-06	7.98913E-08	3.69115E-10	4.43851E-07	0	2.66346E-05	0.00649789	4.40881E-05	0.006575349	0.005479458	1.9726E-05
Haul Road_Average	Project	Mallard	Strontium	Haul Road_Average_Project_Mallard_Strontium	0.000566112	0	3.36328E-08	0.000264962	0	6.27226E-05	0	0	0.00089383	0.000744858	2.68149E-07
Haul Road_Average	Project	Mallard	Vanadium	Haul Road_Average_Project_Mallard_Vanadium	0.002215174	0	1.31604E-07	0.000113779	0	8.18104E-05	0	0	0.002410895	0.002009079	6.02724E-06
Haul Road_Average	Project	Mallard	Zinc	Haul Road_Average_Project_Mallard_Zinc	0.003724579	0.000124908	2.21278E-07	0.000622942	0	0.927223778	2.065865457	1.058944452	4.056506337	3.380421948	0.03549443
Haul Road_Max	Baseline	Deer	Aluminum	Haul Road_Max_Baseline_Deer_Aluminum	1008	1.098	0.096665291	4.650075	446.715	0	0	0	1460.55974	19.47412987	2.19083961
Haul Road_Max	Baseline	Deer	Antimony	Haul Road_Max_Baseline_Deer_Antimony	0.00225	0.00225	2.15771E-07	0.000358875	0.02025	0	0	0	0.025109091	0.000334788	2.51091E-05
Haul Road_Max	Baseline	Deer	Arsenic	Haul Road_Max_Baseline_Deer_Arsenic	0.45	0.008145	4.31541E-05	0.008687925	0.049359375	0	0	0	0.516235454	0.006883139	5.16235E-05
Haul Road_Max	Baseline	Deer	Arsenic_cancer	Haul Road_Max_Baseline_Deer_Arsenic_cancer	0.45	0.008145	4.31541E-05	0.008687925	0.049359375	0	0	0	0.516235454	0.006883139	5.16235E-05
Haul Road_Max	Baseline	Deer	Barium	Haul Road_Max_Baseline_Deer_Barium	1.575	0.01512	0.00015104	3.825	236.7225	0	0	0	242.137771	3.228503614	0.036320666
Haul Road_Max	Baseline	Deer	Beryllium	Haul Road_Max_Baseline_Deer_Beryllium	0.018	0.00225	1.72617E-06	0.0002322	0.0081	0	0	0	0.028583926	0.000381119	2.85839E-05
Haul Road_Max	Baseline	Deer	Boron	Haul Road_Max_Baseline_Deer_Boron	0.135	0.1125	1.29462E-05	4.5675	120.285	0	0	0	125.1000129	1.668000173	0.10008001
Haul Road_Max	Baseline	Deer	Cadmium	Haul Road_Max_Baseline_Deer_Cadmium	0.00495	0.00009	4.74696E-07	0.04020075	0.374625	0	0	0	0.419866225	0.005598216	5.03839E-05
Haul Road_Max	Baseline	Deer	Chromium	Haul Road_Max_Baseline_Deer_Chromium	0.945	0.00315	9.06237E-05	0.119925	0.50625	0	0	0	1.574415624	0.020992208	0.008659286
Haul Road_Max	Baseline	Deer	Cobalt	Haul Road_Max_Baseline_Deer_Cobalt	0.459	0.001215	4.40172E-05	0.036	0.33615	0	0	0	0.832409017	0.011098787	0.01664818
Haul Road_Max	Baseline	Deer	Copper	Haul Road_Max_Baseline_Deer_Copper	0.45	0.003195	4.31541E-05	1.73925	14.8635	0	0	0	17.05598815	0.227413175	0.170559882
Haul Road_Max	Baseline	Deer	Lead	Haul Road_Max_Baseline_Deer_Lead	0.738	0.001395	7.07728E-05	0.0045	0.284715	0	0	0	1.028680773	0.013715744	0.000308604
Haul Road_Max	Baseline	Deer	Manganese	Haul Road_Max_Baseline_Deer_Manganese	36.045	0.20115	0.003456647	145.9575	9049.725	0	0	0	9231.932107	123.0924281	3.692772843
Haul Road_Max	Baseline	Deer	Mercury	Haul Road_Max_Baseline_Deer_Mercury	0.0045	0.000031815	4.31542E-07	0.015	0.06328125	0	0	0	0.082813497	0.00110418	0.000432286
Haul Road_Max	Baseline	Deer	Molybdenum	Haul Road_Max_Baseline_Deer_Molybdenum	0.0225	0.0108	2.15771E-06	0.069075	0.5508	0	0	0	0.653177158	0.008709029	0.003919063
Haul Road_Max	Baseline	Deer	Nickel	Haul Road_Max_Baseline_Deer_Nickel	0.63	0.004995	6.04158E-05	0.83925	5.56875	0	0	0	7.043055416	0.093907406	0.042258332
Haul Road_Max	Baseline	Deer	Silver	Haul Road_Max_Baseline_Deer_Silver	0.0045	0.000225	4.31542E-07	0.003105	0.031640625	0	0	0	0.039471057	0.000526281	0.000118413
Haul Road_Max	Baseline	Deer	Strontium	Haul Road_Max_Baseline_Deer_Strontium	0.405	0.02817	3.88387E-05	5.58	193.59	0	0	0	199.6032088	2.661376118	0.059880963
Haul Road_Max	Baseline	Deer	Vanadium	Haul Road_Max_Baseline_Deer_Vanadium	1.575	0.0045	0.00015104	0.03	0.253125	0	0	0	1.86277604	0.024837014	0.00465694
Haul Road_Max	Baseline	Deer	Zinc	Haul Road_Max_Baseline_Deer_Zinc	1.62	0.01566	0.000155355	6.239925	69.66	0	0	0	77.53574035	1.033809871	0.006978217
Haul Road_Max	Project	Deer	Aluminum	Haul Road_Max_Project_Deer_Aluminum	66.06180176	0	0.006335202	11.04624949	84.06423996	0	0	0	161.1786264	2.149048352	0.24176794
Haul Road_Max	Project	Deer	Antimony	Haul Road_Max_Project_Deer_Antimony	0.00323771	0	3.1049E-07	0.000591528	0.006890468	0	0	0	0.010720017	0.000142934	1.072E-05
Haul Road_Max	Project	Deer	Arsenic	Haul Road_Max_Project_Deer_Arsenic	0.103366359	0.004944747	9.91264E-06	0.010713703	0.100157723	0	0	0	0.219192444	0.002922566	2.19192E-05
Haul Road_Max	Project	Deer	Arsenic_cancer	Haul Road_Max_Project_Deer_Arsenic_cancer	0.103366359	0.004944747	9.91264E-06	0.010713703	0.100157723	0	0	0	0.219192444	0.002922566	2.19192E-05
Haul Road_Max	Project	Deer	Barium	Haul Road_Max_Project_Deer_Barium	0.241634803	0	2.31723E-05	0.098975221	3.928544874	0	0	0	4.26917807	0.056922374	0.000640377
Haul Road_Max	Project	Deer	Beryllium	Haul Road_Max_Project_Deer_Beryllium	0.001186415	0	1.13775E-07	0.000199365	0.001510535	0	0	0	0.002896428	3.8619E-05	2.89643E-06
Haul Road_Max	Project	Deer	Boron	Haul Road_Max_Project_Deer_Boron	0.016188549	0	1.55245E-06	0.057470693	1.46228242	0	0	0	1.535943214	0.020479243	0.001228755
Haul Road_Max	Project	Deer	Cadmium	Haul Road_Max_Project_Deer_Cadmium	0.00079094	1.70866E-05	7.58497E-08	0.00077424	0.006957405	0	0	0	0.008539748	0.000113863	1.02477E-06
Haul Road_Max	Project	Deer	Chromium	Haul Road_Max_Project_Deer_Chromium	0.12654645	0	1.21356E-05	0.022707495	0.162202631	0	0	0	0.311468711	0.004152916	0.001713078
Haul Road_Max	Project	Deer	Cobalt	Haul Road_Max_Project_Deer_Cobalt	0.047110265	0.001227531	4.51779E-06	0.008225106	0.061310589	0	0	0	0.117878009	0.001571707	0.00235756
Haul Road_Max	Project	Deer	Copper	Haul Road_Max_Project_Deer_Copper	0.081140642	0.000837911	7.78123E-06	0.044891023	0.367663852	0	0	0	0.494541209	0.006593883	0.004945412
Haul Road_Max	Project	Deer	Lead	Haul Road_Max_Project_Deer_Lead	0.021274791	0.000339002	2.04021E-06	0.003560534	0.026950296	0	0	0	0.052126663	0.000695022	1.5638E-05
Haul Road_Max	Project	Deer	Manganese	Haul Road_Max_Project_Deer_Manganese	1.681140633	0.017559026	0.000161218	0.96107596	44.27272896	0	0	0	46.9326658	0.625768877	0.018773066
Haul Road_Max	Project	Deer	Mercury	Haul Road_Max_Project_Deer_Mercury	7.72875E-06	7.62536E-06	7.41173E-10	4.7667E-06	4.07938E-05	0	0	0	6.09154E-05	8.12205E-07	3.17978E-07
Haul Road_Max	Project	Deer	Molybdenum	Haul Road_Max_Project_Deer_Molybdenum	0.002082818	0.00721773	1.99738E-07	0.000986734	0.007656839	0	0	0	0.01794432	0.000239258	0.000107666
Haul Road_Max	Project	Deer	Nickel	Haul Road_Max_Project_Deer_Nickel	0.096533947	0.013223528	9.25742E-06	0.028956689	0.203891344	0	0	0	0.342614766	0.004568197	0.002055689
Haul Road_Max	Project	Deer	Silver	Haul Road_Max_Project_Deer_Silver	0.000389066	4.9932E-06	3.73107E-08	9.17222E-05	0.001178168	0	0	0	0.001663987	2.21865E-05	4.99196E-06
Haul Road_Max	Project	Deer	Strontium	Haul Road_Max_Project_Deer_Strontium	0.035450778	0	3.39966E-06	0.054754697	1.738087653	0	0	0	1.828296528	0.024377287	0.000548489
Haul Road_Max	Project	Deer	Vanadium	Haul Road_Max_Project_Deer_Vanadium	0.138717595	0	1.33028E-05	0.023512567	0.172601248	0	0	0	0.334844713	0.004464596	0.000837112
Haul Road_Max	Project	Deer	Zinc	Haul Road_Max_Project_Deer_Zinc	0.233238845	0.007806766	2.23672E-05	0.128731544	1.289389248	0	0	0	1.65918877	0.022122517	0.000149327
Haul Road_Average	Baseline	Deer	Aluminum	Haul Road_Average_Baseline_Deer_Aluminum	1008	1.098	0.096665291	4.650075	446.715	0	0	0	1460.55974	19.47412987	2.19083961
Haul Road_Average	Baseline	Deer	Antimony	Haul Road_Average_Baseline_Deer_Antimony	0.00225	0.00225	2.15771E-07	0.000358875	0.02025	0	0	0	0.025109091	0.000334788	2.51091E-05
Haul Road_Average	Baseline	Deer	Arsenic	Haul Road_Average_Baseline_Deer_Arsenic	0.45	0.008145	4.31541E-05	0.008687925	0.049359375	0	0	0	0.516235454	0.006883139	5.16235E-05
Haul Road_Average	Baseline	Deer	Arsenic_cancer	Haul Road_Average_Baseline_Deer_Arsenic_cancer	0.45	0.008145	4.31541E-05	0.008687925	0.049359375	0	0	0	0.516235454	0.006883139	5.16235E-05
Haul Road_Average	Baseline	Deer	Barium	Haul Road_Average_Baseline_Deer_Barium	1.575	0.01512	0.00015104	3.825	236.7225	0	0	0	242.137771	3.228503614	0.036320666
Haul Road_Average	Baseline	Deer	Beryllium	Haul Road_Average_Baseline_Deer_Beryllium	0.018	0.00225	1.72617E-06	0.0002322	0.0081	0	0	0	0.028583926	0.000381119	2.85839E-05
Haul Road_Average	Baseline	Deer	Boron	Haul Road_Average_Baseline_Deer_Boron	0.135	0.1125	1.29462E-05	4.5675	120.285	0	0	0	125.1000129	1.668000173	0.10008001

Haul Road_Average	Baseline	Deer	Cadmium	Haul Road_Average_Baseline_Deer_Cadmium	0.00495	0.00009	4.74696E-07	0.04020075	0.374625	0	0	0	0.419866225	0.005598216	5.03839E-05
Haul Road_Average	Baseline	Deer	Chromium	Haul Road_Average_Baseline_Deer_Chromium	0.945	0.00315	9.06237E-05	0.119925	0.50625	0	0	0	1.574415624	0.020992208	0.008659286
Haul Road_Average	Baseline	Deer	Cobalt	Haul Road_Average_Baseline_Deer_Cobalt	0.459	0.001215	4.40172E-05	0.036	0.33615	0	0	0	0.832409017	0.011098787	0.01664818
Haul Road_Average	Baseline	Deer	Copper	Haul Road_Average_Baseline_Deer_Copper	0.45	0.003195	4.31541E-05	1.73925	14.8635	0	0	0	17.05598815	0.227413175	0.170559882
Haul Road_Average	Baseline	Deer	Lead	Haul Road_Average_Baseline_Deer_Lead	0.738	0.001395	7.07728E-05	0.0045	0.284715	0	0	0	1.028680773	0.013715744	0.000308604
Haul Road_Average	Baseline	Deer	Manganese	Haul Road_Average_Baseline_Deer_Manganese	36.045	0.20115	0.003456647	145.9575	9049.725	0	0	0	9231.932107	123.0924281	3.692772843
Haul Road_Average	Baseline	Deer	Mercury	Haul Road_Average_Baseline_Deer_Mercury	0.0045	0.000031815	4.31542E-07	0.015	0.06328125	0	0	0	0.082813497	0.00110418	0.000432286
Haul Road_Average	Baseline	Deer	Molybdenum	Haul Road_Average_Baseline_Deer_Molybdenum	0.0225	0.0108	2.15771E-06	0.069075	0.5508	0	0	0	0.653177158	0.008709029	0.003919063
Haul Road_Average	Baseline	Deer	Nickel	Haul Road_Average_Baseline_Deer_Nickel	0.63	0.004995	6.04158E-05	0.83925	5.56875	0	0	0	7.043055416	0.093907406	0.042258332
Haul Road_Average	Baseline	Deer	Silver	Haul Road_Average_Baseline_Deer_Silver	0.0045	0.000225	4.31542E-07	0.003105	0.031640625	0	0	0	0.039471057	0.000526281	0.000118413
Haul Road_Average	Baseline	Deer	Strontium	Haul Road_Average_Baseline_Deer_Strontium	0.405	0.02817	3.88387E-05	5.58	193.59	0	0	0	199.6032088	2.661376118	0.059880963
Haul Road_Average	Baseline	Deer	Vanadium	Haul Road_Average_Baseline_Deer_Vanadium	1.575	0.0045	0.00015104	0.03	0.253125	0	0	0	1.86277604	0.024837014	0.00465694
Haul Road_Average	Baseline	Deer	Zinc	Haul Road_Average_Baseline_Deer_Zinc	1.62	0.01566	0.000155355	6.239925	69.66	0	0	0	77.53574035	1.033809871	0.006978217
Haul Road_Average	Project	Deer	Aluminum	Haul Road_Average_Project_Deer_Aluminum	23.97585114	0	0.002299239	4.009022178	30.50948785	0	0	0	58.49666041	0.779955472	0.087744991
Haul Road_Average	Project	Deer	Antimony	Haul Road_Average_Project_Deer_Antimony	0.001175064	0	1.12686E-07	0.000214684	0.002500762	0	0	0	0.003890622	5.1875E-05	3.89062E-06
Haul Road_Average	Project	Deer	Arsenic	Haul Road_Average_Project_Deer_Arsenic	0.037514818	0.004944747	3.5976E-06	0.00388833	0.036350305	0	0	0	0.082701798	0.001102691	8.27018E-06
Haul Road_Average	Project	Deer	Arsenic_cancer	Haul Road_Average_Project_Deer_Arsenic_cancer	0.037514818	0.004944747	3.5976E-06	0.00388833	0.036350305	0	0	0	0.082701798	0.001102691	8.27018E-06
Haul Road_Average	Project	Deer	Barium	Haul Road_Average_Project_Deer_Barium	0.087696669	0	8.40994E-06	0.035921141	1.425789279	0	0	0	1.549415499	0.020658873	0.000232412
Haul Road_Average	Project	Deer	Beryllium	Haul Road_Average_Project_Deer_Beryllium	0.000430586	0	4.12924E-08	7.23555E-05	0.000548219	0	0	0	0.001051202	1.4016E-05	1.0512E-06
Haul Road_Average	Project	Deer	Boron	Haul Road_Average_Project_Deer_Boron	0.00587532	0	5.63432E-07	0.020857873	0.530707049	0	0	0	0.557440806	0.007432544	0.000445953
Haul Road_Average	Project	Deer	Cadmium	Haul Road_Average_Project_Deer_Cadmium	0.000287056	1.70866E-05	2.75282E-08	0.000280995	0.002525055	0	0	0	0.003110221	4.14696E-05	3.73227E-07
Haul Road_Average	Project	Deer	Chromium	Haul Road_Average_Project_Deer_Chromium	0.045927578	0	4.40437E-06	0.008241245	0.058868296	0	0	0	0.113041524	0.00150722	0.000621728
Haul Road_Average	Project	Deer	Cobalt	Haul Road_Average_Project_Deer_Cobalt	0.017097757	0.001227531	1.63964E-06	0.002985143	0.022251491	0	0	0	0.043563562	0.000580847	0.000871271
Haul Road_Average	Project	Deer	Copper	Haul Road_Average_Project_Deer_Copper	0.029448423	0.000837911	2.82405E-06	0.016292326	0.133436462	0	0	0	0.180017946	0.002400239	0.001800179
Haul Road_Average	Project	Deer	Lead	Haul Road_Average_Project_Deer_Lead	0.007721273	0.000339002	7.40455E-07	0.001292227	0.009781087	0	0	0	0.01913433	0.000255124	5.7403E-06
Haul Road_Average	Project	Deer	Manganese	Haul Road_Average_Project_Deer_Manganese	0.610137448	0.017559026	5.8511E-05	0.348803894	16.0679287	0	0	0	17.04448758	0.227259834	0.006817795
Haul Road_Average	Project	Deer	Mercury	Haul Road_Average_Project_Deer_Mercury	2.805E-06	7.62536E-06	2.68994E-10	1.72998E-06	1.48053E-05	0	0	0	2.69659E-05	3.59546E-07	1.40762E-07
Haul Road_Average	Project	Deer	Molybdenum	Haul Road_Average_Project_Deer_Molybdenum	0.000755918	0.00721773	7.24911E-08	0.000358116	0.002778901	0	0	0	0.011110738	0.000148143	6.66644E-05
Haul Road_Average	Project	Deer	Nickel	Haul Road_Average_Project_Deer_Nickel	0.035035124	0.013223528	3.3598E-06	0.01050927	0.073998414	0	0	0	0.132769696	0.001770263	0.000796618
Haul Road_Average	Project	Deer	Silver	Haul Road_Average_Project_Deer_Silver	0.000141204	4.9932E-06	1.35412E-08	3.32888E-05	0.000427593	0	0	0	0.000607093	8.09457E-06	1.82128E-06
Haul Road_Average	Project	Deer	Strontium	Haul Road_Average_Project_Deer_Strontium	0.012866173	0	1.23384E-06	0.019872156	0.63080523	0	0	0	0.663544793	0.008847264	0.000199063
Haul Road_Average	Project	Deer	Vanadium	Haul Road_Average_Project_Deer_Vanadium	0.050344865	0	4.82798E-06	0.008533431	0.06264228	0	0	0	0.121525404	0.001620339	0.000303814
Haul Road_Average	Project	Deer	Zinc	Haul Road_Average_Project_Deer_Zinc	0.084649524	0.007806766	8.11773E-06	0.046720618	0.467958828	0	0	0	0.607143854	0.008095251	5.46429E-05

