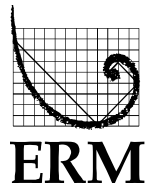


**BRUCEJACK GOLD MINE PROJECT**  
Application for an Environmental Assessment Certificate /  
Environmental Impact Statement

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## **Appendix 13-C**

Water Quality Predictions for Construction, Operation,  
and Post-closure Mine Phases





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## **Brucejack Gold Project: Water Quality Predictions for Construction, Operations and Post-Closure Mine Phases**

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**Project No. A359-1**

**3 June 2014**



# ***Executive Summary***

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## ***Executive Summary***

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Pretivm Resources Inc. proposes to develop an underground gold mine at the Brucejack Property located approximately 65 km north-northwest of Stewart, B.C., Canada. Contact water from the site will be treated and discharged to Brucejack Creek during the Construction phase and to Brucejack Lake during Operations. The mine will be flooded during the Closure phase.

As part of environmental assessment and permitting requirements, site-specific water quality models were developed to evaluate the potential effects of mining activities on surface water quality in receiving water courses. Two models were employed. First, a hydrodynamic model (PitMod) was used to assess the effect of the mine on water column mixing in Brucejack Lake. Second, a mass balance model (Goldsim) was used to generate water quality predictions for the lake outlet (BJ U/S) and Brucejack Creek downstream of all mine-related inputs (BJ200mD/S). Predictions were generated for three mine phases (Construction, Operations and Post-Closure) for both expected conditions (Base Case) and sensitivity cases (conservative assumptions with respect to surface flow, hydraulic conductivity in the underground, and background source terms).

This report presents water quality predictions for the Project and the associated methodology. The report does not relate predicted water values to screening criteria, nor does the report address the potential for adverse effects to aquatic biota; these aspects are presented under separate cover (Chapter 13 of the Application for an Environmental Assessment Certificate/Environmental Impact Statement for the Brucejack Gold Mine Project).

The Goldsim model assumes Brucejack Lake sustains fully mixed conditions. This assumption is supported by the results of hydrodynamic modelling (PitMod) which show that the addition of tailings effluent to the lake bottom will enhance mixing in the water column via convection related to upward migration of warmer and more buoyant effluent, as well as through the displacement of overlying lake water. Predictions of the percent effluent in lake surface waters over time are comparable between PitMod and Goldsim, and support the assumptions adopted for the Goldsim model.

Mass balance modelling of Brucejack Lake and Brucejack Creek considered inputs from all mine-related sources including: 1) waste rock; 2) discharge of tailings solids and effluent; 3) underground mine discharges; 4) plant-site runoff; 5) runoff from a quarry; 6) water treatment plant (WTP) discharges; and 7) sewage treatment plant (STP) discharges. Overall, the water quality predictions show Project-related signatures for sulfate, trace elements (*e.g.*, Ag, As, Cr, Cd, Ni, Zn) and nutrients (nitrogen and phosphorus

compounds). The water quality predictions are influenced by several inter-related variables, including the point of discharge (to either Brucejack Lake or Brucejack Creek), water treatment (WTP and STP), mine phase, parameter of interest, and the source(s) of mine-related parameters.

Water quality predictions for Brucejack Lake show that during Construction, the deposition of waste rock represents the dominant loading pathway for sulfate and trace elements to the lake. During the Operations phase, parameter concentrations in Brucejack Lake initially rise over time due to the progressive increase in loading from the WTP (as the underground workings expand). For parameters that show pronounced tailings-related signatures (*e.g.*, As and sulfate), lake concentrations decrease after year 14 due to the progressive decrease in the rate of tailings discharge after this time. In contrast, for parameters that are dominantly associated with underground metal leaching processes (*e.g.*, Zn), concentrations in the lake increase to the end of the Operations phase. The predicted development of acidic conditions in areas of the underground after year 22 also results in a marked increase in the concentrations of some parameters (*e.g.*, Zn) in the lake. During Post-closure, and following the cessation of all discharges to the lake, concentrations of all mine-related parameters decrease to near-background values in Brucejack Lake.

Water quality predictions for Brucejack Creek show a different response in comparison to the lake. Overall, the discharge of mine-related inputs directly to Brucejack Creek during Construction (*e.g.*, STP and WTP) and Post-Closure (groundwater discharge of mine waters) results in more variable (and in some cases higher) water quality values in comparison to Operations when these inputs are discharged to the lake. In this regard, the volume and residence time afforded by the lake serve to dilute mine-related signatures and lessen the magnitude of seasonal fluctuations.

During Operations, concentrations of Project-related parameters in Brucejack Creek show an initial increase over time in conjunction with the expansion of the underground workings and loadings associated with the WTP. As observed for Brucejack Lake, parameters that show strong tailings-related signatures (*e.g.*, sulfate and As) exhibit decreasing concentrations in the creek after year 14 of Operations, commensurate with a progressive reduction in the tailings discharge. In contrast, Zn shows a trend of increasing concentration throughout Operations, which relates to Zn loadings being derived almost exclusively from underground sources.

During the Post-Closure phase, the transport of sulfate and trace metals from the flooded underground workings along subsurface pathways represents the dominant loading vector to Brucejack Creek. The redirection of the underground loads from the lake (Operations)

directly to the creek (Post-Closure) contributes to: 1) the higher absolute concentrations at BJ200mD/S during Post-Closure; and 2) the higher degree of seasonal variability in creek waters. Although the loadings from the underground are relatively uniform throughout the year during the Post-Closure period, flows in Brucejack Creek show pronounced seasonal variability. Collectively, these processes can account for the relatively-high degree in seasonal variability during the Post-Closure period, with peak concentrations occurring during winter low flow (March) when dilution of the creek is at a minimum.

Areas of uncertainty in the Goldsim model were assessed through sensitivity analysis. The results demonstrate that the water quality predictions are not sensitive to extreme wet/dry flow (1 in 100 year) events, reflecting the buffering capacity afforded by storage in Brucejack Lake. In contrast, the model is sensitive to the use of more conservative estimates of underground hydraulic conductivity, which result in increased seepage to the underground during Operations and increased flow from the flooded workings to Brucejack Creek during Post-Closure. Similarly, the model is also sensitive to source term variables, including: 1) the time of onset to acidic conditions in the underground; 2) the use of conservative metal leaching source terms; and 3) the use of conservative geochemical source terms for background flows.

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# ***1. Introduction***

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# 1. Introduction

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Pretivm Resources Inc. (Pretivm) proposes to develop a gold mine at the Brucejack Property, located approximately 65 km north-northwest of Stewart, B.C., Canada (Figure 1-1). The Brucejack Gold Project (Project) consists of underground mining operations in two mineralized zones located southwest of Brucejack Lake: the West and Valley of Kings (VOK) zones. Previous mining (advanced exploration) activity was conducted in the West Zone by Newhawk Gold Mines Ltd. (Newhawk) between 1985 and 1995 (McLeod, 1999), whereas the VOK area is an undeveloped resource. The proposed Project will include an ore processing plant, a water treatment plant, a lined waste rock storage facility, a surface water management system, camp and shop facilities, surface infrastructure installations and development of the underground portal along with related facilities (Figure 1-2).

During previous mining operations, deposition of waste rock into Brucejack Lake was deemed to be the best disposal option given the conditions and constraints at the site (as documented by Price, 2005). For the proposed mine development, part of the waste rock and tailings will also be deposited into Brucejack Lake at depth, with the remainder deposited in the underground mine as tailings paste and waste rock backfill. The overall Project configuration and operations are illustrated in Figure 1-2.

In support of environmental assessment and permitting requirements, Lorax Environmental Services Ltd. (Lorax) was retained by BGC Engineering Inc. (BGC) to generate water quality predictions for the Project. To this end, site-specific water quality models were developed to evaluate the potential effects of mining activities on surface water quality at the Brucejack Property, in accordance with the Application Information Requirements for the Project (Pretivm Resources Inc., 2014).

Water quality modelling was conducted using GoldSim based on source terms and water balance information developed by BGC. Water quality predictions were generated for three mine phases (Construction, Operations and Post-Closure) at both the outlet of Brucejack Lake station (BJ U/S) and at the proposed attainment location in Brucejack Creek downstream of mine-related inputs (BJ 200mD/S). The water quality modelling also considered various model sensitivities that account for uncertainty in the model assumptions.

Following this introduction, Chapter 2 describes the modelling approach and assumptions used in the generation of the water quality predictions. The water balance (Chapter 3) and water quality source terms for the various mine-related and background inputs (Chapter 4) are then presented. The model results for the base case predictions and modelled sensitivities are provided in Chapter 5. This report does not include an environmental effects assessment of the water quality predictions; this is addressed in Chapter 13 of the Application for an Environmental Assessment Certificate/Environmental Impact Statement for the Brucejack Gold Mine Project).



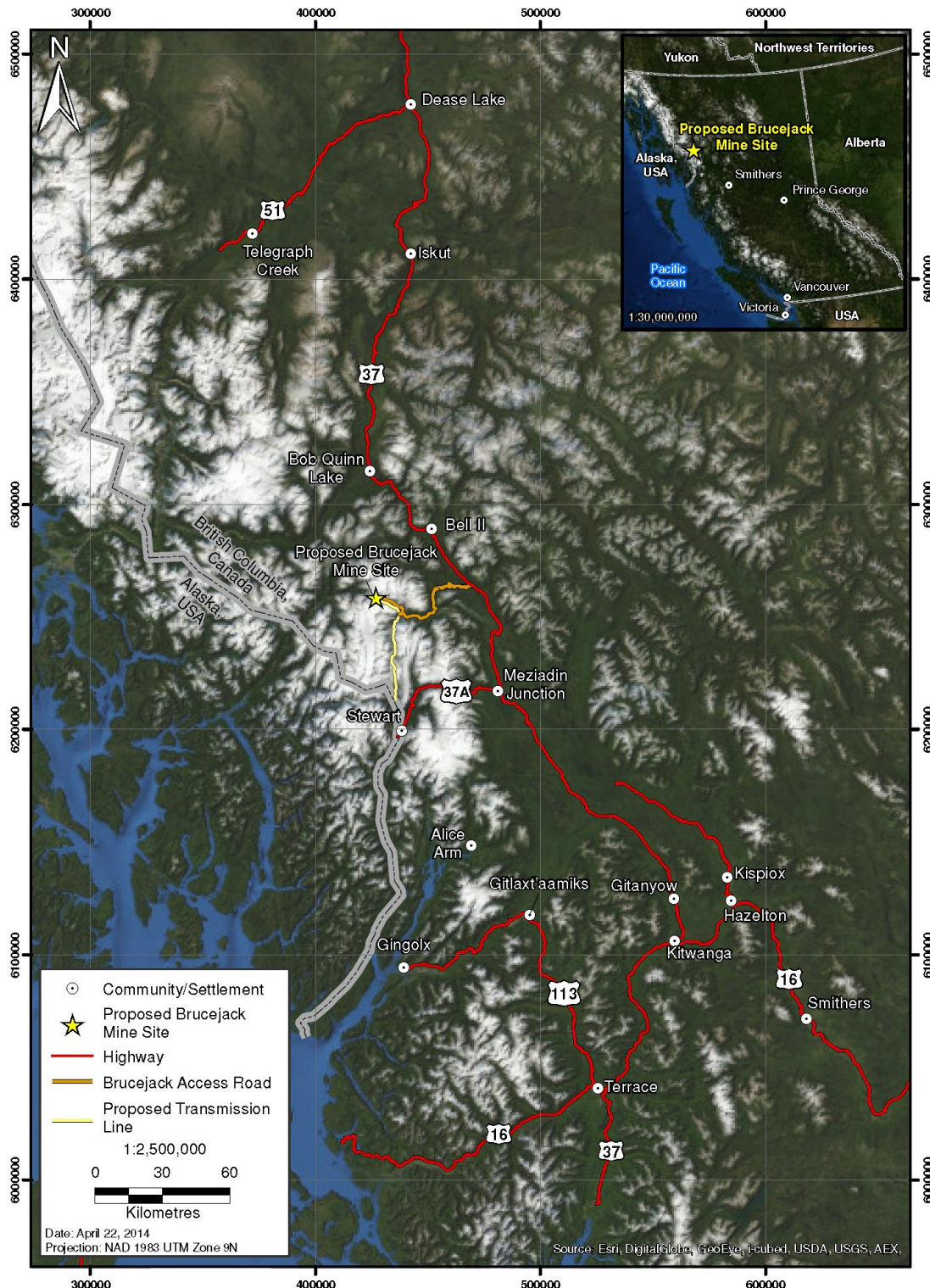
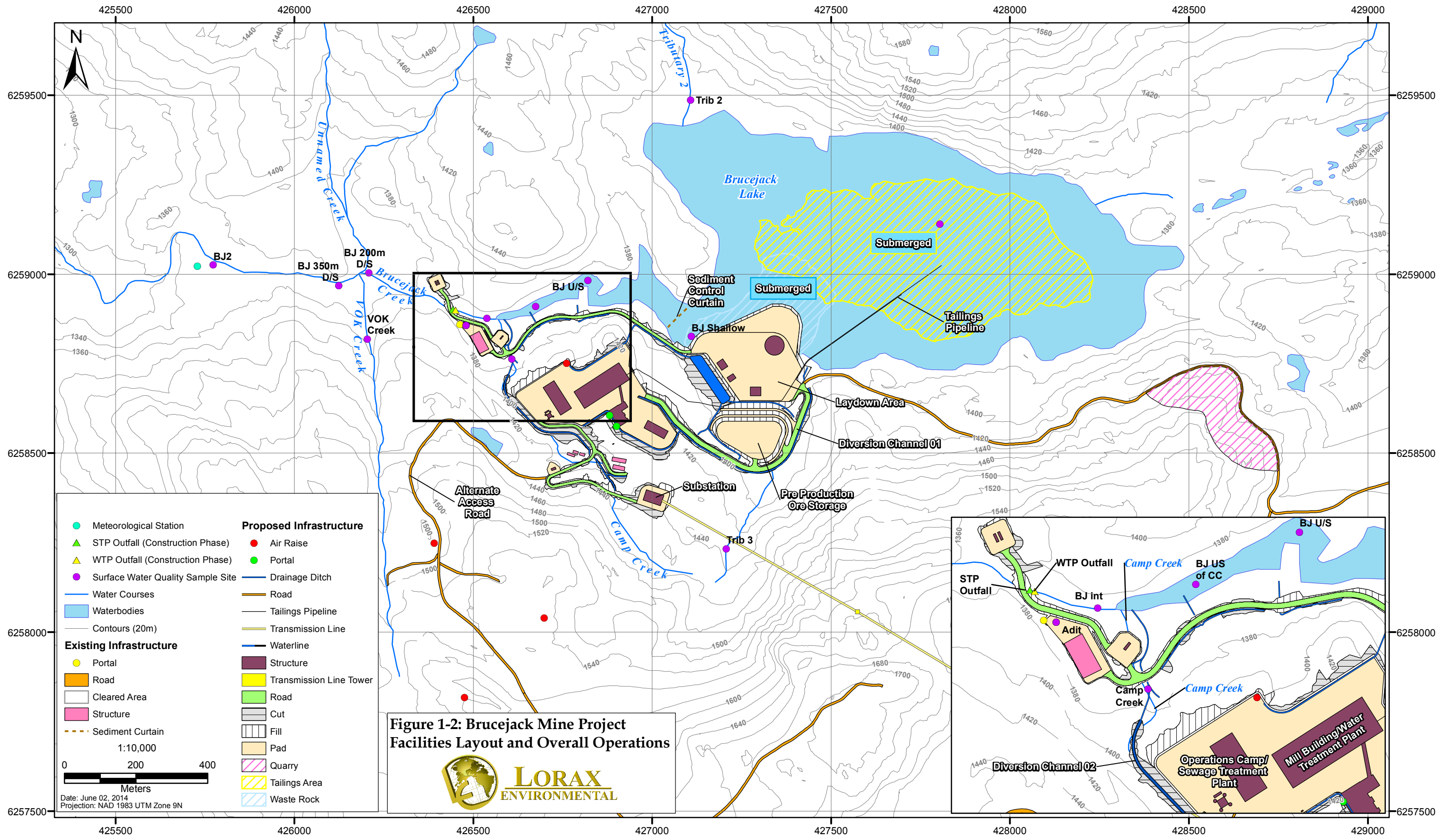


Figure 1-1: Location map of the Brucejack Gold Project in northwestern British Columbia, Canada.



## **2. *Modelling Approach and Assumptions***

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## ***2. Modelling Approach and Assumptions***

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This chapter describes the modelling approach and assumptions associated with the generation of water quality predictions for the Project. The site-wide mitigation strategies for the Project are outlined, followed by a detailed description of the water quality modelling approach and assumptions.

### ***2.1 General Site-Wide Mitigations***

Water quality predictions presented in this report include consideration of several mitigation strategies; for the purpose of water quality modelling, it is assumed that the proposed mitigation will be implemented as designed. These mitigations include:

- A Sewage Treatment Plant (STP) which will meet design objectives for discharge water quality. Treated water will be discharged to Brucejack Creek during Construction and to Brucejack Lake during Operations;
- A Water Treatment Plant (WTP) which will treat contact water from the site and meet design objectives for effluent water quality. Treated water will be discharged to Brucejack Creek during Construction and to Brucejack Lake during Operations;
- Disposal of waste rock into Brucejack Lake during Construction and the first few years of the Operations phase. It is assumed that suspended sediments associated with the waste rock will largely settle in the lake, which will act as a natural sedimentation pond. It is further assumed that any sediments remaining in suspension will be managed using sediment control curtains;
- Disposal of tailings solids and effluent into the bottom of Brucejack Lake via a buried tailings pipeline; it is assumed that tailings will remain at the bottom of the lake. This assumption is supported by hydrodynamic modelling as discussed in Section 2.2.4); and
- TSS management of Brucejack Lake water as required such that TSS levels will meet discharge limits as defined by Metal Mining Effluent Regulations (MMERs) and by BC Ministry of Environment (MOE) for the mine effluent Permit.

### ***2.2 Water Quality Modelling Approach***

#### ***2.2.1 Overview***

The Brucejack Water Quality Model was constructed in GoldSim based on the logic and architecture of the Project water balance developed by BGC (BGC, 2014a). The Brucejack water balance is based on monthly time steps and tracks all contact and non-contact waters

that report to Brucejack Lake and the various monitoring sites along Brucejack Creek, including BJ200mD/S, the proposed BC water quality attainment location. In the water quality model, contact and non-contact water quality concentrations are assigned to the various flows in the water balance. Geochemical source terms provided by BGC and described in Chapter 4 are used to represent contact water quality signatures. Non-contact water quality signatures were derived from baseline monitoring (see Section 4.1).

In GoldSim, monthly water quality concentrations were predicted using a mass loading approach that combined the loadings associated with source flows (*i.e.*, flows in contact with the mine site) and non-source flows (background), as per the equation (1):

$$C_{Final} = \frac{C_1V_1 + C_2V_2}{V_1 + V_2}$$

where  $C_{Final}$  is the predicted concentration in the receiving watercourse,  $C_1$  and  $V_1$  are the respective values for concentration and volume of contact source flows, and  $C_2$  and  $V_2$  are the respective values for concentration and volume of non-contact source flows. The mass loading model accounts for chemical loads emanating from mine sources (*e.g.*, underground workings, waste rock, tailings discharge), water management structures (*e.g.*, plant site collection pond), STP and WTP. As well, the model tracks the contributions associated with background water quality and runoff volumes reporting from undisturbed portions of watersheds and regional groundwater. Table 2-1 presents the assumptions related to dissolved and total parameter partitioning for the various source terms input to the GoldSim model.

**Table 2-1:  
Assumptions Related to Dissolved and Total Parameter Partitioning for Various Source Terms**

Source Term	Assumption
Underground Mine Water	Dissolved and total parameters for the Construction and Closure phases; Dissolved parameters only for the Operations phase when underground mine sources are treated by the WTP
Tailings Supernatant	Dissolved parameters
Tailings Solids	Tailings solids remain on lake bottom (TSS not modelled) Diffusion term for release of dissolved parameters to water column
Waste Rock	Dissolved parameters only, based on shake flask experiment data for representative rock units
Water Treatment Plant	Total parameters are assumed to equal dissolved
Sewage Treatment Plant	Nutrient levels from the STP are based on totals, whereas non-nutrients are set to background levels which have separate dissolved and total values
Quarry	Total parameters are assumed to equal dissolved
Background water quality	Total and dissolved parameters
Camp Creek	Total and dissolved parameters

An underpinning assumption of this approach is that parameters behave in a conservative manner and that no mass is lost through geochemical reactions or natural biogeochemical processes. In this regard, water quality predictions result solely from the mixing of the various water types. This presents significant conservatism in the model since some degree of non-conservative removal is expected. In the underground environment, for example, some degree of attenuation can be expected through adsorption and mineral solubility constraints. In Brucejack Lake, various natural biogeochemical mechanisms will also affect trace element and nutrient concentrations, including: 1) oxidation of nitrite and ammonia; 2) biological uptake of nitrogen and phosphorus; and 3) metal scavenging by particles and removal to lake sediments.

### 2.2.2 Mine Phases, Modelling Locations and Parameters

Water quality predictions were generated for the following mine phases of the Project:

- Construction – The Construction phase considers construction activities associated with mine development. During this phase, waste rock will be deposited in Brucejack Lake and effluent from a sewage treatment plant and a mine water treatment plant will be discharged to Brucejack Creek;
- Operations – The Operations phase considers mining activities over the 22 year mine life. During this phase, part of the waste rock and approximately half of the tailings will be deposited in Brucejack Lake, with the remainder deposited in the underground (waste rock backfilled in stopes and tailings incorporated into the paste backfill). All effluent will be directed to Brucejack Lake during this phase; and
- Post-Closure – The Post-Closure phase represents the long-term mine condition and water balance configuration after the mine underground workings have been flooded and the mine has been decommissioned and reclaimed.

For each of these mine phase, water quality predictions were generated for two locations (shown on Figure 1-2):

1. Outlet of Brucejack Lake (station BJ U/S). This site is located near the lake outlet and is considered representative of water quality in Brucejack Lake. The base case model results represent conservative average year (expected) predictions. Additional sensitivity cases are presented for conservative flow and water quality scenarios including extreme hydrologic events (1 in 100 dry year and 1 in 100 wet year conditions).

2. Brucejack Creek (station BJ200mD/S). BJ200mD/S is the proposed Provincial water quality attainment location; it is situated downstream of all mine-related inputs, with the exception of a small portion of the contact flow associated with the underground workings. Specifically, during the Post-Closure phase, a small portion of the contact flow emanating from the underground workings will report along deeper groundwater flow paths to lower elevations. This flow, however, is predicted to represent a very small percentage of the total site contact flow. The base case model results represent conservative average year (expected) predictions. Additional sensitivity cases are presented for conservative flow and water quality scenarios including extreme hydrologic events (1 in 100 dry year and 1 in 100 wet year conditions).

For the Exploration phase of the Project, site BJ2, downstream of BJ200mD/S, is the proposed Provincial water quality attainment location for nutrients. The GoldSim model results presented in this report do not include predictions for water quality at BJ2 and only consider the mine phases described above. Water quality predictions for Brucejack Lake and BJ200mD/S were computed for the parameters listed in Table 2-2, including parameters with BC freshwater aquatic life (FWAL) guidelines, as well as major ion parameters representative of mine-related inputs.

Total suspended solids (TSS) were not modelled as a separate term. It is assumed that TSS will be managed in a way to ensure compliance with MMER and BC Effluent Permit requirements. Mitigation measures relevant to TSS management include:

- Method of tailings placement: Tailings mound accumulation from the bottom up (via buried pipe terminus) will minimize the potential for tailings plume migration into the lake surface;
- Flocculation of tailings during processing: Addition of flocculant within the clarifier prior to discharge will serve to increase tailings particle size and density, thereby minimizing the potential for the incursion of tailings in the lake surface (discussed in Section 2.2.4);
- Sediment Control Curtain: Implementation of a Sediment Control Curtain near the outlet of Brucejack Lake will minimize the potential for the export of tailings particles to Brucejack Creek.

Although TSS was not specifically modelled, the influence of suspended sediments was implicitly considered for parameters that included “total” values in the source terms and background water quality, since this will include both dissolved and particulate fractions.

**Table 2-2:  
Parameters modelled in GoldSim**

Parameter	Formula	Dissolved	Total
Ammonia	NH <sub>3</sub>	x	-
Nitrate	NO <sub>3</sub> <sup>-</sup>	x	-
Nitrite	NO <sub>2</sub> <sup>-</sup>	x	-
Chloride	Cl <sup>-</sup>	x	-
Sulfate	SO <sub>4</sub> <sup>2-</sup>	x	-
Phosphorus	P	x	-
Aluminum	Al	x	x
Arsenic	As	x	x
Cadmium	Cd	x	x
Calcium	Ca	x	x
Chromium	Cr	x	x
Cobalt	Co	x	x
Copper	Cu	x	x
Iron	Fe	x	x
Lead	Pb	x	x
Magnesium	Mg	x	x
Manganese	Mn	x	x
Mercury	Hg	x	x
Molybdenum	Mo	x	x
Nickel	Ni	x	x
Potassium	K	x	x
Selenium	Se	x	x
Silver	Ag	x	x
Sodium	Na	x	x
Thallium	Tl	x	x
Zinc	Zn	x	x

Note that "-" indicates that totals were not modelled

### 2.2.3 Water Quality Modelling Cases

Water quality predictions throughout Construction, Operations and Post-Closure mine phases were generated for base case conditions as well as various model sensitivity cases (Table 2-3). The base case model results represent conservative average year (expected) predictions. These results are based on average hydrologic conditions (BCG, 2014) and base case source term values, where defined (Chapter 4). Additional sensitivity cases were run using a variety of conservative assumptions for site water flows and geochemical source terms to test the sensitivity of receiving water to changes in model input (Table 2-3).



The sensitivity cases were specifically selected to evaluate areas of uncertainty in the model, including: 1) flow conditions; 2) hydraulic conductivity of bedrock; and 3) geochemical source terms. Detailed discussions of the water balance and water quality source terms are provided in Chapters 3 and 4, respectively.

**Table 2-3:  
GoldSim Model Scenarios (Base Case and Sensitivity Cases) and Associated Assumptions**

<b><u>BASE CASE</u></b>		
<b>MODEL CASE</b>	<b>FLOW</b>	<b>SOURCE TERMS</b>
BASE CASE	Average stream flow and hydraulic conductivity (K)	Average source terms
<b><u>SENSITIVITY CASES</u></b>		
<b>MODEL CASE</b>	<b>FLOW</b>	<b>SOURCE TERMS</b>
HIGH K	High K and high recharge groundwater modelling scenario; increased groundwater seepage to mine	Average source terms
LOW K	Low K groundwater modeling scenario; reduced groundwater seepage to mine	Average source terms
100 YR WET	100 year wet annual rainfall applied to last year of Construction, last year of Operations, and years 10 onward of Post-Closure, average K	Average source terms
100 YR DRY	100 year dry annual rainfall applied to last year of Construction, last year of Operations, and years 10 onward of Post-Closure, average K	Average source terms
CONSERVATIVE ADIT LAG	Average stream flow and average K	Shortest estimated lag time between pre and post-acidic conditions in underground workings
CONSERVATIVE ADIT CONCENTRATION	Average stream flow and average K	95 <sup>th</sup> percentile pre and post-lag concentrations for underground seeps
CONSERVATIVE ADIT LAG AND CONCENTRATION	Average stream flow and average K	Combined shortest lag and 95 <sup>th</sup> percentile concentrations
CONSERVATIVE BACKGROUND	Average stream flow and average K	95 <sup>th</sup> percentile background concentrations
CONSERVATIVE SOLIDS	Average stream flow and average K	95 <sup>th</sup> percentile loadings for tailings and waste rock deposition
CUMULATIVE CONSERVATIVE	100 year Dry and High K	All 95 <sup>th</sup> percentile concentrations and loadings

The water balance model provided by BGC contains provisions for changing assumptions around bedrock hydraulic conductivity (K) and annual rainfall that allow the user to change: (a) flow reporting to the underground mine workings; and (b) surface flows to Brucejack Lake and Brucejack Creek. Alteration to the bedrock K value affects the amount of water reporting to the underground workings during Operations (when mine is dewatered), as well as the transport of underground water to receiving water courses during Post-Closure (once the mine is flooded).

BGC also provided base case (average) and conservative chemistry for each contact and background source term where possible. Several sensitivity runs were performed by altering the assumptions around one or several flows and/or source terms in turn (described in Table 2-3). A final cumulative conservative model run was made using the combined conservative assumptions from the individual sensitivities to provide a “worst case” scenario. One key assumption did not change from the base case scenario: the WTP and STP were assumed to perform to design parameters for all model scenarios, irrespective of flow or influent chemistry.

#### **2.2.4 Hydrodynamic Modelling of Brucejack Lake**

The GoldSim model upon which water quality predictions are based assumes that Brucejack Lake is fully mixed at all times. This assumption may oversimplify the lake system, since natural lakes often exhibit non-steady-state mixing associated with lake stratification and lake turnover events. Convective over turn, for example, is common to temperate and high-latitude lakes in the fall and spring and is a function of the temperature-dependent density properties of water. In mine-influenced systems, the input of dissolved salts associated with tailings and/or waste rock loadings can also have a marked influence of lake density and mixing characteristics.

In order to support the lake mixing assumptions, and to ensure that the water quality predictions presented herein are relatively conservative in nature, hydrodynamic modeling of Brucejack Lake was carried out using PitMod. PitMod is a one-dimensional hydrodynamic and geochemical model used for simulating mixing behaviour in lakes (Dunbar *et al.*, 2004; Crusius *et al.*, 2002). The principal physical processes simulated by the model include:

- *Solar heating and cooling* of the lake surface: Thermal energy from the sun warms surface waters and influences the temperature (hence, density) of the surface layers. Heat is transferred to deeper layers through diffusion, mixing and convection.
- *Wind mixing*: The influence of the wind causes adjacent water layers to mix to varying degrees. The energy for wind-derived mixing is proportional to the wind

- speed and is strongest at the surface layer and decreases with depth. Mixing occurs readily (*i.e.*, with little wind-derived energy) between adjacent layers of similar density. In contrast, minimal mixing occurs where large density differences (or density gradient) exist between water layers. Vertical mixing can also occur due to turbulence in the water column as a function of the density difference between adjacent layers.
- *Convective Mixing*: Convection describes motion within a fluid resulting from temperature driven density differences. When surface-water cools, its density increases, resulting in a decrease in the density difference between adjacent layers. Consequently, the energy required by winds to mix adjacent water layers is reduced, and the depth of the mixed layer deepens. Similarly, any low-density water released at depth (*i.e.*, comparatively warmer ARD-derived waters) will tend to rise due to convection.
  - *Oxygen Consumption*: Oxygen consumed in both the water column and the sediments is a critical parameter defining the geochemical state of a pit lake. Oxygen is introduced to the surface waters through interaction with the atmosphere and is distributed throughout the water column by mixing and diffusion across adjacent layers. Oxygen can also be introduced via groundwater inflows. The consumption of oxygen during organic matter degradation (*i.e.*, oxidation) may result in the development of anoxic conditions if the oxygen consumption rate exceeds its rate of replacement.

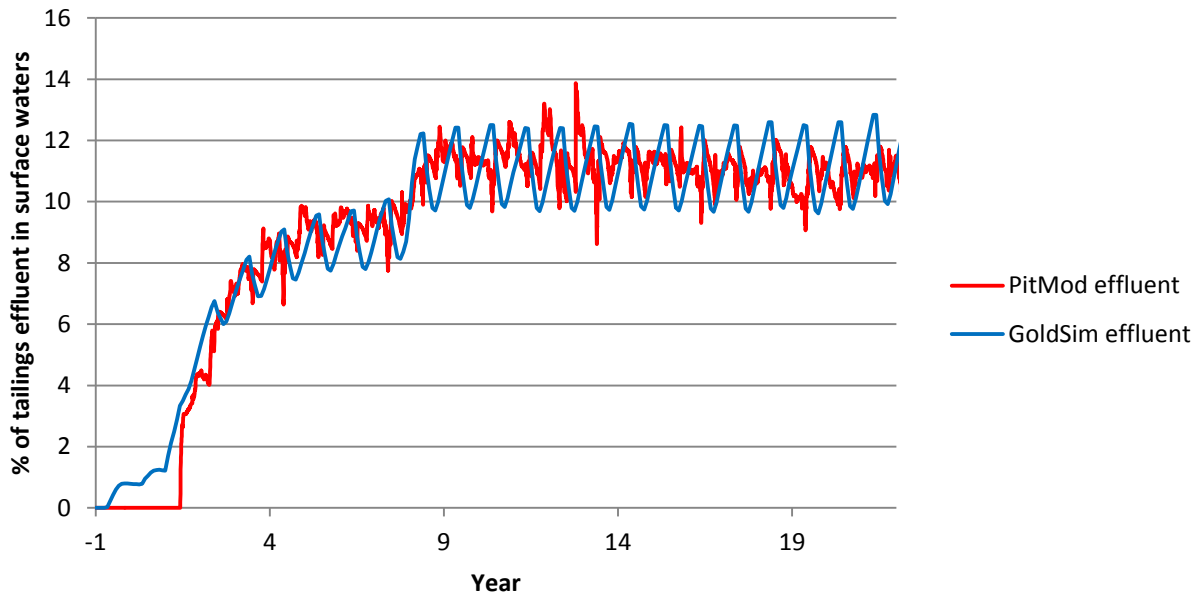
In addition to the processes outlined above, the model can accommodate the introduction of external water sources (*e.g.*, direct precipitation to lake surface, natural runoff, groundwater, or tailings inputs).

An initial hydrodynamic model of Brucejack Lake (Lorax, 2013) was developed to examine the likelihood of the migration of tailings solids into lake surface waters. This initial model was subsequently modified to evaluate how physical mixing processes would impact surface water quality of Brucejack Lake. The revised PitMod simulation also incorporated revisions to the mine phase water balances and source term inputs to the lake system. Details of the model approach and results are presented in Appendix D.

In general, PitMod results are comparable to the fully-mixed GoldSim model results. This comparison is illustrated in Figure 2-1, which shows the percent of tailings effluent measured in surface waters throughout the Construction and Operations phases. In general, the models show a high degree of congruency, with the percent effluent increasing to a steady-state maximum of approximately 12% by year 9. Within a given year, the Goldsim model predicts slightly more variability in the proportion of tailings effluent in the lake

surface in comparison to PitMod, although the differences are small and within the bounds of model uncertainty.

The PitMod results indicate that stratification and mixing processes in Brucejack Lake are not predicted to significantly influence the magnitude of the effluent concentration in the lake discharge. This conclusion stems from the fact that the input of tailings is predicted to enhance mixing in the lake. Specifically, the effluent portion of the tailings discharge (7.5°C) will be less dense (buoyant) in comparison to bottom waters (~ 4°C). This buoyancy will induce upward convective mixing. Upward mixing will also be promoted by the displacement of lake bottom waters by tailings effluents. Bottom-up mixing associated with the tailings discharge, combined with top-down mixing associated with natural convective mixing, will result in an overall enhancement of lake circulation. This analysis provides support to the GoldSim model assumption of complete mixing in Brucejack Lake.



**Figure 2-1: Comparison of the percent of tailings effluent in surface waters of Brucejack Lake as predicted by GoldSim and PitMod through Construction (model years -1 to 0) and Operations (years 1 to 22).**

### **3. *Water Balance***

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## **3. Water Balance**

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The water balance and water management plans for the Brucejack Project have been developed by BGC (BGC, 2014a). The water balance is a detailed interpretation of the Brucejack mine and water management plans. Parameterization for the water balance draws on syntheses of baseline climate, hydrometric and hydrogeological data collected for the Project which have been summarized previously by BGC (2014b). This report presents an overview of the water balance to provide context for water quality predictions throughout the different stages of mine development.

The water balance for the Project was derived using information compiled by Tetra Tech, AMC Mining consultants, Rescan and BGC from the following sources:

- Underground mine design and mill feed rates;
- Site-specific and long-term climate dataset for the proposed mine area, including precipitation, potential evaporation and temperature;
- Drainage areas and runoff coefficients;
- Estimated groundwater inflows and seepage rates;
- Process plant water balance model (including freshwater make-up requirement); and
- Tailings density and properties.

The base case water quality predictions are based on water balances for Construction, Operations and Post-Closure mine phases assuming average flow conditions. Additional model sensitivity cases were developed to evaluate conservative flow and water quality scenarios, including extreme hydrologic events. The sections below outline the base case water balance configurations specific to each mine phase, followed by a description of the water balance modifications applied to the relevant sensitivity cases.

### **3.1 Base case water balance**

#### **3.1.1 Construction**

During the Construction phase of the Project (~ 20 months in duration), water will be managed as illustrated in Figure 3-1. Water management plans for the Construction phase include the following:

- 1) A contact water pond which will receive runoff from the plant site area and excess water generated by groundwater inflows to the underground workings. This water will be pumped to a Water Treatment Plant (WTP) for treatment.
- 2) A WTP for managing contact water associated with construction activities in the underground mine and the plant site areas. The proposed WTP is currently being designed by Veolia Water Solutions & Technologies Canada Inc. Treated water will be discharged to Brucejack Creek (Figure 1-2).
- 3) Conveyance of contact water associated with a quarry site to Brucejack Lake. The quarry (Figure 1-2), will be used to provide building foundations and possibly cut/fill material.
- 4) A sewage treatment plant (STP) for management of Brucejack site domestic waters. The current Filterboxx STP will continue to be used during Construction, and will be augmented with a second treatment unit if needed. STP waters will be discharged to Brucejack Creek.
- 5) Deposition of waste rock into Brucejack Lake.

### 3.1.2 Operations

The water balance configuration for the Operations phase of the Project is illustrated in Figure 3-2. Throughout the 22 year Operations phase, Brucejack Lake will serve as the receiver for all Project-related waters. The Project design criteria related to water management for Operations are summarized in Table 3-1.

**Table 3-1:  
Project Design Criteria**

Item	Criteria
Total Ore resource	14.0 Mt
Nominal Mill Throughput	2,700 tpd
Life of Mine	22 years
Ore Tonnage to Export	1.6 Mt assumed 8.1% of total ore goes to concentrate
Waste Rock Tonnage	4.6 Mt deposited in Brucejack Lake prior to Operations 2.0 Mt deposited in the underground during mine life
Flotation Tailings Tonnage	9.5 Mt deposited in Brucejack Lake
Paste Backfill Tonnage	8.5 Mt deposited in underground mine
Brucejack Lake catchment	10.1 km <sup>2</sup>
Brucejack Lake volume	28.5 Mm <sup>3</sup> at an elevation of 1364.5 masl

The main water management components of the water balance for the Operations phase include the following:

- 1) A contact water pond which will receive surface runoff from the plant site area and excess water generated by groundwater inflows to the underground workings. This water will be pumped to the WTP for treatment.
- 2) The underground mine which will have discharges associated with groundwater inflows and paste backfill bleed water (*i.e.*, the excess water not used in the paste backfill cementation reaction).
- 3) The WTP which will treat water from the contact water pond and the underground mine. The treated effluent will be discharged to Brucejack Lake via the tailings pipeline.
- 4) A sewage treatment plant (STP) where effluent will be discharged to Brucejack Lake.
- 5) An Ore Process Plant which will discharge a tailings slurry to Brucejack Lake at depth via a tailings discharge pipe. Fluidizing water will be required to maintain a constant flow through the pipe; the source of this water will be reclaim water from Brucejack Lake as well as excess underground seepage water.
- 6) The conveyance of contact flows from the quarry to Brucejack Lake via surface runoff.
- 7) Deposition of waste rock into Brucejack Lake and the underground mine as paste backfill

These operational components are summarized in Table 3-2, along with other water inflows and losses relevant to the Operations phase water balance.



**Table 3-2:  
Components of the Brucejack mine site water balance.**

<b>Water Inflows</b>	<b>Water Losses</b>
<b><i>Process Plant</i></b>	
Process requirement via water treatment plant	Concentrate moisture
Ore moisture	Mill losses
Fluidizing water	Tailings slurry water
Reclaim from Brucejack Lake	Paste backfill
<b><i>Brucejack Lake</i></b>	
Tailings slurry water	Void losses (tailings and waste rock)
Undisturbed runoff (includes groundwater inflows)	Reclaim to process plant
Water displaced by tailings and waste rock	Discharge to Brucejack Creek
Fluidizing water	
Water Treatment Plant (WTP) effluent	
Sewage Treatment Plant (STP) effluent	
Runoff from quarry	
<b><i>Water Treatment Plant</i></b>	
Excess groundwater inflows to underground mine	Discharge to Brucejack Lake
Contact water pond	
<b><i>Underground Mine</i></b>	
Groundwater inflows to underground mine	Void losses associated with backfill
Paste backfill	Excess to WTP plant

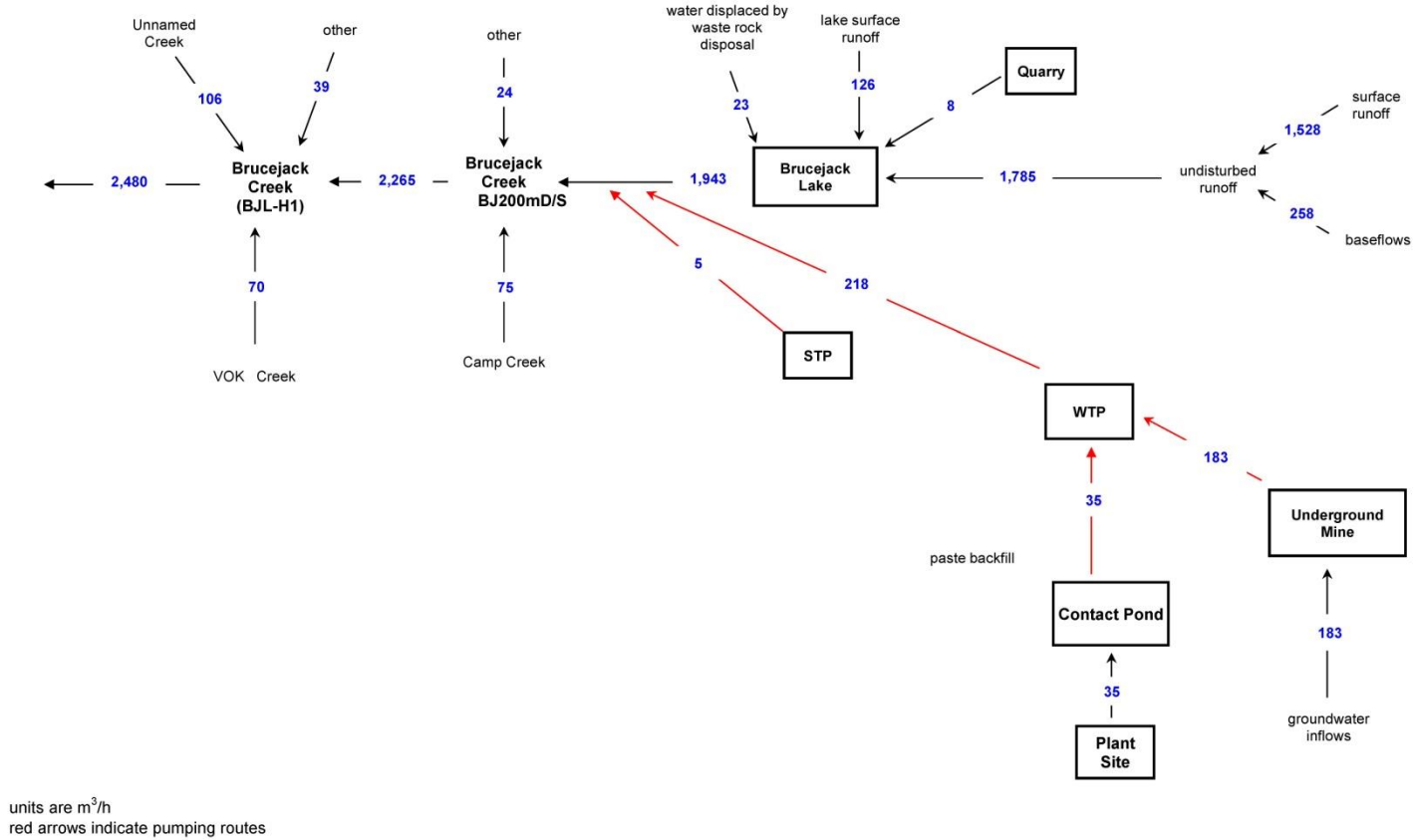
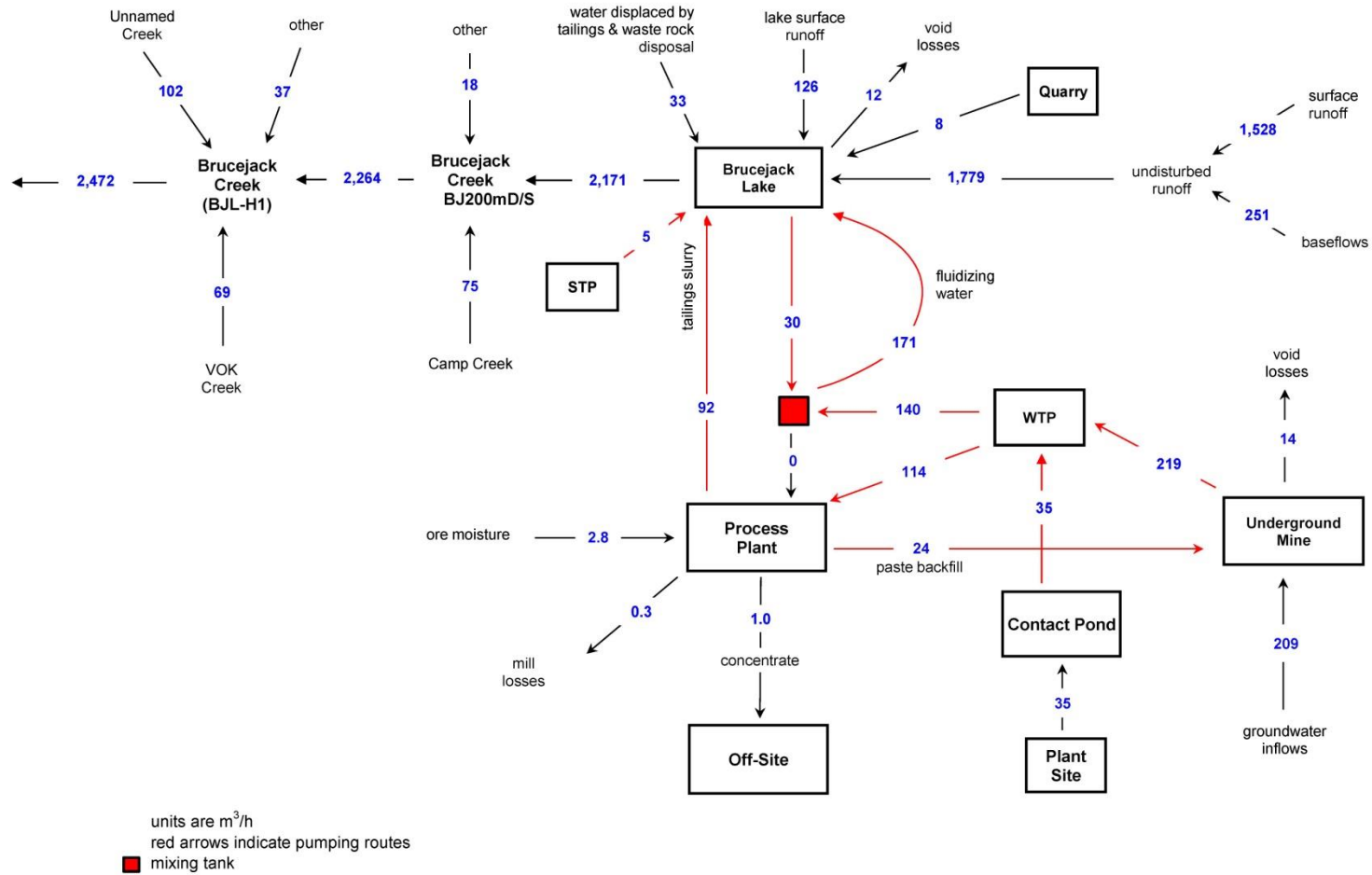


Figure 3-1: Brucejack Lake water balance model schematic for the Construction phase (average flow conditions).



**Figure 3-2: Brucejack Lake water balance model schematic for the Operations phase (average flow conditions). Values shown are averaged over the life-of-mine.**

### 3.1.3 Post-Closure

At Closure, various mine facilities will be decommissioned (*i.e.*, STP, WTP and Process Plant) and the underground mine workings will be flooded. This reconfiguration of flows and the associated water management plan is reflected in the water balance illustrated in Figure 3-3.

The Post-Closure water balance includes the following mine-related components:

- 1) Contact flows from the quarry.
- 2) Contact flows from the reclaimed plant site.
- 3) Flows from the underground mine which are conveyed to Brucejack Lake and Brucejack Creek via groundwater pathways; it is assumed that groundwater that may have contacted underground workings is suitable for discharge without treatment.

### 3.2 Sensitivity cases

The sensitivity of modelled water quality predictions to changes in flow conditions was tested by modifying certain parameters within the base case water balance configurations described above. The modelled results reported in Chapter 5 include sensitivity cases for the following flow scenarios:

- Increased surface flow rates to simulate a 1 in 100 wet year scenario. This flow condition was applied to the last year of Construction, the last year of Operations and year 10 of the Post-Closure mine phase.
- Decreased surface flow rates to simulate a 1 in 100 dry year scenario. This flow condition was applied to the last year of Construction, the last year of Operations and year 10 of the Post-Closure mine phase.
- A high hydraulic conductivity (K) and high recharge scenario was considered in the groundwater flow modeling, resulting in increased inflow to the underground mine.
- A low hydraulic conductivity (K) scenario was considered in the groundwater flow modeling, resulting in reduced contact water flow from the underground mine.

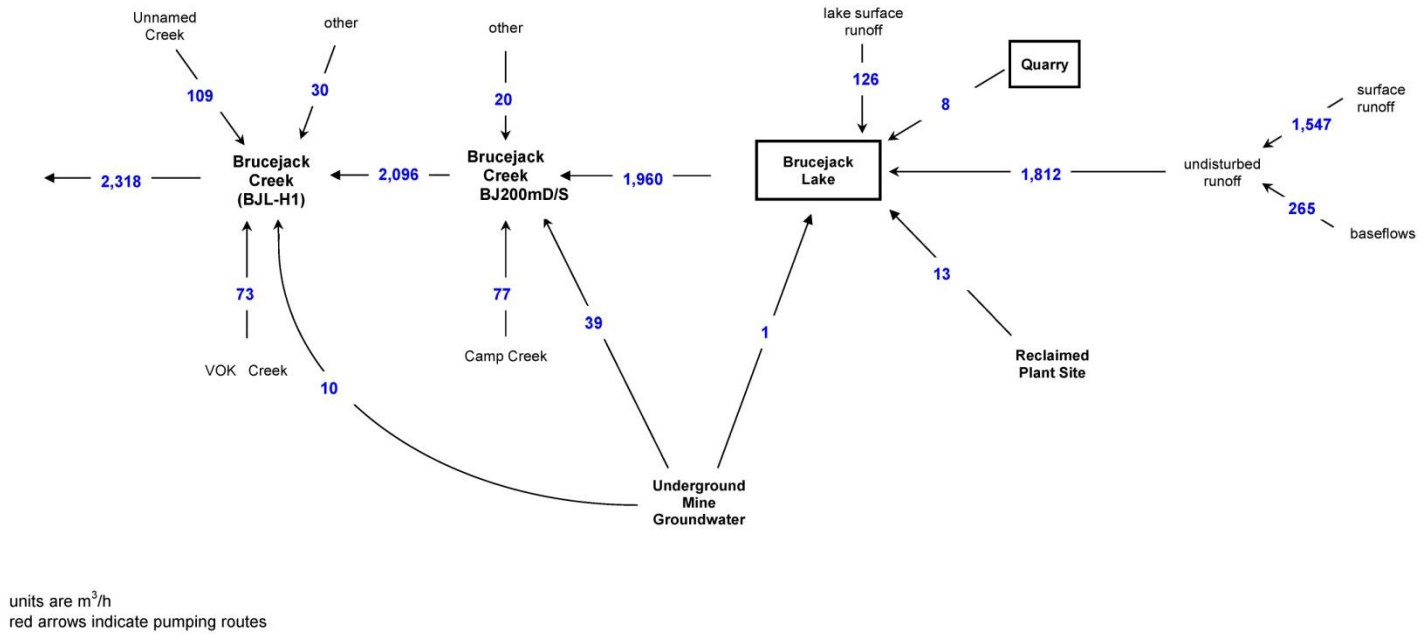


Figure 3-3: Brucejack Lake water balance model schematic for the Post-Closure phase (average flow conditions)

## ***4. Source Terms***

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## 4. Source Terms

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The water quality predictions (presented in Chapter 5) are based on source terms developed by BGC, which are described in detail in the following sections. Overall, source term water compositions were developed for the following:

- Background water quality
- Camp Creek
- Quarry runoff
- Plant-site runoff
- Underground Mine discharge
- Water Treatment Plant
- Tailings Slurry
- Sewage Treatment Plant
- Waste Rock in Brucejack Lake

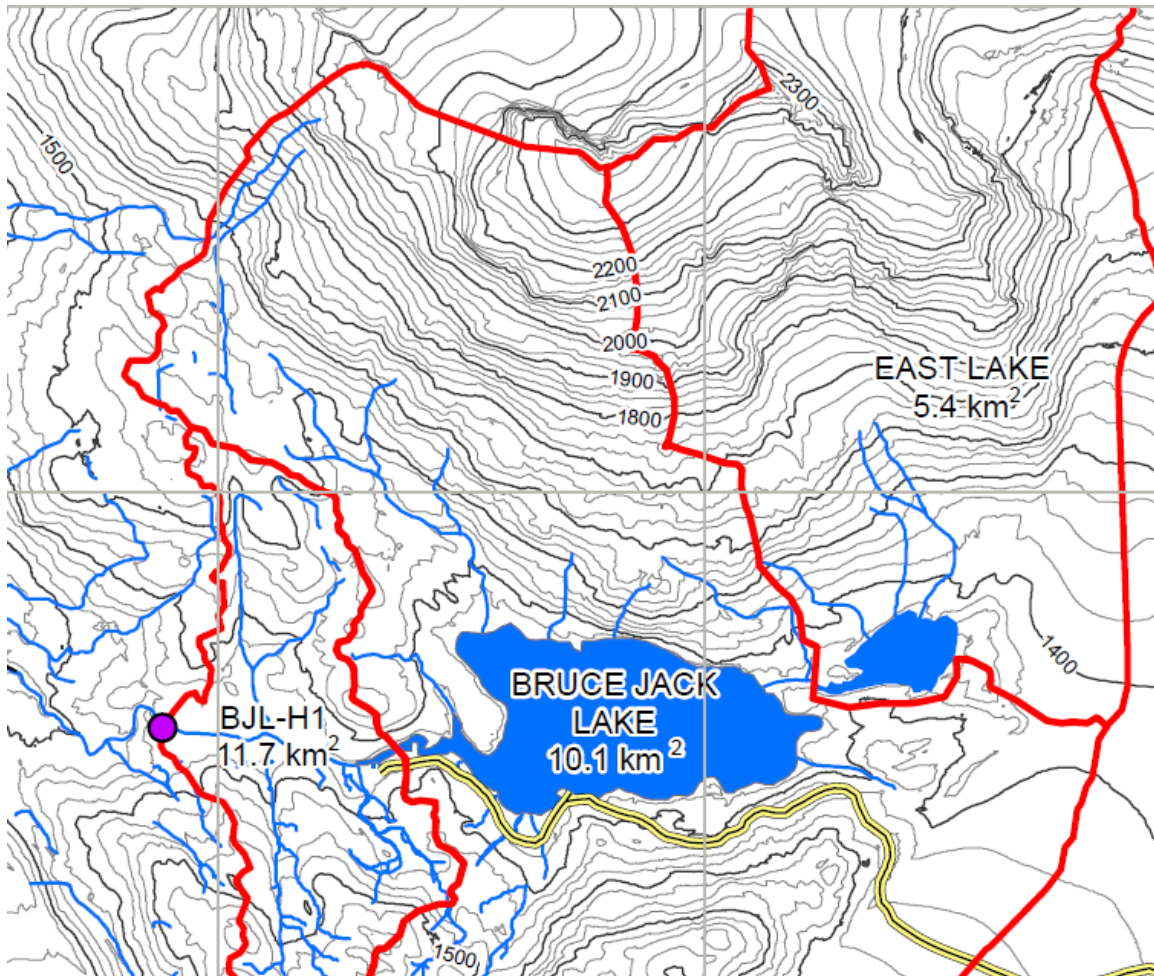
### 4.1 Background Water Quality

#### 4.1.1 Approach and Assumptions

Background water quality for the Project was based on available datasets for groundwater inflows, surface runoff and surrounding tributaries. The two sites relevant to water quality models presented in this report are BJ200mD/S, the proposed application site within Brucejack Creek and BC provincial water quality attainment location, and BJ U/S, the monitoring site at the outlet of Brucejack Lake which will be the mine's point of discharge during Operations (Figure 1-2). Baseline water quality data at BJ200mD/S are limited (Rescan, 2014) and thus water quality model predictions for Brucejack Creek rely on water quality source terms and flows for the various contributing background water sources. These include Camp Creek, undisturbed surface runoff and baseflow. However, because Camp Creek transects the Brucejack project site, it is likely influenced by camp activities and thus is considered as a separate source term (described in Section 4.2). Background water quality for Brucejack Lake has been estimated based on water quality source terms and flows for undisturbed surface runoff and baseflow. The methodology and data sets used to derive source terms for these two components are described below.

#### 4.1.1.1 Surface Runoff

Surface runoff includes overland runoff and contributions from small seasonally driven streams (Figure 4-1). Surface runoff currently accounts for approximately 80% (1556 m<sup>3</sup>/h) of the lake outflow. Although several streams (discharging to Brucejack Lake) are sampled regularly (*e.g.*, Tributary 1 and 2), it is difficult to adequately capture all runoff to Brucejack Lake. As such, water quality measured at BJ U/S is considered to provide the best representation of surface runoff water quality.



**Figure 4-1: Plan map of Brucejack Lake watershed and location of surface runoff inputs.**

BJ U/S was monitored during the historical Newhawk operations (1987 to 2001) and has been monitored throughout Pretivm's exploration phase (2011-present day). Samples from this dataset (n=102) show no discernible seasonal variation, although some samples show sporadically high values of TSS and other parameters. The dataset was refined to exclude some sampling dates showing elevated parameter concentrations (*e.g.*, TSS, total Al, nutrients) that did not parallel probable freshet response periods. Instead, the days showing



elevated values were more likely associated with increased exploration activity. In an effort to develop source term values that reflect baseline or pre-disturbance conditions, the BJ U/S data were filtered to exclude samples with high TSS (*i.e.*, > 2 mg/L), high total Al (*i.e.*, > 0.1 mg/L) and nutrient values considerably above detection limits (*i.e.*, 10 × higher). These three refinements reduced the dataset to 59 samples. Base case and conservative case scenarios reflect average and 95<sup>th</sup> percentile values of this refined data set.

It should be noted that only a subset of the parameters analysed in the current monitoring program were measured during Newhawk's operations. In addition, analytical detection limits were significantly higher in the older dataset. This has particular relevance to cadmium, silver and mercury analyses. In an effort to avoid bias towards higher concentrations as a result of high detection limits in earlier samples, these values were excluded in the curated dataset (*e.g.*, Cd, Ag, Hg: n = 33; pH, TSS, Cu: n = 59).

#### 4.1.1.2 Baseflow

Baseflow represents the groundwater component contributing to Brucejack Lake and Brucejack Creek. The baseflow dataset is comprised of data from two tributaries (Tributary 1 and Tributary 2) and three groundwater wells (MW-BGC12-BJ-8A, -8B and -12A). Water quality measured in Tributaries 1 and 2 during the winter months is assumed to represent the uncontaminated near surface groundwater component, while water quality from the selected groundwater wells, located on the periphery of the area affected by exploration, is assumed to be most representative of pre-disturbance groundwater.

Well installation characteristics and location details are provided in Table 4-1. A number of samples from the monitoring wells were excluded due to high solute concentrations in samples following well installation. These samples showed significantly higher TSS and turbidity values, suggestive of temporary contamination of the surrounding aquifer with drilling waters/mud. Three samples from Well 8B and one sample from Well 12A were excluded on this basis. An additional sample from Well 8B was also removed from the baseflow dataset due to its anomalously high dissolved Al values. In total, 18 samples from the tributary and groundwater well datasets were used in the development of the baseflow source term.

**Table 4-1:  
Brucejack groundwater well characteristics.**

Well Name	Installation Date	Easting †	Northing†	Ground elevation (masl)	Screen (m bgs)		Water Level (masl)‡
					From (m)	To (m)	
MW-BGC12-BJ-8A	Jun 18-12	426106	6258819	1403.38	86.2	92.3	1367 – 1391
MW-BGC12-BJ-8B	Jun 19-12	426106	6258819	1403.30	44.8	50.9	1366 - 1388
MW-BGC12-BJ-12A	Aug 9-12	426509	6257807	1579.19	87.8	93.9	1497 - 1529

†Coordinates in NAD83 UTM Zone 9N

‡Measured between mid 2012 to mid 2013

### 4.1.2 Background Source Term Values

Following the dataset refinements described above, the base case and conservative case source terms for surface runoff and baseflow were defined for general parameters, nutrients, dissolved metals and total metals (Table 4-2; Table 4-3). The base case reflects average values and the conservative case is based on 95<sup>th</sup> percentile values. Note that the conservative case scenario alkalinities reflect 5<sup>th</sup> percentile results for the purpose of ensuring proposed worst-case conditions are geochemically consistent (*i.e.*, lower pH values are associated with lower alkalinity values).

**Table 4-2:  
Surface Runoff and Baseflow source terms for general parameters/nutrients and dissolved metals (as mg/L).**

Parameter	Surface Runoff		Baseflow	
	Base Case	Conservative Case	Base Case	Conservative Case
pH	7.49	7.00	7.86	7.45
Alkalinity	15.8	13.8	67.6	35.3
Nitrate N(5)	0.0348	0.105	0.00164	0.00164
Nitrite N(3)	0.00189	0.00355	0.0869	0.170
Diss-P	0.000518	0.0005	0.000894	0.00230
Tot-P	0.00196	0.00582	0.0498	0.223
Cl	2.98	4.88	4.75	38.8
Sulfate S(6)	8.47	11.1	47.2	166
Ag	6.52E-06	1.00E-05	5.00E-06	5.00E-06
Al	0.00605	0.0163	0.0129	0.0320
As	0.000853	0.00203	0.00843	0.0184
Ca	8.83	9.97	33.3	75.6
Cd	8.39E-06	8.50E-06	7.77E-06	1.74E-05
Co	9.00E-05	0.000150	0.000106	0.000408
Cr	0.000194	0.000500	0.000181	0.000524
Cu	0.000742	0.00250	0.000250	0.000250
Fe	0.0164	0.0175	0.0168	0.0210
Hg	5.00E-06	5.00E-06	5.00E-06	5.00E-06
K	0.365	1.00	0.894	4.48
Mg	0.293	0.319	4.32	10.7
Mn	0.00521	0.0106	0.0413	0.320
Mo	0.000767	0.00100	0.00162	0.00256
Na	1.00	1.00	3.90	7.36
Pb	0.000261	0.000500	2.50E-05	2.50E-05
Se	0.000192	0.000500	0.000239	0.000410
Tl	3.38E-05	0.000100	9.82E-06	0.0000290
Zn	0.00305	0.00628	0.00240	0.00630

**Table 4-3:  
Surface Runoff and Baseflow source terms for total metals (as mg/L).**

Parameter	Surface Runoff		Baseflow	
	Base Case	Conservative Case	Base Case	Conservative Case
Ag	8.97E-06	1.74E-05	0.000256	0.00103
Al	0.0355	0.0898	2.58	3.50
As	0.00108	0.00222	0.0324	0.104
Ca	8.87	10.4	35.7	78.7
Cd	8.76E-06	8.76E-06	7.54E-05	0.000336
Co	9.12E-05	0.000150	0.000878	0.00304
Cr	0.000205	0.000500	0.01329	0.0544
Cu	0.000752	0.00266	0.00574	0.0183
Fe	0.0523	0.171	2.07	7.06
Hg	8.72E-06	2.50E-05	1.05E-05	4.32E-05
K	0.371	1.00	1.40	5.29
Mg	0.301	0.347	4.91	11.2
Mn	0.00726	0.0146	0.112	0.380
Mo	0.000839	0.00250	0.00189	0.00350
Na	1.00	1.00	4.04	7.44
Pb	0.000340	0.000575	0.00556	0.0264
Se	0.000191	0.000500	0.000299	0.000726
Si	0.290	0.434	n/a	n/a
Tl	3.45E-05	0.000100	6.31E-05	0.000183
Zn	0.00296	0.00600	0.0154	0.0501

As a verification step to assess the validity of individual Surface Runoff and Baseflow source terms, these values were compared to the data for Tributary 1 and 2. These tributaries flow directly into Brucejack Lake near its eastern and north-eastern extent and samples collected during the winter months are assumed to be dominated by the groundwater component. During other months of the year, however, the water quality in these tributaries are assumed to reflect the combined contribution from surface runoff and baseflow. As a means to independently validate the Surface Runoff and Base Flow source terms, these values were mixed in PHREEQC, a hydrogeochemical modelling program, in ratios reflective of flow contributions described for the Operations water balance (Section 3.1.2) (*i.e.*, 0.14 and 0.86, respectively). The simulated composition showed good agreement with average values for the year-round Tributary 1 and 2 datasets (*i.e.*, average

standard error < 4% difference; 85<sup>th</sup> percentile standard error < 5%). These results support the assumptions associated with the development of unique Surface Runoff and Base Flow source terms.

## **4.2 Camp Creek**

### **4.2.1 Approach and Assumptions**

Camp Creek discharges to Brucejack Creek immediately downstream of Brucejack Lake (Figure 1-2). Camp Creek transects the Brucejack exploration site and therefore is likely influenced by camp activities.

Approximately 25 water samples were analyzed from Camp Creek between 1993 and 2013. Monitoring of Camp Creek from 1993 to 1998 was conducted by Newhawk (n = 9), with sampling generally limited to the months of August and September, likely due to difficulties accessing the site during the winter months. Following the acquisition of the Brucejack Property in 2010, Pretivm completed an extensive exploration and drilling program in the Brucejack area with a significant increase in the sampling frequency of Camp Creek (n = 16) and other water courses. Additionally, the later sampling period included a full 33-element total and dissolved analyte suite (with nutrients), which contrasts from the earlier 1993-1998 sampling involving a smaller analyte set (*i.e.*, 11 total/dissolved metals (As, Cd, Ca, Cu, Fe, Pb, Mg, Hg, Mo, Ag, Zn) and nutrients were not analyzed).

Several mitigation strategies to minimize camp-related impacts to Camp Creek are being implemented in 2014 and will continue as part of the proposed mine plan. These include:

- Creating a protected environment along Camp Creek embankments;
- Replacement of the STP that had been installed in 2012; and
- Discontinuing STP discharge into Camp Creek by installing a new discharge line to Brucejack Creek.

These mitigation strategies aim to rehabilitate Camp Creek and, therefore, should be reflected in the development of the Camp Creek source terms. This involved a comparison of the two Camp Creek datasets, which showed the earlier sampling period typically presented lower general parameter and metal concentrations. Also, a seasonal variation is noted in the larger, more recent dataset, as Camp Creek values increase or decrease during freshet periods (*i.e.*, higher total loads and lower dissolved concentrations).

Although the earlier dataset has a higher likelihood to reflect a pre-disturbance period, the seasonally-selective sampling, limited analyte suite and higher detection limits (*i.e.*, similar to the discussion in Section 4.1.1 for BJ U/S) implies these results may add significant

uncertainty to the development of Camp Creek source terms. As such, the more recent Pretivm-led sample suite was reviewed and several conditions were applied to revise this dataset. Specifically, samples with high TSS and turbidity levels were deemed unlikely to be representative of baseline conditions and thus not included in the dataset used for source term development (n = 10).

A similar approach to curating Camp Creek data was conducted by ERM Rescan, for the purposes of the Brucejack Water Quality Baseline report (Rescan, 2014). Comparison of mean values from the BGC-derived source term dataset, to those from Rescan, showed median differences of dissolved metal and sulphate concentrations to be 3.0 times higher with 75<sup>th</sup> percentile values less than 5 times different. A higher level of conservatism is built into nutrient values from the Camp Creek source term dataset as they are typically one to two orders of magnitude higher relative to those from the Rescan dataset. The main source of this discrepancy relates to sporadically high P loads added to Camp Creek as a result of camp activities. The precise timing of these events is unclear and the removal of samples with higher nutrient concentrations from the data set would significantly limit the sample size used to generate source terms. Therefore, the inclusion of these samples results in source terms that are considered to be conservatively robust.

This approach assumes the proposed mitigation strategy to protect Camp Creek is valid and can be applied during Construction and maintained throughout Operations. Due to the limited number of samples included in this dataset, it is recommended that Camp Creek be monitoring continue.

#### **4.2.2 Camp Creek Source Term Values**

The base case and conservative case dissolved and total source term values for Camp Creek are presented in Table 4-4. These values represent average and 95<sup>th</sup> percentile results (respectively). Note that conservative case alkalinity values are obtained from 5<sup>th</sup> percentile results.

**Table 4-4:  
Camp Creek source terms for Base Case and Conservative Case scenarios  
all values as mg/L).**

Parameter	Base Case		Conservative Case	
pH	6.88		6.39	
Alkalinity	58.3		4.00	
Nitrate N(5)	0.493		1.93	
Nitrite N(3)	0.0264		0.0881	
Ammonia N(-3)	4.12		18.3	
P-dissolved	0.484		2.04	
P-total	0.583		2.04	
Cl	8.76		68.4	
Sulfate S(6)	79.0		156	
	Dissolved	Total	Dissolved	Total
Ag	8.80E-06	0.000405	2.20E-05	0.00110
Al	0.0497	1.70	0.126	2.00
As	0.0015	0.00846	0.00514	0.0206
Ca	33.2	32.7	65.4	65.7
Cd	0.000224	0.000289	0.000380	0.000456
Co	0.00159	0.00248	0.00258	0.00442
Cr	0.000128	0.000374	0.000397	0.000684
Cu	0.000925	0.00634	0.00298	0.0114
Fe	0.0511	2.74	0.108	7.72
Hg	5.00E-06	2.38E-05	5.00E-06	5.76E-05
K	1.88	2.39	6.47	6.69
Mg	1.89	2.22	4.04	4.14
Mn	0.348	0.429	0.570	0.662
Mo	0.00024	0.000336	0.00083	0.000830
Na	8.28	8.48	8.28	2.16
Pb	7.40E-05	0.00309	0.000197	0.00874
Se	0.000148	0.000204	0.000392	0.000428
Tl	3.46E-05	6.25E-05	8.07E-05	0.000108
Zn	0.0217	0.0425	0.0504	0.0740

### 4.3 Quarry Runoff

#### 4.3.1 Approach and Assumptions

A quarry, located near the southeast end of Brucejack Lake (Figure 1-2) will provide material for building foundations and other construction activities. Runoff from the quarry will flow into Brucejack Lake during all phases of the Project. The quarry material is predominantly volcanic (plagioclase-hornblende) porphyry, with no observed major discontinuities and negligible sulphide mineralization. Based on ML/ARD characterization (BGC, 2014b), quarry rocks are classified as non-PAG. Static test results indicate material has low sulphide concentrations and a significant carbonate-buffering capacity, which results in high NPR values (*i.e.*, NPR = 59 – 199). The boundaries of the quarry are currently poorly defined; however, material from depths of up to 50 m is expected to be used for building/construction activities.

In October 2013, a diamond drill program was conducted in the proposed quarry site area to characterize quarry materials. Three drill holes were spaced across the proposed pit and drilled to a total depth of 50 m, or the maximum anticipated slope exposures. Drill core samples from the upper 25 m of each hole were combined and sub-sampled three times for a total of 9 samples. Typically, humidity cell experiments on quarry materials would be used to predict runoff chemistry. In the absence of humidity cells conducted on quarry-specific material, results from humidity cell tests with comparable material (BGC, 2014b) were used to derive base case and conservative case source terms, as described below.

### 4.3.2 Quarry Source Term Values

Three humidity cells with P1 materials (HC 27 with Office P1 and HC 28 & 35 with Bridge P1; see BCG, 2014b for rock descriptions) were included in the 36 humidity cell dataset used as part of the ML/ARD characterization program. Although quarry material was not specified as Bridge/Office P1, the logged quarry lithology is identified as porphyry and comparable to materials used in these three P1 humidity cells. Also, lag times for the onset to acidic conditions for Office and Bridge P1 materials were estimated as 220 years and 128-263 years, respectively, and are consistent with the higher median NPR values of these units (Office P1: NPR=4.5; Bridge P1: NPR=1.2) relative to the other 5 geological model units.

Mean concentrations from the last 10 weeks of leachate results were compiled from each of the three P1 humidity cells. From this subset, average and 95<sup>th</sup> percentile values were calculated to reflect base case and conservative case scenarios, respectively. These values were charge balanced in PHREEQC to calculate final source terms for both scenarios. Quarry source term values used for base case and conservative case water quality predictions are presented in Table 4-5. Note that total values are assumed to be equal to dissolved metal concentrations.

**Table 4-5:  
Quarry source term values for base case and conservative case scenarios (as dissolved concentrations in mg/L).**

<b>Parameter</b>	<b>Base case</b>	<b>Conservative case</b>
pH	7.54	7.47
Alkalinity	29.1	28.1
Nitrate N(5)	n/a	n/a
Nitrite N(3)	n/a	n/a
P	0.00504	0.00551
Cl	3.00	4.90
S(6)	10.7	17.6
Ag	5.00E-06	5.00E-06
Al	0.0891	0.104
As	0.005568	0.00936
Ca	6.94	8.91
Cd	2.57E-05	3.88E-05
Co	9.72E-05	0.000124
Cr	0.000250	0.000250
Cu	0.00371	0.00940
Fe	0.00665	0.00746
Hg	6.46E-06	7.38E-06
K	2.38	3.34
Mg	1.06	1.42
Mn	0.0342	0.0555
Mo	0.000909	0.00101
Na	2.07	2.78
Pb	0.000238	0.000480
Se	0.000342	0.000750
Tl	1.96E-05	3.39E-05
Zn	0.00302	0.00580



## 4.4 Plant-Site Runoff

### 4.4.1 Plant-Site Flows

Contact water associated with runoff from the plant site will be collected in a contact water pond and this water will then be pumped to the WTP. During the Construction phase, the mine will be dewatered and plant site runoff is conservatively assumed to have the same chemistry as mine adit waters. During Operations and Post-Closure, three sources of water are relevant, including precipitation, groundwater and surface runoff. However, surface runoff from surrounding areas is assumed to be negligible based on planned diversion ditches in the vicinity of the plant site. The sections below describe how the relative amounts of precipitation and groundwater were estimated for the Operations and Post-Closure phases, followed by a discussion of geochemical source terms applied to these flows within the water quality model.

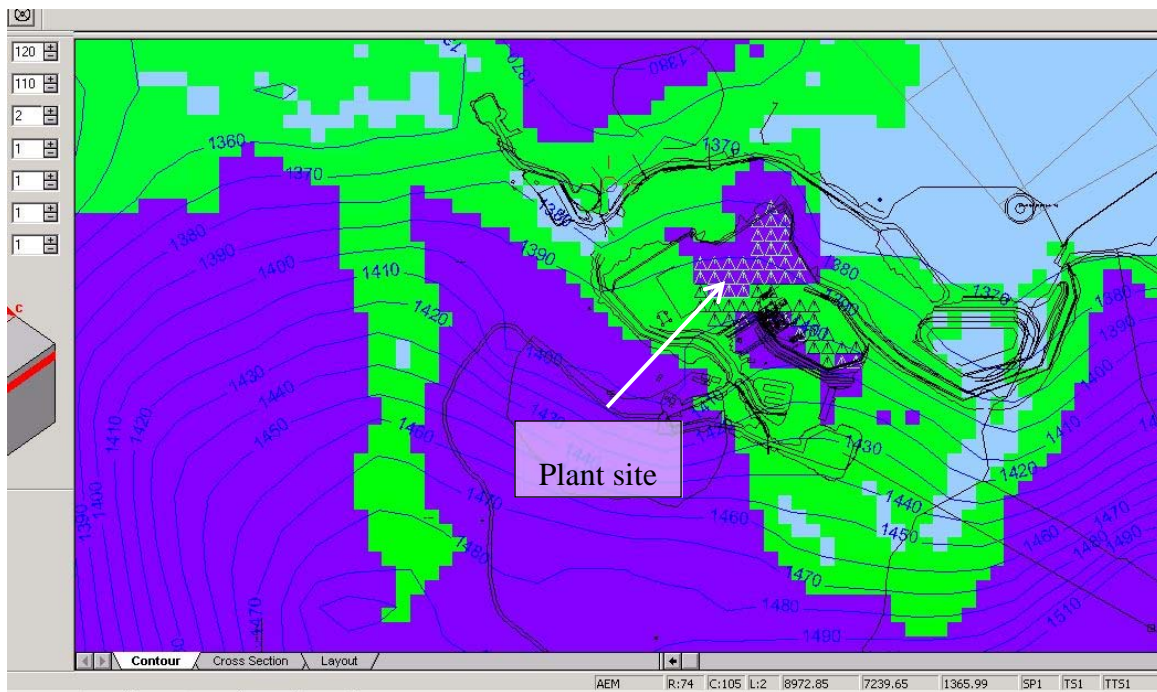
#### 4.4.1.1 Groundwater

Groundwater flow to the Brucejack plant-site area was considered for both operational and Closure periods (BGC, 2014c). No groundwater flow is expected to discharge to the plant-site area during Construction or Operations due to mine dewatering (*i.e.*, the water table is drawn down sufficiently that no groundwater discharge occurs to the plant-site).

The Closure and Post-Closure periods were modelled for a total of 30 years. The first ten years were assessed using 2-month stress periods (*i.e.*,  $3 \times 2$ -month summer stress periods and  $3 \times 2$ -month winter stress periods each year), followed by seasonal 6-month stress periods thereafter. Model results suggest that:

- The water table will recover in the first few years following mine closure (*i.e.*, when dewatering ceases); and
- Groundwater seepage to the plant site will be limited to the summer period.

Figure 4-2 presents Post-Closure model results. A small region in the plant site area (green, triangle-stippled; 58 grid blocks = 36,250 m<sup>2</sup>) is predicted to receive groundwater discharge during the summer months. Base case summer groundwater flows are estimated to range between 2 and 23 m<sup>3</sup>/d (average = 12 m<sup>3</sup>/d).



**Figure 4-2: Simulated results from groundwater modeling of plant site area at closure. Green shading denotes areas predicted to receive groundwater discharge during the summer months.**

#### 4.4.1.2 Precipitation

The majority of flow to the plant site area originates from summer month rainfall events, as snow cover is assumed to prevent precipitation from contacting the plant-site during winter periods. Average monthly precipitation values ( $P_{avg}$ ) for summer months range between 129.5 mm and 138.5 mm and are based on precipitation records from several climate stations surrounding the Project area (Unuk River Eskay Creek climate station, Brucejack meteorological station) (BGC, 2014a). Average monthly potential evapotranspiration ( $PET_{avg}$ ) during summer months is estimated at 25.5 mm.

The groundwater simulations (discussed in Section 4.4.1.1) apply a recharge ( $R_{model}$ ) amount of 0.0015 m/d or 45 mm/month to model cells (BGC, 2014c). As such, this amount is removed from calculated recharge values (see equation below), in the effort to avoid duplicating this value in plant site calculations and possibly overestimating flow to the plant site area. This is expressed in the equation below describing the overall runoff amount ( $R_{final}$ ).

$$R_{final} = \hat{P}_{avg} - PET_{avg} - R_{model}$$

Lower and upper end estimates of summer month recharge to the plant site are 59 mm/month and 68 mm/month, translating to 71 m<sup>3</sup>/d and 82 m<sup>3</sup>/d, respectively. These

values represent conservative and base case flow estimates, respectively, for Operations and Closure/Post-Closure scenarios. Table 4-6 summarizes the base case flow contributions from precipitation and groundwater for the Post-Closure scenario. Notably, Operations scenarios would include only the precipitation flow term (*i.e.*, 82 m<sup>3</sup>/d).

**Table 4-6:  
Base case flow components (m3/d) to plant site for the Post-Closure scenario**

	Base Case
Groundwater	12
Precipitation	82
Combined	94

#### 4.4.2 Approach and Assumptions

The majority of material within the plant site area (Figure 4-2, green, triangle-stippled) consists of intermediate volcanic assemblages (as per the 2013 sample program; BGC, 2014b). Knowledge of typical climatic patterns in the Brucejack area and previously described groundwater modeling suggests this area will undergo yearly wet-dry cycles throughout Operations and Post-Closure. These considerations suggest that results from humidity cell tests, bearing similar intermediate volcanic assemblages (*i.e.*, HC 17, 26 and 29), may act as a proxy for leachate chemistries pertaining to plant site runoff.

The three intermediate volcanic humidity cells underwent testing for 84 weeks (HC17) and 28 weeks (HC 26 and HC 29). Data from these sample sets were used to generate base case and conservative case source terms for Operations and Post-Closure scenarios. Several assumptions were applied to these datasets in the calculation of source term values for the Operations and Post-Closure periods, namely:

- Average analyte concentrations, over the entire humidity cell data set, were used for *Operations period* source terms;
- Average analyte concentrations from the last 10 weeks of humidity cell data were used for *Post-Closure period* source terms; and
- Base case and conservative case scenarios reflect median and averaged values (respectively) obtained from datasets pertaining to Operations and Post-Closure periods.

For Operations, the inclusion of the entire humidity cell data set results in higher leachate chemistries since the data include the period spanning the initial flush to ‘near steady state’ conditions. In contrast, the Post-Closure scenario considers results from the last 10 weeks of humidity cell testing only, representing near-steady state conditions. This results in

lower source term values for the Post-Closure period. Near-steady state conditions can be assumed since numerous decades of wet-dry cycles will have already occurred prior to the Post-Closure phase.

#### 4.4.3 Plant-Site Source Term Values

Plant site source term values for base case and conservative case scenarios are presented in Table 4-7. Total metal concentrations are assumed to be equal to dissolved metal concentrations, as humidity cell tests only measured the leached constituents from rock samples. Further, humidity cells do not analyze for nutrients and no values are provided for these source terms.

**Table 4-7:**  
**Plant site source term values for Operations and Post-Closure periods (as dissolved concentrations in mg/L).**

Parameter	Operations		Post-Closure	
	Base Case	Conservative Case	Base Case	Conservative Case
pH	7.41	6.41	7.43	5.17
Alkalinity	21.2	25.6	16.73	15.0
Nitrate N(5)	n/a	n/a	n/a	n/a
Nitrite N(3)	n/a	n/a	n/a	n/a
Diss-P	0.00485	0.00545	0.0045	0.00469
Cl	n/a	n/a	n/a	n/a
Sulfate S(6)	29.7	59.8	12.2	43.7
Ag	1.52E-05	1.68E-05	1.25E-05	1.29E-05
Al	0.0772	0.116	0.133	0.116
As	0.0162	0.0169	0.0155	0.0149
Ca	4.41	11.1	3.77	11.7
Cd	2.28E-05	0.00173	2.83E-05	0.00328
Co	0.000147	0.00485	0.000142	0.00784
Cr	0.00025	0.000252	0.00025	0.00025
Cu	0.000685	0.0107	0.000644	0.0241
Fe	0.0062	0.115	0.00606	0.248
Hg	6.30E-06	6.93E-06	5E-06	6.25E-06
K	2.01	2.86	1.87	2.06
Mg	1.30	1.29	1.02	1.270
Mn	0.0259	0.296	0.0270	0.420
Mo	0.00334	0.00305	0.0017	0.00153
Na	9.90	16.6	1.83	6.05
Pb	0.000193	0.00274	0.000136	0.00414
Se	0.00152	0.00124	0.000996	0.000815
Tl	2.73E-05	5.03E-05	2.13E-05	3.71E-05
Zn	0.00213	0.104	0.00175	0.217

## 4.5 **Underground Mine**

Underground mine water is conceptualized as the summation of groundwater infiltration through exposed materials in the underground workings and bleedwater (*i.e.*, excess water from paste backfilling process). The latter contributes a small portion (5%) to the overall underground flow term, such that the year-to-year development of underground workings is the main control on measured/predicted adit waters. During the Construction and Operations mine phases, all water from the underground mine will be collected and directed to the WTP. Following flooding of the mine at Closure, it is assumed that the quality of underground mine-related waters will not require treatment. However, the WTP will remain onsite for as long as needed to meet water quality objectives (see BGC, 2014d). The following discussion outlines the methodology for developing source terms associated with the different underground mine water sources.

### 4.5.1 **Underground Mine Groundwater**

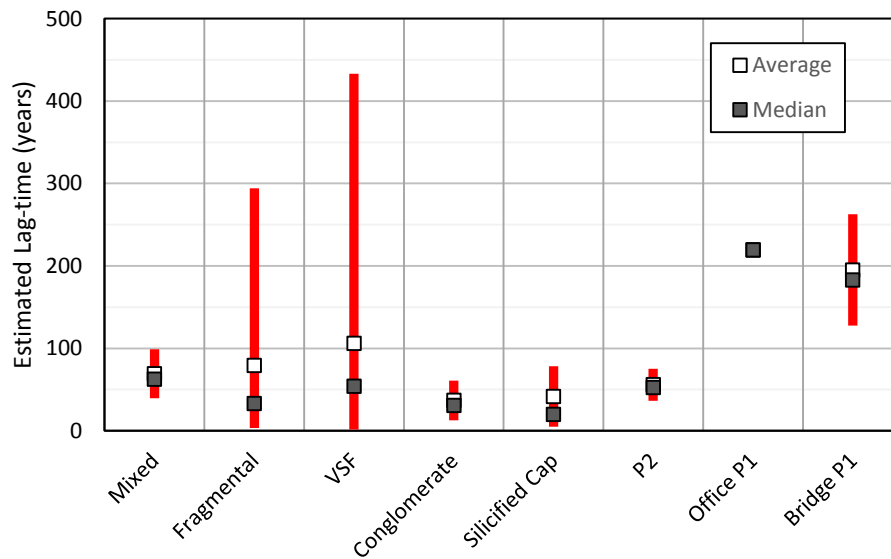
The chemical composition of underground mine groundwater will be controlled by the extent of interaction with rock materials. The mine plans detail the amount of excavated and exposed waste from each geological model unit on a yearly basis. Source terms related to each material type were derived from humidity cell tests that assist with describing material-specific weathering rates. These weathering rates are dependent on the ratio of acid-generating to acid-neutralizing minerals and their respective kinetic reactions. Specifically, material may be exposed for over two decades and may generate acidic leachates in scenarios whereby a material's acid potential outpaces its neutralization potential. Therefore, estimated lag times (or time to onset of acid generating conditions) need to be included in source term development. The data used to develop source terms for the underground mine are all described within the ML/ARD assessment study (BGC, 2014b).

The geochemical assessment has identified four separate source terms that are required for each geological model unit; pre-lag (pH neutral) and post-lag (pH acidic) conditions for both base case and conservative case scenarios. A unit will 'switch' from pre-lag to post-lag conditions when material has been exposed for periods beyond estimated lag times to the onset of acidic conditions.