Predicted Media Concentrations

Area	Scenario	COPC	Abbreviation	Deposition [mg/m2/yr]	Soil Measured [mg/kg]	Soil Deposition [mg/kg]	Soil Total [mg/kg]	Surface Soil Measured [mg/kg]	Surface Soil Deposition [mg/kg]	Surface Soil Total [mg/kg]	Berries Soil [mg/kg-DW]	Berries Deposition [mg/kg-DW]	Berries Total [mg/kg-DW]
Haul Road_Max	Baseline	Aluminum	Haul Road_Max_Baseline_Aluminum	0.00E+00	2.24E+04	0.00E+00	2.24E+04	2.24E+04	0.00E+00	2.24E+04	2.07E+01	0.00E+00	2.07E+01
Haul Road_Max	Baseline	Antimony	Haul Road_Max_Baseline_Antimony	0.00E+00	5.00E-02	0.00E+00	5.00E-02	5.00E-02	0.00E+00	5.00E-02	1.60E-03	0.00E+00	1.60E-03
Haul Road_Max	Baseline	Arsenic	Haul Road_Max_Baseline_Arsenic	0.00E+00	1.00E+01	0.00E+00	1.00E+01	1.00E+01	0.00E+00	1.00E+01	6.33E-02	0.00E+00	6.33E-02
Haul Road_Max	Baseline	Arsenic_cancer	Haul Road_Max_Baseline_Arsenic_cancer	0.00E+00	1.00E+01	0.00E+00	1.00E+01	1.00E+01	0.00E+00	1.00E+01	6.33E-02	0.00E+00	6.33E-02
Haul Road_Max	Baseline	Barium	Haul Road_Max_Baseline_Barium	0.00E+00	3.50E+01	0.00E+00	3.50E+01	3.50E+01	0.00E+00	3.50E+01	1.70E+01	0.00E+00	1.70E+01
Haul Road_Max	Baseline	Beryllium	Haul Road_Max_Baseline_Beryllium	0.00E+00	4.00E-01	0.00E+00	4.00E-01	4.00E-01	0.00E+00	4.00E-01	1.03E-03	0.00E+00	1.03E-03
Haul Road_Max	Baseline	Boron	Haul Road_Max_Baseline_Boron	0.00E+00	3.00E+00	0.00E+00	3.00E+00	3.00E+00	0.00E+00	3.00E+00	2.03E+01	0.00E+00	2.03E+01
Haul Road_Max	Baseline	Cadmium	Haul Road_Max_Baseline_Cadmium	0.00E+00	1.10E-01	0.00E+00	1.10E-01	1.10E-01	0.00E+00	1.10E-01	1.79E-01	0.00E+00	1.79E-01
Haul Road_Max	Baseline	Chromium	Haul Road_Max_Baseline_Chromium	0.00E+00	2.10E+01	0.00E+00	2.10E+01	2.10E+01	0.00E+00	2.10E+01	5.33E-01	0.00E+00	5.33E-01
Haul Road_Max	Baseline	Cobalt	Haul Road_Max_Baseline_Cobalt	0.00E+00	1.02E+01	0.00E+00	1.02E+01	1.02E+01	0.00E+00	1.02E+01	1.60E-01	0.00E+00	1.60E-01
Haul Road_Max	Baseline	Copper	Haul Road_Max_Baseline_Copper	0.00E+00	1.00E+01	0.00E+00	1.00E+01	1.00E+01	0.00E+00	1.00E+01	7.73E+00	0.00E+00	7.73E+00
Haul Road_Max	Baseline	Lead	Haul Road_Max_Baseline_Lead	0.00E+00	1.64E+01	0.00E+00	1.64E+01	1.64E+01	0.00E+00	1.64E+01	2.00E-02	0.00E+00	2.00E-02
Haul Road_Max	Baseline	Manganese	Haul Road_Max_Baseline_Manganese	0.00E+00	8.01E+02	0.00E+00	8.01E+02	8.01E+02	0.00E+00	8.01E+02	6.49E+02	0.00E+00	6.49E+02
Haul Road_Max	Baseline	Mercury	Haul Road_Max_Baseline_Mercury	0.00E+00	1.00E-01	0.00E+00	1.00E-01	1.00E-01	0.00E+00	1.00E-01	9.00E-02	0.00E+00	9.00E-02
Haul Road_Max	Baseline	Molybdenum	Haul Road_Max_Baseline_Molybdenum	0.00E+00	5.00E-01	0.00E+00	5.00E-01	5.00E-01	0.00E+00	5.00E-01	3.07E-01	0.00E+00	3.07E-01
Haul Road_Max	Baseline	Nickel	Haul Road_Max_Baseline_Nickel	0.00E+00	1.40E+01	0.00E+00	1.40E+01	1.40E+01	0.00E+00	1.40E+01	3.73E+00	0.00E+00	3.73E+00
Haul Road_Max	Baseline	Silver	Haul Road_Max_Baseline_Silver	0.00E+00	1.00E-01	0.00E+00	1.00E-01	1.00E-01	0.00E+00	1.00E-01	1.38E-02	0.00E+00	1.38E-02
Haul Road_Max	Baseline	Strontium	Haul Road_Max_Baseline_Strontium	0.00E+00	9.00E+00	0.00E+00	9.00E+00	9.00E+00	0.00E+00	9.00E+00	2.48E+01	0.00E+00	2.48E+01
Haul Road_Max	Baseline	Vanadium	Haul Road_Max_Baseline_Vanadium	0.00E+00	3.50E+01	0.00E+00	3.50E+01	3.50E+01	0.00E+00	3.50E+01	1.93E-01	0.00E+00	1.93E-01
Haul Road_Max	Baseline	Zinc	Haul Road_Max_Baseline_Zinc	0.00E+00	3.60E+01	0.00E+00	3.60E+01	3.60E+01	0.00E+00	3.60E+01	2.77E+01	0.00E+00	2.77E+01
Haul Road_Max	Project	Aluminum	Haul Road_Max_Project_Aluminum	4.40E+03	0.00E+00	1.47E+02	1.47E+02	0.00E+00	1.47E+03	1.47E+03	1.35E-01	4.90E+01	4.91E+01
Haul Road_Max	Project	Antimony	Haul Road_Max_Project_Antimony	2.16E-01	0.00E+00	7.19E-03	7.19E-03	0.00E+00	7.19E-02	7.19E-02	2.30E-04	2.40E-03	2.63E-03
Haul Road_Max	Project	Arsenic	Haul Road_Max_Project_Arsenic	6.89E+00	0.00E+00	2.30E-01	2.30E-01	0.00E+00	2.30E+00	2.30E+00	1.45E-03	7.66E-02	7.81E-02
Haul Road_Max	Project	Arsenic_cancer	Haul Road_Max_Project_Arsenic_cancer	6.89E+00	0.00E+00	2.30E-01	2.30E-01	0.00E+00	2.30E+00	2.30E+00	1.45E-03	7.66E-02	7.81E-02
Haul Road_Max	Project	Barium	Haul Road_Max_Project_Barium	1.61E+01	0.00E+00	5.37E-01	5.37E-01	0.00E+00	5.37E+00	5.37E+00	2.61E-01	1.79E-01	4.40E-01
Haul Road_Max	Project	Beryllium	Haul Road_Max_Project_Beryllium	7.91E-02	0.00E+00	2.64E-03	2.64E-03	0.00E+00	2.64E-02	2.64E-02	6.80E-06	8.79E-04	8.86E-04
Haul Road_Max	Project	Boron	Haul Road_Max_Project_Boron	1.08E+00	0.00E+00	3.60E-02	3.60E-02	0.00E+00	3.60E-01	3.60E-01	2.43E-01	1.20E-02	2.55E-01
Haul Road_Max	Project	Cadmium	Haul Road_Max_Project_Cadmium	5.27E-02	0.00E+00	1.76E-03	1.76E-03	0.00E+00	1.76E-02	1.76E-02	2.85E-03	5.86E-04	3.44E-03
Haul Road_Max	Project	Chromium	Haul Road_Max_Project_Chromium	8.44E+00	0.00E+00	2.81E-01	2.81E-01	0.00E+00	2.81E+00	2.81E+00	7.14E-03	9.38E-02	1.01E-01
Haul Road_Max	Project	Cobalt	Haul Road_Max_Project_Cobalt	3.14E+00	0.00E+00	1.05E-01	1.05E-01	0.00E+00	1.05E+00	1.05E+00	1.64E-03	3.49E-02	3.66E-02
Haul Road_Max	Project	Copper	Haul Road_Max_Project_Copper	5.41E+00	0.00E+00	1.80E-01	1.80E-01	0.00E+00	1.80E+00	1.80E+00	1.39E-01	6.01E-02	2.00E-01
Haul Road_Max	Project	Lead	Haul Road_Max_Project_Lead	1.42E+00	0.00E+00	4.73E-02	4.73E-02	0.00E+00	4.73E-01	4.73E-01	5.77E-05	1.58E-02	1.58E-02
Haul Road_Max	Project	Manganese	Haul Road_Max_Project_Manganese	1.12E+02	0.00E+00	3.74E+00	3.74E+00	0.00E+00	3.74E+01	3.74E+01	3.03E+00	1.25E+00	4.27E+00
Haul Road_Max	Project	Mercury	Haul Road_Max_Project_Mercury	5.15E-04	0.00E+00	1.72E-05	1.72E-05	0.00E+00	1.72E-04	1.72E-04	1.55E-05	5.73E-06	2.12E-05
Haul Road_Max	Project	Molybdenum	Haul Road_Max_Project_Molybdenum	1.39E-01	0.00E+00	4.63E-03	4.63E-03	0.00E+00	4.63E-02	4.63E-02	2.84E-03	1.54E-03	4.39E-03
Haul Road_Max	Project	Nickel	Haul Road_Max_Project_Nickel	6.44E+00	0.00E+00	2.15E-01	2.15E-01	0.00E+00	2.15E+00	2.15E+00	5.72E-02	7.15E-02	1.29E-01
Haul Road_Max	Project	Silver	Haul Road_Max_Project_Silver	2.59E-02	0.00E+00	8.65E-04	8.65E-04	0.00E+00	8.65E-03	8.65E-03	1.19E-04	2.88E-04	4.08E-04
Haul Road_Max	Project	Strontium	Haul Road_Max_Project_Strontium	2.36E+00	0.00E+00	7.88E-02	7.88E-02	0.00E+00	7.88E-01	7.88E-01	2.17E-01	2.63E-02	2.43E-01
Haul Road_Max	Project	Vanadium	Haul Road_Max_Project_Vanadium	9.25E+00	0.00E+00	3.08E-01	3.08E-01	0.00E+00	3.08E+00	3.08E+00	1.70E-03	1.03E-01	1.05E-01
Haul Road_Max	Project	Zinc	Haul Road_Max_Project_Zinc	1.55E+01	0.00E+00	5.18E-01	5.18E-01	0.00E+00	5.18E+00	5.18E+00	3.99E-01	1.73E-01	5.72E-01
Haul Road_Average	Baseline	Aluminum	Haul Road_Average_Baseline_Aluminum	0.00E+00	2.24E+04	0.00E+00	2.24E+04	2.24E+04	0.00E+00	2.24E+04	2.07E+01	0.00E+00	2.07E+01
Haul Road_Average	Baseline	Antimony	Haul Road_Average_Baseline_Antimony	0.00E+00	5.00E-02	0.00E+00	5.00E-02	5.00E-02	0.00E+00	5.00E-02	1.60E-03	0.00E+00	1.60E-03
Haul Road_Average	Baseline	Arsenic	Haul Road_Average_Baseline_Arsenic	0.00E+00	1.00E+01	0.00E+00	1.00E+01	1.00E+01	0.00E+00	1.00E+01	6.33E-02	0.00E+00	6.33E-02
Haul Road_Average	Baseline	Arsenic_cancer	Haul Road_Average_Baseline_Arsenic_cancer	0.00E+00	1.00E+01	0.00E+00	1.00E+01	1.00E+01	0.00E+00	1.00E+01	6.33E-02	0.00E+00	6.33E-02
Haul Road_Average	Baseline	Barium	Haul Road_Average_Baseline_Barium	0.00E+00	3.50E+01	0.00E+00	3.50E+01	3.50E+01	0.00E+00	3.50E+01	1.70E+01	0.00E+00	1.70E+01
Haul Road_Average	Baseline	Beryllium	Haul Road_Average_Baseline_Beryllium	0.00E+00	4.00E-01	0.00E+00	4.00E-01	4.00E-01	0.00E+00	4.00E-01	1.03E-03	0.00E+00	1.03E-03
Haul Road_Average	Baseline	Boron	Haul Road_Average_Baseline_Boron	0.00E+00	3.00E+00	0.00E+00	3.00E+00	3.00E+00	0.00E+00	3.00E+00	2.03E+01	0.00E+00	2.03E+01
Haul Road_Average	Baseline	Cadmium	Haul Road_Average_Baseline_Cadmium	0.00E+00	1.10E-01	0.00E+00	1.10E-01	1.10E-01	0.00E+00	1.10E-01	1.79E-01	0.00E+00	1.79E-01
Haul Road_Average	Baseline	Chromium	Haul Road_Average_Baseline_Chromium	0.00E+00	2.10E+01	0.00E+00	2.10E+01	2.10E+01	0.00E+00	2.10E+01	5.33E-01	0.00E+00	5.33E-01
Haul Road_Average	Baseline	Cobalt	Haul Road_Average_Baseline_Cobalt	0.00E+00	1.02E+01	0.00E+00	1.02E+01	1.02E+01	0.00E+00	1.02E+01	1.60E-01	0.00E+00	1.60E-01
Haul Road_Average	Baseline	Copper	Haul Road_Average_Baseline_Copper	0.00E+00	1.00E+01	0.00E+00	1.00E+01	1.00E+01	0.00E+00	1.00E+01	7.73E+00	0.00E+00	7.73E+00
Haul Road_Average	Baseline	Lead	Haul Road_Average_Baseline_Lead	0.00E+00	1.64E+01	0.00E+00	1.64E+01	1.64E+01	0.00E+00	1.64E+01	2.00E-02	0.00E+00	2.00E-02
Haul Road_Average	Baseline	Manganese	Haul Road_Average_Baseline_Manganese	0.00E+00	8.01E+02	0.00E+00	8.01E+02	8.01E+02	0.00E+00	8.01E+02	6.49E+02	0.00E+00	6.49E+02
Haul Road_Average	Baseline	Mercury	Haul Road_Average_Baseline_Mercury	0.00E+00	1.00E-01	0.00E+00	1.00E-01	1.00E-01	0.00E+00	1.00E-01	9.00E-02	0.00E+00	9.00E-02
Haul Road_Average	Baseline	Molybdenum	Haul Road_Average_Baseline_Molybdenum	0.00E+00	5.00E-01	0.00E+00	5.00E-01	5.00E-01	0.00E+00	5.00E-01	3.07E-01	0.00E+00	3.07E-01
Haul Road_Average	Baseline	Nickel	Haul Road_Average_Baseline_Nickel	0.00E+00	1.40E+01	0.00E+00	1.40E+01	1.40E+01	0.00E+00	1.40E+01	3.73E+00	0.00E+00	3.73E+00
Haul Road_Average	Baseline	Silver	Haul Road_Average_Baseline_Silver	0.00E+00	1.00E-01	0.00E+00	1.00E-01	1.00E-01	0.00E+00	1.00E-01	1.38E-02	0.00E+00	1.38E-02
Haul Road_Average	Baseline	Strontium	Haul Road_Average_Baseline_Strontium	0.00E+00	9.00E+00	0.00E+00	9.00E+00	9.00E+00	0.00E+00	9.00E+00	2.48E+01	0.00E+00	2.48E+01
Haul Road_Average	Baseline	Vanadium	Haul Road_Average_Baseline_Vanadium	0.00E+00	3.50E+01	0.00E+00	3.50E+01	3.50E+01	0.00E+00	3.50E+01	1.93E-01	0.00E+00	1.93E-01
Haul Road_Average	Baseline	Zinc	Haul Road_Average_Baseline_Zinc	0.00E+00	3.60E+01	0.00E+00	3.60E+01	3.60E+01	0.00E+00	3.60E+01	2.77E+01	0.00E+00	2.77E+01
Haul Road_Average	Project	Aluminum	Haul Road_Average_Project_Aluminum	1.60E+03	0.00E+00	5.33E+01	5.33E+01	0.00E+00	5.33E+02	5.33E+02	4.92E-02	1.78E+01	1.78E+01
Haul Road_Average	Project	Antimony	Haul Road_Average_Project_Antimony	7.83E-02	0.00E+00	2.61E-03	2.61E-03	0.00E+00	2.61E-02	2.61E-02	8.33E-05	8.71E-04	9.54E-04
Haul Road_Average	Project	Arsenic	Haul Road_Average_Project_Arsenic	2.50E+00	0.00E+00	8.34E-02	8.34E-02	0.00E+00	8.34E-01	8.34E-01	5.28E-04	2.78E-02	2.83E-02
Haul Road_Average	Project	Arsenic_cancer	Haul Road_Average_Project_Arsenic_cancer	2.50E+00	0.00E+00	8.34E-02	8.34E-02	0.00E+00	8.34E-01	8.34E-01	5.28E-04	2.78E-02	2.83E-02
Haul Road_Average	Project	Barium	Haul Road_Average_Project_Barium	5.85E+00	0.00E+00	1.95E-01	1.95E-01	0.00E+00	1.95E+00	1.95E+00	9.47E-02	6.50E-02	1.60E-01
Haul Road_Average	Project	Beryllium	Haul Road_Average_Project_Beryllium	2.87E-02	0.00E+00	9.57E-04	9.57E-04	0.00E+00	9.57E-03	9.57E-03	2.47E-06	3.19E-04	3.22E-04
Haul Road_Average	Project	Boron	Haul Road_Average_Project_Boron	3.92E-01	0.00E+00	1.31E-02	1.31E-02	0.00E+00	1.31E-01	1.31E-01	8.83E-02	4.35E-03	9.27E-02
Haul Road_Average	Project	Cadmium	Haul Road_Average_Project_Cadmium	1.91E-02	0.00E+00	6.38E-04	6.38E-04	0.00E+00	6.38E-03	6.38E-03	1.04E-03	2.13E-04	1.25E-03
Haul Road_Average	Project	Chromium	Haul Road_Average_Project_Chromium	3.06E+00	0.00E+00	1.02E-01	1.02E-01	0.00E+00	1.02E+00	1.02E+00	2.59E-03	3.40E-02	3.66E-02
Haul Road_Average	Project	Cobalt	Haul Road_Average_Project_Cobalt	1.14E+00	0.00E+00	3.80E-02	3.80E-02	0.00E+00	3.80E-01	3.80E-01	5.96E-04	1.27E-02	1.33E-02
Haul Road_Average	Project	Copper	Haul Road_Average_Project_Copper	1.96E+00	0.00E+00	6.54E-02	6.54E-02	0.00E+00	6.54E-01	6.54E-01	5.06E-02	2.18E-02	7.24E-02
Haul Road_Average	Project	Lead	Haul Road_Average_Project_Lead	5.15E-01	0.00E+00	1.72E-02	1.72E-02	0.00E+00	1.72E-01	1.72E-01	2.09E-05	5.72E-03	5.74E-03
Haul Road_Average	Project	Manganese	Haul Road_Average_Project_Manganese	4.07E+01	0.00E+00	1.36E+00	1.36E+00	0.00E+00	1.36E+01	1.36E+01	1.10E+00	4.52E-01	1.55E+00
Haul Road_Average	Project	Mercury	Haul Road_Average_Project_Mercury	1.87E-04	0.00E+00	6.23E-06	6.23E-06	0.00E+00	6.23E-05	6.23E-05	5.61E-06	2.08E-06	7.69E-06
Haul Road_Average	Project	Molybdenum	Haul Road_Average_Project_Molybdenum	5.04E-02	0.00E+00	1.68E-03	1.68E-03	0.00E+00	1.68E-02	1.68E-02	1.03E-03	5.60E-04	1.59E-03
Haul Road_Average	Project	Nickel	Haul Road_Average_Project_Nickel	2.34E+00	0.00E+00	7.79E-02	7.79E-02	0.00E+00	7.79E-01	7.79E-01	2.07E-02	2.60E-02	4.67E-02
Haul Road_Average	Project	Silver	Haul Road_Average_Project_Silver	9.41E-03	0.00E+00	3.14E-04	3.14E-04	0.00E+00	3.14E-03	3.14E-03	4.33E-05	1.05E-04	1.48E-04
Haul Road_Average	Project	Strontium	Haul Road_Average_Project_Strontium	8.58E-01	0.00E+00	2.86E-02	2.86E-02	0.00E+00	2.86E-01	2.86E-01	7.88E-02	9.54E-03	8.83E-02
Haul Road_Average	Project	Vanadium	Haul Road_Average_Project_Vanadium	3.36E+00	0.00E+00	1.12E-01	1.12E-01	0.00E+00	1.12E+00	1.12E+00	6.15E-04	3.73E-02	3.79E-02
Haul Road_Average	Project	Zinc	Haul Road_Average_Project_Zinc	5.64E+00	0.00E+00	1.88E-01	1.88E-01	0.00E+00	1.88E+00	1.88E+00	1.45E-01	6.27E-02	2.08E-01

Abbreviation	Berries Total [mg/kg-WW]	Leaves Soil [mg/kg-DW]	Leaves Deposition [mg/kg-DW]	Leaves Total [mg/kg-DW]	Leaves Total [mg/kg-WW]	Dust [ug/m3]	Water [mg/L]	Fish [mg/kg-WW]	Invert Soil [mg/kg-WW]	Aquatic_Plant Water [mg/kg-WW]	Aquatic_Invert Water [mg/kg-WW]	Deer [mg/kg-WW]	Ruffed_Grouse [mg/kg-WW]	Snowshoe_Hare [mg/kg-WW]	Mallard [mg/kg-WW]
Haul Road_Max_Baseline_Aluminum	3.10E+00	2.21E+02	0.00E+00	2.21E+02	7.06E+01	5.60E+00	2.44E-01	3.12E-01	1.19E+03	2.31E+00	9.92E+02	2.19E+00	8.39E-02	1.89E-01	2.99E-01
Haul Road_Max_Baseline_Antimony	2.39E-04	1.00E-02	0.00E+00	1.00E-02	3.20E-03	1.25E-05	5.00E-04	2.00E-02	6.59E-02	2.15E+00	3.50E-03	2.51E-05	2.30E-06	1.03E-06	4.06E-04
Haul Road_Max_Baseline_Arsenic	5.79E-03	3.13E-02	0.00E+00	3.13E-02	7.80E-03	2.50E-03	1.81E-03	8.29E-04	1.23E+00	1.55E+00	1.32E-01	5.16E-05	9.12E-07	1.03E-06	7.02E-06
Haul Road_Max_Baseline_Arsenic_cancer	5.79E-03	3.13E-02	0.00E+00	3.13E-02	7.80E-03	2.50E-03	1.81E-03	8.29E-04	1.23E+00	1.55E+00	1.32E-01	5.16E-05	9.12E-07	1.03E-06	7.02E-06
Haul Road_Max_Baseline_Barium	2.55E+00	1.17E+02	0.00E+00	1.17E+02	3.74E+01	8.75E-03	3.36E-03	5.91E-02	3.08E+00	2.55E+00	6.72E-01	3.63E-02	3.63E-04	1.28E-03	1.12E-04
Haul Road_Max_Baseline_Beryllium	1.55E-04	4.00E-03	0.00E+00	4.00E-03	1.28E-03	1.00E-04	5.00E-04	3.10E-02	1.00E-01	2.06E-01	2.25E-02	2.86E-05	3.47E-06	2.32E-06	4.43E-05
Haul Road_Max_Baseline_Boron	3.05E+00	5.94E+01	0.00E+00	5.94E+01	1.90E+01	7.50E-04	2.50E-02	0.00E+00	0.00E+00	2.50E+00	1.02E+02	1.00E-01	1.03E-03	3.48E-03	1.13E-02
Haul Road_Max_Baseline_Cadmium	2.68E-02	1.85E-01	0.00E+00	1.85E-01	5.92E-02	2.75E-05	2.00E-05	4.56E-03	1.43E+00	4.57E-02	6.92E-02	5.04E-05	9.49E-06	1.79E-06	8.67E-06
Haul Road_Max_Baseline_Chromium	8.00E-02	2.50E-01	0.00E+00	2.50E-01	8.00E-02	5.25E-03	7.00E-04	1.58E-02	2.31E+01	9.01E+00	2.10E+00	8.66E-03	4.07E-03	6.87E-04	1.34E-02
Haul Road_Max_Baseline_Cobalt	2.40E-02	1.66E-01	0.00E+00	1.66E-01	5.31E-02	2.55E-03	2.70E-04	4.59E-03	1.42E+00	0.00E+00	1.10E+00	1.66E-02	1.11E-03	1.26E-03	3.87E-03
Haul Road_Max_Baseline_Copper	1.16E+00	7.34E+00	0.00E+00	7.34E+00	2.35E+00	2.50E-03	7.10E-04	2.24E+00	9.80E+00	1.12E+00	2.64E+00	1.71E-01	5.22E-03	6.25E-03	7.89E-03
Haul Road_Max_Baseline_Lead	3.00E-03	1.41E-01	0.00E+00	1.41E-01	4.50E-02	4.10E-03	3.10E-04	1.75E-02	7.69E+00	2.25E-01	1.57E+00	3.09E-04	7.57E-05	2.72E-05	1.28E-04
Haul Road_Max_Baseline_Manganese	9.73E+01	4.47E+03	0.00E+00	4.47E+03	1.43E+03	2.00E-01	4.47E-02	7.49E-01	4.26E+01	6.71E+02	1.82E+02	3.69E+00	3.59E-02	1.29E-01	6.17E-02
Haul Road_Max_Baseline_Mercury	1.00E-02	9.00E-02	0.00E+00	9.00E-02	1.00E-02	2.50E-05	7.07E-06	4.76E-01	4.98E-01	5.11E-01	2.87E-02	4.32E-04	4.00E-04	1.67E-05	2.61E-03
Haul Road_Max_Baseline_Molybdenum	4.61E-02	2.72E-01	0.00E+00	2.72E-01	8.70E-02	1.25E-04	2.40E-03	1.20E-02	5.07E-01	0.00E+00	9.76E+00	3.92E-03	1.45E-04	1.46E-04	7.88E-03
Haul Road_Max_Baseline_Nickel	5.60E-01	2.75E+00	0.00E+00	2.75E+00	8.80E-01	3.50E-03	1.11E-03	5.55E-03	2.32E+01	1.98E-01	3.11E-02	4.23E-02	4.90E-03	1.75E-03	3.09E-03
Haul Road_Max_Baseline_Silver	2.07E-03	4.00E-02	0.00E+00	4.00E-02	5.00E-03	2.50E-05	5.00E-05	4.39E-03	4.53E-01	1.56E+00	1.49E-02	1.18E-04	4.36E-05	5.11E-06	9.11E-04
Haul Road_Max_Baseline_Strontium	3.72E+00	9.56E+01	0.00E+00	9.56E+01	3.06E+01	2.25E-03	6.26E-03	1.61E+00	1.05E+00	5.88E+01	2.55E+01	5.99E-02	6.08E-04	2.08E-03	4.36E-03
Haul Road_Max_Baseline_Vanadium	2.00E-02	1.25E-01	0.00E+00	1.25E-01	4.00E-02	8.75E-03	1.00E-03	1.00E-02	1.37E+00	0.00E+00	4.07E+00	4.66E-03	1.73E-04	4.55E-04	1.59E-03
Haul Road_Max_Baseline_Zinc	4.16E+00	3.44E+01	0.00E+00	3.44E+01	1.10E+01	9.00E-03	3.48E-03	5.78E+00	2.77E+02	2.21E+01	1.59E+01	6.98E-03	8.34E-02	2.53E-04	1.02E-01
Haul Road_Max_Project_Aluminum	7.36E+00	1.45E+00	4.01E+01	4.15E+01	1.33E+01	3.67E-01	0.00E+00	0.00E+00	7.78E+00	0.00E+00	0.00E+00	2.42E-01	3.69E-03	1.58E-02	4.80E-03
Haul Road_Max_Project_Antimony	3.94E-04	1.44E-03	1.96E-03	3.40E-03	1.09E-03	1.80E-05	0.00E+00	0.00E+00	9.48E-03	0.00E+00	0.00E+00	1.07E-05	4.30E-07	6.13E-07	3.28E-07
Haul Road_Max_Project_Arsenic	7.14E-03	7.18E-04	6.27E-02	6.34E-02	1.58E-02	5.74E-04	1.10E-03	5.03E-04	8.55E-02	9.40E-01	8.02E-02	2.19E-05	1.12E-07	3.05E-07	3.87E-06
Haul Road_Max_Project_Arsenic_cancer	7.14E-03	7.18E-04	6.27E-02	6.34E-02	1.58E-02	5.74E-04	1.10E-03	5.03E-04	8.55E-02	9.40E-01	8.02E-02	2.19E-05	1.12E-07	3.05E-07	3.87E-06
Haul Road_Max_Project_Barium	6.60E-02	1.79E+00	1.47E-01	1.94E+00	6.21E-01	1.34E-03	0.00E+00	0.00E+00	4.73E-02	0.00E+00	0.00E+00	6.40E-04	6.71E-06	2.49E-05	1.93E-06
Haul Road_Max_Project_Beryllium	1.33E-04	2.64E-05	7.20E-04	7.46E-04	2.39E-04	6.59E-06	0.00E+00	0.00E+00	6.59E-04	0.00E+00	0.00E+00	2.90E-06	6.03E-08	1.89E-07	6.72E-08
Haul Road_Max_Project_Boron	3.83E-02	7.12E-01	9.82E-03	7.22E-01	2.31E-01	8.99E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.23E-03	1.27E-05	4.36E-05	1.18E-06
Haul Road_Max_Project_Cadmium	5.16E-04	2.96E-03	4.80E-04	3.44E-03	1.10E-03	4.39E-06	3.80E-06	8.66E-04	5.34E-02	8.67E-03	1.31E-02	1.02E-06	3.38E-07	4.26E-08	8.45E-07
Haul Road_Max_Project_Chromium	1.51E-02	3.35E-03	7.68E-02	8.01E-02	2.56E-02	7.03E-04	0.00E+00	0.00E+00	3.09E-01	0.00E+00	0.00E+00	1.71E-03	7.66E-05	1.11E-04	6.42E-05
Haul Road_Max_Project_Cobalt	5.48E-03	1.70E-03	2.86E-02	3.03E-02	9.69E-03	2.62E-04	2.73E-04	4.64E-03	1.46E-02	0.00E+00	1.11E+00	2.36E-03	4.14E-05	1.52E-04	3.01E-03
Haul Road_Max_Project_Copper	2.99E-02	1.32E-01	4.92E-02	1.82E-01	5.81E-02	4.51E-04	1.86E-04	5.88E-01	3.40E+00	2.94E-01	6.92E-01	4.95E-03	1.12E-03	2.32E-04	2.15E-03
Haul Road_Max_Project_Lead	2.37E-03	4.05E-04	1.29E-02	1.33E-02	4.26E-03	1.18E-04	7.53E-05	4.25E-03	6.85E-02	5.46E-02	3.81E-01	1.56E-05	8.53E-07	1.02E-06	1.90E-05
Haul Road_Max_Project_Manganese	6.41E-01	2.08E+01	1.02E+00	2.19E+01	7.00E+00	9.34E-03	3.90E-03	6.54E-02	1.09E+00	5.85E+01	1.59E+01	1.88E-02	2.00E-04	7.01E-04	5.28E-03
Haul Road_Max_Project_Mercury	3.18E-06	1.55E-05	4.69E-06	2.01E-05	6.45E-06	4.29E-08	1.69E-06	1.14E-01	2.68E-02	1.23E-01	6.89E-03	3.18E-07	1.99E-05	1.38E-08	5.83E-04
Haul Road_Max_Project_Molybdenum	6.58E-04	2.52E-03	1.26E-03	3.78E-03	1.21E-03	1.16E-05	1.60E-03	8.02E-03	4.69E-03	0.00E+00	6.52E+00	1.08E-04	2.10E-06	4.41E-06	5.22E-03
Haul Road_Max_Project_Nickel	1.93E-02	4.21E-02	5.85E-02	1.01E-01	3.22E-02	5.36E-04	2.94E-03	1.47E-02	3.55E-01	5.23E-01	8.23E-02	2.06E-03	9.41E-05	1.14E-04	7.24E-04
Haul Road_Max_Project_Silver	6.11E-05	3.46E-04	2.36E-04	5.82E-04	1.86E-04	2.16E-06	1.11E-06	9.73E-05	3.91E-03	3.47E-02	3.31E-04	4.99E-06	4.26E-07	2.60E-07	1.99E-05
Haul Road_Max_Project_Strontium	3.65E-02	8.37E-01	2.15E-02	8.58E-01	2.75E-01	1.97E-04	0.00E+00	0.00E+00	9.22E-03	0.00E+00	0.00E+00	5.48E-04	5.66E-06	1.98E-05	7.39E-07
Haul Road_Max_Project_Vanadium	1.57E-02	1.10E-03	8.41E-02	8.52E-02	2.73E-02	7.71E-04	0.00E+00	0.00E+00	1.20E-02	0.00E+00	0.00E+00	8.37E-04	1.25E-05	5.49E-05	1.66E-05
Haul Road_Max_Project_Zinc	8.58E-02	4.95E-01	1.41E-01	6.37E-01	2.04E-01	1.30E-03	1.73E-03	2.88E+00	6.90E+01	1.10E+01	7.94E+00	1.49E-04	1.89E-02	6.74E-06	3.88E-02
Haul Road_Average_Baseline_Aluminum	3.10E+00	2.21E+02	0.00E+00	2.21E+02	7.06E+01	5.60E+00	2.44E-01	3.12E-01	1.19E+03	2.31E+00	9.92E+02	2.19E+00	8.39E-02	1.89E-01	2.99E-01
Haul Road_Average_Baseline_Antimony	2.39E-04	1.00E-02	0.00E+00	1.00E-02	3.20E-03	1.25E-05	5.00E-04	2.00E-02	6.59E-02	2.15E+00	3.50E-03	2.51E-05	2.30E-06	1.03E-06	4.06E-04
Haul Road_Average_Baseline_Arsenic	5.79E-03	3.13E-02	0.00E+00	3.13E-02	7.80E-03	2.50E-03	1.81E-03	8.29E-04	1.23E+00	1.55E+00	1.32E-01	5.16E-05	9.12E-07	1.03E-06	7.02E-06
Haul Road_Average_Baseline_Arsenic_cancer	5.79E-03	3.13E-02	0.00E+00	3.13E-02	7.80E-03	2.50E-03	1.81E-03	8.29E-04	1.23E+00	1.55E+00	1.32E-01	5.16E-05	9.12E-07	1.03E-06	7.02E-06
Haul Road_Average_Baseline_Barium	2.55E+00	1.17E+02	0.00E+00	1.17E+02	3.74E+01	8.75E-03	3.36E-03	5.91E-02	3.08E+00	2.55E+00	6.72E-01	3.63E-02	3.63E-04	1.28E-03	1.12E-04
Haul Road_Average_Baseline_Beryllium	1.55E-04	4.00E-03	0.00E+00	4.00E-03	1.28E-03	1.00E-04	5.00E-04	3.10E-02	1.00E-01	2.06E-01	2.25E-02	2.86E-05	3.47E-06	2.32E-06	4.43E-05
Haul Road_Average_Baseline_Boron	3.05E+00	5.94E+01	0.00E+00	5.94E+01	1.90E+01	7.50E-04	2.50E-02	0.00E+00	0.00E+00	2.50E+00	1.02E+02	1.00E-01	1.03E-03	3.48E-03	1.13E-02
Haul Road_Average_Baseline_Cadmium	2.68E-02	1.85E-01	0.00E+00	1.85E-01	5.92E-02	2.75E-05	2.00E-05	4.56E-03	1.43E+00	4.57E-02	6.92E-02	5.04E-05	9.49E-06	1.79E-06	8.67E-06
Haul Road_Average_Baseline_Chromium	8.00E-02	2.50E-01	0.00E+00	2.50E-01	8.00E-02	5.25E-03	7.00E-04	1.58E-02	2.31E+01	9.01E+00	2.10E+00	8.66E-03	4.07E-03	6.87E-04	1.34E-02
Haul Road_Average_Baseline_Cobalt	2.40E-02	1.66E-01	0.00E+00	1.66E-01	5.31E-02	2.55E-03	2.70E-04	4.59E-03	1.42E+00	0.00E+00	1.10E+00	1.66E-02	1.11E-03	1.26E-03	3.87E-03
Haul Road_Average_Baseline_Copper	1.16E+00	7.34E+00	0.00E+00	7.34E+00	2.35E+00	2.50E-03	7.10E-04	2.24E+00	9.80E+00	1.12E+00	2.64E+00	1.71E-01	5.22E-03	6.25E-03	7.89E-03
Haul Road_Average_Baseline_Lead	3.00E-03	1.41E-01	0.00E+00	1.41E-01	4.50E-02	4.10E-03	3.10E-04	1.75E-02	7.69E+00	2.25E-01	1.57E+00	3.09E-04	7.57E-05	2.72E-05	1.28E-04
Haul Road_Average_Baseline_Manganese	9.73E+01	4.47E+03	0.00E+00	4.47E+03	1.43E+03	2.00E-01	4.47E-02	7.49E-01	4.26E+01	6.71E+02	1.82E+02	3.69E+00	3.59E-02	1.29E-01	6.17E-02
Haul Road_Average_Baseline_Mercury	1.00E-02	9.00E-02	0.00E+00	9.00E-02	1.00E-02	2.50E-05	7.07E-06	4.76E-01	4.98E-01	5.11E-01	2.87E-02	4.32E-04	4.00E-04	1.67E-05	2.61E-03
Haul Road_Average_Baseline_Molybdenum	4.61E-02	2.72E-01	0.00E+00	2.72E-01	8.70E-02	1.25E-04	2.40E-03	1.20E-02	5.07E-01	0.00E+00	9.76E+00	3.92E-03	1.45E-04	1.46E-04	7.88E-03
Haul Road_Average_Baseline_Nickel	5.60E-01	2.75E+00	0.00E+00	2.75E+00	8.80E-01	3.50E-03	1.11E-03	5.55E-03	2.32E+01	1.98E-01	3.11E-02	4.23E-02	4.90E-03	1.75E-03	3.09E-03
Haul Road_Average_Baseline_Silver	2.07E-03	4.00E-02	0.00E+00	4.00E-02	5.00E-03	2.50E-05	5.00E-05	4.39E-03	4.53E-01	1.56E+00	1.49E-02	1.18E-04	4.36E-05	5.11E-06	9.11E-04
Haul Road_Average_Baseline_Strontium	3.72E+00	9.56E+01	0.00E+00	9.56E+01	3.06E+01	2.25E-03	6.26E-03	1.61E+00	1.05E+00	5.88E+01	2.55E+01	5.99E-02	6.08E-04	2.08E-03	4.36E-03
Haul Road_Average_Baseline_Vanadium	2.00E-02	1.25E-01	0.00E+00	1.25E-01	4.00E-02	8.75E-03	1.00E-03	1.00E-02	1.37E+00	0.00E+00	4.07E+00	4.66E-03	1.73E-04	4.55E-04	1.59E-03
Haul Road_Average_Baseline_Zinc	4.16E+00	3.44E+01	0.00E+00	3.44E+01	1.10E+01	9.00E-03	3.48E-03	5.78E+00	2.77E+02	2.21E+01	1.59E+01	6.98E-03	8.34E-02	2.53E-04	1.02E-01
Haul Road_Average_Project_Aluminum	2.67E+00	5.25E-01	1.45E+01	1.51E+01	4.82E+00	1.33E-01	0.00E+00	0.00E+00	2.82E+00	0.00E+00	0.00E+00	8.77E-02	1.34E-03	5.72E-03	1.74E-03
Haul Road_Average_Project_Antimony	1.43E-04	5.22E-04	7.13E-04	1.23E-03	3.95E-04	6.53E-06	0.00E+00	0.00E+00	3.44E-03	0.00E+00	0.00E+00	3.89E-06	1.56E-07	2.22E-07	1.19E-07
Haul Road_Average_Project_Arsenic	2.59E-03	2.61E-04	2.28E-02	2.30E-02	5.74E-03	2.08E-04	1.10E-03	5.03E-04	4.18E-02	9.40E-01	8.02E-02	8.27E-06	4.78E-08	1.13E-07	3.79E-06
Haul Road_Average_Project_Arsenic_cancer	2.59E-03	2.61E-04	2.28E-02	2.30E-02	5.74E-03	2.08E-04	1.10E-03	5.03E-04	4.18E-02	9.40E-01	8.02E-02	8.27E-06	4.78E-08	1.13E-07	3.79E-06
Haul Road_Average_Project_Barium	2.39E-02	6.51E-01	5.32E-02	7.04E-01	2.25E-01	4.87E-04	0.00E+00	0.00E+00	1.71E-02	0.00E+00	0.00E+00	2.32E-04	2.44E-06	9.04E-06	6.99E-07
Haul Road_Average_Project_Beryllium	4.82E-05	9.57E-06	2.61E-04	2.71E-04	8.66E-05	2.39E-06	0.00E+00	0.00E+00	2.39E-04	0.00E+00	0.00E+00	1.05E-06	2.19E-08	6.85E-08	2.44E-08
Haul Road_Average_Project_Boron	1.39E-02	2.59E-01	3.56E-03	2.62E-01	8.39E-02	3.26E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.46E-04	4.63E-06	1.58E-05	4.29E-07
Haul Road_Average_Project_Cadmium	1.87E-04	1.07E-03	1.74E-04	1.25E-03	3.99E-04	1.59E-06	3.80E-06	8.66E-04	2.39E-02	8.67E-03	1.31E-02	3.73E-07	1.49E-07	1.55E-08	7.34E-07
Haul Road_Average_Project_Chromium	5.49E-03	1.22E-03	2.79E-02	2.91E-02	9.30E-03	2.55E-04	0.00E+00	0.00E+00	1.12E-01	0.00E+00	0.00E+00	6.22E-04	2.78E-05	4.04E-05	2.33E-05
Haul Road_Average_Project_Cobalt	1.99E-03	6.18E-04	1.04E-02	1.10E-02	3.52E-03	9.50E-05	2.73E-04	4.64E-03	5.28E-03	0.00E+00	1.11E+00	8.71E-04	1.52E-05	5.55E-05	2.98E-03
Haul Road_Average_Project_Copper	1.09E-02	4.80E-02	1.79E-02	6.59E-02	2.11E-02	1.64E-04	1.86E-04	5.88E-01	2.60E+00	2.94E-01	6.92E-01	1.80E-03	8.31E-04	8.43E-05	1.98E-03
Haul Road_Average_Project_Lead	8.61E-04	1.47E-04	4.68E-03	4.83E-03	1.55E-03	4.29E-05	7.53E-05	4.25E-03	3.02E-02	5.46E-02	3.81E-01	5.74E-06	3.60E-07	3.71E-07	1.86E-05
Haul Road_Average_Project_Manganese	2.33E-01	7.56E+00	3.70E-01	7.93E+00	2.54E+00	3.39E-03	3.90E-03	6.54E-02	5.48E-01	5.85E+01	1.59E+01	6.82E-03	7.44E-05	2.54E-04	5.25E-03
Haul Road_Average_Project_Mercury	1.15E-06	5.61E-06	1.70E-06	7.31E-06	2.34E-06	1.56E-08	1.69E-06	1.14E-01	1.91E-02	1.23E-01	6.89E-03	1.41E-07	1.42E-05	5.74E-09	5.80E-04
Haul Road_Average_Project_Molybdenum	2.39E-04	9.14E-04	4.58E-04	1.37E-03	4.39E-04	4.20E-06	1.60E-03	8.02E-03	1.70E-03	0.00E+00	6.52E+00	6.67E-05	1.00E-06	2.40E-06	5.22E-03
Haul Road_Average_Project_Nickel	7.01E-03	1.53E-02	2.12E-02	3.65E-02	1.17E-02	1.95E-04	2.94E-03	1.47E-02	1.29E-01	5.23E-01	8.23E-02	7.97E-04	3.46E-05	4.28E-05	6.81E-04
Haul Road_Average_Project_Silver	2.22E-05	1.26E-04	8.56E-05	2.11E-04	6.76E-05	7.84E-07	1.11E-06	9.73E-05	1.42E-03	3.47E-02	3.31E-04	1.82E-06	1.55E-07	9.46E-08	1.97E-05
Haul Road_Average_Project_Strontium	1.32E-02	3.04E-01	7.80E-03	3.12E-01	9.97E-02	7.15E-05	0.00E+00	0.00E+00	3.35E-03	0.00E+00	0.00E+00	1.99E-04	2.05E-06	7.19E-06	2.68E-07
Haul Road_Average_Project_Vanadium	5.69E-03	4.00E-04	3.05E-02	3.09E-02	9.90E-03	2.80E-04	0.00E+00	0.00E+00	4.36E-03	0.00E+00	0.00E+00	3.04E-04	4.54E-06	1.99E-05	6.03E-06
Haul Road_Average_Project_Zinc	3.11E-02	1.80E-01	5.13E-02	2.31E-01	7.39E-02	4.70E-04	1.73E-03	2.88E+00	4.95E+01	1.10E+01	7.94E+00	5.46E-05	1.35E-02	2.46E-06	3.55E-02

Notes

Adjusted for chemical apportionment

Baseline predicted concentration exceeded max measured baseline. Therefore, defaulted to max measured concentration (i.e., max detection limit)

Guidelines and Exposure Limits

Chemical	Exposure Limit Type	Nova Scotia EQS [mg/kg]	CCME SQG [mg/kg]	Human Oral Exposure Limit [µg/kg/day]
Aluminum	RfD	15400	n/a	143
Antimony	RfD	7.5	20	0.2
Arsenic	RfD	31	12	0.3
Arsenic_cancer	RsD	n/a	n/a	0.006
Barium	RfD	10000	750	200
Beryllium	RfD	38	4	2
Boron	RfD	4300	2	200
Cadmium	RfD	1.4	1.4	1
Chromium	RfD	220	64	1
Cobalt	RfD	22	40	1.4
Copper	RfD	1100	63	91
Lead	RfD	140	70	0.6
Manganese	RfD	n/a	n/a	136
Inorganicmercury	RfD	6.6	6.6	0.3
Methylmercury	RfD	--	--	0.2
Molybdenum	RfD	110	5	23
Nickel	RfD	330	45	11
Silver	RfD	77	20	5
Strontium	RfD	9400	n/a	600
Vanadium	RfD	39	130	2.1
Zinc	RfD	5600	250	480

Notes:

n/a - guideline value was not available

Nova Scotia Environmental Quality Standards (EQS) are the soil contact/ingestion values for coarse/fine-textured soil in an agricultural land use from Nova Scotia Environment (2014)

CCME Soil Quality Guidelines (SQG) are the SQG for the Protection of Environmental and Human Health for the agricultural land use from CCME (2017)

Human Receptor Exposure Variables

Receptor	Variable	Abbreviation	Value	Units	Reference/Comment
Adolescent	AIR	Adolescent_AIR	15.6	m3/d	Health Canada (2012); air inhalation rate
Adult	AIR	Adult_AIR	16.6	m3/d	Health Canada (2012); air inhalation rate
Child	AIR	Child_AIR	14.5	m3/d	Health Canada (2012); air inhalation rate
Toddler	AIR	Toddler_AIR	8.3	m3/d	Health Canada (2012); air inhalation rate
Infant	AIR	Infant_AIR	2.2	m3/d	Health Canada (2012); air inhalation rate
Adolescent	Berries	Adolescent_Berries	6.4	g/d	Calculated based on ingestion ratio for strawberries and blueberries combined for adolescent:adult from Health Canada (1994)
Adult	Berries	Adult_Berries	9.1	g/d	Chan et al. (2017); Heavy consumer total for berries/plants (Table 9a) - assumed receptors collecting 1/2 of annual berry consumption from MPOI
Child	Berries	Child_Berries	8.0	g/d	Calculated based on ingestion ratio for strawberries and blueberries combined for child:adult from Health Canada (1994)
Toddler	Berries	Toddler_Berries	3.4	g/d	Calculated based on ingestion ratio for strawberries and blueberries combined for toddler:adult from Health Canada (1994)
Infant	Berries	Infant_Berries	0	g/d	assumed, diet entirely breast milk
Adolescent	Berries_All	Adolescent_Berries_All	12.9	g/d	Calculated based on ingestion ratio for strawberries and blueberries combined for adolescent:adult from Health Canada (1994)
Adult	Berries_All	Adult_Berries_All	18.2	g/d	Chan et al. (2017); Heavy consumer total for berries/plants (Table 9a)
Child	Berries_All	Child_Berries_All	16.0	g/d	Calculated based on ingestion ratio for strawberries and blueberries combined for child:adult from Health Canada (1994)
Toddler	Berries_All	Toddler_Berries_All	6.9	g/d	Calculated based on ingestion ratio for strawberries and blueberries combined for toddler:adult from Health Canada (1994)
Infant	Berries_All	Infant_Berries_All	0	g/d	assumed, diet entirely breast milk
Adolescent	Berries_ratio	Adolescent_Berries_ratio	0.71	Unitless	Health Canada (1994); Ingestion rate ratio adolescent:adult for strawberries and blueberries combined
Child	Berries_ratio	Child_Berries_ratio	0.88	Unitless	Health Canada (1994); Ingestion rate ratio child:adult for strawberries and blueberries combined
Toddler	Berries_ratio	Toddler_Berries_ratio	0.38	Unitless	Health Canada (1994); Ingestion rate ratio toddler:adult for strawberries and blueberries combined
Infant	Berries_ratio	Infant_Berries_ratio	0.068788501	Unitless	Health Canada (1994); Ingestion rate ratio infant:adult for strawberries and blueberries combined
Adolescent	BW	Adolescent_BW	59.7	kg	Health Canada (2012); body weight
Adult	BW	Adult_BW	70.7	kg	Health Canada (2012); body weight
Child	BW	Child_BW	32.9	kg	Health Canada (2012); body weight
Toddler	BW	Toddler_BW	16.5	kg	Health Canada (2012); body weight
Infant	BW	Infant_BW	8.2	kg	Health Canada (2012); body weight
Adolescent	LAF	Adolescent_LAF	0.1	yr-lifestage/yr-total	Health Canada (2012); lifetime adjustment factor for gen. pop.
Adult	LAF	Adult_LAF	0.75	yr-lifestage/yr-total	Health Canada (2012); lifetime adjustment factor for gen. pop.
Child	LAF	Child_LAF	0.0875	yr-lifestage/yr-total	Health Canada (2012); lifetime adjustment factor for gen. pop.
Toddler	LAF	Toddler_LAF	0.05625	yr-lifestage/yr-total	Health Canada (2012); lifetime adjustment factor for gen. pop.
Infant	LAF	Infant_LAF	0.00625	yr-lifestage/yr-total	Health Canada (2012); lifetime adjustment factor for gen. pop.
Adolescent	Leaves	Adolescent_Leaves	1.5	g/d	Wein (1989); AHW (2007) - assumed receptors collecting 1/2 of annual leaf consumption from MPOI
Adult	Leaves	Adult_Leaves	1.5	g/d	Wein (1989); AHW (2007) - assumed receptors collecting 1/2 of annual leaf consumption from MPOI
Child	Leaves	Child_Leaves	0.5	g/d	Wein (1989); AHW (2007) - assumed receptors collecting 1/2 of annual leaf consumption from MPOI
Toddler	Leaves	Toddler_Leaves	0.5	g/d	Wein (1989); AHW (2007) - assumed receptors collecting 1/2 of annual leaf consumption from MPOI
Infant	Leaves	Infant_Leaves	0	g/d	assumed, diet entirely breast milk
Adolescent	Leaves_All	Adolescent_Leaves_All	3.0	g/d	Wein (1989); AHW (2007)
Adult	Leaves_All	Adult_Leaves_All	3.0	g/d	Wein (1989); AHW (2007)
Child	Leaves_All	Child_Leaves_All	1.0	g/d	Wein (1989); AHW (2007)
Toddler	Leaves_All	Toddler_Leaves_All	1.0	g/d	Wein (1989); AHW (2007)
Infant	Leaves_All	Infant_Leaves_All	0	g/d	assumed, diet entirely breast milk
Adolescent	Leaves_ratio	Adolescent_Leaves_ratio	0.88	Unitless	Health Canada (2012); Ingestion ratio adolescent:adult for other vegetable for general population
Child	Leaves_ratio	Child_Leaves_ratio	0.72	Unitless	Health Canada (2012); Ingestion ratio child:adult for other vegetable for general population
Toddler	Leaves_ratio	Toddler_Leaves_ratio	0.49	Unitless	Health Canada (2012); Ingestion ratio toddler:adult for other vegetable for general population
Infant	Leaves_ratio	Infant_Leaves_ratio	0.525547445	Unitless	Health Canada (2012); Ingestion ratio infant:adult for other vegetable for general population
Adolescent	SIR	Adolescent_SIR	0.02	g/d	Health Canada (2012); soil ingestion rate
Adult	SIR	Adult_SIR	0.02	g/d	Health Canada (2012); soil ingestion rate
Child	SIR	Child_SIR	0.02	g/d	Health Canada (2012); soil ingestion rate
Toddler	SIR	Toddler_SIR	0.08	g/d	Health Canada (2012); soil ingestion rate
Infant	SIR	Infant_SIR	0.02	g/d	Health Canada (2012); soil ingestion rate
Adolescent	Fish	Adolescent_Fish	9	g/d	Calculated based on ingestion ratio in Health Canada (2007) and adult ingestion rate
Adult	Fish	Adult_Fish	9	g/d	Chan et al. (2017) FNFNES for Atlantic Region; adult average consumer Table 9b
Child	Fish	Child_Fish	7.425	g/d	Calculated based on ingestion ratio in Health Canada (2007) and adult ingestion rate
Toddler	Fish	Toddler_Fish	4.5	g/d	Calculated based on ingestion ratio in Health Canada (2007) and adult ingestion rate
Infant	Fish	Infant_Fish	0	g/d	Calculated based on ingestion ratio in Health Canada (2007) and adult ingestion rate
Adolescent	Fish_ratio	Adolescent_Fish_ratio	1	Unitless	Fish ingestion ratio from Health Canada (2007)
Child	Fish_ratio	Child_Fish_ratio	0.825	Unitless	Fish ingestion ratio from Health Canada (2007)
Toddler	Fish_ratio	Toddler_Fish_ratio	0.5	Unitless	Fish ingestion ratio from Health Canada (2007)
Infant	Fish_ratio	Infant_Fish_ratio	0	Unitless	Fish ingestion ratio from Health Canada (2007)
Adolescent	Deer	Adolescent_Deer	44.3	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Adult	Deer	Adult_Deer	68.4	g/d	Chan et al. (2017) FNFNES for Atlantic Region; adult heavy consumer (95th percentile) Table 9b