Predicted source terms rely on leachate results from 36 humidity cells (HCs). In general, base case and conservative case source terms were derived from the average and 95<sup>th</sup> percentile (respectively) of lithology-specific leachate concentrations (averaged from the last 5 sampling events). Exceptions to this methodology were applied to Fragmental, Silica Cap and Office P1 units. Three (of 13) Fragmental HCs showed acidic pH values within 3 months, and HC results were split between those exhibiting neutral (pre-lag conditions)

and acidic pHs (post-lag conditions). A similar methodology was applied to Silica Cap HCs. Data from only two Silica Cap humidity cells were available with one showing neutral pH leachates and the other acidic pH leachates. Only one humidity cell contained Office P1 material (HC 27). The limited datasets for Office P1 and Silica cap resulted in identical values for base case and conservative case scenarios under pre-lag conditions.

As explained above, pre-lag and post-lag source terms refer to leachate chemistries at neutral- and acidic- pH conditions, respectively. The change from pre-lag to post-lag conditions relies on estimated lag-times, which are calculated from humidity cell results. These lag-times estimate the ‘time to onset of acid generation’ and are calculated from an empirical open-system approach. Further details to these calculations can be found in BGC (2014b). Figure 4-3 presents the estimated lag times for the 7 geological model units at Brucejack.



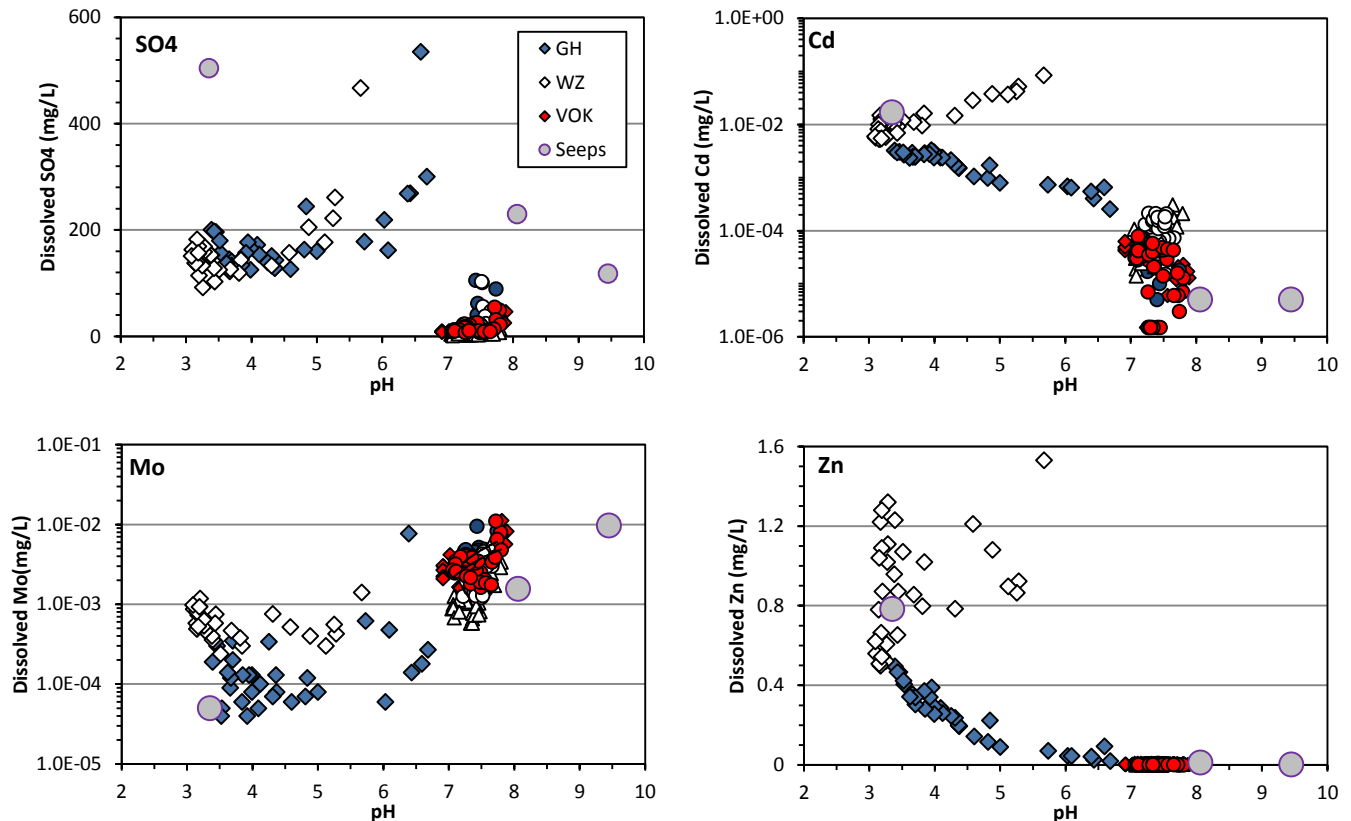
**Figure 4-3: Estimated lag times for the seven geological model units at Brucejack.**

#### 4.5.1.1 Scale Factors

The development of underground source terms requires humidity cell data and scale factors to be applied to pre-lag and post-lag terms. The latter are primarily based on comparisons between measured seepage and humidity cell results. These scale factors are then applied to material-specific pre- and post-lag values for the purposes of finalizing values at both conditions.

The collection of seepage waters in 2013 from the underground development during the Bulk Sample program enabled the derivation of site-specific scale factors that relate laboratory-based results to field conditions. The method of relating seep chemistries to

humidity cell results involved the comparison of both datasets, by plotting pH *versus* metal concentrations to determine if both leachates are governed by sulphide oxidation. Figure 4-4 shows several plots that indicate seep and humidity cell results are comparable, as pH-metal trends are relatively similar between the two.



**Figure 4-4: Comparison of sulfate and dissolved metal concentrations (Cd, Mo and Zn) versus pH values from humidity cells (GH, WZ and VOK) and seeps.**

Scale factors for pre-lag scenarios were calculated by comparing Fragmental neutral pH seepage waters (sampled from Bulk Sample underground workings) to neutral pH HC results (Table 4-8). Differences between the two chemistries produced scale factors based on the following assumptions:

- Only parameters that were above detection limits in seepage water were incorporated into the assessment;
- Only neutral waters were evaluated. An exception was made for Cd, Cu and Ag since measured values were below detection limits. The Ag scaling factor was calculated by comparing results from acidic fragmental material from Seep 2 and Humidity Cell 4;

- No parameter was allowed to drop lower than 0.3. (Note: this could lead to overestimations of Ni and Cr concentrations; Cr concentrations are almost all below detection limits for neutral waters);
- Oxyanion scale factors will likely overestimate concentrations, as field conditions will likely include sorption reactions to attenuate oxyanion mobility.

**Table 4-8:  
Pre-lag scale factors in support of underground mine water source terms**

Parameter	Scale Factor (X)	
	Pre-lag	Post-lag
Sulfate	4.3	25
Aluminum (Al)	0.3	110
Arsenic (As)	1.65	3.8
Cadmium (Cd)	1.2	314
Calcium (Ca)	3.5	36
Chromium (Cr)	0.6	5.2
Cobalt (Co)	0.3	150
Copper (Cu)	1	253
Iron (Fe)	1	700
Lead (Pb)	0.4	66
Magnesium (Mg)	30	17
Manganese (Mn)	1	284
Mercury (Hg)	0.65	1.3
Molybdenum (Mo)	1.5	0.3
Nickel (Ni)	0.3	365
Potassium (K)	2.5	2.3
Selenium (Se)	0.4	1.1
Silver (Ag)	0.7	11
Sodium (Na)	30	15
Zinc (Zn)	1	326

At post-lag conditions, scale factors shown in Table 4-8 were calculated in four steps:

1. Calculate average of two acidic Fragmental HC concentration data (HC 2 and 4);
2. Compare HC (2 and 4) averaged data to the acidic seep (Seep 2) data, then take the maximum value between the two datasets to create a *collective* acidic-Fragmental leachate chemistry;



3. Compare this *collective* acidic-Fragmental leachate chemistry to averaged pre-lag Fragmental HC data (from HC 8 and 9) to determine final scale factor values.
4. Several initial post-lag scale factors were reduced as they would produce unrealistically high values. Specifically
  - a. Sulfate: scaling factor was reduced by a factor of 2, from 55 to 25, as sulfate concentrations will be limited by secondary mineral precipitates (*e.g.*, gypsum)
  - b. Iron: scaling factor was reduced by a factor of 10, from > 7000 to 700, due to the precipitation of secondary iron oxides.
  - c. Na: scaling factor was reduced by a factor of 10, from >150 to 15, for charge balancing purposes.

#### 4.5.1.2 Material-Specific Weighting Factors

The proposed mine plan delineates the amount and type of ore and waste rock material excavated from the underground on a year-to-year basis. Source terms used in water quality modeling were therefore partitioned based on the type of material removed from the underground relative to the total exposed area. The following equation was used to calculate exposures (*i.e.*, weighting factors) on a yearly basis for each material type:

$$\% \text{ Exposure} = \frac{\sum_{n=1}^t M_i}{\sum_{n=1}^t M_{all}}$$

Where,

- M = yearly mass of excavated ore and waste rock material (tonnes)
- i = one of the 7 geological model units (*i.e.*, Conglomerate, Fragmental, VSF, Bridge P1, P2, Silicified Cap, Office P1)

Proposed mine plans indicate stopes will be backfilled from the end of Construction to the life of mine and are not included in calculations of material-specific percent-exposure. In total, this weighting approach incorporates 3 assumptions, namely;

- Groundwater infiltrates all material types equally;
- All material types have the same density (therefore the same surface area);
- Stopes are backfilled with paste material and do not contribute to total exposed underground areas.

#### 4.5.1.3 *Underground Mine Source Term Values*

The following tables (Table 4-9 and Table 4-10) present the source terms associated with the 7 geological model units for both pre-lag and post-lag conditions (respectively). Base case and conservative case scenarios originate from compiled material-specific humidity cell datasets. Specifically, average and 95<sup>th</sup> percentile data were calculated for each material unit that was subsequently scaled according to pre-lag and post-lag scale factors (described previously).

#### 4.5.2 **Underground Nutrient Source Term Values**

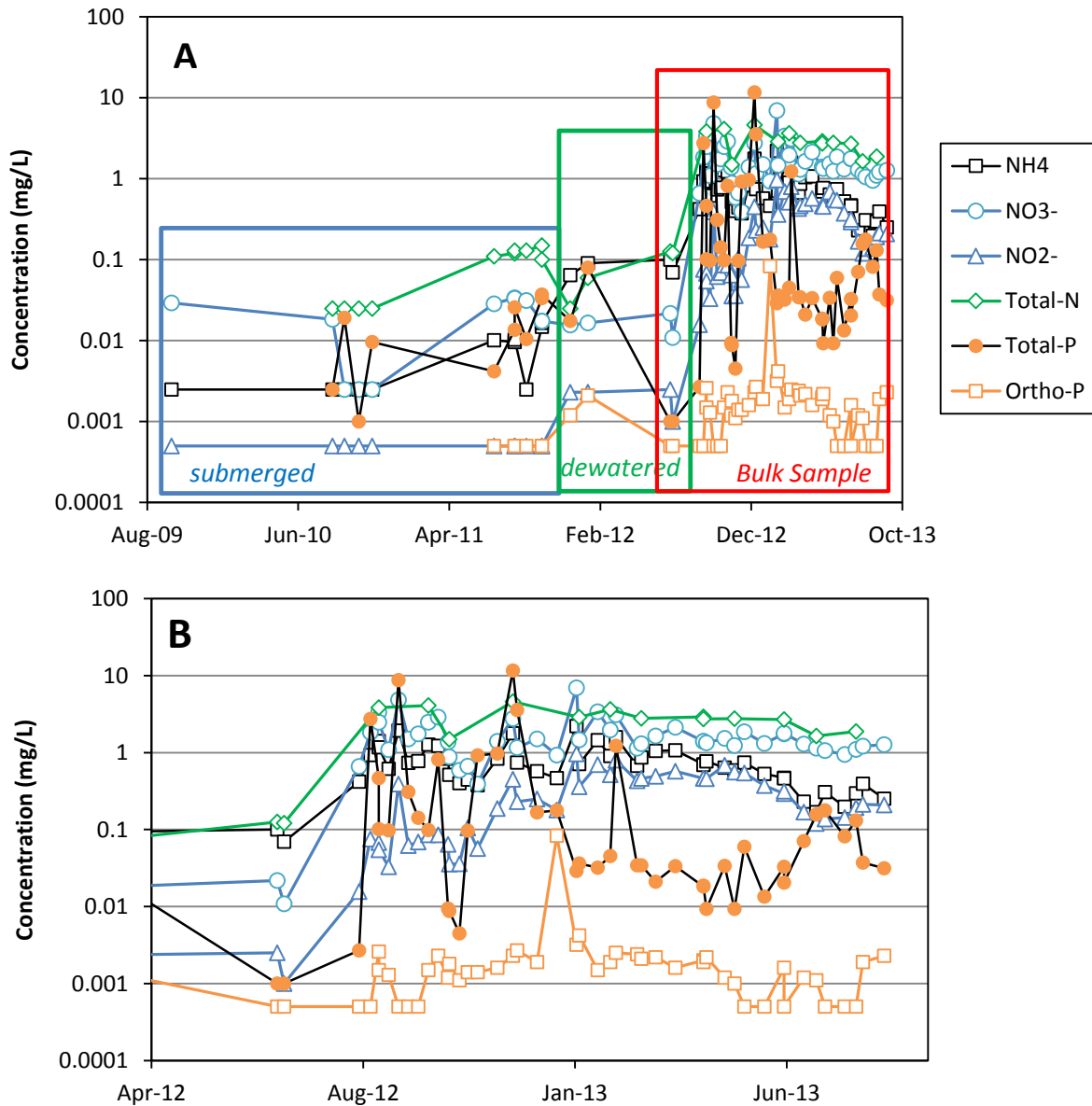
Underground nutrient source term values are considered separately from other parameters (*e.g.*, metals and sulfate) given that nutrient loadings (*e.g.*, nitrogen) will be primarily governed by blasting activities. Adit waters from the underground mine have been continuously monitored since the Newhawk Operations in the late 1980s. The Brucejack underground workings were dewatered to a limited extent in late 2011, following over 20 years of flooding. Additional dewatering activities continued in August of 2012 through to November of 2013 as part of a Bulk Sample program. Time series plots of nutrient concentrations from adit waters (Figure 4-5) show the impact of recent dewatering and underground mine activities. Nutrient concentrations increased significantly in 2013 coincident with the advancement of underground workings and the initiation of the Bulk Sample program. The observed nutrient increases can be attributed to blasting and/or drilling activities and thus these activities need to be considered in the development of source terms for the underground mine.

**Table 4-9:**  
**Underground water pre-lag source terms for seven Brucejack-designated geological model units**

Unit	Fragmental		VSF		Conglomerate		P2		Bridge P1		Silicified Cap	Office P1
	BC	CC	BC	CC	BC	CC	BC	CC	BC	CC	BC	BC
<b>pH</b>	7.29	6.89	7.26	6.95	7.38	7.26	7.50	7.41	7.76	7.68	7.54	7.52
<b>Ag</b>	5.19E-06	8.93E-06	6.25E-06	1.67E-05	3.76E-06	4.20E-06	3.76E-06	4.20E-06	4.28E-06	4.98E-06	3.89E-06	3.50E-06
<b>Al</b>	0.00972	0.0186	0.0111	0.0207	0.00417	0.00569	0.00677	0.00827	0.0214	0.0224	0.00744	0.0215
<b>Alkalinity</b>	12.2	6.18	11.1	3.64	13.2	6.17	12.8	11.5	15.8	14.6	9.84	17.8
<b>As</b>	0.00434	0.0112	0.0165	0.0640	0.00131	0.00146	0.00900	0.0154	0.00417	0.00738	0.0017	0.00855
<b>Ca</b>	41.2	94.4	34.1	67.0	54.5	76.7	79.0	87.4	22.4	25.6	22.1	19.0
<b>Cd</b>	7.96E-05	0.000209	0.000170	0.000700	0.000460	0.000888	0.000170	0.000352	3.09E-05	5.03E-05	0.000824	9.23E-05
<b>Cl</b>	44.8	69.1	52.4	116	4.85	1.00	46.8	50.4	87.2	118	48.2	142
<b>Co</b>	0.0000495	0.000103	0.000439	0.00224	0.00115	0.00294	0.0000518	0.0000845	0.0000171	0.0000175	0.0000290	0.0000456
<b>Cr</b>	0.000150	0.000150	0.000150	0.000150	0.000150	0.000150	0.000150	0.000150	0.000150	0.000150	0.000150	0.000150
<b>Cu</b>	0.000467	0.000924	0.000858	0.00237	0.00315	0.0080	0.00380	0.00926	0.00194	0.00296	0.000956	0.000556
<b>Fe</b>	0.00572	0.0117	0.0157	0.0619	0.00244	0.00318	0.00685	0.0131	0.00875	0.00908	0.00383	0.0152
<b>Hg</b>	4.39E-06	6.67E-06	3.60E-06	4.88E-06	3.25E-06	3.25E-06	3.25E-06	3.25E-06	3.25E-06	3.25E-06	3.25E-06	3.25E-06
<b>K</b>	1.53	2.70	1.97	3.63	1.55	2.51	1.74	2.03	3.40	3.94	0.568	1.76
<b>Mg</b>	14.6	26.9	19.6	52.8	3.53	5.19	16.2	19.6	22.8	33.3	12.2	43.5
<b>Mn</b>	0.106	0.312	0.123	0.449	0.199	0.351	0.204	0.333	0.0351	0.0491	0.0724	0.0216
<b>Mo</b>	0.00210	0.00588	0.00439	0.0152	0.00233	0.00407	0.000672	0.00115	0.00126	0.00141	0.000786	0.00113
<b>Na</b>	2.39	4.13	3.13	7.81	2.26	7.44	3.84	4.27	5.12	5.83	1.80	3.72
<b>Pb</b>	0.000164	0.000591	7.31E-05	0.000147	0.000578	0.000911	3.32E-05	7.66E-05	9.52E-05	0.000138	4.80E-05	3.33E-05
<b>S(6)</b>	93.3	247	88.7	231	135	217	190	222	28.2	38.5	32.5	20.6
<b>Se</b>	0.000504	0.0010122	0.000558	0.00206	0.000664	0.00129	0.00198	0.00361	0.000149	0.000253	0.000952	1.16E-05
<b>Tl</b>	1.53E-05	3.45E-05	1.94E-05	4.53E-05	5.48E-05	8.30E-05	1.18E-05	1.22E-05	1.11E-05	1.21E-05	1.00E-05	1.00E-05
<b>Zn</b>	0.00192	0.0041	0.00495	0.0228	0.0264	0.0650	0.00237	0.00450	0.00136	0.00209	0.00856	0.00172

**Table 4-10:**  
**Underground water post-lag source terms for seven Brucejack-designated geological model units.**

<i>Unit</i>	<b>Fragmental</b>		<b>VSF</b>		<b>Conglomerate</b>		<b>P2</b>		<b>Bridge P1</b>		<b>Silicified Cap</b>		<b>Office P1</b>
<i>Scenario</i>	<i>BC</i>	<i>CC</i>	<i>BC</i>	<i>CC</i>	<i>BC</i>	<i>CC</i>	<i>BC</i>	<i>CC</i>	<i>BC</i>	<i>CC</i>	<i>BC</i>	<i>CC</i>	<i>BC</i>
<b>pH</b>	3.21	3.03	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.82	3.50	3.50
<b>Ag</b>	8.42E-05	0.000136	9.53E-05	0.000255	5.74E-05	6.41E-05	5.74E-05	6.41E-05	6.52E-05	7.59E-05	5.93E-05	0.000107	5.34E-05
<b>Al</b>	4.58	9.70	4.06	7.60	1.53	2.09	2.49	3.04	7.85	8.22	0.375	2.73	7.88
<b>Alkalinity</b>	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
<b>As</b>	0.0393	0.0586	0.0387	0.151	0.00308	0.00345	0.0212	0.0363	0.00980	0.0174	0.00298	0.00406	0.0201
<b>Ca</b>	426	978	353	694	564	794	818	906	231	264	14.9	229	197
<b>Cd</b>	0.0209	0.0549	0.0445	0.184	0.120	0.233	0.0445	0.0922	0.00810	0.0132	0.196	0.216	0.0242
<b>Cl</b>	470	918	356	593	521	653	752	834	384	424	1.00	1.00	387
<b>Co</b>	0.0248	0.0517	0.220	1.12	0.578	1.47	0.0260	0.0423	0.00857	0.00873	0.00202	0.0145	0.0228
<b>Cr</b>	0.00130	0.00200	0.00130	0.00130	0.00130	0.00130	0.00130	0.00130	0.00130	0.00130	0.00130	0.00257	0.00130
<b>Cu</b>	0.200	0.248	0.217	0.601	0.799	2.05	0.962	2.35	0.492	0.748	0.242	0.494	0.141
<b>Fe</b>	26.0	35.2	11.0	43.4	1.71	2.23	4.80	9.17	6.13	6.36	2.68	2.93	10.6
<b>Hg</b>	1.08E-05	1.88E-05	7.05E-06	9.58E-06	6.37E-06	6.38E-06	6.38E-06	6.39E-06	6.37E-06	6.37E-06	5.00E-06	6.37E-06	6.37E-06
<b>K</b>	1.42	2.50	1.83	3.37	1.44	2.33	1.61	1.89	3.15	3.65	0.133	0.526	1.63
<b>Mg</b>	8.15	15.0	10.9	29.5	1.97	2.90	9.04	11.0	12.7	18.6	0.451	6.78	24.2
<b>Mn</b>	30.2	88.9	34.9	128	56.5	99.9	58.0	94.7	9.97	13.9	0.507	20.6	6.13
<b>Mo</b>	0.000424	0.00119	0.000886	0.00307	0.000470	0.000822	0.000136	0.000232	0.000255	0.000284	8.28E-05	0.000159	0.000228
<b>Na</b>	1.20	2.07	1.57	3.91	1.13	2.17	1.92	2.14	2.56	2.92	67.7	297	1.86
<b>Pb</b>	0.0272	0.0979	0.0121	0.0243	0.0957	0.151	0.00550	0.0127	0.0158	0.0228	0.00197	0.00795	0.00551
<b>S(6)</b>	543	1437	516	1344	784	1267	1109	1292	164	224	189	1260	120
<b>Se</b>	0.00133	0.00268	0.00147	0.00546	0.00175	0.00341	0.00524	0.00955	0.000393	0.000667	0.00251	0.0110	3.05E-05
<b>Tl</b>	8.95E-05	0.000135	1.94E-05	4.54E-05	5.49E-05	8.31E-05	1.19E-05	1.22E-05	1.11E-05	1.21E-05	1.00E-05	3.45E-05	1.00E-05
<b>Zn</b>	0.703	1.34	1.62	7.44	8.62	21.2	0.774	1.47	0.445	0.682	2.79	6.478	0.561



**Figure 4-5: Measured nutrient concentrations from Brucejack adit waters versus time. Note: time scale of inset in (A) is shown in (B) under expanded time scale.**

Over the 4-year time frame considered, adit nutrient concentrations (ammonia, nitrite, total Kjeldahl nitrogen (TKN), total nitrogen, orthophosphate) increase from near detection limit values to concentrations 10-10,000 times higher. Table 4-11 compares background concentrations (encompassing flooded and dewatered periods in underground) to concentrations measured during Bulk Sample blasting. Nutrient concentrations during the Bulk Sample blasting period show increases by factors of 5 to 330 in comparison to background. Therefore, scaling of nutrient concentrations should reflect on-going

underground development (*i.e.*, blasting/drilling) through proposed Construction and mine Operations schedules and activities.

**Table 4-11:**  
**Comparison of measured nutrients in Brucejack adit waters between background and Bulk Sample periods. Factor of increase shown for comparison.**

Solute	Concentration (mg/L)		Factor of increase by blasting (x)
	Background	Bulk Sample	
<b>NH<sub>4</sub><sup>+</sup></b>	0.0268	0.796 ± 0.371	30
<b>NO<sub>3</sub><sup>-</sup></b>	0.0188	1.79 ± 0.60	95
<b>NO<sub>2</sub><sup>-</sup></b>	0.000907	0.299 ± 0.192	330
<b>TKN</b>	0.0672	0.939 ± 0.401	14
<b>Total-N</b>	0.0837	2.92 ± 0.94	35
<b>Ortho-PO<sub>4</sub><sup>3-</sup></b>	0.000730	0.00342 ± 0.00089	5
<b>Total P</b>	0.0183	0.763 ± 0.245	42

Four data sources were required to develop scale factors and predicted nutrient concentrations:

- Adit water dataset, which illustrate the changes to nutrient concentrations associated with underground activities (as shown in Figure 4-5);
- Blasting material use (explosives consumption for the Bulk Sample period);
- Proposed underground development schedule; and
- Expected or modeled flow rates to the underground through Construction and Operations.

Adit water composition during the Bulk Sample period was averaged to represent the base case scenario, whereas ‘average plus one standard deviation’ values were used to represent conservative scenarios (Table 4-12). The 95<sup>th</sup> percentile was not used as the conservative case scenario as spikes in solute concentrations may be the result of sump malfunctions or bypass events as opposed to representative values of a worst case scenario.

**Table 4-12:**  
**Estimated nutrient concentrations for adit waters to be used in up-scaling scaling for generation of underground nutrient source terms**

Solute	Base Case (mg/L)	Conservative Case (mg/L)
<b>NH<sub>4</sub><sup>+</sup></b>	0.796	1.17
<b>NO<sub>3</sub><sup>-</sup></b>	1.79	2.39
<b>NO<sub>2</sub><sup>-</sup></b>	0.299	0.491
<b>Total-N</b>	2.92	3.86
<b>Total P</b>	0.763	1.01

Up-scaling of observed (Bulk Sample) nutrient concentrations to predict future nutrient source term concentrations involved two steps:

- 1) Properly outlining the current (Bulk Sample) conditions; and
- 2) Relating these conditions to proposed Operations schedules in order to develop scale factors.

For *the first step*, discussion with on-site geologists revealed a total of 125 tonnes of explosives were used in the development of 1.9 km of underground workings during the Bulk Sample period in 2013. The Bulk Sample program was carried out over the period of 1 year and likely contributed to the measured increases to nutrient concentrations as shown in Figure 4-5. At the same time, groundwater models estimated that daily flow rates to the underground workings range between 1150 and 3220 m<sup>3</sup> throughout the year, with an average of 2000 m<sup>3</sup> per day.

For *the second step*, Table 4-13 presents the proposed yearly underground development (in meters), as obtained from AMC in July 2013, and expected flow rates obtained from groundwater modeling throughout construction and operations. In general, the first 8 years are characterized by 6000 to 8000 m per year of annual underground development and average flow rates of 4400 m<sup>3</sup>/d. In year-7 of Operations, the underground development will migrate to the West Zone, which will result in an increase in flow rate and a decrease in advancing drift lengths (2000 m/yr – 6200 m/yr). The final 5 years show lower flow rates, due to the increase of backfilled stopes and a significant decrease in underground development (< 1500 m/yr).

Similar to trends observed during the Bulk Sample program, explosive use is expected to augment background nutrient concentrations. As well, the changes to simulated flow rates to the underground will dilute adit concentrations. To capture both of these effects in predicted nutrient concentrations (*i.e.*, development of underground workings and dilution from increased flow rates), two scale factors are required from the proposed mine operations. First, an explosives scale factor is obtained by relating operations development to the 1900 m developed during the bulk sample program (*e.g.*, Year 1: 6531 m/1900 m = 3.4). The second scale factor, the flow factor, is calculated by comparing modeled flow rates to the average Bulk Sample flow rate of 2000 m<sup>3</sup>/d (*i.e.*, Year 5: 4400 / 2000 = 2.2).

The final scale factor is derived from the combination of the explosive and flow rate scale factors (Explosive SF/Flow SF) and was applied to nutrient concentrations measured from Bulk Sample adit waters (Table 4-12). Based on these assumptions, Table 4-14 presents the estimated source terms for the base case and the conservative case scenarios through the proposed mine operations.

**Table 4-13:  
Planned underground schedule and estimated flow rates during mine operations.**

Year	Underground Development (m)			Modelled Flow (m <sup>3</sup> /d)	Explosives Scale Factor (Estimated/ Bulk Sample)	Flow Scale Factor (Operations flow/ Bulk Sample flow)	Final Scale Factor
	Ore	Waste Rock	Total				
-1	57	6474	6531	4400	3.4	2.2	1.6
0	2049	5888	7937	4400	4.2	2.2	1.9
1	1466	5450	6916	4400	3.6	2.2	1.7
2	2525	3731	6256	4400	3.3	2.2	1.5
3	2236	3689	5925	4400	3.1	2.2	1.4
4	2646	3709	6356	4400	3.3	2.2	1.5
5	2296	3530	5826	4400	3.1	2.2	1.4
6	2923	3217	6141	5000	3.2	2.5	1.3
7	2061	1433	3495	5500	1.8	2.8	0.7
8	2338	3860	6199	5500	3.3	2.8	1.2
9	1904	3195	5100	5500	2.7	2.8	1.0
10	2568	1706	4274	5500	2.2	2.8	0.8
11	1961	1961	3922	5500	2.1	2.8	0.8
12	2397	1858	4256	5500	2.2	2.8	0.8
13	2402	1368	3770	5500	2.0	2.8	0.7
14	2498	975	3472	5500	1.8	2.8	0.7
15	1851	436	2287	5500	1.2	2.8	0.4
16	1518	203	1721	5500	0.9	2.8	0.3
17	1624	332	1956	5500	1.0	2.8	0.4
18	1267	217	1484	5000	0.8	2.5	0.3
19	795	128	924	5000	0.5	2.5	0.2
20	908	236	1144	5000	0.6	2.5	0.2
21	240	77	316	5000	0.2	2.5	0.1
22	181	38	219	5000	0.1	2.5	0.05

Note: Year -1 and 0 relate to Construction periods, whereas year 1 to 22 relate to mine operations.



**Table 4-14:**  
**Estimated nutrient source terms (mg/L) for adit waters during operations.**

YEAR	Base Case					Conservative Case				
	NH <sub>4</sub> <sup>+</sup>	NO <sub>3</sub> <sup>-</sup>	NO <sub>2</sub> <sup>-</sup>	Tot-N	Tot-P	NH <sub>4</sub> <sup>+</sup>	NO <sub>3</sub> <sup>-</sup>	NO <sub>2</sub> <sup>-</sup>	Tot-N	Tot-P
	0.796	1.79	0.299	2.92	0.763	1.17	2.39	0.491	3.86	1.01
-2	1.24	2.79	0.467	4.57	1.19	1.82	3.73	0.767	6.03	1.57
-1	1.51	3.40	0.568	5.55	1.45	2.22	4.53	0.932	7.33	1.91
1	1.32	2.96	0.495	4.84	1.26	1.93	3.95	0.812	6.39	1.67
2	1.19	2.68	0.447	4.38	1.14	1.75	3.57	0.735	5.78	1.51
3	1.13	2.53	0.424	4.14	1.08	1.65	3.38	0.696	5.47	1.43
4	1.21	2.72	0.454	4.44	1.16	1.77	3.63	0.746	5.87	1.53
5	1.11	2.49	0.417	4.07	1.06	1.63	3.33	0.684	5.38	1.40
6	1.03	2.31	0.386	3.78	0.986	1.51	3.08	0.634	4.99	1.30
7	0.532	1.20	0.200	1.95	0.510	0.78	1.60	0.328	2.58	0.674
8	0.944	2.12	0.355	3.47	0.905	1.38	2.83	0.582	4.58	1.20
9	0.777	1.75	0.292	2.85	0.744	1.14	2.33	0.479	3.77	0.984
10	0.651	1.46	0.244	2.39	0.624	0.955	1.95	0.401	3.16	0.824
11	0.598	1.34	0.224	2.19	0.572	0.876	1.79	0.368	2.90	0.756
12	0.648	1.46	0.243	2.38	0.621	0.951	1.94	0.400	3.15	0.821
13	0.574	1.29	0.216	2.11	0.550	0.842	1.72	0.354	2.79	0.727
14	0.529	1.19	0.199	1.94	0.507	0.776	1.59	0.326	2.57	0.670
15	0.348	0.783	0.131	1.28	0.334	0.511	1.04	0.215	1.69	0.441
16	0.262	0.589	0.098	0.96	0.251	0.384	0.786	0.162	1.27	0.332
17	0.298	0.670	0.112	1.09	0.286	0.437	0.893	0.184	1.45	0.377
18	0.249	0.558	0.093	0.913	0.238	0.365	0.745	0.153	1.21	0.315
19	0.155	0.348	0.058	0.568	0.148	0.227	0.464	0.095	0.751	0.196
20	0.192	0.430	0.072	0.704	0.184	0.281	0.574	0.118	0.930	0.243
21	0.053	0.119	0.020	0.195	0.051	0.078	0.159	0.033	0.257	0.067
22	0.037	0.082	0.014	0.135	0.035	0.054	0.110	0.023	0.178	0.046

Blue text represents base values measured from adit waters during the Bulk Sample program (refer to Table 4-12).

The source term concentrations shown in Table 4-14 include a few assumptions:

- The underground drifts have the same dimensions (5 m × 5 m) as the Bulk Sample program;
- Underground development does not deviate significantly from the proposed plan;

- Mine operations use similar or lesser explosive amounts as the Bulk Sample program (approx. 66 kg explosives per meter of development);
- Flow rates, representing base case (or average hydraulic conductivity) scenarios, are representative.

Notably, both the explosive and flow scale factors contain some built-in conservatisms. For the explosives factor, discussions with mine site personnel indicate Brucejack will move towards using bulk explosives, which is expected to maximize the meterage obtained per explosive mass. Therefore, explosive scale factors likely present overestimated values. In regards to flow scaling, measured flow rates for the full Bulk Sample program were not available at the time of developing these factors. However, comparison of model to observed rates was conducted early in 2014 and show measured average monthly pump rates are approximately 25% lower and 1500 m<sup>3</sup>/d. The impact of applying a higher flow rate to scaled nutrient concentrations is an underestimation of the flow scale factor, which results in an overestimation of the final scaled values and built-in conservatism.

This approach and the built-in conservatisms therein, are expected to cover the range of nutrient concentrations to be measured from adit waters throughout the Brucejack LOM.

#### 4.5.3 Paste Backfill Bleedwater Source Term Values

Waste rock excavated during mine operations will be deposited in Brucejack Lake or returned to the underground and co-disposed with paste backfill. In the latter process, up to 6% cement is expected to be added to paste tailings and pumped into mine voids with waste rock to provide support to the backfilled stopes. In addition to structural benefits of paste, alkaline cement additives to tailings may provide added neutralization potential to these mine wastes (Mehling, 1998). Specifically, these cements typically consist of ~ 60% CaO that hydrates upon wetting to portlandite (*i.e.*, Ca(OH)<sub>2</sub>). The result of the cementation reaction is a solid paste and excess water not used in the reaction is bled off (*i.e.*, bleedwater).

Paste is expected to produce very little, if any, excess water, which is an advantage of the paste method. However, a ‘bleedwater’ source term is included in this model to account for the possibility of minor amounts of paste-related leachate released into bulk chemistry of the underground mine waters. The water balance model shows 23 m<sup>3</sup>/h accompanies the paste backfill slurry to the underground during operations. The cementation process is assumed to contribute to a loss of 14 m<sup>3</sup>/h of the initial slurry water to the paste void space. Therefore, 9 m<sup>3</sup>/h represents the ‘bleedwater’ portion contributing to the 213 m<sup>3</sup>/h of outflow from the underground to the WTP.

Three data sources described previously in this document or in the ML/ARD assessment study (BGC, 2014b) were used in the development of paste backfill or bleedwater source term values:

- Seep 2 results, an acidic seep located in the current underground workings;
- Results from humidity cell (HC) 37 containing cemented paste material;
- Mineralogy of paste

The development of these source terms considered a batch model approach. It was assumed that Seep 2 chemistries were reflective of a worst-case scenario porewater and comparable to leachate from PAG material with a long water-rock interaction time. This approach equilibrated Seep 2 chemistry with up to 6 % portlandite in PHREEQC. In addition to the equilibration of portlandite and Seep 2 solutions, two other steps were included based on several observations and assumptions. Specifically,

1. The mineral calcite was allowed to precipitate, for the following reasons:
  - Calcite may form as part of the hardening process of portlandite, in scenarios of CO<sub>2</sub> penetration into the paste cement (MEND, 2006);
    - This reaction is generally restricted to shallow depths or the paste surface, which would produce bleedwater that is subsequently collected by the underground sump system.
  - X-ray diffraction conducted on the cemented paste materials (used in HC 37) showed calcite in proportions of 16% of the total mineral assemblage.;
  - Speciation of initial flush chemistries from HC 37 presented calcite SI values greater than 0.
2. Measured pH from week 1 of HC 37 (*i.e.*, pH 11.75) was used to calibrate PHREEQC modeling results (by adjustments to portlandite molar amounts included in the simulation) for the following reason:
  - Speciated Week 1 HC 37 results show SI values greater than 0 for calcite and less than 0 for portlandite, supporting the hardening reaction of portlandite to calcite.

Paste backfill source term values are presented in Table 4-15. Base case and conservative case source terms are assumed to be identical, and total metal concentrations are assumed to reflect dissolved metal concentrations. Results shown in Table 4-15 account for bleedwaters released to the bulk underground mine waters via (1) leachates associated with CO<sub>2</sub>-ingress to paste surfaces, and (2) seepage through rock fractures or trapped voids.

The high alkalinity and high pH values shown in Table 4-15 are comparable to leachates observed from underground sites at the Eskay Creek Mine, which also employed paste backfill with 4 – 8% cement (Barrick, 2002; MEND, 2006).

**Table 4-15:  
Paste backfill source term values (as dissolved concentrations in mg/L).**

Parameter	Concentration
pH	11.75
Alkalinity	527
Nitrate N(5)	n/a
Nitrite N(3)	n/a
Diss-P	n/a
Tot-P	n/a
Cl	5.96
Sulfate S(6)	489
Ag	6.70E-05
Al	3.78
As	0.00349
Ca	325
Cd	0.0164
Co	0.0566
Cr	0.167
Cu	0.116
Fe	9.90
Hg	4.85E-06
K	1.32
Mg	8.67
Mn	12.4
Mo	0.174
Na	18.2
Pb	0.00552
Se	0.000650
Si	n/a
Tl	9.42E-05
Zn	0.760

## 4.6 Water Treatment Plant

### 4.6.1 Description of the Treatment Process and Assumptions

A WTP for managing contact water from the underground mine and the plant site areas will be in place and operating prior to Construction (location shown in Figure 1-2). The WTP is currently being designed by Veolia Water Solutions & Technologies Canada Inc. (Veolia). The design basis for the plant was developed based on preliminary predictions of influent water quality and effluent concentration requirements in order to meet relevant water quality guidelines.

The proposed technology for the WTP will involve a series of reactions to precipitate metals out of solution, a clarification process to remove suspended solids and a final polishing step. In the process, raw (influent) water is pumped to two parallel chains for initial precipitation of dissolved metals. This process is achieved by: 1) raising the pH of the water up to 9-10 in order to precipitate metals as hydroxides; 2) the addition of hydrogen peroxide to convert nitrite to nitrate; and 3) the addition of ferric chloride to adsorb the dissolved metals onto Fe oxide precipitates. The suspended solids, including the metal precipitates, are removed from solution by an Actiflo<sup>®</sup> clarifier, which applies coagulation/flocculation/sedimentation processes for removal. The clarified water is then subjected to a second treatment step which acts as a polishing step for additional metal removal. The treatment process applied during this second metal removal step is the same as that applied in the first stage. Following treatment and clarification, the effluent flows to a pH adjustment reactor where the pH is adjusted to neutral pH levels using hydrochloric acid prior to discharge. Details of the plant design are shown on the process flow diagram included in Appendix A.

Initial discussions with Veolia raised the issue of whether the treatment process described above would remove the more toxic form of chromium, Cr (VI), as effectively as it would for Cr (III). This issue is relevant since current Canadian Council of Ministers of the Environment (CCME) guideline limits for Cr are defined for the different Cr species, where the guideline value for hexavalent Cr is more stringent at 1 µg/L as compared to the trivalent Cr guideline (8.9 µg/L). Follow up work was carried out in order to characterize the anticipated Cr speciation of WTP influent. Four seep samples along with a sample of mine adit waters were submitted to Applied Speciation and Consulting LLC for analysis. The mine adit sample represents water currently emanating from the underground area and is likely similar to the composition of WTP influent during the initial years of mining. The seep samples have low pH values and were intended to represent a potential future mine condition when acid generation was enhanced. The results of this study are presented in Appendix B and show that approximately 5% of Cr in mine adit water occurs in the hexavalent form as compared with up to 28% of Cr occurring in the hexavalent form in the

seeps. Subsequent discussions with the WTP vendor have indicated that the designed treatment process will remove both species of Cr with a high efficiency and that removal of Cr regardless of which species is present will not present a concern.

#### 4.6.2 WTP Source Term Values

Effluent from the WTP will discharge into Brucejack Creek during the Construction phase and into Brucejack Lake during the Operations phase of the Project. The WTP will be decommissioned at closure. The residual sludge generated from the treatment process will likely be co-disposed with the tailings into Brucejack Lake once operations are underway (see discussion in Section 4.10). The main load to the receiving environment is associated with the liquid portion of the WTP (the effluent), rather than the solid residues.

Effluent concentrations for Construction and Operations have been provided by Veolia and are presented in Table 4-16. These effluent concentrations were carried through as source terms in the water quality models when influent treatment was required. It is recognized that discharge limits for the Project will be set by BC MOE, however Metal Mining Effluent Regulations (MMER) are provided in Table 4-16 for comparison. WTP effluent concentrations are well below MMER discharge limits for all mine phases.

**Table 4-16:  
WTP effluent source terms for Construction and Operations mine phases**

Parameter	Construction		Operations		MMER*
	Dissolved (mg/L)	Total (mg/L)	Dissolved (mg/L)	Total (mg/L)	Total (mg/L)
Alkalinity	1000	1000	1000	1000	
Ammonia	0.25	0.25	1.65	1.65	
Nitrate	7.06	7.06	3.25	3.25	
Nitrite	0.005	0.005	0.02	0.02	
Chloride	2.5	2.5	478	478	
Sulfate	295	295	700	700	
Phosphorus	0.002	0.002	0.0025	0.0025	
Aluminum	0.023	0.023	0.1	0.1	
Arsenic	0.011	0.011	0.0075	0.0075	0.50
Cadmium	0.0001	0.0001	0.0001	0.0001	
Calcium	1000	1000	1000	1000	
Chromium	0.0005	0.0005	0.004	0.004	
Cobalt	0.002	0.002	0.02	0.02	
Copper	0.0005	0.0005	0.007	0.007	0.30
Iron	0.015	0.015	1	1	
Lead	0.0004	0.0004	0.0125	0.0125	0.20
Magnesium	5.24	5.24	21.2	21.2	
Manganese	0.493	0.493	4	4	
Mercury	1.00E-05	1.00E-05	1.00E-05	1.00E-05	
Molybdenum	0.007	0.007	0.013	0.013	
Nickel	0.05	0.05	0.05	0.05	0.50
Potassium	7.08	7.08	4.05	4.05	
Selenium	0.0005	0.0005	0.002	0.002	
Silver	1.00E-05	1.00E-05	0.0001	0.0001	
Sodium	1000	1000	1000	1000	
Thallium	0.0002	0.0002	0.0005	0.0005	
Zinc	0.014	0.014	0.1	0.1	0.50
TSS	-	15	-	15	15

\*MMER shown represent maximum authorized monthly mean concentrations

## 4.7 Tailings Slurry

### 4.7.1 Approach and Assumptions

The tailings slurry is comprised of Process Plant-derived waters and tailings solids, which will be discharged to the bottom of Brucejack Lake from years 1 through 22. The Process Plant water component comprises a combination of treated water from the WTP and make-up water from Brucejack Lake, while the tailings solids represent the residual component of ore processing.

The subaqueous deposition of tailings will mimic a growing tailings ‘mound’ that will spread across a defined area of Brucejack Lake. Elemental loads to Brucejack Lake from subaqueous tailings deposition is derived from two processes: 1) an easily soluble load (per kilogram of tailings) released through tailings-water interactions that will occur within the mill and upon deposition to Brucejack Lake and 2) a slower release load, originating from tailings consolidation and groundwater infiltration through the tailings mound. The loadings associated with both of these processes are dependent on the tailings deposition schedule, which is shown in Table 4-17.

The easily soluble load associated with the subaqueous tailings deposition process is represented by shake flask extraction (SFE) test results. This load may be released within the mill environment (during ore processing) and/or upon contact with lake water in Brucejack Lake. Ore processing fluids were not retained for water quality analysis as part of metallurgical testwork, and therefore SFE testwork was used to approximate the load that will report to the supernatant fraction. In order to account for the potential underestimation of tailings source term due to the absence of ore-processing fluid data, no scaling factor was applied to the tailings SFE data.

To address the question of whether the approach of using SFE data for tailings source term development is conservative, SFE source term values were compared to the initial loads released from saturated tailings columns (columns 3 and 5) as these experiments were initiated with ore process waters. Specifically, the initial porewater samples collected as part of these column experiments are assumed to reflect the remnant process water signature, and therefore representative of the tailings supernatant (*i.e.*, liquid portion of the tailings slurry). Based on a tailings particle density of 2.6 t/m<sup>3</sup>, a solid tailings volume percent of 30% and initial effluent values for the saturated columns (represented by highest mean value of the 2 columns for the first 4 weeks), a load, equivalent to the supernatant contribution (per kilogram of tailings), was calculated. This analysis using column data shows that the base case SFE loads are comparable to saturated tailings column loads, with most metal loads falling within a factor of 2 of each other. Ag, Al, As, Cd, Cr, Cu and Ni are the notable exceptions. Ag and Cu loads associated with the saturated tailings columns

are higher by a factor of 5.9 and 2.3, respectively; whereas the saturated tailings columns loads are significantly lower than SFE loads for several metals Al, As, Cd, Cr and Ni (by factors of 0.3, 0.5, 0.4, 0.1 and 0.2, respectively). Thus, this analysis suggests that the only metals potentially underestimated by the SFE approach are Ag and Cu, and provides confidence in the tailings source term approach.

The slower seepage component (through the tailings mound) was estimated from subaqueous column leachate results and groundwater models that estimate the portion of baseflow infiltrating through the tailings mound area. The column leachate results are considered representative of longer-residence porewater that will migrate through the tailings mound owing to groundwater flow and tailings consolidation. The contribution of baseflow to the tailings mound area was estimated from groundwater flow simulations for Brucejack Lake (BGC, 2014c). Model simulations incorporated the proposed tailings deposition plan (as shown in Table 4-17; data provided by AMC Mining Consultants Ltd., May 2, 2013), and a 2013 bathymetry survey (Frontier Geosciences, 2013). The conductance (permeability) of the lake bed was calculated using the following assumptions:

- At the start of Operations, lake sediments have a thickness of 1 m, while the tailings mound thickness progressively increases over the 22 year LOM;
- Tailings have a density of 1.6 t/m<sup>3</sup> and tailings materials consolidate within the same year of deposition;

The assumed vertical hydraulic conductivity of tailings material was based on tailings grain size analyses. Further details regarding the estimates of tailings hydraulic conductivity and the groundwater flow model are included in BGC (2014c).

Prior to tailings deposition, groundwater model simulations estimate 11% of baseflow flux to Brucejack Lake will infiltrate the region defined for tailings deposition. However, baseflow proportions decrease significantly to 5% at the end of Operations (year 22) (i.e., maximum amount of tailings deposition). The decrease in infiltration rate can be attributed to the increasing thickness of the tailings mound throughout Operations and a concomitant decrease in conductance of the lake bed.



**Table 4-17:  
Proposed tailings deposition schedule and estimated baseflow through the tailings mound.**

<b>Operations Year</b>	<b>Yearly tailings deposition (t)</b>	<b>Cumulative tailings (t)</b>	<b>Progress of tailings deposition (%)</b>
1	499025	499024.9	5.2
2	535599	1034624	10.9
3	552089	1586713	16.7
4	589159	2175872	22.8
5	532768	2708640	28.4
6	648699	3357339	35.3
7	489091	3846430	40.4
8	520440	4366870	45.9
9	565864	4932734	51.8
10	514997	5447731	57.2
11	502944	5950675	62.5
12	529501	6480176	68.0
13	529605	7009781	73.6
14	429410	7439191	78.1
15	407225	7846416	82.4
16	406799	8253216	86.7
17	368146	8621361	90.5
18	341889	8963250	94.1
19	196842	9160092	96.2
20	214448	9374540	98.4
21	92575	9467115	99.4
22	56885	9524000	100.0

#### 4.7.2 Tailings Source Term Values

Although two separate analytical tests were used to derive the easily soluble and slower seepage source terms for tailings deposition, XRD analyses and total metal abundance tests conducted on all tailings samples showed consistent mineralogical and major elemental compositions (BGC, 2014b). In regards to the former, silicate minerals (i.e., quartz and orthoclase, with lesser muscovite, albite and chlorite) constituted the majority (> 90%) of the tailings assemblage with minor (6 – 8%) calcite and trace pyrite (0.1 – 0.2%). These materials were sampled from ore processed from the West Zone, the VOK and a combination of the two ore zones. Therefore, the mineralogical and elemental

comparability of these materials suggests tailings processing, the ratio of acid-generation to acid-neutralization potential, and metal contents are spatially continuous at Brucejack.

#### 4.7.2.1 *Easily Soluble Loading Term*

The soluble loading term associated with the tailings was based on SFE results from 2 tailings samples (BGC, 2014b) and it was assumed these materials are representative of the processing and final material types from proposed ore-processing steps during mine operations. Samples were analyzed using a 3:1 liquid to solid ratio (as per MEND, 2009) and results are comparable between the two samples. Base case and conservative case scenarios are representative of average and maximum concentrations (respectively) from these tests (Table 4-18).

#### 4.7.2.2 *Slower Seepage Source Term*

The tailings source term associated with the slower seepage through the tailings mound was derived from the the leachate chemistry of subaqueous columns. Two subaqueous column experiments containing tailings materials were initiated as part of the Brucejack ML/ARD program (BGC, 2014b). The objective of each column was to test the leaching behavior of tailings material in water-saturated conditions that would simulate lake disposal.

Columns containing 3-5 kg of tailings material were covered with a 30 cm water head and sampled from two ports: one at the top of the column at the tailings-headwater interface, and the other at the base of the column. Following 20 weeks, pH and sulphate measurements from the top and bottom ports reached constant values and suggest porewater and advective chemistries approached near steady-state (or equilibrium) conditions. Although most metal concentrations were comparable (*i.e.*, within a factor of 3) between ports, values from the bottom port were used in the derivation of this source term for the purposes of maintaining a conservative approach. Specifically, median values of parameters of concern, typical to subaqueous and/or neutral pH conditions (*e.g.*, As, Fe, Mo), were observed to be larger than those measured from the upper port.

Average results from the last 5 weeks from bottom port concentrations from both columns were compiled and used in source term derivation. Base case and conservative case scenarios for the slow seepage tailings term reflect average and 95<sup>th</sup> percentile values (respectively) from this dataset (Table 4-18).

**Table 4-18:  
Tailings source terms**

	Loadings associated with tailings deposition (mg/kg)		Source Term associated with baseflow (mg/L)	
	Base Case	Conservative Case	Base Case	Conservative Case
pH	n/a	n/a	7.92	7.85
Ag	0.000548	0.00108	5.00E-06	5.00E-06
Al	0.285	0.330	0.00632	0.00878
Alkalinity	238	232	132	126
As	0.0887	0.173	0.118	0.126
Ca	83.9	93.9	26.6	27.6
Cd	8.93E-05	0.000174	1.63E-05	3.51E-05
Cl	1.50	1.50	12.4	15.9
Co	0.000374	0.000468	5.07E-05	7.45E-05
Cr	0.00895	0.01439	0.000170	0.000345
Cu	0.00405	0.00540	0.000485	0.000850
Fe	0.827	1.65	0.0192	0.0250
Hg	2.25E-05	3.00E-05	8.00E-06	1.70E-05
K	42.8	57.9	8.29	8.69
Mg	11.0	15.1	4.89	5.17
Mn	0.115	0.148	0.0652	0.0692
Mo	0.120	0.221	0.0435	0.0469
Na	6.31	5.84	1.48	1.60
Ni	0.00855	0.0144	0.00051	0.00067
P	0.101	0.189	0.00720	0.0120
Pb	9.00E-05	0.000120	5.70E-05	0.000113
S(6)	196	258	16.4	18.5
Se	0.0106	0.0151	0.000263	0.000369
Tl	0.000330	0.000450	1.70E-05	2.40E-05
Zn	0.00600	0.00600	0.00275	0.00430

### 4.7.3 Sensitivity Scenario Associated with Thickened Tailings

#### 4.7.3.1 Thickened Tailings

Thickened tailings, by definition, do not differ considerably from conventional tailings in regards to mineralogical or elemental composition. This similarity suggests the source terms for the ‘easily soluble’ load (described above) would not change with the introduction of thickened tailings to Brucejack Lake.

The major difference between conventional and thickened tailings is in the solid-to-water ratio, which increases from approximately 30% solids to  $\geq 60\%$  solids (respectively). The thickening process is also predicted to result in a more spatially uniform particle size distribution (PSD). Specifically, there is less slurry to carry the coarse fraction in thickened tailings and the coarse fraction voids become increasingly filled with finer particles (Robinsky, 2000). The mean PSD of the tailings may also increase in association with thickening. Collectively, these effects on water content and PSD uniformity will affect how water and solutes are released from the tailings mound.

First, a more spatially uniform PSD resulting from a lower potential for hydraulic sorting will contribute to a more homogeneous estimation of hydraulic conductivity (Blowes, 1997). Specifically, conventional tailings typically show higher K values near the discharge point and lower K values distal to this point owing to textural sorting. A typical K range for tailings varies between  $1 \times 10^{-9}$  m/s to  $1 \times 10^{-6}$  m/s (Blowes, 1997). This model employs a K value towards the upper end of this range (*i.e.*,  $1 \times 10^{-7}$  m/s) and, if thickened tailings are used, enhances the conservatism built into this source term.

Second, thickened tailings will be characterized by lower water losses associated with tailings consolidation. For conventional tailings that are discharged at 30% solids, consolidation will result in water losses until the tailings achieve a final consolidated water content. In a study by Moreno *et al.* (2014), void ratios of conventional tailings decreased by a factor of 2.6 over a 48 hour settlement period. In the same study, thickened tailings showed minor decreases ( $\sim 10\%$ ) as compared to initial void ratios over the same settlement period (Moreno *et al.*, 2014). As such, thickened tailings are discharged at a solids content that is closer to its final consolidated density, and therefore consolidation water losses will be lower in relation to conventional tailings. This adds a further element of conservatism to developed source terms.

In some thickened tailings scenarios, flocculants are added to enhance the dewatering process and may also result in larger mean particle sizes. In such cases, larger mean particle sizes will decrease molecular diffusion rates associated with solute transfer across the tailings-water interface. Loadings from the tailings mound to the overlying water column will represent a combination of diffusion (solute transfer along concentration gradients) and advection (transfer associated with upward groundwater movement). From the perspective of the diffusion term, larger grain sizes increases tortuosity, which in turn, decreases diffusion rates. This aspect associated with thickened tailings represents a further conservatism with regards to the loading calculations.

## **4.8 Sewage Treatment Plant**

### **4.8.1 Treatment Process and Assumptions**

A Filterboxx Packaged Water Solutions Inc. (Filterboxx) STP recently commissioned at the Brucejack exploration site has a rated treatment capacity of 75m<sup>3</sup>/day, which is sufficient for a camp population of 330 persons based on the MOE guidance of 227 L effluent per person per day. It may also be sufficient for the maximum construction camp population of 440 based on actual camp per capita effluent production, which is well documented and significantly lower than the MOE guidance. A supplemental unit will be installed and registered prior to construction if needed. The treatment system is a membrane bio-reactor (MBR) system with an activated sludge process followed by membrane clarification, phosphorus treatment, and UV disinfection.

Based on the vendor's description, the treatment unit is comprised of the following key equipment:

- Fine screening
- Aerated flow equalization tank including blower and fine bubble diffusers
- Flow and level control equipment/instrumentation
- Bio-reactor tank with fine bubble air diffusers using the same blower as the equalization tank
- Ultrafiltration (UF) membranes with a nominal filtration pore size of 0.04 micron
- Membrane cleaning system
- Sludge wasting pump
- Treated water holding, backwash and discharge tank
- Backwash and discharge pumps
- UV disinfection system
- Phosphorus removal dosing system comprised of alum storage tank and dosing pumps
- PLC control system.

The process flow diagram for the proposed STP is provided in Appendix C. Sewage is processed in the bioreactor tank. The process utilizes aerobic bacteria to remove organic contaminants by biological oxidation. The air required to meet the oxygen demands of the system and to provide the mixing of the Mixed Liquor Suspended Solids (MLSS) is supplied by the aeration blower system and air bubble diffusers. The biological process is

designed for variable feed waste water quality (oxygen demand and TSS) on an average basis.

The Ultrafiltration (UF) membranes are an immersed negative pressure (vacuum) type membrane used to separate most solids, pathogens, and unwanted constituents from wastewater. The UF membranes are “outside in” filters; the solids filtered out of the wastewater are retained in the process tank, and pumped to the aerobic digester system for further processing. Waste activated sludge (WAS) is periodically pumped from the bioreactor to maintain optimal concentrations of mixed liquor.

The UF membrane system is equipped with PLC controlled, automated maintenance process functions as follows:

- **Backwash:** Reverse water flow through the UF membrane elements (inside out) with permeate water and Sodium Hypochlorite and/or Citric Acid, assisted by the aeration blower.
- **Membrane Air Scour:** air flow to scour through membrane using the blower to reduce trans-membrane pressure (TMP) and maintain the permeate flux.
- **Chemical Clean:** a Clean in Place (CIP) where the membranes are dosed with a high concentration of chemicals to remove large amounts of organic and inorganic foulants. CIP frequency is three to six months depending on the membrane and feed water quality.
- **Treated Water Holding Tank:** The final treated effluent is collected in a tank and utilized for membrane backwash, CIP water, and final discharge using the backwash pump.

The effluent will be discharged by a set of duplex pumps from the unit through the UV disinfection system to the discharge/outfall pipe. During the Construction phase, discharge will be directed to Brucejack Creek (Figure 1-2); during the Operations phase, effluent will discharge to Brucejack Creek. The STP will be decommissioned at closure.

#### **4.8.2 STP Source Term Values**

Discharge from the STP will be required to meet Municipal Wastewater Regulations and not lead to exceedances of BC water quality guidelines in Brucejack Creek as measured at site BJ200mD/S. The STP effluent concentrations have been defined by background water quality and vendor-specified nutrient concentrations. The STP source term concentrations used in water quality models are presented in Table 4-19 below.

**Table 4-19:  
Sewage Treatment Plant Discharge Concentrations**

Parameter	STP discharge (mg/L)	
NH3	121	
NO2	21	
NO3	1	
Cl	2.08	
SO4	15.29	
P	1	
	Dissolved (mg/L)	Total (mg/L)
Al	0.0057	0.014
As	0.0020	0.0021
Cd	0.000050	0.000050
Ca	15.3	15.7
Cr	0.000050	0.000058
Co	0.000050	0.000050
Cu	0.00025	0.00025
Fe	0.015	0.018
Pb	0.000025	0.000025
Mg	0.39	0.40
Mn	0.00048	0.0018
Hg	0.000050	0.000050
Mo	0.00062	0.00064
Ni	0.00029	0.00025
K	0.091	0.092
Se	0.00027	0.00026
Ag	0.000050	0.000050
Na	1.00	1.00
Tl	0.000090	0.000088
Zn	0.0015	0.0015

## 4.9 Waste Rock

### 4.9.1 Approach and Assumptions

The proposed mine plan includes placement of waste rock in Brucejack Lake during the Construction phase and the first few years of mining operations. Approximately 20% of the waste rock deposited into Brucejack Lake will originate from the surficial excavation of the plant and camp sites (Tetra Tech, personal communication) and the other half will

originate from the underground workings (AMC, personal communication). Waste rock deposition is implemented in the water quality model as a geochemical load and does not include a flow term. Therefore, soluble constituents will be released from the waste rock and resemble a point source contribution.

Shake flask tests are used to evaluate the mass of soluble constituents released at high water to solid ratios, and are used to predict the dissolved loads associated with the subaqueous deposition of waste rock. At the time of reporting, no shake flask test data were available for the rock excavated from the plant site area. However, several shake flask tests were conducted to estimate the solute release from various lithologies in the underground workings. ABA data collected from the plant site area indicate that material excavated from the plant site is NPAG material. In contrast, the ABA data gathered from the underground workings indicate that the majority of rock is PAG.

As an analog for the dissolved load resulting from the deposition of waste rock to Brucejack Lake, the average observed concentrations from shake flask tests for each geological model unit (Conglomerate, Fragmental, VSF, Bridge P1, P2, Silicified Cap, and Office P1) were used to approximate concentrations for the base case. For the conservative case, the maximum observed loading was used.

To calculate the dissolved load resulting from the deposition of waste rock to Brucejack Lake, the dissolved concentrations were converted to mg of metal leached per kg of waste rock deposited, using the following equation:

$$L = C * V/M$$

Where:

$L$  = mass loading from waste rock (mg/kg)

$C$  = Concentration of parameter in leachate (mg/L)

$V$  = Volume of leachate (L)

$M$  = Mass of solid rock (kg)

The calculation is based on the following assumptions:

- Soluble constituents are released immediately upon waste rock deposition.
- Metals can be retained by sorption onto ferric iron minerals in aerobic environments, such as the shake flask. If the environment becomes reducing, sorbed metals can be released by reductive dissolution.
- All waste rock is deposited during the Construction phase and first three years of Operations.

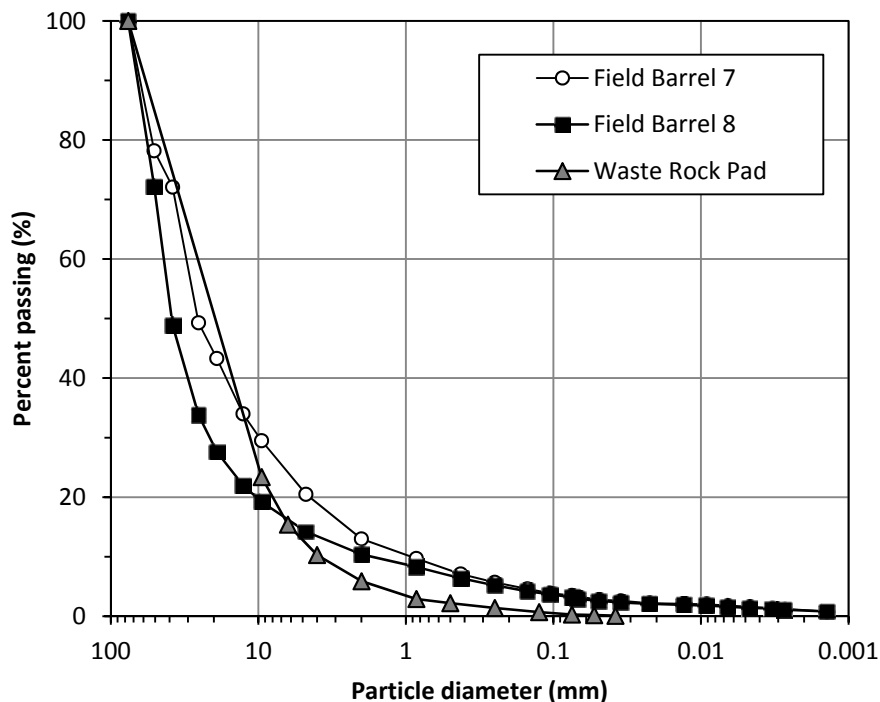


- Total metal estimates are assumed to be the same as dissolved metal concentrations (SFE results).
- Base-case and conservative case scenarios are assumed to reflect average and maximum loads from SFE results pertaining to Conglomerate, Bridge P1, P2, and Office P1.
- Sample sizes for Fragmental and VSF (n = 9 and 12 respectively) were considerably larger than other sample sizes (n ≤ 4). In these sample sets, 1 or 2 samples significantly skewed results and maximum values (to be used in conservative case scenarios) are likely an overestimation of the worst-case scenario. As such, for these two units, it is assumed that the geometric mean and the average may provide better estimates for base case and conservative case scenarios. These changes to the dissolved and total metal source terms for VSF and Fragmental units are outlined below.
- SFE results from only 1 of the 2 Silicified Cap humidity cells were obtained (HC 22). No SFE tests were conducted on HC 36 due to insufficient sample materials. However, 2 Silicified Cap samples from the Bulk Sample program (September 2013) were submitted for SFE analysis and are appended to the silicified cap data set (n = 3). Therefore:
  - Base Case Scenarios = average loads from all three SFE tests; and
  - Conservative case scenario = SFE results from HC 22 only for the following reasons:
    - Estimated lag time from HC 22 is 5.1 yr, whereas HC36 lag time is 20 yr
    - Total metal analysis from HC 22 indicates material used in this HC represents the highest concentrations for Cd, Cr, Cu, Hg, Mo and Zn.
    - ABA results indicate HC 22 has the lowest paste pH value (pH 6.81) and the lowest NPR (NPR=0.03) of the remaining humidity cells.
  - Source terms were charge-balanced as concentrations (mg/L), then converted to loads by multiplying by the SFE test ‘liquid-to-solid’ ratio (0.75L/0.25kg) and multiplied by a ‘particle size scale factor’ (PSD-SF). The PSD-SF is described below:
    - PSD-SF: relates the grain size used in the SFE test (<2 mm) to expected proportion of that grain size in natural waste rock scenarios.

- Particle size distributions (PSD) were conducted on waste rock excavated from the Brucejack underground development for the Bulk Sample program (Figure 4-6): one sample is derived from a waste rock pad adjacent to Brucejack lake, while the other two samples represent materials used in field barrel experiments. Note that material used in the field barrels was additionally crushed to less than 3".
- The maximum percent passing 2 mm from field barrel materials (16.5%) was used to calculate the PSD-SF (as 1/6<sup>th</sup>), as a conservative estimate when scaling the waste rock deposition mass loads.
- pH values (if necessary for final source term loads) were obtained by the same method as for the ion concentrations, but using H<sup>+</sup> concentrations.

#### 4.9.2 Waste Rock Loading Source Terms

Table 4-20 presents waste rock deposition source term loads for base case and conservative case scenarios.



**Figure 4-6: PSD of materials from the Bulk Sample Program.**

**Table 4-20:**  
**Waste rock deposition source term loads (in mg/kg) for base case and conservative case scenarios.**

	Conglomerate		Fragmental		VSF		Bridge P1		P2		Silicified Cap		Office P1
	BC	CC	BC	CC	BC	CC	BC	CC	BC	CC	BC	CC	BC/CC
	Average	Max	Median	Average	Median	Average	Average	Max	Average	Max	Average	Max	Average
Ag	3.19E-05	8.00E-05	5E-06	1.22E-05	1.00E-05	1.56E-05	5.00E-06	1.00E-05	3.33E-06	5.00E-06	4.00E-05	6.00E-05	2.50E-06
Al	0.0854	0.161	0.0478	0.0777	0.0668	0.0914	0.150	0.253	0.0383	0.0483	0.404	0.00290	0.148
Alk	47.8	39.4	30.0	29.5	53.0	50.4	45.9	40.8	43.1	36.6	36.6	20.0	29.7
As	0.00420	0.00885	0.00530	0.0128	0.0204	0.0254	0.00456	0.00960	0.0511	0.126	0.0219	0.000800	0.00455
Ca	7.12	18.6	7.05	7.47	4.53	6.38	1.97	3.55	15.1	26.2	3.35	9.30	5.45
Cd	9.25E-06	1.55E-05	7E-06	0.00124	5.00E-06	1.75E-05	3.69E-06	5.50E-06	1.87E-05	4.75E-05	0.00194	0.00580	5.50E-06
Co	0.000405	0.000906	0.000128	0.00243	9.15E-05	0.00218	5.59E-05	0.000125	6.67E-05	0.000146	0.000370	0.000985	0.000150
Cr	0.000125	0.000125	0.000125	0.000125	0.000125	0.000125	0.000125	0.000125	0.000125	0.000125	0.000775	0.000125	0.000125
Cu	0.000250	0.000500	0.000400	0.000672	0.000375	0.000342	0.000250	0.000500	0.000233	0.000450	0.000508	0.000250	0.000125
Fe	0.00469	0.0120	0.00150	0.0890	0.00113	0.00238	0.00313	0.00400	0.000750	0.000750	0.00692	0.000750	0.00200
Hg	3.13E-06	5.00E-06	2.50E-06	3.33E-06	5.00E-06	1.06E-05	3.13E-06	5.00E-06	4.17E-06	5.00E-06	2.50E-06	2.50E-06	2.50E-06
K	3.84	4.89	3.03	3.31	2.90	2.99	3.18	5.05	2.10	2.76	0.738	0.830	2.38
Mg	1.00	2.13	1.67	2.81	1.48	1.71	1.42	3.22	2.47	3.02	0.174	1.93	2.27
Mn	0.0704	0.198	0.0315	0.165	0.0137	0.0577	0.00763	0.0157	0.0374	0.0420	0.0711	0.149	0.00776
Mo	0.00155	0.00262	0.000625	0.001017	0.00228	0.00485	0.00103	0.00186	0.000589	0.00128	0.00219	0.000525	0.000850
Na	11.3	2.13	6.830	8.75	10.6	10.4	8.57	5.86	16.9	26.4	10.6	7.09	0.306
Pb	0.000488	0.00126	0.000100	0.00159	4.00E-05	5.13E-05	0.000401	0.00104	0.000145	0.000385	0.000617	0.000125	2.50E-05
S(6)	24.1	39.5	22.5	29.9	13.0	18.9	6.75	12.0	56.0	107	12.8	31.0	5.50
Se	0.00216	0.00640	0.00133	0.00149	0.000903	0.00214	0.00167	0.00251	0.00679	0.0156	0.00416	0.00465	0.000135
Tl	0.000223	0.000475	6.50E-05	0.000185	5.50E-05	0.000113	4.00E-05	7.00E-05	6.83E-05	0.000120	6.25E-05	0.000120	3.50E-05
Zn	0.000688	0.00100	0.000500	0.0308	0.000500	0.000563	0.000313	0.000500	0.000500	0.00100	0.0352	0.104	0.000250

Note that loads were calculated from balanced concentrations  $\times 0.75\text{L}/0.25\text{kg} \times \text{PSD\_SF}$  (i.e.,  $1/6^{\text{th}}$  of material is  $< 2$  mm)

#### **4.10 Treatment Solids from Water Treatment Plant**

Water treatment at the Brucejack Gold Mine Project will be implemented to treat waters associated with underground dewatering as well as runoff from the Plant Site area. The latter will include drainages associated with the temporary waste rock stockpile (construction and early operations). Treatment will result in the generation of solid-phase treatment products (sludge) that will require on-site management and disposal. Currently, sludge co-disposal with tailings into Brucejack Lake is the preferred option for sludge management. Sludges will comprise a very small percentage (< 0.3%) of the total tailings+sludge volume in Brucejack Lake.

Solids generated as part of water treatment will comprise two general types of materials:

1. Sediments generated as part of underground and surface activities: These materials will represent detrital sediment components that will reflect the composition of underground wall rocks and surface materials. Sediments will comprise largely silt- and clay-sized particles that are pumped to the WTP in association with: 1) mine dewatering; and 2) surface drainages that collect in the Plant Site sediment control pond. This sediment component will comprise the bulk (> 65%) of the sludge solids volume (Veolia, pers. comm).
2. Secondary precipitates generated within the WTP: The addition of treatment reagents, such as lime and ferric sulfate, during the interim and operational treatment process will result in the formation of fine-grained secondary precipitates. These secondary minerals are predicted to comprise largely of secondary Fe-oxides (owing to addition of ferric salts as coagulant and co-precipitant), with a lesser component of metal hydroxides and secondary carbonates. These secondary precipitates will contribute to the smaller, remaining proportion of the total sludge volume (< 35%).

In terms of geochemical characterization, treatment solids likely associated with the construction and operational WTP processes have not been specifically evaluated. However, detailed characterization has been conducted on sludge materials generated as part of the current treatment system. The current WTP involves flocculation/sedimentation methods, in conjunction with solids-liquid separation (filter press) to remove solids from underground effluents. The final sludge product represents a reliable proxy for the sediment-component of the sludge to be generated during construction and operations, and therefore the physical and chemical data for the existing material have direct relevance to the composition of future treatment solids.

Treatment solids generated as part of current water treatment have been examined through several methods, including:

- Particle size distribution
- Elemental abundance
- Acid-base accounting
- Mineralogy (Rietveld X-ray diffraction)
- Shake flask extractions (SFE)
- Synthetic Precipitation Leaching Procedure (SPLP)
- Subaqueous testwork (aging tests)

Four (4) sludge samples were submitted for the above analytical tests and these results were presented as part of the Technical Assessment Report in support of mine water treatment for the on-going exploration phase (Lorax, 2014). In summary of these findings, the sludge materials are fine grained, with relatively equal proportions of clay (<4 microns) and silt (4 to 63 microns). Sludge samples show enrichment of several trace elements, with values for Ag, As, Cd, Mo, Pb, Sb, Se and Zn exceeding mean continental crustal values by a factor of 3 in some or all samples. Values for Zn, Ag, Cd and Pb show higher values in sludge materials in comparison to tailings and waste rock. In terms of ABA characteristics, sludge samples show low sulphide-S content (approximately 1%) and relatively low neutralization potential. Net potential ratios (Sobek NP/SAP) range from 1.4 to 1.5 (intermediate to that of waste rock and tailings), demonstrating that the sludge materials are potentially acid generating. The mineralogical assemblage (as defined by XRD) is dominated by quartz>muscovite>chlorite≅calcite>microcline, with lesser amounts of pyrite and kaolinite.

The potential for the release of soluble constituents associated with sludge placement in saturated settings (*e.g.*, Brucejack Lake) was examined by SFE, SPLP and aging testwork. The data show the potential for the release of several trace elements under conditions of neutral pH to slightly acidic conditions (*e.g.*, As, Cd, Mn, Ni, Se, and Zn). SFE data for sludge materials show higher values for sulfate, Ag, Cd and Pb, in comparison to tailings and waste rock.

As outlined above, the operation treatment solids will also host a secondary precipitate component that has not been assessed to date. Given the predicted predominance of secondary Fe-hydroxides, it can be assumed that such phases will be chemically unstable under conditions of low redox potential. The placement of sludges in the lake (as compared to underground) will eliminate the potential for sludge interaction with low pH water that could occur in the underground. Therefore, the potential for sludge chemical instability in Brucejack Lake will relate primarily to redox-related processes.

Given that the sludge solids will comprise a very small proportion of the total tailings+sludge volume, sludge-specific source terms were not incorporated into the water quality model.

However, some insight into sludge behaviour in Brucejack Lake is described below. Suboxic conditions can be expected to develop in the lake deposits, and therefore some reductive dissolution of sludge phases can be expected. Overall, however, the risk of adverse water quality effects from sludge materials is considered to be very low based on the following rationale. First, sludges will comprise a very small proportion (<0.3%) of the tailings volume. Based on a secondary precipitate proportion of 35% in the sludge, this more reactive component will be present in exceedingly low proportions (~0.1%). The low abundance of reactive phases in the lake deposits will minimize the potential for large-scale fluxes of sludge-derived components into the water column.

Second, the transport of remobilized sludge components into the water column will be largely governed by molecular diffusion across the tailings-water interface, which is a slow process. Case studies that have shown problematic water quality related to the diffusion-controlled release of mine-related solutes into a water cover have been characterized by the following conditions: 1) high concentration (abundance) of redox sensitive phases in surface deposits; 2) shallow water covers (1 to 4 m); 3) relatively long-water residence times (Martin et al., 2005). None of these features will apply to the Brucejack Lake system. Firstly, the sludge components will be present in very low abundances. Further, the deep water column (maximum depth of 50 m at mine closure) and relatively-rapid lake flushing will greatly decrease the potential risk of water quality degradation associated with tailings-water exchanges.

Conditions within the lake deposits will also serve to mitigate the flux of redox-sensitive components. As outlined above, suboxic conditions can be expected to develop in the lake deposits and some reductive dissolution of sludge phases can be expected. However, given the extremely oligotrophic nature of the system, aerobic conditions will persist in the surface deposits. This aerobic zone will serve to attenuate a portion of the upward flux of remobilized Fe and other metals towards the tailings-water interface. Upon closure, the progressive burial of the tailings deposits by natural sediments will provide a further means to physically and chemically isolate the sludges from the water column. Collectively, the behavioural aspects of the sludge materials described here suggest that these materials are unlikely to have a measureable influence on the water quality in Brucejack Lake.

To support the assumptions provided here, geochemical testwork on operational sludge materials will be completed during operations, when sludge materials and tailings will be readily available. This will involve a combination of high resolution mineralogy (*e.g.*, SEM) in conjunction with subaqueous column testwork. Details of sludge management, monitoring plans and potential mitigation strategies (if required) are described in the ML/ARD management plan document (BGC, 2014d).

## ***5. Results***

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## 5. Results

Water quality predictions for Brucejack Lake and Brucejack Creek for all scenarios considered are presented in Appendix E. Scenarios considered include base case and sensitivity cases throughout Construction, Operations and Post-Closure phases as described in Section 2.2.3. The two sites relevant to water quality models are BJ200mD/S, the proposed provincial water quality attainment location along Brucejack Creek and BJ U/S, the monitoring site at the outlet of Brucejack Lake which will be the mine’s point of discharge during Operations and where Operations discharge limits under MMER and the BC MOE Effluent Permit are expected to apply (Figure 1-2).

The following discussion of the water quality predictions is focused on environmentally-relevant parameters showing mine-related signatures. Emphasis is also placed on highlighting the mine phases of concern and identifying the dominant contaminant sources, as summarized in Table 5-1. This report does not specifically relate predicted water values to screening criteria, nor does the report address the potential for adverse effects to aquatic biota. These aspects are presented under separate cover.

**Table 5-1:  
Mine-related sources of contaminants, relevant parameters and mine phases impacted**

Mine-related source	Relevant parameters	Mine phase
Waste rock	TSS, sulfate, nutrients (nitrogen), trace elements	Construction and Operations
Tailings (solids + supernatant)	TSS, sulfate, nutrients (nitrogen), trace elements	Operations
STP	Nutrients (phosphorus, nitrogen)	Construction/Operations
Contact water from the underground workings	Sulfate, nutrients (nitrogen), trace elements	All phases. Contact water is treated during Construction and Operations.

Overall, general patterns observed for water quality predictions can be related to seasonal water balance changes, the geochemical behaviour of waste rock as a function of time (*e.g.*, the onset of acid generation) and the timing of mine activities within each mine phase. For example, important mine-related activities that have relevance to water quality include the following:

- Deposition of waste rock in Brucejack Lake occurs during the Construction phase and the initial years of the Operations phase; loadings from the lake-deposit waste rock term become insignificant once deposition has ceased;



- During the Operations phase, flow and parameter loadings associated with the underground workings increase as the underground footprint expands;
- Deposition of tailings within Brucejack Lake which occurs during the Operations phase only, progressively decreases after year 14 of Operations;
- STP effluent is discharged to Brucejack Creek during the Construction phase and to Brucejack Lake during Operations. The impact of STP discharge on nutrient levels in Brucejack Creek is more significant when the discharge is not buffered by the lake system;
- WTP effluent is discharged to Brucejack Creek during the Construction phase and to Brucejack Lake during the Operations phase. The impact of WTP discharge on metal concentrations at BJ200mD/S in Brucejack Creek is more significant when the discharge is not buffered by the lake system;
- At Closure, the underground workings are allowed to flood. During the Post-Closure period, the transport of contact waters from the underground to Brucejack Lake and Brucejack Creek along groundwater pathways represents the dominant loading vector, with a higher proportion of the baseflow loading reporting to Brucejack Creek (see Post-Closure water balance; Figure 3-3).

## **5.1 Base Case Results**

### **5.1.1 Brucejack Lake**

As previously discussed, historical mining activities deposited waste rock into Brucejack Lake. During Pretivm operations, the lake will receive both waste rock and tailings. As such, water discharging from Brucejack Lake into Brucejack Creek is considered to be mine effluent.

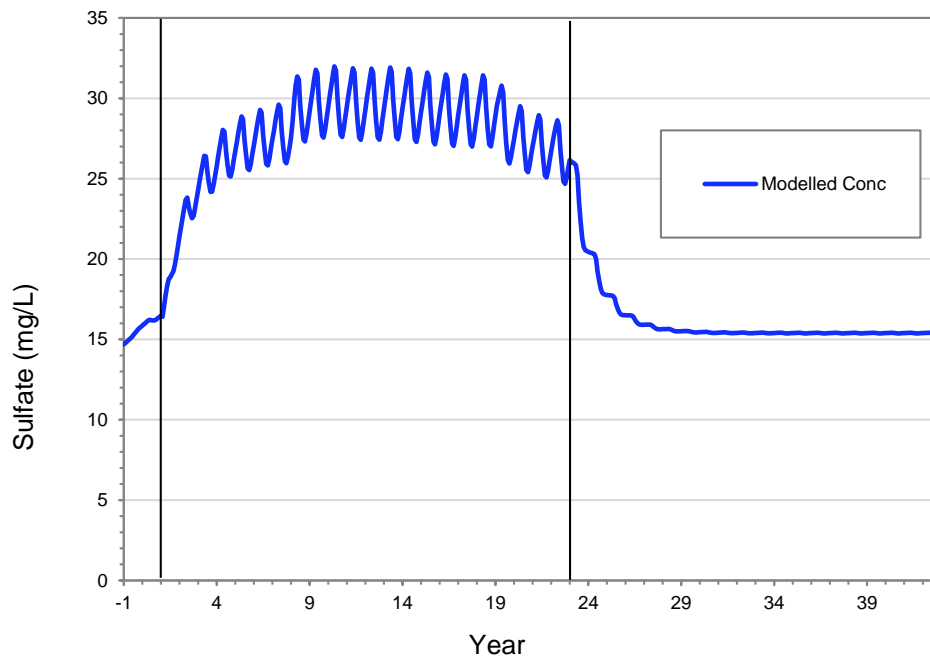
In the following section, water quality predictions for Brucejack Lake are presented, as per the modelling results for station BJ U/S. BJ U/S is located at the lake outlet and is expected to serve as the effluent discharge location. Overall, results show Project-related signatures for the following parameters:

- Sulfate
- Trace elements (*e.g.*, Ag, As, Cr, Cd, Ni, Zn)
- Nutrients (nitrogen- and phosphorus-related compounds)

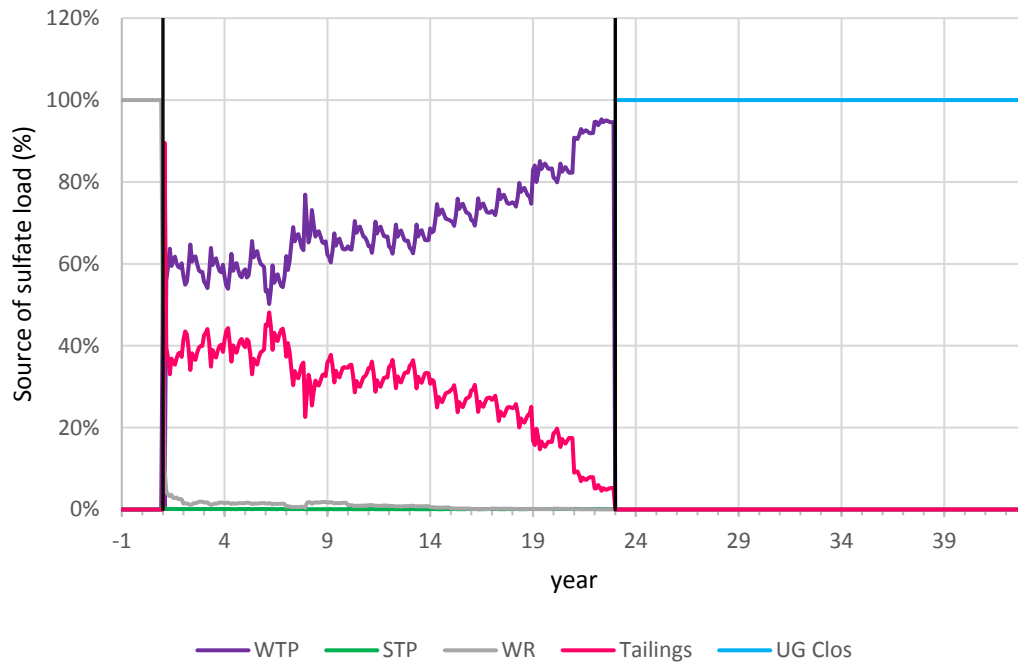
Of these, sulfate, arsenic, zinc, phosphorus and nitrite are used to illustrate the effect of the mine as it relates to the various mine phase and loading sources. Results for all parameters are provided in Appendix E.

Sulfate results are presented in Figure 5-1 to provide context for ML/ARD-related processes. Vertical lines in this plot and in all subsequent results plots are shown to indicate the breaks between Construction and Operations phases at year 1 and between Operations and Post-Closure at year 23. Sulfate concentrations within Brucejack Lake are highest during Operations when tailings and WTP effluent are being discharged to the lake. Sulfate concentrations are not predicted to be reduced significantly by the treatment process, and therefore sulfate loadings from the WTP essentially represent the loading from the underground mine.

The relative importance of sources contributing to sulfate loadings in Brucejack Lake throughout all mine phases is presented in Figure 5-2. During Construction, the deposition of waste rock to the lake represents the dominant source of sulfate. During Operations, underground (WTP) and tailings inputs contribute the bulk of the sulfate loading to the lake, with WTP inputs progressively increasing in importance as: 1) underground workings expand; and 2) the rate of tailings discharge decreases after year 14. In the Post-Closure phase, essentially all sulfate loads are derived from the migration of water in the flooded underground to both Brucejack Lake and Brucejack Creek.



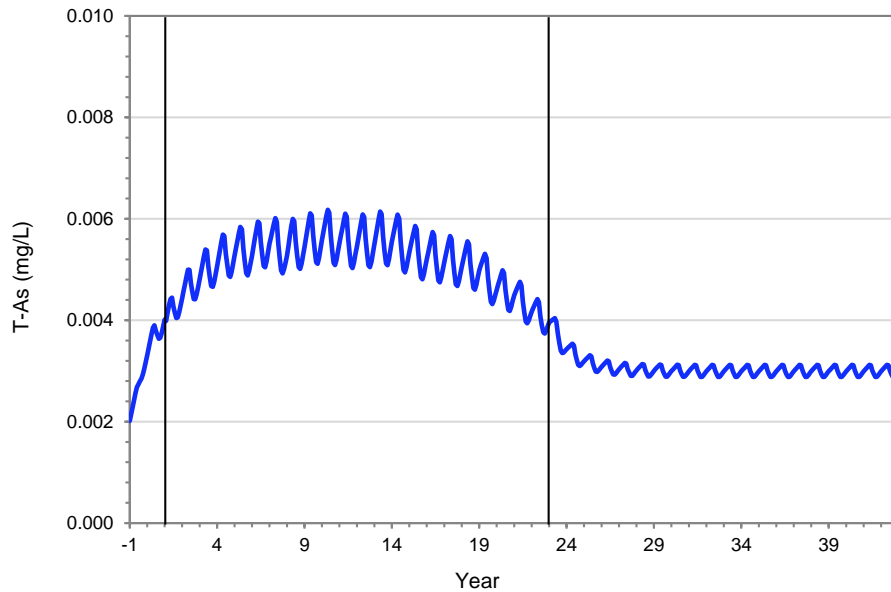
**Figure 5-1: Predicted base case sulfate concentrations in Brucejack Lake during Construction (years -1 to 0), Operations (years 1-22) and Post Closure (year 23 onward).**



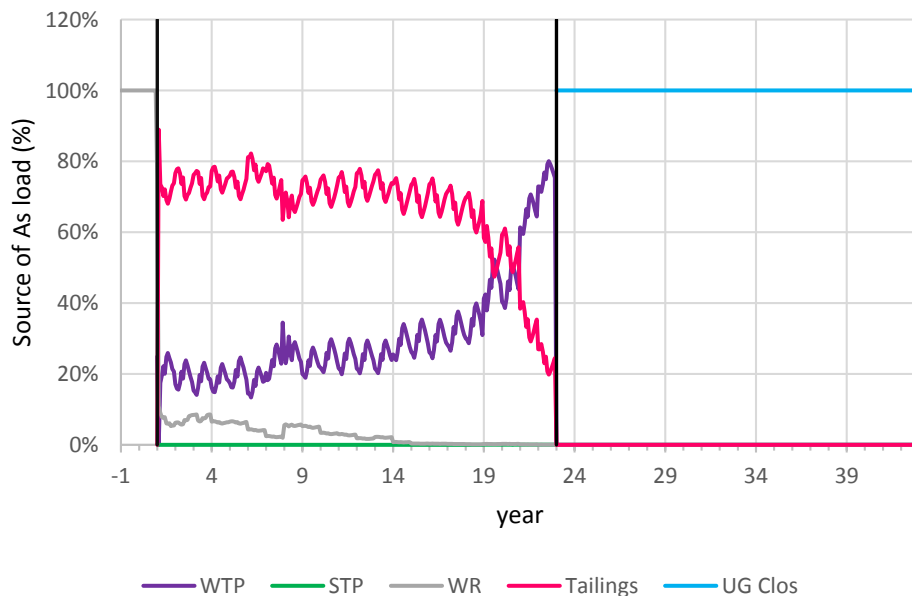
**Figure 5-2: Sources of sulfate loadings to Brucejack Lake during Construction (years -1 to 0), Operations (years 1-22) and Post-Closure (year 23 onward). Note that WTP = Water Treatment Plant, STP = Sewage Treatment Plant, WR = Waste Rock; UG Clos = baseflow from underground mine following Closure.**

Predicted As concentrations are presented in Figure 5-3 and show a marked increase during the Construction and Operations phases followed by a decrease after year 14. During Construction, waste rock is the only mine-related source of As (Figure 5-4). The decrease in As concentration during operations can be attributed to two factors: 1) waste rock will cease to be deposited in Brucejack Lake after the initial few years of Operations; and 2) the amount of tailings deposited during the Operations phase decreases significantly after year 14. During Post-Closure, baseflow from the underground mine will be the dominant source of As to the lake.

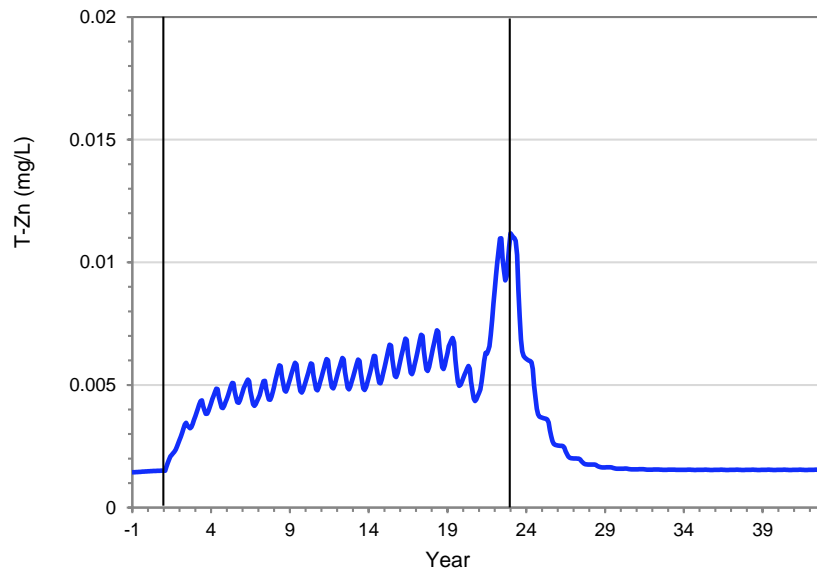
Zn concentrations are plotted in Figure 5-5 and show an increase throughout Operations. In contrast to As and sulfate, the vast proportion of the Zn loading during Operations originates from the underground mine (via the WTP). The peak in Zn concentrations at the end of Operations can be attributed to the onset on acid generation in one of the block units (Silicified Cap) at year 20. Baseflow transport from the underground mine to the lake is the only mine-related source of Zn during Post-Closure. A strong seasonal cycle is observed in both As and Zn predictions throughout all mine phases, where the highest concentrations are observed during the low flow periods when dilution of mine-related sources is at a minimum.



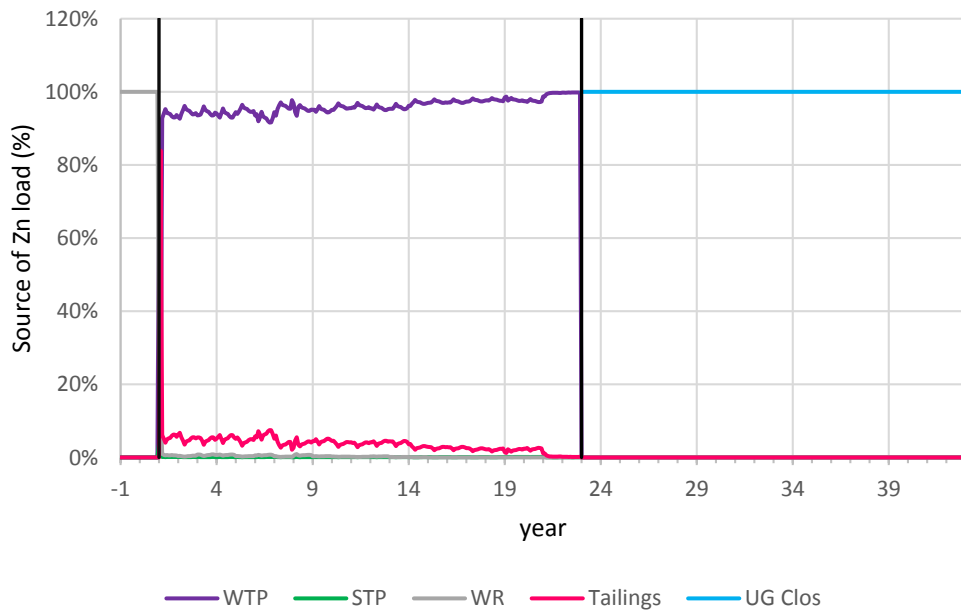
**Figure 5-3:** Predicted base case total As concentrations in Brucejack Lake during Construction (years -1 to 0), Operations (years 1-22) and Post-Closure (year 23 onward). For reference, MMR maximum mean monthly As values are 0.50 mg/L.



**Figure 5-4:** Sources of As in Brucejack Lake during Construction (years -1 to 0), Operations (years 1-22) and Post-Closure (year 23 onward). Note that WTP = Water Treatment Plant, STP = Sewage Treatment Plant, WR = Waste Rock; UG Clos = baseflow from underground mine following Closure.



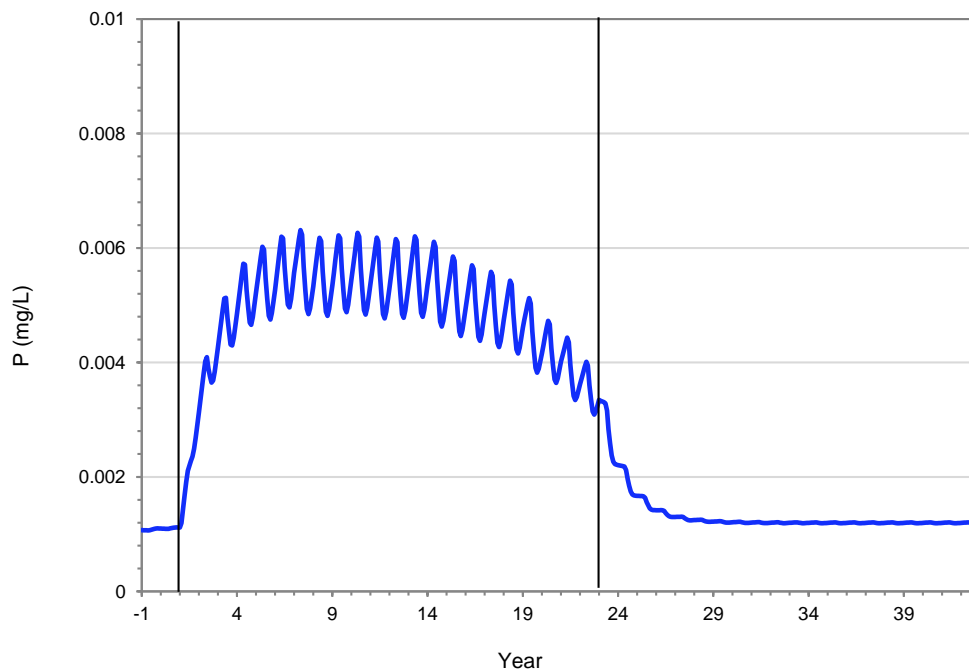
**Figure 5-5:** Predicted base case total Zn concentrations in Brucejack Lake during Construction (years -1 to 0), Operations (years 1-22) and Post-Closure (year 23 onward). For reference, MMR maximum mean monthly Zn values are 0.50 mg/L.



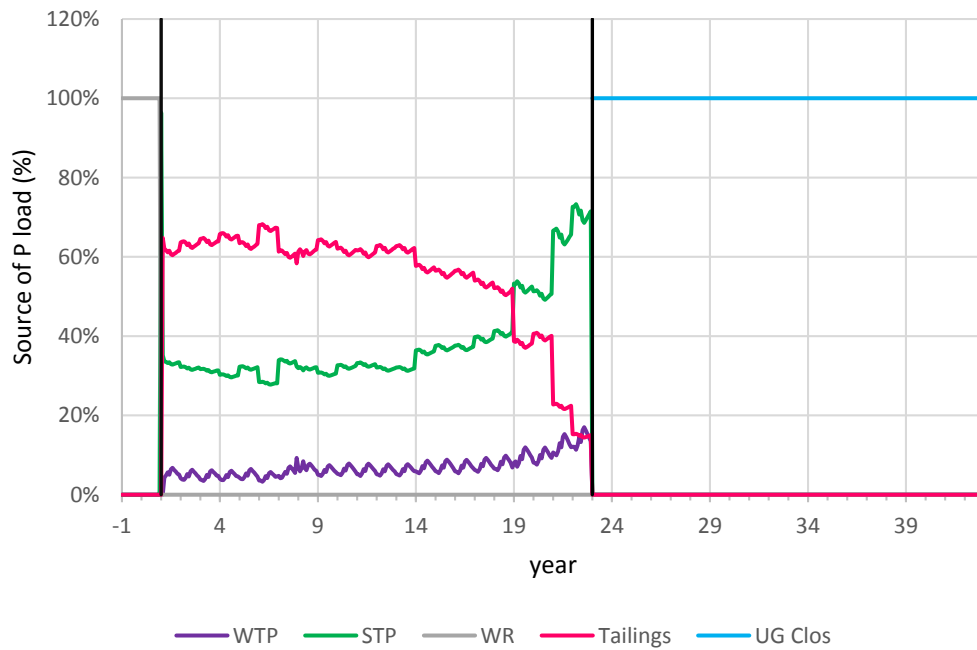
**Figure 5-6:** Sources of Zn in Brucejack Lake during Construction (years -1 to 0), Operations (years 1-22) and Post-Closure (year 23 onward). Note that WTP = Water Treatment Plant, STP = Sewage Treatment Plant, WR = Waste Rock; UG Clos = baseflow from underground mine following Closure.

Phosphorus and nitrite results are shown in Figure 5-7 and Figure 5-9, respectively, to demonstrate the effect of the mine on nutrient concentrations in Brucejack Lake. P concentrations within the lake are low ( $\sim 1 \mu\text{g/L}$ ) during the Construction phase when the only mine-related source is waste rock (Figure 5-8). Values then increase during Operations up to  $\sim 7 \mu\text{g/L}$  owing to the discharge of tailings and STP effluents to the lake during the operational period. Following cessation of tailings and STP discharges during closure, P concentration decrease back to values close to  $1 \mu\text{g/L}$ . The contribution of P from the tailings discharge dominates the P loading to Brucejack Lake for most of the Operations phase (Figure 5-8). STP effluents become more dominant in the later years of Operations coincident with a decrease in the tailings discharge rate.

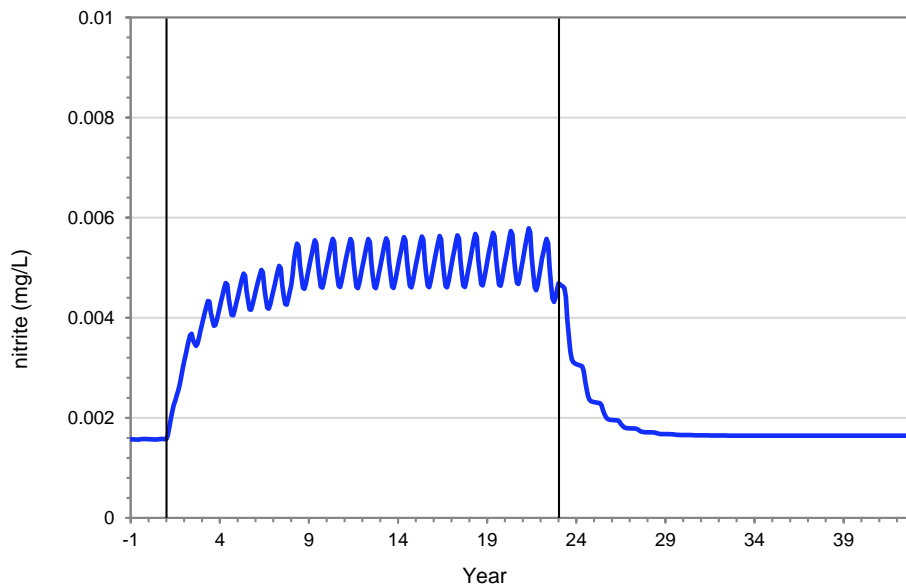
Predicted nitrite concentrations show a similar pattern to P, where concentrations in Brucejack Lake are relatively low (less than  $1.6 \mu\text{g/L}$ ) during the Construction phase, increase up to  $\sim 6 \mu\text{g/L}$  during Operations, and decrease back down to Construction phase levels during Post-Closure (Figure 5-9). The relative importance of the various nitrite loading terms over time is shown in Figure 5-10, and demonstrates that the STP and WTP contribute to the bulk of the nitrite loading.



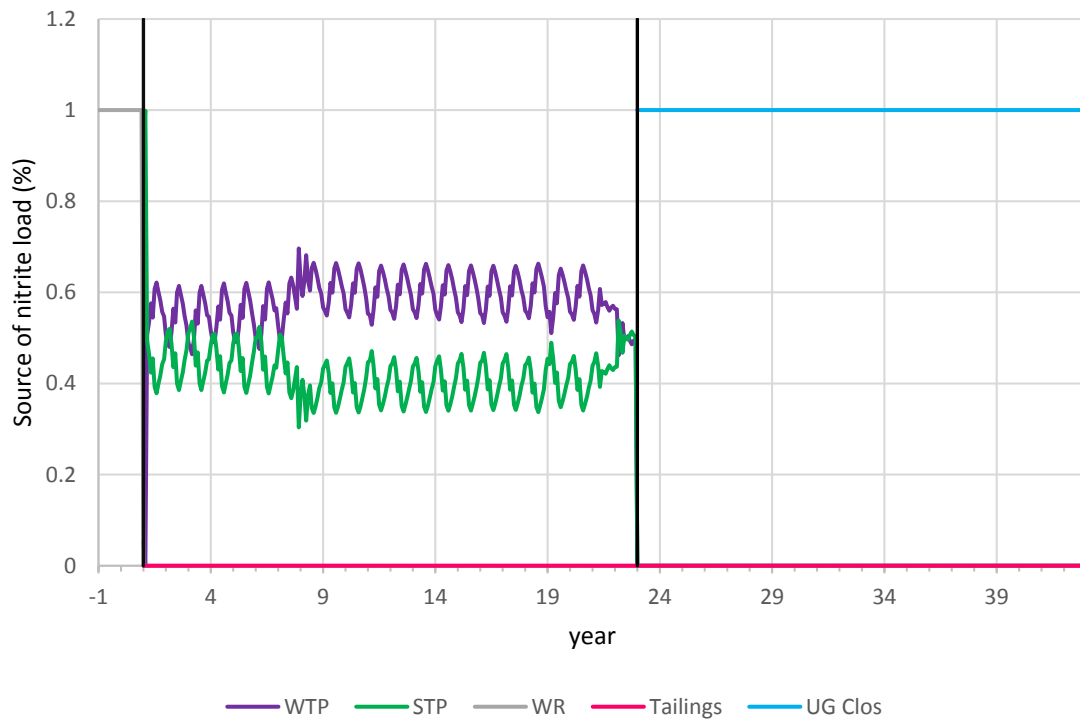
**Figure 5-7: Predicted base case P concentrations in Brucejack Lake during Construction (years -1 to 0), Operations (years 1-22) and Post-Closure (year 23 onward).**



**Figure 5-8: Sources of P in Brucejack Lake during Construction (years -1 to 0), Operations (years 1-22) and Post-Closure (year 23 onward). Note that WTP = Water Treatment Plant, STP = Sewage Treatment Plant, WR = Waste Rock; UG Clos = baseflow from underground mine following Closure.**



**Figure 5-9: Predicted base case nitrite concentrations in Brucejack Lake during Construction (years -1 to 0), Operations (years 1-22) and Post-Closure (year 23 onward).**



**Figure 5-10: Sources of nitrite in Brucejack Lake during Construction (years -1 to 0), Operations (years 1-22) and Post-Closure (year 23 onward). Note that WTP = Water Treatment Plant, STP = Sewage Treatment Plant, WR = Waste Rock; UG Clos = baseflow from underground mine following Closure.**

### 5.1.2 Brucejack Creek

The proposed receiving water quality attainment location for the Brucejack Gold Mine Project is monitoring station BJ200mD/S located in Brucejack Creek, ~480 m downstream of monitoring station BJ U/S (Figure 1-2). In the following sections, base case water quality predictions for site BJ200mD/S are presented for sulfate, As, Zn, nitrite and P to illustrate how water quality responds throughout the mine phases to various loading terms. The relative importance of the various loading terms over time is also illustrated, and for the purpose of the discussion, lake-related sources are combined into a single term. The full suite of water quality predictions for Brucejack Creek is provided in Appendix E.

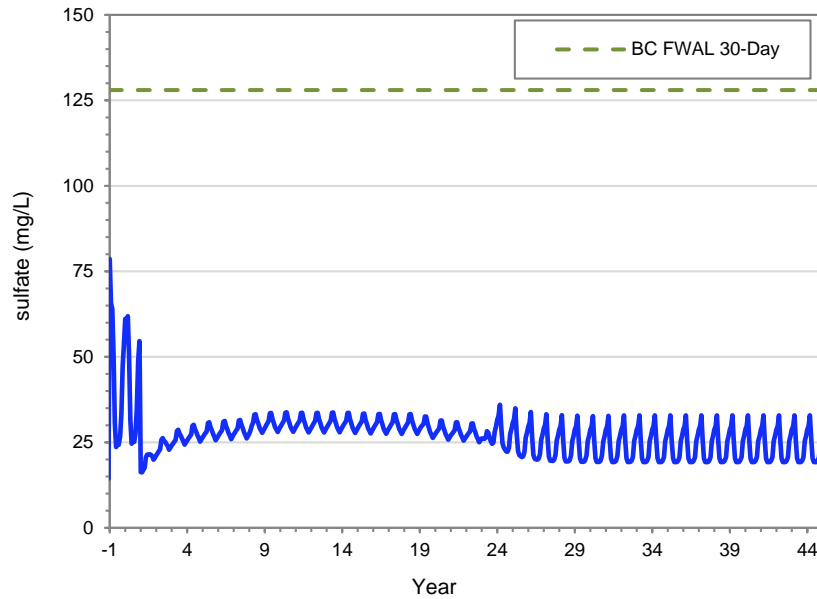
Sulfate concentrations in Brucejack Creek (Figure 5-11) are highest during the Construction phase up to a maximum value of approximately 80 mg/L when WTP effluent is discharged directly to the creek (location indicated in Figure 1-2). During the transition from Construction to Operations, sulfate concentrations in Brucejack Creek decrease.



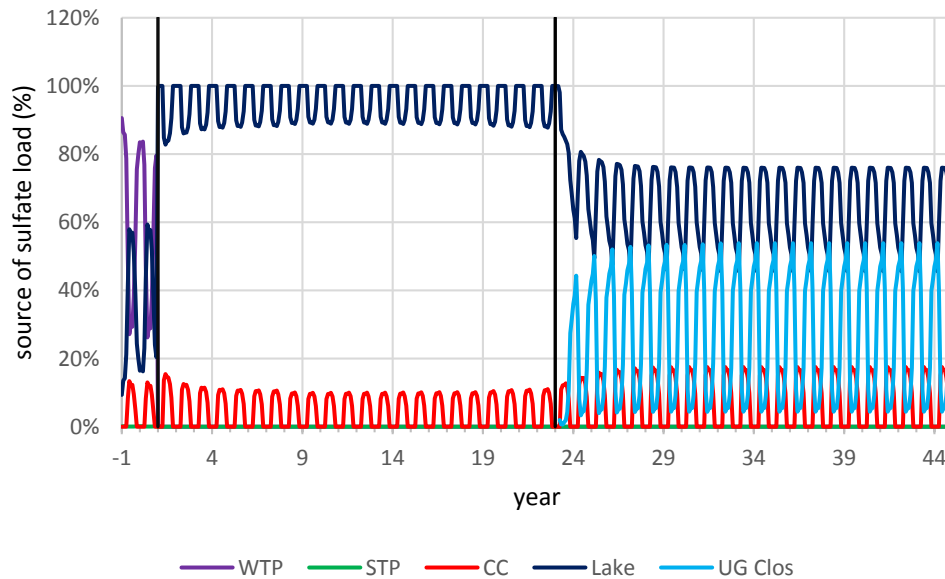
Further, the magnitude of seasonal fluctuations also decreases. These results relate to the effect of redirecting all mine-related inputs to the lake during operations. The volume and residence time afforded by the lake serves to both reduce absolute concentrations and seasonal variability. This effect can be seen for all parameters.

During operations, sulfate concentrations show a progressive increase until year 14 (35 mg/L) due to the expansion of the underground, while decreases in concentration after year 14 can be attributed to the progressive reduction in tailings discharge. During the Post-Closure phase, the transport of sulfate from the flooded underground workings along subsurface pathways represents a significant loading pathway to Brucejack Creek. The redirecting of the underground sulfate load from the lake (Operations) directly to the creek (Post-Closure) can account for both: 1) the higher absolute concentrations at BJ200mD/S during Post-Closure; and 2) the higher degree of seasonal variability. The loading from the underground is relatively uniform throughout the year during the Post-Closure period. In contrast, flows in Brucejack Creek show pronounced seasonal variability. Collectively, these processes can account for the relatively-high degree in seasonal variability during the Post-Closure period, with peak concentrations occurring during winter low flow (March). The mechanisms described here for sulfate apply to all parameters characterized by mine-related signatures in the underground at Closure.

Figure 5-12 shows the relative contribution of sulfate loadings to site BJ200mD/S from the different sources over time. During the Construction phase, the water treatment plant and waste rock within Brucejack Lake (Figure 5-2) account for most of the sulfate loadings. During the Operations phase, most of the sulfate loadings originate from tailings and WTP effluent within Brucejack Lake. During the Post-Closure phase, Brucejack Lake and baseflow from the underground mine contribute the bulk of the sulfate loadings. Throughout all mines phases, loadings from Camp Creek account for less than 20% of sulfate loadings to BJ200mD/S (Figure 5-12).



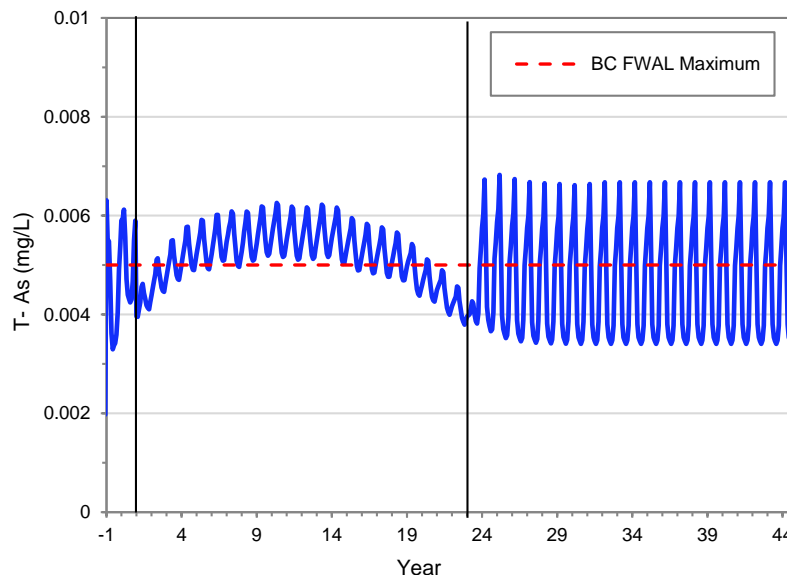
**Figure 5-11: Predicted base case sulfate concentrations at station BJ200mD/S during Construction (years -1 to 0), Operations (years 1-22) and Post-Closure (year 23 onward).**



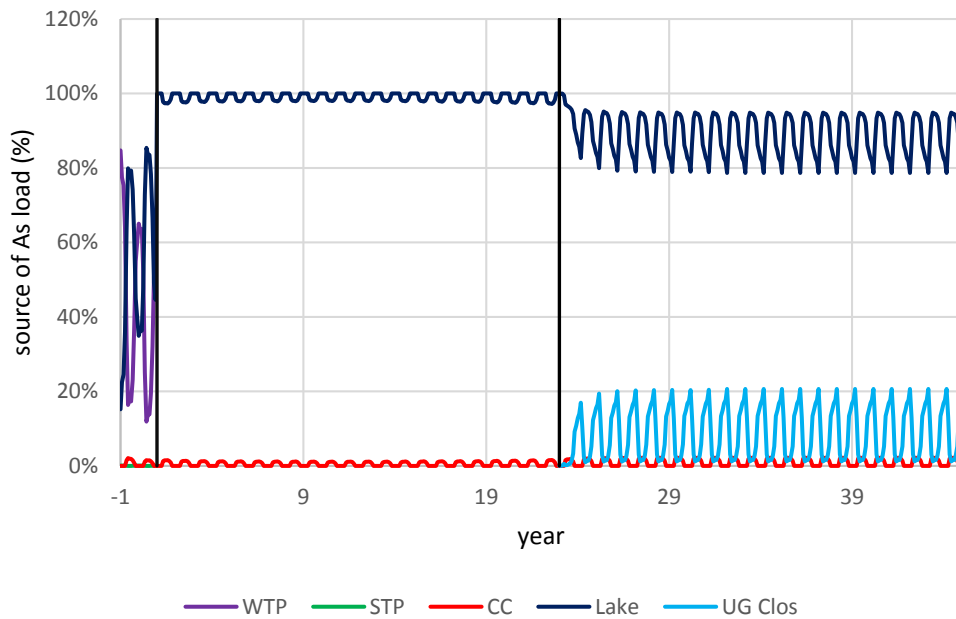
**Figure 5-12: Source of sulfate loadings to monitoring site BJ200mD/S during Construction (years -1 to 0), Operations (years 1-22) and Post-Closure (year 23 onward). Note that WTP = Water Treatment Plant, STP = Sewage Treatment Plant, CC = Camp Creek; Lake = all inputs from Brucejack Lake; and UG Clos = baseflow from underground mine following Closure.**

Arsenic concentrations at BJ200mD/S (Figure 5-13) are relatively high during the Construction phase due to loadings from WTP effluent and waste rock deposited in Brucejack Lake (Figure 5-14). During Operations, the dominant source of As originates from the tailings and WTP effluent discharged to Brucejack Lake. The increase in As concentrations observed at BJ200mD/S during Post-Closure can be related to the cessation of water treatment and the redirection of underground loading from the lake (via the WTP) directly to Brucejack Creek (as described above for sulfate). Arsenic loadings from the lake during Post-Closure are greater than those originating from either the underground (up to 20%) or Camp Creek (<3%).

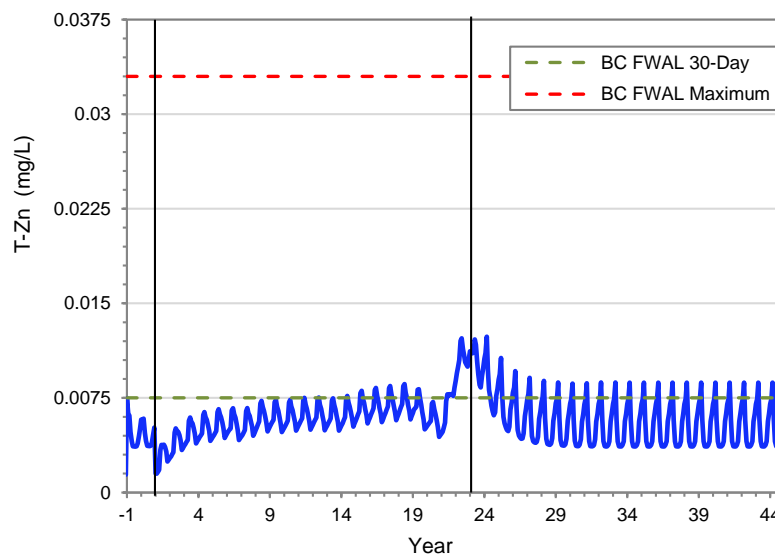
The predictions for Zn (Figure 5-15) differ somewhat from those of sulfate and As given that mine-related Zn loadings are almost exclusively associated with the underground mine source term (*i.e.*, minor contributions from tailings and waste rock placed in Brucejack Lake). For this reason, Zn does not show a decrease after year 14 commensurate with a decrease in tailings discharge to Brucejack Lake (as observed for As and sulfate). Base case Zn predictions at BJ200mD/S mimic predictions for Brucejack Lake, where peak concentrations (up to 0.12 mg/L) occur toward the end of Operations, coincident with the onset of acid generation for one of the underground rock units. Upon flooding of the underground at Closure, and attenuation of sulfide oxidation processes, Zn levels decrease from the year 24 maximum. During the Post Closure period, Zn concentrations are similar to those during Operations (prior to year 20). In contrast to As, contributions of Zn loadings from Camp Creek are fairly significant (up to 50%; Figure 5-16).



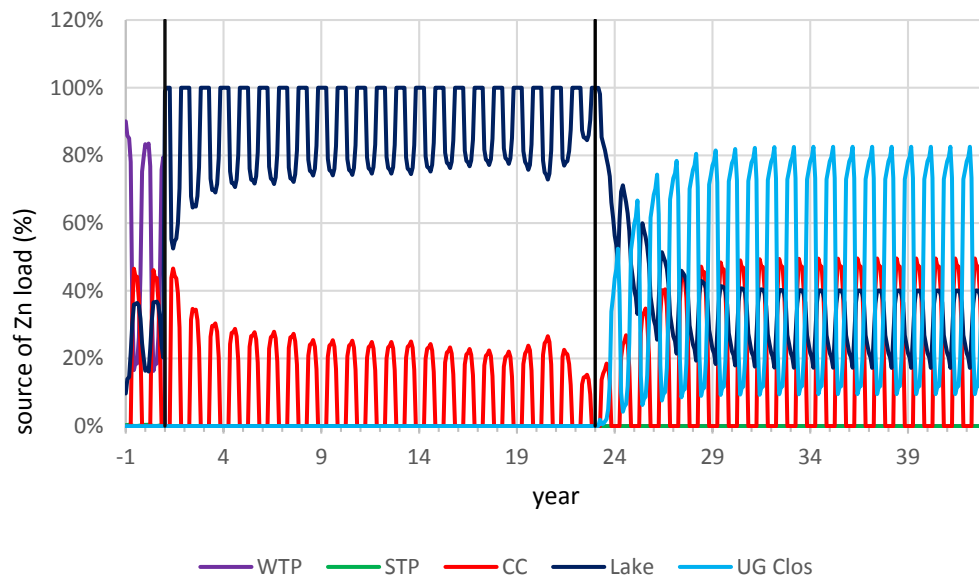
**Figure 5-13: Predicted As concentrations at station BJ200mD/S during Construction (years -1 to 0), Operations (years 1-22) and Post-Closure (year 23 onward).**



**Figure 5-14: Source of As loadings to monitoring site BJ200mD/S during Construction (years -1 to 0), Operations (years 1-22) and Post-Closure (year 23 onward). Note that WTP = Water Treatment Plant, STP = Sewage Treatment Plant, CC = Camp Creek; Lake = all inputs from Brucejack Lake; and UG Clos = baseflow from underground mine following Closure.**



**Figure 5-15: Predicted Zn concentrations at station BJ200mD/S during Construction (years -1 to 0), Operations (years 1-22) and Post-Closure (year 23 onward).**

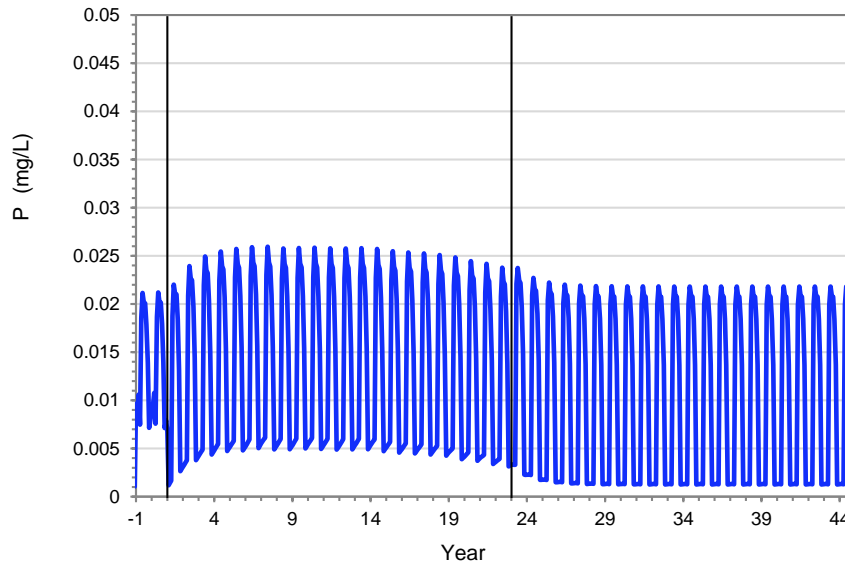


**Figure 5-16: Source of Zn loadings to monitoring site BJ200mD/S during Construction (years -1 to 0), Operations (years 1-22) and Post-Closure (year 23 onward). Note that WTP = Water Treatment Plant, STP = Sewage Treatment Plant, CC = Camp Creek; Lake = all inputs from Brucejack Lake; and UG Clos = baseflow from underground mine following Closure.**

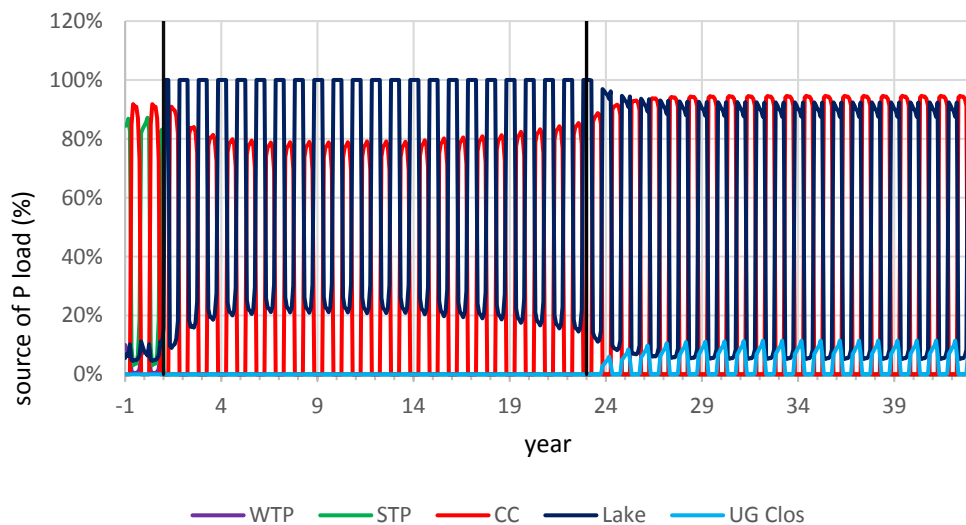
In the case of P, pronounced seasonal trends are observed at BJ200mD/S, although mean annual values do not change significantly throughout the mine phases (Figure 5-17). In contrast to trace element predictions (*e.g.*, As and Zn), the highest predicted P values occur during the high flow time periods. This observation can be reconciled if the sources of P loads are considered (Figure 5-18). The loading analysis indicates that P loadings are dominated by Camp Creek and STP effluent during the Construction phase, and by the lake and Camp Creek during the Operations and Post-Closure phases. Camp Creek is the dominant source of P loads during the high flow months as illustrated in Figure 5-19 where the relative contribution of P from the different sources is shown for the Construction phase only. These seasonally high P loadings associated with Camp Creek reflect a particulate-P signature during freshet.

Nitrite results show a slightly different pattern than P, with the highest concentrations occurring during the Construction mine phase (Figure 5-20). With the addition of nitrite treatment during Operations (through oxidation with hydrogen peroxide), in conjunction with the discharge of WTP effluents to Brucejack Lake, predicted nitrite values are lower during Operations. During the post-closure period, concentrations decrease further owing to the essential elimination of mine-related nitrogen loads from the system (associated with STP and blasting use). The relative contributions of nitrite loadings from the different sources to Brucejack Creek at BJ200mD/S are shown in Figure 5-21. Construction mine

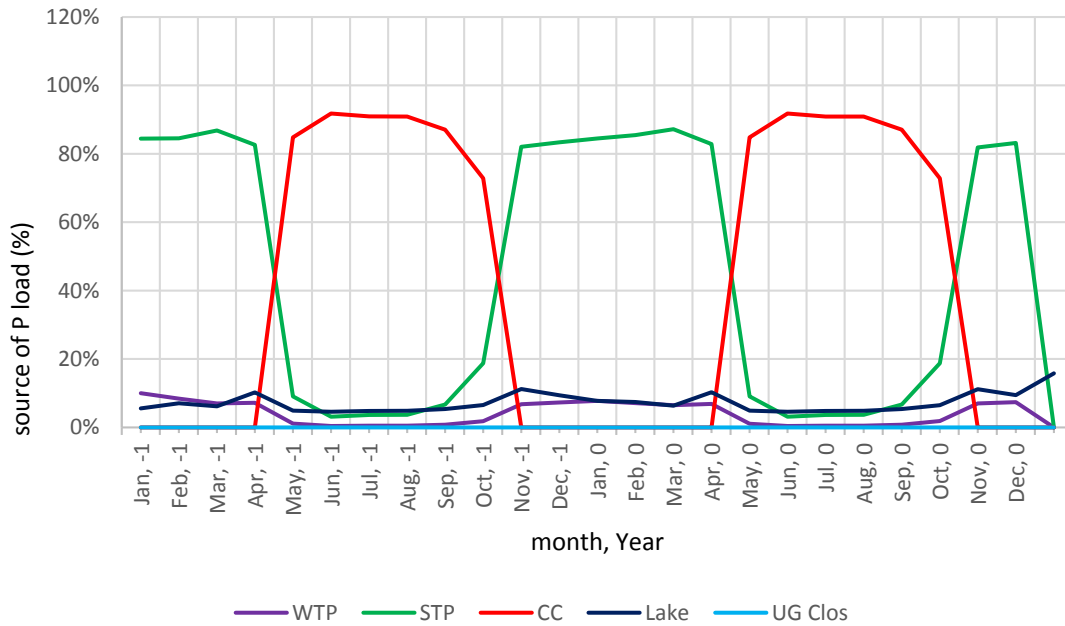
phase predictions indicate that the STP is the dominant source of nitrite during the low flow months, whereas loads from Brucejack Lake and Camp Creek represent the dominant sources during the Operations and Post-Closure mine phases.



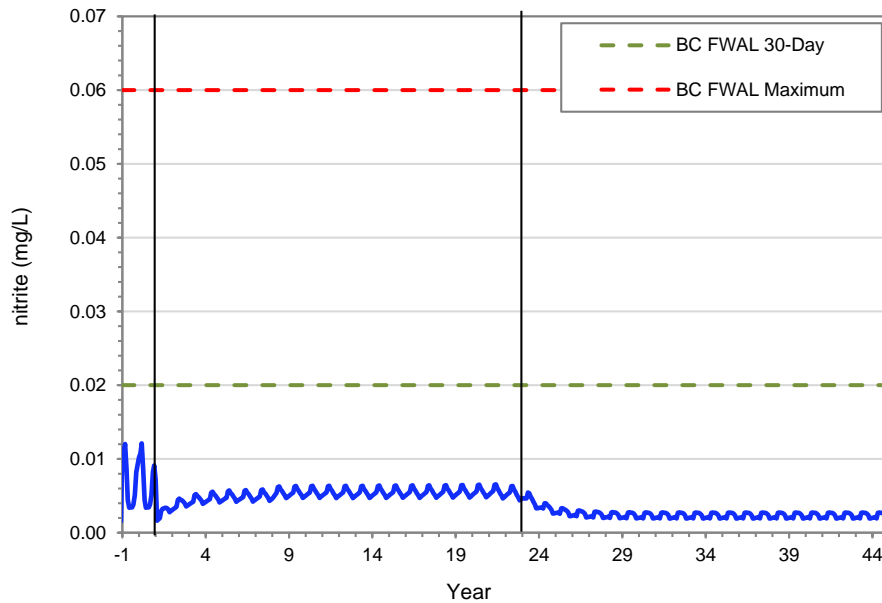
**Figure 5-17: Predicted P concentrations at station BJ200mD/S during Construction (years -1 to 0), Operations (years 1-22) and Post-Closure (year 23 onward).**



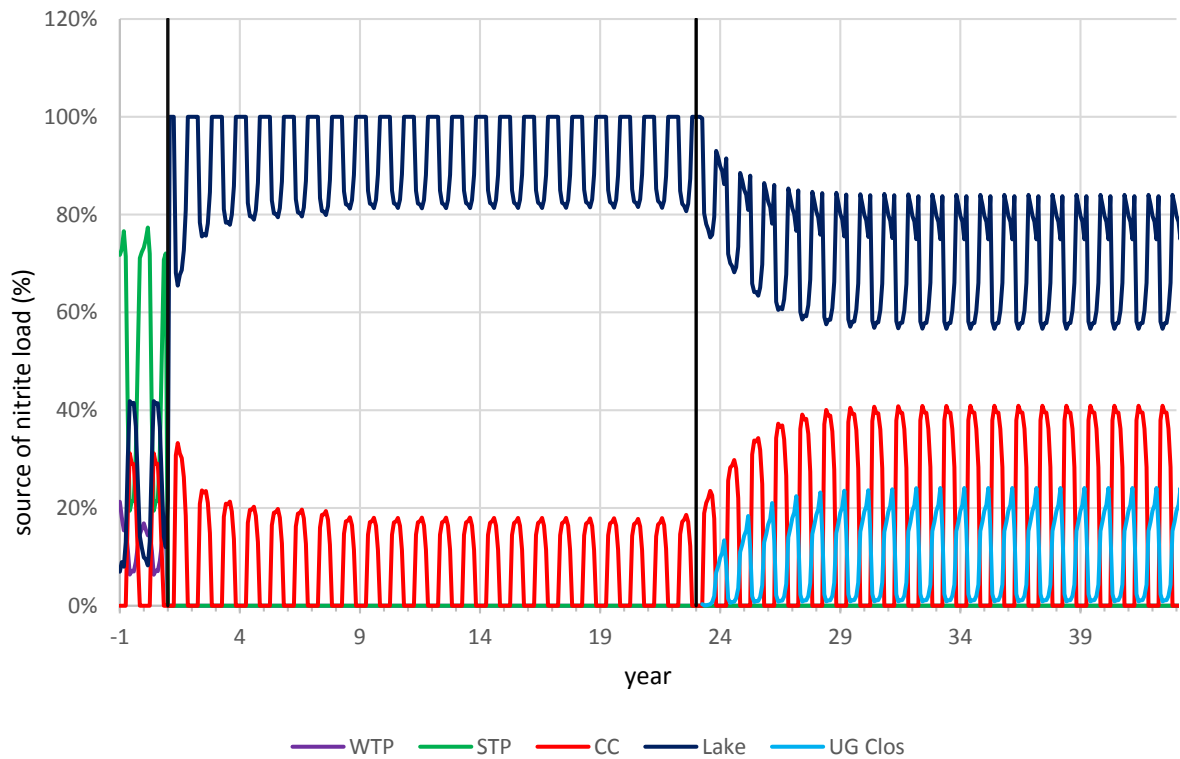
**Figure 5-18: Source of P loadings to monitoring site BJ200mD/S during Construction (years -1 to 0), Operations (years 1-22) and Post-Closure (years 23 onward). Note that WTP = Water Treatment Plant, STP = Sewage Treatment Plant, CC = Camp Creek; Lake = all inputs from Brucejack Lake; and UG Clos = baseflow from underground mine following Closure.**



**Figure 5-19: Source of P loadings to monitoring site BJ200mD/S for the Construction mine phase (years -1 to 0). Note that WTP = Water Treatment Plant, STP = Sewage Treatment Plant, CC = Camp Creek; Lake = all inputs from Brucejack Lake; and UG Clos = baseflow from underground mine following Closure.**



**Figure 5-20: Predicted nitrite concentrations at station BJ200mD/S during Construction (years -1 to 0), Operations (years 1-22) and Post-Closure (year 23 onward).**



**Figure 5-21: Source of nitrite loadings to monitoring site BJ200mD/S during Construction (years -1 to 0), Operations (years 1-22) and Post-Closure (year 23 onward). Note that WTP = Water Treatment Plant, STP = Sewage Treatment Plant, CC = Camp Creek; Lake = all inputs from Brucejack Lake; and UG Clos = baseflow from underground mine following Closure.**

## 5.2 Sensitivity Case Results

As described in Section 3.2, a number of sensitivity cases were modelled in order to assess how water quality predictions vary in response to variations in flow conditions, groundwater seepage through the underground working and geochemical source terms. These latter variables can be considered to represent areas of uncertainty in the model. The sensitivity case models are described in Table 2-3 while the complete set of water quality prediction results are presented in Appendix E. In the following sections, examples are discussed for each sensitivity variable (*i.e.*, flow, groundwater seepage and source terms).

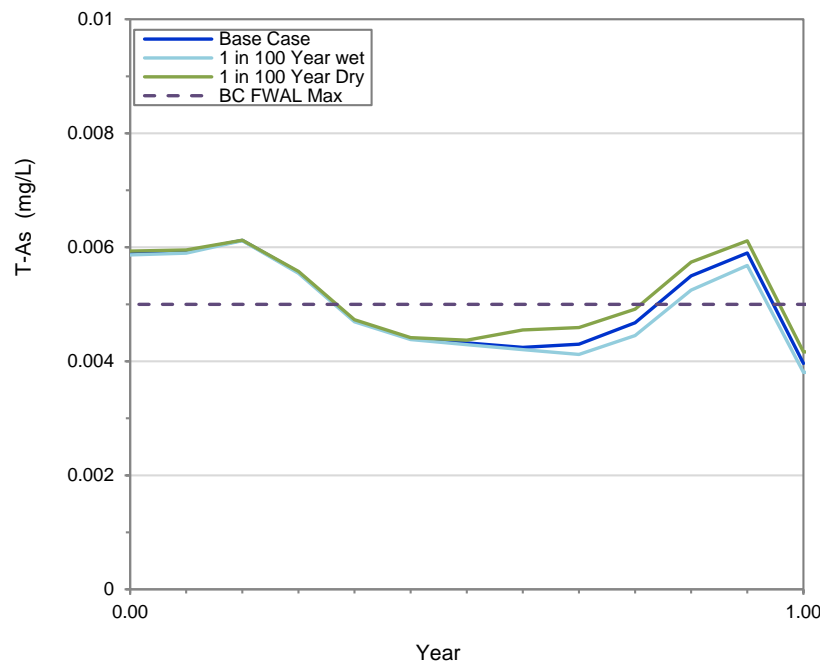
### 5.2.1 Flow Conditions

The sensitivity of the water quality model to changes in flow conditions was evaluated by modifying surface flow rates to simulate 1 in 100 year wet and dry scenarios. These flow conditions were applied to:

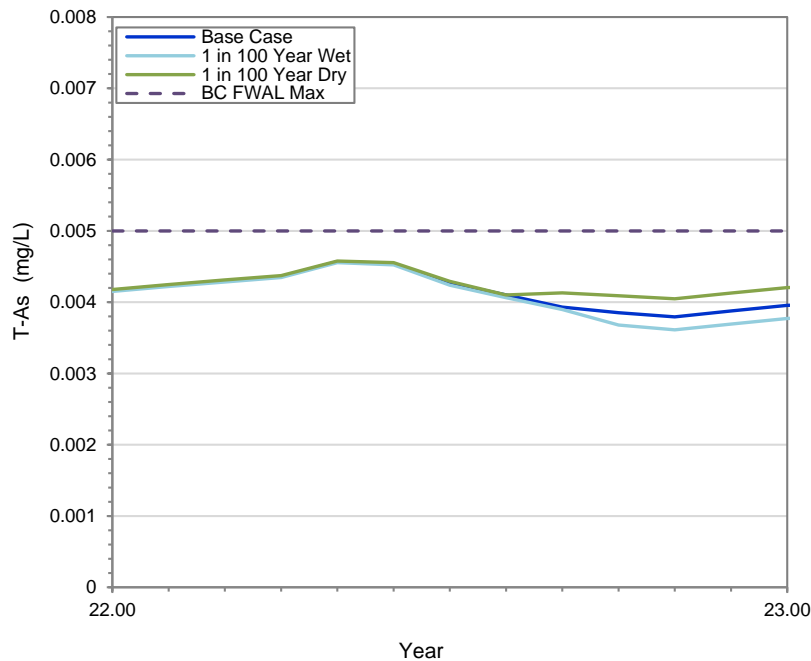


- The last year of the Construction mine phase (= model year 0) when lake concentrations affected by waste rock placement are highest;
- The last year of Operations (= model year 22) when both adit and lake concentrations are highest; and
- Year 10 of the Post-Closure mine phase (= model year 32) and onwards. The extreme dry or wet conditions were also applied to all years after model year 32 through to the end of the model run to simulate the effect of a persistent change in climate during Post-Closure.

Overall, the results demonstrate that the model results are not overly sensitive to changes in flow. Total As water quality predictions at BJ200mD/S for 1 in 100 year wet and dry scenarios are compared to base case results in Figure 5-22 (Construction) and Figure 5-23 (Operations). Water quality predictions indicate that extreme flow conditions have minimal impact on As concentrations and that discernible differences between the different cases are more pronounced during the latter part of the year. This result suggests that the storage afforded by Brucejack Lake provides sufficient buffering capacity to limit the effect of short-term extreme climate events. Based on modelled water quality predictions, the 1 in 100 year dry case was found to be the more conservative scenario.



**Figure 5-22: Comparison of 1 in 100 year wet and dry events with base case water quality predictions for total As at site BJ200mD/S for the final year of the Construction mine phase.**

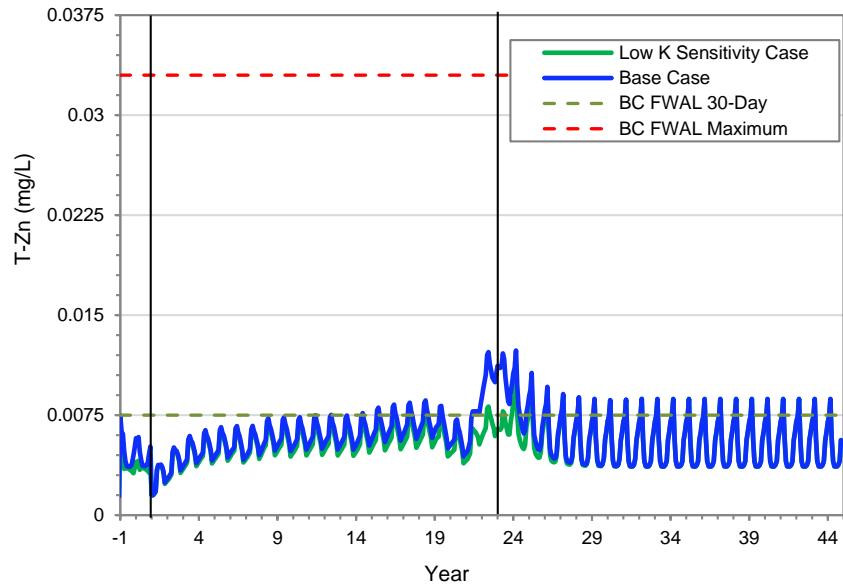


**Figure 5-23: Comparison of 1 in 100 year wet and dry events with base case water quality predictions for total As at site BJ200mD/S for the final year of the Operations mine phase.**

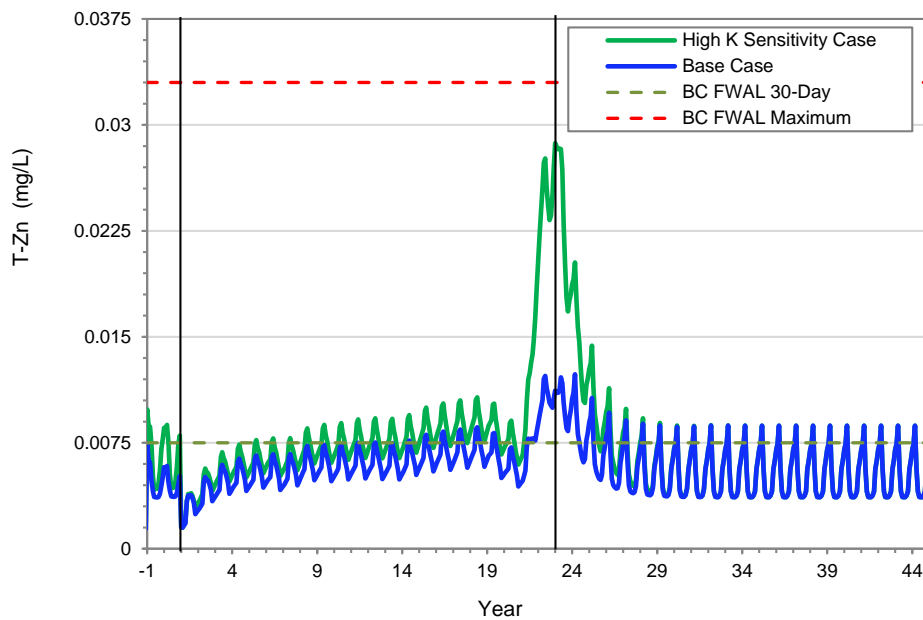
### 5.2.2 Hydraulic Conductivity in Underground Workings

High and low hydraulic conductivity (K) sensitivity runs were developed to evaluate the sensitivity of the water quality model to: 1) increasing/decreasing contact seepage flow to the underground mine workings; 2) increasing/decreasing flow of mine water to the water treatment plant (Operations); and 3) increasing/decreasing flow from the underground to Brucejack Creek along groundwater pathways (Post-Closure) For the purpose of water quality models, it was assumed that the WTP could handle all influent flow rates and that all water could be treated to the prescribed WTP effluent criteria.

The water quality results indicate that Zn concentrations are particularly sensitive to the hydraulic conductivity value applied in the model for both low K (Figure 5-24) and high K (Figure 5-25) sensitivity cases. Predictions for the low-K case are similar to base case water quality predictions (Figure 5-15); however the high-K results show significantly higher Zn concentrations, particularly at the end of the Operations phase and the beginning of the Post-Closure phase. Based on water quality predictions, the high-K scenario represents the conservative scenario with consistently elevated trace metal concentrations as compared to the base case and the low-K sensitivity case.



**Figure 5-24:** Total Zn water quality predictions at BJ200mD/S during Construction (years -1 to 0), Operations (years 1-22) and Post-Closure (year 23 onward) for the low K sensitivity case



**Figure 5-25:** Total Zn water quality predictions at BJ200mD/S during Construction (years -1 to 0), Operations (years 1-22) and Post-Closure (year 23 onward) for the high K sensitivity case

### 5.2.3 Conservative Source Terms

The sensitivity of the water quality model to changes in source term values was evaluated by applying conservative geochemical source terms to the mine-related inputs of the GoldSim model. The conservative source term values are described in Chapter 4 and were applied to the following sources:

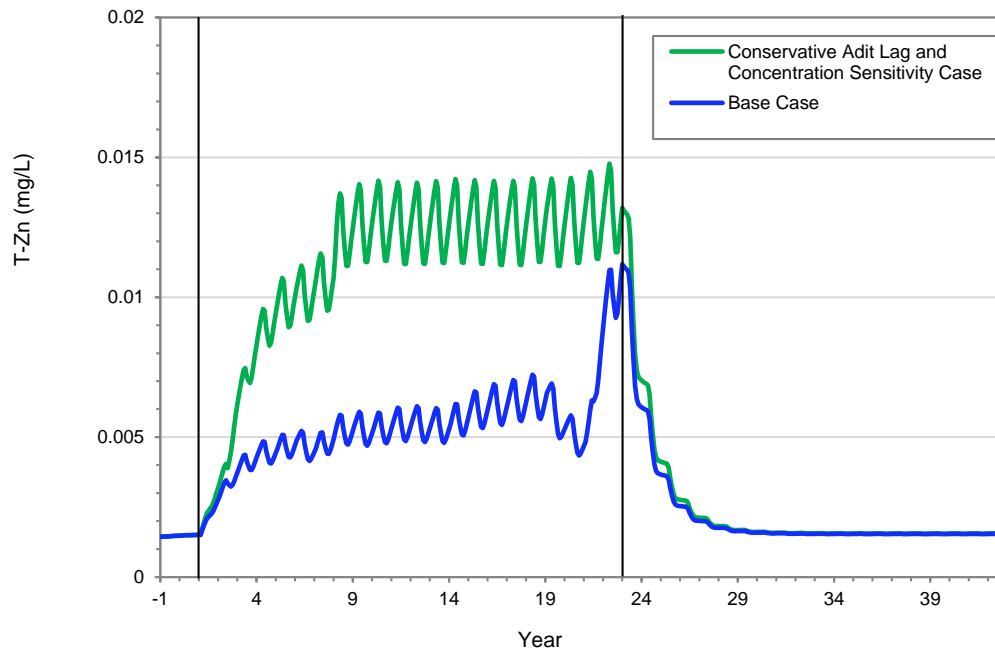
- Underground seepage chemistry
- Leaching from waste rock and tailings solids
- Background chemistry

Average flows were assumed for each of these scenarios such that each case could be directly comparable to the base case model where base case (average) source terms were applied. WTP end-of-pipe concentrations were also assumed to be the same as the base case scenario regardless of increases in influent concentrations. The sensitivity of water quality predictions to changes in source term inputs are discussed in the following sections.

#### 5.2.3.1 *Underground Seepage Chemistry*

Source terms for individual block types identified in the underground workings were based on humidity cell testwork (BGC, 2014b). The onset of acidic conditions for each block type (the lag time) was determined based on these experiments, where average and minimum lag times were calculated. Humidity cell results showed that each block type had a unique pre-lag (pre-acidic) chemistry, post-lag chemistry and lag time. Base case and conservative case source terms were derived from pre- and post-lag leachate compositions. The conservative underground seepage source term case applied post-lag compositions and minimum lag times.

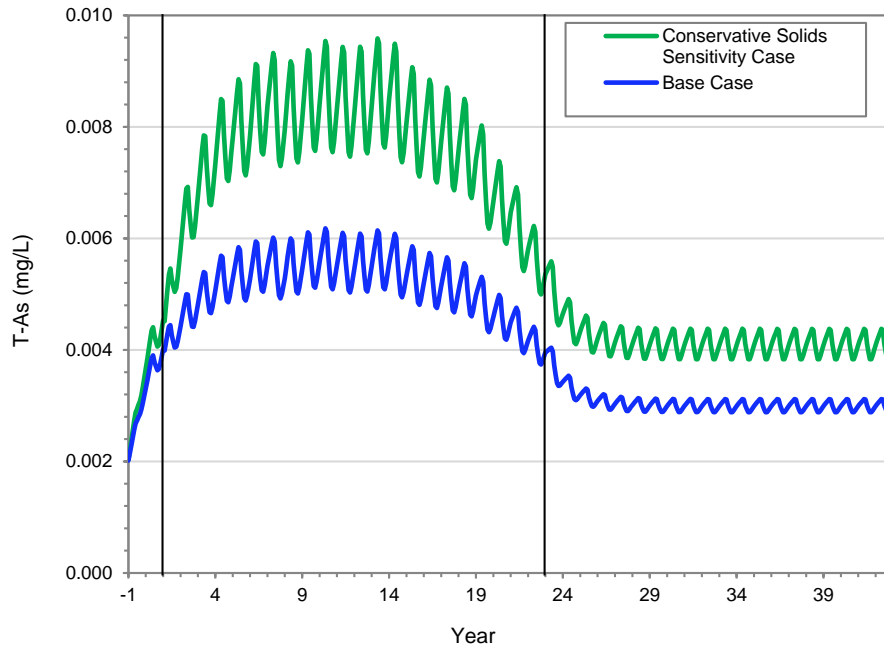
The increased loadings from the underground mine using conservative source terms results in increased influent concentrations to the WTP and more persistent treatment requirements. Although treatment was to the same level as for the base case, the persistent treatment requirement associated with higher influent concentrations leads to higher concentrations of several parameters within Brucejack Lake. An example of this effect is shown in Figure 5-26 where total Zn concentrations in Brucejack Lake are presented for the combined conservative adit chemistry and minimum lag time scenario. These water quality predictions can be compared to the base case results (Figure 5-5) and show that predicted concentrations in Brucejack Lake are significantly higher than base case predictions.



**Figure 5-26: Total Zn water quality predictions in Brucejack Lake during Construction (years -1 to 0), Operations (years 1-22) and Post-Closure (year 23 onward) for the conservative adit lag and concentration sensitivity case. For reference, MMER maximum mean monthly Zn values are 0.50 mg/L.**

#### 5.2.3.2 Leaching from Waste Rock and Tailings Solids in Brucejack Lake

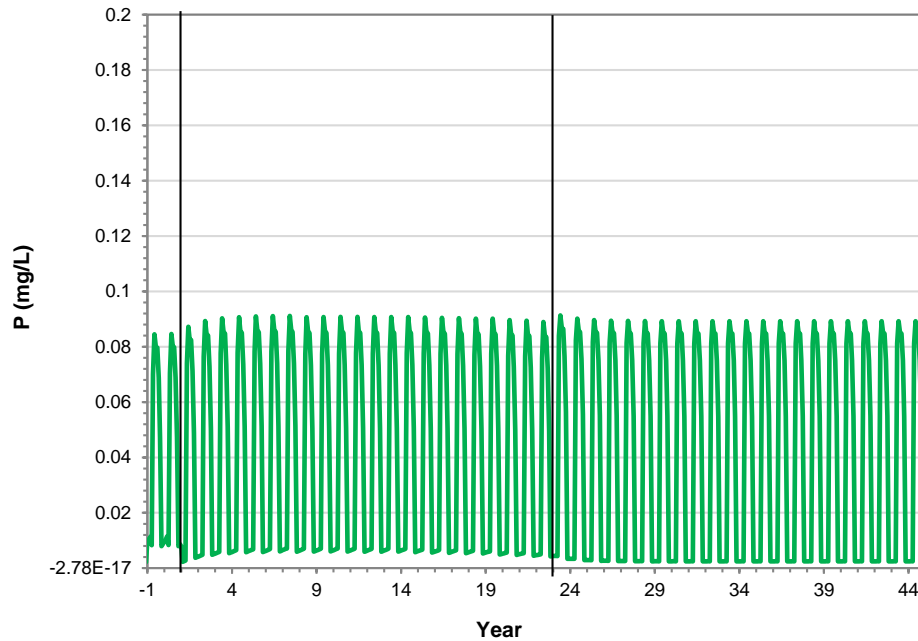
Loadings associated with waste rock placement in Brucejack Lake and from tailings disposal during Operations were modelled using the results of shake flask experiments (BGC, 2014b). The loadings were assigned both an average and conservative value, and are given as a fraction (mg/kg) of the mass of waste rock or tailings material placed in the receiving environment. A sensitivity case was constructed using the waste rock dumping and process plant production schedules, along with conservative loadings terms. The solids loadings are not subject to treatment, and therefore have a significant effect on concentrations in Brucejack Lake, particularly for As, Cd, Cr and Ni, which see marked increases. Brucejack Lake total As predictions for the conservative loadings case are presented (Figure 5-27) to illustrate the effect of increased leaching from waste rock and tailings solids. In this scenario, As concentrations within Brucejack lake reach maximum values of ~10 µg/L as compared to 6 µg/L in the base case scenario.



**Figure 5-27: Total As water quality predictions in Brucejack Lake during Construction (years -1 to 0), Operations (years 1-22) and Post-Closure (year 23 onward) for the conservative solids sensitivity case. For reference, MMER maximum mean monthly As values are 0.50 mg/L.**

### 5.2.3.3 Background Concentrations

The final independent conservative sensitivity case used conservative background compositions, derived from the 95<sup>th</sup> percentile values of data from the Brucejack Lake catchment and tributaries to Brucejack Creek (Unnamed Creek, VOK Creek and Camp Creek). The conservative background case water quality predictions for Brucejack Lake suggest that most parameters are relatively insensitive to the increased background concentrations, with the exception of As, Mg and Ni which rise modestly. However, water quality predictions at BJ200mD/S indicate that the conservative concentrations in Camp Creek make a significant impact on P values (Figure 5-28). BJ200mD/S water quality predictions also show a rise the concentrations of parameters elevated in the lake discharge (e.g., As, Mg and Ni).



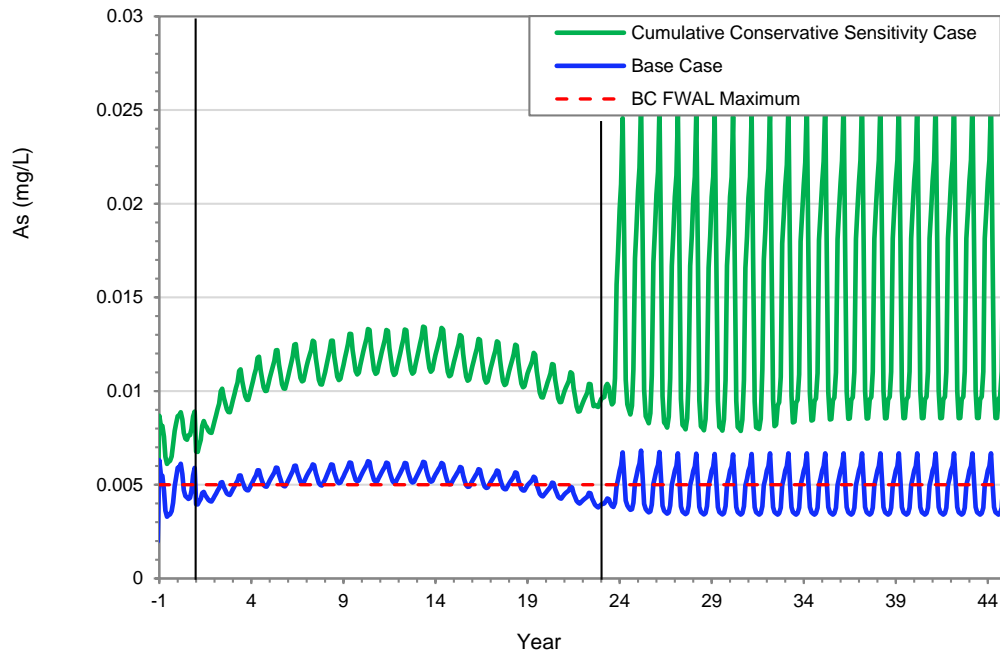
**Figure 5-28: P water quality predictions at BJ200mD/S during Construction (years -1 to 0), Operations (years 1-22) and Post-Closure (year 23 onward) for the cumulative conservative sensitivity case.**

#### 5.2.4 Cumulative Conservative

Based on water quality results presented for the sensitivity cases, a “cumulative” or worst-case conservative scenario was derived. The cumulative conservative case included the following conditions:

- A high-K seepage flow term
- 1:100 year dry surface flows
- Conservative adit concentrations and lag times
- Conservative solids loadings
- Conservative background terms

Short term influences, such as a single year of dry conditions, are largely buffered by the assimilative capacity afforded by the storage in Brucejack Lake. However, persistent influences, such as elevated background chemistry, loadings from the underground or waste rock/tailings disposal made the most impact. The most sensitive parameters to these influences include P, As, Cd, Cr, Mg, and Ni. The conservative cumulative case water quality predictions for total As at BJ200mD/S are presented in Figure 5-29 to highlight the magnitude of these combined variables (Figure 5-12).



**Figure 5-29: Total As water quality predictions at BJ200mD/S during Construction (years -1 to 0), Operations (years 1-22) and Post-Closure (year 23 onward) for the Cumulative Conservative sensitivity case.**



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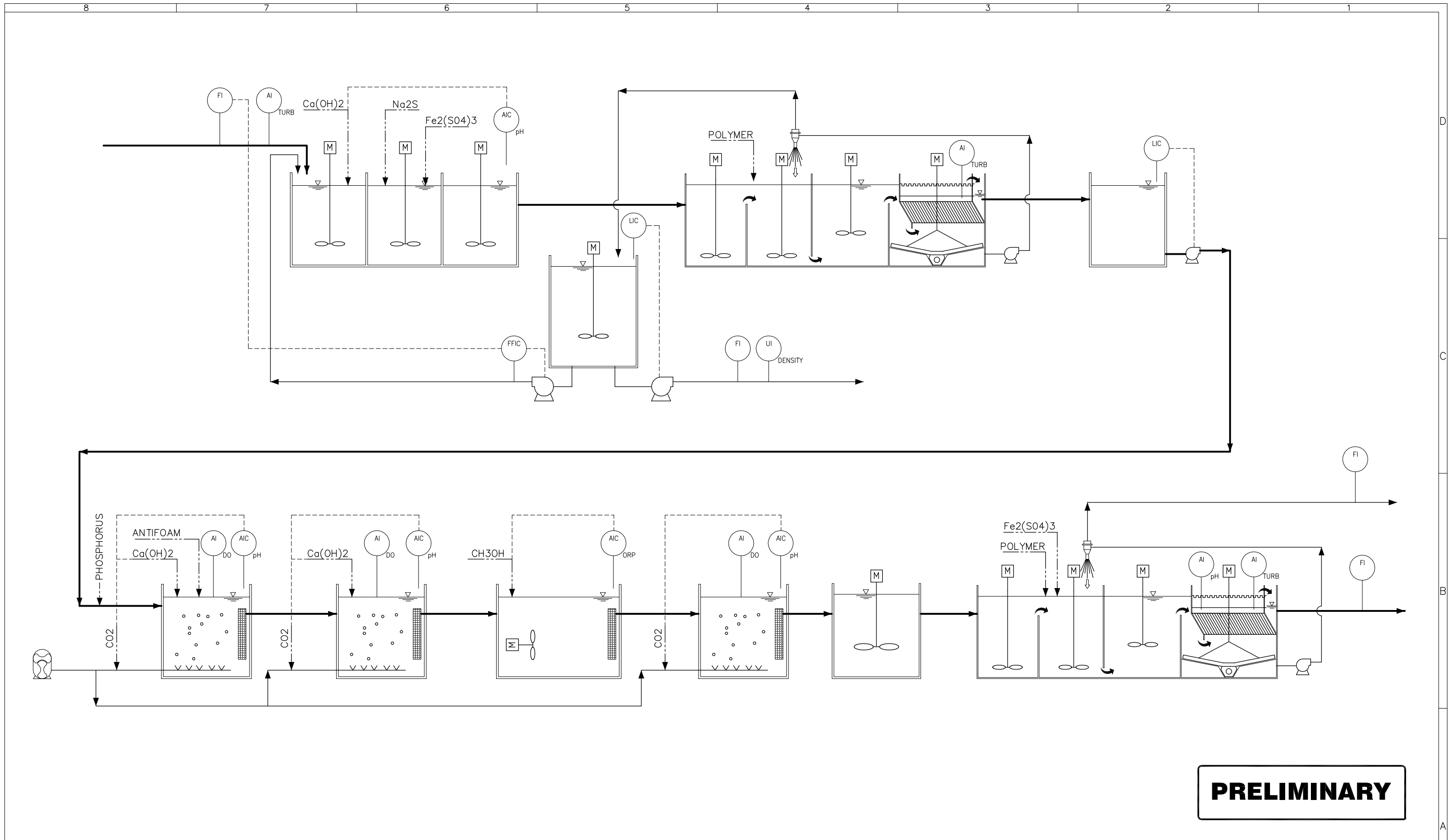
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# *Appendices*

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# ***Appendix A*** ***WTP Process Flow Diagram***

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**PRELIMINARY**

<p>STD: "D" 22x34</p> <p>REF:</p> <p>BAR = 1" AT PLOT SCALE</p>	<p><b>CONFIDENTIALITY AND INTELLECTUAL PROPERTY NOTICE</b>          ALL INFORMATION CONTAINED IN THIS DOCUMENT IS THE SOLE PROPERTY OF JOHN McNEIR INC. AND IS PROTECTED BY ALL APPLICABLE LAWS, INCLUDING BUT NOT LIMITED TO COPYRIGHT AND OTHER INTELLECTUAL PROPERTY LAWS. THE DESIGN CONCEPTS AND INFORMATION CONTAINED HEREIN ARE PROPRIETARY TO JM AND ARE SUBMITTED IN CONFIDENCE. THEY ARE NOT TRANSFERABLE. THEY MUST BE USED ONLY FOR THE PURPOSE FOR WHICH THE DOCUMENT IS EXPRESSLY SUBMITTED AND NO IMPLICIT LICENSE IS GRANTED OTHERWISE BY THE SUBMISSION OF THIS DOCUMENT. THEY ARE CONFIDENTIAL AND PRIVILEGED INFORMATION OF JM AND THEY MUST NOT BE DISCLOSED, REPRODUCED, LOANED, REMITTED OR USED IN ANY OTHER MANNER WITHOUT THE EXPRESS WRITTEN CONSENT OF JM. JM ASSUMES NO RESPONSIBILITY OR LIABILITY FOR THE USE OF THIS DOCUMENT OR THE DESIGN CONCEPTS AND INFORMATION CONTAINED HEREIN FOR ANOTHER PROJECT OR IN A MANNER THAT DOES NOT RELATE TO THE FITNESS OR PURPOSE OF THIS DOCUMENT. IN NO EVENT SHALL THIS DOCUMENT OR THE DESIGN CONCEPTS AND INFORMATION CONTAINED HEREIN BE USED IN A MANNER RETRIBUTIVE TO THE INTEREST OF JM. ALL COPYRIGHT, PATENT AND OTHER INTELLECTUAL PROPERTY RIGHTS ARE RESERVED. ACCEPTANCE OF THE DELIVERY OF THIS DOCUMENT CONSTITUTES AGREEMENT TO THESE TERMS AND CONDITIONS.</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>DESIGNER</td> <td>D.M.</td> <td>DATE</td> <td>2014-03-25</td> </tr> <tr> <td>CHECKER</td> <td>---</td> <td>DATE</td> <td>---</td> </tr> <tr> <td>ENGINEER</td> <td>MRL</td> <td>DATE</td> <td>2014-03-25</td> </tr> <tr> <td>SCALE:</td> <td>NONE</td> <td></td> <td></td> </tr> </table>	DESIGNER	D.M.	DATE	2014-03-25	CHECKER	---	DATE	---	ENGINEER	MRL	DATE	2014-03-25	SCALE:	NONE			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>TITLE</td> <td colspan="3" style="text-align: center;">PROCESS FLOW DIAGRAM</td> </tr> <tr> <td>CLIENT</td> <td colspan="3" style="text-align: center;">BRUCEJACK MINE WATER TREATMENT PLANT</td> </tr> <tr> <td>PROJECT</td> <td>TIH73855 - PF001</td> <td>DRAWING</td> <td>INTERNAL</td> </tr> <tr> <td>SHEET</td> <td>1 OF 1</td> <td>REV</td> <td>A</td> </tr> </table>	TITLE	PROCESS FLOW DIAGRAM			CLIENT	BRUCEJACK MINE WATER TREATMENT PLANT			PROJECT	TIH73855 - PF001	DRAWING	INTERNAL	SHEET	1 OF 1	REV	A
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A	PRELIMINARY	2014-03-25	D.M.	MRL	---	---																													

***Appendix B***  
***Chromium Speciation of***  
***Underground Mine Waters***

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April 11, 2014

Alan Martin  
Lorax Environmental Services Ltd.  
2289 Burrard St.  
Vancouver, BC, Canada, V6J 3H9  
Telephone: (604) 688 7173 (ext. 239)

Mr. Martin,

Attached is the report associated with five (5) aqueous samples submitted for total chromium and hexavalent chromium quantitation on March 24, 2014. The samples were received on March 28, 2014 in a sealed container at 11.6°C. Hexavalent chromium analyses were performed by ion chromatography inductively coupled plasma dynamic reaction cell mass spectrometry (IC-ICP-DRC-MS). Total chromium was performed by inductively coupled plasma dynamic reaction cell mass spectrometry (ICP-DRC-MS). Any issues associated with the analyses are addressed in the following report.

If you have any questions, please feel free to contact me at your convenience.

Sincerely,

A handwritten signature in black ink, appearing to read "Russell Gerads", written over a light blue horizontal line.

Russell Gerads  
Vice President  
Applied Speciation and Consulting, LLC



Applied Speciation and Consulting, LLC

Report Prepared for:

Alan Martin  
Lorax Environmental Services Ltd.  
2289 Burrard St.  
Vancouver, BC, Canada, V6J 3H9

April 11, 2014

## 1. Sample Reception

Five (5) aqueous samples were submitted for total chromium and hexavalent chromium quantitation on March 24, 2014. The samples were received in acceptable condition on March 28, 2014 in a sealed container at 11.8°C, as indicated on the attached chain of custody (COC) form.

The temperature of the samples upon reception was above the recommended 4°C. The samples were not received at ambient temperature indicating that there was ample refrigerant included in the shipment but the delay at customs resulted in the discrepancy. The elevated temperature is not deemed to have a significant impact on the integrity of the samples.

The samples were received in a laminar flow clean hood, void of trace metals contamination and ultra-violet radiation, and assigned discrete sample identifiers. The pH of each sample submitted for hexavalent chromium quantitation was checked upon receipt to confirm the adequacy of the field-preservation with the buffer solution provided by Applied Speciation and Consulting (ASC). All samples for hexavalent chromium quantitation were stored in a secure, monitored refrigerator (maintained at a temperature of  $\leq 6^{\circ}\text{C}$ ) until the analyses could be performed. All samples submitted for total chromium analyses were preserved to 1%  $\text{HNO}_3$  (v/v) upon reception. Two empty sample containers were included in the shipment to represent the background contamination level of the applied sampling equipment. The empty sample containers were filled with ultra pure deionized water, preserved, and prepared in conjunction with the submitted samples.

## 2. Sample Preparation

All sample preparation is performed in laminar flow clean hoods known to be free from trace metals contamination. All applied water for dilutions and sample preservatives are monitored for contamination to account for any biases associated with the sample results.

Hexavalent Chromium Quantitation by IC-ICP-DRC-MS All samples and preparation blanks designated for hexavalent chromium quantitation were preserved with a buffered ammonium

hydroxide/ammonium sulfate solution (to a pH between 9 and 9.5). No additional sample preparation was performed prior to analysis.

Total Chromium Quantitation by ICP-DRC-MS All samples and preparation blanks designated for total chromium quantitation were preserved to 1% HNO<sub>3</sub> (v/v). All samples were then digested in accordance with EPA Method 3005a.

### 3. Sample Analysis

All sample analysis is preceded by a minimum of a five-point calibration curve spanning the entire concentration range of interest. All calibration curves, associated with each species of interest, are standardized by linear regression resulting in a response factor. All sample results are **instrument blank corrected** to account for any operational biases associated with the analytical platform.

Prior to sample analysis, all calibration curves are verified using second source standards which are identified as initial calibration verification standards (ICV).

Ongoing instrument performance is identified by the analysis of continuing calibration verification standards (CCV) and continuing calibration blanks (CCB) at a minimum interval of every ten analytical runs.

Hexavalent Chromium Quantitation by IC-ICP-DRC-MS All samples for hexavalent chromium quantitation were analyzed on April 9, 2014 via EPA Method 7199, employing ion chromatography inductively coupled plasma dynamic reaction cell mass spectrometry (IC-ICP-DRC-MS). Aliquots of each sample are injected onto an anion exchange column and mobilized by an alkaline (pH > 7) gradient. The eluting chromium species are then introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through a pressurized chamber (DRC) containing a specific reactive gas which preferentially reacts with interfering ions of the same target mass to charge (m/z) ratios. A solid-state detector detects ions transmitted through the mass analyzer, on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system.

The retention time for hexavalent chromium is compared to known standards for species identification.

Total Chromium Quantitation by ICP-DRC-MS The sample digests for total chromium quantitation were analyzed via inductively coupled plasma dynamic reaction cell mass spectrometry (ICP-DRC-MS). Aliquots of each sample digest are introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through a pressurized chamber (DRC) containing specific reaction gases which preferentially react with the interfering polyatomics. A solid-state detector detects ions transmitted through the mass analyzer on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system.

#### **4. Analytical Issues**

No significant analytical issues were encountered during the requested analyses. All quality control parameters associated with these samples were within acceptance limits.

The estimated method detection limit (eMDL) for hexavalent chromium is generated from replicate analyses of the lowest standard in the calibration curve.

If you have any questions or concerns regarding this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Russell Gerads", written in a cursive style.

Russell Gerads  
Vice President  
Applied Speciation and Consulting, LLC

Chromium Results for Lorax Environmental Services, Ltd  
Contact: Alan Martin

Date: April 11, 2014  
Report Generated by: Russell Gerads  
Applied Speciation and Consulting, LLC

**Sample Results**

<b>Sample ID</b>	<b>Total Cr</b>	<b>Cr(VI)</b>	<b>Cr(III)</b>	<b>Units</b>
SEEP #2a	0.51	0.111	0.40	µg/L
SEEP #2b	0.39	0.108	0.28	µg/L
SEEP #5	< 0.18 U	0.097	< 0.18 U	µg/L
SEEP #6	< 0.18 U	0.023	< 0.18 U	µg/L
ADIT UNTREATED	0.44	0.023	0.42	µg/L

All results reflect the applied dilution and are reported in µg/L

U = Sample concentration is less than the estimated Method Detection Limit (eMDL)

Cr(III) is calculated by difference [Total Cr - Cr(VI)]

Chromium Results for Lorax Environmental Services, Ltd  
Contact: Alan Martin

Date: April 11, 2014  
Report Generated by: Russell Gerads  
Applied Speciation and Consulting, LLC

***Quality Control Summary - Preparation Blank Summary***

---

<b>Analyte</b>	<b>Units</b>	<b>PBW1</b>	<b>PBW2</b>	<b>PBW3</b>	<b>PBW4</b>	<b>Mean</b>	<b>StdDev</b>	<b>eMDL</b>
Total Cr	µg/L	-0.053	0.018	-	-	-	-	0.18
Cr(VI)	µg/L	0.024	0.000	0.005	-0.005	0.006	0.013	0.014

---

eMDL = Estimated Method Detection Limit (at the applied sample dilution); please see narrative regarding eMDL  
RL = Reporting Limit (at the applied sample dilution)

Chromium Results for Lorax Environmental Services, Ltd  
Contact: Alan Martin

Date: April 11, 2014  
Report Generated by: Russell Gerads  
Applied Speciation and Consulting, LLC

***Quality Control Summary - Certified Reference Material***

<b>Analyte</b>	<b>Units</b>	<b>CRM</b>	<b>True Value</b>	<b>Result</b>	<b>Recovery</b>
Total Cr	µg/L	TMDA-70	389	409.8	105.4
Cr(VI)	µg/L	ICV	1.000	0.935	93.5

Chromium Results for Lorax Environmental Services, Ltd  
Contact: Alan Martin

Date: April 11, 2014  
Report Generated by: Russell Gerads  
Applied Speciation and Consulting, LLC

***Quality Control Summary - Matrix Duplicate***

<b>Analyte</b>	<b>Units</b>	<b>Sample ID</b>	<b>Rep 1</b>	<b>Rep 2</b>	<b>Mean</b>	<b>RPD</b>
Total Cr	µg/L	ADIT UNTREATED	0.44	0.44	0.44	0.2
Cr(VI)	µg/L	SEEP #5	0.097	0.086	0.091	11.9

Chromium Results for Lorax Environmental Services, Ltd  
Contact: Alan Martin

Date: April 11, 2014  
Report Generated by: Russell Gerads  
Applied Speciation and Consulting, LLC

**Quality Control Summary - Matrix Spike/ Matrix Spike Duplicate**

<b>Analyte</b>	<b>Units</b>	<b>Sample ID</b>	<b>MS Spike Conc</b>	<b>MS Result</b>	<b>MS Recovery</b>	<b>MSD Spike Conc</b>	<b>MSD Result</b>	<b>MSD Recovery</b>	<b>RPD</b>
Total Cr	µg/L	ADIT UNTREATED	200.0	197.1	98.3	200.0	219.9	109.7	10.9
Cr(VI)	µg/L	SEEP #5	5.000	5.06	99.3	5.000	5.09	100.0	0.7



**APPLIED SPECIATION  
AND CONSULTING, LLC**

18804 Northcreek Parkway  
Bothell, WA 98011

Phone (425) 483-3300  
Fax (425) 483-9818

Company Name: BGC ENGINEERING, INC.  
 Contact Person: SHARON BLACKMORE  
 Address: 800-1045 HOWE ST.  
VANCOUVER, BC V6Z 2A9  
 Phone Number: 604 684-5900 EXT 41275  
 Fax Number:  
 Email Address: SBlackmore@bgcengineering.ca  
 Project Name: Brucejack  
 Project Number:  
 PO Number:

ASC Project Manager:  
 By submitting of samples the client agrees to all terms and conditions set forth in the quotation provided by the ASC project manager. If you are not familiar with the term and conditions associated with your project, please contact your ASC representative as soon as possible (425) 483-3300.  
 Requested Turn Around Time: REGULAR / STANDARD  
 Method of Sample Delivery: Courier / Airfreight  
 Currier Tracking Number:  
 Confirmation of Sample Reception:  Yes  No

Sample ID	Bottle ID	Date and Time	Matrix*	Volume	Preservative	Initials	Requested Analytes and Methods	Comments
SEEP #2 a		23/3/14 16:20	GW	125 mL		DK	Total Cr	
SEEP #2 b		23/3/14 16:30	GW	125 mL		DK	Total Cr	
SEEP #5	<del>Total Cr</del>	23/3/2014 14:30	GW	125 mL		DK	Total Cr	
SEEP #6		23/3/14 14:50	GW	125 mL		DK	Total Cr	
ADIT UNTREATED		23/3/14 15:20	GW	125 mL		DK	Total Cr	
BLANK 1		23/3/14	<del>GW</del>	125 mL		DK		field blank
BLANK 2		23/3/14	<del>GW</del>	125 mL		DK		field blank
SEEP #2 a		23/3/14 16:20	GW	125 mL	Cr (VI)	DK	Hexavalent Cr	
SEEP #2 b		23/3/14 16:30	GW	125 mL	Cr (VI)	DK	Hexavalent Cr	
SEEP #5		23/3/14 14:30	GW	125 mL	Cr (VI)	DK	Hexavalent Cr	
SEEP #6		23/3/14 14:50	GW	125 mL	Cr (VI)	DK	Hexavalent Cr	
ADIT UNTREATED		23/3/14 15:20	GW	125 mL	Cr (VI)	DK	Hexavalent Cr	

Relinquished by: (sign) [Signature] (print) David Korobanik Date/Time: 23/3/2014 19:26  
 Received by: (sign) [Signature] (print) Paige Date/Time: Mar 24/16:40

Comments:  
 Temp: 6°C

Relinquished by: (sign) \_\_\_\_\_ (print) \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received by: (sign) Nancy Cullinan (print) Nancy Cullinan Date/Time: 3/28/14 10:00

Comments:  
 Temp: 11.8°C

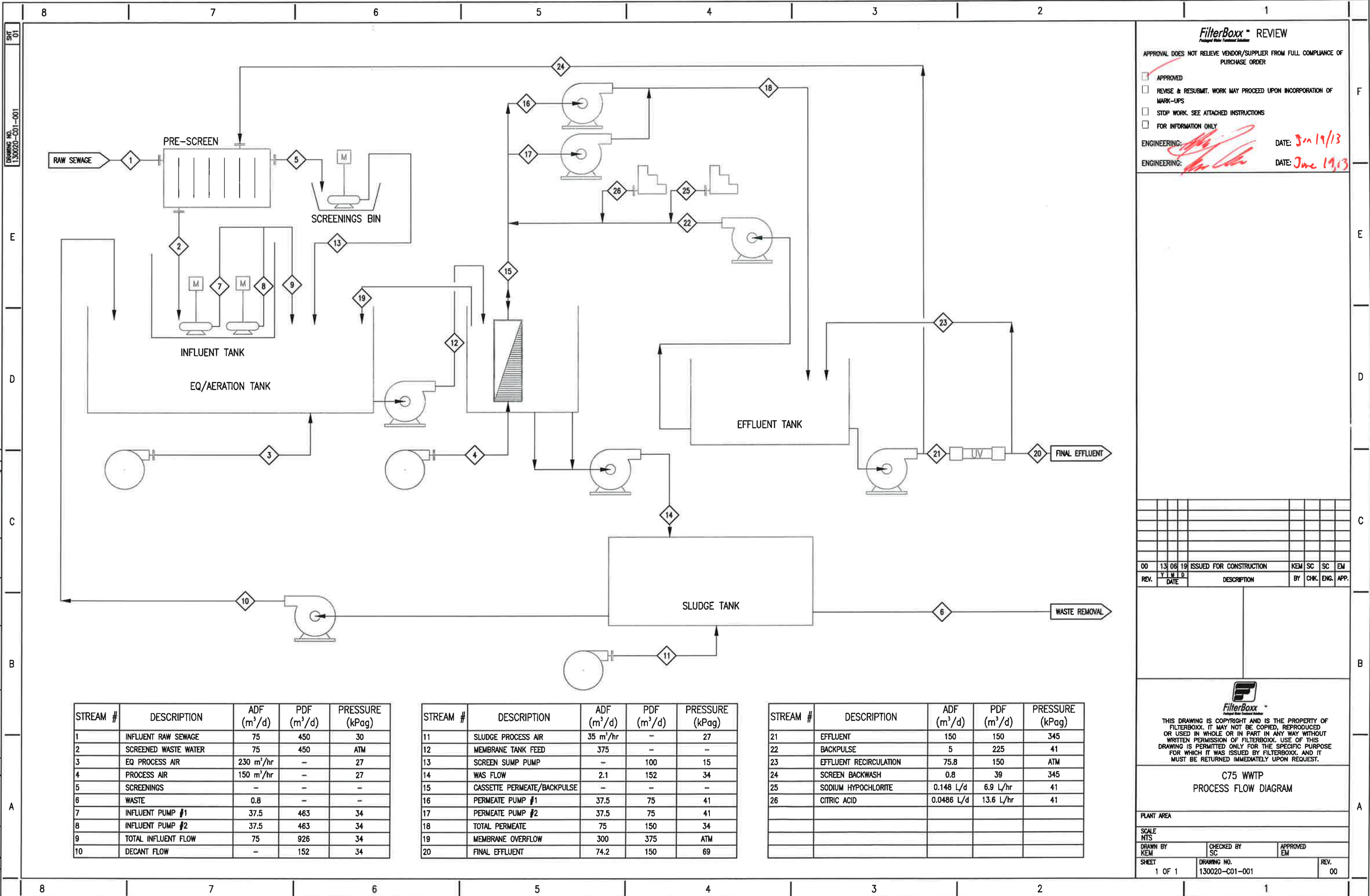
Please account for each sample bottle as a separate line item for verification purposes.