Child	Deer	Child_Deer	31.7	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Toddler	Deer	Toddler_Deer	21.5	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Infant	Deer	Infant_Deer	0	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Adolescent	Deer_ratio	Adolescent_Deer_ratio	0.648	Unitless	Wild game ratio from Health Canada (2012)
Child	Deer_ratio	Child_Deer_ratio	0.463	Unitless	Wild game ratio from Health Canada (2012)
Toddler	Deer_ratio	Toddler_Deer_ratio	0.315	Unitless	Wild game ratio from Health Canada (2012)
Infant	Deer_ratio	Infant_Deer_ratio	0	Unitless	Wild game ratio from Health Canada (2012)
Adolescent	Ruffed_Grouse	Adolescent_Ruffed_Grouse	0.5	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Adult	Ruffed_Grouse	Adult_Ruffed_Grouse	0.8	g/d	Chan et al. (2017) FNFNES for Atlantic Region; adult heavy consumer (95th percentile) Table 9b
Child	Ruffed_Grouse	Child_Ruffed_Grouse	0.4	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Toddler	Ruffed_Grouse	Toddler_Ruffed_Grouse	0.3	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Infant	Ruffed_Grouse	Infant_Ruffed_Grouse	0	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Adolescent	Ruffed_Grouse_rati	Adolescent_Ruffed_Grouse_ratio	0.648	Unitless	Wild game ratio from Health Canada (2012)
Child	Ruffed_Grouse_rati	Child_Ruffed_Grouse_ratio	0.463	Unitless	Wild game ratio from Health Canada (2012)
Toddler	Ruffed_Grouse_rati	Toddler_Ruffed_Grouse_ratio	0.315	Unitless	Wild game ratio from Health Canada (2012)
Infant	Ruffed_Grouse_rati	Infant_Ruffed_Grouse_ratio	0	Unitless	Wild game ratio from Health Canada (2012)
Adolescent	Snowshoe_Hare	Adolescent_Snowshoe_Hare	3.2	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Adult	Snowshoe_Hare	Adult_Snowshoe_Hare	4.9	g/d	Chan et al. (2017) FNFNES for Atlantic Region; adult heavy consumer (95th percentile) Table 9b
Child	Snowshoe_Hare	Child_Snowshoe_Hare	2.3	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Toddler	Snowshoe_Hare	Toddler_Snowshoe_Hare	1.5	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Infant	Snowshoe_Hare	Infant_Snowshoe_Hare	0	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Adolescent	Snowshoe_Hare_ra	Adolescent_Snowshoe_Hare_ratio	0.648	Unitless	Wild game ratio from Health Canada (2012)
Child	Snowshoe_Hare_ra	Child_Snowshoe_Hare_ratio	0.463	Unitless	Wild game ratio from Health Canada (2012)
Toddler	Snowshoe_Hare_ra	Toddler_Snowshoe_Hare_ratio	0.315	Unitless	Wild game ratio from Health Canada (2012)
Infant	Snowshoe_Hare_ra	Infant_Snowshoe_Hare_ratio	0	Unitless	Wild game ratio from Health Canada (2012)
Adolescent	Mallard	Adolescent_Mallard	0.4	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Adult	Mallard	Adult_Mallard	0.6	g/d	Chan et al. (2017) FNFNES for Atlantic Region; adult heavy consumer (95th percentile) Table 9b
Child	Mallard	Child_Mallard	0.3	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Toddler	Mallard	Toddler_Mallard	0.2	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Infant	Mallard	Infant_Mallard	0	g/d	Calculated based on ingestion ratio in Health Canada (2012) and adult ingestion rate
Adolescent	Mallard_ratio	Adolescent_Mallard_ratio	0.648	Unitless	Wild game ratio from Health Canada (2012)
Child	Mallard_ratio	Child_Mallard_ratio	0.463	Unitless	Wild game ratio from Health Canada (2012)
Toddler	Mallard_ratio	Toddler_Mallard_ratio	0.315	Unitless	Wild game ratio from Health Canada (2012)
Infant	Mallard_ratio	Infant_Mallard_ratio	0	Unitless	Wild game ratio from Health Canada (2012)
Adolescent	SAT	Adolescent_SAT	15470	cm^2	Health Canada (2009); surface area total
Adult	SAT	Adult_SAT	17640	cm^2	Health Canada (2009); surface area total
Child	SAT	Child_SAT	10140	cm^2	Health Canada (2009); surface area total
Infant	SAT	Infant_SAT	3620	cm^2	Health Canada (2009); surface area total
Toddler	SAT	Toddler_SAT	6130	cm^2	Health Canada (2009); surface area total
Adolescent	SEF	Adolescent_SEF	9.86E-02	hr/d	Assumed: 1hr/day for 3 days/week over 3 months in a year; swim exposure factor
Adult	SEF	Adult_SEF	9.86E-02	hr/d	Assumed: 1hr/day for 3 days/week over 3 months in a year; swim exposure factor
Child	SEF	Child_SEF	9.86E-02	hr/d	Assumed: 1hr/day for 3 days/week over 3 months in a year; swim exposure factor
Infant	SEF	Infant_SEF	0.00E+00	hr/d	Assumed not to be swimming
Toddler	SEF	Toddler_SEF	9.86E-02	hr/d	Assumed: 1hr/day for 3 days/week over 3 months in a year; swim exposure factor
Adolescent	SW_IR	Adolescent_SW_IR	0.025	L/d	US EPA 2003; Assumed 1hr / day; swim ingestion rate
Adult	SW_IR	Adult_SW_IR	0.025	L/d	US EPA 2003; Assumed 1hr / day; swim ingestion rate
Child	SW_IR	Child_SW_IR	0.05	L/d	US EPA 2003; Assumed 1hr / day; swim ingestion rate
Infant	SW_IR	Infant_SW_IR	0	L/d	US EPA 2003; Assumed 1hr / day; swim ingestion rate
Toddler	SW_IR	Toddler_SW_IR	0.05	L/d	US EPA 2003; Assumed 1hr / day; swim ingestion rate

Wildlife Receptor Exposure Variables

Receptor	Variable	Abbreviation	Value	Units	Reference/Comment
Deer	AIR	Deer_AIR	17.3	m^3/day	Allometric equation for mammals 3-20; US EPA (1993)
Deer	BW	Deer_BW	75	kg-WW	White-tailed deer; GOC 2012
Deer	Per_SIR	Deer_Per_SIR	2%	% of Diet	White-tailed deer; <2.0% of dry food ingestion rate; GOC 2012
Deer	SIR	Deer_SIR	0.045	kg-soil/day	Calculated; See estimation of Soil Ingestion Rate
Deer	WIR	Deer_WIR	4.5	L/day	White-tailed deer; GOC 2012
Deer	FIR	Deer_FIR	2.25	kg-DW/day	White-tailed deer; GOC 2012
Ruffed_Grouse	AIR	Ruffed_Grouse_AIR	0.25876778	m^3/day	Allometric equation for birds 3-19 (US EPA 1993)
Ruffed_Grouse	BW	Ruffed_Grouse_BW	0.552	kg-WW	Ruffed grouse; GOC 2012
Ruffed_Grouse	Per_SIR	Ruffed_Grouse_Per_SIR	2%	% of Diet	Ruffed grouse; GOC 2012
Ruffed_Grouse	SIR	Ruffed_Grouse_SIR	0.0006624	kg-soil/day	Calculated; See estimation of Soil / Sediment Ingestion Rate
Ruffed_Grouse	WIR	Ruffed_Grouse_WIR	0.03864	L/day	Ruffed grouse; GOC 2012
Ruffed_Grouse	FIR	Ruffed_Grouse_FIR	0.03312	kg-DW/day	Ruffed grouse; GOC 2012
Snowshoe_Hare	AIR	Snowshoe_Hare_AIR	0.673268372	m^3/day	Allometric equation for mammals 3-20; US EPA (1993)
Snowshoe_Hare	BW	Snowshoe_Hare_BW	1.3	kg-WW	Snowshoe Hare; GOC 2012
Snowshoe_Hare	Per_SIR	Snowshoe_Hare_Per_SIR	6%	% of Diet	Snowshoe Hare; GOC 2012
Snowshoe_Hare	SIR	Snowshoe_Hare_SIR	0.004914	kg-soil/day	Calculated; See estimation of Soil / Sediment Ingestion Rate
Snowshoe_Hare	WIR	Snowshoe_Hare_WIR	0.13	L/day	Snowshoe Hare; GOC 2012
Snowshoe_Hare	FIR	Snowshoe_Hare_FIR	0.078	kg-DW/day	Snowshoe hare; GOC 2012
Mallard	AIR	Mallard_AIR	0.470529298	m^3/day	Allometric equation for birds 3-19 (US EPA 1993)
Mallard	BW	Mallard_BW	1.2	kg-WW	Mallard; GOC 2012
Mallard	Per_SIR	Mallard_Per_SIR	3.3%	% of Diet	3.3% apportioned to diet source; GOC 2012
Mallard	SIR	Mallard_SIR	0.00198	kg-soil/day	Calculated; See estimation of Soil / Sediment Ingestion Rate
Mallard	WIR	Mallard_WIR	0.072	L/day	Mallard; GOC 2012
Mallard	FIR	Mallard_FIR	0.06	kg-DW/day	Mallard; GOC 2012

Predicted Soil or Sediment Ingestion Rates for Wildlife [kg/day] (GOC 2012)

Receptor	Variable Name	Soil Ingestion Rate [kg/day]	Per_SIR	FIR [kg-DW/kg-BW/day]
Deer	Deer_SIR	0.045	2%	0.03
Ruffed_Grouse	Ruffed_Grouse_SIR	0.000662	2%	0.06
Snowshoe_Hare	Snowshoe_Hare_SIR	0.004914	6.3%	0.06
Mallard	Mallard_SIR	0.00198	3.3%	0.05

Receptor Dietary Composition [media % of diet]

Receptor	Media	Abbreviation	Value
Deer	Berries	Deer_Berries	10%
Deer	Leaves	Deer_Leaves	90%
Deer	Invert	Deer_Invert	0%
Deer	Aquatic_Plant	Deer_Aquatic_Plant	0%
Deer	Aquatic_Invert	Deer_Aquatic_Invert	0%
Ruffed_Grouse	Berries	Ruffed_Grouse_Berries	30%
Ruffed_Grouse	Leaves	Ruffed_Grouse_Leaves	55%
Ruffed_Grouse	Invert	Ruffed_Grouse_Invert	15%
Ruffed_Grouse	Aquatic_Plant	Ruffed_Grouse_Aquatic_Pl	0%
Ruffed_Grouse	Aquatic_Invert	Ruffed_Grouse_Aquatic_In	0%
Snowshoe_Hare	Berries	Snowshoe_Hare_Berries	10%
Snowshoe_Hare	Leaves	Snowshoe_Hare_Leaves	90%
Snowshoe_Hare	Invert	Snowshoe_Hare_Invert	0%
Snowshoe_Hare	Aquatic_Plant	Snowshoe_Hare_Aquatic_P	0%
Snowshoe_Hare	Aquatic_Invert	Snowshoe_Hare_Aquatic_I	0%
Mallard	Berries	Mallard_Berries	5%
Mallard	Leaves	Mallard_Leaves	0%
Mallard	Invert	Mallard_Invert	5%
Mallard	Aquatic_Plant	Mallard_Aquatic_Plant	50%
Mallard	Aquatic_Invert	Mallard_Aquatic_Invert	40%

Exposure Point Concentrations Assumed for the Assessment

ID	Area	Scenario	Media	COPC	Abbreviation	Value	Units	Comment
1	Haul Road_Max	Baseline	Soil	Aluminum	Haul Road_Max_Baseline_Soil_Aluminum	22400	mg/kg	90th percentile of samples
2	Haul Road_Max	Baseline	Soil	Antimony	Haul Road_Max_Baseline_Soil_Antimony	0.05	mg/kg	90th percentile of samples
3	Haul Road_Max	Baseline	Soil	Arsenic	Haul Road_Max_Baseline_Soil_Arsenic	10	mg/kg	90th percentile of samples
4	Haul Road_Max	Baseline	Soil	Arsenic_cancer	Haul Road_Max_Baseline_Soil_Arsenic_cancer	10	mg/kg	90th percentile of samples
5	Haul Road_Max	Baseline	Soil	Barium	Haul Road_Max_Baseline_Soil_Barium	35	mg/kg	90th percentile of samples
6	Haul Road_Max	Baseline	Soil	Beryllium	Haul Road_Max_Baseline_Soil_Beryllium	0.4	mg/kg	90th percentile of samples
7	Haul Road_Max	Baseline	Soil	Boron	Haul Road_Max_Baseline_Soil_Boron	3	mg/kg	90th percentile of samples
8	Haul Road_Max	Baseline	Soil	Cadmium	Haul Road_Max_Baseline_Soil_Cadmium	0.11	mg/kg	90th percentile of samples
9	Haul Road_Max	Baseline	Soil	Chromium	Haul Road_Max_Baseline_Soil_Chromium	21	mg/kg	90th percentile of samples
10	Haul Road_Max	Baseline	Soil	Cobalt	Haul Road_Max_Baseline_Soil_Cobalt	10.2	mg/kg	90th percentile of samples
11	Haul Road_Max	Baseline	Soil	Copper	Haul Road_Max_Baseline_Soil_Copper	10	mg/kg	90th percentile of samples
12	Haul Road_Max	Baseline	Soil	Lead	Haul Road_Max_Baseline_Soil_Lead	16.4	mg/kg	90th percentile of samples
13	Haul Road_Max	Baseline	Soil	Manganese	Haul Road_Max_Baseline_Soil_Manganese	801	mg/kg	90th percentile of samples
14	Haul Road_Max	Baseline	Soil	Mercury	Haul Road_Max_Baseline_Soil_Mercury	0.1	mg/kg	90th percentile of samples
15	Haul Road_Max	Baseline	Soil	Molybdenum	Haul Road_Max_Baseline_Soil_Molybdenum	0.5	mg/kg	90th percentile of samples
16	Haul Road_Max	Baseline	Soil	Nickel	Haul Road_Max_Baseline_Soil_Nickel	14	mg/kg	90th percentile of samples
17	Haul Road_Max	Baseline	Soil	Silver	Haul Road_Max_Baseline_Soil_Silver	0.1	mg/kg	90th percentile of samples
18	Haul Road_Max	Baseline	Soil	Strontium	Haul Road_Max_Baseline_Soil_Strontium	9	mg/kg	90th percentile of samples
19	Haul Road_Max	Baseline	Soil	Vanadium	Haul Road_Max_Baseline_Soil_Vanadium	35	mg/kg	90th percentile of samples
20	Haul Road_Max	Baseline	Soil	Zinc	Haul Road_Max_Baseline_Soil_Zinc	36	mg/kg	90th percentile of samples
21	Haul Road_Max	Project	Soil	Aluminum	Haul Road_Max_Project_Soil_Aluminum	0	mg/kg	
22	Haul Road_Max	Project	Soil	Antimony	Haul Road_Max_Project_Soil_Antimony	0	mg/kg	
23	Haul Road_Max	Project	Soil	Arsenic	Haul Road_Max_Project_Soil_Arsenic	0	mg/kg	
24	Haul Road_Max	Project	Soil	Arsenic_cancer	Haul Road_Max_Project_Soil_Arsenic_cancer	0	mg/kg	
25	Haul Road_Max	Project	Soil	Barium	Haul Road_Max_Project_Soil_Barium	0	mg/kg	
26	Haul Road_Max	Project	Soil	Beryllium	Haul Road_Max_Project_Soil_Beryllium	0	mg/kg	
27	Haul Road_Max	Project	Soil	Boron	Haul Road_Max_Project_Soil_Boron	0	mg/kg	
28	Haul Road_Max	Project	Soil	Cadmium	Haul Road_Max_Project_Soil_Cadmium	0	mg/kg	
29	Haul Road_Max	Project	Soil	Chromium	Haul Road_Max_Project_Soil_Chromium	0	mg/kg	
30	Haul Road_Max	Project	Soil	Cobalt	Haul Road_Max_Project_Soil_Cobalt	0	mg/kg	
31	Haul Road_Max	Project	Soil	Copper	Haul Road_Max_Project_Soil_Copper	0	mg/kg	
32	Haul Road_Max	Project	Soil	Lead	Haul Road_Max_Project_Soil_Lead	0	mg/kg	
33	Haul Road_Max	Project	Soil	Manganese	Haul Road_Max_Project_Soil_Manganese	0	mg/kg	
34	Haul Road_Max	Project	Soil	Mercury	Haul Road_Max_Project_Soil_Mercury	0	mg/kg	
35	Haul Road_Max	Project	Soil	Molybdenum	Haul Road_Max_Project_Soil_Molybdenum	0	mg/kg	
36	Haul Road_Max	Project	Soil	Nickel	Haul Road_Max_Project_Soil_Nickel	0	mg/kg	
37	Haul Road_Max	Project	Soil	Silver	Haul Road_Max_Project_Soil_Silver	0	mg/kg	
38	Haul Road_Max	Project	Soil	Strontium	Haul Road_Max_Project_Soil_Strontium	0	mg/kg	
39	Haul Road_Max	Project	Soil	Vanadium	Haul Road_Max_Project_Soil_Vanadium	0	mg/kg	
40	Haul Road_Max	Project	Soil	Zinc	Haul Road_Max_Project_Soil_Zinc	0	mg/kg	
1	Haul Road_Max	Baseline	Surface Soil	Aluminum	Haul Road_Max_Baseline_Surface Soil_Aluminum	22400	mg/kg	90th percentile of samples
2	Haul Road_Max	Baseline	Surface Soil	Antimony	Haul Road_Max_Baseline_Surface Soil_Antimony	0.05	mg/kg	90th percentile of samples
3	Haul Road_Max	Baseline	Surface Soil	Arsenic	Haul Road_Max_Baseline_Surface Soil_Arsenic	10	mg/kg	90th percentile of samples
4	Haul Road_Max	Baseline	Surface Soil	Arsenic_cancer	Haul Road_Max_Baseline_Surface Soil_Arsenic_cance	10	mg/kg	90th percentile of samples
5	Haul Road_Max	Baseline	Surface Soil	Barium	Haul Road_Max_Baseline_Surface Soil_Barium	35	mg/kg	90th percentile of samples
6	Haul Road_Max	Baseline	Surface Soil	Beryllium	Haul Road_Max_Baseline_Surface Soil_Beryllium	0.4	mg/kg	90th percentile of samples
7	Haul Road_Max	Baseline	Surface Soil	Boron	Haul Road_Max_Baseline_Surface Soil_Boron	3	mg/kg	90th percentile of samples
8	Haul Road_Max	Baseline	Surface Soil	Cadmium	Haul Road_Max_Baseline_Surface Soil_Cadmium	0.11	mg/kg	90th percentile of samples
9	Haul Road_Max	Baseline	Surface Soil	Chromium	Haul Road_Max_Baseline_Surface Soil_Chromium	21	mg/kg	90th percentile of samples
10	Haul Road_Max	Baseline	Surface Soil	Cobalt	Haul Road_Max_Baseline_Surface Soil_Cobalt	10.2	mg/kg	90th percentile of samples
11	Haul Road_Max	Baseline	Surface Soil	Copper	Haul Road_Max_Baseline_Surface Soil_Copper	10	mg/kg	90th percentile of samples
12	Haul Road_Max	Baseline	Surface Soil	Lead	Haul Road_Max_Baseline_Surface Soil_Lead	16.4	mg/kg	90th percentile of samples
13	Haul Road_Max	Baseline	Surface Soil	Manganese	Haul Road_Max_Baseline_Surface Soil_Manganese	801	mg/kg	90th percentile of samples
14	Haul Road_Max	Baseline	Surface Soil	Mercury	Haul Road_Max_Baseline_Surface Soil_Mercury	0.1	mg/kg	90th percentile of samples
15	Haul Road_Max	Baseline	Surface Soil	Molybdenum	Haul Road_Max_Baseline_Surface Soil_Molybdenum	0.5	mg/kg	90th percentile of samples
16	Haul Road_Max	Baseline	Surface Soil	Nickel	Haul Road_Max_Baseline_Surface Soil_Nickel	14	mg/kg	90th percentile of samples
17	Haul Road_Max	Baseline	Surface Soil	Silver	Haul Road_Max_Baseline_Surface Soil_Silver	0.1	mg/kg	90th percentile of samples
18	Haul Road_Max	Baseline	Surface Soil	Strontium	Haul Road_Max_Baseline_Surface Soil_Strontium	9	mg/kg	90th percentile of samples
19	Haul Road_Max	Baseline	Surface Soil	Vanadium	Haul Road_Max_Baseline_Surface Soil_Vanadium	35	mg/kg	90th percentile of samples
20	Haul Road_Max	Baseline	Surface Soil	Zinc	Haul Road_Max_Baseline_Surface Soil_Zinc	36	mg/kg	90th percentile of samples
21	Haul Road_Max	Project	Surface Soil	Aluminum	Haul Road_Max_Project_Surface Soil_Aluminum	0	mg/kg	
22	Haul Road_Max	Project	Surface Soil	Antimony	Haul Road_Max_Project_Surface Soil_Antimony	0	mg/kg	
23	Haul Road_Max	Project	Surface Soil	Arsenic	Haul Road_Max_Project_Surface Soil_Arsenic	0	mg/kg	
24	Haul Road_Max	Project	Surface Soil	Arsenic_cancer	Haul Road_Max_Project_Surface Soil_Arsenic_cancer	0	mg/kg	
25	Haul Road_Max	Project	Surface Soil	Barium	Haul Road_Max_Project_Surface Soil_Barium	0	mg/kg	
26	Haul Road_Max	Project	Surface Soil	Beryllium	Haul Road_Max_Project_Surface Soil_Beryllium	0	mg/kg	
27	Haul Road_Max	Project	Surface Soil	Boron	Haul Road_Max_Project_Surface Soil_Boron	0	mg/kg	
28	Haul Road_Max	Project	Surface Soil	Cadmium	Haul Road_Max_Project_Surface Soil_Cadmium	0	mg/kg	
29	Haul Road_Max	Project	Surface Soil	Chromium	Haul Road_Max_Project_Surface Soil_Chromium	0	mg/kg	
30	Haul Road_Max	Project	Surface Soil	Cobalt	Haul Road_Max_Project_Surface Soil_Cobalt	0	mg/kg	
31	Haul Road_Max	Project	Surface Soil	Copper	Haul Road_Max_Project_Surface Soil_Copper	0	mg/kg	
32	Haul Road_Max	Project	Surface Soil	Lead	Haul Road_Max_Project_Surface Soil_Lead	0	mg/kg	
33	Haul Road_Max	Project	Surface Soil	Manganese	Haul Road_Max_Project_Surface Soil_Manganese	0	mg/kg	
34	Haul Road_Max	Project	Surface Soil	Mercury	Haul Road_Max_Project_Surface Soil_Mercury	0	mg/kg	
35	Haul Road_Max	Project	Surface Soil	Molybdenum	Haul Road_Max_Project_Surface Soil_Molybdenum	0	mg/kg	
36	Haul Road_Max	Project	Surface Soil	Nickel	Haul Road_Max_Project_Surface Soil_Nickel	0	mg/kg	
37	Haul Road_Max	Project	Surface Soil	Silver	Haul Road_Max_Project_Surface Soil_Silver	0	mg/kg	
38	Haul Road_Max	Project	Surface Soil	Strontium	Haul Road_Max_Project_Surface Soil_Strontium	0	mg/kg	
39	Haul Road_Max	Project	Surface Soil	Vanadium	Haul Road_Max_Project_Surface Soil_Vanadium	0	mg/kg	
40	Haul Road_Max	Project	Surface Soil	Zinc	Haul Road_Max_Project_Surface Soil_Zinc	0	mg/kg	
41	Haul Road_Max	Baseline	Berries	Aluminum	Haul Road_Max_Baseline_Berries_Aluminum	20.667	mg/kg-DW	90th percentile of samples
42	Haul Road_Max	Baseline	Berries	Antimony	Haul Road_Max_Baseline_Berries_Antimony	0.0167	mg/kg-DW	90th percentile of samples
43	Haul Road_Max	Baseline	Berries	Arsenic	Haul Road_Max_Baseline_Berries_Arsenic	0.0667	mg/kg-DW	90th percentile of samples
44	Haul Road_Max	Baseline	Berries	Arsenic_cancer	Haul Road_Max_Baseline_Berries_Arsenic_cancer	0.0667	mg/kg-DW	90th percentile of samples
45	Haul Road_Max	Baseline	Berries	Barium	Haul Road_Max_Baseline_Berries_Barium	17	mg/kg-DW	90th percentile of samples
46	Haul Road_Max	Baseline	Berries	Beryllium	Haul Road_Max_Baseline_Berries_Beryllium	0.0167	mg/kg-DW	90th percentile of samples
47	Haul Road_Max	Baseline	Berries	Boron	Haul Road_Max_Baseline_Berries_Boron	20.3	mg/kg-DW	90th percentile of samples
48	Haul Road_Max	Baseline	Berries	Cadmium	Haul Road_Max_Baseline_Berries_Cadmium	0.17867	mg/kg-DW	90th percentile of samples
49	Haul Road_Max	Baseline	Berries	Chromium	Haul Road_Max_Baseline_Berries_Chromium	0.533	mg/kg-DW	90th percentile of samples
50	Haul Road_Max	Baseline	Berries	Cobalt	Haul Road_Max_Baseline_Berries_Cobalt	0.16	mg/kg-DW	90th percentile of samples
51	Haul Road_Max	Baseline	Berries	Copper	Haul Road_Max_Baseline_Berries_Copper	7.73	mg/kg-DW	90th percentile of samples
52	Haul Road_Max	Baseline	Berries	Lead	Haul Road_Max_Baseline_Berries_Lead	0.02	mg/kg-DW	90th percentile of samples
53	Haul Road_Max	Baseline	Berries	Manganese	Haul Road_Max_Baseline_Berries_Manganese	648.7	mg/kg-DW	90th percentile of samples
54	Haul Road_Max	Baseline	Berries	Mercury	Haul Road_Max_Baseline_Berries_Mercury	0.0333	mg/kg-DW	90th percentile of samples
55	Haul Road_Max	Baseline	Berries	Molybdenum	Haul Road_Max_Baseline_Berries_Molybdenum	0.307	mg/kg-DW	90th percentile of samples
56	Haul Road_Max	Baseline	Berries	Nickel	Haul Road_Max_Baseline_Berries_Nickel	3.73	mg/kg-DW	90th percentile of samples
57	Haul Road_Max	Baseline	Berries	Silver	Haul Road_Max_Baseline_Berries_Silver	0.0167	mg/kg-DW	90th percentile of samples
58	Haul Road_Max	Baseline	Berries	Strontium	Haul Road_Max_Baseline_Berries_Strontium	24.8	mg/kg-DW	90th percentile of samples
59	Haul Road_Max	Baseline	Berries	Vanadium	Haul Road_Max_Baseline_Berries_Vanadium	0.0667	mg/kg-DW	90th percentile of samples
60	Haul Road_Max	Baseline	Berries	Zinc	Haul Road_Max_Baseline_Berries_Zinc	27.733	mg/kg-DW	90th percentile of samples
61	Haul Road_Max	Project	Berries	Aluminum	Haul Road_Max_Project_Berries_Aluminum	0	mg/kg-DW	
62	Haul Road_Max	Project	Berries	Antimony	Haul Road_Max_Project_Berries_Antimony	0	mg/kg-DW	
63	Haul Road_Max	Project	Berries	Arsenic	Haul Road_Max_Project_Berries_Arsenic	0	mg/kg-DW	
64	Haul Road_Max	Project	Berries	Arsenic_cancer	Haul Road_Max_Project_Berries_Arsenic_cancer	0	mg/kg-DW	
65	Haul Road_Max	Project	Berries	Barium	Haul Road_Max_Project_Berries_Barium	0	mg/kg-DW	
66	Haul Road_Max	Project	Berries	Beryllium	Haul Road_Max_Project_Berries_Beryllium	0	mg/kg-DW	
67	Haul Road_Max	Project	Berries	Boron	Haul Road_Max_Project_Berries_Boron	0	mg/kg-DW	
68	Haul Road_Max	Project	Berries	Cadmium	Haul Road_Max_Project_Berries_Cadmium	0	mg/kg-DW	
69	Haul Road_Max	Project	Berries	Chromium	Haul Road_Max_Project_Berries_Chromium	0	mg/kg-DW	
70	Haul Road_Max	Project	Berries	Cobalt	Haul Road_Max_Project_Berries_Cobalt	0	mg/kg-DW	
71	Haul Road_Max	Project	Berries	Copper	Haul Road_Max_Project_Berries_Copper	0	mg/kg-DW	
72	Haul Road_Max	Project	Berries	Lead	Haul Road_Max_Project_Berries_Lead	0	mg/kg-DW	
73	Haul Road_Max	Project	Berries	Manganese	Haul Road_Max_Project_Berries_Manganese	0	mg/kg-DW	
74	Haul Road_Max	Project	Berries	Mercury	Haul Road_Max_Project_Berries_Mercury	0	mg/kg-DW	
75	Haul Road_Max	Project	Berries	Molybdenum	Haul Road_Max_Project_Berries_Molybdenum	0	mg/kg-DW	
76	Haul Road_Max	Project	Berries	Nickel	Haul Road_Max_Project_Berries_Nickel	0	mg/kg-DW	
77	Haul Road_Max	Project	Berries	Silver	Haul Road_Max_Project_Berries_Silver	0	mg/kg-DW	
78	Haul Road_Max	Project	Berries	Strontium	Haul Road_Max_Project_Berries_Strontium	0	mg/kg-DW	
79	Haul Road_Max	Project	Berries	Vanadium	Haul Road_Max_Project_Berries_Vanadium	0	mg/kg-DW	
80	Haul Road_Max	Project	Berries	Zinc	Haul Road_Max_Project_Berries_Zinc	0	mg/kg-DW	
81	Haul Road_Max	Baseline	Leaves	Aluminum	Haul Road_Max_Baseline_Leaves_Aluminum	220.6	mg/kg-DW	90th percentile of samples
82	Haul Road_Max	Baseline	Leaves	Antimony	Haul Road_Max_Baseline_Leaves_Antimony	0.008	mg/kg-DW	90th percentile of samples
83	Haul Road_Max	Baseline	Leaves	Arsenic	Haul Road_Max_Baseline_Leaves_Arsenic	0.03125	mg/kg-DW	90th percentile of samples
84	Haul Road_Max	Baseline	Leaves	Arsenic_cancer	Haul Road_Max_Baseline_Leaves_Arsenic_cancer	0.03125	mg/kg-DW	90th percentile of samples
85	Haul Road_Max	Baseline	Leaves	Barium	Haul Road_Max_Baseline_Leaves_Barium	117	mg/kg-DW	90th percentile of samples
86	Haul Road_Max	Baseline	Leaves	Beryllium	Haul Road_Max_Baseline_Leaves_Beryllium	0.008	mg/kg-DW	90th percentile of samples
87	Haul Road_Max	Baseline	Leaves	Boron	Haul Road_Max_Baseline_Leaves_Boron	59.400	mg/kg-DW	90th percentile of samples
88	Haul Road_Max	Baseline	Leaves	Cadmium	Haul Road_Max_Baseline_Leaves_Cadmium	0.185	mg/kg-DW	90th percentile of samples
89	Haul Road_Max	Baseline	Leaves	Chromium	Haul Road_Max_Baseline_Leaves_Chromium	0.250	mg/kg-DW	90th percentile of samples
90	Haul Road_Max	Baseline	Leaves	Cobalt	Haul Road_Max_Baseline_Leaves_Cobalt	0.166	mg/kg-DW	90th percentile of samples
91	Haul Road_Max	Baseline	Leaves	Copper	Haul Road_Max_Baseline_Leaves_Copper	7.34	mg/kg-DW	90th percentile of samples
92	Haul Road_Max	Baseline	Leaves	Lead	Haul Road_Max_Baseline_Leaves_Lead	0.141	mg/kg-DW	90th percentile of samples
93	Haul Road_Max	Baseline	Leaves	Manganese	Haul Road_Max_Baseline_Leaves_Manganese	4469	mg/kg-DW	90th percentile of samples
94	Haul Road_Max	Baseline	Leaves	Mercury	Haul Road_Max_Baseline_Leaves_Mercury	0.0156	mg/kg-DW	90th percentile of samples
95	Haul Road_Max	Baseline	Leaves	Molybdenum	Haul Road_Max_Baseline_Leaves_Molybdenum	0.272	mg/kg-DW	90th percentile of samples
96	Haul Road_Max	Baseline	Leaves	Nickel	Haul Road_Max_Baseline_Leaves_Nickel	2.750	mg/kg-DW	90th percentile of samples
97	Haul Road_Max	Baseline	Leaves	Silver	Haul Road_Max_Baseline_Leaves_Silver	0.008	mg/kg-DW	90th percentile of samples
98	Haul Road_Max	Baseline	Leaves	Strontium	Haul Road_Max_Baseline_Leaves_Strontium	95.6	mg/kg-DW	90th percentile of samples
99	Haul Road_Max	Baseline	Leaves	Vanadium	Haul Road_Max_Baseline_Leaves_Vanadium	0.125	mg/kg-DW	90th percentile of samples
100	Haul Road_Max	Baseline	Leaves	Zinc	Haul Road_Max_Baseline_Leaves_Zinc	34.4	mg/kg-DW	90th percentile of samples
101	Haul Road_Max	Project	Leaves	Aluminum	Haul Road_Max_Project_Leaves_Aluminum	0	mg/kg-DW	
102	Haul Road_Max	Project	Leaves	Antimony	Haul Road_Max_Project_Leaves_Antimony	0	mg/kg-DW	
103	Haul Road_Max	Project	Leaves	Arsenic	Haul Road_Max_Project_Leaves_Arsenic	0	mg/kg-DW	
104	Haul Road_Max	Project	Leaves	Arsenic_cancer	Haul Road_Max_Project_Leaves_Arsenic_cancer	0	mg/kg-DW	
105	Haul Road_Max	Project	Leaves	Barium	Haul Road_Max_Project_Leaves_Barium	0	mg/kg-DW	
106	Haul Road_Max	Project	Leaves	Beryllium	Haul Road_Max_Project_Leaves_Beryllium	0	mg/kg-DW	
107	Haul Road_Max	Project	Leaves	Boron	Haul Road_Max_Project_Leaves_Boron	0	mg/kg-DW	
108	Haul Road_Max	Project	Leaves	Cadmium	Haul Road_Max_Project_Leaves_Cadmium	0	mg/kg-DW	
109	Haul Road_Max	Project	Leaves	Chromium	Haul Road_Max_Project_Leaves_Chromium	0	mg/kg-DW	
110	Haul Road_Max	Project	Leaves	Cobalt	Haul Road_Max_Project_Leaves_Cobalt	0	mg/kg-DW	
111	Haul Road_Max	Project	Leaves	Copper	Haul Road_Max_Project_Leaves_Copper	0	mg/kg-DW	
112	Haul Road_Max	Project	Leaves	Lead	Haul Road_Max_Project_Leaves_Lead	0	mg/kg-DW	
113	Haul Road_Max	Project	Leaves	Manganese	Haul Road_Max_Project_Leaves_Manganese	0	mg/kg-DW	
114	Haul Road_Max	Project	Leaves	Mercury	Haul Road_Max_Project_Leaves_Mercury	0	mg/kg-DW	
115	Haul Road_Max	Project	Leaves	Molybdenum	Haul Road_Max_Project_Leaves_Molybdenum	0	mg/kg-DW	
116	Haul Road_Max	Project	Leaves	Nickel	Haul Road_Max_Project_Leaves_Nickel	0	mg/kg-DW	
117	Haul Road_Max	Project	Leaves	Silver	Haul Road_Max_Project_Leaves_Silver	0	mg/kg-DW	
118	Haul Road_Max	Project	Leaves	Strontium	Haul Road_Max_Project_Leaves_Strontium	0	mg/kg-DW	
119	Haul Road_Max	Project	Leaves	Vanadium	Haul Road_Max_Project_Leaves_Vanadium	0	mg/kg-DW	
120	Haul Road_Max	Project	Leaves	Zinc	Haul Road_Max_Project_Leaves_Zinc	0	mg/kg-DW	
121	Haul Road_Average	Baseline	Soil	Aluminum	Haul Road_Average_Baseline_Soil_Aluminum	22400	mg/kg	90th percentile of samples
122	Haul Road_Average	Baseline	Soil	Antimony	Haul Road_Average_Baseline_Soil_Antimony	0.05	mg/kg	90th percentile of samples
123	Haul Road_Average	Baseline	Soil	Arsenic	Haul Road_Average_Baseline_Soil_Arsenic	10	mg/kg	90th percentile of samples
124	Haul Road_Average	Baseline	Soil	Arsenic_cancer	Haul Road_Average_Baseline_Soil_Arsenic_cancer	10	mg/kg	90th percentile of samples
125	Haul Road_Average	Baseline	Soil	Barium	Haul Road_Average_Baseline_Soil_Barium	35	mg/kg	90th percentile of samples
126	Haul Road_Average	Baseline	Soil	Beryllium	Haul Road_Average_Baseline_Soil_Beryllium	0.4	mg/kg	90th percentile of samples
127	Haul Road_Average	Baseline	Soil	Boron	Haul Road_Average_Baseline_Soil_Boron	3	mg/kg	90th percentile of samples
128	Haul Road_Average	Baseline	Soil	Cadmium	Haul Road_Average_Baseline_Soil_Cadmium	0.11	mg/kg	90th percentile of samples
129	Haul Road_Average	Baseline	Soil	Chromium	Haul Road_Average_Baseline_Soil_Chromium	21	mg/kg	90th percentile of samples
130	Haul Road_Average	Baseline	Soil	Cobalt	Haul Road_Average_Baseline_Soil_Cobalt	10.2	mg/kg	90th percentile of samples
131	Haul Road_Average	Baseline	Soil	Copper	Haul Road_Average_Baseline_Soil_Copper	10	mg/kg	90th percentile of samples
132	Haul Road_Average	Baseline	Soil	Lead	Haul Road_Average_Baseline_Soil_Lead	16.4	mg/kg	90th percentile of samples
133	Haul Road_Average	Baseline	Soil	Manganese	Haul Road_Average_Baseline_Soil_Manganese	801	mg/kg	90th percentile of samples
134	Haul Road_Average	Baseline	Soil	Mercury	Haul Road_Average_Baseline_Soil_Mercury	0.1	mg/kg	90th percentile of samples
135	Haul Road_Average	Baseline	Soil	Molybdenum	Haul Road_Average_Baseline_Soil_Molybdenum	0.5	mg/kg	90th percentile of samples
136	Haul Road_Average	Baseline	Soil	Nickel	Haul Road_Average_Baseline_Soil_Nickel	14	mg/kg	90th percentile of samples
137	Haul Road_Average	Baseline	Soil	Silver	Haul Road_Average_Baseline_Soil_Silver	0.1	mg/kg	90th percentile of samples
138	Haul Road_Average	Baseline	Soil	Strontium	Haul Road_Average_Baseline_Soil_Strontium	9	mg/kg	90th percentile of samples
139	Haul Road_Average	Baseline	Soil	Vanadium	Haul Road_Average_Baseline_Soil_Vanadium	35	mg/kg	90th percentile of samples
140	Haul Road_Average	Baseline	Soil	Zinc	Haul Road_Average_Baseline_Soil_Zinc	36	mg/kg	90th percentile of samples
141	Haul Road_Average	Project	Soil	Aluminum	Haul Road_Average_Project_Soil_Aluminum	0	mg/kg	
142	Haul Road_Average	Project	Soil	Antimony	Haul Road_Average_Project_Soil_Antimony	0	mg/kg	
143	Haul Road_Average	Project	Soil	Arsenic	Haul Road_Average_Project_Soil_Arsenic	0	mg/kg	
144	Haul Road_Average	Project	Soil	Arsenic_cancer	Haul Road_Average_Project_Soil_Arsenic_cancer	0	mg/kg	
145	Haul Road_Average	Project	Soil	Barium	Haul Road_Average_Project_Soil_Barium	0	mg/kg	
146	Haul Road_Average	Project	Soil	Beryllium	Haul Road_Average_Project_Soil_Beryllium	0	mg/kg	
147	Haul Road_Average	Project	Soil	Boron	Haul Road_Average_Project_Soil_Boron	0	mg/kg	
148	Haul Road_Average	Project	Soil	Cadmium	Haul Road_Average_Project_Soil_Cadmium	0	mg/kg	
149	Haul Road_Average	Project	Soil	Chromium	Haul Road_Average_Project_Soil_Chromium	0	mg/kg	
150	Haul Road_Average	Project	Soil	Cobalt	Haul Road_Average_Project_Soil_Cobalt	0	mg/kg	
151	Haul Road_Average	Project	Soil	Copper	Haul Road_Average_Project_Soil_Copper	0	mg/kg	
152	Haul Road_Average	Project	Soil	Lead	Haul Road_Average_Project_Soil_Lead	0	mg/kg	
153	Haul Road_Average	Project	Soil	Manganese	Haul Road_Average_Project_Soil_Manganese	0	mg/kg	
154	Haul Road_Average	Project	Soil	Mercury	Haul Road_Average_Project_Soil_Mercury	0	mg/kg	
155	Haul Road_Average	Project	Soil	Molybdenum	Haul Road_Average_Project_Soil_Molybdenum	0	mg/kg	
156	Haul Road_Average	Project	Soil	Nickel	Haul Road_Average_Project_Soil_Nickel	0	mg/kg	
157	Haul Road_Average	Project	Soil	Silver	Haul Road_Average_Project_Soil_Silver	0	mg/kg	
158	Haul Road_Average	Project	Soil	Strontium	Haul Road_Average_Project_Soil_Strontium	0	mg/kg	
159	Haul Road_Average	Project	Soil	Vanadium	Haul Road_Average_Project_Soil_Vanadium	0	mg/kg	
160	Haul Road_Average	Project	Soil	Zinc	Haul Road_Average_Project_Soil_Zinc	0	mg/kg	
121	Haul Road_Average	Baseline	Surface Soil	Aluminum	Haul Road_Average_Baseline_Surface Soil_Aluminum	22400	mg/kg	90th percentile of samples
122	Haul Road_Average	Baseline	Surface Soil	Antimony	Haul Road_Average_Baseline_Surface Soil_Antimony	0.05	mg/kg	90th percentile of samples
123	Haul Road_Average	Baseline	Surface Soil	Arsenic	Haul Road_Average_Baseline_Surface Soil_Arsenic	10	mg/kg	90th percentile of samples
124	Haul Road_Average	Baseline	Surface Soil	Arsenic_cancer	Haul Road_Average_Baseline_Surface Soil_Arsenic_ca	10	mg/kg	90th percentile of samples
125	Haul Road_Average	Baseline	Surface Soil	Barium	Haul Road_Average_Baseline_Surface Soil_Barium	35	mg/kg	90th percentile of samples
126	Haul Road_Average	Baseline	Surface Soil	Beryllium	Haul Road_Average_Baseline_Surface Soil_Beryllium	0.4	mg/kg	90th percentile of samples
127	Haul Road_Average	Baseline	Surface Soil	Boron	Haul Road_Average_Baseline_Surface Soil_Boron	3	mg/kg	90th percentile of samples
128	Haul Road_Average	Baseline	Surface Soil	Cadmium	Haul Road_Average_Baseline_Surface Soil_Cadmium	0.11	mg/kg	90th percentile of samples