\*Matrix: Air, Freshwater (FW), seawater (SW), groundwater (GW), wastewater (WW), soil (SL), sediment (SD), tissue (TS), product (P), other (O)

# ***Appendix C*** ***STP Process Flow Diagram***

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N:\Project Files\Active 2013 Projects\130020 Nixen WWTP\4- DOCUMENTATION\C - PROCESS\01 - PFD\130020-01-001.dwg 6/19/2013



**FilterBoxx** REVIEW

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- REVISE & RESUBMIT. WORK MAY PROCEED UPON INCORPORATION OF MARK-UPS
- STOP WORK. SEE ATTACHED INSTRUCTIONS
- FOR INFORMATION ONLY

ENGINEERING: *[Signature]* DATE: *Jun 19/13*  
 ENGINEERING: *[Signature]* DATE: *June 19, 13*

REV.	DATE	DESCRIPTION	BY	CHK.	ENG.	APP.
00	13 06 19	ISSUED FOR CONSTRUCTION	KEM	SC	SC	EM



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**C75 WWTP  
PROCESS FLOW DIAGRAM**

PLANT AREA		
SCALE		
NTS		
DRAWN BY	CHECKED BY	APPROVED
KEM	SC	EM
SHEET	DRAWING NO.	REV.
1 OF 1	130020-01-001	00

STREAM #	DESCRIPTION	ADF (m <sup>3</sup> /d)	PDF (m <sup>3</sup> /d)	PRESSURE (kPag)
1	INFLUENT RAW SEWAGE	75	450	30
2	SCREENED WASTE WATER	75	450	ATM
3	EQ PROCESS AIR	230 m <sup>3</sup> /hr	-	27
4	PROCESS AIR	150 m <sup>3</sup> /hr	-	27
5	SCREENINGS	-	-	-
6	WASTE	0.8	-	-
7	INFLUENT PUMP #1	37.5	463	34
8	INFLUENT PUMP #2	37.5	463	34
9	TOTAL INFLUENT FLOW	75	926	34
10	DECANT FLOW	-	152	34

STREAM #	DESCRIPTION	ADF (m <sup>3</sup> /d)	PDF (m <sup>3</sup> /d)	PRESSURE (kPag)
11	SLUDGE PROCESS AIR	35 m <sup>3</sup> /hr	-	27
12	MEMBRANE TANK FEED	375	-	-
13	SCREEN SUMP PUMP	-	100	15
14	WAS FLOW	2.1	152	34
15	CASSETTE PERMEATE/BACKPULSE	-	-	-
16	PERMEATE PUMP #1	37.5	75	41
17	PERMEATE PUMP #2	37.5	75	41
18	TOTAL PERMEATE	75	150	34
19	MEMBRANE OVERFLOW	300	375	ATM
20	FINAL EFFLUENT	74.2	150	69

STREAM #	DESCRIPTION	ADF (m <sup>3</sup> /d)	PDF (m <sup>3</sup> /d)	PRESSURE (kPag)
21	EFFLUENT	150	150	345
22	BACKPULSE	5	225	41
23	EFFLUENT RECIRCULATION	75.8	150	ATM
24	SCREEN BACKWASH	0.8	39	345
25	SODIUM HYPOCHLORITE	0.148 L/d	6.9 L/hr	41
26	CITRIC ACID	0.0486 L/d	13.6 L/hr	41

***Appendix D***  
***PitMod Simulation of***  
***Brucejack Lake***

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## MEMORANDUM

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**To: Lorax Brucejack Team**

**Date: May 1, 2014**

**From: Don Dunbar**

**Project #: A359-1**

**Subject: PitMod Simulation of Brucejack Lake**

---

### 1. Introduction

Lorax Environmental Services Ltd. was retained by BGC Engineering Inc. to develop a water quality model to predict potential effects to surface water quality from the Brucejack Mine. The model has been developed using GoldSim software. The model is mass conserving (*i.e.* does not account for chemical equilibria), and treats Brucejack Lake as a fully mixed homogenous basin, with no consideration of actual lake dynamics (vertical stratification, circulation or other physical factors). These assumptions are generally conservative, unless concentrations of chemical parameters increase in the upper layer of the lake near the outlet (relative to the lake as a whole) for any period of time, and discharge to Brucejack Creek, in which case the GoldSim results may underestimate resulting water quality in the creek.

The lake is believed to be dimictic, such that the lake overturns completely or partially twice per year. Consequently, it is possible that concentrations of chemical parameters are higher in the surface layer during and following overturn. To further evaluate the potential for this situation to occur, Lorax developed a one-dimensional hydrodynamic and water quality model of Brucejack Lake to assess the physical stability and mixing properties of the water column. This additional modelling was undertaken by adopting a model previously developed using PitMod software, that was used to consider the effect of subaqueous tailings discharge, specifically effluent and total suspended solids (TSS), on the water quality of Brucejack Lake (Lorax, 2013).

This previous study had the following objectives:

- Develop a conceptual model for present lake dynamics based on a review of model output and analysis of *in situ* temperature and conductivity data;
  - Validate the model using data for the existing lake. This entailed running model simulations over time intervals for which existing measurements of physical properties (temperature, conductivity, *etc.*) could be compared with model output;
  - Assess the effect of tailings discharge on vertical stability and mixing in the lake at both the start and end of the tailings discharge period;
  - Quantify the magnitude of tailings supernatant dilution at the lake outflow on a seasonal basis; and
-

- Provide a conservative estimate of potential tailings particle export from the surface layer of Brucejack Lake.

This previous model was updated to:

- Reflect the most recent water balance for Brucejack Lake;
- Allow for continuous accumulation of bottom sediments, including both pore water and solids, resulting from tailings slurry discharge, allowing a single continuous simulation over the pre-construction, construction and operations phases; and

Include the effect of waste rock dumping on the volume of the lake and the sequestering of lake water in waste rock voids.

## 2. Methodology

### 2.1 Model Overview

The evolution of water quality conditions in Brucejack Lake will be strongly dictated by the mixing characteristics of the water column and resulting stratification, which is characterized by variations in temperature, density, chemistry and dissolved oxygen with depth. Stratification, which may be seasonal or permanent, is a fundamental variable for assessing the merits of remediation strategies (*e.g.*, water management, passive treatment).

In natural fresh water lakes, density differences are largely determined by temperature. Mixing results from thermally driven convective turnover and, to a lesser degree, by energy supplied at the lake surface by wind. Convective turnover is common to natural temperate and high-latitude lakes in the fall and spring, and is a function of the temperature-dependent density properties of water. In mine-influenced systems however, the input of dissolved solids associated with tailings and/or waste rock loadings, as well as heat added from processing and treatment facilities can have a significant influence on lake density and mixing characteristics.

The hydrodynamic modelling of Brucejack Lake presented here used PitMod, a one-dimensional hydrodynamic and geochemical model designed for predicting the vertical distribution of temperature, density, dissolved and suspended solids, and other water quality variables in natural and open pit lakes (Crusius *et al.*, 2002; Dunbar *et al.*, 2004). The one-dimensional vertical structure of PitMod relies on the assumption that water temperature and other water properties are approximately laterally homogeneous relative to changes in those properties with depth. PitMod includes all relevant thermodynamic and hydrodynamic processes governing the water properties of lakes.

Implementation of PitMod requires:

- Lake morphometric data comprised of lake volume and planar area variations with depth.
- A water balance that includes all relevant inflows/outflows to/from the lake and the schedules and compositions of tailings slurry discharge and waste rock dumping.
- The composition of deposited tailings sediment, including: solids density, particle size distribution, and percent solids by mass of slurry and sediment.
- Meteorological time-series including some or all of the following:
  - Air temperature
  - Relative humidity
  - Evaporation
  - Precipitation
  - Incident solar short- and long-wave radiation
  - Surface wind speed
- The vertical distribution of properties in the lake (temperature, TDS, *etc.*) at the start of the model simulation.

In the absence of evaporation data, PitMod can optionally use values of other meteorological variables to calculate evaporation.

Water density is a critical variable in the model since the vertical density distribution determines the stability and mixing characteristics of the lake. Density is calculated from the water temperature and total dissolved solids (TDS) using an equation of state. The TDS for a volume of water is calculated by summing the concentrations (mg/L) of each dissolved component in that volume. For Brucejack Lake the components of the TDS are listed in Table 1.

**Table 1:**  
**Chemical species included in the calculation of total dissolved solids (TDS)**

NH <sub>3</sub>	P	Cr	Mg	K	Zn
NO <sub>2</sub>	Al	Co	Mn	Se	
NO <sub>3</sub>	As	Cu	Hg	Ag	
Cl	Cd	Fe	Mo	Na	
SO <sub>4</sub>	Ca	Pb	Ni	Tl	

PitMod calculates the formation and melting of surface ice using an algorithm that accounts for the thermodynamic properties of snow and ice-snow layers in addition to the ice itself (Rogers, *et. al.*, 1995). It includes ice formation and melting calculations that model the ice/snow cover as a three-layer system, comprised of an upper snow layer, a middle snow-ice layer, and a bottom ice layer. The initial snow depth decreases over time as the snow compacts and is incorporated into the snow-ice layer. During a period of ice cover the lake surface evaporation and wind-driven mixing are suppressed.

PitMod is a time-varying one-dimensional numerical model that explicitly assumes that lateral variations in water properties are negligible compared to vertical variations. PitMod also assumes that water currents are negligible, or may be parameterized through energy fluxes (*e.g.*, wind-driven currents) or vertical diffusive mixing coefficients.

Numerical models have two distinct sources of error: one resulting from inherent approximations and assumptions such as a reduced number of spatial dimensions. The other results from errors or uncertainty in the physical data and coefficients provided as model inputs. A one-dimensional model generally requires far less input data than higher dimensional models. This is a significant advantage in most realistic scenarios where data collection may be limited to a small number of sites or relatively short time periods.

## **2.2 The Brucejack Lake Model**

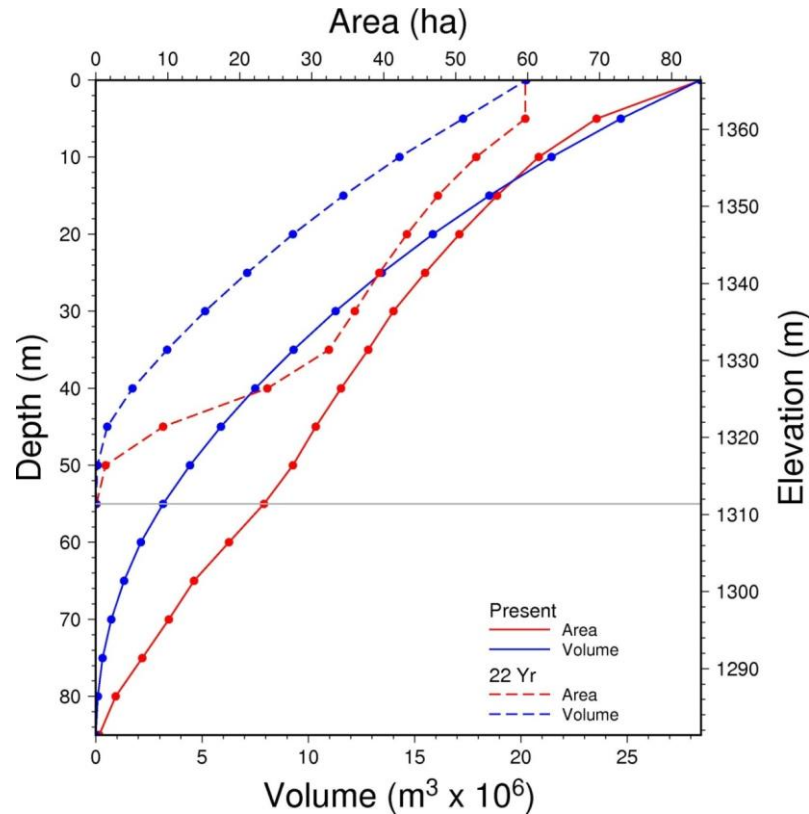
The purpose of the Brucejack Lake model is to predict the concentrations of effluent and suspended solids that will discharge from the lake during the 22-year period when tailings slurry may be pumped to the bottom of the lake. This section provides details of the model inputs.

### **2.2.1 Lake Morphometric Data and Initial Conditions**

The volume of Brucejack Lake will change over the 22 years during which  $5.95 \text{ M m}^3$  of tailings solids and  $0.88 \text{ M m}^3$  of waste rock will be added to the lake. Elevation-dependent planar areas and volumes associated with the existing lake and end of operations are provided in Table 2 and Figure 1.

The initial conditions for the Brucejack Lake model include the vertical distribution of temperature and total dissolved solids concentration. A simple starting condition of uniform lake properties at the simulation start date of January 1 was adopted (Table 3).





**Figure 1: Cumulative volume and planar areas at present and after 22-years of tailings slurry discharge and waste rock dumping**

**Table 2:  
Brucejack Lake volumes and planar areas at present and after 22 years of waste rock dumping and tailings discharge (Source: Rescan)**

Elevation <sup>1</sup>	Layer Volume (m <sup>3</sup> x 10 <sup>6</sup> )		Cumulative Volume (m <sup>3</sup> x 10 <sup>6</sup> )		Planar Area (ha)			
	Waste Rock	Tailings	Present	22 Yr	Present	22 Yr		
1361.4	0.290		3.273	2.983	24.711	17.277	69.592	59.653
1356.4	0.290		2.931	2.641	21.442	14.295	61.524	52.820
1351.4	0.276		2.652	2.375	18.517	11.654	55.729	47.509
1346.4	0.245		2.405	2.160	15.862	9.278	50.497	43.204
1341.4	0.290		2.160	1.970	13.458	7.118	45.761	39.402
1336.4	0.179		1.978	1.790	11.281	5.148	41.367	35.969
1331.4	0.171	0.004	1.793	1.618	9.303	3.349	37.838	32.369
1326.4	0.165	0.258	1.615	1.192	7.501	1.731	34.040	23.847
1321.4	0.162	0.818	1.446	0.466	5.889	0.539	30.578	9.328
1316.4	0.149	1.055	1.272	0.068	4.439	0.072	27.396	1.360
1311.4	0.111	0.932	1.047	0.004	3.165	0.004	23.359	0.084
1306.4	0.028	0.744	0.771		2.116		18.497	
1301.4		0.587	0.587		1.326		13.639	
1296.4		0.412	0.412		0.730		10.126	
1291.4		0.213	0.213		0.313		6.469	
1286.4		0.070	0.070		0.088		2.771	

<sup>1</sup> Elevation at top of 5 m thick layer measured from mean sea level.

**Table 3:  
Brucejack Lake properties relevant to the PitMod simulation**

Parameter	
Lake discharge elevation <sup>1</sup>	1366.4 m
Lake bottom elevation <sup>1</sup>	1281.4 m
Maximum Lake depth	85 m
Maximum Lake surface area	69.59 ha
Maximum Lake volume	28.46 Mm <sup>3</sup>
Initial total dissolved solids	34 ppm

<sup>1</sup>measured from mean sea level

### 2.2.2 Lake Mass Balance

PitMod can accommodate a mass balance with an arbitrary number of time-varying inflows and outflows occurring at any depth. Each inflow has an associated set of properties including temperature, total dissolved solids (TDS), dissolved gases and suspended solids.

Waste rock dumping is included by specifying a mass of rock to be added to the lake at specified depths and times. Similarly, slurry discharge consisting of a supernatant with associated physical and chemical properties, and suspended solids with a particle size distribution may be specified.

PitMod includes groundwater inflows in a variety of ways. Inflow may be specified by assuming a uniform flux per unit area of lake bottom. If appropriate, a polynomial or Dupuit equation may be used to specify fluxes that are depth-dependent.

The mass balance model for Brucejack Lake provided by BGC specifies the timing and depth of all flows to and from the lake during the construction and operations phases. In addition, it includes the schedule of waste rock dumping and tailings slurry discharge.

The components of the water balance consist of the following (except where noted the TDS for each source is constant throughout the simulation):

- Subaqueous tailings slurry discharge (solids and liquid). Values of tailings slurry TDS are specified monthly to reflect changes in the composition of the supernatant.
- Undisturbed runoff groundwater
- Undisturbed runoff surface
- Lake surface runoff (precipitation and evaporation)
- Quarry
- Sewage Treatment Plant
- Treated water

- Underground mine excess. Values of this source are provided monthly.
- Surface lake water diverted to depth as fluidizing water
- Surface runoff to the lake;
- Groundwater base flow to the lake. For the Brucejack Lake model volumes were distributed vertically within the lake by assuming a constant inflow per unit area of lake bottom
- Recirculation of fluidization water to and from the lake. During periods when the mill is not operating or when tailings slurry is discharged to the underground, fluidizing water will be passed through the pipeline to prevent freeze up and clogging;
- Subsurface discharge of tailings slurry;
- Water withdrawal (*e.g.*, mill make up water); and
- Discharge from Brucejack Lake.

All components of the mass balance for Brucejack Lake have associated physical and geochemical properties, including temperature, TDS, and dissolved oxygen. The tailings slurry also has an associated solids mass and particle size distribution. The temperature of the inflows was specified monthly. These and other data are provided in Table 4 based on information reported in Lorax (2013).

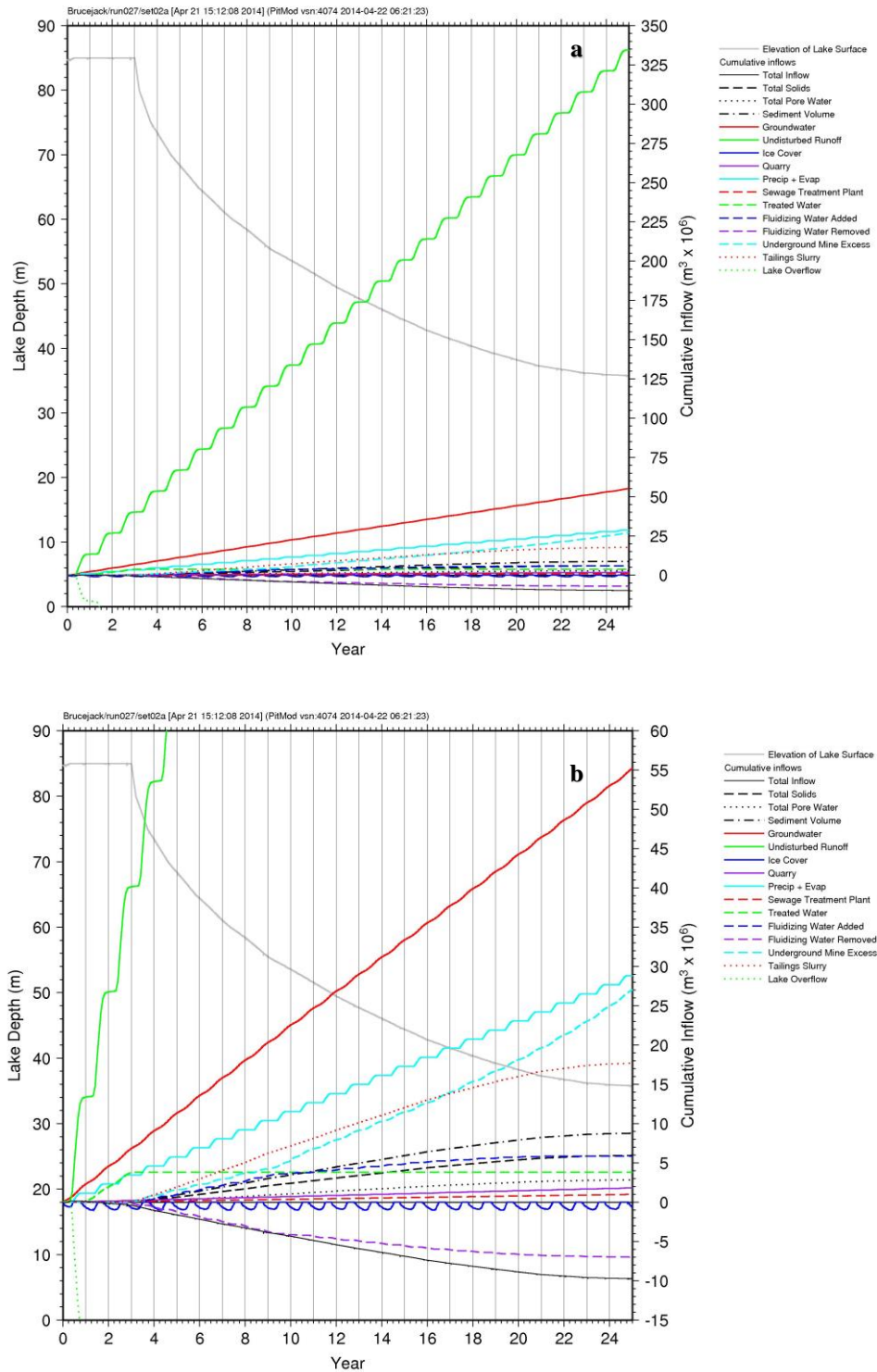
The cumulative volumes for each model inflow and outflow are presented graphically in Figure 2.

**Table 4:**  
**Source terms included in the Brucejack Hydrodynamic and Water Quality Model**

Inflows	Depth	Percent of Total	TDS (mg/l)	Temperature (°C)		
				Jan-Jun	Jul-Oct	Nov-Dec
Tailings slurry	2 m above bottom	4.9%	214.7 <sup>(1,2)</sup>	7.5	7.5	7.5
Groundwater	All depths	11.5%	34.3	3.0	3.0	3.0
Undisturbed runoff	Surface	69.5%	34.3	1.0	4.0	1.0
Lake Surface Runoff	Surface	5.8%	0.0	1.0	4.0	1.0
Quarry	Surface	0.4%	26.4	1.0	4.0	1.0
Sewage Treatment Plant	Surface	0.2%	178.2	7.5	10.0	7.5
Treated Water	Surface	0.8%	267.7	7.5	10.0	7.5
Underground Mine Excess	Bottom	5.6%	214.7 <sup>(1)</sup>	7.5	10.0	7.5
Lake Water from surface	Bottom	1.2%	41.9	7.5	10.0	7.5
Waste Rock	Various	0.2%				
Outflows	Depth	Percent				
Fluidizing Water	Surface	1.2%		Ambient Surface Values		

<sup>(1)</sup> Mean value

<sup>(2)</sup> Supernatant only



**Figure 2:** a: Cumulative inflow and outflow volumes for the 25-year PitMod simulation of Brucejack Lake. b: The same results showing a more detailed view.

### 2.2.3 Tailings Slurry and Suspended Solids

The proposed tailings slurry discharge will enter Brucejack Lake through a pipe positioned at the bottom of the lake and will span 22 years from the start of operations. Slurry properties are provided in Table 5. The total solids volume discharge over 22 years of 5.95 M m<sup>3</sup> equates to 741 m<sup>3</sup>/day on average.

**Table 5:**  
**Properties of tailings slurry discharged to Brucejack Lake. Totals are for 22 years of discharge.**

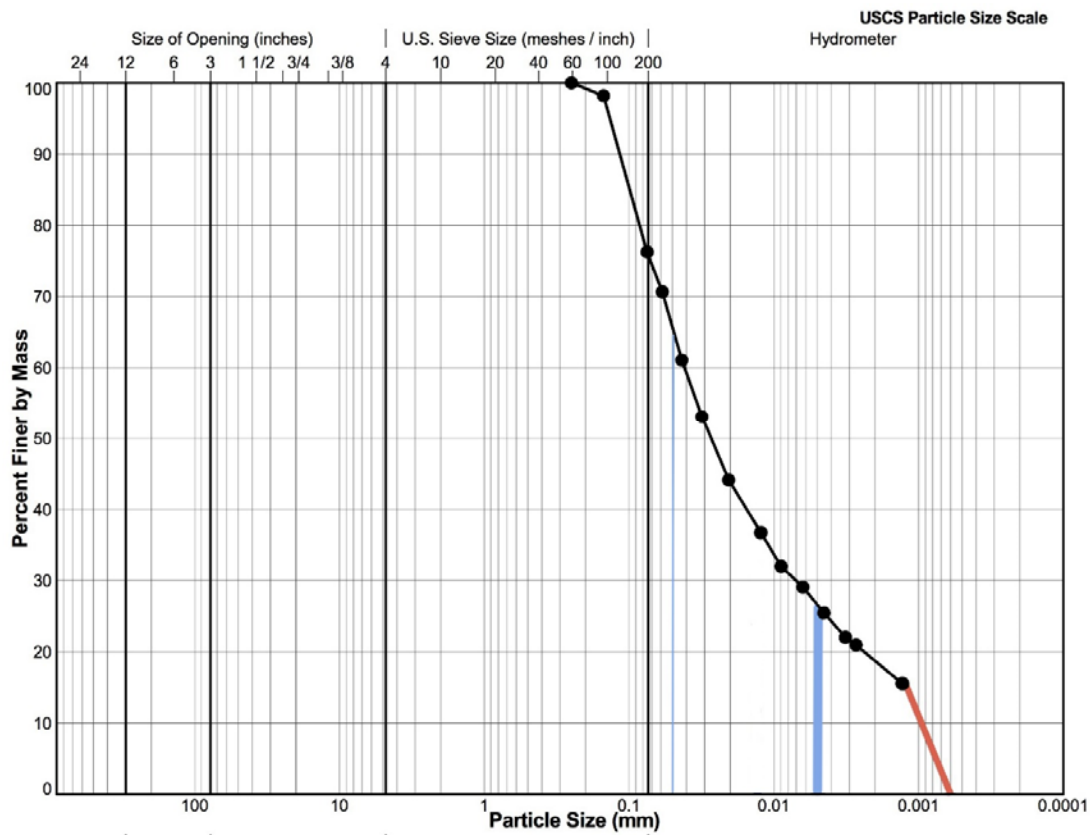
Dry solids density	2680 kg m <sup>3</sup>
Total solids volume	5.95 M m <sup>3</sup>
Total solids mass	15.95 M T
Supernatant density <sup>2</sup>	1000 kg m <sup>3</sup>
Total supernatant volume	17.69 M m <sup>3</sup>
Total supernatant mass	17.69 M T
Solids fraction by mass	47.4%
Solids fraction by volume	25.2%

<sup>1</sup> measured from the top of the sediment layer

<sup>2</sup> approximate - ignores TDS

The particles comprising the solids fraction of the slurry sink through fresh water at a Stokes settling velocity that depends on the density and diameter of the particle. In the model, when particles reach the bottom 0.5 m thick layer they are incorporated irreversibly into the sediment layer beneath. In addition to the solids added to the sediments, an amount of water is withdrawn from the bottom layer of the model and added to the sediments so that 86.9% of the sediments are solids by mass (71.3% by volume). The 86.9% solid mass content was derived from the BGC mass balance. Bottom water sequestered in this way permanently removes the associated dissolved solids and gases from the lake.

The solids component of the tailings slurry has an associated particle size distribution (PSD) that stipulates the fraction of solids mass with diameters smaller than a given value (Figure 3). The specific gravity of the solids is 2680 kg m<sup>-3</sup> and the bulk slurry density is 1423 kg/m<sup>3</sup>, yielding a solids concentration in the tailings discharge of 674 kg/m<sup>3</sup> (~25% by volume).



**Figure 3: Particle size distribution used in the Brucejack Lake PitMod model (Source: Rescan).**

The PSD for the tailings solids was extrapolated to  $0.5 \mu\text{m}$  to simulate the conservative case where no flocculant is added to the discharge. The suspended solids were partitioned into 20 equally sized divisions, each containing 5% of the total suspended solids mass and with an associated particle diameter and settling velocity calculated from Equation 1 (see Lorax, 2013 for further details).

Together with the specific gravity of the solids and the fluid density in each model layer, the Stokes' settling velocity,  $V_s$  (m/s), is calculated for each particle size using the formula:

$$V_s = \frac{g(\rho_s - \rho_w)d^2}{18\mu_w\rho_w}, \quad (1)$$

where  $g$  is gravitational acceleration ( $9.81 \text{ m s}^{-2}$ );  $\rho_s$  is the specific gravity of the tailings solids ( $2680 \text{ kg m}^{-3}$ );  $\rho_w$  is the density of ambient water (approximately  $1000 \text{ kg m}^{-3}$ );  $\mu$  is the kinematic viscosity of the ambient water ( $10^{-6} \text{ m}^2 \text{ s}^{-1}$ ); and  $d$  is the particle diameter (m).

The time step used in the model is one day; however, the settling velocities of some particles are large enough that a smaller time step is required to accurately simulate particle settling. The algorithm for implementing the addition of particle settling is summarized in the following sequence of steps carried out for each diurnal time step:

- A mass of tailings slurry (water plus solids) corresponding to one day of discharge is added to the model layer 2.0 m above the bottom of the model.
- A suitable time step for the vertical advection of particles is calculated from the largest settling velocities in each layer. The value is selected to ensure that the largest particles fall less than 80% of the layer thickness during one time step.
- Starting at the surface layer of the model and working downward to the bottom layer, the flux of each particle into the layer from the top (zero for the surface layer) and out of the layer at the bottom is calculated using the settling velocity  $V_s$  for the layer occupied by the particle.
- The concentration of each particle in each model layer is updated using the calculated vertical fluxes at the top and bottom of each layer.
- Particles that fall out of the bottom layer are permanently removed from the model with no potential for re-suspension.

The behaviour of the slurry discharged from the pipe upon entering the lake will be significantly more complex than the simple process included in the model. Initially the end of the pipe will be covered with rock and other materials to limit the formation of suspended solids. Subsequently the pipe terminus will become buried by a mound of settled tailings that will increase in size throughout the operations phase. Some fraction of the solids particles and supernatant discharged from the pipe will eventually migrate through the mound via complex and unpredictable pathways to enter the lake. Since the details of this mechanism are unknown, there is insufficient information to model this process accurately. However, the result of such a model would be a flux of supernatant and solids particles into the lake at a rate that would not exceed the flux of supernatant and solids particles through the pipe. This is because some fraction of the solids and supernatant will remain trapped in the mound, and will therefore never enter the water column and consequently, this fraction cannot possibly be discharged from the lake.

The current Brucejack Lake model takes a simple, but conservative approach to modeling the discharge of slurry to the lake. All supernatant and solids enter the lake at a fixed depth of 2.0 m above the top of the sediment layer accumulating at the lake bottom. Thereafter, the particles are free to sink to the sediment layer below, or to be transported upward through the

water column. Particles that sink to the bottom become incorporated into the sediment layer together with lake bottom water as described previously.

Two properties of the tailings slurry discharge will facilitate the vertical transport of slurry effluent and particles. The slurry will displace resident water at the bottom of Brucejack Lake, pushing it upward with its ambient load of suspended and dissolved solids. Secondly, the temperature of the slurry is set to a constant 7.5°C and will therefore be warmer than the ambient water which is usually close to the temperature of maximum density at 4°C, and therefore buoyant, and may consequently induce convective mixing.

#### 2.2.4 Waste Rock Dumping

Waste rock will be added to Brucejack Lake throughout the construction and operations phases. The volume of the lake will be decreased by the volume of water displaced by the rock and lake water will be sequestered in the rock pile voids. Both of these effects are included in the model.

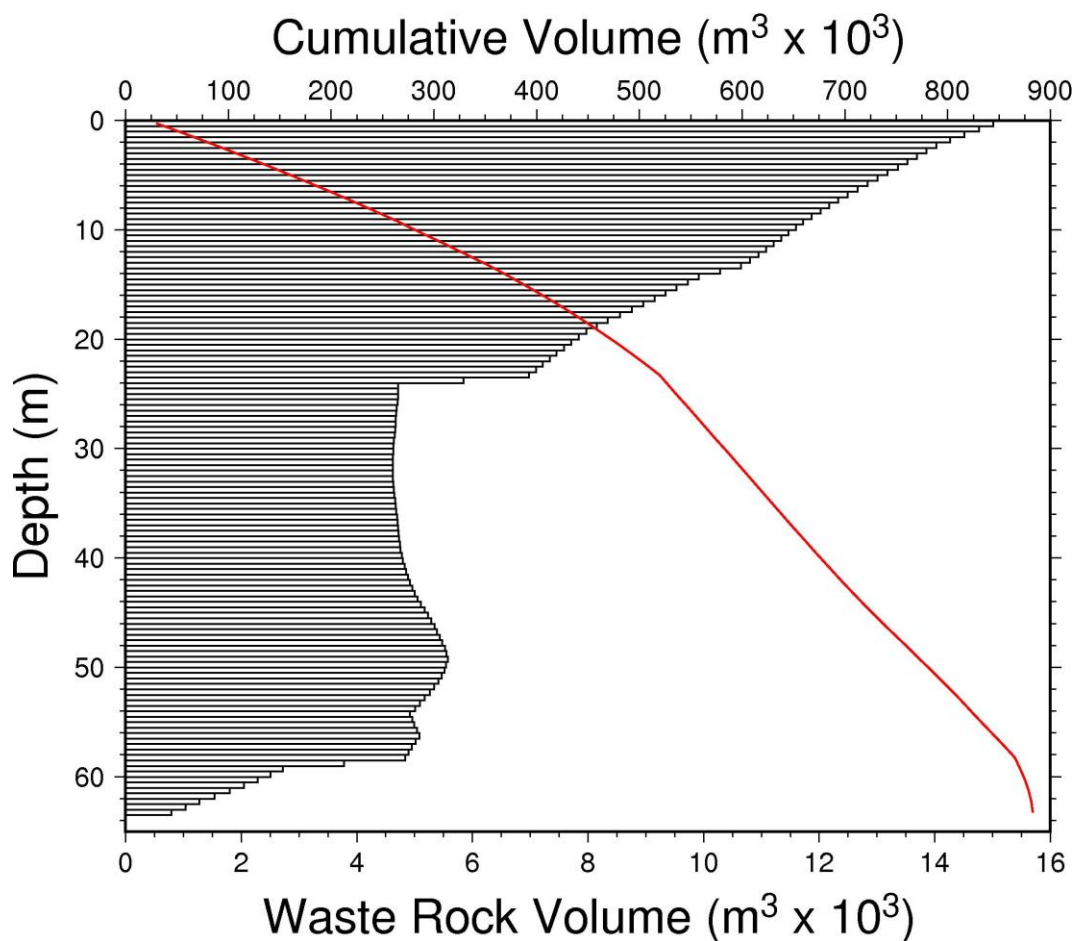
Waste rock totaling approximately 883,000 m<sup>3</sup> will be dumped into Brucejack Lake over 24 years. The volume of water displaced by the rock will flow out of the lake. The total waste rock volume amounts to about 3.1% of the initial lake volume. The distribution of rock with depth and time cannot be accurately determined because of the uncertainty in precisely how the rock will distribute itself after each dump.

BGC has developed an estimate of the final waste rock distribution on the floor of Brucejack Lake after operations cease. This map was used to extract the final volume of rock in each layer of the model as well as the cumulative volume of rock with increasing depth (Figure 4). A simple approach was adopted to calculate the volume of rock added to each layer at a model time step. The cumulative volume of rock in a layer is determined by linearly interpolating the final volume with the elapsed time, that is:

$$V_l(t) = \frac{t}{t_f} V_l(t_f)$$

where  $t_f$  is the time of the final rock dump (year 22) and  $t$  is the time since the start of the model simulation.





**Figure 4:** Lower axis: final waste rock volume in each 0.5 m thick model layer Upper Axis: cumulative volume of waste rock from the lake surface downward.

### 2.2.5 Meteorological Data

PitMod incorporates a complete heat balance that includes lake surface albedo and surface fluxes of thermal energy through long- and short-wave radiation; sensible (conductive) and latent (evaporative) heat fluxes; thermal insulation from cloud cover; and turbulent dispersive heat transfer due to surface winds.

Meteorological data (Table 6) are required in the Brucejack Lake model for calculations of the heat budget and surface kinetic energy (wind). Hourly wind data are available from an on-site met station for the period October 2009 through December 2012. Precipitation and Evaporation are combined in the water balance under Lake Surface Runoff and were prescribed in the model as they appear there.

The subset of wind and temperature data from January 2011 through December 2012 are used in the model. The remainder of the meteorological values were obtained from The National Centers for Environmental Prediction (NCEP) reanalysis data provided by the

NOAA/OAR/ESRL PSD, Boulder, Colorado, USA, from their Web site at <http://www.esrl.noaa.gov/psd/>. NCEP data are available as gridded sets of meteorological variables derived from the reanalysis of computer weather model output and provide continuous 6-hourly (4x daily) time-series on a 0.5° grid for the period Jan 1, 1983 – Dec 31, 2009 (27 years). Values were extracted from the nearest 0.5° grid point to the location of Brucejack Lake at 130.173° W, 56.470° N.

**Table 6:**  
**Meteorological data sources for PitMod simulations of Brucejack Lake.**

Parameter	Units	Source
Incident short-wave energy flux	W m <sup>-2</sup>	NCEP (1983-2009)
Incident long-wave energy flux	W m <sup>-2</sup>	NCEP (1983-2009)
Mean daily air temperature	°C	Site (2010-2012)
Minimum daily air temperature	°C	Site (2010-2012)
Maximum daily air temperature	°C	Site (2010-2012)
Hourly wind speed	m s <sup>-1</sup>	Site (2010-2012)

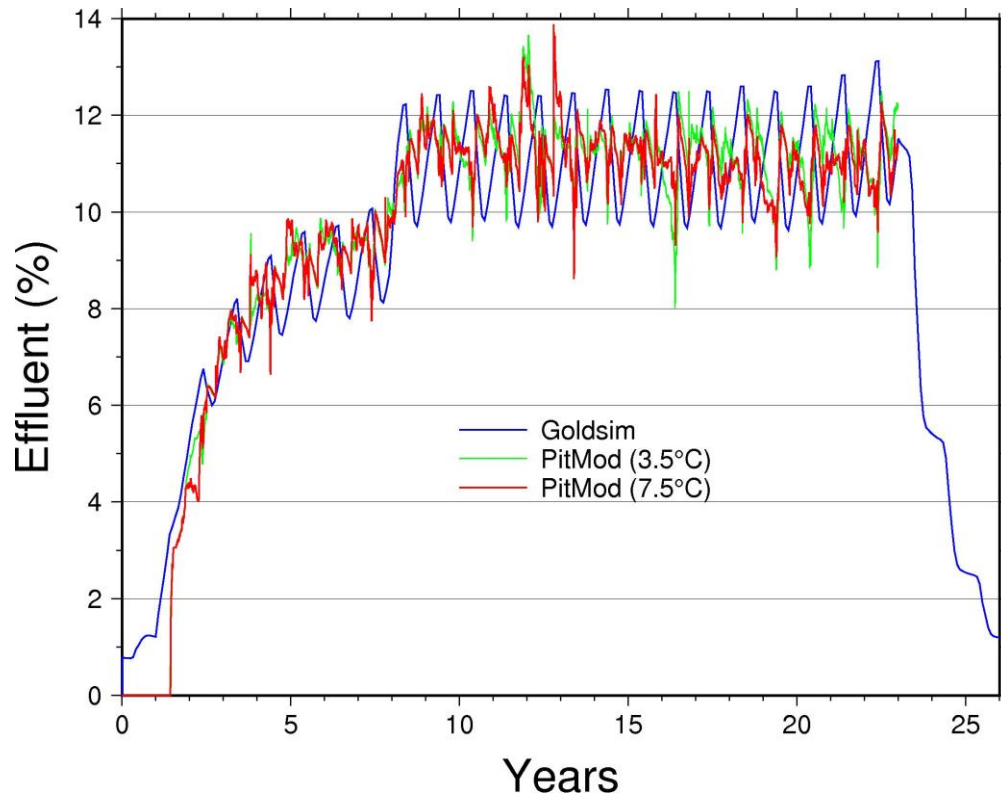
### 3. Model Results

A PitMod simulation of hydrodynamics and water quality in Brucejack Lake was completed using the inputs described in the previous sections. The purpose of the simulation is to provide an alternative prediction of water quality in the lake discharge for comparison with results from the existing Goldsim water quality model. The duration of the simulation is 25 years - 1 year of pre-construction, 2 years of construction, and 22 years of operations.

Figure 5 shows the results from both models. The Goldsim model predictions are independent of depth while the PitMod predictions are depth dependent. Plotted PitMod values are taken from the top layer of the model (all layers are 0.5 m thick).

The two PitMod plots differ in the temperature that was used for the tailings slurry and Underground Mine Excess. The results using a value of 3.5° C are provided as a test of sensitivity to the temperature of the bottom inflows, with 7.5° C reflecting actual operations. The lower temperature generates more variability in the predicted effluent concentration but does not significantly alter the effluent concentrations.

The results of the PitMod simulation show that stratification and other depth dependent properties of Brucejack Lake do not significantly influence the magnitude of the effluent concentration in the lake discharge. However, these properties do have a noticeable effect on the fine-scale structure and timing of the effluent discharge.



**Figure 5:** A comparison of the predicted effluent concentrations in the discharge from Brucejack Lake from the Goldsim and PitMod simulations. Goldsim values are depth-averaged while PitMod values are from the upper 0.5 m model layer. Percentages are relative to the concentration in the initial outflow.

An important result of this comparison is that PitMod does not predict effluent concentrations in the discharge that significantly exceed those generated by Goldsim for the same set of conditions. Notably, PitMod does not predict the accumulation of effluent near the bottom followed by a brief, massive release of effluent driven by sudden convective overturning.

The Effluent discharge consists of tailings slurry supernatant and Underground Mine Excess. Both are discharged at the bottom of the Brucejack Lake model at a constant temperature of 7.5° C during operations. This temperature is significantly above the 3-4° C that is presently observed in the lake at these depths. Under current conditions Brucejack Lake exhibits behaviour typical of a dimictic lake, where complete or partial vertical mixing occurs twice each year as the surface water temperature passes through the temperature of maximum density at 4° C. This occurs once after ice has melted and the surface waters warm from 0° C to their summer values and again in the fall or winter when the surface waters cool to 0° C and ice once again forms. It is expected that the behaviour of Brucejack lake with respect to vertical stratification, mixing and convective overturning will be significantly altered by the discharge of warm water at the bottom.

The addition of warm water at the lake bottom will have two effects on the lake structure and the vertical distribution of properties. First, the discharge temperature of 7.5° C will add significant heat and buoyancy to the bottom of the lake. In addition, the suspended solids loading will add mass in the lower water column and will consequently increase the density of lake water near the bottom. The second effect will be to displace existing bottom waters upward through the water column together with their associated properties.

Complex mixing behaviour is expected throughout the depth of the lake as water near 4° C penetrates downward from the surface where it will interact with warmed tailings-modified bottom waters slowly penetrating upwards through displacement and buoyancy.

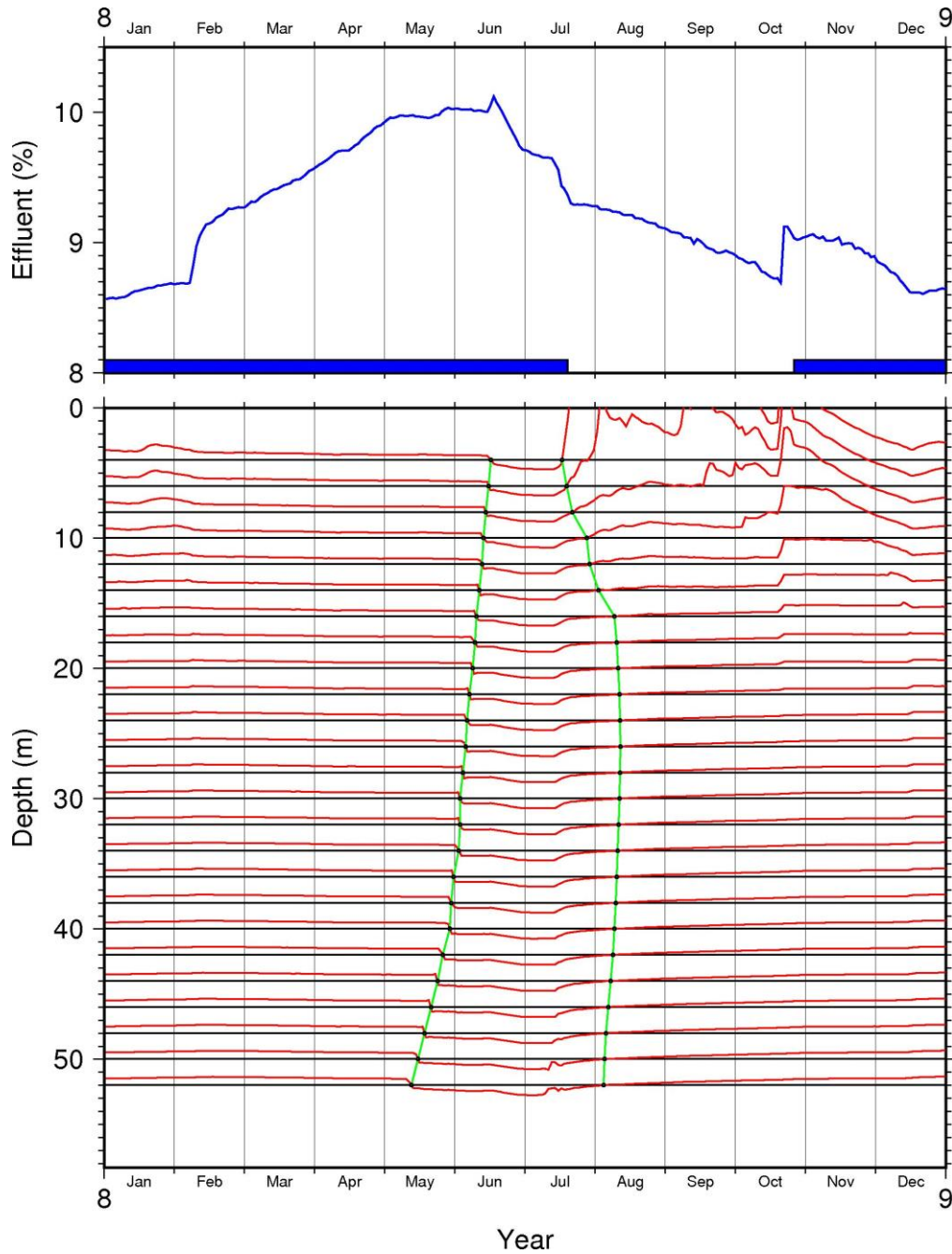
Figure 6 provides details of the vertical structure in Brucejack Lake during Year 8 of the PitMod simulation. The top panel shows the time-series of effluent concentration (%) relative to the value in-pipe prior to discharge to the lake. The blue bar at the bottom of this panel indicates the period in the simulation when ice is on the lake.

The bottom panel displays time-series of lake temperature at 2 m intervals from 4 m to 52 m depth (the maximum depth of the lake at the end of year 8 is 58 m). The horizontal black lines are the horizontal axes for the time-series and each corresponds to a temperature of 4° C – the temperature of maximum density for fresh water. Each tick on the vertical axis corresponds to a change of either 1 m depth or 0.5° C.

With ice on the lake in January of Year 8 the surface layer effluent concentration increases nearly linearly until mid-June when the maximum concentration occurs and the surface ice begins to melt. The increase reflects the slow migration of effluent from the bottom of the lake resulting from displacement and buoyancy.

The rate of groundwater inflow at a temperature of 3° C is relatively low from January through April but begins to increase from May until October. This increased inflow results in the initial decrease in temperature observed in mid-May at the lake bottom (Figure 6). As the surface continues to warm through the summer strong thermal stratification can be seen developing to a depth of 10-15 m from August through September.

During the open ice season the effluent concentration decreases linearly until ice begins to form again. The decrease coincides with a large increase in undisturbed runoff during the summer months.



**Figure 6:** Upper panel: Surface layer effluent concentration relative to the in-pipe value. . The blue bar indicates ice cover on the lake. Lower panel: Temperature time-series at 2 m intervals from 4 to 52 m depth. Horizontal axes for each time-series correspond to 4° C. Green lines connect 4° C crossing points.

#### 4. References

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# ***Appendix E Monthly Maximum Water Quality Results***

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*Appendix E-1 BJ U/S Water Quality Results*

*Appendix E-2 BJ200mD/S Water Quality Results*

*Appendix E-1 BJ U/S Water Quality Results*



**BJ U/S Base Case**

		NH <sub>3</sub>	NO <sub>3</sub>	NO <sub>2</sub>	Cl	SO <sub>4</sub>	P	D-Al	D-As	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Mg
BJ U/S Construction	January	0.0024	0.088	0.0016	2.0	16	0.0011	0.011	0.0033	0.0000054	15	0.000059	0.000057	0.00028	0.014	0.000030	0.50
	February	0.0024	0.088	0.0016	2.0	16	0.0011	0.012	0.0034	0.0000056	15	0.000060	0.000057	0.00028	0.014	0.000030	0.51
	March	0.0024	0.088	0.0016	2.0	16	0.0011	0.012	0.0036	0.0000057	15	0.000061	0.000058	0.00029	0.014	0.000031	0.52
	April	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0037	0.0000058	15	0.000062	0.000059	0.00029	0.014	0.000031	0.53
	May	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0038	0.0000059	15	0.000063	0.000060	0.00029	0.014	0.000032	0.54
	June	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0039	0.0000060	15	0.000063	0.000060	0.00029	0.014	0.000032	0.54
	July	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0038	0.0000060	15	0.000063	0.000059	0.00029	0.015	0.000032	0.53
	August	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0037	0.0000060	15	0.000063	0.000059	0.00029	0.015	0.000032	0.53
	September	0.0024	0.089	0.0016	2.0	16	0.0011	0.012	0.0037	0.0000061	15	0.000063	0.000059	0.00029	0.015	0.000032	0.53
	October	0.0024	0.089	0.0016	2.0	16	0.0011	0.012	0.0037	0.0000061	15	0.000063	0.000059	0.00029	0.015	0.000032	0.53
	November	0.0024	0.089	0.0016	2.0	16	0.0011	0.013	0.0038	0.0000062	15	0.000064	0.000060	0.00030	0.015	0.000033	0.54
	December	0.0024	0.089	0.0016	2.0	16	0.0011	0.013	0.0039	0.0000064	15	0.000065	0.000060	0.00030	0.015	0.000033	0.55
BJ U/S Operations	January	0.25	0.28	0.0052	6.8	29	0.0056	0.025	0.0055	0.000019	21	0.00074	0.00040	0.0010	0.084	0.000076	2.4
	February	0.26	0.29	0.0053	7.0	30	0.0058	0.026	0.0056	0.000019	21	0.00077	0.00042	0.0011	0.088	0.000078	2.5
	March	0.27	0.30	0.0055	7.2	31	0.0060	0.027	0.0058	0.000020	21	0.00080	0.00043	0.0011	0.092	0.000080	2.6
	April	0.29	0.31	0.0057	7.4	31	0.0061	0.028	0.0059	0.000020	21	0.00082	0.00045	0.0011	0.095	0.000082	2.7
	May	0.30	0.32	0.0058	7.6	32	0.0063	0.028	0.0061	0.000021	22	0.00085	0.00046	0.0012	0.098	0.000084	2.7
	June	0.29	0.31	0.0057	7.5	32	0.0062	0.028	0.0060	0.000020	22	0.00083	0.00046	0.0011	0.097	0.000083	2.7
	July	0.26	0.29	0.0052	6.9	30	0.0057	0.026	0.0056	0.000019	21	0.00075	0.00041	0.0010	0.088	0.000077	2.4
	August	0.24	0.28	0.0049	6.5	29	0.0053	0.024	0.0053	0.000018	20	0.00070	0.00038	0.00098	0.081	0.000073	2.3
	September	0.22	0.26	0.0047	6.2	28	0.0050	0.023	0.0050	0.000017	20	0.00066	0.00035	0.00093	0.076	0.000069	2.1
	October	0.22	0.26	0.0047	6.1	28	0.0050	0.023	0.0050	0.000017	20	0.00065	0.00035	0.00092	0.075	0.000069	2.1
	November	0.22	0.27	0.0048	6.3	28	0.0051	0.024	0.0051	0.000017	20	0.00068	0.00036	0.00095	0.077	0.000071	2.2
	December	0.24	0.28	0.0050	6.5	29	0.0053	0.024	0.0053	0.000018	20	0.00071	0.00038	0.00099	0.081	0.000073	2.3
BJ U/S Post-Closure	January	0.19	0.13	0.0047	6.8	26	0.0033	0.016	0.0038	0.000017	19	0.00040	0.00021	0.0010	0.047	0.000063	2.1
	February	0.19	0.13	0.0047	6.8	26	0.0033	0.016	0.0039	0.000017	19	0.00040	0.00020	0.0010	0.047	0.000063	2.1
	March	0.18	0.13	0.0046	6.7	26	0.0033	0.016	0.0039	0.000017	19	0.00039	0.00020	0.0010	0.047	0.000062	2.1
	April	0.18	0.13	0.0046	6.7	26	0.0033	0.016	0.0039	0.000017	19	0.00039	0.00020	0.0010	0.047	0.000062	2.1
	May	0.18	0.13	0.0046	6.7	26	0.0033	0.016	0.0039	0.000017	19	0.00039	0.00020	0.0010	0.046	0.000062	2.1
	June	0.17	0.13	0.0044	6.4	25	0.0032	0.016	0.0039	0.000016	19	0.00037	0.00019	0.00096	0.044	0.000060	2.0
	July	0.14	0.12	0.0040	5.7	24	0.0028	0.014	0.0036	0.000014	18	0.00032	0.00017	0.00085	0.040	0.000054	1.7
	August	0.12	0.12	0.0036	5.2	22	0.0026	0.013	0.0034	0.000013	18	0.00028	0.00015	0.00076	0.036	0.000050	1.5
	September	0.10	0.11	0.0033	4.7	21	0.0024	0.012	0.0033	0.000012	17	0.00024	0.00014	0.00069	0.033	0.000047	1.4
	October	0.095	0.11	0.0032	4.5	21	0.0023	0.012	0.0032	0.000011	17	0.00023	0.00013	0.00065	0.031	0.000045	1.3
	November	0.091	0.11	0.0031	4.4	21	0.0022	0.011	0.0032	0.000011	17	0.00022	0.00013	0.00064	0.031	0.000044	1.2
	December	0.090	0.11	0.0031	4.4	20	0.0022	0.011	0.0033	0.000011	17	0.00022	0.00012	0.00063	0.030	0.000044	1.2

**BJ U/S Base Case**

		D-Ma	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Ag	D-Na	D-Tl	D-Zn	T-Al	T-As	T-Cd	T-Ca
BJ U/S Construction	January	0.0019	0.000013	0.00077	0.00030	0.32	0.00034	0.0000056	1.7	0.000013	0.0015	0.018	0.0033	0.0000052	15
	February	0.0020	0.000013	0.00079	0.00030	0.34	0.00034	0.0000057	1.8	0.000013	0.0015	0.019	0.0034	0.0000054	15
	March	0.0022	0.000014	0.00080	0.00031	0.36	0.00035	0.0000058	1.9	0.000014	0.0015	0.019	0.0036	0.0000055	15
	April	0.0023	0.000014	0.00082	0.00031	0.38	0.00036	0.0000058	2.0	0.000014	0.0015	0.020	0.0037	0.0000056	16
	May	0.0024	0.000014	0.00083	0.00031	0.40	0.00036	0.0000059	2.0	0.000015	0.0015	0.020	0.0039	0.0000058	16
	June	0.0024	0.000014	0.00084	0.00031	0.41	0.00037	0.0000059	2.1	0.000015	0.0015	0.020	0.0039	0.0000058	16
	July	0.0023	0.000014	0.00083	0.00031	0.39	0.00036	0.0000059	2.0	0.000015	0.0015	0.020	0.0038	0.0000058	16
	August	0.0023	0.000013	0.00082	0.00031	0.38	0.00036	0.0000059	2.0	0.000014	0.0015	0.020	0.0037	0.0000058	16
	September	0.0023	0.000012	0.00082	0.00031	0.37	0.00036	0.0000058	1.9	0.000014	0.0015	0.019	0.0036	0.0000058	16
	October	0.0023	0.000012	0.00082	0.00031	0.37	0.00036	0.0000059	2.0	0.000014	0.0015	0.019	0.0037	0.0000059	16
	November	0.0024	0.000012	0.00084	0.00031	0.39	0.00037	0.0000059	2.0	0.000014	0.0015	0.020	0.0038	0.0000060	16
	December	0.0025	0.000013	0.00085	0.00031	0.41	0.00037	0.0000060	2.1	0.000015	0.0015	0.020	0.0039	0.0000061	16
BJ U/S Operations	January	0.082	0.000013	0.0051	0.00072	1.6	0.00063	0.000022	2.2	0.000021	0.0089	0.032	0.0056	0.000019	21
	February	0.087	0.000013	0.0052	0.00074	1.6	0.00064	0.000022	2.2	0.000022	0.0095	0.033	0.0057	0.000019	21
	March	0.090	0.000013	0.0054	0.00077	1.7	0.00066	0.000023	2.2	0.000022	0.0100	0.034	0.0059	0.000020	22
	April	0.095	0.000013	0.0057	0.00079	1.8	0.00067	0.000024	2.2	0.000023	0.011	0.035	0.0060	0.000020	22
	May	0.098	0.000013	0.0058	0.00081	1.8	0.00068	0.000024	2.2	0.000023	0.011	0.035	0.0062	0.000021	22
	June	0.097	0.000012	0.0058	0.00080	1.8	0.00067	0.000024	2.2	0.000023	0.011	0.035	0.0061	0.000020	22
	July	0.087	0.000011	0.0052	0.00074	1.6	0.00063	0.000022	2.0	0.000021	0.010	0.033	0.0057	0.000019	21
	August	0.079	0.000011	0.0048	0.00071	1.5	0.00060	0.000021	1.9	0.000020	0.0097	0.031	0.0054	0.000018	21
	September	0.073	0.0000099	0.0045	0.00067	1.4	0.00058	0.000019	1.9	0.000020	0.0093	0.030	0.0051	0.000017	20
	October	0.071	0.0000096	0.0045	0.00067	1.4	0.00058	0.000019	1.8	0.000019	0.0094	0.030	0.0051	0.000017	20
	November	0.074	0.0000094	0.0046	0.00068	1.4	0.00059	0.000020	1.8	0.000020	0.0100	0.031	0.0052	0.000017	20
	December	0.078	0.0000094	0.0048	0.00070	1.5	0.00061	0.000021	1.9	0.000021	0.011	0.031	0.0054	0.000018	21
BJ U/S Post-Closure	January	0.040	0.0000052	0.0022	0.00051	0.58	0.00039	0.0000086	1.7	0.000013	0.011	0.024	0.0040	0.000017	19
	February	0.040	0.0000052	0.0022	0.00050	0.58	0.00039	0.0000086	1.6	0.000013	0.011	0.024	0.0040	0.000017	19
	March	0.040	0.0000052	0.0022	0.00050	0.58	0.00039	0.0000085	1.6	0.000013	0.011	0.024	0.0040	0.000017	19
	April	0.040	0.0000052	0.0022	0.00050	0.58	0.00039	0.0000085	1.6	0.000013	0.011	0.024	0.0040	0.000017	19
	May	0.039	0.0000052	0.0022	0.00050	0.58	0.00039	0.0000085	1.6	0.000013	0.011	0.023	0.0040	0.000017	19
	June	0.037	0.0000052	0.0021	0.00049	0.55	0.00038	0.0000083	1.6	0.000013	0.010	0.023	0.0040	0.000016	19
	July	0.031	0.0000052	0.0019	0.00046	0.48	0.00036	0.0000078	1.5	0.000012	0.0089	0.022	0.0037	0.000014	19
	August	0.027	0.0000052	0.0017	0.00043	0.43	0.00035	0.0000074	1.4	0.000012	0.0078	0.021	0.0036	0.000013	18
	September	0.023	0.0000051	0.0016	0.00041	0.39	0.00034	0.0000070	1.4	0.000011	0.0069	0.020	0.0034	0.000012	18
	October	0.021	0.0000051	0.0015	0.00040	0.37	0.00033	0.0000068	1.3	0.000011	0.0064	0.019	0.0034	0.000011	18
	November	0.020	0.0000051	0.0015	0.00040	0.36	0.00033	0.0000068	1.3	0.000011	0.0062	0.019	0.0034	0.000011	18
	December	0.020	0.0000051	0.0015	0.00039	0.36	0.00033	0.0000068	1.3	0.000011	0.0061	0.019	0.0034	0.000011	18



**BJ U/S 100 Dry Year**

		NH <sub>3</sub>	NO <sub>3</sub>	NO <sub>2</sub>	Cl	SO <sub>4</sub>	P	D-Al	D-As	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Mg
BJ U/S Construction	January	0.0024	0.088	0.0016	2.0	16	0.0011	0.011	0.0033	0.0000054	15	0.000059	0.000057	0.00028	0.014	0.000030	0.50
	February	0.0024	0.088	0.0016	2.0	16	0.0011	0.012	0.0034	0.0000056	15	0.000060	0.000057	0.00028	0.014	0.000030	0.51
	March	0.0024	0.088	0.0016	2.0	16	0.0011	0.012	0.0036	0.0000057	15	0.000061	0.000058	0.00029	0.014	0.000031	0.52
	April	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0037	0.0000058	15	0.000062	0.000059	0.00029	0.014	0.000031	0.53
	May	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0039	0.0000059	15	0.000063	0.000060	0.00029	0.014	0.000032	0.54
	June	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0039	0.0000060	15	0.000063	0.000060	0.00029	0.014	0.000032	0.54
	July	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0038	0.0000060	15	0.000063	0.000059	0.00029	0.015	0.000032	0.54
	August	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0038	0.0000061	15	0.000063	0.000059	0.00029	0.015	0.000032	0.53
	September	0.0024	0.089	0.0016	2.0	16	0.0011	0.013	0.0039	0.0000062	15	0.000064	0.000060	0.00029	0.015	0.000032	0.54
	October	0.0024	0.089	0.0016	2.0	16	0.0011	0.013	0.0039	0.0000062	15	0.000064	0.000060	0.00030	0.015	0.000033	0.54
	November	0.0024	0.089	0.0016	2.0	16	0.0011	0.014	0.0040	0.0000063	15	0.000065	0.000061	0.00030	0.015	0.000033	0.55
	December	0.0024	0.088	0.0016	2.0	16	0.0011	0.014	0.0041	0.0000064	15	0.000066	0.000061	0.00030	0.015	0.000033	0.56
BJ U/S Operations	January	0.25	0.28	0.0052	6.8	29	0.0056	0.025	0.0055	0.000019	21	0.00074	0.00040	0.0010	0.084	0.000076	2.4
	February	0.26	0.29	0.0053	7.0	30	0.0058	0.026	0.0056	0.000019	21	0.00077	0.00042	0.0011	0.088	0.000078	2.5
	March	0.27	0.30	0.0055	7.2	31	0.0060	0.027	0.0058	0.000020	21	0.00080	0.00043	0.0011	0.092	0.000080	2.6
	April	0.29	0.31	0.0057	7.4	31	0.0061	0.028	0.0059	0.000020	21	0.00082	0.00045	0.0011	0.095	0.000082	2.7
	May	0.30	0.32	0.0058	7.6	32	0.0063	0.028	0.0061	0.000021	22	0.00085	0.00046	0.0012	0.098	0.000084	2.7
	June	0.29	0.31	0.0057	7.5	32	0.0062	0.028	0.0060	0.000020	22	0.00083	0.00046	0.0011	0.097	0.000083	2.7
	July	0.26	0.29	0.0052	6.9	30	0.0057	0.026	0.0056	0.000019	21	0.00075	0.00041	0.0010	0.088	0.000077	2.4
	August	0.24	0.28	0.0049	6.6	29	0.0053	0.024	0.0053	0.000018	20	0.00070	0.00038	0.00098	0.081	0.000073	2.3
	September	0.22	0.26	0.0048	6.7	28	0.0050	0.023	0.0050	0.000017	20	0.00066	0.00035	0.00099	0.076	0.000069	2.1
	October	0.22	0.26	0.0048	6.7	28	0.0050	0.023	0.0050	0.000017	20	0.00065	0.00035	0.00100	0.075	0.000069	2.1
	November	0.22	0.27	0.0048	6.9	28	0.0051	0.024	0.0051	0.000017	20	0.00068	0.00036	0.0010	0.077	0.000071	2.2
	December	0.24	0.28	0.0050	7.2	29	0.0053	0.024	0.0053	0.000018	20	0.00071	0.00038	0.0011	0.081	0.000073	2.3
BJ U/S Post-Closure	January	0.21	0.14	0.0051	7.4	28	0.0037	0.018	0.0041	0.000018	20	0.00046	0.00023	0.0011	0.052	0.000068	2.4
	February	0.21	0.13	0.0051	7.4	28	0.0036	0.018	0.0041	0.000018	20	0.00045	0.00023	0.0011	0.052	0.000068	2.3
	March	0.21	0.13	0.0051	7.4	27	0.0036	0.018	0.0041	0.000018	20	0.00045	0.00023	0.0011	0.052	0.000067	2.3
	April	0.21	0.13	0.0051	7.3	27	0.0036	0.018	0.0042	0.000018	20	0.00045	0.00023	0.0011	0.052	0.000067	2.3
	May	0.21	0.13	0.0050	7.3	27	0.0036	0.017	0.0042	0.000018	20	0.00044	0.00022	0.0011	0.051	0.000067	2.3
	June	0.19	0.13	0.0048	7.0	27	0.0034	0.017	0.0041	0.000017	19	0.00042	0.00021	0.0010	0.049	0.000064	2.2
	July	0.16	0.12	0.0043	6.2	25	0.0031	0.015	0.0038	0.000015	19	0.00036	0.00019	0.00091	0.043	0.000058	1.9
	August	0.14	0.12	0.0039	5.6	23	0.0028	0.014	0.0036	0.000014	18	0.00031	0.00017	0.00082	0.039	0.000054	1.7
	September	0.12	0.12	0.0036	5.1	22	0.0026	0.013	0.0034	0.000013	18	0.00027	0.00015	0.00073	0.036	0.000050	1.5
	October	0.11	0.11	0.0034	4.8	21	0.0024	0.012	0.0034	0.000012	17	0.00025	0.00014	0.00069	0.034	0.000048	1.4
	November	0.10	0.11	0.0033	4.7	21	0.0024	0.012	0.0034	0.000012	17	0.00025	0.00014	0.00067	0.033	0.000047	1.4
	December	0.10	0.11	0.0033	4.7	21	0.0024	0.012	0.0034	0.000012	17	0.00024	0.00014	0.00067	0.033	0.000047	1.3

**BJ U/S 100 Dry Year**

		D-Ma	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Ag	D-Na	D-Tl	D-Zn	T-Al	T-As	T-Cd	T-Ca
BJ U/S Construction	January	0.0019	0.000013	0.00077	0.00030	0.32	0.00034	0.0000056	1.7	0.000013	0.0015	0.018	0.0033	0.0000052	15
	February	0.0020	0.000013	0.00079	0.00030	0.34	0.00034	0.0000057	1.8	0.000014	0.0015	0.019	0.0035	0.0000054	15
	March	0.0022	0.000014	0.00080	0.00031	0.36	0.00035	0.0000058	1.9	0.000014	0.0015	0.019	0.0036	0.0000055	15
	April	0.0023	0.000014	0.00082	0.00031	0.38	0.00036	0.0000058	2.0	0.000014	0.0015	0.020	0.0037	0.0000057	16
	May	0.0024	0.000014	0.00083	0.00031	0.40	0.00036	0.0000059	2.0	0.000015	0.0015	0.020	0.0039	0.0000058	16
	June	0.0024	0.000014	0.00084	0.00031	0.41	0.00037	0.0000059	2.1	0.000015	0.0015	0.020	0.0039	0.0000058	16
	July	0.0024	0.000014	0.00083	0.00031	0.39	0.00036	0.0000059	2.0	0.000015	0.0015	0.020	0.0038	0.0000058	16
	August	0.0023	0.000013	0.00083	0.00031	0.39	0.00036	0.0000059	2.0	0.000014	0.0015	0.020	0.0038	0.0000059	16
	September	0.0024	0.000013	0.00084	0.00031	0.40	0.00037	0.0000059	2.1	0.000015	0.0015	0.020	0.0038	0.0000059	16
	October	0.0025	0.000013	0.00085	0.00031	0.41	0.00037	0.0000060	2.1	0.000015	0.0015	0.020	0.0039	0.0000060	16
	November	0.0026	0.000013	0.00086	0.00031	0.42	0.00037	0.0000060	2.1	0.000015	0.0015	0.021	0.0040	0.0000061	16
	December	0.0027	0.000014	0.00087	0.00031	0.44	0.00038	0.0000061	2.2	0.000016	0.0015	0.021	0.0041	0.0000062	16
BJ U/S Operations	January	0.082	0.000014	0.0051	0.00072	1.6	0.00063	0.000022	2.3	0.000021	0.0089	0.032	0.0056	0.000019	21
	February	0.087	0.000014	0.0052	0.00074	1.6	0.00064	0.000022	2.3	0.000022	0.0095	0.033	0.0057	0.000019	21
	March	0.090	0.000014	0.0054	0.00077	1.7	0.00066	0.000023	2.3	0.000022	0.010	0.034	0.0059	0.000020	22
	April	0.095	0.000014	0.0057	0.00079	1.8	0.00067	0.000024	2.3	0.000023	0.011	0.035	0.0060	0.000020	22
	May	0.098	0.000014	0.0058	0.00081	1.8	0.00068	0.000024	2.3	0.000023	0.011	0.035	0.0062	0.000021	22
	June	0.097	0.000013	0.0058	0.00080	1.8	0.00067	0.000024	2.3	0.000023	0.011	0.035	0.0061	0.000020	22
	July	0.087	0.000012	0.0052	0.00074	1.6	0.00063	0.000022	2.1	0.000021	0.010	0.033	0.0057	0.000019	21
	August	0.079	0.000011	0.0048	0.00071	1.5	0.00060	0.000021	2.0	0.000020	0.0100	0.031	0.0054	0.000018	21
	September	0.073	0.000010	0.0045	0.00067	1.4	0.00058	0.000019	1.9	0.000020	0.010	0.030	0.0051	0.000017	20
	October	0.071	0.000010	0.0045	0.00067	1.4	0.00058	0.000019	1.9	0.000019	0.011	0.030	0.0051	0.000017	20
	November	0.074	0.0000099	0.0046	0.00068	1.4	0.00059	0.000020	1.9	0.000020	0.011	0.031	0.0052	0.000017	20
	December	0.078	0.0000099	0.0048	0.00070	1.5	0.00061	0.000021	1.9	0.000021	0.012	0.032	0.0054	0.000018	21
BJ U/S Post-Closure	January	0.047	0.0000052	0.0024	0.00054	0.65	0.00040	0.0000091	1.7	0.000014	0.012	0.025	0.0042	0.000018	20
	February	0.046	0.0000052	0.0024	0.00054	0.65	0.00040	0.0000091	1.7	0.000014	0.012	0.025	0.0042	0.000018	20
	March	0.046	0.0000052	0.0024	0.00053	0.65	0.00040	0.0000091	1.7	0.000013	0.012	0.025	0.0042	0.000018	20
	April	0.046	0.0000052	0.0024	0.00053	0.65	0.00040	0.0000091	1.7	0.000013	0.012	0.025	0.0043	0.000018	20
	May	0.045	0.0000052	0.0024	0.00053	0.64	0.00040	0.0000090	1.7	0.000013	0.012	0.025	0.0043	0.000018	20
	June	0.042	0.0000052	0.0023	0.00052	0.61	0.00039	0.0000088	1.7	0.000013	0.011	0.024	0.0042	0.000017	20
	July	0.036	0.0000052	0.0020	0.00048	0.54	0.00037	0.0000082	1.5	0.000013	0.0097	0.023	0.0039	0.000015	19
	August	0.031	0.0000052	0.0018	0.00045	0.48	0.00036	0.0000077	1.5	0.000012	0.0085	0.021	0.0037	0.000014	19
	September	0.026	0.0000052	0.0017	0.00043	0.43	0.00035	0.0000073	1.4	0.000012	0.0074	0.020	0.0035	0.000013	18
	October	0.024	0.0000051	0.0016	0.00042	0.40	0.00034	0.0000071	1.4	0.000011	0.0069	0.020	0.0035	0.000012	18
	November	0.023	0.0000051	0.0016	0.00041	0.39	0.00034	0.0000070	1.4	0.000011	0.0067	0.020	0.0035	0.000012	18
	December	0.023	0.0000051	0.0016	0.00041	0.39	0.00034	0.0000070	1.3	0.000011	0.0066	0.020	0.0035	0.000012	18





**BJ U/S 100 Wet Year**

		D-Ma	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Ag	D-Na	D-Tl	D-Zn	T-Al	T-As	T-Cd	T-Ca
BJ U/S Construction	January	0.0019	0.000013	0.00077	0.00030	0.32	0.00034	0.0000056	1.7	0.000013	0.0015	0.018	0.0033	0.0000052	15
	February	0.0020	0.000013	0.00079	0.00030	0.34	0.00034	0.0000057	1.8	0.000013	0.0015	0.019	0.0034	0.0000054	15
	March	0.0021	0.000014	0.00080	0.00031	0.36	0.00035	0.0000058	1.9	0.000014	0.0015	0.019	0.0036	0.0000055	15
	April	0.0023	0.000014	0.00082	0.00031	0.38	0.00036	0.0000058	2.0	0.000014	0.0015	0.020	0.0037	0.0000056	16
	May	0.0024	0.000014	0.00083	0.00031	0.40	0.00036	0.0000059	2.0	0.000015	0.0015	0.020	0.0038	0.0000058	16
	June	0.0024	0.000014	0.00084	0.00031	0.41	0.00037	0.0000059	2.1	0.000015	0.0015	0.020	0.0039	0.0000058	16
	July	0.0023	0.000013	0.00082	0.00031	0.39	0.00036	0.0000059	2.0	0.000014	0.0015	0.020	0.0038	0.0000058	16
	August	0.0023	0.000013	0.00082	0.00031	0.37	0.00036	0.0000059	2.0	0.000014	0.0015	0.020	0.0037	0.0000058	16
	September	0.0022	0.000012	0.00081	0.00031	0.36	0.00035	0.0000058	1.9	0.000014	0.0015	0.019	0.0036	0.0000058	16
	October	0.0022	0.000011	0.00081	0.00031	0.35	0.00035	0.0000058	1.9	0.000014	0.0015	0.019	0.0035	0.0000058	16
	November	0.0023	0.000012	0.00082	0.00031	0.37	0.00036	0.0000059	2.0	0.000014	0.0015	0.019	0.0036	0.0000059	16
	December	0.0024	0.000012	0.00084	0.00031	0.39	0.00037	0.0000059	2.0	0.000014	0.0015	0.020	0.0037	0.0000060	16
BJ U/S Operations	January	0.082	0.000012	0.0051	0.00072	1.6	0.00063	0.000022	2.1	0.000021	0.0088	0.032	0.0056	0.000019	21
	February	0.087	0.000012	0.0052	0.00074	1.6	0.00064	0.000022	2.1	0.000022	0.0094	0.033	0.0057	0.000019	21
	March	0.090	0.000012	0.0054	0.00077	1.7	0.00065	0.000023	2.1	0.000022	0.0100	0.034	0.0059	0.000020	22
	April	0.095	0.000012	0.0057	0.00079	1.8	0.00067	0.000024	2.1	0.000023	0.010	0.035	0.0060	0.000020	22
	May	0.098	0.000012	0.0058	0.00081	1.8	0.00068	0.000024	2.1	0.000023	0.011	0.035	0.0062	0.000021	22
	June	0.097	0.000012	0.0058	0.00080	1.8	0.00067	0.000024	2.1	0.000023	0.011	0.035	0.0061	0.000020	22
	July	0.087	0.000011	0.0052	0.00074	1.6	0.00063	0.000022	2.0	0.000021	0.010	0.033	0.0057	0.000019	21
	August	0.079	0.000010	0.0048	0.00071	1.5	0.00060	0.000021	1.9	0.000020	0.0095	0.031	0.0054	0.000018	21
	September	0.073	0.0000094	0.0045	0.00067	1.4	0.00058	0.000019	1.8	0.000020	0.0090	0.030	0.0051	0.000017	20
	October	0.071	0.0000090	0.0045	0.00067	1.4	0.00058	0.000019	1.8	0.000019	0.0085	0.030	0.0051	0.000017	20
	November	0.074	0.0000089	0.0046	0.00068	1.4	0.00059	0.000020	1.8	0.000020	0.0091	0.031	0.0052	0.000017	20
	December	0.078	0.0000092	0.0048	0.00070	1.5	0.00061	0.000021	1.8	0.000021	0.0098	0.031	0.0054	0.000018	21
BJ U/S Pos-Closure	January	0.036	0.0000052	0.0020	0.00048	0.53	0.00038	0.0000082	1.6	0.000013	0.010	0.023	0.0038	0.000016	19
	February	0.036	0.0000052	0.0020	0.00048	0.53	0.00038	0.0000082	1.6	0.000013	0.010	0.023	0.0038	0.000016	19
	March	0.035	0.0000052	0.0020	0.00048	0.53	0.00038	0.0000082	1.6	0.000013	0.010	0.023	0.0038	0.000016	19
	April	0.035	0.0000052	0.0020	0.00048	0.53	0.00038	0.0000081	1.6	0.000013	0.010	0.023	0.0038	0.000016	19
	May	0.035	0.0000052	0.0020	0.00048	0.53	0.00038	0.0000081	1.6	0.000013	0.010	0.023	0.0039	0.000016	19
	June	0.033	0.0000052	0.0019	0.00047	0.51	0.00037	0.0000079	1.6	0.000012	0.0095	0.022	0.0038	0.000015	19
	July	0.028	0.0000052	0.0017	0.00044	0.45	0.00036	0.0000075	1.5	0.000012	0.0082	0.021	0.0036	0.000014	18
	August	0.024	0.0000051	0.0016	0.00042	0.40	0.00034	0.0000071	1.4	0.000011	0.0072	0.020	0.0034	0.000012	18
	September	0.020	0.0000051	0.0015	0.00040	0.36	0.00033	0.0000068	1.3	0.000011	0.0064	0.019	0.0033	0.000011	18
	October	0.019	0.0000051	0.0014	0.00039	0.34	0.00033	0.0000066	1.3	0.000011	0.0059	0.019	0.0033	0.000011	17
	November	0.018	0.0000051	0.0014	0.00038	0.34	0.00033	0.0000066	1.3	0.000011	0.0058	0.019	0.0033	0.000011	17
	December	0.018	0.0000051	0.0014	0.00038	0.34	0.00033	0.0000066	1.3	0.000011	0.0057	0.019	0.0033	0.000010	17



**BJ U/S 100 Wet Year**

		T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Mg	T-Ma	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Ag	T-Na	T-Tl	T-Zn
BJ U/S Construction	January	0.000066	0.000056	0.00028	0.017	0.000028	0.51	0.0031	0.000013	0.00078	0.00026	0.31	0.00033	0.0000055	1.7	0.000013	0.0015
	February	0.000067	0.000057	0.00028	0.017	0.000029	0.52	0.0032	0.000013	0.00080	0.00026	0.34	0.00033	0.0000056	1.8	0.000013	0.0015
	March	0.000067	0.000057	0.00028	0.017	0.000029	0.53	0.0033	0.000014	0.00081	0.00026	0.36	0.00034	0.0000056	1.9	0.000014	0.0015
	April	0.000068	0.000058	0.00028	0.017	0.000030	0.54	0.0035	0.000014	0.00083	0.00027	0.38	0.00035	0.0000057	2.0	0.000014	0.0015
	May	0.000069	0.000059	0.00029	0.017	0.000030	0.55	0.0036	0.000014	0.00084	0.00027	0.40	0.00035	0.0000058	2.0	0.000014	0.0015
	June	0.000069	0.000059	0.00029	0.017	0.000030	0.55	0.0036	0.000014	0.00085	0.00027	0.41	0.00036	0.0000058	2.1	0.000015	0.0015
	July	0.000069	0.000058	0.00029	0.017	0.000030	0.54	0.0035	0.000013	0.00083	0.00027	0.39	0.00035	0.0000057	2.0	0.000014	0.0015
	August	0.000068	0.000058	0.00028	0.017	0.000030	0.54	0.0035	0.000013	0.00083	0.00027	0.37	0.00035	0.0000057	2.0	0.000014	0.0015
	September	0.000068	0.000058	0.00028	0.017	0.000029	0.53	0.0034	0.000012	0.00082	0.00027	0.36	0.00034	0.0000056	1.9	0.000014	0.0015
	October	0.000067	0.000057	0.00028	0.017	0.000029	0.52	0.0033	0.000011	0.00081	0.00027	0.35	0.00034	0.0000056	1.9	0.000013	0.0015
	November	0.000068	0.000058	0.00028	0.017	0.000030	0.53	0.0035	0.000012	0.00083	0.00027	0.36	0.00035	0.0000057	2.0	0.000014	0.0015
	December	0.000069	0.000059	0.00029	0.017	0.000030	0.54	0.0036	0.000012	0.00084	0.00027	0.38	0.00035	0.0000057	2.0	0.000014	0.0015
BJ U/S Operations	January	0.00075	0.00040	0.0010	0.087	0.000076	2.4	0.084	0.000012	0.0051	0.00069	1.6	0.00062	0.000022	2.1	0.000021	0.0088
	February	0.00078	0.00042	0.0011	0.091	0.000079	2.5	0.088	0.000012	0.0052	0.00071	1.6	0.00064	0.000022	2.1	0.000021	0.0094
	March	0.00080	0.00043	0.0011	0.094	0.000080	2.6	0.092	0.000012	0.0055	0.00073	1.7	0.00065	0.000023	2.1	0.000022	0.0100
	April	0.00083	0.00045	0.0011	0.098	0.000082	2.7	0.096	0.000012	0.0057	0.00075	1.8	0.00066	0.000024	2.1	0.000022	0.010
	May	0.00085	0.00046	0.0012	0.10	0.000084	2.7	0.100	0.000012	0.0059	0.00077	1.8	0.00068	0.000024	2.1	0.000023	0.011
	June	0.00084	0.00046	0.0011	0.10	0.000084	2.7	0.099	0.000012	0.0058	0.00076	1.8	0.00067	0.000024	2.1	0.000023	0.011
	July	0.00076	0.00041	0.0010	0.091	0.000077	2.5	0.088	0.000011	0.0052	0.00071	1.6	0.00063	0.000022	2.0	0.000021	0.010
	August	0.00071	0.00038	0.00098	0.084	0.000073	2.3	0.080	0.000010	0.0048	0.00067	1.5	0.00060	0.000021	1.9	0.000020	0.0095
	September	0.00066	0.00035	0.00093	0.079	0.000070	2.1	0.074	0.0000094	0.0045	0.00064	1.4	0.00058	0.000019	1.8	0.000019	0.0090
	October	0.00066	0.00035	0.00092	0.078	0.000069	2.1	0.073	0.0000090	0.0045	0.00063	1.4	0.00058	0.000019	1.8	0.000019	0.0085
	November	0.00068	0.00036	0.00095	0.080	0.000071	2.2	0.075	0.0000089	0.0046	0.00064	1.4	0.00059	0.000020	1.8	0.000020	0.0091
	December	0.00072	0.00038	0.00099	0.083	0.000074	2.3	0.079	0.0000091	0.0048	0.00066	1.5	0.00061	0.000021	1.8	0.000020	0.0098
BJ U/S Pos-Closure	January	0.00037	0.00019	0.00097	0.047	0.000060	2.0	0.037	0.0000052	0.0020	0.00044	0.53	0.00038	0.0000082	1.6	0.000012	0.010
	February	0.00036	0.00019	0.00097	0.046	0.000060	1.9	0.037	0.0000052	0.0020	0.00044	0.53	0.00038	0.0000082	1.6	0.000012	0.010
	March	0.00036	0.00018	0.00096	0.046	0.000060	1.9	0.037	0.0000052	0.0020	0.00044	0.53	0.00037	0.0000082	1.6	0.000012	0.010
	April	0.00036	0.00018	0.00096	0.046	0.000060	1.9	0.036	0.0000052	0.0020	0.00044	0.53	0.00037	0.0000082	1.6	0.000012	0.010
	May	0.00036	0.00018	0.00095	0.046	0.000059	1.9	0.036	0.0000052	0.0020	0.00044	0.53	0.00037	0.0000082	1.6	0.000012	0.010
	June	0.00034	0.00017	0.00091	0.044	0.000058	1.8	0.034	0.0000052	0.0019	0.00043	0.51	0.00037	0.0000080	1.6	0.000012	0.0095
	July	0.00029	0.00015	0.00080	0.040	0.000053	1.6	0.029	0.0000052	0.0017	0.00040	0.45	0.00035	0.0000075	1.5	0.000012	0.0082
	August	0.00026	0.00014	0.00073	0.037	0.000049	1.4	0.025	0.0000052	0.0016	0.00038	0.40	0.00034	0.0000072	1.4	0.000011	0.0072
	September	0.00023	0.00013	0.00066	0.034	0.000046	1.3	0.022	0.0000051	0.0015	0.00036	0.36	0.00033	0.0000069	1.3	0.000011	0.0064
	October	0.00021	0.00012	0.00062	0.032	0.000044	1.2	0.020	0.0000051	0.0014	0.00035	0.34	0.00032	0.0000067	1.3	0.000011	0.0059
	November	0.00021	0.00012	0.00061	0.032	0.000044	1.2	0.019	0.0000051	0.0014	0.00034	0.34	0.00032	0.0000066	1.3	0.000011	0.0058
	December	0.00021	0.00012	0.00060	0.032	0.000044	1.2	0.019	0.0000051	0.0014	0.00034	0.34	0.00032	0.0000066	1.3	0.000011	0.0057