129	Haul Road_Average	Baseline	Surface Soil	Chromium	Haul Road_Average_Baseline_Surface Soil_Chromium	21	mg/kg	90th percentile of samples
130	Haul Road_Average	Baseline	Surface Soil	Cobalt	Haul Road_Average_Baseline_Surface Soil_Cobalt	10.2	mg/kg	90th percentile of samples
131	Haul Road_Average	Baseline	Surface Soil	Copper	Haul Road_Average_Baseline_Surface Soil_Copper	10	mg/kg	90th percentile of samples
132	Haul Road_Average	Baseline	Surface Soil	Lead	Haul Road_Average_Baseline_Surface Soil_Lead	16.4	mg/kg	90th percentile of samples
133	Haul Road_Average	Baseline	Surface Soil	Manganese	Haul Road_Average_Baseline_Surface Soil_Manganese	801	mg/kg	90th percentile of samples
134	Haul Road_Average	Baseline	Surface Soil	Mercury	Haul Road_Average_Baseline_Surface Soil_Mercury	0.1	mg/kg	90th percentile of samples
135	Haul Road_Average	Baseline	Surface Soil	Molybdenum	Haul Road_Average_Baseline_Surface Soil_Molybdenu	0.5	mg/kg	90th percentile of samples
136	Haul Road_Average	Baseline	Surface Soil	Nickel	Haul Road_Average_Baseline_Surface Soil_Nickel	14	mg/kg	90th percentile of samples
137	Haul Road_Average	Baseline	Surface Soil	Silver	Haul Road_Average_Baseline_Surface Soil_Silver	0.1	mg/kg	90th percentile of samples
138	Haul Road_Average	Baseline	Surface Soil	Strontium	Haul Road_Average_Baseline_Surface Soil_Strontium	9	mg/kg	90th percentile of samples
139	Haul Road_Average	Baseline	Surface Soil	Vanadium	Haul Road_Average_Baseline_Surface Soil_Vanadium	35	mg/kg	90th percentile of samples
140	Haul Road_Average	Baseline	Surface Soil	Zinc	Haul Road_Average_Baseline_Surface Soil_Zinc	36	mg/kg	90th percentile of samples
141	Haul Road_Average	Project	Surface Soil	Aluminum	Haul Road_Average_Project_Surface Soil_Aluminum	0	mg/kg	
142	Haul Road_Average	Project	Surface Soil	Antimony	Haul Road_Average_Project_Surface Soil_Antimony	0	mg/kg	
143	Haul Road_Average	Project	Surface Soil	Arsenic	Haul Road_Average_Project_Surface Soil_Arsenic	0	mg/kg	
144	Haul Road_Average	Project	Surface Soil	Arsenic_cancer	Haul Road_Average_Project_Surface Soil_Arsenic_canc	0	mg/kg	
145	Haul Road_Average	Project	Surface Soil	Barium	Haul Road_Average_Project_Surface Soil_Barium	0	mg/kg	
146	Haul Road_Average	Project	Surface Soil	Beryllium	Haul Road_Average_Project_Surface Soil_Beryllium	0	mg/kg	
147	Haul Road_Average	Project	Surface Soil	Boron	Haul Road_Average_Project_Surface Soil_Boron	0	mg/kg	
148	Haul Road_Average	Project	Surface Soil	Cadmium	Haul Road_Average_Project_Surface Soil_Cadmium	0	mg/kg	
149	Haul Road_Average	Project	Surface Soil	Chromium	Haul Road_Average_Project_Surface Soil_Chromium	0	mg/kg	
150	Haul Road_Average	Project	Surface Soil	Cobalt	Haul Road_Average_Project_Surface Soil_Cobalt	0	mg/kg	
151	Haul Road_Average	Project	Surface Soil	Copper	Haul Road_Average_Project_Surface Soil_Copper	0	mg/kg	
152	Haul Road_Average	Project	Surface Soil	Lead	Haul Road_Average_Project_Surface Soil_Lead	0	mg/kg	
153	Haul Road_Average	Project	Surface Soil	Manganese	Haul Road_Average_Project_Surface Soil_Manganese	0	mg/kg	
154	Haul Road_Average	Project	Surface Soil	Mercury	Haul Road_Average_Project_Surface Soil_Mercury	0	mg/kg	
155	Haul Road_Average	Project	Surface Soil	Molybdenum	Haul Road_Average_Project_Surface Soil_Molybdenum	0	mg/kg	
156	Haul Road_Average	Project	Surface Soil	Nickel	Haul Road_Average_Project_Surface Soil_Nickel	0	mg/kg	
157	Haul Road_Average	Project	Surface Soil	Silver	Haul Road_Average_Project_Surface Soil_Silver	0	mg/kg	
158	Haul Road_Average	Project	Surface Soil	Strontium	Haul Road_Average_Project_Surface Soil_Strontium	0	mg/kg	
159	Haul Road_Average	Project	Surface Soil	Vanadium	Haul Road_Average_Project_Surface Soil_Vanadium	0	mg/kg	
160	Haul Road_Average	Project	Surface Soil	Zinc	Haul Road_Average_Project_Surface Soil_Zinc	0	mg/kg	
161	Haul Road_Average	Baseline	Berries	Aluminum	Haul Road_Average_Baseline_Berries_Aluminum	20.667	mg/kg-DW	90th percentile of samples
162	Haul Road_Average	Baseline	Berries	Antimony	Haul Road_Average_Baseline_Berries_Antimony	0.0167	mg/kg-DW	90th percentile of samples
163	Haul Road_Average	Baseline	Berries	Arsenic	Haul Road_Average_Baseline_Berries_Arsenic	0.0667	mg/kg-DW	90th percentile of samples
164	Haul Road_Average	Baseline	Berries	Arsenic_cancer	Haul Road_Average_Baseline_Berries_Arsenic_cancer	0.0667	mg/kg-DW	90th percentile of samples
165	Haul Road_Average	Baseline	Berries	Barium	Haul Road_Average_Baseline_Berries_Barium	17	mg/kg-DW	90th percentile of samples
166	Haul Road_Average	Baseline	Berries	Beryllium	Haul Road_Average_Baseline_Berries_Beryllium	0.0167	mg/kg-DW	90th percentile of samples
167	Haul Road_Average	Baseline	Berries	Boron	Haul Road_Average_Baseline_Berries_Boron	20.3	mg/kg-DW	90th percentile of samples
168	Haul Road_Average	Baseline	Berries	Cadmium	Haul Road_Average_Baseline_Berries_Cadmium	0.17867	mg/kg-DW	90th percentile of samples
169	Haul Road_Average	Baseline	Berries	Chromium	Haul Road_Average_Baseline_Berries_Chromium	0.533	mg/kg-DW	90th percentile of samples
170	Haul Road_Average	Baseline	Berries	Cobalt	Haul Road_Average_Baseline_Berries_Cobalt	0.16	mg/kg-DW	90th percentile of samples
171	Haul Road_Average	Baseline	Berries	Copper	Haul Road_Average_Baseline_Berries_Copper	7.73	mg/kg-DW	90th percentile of samples
172	Haul Road_Average	Baseline	Berries	Lead	Haul Road_Average_Baseline_Berries_Lead	0.02	mg/kg-DW	90th percentile of samples
173	Haul Road_Average	Baseline	Berries	Manganese	Haul Road_Average_Baseline_Berries_Manganese	648.7	mg/kg-DW	90th percentile of samples
174	Haul Road_Average	Baseline	Berries	Mercury	Haul Road_Average_Baseline_Berries_Mercury	0.0333	mg/kg-DW	90th percentile of samples
175	Haul Road_Average	Baseline	Berries	Molybdenum	Haul Road_Average_Baseline_Berries_Molybdenum	0.307	mg/kg-DW	90th percentile of samples
176	Haul Road_Average	Baseline	Berries	Nickel	Haul Road_Average_Baseline_Berries_Nickel	3.73	mg/kg-DW	90th percentile of samples
177	Haul Road_Average	Baseline	Berries	Silver	Haul Road_Average_Baseline_Berries_Silver	0.0167	mg/kg-DW	90th percentile of samples
178	Haul Road_Average	Baseline	Berries	Strontium	Haul Road_Average_Baseline_Berries_Strontium	24.8	mg/kg-DW	90th percentile of samples
179	Haul Road_Average	Baseline	Berries	Vanadium	Haul Road_Average_Baseline_Berries_Vanadium	0.0667	mg/kg-DW	90th percentile of samples
180	Haul Road_Average	Baseline	Berries	Zinc	Haul Road_Average_Baseline_Berries_Zinc	27.733	mg/kg-DW	90th percentile of samples
181	Haul Road_Average	Project	Berries	Aluminum	Haul Road_Average_Project_Berries_Aluminum	0	mg/kg-DW	
182	Haul Road_Average	Project	Berries	Antimony	Haul Road_Average_Project_Berries_Antimony	0	mg/kg-DW	
183	Haul Road_Average	Project	Berries	Arsenic	Haul Road_Average_Project_Berries_Arsenic	0	mg/kg-DW	
184	Haul Road_Average	Project	Berries	Arsenic_cancer	Haul Road_Average_Project_Berries_Arsenic_cancer	0	mg/kg-DW	
185	Haul Road_Average	Project	Berries	Barium	Haul Road_Average_Project_Berries_Barium	0	mg/kg-DW	
186	Haul Road_Average	Project	Berries	Beryllium	Haul Road_Average_Project_Berries_Beryllium	0	mg/kg-DW	
187	Haul Road_Average	Project	Berries	Boron	Haul Road_Average_Project_Berries_Boron	0	mg/kg-DW	
188	Haul Road_Average	Project	Berries	Cadmium	Haul Road_Average_Project_Berries_Cadmium	0	mg/kg-DW	
189	Haul Road_Average	Project	Berries	Chromium	Haul Road_Average_Project_Berries_Chromium	0	mg/kg-DW	
190	Haul Road_Average	Project	Berries	Cobalt	Haul Road_Average_Project_Berries_Cobalt	0	mg/kg-DW	
191	Haul Road_Average	Project	Berries	Copper	Haul Road_Average_Project_Berries_Copper	0	mg/kg-DW	
192	Haul Road_Average	Project	Berries	Lead	Haul Road_Average_Project_Berries_Lead	0	mg/kg-DW	
193	Haul Road_Average	Project	Berries	Manganese	Haul Road_Average_Project_Berries_Manganese	0	mg/kg-DW	
194	Haul Road_Average	Project	Berries	Mercury	Haul Road_Average_Project_Berries_Mercury	0	mg/kg-DW	
195	Haul Road_Average	Project	Berries	Molybdenum	Haul Road_Average_Project_Berries_Molybdenum	0	mg/kg-DW	
196	Haul Road_Average	Project	Berries	Nickel	Haul Road_Average_Project_Berries_Nickel	0	mg/kg-DW	
197	Haul Road_Average	Project	Berries	Silver	Haul Road_Average_Project_Berries_Silver	0	mg/kg-DW	
198	Haul Road_Average	Project	Berries	Strontium	Haul Road_Average_Project_Berries_Strontium	0	mg/kg-DW	
199	Haul Road_Average	Project	Berries	Vanadium	Haul Road_Average_Project_Berries_Vanadium	0	mg/kg-DW	
200	Haul Road_Average	Project	Berries	Zinc	Haul Road_Average_Project_Berries_Zinc	0	mg/kg-DW	
201	Haul Road_Average	Baseline	Leaves	Aluminum	Haul Road_Average_Baseline_Leaves_Aluminum	220.6	mg/kg-DW	90th percentile of samples
202	Haul Road_Average	Baseline	Leaves	Antimony	Haul Road_Average_Baseline_Leaves_Antimony	0.00781	mg/kg-DW	90th percentile of samples
203	Haul Road_Average	Baseline	Leaves	Arsenic	Haul Road_Average_Baseline_Leaves_Arsenic	0.03125	mg/kg-DW	90th percentile of samples
204	Haul Road_Average	Baseline	Leaves	Arsenic_cancer	Haul Road_Average_Baseline_Leaves_Arsenic_cancer	0.03125	mg/kg-DW	90th percentile of samples
205	Haul Road_Average	Baseline	Leaves	Barium	Haul Road_Average_Baseline_Leaves_Barium	116.9	mg/kg-DW	90th percentile of samples
206	Haul Road_Average	Baseline	Leaves	Beryllium	Haul Road_Average_Baseline_Leaves_Beryllium	0.00781	mg/kg-DW	90th percentile of samples
207	Haul Road_Average	Baseline	Leaves	Boron	Haul Road_Average_Baseline_Leaves_Boron	59.4	mg/kg-DW	90th percentile of samples
208	Haul Road_Average	Baseline	Leaves	Cadmium	Haul Road_Average_Baseline_Leaves_Cadmium	0.185	mg/kg-DW	90th percentile of samples
209	Haul Road_Average	Baseline	Leaves	Chromium	Haul Road_Average_Baseline_Leaves_Chromium	0.25	mg/kg-DW	90th percentile of samples
210	Haul Road_Average	Baseline	Leaves	Cobalt	Haul Road_Average_Baseline_Leaves_Cobalt	0.166	mg/kg-DW	90th percentile of samples
211	Haul Road_Average	Baseline	Leaves	Copper	Haul Road_Average_Baseline_Leaves_Copper	7.34	mg/kg-DW	90th percentile of samples
212	Haul Road_Average	Baseline	Leaves	Lead	Haul Road_Average_Baseline_Leaves_Lead	0.1406	mg/kg-DW	90th percentile of samples
213	Haul Road_Average	Baseline	Leaves	Manganese	Haul Road_Average_Baseline_Leaves_Manganese	4469	mg/kg-DW	90th percentile of samples
214	Haul Road_Average	Baseline	Leaves	Mercury	Haul Road_Average_Baseline_Leaves_Mercury	0.01563	mg/kg-DW	90th percentile of samples
215	Haul Road_Average	Baseline	Leaves	Molybdenum	Haul Road_Average_Baseline_Leaves_Molybdenum	0.272	mg/kg-DW	90th percentile of samples
216	Haul Road_Average	Baseline	Leaves	Nickel	Haul Road_Average_Baseline_Leaves_Nickel	2.75	mg/kg-DW	90th percentile of samples
217	Haul Road_Average	Baseline	Leaves	Silver	Haul Road_Average_Baseline_Leaves_Silver	0.00781	mg/kg-DW	90th percentile of samples
218	Haul Road_Average	Baseline	Leaves	Strontium	Haul Road_Average_Baseline_Leaves_Strontium	95.6	mg/kg-DW	90th percentile of samples
219	Haul Road_Average	Baseline	Leaves	Vanadium	Haul Road_Average_Baseline_Leaves_Vanadium	0.125	mg/kg-DW	90th percentile of samples
220	Haul Road_Average	Baseline	Leaves	Zinc	Haul Road_Average_Baseline_Leaves_Zinc	34.4	mg/kg-DW	90th percentile of samples
221	Haul Road_Average	Project	Leaves	Aluminum	Haul Road_Average_Project_Leaves_Aluminum	0	mg/kg-DW	
222	Haul Road_Average	Project	Leaves	Antimony	Haul Road_Average_Project_Leaves_Antimony	0	mg/kg-DW	
223	Haul Road_Average	Project	Leaves	Arsenic	Haul Road_Average_Project_Leaves_Arsenic	0	mg/kg-DW	
224	Haul Road_Average	Project	Leaves	Arsenic_cancer	Haul Road_Average_Project_Leaves_Arsenic_cancer	0	mg/kg-DW	
225	Haul Road_Average	Project	Leaves	Barium	Haul Road_Average_Project_Leaves_Barium	0	mg/kg-DW	
226	Haul Road_Average	Project	Leaves	Beryllium	Haul Road_Average_Project_Leaves_Beryllium	0	mg/kg-DW	
227	Haul Road_Average	Project	Leaves	Boron	Haul Road_Average_Project_Leaves_Boron	0	mg/kg-DW	
228	Haul Road_Average	Project	Leaves	Cadmium	Haul Road_Average_Project_Leaves_Cadmium	0	mg/kg-DW	
229	Haul Road_Average	Project	Leaves	Chromium	Haul Road_Average_Project_Leaves_Chromium	0	mg/kg-DW	
230	Haul Road_Average	Project	Leaves	Cobalt	Haul Road_Average_Project_Leaves_Cobalt	0	mg/kg-DW	
231	Haul Road_Average	Project	Leaves	Copper	Haul Road_Average_Project_Leaves_Copper	0	mg/kg-DW	
232	Haul Road_Average	Project	Leaves	Lead	Haul Road_Average_Project_Leaves_Lead	0	mg/kg-DW	
233	Haul Road_Average	Project	Leaves	Manganese	Haul Road_Average_Project_Leaves_Manganese	0	mg/kg-DW	
234	Haul Road_Average	Project	Leaves	Mercury	Haul Road_Average_Project_Leaves_Mercury	0	mg/kg-DW	
235	Haul Road_Average	Project	Leaves	Molybdenum	Haul Road_Average_Project_Leaves_Molybdenum	0	mg/kg-DW	
236	Haul Road_Average	Project	Leaves	Nickel	Haul Road_Average_Project_Leaves_Nickel	0	mg/kg-DW	
237	Haul Road_Average	Project	Leaves	Silver	Haul Road_Average_Project_Leaves_Silver	0	mg/kg-DW	
238	Haul Road_Average	Project	Leaves	Strontium	Haul Road_Average_Project_Leaves_Strontium	0	mg/kg-DW	
239	Haul Road_Average	Project	Leaves	Vanadium	Haul Road_Average_Project_Leaves_Vanadium	0	mg/kg-DW	
240	Haul Road_Average	Project	Leaves	Zinc	Haul Road_Average_Project_Leaves_Zinc	0	mg/kg-DW	
241	Haul Road_Max	Baseline	Water	Aluminum	Haul Road_Max_Baseline_Water_Aluminum	0.244	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
242	Haul Road_Max	Baseline	Water	Antimony	Haul Road_Max_Baseline_Water_Antimony	0.0005	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
243	Haul Road_Max	Baseline	Water	Arsenic	Haul Road_Max_Baseline_Water_Arsenic	0.00181	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
244	Haul Road_Max	Baseline	Water	Arsenic_cancer	Haul Road_Max_Baseline_Water_Arsenic_cancer	0.00181	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
245	Haul Road_Max	Baseline	Water	Barium	Haul Road_Max_Baseline_Water_Barium	0.00336	mg/L	Mean baseline concentration from Killag River (chemical only analyzed in 2019 samples)
246	Haul Road_Max	Baseline	Water	Beryllium	Haul Road_Max_Baseline_Water_Beryllium	0.0005	mg/L	Mean baseline concentration from Killag River (chemical only analyzed in 2019 samples)
247	Haul Road_Max	Baseline	Water	Boron	Haul Road_Max_Baseline_Water_Boron	0.025	mg/L	Mean baseline concentration from Killag River (chemical only analyzed in 2019 samples)
248	Haul Road_Max	Baseline	Water	Cadmium	Haul Road_Max_Baseline_Water_Cadmium	0.00002	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
249	Haul Road_Max	Baseline	Water	Chromium	Haul Road_Max_Baseline_Water_Chromium	0.0007	mg/L	Mean baseline concentration from Killag River (chemical only analyzed in 2019 samples)
250	Haul Road_Max	Baseline	Water	Cobalt	Haul Road_Max_Baseline_Water_Cobalt	0.00027	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
251	Haul Road_Max	Baseline	Water	Copper	Haul Road_Max_Baseline_Water_Copper	0.00071	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
252	Haul Road_Max	Baseline	Water	Lead	Haul Road_Max_Baseline_Water_Lead	0.00031	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
253	Haul Road_Max	Baseline	Water	Manganese	Haul Road_Max_Baseline_Water_Manganese	0.0447	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
254	Haul Road_Max	Baseline	Water	Mercury	Haul Road_Max_Baseline_Water_Mercury	7.07E-06	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
255	Haul Road_Max	Baseline	Water	Molybdenum	Haul Road_Max_Baseline_Water_Molybdenum	0.0024	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
256	Haul Road_Max	Baseline	Water	Nickel	Haul Road_Max_Baseline_Water_Nickel	0.00111	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
257	Haul Road_Max	Baseline	Water	Silver	Haul Road_Max_Baseline_Water_Silver	0.00005	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
258	Haul Road_Max	Baseline	Water	Strontium	Haul Road_Max_Baseline_Water_Strontium	0.00626	mg/L	Mean baseline concentration from Killag River (chemical only analyzed in 2019 samples)
259	Haul Road_Max	Baseline	Water	Vanadium	Haul Road_Max_Baseline_Water_Vanadium	0.001	mg/L	Mean baseline concentration from Killag River (chemical only analyzed in 2019 samples)
260	Haul Road_Max	Baseline	Water	Zinc	Haul Road_Max_Baseline_Water_Zinc	0.00348	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
261	Haul Road_Max	Project	Water	Aluminum	Haul Road_Max_Project_Water_Aluminum	0	mg/L	Calculated project case concentration is less than '0'; therefore, assumed concentration is '0'
262	Haul Road_Max	Project	Water	Antimony	Haul Road_Max_Project_Water_Antimony	0	mg/L	Calculated project case concentration is less than '0'; therefore, assumed concentration is '0'
263	Haul Road_Max	Project	Water	Arsenic	Haul Road_Max_Project_Water_Arsenic	0.00109883	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
264	Haul Road_Max	Project	Water	Arsenic_cancer	Haul Road_Max_Project_Water_Arsenic_cancer	0.00109883	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
265	Haul Road_Max	Project	Water	Barium	Haul Road_Max_Project_Water_Barium	0	mg/L	not predicted
266	Haul Road_Max	Project	Water	Beryllium	Haul Road_Max_Project_Water_Beryllium	0	mg/L	not predicted
267	Haul Road_Max	Project	Water	Boron	Haul Road_Max_Project_Water_Boron	0	mg/L	not predicted
268	Haul Road_Max	Project	Water	Cadmium	Haul Road_Max_Project_Water_Cadmium	3.797E-06	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
269	Haul Road_Max	Project	Water	Chromium	Haul Road_Max_Project_Water_Chromium	0	mg/L	not predicted
270	Haul Road_Max	Project	Water	Cobalt	Haul Road_Max_Project_Water_Cobalt	0.00027278	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
271	Haul Road_Max	Project	Water	Copper	Haul Road_Max_Project_Water_Copper	0.0001862	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
272	Haul Road_Max	Project	Water	Lead	Haul Road_Max_Project_Water_Lead	7.5334E-05	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
273	Haul Road_Max	Project	Water	Manganese	Haul Road_Max_Project_Water_Manganese	0.00390201	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
274	Haul Road_Max	Project	Water	Mercury	Haul Road_Max_Project_Water_Mercury	1.69E-06	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
275	Haul Road_Max	Project	Water	Molybdenum	Haul Road_Max_Project_Water_Molybdenum	0.00160394	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
276	Haul Road_Max	Project	Water	Nickel	Haul Road_Max_Project_Water_Nickel	0.00293856	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
277	Haul Road_Max	Project	Water	Silver	Haul Road_Max_Project_Water_Silver	1.1096E-06	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
278	Haul Road_Max	Project	Water	Strontium	Haul Road_Max_Project_Water_Strontium	0	mg/L	not predicted
279	Haul Road_Max	Project	Water	Vanadium	Haul Road_Max_Project_Water_Vanadium	0	mg/L	not predicted
280	Haul Road_Max	Project	Water	Zinc	Haul Road_Max_Project_Water_Zinc	0.00173484	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
281	Haul Road_Average	Baseline	Water	Aluminum	Haul Road_Average_Baseline_Water_Aluminum	0.244	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
282	Haul Road_Average	Baseline	Water	Antimony	Haul Road_Average_Baseline_Water_Antimony	0.0005	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
283	Haul Road_Average	Baseline	Water	Arsenic	Haul Road_Average_Baseline_Water_Arsenic	0.00181	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
284	Haul Road_Average	Baseline	Water	Arsenic_cancer	Haul Road_Average_Baseline_Water_Arsenic_cancer	0.00181	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
285	Haul Road_Average	Baseline	Water	Barium	Haul Road_Average_Baseline_Water_Barium	0.00336	mg/L	Mean baseline concentration from Killag River (chemical only analyzed in 2019 samples)
286	Haul Road_Average	Baseline	Water	Beryllium	Haul Road_Average_Baseline_Water_Beryllium	0.0005	mg/L	Mean baseline concentration from Killag River (chemical only analyzed in 2019 samples)
287	Haul Road_Average	Baseline	Water	Boron	Haul Road_Average_Baseline_Water_Boron	0.025	mg/L	Mean baseline concentration from Killag River (chemical only analyzed in 2019 samples)
288	Haul Road_Average	Baseline	Water	Cadmium	Haul Road_Average_Baseline_Water_Cadmium	0.00002	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
289	Haul Road_Average	Baseline	Water	Chromium	Haul Road_Average_Baseline_Water_Chromium	0.0007	mg/L	Mean baseline concentration from Killag River (chemical only analyzed in 2019 samples)
290	Haul Road_Average	Baseline	Water	Cobalt	Haul Road_Average_Baseline_Water_Cobalt	0.00027	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
291	Haul Road_Average	Baseline	Water	Copper	Haul Road_Average_Baseline_Water_Copper	0.00071	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
292	Haul Road_Average	Baseline	Water	Lead	Haul Road_Average_Baseline_Water_Lead	0.00031	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
293	Haul Road_Average	Baseline	Water	Manganese	Haul Road_Average_Baseline_Water_Manganese	0.0447	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
294	Haul Road_Average	Baseline	Water	Mercury	Haul Road_Average_Baseline_Water_Mercury	7.07E-06	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
295	Haul Road_Average	Baseline	Water	Molybdenum	Haul Road_Average_Baseline_Water_Molybdenum	0.0024	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
296	Haul Road_Average	Baseline	Water	Nickel	Haul Road_Average_Baseline_Water_Nickel	0.00111	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
297	Haul Road_Average	Baseline	Water	Silver	Haul Road_Average_Baseline_Water_Silver	0.00005	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
298	Haul Road_Average	Baseline	Water	Strontium	Haul Road_Average_Baseline_Water_Strontium	0.00626	mg/L	Mean baseline concentration from Killag River (chemical only analyzed in 2019 samples)
299	Haul Road_Average	Baseline	Water	Vanadium	Haul Road_Average_Baseline_Water_Vanadium	0.001	mg/L	Mean baseline concentration from Killag River (chemical only analyzed in 2019 samples)
300	Haul Road_Average	Baseline	Water	Zinc	Haul Road_Average_Baseline_Water_Zinc	0.00348	mg/L	Mean baseline concentration from Killag River (Table 3-1 of Aquatic Report)
301	Haul Road_Average	Project	Water	Aluminum	Haul Road_Average_Project_Water_Aluminum	0	mg/L	Calculated project case concentration is less than '0'; therefore, assumed concentration is '0'
302	Haul Road_Average	Project	Water	Antimony	Haul Road_Average_Project_Water_Antimony	0	mg/L	Calculated project case concentration is less than '0'; therefore, assumed concentration is '0'
303	Haul Road_Average	Project	Water	Arsenic	Haul Road_Average_Project_Water_Arsenic	0.00109883	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
304	Haul Road_Average	Project	Water	Arsenic_cancer	Haul Road_Average_Project_Water_Arsenic_cancer	0.00109883	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
305	Haul Road_Average	Project	Water	Barium	Haul Road_Average_Project_Water_Barium	0	mg/L	not predicted
306	Haul Road_Average	Project	Water	Beryllium	Haul Road_Average_Project_Water_Beryllium	0	mg/L	not predicted
307	Haul Road_Average	Project	Water	Boron	Haul Road_Average_Project_Water_Boron	0	mg/L	not predicted
308	Haul Road_Average	Project	Water	Cadmium	Haul Road_Average_Project_Water_Cadmium	3.797E-06	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
309	Haul Road_Average	Project	Water	Chromium	Haul Road_Average_Project_Water_Chromium	0	mg/L	not predicted
310	Haul Road_Average	Project	Water	Cobalt	Haul Road_Average_Project_Water_Cobalt	0.00027278	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
311	Haul Road_Average	Project	Water	Copper	Haul Road_Average_Project_Water_Copper	0.0001862	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
312	Haul Road_Average	Project	Water	Lead	Haul Road_Average_Project_Water_Lead	7.5334E-05	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
313	Haul Road_Average	Project	Water	Manganese	Haul Road_Average_Project_Water_Manganese	0.00390201	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
314	Haul Road_Average	Project	Water	Mercury	Haul Road_Average_Project_Water_Mercury	1.69E-06	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
315	Haul Road_Average	Project	Water	Molybdenum	Haul Road_Average_Project_Water_Molybdenum	0.00160394	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
316	Haul Road_Average	Project	Water	Nickel	Haul Road_Average_Project_Water_Nickel	0.00293856	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
317	Haul Road_Average	Project	Water	Silver	Haul Road_Average_Project_Water_Silver	1.1096E-06	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
318	Haul Road_Average	Project	Water	Strontium	Haul Road_Average_Project_Water_Strontium	0	mg/L	not predicted
319	Haul Road_Average	Project	Water	Vanadium	Haul Road_Average_Project_Water_Vanadium	0	mg/L	not predicted
320	Haul Road_Average	Project	Water	Zinc	Haul Road_Average_Project_Water_Zinc	0.00173484	mg/L	Highest Near Field Upper Case mean concentration (among PC Pit Lake, EOM North Settling Pond and EOM East Pond Discharge Points in Killag River) minus mean Baseline concentration in Killag River
321	Haul Road_Max	Baseline	Soil	Methylmercury	Haul Road_Max_Baseline_Soil_Methylmercury	2.00E-03	mg/kg	Assumed 2% of total mercury (US EPA 2005)
322	Haul Road_Max	Project	Soil	Methylmercury	Haul Road_Max_Project_Soil_Methylmercury	0.00E+00	mg/kg	Assumed 2% of total mercury (US EPA 2005)
323	Haul Road_Max	Baseline	Surface Soil	Methylmercury	Haul Road_Max_Baseline_Surface Soil_Methylmercury	2.00E-03	mg/kg	Assumed 2% of total mercury (US EPA 2005)
324	Haul Road_Max	Project	Surface Soil	Methylmercury	Haul Road_Max_Project_Surface Soil_Methylmercury	0.00E+00	mg/kg	Assumed 2% of total mercury (US EPA 2005)
325	Haul Road_Average	Baseline	Soil	Methylmercury	Haul Road_Average_Baseline_Soil_Methylmercury	2.00E-03	mg/kg	Assumed 2% of total mercury (US EPA 2005)
326	Haul Road_Average	Project	Soil	Methylmercury	Haul Road_Average_Project_Soil_Methylmercury	0.00E+00	mg/kg	Assumed 2% of total mercury (US EPA 2005)
327	Haul Road_Average	Baseline	Surface Soil	Methylmercury	Haul Road_Average_Baseline_Surface Soil_Methylmerc	2.00E-03	mg/kg	Assumed 2% of total mercury (US EPA 2005)
328	Haul Road_Average	Project	Surface Soil	Methylmercury	Haul Road_Average_Project_Surface Soil_Methylmercu	0.00E+00	mg/kg	Assumed 2% of total mercury (US EPA 2005)
329	Haul Road_Max	Baseline	Water	Methylmercury	Haul Road_Max_Baseline_Water_Methylmercury	4.17E-07	mg/L	Assumed 5.9% of mercury (95UCLM; Krabbenhoft et al., 1999)
330	Haul Road_Max	Project	Water	Methylmercury	Haul Road_Max_Project_Water_Methylmercury	1.00E-07	mg/L	Assumed 5.9% of mercury (95UCLM; Krabbenhoft et al., 1999)
331	Haul Road_Average	Baseline	Water	Methylmercury	Haul Road_Average_Baseline_Water_Methylmercury	4.17E-07	mg/L	Assumed 5.9% of mercury (95UCLM; Krabbenhoft et al., 1999)
332	Haul Road_Average	Project	Water	Methylmercury	Haul Road_Average_Project_Water_Methylmercury	1.00E-07	mg/L	Assumed 5.9% of mercury (95UCLM; Krabbenhoft et al., 1999)