**BJ U/S High K**

		NH <sub>3</sub>	NO <sub>3</sub>	NO <sub>2</sub>	Cl	SO <sub>4</sub>	P	D-Al	D-As	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Mg
BJ U/S Construction	January	0.0024	0.088	0.0016	2.0	16	0.0011	0.011	0.0033	0.0000054	15	0.000059	0.000057	0.00028	0.014	0.000030	0.50
	February	0.0024	0.088	0.0016	2.0	16	0.0011	0.012	0.0034	0.0000056	15	0.000060	0.000057	0.00028	0.014	0.000030	0.51
	March	0.0024	0.088	0.0016	2.0	16	0.0011	0.012	0.0036	0.0000057	15	0.000061	0.000058	0.00029	0.014	0.000031	0.52
	April	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0037	0.0000058	15	0.000062	0.000059	0.00029	0.014	0.000031	0.53
	May	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0038	0.0000059	15	0.000063	0.000060	0.00029	0.014	0.000032	0.54
	June	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0039	0.0000060	15	0.000063	0.000060	0.00029	0.014	0.000032	0.54
	July	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0038	0.0000060	15	0.000063	0.000059	0.00029	0.015	0.000032	0.53
	August	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0037	0.0000060	15	0.000063	0.000059	0.00029	0.015	0.000032	0.53
	September	0.0024	0.089	0.0016	2.0	16	0.0011	0.012	0.0037	0.0000061	15	0.000063	0.000059	0.00029	0.015	0.000032	0.53
	October	0.0024	0.089	0.0016	2.0	16	0.0011	0.012	0.0037	0.0000061	15	0.000063	0.000059	0.00029	0.015	0.000032	0.53
	November	0.0024	0.089	0.0016	2.0	16	0.0011	0.013	0.0038	0.0000062	15	0.000064	0.000060	0.00030	0.015	0.000033	0.54
	December	0.0024	0.089	0.0016	2.0	16	0.0011	0.013	0.0039	0.0000064	15	0.000065	0.000060	0.00030	0.015	0.000033	0.55
BJ U/S Operations	January	0.42	0.69	0.0096	18	50	0.0060	0.038	0.0071	0.000040	30	0.0013	0.00051	0.0019	0.091	0.00012	6.1
	February	0.44	0.71	0.0100	19	52	0.0062	0.040	0.0073	0.000041	30	0.0013	0.00053	0.0020	0.096	0.00013	6.4
	March	0.46	0.73	0.010	19	53	0.0064	0.041	0.0075	0.000043	31	0.0014	0.00055	0.0021	0.100	0.00013	6.7
	April	0.48	0.76	0.011	20	54	0.0067	0.043	0.0077	0.000044	32	0.0015	0.00058	0.0022	0.10	0.00013	6.9
	May	0.49	0.78	0.011	20	56	0.0069	0.044	0.0079	0.000046	32	0.0015	0.00060	0.0023	0.11	0.00014	7.1
	June	0.48	0.77	0.011	20	55	0.0068	0.044	0.0078	0.000045	32	0.0015	0.00059	0.0023	0.11	0.00013	7.0
	July	0.44	0.70	0.0097	18	51	0.0062	0.040	0.0072	0.000040	30	0.0013	0.00053	0.0021	0.096	0.00012	6.3
	August	0.40	0.65	0.0090	17	48	0.0057	0.037	0.0068	0.000038	29	0.0012	0.00049	0.0020	0.088	0.00011	5.8
	September	0.37	0.61	0.0085	16	45	0.0054	0.034	0.0064	0.000035	28	0.0011	0.00045	0.0019	0.082	0.00011	5.4
	October	0.37	0.61	0.0084	16	45	0.0053	0.034	0.0064	0.000035	27	0.0011	0.00044	0.0019	0.081	0.00011	5.3
	November	0.38	0.63	0.0087	16	46	0.0055	0.035	0.0065	0.000036	28	0.0011	0.00046	0.0020	0.083	0.00011	5.6
	December	0.40	0.66	0.0092	17	48	0.0057	0.036	0.0068	0.000038	29	0.0012	0.00048	0.0022	0.087	0.00012	5.9
BJ U/S Post-Closure	January	0.20	0.17	0.0084	17	48	0.0039	0.023	0.0055	0.000039	28	0.00051	0.00030	0.0023	0.068	0.00012	5.8
	February	0.20	0.17	0.0083	17	47	0.0039	0.023	0.0055	0.000039	28	0.00051	0.00030	0.0023	0.068	0.00012	5.7
	March	0.20	0.17	0.0083	17	47	0.0039	0.023	0.0055	0.000038	28	0.00050	0.00030	0.0023	0.067	0.00012	5.7
	April	0.20	0.16	0.0082	17	47	0.0038	0.023	0.0055	0.000038	28	0.00050	0.00030	0.0022	0.067	0.00012	5.6
	May	0.20	0.16	0.0082	17	47	0.0038	0.023	0.0055	0.000038	27	0.00049	0.00029	0.0022	0.067	0.00011	5.6
	June	0.18	0.16	0.0078	16	45	0.0037	0.022	0.0053	0.000036	27	0.00047	0.00028	0.0021	0.063	0.00011	5.3
	July	0.15	0.15	0.0068	14	40	0.0032	0.019	0.0049	0.000031	25	0.00040	0.00024	0.0018	0.056	0.000095	4.5
	August	0.13	0.14	0.0060	12	36	0.0029	0.018	0.0045	0.000027	23	0.00035	0.00021	0.0016	0.050	0.000085	3.9
	September	0.11	0.13	0.0054	11	33	0.0027	0.016	0.0042	0.000024	22	0.00030	0.00019	0.0014	0.044	0.000077	3.4
	October	0.10	0.13	0.0050	9.8	32	0.0025	0.015	0.0041	0.000022	22	0.00028	0.00018	0.0013	0.042	0.000072	3.1
	November	0.099	0.13	0.0049	9.5	31	0.0025	0.015	0.0040	0.000022	21	0.00027	0.00017	0.0012	0.041	0.000070	3.0
	December	0.098	0.13	0.0048	9.4	31	0.0025	0.015	0.0041	0.000021	21	0.00027	0.00017	0.0012	0.040	0.000070	3.0

**BJ U/S High K**

		D-Ma	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Ag	D-Na	D-Tl	D-Zn	T-Al	T-As	T-Cd	T-Ca
BJ U/S Construction	January	0.0019	0.000013	0.00077	0.00030	0.32	0.00034	0.0000056	1.7	0.000013	0.0015	0.018	0.0033	0.0000052	15
	February	0.0020	0.000013	0.00079	0.00030	0.34	0.00034	0.0000057	1.8	0.000013	0.0015	0.019	0.0034	0.0000054	15
	March	0.0022	0.000014	0.00080	0.00031	0.36	0.00035	0.0000058	1.9	0.000014	0.0015	0.019	0.0036	0.0000055	15
	April	0.0023	0.000014	0.00082	0.00031	0.38	0.00036	0.0000058	2.0	0.000014	0.0015	0.020	0.0037	0.0000056	16
	May	0.0024	0.000014	0.00083	0.00031	0.40	0.00036	0.0000059	2.0	0.000015	0.0015	0.020	0.0039	0.0000058	16
	June	0.0024	0.000014	0.00084	0.00031	0.41	0.00037	0.0000059	2.1	0.000015	0.0015	0.020	0.0039	0.0000058	16
	July	0.0023	0.000014	0.00083	0.00031	0.39	0.00036	0.0000059	2.0	0.000015	0.0015	0.020	0.0038	0.0000058	16
	August	0.0023	0.000013	0.00082	0.00031	0.38	0.00036	0.0000059	2.0	0.000014	0.0015	0.020	0.0037	0.0000058	16
	September	0.0023	0.000012	0.00082	0.00031	0.37	0.00036	0.0000058	1.9	0.000014	0.0015	0.019	0.0036	0.0000058	16
	October	0.0023	0.000012	0.00082	0.00031	0.37	0.00036	0.0000059	2.0	0.000014	0.0015	0.019	0.0037	0.0000059	16
	November	0.0024	0.000012	0.00084	0.00031	0.39	0.00037	0.0000059	2.0	0.000014	0.0015	0.020	0.0038	0.0000060	16
	December	0.0025	0.000013	0.00085	0.00031	0.41	0.00037	0.0000060	2.1	0.000015	0.0015	0.020	0.0039	0.0000061	16
BJ U/S Operations	January	0.12	0.000013	0.0057	0.00091	1.9	0.00073	0.000023	2.5	0.000025	0.020	0.045	0.0072	0.000040	30
	February	0.12	0.000013	0.0059	0.00094	2.0	0.00075	0.000023	2.6	0.000026	0.022	0.047	0.0074	0.000041	31
	March	0.13	0.000013	0.0062	0.00097	2.1	0.00077	0.000024	2.7	0.000027	0.024	0.048	0.0076	0.000043	31
	April	0.13	0.000013	0.0064	0.0010	2.2	0.00079	0.000025	2.8	0.000028	0.026	0.050	0.0078	0.000044	32
	May	0.14	0.000013	0.0066	0.0010	2.2	0.00081	0.000025	2.8	0.000028	0.027	0.051	0.0080	0.000046	32
	June	0.14	0.000013	0.0066	0.0010	2.2	0.00080	0.000025	2.8	0.000028	0.027	0.051	0.0079	0.000045	32
	July	0.12	0.000012	0.0059	0.00094	2.0	0.00074	0.000023	2.6	0.000026	0.025	0.047	0.0073	0.000040	30
	August	0.11	0.000011	0.0055	0.00088	1.8	0.00070	0.000021	2.5	0.000024	0.024	0.044	0.0069	0.000038	29
	September	0.10	0.000010	0.0051	0.00084	1.7	0.00067	0.000020	2.4	0.000023	0.023	0.041	0.0065	0.000035	28
	October	0.100	0.0000097	0.0050	0.00083	1.7	0.00067	0.000020	2.4	0.000023	0.023	0.041	0.0065	0.000035	28
	November	0.10	0.0000096	0.0052	0.00085	1.7	0.00068	0.000021	2.5	0.000024	0.025	0.042	0.0066	0.000036	28
	December	0.11	0.0000098	0.0054	0.00088	1.8	0.00071	0.000022	2.6	0.000025	0.027	0.044	0.0069	0.000038	29
BJ U/S Post-Closure	January	0.071	0.0000061	0.0028	0.00076	0.97	0.00052	0.000010	2.7	0.000018	0.029	0.031	0.0056	0.000039	28
	February	0.070	0.0000061	0.0028	0.00076	0.97	0.00052	0.000010	2.7	0.000018	0.028	0.031	0.0056	0.000039	28
	March	0.070	0.0000061	0.0028	0.00076	0.96	0.00052	0.000010	2.7	0.000018	0.028	0.030	0.0056	0.000038	28
	April	0.070	0.0000061	0.0028	0.00075	0.96	0.00052	0.000010	2.7	0.000018	0.028	0.030	0.0056	0.000038	28
	May	0.069	0.0000061	0.0028	0.00075	0.95	0.00052	0.0000100	2.7	0.000018	0.028	0.030	0.0056	0.000038	28
	June	0.065	0.0000060	0.0027	0.00072	0.91	0.00050	0.0000097	2.6	0.000017	0.026	0.029	0.0055	0.000036	27
	July	0.054	0.0000058	0.0023	0.00065	0.78	0.00046	0.0000089	2.3	0.000016	0.022	0.027	0.0050	0.000031	25
	August	0.046	0.0000057	0.0021	0.00060	0.68	0.00044	0.0000084	2.1	0.000015	0.019	0.025	0.0046	0.000027	24
	September	0.040	0.0000056	0.0019	0.00055	0.60	0.00041	0.0000079	2.0	0.000014	0.017	0.024	0.0043	0.000024	23
	October	0.036	0.0000056	0.0018	0.00053	0.56	0.00040	0.0000076	1.9	0.000014	0.015	0.023	0.0042	0.000022	22
	November	0.035	0.0000056	0.0018	0.00052	0.55	0.00039	0.0000075	1.8	0.000013	0.015	0.022	0.0042	0.000022	22
	December	0.034	0.0000055	0.0018	0.00052	0.55	0.00039	0.0000075	1.8	0.000013	0.014	0.022	0.0042	0.000021	22

**BJ U/S High K**

		T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Mg	T-Ma	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Ag	T-Na	T-Tl	T-Zn
BJ U/S Construction	January	0.000066	0.000056	0.00028	0.017	0.000028	0.51	0.0031	0.000013	0.00078	0.00026	0.32	0.00033	0.0000055	1.7	0.000013	0.0015
	February	0.000067	0.000057	0.00028	0.017	0.000029	0.52	0.0032	0.000013	0.00080	0.00026	0.34	0.00033	0.0000056	1.8	0.000013	0.0015
	March	0.000067	0.000058	0.00028	0.017	0.000029	0.53	0.0034	0.000014	0.00081	0.00026	0.36	0.00034	0.0000056	1.9	0.000014	0.0015
	April	0.000068	0.000058	0.00028	0.017	0.000030	0.54	0.0035	0.000014	0.00083	0.00027	0.38	0.00035	0.0000057	2.0	0.000014	0.0015
	May	0.000069	0.000059	0.00029	0.017	0.000030	0.55	0.0036	0.000014	0.00084	0.00027	0.40	0.00036	0.0000058	2.0	0.000014	0.0015
	June	0.000070	0.000059	0.00029	0.017	0.000030	0.55	0.0036	0.000014	0.00085	0.00027	0.41	0.00036	0.0000058	2.1	0.000015	0.0015
	July	0.000069	0.000059	0.00029	0.017	0.000030	0.54	0.0035	0.000013	0.00084	0.00027	0.39	0.00035	0.0000057	2.0	0.000014	0.0015
	August	0.000068	0.000058	0.00028	0.017	0.000030	0.54	0.0035	0.000013	0.00083	0.00027	0.38	0.00035	0.0000057	2.0	0.000014	0.0015
	September	0.000068	0.000058	0.00028	0.017	0.000030	0.53	0.0034	0.000012	0.00083	0.00027	0.37	0.00035	0.0000057	1.9	0.000014	0.0015
	October	0.000068	0.000058	0.00028	0.017	0.000030	0.54	0.0035	0.000012	0.00083	0.00027	0.37	0.00035	0.0000057	2.0	0.000014	0.0015
	November	0.000069	0.000059	0.00029	0.017	0.000030	0.55	0.0036	0.000012	0.00084	0.00027	0.39	0.00035	0.0000057	2.0	0.000014	0.0015
	December	0.000070	0.000059	0.00029	0.017	0.000030	0.55	0.0037	0.000013	0.00086	0.00027	0.41	0.00036	0.0000058	2.1	0.000015	0.0015
BJ U/S Operations	January	0.0013	0.00051	0.0019	0.094	0.00012	6.2	0.12	0.000013	0.0057	0.00088	1.9	0.00073	0.000023	2.5	0.000025	0.020
	February	0.0013	0.00053	0.0020	0.098	0.00013	6.4	0.12	0.000013	0.0059	0.00091	2.0	0.00075	0.000023	2.6	0.000026	0.022
	March	0.0014	0.00055	0.0021	0.10	0.00013	6.7	0.13	0.000013	0.0062	0.00094	2.1	0.00077	0.000024	2.7	0.000027	0.024
	April	0.0015	0.00058	0.0022	0.11	0.00013	6.9	0.13	0.000013	0.0064	0.00097	2.2	0.00079	0.000025	2.8	0.000027	0.026
	May	0.0015	0.00060	0.0023	0.11	0.00014	7.1	0.14	0.000013	0.0066	0.00099	2.2	0.00080	0.000025	2.8	0.000028	0.027
	June	0.0015	0.00059	0.0023	0.11	0.00013	7.0	0.14	0.000013	0.0066	0.00098	2.2	0.00080	0.000025	2.8	0.000028	0.027
	July	0.0013	0.00053	0.0021	0.098	0.00012	6.3	0.12	0.000012	0.0059	0.00090	2.0	0.00074	0.000023	2.6	0.000026	0.025
	August	0.0012	0.00049	0.0020	0.091	0.00011	5.8	0.11	0.000011	0.0055	0.00084	1.8	0.00070	0.000021	2.5	0.000024	0.024
	September	0.0011	0.00045	0.0019	0.085	0.00011	5.4	0.10	0.000010	0.0051	0.00080	1.7	0.00067	0.000020	2.4	0.000023	0.023
	October	0.0011	0.00044	0.0019	0.084	0.00011	5.3	0.10	0.0000097	0.0050	0.00079	1.7	0.00066	0.000020	2.4	0.000023	0.023
	November	0.0011	0.00046	0.0020	0.086	0.00011	5.6	0.10	0.0000096	0.0052	0.00081	1.7	0.00068	0.000021	2.5	0.000024	0.025
	December	0.0012	0.00048	0.0022	0.090	0.00012	5.9	0.11	0.0000098	0.0054	0.00084	1.8	0.00070	0.000022	2.6	0.000024	0.027
BJ U/S Post-Closure	January	0.00052	0.00030	0.0023	0.071	0.00012	5.8	0.072	0.0000061	0.0028	0.00072	0.97	0.00052	0.000010	2.7	0.000018	0.029
	February	0.00051	0.00030	0.0023	0.071	0.00012	5.7	0.072	0.0000061	0.0028	0.00072	0.97	0.00052	0.000010	2.7	0.000018	0.028
	March	0.00051	0.00030	0.0023	0.071	0.00012	5.7	0.071	0.0000061	0.0028	0.00072	0.96	0.00052	0.000010	2.7	0.000018	0.028
	April	0.00051	0.00030	0.0022	0.070	0.00012	5.7	0.071	0.0000061	0.0028	0.00072	0.96	0.00051	0.000010	2.7	0.000018	0.028
	May	0.00050	0.00029	0.0022	0.070	0.00011	5.6	0.070	0.0000061	0.0028	0.00071	0.95	0.00051	0.000010	2.7	0.000017	0.028
	June	0.00048	0.00028	0.0021	0.067	0.00011	5.3	0.066	0.0000060	0.0027	0.00068	0.91	0.00050	0.0000097	2.6	0.000017	0.026
	July	0.00041	0.00024	0.0018	0.059	0.000096	4.5	0.056	0.0000058	0.0024	0.00061	0.78	0.00046	0.0000090	2.3	0.000016	0.022
	August	0.00036	0.00021	0.0016	0.053	0.000086	3.9	0.048	0.0000057	0.0021	0.00056	0.68	0.00043	0.0000084	2.1	0.000015	0.019
	September	0.00031	0.00019	0.0014	0.048	0.000078	3.4	0.041	0.0000056	0.0019	0.00051	0.60	0.00041	0.0000079	2.0	0.000014	0.017
	October	0.00029	0.00018	0.0013	0.045	0.000073	3.1	0.037	0.0000056	0.0018	0.00049	0.56	0.00040	0.0000077	1.9	0.000013	0.015
	November	0.00028	0.00017	0.0012	0.044	0.000072	3.0	0.036	0.0000056	0.0018	0.00048	0.55	0.00039	0.0000076	1.8	0.000013	0.015
	December	0.00028	0.00017	0.0012	0.044	0.000071	3.0	0.036	0.0000056	0.0018	0.00048	0.55	0.00039	0.0000076	1.8	0.000013	0.014

**BJ U/S Low K**

		NH <sub>3</sub>	NO <sub>3</sub>	NO <sub>2</sub>	Cl	SO <sub>4</sub>	P	D-Al	D-As	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Mg
BJ U/S Construction	January	0.0024	0.088	0.0016	2.0	16	0.0011	0.011	0.0033	0.0000054	15	0.000059	0.000057	0.00028	0.014	0.000030	0.50
	February	0.0024	0.088	0.0016	2.0	16	0.0011	0.012	0.0034	0.0000056	15	0.000060	0.000057	0.00028	0.014	0.000030	0.51
	March	0.0024	0.088	0.0016	2.0	16	0.0011	0.012	0.0036	0.0000057	15	0.000061	0.000058	0.00029	0.014	0.000031	0.52
	April	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0037	0.0000058	15	0.000062	0.000059	0.00029	0.014	0.000031	0.53
	May	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0038	0.0000059	15	0.000063	0.000060	0.00029	0.014	0.000032	0.54
	June	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0039	0.0000060	15	0.000063	0.000060	0.00029	0.014	0.000032	0.54
	July	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0038	0.0000060	15	0.000063	0.000059	0.00029	0.015	0.000032	0.53
	August	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0037	0.0000060	15	0.000063	0.000059	0.00029	0.015	0.000032	0.53
	September	0.0024	0.089	0.0016	2.0	16	0.0011	0.012	0.0037	0.0000061	15	0.000063	0.000059	0.00029	0.015	0.000032	0.53
	October	0.0024	0.089	0.0016	2.0	16	0.0011	0.012	0.0037	0.0000061	15	0.000063	0.000059	0.00029	0.015	0.000032	0.53
	November	0.0024	0.089	0.0016	2.0	16	0.0011	0.013	0.0038	0.0000062	15	0.000064	0.000060	0.00030	0.015	0.000033	0.54
	December	0.0024	0.089	0.0016	2.0	16	0.0011	0.013	0.0039	0.0000064	15	0.000065	0.000060	0.00030	0.015	0.000033	0.55
BJ U/S Operations	January	0.21	0.20	0.0042	4.5	25	0.0056	0.021	0.0053	0.000014	19	0.00055	0.00034	0.00078	0.076	0.000063	1.6
	February	0.22	0.21	0.0043	4.6	26	0.0058	0.021	0.0054	0.000015	19	0.00058	0.00036	0.00080	0.079	0.000065	1.6
	March	0.23	0.21	0.0044	4.7	26	0.0060	0.022	0.0055	0.000015	19	0.00060	0.00037	0.00082	0.082	0.000066	1.7
	April	0.25	0.22	0.0045	4.9	27	0.0062	0.023	0.0056	0.000016	20	0.00063	0.00039	0.00085	0.085	0.000067	1.8
	May	0.25	0.22	0.0046	5.0	28	0.0063	0.023	0.0057	0.000016	20	0.00065	0.00040	0.00086	0.087	0.000069	1.8
	June	0.25	0.22	0.0046	4.9	27	0.0063	0.023	0.0057	0.000016	20	0.00064	0.00040	0.00085	0.086	0.000068	1.8
	July	0.22	0.21	0.0043	4.6	26	0.0057	0.021	0.0053	0.000015	19	0.00058	0.00036	0.00080	0.079	0.000064	1.7
	August	0.21	0.20	0.0041	4.4	25	0.0053	0.020	0.0050	0.000014	19	0.00054	0.00033	0.00076	0.073	0.000061	1.6
	September	0.19	0.19	0.0039	4.2	24	0.0050	0.019	0.0048	0.000013	18	0.00050	0.00031	0.00073	0.069	0.000058	1.5
	October	0.19	0.19	0.0039	4.2	24	0.0050	0.019	0.0048	0.000013	18	0.00050	0.00031	0.00073	0.068	0.000058	1.5
	November	0.19	0.19	0.0039	4.3	25	0.0051	0.020	0.0049	0.000014	18	0.00051	0.00032	0.00074	0.070	0.000059	1.5
	December	0.20	0.20	0.0041	4.4	25	0.0054	0.020	0.0051	0.000014	19	0.00053	0.00033	0.00076	0.073	0.000061	1.5
BJ U/S Post-Closure	January	0.18	0.12	0.0038	4.2	21	0.0032	0.013	0.0034	0.000012	17	0.00029	0.00018	0.00069	0.041	0.000049	1.2
	February	0.18	0.12	0.0038	4.1	21	0.0032	0.013	0.0035	0.000011	17	0.00029	0.00017	0.00069	0.041	0.000049	1.2
	March	0.18	0.12	0.0037	4.1	21	0.0032	0.013	0.0035	0.000011	17	0.00029	0.00017	0.00069	0.041	0.000049	1.2
	April	0.18	0.12	0.0037	4.1	21	0.0032	0.013	0.0035	0.000011	17	0.00029	0.00017	0.00068	0.040	0.000049	1.2
	May	0.18	0.12	0.0037	4.1	21	0.0032	0.013	0.0035	0.000011	17	0.00029	0.00017	0.00068	0.040	0.000048	1.2
	June	0.17	0.12	0.0036	4.0	20	0.0030	0.012	0.0035	0.000011	17	0.00027	0.00016	0.00065	0.039	0.000047	1.2
	July	0.14	0.11	0.0033	3.7	19	0.0027	0.012	0.0033	0.000010	17	0.00024	0.00015	0.00059	0.035	0.000044	1.0
	August	0.12	0.11	0.0030	3.5	19	0.0025	0.011	0.0032	0.0000094	16	0.00021	0.00013	0.00054	0.032	0.000041	0.94
	September	0.10	0.11	0.0028	3.3	18	0.0023	0.010	0.0031	0.0000088	16	0.00019	0.00012	0.00050	0.029	0.000039	0.86
	October	0.093	0.11	0.0027	3.2	18	0.0022	0.0099	0.0030	0.0000084	16	0.00017	0.00011	0.00048	0.028	0.000038	0.82
	November	0.089	0.11	0.0027	3.1	18	0.0022	0.0098	0.0030	0.0000083	16	0.00017	0.00011	0.00047	0.028	0.000038	0.81
	December	0.088	0.11	0.0027	3.1	18	0.0021	0.0098	0.0031	0.0000083	16	0.00017	0.00011	0.00047	0.027	0.000038	0.81

**BJ U/S Low K**

		D-Ma	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Ag	D-Na	D-Tl	D-Zn	T-Al	T-As	T-Cd	T-Ca
BJ U/S Construction	January	0.0019	0.000013	0.00077	0.00030	0.32	0.00034	0.0000056	1.7	0.000013	0.0015	0.018	0.0033	0.0000052	15
	February	0.0020	0.000013	0.00079	0.00030	0.34	0.00034	0.0000057	1.8	0.000013	0.0015	0.019	0.0034	0.0000054	15
	March	0.0022	0.000014	0.00080	0.00031	0.36	0.00035	0.0000058	1.9	0.000014	0.0015	0.019	0.0036	0.0000055	15
	April	0.0023	0.000014	0.00082	0.00031	0.38	0.00036	0.0000058	2.0	0.000014	0.0015	0.020	0.0037	0.0000056	16
	May	0.0024	0.000014	0.00083	0.00031	0.40	0.00036	0.0000059	2.0	0.000015	0.0015	0.020	0.0039	0.0000058	16
	June	0.0024	0.000014	0.00084	0.00031	0.41	0.00037	0.0000059	2.1	0.000015	0.0015	0.020	0.0039	0.0000058	16
	July	0.0023	0.000014	0.00083	0.00031	0.39	0.00036	0.0000059	2.0	0.000015	0.0015	0.020	0.0038	0.0000058	16
	August	0.0023	0.000013	0.00082	0.00031	0.38	0.00036	0.0000059	2.0	0.000014	0.0015	0.020	0.0037	0.0000058	16
	September	0.0023	0.000012	0.00082	0.00031	0.37	0.00036	0.0000058	1.9	0.000014	0.0015	0.019	0.0036	0.0000058	16
	October	0.0023	0.000012	0.00082	0.00031	0.37	0.00036	0.0000059	2.0	0.000014	0.0015	0.019	0.0037	0.0000059	16
	November	0.0024	0.000012	0.00084	0.00031	0.39	0.00037	0.0000059	2.0	0.000014	0.0015	0.020	0.0038	0.0000060	16
	December	0.0025	0.000013	0.00085	0.00031	0.41	0.00037	0.0000060	2.1	0.000015	0.0015	0.020	0.0039	0.0000061	16
BJ U/S Operations	January	0.069	0.000013	0.0049	0.00068	1.6	0.00062	0.0000022	2.2	0.000021	0.0058	0.028	0.0054	0.0000014	19
	February	0.073	0.000013	0.0051	0.00070	1.6	0.00064	0.0000023	2.2	0.000021	0.0061	0.029	0.0055	0.0000015	19
	March	0.075	0.000013	0.0053	0.00072	1.7	0.00065	0.0000023	2.2	0.000021	0.0063	0.029	0.0056	0.0000015	20
	April	0.079	0.000013	0.0055	0.00074	1.7	0.00066	0.0000024	2.2	0.000022	0.0065	0.030	0.0057	0.0000016	20
	May	0.082	0.000013	0.0056	0.00076	1.8	0.00067	0.0000024	2.2	0.000022	0.0067	0.030	0.0058	0.0000016	20
	June	0.081	0.000012	0.0055	0.00075	1.7	0.00066	0.0000024	2.1	0.000022	0.0067	0.030	0.0058	0.0000016	20
	July	0.072	0.000011	0.0050	0.00070	1.6	0.00063	0.0000022	2.0	0.000021	0.0062	0.028	0.0054	0.0000015	19
	August	0.066	0.000011	0.0047	0.00067	1.5	0.00060	0.0000021	1.9	0.000020	0.0058	0.027	0.0052	0.0000014	19
	September	0.061	0.0000099	0.0044	0.00064	1.4	0.00058	0.0000020	1.8	0.000019	0.0056	0.026	0.0049	0.0000013	19
	October	0.060	0.0000095	0.0043	0.00063	1.3	0.00057	0.0000019	1.8	0.000019	0.0056	0.026	0.0049	0.0000013	19
	November	0.062	0.0000094	0.0045	0.00064	1.4	0.00059	0.0000020	1.8	0.000019	0.0059	0.027	0.0050	0.0000014	19
	December	0.066	0.0000094	0.0047	0.00066	1.5	0.00061	0.0000021	1.8	0.000020	0.0062	0.027	0.0052	0.0000014	19
BJ U/S Post-Closure	January	0.032	0.0000051	0.0020	0.00044	0.49	0.00036	0.0000082	1.4	0.000012	0.0065	0.020	0.0035	0.0000012	17
	February	0.031	0.0000051	0.0020	0.00044	0.49	0.00036	0.0000082	1.4	0.000012	0.0064	0.020	0.0036	0.0000011	17
	March	0.031	0.0000051	0.0020	0.00044	0.48	0.00036	0.0000081	1.4	0.000012	0.0064	0.020	0.0036	0.0000011	17
	April	0.031	0.0000051	0.0020	0.00044	0.49	0.00036	0.0000081	1.4	0.000012	0.0064	0.020	0.0036	0.0000011	17
	May	0.031	0.0000051	0.0020	0.00043	0.48	0.00035	0.0000081	1.4	0.000012	0.0063	0.020	0.0036	0.0000011	17
	June	0.029	0.0000051	0.0019	0.00043	0.46	0.00035	0.0000079	1.3	0.000012	0.0060	0.020	0.0036	0.0000011	17
	July	0.024	0.0000051	0.0017	0.00040	0.41	0.00034	0.0000075	1.3	0.000011	0.0053	0.019	0.0034	0.0000010	17
	August	0.021	0.0000051	0.0016	0.00039	0.37	0.00033	0.0000071	1.3	0.000011	0.0047	0.018	0.0033	0.0000094	17
	September	0.018	0.0000051	0.0015	0.00037	0.34	0.00032	0.0000068	1.2	0.000011	0.0043	0.018	0.0032	0.0000088	17
	October	0.016	0.0000051	0.0014	0.00037	0.32	0.00032	0.0000066	1.2	0.000010	0.0040	0.018	0.0031	0.0000085	17
	November	0.016	0.0000051	0.0014	0.00036	0.32	0.00031	0.0000066	1.2	0.000010	0.0039	0.017	0.0032	0.0000084	17
	December	0.016	0.0000051	0.0014	0.00036	0.32	0.00031	0.0000066	1.2	0.000010	0.0039	0.017	0.0032	0.0000083	17

**BJ U/S Low K**

		<b>T-Cr</b>	<b>T-Co</b>	<b>T-Cu</b>	<b>T-Fe</b>	<b>T-Pb</b>	<b>T-Mg</b>	<b>T-Ma</b>	<b>T-Hg</b>	<b>T-Mo</b>	<b>T-Ni</b>	<b>T-K</b>	<b>T-Se</b>	<b>T-Ag</b>	<b>T-Na</b>	<b>T-Tl</b>	<b>T-Zn</b>
BJ U/S Construction	January	0.000066	0.000056	0.00028	0.017	0.000028	0.51	0.0031	0.000013	0.00078	0.00026	0.32	0.00033	0.0000055	1.7	0.000013	0.0015
	February	0.000067	0.000057	0.00028	0.017	0.000029	0.52	0.0032	0.000013	0.00080	0.00026	0.34	0.00033	0.0000056	1.8	0.000013	0.0015
	March	0.000067	0.000058	0.00028	0.017	0.000029	0.53	0.0034	0.000014	0.00081	0.00026	0.36	0.00034	0.0000056	1.9	0.000014	0.0015
	April	0.000068	0.000058	0.00028	0.017	0.000030	0.54	0.0035	0.000014	0.00083	0.00027	0.38	0.00035	0.0000057	2.0	0.000014	0.0015
	May	0.000069	0.000059	0.00029	0.017	0.000030	0.55	0.0036	0.000014	0.00084	0.00027	0.40	0.00036	0.0000058	2.0	0.000014	0.0015
	June	0.000070	0.000059	0.00029	0.017	0.000030	0.55	0.0036	0.000014	0.00085	0.00027	0.41	0.00036	0.0000058	2.1	0.000015	0.0015
	July	0.000069	0.000059	0.00029	0.017	0.000030	0.54	0.0035	0.000013	0.00084	0.00027	0.39	0.00035	0.0000057	2.0	0.000014	0.0015
	August	0.000068	0.000058	0.00028	0.017	0.000030	0.54	0.0035	0.000013	0.00083	0.00027	0.38	0.00035	0.0000057	2.0	0.000014	0.0015
	September	0.000068	0.000058	0.00028	0.017	0.000030	0.53	0.0034	0.000012	0.00083	0.00027	0.37	0.00035	0.0000057	1.9	0.000014	0.0015
	October	0.000068	0.000058	0.00028	0.017	0.000030	0.54	0.0035	0.000012	0.00083	0.00027	0.37	0.00035	0.0000057	2.0	0.000014	0.0015
	November	0.000069	0.000059	0.00029	0.017	0.000030	0.55	0.0036	0.000012	0.00084	0.00027	0.39	0.00035	0.0000057	2.0	0.000014	0.0015
	December	0.000070	0.000059	0.00029	0.017	0.000030	0.55	0.0037	0.000013	0.00086	0.00027	0.41	0.00036	0.0000058	2.1	0.000015	0.0015
BJ U/S Operations	January	0.00056	0.00034	0.00078	0.079	0.000063	1.6	0.070	0.000013	0.0050	0.00064	1.6	0.00062	0.000022	2.2	0.000020	0.0058
	February	0.00058	0.00036	0.00080	0.082	0.000065	1.7	0.074	0.000013	0.0051	0.00066	1.6	0.00063	0.000023	2.2	0.000021	0.0061
	March	0.00061	0.00037	0.00082	0.085	0.000066	1.7	0.076	0.000013	0.0053	0.00069	1.7	0.00064	0.000023	2.2	0.000021	0.0063
	April	0.00064	0.00039	0.00085	0.088	0.000068	1.8	0.080	0.000013	0.0055	0.00071	1.7	0.00066	0.000024	2.2	0.000022	0.0065
	May	0.00065	0.00040	0.00086	0.090	0.000069	1.9	0.083	0.000013	0.0056	0.00072	1.8	0.00067	0.000024	2.2	0.000022	0.0067
	June	0.00064	0.00040	0.00085	0.089	0.000069	1.8	0.082	0.000012	0.0055	0.00072	1.7	0.00066	0.000024	2.1	0.000022	0.0067
	July	0.00058	0.00036	0.00080	0.082	0.000064	1.7	0.074	0.000011	0.0050	0.00067	1.6	0.00062	0.000022	2.0	0.000021	0.0062
	August	0.00055	0.00033	0.00076	0.076	0.000061	1.6	0.067	0.000011	0.0047	0.00063	1.5	0.00060	0.000021	1.9	0.000020	0.0058
	September	0.00051	0.00031	0.00073	0.072	0.000059	1.5	0.062	0.0000099	0.0044	0.00060	1.4	0.00057	0.000020	1.8	0.000019	0.0056
	October	0.00051	0.00031	0.00073	0.071	0.000058	1.5	0.061	0.0000095	0.0044	0.00059	1.3	0.00057	0.000020	1.8	0.000019	0.0056
	November	0.00052	0.00032	0.00074	0.073	0.000060	1.5	0.063	0.0000094	0.0045	0.00060	1.4	0.00058	0.000020	1.8	0.000019	0.0059
	December	0.00054	0.00033	0.00076	0.076	0.000061	1.5	0.067	0.0000094	0.0047	0.00062	1.5	0.00060	0.000021	1.8	0.000020	0.0062
BJ U/S Post-Closure	January	0.00030	0.00018	0.00069	0.044	0.000049	1.2	0.033	0.0000051	0.0020	0.00040	0.49	0.00035	0.0000082	1.4	0.000012	0.0065
	February	0.00030	0.00017	0.00069	0.044	0.000049	1.2	0.032	0.0000051	0.0020	0.00040	0.48	0.00035	0.0000082	1.4	0.000012	0.0064
	March	0.00030	0.00017	0.00069	0.044	0.000049	1.2	0.032	0.0000051	0.0020	0.00040	0.48	0.00035	0.0000082	1.4	0.000012	0.0064
	April	0.00030	0.00017	0.00068	0.043	0.000049	1.2	0.032	0.0000051	0.0020	0.00040	0.48	0.00035	0.0000082	1.4	0.000012	0.0064
	May	0.00029	0.00017	0.00068	0.043	0.000049	1.2	0.032	0.0000051	0.0020	0.00040	0.48	0.00035	0.0000081	1.4	0.000011	0.0063
	June	0.00028	0.00016	0.00066	0.042	0.000048	1.2	0.030	0.0000051	0.0019	0.00039	0.46	0.00035	0.0000080	1.3	0.000011	0.0060
	July	0.00024	0.00015	0.00059	0.038	0.000045	1.0	0.025	0.0000051	0.0017	0.00036	0.41	0.00033	0.0000075	1.3	0.000011	0.0053
	August	0.00022	0.00013	0.00054	0.035	0.000042	0.95	0.022	0.0000051	0.0016	0.00035	0.37	0.00032	0.0000072	1.3	0.000011	0.0047
	September	0.00019	0.00012	0.00050	0.032	0.000040	0.87	0.019	0.0000051	0.0015	0.00033	0.34	0.00032	0.0000069	1.2	0.000010	0.0043
	October	0.00018	0.00011	0.00048	0.031	0.000039	0.83	0.018	0.0000051	0.0014	0.00033	0.32	0.00031	0.0000067	1.2	0.000010	0.0040
	November	0.00018	0.00011	0.00047	0.031	0.000039	0.82	0.017	0.0000051	0.0014	0.00032	0.32	0.00031	0.0000066	1.2	0.000010	0.0039
	December	0.00018	0.00011	0.00047	0.031	0.000039	0.82	0.017	0.0000051	0.0014	0.00032	0.32	0.00031	0.0000066	1.2	0.000010	0.0039

**BJ U/S Conservative Adit Concentration**

		NH <sub>3</sub>	NO <sub>3</sub>	NO <sub>2</sub>	Cl	SO <sub>4</sub>	P	D-Al	D-As	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Mg
BJ U/S Construction	January	0.0024	0.088	0.0016	2.0	16	0.0011	0.011	0.0032	0.0000054	15	0.000059	0.000057	0.00028	0.014	0.000030	0.50
	February	0.0024	0.088	0.0016	2.0	16	0.0011	0.011	0.0034	0.0000056	15	0.000060	0.000057	0.00028	0.014	0.000030	0.51
	March	0.0024	0.088	0.0016	2.0	16	0.0011	0.012	0.0035	0.0000057	15	0.000061	0.000058	0.00029	0.014	0.000031	0.52
	April	0.0024	0.088	0.0016	2.0	16	0.0011	0.012	0.0037	0.0000058	15	0.000062	0.000059	0.00029	0.014	0.000031	0.53
	May	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0038	0.0000059	15	0.000063	0.000060	0.00029	0.014	0.000032	0.54
	June	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0038	0.0000060	15	0.000063	0.000060	0.00029	0.014	0.000032	0.54
	July	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0037	0.0000060	15	0.000063	0.000059	0.00029	0.015	0.000032	0.53
	August	0.0024	0.088	0.0016	2.0	16	0.0011	0.012	0.0036	0.0000060	15	0.000063	0.000059	0.00029	0.015	0.000032	0.53
	September	0.0024	0.089	0.0016	2.0	16	0.0011	0.012	0.0036	0.0000061	15	0.000063	0.000059	0.00029	0.015	0.000032	0.53
	October	0.0024	0.089	0.0016	2.0	16	0.0011	0.012	0.0036	0.0000061	15	0.000063	0.000059	0.00029	0.015	0.000032	0.53
	November	0.0024	0.089	0.0016	2.0	16	0.0011	0.012	0.0037	0.0000062	15	0.000064	0.000060	0.00029	0.015	0.000032	0.54
	December	0.0024	0.089	0.0016	2.0	16	0.0011	0.013	0.0038	0.0000064	15	0.000065	0.000060	0.00030	0.015	0.000033	0.55
BJ U/S Operations	January	0.25	0.28	0.0052	10	41	0.0056	0.025	0.0055	0.000019	24	0.00074	0.00048	0.0011	0.086	0.00010	3.0
	February	0.26	0.29	0.0053	10	42	0.0058	0.026	0.0056	0.000019	24	0.00077	0.00051	0.0011	0.090	0.00011	3.1
	March	0.27	0.30	0.0055	11	43	0.0060	0.027	0.0058	0.000020	25	0.00080	0.00053	0.0012	0.093	0.00011	3.2
	April	0.29	0.31	0.0057	11	44	0.0061	0.028	0.0059	0.000020	25	0.00082	0.00055	0.0012	0.097	0.00011	3.3
	May	0.30	0.32	0.0058	11	46	0.0063	0.028	0.0061	0.000021	25	0.00085	0.00057	0.0012	0.10	0.00012	3.4
	June	0.29	0.31	0.0057	11	45	0.0062	0.028	0.0060	0.000020	25	0.00083	0.00056	0.0012	0.099	0.00012	3.4
	July	0.26	0.29	0.0052	10	42	0.0057	0.026	0.0056	0.000019	24	0.00075	0.00050	0.0011	0.090	0.00011	3.1
	August	0.24	0.28	0.0049	9.7	39	0.0053	0.024	0.0053	0.000018	23	0.00070	0.00046	0.0010	0.083	0.000099	2.9
	September	0.22	0.26	0.0047	9.1	38	0.0050	0.023	0.0050	0.000017	23	0.00066	0.00043	0.00098	0.077	0.000094	2.7
	October	0.22	0.26	0.0047	9.0	37	0.0050	0.023	0.0050	0.000017	23	0.00065	0.00043	0.00098	0.076	0.000093	2.7
	November	0.22	0.27	0.0048	9.3	39	0.0051	0.024	0.0051	0.000017	23	0.00068	0.00044	0.0010	0.078	0.000097	2.8
	December	0.24	0.28	0.0050	9.7	40	0.0053	0.024	0.0053	0.000018	23	0.00071	0.00046	0.0011	0.082	0.00010	2.9
BJ U/S Post-Closure	January	0.19	0.13	0.0047	10	42	0.0033	0.019	0.0038	0.000017	23	0.00040	0.00033	0.0011	0.050	0.00011	2.9
	February	0.19	0.13	0.0047	9.9	41	0.0033	0.019	0.0039	0.000017	23	0.00040	0.00033	0.0010	0.050	0.00010	2.9
	March	0.18	0.13	0.0046	9.9	41	0.0033	0.019	0.0039	0.000017	23	0.00040	0.00033	0.0010	0.049	0.00010	2.9
	April	0.18	0.13	0.0046	9.9	41	0.0033	0.019	0.0039	0.000017	23	0.00039	0.00033	0.0010	0.049	0.00010	2.9
	May	0.18	0.13	0.0046	9.8	41	0.0033	0.018	0.0039	0.000017	23	0.00039	0.00033	0.0010	0.049	0.00010	2.9
	June	0.17	0.13	0.0044	9.3	39	0.0032	0.018	0.0039	0.000016	23	0.00037	0.00031	0.00099	0.047	0.000099	2.7
	July	0.14	0.12	0.0040	8.1	35	0.0028	0.016	0.0036	0.000014	21	0.00032	0.00027	0.00087	0.042	0.000087	2.3
	August	0.12	0.12	0.0036	7.2	32	0.0026	0.015	0.0034	0.000013	20	0.00028	0.00024	0.00078	0.038	0.000078	2.1
	September	0.10	0.11	0.0033	6.5	30	0.0024	0.013	0.0033	0.000012	20	0.00025	0.00021	0.00070	0.034	0.000071	1.8
	October	0.095	0.11	0.0032	6.1	28	0.0023	0.013	0.0032	0.000011	19	0.00023	0.00019	0.00066	0.033	0.000067	1.7
	November	0.091	0.11	0.0031	5.9	28	0.0022	0.013	0.0032	0.000011	19	0.00022	0.00019	0.00065	0.032	0.000065	1.6
	December	0.090	0.11	0.0031	5.9	28	0.0022	0.013	0.0033	0.000011	19	0.00022	0.00019	0.00064	0.032	0.000065	1.6



**BJ U/S Conservative Adit Concentration**

		D-Ma	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Ag	D-Na	D-Tl	D-Zn	T-Al	T-As	T-Cd	T-Ca
BJ U/S Construction	January	0.0019	0.000013	0.00077	0.00030	0.32	0.00034	0.0000056	1.7	0.000013	0.0015	0.018	0.0033	0.0000052	15
	February	0.0020	0.000013	0.00079	0.00030	0.34	0.00034	0.0000057	1.8	0.000013	0.0015	0.019	0.0034	0.0000054	15
	March	0.0022	0.000014	0.00080	0.00031	0.36	0.00035	0.0000058	1.9	0.000014	0.0015	0.019	0.0036	0.0000055	15
	April	0.0023	0.000014	0.00082	0.00031	0.38	0.00036	0.0000058	2.0	0.000014	0.0015	0.020	0.0037	0.0000056	16
	May	0.0024	0.000014	0.00083	0.00031	0.40	0.00036	0.0000059	2.0	0.000015	0.0015	0.020	0.0038	0.0000057	16
	June	0.0024	0.000014	0.00084	0.00031	0.41	0.00037	0.0000059	2.1	0.000015	0.0015	0.020	0.0039	0.0000058	16
	July	0.0023	0.000014	0.00083	0.00031	0.39	0.00036	0.0000059	2.0	0.000015	0.0015	0.020	0.0038	0.0000058	16
	August	0.0023	0.000013	0.00082	0.00031	0.38	0.00036	0.0000059	2.0	0.000014	0.0015	0.020	0.0037	0.0000058	16
	September	0.0023	0.000012	0.00082	0.00031	0.37	0.00036	0.0000058	1.9	0.000014	0.0015	0.019	0.0036	0.0000058	16
	October	0.0023	0.000012	0.00082	0.00031	0.37	0.00036	0.0000059	2.0	0.000014	0.0015	0.019	0.0036	0.0000059	16
	November	0.0024	0.000012	0.00084	0.00031	0.39	0.00037	0.0000059	2.0	0.000014	0.0015	0.020	0.0037	0.0000060	16
	December	0.0025	0.000013	0.00085	0.00031	0.41	0.00037	0.0000060	2.1	0.000015	0.0015	0.020	0.0039	0.0000061	16
BJ U/S Operations	January	0.11	0.000013	0.0054	0.0010	1.7	0.00071	0.0000023	2.3	0.000023	0.0097	0.032	0.0056	0.000019	24
	February	0.12	0.000013	0.0056	0.0010	1.7	0.00072	0.0000023	2.4	0.000024	0.010	0.033	0.0057	0.000019	25
	March	0.13	0.000013	0.0059	0.0011	1.8	0.00074	0.0000023	2.5	0.000024	0.011	0.034	0.0059	0.000020	25
	April	0.13	0.000013	0.0061	0.0011	1.9	0.00076	0.0000024	2.6	0.000025	0.011	0.035	0.0060	0.000020	25
	May	0.14	0.000013	0.0063	0.0011	1.9	0.00078	0.0000025	2.7	0.000025	0.012	0.035	0.0062	0.000021	26
	June	0.14	0.000012	0.0062	0.0011	1.9	0.00077	0.0000024	2.7	0.000025	0.012	0.035	0.0061	0.000020	26
	July	0.12	0.000011	0.0056	0.0010	1.7	0.00072	0.0000022	2.5	0.000023	0.011	0.033	0.0057	0.000019	24
	August	0.11	0.000011	0.0052	0.00097	1.6	0.00068	0.0000021	2.4	0.000022	0.010	0.031	0.0054	0.000018	24
	September	0.10	0.0000099	0.0048	0.00092	1.5	0.00065	0.0000020	2.4	0.000021	0.0099	0.030	0.0051	0.000017	23
	October	0.10	0.0000096	0.0048	0.00091	1.5	0.00065	0.0000020	2.4	0.000021	0.010	0.030	0.0051	0.000017	23
	November	0.11	0.0000095	0.0050	0.00093	1.5	0.00066	0.0000020	2.5	0.000022	0.011	0.031	0.0052	0.000017	23
	December	0.12	0.0000095	0.0052	0.00097	1.6	0.00068	0.0000021	2.6	0.000022	0.011	0.032	0.0054	0.000018	24
BJ U/S Post-Closure	January	0.12	0.0000054	0.0027	0.00086	0.70	0.00050	0.0000093	2.7	0.000015	0.012	0.026	0.0040	0.000017	24
	February	0.12	0.0000054	0.0027	0.00086	0.70	0.00050	0.0000092	2.7	0.000015	0.012	0.026	0.0040	0.000017	24
	March	0.12	0.0000054	0.0027	0.00085	0.70	0.00050	0.0000092	2.6	0.000015	0.012	0.026	0.0040	0.000017	24
	April	0.12	0.0000054	0.0027	0.00085	0.70	0.00050	0.0000092	2.6	0.000015	0.012	0.026	0.0040	0.000017	23
	May	0.12	0.0000054	0.0027	0.00084	0.69	0.00049	0.0000091	2.6	0.000015	0.011	0.026	0.0040	0.000017	23
	June	0.11	0.0000053	0.0026	0.00081	0.66	0.00048	0.0000089	2.5	0.000015	0.011	0.025	0.0040	0.000016	23
	July	0.095	0.0000053	0.0023	0.00072	0.58	0.00045	0.0000083	2.3	0.000014	0.0093	0.024	0.0037	0.000014	22
	August	0.081	0.0000053	0.0020	0.00066	0.51	0.00042	0.0000078	2.1	0.000013	0.0082	0.022	0.0036	0.000013	21
	September	0.069	0.0000052	0.0018	0.00061	0.46	0.00040	0.0000074	1.9	0.000012	0.0072	0.021	0.0034	0.000012	20
	October	0.063	0.0000052	0.0018	0.00058	0.43	0.00039	0.0000072	1.8	0.000012	0.0067	0.021	0.0034	0.000011	20
	November	0.060	0.0000052	0.0017	0.00057	0.42	0.00038	0.0000071	1.8	0.000012	0.0065	0.020	0.0034	0.000011	20
	December	0.060	0.0000052	0.0017	0.00056	0.42	0.00038	0.0000071	1.8	0.000012	0.0064	0.020	0.0034	0.000011	20

**BJ U/S Conservative Adit Concentration**

		T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Mg	T-Ma	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Ag	T-Na	T-Tl	T-Zn
BJ U/S Construction	January	0.000065	0.000056	0.00028	0.017	0.000028	0.50	0.0030	0.000013	0.00077	0.00026	0.31	0.00032	0.0000055	1.7	0.000013	0.0015
	February	0.000066	0.000056	0.00028	0.017	0.000029	0.51	0.0031	0.000013	0.00078	0.00026	0.33	0.00033	0.0000056	1.8	0.000013	0.0015
	March	0.000067	0.000057	0.00028	0.017	0.000029	0.52	0.0032	0.000014	0.00080	0.00026	0.35	0.00034	0.0000056	1.9	0.000014	0.0015
	April	0.000068	0.000058	0.00028	0.017	0.000030	0.54	0.0033	0.000014	0.00081	0.00027	0.37	0.00034	0.0000057	2.0	0.000014	0.0015
	May	0.000069	0.000058	0.00029	0.017	0.000030	0.55	0.0034	0.000014	0.00083	0.00027	0.39	0.00035	0.0000058	2.0	0.000014	0.0015
	June	0.000069	0.000059	0.00029	0.017	0.000030	0.55	0.0035	0.000014	0.00083	0.00027	0.40	0.00035	0.0000058	2.1	0.000015	0.0015
	July	0.000068	0.000058	0.00029	0.017	0.000030	0.54	0.0034	0.000013	0.00082	0.00027	0.38	0.00035	0.0000057	2.0	0.000014	0.0015
	August	0.000068	0.000058	0.00028	0.017	0.000030	0.53	0.0033	0.000013	0.00081	0.00027	0.37	0.00034	0.0000057	2.0	0.000014	0.0015
	September	0.000068	0.000057	0.00028	0.017	0.000030	0.53	0.0033	0.000012	0.00080	0.00027	0.36	0.00034	0.0000057	1.9	0.000014	0.0015
	October	0.000068	0.000057	0.00028	0.017	0.000030	0.53	0.0033	0.000012	0.00081	0.00027	0.36	0.00034	0.0000057	2.0	0.000014	0.0015
	November	0.000068	0.000058	0.00029	0.017	0.000030	0.54	0.0034	0.000012	0.00082	0.00027	0.37	0.00034	0.0000057	2.0	0.000014	0.0015
	December	0.000069	0.000059	0.00029	0.017	0.000030	0.55	0.0035	0.000013	0.00083	0.00027	0.39	0.00035	0.0000058	2.1	0.000014	0.0015
BJ U/S Operations	January	0.00075	0.00048	0.0011	0.089	0.00010	3.0	0.11	0.000013	0.0054	0.00097	1.7	0.00070	0.000022	2.3	0.000023	0.0097
	February	0.00078	0.00051	0.0011	0.093	0.00011	3.2	0.12	0.000013	0.0057	0.0010	1.7	0.00072	0.000023	2.4	0.000023	0.010
	March	0.00080	0.00053	0.0012	0.096	0.00011	3.3	0.13	0.000013	0.0059	0.0010	1.8	0.00074	0.000023	2.5	0.000024	0.011
	April	0.00083	0.00055	0.0012	0.10	0.00011	3.4	0.14	0.000013	0.0061	0.0011	1.9	0.00076	0.000024	2.6	0.000025	0.011
	May	0.00085	0.00057	0.0012	0.10	0.00012	3.4	0.14	0.000013	0.0063	0.0011	1.9	0.00078	0.000025	2.7	0.000025	0.012
	June	0.00084	0.00056	0.0012	0.10	0.00012	3.4	0.14	0.000012	0.0062	0.0011	1.9	0.00077	0.000024	2.7	0.000025	0.012
	July	0.00076	0.00050	0.0011	0.093	0.00011	3.1	0.12	0.000011	0.0056	0.00100	1.7	0.00071	0.000022	2.5	0.000023	0.011
	August	0.00071	0.00046	0.0010	0.086	0.000100	2.9	0.11	0.000011	0.0052	0.00094	1.6	0.00068	0.000021	2.4	0.000022	0.010
	September	0.00066	0.00043	0.00099	0.080	0.000094	2.7	0.11	0.0000099	0.0049	0.00088	1.5	0.00065	0.000020	2.4	0.000021	0.0099
	October	0.00066	0.00043	0.00098	0.079	0.000094	2.7	0.11	0.0000095	0.0048	0.00087	1.5	0.00064	0.000020	2.4	0.000021	0.010
	November	0.00068	0.00044	0.0010	0.081	0.000097	2.8	0.11	0.0000094	0.0050	0.00090	1.5	0.00066	0.000020	2.5	0.000021	0.011
	December	0.00072	0.00046	0.0011	0.085	0.00010	2.9	0.12	0.0000094	0.0052	0.00093	1.6	0.00068	0.000021	2.6	0.000022	0.011
BJ U/S Post-Closure	January	0.00041	0.00033	0.0011	0.053	0.00011	3.0	0.13	0.0000054	0.0027	0.00082	0.70	0.00050	0.0000093	2.7	0.000015	0.012
	February	0.00041	0.00033	0.0011	0.053	0.00011	2.9	0.12	0.0000054	0.0027	0.00082	0.70	0.00049	0.0000093	2.7	0.000015	0.012
	March	0.00040	0.00033	0.0010	0.053	0.00011	2.9	0.12	0.0000054	0.0027	0.00081	0.70	0.00049	0.0000093	2.6	0.000015	0.012
	April	0.00040	0.00033	0.0010	0.052	0.00011	2.9	0.12	0.0000054	0.0027	0.00081	0.70	0.00049	0.0000093	2.6	0.000015	0.012
	May	0.00040	0.00033	0.0010	0.052	0.00011	2.9	0.12	0.0000054	0.0027	0.00080	0.69	0.00049	0.0000093	2.6	0.000015	0.011
	June	0.00038	0.00031	0.00099	0.050	0.00010	2.7	0.11	0.0000053	0.0026	0.00077	0.66	0.00048	0.0000091	2.5	0.000014	0.011
	July	0.00033	0.00027	0.00087	0.045	0.000090	2.4	0.096	0.0000053	0.0023	0.00068	0.58	0.00044	0.0000084	2.3	0.000014	0.0093
	August	0.00029	0.00024	0.00078	0.041	0.000081	2.1	0.082	0.0000053	0.0021	0.00062	0.51	0.00042	0.0000080	2.1	0.000013	0.0082
	September	0.00025	0.00021	0.00071	0.038	0.000074	1.8	0.070	0.0000052	0.0019	0.00057	0.46	0.00039	0.0000076	1.9	0.000012	0.0072
	October	0.00024	0.00019	0.00067	0.036	0.000071	1.7	0.064	0.0000052	0.0018	0.00054	0.43	0.00038	0.0000074	1.8	0.000012	0.0067
	November	0.00023	0.00019	0.00065	0.036	0.000070	1.7	0.062	0.0000052	0.0018	0.00053	0.42	0.00038	0.0000074	1.8	0.000012	0.0065
	December	0.00023	0.00019	0.00065	0.035	0.000070	1.6	0.061	0.0000052	0.0018	0.00052	0.42	0.00038	0.0000074	1.8	0.000012	0.0064

**BJ U/S Conservative Adit Lag**

		NH <sub>3</sub>	NO <sub>3</sub>	NO <sub>2</sub>	Cl	SO <sub>4</sub>	P	D-Al	D-As	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Mg
BJ U/S Construction	January	0.0024	0.088	0.0016	2.0	16	0.0011	0.011	0.0033	0.0000054	15	0.000059	0.000057	0.00028	0.014	0.000030	0.50
	February	0.0024	0.088	0.0016	2.0	16	0.0011	0.012	0.0034	0.0000056	15	0.000060	0.000057	0.00028	0.014	0.000030	0.51
	March	0.0024	0.088	0.0016	2.0	16	0.0011	0.012	0.0036	0.0000057	15	0.000061	0.000058	0.00029	0.014	0.000031	0.52
	April	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0037	0.0000058	15	0.000062	0.000059	0.00029	0.014	0.000031	0.53
	May	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0038	0.0000059	15	0.000063	0.000060	0.00029	0.014	0.000032	0.54
	June	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0039	0.0000060	15	0.000063	0.000060	0.00029	0.014	0.000032	0.54
	July	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0038	0.0000060	15	0.000063	0.000059	0.00029	0.015	0.000032	0.53
	August	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0037	0.0000060	15	0.000063	0.000059	0.00029	0.015	0.000032	0.53
	September	0.0024	0.089	0.0016	2.0	16	0.0011	0.012	0.0037	0.0000061	15	0.000063	0.000059	0.00029	0.015	0.000032	0.53
	October	0.0024	0.089	0.0016	2.0	16	0.0011	0.012	0.0037	0.0000061	15	0.000063	0.000059	0.00029	0.015	0.000032	0.53
	November	0.0024	0.089	0.0016	2.0	16	0.0011	0.013	0.0038	0.0000062	15	0.000064	0.000060	0.00030	0.015	0.000033	0.54
	December	0.0024	0.089	0.0016	2.0	16	0.0011	0.013	0.0039	0.0000064	15	0.000065	0.000060	0.00030	0.015	0.000033	0.55
BJ U/S Operations	January	0.25	0.28	0.0052	40	68	0.0056	0.025	0.0055	0.000019	52	0.00074	0.0023	0.0011	0.15	0.0015	1.8
	February	0.26	0.29	0.0053	42	71	0.0058	0.026	0.0056	0.000019	54	0.00077	0.0024	0.0012	0.15	0.0015	1.9
	March	0.27	0.30	0.0055	44	73	0.0060	0.027	0.0058	0.000020	56	0.00080	0.0025	0.0012	0.16	0.0016	2.0
	April	0.29	0.31	0.0057	46	75	0.0061	0.028	0.0059	0.000020	58	0.00082	0.0026	0.0012	0.16	0.0016	2.0
	May	0.30	0.32	0.0058	48	78	0.0063	0.028	0.0061	0.000021	59	0.00085	0.0027	0.0012	0.17	0.0017	2.1
	June	0.29	0.31	0.0057	47	77	0.0062	0.028	0.0060	0.000020	58	0.00083	0.0027	0.0012	0.16	0.0017	2.0
	July	0.26	0.29	0.0052	42	69	0.0057	0.026	0.0056	0.000019	53	0.00075	0.0024	0.0011	0.15	0.0015	1.9
	August	0.24	0.28	0.0049	38	65	0.0053	0.024	0.0053	0.000018	50	0.00070	0.0022	0.0011	0.14	0.0014	1.7
	September	0.22	0.26	0.0047	36	61	0.0050	0.023	0.0050	0.000017	47	0.00066	0.0021	0.0010	0.13	0.0013	1.6
	October	0.22	0.26	0.0047	35	60	0.0050	0.023	0.0050	0.000017	47	0.00065	0.0021	0.0010	0.13	0.0013	1.6
	November	0.22	0.27	0.0048	37	62	0.0051	0.024	0.0051	0.000017	48	0.00068	0.0022	0.0011	0.14	0.0014	1.7
	December	0.24	0.28	0.0050	39	65	0.0053	0.024	0.0053	0.000018	50	0.00071	0.0023	0.0011	0.14	0.0014	1.8
BJ U/S Post-Closure	January	0.19	0.13	0.0047	41	68	0.0033	0.019	0.0038	0.000017	52	0.00046	0.0024	0.0011	0.14	0.0015	1.5
	February	0.19	0.13	0.0047	41	68	0.0033	0.019	0.0039	0.000017	52	0.00045	0.0024	0.0011	0.13	0.0015	1.5
	March	0.18	0.13	0.0046	41	67	0.0033	0.019	0.0039	0.000017	52	0.00045	0.0024	0.0011	0.13	0.0015	1.5
	April	0.18	0.13	0.0046	40	67	0.0033	0.019	0.0039	0.000017	52	0.00045	0.0024	0.0011	0.13	0.0015	1.5
	May	0.18	0.13	0.0046	40	66	0.0033	0.018	0.0039	0.000017	51	0.00045	0.0023	0.0011	0.13	0.0014	1.5
	June	0.17	0.13	0.0044	38	63	0.0032	0.018	0.0039	0.000016	49	0.00042	0.0022	0.0010	0.12	0.0014	1.4
	July	0.14	0.12	0.0040	32	55	0.0028	0.016	0.0036	0.000014	44	0.00036	0.0018	0.00089	0.11	0.0011	1.3
	August	0.12	0.12	0.0036	27	49	0.0026	0.015	0.0034	0.000013	39	0.00032	0.0016	0.00080	0.093	0.00098	1.2
	September	0.10	0.11	0.0033	24	44	0.0024	0.013	0.0033	0.000012	36	0.00028	0.0013	0.00072	0.082	0.00084	1.0
	October	0.095	0.11	0.0032	22	42	0.0023	0.013	0.0032	0.000011	34	0.00026	0.0012	0.00068	0.076	0.00076	0.99
	November	0.091	0.11	0.0031	21	41	0.0022	0.013	0.0032	0.000011	33	0.00025	0.0012	0.00066	0.073	0.00074	0.97
	December	0.090	0.11	0.0031	21	40	0.0022	0.013	0.0033	0.000011	33	0.00025	0.0012	0.00066	0.072	0.00073	0.96

**BJ U/S Conservative Adit Lag**

		D-Ma	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Ag	D-Na	D-Tl	D-Zn	T-Al	T-As	T-Cd	T-Ca
BJ U/S Construction	January	0.0019	0.000013	0.00077	0.00030	0.32	0.00034	0.0000056	1.7	0.000013	0.0015	0.018	0.0033	0.0000052	15
	February	0.0020	0.000013	0.00079	0.00030	0.34	0.00034	0.0000057	1.8	0.000013	0.0015	0.019	0.0034	0.0000054	15
	March	0.0022	0.000014	0.00080	0.00031	0.36	0.00035	0.0000058	1.9	0.000014	0.0015	0.019	0.0036	0.0000055	15
	April	0.0023	0.000014	0.00082	0.00031	0.38	0.00036	0.0000058	2.0	0.000014	0.0015	0.020	0.0037	0.0000056	16
	May	0.0024	0.000014	0.00083	0.00031	0.40	0.00036	0.0000059	2.0	0.000015	0.0015	0.020	0.0039	0.0000058	16
	June	0.0024	0.000014	0.00084	0.00031	0.41	0.00037	0.0000059	2.1	0.000015	0.0015	0.020	0.0039	0.0000058	16
	July	0.0023	0.000014	0.00083	0.00031	0.39	0.00036	0.0000059	2.0	0.000015	0.0015	0.020	0.0038	0.0000058	16
	August	0.0023	0.000013	0.00082	0.00031	0.38	0.00036	0.0000059	2.0	0.000014	0.0015	0.020	0.0037	0.0000058	16
	September	0.0023	0.000012	0.00082	0.00031	0.37	0.00036	0.0000058	1.9	0.000014	0.0015	0.019	0.0036	0.0000058	16
	October	0.0023	0.000012	0.00082	0.00031	0.37	0.00036	0.0000059	2.0	0.000014	0.0015	0.019	0.0037	0.0000059	16
	November	0.0024	0.000012	0.00084	0.00031	0.39	0.00037	0.0000059	2.0	0.000014	0.0015	0.020	0.0038	0.0000060	16
	December	0.0025	0.000013	0.00085	0.00031	0.41	0.00037	0.0000060	2.1	0.000015	0.0015	0.020	0.0039	0.0000061	16
BJ U/S Operations	January	0.46	0.000013	0.0049	0.0061	1.6	0.00069	0.000027	2.2	0.000023	0.013	0.032	0.0056	0.000019	52
	February	0.48	0.000013	0.0051	0.0063	1.6	0.00070	0.000028	2.2	0.000024	0.013	0.033	0.0057	0.000019	54
	March	0.50	0.000013	0.0053	0.0066	1.7	0.00072	0.000029	2.2	0.000024	0.014	0.034	0.0059	0.000020	56
	April	0.52	0.000013	0.0055	0.0068	1.7	0.00074	0.000030	2.2	0.000025	0.014	0.035	0.0060	0.000020	58
	May	0.54	0.000013	0.0056	0.0070	1.8	0.00075	0.000031	2.2	0.000026	0.015	0.035	0.0062	0.000021	59
	June	0.53	0.000012	0.0056	0.0069	1.8	0.00075	0.000030	2.2	0.000025	0.015	0.035	0.0061	0.000020	59
	July	0.47	0.000011	0.0050	0.0062	1.6	0.00070	0.000027	2.0	0.000024	0.013	0.033	0.0057	0.000019	54
	August	0.44	0.000011	0.0047	0.0058	1.5	0.00066	0.000026	1.9	0.000022	0.012	0.031	0.0054	0.000018	50
	September	0.41	0.0000099	0.0044	0.0054	1.4	0.00063	0.000024	1.9	0.000021	0.012	0.030	0.0051	0.000017	48
	October	0.41	0.0000096	0.0043	0.0054	1.4	0.00063	0.000024	1.8	0.000021	0.012	0.030	0.0051	0.000017	47
	November	0.43	0.0000094	0.0045	0.0056	1.4	0.00064	0.000024	1.8	0.000022	0.012	0.031	0.0052	0.000017	49
	December	0.45	0.0000094	0.0047	0.0059	1.5	0.00067	0.000026	1.9	0.000023	0.013	0.032	0.0054	0.000018	51
BJ U/S Post-Closure	January	0.47	0.0000056	0.0019	0.0062	0.57	0.00047	0.000016	1.6	0.000016	0.013	0.026	0.0040	0.000017	53
	February	0.47	0.0000056	0.0019	0.0062	0.57	0.00047	0.000015	1.6	0.000016	0.013	0.026	0.0040	0.000017	52
	March	0.47	0.0000056	0.0019	0.0061	0.57	0.00047	0.000015	1.6	0.000016	0.013	0.026	0.0040	0.000017	52
	April	0.46	0.0000056	0.0019	0.0061	0.57	0.00047	0.000015	1.6	0.000016	0.013	0.026	0.0040	0.000017	52
	May	0.46	0.0000056	0.0019	0.0060	0.57	0.00047	0.000015	1.6	0.000016	0.013	0.026	0.0040	0.000017	52
	June	0.43	0.0000056	0.0019	0.0057	0.54	0.00045	0.000015	1.5	0.000015	0.012	0.025	0.0040	0.000016	49
	July	0.36	0.0000055	0.0017	0.0048	0.48	0.00042	0.000013	1.5	0.000014	0.010	0.023	0.0037	0.000014	44
	August	0.31	0.0000054	0.0016	0.0041	0.43	0.00040	0.000012	1.4	0.000014	0.0091	0.022	0.0036	0.000013	40
	September	0.26	0.0000054	0.0014	0.0036	0.38	0.00038	0.000011	1.3	0.000013	0.0080	0.021	0.0034	0.000012	36
	October	0.24	0.0000053	0.0014	0.0033	0.36	0.00037	0.000010	1.3	0.000013	0.0074	0.020	0.0034	0.000011	34
	November	0.23	0.0000053	0.0014	0.0031	0.36	0.00037	0.000010	1.3	0.000012	0.0071	0.020	0.0034	0.000011	34
	December	0.23	0.0000053	0.0014	0.0031	0.36	0.00037	0.000010	1.3	0.000012	0.0071	0.020	0.0034	0.000011	33

**BJ U/S Conservative Adit Lag**

		T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Mg	T-Ma	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Ag	T-Na	T-Tl	T-Zn
BJ U/S Construction	January	0.000066	0.000056	0.00028	0.017	0.000028	0.51	0.0031	0.000013	0.00078	0.00026	0.32	0.00033	0.0000055	1.7	0.000013	0.0015
	February	0.000067	0.000057	0.00028	0.017	0.000029	0.52	0.0032	0.000013	0.00080	0.00026	0.34	0.00033	0.0000056	1.8	0.000013	0.0015
	March	0.000067	0.000058	0.00028	0.017	0.000029	0.53	0.0034	0.000014	0.00081	0.00026	0.36	0.00034	0.0000056	1.9	0.000014	0.0015
	April	0.000068	0.000058	0.00028	0.017	0.000030	0.54	0.0035	0.000014	0.00083	0.00027	0.38	0.00035	0.0000057	2.0	0.000014	0.0015
	May	0.000069	0.000059	0.00029	0.017	0.000030	0.55	0.0036	0.000014	0.00084	0.00027	0.40	0.00036	0.0000058	2.0	0.000014	0.0015
	June	0.000070	0.000059	0.00029	0.017	0.000030	0.55	0.0036	0.000014	0.00085	0.00027	0.41	0.00036	0.0000058	2.1	0.000015	0.0015
	July	0.000069	0.000059	0.00029	0.017	0.000030	0.54	0.0035	0.000013	0.00084	0.00027	0.39	0.00035	0.0000057	2.0	0.000014	0.0015
	August	0.000068	0.000058	0.00028	0.017	0.000030	0.54	0.0035	0.000013	0.00083	0.00027	0.38	0.00035	0.0000057	2.0	0.000014	0.0015
	September	0.000068	0.000058	0.00028	0.017	0.000030	0.53	0.0034	0.000012	0.00083	0.00027	0.37	0.00035	0.0000057	1.9	0.000014	0.0015
	October	0.000068	0.000058	0.00028	0.017	0.000030	0.54	0.0035	0.000012	0.00083	0.00027	0.37	0.00035	0.0000057	2.0	0.000014	0.0015
	November	0.000069	0.000059	0.00029	0.017	0.000030	0.55	0.0036	0.000012	0.00084	0.00027	0.39	0.00035	0.0000057	2.0	0.000014	0.0015
	December	0.000070	0.000059	0.00029	0.017	0.000030	0.55	0.0037	0.000013	0.00086	0.00027	0.41	0.00036	0.0000058	2.1	0.000015	0.0015
BJ U/S Operations	January	0.00075	0.0023	0.0011	0.15	0.0015	1.8	0.46	0.000013	0.0049	0.0060	1.6	0.00068	0.000027	2.2	0.000023	0.013
	February	0.00078	0.0024	0.0012	0.16	0.0015	1.9	0.48	0.000013	0.0051	0.0063	1.6	0.00070	0.000028	2.2	0.000024	0.013
	March	0.00080	0.0025	0.0012	0.16	0.0016	2.0	0.50	0.000013	0.0053	0.0065	1.7	0.00072	0.000029	2.2	0.000024	0.014
	April	0.00083	0.0026	0.0012	0.17	0.0016	2.0	0.52	0.000013	0.0055	0.0068	1.7	0.00074	0.000030	2.2	0.000025	0.014
	May	0.00085	0.0027	0.0012	0.17	0.0017	2.1	0.54	0.000013	0.0056	0.0070	1.8	0.00075	0.000031	2.2	0.000025	0.015
	June	0.00084	0.0027	0.0012	0.17	0.0017	2.1	0.53	0.000012	0.0056	0.0069	1.8	0.00074	0.000030	2.2	0.000025	0.015
	July	0.00076	0.0024	0.0011	0.15	0.0015	1.9	0.47	0.000011	0.0050	0.0062	1.6	0.00069	0.000027	2.0	0.000023	0.013
	August	0.00071	0.0022	0.0011	0.14	0.0014	1.8	0.44	0.000011	0.0047	0.0057	1.5	0.00066	0.000026	1.9	0.000022	0.012
	September	0.00066	0.0021	0.0010	0.13	0.0013	1.7	0.41	0.0000099	0.0044	0.0054	1.4	0.00063	0.000024	1.9	0.000021	0.012
	October	0.00066	0.0021	0.0010	0.13	0.0013	1.6	0.41	0.0000095	0.0044	0.0054	1.4	0.00063	0.000024	1.8	0.000021	0.012
	November	0.00068	0.0022	0.0011	0.14	0.0014	1.7	0.43	0.0000094	0.0045	0.0056	1.4	0.00064	0.000025	1.8	0.000022	0.012
	December	0.00072	0.0023	0.0011	0.14	0.0014	1.8	0.45	0.0000094	0.0047	0.0059	1.5	0.00066	0.000026	1.9	0.000022	0.013
BJ U/S Post-Closure	January	0.00047	0.0024	0.0011	0.14	0.0015	1.6	0.47	0.0000056	0.0020	0.0062	0.57	0.00047	0.000016	1.6	0.000016	0.013
	February	0.00046	0.0024	0.0011	0.14	0.0015	1.5	0.47	0.0000056	0.0020	0.0061	0.57	0.00047	0.000015	1.6	0.000016	0.013
	March	0.00046	0.0024	0.0011	0.14	0.0015	1.5	0.47	0.0000056	0.0020	0.0061	0.57	0.00046	0.000015	1.6	0.000016	0.013
	April	0.00046	0.0024	0.0011	0.14	0.0015	1.5	0.46	0.0000056	0.0020	0.0060	0.57	0.00046	0.000015	1.6	0.000015	0.013
	May	0.00045	0.0023	0.0011	0.14	0.0015	1.5	0.46	0.0000056	0.0020	0.0060	0.57	0.00046	0.000015	1.6	0.000015	0.013
	June	0.00043	0.0022	0.0010	0.13	0.0014	1.5	0.43	0.0000056	0.0019	0.0056	0.54	0.00045	0.000015	1.5	0.000015	0.012
	July	0.00037	0.0018	0.00089	0.11	0.0011	1.3	0.36	0.0000055	0.0017	0.0047	0.48	0.00042	0.000013	1.5	0.000014	0.010
	August	0.00032	0.0016	0.00080	0.096	0.00098	1.2	0.31	0.0000054	0.0016	0.0041	0.43	0.00040	0.000012	1.4	0.000013	0.0091
	September	0.00028	0.0013	0.00072	0.085	0.00084	1.1	0.26	0.0000054	0.0015	0.0035	0.38	0.00038	0.000011	1.3	0.000013	0.0080
	October	0.00026	0.0012	0.00068	0.079	0.00077	0.99	0.24	0.0000053	0.0014	0.0032	0.36	0.00037	0.000010	1.3	0.000012	0.0074
	November	0.00026	0.0012	0.00066	0.076	0.00074	0.97	0.23	0.0000053	0.0014	0.0031	0.36	0.00037	0.000010	1.3	0.000012	0.0072
	December	0.00025	0.0012	0.00066	0.076	0.00073	0.97	0.23	0.0000053	0.0014	0.0031	0.36	0.00036	0.000010	1.3	0.000012	0.0071

**BJ U/S Conservative Adit Lag and Concentration**

		NH <sub>3</sub>	NO <sub>3</sub>	NO <sub>2</sub>	Cl	SO <sub>4</sub>	P	D-Al	D-As	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Mg
BJ U/S Construction	January	0.0024	0.088	0.0016	2.0	16	0.0011	0.011	0.0032	0.0000054	15	0.000059	0.000057	0.00028	0.014	0.000030	0.50
	February	0.0024	0.088	0.0016	2.0	16	0.0011	0.011	0.0034	0.0000056	15	0.000060	0.000057	0.00028	0.014	0.000030	0.51
	March	0.0024	0.088	0.0016	2.0	16	0.0011	0.012	0.0035	0.0000057	15	0.000061	0.000058	0.00029	0.014	0.000031	0.52
	April	0.0024	0.088	0.0016	2.0	16	0.0011	0.012	0.0037	0.0000058	15	0.000062	0.000059	0.00029	0.014	0.000031	0.53
	May	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0038	0.0000059	15	0.000063	0.000060	0.00029	0.014	0.000032	0.54
	June	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0038	0.0000060	15	0.000063	0.000060	0.00029	0.014	0.000032	0.54
	July	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0037	0.0000060	15	0.000063	0.000059	0.00029	0.015	0.000032	0.53
	August	0.0024	0.088	0.0016	2.0	16	0.0011	0.012	0.0036	0.0000060	15	0.000063	0.000059	0.00029	0.015	0.000032	0.53
	September	0.0024	0.089	0.0016	2.0	16	0.0011	0.012	0.0036	0.0000061	15	0.000063	0.000059	0.00029	0.015	0.000032	0.53
	October	0.0024	0.089	0.0016	2.0	16	0.0011	0.012	0.0036	0.0000061	15	0.000063	0.000059	0.00029	0.015	0.000032	0.53
	November	0.0024	0.089	0.0016	2.0	16	0.0011	0.012	0.0037	0.0000062	15	0.000064	0.000060	0.00029	0.015	0.000032	0.54
	December	0.0024	0.089	0.0016	2.0	16	0.0011	0.013	0.0038	0.0000064	15	0.000065	0.000060	0.00030	0.015	0.000033	0.55
BJ U/S Operations	January	0.25	0.28	0.0052	56	97	0.0056	0.025	0.0055	0.000019	87	0.00074	0.0023	0.0011	0.15	0.0015	2.8
	February	0.26	0.29	0.0053	59	100	0.0058	0.026	0.0056	0.000019	91	0.00077	0.0024	0.0012	0.15	0.0015	2.9
	March	0.27	0.30	0.0055	61	100	0.0060	0.027	0.0058	0.000020	95	0.00080	0.0025	0.0012	0.16	0.0016	3.0
	April	0.29	0.31	0.0057	64	110	0.0061	0.028	0.0059	0.000020	99	0.00082	0.0026	0.0012	0.16	0.0016	3.1
	May	0.30	0.32	0.0058	66	110	0.0063	0.028	0.0061	0.000021	100	0.00085	0.0027	0.0012	0.17	0.0017	3.2
	June	0.29	0.31	0.0057	64	110	0.0062	0.028	0.0060	0.000020	100	0.00083	0.0027	0.0012	0.16	0.0017	3.2
	July	0.26	0.29	0.0052	58	98	0.0057	0.026	0.0056	0.000019	91	0.00075	0.0024	0.0011	0.15	0.0015	2.9
	August	0.24	0.28	0.0049	54	92	0.0053	0.024	0.0053	0.000018	84	0.00070	0.0022	0.0011	0.14	0.0014	2.7
	September	0.22	0.26	0.0047	50	87	0.0050	0.023	0.0050	0.000017	79	0.00066	0.0021	0.0010	0.13	0.0013	2.5
	October	0.22	0.26	0.0047	50	87	0.0050	0.023	0.0050	0.000017	78	0.00065	0.0021	0.0010	0.13	0.0013	2.5
	November	0.22	0.27	0.0048	53	90	0.0051	0.024	0.0051	0.000017	81	0.00068	0.0022	0.0011	0.14	0.0014	2.6
	December	0.24	0.28	0.0050	56	94	0.0053	0.024	0.0053	0.000018	85	0.00071	0.0023	0.0011	0.14	0.0014	2.7
BJ U/S Post-Closure	January	0.19	0.13	0.0047	58	97	0.0033	0.019	0.0038	0.000017	90	0.00048	0.0024	0.0011	0.14	0.0015	2.5
	February	0.19	0.13	0.0047	58	97	0.0033	0.019	0.0039	0.000017	89	0.00047	0.0024	0.0011	0.13	0.0015	2.5
	March	0.18	0.13	0.0046	57	96	0.0033	0.019	0.0039	0.000017	88	0.00047	0.0024	0.0011	0.13	0.0015	2.5
	April	0.18	0.13	0.0046	57	96	0.0033	0.019	0.0039	0.000017	88	0.00047	0.0024	0.0011	0.13	0.0015	2.5
	May	0.18	0.13	0.0046	56	95	0.0033	0.018	0.0039	0.000017	87	0.00046	0.0023	0.0011	0.13	0.0015	2.5
	June	0.17	0.13	0.0044	53	90	0.0032	0.018	0.0039	0.000016	83	0.00044	0.0022	0.0010	0.12	0.0014	2.3
	July	0.14	0.12	0.0040	45	78	0.0028	0.016	0.0036	0.000014	72	0.00037	0.0018	0.00089	0.11	0.0011	2.0
	August	0.12	0.12	0.0036	38	69	0.0026	0.015	0.0034	0.000013	63	0.00033	0.0016	0.00080	0.093	0.00098	1.8
	September	0.10	0.11	0.0033	33	61	0.0024	0.013	0.0033	0.000012	56	0.00029	0.0013	0.00072	0.082	0.00084	1.6
	October	0.095	0.11	0.0032	30	57	0.0023	0.013	0.0032	0.000011	53	0.00026	0.0012	0.00068	0.076	0.00076	1.5
	November	0.091	0.11	0.0031	29	55	0.0022	0.013	0.0032	0.000011	51	0.00026	0.0012	0.00066	0.073	0.00074	1.4
	December	0.090	0.11	0.0031	29	54	0.0022	0.013	0.0033	0.000011	51	0.00025	0.0012	0.00066	0.072	0.00073	1.4

**BJ U/S Conservative Adit Lag and Concentration**

		D-Ma	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Ag	D-Na	D-Tl	D-Zn	T-Al	T-As	T-Cd	T-Ca
BJ U/S Construction	January	0.0019	0.000013	0.00077	0.00030	0.32	0.00034	0.0000056	1.7	0.000013	0.0015	0.018	0.0033	0.0000052	15
	February	0.0020	0.000013	0.00079	0.00030	0.34	0.00034	0.0000057	1.8	0.000013	0.0015	0.019	0.0034	0.0000054	15
	March	0.0022	0.000014	0.00080	0.00031	0.36	0.00035	0.0000058	1.9	0.000014	0.0015	0.019	0.0036	0.0000055	15
	April	0.0023	0.000014	0.00082	0.00031	0.38	0.00036	0.0000058	2.0	0.000014	0.0015	0.020	0.0037	0.0000056	16
	May	0.0024	0.000014	0.00083	0.00031	0.40	0.00036	0.0000059	2.0	0.000015	0.0015	0.020	0.0038	0.0000057	16
	June	0.0024	0.000014	0.00084	0.00031	0.41	0.00037	0.0000059	2.1	0.000015	0.0015	0.020	0.0039	0.0000058	16
	July	0.0023	0.000014	0.00083	0.00031	0.39	0.00036	0.0000059	2.0	0.000015	0.0015	0.020	0.0038	0.0000058	16
	August	0.0023	0.000013	0.00082	0.00031	0.38	0.00036	0.0000059	2.0	0.000014	0.0015	0.020	0.0037	0.0000058	16
	September	0.0023	0.000012	0.00082	0.00031	0.37	0.00036	0.0000058	1.9	0.000014	0.0015	0.019	0.0036	0.0000058	16
	October	0.0023	0.000012	0.00082	0.00031	0.37	0.00036	0.0000059	2.0	0.000014	0.0015	0.019	0.0036	0.0000059	16
	November	0.0024	0.000012	0.00084	0.00031	0.39	0.00037	0.0000059	2.0	0.000014	0.0015	0.020	0.0037	0.0000060	16
	December	0.0025	0.000013	0.00085	0.00031	0.41	0.00037	0.0000060	2.1	0.000015	0.0015	0.020	0.0039	0.0000061	16
BJ U/S Operations	January	0.46	0.000013	0.0050	0.0061	1.7	0.00077	0.0000031	2.7	0.000026	0.013	0.032	0.0056	0.000019	88
	February	0.48	0.000013	0.0052	0.0063	1.7	0.00079	0.0000032	2.8	0.000027	0.013	0.033	0.0057	0.000019	92
	March	0.50	0.000013	0.0054	0.0066	1.8	0.00081	0.0000033	2.9	0.000027	0.014	0.034	0.0059	0.000020	96
	April	0.52	0.000013	0.0056	0.0068	1.8	0.00083	0.0000034	2.9	0.000028	0.014	0.035	0.0060	0.000020	99
	May	0.54	0.000013	0.0058	0.0070	1.9	0.00085	0.0000035	3.0	0.000029	0.015	0.035	0.0062	0.000021	100
	June	0.53	0.000012	0.0057	0.0069	1.9	0.00084	0.0000035	3.0	0.000028	0.015	0.035	0.0061	0.000020	100
	July	0.47	0.000011	0.0052	0.0062	1.7	0.00078	0.0000032	2.8	0.000026	0.013	0.033	0.0057	0.000019	91
	August	0.44	0.000011	0.0048	0.0058	1.6	0.00074	0.0000029	2.6	0.000025	0.012	0.031	0.0054	0.000018	85
	September	0.41	0.0000099	0.0045	0.0054	1.5	0.00071	0.0000028	2.5	0.000024	0.012	0.030	0.0051	0.000017	79
	October	0.41	0.0000096	0.0044	0.0054	1.4	0.00070	0.0000027	2.5	0.000024	0.012	0.030	0.0051	0.000017	79
	November	0.43	0.0000095	0.0046	0.0056	1.5	0.00072	0.0000028	2.6	0.000024	0.012	0.031	0.0052	0.000017	82
	December	0.45	0.0000097	0.0048	0.0059	1.6	0.00075	0.0000030	2.6	0.000025	0.013	0.032	0.0054	0.000018	86
BJ U/S Post-Closure	January	0.47	0.0000059	0.0020	0.0062	0.68	0.00054	0.0000019	2.6	0.000019	0.013	0.026	0.0040	0.000017	90
	February	0.47	0.0000059	0.0021	0.0062	0.68	0.00054	0.0000019	2.6	0.000019	0.013	0.026	0.0040	0.000017	89
	March	0.47	0.0000059	0.0021	0.0061	0.68	0.00053	0.0000019	2.6	0.000019	0.013	0.026	0.0040	0.000017	89
	April	0.46	0.0000059	0.0021	0.0061	0.68	0.00053	0.0000019	2.6	0.000019	0.013	0.026	0.0040	0.000017	88
	May	0.46	0.0000059	0.0021	0.0060	0.68	0.00053	0.0000019	2.6	0.000019	0.013	0.026	0.0040	0.000017	88
	June	0.43	0.0000058	0.0020	0.0057	0.64	0.00051	0.0000018	2.5	0.000018	0.012	0.025	0.0040	0.000016	83
	July	0.36	0.0000057	0.0018	0.0048	0.56	0.00048	0.0000016	2.3	0.000017	0.010	0.024	0.0037	0.000014	72
	August	0.31	0.0000056	0.0016	0.0041	0.50	0.00045	0.0000014	2.1	0.000016	0.0091	0.022	0.0036	0.000013	64
	September	0.26	0.0000055	0.0015	0.0036	0.45	0.00042	0.0000013	1.9	0.000015	0.0080	0.021	0.0034	0.000012	57
	October	0.24	0.0000055	0.0014	0.0033	0.42	0.00041	0.0000012	1.8	0.000014	0.0074	0.021	0.0034	0.000011	53
	November	0.23	0.0000055	0.0014	0.0031	0.41	0.00040	0.0000012	1.8	0.000014	0.0072	0.020	0.0034	0.000011	52
	December	0.23	0.0000055	0.0014	0.0031	0.41	0.00040	0.0000012	1.8	0.000014	0.0071	0.020	0.0034	0.000011	51

**BJ U/S Conservative Adit Lag and Concentration**

		T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Mg	T-Ma	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Ag	T-Na	T-Tl	T-Zn
BJ U/S Construction	January	0.000065	0.000056	0.00028	0.017	0.000028	0.50	0.0030	0.000013	0.00077	0.00026	0.31	0.00032	0.0000055	1.7	0.000013	0.0015
	February	0.000066	0.000056	0.00028	0.017	0.000029	0.51	0.0031	0.000013	0.00078	0.00026	0.33	0.00033	0.0000056	1.8	0.000013	0.0015
	March	0.000067	0.000057	0.00028	0.017	0.000029	0.52	0.0032	0.000014	0.00080	0.00026	0.35	0.00034	0.0000056	1.9	0.000014	0.0015
	April	0.000068	0.000058	0.00028	0.017	0.000030	0.54	0.0033	0.000014	0.00081	0.00027	0.37	0.00034	0.0000057	2.0	0.000014	0.0015
	May	0.000069	0.000058	0.00029	0.017	0.000030	0.55	0.0034	0.000014	0.00083	0.00027	0.39	0.00035	0.0000058	2.0	0.000014	0.0015
	June	0.000069	0.000059	0.00029	0.017	0.000030	0.55	0.0035	0.000014	0.00083	0.00027	0.40	0.00035	0.0000058	2.1	0.000015	0.0015
	July	0.000068	0.000058	0.00029	0.017	0.000030	0.54	0.0034	0.000013	0.00082	0.00027	0.38	0.00035	0.0000057	2.0	0.000014	0.0015
	August	0.000068	0.000058	0.00028	0.017	0.000030	0.53	0.0033	0.000013	0.00081	0.00027	0.37	0.00034	0.0000057	2.0	0.000014	0.0015
	September	0.000068	0.000057	0.00028	0.017	0.000030	0.53	0.0033	0.000012	0.00080	0.00027	0.36	0.00034	0.0000057	1.9	0.000014	0.0015
	October	0.000068	0.000057	0.00028	0.017	0.000030	0.53	0.0033	0.000012	0.00081	0.00027	0.36	0.00034	0.0000057	2.0	0.000014	0.0015
	November	0.000068	0.000058	0.00029	0.017	0.000030	0.54	0.0034	0.000012	0.00082	0.00027	0.37	0.00034	0.0000057	2.0	0.000014	0.0015
	December	0.000069	0.000059	0.00029	0.017	0.000030	0.55	0.0035	0.000013	0.00083	0.00027	0.39	0.00035	0.0000058	2.1	0.000014	0.0015
BJ U/S Operations	January	0.00075	0.0023	0.0011	0.15	0.0015	2.8	0.46	0.000013	0.0050	0.0060	1.7	0.00077	0.000031	2.7	0.000026	0.013
	February	0.00078	0.0024	0.0012	0.16	0.0015	2.9	0.48	0.000013	0.0052	0.0063	1.7	0.00079	0.000032	2.8	0.000026	0.013
	March	0.00080	0.0025	0.0012	0.16	0.0016	3.0	0.50	0.000013	0.0054	0.0065	1.8	0.00081	0.000033	2.9	0.000027	0.014
	April	0.00083	0.0026	0.0012	0.17	0.0016	3.1	0.52	0.000013	0.0056	0.0068	1.8	0.00083	0.000034	2.9	0.000028	0.014
	May	0.00085	0.0027	0.0012	0.17	0.0017	3.2	0.54	0.000013	0.0058	0.0070	1.9	0.00085	0.000035	3.0	0.000029	0.015
	June	0.00084	0.0027	0.0012	0.17	0.0017	3.2	0.53	0.000012	0.0057	0.0069	1.9	0.00084	0.000035	3.0	0.000028	0.015
	July	0.00076	0.0024	0.0011	0.15	0.0015	2.9	0.47	0.000011	0.0052	0.0062	1.7	0.00078	0.000032	2.8	0.000026	0.013
	August	0.00071	0.0022	0.0011	0.14	0.0014	2.7	0.44	0.000011	0.0048	0.0057	1.6	0.00074	0.000029	2.6	0.000025	0.012
	September	0.00066	0.0021	0.0010	0.13	0.0013	2.5	0.41	0.0000099	0.0045	0.0054	1.5	0.00070	0.000028	2.5	0.000024	0.012
	October	0.00066	0.0021	0.0010	0.13	0.0013	2.5	0.41	0.0000095	0.0045	0.0054	1.4	0.00070	0.000028	2.5	0.000023	0.012
	November	0.00068	0.0022	0.0011	0.14	0.0014	2.6	0.43	0.0000094	0.0046	0.0056	1.5	0.00072	0.000028	2.6	0.000024	0.012
	December	0.00072	0.0023	0.0011	0.14	0.0014	2.7	0.45	0.0000097	0.0048	0.0059	1.6	0.00074	0.000030	2.6	0.000025	0.013
BJ U/S Post-Closure	January	0.00048	0.0024	0.0011	0.14	0.0015	2.5	0.47	0.0000059	0.0021	0.0062	0.68	0.00053	0.000019	2.6	0.000019	0.013
	February	0.00048	0.0024	0.0011	0.14	0.0015	2.5	0.47	0.0000059	0.0021	0.0061	0.68	0.00053	0.000019	2.6	0.000019	0.013
	March	0.00048	0.0024	0.0011	0.14	0.0015	2.5	0.47	0.0000059	0.0021	0.0061	0.68	0.00053	0.000019	2.6	0.000019	0.013
	April	0.00047	0.0024	0.0011	0.14	0.0015	2.5	0.46	0.0000059	0.0021	0.0060	0.68	0.00053	0.000019	2.6	0.000019	0.013
	May	0.00047	0.0023	0.0011	0.14	0.0015	2.5	0.46	0.0000059	0.0021	0.0060	0.67	0.00053	0.000019	2.6	0.000018	0.013
	June	0.00044	0.0022	0.0010	0.13	0.0014	2.4	0.43	0.0000058	0.0020	0.0056	0.64	0.00051	0.000018	2.5	0.000018	0.012
	July	0.00038	0.0018	0.00089	0.11	0.0011	2.0	0.36	0.0000057	0.0018	0.0047	0.56	0.00047	0.000016	2.3	0.000016	0.010
	August	0.00033	0.0016	0.00080	0.097	0.00098	1.8	0.31	0.0000056	0.0016	0.0041	0.50	0.00044	0.000014	2.1	0.000015	0.0091
	September	0.00029	0.0013	0.00072	0.085	0.00084	1.6	0.26	0.0000055	0.0015	0.0035	0.44	0.00042	0.000013	1.9	0.000014	0.0080
	October	0.00027	0.0012	0.00068	0.079	0.00077	1.5	0.24	0.0000055	0.0015	0.0032	0.42	0.00040	0.000012	1.8	0.000014	0.0074
	November	0.00026	0.0012	0.00067	0.077	0.00074	1.5	0.23	0.0000055	0.0015	0.0031	0.41	0.00040	0.000012	1.8	0.000014	0.0072
	December	0.00026	0.0012	0.00066	0.076	0.00073	1.4	0.23	0.0000055	0.0015	0.0031	0.41	0.00040	0.000012	1.8	0.000014	0.0071



**BJ U/S Conservative Background**

		NH <sub>3</sub>	NO <sub>3</sub>	NO <sub>2</sub>	Cl	SO <sub>4</sub>	P	D-Al	D-As	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Mg
BJ U/S Construction	January	0.0024	0.18	0.0016	23	23	0.0022	0.013	0.0052	0.0000053	24	0.000057	0.000056	0.00029	0.014	0.000029	0.81
	February	0.0024	0.18	0.0016	23	24	0.0022	0.014	0.0054	0.0000054	24	0.000058	0.000056	0.00029	0.014	0.000030	0.82
	March	0.0024	0.18	0.0016	23	24	0.0022	0.014	0.0055	0.0000055	24	0.000059	0.000057	0.00030	0.014	0.000030	0.83
	April	0.0024	0.18	0.0016	23	24	0.0022	0.015	0.0056	0.0000057	24	0.000060	0.000058	0.00030	0.014	0.000030	0.84
	May	0.0024	0.18	0.0016	23	24	0.0022	0.015	0.0058	0.0000058	24	0.000061	0.000058	0.00030	0.014	0.000031	0.85
	June	0.0024	0.18	0.0016	23	24	0.0022	0.016	0.0058	0.0000059	24	0.000061	0.000059	0.00030	0.014	0.000031	0.85
	July	0.0024	0.18	0.0016	23	24	0.0022	0.015	0.0057	0.0000059	24	0.000061	0.000058	0.00030	0.014	0.000031	0.85
	August	0.0024	0.18	0.0016	23	24	0.0022	0.015	0.0056	0.0000059	24	0.000060	0.000058	0.00030	0.014	0.000031	0.84
	September	0.0024	0.18	0.0016	23	24	0.0022	0.015	0.0056	0.0000059	25	0.000060	0.000057	0.00030	0.014	0.000030	0.84
	October	0.0024	0.18	0.0016	23	24	0.0022	0.015	0.0056	0.0000059	25	0.000060	0.000057	0.00030	0.015	0.000030	0.84
	November	0.0024	0.18	0.0016	23	24	0.0022	0.015	0.0057	0.0000060	25	0.000060	0.000058	0.00031	0.015	0.000031	0.84
	December	0.0024	0.18	0.0016	23	24	0.0022	0.015	0.0058	0.0000061	25	0.000061	0.000059	0.00031	0.015	0.000031	0.85
BJ U/S Operations	January	0.25	0.37	0.0052	27	37	0.0066	0.028	0.0073	0.000019	29	0.00074	0.00047	0.0011	0.086	0.00012	2.7
	February	0.26	0.38	0.0053	27	38	0.0068	0.029	0.0075	0.000019	30	0.00077	0.00049	0.0012	0.090	0.00012	2.8
	March	0.27	0.38	0.0055	27	38	0.0070	0.029	0.0076	0.000020	30	0.00080	0.00050	0.0012	0.093	0.00012	2.9
	April	0.29	0.39	0.0057	27	39	0.0071	0.030	0.0078	0.000020	30	0.00082	0.00052	0.0012	0.097	0.00012	2.9
	May	0.30	0.40	0.0058	28	39	0.0073	0.031	0.0079	0.000021	30	0.00085	0.00053	0.0012	0.10	0.00012	3.0
	June	0.29	0.39	0.0057	27	39	0.0072	0.030	0.0078	0.000020	30	0.00083	0.00053	0.0012	0.099	0.00012	3.0
	July	0.26	0.37	0.0052	27	37	0.0067	0.028	0.0074	0.000019	29	0.00075	0.00048	0.0011	0.089	0.00011	2.7
	August	0.24	0.36	0.0049	27	36	0.0063	0.027	0.0071	0.000018	29	0.00070	0.00045	0.0011	0.083	0.00011	2.6
	September	0.22	0.34	0.0047	27	35	0.0060	0.026	0.0069	0.000017	29	0.00066	0.00042	0.0010	0.077	0.00011	2.4
	October	0.22	0.34	0.0047	27	35	0.0060	0.025	0.0069	0.000017	29	0.00065	0.00042	0.0010	0.076	0.00011	2.4
	November	0.22	0.35	0.0048	27	36	0.0061	0.026	0.0070	0.000018	29	0.00068	0.00044	0.0010	0.079	0.00011	2.5
	December	0.24	0.36	0.0050	27	36	0.0064	0.027	0.0072	0.000018	29	0.00071	0.00045	0.0011	0.082	0.00011	2.6
BJ U/S Post-Closure	January	0.19	0.21	0.0047	27	34	0.0044	0.019	0.0058	0.000027	28	0.00040	0.00029	0.0011	0.049	0.00011	2.4
	February	0.19	0.21	0.0047	27	34	0.0044	0.019	0.0058	0.000027	28	0.00040	0.00029	0.0011	0.049	0.00011	2.4
	March	0.18	0.21	0.0046	27	34	0.0044	0.019	0.0058	0.000027	28	0.00039	0.00028	0.0011	0.049	0.00011	2.4
	April	0.18	0.21	0.0046	27	34	0.0044	0.019	0.0059	0.000027	28	0.00039	0.00028	0.0011	0.049	0.00011	2.4
	May	0.18	0.21	0.0046	27	34	0.0044	0.019	0.0059	0.000027	28	0.00039	0.00028	0.0011	0.048	0.00011	2.4
	June	0.17	0.21	0.0044	27	33	0.0042	0.018	0.0058	0.000027	28	0.00037	0.00027	0.0010	0.046	0.00010	2.3
	July	0.14	0.21	0.0040	27	32	0.0039	0.017	0.0056	0.000027	27	0.00032	0.00024	0.00093	0.041	0.000095	2.0
	August	0.12	0.20	0.0036	26	30	0.0037	0.016	0.0054	0.000027	27	0.00028	0.00022	0.00086	0.038	0.000089	1.8
	September	0.10	0.20	0.0033	26	29	0.0035	0.015	0.0053	0.000027	27	0.00024	0.00020	0.00079	0.035	0.000083	1.7
	October	0.095	0.20	0.0032	26	29	0.0034	0.014	0.0053	0.000027	27	0.00023	0.00019	0.00076	0.033	0.000081	1.6
	November	0.091	0.20	0.0031	26	29	0.0034	0.014	0.0053	0.000027	27	0.00022	0.00019	0.00075	0.032	0.000080	1.6
	December	0.090	0.20	0.0031	26	29	0.0033	0.014	0.0053	0.000027	27	0.00022	0.00019	0.00074	0.032	0.000080	1.6

**BJ U/S Conservative Background**

		D-Ma	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Ag	D-Na	D-Tl	D-Zn	T-Al	T-As	T-Cd	T-Ca
<b>BJ U/S Construction</b>	January	0.0025	0.000013	0.0015	0.00048	0.37	0.00060	0.0000055	1.7	0.000030	0.0015	0.031	0.0053	0.0000053	25
	February	0.0026	0.000013	0.0015	0.00049	0.39	0.00061	0.0000056	1.7	0.000031	0.0015	0.032	0.0055	0.0000054	25
	March	0.0027	0.000014	0.0015	0.00049	0.42	0.00062	0.0000056	1.8	0.000031	0.0015	0.032	0.0056	0.0000055	25
	April	0.0028	0.000014	0.0016	0.00049	0.44	0.00062	0.0000057	1.9	0.000031	0.0015	0.033	0.0058	0.0000057	25
	May	0.0029	0.000014	0.0016	0.00049	0.46	0.00063	0.0000058	2.0	0.000032	0.0015	0.033	0.0059	0.0000058	25
	June	0.0030	0.000014	0.0016	0.00049	0.47	0.00063	0.0000058	2.0	0.000032	0.0015	0.033	0.0059	0.0000059	25
	July	0.0029	0.000013	0.0016	0.00049	0.45	0.00063	0.0000057	1.9	0.000031	0.0015	0.033	0.0058	0.0000059	25
	August	0.0028	0.000013	0.0016	0.00049	0.43	0.00062	0.0000057	1.9	0.000031	0.0015	0.033	0.0057	0.0000059	25
	September	0.0028	0.000012	0.0016	0.00049	0.42	0.00062	0.0000057	1.8	0.000031	0.0015	0.032	0.0057	0.0000059	25
	October	0.0028	0.000012	0.0016	0.00049	0.42	0.00062	0.0000057	1.8	0.000031	0.0015	0.033	0.0057	0.0000059	25
	November	0.0028	0.000012	0.0016	0.00049	0.44	0.00063	0.0000057	1.9	0.000031	0.0015	0.033	0.0058	0.0000060	25
	December	0.0030	0.000013	0.0016	0.00049	0.46	0.00063	0.0000058	2.0	0.000032	0.0015	0.033	0.0059	0.0000061	25
<b>BJ U/S Operations</b>	January	0.087	0.000013	0.0057	0.00094	1.7	0.00087	0.000022	2.0	0.000037	0.0097	0.044	0.0074	0.000019	30
	February	0.092	0.000013	0.0059	0.00095	1.7	0.00089	0.000022	2.0	0.000037	0.010	0.045	0.0076	0.000019	30
	March	0.095	0.000013	0.0061	0.00097	1.8	0.00090	0.000023	2.1	0.000038	0.011	0.045	0.0077	0.000020	30
	April	0.099	0.000013	0.0063	0.00099	1.8	0.00091	0.000024	2.1	0.000038	0.011	0.046	0.0079	0.000020	30
	May	0.10	0.000013	0.0065	0.0010	1.9	0.00092	0.000024	2.1	0.000039	0.012	0.047	0.0080	0.000021	31
	June	0.10	0.000012	0.0065	0.0010	1.8	0.00091	0.000024	2.0	0.000038	0.012	0.046	0.0079	0.000021	30
	July	0.091	0.000011	0.0059	0.00095	1.7	0.00088	0.000022	2.0	0.000037	0.011	0.044	0.0075	0.000019	30
	August	0.084	0.000011	0.0055	0.00091	1.6	0.00085	0.000021	1.9	0.000036	0.010	0.043	0.0072	0.000018	29
	September	0.077	0.0000099	0.0052	0.00088	1.5	0.00083	0.000020	1.8	0.000036	0.0099	0.042	0.0070	0.000017	29
	October	0.076	0.0000095	0.0052	0.00088	1.5	0.00083	0.000019	1.8	0.000036	0.010	0.042	0.0070	0.000017	29
	November	0.079	0.0000094	0.0053	0.00089	1.5	0.00084	0.000020	1.8	0.000036	0.011	0.043	0.0071	0.000018	29
	December	0.083	0.0000094	0.0055	0.00092	1.6	0.00086	0.000021	1.9	0.000036	0.011	0.043	0.0073	0.000018	30
<b>BJ U/S Post-Closure</b>	January	0.046	0.0000052	0.0029	0.00073	0.67	0.00065	0.0000086	1.8	0.000030	0.012	0.036	0.0059	0.000027	29
	February	0.045	0.0000052	0.0029	0.00073	0.67	0.00065	0.0000086	1.8	0.000030	0.012	0.036	0.0059	0.000027	28
	March	0.045	0.0000052	0.0029	0.00073	0.67	0.00065	0.0000086	1.8	0.000030	0.012	0.036	0.0059	0.000027	28
	April	0.045	0.0000052	0.0029	0.00073	0.66	0.00065	0.0000086	1.8	0.000030	0.012	0.036	0.0060	0.000027	28
	May	0.045	0.0000052	0.0029	0.00072	0.66	0.00065	0.0000085	1.7	0.000030	0.012	0.036	0.0060	0.000027	28
	June	0.042	0.0000052	0.0028	0.00071	0.64	0.00064	0.0000083	1.7	0.000029	0.011	0.036	0.0059	0.000027	28
	July	0.036	0.0000052	0.0026	0.00068	0.57	0.00063	0.0000078	1.6	0.000029	0.0097	0.034	0.0057	0.000027	28
	August	0.031	0.0000052	0.0024	0.00065	0.52	0.00062	0.0000074	1.5	0.000029	0.0087	0.034	0.0056	0.000027	27
	September	0.027	0.0000052	0.0023	0.00063	0.47	0.00061	0.0000070	1.4	0.000029	0.0078	0.033	0.0054	0.000027	27
	October	0.025	0.0000051	0.0023	0.00062	0.45	0.00061	0.0000069	1.4	0.000028	0.0073	0.032	0.0054	0.000027	27
	November	0.024	0.0000051	0.0022	0.00062	0.44	0.00060	0.0000068	1.4	0.000028	0.0072	0.032	0.0054	0.000027	27
	December	0.024	0.0000051	0.0023	0.00062	0.44	0.00060	0.0000068	1.4	0.000028	0.0071	0.032	0.0054	0.000027	27

**BJ U/S Conservative Background**

		T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Mg	T-Ma	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Ag	T-Na	T-Tl	T-Zn
<b>BJ U/S Construction</b>	January	0.00010	0.000056	0.00029	0.031	0.000029	0.83	0.0065	0.000013	0.0015	0.00026	0.37	0.00061	0.0000055	1.7	0.000029	0.0015
	February	0.00010	0.000056	0.00029	0.031	0.000030	0.84	0.0066	0.000013	0.0016	0.00026	0.39	0.00062	0.0000056	1.7	0.000030	0.0015
	March	0.00010	0.000057	0.00030	0.031	0.000030	0.85	0.0067	0.000014	0.0016	0.00026	0.41	0.00063	0.0000056	1.8	0.000030	0.0015
	April	0.00010	0.000058	0.00030	0.031	0.000030	0.86	0.0068	0.000014	0.0016	0.00027	0.44	0.00063	0.0000057	1.9	0.000030	0.0015
	May	0.00010	0.000058	0.00030	0.031	0.000031	0.87	0.0069	0.000014	0.0016	0.00027	0.46	0.00064	0.0000058	2.0	0.000031	0.0015
	June	0.00010	0.000059	0.00030	0.031	0.000031	0.87	0.0070	0.000014	0.0016	0.00027	0.46	0.00064	0.0000058	2.0	0.000031	0.0015
	July	0.00010	0.000058	0.00030	0.031	0.000031	0.87	0.0069	0.000013	0.0016	0.00027	0.44	0.00064	0.0000057	1.9	0.000031	0.0015
	August	0.00010	0.000058	0.00030	0.031	0.000031	0.86	0.0068	0.000013	0.0016	0.00027	0.43	0.00063	0.0000057	1.9	0.000030	0.0015
	September	0.00010	0.000057	0.00030	0.031	0.000030	0.86	0.0068	0.000012	0.0016	0.00027	0.42	0.00063	0.0000057	1.8	0.000030	0.0015
	October	0.00010	0.000057	0.00030	0.031	0.000030	0.86	0.0068	0.000012	0.0016	0.00027	0.42	0.00063	0.0000057	1.8	0.000030	0.0015
	November	0.00010	0.000058	0.00031	0.031	0.000031	0.86	0.0068	0.000012	0.0016	0.00027	0.43	0.00064	0.0000057	1.9	0.000030	0.0015
	December	0.00010	0.000059	0.00031	0.031	0.000031	0.87	0.0069	0.000013	0.0016	0.00027	0.45	0.00064	0.0000058	2.0	0.000031	0.0015
<b>BJ U/S Operations</b>	January	0.00078	0.00047	0.0011	0.10	0.00012	2.7	0.091	0.000013	0.0058	0.00073	1.7	0.00088	0.000022	2.0	0.000036	0.0097
	February	0.00081	0.00049	0.0012	0.10	0.00012	2.8	0.096	0.000013	0.0059	0.00075	1.7	0.00089	0.000022	2.0	0.000036	0.010
	March	0.00083	0.00050	0.0012	0.11	0.00012	2.9	0.099	0.000013	0.0062	0.00077	1.8	0.00091	0.000023	2.1	0.000037	0.011
	April	0.00086	0.00052	0.0012	0.11	0.00012	3.0	0.10	0.000013	0.0064	0.00080	1.8	0.00092	0.000024	2.1	0.000037	0.011
	May	0.00088	0.00053	0.0012	0.11	0.00012	3.0	0.11	0.000013	0.0065	0.00081	1.9	0.00093	0.000024	2.1	0.000038	0.012
	June	0.00087	0.00053	0.0012	0.11	0.00012	3.0	0.11	0.000012	0.0065	0.00081	1.8	0.00092	0.000024	2.0	0.000037	0.012
	July	0.00079	0.00048	0.0011	0.10	0.00011	2.8	0.095	0.000011	0.0059	0.00075	1.7	0.00088	0.000022	2.0	0.000036	0.011
	August	0.00074	0.00045	0.0011	0.098	0.00011	2.6	0.087	0.000011	0.0056	0.00071	1.6	0.00086	0.000021	1.9	0.000035	0.010
	September	0.00070	0.00042	0.0010	0.093	0.00011	2.4	0.081	0.0000099	0.0052	0.00068	1.5	0.00084	0.000020	1.8	0.000035	0.0099
	October	0.00069	0.00042	0.0010	0.092	0.00011	2.4	0.080	0.0000095	0.0052	0.00067	1.5	0.00084	0.000019	1.8	0.000035	0.010
	November	0.00072	0.00043	0.0010	0.094	0.00011	2.5	0.083	0.0000094	0.0053	0.00069	1.5	0.00085	0.000020	1.8	0.000035	0.011
	December	0.00075	0.00045	0.0011	0.097	0.00012	2.6	0.087	0.0000094	0.0055	0.00071	1.6	0.00087	0.000021	1.9	0.000036	0.011
<b>BJ U/S Post-Closure</b>	January	0.00044	0.00029	0.0011	0.065	0.00011	2.4	0.050	0.0000052	0.0029	0.00052	0.66	0.00066	0.0000086	1.8	0.000029	0.012
	February	0.00044	0.00028	0.0011	0.064	0.00011	2.4	0.049	0.0000052	0.0029	0.00052	0.66	0.00066	0.0000086	1.8	0.000029	0.012
	March	0.00043	0.00028	0.0011	0.064	0.00011	2.4	0.049	0.0000052	0.0029	0.00052	0.66	0.00066	0.0000086	1.8	0.000029	0.012
	April	0.00043	0.00028	0.0011	0.064	0.00011	2.4	0.049	0.0000052	0.0029	0.00051	0.66	0.00066	0.0000086	1.8	0.000029	0.012
	May	0.00043	0.00028	0.0011	0.064	0.00011	2.4	0.048	0.0000052	0.0029	0.00051	0.66	0.00066	0.0000086	1.7	0.000029	0.012
	June	0.00041	0.00027	0.0010	0.062	0.00010	2.3	0.046	0.0000052	0.0028	0.00050	0.63	0.00065	0.0000084	1.7	0.000029	0.011
	July	0.00036	0.00024	0.00093	0.057	0.000096	2.1	0.040	0.0000052	0.0026	0.00046	0.56	0.00064	0.0000078	1.6	0.000028	0.0097
	August	0.00032	0.00022	0.00086	0.054	0.000090	1.9	0.035	0.0000052	0.0025	0.00044	0.51	0.00063	0.0000074	1.5	0.000028	0.0087
	September	0.00029	0.00020	0.00079	0.051	0.000084	1.7	0.031	0.0000052	0.0023	0.00041	0.47	0.00062	0.0000071	1.4	0.000028	0.0078
	October	0.00027	0.00019	0.00076	0.049	0.000082	1.6	0.029	0.0000052	0.0023	0.00040	0.45	0.00062	0.0000069	1.4	0.000027	0.0073
	November	0.00026	0.00019	0.00075	0.049	0.000081	1.6	0.028	0.0000052	0.0023	0.00040	0.44	0.00061	0.0000069	1.4	0.000027	0.0072
	December	0.00026	0.00019	0.00075	0.048	0.000081	1.6	0.028	0.0000052	0.0023	0.00039	0.44	0.00061	0.0000068	1.4	0.000027	0.0071

**BJ U/S Conservative Solids**

		NH <sub>3</sub>	NO <sub>3</sub>	NO <sub>2</sub>	Cl	SO <sub>4</sub>	P	D-Al	D-As	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Mg
BJ U/S Construction	January	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0036	0.000013	15	0.000059	0.00020	0.00028	0.015	0.000040	0.52
	February	0.0024	0.088	0.0016	2.0	16	0.0011	0.013	0.0038	0.000013	15	0.000060	0.00021	0.00028	0.015	0.000041	0.53
	March	0.0024	0.088	0.0016	2.0	17	0.0011	0.014	0.0040	0.000014	15	0.000061	0.00023	0.00029	0.015	0.000042	0.55
	April	0.0024	0.088	0.0016	2.0	17	0.0011	0.015	0.0042	0.000015	15	0.000062	0.00024	0.00029	0.015	0.000043	0.56
	May	0.0024	0.088	0.0016	2.0	17	0.0011	0.016	0.0043	0.000016	15	0.000063	0.00026	0.00029	0.015	0.000044	0.57
	June	0.0024	0.088	0.0016	2.0	17	0.0011	0.016	0.0044	0.000016	15	0.000063	0.00026	0.00029	0.015	0.000044	0.58
	July	0.0024	0.088	0.0016	2.0	17	0.0011	0.015	0.0043	0.000015	15	0.000063	0.00025	0.00029	0.015	0.000043	0.56
	August	0.0024	0.088	0.0016	2.0	17	0.0011	0.015	0.0042	0.000014	15	0.000063	0.00024	0.00029	0.015	0.000042	0.56
	September	0.0024	0.089	0.0016	2.0	17	0.0011	0.014	0.0041	0.000014	15	0.000062	0.00023	0.00029	0.015	0.000042	0.55
	October	0.0024	0.089	0.0016	2.0	17	0.0011	0.015	0.0041	0.000014	15	0.000063	0.00023	0.00029	0.015	0.000042	0.55
	November	0.0024	0.089	0.0016	2.0	17	0.0011	0.015	0.0043	0.000014	15	0.000064	0.00024	0.00029	0.015	0.000042	0.56
	December	0.0024	0.089	0.0016	2.0	17	0.0011	0.016	0.0044	0.000015	15	0.000064	0.00026	0.00030	0.015	0.000043	0.58
BJ U/S Operations	January	0.25	0.28	0.0052	6.8	31	0.0082	0.027	0.0084	0.000026	21	0.00089	0.00040	0.0011	0.10	0.000078	2.5
	February	0.26	0.29	0.0053	7.0	32	0.0085	0.028	0.0086	0.000027	21	0.00093	0.00042	0.0011	0.11	0.000081	2.6
	March	0.27	0.30	0.0055	7.3	33	0.0088	0.029	0.0089	0.000028	22	0.00096	0.00043	0.0011	0.11	0.000083	2.7
	April	0.29	0.31	0.0057	7.5	34	0.0091	0.030	0.0092	0.000029	22	0.00100	0.00045	0.0012	0.11	0.000085	2.8
	May	0.30	0.32	0.0058	7.7	34	0.0094	0.030	0.0095	0.000029	22	0.0010	0.00047	0.0012	0.12	0.000088	2.9
	June	0.29	0.31	0.0057	7.6	34	0.0092	0.030	0.0094	0.000029	22	0.0010	0.00046	0.0012	0.12	0.000087	2.9
	July	0.26	0.29	0.0052	7.0	32	0.0084	0.028	0.0086	0.000027	21	0.00091	0.00042	0.0011	0.11	0.000080	2.6
	August	0.24	0.28	0.0049	6.6	31	0.0078	0.026	0.0080	0.000025	21	0.00085	0.00039	0.0010	0.098	0.000076	2.4
	September	0.22	0.26	0.0047	6.2	29	0.0073	0.025	0.0076	0.000024	20	0.00079	0.00036	0.00096	0.091	0.000072	2.3
	October	0.22	0.26	0.0047	6.2	29	0.0072	0.024	0.0075	0.000023	20	0.00078	0.00035	0.00095	0.090	0.000071	2.2
	November	0.22	0.27	0.0048	6.4	30	0.0075	0.025	0.0077	0.000024	20	0.00081	0.00036	0.00098	0.092	0.000073	2.3
	December	0.24	0.28	0.0050	6.7	31	0.0078	0.026	0.0081	0.000025	21	0.00085	0.00038	0.0010	0.097	0.000076	2.4
BJ U/S Post-Closure	January	0.19	0.13	0.0047	6.9	27	0.0039	0.017	0.0052	0.000018	19	0.00043	0.00021	0.0010	0.052	0.000065	2.2
	February	0.19	0.13	0.0047	6.9	27	0.0039	0.017	0.0053	0.000018	19	0.00043	0.00021	0.0010	0.052	0.000064	2.2
	March	0.18	0.13	0.0046	6.9	26	0.0039	0.017	0.0054	0.000018	19	0.00043	0.00020	0.0010	0.051	0.000064	2.2
	April	0.18	0.13	0.0046	6.9	26	0.0039	0.017	0.0054	0.000018	19	0.00042	0.00020	0.0010	0.051	0.000064	2.2
	May	0.18	0.13	0.0046	6.8	26	0.0039	0.016	0.0055	0.000018	19	0.00042	0.00020	0.0010	0.051	0.000064	2.1
	June	0.17	0.13	0.0044	6.5	26	0.0037	0.016	0.0054	0.000017	19	0.00040	0.00019	0.00098	0.049	0.000062	2.0
	July	0.14	0.12	0.0040	5.8	24	0.0033	0.014	0.0049	0.000015	18	0.00034	0.00017	0.00086	0.043	0.000056	1.8
	August	0.12	0.12	0.0036	5.3	23	0.0030	0.013	0.0046	0.000014	18	0.00030	0.00015	0.00078	0.039	0.000052	1.6
	September	0.10	0.11	0.0033	4.8	22	0.0027	0.012	0.0044	0.000013	18	0.00026	0.00014	0.00070	0.035	0.000048	1.4
	October	0.095	0.11	0.0032	4.6	21	0.0026	0.012	0.0043	0.000012	17	0.00024	0.00013	0.00066	0.034	0.000046	1.3
	November	0.091	0.11	0.0031	4.5	21	0.0026	0.012	0.0044	0.000012	17	0.00024	0.00013	0.00065	0.033	0.000046	1.3
	December	0.090	0.11	0.0031	4.5	21	0.0026	0.012	0.0045	0.000012	17	0.00023	0.00013	0.00064	0.033	0.000046	1.3

**BJ U/S Conservative Solids**

		D-Ma	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Ag	D-Na	D-Tl	D-Zn	T-Al	T-As	T-Cd	T-Ca
BJ U/S Construction	January	0.0055	0.000013	0.00093	0.00044	0.33	0.00042	0.0000061	1.7	0.000018	0.0017	0.020	0.0037	0.000012	16
	February	0.0060	0.000014	0.00096	0.00046	0.35	0.00044	0.0000062	1.8	0.000019	0.0017	0.021	0.0038	0.000013	16
	March	0.0065	0.000014	0.00100	0.00048	0.37	0.00045	0.0000063	1.9	0.000020	0.0017	0.021	0.0040	0.000014	16
	April	0.0070	0.000015	0.0010	0.00050	0.39	0.00047	0.0000065	1.9	0.000020	0.0017	0.022	0.0042	0.000015	16
	May	0.0074	0.000015	0.0011	0.00051	0.42	0.00048	0.0000066	2.0	0.000021	0.0017	0.023	0.0043	0.000015	16
	June	0.0076	0.000016	0.0011	0.00052	0.42	0.00049	0.0000066	2.0	0.000022	0.0017	0.023	0.0044	0.000016	16
	July	0.0071	0.000015	0.0010	0.00050	0.40	0.00048	0.0000065	2.0	0.000021	0.0017	0.022	0.0043	0.000015	16
	August	0.0068	0.000014	0.0010	0.00049	0.39	0.00047	0.0000065	2.0	0.000020	0.0017	0.022	0.0041	0.000014	16
	September	0.0066	0.000013	0.0010	0.00048	0.38	0.00046	0.0000064	1.9	0.000020	0.0017	0.021	0.0041	0.000014	16
	October	0.0066	0.000013	0.0010	0.00049	0.39	0.00047	0.0000065	1.9	0.000020	0.0017	0.022	0.0041	0.000014	16
	November	0.0070	0.000014	0.0011	0.00050	0.40	0.00048	0.0000065	2.0	0.000020	0.0017	0.022	0.0042	0.000014	16
	December	0.0074	0.000014	0.0011	0.00051	0.42	0.00049	0.0000067	2.1	0.000021	0.0017	0.023	0.0044	0.000015	16
BJ U/S Operations	January	0.084	0.000015	0.0082	0.00090	2.1	0.00078	0.000038	2.1	0.000026	0.0089	0.034	0.0085	0.000026	21
	February	0.088	0.000015	0.0085	0.00093	2.1	0.00080	0.000039	2.1	0.000027	0.0095	0.035	0.0088	0.000027	22
	March	0.092	0.000015	0.0088	0.00096	2.2	0.00082	0.000040	2.2	0.000028	0.010	0.036	0.0090	0.000028	22
	April	0.096	0.000015	0.0091	0.00099	2.3	0.00084	0.000042	2.2	0.000028	0.011	0.036	0.0093	0.000029	22
	May	0.100	0.000015	0.0094	0.0010	2.4	0.00086	0.000043	2.2	0.000029	0.011	0.037	0.0096	0.000029	22
	June	0.099	0.000014	0.0093	0.0010	2.3	0.00085	0.000042	2.1	0.000029	0.011	0.037	0.0095	0.000029	22
	July	0.088	0.000013	0.0083	0.00093	2.1	0.00079	0.000038	2.0	0.000027	0.010	0.034	0.0087	0.000027	22
	August	0.080	0.000012	0.0077	0.00088	1.9	0.00075	0.000036	1.9	0.000025	0.0097	0.033	0.0082	0.000025	21
	September	0.074	0.000011	0.0072	0.00083	1.8	0.00072	0.000033	1.8	0.000024	0.0093	0.032	0.0077	0.000024	21
	October	0.072	0.000011	0.0072	0.00082	1.8	0.00071	0.000033	1.8	0.000024	0.0095	0.031	0.0076	0.000023	21
	November	0.075	0.000010	0.0074	0.00084	1.9	0.00073	0.000034	1.8	0.000024	0.010	0.032	0.0078	0.000024	21
	December	0.079	0.000010	0.0078	0.00087	2.0	0.00076	0.000036	1.8	0.000025	0.011	0.033	0.0082	0.000025	21
BJ U/S Post-Closure	January	0.041	0.0000054	0.0030	0.00054	0.73	0.00042	0.000011	1.7	0.000014	0.011	0.024	0.0054	0.000018	20
	February	0.041	0.0000054	0.0031	0.00054	0.73	0.00042	0.000011	1.7	0.000014	0.011	0.024	0.0054	0.000018	20
	March	0.041	0.0000055	0.0031	0.00054	0.73	0.00042	0.000011	1.7	0.000014	0.011	0.024	0.0055	0.000018	20
	April	0.040	0.0000055	0.0031	0.00054	0.73	0.00042	0.000011	1.7	0.000014	0.011	0.024	0.0055	0.000018	20
	May	0.040	0.0000055	0.0031	0.00054	0.73	0.00041	0.000011	1.6	0.000014	0.011	0.024	0.0056	0.000018	20
	June	0.038	0.0000055	0.0030	0.00052	0.70	0.00041	0.000011	1.6	0.000014	0.010	0.023	0.0055	0.000017	19
	July	0.032	0.0000054	0.0026	0.00049	0.61	0.00038	0.0000100	1.5	0.000013	0.0089	0.022	0.0051	0.000015	19
	August	0.027	0.0000054	0.0024	0.00046	0.55	0.00037	0.0000092	1.4	0.000012	0.0078	0.021	0.0048	0.000014	18
	September	0.023	0.0000053	0.0022	0.00043	0.49	0.00036	0.0000086	1.4	0.000012	0.0069	0.020	0.0045	0.000013	18
	October	0.021	0.0000053	0.0021	0.00042	0.47	0.00035	0.0000083	1.3	0.000012	0.0064	0.019	0.0044	0.000012	18
	November	0.021	0.0000053	0.0021	0.00042	0.46	0.00035	0.0000082	1.3	0.000012	0.0062	0.019	0.0045	0.000012	18
	December	0.020	0.0000053	0.0021	0.00042	0.47	0.00034	0.0000081	1.3	0.000012	0.0062	0.019	0.0046	0.000012	18

**BJ U/S Conservative Solids**

		T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Mg	T-Ma	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Ag	T-Na	T-Tl	T-Zn
<b>BJ U/S Construction</b>	January	0.000066	0.00020	0.00028	0.018	0.000038	0.53	0.0067	0.000013	0.00094	0.00040	0.32	0.00041	0.0000059	1.7	0.000017	0.0016
	February	0.000067	0.00021	0.00028	0.018	0.000039	0.54	0.0072	0.000014	0.00098	0.00042	0.35	0.00043	0.0000061	1.8	0.000018	0.0017
	March	0.000067	0.00023	0.00028	0.018	0.000040	0.56	0.0077	0.000014	0.0010	0.00044	0.37	0.00044	0.0000062	1.9	0.000019	0.0017
	April	0.000068	0.00024	0.00028	0.018	0.000042	0.57	0.0082	0.000015	0.0010	0.00045	0.39	0.00046	0.0000063	1.9	0.000020	0.0017
	May	0.000069	0.00026	0.00028	0.018	0.000042	0.58	0.0086	0.000015	0.0011	0.00047	0.41	0.00047	0.0000064	2.0	0.000021	0.0017
	June	0.000069	0.00026	0.00029	0.018	0.000043	0.58	0.0088	0.000015	0.0011	0.00048	0.42	0.00048	0.0000065	2.0	0.000021	0.0017
	July	0.000069	0.00025	0.00028	0.018	0.000041	0.57	0.0083	0.000015	0.0011	0.00046	0.40	0.00047	0.0000064	2.0	0.000020	0.0017
	August	0.000068	0.00024	0.00028	0.018	0.000040	0.57	0.0080	0.000014	0.0010	0.00045	0.39	0.00046	0.0000063	2.0	0.000020	0.0017
	September	0.000068	0.00023	0.00028	0.018	0.000039	0.56	0.0077	0.000013	0.0010	0.00044	0.38	0.00045	0.0000062	1.9	0.000019	0.0017
	October	0.000068	0.00023	0.00028	0.018	0.000039	0.56	0.0078	0.000013	0.0010	0.00044	0.38	0.00045	0.0000063	1.9	0.000019	0.0017
	November	0.000069	0.00024	0.00029	0.018	0.000040	0.57	0.0081	0.000013	0.0011	0.00046	0.40	0.00047	0.0000063	2.0	0.000020	0.0017
	December	0.000070	0.00026	0.00029	0.018	0.000041	0.59	0.0086	0.000014	0.0011	0.00047	0.42	0.00048	0.0000065	2.1	0.000021	0.0017
<b>BJ U/S Operations</b>	January	0.00090	0.00040	0.0011	0.10	0.000079	2.5	0.085	0.000015	0.0082	0.00087	2.1	0.00078	0.000038	2.1	0.000026	0.0089
	February	0.00093	0.00042	0.0011	0.11	0.000081	2.6	0.090	0.000015	0.0085	0.00090	2.1	0.00080	0.000039	2.1	0.000027	0.0095
	March	0.00097	0.00043	0.0011	0.11	0.000083	2.7	0.093	0.000015	0.0088	0.00093	2.2	0.00082	0.000040	2.1	0.000027	0.010
	April	0.0010	0.00045	0.0012	0.12	0.000086	2.8	0.097	0.000015	0.0092	0.00096	2.3	0.00084	0.000042	2.2	0.000028	0.011
	May	0.0010	0.00047	0.0012	0.12	0.000088	2.9	0.10	0.000014	0.0094	0.00098	2.4	0.00085	0.000043	2.2	0.000029	0.011
	June	0.0010	0.00046	0.0012	0.12	0.000087	2.9	0.100	0.000014	0.0093	0.00097	2.3	0.00084	0.000042	2.1	0.000028	0.011
	July	0.00092	0.00042	0.0011	0.11	0.000080	2.6	0.089	0.000013	0.0083	0.00090	2.1	0.00078	0.000038	2.0	0.000026	0.010
	August	0.00085	0.00039	0.0010	0.10	0.000076	2.4	0.081	0.000012	0.0078	0.00084	1.9	0.00075	0.000036	1.9	0.000025	0.0097
	September	0.00080	0.00036	0.00096	0.094	0.000072	2.3	0.075	0.000011	0.0072	0.00080	1.8	0.00071	0.000033	1.8	0.000024	0.0093
	October	0.00079	0.00035	0.00095	0.092	0.000072	2.2	0.074	0.000011	0.0072	0.00079	1.8	0.00071	0.000033	1.8	0.000024	0.0095
	November	0.00082	0.00036	0.00098	0.095	0.000074	2.3	0.076	0.000010	0.0074	0.00081	1.9	0.00073	0.000034	1.8	0.000024	0.010
	December	0.00086	0.00038	0.0010	0.099	0.000076	2.4	0.081	0.000010	0.0078	0.00084	2.0	0.00075	0.000036	1.8	0.000025	0.011
<b>BJ U/S Post-Closure</b>	January	0.00044	0.00021	0.0010	0.055	0.000065	2.2	0.042	0.0000054	0.0031	0.00050	0.73	0.00041	0.000012	1.7	0.000014	0.011
	February	0.00044	0.00021	0.0010	0.055	0.000065	2.2	0.042	0.0000054	0.0031	0.00050	0.73	0.00041	0.000011	1.7	0.000014	0.011
	March	0.00043	0.00020	0.0010	0.054	0.000065	2.2	0.042	0.0000055	0.0031	0.00050	0.73	0.00041	0.000011	1.7	0.000014	0.011
	April	0.00043	0.00020	0.0010	0.054	0.000065	2.2	0.042	0.0000055	0.0031	0.00050	0.73	0.00041	0.000011	1.6	0.000014	0.011
	May	0.00043	0.00020	0.0010	0.054	0.000065	2.2	0.041	0.0000055	0.0031	0.00050	0.73	0.00041	0.000011	1.6	0.000014	0.011
	June	0.00041	0.00019	0.00098	0.052	0.000063	2.0	0.039	0.0000055	0.0030	0.00048	0.70	0.00040	0.000011	1.6	0.000013	0.010
	July	0.00035	0.00017	0.00086	0.046	0.000057	1.8	0.033	0.0000054	0.0027	0.00045	0.61	0.00038	0.000010	1.5	0.000013	0.0089
	August	0.00031	0.00015	0.00078	0.042	0.000053	1.6	0.028	0.0000054	0.0024	0.00042	0.55	0.00036	0.0000093	1.4	0.000012	0.0078
	September	0.00027	0.00014	0.00070	0.039	0.000049	1.4	0.025	0.0000053	0.0022	0.00039	0.49	0.00035	0.0000087	1.4	0.000012	0.0069
	October	0.00025	0.00013	0.00066	0.037	0.000048	1.3	0.023	0.0000053	0.0021	0.00038	0.47	0.00034	0.0000084	1.3	0.000011	0.0064
	November	0.00024	0.00013	0.00065	0.036	0.000047	1.3	0.022	0.0000053	0.0021	0.00038	0.46	0.00034	0.0000082	1.3	0.000011	0.0062
	December	0.00024	0.00013	0.00064	0.036	0.000047	1.3	0.022	0.0000053	0.0021	0.00038	0.47	0.00034	0.0000082	1.3	0.000011	0.0062

**BJ U/S Cumulative Conservative**

		NH <sub>3</sub>	NO <sub>3</sub>	NO <sub>2</sub>	Cl	SO <sub>4</sub>	P	D-Al	D-As	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Mg
BJ U/S Construction	January	0.0024	0.18	0.0016	23	24	0.0022	0.015	0.0056	0.000012	25	0.000057	0.00020	0.00029	0.015	0.000039	0.83
	February	0.0024	0.18	0.0016	23	24	0.0022	0.016	0.0058	0.000013	25	0.000058	0.00021	0.00029	0.015	0.000040	0.85
	March	0.0024	0.18	0.0016	23	24	0.0022	0.017	0.0059	0.000014	25	0.000059	0.00023	0.00030	0.015	0.000041	0.86
	April	0.0024	0.18	0.0016	23	24	0.0022	0.017	0.0061	0.000015	25	0.000060	0.00024	0.00030	0.015	0.000042	0.87
	May	0.0024	0.18	0.0016	23	24	0.0022	0.018	0.0063	0.000016	25	0.000061	0.00026	0.00030	0.015	0.000043	0.88
	June	0.0024	0.18	0.0016	23	24	0.0022	0.018	0.0063	0.000016	25	0.000061	0.00026	0.00030	0.015	0.000044	0.89
	July	0.0024	0.18	0.0016	23	24	0.0022	0.018	0.0062	0.000015	25	0.000061	0.00025	0.00030	0.015	0.000042	0.88
	August	0.0024	0.18	0.0016	23	24	0.0022	0.017	0.0061	0.000015	25	0.000060	0.00024	0.00030	0.015	0.000042	0.87
	September	0.0024	0.18	0.0016	23	24	0.0022	0.018	0.0062	0.000015	25	0.000061	0.00025	0.00030	0.015	0.000042	0.88
	October	0.0024	0.18	0.0016	23	24	0.0022	0.018	0.0063	0.000015	25	0.000061	0.00025	0.00031	0.015	0.000042	0.88
	November	0.0024	0.18	0.0016	23	24	0.0022	0.018	0.0064	0.000015	25	0.000062	0.00027	0.00031	0.015	0.000043	0.89
	December	0.0024	0.18	0.0016	23	25	0.0022	0.019	0.0065	0.000016	25	0.000062	0.00028	0.00031	0.015	0.000044	0.90
BJ U/S Operations	January	0.42	0.76	0.0095	180	260	0.0096	0.050	0.012	0.000046	260	0.0016	0.0067	0.0027	0.38	0.0042	7.8
	February	0.44	0.78	0.0098	190	270	0.0099	0.051	0.012	0.000048	270	0.0017	0.0070	0.0028	0.40	0.0044	8.1
	March	0.46	0.80	0.010	200	280	0.010	0.053	0.012	0.000049	280	0.0018	0.0073	0.0029	0.41	0.0046	8.4
	April	0.47	0.83	0.011	200	290	0.011	0.055	0.013	0.000051	300	0.0018	0.0076	0.0030	0.43	0.0048	8.7
	May	0.49	0.84	0.011	210	300	0.011	0.056	0.013	0.000052	300	0.0019	0.0079	0.0030	0.44	0.0049	8.9
	June	0.48	0.83	0.011	210	290	0.011	0.056	0.013	0.000051	300	0.0019	0.0077	0.0030	0.43	0.0048	8.8
	July	0.43	0.77	0.0096	190	260	0.0098	0.051	0.012	0.000046	270	0.0017	0.0069	0.0027	0.39	0.0043	7.9
	August	0.40	0.72	0.0089	180	250	0.0092	0.047	0.011	0.000043	250	0.0015	0.0065	0.0026	0.36	0.0041	7.3
	September	0.37	0.68	0.0086	180	250	0.0087	0.044	0.011	0.000040	260	0.0014	0.0066	0.0026	0.35	0.0041	7.3
	October	0.36	0.68	0.0086	180	250	0.0086	0.044	0.011	0.000040	260	0.0014	0.0067	0.0026	0.35	0.0042	7.3
	November	0.38	0.70	0.0087	190	260	0.0089	0.046	0.011	0.000042	270	0.0015	0.0069	0.0027	0.37	0.0043	7.6
	December	0.40	0.73	0.0091	190	280	0.0092	0.048	0.011	0.000044	280	0.0016	0.0073	0.0028	0.38	0.0045	7.9
BJ U/S Post-Closure	January	0.23	0.26	0.0093	200	290	0.0060	0.048	0.0095	0.000044	290	0.0011	0.0076	0.0029	0.40	0.0047	8.3
	February	0.23	0.26	0.0093	200	280	0.0060	0.048	0.0095	0.000044	290	0.0011	0.0075	0.0029	0.40	0.0047	8.2
	March	0.23	0.26	0.0092	200	280	0.0060	0.047	0.0096	0.000044	290	0.0011	0.0075	0.0029	0.40	0.0047	8.2
	April	0.23	0.26	0.0092	200	280	0.0060	0.047	0.0096	0.000044	290	0.0011	0.0074	0.0029	0.39	0.0046	8.1
	May	0.22	0.26	0.0091	200	280	0.0059	0.047	0.0096	0.000044	290	0.0011	0.0073	0.0029	0.39	0.0046	8.1
	June	0.21	0.25	0.0086	190	260	0.0057	0.044	0.0094	0.000043	270	0.0010	0.0069	0.0027	0.37	0.0043	7.6
	July	0.18	0.24	0.0075	160	220	0.0052	0.039	0.0087	0.000040	230	0.00085	0.0058	0.0023	0.31	0.0036	6.5
	August	0.15	0.23	0.0066	140	190	0.0048	0.034	0.0081	0.000038	200	0.00073	0.0050	0.0021	0.27	0.0031	5.6
	September	0.13	0.23	0.0059	120	170	0.0044	0.031	0.0077	0.000036	170	0.00063	0.0042	0.0018	0.23	0.0026	4.9
	October	0.12	0.22	0.0055	110	160	0.0042	0.029	0.0075	0.000035	160	0.00058	0.0039	0.0017	0.21	0.0024	4.5
	November	0.11	0.22	0.0053	110	150	0.0042	0.028	0.0075	0.000035	150	0.00056	0.0037	0.0016	0.20	0.0023	4.4
	December	0.11	0.22	0.0053	110	150	0.0042	0.028	0.0076	0.000035	150	0.00055	0.0037	0.0016	0.20	0.0023	4.4

**BJ U/S Cumulative Conservative**

		D-Ma	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Ag	D-Na	D-Tl	D-Zn	T-Al	T-As	T-Cd	T-Ca
BJ U/S Construction	January	0.0061	0.000013	0.0017	0.00063	0.38	0.00069	0.0000060	1.7	0.000035	0.0016	0.033	0.0057	0.000012	25
	February	0.0066	0.000014	0.0017	0.00064	0.41	0.00070	0.0000061	1.7	0.000036	0.0017	0.034	0.0059	0.000013	25
	March	0.0071	0.000014	0.0017	0.00066	0.43	0.00072	0.0000062	1.8	0.000037	0.0017	0.034	0.0061	0.000014	25
	April	0.0076	0.000015	0.0018	0.00068	0.45	0.00074	0.0000063	1.9	0.000037	0.0017	0.035	0.0062	0.000015	25
	May	0.0080	0.000015	0.0018	0.00069	0.47	0.00075	0.0000064	1.9	0.000038	0.0017	0.036	0.0064	0.000016	25
	June	0.0082	0.000016	0.0018	0.00070	0.48	0.00076	0.0000065	2.0	0.000039	0.0017	0.036	0.0064	0.000016	25
	July	0.0077	0.000015	0.0018	0.00069	0.46	0.00074	0.0000064	1.9	0.000038	0.0017	0.035	0.0063	0.000015	25
	August	0.0075	0.000014	0.0018	0.00068	0.45	0.00074	0.0000063	1.9	0.000037	0.0017	0.035	0.0063	0.000015	25
	September	0.0077	0.000014	0.0018	0.00069	0.46	0.00075	0.0000064	1.9	0.000038	0.0017	0.035	0.0063	0.000015	25
	October	0.0079	0.000014	0.0018	0.00069	0.47	0.00075	0.0000064	1.9	0.000038	0.0017	0.036	0.0064	0.000015	25
	November	0.0082	0.000015	0.0018	0.00071	0.48	0.00076	0.0000065	2.0	0.000039	0.0017	0.036	0.0065	0.000015	25
	December	0.0086	0.000015	0.0019	0.00072	0.50	0.00078	0.0000066	2.0	0.000039	0.0017	0.037	0.0067	0.000016	25
BJ U/S Operations	January	1.3	0.000016	0.0093	0.017	2.7	0.0016	0.000066	6.2	0.000061	0.035	0.066	0.012	0.000046	260
	February	1.4	0.000016	0.0096	0.018	2.9	0.0016	0.000068	6.4	0.000063	0.036	0.068	0.012	0.000048	270
	March	1.5	0.000016	0.0100	0.019	3.0	0.0017	0.000071	6.6	0.000065	0.038	0.069	0.013	0.000049	280
	April	1.5	0.000016	0.010	0.019	3.1	0.0017	0.000074	6.8	0.000066	0.039	0.071	0.013	0.000051	300
	May	1.6	0.000016	0.011	0.020	3.2	0.0017	0.000076	7.0	0.000068	0.041	0.072	0.013	0.000052	310
	June	1.5	0.000015	0.010	0.020	3.1	0.0017	0.000075	6.9	0.000067	0.040	0.072	0.013	0.000051	300
	July	1.4	0.000014	0.0095	0.018	2.8	0.0016	0.000068	6.2	0.000062	0.036	0.067	0.012	0.000046	270
	August	1.3	0.000013	0.0089	0.017	2.6	0.0015	0.000063	5.8	0.000059	0.034	0.064	0.011	0.000043	260
	September	1.3	0.000012	0.0083	0.017	2.4	0.0014	0.000058	5.9	0.000057	0.034	0.061	0.011	0.000040	260
	October	1.3	0.000011	0.0082	0.017	2.4	0.0014	0.000058	6.0	0.000057	0.035	0.061	0.011	0.000040	260
	November	1.4	0.000012	0.0085	0.018	2.5	0.0015	0.000060	6.1	0.000058	0.036	0.062	0.011	0.000042	270
	December	1.4	0.000013	0.0089	0.019	2.6	0.0015	0.000063	6.4	0.000060	0.038	0.064	0.012	0.000044	280
BJ U/S Post-Closure	January	1.5	0.0000087	0.0045	0.019	1.7	0.0014	0.000049	6.7	0.000058	0.039	0.065	0.0096	0.000044	290
	February	1.5	0.0000087	0.0045	0.019	1.7	0.0013	0.000049	6.6	0.000058	0.039	0.064	0.0096	0.000044	290
	March	1.5	0.0000087	0.0045	0.019	1.7	0.0013	0.000048	6.6	0.000058	0.039	0.064	0.0097	0.000044	290
	April	1.5	0.0000087	0.0045	0.019	1.7	0.0013	0.000048	6.5	0.000058	0.038	0.064	0.0097	0.000044	290
	May	1.5	0.0000086	0.0045	0.019	1.7	0.0013	0.000048	6.5	0.000057	0.038	0.064	0.0097	0.000044	290
	June	1.4	0.0000084	0.0044	0.018	1.6	0.0013	0.000045	6.1	0.000056	0.036	0.062	0.0095	0.000043	270
	July	1.1	0.0000079	0.0039	0.015	1.4	0.0012	0.000038	5.3	0.000051	0.030	0.056	0.0088	0.000040	230
	August	0.98	0.0000075	0.0036	0.013	1.2	0.0011	0.000034	4.7	0.000047	0.026	0.052	0.0082	0.000038	200
	September	0.84	0.0000071	0.0033	0.011	1.1	0.0010	0.000029	4.1	0.000044	0.023	0.048	0.0078	0.000036	170
	October	0.76	0.0000070	0.0032	0.0100	0.99	0.00096	0.000027	3.9	0.000043	0.021	0.047	0.0076	0.000035	160
	November	0.73	0.0000069	0.0032	0.0096	0.97	0.00095	0.000026	3.8	0.000042	0.020	0.046	0.0076	0.000035	160
	December	0.72	0.0000069	0.0032	0.0095	0.97	0.00094	0.000026	3.7	0.000042	0.020	0.046	0.0077	0.000035	150



**BJ U/S Cumulative Conservative**

		T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Mg	T-Ma	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Ag	T-Na	T-Tl	T-Zn
BJ U/S Construction	January	0.00010	0.00020	0.00029	0.031	0.000039	0.85	0.010	0.000013	0.0017	0.00040	0.38	0.00070	0.0000060	1.7	0.000034	0.0016
	February	0.00010	0.00021	0.00029	0.031	0.000040	0.87	0.011	0.000014	0.0017	0.00042	0.40	0.00071	0.0000061	1.7	0.000035	0.0017
	March	0.00010	0.00023	0.00030	0.031	0.000041	0.88	0.011	0.000014	0.0018	0.00044	0.43	0.00073	0.0000062	1.8	0.000036	0.0017
	April	0.00010	0.00024	0.00030	0.031	0.000042	0.89	0.012	0.000015	0.0018	0.00045	0.45	0.00075	0.0000063	1.9	0.000036	0.0017
	May	0.00010	0.00026	0.00030	0.031	0.000043	0.90	0.012	0.000015	0.0018	0.00047	0.47	0.00076	0.0000064	1.9	0.000037	0.0017
	June	0.00010	0.00026	0.00030	0.031	0.000044	0.91	0.012	0.000016	0.0018	0.00048	0.48	0.00077	0.0000065	2.0	0.000038	0.0017
	July	0.00010	0.00025	0.00030	0.031	0.000042	0.90	0.012	0.000015	0.0018	0.00046	0.46	0.00075	0.0000064	1.9	0.000037	0.0017
	August	0.00010	0.00024	0.00030	0.031	0.000042	0.89	0.012	0.000014	0.0018	0.00046	0.45	0.00075	0.0000063	1.9	0.000036	0.0017
	September	0.00010	0.00025	0.00030	0.031	0.000042	0.90	0.012	0.000014	0.0018	0.00046	0.46	0.00075	0.0000064	1.9	0.000037	0.0017
	October	0.00010	0.00025	0.00031	0.031	0.000042	0.90	0.012	0.000014	0.0018	0.00047	0.47	0.00076	0.0000064	1.9	0.000037	0.0017
	November	0.00010	0.00027	0.00031	0.031	0.000043	0.91	0.012	0.000015	0.0019	0.00048	0.48	0.00077	0.0000065	2.0	0.000038	0.0017
	December	0.00011	0.00028	0.00031	0.031	0.000044	0.92	0.013	0.000015	0.0019	0.00050	0.50	0.00079	0.0000066	2.0	0.000039	0.0017
BJ U/S Operations	January	0.0017	0.0067	0.0027	0.39	0.0042	7.8	1.3	0.000016	0.0093	0.017	2.7	0.0016	0.000066	6.2	0.000061	0.035
	February	0.0017	0.0070	0.0028	0.41	0.0044	8.1	1.4	0.000016	0.0096	0.018	2.9	0.0016	0.000069	6.4	0.000062	0.036
	March	0.0018	0.0073	0.0029	0.43	0.0046	8.4	1.5	0.000016	0.0100	0.019	3.0	0.0017	0.000071	6.6	0.000064	0.038
	April	0.0019	0.0076	0.0030	0.44	0.0048	8.7	1.5	0.000016	0.010	0.019	3.1	0.0017	0.000074	6.8	0.000065	0.039
	May	0.0019	0.0079	0.0030	0.45	0.0049	8.9	1.6	0.000016	0.011	0.020	3.2	0.0017	0.000076	7.0	0.000067	0.041
	June	0.0019	0.0077	0.0030	0.45	0.0048	8.8	1.5	0.000015	0.011	0.020	3.1	0.0017	0.000075	6.9	0.000066	0.040
	July	0.0017	0.0069	0.0027	0.40	0.0043	7.9	1.4	0.000014	0.0095	0.018	2.8	0.0016	0.000068	6.2	0.000062	0.036
	August	0.0016	0.0065	0.0026	0.37	0.0041	7.3	1.3	0.000013	0.0089	0.016	2.6	0.0015	0.000063	5.8	0.000059	0.034
	September	0.0015	0.0066	0.0026	0.37	0.0041	7.3	1.3	0.000012	0.0084	0.017	2.4	0.0015	0.000058	5.9	0.000056	0.034
	October	0.0015	0.0067	0.0026	0.37	0.0042	7.3	1.3	0.000011	0.0083	0.017	2.4	0.0014	0.000058	6.0	0.000056	0.035
	November	0.0015	0.0069	0.0027	0.38	0.0043	7.6	1.4	0.000012	0.0085	0.017	2.5	0.0015	0.000060	6.1	0.000057	0.036
	December	0.0016	0.0073	0.0028	0.40	0.0045	8.0	1.4	0.000013	0.0089	0.018	2.6	0.0015	0.000063	6.4	0.000059	0.038
BJ U/S Post-Closure	January	0.0011	0.0076	0.0029	0.42	0.0047	8.3	1.5	0.0000087	0.0045	0.019	1.7	0.0014	0.000049	6.6	0.000057	0.039
	February	0.0011	0.0075	0.0029	0.41	0.0047	8.2	1.5	0.0000087	0.0045	0.019	1.7	0.0014	0.000049	6.6	0.000057	0.039
	March	0.0011	0.0075	0.0029	0.41	0.0047	8.2	1.5	0.0000087	0.0045	0.019	1.7	0.0014	0.000048	6.6	0.000057	0.039
	April	0.0011	0.0074	0.0029	0.41	0.0046	8.2	1.5	0.0000087	0.0045	0.019	1.7	0.0013	0.000048	6.5	0.000057	0.038
	May	0.0011	0.0073	0.0029	0.40	0.0046	8.1	1.5	0.0000086	0.0045	0.019	1.7	0.0013	0.000048	6.5	0.000056	0.038
	June	0.0010	0.0069	0.0027	0.38	0.0043	7.6	1.4	0.0000084	0.0044	0.017	1.6	0.0013	0.000045	6.1	0.000055	0.036
	July	0.00089	0.0058	0.0023	0.32	0.0036	6.5	1.2	0.0000079	0.0039	0.015	1.4	0.0012	0.000039	5.3	0.000050	0.030
	August	0.00077	0.0050	0.0021	0.28	0.0031	5.7	0.98	0.0000075	0.0036	0.013	1.2	0.0011	0.000034	4.7	0.000046	0.026
	September	0.00067	0.0042	0.0018	0.25	0.0026	4.9	0.84	0.0000071	0.0034	0.011	1.1	0.0010	0.000030	4.1	0.000043	0.023
	October	0.00062	0.0039	0.0017	0.23	0.0024	4.6	0.76	0.0000070	0.0032	0.0098	0.99	0.00097	0.000027	3.9	0.000042	0.021
	November	0.00060	0.0037	0.0017	0.22	0.0023	4.4	0.73	0.0000069	0.0032	0.0094	0.97	0.00096	0.000027	3.8	0.000041	0.020
	December	0.00059	0.0037	0.0016	0.22	0.0023	4.4	0.72	0.0000069	0.0032	0.0093	0.97	0.00095	0.000026	3.7	0.000041	0.020

*Appendix E-2 BJ200mD/S Water Quality Results*

**BJ200mD/S Base Case**

		NH <sub>3</sub>	NO <sub>3</sub>	NO <sub>2</sub>	Cl	SO <sub>4</sub>	P	D-Al	D-As	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb
BJ200mD/S Construction	January	1.00	2.6	0.010	2.0	61	0.0089	0.015	0.0059	0.000011	25	0.00017	0.00020	0.00035	0.015	0.00013
	February	1.1	2.6	0.011	2.0	60	0.0094	0.015	0.0059	0.000011	25	0.00016	0.00020	0.00035	0.015	0.00013
	March	1.2	2.7	0.012	2.0	62	0.011	0.016	0.0061	0.000011	25	0.00017	0.00021	0.00036	0.015	0.00014
	April	0.83	2.0	0.0087	2.0	50	0.0076	0.015	0.0056	0.0000096	23	0.00014	0.00017	0.00034	0.014	0.00011
	May	0.37	0.84	0.0044	2.3	32	0.019	0.015	0.0045	0.000015	19	0.000096	0.00015	0.00033	0.016	0.000063
	June	0.26	0.42	0.0034	2.3	25	0.021	0.015	0.0041	0.000015	17	0.000080	0.00014	0.00033	0.016	0.000047
	July	0.26	0.46	0.0034	2.3	25	0.020	0.015	0.0041	0.000015	17	0.000081	0.00014	0.00033	0.016	0.000048
	August	0.26	0.46	0.0034	2.3	25	0.020	0.014	0.0040	0.000015	17	0.000081	0.00014	0.00033	0.016	0.000048
	September	0.30	0.61	0.0038	2.3	28	0.018	0.014	0.0041	0.000014	18	0.000087	0.00014	0.00033	0.016	0.000054
	October	0.44	1.0	0.0051	2.2	34	0.014	0.014	0.0046	0.000013	19	0.00010	0.00015	0.00033	0.015	0.000071
	November	0.77	1.9	0.0082	2.0	49	0.0071	0.015	0.0055	0.0000097	22	0.00014	0.00016	0.00034	0.015	0.00011
	December	0.88	2.3	0.0092	2.0	55	0.0080	0.016	0.0059	0.000010	24	0.00015	0.00018	0.00035	0.015	0.00012
BJ200mD/S Operations	January	0.69	0.28	0.0072	6.8	29	0.0068	0.025	0.0055	0.000019	21	0.00074	0.00040	0.0010	0.084	0.000076
	February	0.26	0.29	0.0053	7.0	30	0.0057	0.026	0.0056	0.000019	21	0.00077	0.00042	0.0011	0.088	0.000078
	March	0.27	0.30	0.0055	7.2	31	0.0059	0.027	0.0058	0.000020	21	0.00080	0.00043	0.0011	0.092	0.000080
	April	0.29	0.31	0.0056	7.4	31	0.0061	0.028	0.0059	0.000020	21	0.00082	0.00045	0.0011	0.095	0.000082
	May	0.43	0.32	0.0065	7.6	34	0.023	0.029	0.0059	0.000028	22	0.00082	0.00050	0.0011	0.096	0.000084
	June	0.45	0.32	0.0066	7.5	34	0.026	0.029	0.0058	0.000029	22	0.00080	0.00050	0.0011	0.095	0.000083
	July	0.41	0.30	0.0060	6.9	32	0.024	0.027	0.0054	0.000027	21	0.00072	0.00046	0.0010	0.086	0.000077
	August	0.39	0.28	0.0058	6.6	31	0.024	0.025	0.0051	0.000026	21	0.00067	0.00043	0.00098	0.080	0.000073
	September	0.35	0.27	0.0054	6.2	30	0.021	0.024	0.0049	0.000024	21	0.00064	0.00039	0.00093	0.075	0.000070
	October	0.30	0.26	0.0052	6.2	29	0.016	0.023	0.0049	0.000022	20	0.00064	0.00038	0.00092	0.074	0.000069
	November	0.22	0.26	0.0048	6.3	28	0.0050	0.024	0.0051	0.000017	20	0.00068	0.00036	0.00095	0.077	0.000071
	December	0.24	0.27	0.0050	6.5	29	0.0053	0.024	0.0053	0.000018	20	0.00071	0.00038	0.00099	0.080	0.000073
BJ200mD/S Post-Closure	January	0.19	0.13	0.0047	6.8	32	0.0033	0.016	0.0038	0.000039	22	0.00040	0.00021	0.0010	0.047	0.00018
	February	0.19	0.13	0.0047	6.8	33	0.0033	0.016	0.0039	0.000042	23	0.00040	0.00020	0.0010	0.047	0.00020
	March	0.18	0.13	0.0046	6.7	36	0.0033	0.016	0.0040	0.000050	24	0.00039	0.00020	0.0010	0.047	0.00023
	April	0.18	0.13	0.0046	6.7	29	0.0033	0.016	0.0039	0.000033	21	0.00039	0.00020	0.0010	0.047	0.00015
	May	0.33	0.14	0.0055	6.7	28	0.022	0.017	0.0039	0.000025	20	0.00038	0.00025	0.0010	0.047	0.000068
	June	0.34	0.14	0.0054	6.5	28	0.024	0.017	0.0038	0.000025	20	0.00036	0.00025	0.00096	0.045	0.000063
	July	0.30	0.14	0.0049	5.8	26	0.022	0.016	0.0036	0.000024	19	0.00031	0.00023	0.00085	0.040	0.000059
	August	0.28	0.13	0.0046	5.3	25	0.022	0.015	0.0034	0.000023	19	0.00027	0.00021	0.00077	0.037	0.000057
	September	0.25	0.13	0.0042	4.9	25	0.020	0.014	0.0033	0.000022	19	0.00024	0.00019	0.00070	0.034	0.000060
	October	0.20	0.12	0.0038	4.6	25	0.015	0.013	0.0033	0.000023	19	0.00023	0.00017	0.00067	0.033	0.000080
	November	0.093	0.11	0.0033	4.4	28	0.0023	0.013	0.0035	0.000031	20	0.00024	0.00014	0.00067	0.036	0.00015
	December	0.092	0.12	0.0033	4.4	30	0.0023	0.013	0.0036	0.000035	21	0.00024	0.00015	0.00067	0.036	0.00016

**BJ200mD/S Base Case**

		D-Mg	D-Ma	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Ag	D-Na	D-Tl	D-Zn	T-Al	T-As	T-Cd	T-Ca
BJ200mD/S Construction	January	1.9	0.090	0.0000098	0.0018	0.00046	1.8	0.00032	0.0000071	20	0.000043	0.0036	0.021	0.0059	0.000038	28
	February	1.9	0.088	0.000010	0.0018	0.00046	1.8	0.00032	0.0000071	19	0.000043	0.0035	0.021	0.0059	0.000037	28
	March	1.9	0.091	0.000010	0.0018	0.00047	1.9	0.00033	0.0000072	20	0.000044	0.0036	0.022	0.0061	0.000039	28
	April	1.6	0.069	0.000012	0.0016	0.00043	1.5	0.00034	0.0000069	15	0.000037	0.0031	0.021	0.0056	0.000030	25
	May	0.99	0.039	0.000013	0.0011	0.00039	0.87	0.00035	0.0000064	7.4	0.000024	0.0028	0.076	0.0047	0.000024	20
	June	0.78	0.027	0.000014	0.00094	0.00037	0.65	0.00036	0.0000063	4.5	0.000019	0.0026	0.088	0.0044	0.000021	18
	July	0.79	0.028	0.000013	0.00095	0.00037	0.66	0.00035	0.0000063	4.8	0.000020	0.0026	0.084	0.0043	0.000021	18
	August	0.78	0.028	0.000012	0.00095	0.00037	0.64	0.00035	0.0000062	4.7	0.000019	0.0026	0.084	0.0042	0.000021	18
	September	0.86	0.031	0.000011	0.0010	0.00037	0.71	0.00035	0.0000063	5.8	0.000021	0.0026	0.074	0.0043	0.000022	19
	October	1.1	0.042	0.000011	0.0012	0.00039	0.95	0.00035	0.0000065	8.7	0.000026	0.0027	0.055	0.0047	0.000024	21
	November	1.5	0.066	0.000010	0.0015	0.00042	1.4	0.00034	0.0000069	15	0.000036	0.0030	0.021	0.0055	0.000029	25
	December	1.7	0.077	0.000010	0.0017	0.00044	1.6	0.00035	0.0000071	17	0.000040	0.0033	0.022	0.0059	0.000034	26
BJ200mD/S Operations	January	2.4	0.082	0.000013	0.0050	0.00072	1.6	0.00063	0.000022	2.1	0.000021	0.0089	0.032	0.0056	0.000019	21
	February	2.5	0.087	0.000013	0.0052	0.00074	1.6	0.00064	0.000022	2.1	0.000022	0.0095	0.033	0.0057	0.000019	21
	March	2.6	0.090	0.000013	0.0054	0.00077	1.7	0.00065	0.000023	2.2	0.000022	0.0100	0.034	0.0059	0.000020	22
	April	2.7	0.095	0.000013	0.0057	0.00079	1.7	0.00067	0.000023	2.2	0.000023	0.011	0.035	0.0060	0.000020	22
	May	2.7	0.11	0.000013	0.0056	0.00082	1.8	0.00066	0.000024	2.4	0.000024	0.011	0.093	0.0063	0.000030	23
	June	2.6	0.11	0.000012	0.0055	0.00082	1.8	0.00065	0.000023	2.4	0.000023	0.011	0.10	0.0062	0.000031	23
	July	2.4	0.096	0.000011	0.0050	0.00076	1.6	0.00061	0.000021	2.3	0.000022	0.011	0.098	0.0058	0.000029	22
	August	2.3	0.089	0.000010	0.0046	0.00073	1.5	0.00059	0.000020	2.2	0.000021	0.010	0.096	0.0055	0.000028	21
	September	2.1	0.081	0.0000097	0.0043	0.00069	1.4	0.00057	0.000019	2.1	0.000020	0.0096	0.086	0.0053	0.000026	21
	October	2.1	0.077	0.0000094	0.0043	0.00068	1.4	0.00057	0.000019	2.0	0.000020	0.0097	0.067	0.0052	0.000023	21
	November	2.2	0.074	0.0000093	0.0046	0.00068	1.4	0.00059	0.000020	1.8	0.000020	0.0100	0.031	0.0052	0.000017	20
	December	2.3	0.078	0.0000093	0.0048	0.00070	1.5	0.00061	0.000021	1.8	0.000020	0.011	0.031	0.0054	0.000018	21
BJ200mD/S Post-Closure	January	2.1	0.040	0.0000065	0.0022	0.00051	0.58	0.00039	0.000015	2.9	0.000013	0.011	0.066	0.0059	0.000060	22
	February	2.1	0.040	0.0000066	0.0022	0.00050	0.58	0.00039	0.000016	3.0	0.000013	0.011	0.071	0.0061	0.000064	23
	March	2.1	0.043	0.0000070	0.0022	0.00050	0.58	0.00039	0.000018	3.5	0.000013	0.011	0.083	0.0068	0.000077	24
	April	2.1	0.040	0.0000062	0.0022	0.00050	0.59	0.00039	0.000013	2.5	0.000013	0.011	0.056	0.0054	0.000049	21
	May	2.1	0.051	0.0000054	0.0021	0.00053	0.63	0.00038	0.0000087	1.9	0.000014	0.011	0.092	0.0043	0.000029	20
	June	2.0	0.050	0.0000053	0.0020	0.00052	0.61	0.00037	0.0000085	1.9	0.000014	0.011	0.096	0.0042	0.000028	20
	July	1.7	0.044	0.0000053	0.0018	0.00049	0.54	0.00036	0.0000081	1.8	0.000013	0.0094	0.092	0.0040	0.000027	20
	August	1.6	0.040	0.0000053	0.0016	0.00047	0.50	0.00035	0.0000078	1.8	0.000013	0.0085	0.091	0.0039	0.000026	19
	September	1.4	0.036	0.0000054	0.0015	0.00045	0.45	0.00034	0.0000079	1.8	0.000012	0.0076	0.084	0.0038	0.000026	19
	October	1.4	0.033	0.0000056	0.0015	0.00043	0.44	0.00034	0.0000088	1.9	0.000012	0.0074	0.075	0.0040	0.000031	19
	November	1.6	0.032	0.0000062	0.0016	0.00042	0.45	0.00035	0.000013	2.5	0.000012	0.0083	0.054	0.0051	0.000047	21
	December	1.6	0.034	0.0000063	0.0016	0.00043	0.47	0.00035	0.000014	2.6	0.000012	0.0086	0.059	0.0055	0.000053	22

**BJ200mD/S Base Case**

		T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Mg	T-Ma	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Ag	T-Na	T-Tl	T-Zn
BJ200mD/S Construction	January	0.00022	0.00072	0.00035	0.018	0.00016	2.1	0.17	0.000012	0.0029	0.0015	2.6	0.00038	0.0000072	11	0.000077	0.0058
	February	0.00021	0.00071	0.00035	0.018	0.00016	2.1	0.17	0.000012	0.0029	0.0014	2.6	0.00039	0.0000072	11	0.000076	0.0057
	March	0.00022	0.00073	0.00036	0.018	0.00016	2.2	0.17	0.000012	0.0030	0.0015	2.7	0.00039	0.0000073	12	0.000078	0.0059
	April	0.00018	0.00056	0.00034	0.018	0.00013	1.8	0.13	0.000013	0.0024	0.0012	2.1	0.00038	0.0000069	9.2	0.000062	0.0047
	May	0.00012	0.00033	0.00051	0.11	0.00017	1.1	0.066	0.000014	0.0014	0.00066	1.1	0.00037	0.000019	5.0	0.000035	0.0041
	June	0.00010	0.00024	0.00054	0.13	0.00017	0.83	0.042	0.000015	0.0011	0.00047	0.77	0.00036	0.000022	3.5	0.000025	0.0037
	July	0.00010	0.00025	0.00053	0.12	0.00016	0.84	0.044	0.000014	0.0011	0.00049	0.79	0.00036	0.000021	3.6	0.000025	0.0037
	August	0.00010	0.00024	0.00053	0.12	0.00016	0.83	0.043	0.000013	0.0011	0.00049	0.78	0.00035	0.000021	3.6	0.000025	0.0037
	September	0.00011	0.00027	0.00050	0.11	0.00015	0.92	0.051	0.000012	0.0012	0.00055	0.90	0.00035	0.000019	4.1	0.000028	0.0037
	October	0.00013	0.00036	0.00044	0.074	0.00014	1.2	0.075	0.000012	0.0016	0.00075	1.3	0.00036	0.000015	5.7	0.000039	0.0040
	November	0.00018	0.00054	0.00034	0.018	0.00012	1.7	0.13	0.000012	0.0024	0.0011	2.0	0.00039	0.0000069	8.9	0.000060	0.0046
	December	0.00020	0.00062	0.00035	0.018	0.00014	1.9	0.15	0.000012	0.0026	0.0013	2.3	0.00040	0.0000071	10	0.000068	0.0051
BJ200mD/S Operations	January	0.00075	0.00040	0.0010	0.087	0.000076	2.4	0.084	0.000013	0.0050	0.00069	1.6	0.00062	0.000022	2.1	0.000021	0.0089
	February	0.00078	0.00042	0.0011	0.091	0.000079	2.5	0.088	0.000013	0.0052	0.00071	1.6	0.00063	0.000022	2.1	0.000021	0.0095
	March	0.00080	0.00043	0.0011	0.094	0.000080	2.6	0.092	0.000013	0.0055	0.00073	1.7	0.00065	0.000023	2.2	0.000022	0.0100
	April	0.00083	0.00045	0.0011	0.098	0.000082	2.7	0.096	0.000013	0.0057	0.00075	1.7	0.00066	0.000024	2.2	0.000022	0.011
	May	0.00083	0.00053	0.0013	0.19	0.00019	2.7	0.11	0.000013	0.0056	0.00079	1.8	0.00066	0.000037	2.4	0.000024	0.012
	June	0.00082	0.00054	0.0014	0.21	0.00021	2.7	0.11	0.000013	0.0055	0.00079	1.8	0.00065	0.000040	2.4	0.000024	0.012
	July	0.00074	0.00049	0.0013	0.19	0.00019	2.4	0.10	0.000012	0.0050	0.00074	1.6	0.00061	0.000037	2.3	0.000023	0.011
	August	0.00069	0.00046	0.0012	0.19	0.00019	2.3	0.093	0.000011	0.0047	0.00070	1.5	0.00058	0.000035	2.2	0.000022	0.011
	September	0.00065	0.00042	0.0011	0.17	0.00017	2.1	0.085	0.000010	0.0044	0.00066	1.4	0.00056	0.000032	2.1	0.000021	0.010
	October	0.00065	0.00040	0.0010	0.14	0.00014	2.1	0.080	0.0000098	0.0044	0.00065	1.4	0.00056	0.000028	2.0	0.000020	0.010
	November	0.00068	0.00036	0.00095	0.080	0.000071	2.2	0.075	0.0000093	0.0046	0.00064	1.4	0.00058	0.000020	1.8	0.000020	0.0100
	December	0.00072	0.00038	0.00099	0.083	0.000074	2.3	0.079	0.0000093	0.0048	0.00066	1.5	0.00060	0.000021	1.8	0.000020	0.011
BJ200mD/S Post-Closure	January	0.00041	0.00020	0.0010	0.16	0.0013	2.1	0.049	0.000013	0.0022	0.00047	0.58	0.00039	0.000063	3.4	0.000013	0.011
	February	0.00040	0.00020	0.0010	0.17	0.0014	2.1	0.052	0.000014	0.0022	0.00047	0.58	0.00039	0.000068	3.6	0.000013	0.011
	March	0.00040	0.00022	0.0011	0.20	0.0017	2.1	0.060	0.000015	0.0022	0.00046	0.60	0.00038	0.000082	4.2	0.000013	0.012
	April	0.00040	0.00021	0.0010	0.13	0.0010	2.1	0.043	0.000011	0.0022	0.00046	0.59	0.00039	0.000050	2.9	0.000013	0.011
	May	0.00039	0.00029	0.0012	0.16	0.00037	2.1	0.056	0.0000072	0.0021	0.00050	0.65	0.00038	0.000031	1.9	0.000015	0.012
	June	0.00037	0.00029	0.0012	0.16	0.00025	2.0	0.055	0.0000065	0.0020	0.00049	0.63	0.00037	0.000027	1.9	0.000015	0.012
	July	0.00033	0.00026	0.0011	0.16	0.00026	1.8	0.049	0.0000065	0.0018	0.00046	0.57	0.00036	0.000027	1.9	0.000014	0.010
	August	0.00029	0.00025	0.0010	0.15	0.00026	1.6	0.045	0.0000065	0.0017	0.00044	0.52	0.00034	0.000027	1.8	0.000014	0.0094
	September	0.00026	0.00023	0.00093	0.14	0.00032	1.4	0.041	0.0000069	0.0015	0.00042	0.48	0.00034	0.000028	1.8	0.000013	0.0085
	October	0.00025	0.00021	0.00088	0.13	0.00049	1.4	0.039	0.0000079	0.0015	0.00040	0.46	0.00033	0.000033	2.0	0.000013	0.0083
	November	0.00025	0.00017	0.00089	0.12	0.00099	1.6	0.040	0.000011	0.0016	0.00038	0.48	0.00035	0.000049	2.9	0.000012	0.0092
	December	0.00025	0.00018	0.00094	0.14	0.0011	1.6	0.044	0.000012	0.0016	0.00039	0.50	0.00035	0.000055	3.1	0.000012	0.0098