Bio-concentration Factors (BCFs)

Media	COPC	Abbreviation	Uptake Factor	Units	Comment
Berries	Aluminum	Berries_Aluminum	0.000922634	DW Basis	Based on site-specific data
Berries	Antimony	Berries_Antimony	0.0319	DW Basis	COPC 100% ND in berries; BCF based on US EPA OSW 2005
Berries	Arsenic	Berries_Arsenic	0.00633	DW Basis	COPC 100% ND in berries; BCF based on US EPA OSW 2005
Berries	Arsenic_cancer	Berries_Arsenic_cancer	0.00633	DW Basis	COPC 100% ND in berries; BCF based on US EPA OSW 2005
Berries	Barium	Berries_Barium	0.485714286	DW Basis	Based on site-specific data
Berries	Beryllium	Berries_Beryllium	0.00258	DW Basis	COPC 100% ND in berries; BCF based on US EPA OSW 2005
Berries	Boron	Berries_Boron	6.766666667	DW Basis	Based on site-specific data
Berries	Cadmium	Berries_Cadmium	1.624272727	DW Basis	Based on site-specific data
Berries	Chromium	Berries_Chromium	0.025380952	DW Basis	Based on site-specific data
Berries	Cobalt	Berries_Cobalt	0.015686275	DW Basis	Based on site-specific data
Berries	Copper	Berries_Copper	0.773	DW Basis	Based on site-specific data
Berries	Lead	Berries_Lead	0.001219512	DW Basis	Based on site-specific data
Berries	Manganese	Berries_Manganese	0.809862672	DW Basis	Based on site-specific data
Berries	Mercury	Berries_Mercury	0.9	DW Basis	COPC 100% ND in berries; BCF based on Baes et al. 1984
Berries	Methylmercury	Berries_Methylmercury	0.198	DW Basis	Assumed 22% of total mercury for plants (US EPA 2005)
Berries	Molybdenum	Berries_Molybdenum	0.614	DW Basis	Based on site-specific data
Berries	Nickel	Berries_Nickel	0.266428571	DW Basis	Based on site-specific data
Berries	Silver	Berries_Silver	0.138	DW Basis	COPC 100% ND in berries; BCF based on US EPA OSW 2005
Berries	Strontium	Berries_Strontium	2.755555556	DW Basis	Based on site-specific data
Berries	Vanadium	Berries_Vanadium	0.0055	DW Basis	COPC 100% ND in berries; BCF based on Baes et al. 1984
Berries	Zinc	Berries_Zinc	0.770361111	DW Basis	Based on site-specific data
Leaves	Aluminum	Leaves_Aluminum	0.009848214	DW Basis	Based on site-specific data
Leaves	Antimony	Leaves_Antimony	0.2	DW Basis	COPC 100% ND in leaves; BCF based on US EPA OSW 2005
Leaves	Arsenic	Leaves_Arsenic	0.003125	DW Basis	Based on site-specific data
Leaves	Arsenic_cancer	Leaves_Arsenic_cancer	0.003125	DW Basis	Based on site-specific data
Leaves	Barium	Leaves_Barium	3.34	DW Basis	Based on site-specific data
Leaves	Beryllium	Leaves_Beryllium	0.01	DW Basis	COPC 100% ND in leaves; BCF based on US EPA OSW 2005
Leaves	Boron	Leaves_Boron	19.8	DW Basis	Based on site-specific data
Leaves	Cadmium	Leaves_Cadmium	1.681818182	DW Basis	Based on site-specific data
Leaves	Chromium	Leaves_Chromium	0.011904762	DW Basis	Based on site-specific data
Leaves	Cobalt	Leaves_Cobalt	0.01627451	DW Basis	Based on site-specific data
Leaves	Copper	Leaves_Copper	0.734	DW Basis	Based on site-specific data
Leaves	Lead	Leaves_Lead	0.008573171	DW Basis	Based on site-specific data
Leaves	Manganese	Leaves_Manganese	5.579275905	DW Basis	Based on site-specific data
Leaves	Mercury	Leaves_Mercury	0.9	DW Basis	COPC 100% ND in leaves; BCF based on Baes et al. 1984
Leaves	Methylmercury	Leaves_Methylmercury	0.198	DW Basis	Assumed 22% of total mercury for plants (US EPA 2005)
Leaves	Molybdenum	Leaves_Molybdenum	0.544	DW Basis	Based on site-specific data
Leaves	Nickel	Leaves_Nickel	0.196428571	DW Basis	Based on site-specific data
Leaves	Silver	Leaves_Silver	0.4	DW Basis	COPC 100% ND in leaves; BCF based on US EPA OSW 2005
Leaves	Strontium	Leaves_Strontium	10.62222222	DW Basis	Based on site-specific data
Leaves	Vanadium	Leaves_Vanadium	0.003571429	DW Basis	Based on site-specific data
Leaves	Zinc	Leaves_Zinc	0.955555556	DW Basis	Based on site-specific data
Fish	Aluminum	Fish_Aluminum	1.28	L/kg-WW	Site-specific BCFs based on Cameron Flowage
Fish	Antimony	Fish_Antimony	40	L/kg-WW	Water-to-fish bioconcentration factor from US EPA (1999) Appendix C
Fish	Arsenic	Fish_Arsenic	22.90909091	L/kg-WW	Site-specific BCFs based on Cameron Flowage
Fish	Arsenic_cancer	Fish_Arsenic_cancer	22.90909091	L/kg-WW	Site-specific BCFs based on Cameron Flowage
Fish	Barium	Fish_Barium	17.5862069	L/kg-WW	Site-specific BCFs based on Cameron Flowage
Fish	Beryllium	Fish_Beryllium	62	L/kg-WW	Water-to-fish bioconcentration factor from US EPA (1999) Appendix C
Fish	Boron	Fish_Boron			no site-specific or literature-based BCFs available
Fish	Cadmium	Fish_Cadmium	228	L/kg-WW	Site-specific BCFs based on Cameron Flowage
Fish	Chromium	Fish_Chromium	22.6	L/kg-WW	Site-specific BCFs based on surrogate data from Scraggy Lake
Fish	Cobalt	Fish_Cobalt	17	L/kg-WW	Site-specific BCFs based on Cameron Flowage
Fish	Copper	Fish_Copper	3160	L/kg-WW	Site-specific BCFs based on Cameron Flowage
Fish	Lead	Fish_Lead	56.4	L/kg-WW	Site-specific BCFs based on Cameron Flowage
Fish	Manganese	Fish_Manganese	16.75675676	L/kg-WW	Site-specific BCFs based on Cameron Flowage
Fish	Mercury	Fish_Mercury	67384.61538	L/kg-WW	Site-specific BCFs based on Cameron Flowage
Fish	Molybdenum	Fish_Molybdenum	5	L/kg-WW	Site-specific BCFs based on surrogate data from Scraggy Lake
Fish	Nickel	Fish_Nickel	5	L/kg-WW	Site-specific BCFs based on surrogate data from Scraggy Lake
Fish	Silver	Fish_Silver	87.71	L/kg-WW	Water-to-fish bioconcentration factor from US EPA (1999) Appendix C
Fish	Strontium	Fish_Strontium	257.5757576	L/kg-WW	Site-specific BCFs based on Cameron Flowage
Fish	Vanadium	Fish_Vanadium	10	L/kg-WW	Site-specific BCFs based on surrogate data from Scraggy Lake
Fish	Zinc	Fish_Zinc	1660	L/kg-WW	Site-specific BCFs based on Cameron Flowage

Literature Derived Regression Models and Bio-concentration Factors for the ERA [DW basis]

Media	Chemical	Abbreviation	Constant	Slope	UF	Site Specific	Reference/Comment
Aquatic_Plant	Aluminum	Aquatic_Plant_Aluminum			9.45E+00	No	ATSDR 2008; Based on sampled tufts of aquatic moss Vuori et al. (1990)
Aquatic_Plant	Antimony	Aquatic_Plant_Antimony			4.31E+03	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Arsenic	Aquatic_Plant_Arsenic			8.56E+02	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Arsenic_cancer	Aquatic_Plant_Arsenic_cancer			8.56E+02	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Barium	Aquatic_Plant_Barium			7.59E+02	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Beryllium	Aquatic_Plant_Beryllium			4.12E+02	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Boron	Aquatic_Plant_Boron			1.00E+02	No	ATSDR 2010; Assumed <100
Aquatic_Plant	Cadmium	Aquatic_Plant_Cadmium			2.28E+03	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Chromium	Aquatic_Plant_Chromium			1.29E+04	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Chromium(VI)	Aquatic_Plant_Chromium(VI)			1.29E+04	No	Assumed = Cr
Aquatic_Plant	Cobalt	Aquatic_Plant_Cobalt			0.00E+00	No	No data
Aquatic_Plant	Copper	Aquatic_Plant_Copper			1.58E+03	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Lead	Aquatic_Plant_Lead			7.25E+02	No	ATSDR 2007; BCF for algae Eisler (1988)
Aquatic_Plant	Lithium	Aquatic_Plant_Lithium			0.00E+00	No	No data
Aquatic_Plant	Manganese	Aquatic_Plant_Manganese			1.50E+04	No	ATSDR 2012; Used mid-point value of 10,000-20,000
Aquatic_Plant	Mercury	Aquatic_Plant_Mercury			7.23E+04	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Methylmercury	Aquatic_Plant_Methylmercury			2.34E+05	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Molybdenum	Aquatic_Plant_Molybdenum			0.00E+00	No	No data
Aquatic_Plant	Nickel	Aquatic_Plant_Nickel			1.78E+02	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Selenium	Aquatic_Plant_Selenium			5.39E+03	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Silver	Aquatic_Plant_Silver			3.12E+04	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Strontium	Aquatic_Plant_Strontium			9.40E+03	No	ATSDR 2004; Maximum for floating vascular macrophytes
Aquatic_Plant	Thallium	Aquatic_Plant_Thallium			4.38E+04	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Aquatic_Plant	Tin	Aquatic_Plant_Tin			1.00E+02	No	ATSDR 2005
Aquatic_Plant	Titanium	Aquatic_Plant_Titanium			0.00E+00	No	No data
Aquatic_Plant	Uranium	Aquatic_Plant_Uranium			0.00E+00	No	No data
Aquatic_Plant	Vanadium	Aquatic_Plant_Vanadium			0.00E+00	No	No data
Aquatic_Plant	Zinc	Aquatic_Plant_Zinc			6.35E+03	No	US EPA OSW 1999 App C, Table C-4 Water-to-Algae BCF
Invert	Aluminum	Invert_Aluminum			5.30E-02	No	Sample et al 1998 App C, Table C.1
Invert	Antimony	Invert_Antimony			1.32E+00	No	US EPA OSW 1999 App C, Table C-1 Soil-to-Invert BCF
Invert	Arsenic	Invert_Arsenic	-1.42E+00	7.06E-01		No	Sample et al 1998, Table 12
Invert	Arsenic_cancer	Invert_Arsenic_cancer	-1.42E+00	7.06E-01		No	Sample et al 1998, Table 12
Invert	Barium	Invert_Barium			8.80E-02	No	Sample et al 1998 App C, Table C.1
Invert	Beryllium	Invert_Beryllium			2.50E-01	No	Sample et al 1998 App C, Table C.1
Invert	Boron	Invert_Boron			0.00E+00	No	Not available
Invert	Cadmium	Invert_Cadmium	2.11E+00	7.95E-01		No	Sample et al 1998, Table 12
Invert	Chromium	Invert_Chromium			1.10E+00	No	Sample et al 1998 App C, Table C.1
Invert	Chromium(VI)	Invert_Chromium(VI)			1.10E+00	No	Assumed = Cr
Invert	Cobalt	Invert_Cobalt			1.39E-01	No	Sample et al 1998 App C, Table C.1
Invert	Copper	Invert_Copper	1.68E+00	2.64E-01		No	Sample et al 1998, Table 12
Invert	Lead	Invert_Lead	-2.18E-01	8.07E-01		No	Sample et al 1998, Table 12
Invert	Lithium	Invert_Lithium			8.30E-02	No	Sample et al 1998 App C, Table C.1
Invert	Manganese	Invert_Manganese	-8.09E-01	6.82E-01		No	Sample et al 1998, Table 12
Invert	Mercury	Invert_Mercury	7.81E-02	3.37E-01		No	Sample et al 1998, Table 12
Invert	Methylmercury	Invert_Methylmercury	7.81E-02	3.37E-01		No	Assumed same as mercury
Invert	Molybdenum	Invert_Molybdenum			1.01E+00	No	Sample et al 1998 App C, Table C.1
Invert	Nickel	Invert_Nickel			1.66E+00	No	Sample et al 1998 App C, Table C.1
Invert	Selenium	Invert_Selenium	-7.50E-02	7.33E-01		No	Sample et al 1998, Table 12
Invert	Silver	Invert_Silver			4.53E+00	No	Sample et al 1998 App C, Table C.1
Invert	Strontium	Invert_Strontium			1.17E-01	No	Sample et al 1998 App C, Table C.1
Invert	Thallium	Invert_Thallium			0.00E+00	No	no data
Invert	Tin	Invert_Tin			0.00E+00	No	no data
Invert	Titanium	Invert_Titanium			0.00E+00	No	no data
Invert	Uranium	Invert_Uranium			3.30E-02	No	Sample et al 1998 App C, Table C.1
Invert	Vanadium	Invert_Vanadium			3.90E-02	No	Sample et al 1998 App C, Table C.1
Invert	Zinc	Invert_Zinc	4.45E+00	3.28E-01		No	Sample et al 1998, Table 12
Aquatic_Invert	Aluminum	Aquatic_Invert_Aluminum			4.07E+03	No	US EPA 1999 App C, Table C-3
Aquatic_Invert	Antimony	Aquatic_Invert_Antimony			7.00E+00	No	US EPA 1999 App C, Table C-3
Aquatic_Invert	Arsenic	Aquatic_Invert_Arsenic			7.30E+01	No	US EPA 1999 App C, Table C-3
Aquatic_Invert	Arsenic_cancer	Aquatic_Invert_Arsenic_cancer			7.30E+01	No	US EPA 1999 App C, Table C-3
Aquatic_Invert	Barium	Aquatic_Invert_Barium			2.00E+02	No	US EPA 1999 App C, Table C-3
Aquatic_Invert	Beryllium	Aquatic_Invert_Beryllium			4.50E+01	No	US EPA 1999 App C, Table C-3
Aquatic_Invert	Boron	Aquatic_Invert_Boron			4.07E+03	No	US EPA 1999 App C, Table C-3; not available - arithmetic mean of the recommended values for 14 inorganics with laboratory data available, as per US EPA 1999
Aquatic_Invert	Cadmium	Aquatic_Invert_Cadmium			3.46E+03	No	US EPA 1999 App C, Table C-3
Aquatic_Invert	Chromium	Aquatic_Invert_Chromium			3.00E+03	No	US EPA 1999 App C, Table C-3
Aquatic_Invert	Cobalt	Aquatic_Invert_Cobalt			4.07E+03	No	US EPA 1999 App C, Table C-3; not available - arithmetic mean of the recommended values for 14 inorganics with laboratory data available, as per US EPA 1999
Aquatic_Invert	Copper	Aquatic_Invert_Copper			3.72E+03	No	US EPA 1999 App C, Table C-3
Aquatic_Invert	Lead	Aquatic_Invert_Lead			5.06E+03	No	US EPA 1999 App C, Table C-3
Aquatic_Invert	Manganese	Aquatic_Invert_Manganese			4.07E+03	No	US EPA 1999 App C, Table C-3; not available - arithmetic mean of the recommended values for 14 inorganics with laboratory data available, as per US EPA 1999
Aquatic_Invert	Mercury	Aquatic_Invert_Mercury			4.07E+03	No	US EPA 1999 App C, Table C-3; not available - arithmetic mean of the recommended values for 14 inorganics with laboratory data available, as per US EPA 1999
Aquatic_Invert	Molybdenum	Aquatic_Invert_Molybdenum			4.07E+03	No	US EPA 1999 App C, Table C-3; not available - arithmetic mean of the recommended values for 14 inorganics with laboratory data available, as per US EPA 1999
Aquatic_Invert	Nickel	Aquatic_Invert_Nickel			2.80E+01	No	US EPA 1999 App C, Table C-3
Aquatic_Invert	Silver	Aquatic_Invert_Silver			2.98E+02	No	US EPA 1999 App C, Table C-3
Aquatic_Invert	Strontium	Aquatic_Invert_Strontium			4.07E+03	No	US EPA 1999 App C, Table C-3; not available - arithmetic mean of the recommended values for 14 inorganics with laboratory data available, as per US EPA 1999
Aquatic_Invert	Vanadium	Aquatic_Invert_Vanadium			4.07E+03	No	US EPA 1999 App C, Table C-3; not available - arithmetic mean of the recommended values for 14 inorganics with laboratory data available, as per US EPA 1999
Aquatic_Invert	Zinc	Aquatic_Invert_Zinc			4.58E+03	No	US EPA 1999 App C, Table C-3

Methyl Mercury Content of Foods

Food	Value	Reference
Berries	23%	US EPA 2001; Based on leafy vegetables
Leaves	23%	US EPA 2001; Based on leafy vegetables
Ruffed_Grouse	67%	US EPA 2001; Volume 3 Table 3-23, based on chicken
Snowshoe_Hare	57%	US EPA 2001; Volume 3 Table 3-23, based on wild deer
Mallard	67%	US EPA 2001; Volume 3 Table 3-23, based on chicken
Deer	57%	US EPA 2001; Volume 3 Table 3-23, based on wild deer

Bio transfer factors [day/kg FW]

Receptor	Chemical	Abbreviation	Value	Comment
Deer	Aluminum	Deer_Aluminum	0.0015	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Antimony	Deer_Antimony	0.001	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Arsenic	Deer_Arsenic	0.002	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Arsenic_cancer	Deer_Arsenic_cancer	0.002	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Barium	Deer_Barium	0.00015	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Beryllium	Deer_Beryllium	0.001	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Boron	Deer_Boron	0.0008	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Cadmium	Deer_Cadmium	0.00012	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Chromium	Deer_Chromium	0.0055	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Cobalt	Deer_Cobalt	0.02	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Copper	Deer_Copper	0.01	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Lead	Deer_Lead	0.0003	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Manganese	Deer_Manganese	0.0004	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Mercury	Deer_Mercury	0.00522	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Methylmercury	Deer_Methylmercury	0.00522	Assumed same as mercury
Deer	Molybdenum	Deer_Molybdenum	0.006	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Nickel	Deer_Nickel	0.006	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Silver	Deer_Silver	0.003	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Strontium	Deer_Strontium	0.0003	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Vanadium	Deer_Vanadium	0.0025	Literature based BTF (US EPA 2005; Baes et al 1984)
Deer	Zinc	Deer_Zinc	0.00009	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Aluminum	Ruffed_Grouse_Aluminu	0.0015	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Antimony	Ruffed_Grouse_Antimor	0.001	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Arsenic	Ruffed_Grouse_Arsenic	0.002	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Arsenic_cancer	Ruffed_Grouse_Arsenic_	0.002	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Barium	Ruffed_Grouse_Barium	0.00015	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Beryllium	Ruffed_Grouse_Berylliu	0.001	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Boron	Ruffed_Grouse_Boron	0.0008	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Cadmium	Ruffed_Grouse_Cadmiu	0.000191	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Chromium	Ruffed_Grouse_Chromiu	0.0055	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Cobalt	Ruffed_Grouse_Cobalt	0.02	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Copper	Ruffed_Grouse_Copper	0.01	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Lead	Ruffed_Grouse_Lead	0.0003	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Manganese	Ruffed_Grouse_Mangan	0.0004	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Mercury	Ruffed_Grouse_Mercury	0.0239	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Methylmercury	Ruffed_Grouse_Methylr	0.0239	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Molybdenum	Ruffed_Grouse_Molybd	0.006	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Nickel	Ruffed_Grouse_Nickel	0.006	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Silver	Ruffed_Grouse_Silver	0.003	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Strontium	Ruffed_Grouse_Strontiu	0.0003	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Vanadium	Ruffed_Grouse_Vanadiu	0.0025	Literature based BTF (US EPA 2005; Baes et al 1984)
Ruffed_Grouse	Zinc	Ruffed_Grouse_Zinc	0.00875	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Aluminum	Snowshoe_Hare_Alumir	0.0015	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Antimony	Snowshoe_Hare_Antimo	0.001	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Arsenic	Snowshoe_Hare_Arseni	0.002	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Arsenic_cancer	Snowshoe_Hare_Arseni	0.002	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Barium	Snowshoe_Hare_Barium	0.00015	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Beryllium	Snowshoe_Hare_Berylliu	0.001	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Boron	Snowshoe_Hare_Boron	0.0008	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Cadmium	Snowshoe_Hare_Cadmiu	0.00012	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Chromium	Snowshoe_Hare_Chrom	0.0055	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Cobalt	Snowshoe_Hare_Cobalt	0.02	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Copper	Snowshoe_Hare_Copper	0.01	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Lead	Snowshoe_Hare_Lead	0.0003	Literature based BTF (US EPA 2005; Baes et al 1984)

Snowshoe_Hare	Manganese	Snowshoe_Hare_Manga	0.0004	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Mercury	Snowshoe_Hare_Mercu	0.00522	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Methylmercury	Snowshoe_Hare_Methy	0.00522	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Molybdenum	Snowshoe_Hare_Molyb	0.006	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Nickel	Snowshoe_Hare_Nickel	0.006	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Silver	Snowshoe_Hare_Silver	0.003	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Strontium	Snowshoe_Hare_Stronti	0.0003	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Vanadium	Snowshoe_Hare_Vanadi	0.0025	Literature based BTF (US EPA 2005; Baes et al 1984)
Snowshoe_Hare	Zinc	Snowshoe_Hare_Zinc	0.00009	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Aluminum	Mallard_Aluminum	0.0015	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Antimony	Mallard_Antimony	0.001	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Arsenic	Mallard_Arsenic	0.002	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Arsenic_cancer	Mallard_Arsenic_cancer	0.002	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Barium	Mallard_Barium	0.00015	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Beryllium	Mallard_Beryllium	0.001	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Boron	Mallard_Boron	0.0008	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Cadmium	Mallard_Cadmium	0.000191	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Chromium	Mallard_Chromium	0.0055	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Cobalt	Mallard_Cobalt	0.02	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Copper	Mallard_Copper	0.01	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Lead	Mallard_Lead	0.0003	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Manganese	Mallard_Manganese	0.0004	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Mercury	Mallard_Mercury	0.0239	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Methylmercury	Mallard_Methylmercury	0.0239	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Molybdenum	Mallard_Molybdenum	0.006	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Nickel	Mallard_Nickel	0.006	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Silver	Mallard_Silver	0.003	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Strontium	Mallard_Strontium	0.0003	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Vanadium	Mallard_Vanadium	0.0025	Literature based BTF (US EPA 2005; Baes et al 1984)
Mallard	Zinc	Mallard_Zinc	0.00875	Literature based BTF (US EPA 2005; Baes et al 1984)