**BJ200mD/S 100 Dry Year**

		NH <sub>3</sub>	NO <sub>3</sub>	NO <sub>2</sub>	Cl	SO <sub>4</sub>	P	D-Al	D-As	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb
BJ200mD/S Construction	January	1.0	2.7	0.010	2.0	62	0.0089	0.015	0.0059	0.000011	25	0.00017	0.00020	0.00035	0.015	0.00013
	February	1.1	2.6	0.011	2.0	60	0.0095	0.015	0.0059	0.000011	25	0.00017	0.00020	0.00035	0.015	0.00013
	March	1.2	2.7	0.012	2.0	62	0.011	0.016	0.0061	0.000011	25	0.00017	0.00021	0.00036	0.015	0.00014
	April	0.83	2.0	0.0087	2.0	50	0.0076	0.015	0.0056	0.0000096	23	0.00014	0.00017	0.00034	0.014	0.00011
	May	0.37	0.85	0.0045	2.3	32	0.018	0.015	0.0045	0.000014	19	0.000097	0.00015	0.00033	0.016	0.000064
	June	0.26	0.43	0.0034	2.3	25	0.021	0.015	0.0041	0.000015	17	0.000080	0.00014	0.00033	0.016	0.000047
	July	0.27	0.51	0.0036	2.3	26	0.019	0.015	0.0041	0.000015	18	0.000083	0.00014	0.00033	0.016	0.000050
	August	0.36	0.81	0.0044	2.2	30	0.015	0.015	0.0044	0.000013	18	0.000095	0.00014	0.00033	0.015	0.000062
	September	0.33	0.78	0.0042	2.2	30	0.015	0.015	0.0044	0.000013	18	0.000094	0.00014	0.00033	0.016	0.000061
	October	0.46	1.1	0.0053	2.2	36	0.013	0.015	0.0048	0.000012	20	0.00011	0.00015	0.00033	0.015	0.000075
	November	0.81	2.0	0.0086	2.0	51	0.0074	0.016	0.0058	0.0000100	23	0.00015	0.00017	0.00035	0.015	0.00011
	December	0.91	2.3	0.0094	2.0	56	0.0082	0.017	0.0061	0.000011	24	0.00016	0.00019	0.00036	0.015	0.00012
BJ200mD/S Operations	January	0.19	0.14	0.0050	6.7	27	0.0036	0.019	0.0041	0.000017	20	0.00057	0.00027	0.00094	0.058	0.000067
	February	0.20	0.14	0.0052	6.9	27	0.0037	0.020	0.0041	0.000018	20	0.00059	0.00029	0.00098	0.061	0.000069
	March	0.21	0.14	0.0053	7.2	28	0.0038	0.020	0.0042	0.000018	20	0.00060	0.00029	0.0010	0.062	0.000071
	April	0.22	0.14	0.0055	7.4	28	0.0039	0.020	0.0043	0.000018	20	0.00061	0.00029	0.0011	0.063	0.000072
	May	0.36	0.16	0.0063	7.6	31	0.021	0.022	0.0042	0.000026	21	0.00059	0.00034	0.0011	0.063	0.000073
	June	0.38	0.16	0.0064	7.6	31	0.024	0.021	0.0042	0.000027	21	0.00057	0.00034	0.0011	0.061	0.000072
	July	0.35	0.15	0.0059	7.0	29	0.022	0.020	0.0039	0.000025	20	0.00050	0.00030	0.00100	0.055	0.000067
	August	0.29	0.14	0.0053	6.7	28	0.015	0.018	0.0038	0.000022	20	0.00046	0.00027	0.00097	0.052	0.000064
	September	0.29	0.14	0.0054	6.7	28	0.016	0.018	0.0038	0.000022	20	0.00045	0.00026	0.00099	0.051	0.000065
	October	0.26	0.14	0.0052	6.8	27	0.013	0.018	0.0038	0.000021	20	0.00043	0.00025	0.00100	0.050	0.000064
	November	0.19	0.13	0.0048	6.9	27	0.0035	0.017	0.0039	0.000017	19	0.00044	0.00022	0.0010	0.050	0.000065
	December	0.20	0.13	0.0050	7.2	27	0.0036	0.017	0.0040	0.000018	19	0.00045	0.00023	0.0011	0.051	0.000066
BJ200mD/S Post-Closure	January	0.0071	0.10	0.0020	2.2	29	0.0013	0.0092	0.0035	0.000038	21	0.000094	0.000085	0.00034	0.024	0.00018
	February	0.0074	0.10	0.0021	2.2	30	0.0013	0.0093	0.0036	0.000041	22	0.000097	0.000088	0.00035	0.025	0.00020
	March	0.0084	0.10	0.0021	2.2	33	0.0013	0.0098	0.0037	0.000048	23	0.00011	0.000095	0.00037	0.027	0.00023
	April	0.0061	0.099	0.0019	2.2	26	0.0013	0.0086	0.0035	0.000030	20	0.000085	0.000077	0.00033	0.022	0.00015
	May	0.16	0.11	0.0027	2.5	20	0.020	0.0090	0.0031	0.000019	17	0.000064	0.00012	0.00031	0.018	0.000056
	June	0.18	0.11	0.0027	2.5	19	0.022	0.0090	0.0031	0.000017	17	0.000061	0.00012	0.00031	0.017	0.000040
	July	0.16	0.11	0.0027	2.5	19	0.020	0.0089	0.0030	0.000017	17	0.000061	0.00011	0.00031	0.018	0.000044
	August	0.10	0.10	0.0023	2.4	20	0.013	0.0084	0.0030	0.000017	17	0.000063	0.000095	0.00030	0.018	0.000058
	September	0.12	0.11	0.0024	2.4	20	0.015	0.0086	0.0030	0.000018	17	0.000064	0.00010	0.00031	0.018	0.000059
	October	0.098	0.10	0.0023	2.4	21	0.012	0.0086	0.0031	0.000020	18	0.000067	0.000097	0.00031	0.019	0.000074
	November	0.0061	0.099	0.0020	2.2	26	0.0013	0.0087	0.0034	0.000032	20	0.000086	0.000078	0.00033	0.022	0.00015
	December	0.0066	0.100	0.0020	2.2	28	0.0013	0.0089	0.0035	0.000035	21	0.000090	0.000082	0.00034	0.023	0.00017

**BJ200mD/S 100 Dry Year**

		D-Mg	D-Ma	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Ag	D-Na	D-Tl	D-Zn	T-Al	T-As	T-Cd	T-Ca
BJ200mD/S Construction	January	1.9	0.091	0.0000098	0.0018	0.00046	1.8	0.00032	0.0000071	20	0.000043	0.0036	0.021	0.0059	0.000038	28
	February	1.9	0.089	0.000010	0.0018	0.00046	1.8	0.00032	0.0000071	19	0.000043	0.0035	0.021	0.0060	0.000038	28
	March	1.9	0.091	0.000010	0.0018	0.00047	1.9	0.00033	0.0000072	20	0.000044	0.0036	0.022	0.0061	0.000039	28
	April	1.6	0.069	0.000012	0.0016	0.00043	1.5	0.00034	0.0000069	15	0.000037	0.0031	0.021	0.0056	0.000030	25
	May	1.0	0.039	0.000013	0.0011	0.00039	0.88	0.00035	0.0000065	7.5	0.000024	0.0028	0.075	0.0047	0.000025	20
	June	0.78	0.028	0.000014	0.00095	0.00037	0.66	0.00036	0.0000063	4.6	0.000020	0.0026	0.088	0.0044	0.000021	18
	July	0.81	0.029	0.000013	0.00097	0.00037	0.68	0.00035	0.0000063	5.1	0.000020	0.0026	0.081	0.0044	0.000021	18
	August	0.96	0.035	0.000012	0.0011	0.00038	0.83	0.00035	0.0000064	7.1	0.000023	0.0026	0.061	0.0045	0.000022	20
	September	0.96	0.035	0.000012	0.0011	0.00038	0.83	0.00036	0.0000064	7.0	0.000023	0.0026	0.063	0.0046	0.000022	20
	October	1.1	0.044	0.000012	0.0012	0.00039	1.0	0.00035	0.0000066	9.4	0.000027	0.0027	0.051	0.0049	0.000024	21
	November	1.6	0.070	0.000011	0.0016	0.00043	1.5	0.00035	0.0000070	16	0.000037	0.0031	0.022	0.0057	0.000031	25
	December	1.8	0.080	0.000011	0.0017	0.00045	1.7	0.00035	0.0000072	18	0.000041	0.0033	0.022	0.0061	0.000035	27
BJ200mD/S Operations	January	2.1	0.055	0.0000052	0.0027	0.00055	0.70	0.00042	0.000010	1.6	0.000014	0.0089	0.027	0.0042	0.000017	20
	February	2.2	0.058	0.0000052	0.0028	0.00057	0.72	0.00042	0.000010	1.6	0.000014	0.0095	0.027	0.0042	0.000018	20
	March	2.3	0.059	0.0000053	0.0028	0.00058	0.73	0.00042	0.000010	1.6	0.000014	0.010	0.027	0.0043	0.000018	20
	April	2.4	0.060	0.0000053	0.0028	0.00058	0.75	0.00043	0.000010	1.7	0.000014	0.011	0.028	0.0044	0.000018	20
	May	2.4	0.070	0.0000053	0.0028	0.00061	0.80	0.00042	0.000010	1.9	0.000015	0.011	0.086	0.0046	0.000028	21
	June	2.4	0.070	0.0000053	0.0027	0.00061	0.78	0.00041	0.000010	2.0	0.000015	0.011	0.096	0.0046	0.000030	21
	July	2.2	0.062	0.0000053	0.0024	0.00057	0.71	0.00040	0.0000096	1.9	0.000015	0.011	0.088	0.0043	0.000027	21
	August	2.1	0.054	0.0000052	0.0023	0.00054	0.65	0.00039	0.0000092	1.8	0.000014	0.010	0.067	0.0041	0.000023	20
	September	2.1	0.053	0.0000053	0.0023	0.00054	0.65	0.00039	0.0000091	1.8	0.000014	0.011	0.069	0.0041	0.000024	20
	October	2.1	0.050	0.0000052	0.0022	0.00053	0.63	0.00039	0.0000090	1.8	0.000014	0.011	0.057	0.0041	0.000022	20
	November	2.2	0.044	0.0000052	0.0023	0.00052	0.62	0.00040	0.0000089	1.7	0.000013	0.011	0.024	0.0040	0.000017	20
	December	2.3	0.045	0.0000052	0.0023	0.00053	0.63	0.00040	0.0000090	1.7	0.000013	0.012	0.025	0.0041	0.000018	20
BJ200mD/S Post-Closure	January	1.0	0.022	0.0000066	0.0012	0.00034	0.34	0.00031	0.000015	2.8	0.000011	0.0054	0.067	0.0059	0.000060	22
	February	1.1	0.024	0.0000067	0.0012	0.00035	0.35	0.00032	0.000016	3.0	0.000012	0.0056	0.071	0.0062	0.000064	22
	March	1.2	0.029	0.0000070	0.0012	0.00036	0.39	0.00032	0.000018	3.4	0.000012	0.0064	0.082	0.0068	0.000076	24
	April	0.88	0.017	0.0000062	0.0011	0.00033	0.30	0.00031	0.000013	2.4	0.000011	0.0044	0.054	0.0053	0.000047	20
	May	0.60	0.018	0.0000054	0.0010	0.00034	0.28	0.00028	0.0000070	1.6	0.000011	0.0030	0.088	0.0039	0.000026	18
	June	0.55	0.017	0.0000053	0.00099	0.00034	0.27	0.00028	0.0000060	1.5	0.000011	0.0027	0.090	0.0036	0.000021	17
	July	0.55	0.017	0.0000053	0.00096	0.00034	0.26	0.00028	0.0000062	1.5	0.000011	0.0027	0.085	0.0036	0.000021	17
	August	0.58	0.013	0.0000054	0.00097	0.00033	0.24	0.00028	0.0000071	1.5	0.000010	0.0027	0.065	0.0037	0.000022	17
	September	0.59	0.015	0.0000054	0.00097	0.00033	0.25	0.00028	0.0000072	1.6	0.000010	0.0029	0.073	0.0037	0.000024	18
	October	0.64	0.015	0.0000055	0.00099	0.00033	0.26	0.00029	0.0000081	1.7	0.000011	0.0031	0.068	0.0040	0.000028	18
	November	0.89	0.018	0.0000063	0.0011	0.00033	0.30	0.00031	0.000013	2.5	0.000011	0.0046	0.057	0.0053	0.000049	21
	December	0.95	0.020	0.0000064	0.0011	0.00034	0.32	0.00031	0.000014	2.7	0.000011	0.0050	0.062	0.0056	0.000055	21

**BJ200mD/S 100 Dry Year**

		T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Mg	T-Ma	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Ag	T-Na	T-Tl	T-Zn
BJ200mD/S Construction	January	0.00022	0.00073	0.00035	0.018	0.00016	2.1	0.17	0.000012	0.0029	0.0015	2.7	0.00038	0.0000072	11	0.000078	0.0058
	February	0.00021	0.00071	0.00035	0.018	0.00016	2.1	0.17	0.000012	0.0029	0.0015	2.6	0.00039	0.0000072	11	0.000076	0.0057
	March	0.00022	0.00073	0.00036	0.018	0.00016	2.2	0.17	0.000012	0.0030	0.0015	2.7	0.00039	0.0000073	12	0.000078	0.0059
	April	0.00018	0.00056	0.00034	0.018	0.00013	1.8	0.13	0.000013	0.0024	0.0012	2.1	0.00038	0.0000069	9.2	0.000062	0.0047
	May	0.00012	0.00033	0.00050	0.11	0.00017	1.1	0.067	0.000014	0.0015	0.00067	1.1	0.00037	0.000019	5.1	0.000035	0.0041
	June	0.00010	0.00024	0.00054	0.13	0.00017	0.83	0.042	0.000015	0.0011	0.00048	0.78	0.00036	0.000022	3.6	0.000025	0.0037
	July	0.00010	0.00025	0.00052	0.12	0.00016	0.87	0.046	0.000014	0.0012	0.00051	0.83	0.00036	0.000020	3.8	0.000026	0.0037
	August	0.00012	0.00030	0.00045	0.083	0.00014	1.0	0.061	0.000013	0.0014	0.00064	1.1	0.00036	0.000016	4.8	0.000033	0.0037
	September	0.00012	0.00030	0.00046	0.086	0.00014	1.0	0.060	0.000013	0.0014	0.00063	1.1	0.00037	0.000016	4.8	0.000033	0.0037
	October	0.00014	0.00037	0.00043	0.067	0.00014	1.2	0.080	0.000013	0.0017	0.00078	1.4	0.00037	0.000014	6.0	0.000041	0.0040
	November	0.00018	0.00057	0.00034	0.018	0.00013	1.8	0.13	0.000012	0.0025	0.0012	2.2	0.00039	0.0000070	9.3	0.000063	0.0048
	December	0.00020	0.00065	0.00035	0.018	0.00014	2.0	0.15	0.000012	0.0027	0.0013	2.4	0.00040	0.0000072	10	0.000071	0.0053
BJ200mD/S Operations	January	0.00058	0.00027	0.00094	0.061	0.000067	2.1	0.056	0.0000052	0.0027	0.00052	0.70	0.00041	0.000010	1.6	0.000014	0.0089
	February	0.00060	0.00029	0.00098	0.064	0.000070	2.2	0.059	0.0000053	0.0028	0.00053	0.72	0.00042	0.000010	1.6	0.000014	0.0095
	March	0.00061	0.00029	0.0010	0.065	0.000071	2.3	0.060	0.0000053	0.0028	0.00054	0.73	0.00042	0.000010	1.6	0.000014	0.010
	April	0.00062	0.00029	0.0011	0.066	0.000073	2.4	0.061	0.0000053	0.0029	0.00055	0.75	0.00042	0.000010	1.7	0.000014	0.011
	May	0.00061	0.00037	0.0013	0.16	0.00018	2.4	0.074	0.0000060	0.0028	0.00058	0.81	0.00042	0.000024	1.9	0.000016	0.012
	June	0.00058	0.00037	0.0013	0.17	0.00020	2.4	0.074	0.0000061	0.0027	0.00058	0.80	0.00041	0.000026	2.0	0.000016	0.012
	July	0.00051	0.00033	0.0012	0.16	0.00018	2.2	0.066	0.0000060	0.0024	0.00054	0.73	0.00040	0.000024	1.9	0.000015	0.011
	August	0.00047	0.00029	0.0011	0.12	0.00014	2.1	0.057	0.0000057	0.0023	0.00051	0.66	0.00039	0.000019	1.8	0.000014	0.011
	September	0.00046	0.00029	0.0011	0.13	0.00014	2.1	0.056	0.0000058	0.0023	0.00051	0.66	0.00039	0.000020	1.8	0.000014	0.011
	October	0.00045	0.00027	0.0011	0.11	0.00012	2.1	0.053	0.0000056	0.0023	0.00050	0.64	0.00039	0.000017	1.8	0.000014	0.011
	November	0.00045	0.00022	0.0010	0.053	0.000065	2.2	0.045	0.0000052	0.0023	0.00048	0.62	0.00039	0.0000090	1.6	0.000013	0.011
	December	0.00045	0.00023	0.0011	0.054	0.000067	2.3	0.047	0.0000052	0.0024	0.00049	0.63	0.00040	0.0000091	1.7	0.000013	0.012
BJ200mD/S Post-Closure	January	0.00011	0.00014	0.00073	0.16	0.0013	1.0	0.037	0.000013	0.0012	0.00030	0.38	0.00031	0.000065	3.4	0.000011	0.0071
	February	0.00011	0.00015	0.00077	0.17	0.0014	1.1	0.040	0.000014	0.0012	0.00031	0.40	0.00031	0.000069	3.6	0.000011	0.0075
	March	0.00012	0.00017	0.00087	0.20	0.0017	1.2	0.047	0.000015	0.0013	0.00032	0.45	0.00032	0.000082	4.1	0.000012	0.0087
	April	0.000098	0.00012	0.00062	0.12	0.0010	0.88	0.029	0.000011	0.0012	0.00029	0.34	0.00030	0.000050	2.8	0.000011	0.0058
	May	0.000083	0.00016	0.00059	0.15	0.00037	0.62	0.025	0.0000072	0.0010	0.00031	0.31	0.00028	0.000031	1.7	0.000012	0.0041
	June	0.000079	0.00016	0.00056	0.14	0.00025	0.57	0.023	0.0000065	0.0010	0.00031	0.29	0.00028	0.000026	1.5	0.000012	0.0037
	July	0.000079	0.00015	0.00055	0.14	0.00027	0.57	0.022	0.0000066	0.00099	0.00031	0.28	0.00028	0.000026	1.5	0.000011	0.0036
	August	0.000078	0.00013	0.00050	0.11	0.00035	0.60	0.019	0.0000071	0.00099	0.00029	0.27	0.00028	0.000026	1.7	0.000011	0.0036
	September	0.000080	0.00014	0.00053	0.12	0.00037	0.61	0.021	0.0000072	0.00099	0.00030	0.28	0.00028	0.000028	1.7	0.000011	0.0038
	October	0.000083	0.00013	0.00055	0.12	0.00048	0.65	0.022	0.0000079	0.0010	0.00030	0.28	0.00028	0.000032	1.9	0.000011	0.0041
	November	0.000099	0.00012	0.00064	0.13	0.0011	0.90	0.030	0.000012	0.0011	0.00029	0.34	0.00030	0.000053	2.9	0.000011	0.0060
	December	0.00010	0.00013	0.00069	0.14	0.0012	0.96	0.034	0.000012	0.0012	0.00030	0.36	0.00031	0.000059	3.2	0.000011	0.0066



**BJ200mD/S 100 Wet Year**

		NH <sub>3</sub>	NO <sub>3</sub>	NO <sub>2</sub>	Cl	SO <sub>4</sub>	P	D-Al	D-As	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb
BJ200mD/S Construction	January	0.99	2.6	0.010	2.0	61	0.0088	0.015	0.0059	0.000010	25	0.00017	0.00020	0.00035	0.015	0.00013
	February	1.1	2.6	0.011	2.0	60	0.0093	0.015	0.0059	0.000010	25	0.00016	0.00020	0.00035	0.015	0.00013
	March	1.2	2.7	0.012	2.0	62	0.011	0.016	0.0061	0.000011	25	0.00017	0.00021	0.00036	0.015	0.00014
	April	0.82	2.0	0.0086	2.0	50	0.0075	0.015	0.0055	0.0000095	22	0.00014	0.00017	0.00034	0.014	0.00011
	May	0.36	0.81	0.0044	2.3	31	0.019	0.015	0.0045	0.000015	19	0.000096	0.00015	0.00033	0.016	0.000062
	June	0.26	0.41	0.0034	2.3	24	0.021	0.015	0.0041	0.000016	17	0.000079	0.00014	0.00033	0.016	0.000046
	July	0.26	0.45	0.0034	2.3	25	0.020	0.015	0.0040	0.000015	17	0.000081	0.00014	0.00033	0.016	0.000048
	August	0.25	0.44	0.0034	2.3	25	0.021	0.014	0.0039	0.000015	17	0.000080	0.00014	0.00033	0.016	0.000047
	September	0.25	0.44	0.0034	2.3	25	0.021	0.014	0.0039	0.000015	17	0.000079	0.00014	0.00033	0.016	0.000047
	October	0.41	0.93	0.0049	2.2	33	0.015	0.014	0.0043	0.000013	19	0.000099	0.00014	0.00033	0.016	0.000067
	November	0.72	1.8	0.0077	2.0	46	0.0071	0.015	0.0053	0.0000096	22	0.00013	0.00016	0.00034	0.015	0.00010
	December	0.87	2.2	0.0090	2.0	53	0.0079	0.014	0.0053	0.0000096	23	0.00015	0.00018	0.00034	0.014	0.00012
BJ200mD/S Operations	January	0.19	0.14	0.0050	6.6	27	0.0036	0.019	0.0040	0.000017	19	0.00057	0.00027	0.00094	0.058	0.000067
	February	0.20	0.14	0.0052	6.9	27	0.0037	0.020	0.0041	0.000017	20	0.00059	0.00028	0.00098	0.060	0.000069
	March	0.21	0.14	0.0053	7.1	28	0.0038	0.020	0.0042	0.000018	20	0.00059	0.00029	0.0010	0.061	0.000070
	April	0.22	0.14	0.0054	7.3	28	0.0039	0.020	0.0042	0.000018	20	0.00060	0.00029	0.0010	0.062	0.000072
	May	0.36	0.16	0.0063	7.6	30	0.021	0.021	0.0042	0.000026	21	0.00059	0.00034	0.0011	0.062	0.000073
	June	0.39	0.16	0.0063	7.5	30	0.024	0.021	0.0041	0.000027	21	0.00056	0.00033	0.0011	0.060	0.000072
	July	0.35	0.15	0.0058	6.9	29	0.022	0.019	0.0039	0.000025	20	0.00048	0.00030	0.00098	0.054	0.000066
	August	0.33	0.15	0.0055	6.4	28	0.022	0.018	0.0037	0.000024	20	0.00043	0.00027	0.00093	0.049	0.000062
	September	0.32	0.14	0.0052	6.0	27	0.022	0.017	0.0035	0.000023	19	0.00038	0.00025	0.00088	0.045	0.000059
	October	0.25	0.13	0.0046	5.7	25	0.015	0.015	0.0034	0.000020	19	0.00034	0.00021	0.00084	0.041	0.000056
	November	0.15	0.12	0.0041	5.8	24	0.0033	0.015	0.0035	0.000015	18	0.00034	0.00018	0.00089	0.041	0.000056
	December	0.18	0.14	0.0048	6.4	26	0.0035	0.019	0.0040	0.000016	19	0.00054	0.00026	0.00090	0.055	0.000064
BJ200mD/S Post-Closure	January	0.0069	0.10	0.0020	2.2	28	0.0013	0.0090	0.0034	0.000037	21	0.000092	0.000084	0.00034	0.024	0.00018
	February	0.0072	0.10	0.0020	2.2	29	0.0013	0.0092	0.0034	0.000039	22	0.000095	0.000086	0.00035	0.025	0.00019
	March	0.0083	0.10	0.0021	2.2	33	0.0013	0.0098	0.0036	0.000048	23	0.00011	0.000095	0.00036	0.027	0.00023
	April	0.0059	0.098	0.0019	2.2	26	0.0013	0.0086	0.0033	0.000030	20	0.000084	0.000076	0.00033	0.022	0.00014
	May	0.17	0.11	0.0027	2.5	20	0.020	0.0090	0.0030	0.000019	17	0.000064	0.00012	0.00031	0.018	0.000054
	June	0.18	0.11	0.0028	2.5	19	0.022	0.0090	0.0030	0.000017	17	0.000060	0.00012	0.00031	0.017	0.000039
	July	0.17	0.11	0.0027	2.5	19	0.021	0.0089	0.0029	0.000017	17	0.000060	0.00012	0.00031	0.017	0.000041
	August	0.17	0.11	0.0027	2.5	19	0.021	0.0089	0.0028	0.000017	17	0.000060	0.00012	0.00031	0.017	0.000040
	September	0.18	0.11	0.0028	2.5	19	0.022	0.0090	0.0027	0.000017	17	0.000060	0.00012	0.00031	0.017	0.000040
	October	0.13	0.11	0.0025	2.4	20	0.016	0.0087	0.0028	0.000019	17	0.000065	0.00010	0.00031	0.018	0.000063
	November	0.011	0.098	0.0019	2.2	24	0.0019	0.0084	0.0031	0.000027	19	0.000080	0.000075	0.00032	0.021	0.00013
	December	0.0063	0.099	0.0020	2.2	26	0.0013	0.0087	0.0033	0.000032	20	0.000087	0.000079	0.00033	0.023	0.00015

**BJ200mD/S 100 Wet Year**

		D-Mg	D-Ma	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Ag	D-Na	D-Tl	D-Zn	T-Al	T-As	T-Cd	T-Ca
BJ200mD/S Construction	January	1.9	0.089	0.000098	0.0018	0.00046	1.8	0.00032	0.0000071	19	0.000043	0.0035	0.021	0.0059	0.000038	28
	February	1.9	0.087	0.000010	0.0017	0.00046	1.8	0.00032	0.0000071	19	0.000042	0.0035	0.021	0.0059	0.000037	28
	March	1.9	0.091	0.000010	0.0018	0.00047	1.9	0.00033	0.0000072	20	0.000044	0.0036	0.022	0.0061	0.000039	28
	April	1.6	0.068	0.000012	0.0016	0.00042	1.5	0.00034	0.0000069	15	0.000036	0.0030	0.021	0.0055	0.000030	25
	May	0.98	0.039	0.000013	0.0011	0.00039	0.86	0.00035	0.0000064	7.3	0.000024	0.0028	0.077	0.0047	0.000024	20
	June	0.77	0.027	0.000014	0.00094	0.00037	0.64	0.00036	0.0000063	4.5	0.000019	0.0026	0.089	0.0044	0.000021	18
	July	0.79	0.028	0.000013	0.00095	0.00037	0.65	0.00035	0.0000062	4.7	0.000019	0.0026	0.084	0.0043	0.000021	18
	August	0.77	0.027	0.000012	0.00094	0.00037	0.63	0.00035	0.0000062	4.6	0.000019	0.0026	0.085	0.0042	0.000021	18
	September	0.77	0.027	0.000011	0.00093	0.00037	0.61	0.00035	0.0000062	4.5	0.000019	0.0026	0.085	0.0041	0.000021	18
	October	1.0	0.040	0.000010	0.0011	0.00038	0.87	0.00034	0.0000064	7.9	0.000024	0.0027	0.061	0.0045	0.000024	20
	November	1.5	0.061	0.000099	0.0015	0.00041	1.3	0.00034	0.0000068	14	0.000034	0.0029	0.022	0.0052	0.000028	24
	December	1.7	0.075	0.000099	0.0016	0.00043	1.5	0.00032	0.0000068	16	0.000037	0.0032	0.020	0.0053	0.000032	26
BJ200mD/S Operations	January	2.1	0.054	0.000052	0.0027	0.00055	0.70	0.00041	0.000010	1.6	0.000014	0.0088	0.027	0.0042	0.000017	20
	February	2.2	0.057	0.000052	0.0027	0.00056	0.71	0.00042	0.000010	1.6	0.000014	0.0094	0.027	0.0042	0.000017	20
	March	2.3	0.058	0.000053	0.0028	0.00057	0.73	0.00042	0.000010	1.6	0.000014	0.0100	0.027	0.0043	0.000018	20
	April	2.4	0.059	0.000053	0.0028	0.00058	0.74	0.00042	0.000010	1.7	0.000014	0.010	0.028	0.0043	0.000018	20
	May	2.4	0.070	0.000053	0.0027	0.00061	0.79	0.00042	0.000010	1.9	0.000015	0.011	0.087	0.0046	0.000028	21
	June	2.4	0.069	0.000053	0.0026	0.00060	0.77	0.00041	0.000010	2.0	0.000015	0.011	0.097	0.0045	0.000030	21
	July	2.1	0.061	0.000053	0.0024	0.00056	0.69	0.00039	0.0000094	1.9	0.000014	0.010	0.091	0.0042	0.000028	20
	August	2.0	0.055	0.000053	0.0022	0.00054	0.64	0.00038	0.0000089	1.8	0.000014	0.0099	0.091	0.0041	0.000027	20
	September	1.8	0.050	0.000052	0.0020	0.00051	0.59	0.00037	0.0000084	1.8	0.000014	0.0094	0.090	0.0039	0.000026	20
	October	1.7	0.041	0.000052	0.0018	0.00048	0.52	0.00036	0.0000080	1.7	0.000013	0.0088	0.066	0.0037	0.000021	19
	November	1.8	0.034	0.000052	0.0019	0.00046	0.50	0.00037	0.0000080	1.6	0.000012	0.0091	0.024	0.0036	0.000015	19
	December	2.0	0.052	0.000052	0.0026	0.00054	0.68	0.00041	0.0000099	1.6	0.000014	0.0083	0.026	0.0041	0.000016	20
BJ200mD/S Post-Closure	January	0.98	0.021	0.000065	0.0011	0.00034	0.32	0.00031	0.000015	2.8	0.000011	0.0052	0.065	0.0057	0.000058	22
	February	1.0	0.023	0.000066	0.0011	0.00034	0.33	0.00032	0.000015	2.9	0.000011	0.0055	0.069	0.0059	0.000062	22
	March	1.2	0.028	0.000070	0.0012	0.00036	0.38	0.00032	0.000018	3.4	0.000012	0.0064	0.082	0.0067	0.000076	23
	April	0.86	0.017	0.000062	0.0011	0.00033	0.29	0.00030	0.000012	2.4	0.000011	0.0044	0.054	0.0052	0.000046	20
	May	0.59	0.018	0.000054	0.00098	0.00034	0.27	0.00028	0.0000069	1.6	0.000011	0.0030	0.089	0.0038	0.000025	18
	June	0.54	0.018	0.000052	0.00095	0.00034	0.26	0.00028	0.0000059	1.5	0.000011	0.0027	0.091	0.0035	0.000021	17
	July	0.54	0.017	0.000053	0.00092	0.00034	0.25	0.00028	0.0000061	1.5	0.000011	0.0027	0.088	0.0034	0.000021	17
	August	0.54	0.017	0.000052	0.00089	0.00034	0.25	0.00028	0.0000060	1.5	0.000011	0.0027	0.089	0.0034	0.000021	17
	September	0.54	0.018	0.000052	0.00087	0.00034	0.25	0.00028	0.0000060	1.5	0.000011	0.0027	0.091	0.0033	0.000021	17
	October	0.60	0.016	0.000054	0.00089	0.00033	0.24	0.00028	0.0000075	1.6	0.000011	0.0030	0.077	0.0036	0.000026	18
	November	0.80	0.015	0.000060	0.00099	0.00033	0.26	0.00030	0.000012	2.2	0.000011	0.0040	0.051	0.0047	0.000041	20
	December	0.90	0.019	0.000063	0.0011	0.00033	0.30	0.00031	0.000013	2.5	0.000011	0.0047	0.057	0.0052	0.000050	21

**BJ200mD/S 100 Wet Year**

		T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Mg	T-Ma	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Ag	T-Na	T-Tl	T-Zn
BJ200mD/S Construction	January	0.00021	0.00071	0.00035	0.018	0.00016	2.1	0.17	0.000012	0.0029	0.0015	2.6	0.00038	0.0000071	11	0.000076	0.0057
	February	0.00021	0.00070	0.00035	0.018	0.00015	2.1	0.17	0.000012	0.0028	0.0014	2.6	0.00039	0.0000072	11	0.000075	0.0056
	March	0.00022	0.00073	0.00036	0.018	0.00016	2.2	0.17	0.000012	0.0030	0.0015	2.7	0.00039	0.0000073	12	0.000078	0.0059
	April	0.00018	0.00056	0.00034	0.018	0.00013	1.7	0.13	0.000013	0.0024	0.0012	2.1	0.00038	0.0000069	9.1	0.000062	0.0047
	May	0.00012	0.00033	0.00051	0.11	0.00017	1.1	0.065	0.000014	0.0014	0.00065	1.1	0.00037	0.000020	5.0	0.000034	0.0041
	June	0.00010	0.00024	0.00054	0.13	0.00017	0.82	0.041	0.000015	0.0011	0.00047	0.76	0.00036	0.000022	3.5	0.000024	0.0037
	July	0.00010	0.00024	0.00053	0.12	0.00016	0.84	0.043	0.000014	0.0011	0.00048	0.78	0.00035	0.000021	3.6	0.000025	0.0037
	August	0.00010	0.00024	0.00053	0.12	0.00017	0.82	0.042	0.000013	0.0011	0.00048	0.76	0.00035	0.000021	3.5	0.000024	0.0037
	September	0.00010	0.00024	0.00053	0.12	0.00017	0.81	0.042	0.000012	0.0011	0.00048	0.74	0.00035	0.000021	3.5	0.000024	0.0037
	October	0.00012	0.00034	0.00046	0.085	0.00015	1.1	0.069	0.000011	0.0015	0.00069	1.2	0.00035	0.000016	5.2	0.000036	0.0039
	November	0.00017	0.00051	0.00034	0.020	0.00012	1.6	0.12	0.000011	0.0022	0.0011	1.9	0.00038	0.0000070	8.3	0.000056	0.0044
	December	0.00019	0.00061	0.00034	0.018	0.00014	1.8	0.14	0.000011	0.0025	0.0013	2.2	0.00037	0.0000068	9.6	0.000065	0.0050
BJ200mD/S Operations	January	0.00057	0.00027	0.00094	0.061	0.000067	2.1	0.056	0.0000052	0.0027	0.00051	0.70	0.00041	0.000010	1.6	0.000014	0.0088
	February	0.00060	0.00028	0.00098	0.063	0.000069	2.2	0.059	0.0000052	0.0028	0.00053	0.71	0.00041	0.000010	1.6	0.000014	0.0094
	March	0.00060	0.00029	0.0010	0.064	0.000071	2.3	0.060	0.0000053	0.0028	0.00053	0.73	0.00042	0.000010	1.6	0.000014	0.0100
	April	0.00061	0.00029	0.0010	0.065	0.000072	2.4	0.061	0.0000053	0.0028	0.00054	0.74	0.00042	0.000010	1.7	0.000014	0.010
	May	0.00060	0.00037	0.0013	0.16	0.00018	2.4	0.074	0.0000060	0.0028	0.00058	0.81	0.00042	0.000024	1.9	0.000016	0.012
	June	0.00058	0.00037	0.0013	0.18	0.00020	2.4	0.074	0.0000061	0.0027	0.00058	0.80	0.00041	0.000027	2.0	0.000016	0.012
	July	0.00050	0.00033	0.0012	0.16	0.00019	2.1	0.065	0.0000060	0.0024	0.00054	0.71	0.00039	0.000025	1.9	0.000015	0.011
	August	0.00044	0.00031	0.0011	0.16	0.00018	2.0	0.060	0.0000060	0.0022	0.00051	0.66	0.00038	0.000025	1.9	0.000015	0.011
	September	0.00039	0.00029	0.0011	0.16	0.00018	1.8	0.054	0.0000060	0.0020	0.00048	0.61	0.00037	0.000024	1.8	0.000015	0.010
	October	0.00035	0.00024	0.00099	0.11	0.00013	1.7	0.044	0.0000057	0.0018	0.00045	0.54	0.00036	0.000018	1.7	0.000013	0.0094
	November	0.00035	0.00018	0.00090	0.047	0.000059	1.8	0.035	0.0000052	0.0019	0.00043	0.50	0.00037	0.0000084	1.6	0.000012	0.0091
	December	0.00055	0.00026	0.00090	0.058	0.000065	2.0	0.053	0.0000052	0.0026	0.00050	0.68	0.00041	0.0000100	1.6	0.000014	0.0083
BJ200mD/S Post-Closure	January	0.00011	0.00014	0.00071	0.15	0.0013	0.98	0.035	0.000013	0.0011	0.00030	0.37	0.00031	0.000062	3.3	0.000011	0.0069
	February	0.00011	0.00014	0.00075	0.16	0.0014	1.0	0.038	0.000013	0.0012	0.00031	0.38	0.00031	0.000067	3.5	0.000011	0.0073
	March	0.00012	0.00017	0.00086	0.20	0.0017	1.2	0.047	0.000015	0.0012	0.00032	0.44	0.00032	0.000082	4.1	0.000012	0.0087
	April	0.000097	0.00012	0.00061	0.12	0.0010	0.87	0.028	0.000011	0.0011	0.00029	0.33	0.00030	0.000049	2.8	0.000011	0.0057
	May	0.000082	0.00016	0.00059	0.15	0.00035	0.61	0.025	0.0000072	0.0010	0.00031	0.30	0.00028	0.000030	1.7	0.000012	0.0040
	June	0.000079	0.00016	0.00057	0.14	0.00024	0.57	0.023	0.0000065	0.00098	0.00031	0.29	0.00028	0.000026	1.5	0.000012	0.0037
	July	0.000079	0.00016	0.00056	0.14	0.00025	0.57	0.023	0.0000065	0.00094	0.00031	0.28	0.00028	0.000026	1.5	0.000012	0.0037
	August	0.000079	0.00016	0.00056	0.14	0.00025	0.56	0.023	0.0000065	0.00092	0.00031	0.27	0.00028	0.000026	1.5	0.000012	0.0037
	September	0.000079	0.00016	0.00057	0.14	0.00025	0.56	0.023	0.0000065	0.00090	0.00031	0.27	0.00028	0.000027	1.5	0.000012	0.0037
	October	0.000082	0.00014	0.00056	0.13	0.00041	0.62	0.023	0.0000075	0.00091	0.00030	0.27	0.00028	0.000030	1.8	0.000011	0.0040
	November	0.000092	0.00011	0.00058	0.11	0.00088	0.81	0.025	0.000010	0.0010	0.00029	0.30	0.00030	0.000044	2.6	0.000011	0.0052
	December	0.00010	0.00012	0.00065	0.13	0.0011	0.90	0.031	0.000012	0.0011	0.00029	0.34	0.00030	0.000054	3.0	0.000011	0.0061

**BJ200mD/S High K**

		NH <sub>3</sub>	NO <sub>3</sub>	NO <sub>2</sub>	Cl	SO <sub>4</sub>	P	D-Al	D-As	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb
BJ200mD/S Construction	January	0.75	4.1	0.0084	2.1	91	0.0065	0.018	0.0076	0.000014	32	0.00024	0.00030	0.00040	0.015	0.00020
	February	0.79	4.1	0.0088	2.1	90	0.0069	0.018	0.0076	0.000014	31	0.00023	0.00029	0.00040	0.015	0.00020
	March	0.88	4.3	0.0096	2.1	93	0.0076	0.018	0.0079	0.000014	32	0.00024	0.00030	0.00041	0.015	0.00021
	April	0.65	3.5	0.0076	2.0	80	0.0059	0.018	0.0072	0.000013	29	0.00021	0.00026	0.00039	0.015	0.00018
	May	0.35	1.6	0.0045	2.2	45	0.017	0.016	0.0053	0.000015	22	0.00013	0.00019	0.00035	0.016	0.000095
	June	0.26	0.78	0.0035	2.3	31	0.020	0.016	0.0045	0.000016	19	0.000096	0.00016	0.00034	0.016	0.000062
	July	0.26	0.88	0.0035	2.3	33	0.019	0.015	0.0045	0.000015	19	0.000100	0.00016	0.00034	0.016	0.000066
	August	0.26	0.89	0.0035	2.3	33	0.019	0.015	0.0044	0.000015	19	0.000099	0.00016	0.00034	0.016	0.000066
	September	0.29	1.3	0.0039	2.3	40	0.016	0.015	0.0048	0.000015	21	0.00012	0.00017	0.00035	0.016	0.000083
	October	0.41	2.1	0.0051	2.2	55	0.012	0.016	0.0057	0.000014	24	0.00015	0.00021	0.00036	0.015	0.00012
	November	0.63	3.5	0.0073	2.1	79	0.0057	0.018	0.0072	0.000013	29	0.00021	0.00026	0.00039	0.015	0.00017
	December	0.69	3.8	0.0079	2.1	85	0.0061	0.018	0.0076	0.000014	30	0.00022	0.00028	0.00040	0.015	0.00019
BJ200mD/S Operations	January	0.45	0.68	0.0096	18	50	0.0060	0.038	0.0071	0.000040	30	0.0013	0.00051	0.0019	0.091	0.00012
	February	0.44	0.71	0.0100	19	52	0.0062	0.040	0.0073	0.000041	30	0.0013	0.00053	0.0020	0.096	0.00013
	March	0.46	0.73	0.010	19	53	0.0064	0.041	0.0075	0.000043	31	0.0014	0.00055	0.0021	0.100	0.00013
	April	0.47	0.75	0.011	20	54	0.0067	0.043	0.0077	0.000044	32	0.0015	0.00058	0.0022	0.10	0.00013
	May	0.60	0.76	0.011	20	56	0.021	0.044	0.0077	0.000051	32	0.0015	0.00062	0.0023	0.11	0.00013
	June	0.62	0.75	0.011	20	56	0.025	0.044	0.0076	0.000051	32	0.0014	0.00062	0.0022	0.10	0.00013
	July	0.57	0.68	0.010	18	52	0.023	0.040	0.0070	0.000047	30	0.0013	0.00056	0.0021	0.094	0.00012
	August	0.53	0.64	0.0096	16	49	0.023	0.037	0.0066	0.000044	29	0.0012	0.00052	0.0019	0.087	0.00011
	September	0.48	0.60	0.0090	15	46	0.019	0.034	0.0063	0.000040	28	0.0011	0.00048	0.0019	0.081	0.00011
	October	0.43	0.60	0.0087	15	45	0.014	0.034	0.0063	0.000038	28	0.0011	0.00046	0.0019	0.080	0.00011
	November	0.38	0.62	0.0087	16	46	0.0055	0.035	0.0065	0.000036	28	0.0011	0.00046	0.0020	0.083	0.00011
	December	0.40	0.65	0.0092	17	48	0.0057	0.036	0.0068	0.000038	29	0.0012	0.00048	0.0022	0.087	0.00012
BJ200mD/S Post-Closure	January	0.20	0.17	0.0084	17	48	0.0039	0.023	0.0055	0.000048	28	0.00051	0.00030	0.0023	0.068	0.00020
	February	0.20	0.17	0.0083	17	47	0.0039	0.023	0.0055	0.000051	28	0.00051	0.00030	0.0023	0.068	0.00021
	March	0.20	0.17	0.0083	17	47	0.0039	0.023	0.0055	0.000059	28	0.00050	0.00030	0.0023	0.067	0.00025
	April	0.20	0.17	0.0082	17	47	0.0038	0.023	0.0055	0.000043	28	0.00050	0.00030	0.0022	0.068	0.00017
	May	0.35	0.18	0.0088	17	48	0.023	0.024	0.0054	0.000045	28	0.00048	0.00034	0.0022	0.066	0.00011
	June	0.35	0.17	0.0085	16	46	0.024	0.023	0.0052	0.000044	27	0.00045	0.00033	0.0020	0.063	0.00011
	July	0.32	0.16	0.0075	13	42	0.023	0.021	0.0047	0.000039	25	0.00039	0.00030	0.0018	0.055	0.000098
	August	0.29	0.16	0.0068	12	39	0.023	0.019	0.0044	0.000036	24	0.00034	0.00027	0.0015	0.050	0.000090
	September	0.26	0.15	0.0061	10	36	0.020	0.017	0.0041	0.000033	23	0.00030	0.00024	0.0014	0.045	0.000088
	October	0.21	0.14	0.0056	9.7	35	0.015	0.016	0.0041	0.000033	23	0.00028	0.00022	0.0013	0.044	0.00010
	November	0.10	0.13	0.0051	9.4	38	0.0025	0.016	0.0043	0.000040	25	0.00029	0.00019	0.0013	0.046	0.00016
	December	0.099	0.13	0.0051	9.3	40	0.0025	0.016	0.0044	0.000043	25	0.00029	0.00019	0.0013	0.046	0.00017

**BJ200mD/S High K**

		D-Mg	D-Ma	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Ag	D-Na	D-Tl	D-Zn	T-Al	T-As	T-Cd	T-Ca
BJ200mD/S Construction	January	2.8	0.15	0.000082	0.0024	0.00057	2.8	0.00031	0.0000081	31	0.000062	0.0049	0.021	0.0076	0.000059	37
	February	2.8	0.15	0.000085	0.0024	0.00057	2.7	0.00032	0.0000081	31	0.000062	0.0049	0.022	0.0077	0.000059	36
	March	2.9	0.15	0.000085	0.0025	0.00058	2.8	0.00032	0.0000082	32	0.000064	0.0050	0.022	0.0079	0.000061	37
	April	2.5	0.13	0.000096	0.0022	0.00053	2.4	0.00033	0.0000078	27	0.000056	0.0044	0.022	0.0072	0.000051	33
	May	1.4	0.065	0.000012	0.0014	0.00043	1.3	0.00035	0.0000069	13	0.000033	0.0033	0.069	0.0055	0.000033	24
	June	0.98	0.040	0.000013	0.0011	0.00039	0.86	0.00035	0.0000065	7.2	0.000024	0.0029	0.085	0.0048	0.000026	20
	July	1.0	0.043	0.000012	0.0011	0.00039	0.91	0.00035	0.0000065	7.9	0.000025	0.0029	0.080	0.0047	0.000026	20
	August	1.0	0.043	0.000012	0.0011	0.00039	0.90	0.00035	0.0000065	7.9	0.000025	0.0029	0.080	0.0047	0.000026	20
	September	1.2	0.055	0.000011	0.0013	0.00041	1.1	0.00034	0.0000067	11	0.000029	0.0031	0.069	0.0050	0.000030	22
	October	1.7	0.082	0.000099	0.0016	0.00046	1.6	0.00034	0.0000071	17	0.000039	0.0036	0.050	0.0058	0.000038	27
	November	2.5	0.12	0.000087	0.0022	0.00053	2.4	0.00033	0.0000078	27	0.000055	0.0044	0.022	0.0072	0.000051	33
	December	2.7	0.14	0.000086	0.0023	0.00055	2.6	0.00033	0.0000080	29	0.000059	0.0046	0.022	0.0075	0.000055	35
BJ200mD/S Operations	January	6.1	0.12	0.000013	0.0057	0.00091	1.9	0.00073	0.000022	2.5	0.000025	0.020	0.045	0.0072	0.000040	30
	February	6.4	0.12	0.000013	0.0059	0.00094	2.0	0.00075	0.000023	2.6	0.000026	0.022	0.047	0.0074	0.000041	31
	March	6.7	0.13	0.000013	0.0062	0.00097	2.1	0.00077	0.000024	2.7	0.000027	0.024	0.048	0.0076	0.000043	31
	April	6.9	0.13	0.000013	0.0064	0.0010	2.2	0.00079	0.000025	2.8	0.000028	0.026	0.050	0.0078	0.000044	32
	May	6.9	0.14	0.000013	0.0064	0.0010	2.2	0.00079	0.000025	3.0	0.000028	0.027	0.099	0.0080	0.000052	33
	June	6.7	0.14	0.000012	0.0063	0.0010	2.2	0.00077	0.000024	3.0	0.000028	0.027	0.11	0.0079	0.000054	32
	July	6.1	0.13	0.000011	0.0057	0.00095	2.0	0.00072	0.000022	2.8	0.000026	0.025	0.11	0.0073	0.000049	30
	August	5.6	0.12	0.000011	0.0053	0.00089	1.8	0.00069	0.000021	2.7	0.000025	0.024	0.10	0.0069	0.000046	29
	September	5.3	0.11	0.000099	0.0049	0.00085	1.7	0.00066	0.000020	2.6	0.000024	0.023	0.089	0.0066	0.000042	28
	October	5.3	0.10	0.000096	0.0049	0.00083	1.7	0.00066	0.000020	2.5	0.000023	0.023	0.068	0.0065	0.000039	28
	November	5.6	0.10	0.000096	0.0052	0.00085	1.7	0.00068	0.000021	2.5	0.000024	0.025	0.042	0.0066	0.000036	28
	December	5.9	0.11	0.000098	0.0054	0.00088	1.8	0.00071	0.000021	2.6	0.000025	0.027	0.044	0.0069	0.000038	29
BJ200mD/S Post-Closure	January	5.8	0.071	0.000068	0.0028	0.00076	0.97	0.00052	0.000016	3.3	0.000018	0.029	0.068	0.0065	0.000066	28
	February	5.7	0.070	0.000069	0.0028	0.00076	0.97	0.00052	0.000017	3.5	0.000018	0.028	0.072	0.0068	0.000071	28
	March	5.7	0.070	0.000072	0.0028	0.00076	0.96	0.00052	0.000019	3.9	0.000018	0.028	0.084	0.0075	0.000084	28
	April	5.7	0.070	0.000065	0.0028	0.00076	0.97	0.00052	0.000014	3.0	0.000018	0.028	0.057	0.0061	0.000058	28
	May	5.4	0.080	0.000061	0.0027	0.00077	0.99	0.00050	0.000010	2.9	0.000018	0.027	0.096	0.0058	0.000048	28
	June	5.1	0.077	0.000061	0.0025	0.00074	0.94	0.00049	0.0000098	2.8	0.000018	0.026	0.10	0.0056	0.000047	28
	July	4.4	0.066	0.000059	0.0023	0.00068	0.82	0.00045	0.0000092	2.6	0.000017	0.022	0.097	0.0052	0.000043	26
	August	3.8	0.059	0.000058	0.0020	0.00063	0.74	0.00043	0.0000088	2.4	0.000016	0.019	0.095	0.0049	0.000040	25
	September	3.3	0.052	0.000058	0.0019	0.00058	0.66	0.00041	0.0000087	2.3	0.000015	0.017	0.088	0.0047	0.000037	24
	October	3.2	0.048	0.000059	0.0018	0.00056	0.62	0.00040	0.0000095	2.4	0.000015	0.016	0.077	0.0048	0.000039	23
	November	3.3	0.046	0.000064	0.0019	0.00054	0.63	0.00041	0.000013	2.8	0.000015	0.017	0.056	0.0057	0.000052	25
	December	3.3	0.048	0.000065	0.0019	0.00055	0.65	0.00042	0.000014	3.0	0.000015	0.017	0.061	0.0061	0.000058	26

**BJ200mD/S High K**

		T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Mg	T-Ma	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Ag	T-Na	T-Tl	T-Zn
BJ200mD/S Construction	January	0.00031	0.0012	0.00040	0.017	0.00024	3.2	0.28	0.000011	0.0043	0.0023	4.1	0.00042	0.0000081	18	0.00012	0.0086
	February	0.00031	0.0011	0.00040	0.017	0.00024	3.2	0.28	0.000011	0.0043	0.0022	4.1	0.00042	0.0000081	17	0.00012	0.0085
	March	0.00032	0.0012	0.00041	0.017	0.00025	3.3	0.29	0.000011	0.0044	0.0023	4.3	0.00043	0.0000083	18	0.00012	0.0088
	April	0.00028	0.00100	0.00039	0.017	0.00021	2.8	0.24	0.000012	0.0038	0.0020	3.6	0.00042	0.0000078	15	0.00010	0.0075
	May	0.00017	0.00053	0.00051	0.096	0.00020	1.6	0.12	0.000014	0.0021	0.0010	1.8	0.00038	0.000018	8.0	0.000054	0.0053
	June	0.00012	0.00034	0.00054	0.12	0.00018	1.1	0.066	0.000014	0.0014	0.00065	1.1	0.00037	0.000021	4.9	0.000034	0.0043
	July	0.00013	0.00036	0.00053	0.11	0.00018	1.1	0.072	0.000013	0.0015	0.00070	1.2	0.00037	0.000020	5.3	0.000036	0.0043
	August	0.00013	0.00036	0.00053	0.11	0.00018	1.1	0.073	0.000013	0.0015	0.00070	1.2	0.00036	0.000020	5.3	0.000036	0.0043
	September	0.00015	0.00045	0.00050	0.096	0.00018	1.4	0.097	0.000012	0.0018	0.00089	1.5	0.00037	0.000018	6.8	0.000046	0.0048
	October	0.00020	0.00066	0.00045	0.064	0.00019	1.9	0.15	0.000012	0.0026	0.0013	2.3	0.00039	0.000014	10	0.000068	0.0058
	November	0.00027	0.00098	0.00039	0.017	0.00021	2.8	0.24	0.000011	0.0038	0.0019	3.6	0.00042	0.0000078	15	0.00010	0.0074
	December	0.00029	0.0011	0.00040	0.017	0.00022	3.0	0.26	0.000011	0.0040	0.0021	3.9	0.00043	0.0000080	16	0.00011	0.0080
BJ200mD/S Operations	January	0.0013	0.00051	0.0019	0.094	0.00012	6.2	0.12	0.000013	0.0057	0.00088	1.9	0.00073	0.000022	2.5	0.000025	0.020
	February	0.0013	0.00053	0.0020	0.098	0.00013	6.4	0.12	0.000013	0.0059	0.00091	2.0	0.00075	0.000023	2.6	0.000026	0.022
	March	0.0014	0.00055	0.0021	0.10	0.00013	6.7	0.13	0.000013	0.0062	0.00094	2.1	0.00077	0.000024	2.7	0.000027	0.024
	April	0.0015	0.00058	0.0022	0.11	0.00013	6.9	0.13	0.000013	0.0064	0.00097	2.2	0.00079	0.000025	2.8	0.000027	0.026
	May	0.0015	0.00065	0.0024	0.19	0.00022	6.9	0.15	0.000013	0.0064	0.0010	2.2	0.00079	0.000037	3.0	0.000029	0.027
	June	0.0015	0.00066	0.0025	0.21	0.00025	6.8	0.15	0.000013	0.0063	0.00100	2.2	0.00077	0.000039	3.0	0.000029	0.028
	July	0.0013	0.00059	0.0023	0.19	0.00023	6.1	0.13	0.000012	0.0057	0.00092	2.0	0.00072	0.000037	2.8	0.000027	0.025
	August	0.0012	0.00055	0.0021	0.18	0.00022	5.6	0.12	0.000011	0.0053	0.00086	1.8	0.00068	0.000035	2.7	0.000026	0.024
	September	0.0011	0.00051	0.0020	0.16	0.00019	5.3	0.11	0.000010	0.0049	0.00082	1.7	0.00066	0.000032	2.6	0.000024	0.023
	October	0.0011	0.00048	0.0020	0.13	0.00016	5.3	0.11	0.0000099	0.0049	0.00080	1.7	0.00066	0.000027	2.5	0.000024	0.024
	November	0.0011	0.00046	0.0020	0.086	0.00011	5.6	0.10	0.0000095	0.0052	0.00081	1.7	0.00068	0.000021	2.5	0.000024	0.025
	December	0.0012	0.00048	0.0022	0.090	0.00012	5.9	0.11	0.0000098	0.0054	0.00084	1.8	0.00070	0.000021	2.6	0.000024	0.027
BJ200mD/S Post-Closure	January	0.00052	0.00030	0.0023	0.16	0.0013	5.8	0.072	0.000013	0.0028	0.00072	0.97	0.00052	0.000063	3.8	0.000018	0.029
	February	0.00051	0.00030	0.0023	0.17	0.0014	5.7	0.072	0.000014	0.0028	0.00072	0.97	0.00052	0.000068	4.0	0.000018	0.028
	March	0.00051	0.00030	0.0023	0.20	0.0017	5.7	0.074	0.000016	0.0028	0.00072	0.96	0.00052	0.000082	4.6	0.000018	0.028
	April	0.00051	0.00030	0.0023	0.14	0.0010	5.7	0.072	0.000011	0.0028	0.00072	0.97	0.00052	0.000051	3.4	0.000018	0.028
	May	0.00049	0.00038	0.0024	0.18	0.00038	5.4	0.084	0.0000075	0.0027	0.00074	1.0	0.00050	0.000032	2.9	0.000019	0.028
	June	0.00047	0.00037	0.0023	0.18	0.00027	5.1	0.081	0.0000070	0.0026	0.00072	0.97	0.00049	0.000028	2.9	0.000019	0.027
	July	0.00041	0.00033	0.0020	0.17	0.00028	4.4	0.071	0.0000069	0.0023	0.00065	0.85	0.00045	0.000027	2.6	0.000018	0.023
	August	0.00036	0.00031	0.0018	0.17	0.00028	3.8	0.064	0.0000068	0.0021	0.00060	0.76	0.00043	0.000027	2.5	0.000017	0.020
	September	0.00032	0.00028	0.0016	0.15	0.00033	3.4	0.057	0.0000071	0.0019	0.00055	0.68	0.00041	0.000028	2.4	0.000016	0.018
	October	0.00030	0.00025	0.0015	0.14	0.00049	3.2	0.054	0.0000081	0.0018	0.00052	0.65	0.00040	0.000033	2.5	0.000015	0.017
	November	0.00030	0.00022	0.0015	0.13	0.00099	3.3	0.055	0.000011	0.0019	0.00051	0.66	0.00041	0.000049	3.2	0.000014	0.018
	December	0.00031	0.00023	0.0015	0.14	0.0011	3.3	0.058	0.000012	0.0019	0.00051	0.68	0.00041	0.000055	3.4	0.000015	0.018

**BJ200mD/S Low K**

		NH <sub>3</sub>	NO <sub>3</sub>	NO <sub>2</sub>	Cl	SO <sub>4</sub>	P	D-Al	D-As	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb
BJ200mD/S Construction	January	1.2	1.7	0.011	2.0	42	0.010	0.013	0.0048	0.0000085	21	0.00012	0.00014	0.00032	0.014	0.000091
	February	1.2	1.6	0.012	2.0	42	0.011	0.014	0.0049	0.0000085	21	0.00012	0.00014	0.00032	0.014	0.000090
	March	1.4	1.8	0.014	2.0	43	0.013	0.014	0.0050	0.0000089	21	0.00013	0.00015	0.00033	0.014	0.000093
	April	0.91	1.3	0.0092	2.0	36	0.0084	0.014	0.0048	0.0000081	19	0.00011	0.00012	0.00032	0.014	0.000077
	May	0.37	0.61	0.0044	2.3	27	0.019	0.015	0.0042	0.000014	18	0.000086	0.00014	0.00033	0.016	0.000053
	June	0.26	0.32	0.0034	2.3	23	0.021	0.015	0.0040	0.000015	17	0.000076	0.00013	0.00033	0.016	0.000043
	July	0.26	0.35	0.0034	2.3	23	0.020	0.015	0.0039	0.000015	17	0.000076	0.00013	0.00033	0.016	0.000043
	August	0.26	0.34	0.0034	2.3	23	0.020	0.014	0.0039	0.000015	17	0.000075	0.00013	0.00033	0.016	0.000043
	September	0.30	0.42	0.0038	2.3	24	0.018	0.014	0.0039	0.000014	17	0.000078	0.00013	0.00032	0.016	0.000046
	October	0.45	0.65	0.0052	2.2	27	0.015	0.014	0.0041	0.000012	18	0.000087	0.00012	0.00032	0.015	0.000054
	November	0.85	1.2	0.0087	2.0	34	0.0079	0.014	0.0047	0.0000082	19	0.00011	0.00012	0.00032	0.014	0.000073
	December	0.99	1.4	0.0099	2.0	38	0.0090	0.015	0.0050	0.0000087	20	0.00012	0.00013	0.00033	0.014	0.000082
BJ200mD/S Operations	January	0.84	0.22	0.0084	4.5	25	0.0080	0.021	0.0052	0.000014	19	0.00055	0.00034	0.00078	0.076	0.000063
	February	0.22	0.21	0.0043	4.6	26	0.0058	0.021	0.0053	0.000015	19	0.00058	0.00036	0.00080	0.079	0.000065
	March	0.23	0.21	0.0044	4.7	26	0.0060	0.022	0.0055	0.000015	19	0.00060	0.00037	0.00082	0.082	0.000066
	April	0.24	0.22	0.0045	4.9	27	0.0061	0.023	0.0056	0.000016	20	0.00063	0.00039	0.00085	0.085	0.000067
	May	0.39	0.23	0.0054	5.1	30	0.024	0.024	0.0056	0.000023	20	0.00062	0.00044	0.00086	0.086	0.000069
	June	0.41	0.23	0.0055	5.1	30	0.026	0.024	0.0055	0.000024	20	0.00061	0.00044	0.00085	0.085	0.000069
	July	0.38	0.22	0.0051	4.8	28	0.025	0.022	0.0051	0.000023	20	0.00056	0.00041	0.00080	0.077	0.000064
	August	0.36	0.21	0.0050	4.6	27	0.024	0.021	0.0049	0.000022	20	0.00052	0.00038	0.00077	0.072	0.000062
	September	0.32	0.20	0.0047	4.4	26	0.021	0.020	0.0047	0.000021	19	0.00049	0.00035	0.00074	0.068	0.000059
	October	0.28	0.19	0.0044	4.3	26	0.016	0.020	0.0047	0.000018	19	0.00049	0.00034	0.00073	0.067	0.000059
	November	0.19	0.19	0.0039	4.2	24	0.0050	0.020	0.0048	0.000014	18	0.00051	0.00032	0.00074	0.070	0.000059
	December	0.20	0.20	0.0040	4.4	25	0.0053	0.020	0.0050	0.000014	19	0.00053	0.00033	0.00076	0.073	0.000061
BJ200mD/S Post-Closure	January	0.18	0.12	0.0038	4.2	30	0.0032	0.013	0.0036	0.000038	21	0.00030	0.00018	0.00069	0.041	0.00018
	February	0.18	0.12	0.0038	4.1	31	0.0032	0.013	0.0036	0.000041	22	0.00029	0.00017	0.00069	0.041	0.00019
	March	0.18	0.12	0.0037	4.1	34	0.0032	0.013	0.0038	0.000049	23	0.00029	0.00017	0.00069	0.041	0.00023
	April	0.18	0.12	0.0037	4.1	27	0.0032	0.013	0.0036	0.000031	20	0.00029	0.00017	0.00069	0.041	0.00015
	May	0.33	0.14	0.0046	4.3	23	0.022	0.014	0.0035	0.000021	18	0.00028	0.00023	0.00069	0.041	0.000062
	June	0.33	0.14	0.0046	4.2	23	0.024	0.014	0.0034	0.000021	18	0.00027	0.00023	0.00067	0.039	0.000051
	July	0.30	0.13	0.0042	3.9	22	0.022	0.013	0.0033	0.000020	18	0.00023	0.00021	0.00061	0.036	0.000049
	August	0.28	0.13	0.0040	3.7	22	0.022	0.013	0.0031	0.000019	17	0.00021	0.00019	0.00056	0.033	0.000048
	September	0.25	0.12	0.0037	3.5	22	0.020	0.012	0.0031	0.000019	17	0.00019	0.00018	0.00052	0.031	0.000055
	October	0.20	0.12	0.0034	3.3	22	0.015	0.011	0.0031	0.000022	18	0.00018	0.00016	0.00051	0.030	0.000077
	November	0.091	0.11	0.0029	3.1	26	0.0022	0.011	0.0033	0.000030	20	0.00019	0.00013	0.00051	0.033	0.00014
	December	0.090	0.11	0.0029	3.1	28	0.0022	0.011	0.0034	0.000034	21	0.00019	0.00013	0.00052	0.033	0.00016

**BJ200mD/S Low K**

		D-Mg	D-Ma	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Ag	D-Na	D-Tl	D-Zn	T-Al	T-As	T-Cd	T-Ca
BJ200mD/S Construction	January	1.3	0.053	0.000011	0.0014	0.00039	1.2	0.00032	0.0000064	12	0.000031	0.0027	0.020	0.0048	0.000025	23
	February	1.3	0.052	0.000011	0.0013	0.00039	1.2	0.00033	0.0000065	12	0.000031	0.0027	0.021	0.0049	0.000024	23
	March	1.4	0.055	0.000012	0.0014	0.00040	1.2	0.00033	0.0000066	13	0.000032	0.0027	0.021	0.0051	0.000025	23
	April	1.2	0.041	0.000013	0.0012	0.00037	1.0	0.00034	0.0000064	9.9	0.000027	0.0024	0.021	0.0048	0.000020	21
	May	0.86	0.031	0.000013	0.0010	0.00037	0.73	0.00035	0.0000063	5.7	0.000021	0.0026	0.078	0.0045	0.000022	19
	June	0.72	0.024	0.000014	0.00090	0.00036	0.59	0.00036	0.0000062	3.8	0.000018	0.0025	0.089	0.0043	0.000020	18
	July	0.72	0.024	0.000013	0.00090	0.00036	0.59	0.00035	0.0000062	3.9	0.000018	0.0025	0.085	0.0042	0.000020	18
	August	0.71	0.024	0.000012	0.00090	0.00036	0.57	0.00035	0.0000062	3.8	0.000018	0.0025	0.085	0.0041	0.000020	18
	September	0.74	0.024	0.000012	0.00092	0.00036	0.60	0.00035	0.0000062	4.3	0.000018	0.0025	0.076	0.0041	0.000019	18
	October	0.85	0.028	0.000011	0.0010	0.00036	0.71	0.00035	0.0000062	5.8	0.000021	0.0024	0.058	0.0043	0.000019	19
	November	1.1	0.037	0.000011	0.0012	0.00037	0.96	0.00035	0.0000064	9.0	0.000026	0.0023	0.021	0.0047	0.000019	20
	December	1.2	0.045	0.000011	0.0013	0.00038	1.1	0.00035	0.0000066	11	0.000029	0.0025	0.021	0.0050	0.000022	21
BJ200mD/S Operations	January	1.6	0.069	0.000013	0.0049	0.00068	1.5	0.00062	0.000022	2.1	0.000020	0.0058	0.028	0.0053	0.000014	19
	February	1.6	0.073	0.000013	0.0051	0.00070	1.6	0.00063	0.000022	2.1	0.000021	0.0061	0.029	0.0055	0.000015	19
	March	1.7	0.075	0.000013	0.0053	0.00072	1.7	0.00065	0.000023	2.2	0.000021	0.0063	0.029	0.0056	0.000015	20
	April	1.8	0.079	0.000013	0.0054	0.00074	1.7	0.00066	0.000024	2.2	0.000022	0.0065	0.030	0.0057	0.000016	20
	May	1.8	0.091	0.000013	0.0054	0.00078	1.8	0.00065	0.000024	2.4	0.000023	0.0072	0.091	0.0059	0.000026	21
	June	1.8	0.092	0.000012	0.0053	0.00077	1.7	0.00064	0.000023	2.4	0.000023	0.0073	0.10	0.0059	0.000027	21
	July	1.7	0.083	0.000011	0.0048	0.00072	1.6	0.00061	0.000022	2.3	0.000021	0.0068	0.095	0.0055	0.000026	20
	August	1.6	0.077	0.000010	0.0045	0.00069	1.5	0.00058	0.000020	2.2	0.000021	0.0065	0.094	0.0053	0.000025	20
	September	1.5	0.071	0.0000097	0.0042	0.00066	1.4	0.00056	0.000019	2.1	0.000020	0.0061	0.084	0.0050	0.000023	19
	October	1.5	0.067	0.0000094	0.0042	0.00065	1.3	0.00056	0.000019	2.0	0.000019	0.0060	0.066	0.0050	0.000020	19
	November	1.5	0.062	0.0000093	0.0044	0.00064	1.4	0.00058	0.000020	1.8	0.000019	0.0059	0.027	0.0050	0.000014	19
	December	1.5	0.066	0.0000093	0.0047	0.00066	1.5	0.00060	0.000021	1.8	0.000020	0.0062	0.027	0.0051	0.000014	19
BJ200mD/S Post-Closure	January	1.3	0.033	0.0000065	0.0020	0.00044	0.49	0.00036	0.000015	2.8	0.000012	0.0070	0.066	0.0058	0.000059	22
	February	1.3	0.034	0.0000066	0.0020	0.00044	0.49	0.00036	0.000016	3.0	0.000012	0.0073	0.070	0.0060	0.000063	22
	March	1.4	0.039	0.0000070	0.0020	0.00044	0.50	0.00036	0.000018	3.4	0.000013	0.0082	0.082	0.0067	0.000076	24
	April	1.2	0.032	0.0000062	0.0020	0.00044	0.49	0.00036	0.000013	2.4	0.000012	0.0065	0.055	0.0053	0.000048	21
	May	1.2	0.043	0.0000054	0.0019	0.00047	0.54	0.00035	0.0000083	1.7	0.000013	0.0070	0.090	0.0040	0.000027	18
	June	1.2	0.043	0.0000052	0.0018	0.00046	0.53	0.00035	0.0000081	1.7	0.000013	0.0067	0.093	0.0039	0.000024	18
	July	1.1	0.038	0.0000053	0.0017	0.00044	0.47	0.00033	0.0000078	1.6	0.000012	0.0060	0.089	0.0037	0.000023	18
	August	1.0	0.035	0.0000053	0.0015	0.00043	0.44	0.00033	0.0000076	1.6	0.000012	0.0055	0.089	0.0036	0.000023	18
	September	0.94	0.031	0.0000053	0.0014	0.00041	0.40	0.00032	0.0000077	1.6	0.000012	0.0052	0.083	0.0036	0.000024	18
	October	0.96	0.029	0.0000055	0.0014	0.00040	0.39	0.00032	0.0000087	1.8	0.000012	0.0052	0.074	0.0039	0.000029	18
	November	1.1	0.027	0.0000062	0.0015	0.00039	0.40	0.00033	0.000013	2.4	0.000012	0.0060	0.053	0.0050	0.000046	20
	December	1.2	0.030	0.0000063	0.0015	0.00039	0.42	0.00034	0.000014	2.6	0.000012	0.0064	0.059	0.0054	0.000052	21



**BJ200mD/S Low K**

		T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Mg	T-Ma	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Ag	T-Na	T-Tl	T-Zn
BJ200mD/S Construction	January	0.00015	0.00045	0.00032	0.018	0.00011	1.4	0.10	0.000012	0.0020	0.00097	1.7	0.00036	0.0000065	7.4	0.000050	0.0040
	February	0.00015	0.00044	0.00032	0.018	0.00010	1.4	0.099	0.000012	0.0020	0.00095	1.7	0.00036	0.0000066	7.3	0.000050	0.0039
	March	0.00016	0.00046	0.00033	0.018	0.00011	1.5	0.11	0.000013	0.0021	0.00099	1.7	0.00037	0.0000067	7.7	0.000052	0.0041
	April	0.00014	0.00035	0.00032	0.018	0.000088	1.2	0.078	0.000013	0.0018	0.00080	1.4	0.00037	0.0000065	6.2	0.000042	0.0034
	May	0.00011	0.00027	0.00051	0.11	0.00016	0.92	0.050	0.000014	0.0012	0.00054	0.91	0.00036	0.000020	4.1	0.000028	0.0037
	June	0.000095	0.00021	0.00054	0.13	0.00017	0.76	0.035	0.000015	0.0010	0.00042	0.68	0.00036	0.000022	3.1	0.000022	0.0036
	July	0.000096	0.00022	0.00053	0.12	0.00016	0.76	0.036	0.000014	0.0010	0.00043	0.68	0.00035	0.000021	3.2	0.000022	0.0035
	August	0.000095	0.00021	0.00053	0.12	0.00016	0.75	0.035	0.000013	0.0010	0.00043	0.66	0.00035	0.000021	3.1	0.000022	0.0035
	September	0.000097	0.00022	0.00050	0.11	0.00015	0.79	0.038	0.000012	0.0011	0.00045	0.71	0.00035	0.000019	3.3	0.000023	0.0034
	October	0.00011	0.00025	0.00044	0.078	0.00013	0.91	0.048	0.000012	0.0013	0.00055	0.89	0.00036	0.000015	4.1	0.000028	0.0033
	November	0.00013	0.00032	0.00031	0.018	0.000082	1.2	0.070	0.000012	0.0017	0.00074	1.3	0.00037	0.0000064	5.7	0.000039	0.0032
	December	0.00014	0.00038	0.00032	0.018	0.000093	1.3	0.085	0.000012	0.0019	0.00085	1.5	0.00038	0.0000066	6.6	0.000045	0.0036
BJ200mD/S Operations	January	0.00056	0.00034	0.00078	0.079	0.000063	1.6	0.070	0.000013	0.0049	0.00064	1.5	0.00062	0.000022	2.1	0.000020	0.0058
	February	0.00058	0.00036	0.00080	0.082	0.000065	1.7	0.074	0.000013	0.0051	0.00066	1.6	0.00063	0.000022	2.1	0.000021	0.0061
	March	0.00061	0.00037	0.00082	0.085	0.000066	1.7	0.076	0.000013	0.0053	0.00069	1.7	0.00064	0.000023	2.2	0.000021	0.0063
	April	0.00064	0.00039	0.00085	0.088	0.000068	1.8	0.080	0.000013	0.0055	0.00071	1.7	0.00065	0.000024	2.2	0.000022	0.0065
	May	0.00064	0.00047	0.0011	0.19	0.00018	1.9	0.095	0.000013	0.0054	0.00075	1.8	0.00065	0.000038	2.4	0.000024	0.0080
	June	0.00063	0.00048	0.0011	0.20	0.00020	1.8	0.096	0.000013	0.0053	0.00075	1.7	0.00064	0.000040	2.4	0.000024	0.0082
	July	0.00057	0.00044	0.0010	0.19	0.00018	1.7	0.087	0.000012	0.0048	0.00070	1.6	0.00060	0.000037	2.3	0.000022	0.0076
	August	0.00054	0.00042	0.00098	0.18	0.00018	1.6	0.081	0.000011	0.0045	0.00066	1.5	0.00058	0.000036	2.2	0.000021	0.0073
	September	0.00050	0.00038	0.00092	0.16	0.00016	1.5	0.075	0.000010	0.0042	0.00063	1.4	0.00056	0.000033	2.1	0.000020	0.0069
	October	0.00050	0.00036	0.00086	0.13	0.00013	1.5	0.070	0.0000098	0.0042	0.00061	1.4	0.00056	0.000029	2.0	0.000020	0.0065
	November	0.00052	0.00032	0.00074	0.073	0.000060	1.5	0.063	0.0000092	0.0044	0.00060	1.4	0.00057	0.000020	1.8	0.000019	0.0059
	December	0.00054	0.00033	0.00076	0.076	0.000061	1.5	0.067	0.0000093	0.0047	0.00062	1.5	0.00059	0.000021	1.8	0.000020	0.0062
BJ200mD/S Post-Closure	January	0.00030	0.00018	0.00085	0.16	0.0013	1.3	0.045	0.000013	0.0020	0.00040	0.49	0.00035	0.000063	3.4	0.000012	0.0084
	February	0.00030	0.00019	0.00089	0.17	0.0014	1.3	0.048	0.000014	0.0020	0.00040	0.50	0.00035	0.000068	3.6	0.000012	0.0089
	March	0.00030	0.00021	0.00099	0.20	0.0017	1.5	0.056	0.000015	0.0020	0.00040	0.55	0.00035	0.000082	4.1	0.000013	0.010
	April	0.00030	0.00018	0.00077	0.13	0.0010	1.2	0.039	0.000011	0.0020	0.00040	0.49	0.00035	0.000050	2.9	0.000012	0.0075
	May	0.00030	0.00026	0.00091	0.16	0.00036	1.3	0.048	0.0000072	0.0019	0.00044	0.56	0.00035	0.000031	1.8	0.000014	0.0078
	June	0.00028	0.00026	0.00091	0.16	0.00025	1.2	0.047	0.0000065	0.0019	0.00044	0.55	0.00034	0.000027	1.7	0.000014	0.0076
	July	0.00025	0.00024	0.00084	0.15	0.00026	1.1	0.043	0.0000065	0.0017	0.00041	0.49	0.00033	0.000027	1.7	0.000013	0.0069
	August	0.00023	0.00023	0.00080	0.15	0.00026	1.0	0.040	0.0000065	0.0015	0.00040	0.46	0.00032	0.000027	1.6	0.000013	0.0065
	September	0.00020	0.00021	0.00075	0.14	0.00031	0.96	0.036	0.0000069	0.0014	0.00038	0.42	0.00032	0.000028	1.7	0.000013	0.0060
	October	0.00020	0.00019	0.00072	0.13	0.00049	0.97	0.035	0.0000079	0.0014	0.00037	0.41	0.00032	0.000033	2.0	0.000012	0.0060
	November	0.00020	0.00016	0.00073	0.12	0.00099	1.1	0.036	0.000011	0.0015	0.00035	0.43	0.00033	0.000049	2.8	0.000011	0.0070
	December	0.00021	0.00017	0.00078	0.14	0.0011	1.2	0.040	0.000012	0.0015	0.00036	0.45	0.00033	0.000055	3.1	0.000012	0.0076

**BJ200mD/S Conservative Adit Concentration**

		NH <sub>3</sub>	NO <sub>3</sub>	NO <sub>2</sub>	Cl	SO <sub>4</sub>	P	D-Al	D-As	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb
BJ200mD/S Construction	January	1.00	2.6	0.010	2.2	66	0.0089	0.015	0.0059	0.000021	29	0.00021	0.00065	0.00035	0.015	0.00016
	February	1.1	2.6	0.011	2.2	64	0.0094	0.015	0.0059	0.000021	29	0.00021	0.00064	0.00035	0.015	0.00015
	March	1.2	2.7	0.012	2.2	66	0.011	0.016	0.0061	0.000021	30	0.00022	0.00066	0.00036	0.015	0.00016
	April	0.83	2.0	0.0087	2.1	54	0.0076	0.015	0.0055	0.000017	26	0.00018	0.00051	0.00034	0.014	0.00013
	May	0.37	0.84	0.0044	2.3	33	0.019	0.015	0.0044	0.000018	20	0.00011	0.00028	0.00033	0.016	0.000070
	June	0.26	0.42	0.0034	2.3	25	0.021	0.015	0.0041	0.000017	18	0.000086	0.00020	0.00033	0.016	0.000050
	July	0.26	0.46	0.0034	2.3	26	0.020	0.014	0.0040	0.000016	18	0.000088	0.00020	0.00033	0.016	0.000052
	August	0.26	0.46	0.0034	2.3	26	0.020	0.014	0.0039	0.000016	18	0.000087	0.00020	0.00033	0.016	0.000051
	September	0.30	0.61	0.0038	2.3	28	0.018	0.014	0.0040	0.000016	19	0.000096	0.00023	0.00033	0.016	0.000059
	October	0.44	1.0	0.0051	2.2	36	0.014	0.014	0.0045	0.000016	21	0.00012	0.00031	0.00033	0.015	0.000080
	November	0.77	1.9	0.0082	2.1	52	0.0071	0.015	0.0055	0.000017	25	0.00017	0.00049	0.00034	0.015	0.00012
	December	0.88	2.3	0.0092	2.2	58	0.0080	0.016	0.0059	0.000019	27	0.00019	0.00056	0.00035	0.015	0.00014
BJ200mD/S Operations	January	0.69	0.28	0.0072	10	41	0.0067	0.025	0.0055	0.000019	24	0.00074	0.00048	0.0011	0.086	0.00010
	February	0.26	0.29	0.0053	10	42	0.0057	0.026	0.0056	0.000019	24	0.00077	0.00051	0.0011	0.090	0.00011
	March	0.27	0.30	0.0055	11	43	0.0059	0.027	0.0058	0.000020	25	0.00080	0.00053	0.0012	0.093	0.00011
	April	0.29	0.31	0.0057	11	44	0.0061	0.028	0.0059	0.000020	25	0.00082	0.00055	0.0012	0.097	0.00011
	May	0.43	0.32	0.0065	11	47	0.023	0.029	0.0059	0.000028	26	0.00082	0.00060	0.0012	0.098	0.00012
	June	0.45	0.32	0.0066	11	47	0.026	0.029	0.0058	0.000029	26	0.00080	0.00060	0.0012	0.097	0.00011
	July	0.41	0.30	0.0060	10	43	0.024	0.027	0.0054	0.000027	25	0.00072	0.00054	0.0011	0.088	0.00010
	August	0.39	0.28	0.0058	9.6	41	0.024	0.025	0.0051	0.000026	24	0.00067	0.00051	0.0010	0.081	0.000098
	September	0.35	0.27	0.0054	9.1	39	0.021	0.024	0.0049	0.000024	23	0.00064	0.00047	0.00098	0.076	0.000093
	October	0.30	0.26	0.0052	9.0	38	0.016	0.023	0.0049	0.000022	23	0.00064	0.00045	0.00098	0.075	0.000093
	November	0.22	0.26	0.0048	9.3	39	0.0050	0.024	0.0051	0.000017	23	0.00068	0.00044	0.0010	0.078	0.000097
	December	0.24	0.27	0.0050	9.7	40	0.0053	0.024	0.0053	0.000018	23	0.00071	0.00046	0.0011	0.082	0.00010
BJ200mD/S Post-Closure	January	0.19	0.13	0.0047	10	44	0.0033	0.019	0.0044	0.000065	26	0.00040	0.00034	0.0011	0.050	0.00063
	February	0.19	0.13	0.0047	9.9	45	0.0033	0.019	0.0045	0.000069	26	0.00040	0.00033	0.0010	0.050	0.00068
	March	0.18	0.13	0.0047	9.9	50	0.0033	0.019	0.0049	0.000084	28	0.00040	0.00033	0.0010	0.049	0.00083
	April	0.18	0.13	0.0047	9.9	42	0.0033	0.019	0.0043	0.000052	24	0.00040	0.00033	0.0010	0.049	0.00051
	May	0.33	0.14	0.0055	9.7	43	0.022	0.020	0.0039	0.000028	24	0.00038	0.00038	0.0010	0.049	0.00015
	June	0.34	0.14	0.0054	9.3	41	0.024	0.019	0.0038	0.000026	23	0.00036	0.00036	0.00098	0.047	0.00011
	July	0.30	0.14	0.0049	8.1	38	0.022	0.017	0.0036	0.000024	22	0.00031	0.00032	0.00087	0.042	0.00010
	August	0.28	0.13	0.0046	7.3	35	0.022	0.016	0.0034	0.000024	21	0.00027	0.00029	0.00079	0.038	0.000099
	September	0.25	0.13	0.0042	6.6	33	0.020	0.015	0.0033	0.000024	21	0.00024	0.00026	0.00072	0.035	0.00013
	October	0.20	0.12	0.0039	6.2	34	0.015	0.014	0.0034	0.000030	21	0.00024	0.00024	0.00068	0.034	0.00022
	November	0.096	0.12	0.0035	5.9	39	0.0023	0.014	0.0040	0.000050	24	0.00025	0.00023	0.00068	0.035	0.00049
	December	0.096	0.12	0.0035	5.9	41	0.0023	0.014	0.0041	0.000057	25	0.00026	0.00024	0.00068	0.036	0.00055

**BJ200mD/S Conservative Adit Concentration**

		D-Mg	D-Ma	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Ag	D-Na	D-Tl	D-Zn	T-Al	T-As	T-Cd	T-Ca
BJ200mD/S Construction	January	2.1	0.17	0.000098	0.0028	0.00074	2.6	0.00039	0.0000071	14	0.000077	0.0058	0.021	0.0059	0.000038	55
	February	2.1	0.17	0.000010	0.0027	0.00073	2.6	0.00039	0.0000071	14	0.000076	0.0057	0.021	0.0059	0.000037	54
	March	2.2	0.17	0.000010	0.0028	0.00075	2.7	0.00040	0.0000072	14	0.000079	0.0059	0.022	0.0061	0.000039	55
	April	1.7	0.13	0.000012	0.0023	0.00064	2.1	0.00039	0.0000069	11	0.000063	0.0047	0.021	0.0056	0.000030	45
	May	1.1	0.063	0.000013	0.0014	0.00047	1.1	0.00037	0.0000064	5.8	0.000034	0.0034	0.076	0.0047	0.000024	28
	June	0.80	0.037	0.000014	0.0011	0.00040	0.75	0.00037	0.0000063	3.9	0.000024	0.0029	0.088	0.0044	0.000021	21
	July	0.82	0.040	0.000013	0.0011	0.00041	0.78	0.00036	0.0000063	4.0	0.000025	0.0029	0.084	0.0043	0.000021	22
	August	0.81	0.039	0.000012	0.0011	0.00041	0.76	0.00036	0.0000062	4.0	0.000024	0.0029	0.084	0.0042	0.000021	22
	September	0.90	0.048	0.000011	0.0012	0.00043	0.88	0.00036	0.0000063	4.7	0.000028	0.0030	0.074	0.0043	0.000022	24
	October	1.2	0.073	0.000011	0.0016	0.00049	1.3	0.00037	0.0000065	6.7	0.000038	0.0035	0.055	0.0047	0.000024	31
	November	1.7	0.12	0.000010	0.0023	0.00062	2.1	0.00039	0.0000069	11	0.000061	0.0046	0.021	0.0055	0.000029	44
	December	1.9	0.15	0.000010	0.0025	0.00068	2.4	0.00040	0.0000071	13	0.000069	0.0051	0.022	0.0059	0.000034	49
BJ200mD/S Operations	January	3.0	0.11	0.000013	0.0054	0.0010	1.7	0.00071	0.000022	2.3	0.000023	0.0097	0.032	0.0056	0.000019	24
	February	3.1	0.12	0.000013	0.0056	0.0010	1.7	0.00072	0.000023	2.4	0.000024	0.010	0.033	0.0057	0.000019	25
	March	3.2	0.13	0.000013	0.0059	0.0011	1.8	0.00074	0.000023	2.5	0.000024	0.011	0.034	0.0059	0.000020	25
	April	3.3	0.13	0.000013	0.0061	0.0011	1.9	0.00076	0.000024	2.6	0.000025	0.011	0.035	0.0060	0.000020	25
	May	3.4	0.15	0.000013	0.0060	0.0011	1.9	0.00076	0.000024	2.9	0.000026	0.012	0.093	0.0063	0.000030	26
	June	3.3	0.15	0.000012	0.0059	0.0011	1.9	0.00075	0.000024	2.9	0.000026	0.012	0.10	0.0062	0.000031	26
	July	3.0	0.13	0.000011	0.0053	0.0010	1.7	0.00070	0.000022	2.7	0.000024	0.011	0.098	0.0058	0.000029	25
	August	2.8	0.12	0.000010	0.0050	0.00098	1.6	0.00066	0.000020	2.7	0.000023	0.011	0.096	0.0055	0.000028	24
	September	2.7	0.11	0.0000098	0.0047	0.00093	1.5	0.00064	0.000019	2.6	0.000022	0.010	0.086	0.0053	0.000026	24
	October	2.7	0.11	0.0000094	0.0047	0.00092	1.5	0.00064	0.000019	2.5	0.000021	0.010	0.067	0.0052	0.000023	23
	November	2.8	0.11	0.0000093	0.0049	0.00093	1.5	0.00066	0.000020	2.5	0.000022	0.011	0.031	0.0052	0.000017	23
	December	2.9	0.12	0.0000094	0.0052	0.00097	1.6	0.00068	0.000021	2.6	0.000022	0.011	0.031	0.0054	0.000018	24
BJ200mD/S Post-Closure	January	3.0	0.12	0.000015	0.0027	0.00086	0.70	0.00050	0.000044	4.2	0.000015	0.013	0.13	0.017	0.00010	25
	February	2.9	0.12	0.000016	0.0027	0.00086	0.70	0.00050	0.000047	4.5	0.000015	0.014	0.14	0.018	0.00011	26
	March	2.9	0.12	0.000018	0.0027	0.00085	0.70	0.00050	0.000056	5.2	0.000015	0.015	0.17	0.022	0.00013	28
	April	2.9	0.12	0.000013	0.0027	0.00085	0.71	0.00050	0.000036	3.8	0.000015	0.012	0.11	0.014	0.000082	24
	May	2.8	0.13	0.000069	0.0026	0.00086	0.74	0.00048	0.000013	2.9	0.000016	0.012	0.10	0.0059	0.000036	24
	June	2.7	0.12	0.0000059	0.0024	0.00083	0.71	0.00047	0.0000095	2.8	0.000016	0.011	0.099	0.0046	0.000029	24
	July	2.3	0.10	0.0000060	0.0022	0.00075	0.63	0.00044	0.0000096	2.6	0.000015	0.0100	0.096	0.0046	0.000028	23
	August	2.1	0.092	0.0000060	0.0020	0.00069	0.57	0.00041	0.0000095	2.5	0.000014	0.0090	0.095	0.0045	0.000028	22
	September	1.9	0.081	0.0000065	0.0018	0.00063	0.52	0.00040	0.000011	2.4	0.000014	0.0083	0.093	0.0052	0.000031	21
	October	1.8	0.076	0.0000081	0.0018	0.00060	0.51	0.00039	0.000017	2.6	0.000013	0.0085	0.094	0.0073	0.000043	22
	November	2.0	0.078	0.000013	0.0019	0.00059	0.56	0.00041	0.000034	3.5	0.000013	0.011	0.10	0.014	0.000079	24
	December	2.1	0.081	0.000014	0.0019	0.00060	0.58	0.00042	0.000039	3.8	0.000013	0.012	0.11	0.015	0.000089	24