Site-Specific BCF Calculation

Area	Chemical	Measured Concentrations [mg/kg-DW]			Site-specific BCFs	
		Soil	Berries	Leaves	Berries	Leaves
Haul Road_Max	Aluminum	22400	20.667	220.6	0.000922634	0.009848214
Haul Road_Max	Antimony	0.05	0.0167	0.00781	0.334	0.1562
Haul Road_Max	Arsenic	10	0.0667	0.03125	0.00667	0.003125
Haul Road_Max	Arsenic_cancer	10	0.0667	0.03125	0.00667	0.003125
Haul Road_Max	Barium	35	17	116.9	0.485714286	3.34
Haul Road_Max	Beryllium	0.4	0.0167	0.00781	0.04175	0.019525
Haul Road_Max	Boron	3	20.3	59.4	6.766666667	19.8
Haul Road_Max	Cadmium	0.11	0.17867	0.185	1.624272727	1.681818182
Haul Road_Max	Chromium	21	0.533	0.25	0.025380952	0.011904762
Haul Road_Max	Cobalt	10.2	0.16	0.166	0.015686275	0.01627451
Haul Road_Max	Copper	10	7.73	7.34	0.773	0.734
Haul Road_Max	Lead	16.4	0.02	0.1406	0.001219512	0.008573171
Haul Road_Max	Manganese	801	648.7	4469	0.809862672	5.579275905
Haul Road_Max	Mercury	0.1	0.0333	0.01563	0.333	0.1563
Haul Road_Max	Molybdenum	0.5	0.307	0.272	0.614	0.544
Haul Road_Max	Nickel	14	3.73	2.75	0.266428571	0.196428571
Haul Road_Max	Silver	0.1	0.0167	0.00781	0.167	0.0781
Haul Road_Max	Strontium	9	24.8	95.6	2.755555556	10.62222222
Haul Road_Max	Vanadium	35	0.0667	0.125	0.001905714	0.003571429
Haul Road_Max	Zinc	36	27.733	34.4	0.770361111	0.955555556
Haul Road_Average	Aluminum	22400	20.667	220.6	0.000922634	0.009848214
Haul Road_Average	Antimony	0.05	0.0167	0.00781	0.334	0.1562
Haul Road_Average	Arsenic	10	0.0667	0.03125	0.00667	0.003125
Haul Road_Average	Arsenic_cancer	10	0.0667	0.03125	0.00667	0.003125
Haul Road_Average	Barium	35	17	116.9	0.485714286	3.34
Haul Road_Average	Beryllium	0.4	0.0167	0.00781	0.04175	0.019525
Haul Road_Average	Boron	3	20.3	59.4	6.766666667	19.8
Haul Road_Average	Cadmium	0.11	0.17867	0.185	1.624272727	1.681818182
Haul Road_Average	Chromium	21	0.533	0.25	0.025380952	0.011904762
Haul Road_Average	Cobalt	10.2	0.16	0.166	0.015686275	0.01627451
Haul Road_Average	Copper	10	7.73	7.34	0.773	0.734
Haul Road_Average	Lead	16.4	0.02	0.1406	0.001219512	0.008573171
Haul Road_Average	Manganese	801	648.7	4469	0.809862672	5.579275905
Haul Road_Average	Mercury	0.1	0.0333	0.01563	0.333	0.1563
Haul Road_Average	Molybdenum	0.5	0.307	0.272	0.614	0.544
Haul Road_Average	Nickel	14	3.73	2.75	0.266428571	0.196428571
Haul Road_Average	Silver	0.1	0.0167	0.00781	0.167	0.0781
Haul Road_Average	Strontium	9	24.8	95.6	2.755555556	10.62222222
Haul Road_Average	Vanadium	35	0.0667	0.125	0.001905714	0.003571429
Haul Road_Average	Zinc	36	27.733	34.4	0.770361111	0.955555556

Predicted Total Dust Deposition Rates

Area	Scenario	Abbreviation	Value [mg/m2/yr]	Value [g/m2/yr]	Comment
Haul Road_Max	Baseline	Haul Road_Max_Baseline	0	0	
Haul Road_Max	Project	Haul Road_Max_Project	206100	206.1	Annual MPOI cumulative deposition rate
Haul Road_Average	Baseline	Haul Road_Average_Baseline	0	0	
Haul Road_Average	Project	Haul Road_Average_Project	74800	74.8	Cumulative deposition rate for Deepwood Estates receptor location

Site-specific Metal Composition of Dust [%]

Area	COPC	Abbreviation	Value	Comment / Reference
Haul Road_Max	Aluminum	Haul Road_Max_Aluminum	2.136885%	Based on geomean of dust samples
Haul Road_Max	Antimony	Haul Road_Max_Antimony	0.000105%	Based on geomean of dust samples
Haul Road_Max	Arsenic	Haul Road_Max_Arsenic	0.003344%	Based on geomean of dust samples
Haul Road_Max	Arsenic_cancer	Haul Road_Max_Arsenic_cancer	0.003344%	Based on geomean of dust samples
Haul Road_Max	Barium	Haul Road_Max_Barium	0.007816%	Based on geomean of dust samples
Haul Road_Max	Beryllium	Haul Road_Max_Beryllium	0.000038%	Based on geomean of dust samples
Haul Road_Max	Boron	Haul Road_Max_Boron	0.000524%	Based on geomean of dust samples
Haul Road_Max	Cadmium	Haul Road_Max_Cadmium	0.000026%	Based on geomean of dust samples
Haul Road_Max	Chromium	Haul Road_Max_Chromium	0.004093%	Based on geomean of dust samples
Haul Road_Max	Cobalt	Haul Road_Max_Cobalt	0.001524%	Based on geomean of dust samples
Haul Road_Max	Copper	Haul Road_Max_Copper	0.002625%	Based on geomean of dust samples
Haul Road_Max	Lead	Haul Road_Max_Lead	0.000688%	Based on geomean of dust samples
Haul Road_Max	Manganese	Haul Road_Max_Manganese	0.054379%	Based on geomean of dust samples
Haul Road_Max	Mercury	Haul Road_Max_Mercury	0.00000025%	Based on geomean of dust samples
Haul Road_Max	Methylmercury	Haul Road_Max_Methylmercury	0.00000001%	Assumed 2% of total mercury (US EPA 2005)
Haul Road_Max	Molybdenum	Haul Road_Max_Molybdenum	0.000067%	Based on geomean of dust samples
Haul Road_Max	Nickel	Haul Road_Max_Nickel	0.003123%	Based on geomean of dust samples
Haul Road_Max	Silver	Haul Road_Max_Silver	0.000013%	Based on geomean of dust samples
Haul Road_Max	Strontium	Haul Road_Max_Strontium	0.001147%	Based on geomean of dust samples
Haul Road_Max	Vanadium	Haul Road_Max_Vanadium	0.004487%	Based on geomean of dust samples
Haul Road_Max	Zinc	Haul Road_Max_Zinc	0.007545%	Based on geomean of dust samples
Haul Road_Average	Aluminum	Haul Road_Average_Aluminum	2.136885%	Based on geomean of dust samples
Haul Road_Average	Antimony	Haul Road_Average_Antimony	0.000105%	Based on geomean of dust samples
Haul Road_Average	Arsenic	Haul Road_Average_Arsenic	0.003344%	Based on geomean of dust samples
Haul Road_Average	Arsenic_cancer	Haul Road_Average_Arsenic_cancer	0.003344%	Based on geomean of dust samples
Haul Road_Average	Barium	Haul Road_Average_Barium	0.007816%	Based on geomean of dust samples
Haul Road_Average	Beryllium	Haul Road_Average_Beryllium	0.000038%	Based on geomean of dust samples
Haul Road_Average	Boron	Haul Road_Average_Boron	0.000524%	Based on geomean of dust samples
Haul Road_Average	Cadmium	Haul Road_Average_Cadmium	0.000026%	Based on geomean of dust samples
Haul Road_Average	Chromium	Haul Road_Average_Chromium	0.004093%	Based on geomean of dust samples
Haul Road_Average	Cobalt	Haul Road_Average_Cobalt	0.001524%	Based on geomean of dust samples
Haul Road_Average	Copper	Haul Road_Average_Copper	0.002625%	Based on geomean of dust samples
Haul Road_Average	Lead	Haul Road_Average_Lead	0.000688%	Based on geomean of dust samples
Haul Road_Average	Manganese	Haul Road_Average_Manganese	0.054379%	Based on geomean of dust samples
Haul Road_Average	Mercury	Haul Road_Average_Mercury	0.00000025%	Based on geomean of dust samples
Haul Road_Average	Methylmercury	Haul Road_Average_Methylmercury	0.00000001%	Assumed 2% of total mercury (US EPA 2005)
Haul Road_Average	Molybdenum	Haul Road_Average_Molybdenum	0.000067%	Based on geomean of dust samples
Haul Road_Average	Nickel	Haul Road_Average_Nickel	0.003123%	Based on geomean of dust samples
Haul Road_Average	Silver	Haul Road_Average_Silver	0.000013%	Based on geomean of dust samples
Haul Road_Average	Strontium	Haul Road_Average_Strontium	0.001147%	Based on geomean of dust samples
Haul Road_Average	Vanadium	Haul Road_Average_Vanadium	0.004487%	Based on geomean of dust samples
Haul Road_Average	Zinc	Haul Road_Average_Zinc	0.007545%	Based on geomean of dust samples

Soil Degradation Loss Constant [yr^{-1}]

COPC	Value	Half-life [Days]	Reference / Comment
Aluminum	2.53E-02	1.00E+04	Assumed
Antimony	2.53E-02	1.00E+04	Assumed
Arsenic	2.53E-02	1.00E+04	Assumed
Arsenic_cancer	2.53E-02	1.00E+04	Assumed
Barium	2.53E-02	1.00E+04	Assumed
Beryllium	2.53E-02	1.00E+04	Assumed
Boron	2.53E-02	1.00E+04	Assumed
Cadmium	2.53E-02	1.00E+04	Assumed
Chromium	2.53E-02	1.00E+04	Assumed
Cobalt	2.53E-02	1.00E+04	Assumed
Copper	2.53E-02	1.00E+04	Assumed
Lead	2.53E-02	1.00E+04	Assumed
Manganese	2.53E-02	1.00E+04	Assumed
Mercury	2.53E-02	1.00E+04	Assumed
Methylmercury	2.53E-02	1.00E+04	Assumed
Molybdenum	2.53E-02	1.00E+04	Assumed
Nickel	2.53E-02	1.00E+04	Assumed
Silver	2.53E-02	1.00E+04	Assumed
Strontium	2.53E-02	1.00E+04	Assumed
Vanadium	2.53E-02	1.00E+04	Assumed
Zinc	2.53E-02	1.00E+04	Assumed

Dermal permeability coefficient in water [cm/hr]

Chemical	Value	Reference
Aluminum	0.001	US EPA 2004; used all inorganics value
Antimony	0.001	US EPA 2004; used all inorganics value
Arsenic	0.001	US EPA 2004; used all inorganics value
Arsenic_cancer	0.001	US EPA 2004; used all inorganics value
Barium	0.001	US EPA 2004; used all inorganics value
Beryllium	0.001	US EPA 2004; used all inorganics value
Boron	0.001	US EPA 2004; used all inorganics value
Cadmium	0.001	US EPA 2004; used all inorganics value
Chromium	0.001	US EPA 2004; used all inorganics value
Cobalt	0.001	US EPA 2004; used all inorganics value
Copper	0.001	US EPA 2004; used all inorganics value
Lead	0.001	US EPA 2004; used all inorganics value
Manganese	0.001	US EPA 2004; used all inorganics value
Mercury	0.001	US EPA 2004; used all inorganics value
Methylmercury	0.001	US EPA 2004; used all inorganics value
Molybdenum	0.001	US EPA 2004; used all inorganics value
Nickel	0.001	US EPA 2004; used all inorganics value
Silver	0.001	US EPA 2004; used all inorganics value
Strontium	0.001	US EPA 2004; used all inorganics value
Vanadium	0.001	US EPA 2004; used all inorganics value
Zinc	0.001	US EPA 2004; used all inorganics value

Chemical Apportionment Assumed for Berries and Leaves

Media	Chemical	Abbreviation	Value	Reference / Comment
Berries	Aluminum	Berries_Aluminum	100%	Assumed most conservative value
Berries	Antimony	Berries_Antimony	100%	Assumed most conservative value
Berries	Arsenic	Berries_Arsenic	61%	Schoof et al. 1999; 95UCLM of fruits
Berries	Arsenic_cancer	Berries_Arsenic_cancer	61%	Schoof et al. 1999; 95UCLM of fruits
Berries	Barium	Berries_Barium	100%	Assumed most conservative value
Berries	Beryllium	Berries_Beryllium	100%	Assumed most conservative value
Berries	Boron	Berries_Boron	100%	Assumed most conservative value
Berries	Cadmium	Berries_Cadmium	100%	Assumed most conservative value
Berries	Chromium	Berries_Chromium	100%	Assumed most conservative value
Berries	Cobalt	Berries_Cobalt	100%	Assumed most conservative value
Berries	Copper	Berries_Copper	100%	Assumed most conservative value
Berries	Lead	Berries_Lead	100%	Assumed most conservative value
Berries	Manganese	Berries_Manganese	100%	Assumed most conservative value
Berries	Mercury	Berries_Mercury	100%	Assumed most conservative value
Berries	Methylmercury	Berries_Methylmercury	100%	Assumed most conservative value
Berries	Molybdenum	Berries_Molybdenum	100%	Assumed most conservative value
Berries	Nickel	Berries_Nickel	100%	Assumed most conservative value
Berries	Silver	Berries_Silver	100%	Assumed most conservative value
Berries	Strontium	Berries_Strontium	100%	Assumed most conservative value
Berries	Vanadium	Berries_Vanadium	100%	Assumed most conservative value
Berries	Zinc	Berries_Zinc	100%	Assumed most conservative value
Leaves	Aluminum	Leaves_Aluminum	100%	Assumed most conservative value
Leaves	Antimony	Leaves_Antimony	100%	Assumed most conservative value
Leaves	Arsenic	Leaves_Arsenic	78%	Schoof et al. 1999; 95UCLM of vegetables
Leaves	Arsenic_cancer	Leaves_Arsenic_cancer	78%	Schoof et al. 1999; 95UCLM of vegetables
Leaves	Barium	Leaves_Barium	100%	Assumed most conservative value
Leaves	Beryllium	Leaves_Beryllium	100%	Assumed most conservative value
Leaves	Boron	Leaves_Boron	100%	Assumed most conservative value
Leaves	Cadmium	Leaves_Cadmium	100%	Assumed most conservative value
Leaves	Chromium	Leaves_Chromium	100%	Assumed most conservative value
Leaves	Cobalt	Leaves_Cobalt	100%	Assumed most conservative value
Leaves	Copper	Leaves_Copper	100%	Assumed most conservative value
Leaves	Lead	Leaves_Lead	100%	Assumed most conservative value
Leaves	Manganese	Leaves_Manganese	100%	Assumed most conservative value
Leaves	Mercury	Leaves_Mercury	100%	Assumed most conservative value
Leaves	Methylmercury	Leaves_Methylmercury	100%	Assumed most conservative value
Leaves	Molybdenum	Leaves_Molybdenum	100%	Assumed most conservative value
Leaves	Nickel	Leaves_Nickel	100%	Assumed most conservative value
Leaves	Silver	Leaves_Silver	100%	Assumed most conservative value
Leaves	Strontium	Leaves_Strontium	100%	Assumed most conservative value
Leaves	Vanadium	Leaves_Vanadium	100%	Assumed most conservative value
Leaves	Zinc	Leaves_Zinc	100%	Assumed most conservative value
Fish	Aluminum	Fish_Aluminum	100%	Assumed most conservative value
Fish	Antimony	Fish_Antimony	100%	Assumed most conservative value
Fish	Arsenic	Fish_Arsenic	2%	Schoof et al. 1999
Fish	Arsenic_cancer	Fish_Arsenic_cancer	2%	Schoof et al. 1999
Fish	Barium	Fish_Barium	100%	Assumed most conservative value
Fish	Beryllium	Fish_Beryllium	100%	Assumed most conservative value
Fish	Boron	Fish_Boron	100%	Assumed most conservative value
Fish	Cadmium	Fish_Cadmium	100%	Assumed most conservative value
Fish	Chromium	Fish_Chromium	100%	Assumed most conservative value

Fish	Cobalt	Fish_Cobalt	100%	Assumed most conservative value
Fish	Copper	Fish_Copper	100%	Assumed most conservative value
Fish	Lead	Fish_Lead	100%	Assumed most conservative value
Fish	Manganese	Fish_Manganese	100%	Assumed most conservative value
Fish	Mercury	Fish_Mercury	100%	Assumed most conservative value
Fish	Methylmercury	Fish_Methylmercury	100%	Assumed most conservative value
Fish	Molybdenum	Fish_Molybdenum	100%	Assumed most conservative value
Fish	Nickel	Fish_Nickel	100%	Assumed most conservative value
Fish	Silver	Fish_Silver	100%	Assumed most conservative value
Fish	Strontium	Fish_Strontium	100%	Assumed most conservative value
Fish	Vanadium	Fish_Vanadium	100%	Assumed most conservative value
Fish	Zinc	Fish_Zinc	100%	Assumed most conservative value
Deer	Aluminum	Deer_Aluminum	100%	Assumed most conservative value
Deer	Antimony	Deer_Antimony	100%	Assumed most conservative value
Deer	Arsenic	Deer_Arsenic	5%	Schoof et al. 1999
Deer	Arsenic_cancer	Deer_Arsenic_cancer	5%	Schoof et al. 1999
Deer	Barium	Deer_Barium	100%	Assumed most conservative value
Deer	Beryllium	Deer_Beryllium	100%	Assumed most conservative value
Deer	Boron	Deer_Boron	100%	Assumed most conservative value
Deer	Cadmium	Deer_Cadmium	100%	Assumed most conservative value
Deer	Chromium	Deer_Chromium	100%	Assumed most conservative value
Deer	Cobalt	Deer_Cobalt	100%	Assumed most conservative value
Deer	Copper	Deer_Copper	100%	Assumed most conservative value
Deer	Lead	Deer_Lead	100%	Assumed most conservative value
Deer	Manganese	Deer_Manganese	100%	Assumed most conservative value
Deer	Mercury	Deer_Mercury	100%	Assumed most conservative value
Deer	Methylmercury	Deer_Methylmercury	100%	Assumed most conservative value
Deer	Molybdenum	Deer_Molybdenum	100%	Assumed most conservative value
Deer	Nickel	Deer_Nickel	100%	Assumed most conservative value
Deer	Silver	Deer_Silver	100%	Assumed most conservative value
Deer	Strontium	Deer_Strontium	100%	Assumed most conservative value
Deer	Vanadium	Deer_Vanadium	100%	Assumed most conservative value
Deer	Zinc	Deer_Zinc	100%	Assumed most conservative value
Ruffed_Gro	Aluminum	Ruffed_Grouse_Aluminum	100%	Assumed most conservative value
Ruffed_Gro	Antimony	Ruffed_Grouse_Antimony	100%	Assumed most conservative value
Ruffed_Gro	Arsenic	Ruffed_Grouse_Arsenic	1%	Schoof et al. 1999
Ruffed_Gro	Arsenic_cancer	Ruffed_Grouse_Arsenic_cancer	1%	Schoof et al. 1999
Ruffed_Gro	Barium	Ruffed_Grouse_Barium	100%	Assumed most conservative value
Ruffed_Gro	Beryllium	Ruffed_Grouse_Beryllium	100%	Assumed most conservative value
Ruffed_Gro	Boron	Ruffed_Grouse_Boron	100%	Assumed most conservative value
Ruffed_Gro	Cadmium	Ruffed_Grouse_Cadmium	100%	Assumed most conservative value
Ruffed_Gro	Chromium	Ruffed_Grouse_Chromium	100%	Assumed most conservative value
Ruffed_Gro	Cobalt	Ruffed_Grouse_Cobalt	100%	Assumed most conservative value
Ruffed_Gro	Copper	Ruffed_Grouse_Copper	100%	Assumed most conservative value
Ruffed_Gro	Lead	Ruffed_Grouse_Lead	100%	Assumed most conservative value
Ruffed_Gro	Manganese	Ruffed_Grouse_Manganese	100%	Assumed most conservative value
Ruffed_Gro	Mercury	Ruffed_Grouse_Mercury	100%	Assumed most conservative value
Ruffed_Gro	Methylmercury	Ruffed_Grouse_Methylmercury	100%	Assumed most conservative value
Ruffed_Gro	Molybdenum	Ruffed_Grouse_Molybdenum	100%	Assumed most conservative value
Ruffed_Gro	Nickel	Ruffed_Grouse_Nickel	100%	Assumed most conservative value
Ruffed_Gro	Silver	Ruffed_Grouse_Silver	100%	Assumed most conservative value
Ruffed_Gro	Strontium	Ruffed_Grouse_Strontium	100%	Assumed most conservative value
Ruffed_Gro	Vanadium	Ruffed_Grouse_Vanadium	100%	Assumed most conservative value

Ruffed_Gro	Zinc	Ruffed_Grouse_Zinc	100%	Assumed most conservative value
Snowshoe_	Aluminum	Snowshoe_Hare_Aluminum	100%	Assumed most conservative value
Snowshoe_	Antimony	Snowshoe_Hare_Antimony	100%	Assumed most conservative value
Snowshoe_	Arsenic	Snowshoe_Hare_Arsenic	1%	Schoof et al. 1999
Snowshoe_	Arsenic_cancer	Snowshoe_Hare_Arsenic_cancer	1%	Schoof et al. 1999
Snowshoe_	Barium	Snowshoe_Hare_Barium	100%	Assumed most conservative value
Snowshoe_	Beryllium	Snowshoe_Hare_Beryllium	100%	Assumed most conservative value
Snowshoe_	Boron	Snowshoe_Hare_Boron	100%	Assumed most conservative value
Snowshoe_	Cadmium	Snowshoe_Hare_Cadmium	100%	Assumed most conservative value
Snowshoe_	Chromium	Snowshoe_Hare_Chromium	100%	Assumed most conservative value
Snowshoe_	Cobalt	Snowshoe_Hare_Cobalt	100%	Assumed most conservative value
Snowshoe_	Copper	Snowshoe_Hare_Copper	100%	Assumed most conservative value
Snowshoe_	Lead	Snowshoe_Hare_Lead	100%	Assumed most conservative value
Snowshoe_	Manganese	Snowshoe_Hare_Manganese	100%	Assumed most conservative value
Snowshoe_	Mercury	Snowshoe_Hare_Mercury	100%	Assumed most conservative value
Snowshoe_	Methylmercury	Snowshoe_Hare_Methylmercury	100%	Assumed most conservative value
Snowshoe_	Molybdenum	Snowshoe_Hare_Molybdenum	100%	Assumed most conservative value
Snowshoe_	Nickel	Snowshoe_Hare_Nickel	100%	Assumed most conservative value
Snowshoe_	Silver	Snowshoe_Hare_Silver	100%	Assumed most conservative value
Snowshoe_	Strontium	Snowshoe_Hare_Strontium	100%	Assumed most conservative value
Snowshoe_	Vanadium	Snowshoe_Hare_Vanadium	100%	Assumed most conservative value
Snowshoe_	Zinc	Snowshoe_Hare_Zinc	100%	Assumed most conservative value
Mallard	Aluminum	Mallard_Aluminum	100%	Assumed most conservative value
Mallard	Antimony	Mallard_Antimony	100%	Assumed most conservative value
Mallard	Arsenic	Mallard_Arsenic	1%	Schoof et al. 1999
Mallard	Arsenic_cancer	Mallard_Arsenic_cancer	1%	Schoof et al. 1999
Mallard	Barium	Mallard_Barium	100%	Assumed most conservative value
Mallard	Beryllium	Mallard_Beryllium	100%	Assumed most conservative value
Mallard	Boron	Mallard_Boron	100%	Assumed most conservative value
Mallard	Cadmium	Mallard_Cadmium	100%	Assumed most conservative value
Mallard	Chromium	Mallard_Chromium	100%	Assumed most conservative value
Mallard	Cobalt	Mallard_Cobalt	100%	Assumed most conservative value
Mallard	Copper	Mallard_Copper	100%	Assumed most conservative value
Mallard	Lead	Mallard_Lead	100%	Assumed most conservative value
Mallard	Manganese	Mallard_Manganese	100%	Assumed most conservative value
Mallard	Mercury	Mallard_Mercury	100%	Assumed most conservative value
Mallard	Methylmercury	Mallard_Methylmercury	100%	Assumed most conservative value
Mallard	Molybdenum	Mallard_Molybdenum	100%	Assumed most conservative value
Mallard	Nickel	Mallard_Nickel	100%	Assumed most conservative value
Mallard	Silver	Mallard_Silver	100%	Assumed most conservative value
Mallard	Strontium	Mallard_Strontium	100%	Assumed most conservative value
Mallard	Vanadium	Mallard_Vanadium	100%	Assumed most conservative value
Mallard	Zinc	Mallard_Zinc	100%	Assumed most conservative value

Time Period of Deposition [years]

Variable	Value	Comment
Time	10	Life of facility

Moisture Content

Variable	Value	Comment
Berries	85%	Project specific average
Invert	84%	Suter et al. 2000 (Table 3.5)
Aquatic_Plant	84%	Suter et al. 2000 (Table 3.5)
Aquatic_Invert	82%	Suter et al. 2000 (Table 3.5)
Leaves	68%	Project specific average

Soil Mixing Depth for Deposition

Variable	Value	Units	Reference
Surface Soil Mixing Depth = Depth1	0.02	m	
Soil Mixing Depth for Plants = Depth2	0.2	m	US EPA OSW 2005
Soil Bulk Density	1500	kg/m^3	US EPA OSW 2005

Parameters Used to Predict Deposition for Vegetation

Parameter	Abbreviation	Value	Units	Reference/Comment
Yield or Standing Biomass for berries	Yp	0.25	kg-dw/m2	US EPA OSW 2005; exposed fruits
Yield or Standing Biomass for leaves	Yp	5.66	kg-dw/m2	US EPA OSW 2005; exposed vegetables
Plant Surface Loss Coefficient	Kp	18	$year^{-1}$	US EPA OSW 2005
Period of Exposure	Tp	0.164	years	US EPA OSW 2005
Intercept Fraction of the Edible Portion of Plant for berries	Rp	0.053	unitless	US EPA OSW 2005; exposed fruits
Intercept Fraction of the Edible Portion of Plant for leaves	Rp	0.982	unitless	US EPA OSW 2005; exposed vegetables

Food Preparation

Variable	Value	Units
Washing and peeling factor (WPF)	100%	%

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