**BJ200mD/S Conservative Adit Concentration**

		T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Mg	T-Ma	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Ag	T-Na	T-Tl	T-Zn
BJ200mD/S Construction	January	0.00022	0.00072	0.00035	0.018	0.00016	2.1	0.17	0.000012	0.0029	0.0084	2.6	0.00038	0.0000072	27	0.000077	0.0058
	February	0.00021	0.00071	0.00035	0.018	0.00016	2.1	0.17	0.000012	0.0029	0.0082	2.6	0.00038	0.0000072	27	0.000076	0.0057
	March	0.00022	0.00073	0.00036	0.018	0.00016	2.2	0.17	0.000012	0.0029	0.0085	2.7	0.00039	0.0000073	28	0.000078	0.0059
	April	0.00018	0.00056	0.00034	0.018	0.00013	1.7	0.13	0.000013	0.0024	0.0064	2.1	0.00038	0.0000069	21	0.000062	0.0047
	May	0.00012	0.00033	0.00051	0.11	0.00017	1.1	0.066	0.000014	0.0014	0.0027	1.1	0.00036	0.000019	9.7	0.000034	0.0041
	June	0.00010	0.00024	0.00054	0.13	0.00017	0.82	0.042	0.000015	0.0011	0.0013	0.77	0.00035	0.000022	5.5	0.000025	0.0037
	July	0.00010	0.00025	0.00053	0.12	0.00016	0.84	0.044	0.000014	0.0011	0.0015	0.78	0.00035	0.000021	5.9	0.000025	0.0037
	August	0.00010	0.00024	0.00053	0.12	0.00016	0.83	0.043	0.000013	0.0011	0.0015	0.77	0.00035	0.000021	5.8	0.000025	0.0037
	September	0.00011	0.00027	0.00050	0.11	0.00015	0.91	0.051	0.000012	0.0012	0.0020	0.89	0.00035	0.000019	7.3	0.000028	0.0037
	October	0.00013	0.00036	0.00044	0.074	0.00014	1.2	0.075	0.000012	0.0016	0.0033	1.3	0.00036	0.000015	12	0.000039	0.0040
	November	0.00018	0.00054	0.00034	0.018	0.00012	1.7	0.13	0.000012	0.0023	0.0062	2.0	0.00038	0.0000069	20	0.000060	0.0046
	December	0.00020	0.00062	0.00035	0.018	0.00014	1.9	0.15	0.000012	0.0026	0.0072	2.3	0.00039	0.0000071	24	0.000068	0.0051
BJ200mD/S Operations	January	0.00075	0.00048	0.0011	0.089	0.00010	3.0	0.11	0.000013	0.0054	0.00097	1.7	0.00070	0.000022	2.3	0.000023	0.0097
	February	0.00078	0.00051	0.0011	0.093	0.00011	3.2	0.12	0.000013	0.0057	0.0010	1.7	0.00072	0.000023	2.4	0.000023	0.010
	March	0.00080	0.00053	0.0012	0.096	0.00011	3.3	0.13	0.000013	0.0059	0.0010	1.8	0.00074	0.000023	2.5	0.000024	0.011
	April	0.00083	0.00055	0.0012	0.10	0.00011	3.3	0.14	0.000013	0.0061	0.0011	1.9	0.00076	0.000024	2.6	0.000025	0.011
	May	0.00083	0.00063	0.0014	0.19	0.00022	3.4	0.15	0.000013	0.0060	0.0011	1.9	0.00076	0.000038	2.9	0.000026	0.013
	June	0.00082	0.00064	0.0014	0.21	0.00024	3.3	0.15	0.000013	0.0059	0.0011	1.9	0.00074	0.000040	2.9	0.000026	0.013
	July	0.00074	0.00058	0.0013	0.20	0.00022	3.0	0.14	0.000012	0.0054	0.0010	1.7	0.00069	0.000037	2.7	0.000025	0.012
	August	0.00069	0.00054	0.0012	0.19	0.00022	2.9	0.13	0.000011	0.0050	0.00095	1.6	0.00066	0.000036	2.7	0.000024	0.012
	September	0.00065	0.00050	0.0012	0.17	0.00019	2.7	0.12	0.000010	0.0047	0.00090	1.5	0.00063	0.000033	2.6	0.000022	0.011
	October	0.00065	0.00047	0.0011	0.14	0.00016	2.7	0.11	0.0000098	0.0047	0.00089	1.5	0.00063	0.000028	2.5	0.000022	0.011
	November	0.00068	0.00044	0.0010	0.081	0.000097	2.8	0.11	0.0000093	0.0050	0.00090	1.5	0.00066	0.000020	2.5	0.000021	0.011
	December	0.00072	0.00046	0.0011	0.085	0.00010	2.9	0.12	0.0000093	0.0052	0.00093	1.6	0.00068	0.000021	2.6	0.000022	0.011
BJ200mD/S Post-Closure	January	0.00041	0.00036	0.0018	0.70	0.0052	3.0	0.13	0.000017	0.0027	0.00082	0.70	0.00050	0.00029	5.4	0.000015	0.017
	February	0.00041	0.00038	0.0019	0.75	0.0056	2.9	0.13	0.000018	0.0027	0.00082	0.71	0.00049	0.00031	5.7	0.000015	0.018
	March	0.00040	0.00043	0.0023	0.91	0.0068	2.9	0.15	0.000020	0.0027	0.00081	0.78	0.00049	0.00037	6.7	0.000015	0.021
	April	0.00040	0.00034	0.0016	0.54	0.0040	2.9	0.13	0.000014	0.0027	0.00081	0.71	0.00049	0.00022	4.6	0.000015	0.015
	May	0.00040	0.00041	0.0013	0.24	0.0010	2.8	0.13	0.0000078	0.0026	0.00083	0.76	0.00048	0.000068	2.9	0.000017	0.013
	June	0.00038	0.00040	0.0012	0.19	0.00050	2.7	0.13	0.0000068	0.0025	0.00080	0.74	0.00047	0.000041	2.8	0.000017	0.012
	July	0.00033	0.00036	0.0011	0.19	0.00057	2.4	0.11	0.0000069	0.0022	0.00072	0.65	0.00044	0.000044	2.6	0.000016	0.011
	August	0.00029	0.00033	0.0011	0.19	0.00057	2.1	0.098	0.0000069	0.0020	0.00066	0.60	0.00041	0.000044	2.5	0.000015	0.0100
	September	0.00026	0.00031	0.0010	0.21	0.00084	1.9	0.088	0.0000074	0.0018	0.00060	0.55	0.00039	0.000058	2.5	0.000014	0.0094
	October	0.00025	0.00029	0.0011	0.29	0.0016	1.8	0.087	0.0000090	0.0018	0.00058	0.54	0.00039	0.000098	2.8	0.000014	0.0099
	November	0.00026	0.00031	0.0015	0.53	0.0039	2.0	0.10	0.000014	0.0019	0.00057	0.60	0.00041	0.00022	4.4	0.000013	0.013
	December	0.00026	0.00033	0.0016	0.61	0.0045	2.1	0.11	0.000015	0.0020	0.00057	0.63	0.00041	0.00025	4.8	0.000013	0.015

**BJ200mD/S Conservative Adit Lag**

		NH <sub>3</sub>	NO <sub>3</sub>	NO <sub>2</sub>	Cl	SO <sub>4</sub>	P	D-Al	D-As	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb
BJ200mD/S Construction	January	1.00	2.6	0.010	2.0	61	0.0089	0.015	0.0059	0.000011	25	0.00017	0.00020	0.00035	0.015	0.00013
	February	1.1	2.6	0.011	2.0	60	0.0094	0.015	0.0059	0.000011	25	0.00016	0.00020	0.00035	0.015	0.00013
	March	1.2	2.7	0.012	2.0	62	0.011	0.016	0.0061	0.000011	25	0.00017	0.00021	0.00036	0.015	0.00014
	April	0.83	2.0	0.0087	2.0	50	0.0076	0.015	0.0056	0.0000096	23	0.00014	0.00017	0.00034	0.014	0.00011
	May	0.37	0.84	0.0044	2.3	32	0.019	0.015	0.0045	0.000015	19	0.000096	0.00015	0.00033	0.016	0.000063
	June	0.26	0.42	0.0034	2.3	25	0.021	0.015	0.0041	0.000015	17	0.000080	0.00014	0.00033	0.016	0.000047
	July	0.26	0.46	0.0034	2.3	25	0.020	0.015	0.0041	0.000015	17	0.000081	0.00014	0.00033	0.016	0.000048
	August	0.26	0.46	0.0034	2.3	25	0.020	0.014	0.0040	0.000015	17	0.000081	0.00014	0.00033	0.016	0.000048
	September	0.30	0.61	0.0038	2.3	28	0.018	0.014	0.0041	0.000014	18	0.000087	0.00014	0.00033	0.016	0.000054
	October	0.44	1.0	0.0051	2.2	34	0.014	0.014	0.0046	0.000013	19	0.00010	0.00015	0.00033	0.015	0.000071
	November	0.77	1.9	0.0082	2.0	49	0.0071	0.015	0.0055	0.0000097	22	0.00014	0.00016	0.00034	0.015	0.00011
	December	0.88	2.3	0.0092	2.0	55	0.0080	0.016	0.0059	0.000010	24	0.00015	0.00018	0.00035	0.015	0.00012
BJ200mD/S Operations	January	0.69	0.28	0.0072	40	68	0.0068	0.025	0.0055	0.000019	52	0.00074	0.0023	0.0011	0.15	0.0015
	February	0.26	0.29	0.0053	42	71	0.0057	0.026	0.0056	0.000019	54	0.00077	0.0024	0.0012	0.15	0.0015
	March	0.27	0.30	0.0055	44	73	0.0059	0.027	0.0058	0.000020	56	0.00080	0.0025	0.0012	0.16	0.0016
	April	0.29	0.31	0.0056	46	75	0.0061	0.028	0.0059	0.000020	57	0.00082	0.0026	0.0012	0.16	0.0016
	May	0.43	0.32	0.0065	46	77	0.023	0.029	0.0059	0.000028	58	0.00082	0.0027	0.0012	0.16	0.0016
	June	0.45	0.32	0.0066	45	76	0.026	0.029	0.0058	0.000029	57	0.00080	0.0026	0.0012	0.16	0.0016
	July	0.41	0.30	0.0060	40	70	0.024	0.027	0.0054	0.000027	52	0.00072	0.0023	0.0011	0.14	0.0014
	August	0.39	0.28	0.0058	37	65	0.024	0.025	0.0051	0.000026	49	0.00067	0.0022	0.0011	0.14	0.0013
	September	0.35	0.27	0.0054	34	61	0.021	0.024	0.0049	0.000024	47	0.00064	0.0021	0.0010	0.13	0.0012
	October	0.30	0.26	0.0052	34	61	0.016	0.023	0.0049	0.000022	46	0.00064	0.0021	0.0010	0.13	0.0013
	November	0.22	0.26	0.0048	37	62	0.0050	0.024	0.0051	0.000017	48	0.00068	0.0022	0.0010	0.14	0.0014
	December	0.24	0.27	0.0050	39	65	0.0053	0.024	0.0053	0.000018	50	0.00071	0.0023	0.0011	0.14	0.0014
BJ200mD/S Post-Closure	January	0.19	0.13	0.0047	41	68	0.0033	0.019	0.0038	0.000039	52	0.00046	0.0024	0.0011	0.14	0.0015
	February	0.19	0.13	0.0047	41	68	0.0033	0.019	0.0039	0.000042	52	0.00045	0.0024	0.0011	0.13	0.0015
	March	0.18	0.13	0.0046	41	67	0.0033	0.019	0.0040	0.000050	52	0.00045	0.0024	0.0011	0.13	0.0015
	April	0.18	0.13	0.0046	40	67	0.0033	0.019	0.0039	0.000033	52	0.00045	0.0024	0.0011	0.13	0.0015
	May	0.33	0.14	0.0055	38	67	0.022	0.020	0.0039	0.000025	51	0.00043	0.0023	0.0011	0.13	0.0014
	June	0.34	0.14	0.0054	36	64	0.024	0.019	0.0038	0.000025	48	0.00041	0.0021	0.0010	0.12	0.0013
	July	0.30	0.14	0.0049	31	57	0.022	0.017	0.0036	0.000024	43	0.00035	0.0018	0.00089	0.10	0.0011
	August	0.28	0.13	0.0046	27	51	0.022	0.016	0.0034	0.000023	39	0.00031	0.0016	0.00081	0.092	0.00094
	September	0.25	0.13	0.0042	23	47	0.020	0.015	0.0033	0.000022	36	0.00027	0.0014	0.00073	0.081	0.00082
	October	0.20	0.12	0.0038	21	45	0.015	0.014	0.0033	0.000023	35	0.00026	0.0012	0.00070	0.076	0.00077
	November	0.093	0.11	0.0033	21	48	0.023	0.014	0.0035	0.000031	36	0.00027	0.0012	0.00070	0.078	0.00081
	December	0.092	0.12	0.0033	20	49	0.023	0.014	0.0036	0.000035	37	0.00027	0.0012	0.00070	0.078	0.00082

**BJ200mD/S Conservative Adit Lag**

		D-Mg	D-Ma	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Ag	D-Na	D-Tl	D-Zn	T-Al	T-As	T-Cd	T-Ca
BJ200mD/S Construction	January	1.9	0.090	0.000098	0.0018	0.00046	1.8	0.00032	0.0000071	20	0.000043	0.0036	0.021	0.0059	0.000038	28
	February	1.9	0.088	0.000010	0.0018	0.00046	1.8	0.00032	0.0000071	19	0.000043	0.0035	0.021	0.0059	0.000037	28
	March	1.9	0.091	0.000010	0.0018	0.00047	1.9	0.00033	0.0000072	20	0.000044	0.0036	0.022	0.0061	0.000039	28
	April	1.6	0.069	0.000012	0.0016	0.00043	1.5	0.00034	0.0000069	15	0.000037	0.0031	0.021	0.0056	0.000030	25
	May	0.99	0.039	0.000013	0.0011	0.00039	0.87	0.00035	0.0000064	7.4	0.000024	0.0028	0.076	0.0047	0.000024	20
	June	0.78	0.027	0.000014	0.00094	0.00037	0.65	0.00036	0.0000063	4.5	0.000019	0.0026	0.088	0.0044	0.000021	18
	July	0.79	0.028	0.000013	0.00095	0.00037	0.66	0.00035	0.0000063	4.8	0.000020	0.0026	0.084	0.0043	0.000021	18
	August	0.78	0.028	0.000012	0.00095	0.00037	0.64	0.00035	0.0000062	4.7	0.000019	0.0026	0.084	0.0042	0.000021	18
	September	0.86	0.031	0.000011	0.0010	0.00037	0.71	0.00035	0.0000063	5.8	0.000021	0.0026	0.074	0.0043	0.000022	19
	October	1.1	0.042	0.000011	0.0012	0.00039	0.95	0.00035	0.0000065	8.7	0.000026	0.0027	0.055	0.0047	0.000024	21
	November	1.5	0.066	0.000010	0.0015	0.00042	1.4	0.00034	0.0000069	15	0.000036	0.0030	0.021	0.0055	0.000029	25
	December	1.7	0.077	0.000010	0.0017	0.00044	1.6	0.00035	0.0000071	17	0.000040	0.0033	0.022	0.0059	0.000034	26
BJ200mD/S Operations	January	1.8	0.46	0.000013	0.0049	0.0061	1.6	0.00069	0.000027	2.1	0.000023	0.013	0.032	0.0056	0.000019	52
	February	1.9	0.48	0.000013	0.0051	0.0063	1.6	0.00070	0.000028	2.1	0.000024	0.013	0.033	0.0057	0.000019	54
	March	2.0	0.50	0.000013	0.0053	0.0066	1.7	0.00072	0.000029	2.2	0.000024	0.014	0.034	0.0059	0.000020	56
	April	2.0	0.52	0.000013	0.0054	0.0068	1.7	0.00074	0.000030	2.2	0.000025	0.014	0.035	0.0060	0.000020	58
	May	2.1	0.53	0.000013	0.0054	0.0068	1.8	0.00073	0.000030	2.4	0.000026	0.015	0.093	0.0063	0.000030	58
	June	2.0	0.52	0.000012	0.0053	0.0066	1.8	0.00072	0.000029	2.4	0.000026	0.015	0.10	0.0062	0.000031	58
	July	1.9	0.46	0.000011	0.0048	0.0060	1.6	0.00068	0.000027	2.3	0.000024	0.013	0.098	0.0058	0.000029	53
	August	1.7	0.43	0.000010	0.0045	0.0055	1.5	0.00064	0.000025	2.2	0.000023	0.013	0.096	0.0055	0.000028	50
	September	1.6	0.40	0.0000097	0.0042	0.0052	1.4	0.00062	0.000023	2.1	0.000022	0.012	0.086	0.0053	0.000026	47
	October	1.6	0.41	0.0000094	0.0042	0.0053	1.4	0.00062	0.000023	2.0	0.000022	0.012	0.067	0.0052	0.000023	47
	November	1.7	0.43	0.0000093	0.0044	0.0056	1.4	0.00064	0.000024	1.8	0.000022	0.012	0.031	0.0052	0.000017	49
	December	1.8	0.45	0.0000094	0.0046	0.0059	1.5	0.00066	0.000026	1.8	0.000023	0.013	0.031	0.0054	0.000018	51
BJ200mD/S Post-Closure	January	1.5	0.48	0.0000066	0.0019	0.0063	0.57	0.00047	0.000018	2.9	0.000016	0.013	0.067	0.0059	0.000060	53
	February	1.5	0.47	0.0000067	0.0019	0.0062	0.57	0.00047	0.000019	3.0	0.000016	0.013	0.071	0.0061	0.000064	53
	March	1.6	0.47	0.0000071	0.0019	0.0061	0.57	0.00047	0.000021	3.4	0.000016	0.013	0.083	0.0068	0.000077	52
	April	1.5	0.46	0.0000063	0.0020	0.0061	0.57	0.00047	0.000017	2.5	0.000016	0.013	0.056	0.0054	0.000049	52
	May	1.5	0.45	0.0000057	0.0019	0.0058	0.62	0.00046	0.000015	1.9	0.000016	0.013	0.093	0.0043	0.000029	51
	June	1.5	0.42	0.0000057	0.0018	0.0054	0.60	0.00044	0.000014	1.9	0.000016	0.013	0.098	0.0042	0.000028	49
	July	1.3	0.36	0.0000056	0.0016	0.0046	0.54	0.00042	0.000013	1.8	0.000015	0.011	0.093	0.0040	0.000027	44
	August	1.2	0.31	0.0000055	0.0015	0.0040	0.49	0.00040	0.000012	1.7	0.000015	0.0097	0.092	0.0039	0.000026	40
	September	1.1	0.26	0.0000055	0.0014	0.0034	0.45	0.00038	0.000012	1.7	0.000014	0.0087	0.085	0.0038	0.000026	37
	October	1.1	0.24	0.0000057	0.0014	0.0032	0.43	0.00038	0.000012	1.9	0.000014	0.0084	0.076	0.0040	0.000031	35
	November	1.3	0.24	0.0000063	0.0015	0.0031	0.44	0.00039	0.000016	2.4	0.000014	0.0092	0.055	0.0051	0.000047	37
	December	1.3	0.24	0.0000064	0.0015	0.0031	0.46	0.00039	0.000017	2.6	0.000014	0.0096	0.060	0.0055	0.000053	37

**BJ200mD/S Conservative Adit Lag**

		T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Mg	T-Ma	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Ag	T-Na	T-Tl	T-Zn
BJ200mD/S Construction	January	0.00022	0.00072	0.00035	0.018	0.00016	2.1	0.17	0.000012	0.0029	0.0015	2.6	0.00038	0.0000072	11	0.000077	0.0058
	February	0.00021	0.00071	0.00035	0.018	0.00016	2.1	0.17	0.000012	0.0029	0.0014	2.6	0.00039	0.0000072	11	0.000076	0.0057
	March	0.00022	0.00073	0.00036	0.018	0.00016	2.2	0.17	0.000012	0.0030	0.0015	2.7	0.00039	0.0000073	12	0.000078	0.0059
	April	0.00018	0.00056	0.00034	0.018	0.00013	1.8	0.13	0.000013	0.0024	0.0012	2.1	0.00038	0.0000069	9.2	0.000062	0.0047
	May	0.00012	0.00033	0.00051	0.11	0.00017	1.1	0.066	0.000014	0.0014	0.00066	1.1	0.00037	0.000019	5.0	0.000035	0.0041
	June	0.00010	0.00024	0.00054	0.13	0.00017	0.83	0.042	0.000015	0.0011	0.00047	0.77	0.00036	0.000022	3.5	0.000025	0.0037
	July	0.00010	0.00025	0.00053	0.12	0.00016	0.84	0.044	0.000014	0.0011	0.00049	0.79	0.00036	0.000021	3.6	0.000025	0.0037
	August	0.00010	0.00024	0.00053	0.12	0.00016	0.83	0.043	0.000013	0.0011	0.00049	0.78	0.00035	0.000021	3.6	0.000025	0.0037
	September	0.00011	0.00027	0.00050	0.11	0.00015	0.92	0.051	0.000012	0.0012	0.00055	0.90	0.00035	0.000019	4.1	0.000028	0.0037
	October	0.00013	0.00036	0.00044	0.074	0.00014	1.2	0.075	0.000012	0.0016	0.00075	1.3	0.00036	0.000015	5.7	0.000039	0.0040
	November	0.00018	0.00054	0.00034	0.018	0.00012	1.7	0.13	0.000012	0.0024	0.0011	2.0	0.00039	0.0000069	8.9	0.000060	0.0046
	December	0.00020	0.00062	0.00035	0.018	0.00014	1.9	0.15	0.000012	0.0026	0.0013	2.3	0.00040	0.0000071	10	0.000068	0.0051
BJ200mD/S Operations	January	0.00075	0.0023	0.0011	0.15	0.0015	1.8	0.46	0.000013	0.0049	0.0060	1.6	0.00068	0.000027	2.1	0.000023	0.013
	February	0.00078	0.0024	0.0012	0.16	0.0015	1.9	0.48	0.000013	0.0051	0.0063	1.6	0.00070	0.000028	2.1	0.000024	0.013
	March	0.00080	0.0025	0.0012	0.16	0.0016	2.0	0.50	0.000013	0.0053	0.0065	1.7	0.00072	0.000029	2.2	0.000024	0.014
	April	0.00083	0.0026	0.0012	0.17	0.0016	2.0	0.52	0.000013	0.0055	0.0068	1.7	0.00074	0.000030	2.2	0.000025	0.014
	May	0.00083	0.0027	0.0014	0.26	0.0017	2.1	0.53	0.000013	0.0054	0.0067	1.8	0.00073	0.000043	2.4	0.000027	0.016
	June	0.00082	0.0026	0.0014	0.27	0.0017	2.1	0.52	0.000013	0.0053	0.0066	1.8	0.00072	0.000046	2.4	0.000027	0.016
	July	0.00074	0.0024	0.0013	0.25	0.0015	1.9	0.47	0.000012	0.0048	0.0059	1.6	0.00067	0.000042	2.3	0.000025	0.014
	August	0.00069	0.0022	0.0013	0.24	0.0014	1.8	0.43	0.000011	0.0045	0.0055	1.5	0.00064	0.000040	2.2	0.000024	0.013
	September	0.00065	0.0021	0.0012	0.22	0.0013	1.7	0.41	0.000010	0.0042	0.0052	1.4	0.00062	0.000037	2.1	0.000023	0.013
	October	0.00065	0.0021	0.0011	0.19	0.0013	1.6	0.41	0.0000098	0.0042	0.0053	1.4	0.00062	0.000032	2.0	0.000022	0.012
	November	0.00068	0.0022	0.0010	0.14	0.0014	1.7	0.43	0.0000093	0.0044	0.0056	1.4	0.00064	0.000024	1.8	0.000022	0.012
	December	0.00072	0.0023	0.0011	0.14	0.0014	1.8	0.45	0.0000094	0.0047	0.0059	1.5	0.00066	0.000026	1.8	0.000022	0.013
BJ200mD/S Post-Closure	January	0.00047	0.0024	0.0011	0.19	0.0018	1.6	0.48	0.000013	0.0020	0.0063	0.57	0.00047	0.000064	3.4	0.000016	0.013
	February	0.00046	0.0024	0.0011	0.20	0.0019	1.5	0.47	0.000014	0.0020	0.0061	0.57	0.00047	0.000069	3.6	0.000016	0.013
	March	0.00046	0.0024	0.0012	0.23	0.0022	1.6	0.47	0.000015	0.0020	0.0061	0.59	0.00046	0.000083	4.2	0.000016	0.013
	April	0.00046	0.0024	0.0011	0.17	0.0016	1.6	0.47	0.000011	0.0020	0.0060	0.58	0.00046	0.000052	2.9	0.000016	0.013
	May	0.00045	0.0023	0.0013	0.24	0.0015	1.6	0.45	0.0000073	0.0019	0.0058	0.64	0.00045	0.000034	1.9	0.000017	0.014
	June	0.00042	0.0022	0.0012	0.24	0.0014	1.5	0.43	0.0000067	0.0018	0.0054	0.62	0.00044	0.000032	1.9	0.000017	0.013
	July	0.00037	0.0019	0.0011	0.22	0.0012	1.3	0.36	0.0000067	0.0017	0.0046	0.56	0.00042	0.000031	1.8	0.000016	0.012
	August	0.00033	0.0016	0.0010	0.21	0.0011	1.2	0.31	0.0000067	0.0015	0.0039	0.51	0.00039	0.000030	1.8	0.000015	0.011
	September	0.00029	0.0014	0.00096	0.19	0.0010	1.1	0.27	0.0000070	0.0014	0.0034	0.47	0.00038	0.000030	1.8	0.000015	0.0096
	October	0.00027	0.0013	0.00091	0.17	0.0011	1.1	0.25	0.0000080	0.0014	0.0032	0.45	0.00037	0.000034	2.0	0.000014	0.0093
	November	0.00028	0.0012	0.00092	0.15	0.0015	1.3	0.25	0.000011	0.0015	0.0031	0.47	0.00039	0.000050	2.8	0.000013	0.010
	December	0.00028	0.0012	0.00096	0.17	0.0016	1.3	0.25	0.000012	0.0015	0.0031	0.49	0.00039	0.000056	3.1	0.000014	0.011

**BJ200mD/S Conservative Adit Lag and Concentration**

		NH <sub>3</sub>	NO <sub>3</sub>	NO <sub>2</sub>	Cl	SO <sub>4</sub>	P	D-Al	D-As	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb
BJ200mD/S Construction	January	1.00	2.6	0.010	2.2	66	0.0089	0.015	0.0059	0.000021	29	0.00021	0.00065	0.00035	0.015	0.00016
	February	1.1	2.6	0.011	2.2	64	0.0094	0.015	0.0059	0.000021	29	0.00021	0.00064	0.00035	0.015	0.00015
	March	1.2	2.7	0.012	2.2	66	0.011	0.016	0.0061	0.000021	30	0.00022	0.00066	0.00036	0.015	0.00016
	April	0.83	2.1	0.0087	2.1	54	0.0076	0.015	0.0055	0.000017	26	0.00018	0.00052	0.00034	0.014	0.00013
	May	0.37	0.84	0.0044	2.3	33	0.019	0.015	0.0044	0.000018	20	0.00011	0.00028	0.00033	0.016	0.000070
	June	0.26	0.42	0.0034	2.3	25	0.021	0.015	0.0041	0.000017	18	0.000086	0.00020	0.00033	0.016	0.000050
	July	0.26	0.46	0.0034	2.3	26	0.020	0.014	0.0040	0.000016	18	0.000088	0.00020	0.00033	0.016	0.000052
	August	0.26	0.46	0.0034	2.3	26	0.020	0.014	0.0039	0.000016	18	0.000087	0.00020	0.00033	0.016	0.000051
	September	0.30	0.61	0.0038	2.3	28	0.018	0.014	0.0040	0.000016	19	0.000096	0.00023	0.00033	0.016	0.000059
	October	0.44	1.0	0.0051	2.2	36	0.014	0.014	0.0045	0.000016	21	0.00012	0.00031	0.00033	0.015	0.000080
	November	0.77	1.9	0.0082	2.1	52	0.0071	0.015	0.0055	0.000017	25	0.00017	0.00049	0.00034	0.015	0.00012
	December	0.88	2.2	0.0092	2.1	57	0.0080	0.014	0.0053	0.000018	27	0.00019	0.00056	0.00034	0.014	0.00014
BJ200mD/S Operations	January	0.69	0.28	0.0072	56	97	0.0067	0.025	0.0055	0.000019	87	0.00074	0.0023	0.0011	0.15	0.0015
	February	0.26	0.29	0.0053	59	100	0.0057	0.026	0.0056	0.000019	91	0.00077	0.0024	0.0012	0.15	0.0015
	March	0.27	0.30	0.0055	61	100	0.0059	0.027	0.0058	0.000020	95	0.00080	0.0025	0.0012	0.16	0.0016
	April	0.29	0.31	0.0057	64	110	0.0061	0.028	0.0059	0.000020	99	0.00082	0.0026	0.0012	0.16	0.0016
	May	0.43	0.32	0.0065	63	110	0.023	0.029	0.0059	0.000028	99	0.00082	0.0027	0.0012	0.16	0.0016
	June	0.45	0.32	0.0066	62	110	0.026	0.029	0.0058	0.000029	98	0.00080	0.0026	0.0012	0.16	0.0016
	July	0.41	0.30	0.0060	56	96	0.024	0.027	0.0054	0.000027	88	0.00072	0.0023	0.0011	0.14	0.0014
	August	0.39	0.28	0.0058	52	91	0.024	0.025	0.0051	0.000026	82	0.00067	0.0022	0.0011	0.14	0.0013
	September	0.35	0.27	0.0054	49	86	0.021	0.024	0.0049	0.000024	77	0.00064	0.0021	0.0010	0.13	0.0012
	October	0.30	0.26	0.0052	49	86	0.016	0.023	0.0049	0.000022	77	0.00064	0.0021	0.0010	0.13	0.0013
	November	0.22	0.26	0.0048	53	90	0.0050	0.024	0.0051	0.000017	81	0.00068	0.0022	0.0010	0.14	0.0014
	December	0.88	2.3	0.0091	54	94	0.0079	0.024	0.0059	0.000019	83	0.00071	0.0022	0.0011	0.14	0.0014
BJ200mD/S Post-Closure	January	0.19	0.13	0.0047	58	98	0.0034	0.020	0.0044	0.000065	90	0.00048	0.0025	0.0012	0.14	0.0015
	February	0.19	0.13	0.0047	58	97	0.0033	0.019	0.0045	0.000069	89	0.00047	0.0024	0.0011	0.13	0.0015
	March	0.18	0.13	0.0047	57	96	0.0033	0.019	0.0049	0.000084	88	0.00047	0.0024	0.0011	0.13	0.0015
	April	0.18	0.13	0.0047	57	96	0.0033	0.019	0.0043	0.000052	88	0.00047	0.0024	0.0011	0.13	0.0015
	May	0.33	0.14	0.0055	54	94	0.022	0.020	0.0039	0.000028	85	0.00045	0.0023	0.0011	0.13	0.0014
	June	0.34	0.14	0.0054	51	89	0.024	0.019	0.0038	0.000026	80	0.00042	0.0021	0.0010	0.12	0.0013
	July	0.30	0.14	0.0049	43	78	0.022	0.017	0.0036	0.000024	70	0.00036	0.0018	0.00089	0.10	0.0011
	August	0.28	0.13	0.0046	37	69	0.022	0.016	0.0034	0.000024	62	0.00032	0.0016	0.00081	0.091	0.00096
	September	0.25	0.13	0.0042	32	63	0.020	0.015	0.0033	0.000024	56	0.00028	0.0014	0.00073	0.081	0.00085
	October	0.20	0.12	0.0039	29	61	0.015	0.014	0.0034	0.000030	53	0.00027	0.0012	0.00070	0.076	0.00086
	November	0.096	0.12	0.0035	29	65	0.0023	0.014	0.0040	0.000050	55	0.00029	0.0012	0.00069	0.076	0.0011
	December	0.18	0.13	0.0045	56	94	0.0032	0.018	0.0041	0.000057	85	0.00046	0.0023	0.0011	0.13	0.0014



**BJ200mD/S Conservative Adit Lag and Concentration**

		D-Mg	D-Ma	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Ag	D-Na	D-Tl	D-Zn	T-Al	T-As	T-Cd	T-Ca
BJ200mD/S Construction	January	2.1	0.17	0.000098	0.0028	0.00074	2.6	0.00039	0.0000071	14	0.000077	0.0058	0.021	0.0059	0.000038	55
	February	2.1	0.17	0.000010	0.0027	0.00073	2.6	0.00039	0.0000071	14	0.000076	0.0057	0.021	0.0059	0.000037	54
	March	2.2	0.17	0.000010	0.0028	0.00075	2.7	0.00040	0.0000072	14	0.000079	0.0059	0.022	0.0061	0.000039	55
	April	1.7	0.13	0.000012	0.0023	0.00064	2.1	0.00039	0.0000069	11	0.000063	0.0048	0.021	0.0056	0.000031	46
	May	1.1	0.063	0.000013	0.0014	0.00047	1.1	0.00037	0.0000064	5.8	0.000034	0.0034	0.076	0.0047	0.000024	28
	June	0.80	0.037	0.000014	0.0011	0.00040	0.75	0.00037	0.0000063	3.9	0.000024	0.0029	0.088	0.0044	0.000021	21
	July	0.82	0.040	0.000013	0.0011	0.00041	0.78	0.00036	0.0000063	4.0	0.000025	0.0029	0.084	0.0043	0.000021	22
	August	0.81	0.039	0.000012	0.0011	0.00041	0.76	0.00036	0.0000062	4.0	0.000024	0.0029	0.084	0.0042	0.000021	22
	September	0.90	0.048	0.000011	0.0012	0.00043	0.88	0.00036	0.0000063	4.7	0.000028	0.0030	0.074	0.0043	0.000022	24
	October	1.2	0.073	0.000011	0.0016	0.00049	1.3	0.00037	0.0000065	6.7	0.000038	0.0035	0.055	0.0047	0.000024	31
	November	1.7	0.12	0.000010	0.0023	0.00062	2.1	0.00039	0.0000069	11	0.000061	0.0046	0.021	0.0055	0.000029	44
	December	1.9	0.14	0.0000099	0.0024	0.00067	2.3	0.00038	0.0000068	12	0.000067	0.0051	0.020	0.0054	0.000033	48
BJ200mD/S Operations	January	2.8	0.46	0.000013	0.0050	0.0061	1.6	0.00077	0.000031	2.7	0.000026	0.013	0.032	0.0056	0.000019	88
	February	2.9	0.48	0.000013	0.0052	0.0063	1.7	0.00079	0.000032	2.8	0.000027	0.013	0.033	0.0057	0.000019	92
	March	3.0	0.50	0.000013	0.0054	0.0066	1.8	0.00081	0.000033	2.9	0.000027	0.014	0.034	0.0059	0.000020	96
	April	3.1	0.52	0.000013	0.0056	0.0068	1.8	0.00083	0.000034	2.9	0.000028	0.014	0.035	0.0060	0.000020	99
	May	3.1	0.53	0.000013	0.0056	0.0068	1.9	0.00083	0.000034	3.2	0.000029	0.015	0.093	0.0063	0.000030	100
	June	3.1	0.52	0.000012	0.0055	0.0066	1.9	0.00081	0.000033	3.2	0.000029	0.015	0.10	0.0062	0.000031	98
	July	2.8	0.46	0.000011	0.0049	0.0060	1.7	0.00076	0.000030	3.0	0.000027	0.013	0.098	0.0058	0.000029	89
	August	2.6	0.43	0.000010	0.0046	0.0055	1.6	0.00072	0.000028	2.8	0.000025	0.013	0.096	0.0055	0.000028	82
	September	2.5	0.40	0.0000098	0.0043	0.0052	1.5	0.00069	0.000027	2.7	0.000024	0.012	0.086	0.0053	0.000026	77
	October	2.5	0.41	0.0000094	0.0043	0.0053	1.4	0.00069	0.000027	2.6	0.000024	0.012	0.067	0.0052	0.000023	77
	November	2.6	0.43	0.0000093	0.0045	0.0056	1.5	0.00072	0.000028	2.6	0.000024	0.012	0.031	0.0052	0.000017	82
	December	2.7	0.44	0.000010	0.0048	0.0058	2.4	0.00074	0.000030	13	0.000069	0.012	0.031	0.0059	0.000034	84
BJ200mD/S Post-Closure	January	2.5	0.48	0.000015	0.0020	0.0067	0.68	0.00054	0.000046	4.2	0.000019	0.014	0.13	0.017	0.00010	90
	February	2.5	0.47	0.000016	0.0021	0.0062	0.68	0.00054	0.000049	4.5	0.000019	0.014	0.14	0.018	0.00011	89
	March	2.5	0.47	0.000018	0.0021	0.0061	0.69	0.00053	0.000058	5.2	0.000019	0.016	0.17	0.022	0.00013	89
	April	2.5	0.46	0.000013	0.0021	0.0061	0.69	0.00054	0.000038	3.7	0.000019	0.013	0.11	0.014	0.000082	89
	May	2.4	0.45	0.0000070	0.0020	0.0058	0.72	0.00052	0.000019	2.9	0.000019	0.013	0.10	0.0059	0.000036	85
	June	2.3	0.42	0.0000061	0.0019	0.0054	0.70	0.00050	0.000018	2.8	0.000019	0.013	0.099	0.0046	0.000029	81
	July	2.0	0.36	0.0000062	0.0017	0.0046	0.62	0.00047	0.000017	2.6	0.000018	0.011	0.096	0.0046	0.000028	71
	August	1.8	0.31	0.0000061	0.0016	0.0040	0.56	0.00044	0.000015	2.4	0.000016	0.0098	0.095	0.0045	0.000028	63
	September	1.6	0.26	0.0000067	0.0015	0.0035	0.51	0.00042	0.000016	2.4	0.000016	0.0090	0.093	0.0052	0.000031	56
	October	1.6	0.24	0.0000081	0.0015	0.0032	0.50	0.00041	0.000020	2.6	0.000015	0.0092	0.094	0.0073	0.000043	54
	November	1.8	0.24	0.000013	0.0016	0.0031	0.55	0.00043	0.000037	3.5	0.000015	0.012	0.10	0.014	0.000079	55
	December	2.4	0.45	0.000014	0.0020	0.0059	0.66	0.00053	0.000041	3.8	0.000019	0.013	0.11	0.015	0.000089	86

**BJ200mD/S Conservative Adit Lag and Concentration**

		T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Mg	T-Ma	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Ag	T-Na	T-Tl	T-Zn
BJ200mD/S Construction	January	0.00022	0.00072	0.00035	0.018	0.00016	2.1	0.17	0.000012	0.0029	0.0084	2.6	0.00038	0.0000072	27	0.000077	0.0058
	February	0.00021	0.00071	0.00035	0.018	0.00016	2.1	0.17	0.000012	0.0029	0.0082	2.6	0.00038	0.0000072	27	0.000076	0.0057
	March	0.00022	0.00073	0.00036	0.018	0.00016	2.2	0.17	0.000012	0.0029	0.0085	2.7	0.00039	0.0000073	28	0.000078	0.0059
	April	0.00018	0.00057	0.00034	0.018	0.00013	1.7	0.13	0.000013	0.0024	0.0066	2.1	0.00038	0.0000069	21	0.000062	0.0048
	May	0.00012	0.00033	0.00051	0.11	0.00017	1.1	0.066	0.000014	0.0014	0.0027	1.1	0.00036	0.000019	9.7	0.000034	0.0041
	June	0.00010	0.00024	0.00054	0.13	0.00017	0.82	0.042	0.000015	0.0011	0.0013	0.77	0.00035	0.000022	5.5	0.000025	0.0037
	July	0.00010	0.00025	0.00053	0.12	0.00016	0.84	0.044	0.000014	0.0011	0.0015	0.78	0.00035	0.000021	5.9	0.000025	0.0037
	August	0.00010	0.00024	0.00053	0.12	0.00016	0.83	0.043	0.000013	0.0011	0.0015	0.77	0.00035	0.000021	5.8	0.000025	0.0037
	September	0.00011	0.00027	0.00050	0.11	0.00015	0.91	0.051	0.000012	0.0012	0.0020	0.89	0.00035	0.000019	7.3	0.000028	0.0037
	October	0.00013	0.00036	0.00044	0.074	0.00014	1.2	0.075	0.000012	0.0016	0.0033	1.3	0.00036	0.000015	12	0.000039	0.0040
	November	0.00018	0.00054	0.00034	0.018	0.00012	1.7	0.13	0.000012	0.0023	0.0062	2.0	0.00038	0.0000069	20	0.000060	0.0046
	December	0.00019	0.00062	0.00034	0.018	0.00014	1.9	0.14	0.000011	0.0025	0.0071	2.2	0.00036	0.0000068	23	0.000066	0.0051
BJ200mD/S Operations	January	0.00075	0.0023	0.0011	0.15	0.0015	2.8	0.46	0.000013	0.0050	0.0060	1.6	0.00077	0.000031	2.7	0.000026	0.013
	February	0.00078	0.0024	0.0012	0.16	0.0015	2.9	0.48	0.000013	0.0052	0.0063	1.7	0.00079	0.000032	2.8	0.000026	0.013
	March	0.00080	0.0025	0.0012	0.16	0.0016	3.0	0.50	0.000013	0.0054	0.0065	1.8	0.00081	0.000033	2.9	0.000027	0.014
	April	0.00083	0.0026	0.0012	0.17	0.0016	3.1	0.52	0.000013	0.0056	0.0068	1.8	0.00083	0.000034	2.9	0.000028	0.014
	May	0.00083	0.0027	0.0014	0.26	0.0017	3.2	0.53	0.000013	0.0056	0.0067	1.9	0.00082	0.000048	3.2	0.000030	0.016
	June	0.00082	0.0026	0.0014	0.27	0.0017	3.1	0.52	0.000013	0.0055	0.0066	1.9	0.00081	0.000050	3.2	0.000030	0.016
	July	0.00074	0.0024	0.0013	0.25	0.0015	2.8	0.47	0.000012	0.0050	0.0059	1.7	0.00075	0.000046	3.0	0.000028	0.014
	August	0.00069	0.0022	0.0013	0.24	0.0014	2.6	0.43	0.000011	0.0046	0.0055	1.6	0.00072	0.000044	2.8	0.000026	0.013
	September	0.00065	0.0021	0.0012	0.22	0.0013	2.5	0.41	0.000010	0.0043	0.0052	1.5	0.00069	0.000040	2.7	0.000025	0.013
	October	0.00065	0.0021	0.0011	0.19	0.0013	2.5	0.41	0.0000098	0.0043	0.0053	1.4	0.00069	0.000036	2.6	0.000024	0.012
	November	0.00068	0.0022	0.0010	0.14	0.0014	2.6	0.43	0.0000093	0.0045	0.0056	1.5	0.00072	0.000028	2.6	0.000024	0.012
	December	0.00072	0.0022	0.0011	0.14	0.0014	2.7	0.44	0.000012	0.0048	0.0072	2.3	0.00074	0.000030	2.4	0.000028	0.012
BJ200mD/S Post-Closure	January	0.00048	0.0025	0.0018	0.71	0.0053	2.5	0.49	0.000017	0.0021	0.0066	0.68	0.00053	0.00029	5.4	0.000019	0.017
	February	0.00048	0.0024	0.0020	0.76	0.0058	2.5	0.47	0.000018	0.0021	0.0061	0.70	0.00053	0.00031	5.7	0.000019	0.018
	March	0.00048	0.0024	0.0023	0.93	0.0070	2.5	0.47	0.000020	0.0021	0.0061	0.77	0.00053	0.00037	6.7	0.000019	0.021
	April	0.00048	0.0024	0.0016	0.56	0.0042	2.5	0.47	0.000014	0.0021	0.0060	0.69	0.00053	0.00022	4.6	0.000019	0.015
	May	0.00046	0.0023	0.0013	0.28	0.0016	2.5	0.46	0.0000080	0.0020	0.0058	0.74	0.00052	0.000070	2.9	0.000020	0.014
	June	0.00044	0.0022	0.0013	0.25	0.0015	2.3	0.43	0.0000070	0.0019	0.0054	0.72	0.00050	0.000045	2.8	0.000020	0.014
	July	0.00038	0.0019	0.0012	0.23	0.0013	2.1	0.36	0.0000070	0.0017	0.0046	0.64	0.00046	0.000047	2.6	0.000018	0.012
	August	0.00034	0.0016	0.0011	0.23	0.0012	1.8	0.31	0.0000070	0.0016	0.0040	0.58	0.00044	0.000047	2.5	0.000017	0.011
	September	0.00030	0.0014	0.0010	0.24	0.0013	1.7	0.27	0.0000075	0.0015	0.0034	0.54	0.00042	0.000060	2.5	0.000016	0.010
	October	0.00029	0.0013	0.0011	0.31	0.0019	1.6	0.26	0.0000091	0.0015	0.0032	0.53	0.00041	0.000099	2.8	0.000016	0.011
	November	0.00030	0.0013	0.0015	0.54	0.0041	1.8	0.27	0.000014	0.0016	0.0031	0.59	0.00043	0.00022	4.4	0.000015	0.014
	December	0.00047	0.0023	0.0016	0.61	0.0046	2.4	0.45	0.000015	0.0020	0.0059	0.66	0.00052	0.00025	4.8	0.000018	0.015

**BJ200mD/S Conservative Background**

		NH <sub>3</sub>	NO <sub>3</sub>	NO <sub>2</sub>	Cl	SO <sub>4</sub>	PO <sub>4</sub>	D-Al	D-As	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb	D-Mg
BJ200mD/S Construction	January	1.00	2.7	0.010	16	66	0.0096	0.016	0.0071	0.000010	31	0.00017	0.00020	0.00036	0.015	0.00013	2.1
	February	1.1	2.6	0.011	16	65	0.010	0.017	0.0072	0.000010	31	0.00016	0.00020	0.00036	0.015	0.00013	2.1
	March	1.2	2.8	0.012	16	67	0.011	0.017	0.0073	0.000011	31	0.00017	0.00020	0.00037	0.015	0.00014	2.1
	April	0.83	2.1	0.0087	17	56	0.0084	0.017	0.0069	0.0000095	29	0.00014	0.00017	0.00035	0.014	0.00011	1.8
	May	0.83	0.96	0.0064	23	41	0.070	0.020	0.0063	0.000020	28	0.00010	0.00018	0.00041	0.018	0.000066	1.3
	June	0.83	0.56	0.0059	24	35	0.085	0.020	0.0060	0.000022	27	0.000089	0.00018	0.00042	0.018	0.000051	1.2
	July	0.80	0.60	0.0058	24	35	0.080	0.020	0.0060	0.000021	27	0.000089	0.00017	0.00042	0.018	0.000052	1.2
	August	0.80	0.59	0.0058	24	35	0.080	0.019	0.0059	0.000021	27	0.000088	0.00017	0.00042	0.018	0.000052	1.2
	September	0.75	0.74	0.0058	24	37	0.069	0.019	0.0059	0.000019	27	0.000093	0.00017	0.00040	0.018	0.000057	1.2
	October	0.74	1.1	0.0064	22	42	0.047	0.018	0.0062	0.000016	28	0.00011	0.00016	0.00038	0.017	0.000073	1.4
	November	0.77	2.0	0.0082	18	54	0.0080	0.017	0.0069	0.0000095	29	0.00014	0.00016	0.00035	0.014	0.00011	1.8
	December	0.88	2.3	0.0092	17	60	0.0087	0.017	0.0072	0.000010	30	0.00015	0.00018	0.00036	0.015	0.00012	1.9
BJ200mD/S Operations	January	0.69	0.37	0.0072	27	37	0.0078	0.028	0.0073	0.000019	29	0.00074	0.00047	0.0011	0.086	0.00012	2.7
	February	0.26	0.38	0.0053	27	38	0.0067	0.029	0.0075	0.000019	30	0.00077	0.00049	0.0012	0.090	0.00012	2.8
	March	0.27	0.38	0.0055	27	38	0.0069	0.029	0.0076	0.000020	30	0.00080	0.00050	0.0012	0.093	0.00012	2.9
	April	0.29	0.39	0.0056	27	39	0.0071	0.030	0.0078	0.000020	30	0.00082	0.00052	0.0012	0.097	0.00012	2.9
	May	0.92	0.45	0.0087	29	43	0.078	0.034	0.0078	0.000033	32	0.00083	0.00060	0.0013	0.100	0.00012	3.0
	June	1.0	0.46	0.0091	30	44	0.091	0.034	0.0077	0.000035	32	0.00081	0.00061	0.0013	0.099	0.00012	3.0
	July	0.96	0.43	0.0085	29	42	0.086	0.032	0.0074	0.000033	31	0.00074	0.00056	0.0012	0.090	0.00012	2.8
	August	0.94	0.42	0.0082	29	41	0.085	0.031	0.0071	0.000032	31	0.00068	0.00053	0.0011	0.084	0.00011	2.6
	September	0.82	0.40	0.0075	28	40	0.074	0.029	0.0069	0.000029	30	0.00064	0.00049	0.0011	0.078	0.00011	2.5
	October	0.62	0.38	0.0065	28	38	0.051	0.028	0.0069	0.000025	30	0.00064	0.00047	0.0011	0.077	0.00011	2.4
	November	0.22	0.34	0.0048	27	36	0.0061	0.026	0.0070	0.000018	29	0.00068	0.00043	0.0010	0.079	0.00011	2.5
	December	0.24	0.36	0.0050	27	36	0.0063	0.027	0.0072	0.000018	29	0.00071	0.00045	0.0011	0.082	0.00011	2.6
BJ200mD/S Post-Closure	January	0.19	0.21	0.0047	27	40	0.0044	0.019	0.0058	0.000059	31	0.00040	0.00029	0.0011	0.049	0.00021	2.4
	February	0.19	0.21	0.0047	27	41	0.0044	0.019	0.0058	0.000061	32	0.00040	0.00029	0.0011	0.049	0.00023	2.4
	March	0.18	0.21	0.0046	27	44	0.0044	0.019	0.0060	0.000069	33	0.00039	0.00028	0.0011	0.049	0.00026	2.4
	April	0.18	0.21	0.0046	27	38	0.0044	0.019	0.0059	0.000052	30	0.00039	0.00028	0.0011	0.049	0.00018	2.4
	May	0.89	0.28	0.0079	29	39	0.084	0.023	0.0059	0.000046	30	0.00039	0.00037	0.0011	0.051	0.00011	2.5
	June	0.94	0.29	0.0080	29	39	0.091	0.023	0.0059	0.000044	30	0.00037	0.00037	0.0011	0.049	0.00011	2.4
	July	0.88	0.28	0.0074	29	37	0.087	0.022	0.0056	0.000044	29	0.00032	0.00034	0.0010	0.044	0.00010	2.1
	August	0.86	0.28	0.0071	28	36	0.086	0.021	0.0055	0.000043	29	0.00028	0.00032	0.00094	0.041	0.000099	2.0
	September	0.76	0.27	0.0064	28	35	0.076	0.019	0.0054	0.000043	29	0.00025	0.00029	0.00088	0.038	0.000099	1.8
	October	0.57	0.25	0.0055	27	35	0.056	0.018	0.0054	0.000045	29	0.00024	0.00026	0.00083	0.037	0.00011	1.8
	November	0.093	0.20	0.0033	26	36	0.0034	0.015	0.0056	0.000051	30	0.00024	0.00021	0.00078	0.037	0.00018	1.9
	December	0.092	0.20	0.0033	26	38	0.0034	0.016	0.0057	0.000054	31	0.00024	0.00021	0.00079	0.038	0.00019	1.9

**BJ200mD/S Conservative Background**

		D-Ma	D-Hg	D-Mo	D-Ni	D-P	D-Se	D-Ag	D-Na	D-Tl	D-Zn	T-Al	T-As	T-Cd	T-Ca
BJ200mD/S Construction	January	0.090	0.0000098	0.0022	0.00058	1.8	0.00049	0.0000070	20	0.000054	0.0035	0.029	0.0072	0.000038	34
	February	0.088	0.000010	0.0022	0.00058	1.8	0.00050	0.0000070	19	0.000054	0.0035	0.030	0.0073	0.000037	34
	March	0.092	0.000010	0.0023	0.00058	1.9	0.00050	0.0000071	20	0.000055	0.0036	0.030	0.0074	0.000039	34
	April	0.069	0.000012	0.0021	0.00056	1.5	0.00053	0.0000068	15	0.000049	0.0030	0.031	0.0070	0.000030	32
	May	0.047	0.000013	0.0018	0.00057	1.1	0.00059	0.0000068	7.3	0.000040	0.0037	0.097	0.0069	0.000030	29
	June	0.037	0.000014	0.0017	0.00057	0.89	0.00061	0.0000067	4.5	0.000037	0.0037	0.11	0.0068	0.000028	28
	July	0.037	0.000013	0.0017	0.00056	0.88	0.00061	0.0000066	4.7	0.000037	0.0037	0.11	0.0067	0.000028	28
	August	0.037	0.000012	0.0017	0.00056	0.86	0.00060	0.0000066	4.6	0.000037	0.0037	0.11	0.0066	0.000027	28
	September	0.039	0.000011	0.0017	0.00056	0.91	0.00059	0.0000065	5.7	0.000038	0.0035	0.095	0.0065	0.000027	28
	October	0.047	0.000011	0.0018	0.00056	1.1	0.00057	0.0000066	8.6	0.000041	0.0033	0.073	0.0067	0.000027	29
	November	0.066	0.000010	0.0021	0.00056	1.5	0.00053	0.0000067	15	0.000048	0.0030	0.031	0.0070	0.000030	32
	December	0.077	0.000010	0.0022	0.00057	1.7	0.00053	0.0000070	17	0.000051	0.0033	0.031	0.0073	0.000034	33
BJ200mD/S Operations	January	0.087	0.000013	0.0057	0.00093	1.6	0.00087	0.000022	2.0	0.000037	0.0097	0.044	0.0074	0.000019	30
	February	0.092	0.000013	0.0059	0.00095	1.7	0.00088	0.000022	2.0	0.000037	0.010	0.045	0.0076	0.000019	30
	March	0.095	0.000013	0.0061	0.00097	1.8	0.00090	0.000023	2.0	0.000038	0.011	0.045	0.0077	0.000020	30
	April	0.099	0.000013	0.0063	0.00099	1.8	0.00091	0.000023	2.1	0.000038	0.011	0.046	0.0079	0.000020	30
	May	0.12	0.000013	0.0063	0.0010	2.0	0.00091	0.000024	2.3	0.000040	0.013	0.11	0.0084	0.000036	32
	June	0.12	0.000012	0.0062	0.0010	2.0	0.00090	0.000024	2.3	0.000040	0.013	0.13	0.0085	0.000038	32
	July	0.11	0.000011	0.0057	0.00099	1.8	0.00086	0.000022	2.2	0.000039	0.012	0.12	0.0081	0.000036	32
	August	0.10	0.000010	0.0053	0.00096	1.7	0.00084	0.000021	2.1	0.000038	0.012	0.12	0.0078	0.000035	31
	September	0.093	0.0000097	0.0051	0.00092	1.6	0.00082	0.000019	2.0	0.000037	0.011	0.11	0.0075	0.000032	31
	October	0.087	0.0000094	0.0051	0.00091	1.6	0.00082	0.000019	2.0	0.000037	0.011	0.085	0.0073	0.000027	30
	November	0.079	0.0000093	0.0053	0.00089	1.5	0.00084	0.000020	1.8	0.000036	0.011	0.042	0.0071	0.000018	29
	December	0.083	0.0000093	0.0055	0.00091	1.6	0.00085	0.000021	1.8	0.000036	0.011	0.043	0.0073	0.000018	30
BJ200mD/S Post-Closure	January	0.046	0.0000065	0.0029	0.00073	0.67	0.00065	0.000015	2.9	0.000030	0.012	0.079	0.0079	0.000080	32
	February	0.045	0.0000067	0.0029	0.00073	0.67	0.00065	0.000016	3.1	0.000030	0.012	0.084	0.0082	0.000084	32
	March	0.048	0.0000070	0.0029	0.00073	0.67	0.00065	0.000018	3.5	0.000031	0.012	0.096	0.0089	0.000097	34
	April	0.046	0.0000062	0.0029	0.00073	0.67	0.00065	0.000013	2.6	0.000030	0.012	0.069	0.0074	0.000068	31
	May	0.065	0.0000054	0.0028	0.00078	0.89	0.00065	0.0000092	2.0	0.000032	0.013	0.12	0.0067	0.000053	30
	June	0.065	0.0000053	0.0027	0.00077	0.89	0.00064	0.0000091	2.0	0.000032	0.013	0.12	0.0067	0.000049	30
	July	0.058	0.0000053	0.0025	0.00074	0.81	0.00063	0.0000087	1.9	0.000032	0.011	0.12	0.0064	0.000048	30
	August	0.054	0.0000053	0.0024	0.00071	0.76	0.00062	0.0000084	1.9	0.000031	0.010	0.12	0.0063	0.000048	30
	September	0.048	0.0000054	0.0023	0.00069	0.70	0.00061	0.0000084	1.8	0.000031	0.0096	0.11	0.0062	0.000049	29
	October	0.043	0.0000056	0.0023	0.00067	0.64	0.00061	0.0000092	1.9	0.000030	0.0091	0.096	0.0064	0.000053	29
	November	0.036	0.0000062	0.0023	0.00064	0.53	0.00062	0.000013	2.5	0.000029	0.0092	0.067	0.0072	0.000067	30
	December	0.038	0.0000063	0.0024	0.00065	0.55	0.00063	0.000014	2.7	0.000030	0.0096	0.073	0.0075	0.000073	31

**BJ200mD/S Conservative Background**

		T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Mg	T-Ma	T-Hg	T-Mo	T-Ni	T-P	T-Se	T-Ag	T-Na	T-Tl	T-Zn
BJ200mD/S Construction	January	0.00024	0.00072	0.00036	0.026	0.00016	2.3	0.17	0.000012	0.0034	0.0015	2.7	0.00057	0.0000072	11	0.000087	0.0058
	February	0.00024	0.00071	0.00036	0.026	0.00016	2.3	0.17	0.000012	0.0034	0.0014	2.6	0.00057	0.0000072	11	0.000086	0.0057
	March	0.00024	0.00073	0.00037	0.026	0.00016	2.4	0.18	0.000012	0.0034	0.0015	2.7	0.00057	0.0000073	12	0.000089	0.0059
	April	0.00021	0.00056	0.00035	0.027	0.00013	2.0	0.13	0.000013	0.0030	0.0012	2.2	0.00059	0.0000069	9.1	0.000074	0.0047
	May	0.00016	0.00039	0.00069	0.28	0.00035	1.4	0.077	0.000015	0.0021	0.00068	1.3	0.00062	0.000042	4.7	0.000050	0.0051
	June	0.00015	0.00032	0.00076	0.34	0.00040	1.2	0.054	0.000016	0.0018	0.00050	1.00	0.00063	0.000050	3.2	0.000042	0.0050
	July	0.00015	0.00032	0.00074	0.32	0.00038	1.2	0.056	0.000015	0.0019	0.00052	1.0	0.00063	0.000047	3.3	0.000042	0.0049
	August	0.00015	0.00032	0.00074	0.32	0.00038	1.2	0.055	0.000014	0.0018	0.00051	0.99	0.00062	0.000047	3.2	0.000042	0.0049
	September	0.00015	0.00033	0.00068	0.28	0.00034	1.3	0.062	0.000013	0.0019	0.00058	1.1	0.00062	0.000041	3.8	0.000045	0.0047
	October	0.00017	0.00040	0.00056	0.19	0.00026	1.5	0.083	0.000013	0.0023	0.00076	1.4	0.00061	0.000029	5.4	0.000054	0.0046
	November	0.00020	0.00054	0.00035	0.027	0.00012	1.9	0.13	0.000012	0.0029	0.0011	2.1	0.00059	0.0000069	8.8	0.000072	0.0046
	December	0.00022	0.00062	0.00036	0.027	0.00014	2.1	0.15	0.000012	0.0032	0.0013	2.4	0.00059	0.0000071	10	0.000080	0.0051
BJ200mD/S Operations	January	0.00078	0.00047	0.0011	0.10	0.00012	2.7	0.091	0.000013	0.0057	0.00073	1.6	0.00088	0.000022	2.0	0.000036	0.0097
	February	0.00081	0.00049	0.0012	0.10	0.00012	2.8	0.096	0.000013	0.0059	0.00075	1.7	0.00089	0.000022	2.0	0.000036	0.010
	March	0.00083	0.00050	0.0012	0.11	0.00012	2.9	0.099	0.000013	0.0062	0.00077	1.8	0.00090	0.000023	2.0	0.000037	0.011
	April	0.00086	0.00052	0.0012	0.11	0.00012	3.0	0.10	0.000013	0.0064	0.00079	1.8	0.00092	0.000024	2.1	0.000037	0.011
	May	0.00087	0.00067	0.0016	0.38	0.00042	3.1	0.13	0.000014	0.0063	0.00086	2.0	0.00092	0.000062	2.1	0.000040	0.014
	June	0.00086	0.00068	0.0016	0.43	0.00048	3.0	0.13	0.000014	0.0062	0.00086	2.0	0.00091	0.000068	2.1	0.000041	0.014
	July	0.00078	0.00063	0.0015	0.40	0.00045	2.8	0.12	0.000013	0.0057	0.00080	1.9	0.00087	0.000064	2.0	0.000039	0.013
	August	0.00073	0.00060	0.0015	0.39	0.00044	2.6	0.11	0.000012	0.0054	0.00077	1.7	0.00085	0.000063	1.9	0.000039	0.013
	September	0.00069	0.00055	0.0014	0.35	0.00039	2.5	0.100	0.000011	0.0051	0.00073	1.6	0.00083	0.000056	1.8	0.000037	0.012
	October	0.00069	0.00051	0.0012	0.26	0.00030	2.5	0.092	0.000011	0.0051	0.00071	1.6	0.00083	0.000043	1.8	0.000036	0.011
	November	0.00071	0.00043	0.0010	0.094	0.00011	2.5	0.083	0.0000093	0.0053	0.00069	1.5	0.00085	0.000020	1.8	0.000035	0.011
	December	0.00075	0.00045	0.0011	0.097	0.00012	2.6	0.087	0.0000093	0.0055	0.00071	1.6	0.00086	0.000021	1.8	0.000036	0.011
BJ200mD/S Post-Closure	January	0.00044	0.00029	0.0011	0.17	0.0013	2.5	0.056	0.000013	0.0029	0.00052	0.67	0.00066	0.000063	3.5	0.000029	0.012
	February	0.00044	0.00029	0.0012	0.18	0.0014	2.4	0.059	0.000014	0.0029	0.00052	0.66	0.00066	0.000068	3.7	0.000029	0.012
	March	0.00043	0.00029	0.0013	0.22	0.0017	2.4	0.067	0.000015	0.0029	0.00052	0.68	0.00066	0.000082	4.2	0.000030	0.013
	April	0.00043	0.00029	0.0011	0.14	0.0010	2.4	0.050	0.000011	0.0029	0.00052	0.67	0.00066	0.000050	3.0	0.000029	0.012
	May	0.00044	0.00044	0.0015	0.37	0.00061	2.5	0.073	0.0000085	0.0028	0.00058	0.90	0.00066	0.000058	1.8	0.000032	0.014
	June	0.00042	0.00045	0.0015	0.39	0.00052	2.4	0.072	0.0000079	0.0028	0.00057	0.90	0.00065	0.000057	1.8	0.000032	0.014
	July	0.00037	0.00041	0.0014	0.37	0.00052	2.2	0.066	0.0000079	0.0026	0.00054	0.82	0.00064	0.000055	1.7	0.000032	0.012
	August	0.00034	0.00039	0.0013	0.37	0.00052	2.0	0.062	0.0000079	0.0024	0.00051	0.77	0.00063	0.000055	1.6	0.000032	0.011
	September	0.00030	0.00036	0.0012	0.34	0.00055	1.8	0.056	0.0000081	0.0023	0.00048	0.71	0.00062	0.000053	1.7	0.000031	0.011
	October	0.00029	0.00032	0.0011	0.28	0.00066	1.8	0.052	0.0000088	0.0023	0.00046	0.65	0.00062	0.000051	1.9	0.000030	0.010
	November	0.00029	0.00024	0.0010	0.14	0.0010	1.9	0.047	0.000011	0.0024	0.00042	0.55	0.00063	0.000049	2.9	0.000028	0.010
	December	0.00029	0.00025	0.0010	0.15	0.0012	1.9	0.051	0.000012	0.0024	0.00043	0.58	0.00064	0.000055	3.2	0.000029	0.011

**BJ200mD/S Conservative Solids**

		NH <sub>3</sub>	NO <sub>3</sub>	NO <sub>2</sub>	Cl	SO <sub>4</sub>	P	D-Al	D-As	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb
BJ200mD/S Construction	January	1.00	2.6	0.010	2.0	61	0.0089	0.016	0.0061	0.000015	25	0.00017	0.00029	0.00035	0.015	0.00014
	February	1.1	2.6	0.011	2.0	60	0.0094	0.016	0.0062	0.000016	25	0.00016	0.00030	0.00035	0.015	0.00014
	March	1.2	2.7	0.012	2.0	62	0.011	0.017	0.0064	0.000016	25	0.00017	0.00031	0.00036	0.015	0.00014
	April	0.83	2.0	0.0087	2.0	51	0.0076	0.017	0.0059	0.000016	23	0.00014	0.00030	0.00034	0.015	0.00012
	May	0.37	0.84	0.0044	2.3	32	0.019	0.017	0.0049	0.000023	19	0.000096	0.00032	0.00033	0.016	0.000074
	June	0.26	0.42	0.0034	2.3	25	0.021	0.017	0.0046	0.000024	17	0.000080	0.00032	0.00033	0.017	0.000058
	July	0.26	0.46	0.0034	2.3	26	0.020	0.017	0.0045	0.000023	18	0.000081	0.00031	0.00033	0.017	0.000059
	August	0.26	0.46	0.0034	2.3	26	0.020	0.016	0.0044	0.000023	18	0.000081	0.00030	0.00033	0.017	0.000058
	September	0.30	0.61	0.0038	2.3	28	0.018	0.016	0.0045	0.000021	18	0.000086	0.00029	0.00033	0.016	0.000063
	October	0.44	1.0	0.0051	2.2	35	0.014	0.016	0.0049	0.000019	19	0.00010	0.00029	0.00033	0.016	0.000079
	November	0.77	1.9	0.0082	2.0	49	0.0071	0.017	0.0059	0.000016	22	0.00014	0.00030	0.00034	0.015	0.00011
	December	0.88	2.3	0.0092	2.0	55	0.0080	0.018	0.0063	0.000017	24	0.00015	0.00032	0.00035	0.015	0.00013
BJ200mD/S Operations	January	0.69	0.28	0.0072	6.8	31	0.0082	0.027	0.0084	0.000026	21	0.00089	0.00040	0.0011	0.10	0.000078
	February	0.26	0.29	0.0053	7.0	32	0.0085	0.028	0.0086	0.000027	21	0.00093	0.00042	0.0011	0.11	0.000081
	March	0.27	0.30	0.0055	7.3	33	0.0088	0.029	0.0089	0.000028	22	0.00096	0.00043	0.0011	0.11	0.000083
	April	0.29	0.31	0.0057	7.5	34	0.0091	0.030	0.0092	0.000029	22	0.00100	0.00045	0.0012	0.11	0.000085
	May	0.43	0.32	0.0065	7.7	36	0.026	0.031	0.0092	0.000036	23	0.00099	0.00051	0.0012	0.12	0.000087
	June	0.45	0.32	0.0066	7.7	36	0.029	0.031	0.0090	0.000037	23	0.00097	0.00051	0.0012	0.11	0.000086
	July	0.41	0.30	0.0061	7.1	34	0.027	0.028	0.0083	0.000034	22	0.00088	0.00046	0.0011	0.10	0.000080
	August	0.39	0.28	0.0058	6.7	33	0.026	0.027	0.0078	0.000033	21	0.00081	0.00043	0.0010	0.096	0.000076
	September	0.35	0.27	0.0054	6.3	31	0.023	0.025	0.0074	0.000030	21	0.00076	0.00040	0.00095	0.089	0.000072
	October	0.30	0.26	0.0052	6.2	30	0.018	0.025	0.0074	0.000028	21	0.00077	0.00038	0.00095	0.088	0.000071
	November	0.22	0.26	0.0048	6.4	30	0.0074	0.025	0.0077	0.000024	20	0.00081	0.00036	0.00097	0.092	0.000073
	December	0.24	0.27	0.0050	6.7	31	0.0078	0.026	0.0081	0.000025	21	0.00085	0.00038	0.0010	0.096	0.000076
BJ200mD/S2 Post-Closure	January	0.19	0.13	0.0047	6.9	32	0.0039	0.017	0.0052	0.000040	22	0.00043	0.00021	0.0010	0.052	0.00019
	February	0.19	0.13	0.0047	6.9	33	0.0039	0.017	0.0053	0.000042	23	0.00043	0.00021	0.0010	0.052	0.00020
	March	0.18	0.13	0.0046	6.9	36	0.0039	0.017	0.0054	0.000050	24	0.00043	0.00020	0.0010	0.051	0.00023
	April	0.18	0.13	0.0046	6.9	30	0.0039	0.017	0.0054	0.000034	21	0.00043	0.00020	0.0010	0.052	0.00015
	May	0.33	0.14	0.0055	6.9	29	0.023	0.018	0.0053	0.000026	20	0.00041	0.00026	0.0010	0.051	0.000069
	June	0.34	0.14	0.0054	6.6	28	0.024	0.017	0.0052	0.000026	20	0.00038	0.00025	0.00097	0.049	0.000064
	July	0.30	0.14	0.0049	5.9	27	0.023	0.016	0.0048	0.000024	19	0.00033	0.00023	0.00086	0.044	0.000061
	August	0.28	0.13	0.0046	5.4	26	0.023	0.015	0.0045	0.000023	19	0.00029	0.00021	0.00078	0.040	0.000058
	September	0.25	0.13	0.0042	5.0	25	0.020	0.014	0.0043	0.000023	19	0.00026	0.00019	0.00071	0.037	0.000061
	October	0.20	0.12	0.0038	4.7	25	0.015	0.013	0.0044	0.000024	19	0.00025	0.00017	0.00068	0.036	0.000081
	November	0.093	0.11	0.0033	4.5	28	0.0026	0.013	0.0047	0.000032	21	0.00026	0.00014	0.00068	0.038	0.00015
	December	0.092	0.12	0.0033	4.5	30	0.0026	0.013	0.0048	0.000035	21	0.00026	0.00015	0.00069	0.039	0.00016

**BJ200mD/S Conservative Solids**

		D-Mg	D-Ma	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Ag	D-Na	D-Tl	D-Zn	T-Al	T-As	T-Cd	T-Ca
BJ200mD/S Construction	January	1.9	0.092	0.000010	0.0019	0.00055	1.8	0.00037	0.0000074	20	0.000046	0.0037	0.022	0.0061	0.000043	28
	February	1.9	0.090	0.000011	0.0019	0.00056	1.8	0.00038	0.0000074	19	0.000046	0.0036	0.022	0.0062	0.000042	28
	March	2.0	0.094	0.000011	0.0019	0.00058	1.9	0.00039	0.0000076	20	0.000048	0.0037	0.023	0.0064	0.000044	28
	April	1.6	0.072	0.000012	0.0017	0.00056	1.5	0.00042	0.0000073	15	0.000041	0.0032	0.023	0.0059	0.000037	25
	May	1.0	0.043	0.000014	0.0013	0.00056	0.88	0.00045	0.0000070	7.4	0.000030	0.0030	0.078	0.0051	0.000033	20
	June	0.81	0.032	0.000015	0.0012	0.00056	0.66	0.00047	0.0000069	4.5	0.000025	0.0028	0.091	0.0049	0.000030	18
	July	0.82	0.032	0.000014	0.0012	0.00054	0.67	0.00046	0.0000068	4.8	0.000025	0.0028	0.086	0.0047	0.000029	18
	August	0.81	0.032	0.000013	0.0011	0.00053	0.65	0.00045	0.0000068	4.7	0.000025	0.0028	0.086	0.0046	0.000029	18
	September	0.88	0.035	0.000012	0.0012	0.00053	0.72	0.00044	0.0000068	5.7	0.000026	0.0028	0.076	0.0047	0.000029	19
	October	1.1	0.046	0.000012	0.0013	0.00054	0.96	0.00043	0.0000069	8.7	0.000030	0.0029	0.057	0.0050	0.000031	21
	November	1.6	0.069	0.000011	0.0017	0.00056	1.5	0.00043	0.0000073	15	0.000040	0.0031	0.023	0.0058	0.000036	25
	December	1.8	0.080	0.000011	0.0018	0.00058	1.6	0.00043	0.0000076	17	0.000044	0.0034	0.023	0.0062	0.000040	26
BJ200mD/S Operations	January	2.5	0.084	0.000015	0.0081	0.00090	2.0	0.00078	0.000037	2.1	0.000026	0.0089	0.034	0.0085	0.000026	21
	February	2.6	0.088	0.000014	0.0085	0.00093	2.1	0.00080	0.000039	2.1	0.000027	0.0095	0.035	0.0088	0.000027	22
	March	2.7	0.092	0.000014	0.0088	0.00096	2.2	0.00082	0.000040	2.1	0.000028	0.010	0.036	0.0090	0.000028	22
	April	2.8	0.096	0.000014	0.0091	0.00099	2.3	0.00084	0.000041	2.1	0.000028	0.011	0.036	0.0093	0.000029	22
	May	2.8	0.11	0.000014	0.0090	0.0010	2.3	0.00083	0.000041	2.4	0.000029	0.011	0.095	0.0095	0.000038	23
	June	2.8	0.11	0.000014	0.0088	0.0010	2.3	0.00082	0.000040	2.4	0.000029	0.011	0.11	0.0094	0.000040	23
	July	2.6	0.097	0.000013	0.0080	0.00094	2.0	0.00076	0.000037	2.3	0.000027	0.011	0.099	0.0087	0.000037	22
	August	2.4	0.090	0.000012	0.0074	0.00089	1.9	0.00073	0.000034	2.2	0.000026	0.010	0.098	0.0081	0.000035	22
	September	2.2	0.082	0.000011	0.0069	0.00085	1.8	0.00070	0.000032	2.1	0.000024	0.0097	0.087	0.0077	0.000032	21
	October	2.2	0.078	0.000010	0.0069	0.00083	1.8	0.00070	0.000032	2.0	0.000024	0.0097	0.068	0.0076	0.000029	21
	November	2.3	0.075	0.000010	0.0073	0.00084	1.8	0.00072	0.000034	1.8	0.000024	0.010	0.032	0.0078	0.000024	21
	December	2.4	0.079	0.000010	0.0077	0.00087	1.9	0.00075	0.000036	1.8	0.000025	0.011	0.033	0.0082	0.000025	21
BJ200mD/S2 Post-Closure	January	2.2	0.041	0.0000067	0.0030	0.00054	0.73	0.00042	0.000016	2.9	0.000014	0.011	0.067	0.0070	0.000061	23
	February	2.2	0.041	0.0000068	0.0031	0.00054	0.73	0.00042	0.000017	3.0	0.000014	0.011	0.071	0.0073	0.000065	23
	March	2.2	0.044	0.0000072	0.0031	0.00054	0.73	0.00042	0.000020	3.5	0.000014	0.011	0.083	0.0080	0.000078	25
	April	2.2	0.041	0.0000064	0.0031	0.00054	0.74	0.00042	0.000015	2.5	0.000014	0.011	0.056	0.0067	0.000049	22
	May	2.1	0.052	0.0000057	0.0030	0.00057	0.78	0.00041	0.000011	1.9	0.000015	0.011	0.092	0.0057	0.000030	20
	June	2.0	0.051	0.0000055	0.0029	0.00055	0.75	0.00040	0.000011	1.9	0.000015	0.011	0.096	0.0057	0.000029	20
	July	1.8	0.045	0.0000055	0.0025	0.00052	0.67	0.00038	0.000010	1.8	0.000014	0.0095	0.092	0.0053	0.000028	20
	August	1.6	0.041	0.0000055	0.0023	0.00049	0.61	0.00036	0.0000096	1.8	0.000013	0.0085	0.091	0.0050	0.000027	19
	September	1.5	0.036	0.0000055	0.0021	0.00047	0.55	0.00035	0.0000094	1.8	0.000013	0.0077	0.084	0.0049	0.000027	19
	October	1.4	0.034	0.0000057	0.0021	0.00045	0.53	0.00035	0.000010	1.9	0.000013	0.0075	0.075	0.0051	0.000031	19
	November	1.6	0.032	0.0000063	0.0022	0.00044	0.55	0.00037	0.000014	2.5	0.000013	0.0083	0.054	0.0062	0.000048	21
	December	1.7	0.034	0.0000065	0.0022	0.00045	0.57	0.00037	0.000015	2.7	0.000013	0.0087	0.060	0.0065	0.000053	22

**BJ200mD/S Conservative Solids**

		T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Mg	T-Ma	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Ag	T-Na	T-Tl	T-Zn
<b>BJ200mD/S Construction</b>	January	0.00022	0.00081	0.00035	0.018	0.00016	2.1	0.17	0.000012	0.0030	0.0016	2.6	0.00044	0.0000074	11	0.000080	0.0059
	February	0.00021	0.00081	0.00035	0.018	0.00016	2.1	0.17	0.000012	0.0030	0.0015	2.6	0.00045	0.0000075	11	0.000079	0.0058
	March	0.00022	0.00084	0.00036	0.018	0.00017	2.2	0.18	0.000013	0.0031	0.0016	2.7	0.00046	0.0000077	12	0.000082	0.0060
	April	0.00018	0.00070	0.00034	0.018	0.00014	1.8	0.13	0.000013	0.0026	0.0013	2.1	0.00046	0.0000074	9.1	0.000067	0.0049
	May	0.00012	0.00050	0.00051	0.11	0.00018	1.1	0.071	0.000015	0.0016	0.00083	1.1	0.00047	0.000020	5.0	0.000040	0.0043
	June	0.00010	0.00042	0.00054	0.13	0.00018	0.85	0.046	0.000016	0.0013	0.00066	0.79	0.00047	0.000023	3.5	0.000031	0.0039
	July	0.00010	0.00042	0.00053	0.12	0.00017	0.87	0.048	0.000015	0.0013	0.00066	0.80	0.00046	0.000022	3.6	0.000031	0.0039
	August	0.00010	0.00041	0.00053	0.12	0.00017	0.86	0.047	0.000014	0.0013	0.00065	0.79	0.00045	0.000022	3.5	0.000030	0.0038
	September	0.00011	0.00042	0.00050	0.11	0.00016	0.94	0.055	0.000013	0.0014	0.00071	0.91	0.00045	0.000019	4.1	0.000033	0.0039
	October	0.00013	0.00050	0.00044	0.075	0.00015	1.2	0.079	0.000013	0.0018	0.00089	1.3	0.00045	0.000015	5.6	0.000043	0.0041
	November	0.00018	0.00068	0.00034	0.018	0.00013	1.7	0.13	0.000012	0.0025	0.0013	2.1	0.00047	0.0000073	8.9	0.000065	0.0047
	December	0.00020	0.00076	0.00035	0.018	0.00015	1.9	0.15	0.000013	0.0028	0.0014	2.4	0.00048	0.0000076	10	0.000073	0.0053
<b>BJ200mD/S Operations</b>	January	0.00090	0.00040	0.0011	0.10	0.000079	2.5	0.085	0.000014	0.0082	0.00087	2.0	0.00077	0.000037	2.1	0.000026	0.0089
	February	0.00093	0.00042	0.0011	0.11	0.000081	2.6	0.090	0.000014	0.0085	0.00090	2.1	0.00079	0.000039	2.1	0.000027	0.0095
	March	0.00097	0.00043	0.0011	0.11	0.000083	2.7	0.093	0.000014	0.0088	0.00093	2.2	0.00081	0.000040	2.1	0.000027	0.010
	April	0.0010	0.00045	0.0012	0.12	0.000086	2.8	0.097	0.000014	0.0091	0.00096	2.3	0.00083	0.000041	2.1	0.000028	0.011
	May	0.0010	0.00054	0.0014	0.21	0.00019	2.9	0.11	0.000015	0.0090	0.00100	2.3	0.00083	0.000055	2.4	0.000030	0.012
	June	0.00099	0.00055	0.0014	0.23	0.00021	2.8	0.11	0.000014	0.0088	0.00099	2.3	0.00082	0.000057	2.4	0.000030	0.012
	July	0.00089	0.00050	0.0013	0.21	0.00020	2.6	0.10	0.000013	0.0080	0.00092	2.1	0.00076	0.000052	2.3	0.000028	0.011
	August	0.00083	0.00047	0.0012	0.20	0.00019	2.4	0.094	0.000012	0.0074	0.00086	1.9	0.00072	0.000050	2.2	0.000026	0.011
	September	0.00078	0.00043	0.0011	0.18	0.00017	2.3	0.086	0.000011	0.0069	0.00082	1.8	0.00069	0.000046	2.1	0.000025	0.010
	October	0.00078	0.00040	0.0011	0.15	0.00014	2.2	0.081	0.000011	0.0069	0.00080	1.8	0.00069	0.000041	2.0	0.000024	0.010
	November	0.00082	0.00036	0.00098	0.095	0.000073	2.3	0.076	0.000010	0.0073	0.00081	1.8	0.00072	0.000034	1.8	0.000024	0.010
	December	0.00086	0.00038	0.0010	0.099	0.000076	2.4	0.081	0.000010	0.0077	0.00084	1.9	0.00075	0.000036	1.8	0.000025	0.011
<b>BJ200mD/S2 Post-Closure</b>	January	0.00044	0.00021	0.0010	0.16	0.0013	2.2	0.050	0.000013	0.0031	0.00050	0.73	0.00041	0.000064	3.4	0.000014	0.011
	February	0.00044	0.00021	0.0011	0.17	0.0014	2.2	0.053	0.000014	0.0031	0.00050	0.73	0.00041	0.000068	3.6	0.000014	0.011
	March	0.00043	0.00023	0.0012	0.20	0.0017	2.2	0.061	0.000016	0.0031	0.00050	0.73	0.00041	0.000082	4.2	0.000014	0.012
	April	0.00043	0.00021	0.0010	0.13	0.0010	2.2	0.044	0.000011	0.0031	0.00050	0.74	0.00041	0.000051	2.9	0.000014	0.011
	May	0.00042	0.00029	0.0012	0.16	0.00037	2.2	0.057	0.0000074	0.0030	0.00054	0.80	0.00041	0.000032	2.0	0.000016	0.012
	June	0.00040	0.00029	0.0012	0.17	0.00025	2.1	0.056	0.0000067	0.0029	0.00053	0.77	0.00040	0.000029	1.9	0.000016	0.012
	July	0.00035	0.00027	0.0011	0.16	0.00026	1.8	0.050	0.0000067	0.0026	0.00049	0.69	0.00038	0.000028	1.9	0.000015	0.010
	August	0.00031	0.00025	0.0010	0.16	0.00026	1.6	0.046	0.0000067	0.0023	0.00046	0.63	0.00036	0.000028	1.8	0.000014	0.0094
	September	0.00028	0.00023	0.00094	0.15	0.00032	1.5	0.042	0.0000071	0.0021	0.00044	0.57	0.00035	0.000029	1.8	0.000014	0.0086
	October	0.00026	0.00021	0.00089	0.14	0.00049	1.5	0.039	0.0000081	0.0021	0.00042	0.55	0.00035	0.000034	2.0	0.000013	0.0084
	November	0.00027	0.00018	0.00090	0.13	0.00099	1.6	0.041	0.000011	0.0022	0.00040	0.58	0.00036	0.000049	2.9	0.000013	0.0093
	December	0.00027	0.00018	0.00095	0.14	0.0011	1.7	0.045	0.000012	0.0022	0.00041	0.60	0.00036	0.000055	3.1	0.000013	0.0099



**BJ200mD/S Cumulative Conservative**

		NH <sub>3</sub>	NO <sub>3</sub>	NO <sub>2</sub>	Cl	SO <sub>4</sub>	P	D-Al	D-As	D-Cd	D-Ca	D-Cr	D-Co	D-Cu	D-Fe	D-Pb
BJ200mD/S Construction	January	0.75	4.2	0.0085	11	100	0.0070	0.019	0.0086	0.000034	43	0.00031	0.0011	0.00041	0.015	0.00024
	February	0.79	4.2	0.0088	11	100	0.0074	0.020	0.0087	0.000034	43	0.00031	0.0011	0.00041	0.015	0.00024
	March	0.88	4.3	0.0096	11	100	0.0081	0.020	0.0088	0.000035	43	0.00032	0.0011	0.00041	0.015	0.00025
	April	0.66	3.6	0.0076	13	90	0.0065	0.020	0.0084	0.000032	40	0.00027	0.00099	0.00039	0.015	0.00022
	May	0.76	1.7	0.0063	21	57	0.063	0.022	0.0072	0.000033	33	0.00016	0.00065	0.00042	0.018	0.00012
	June	0.80	0.93	0.0058	23	43	0.080	0.023	0.0068	0.000033	30	0.00012	0.00050	0.00043	0.019	0.000085
	July	0.76	1.1	0.0057	23	46	0.075	0.022	0.0068	0.000032	30	0.00013	0.00052	0.00042	0.018	0.000093
	August	0.76	1.9	0.0057	23	59	0.075	0.021	0.0072	0.000030	33	0.00017	0.00065	0.00040	0.018	0.00013
	September	0.71	1.8	0.0057	22	57	0.062	0.021	0.0072	0.000030	33	0.00016	0.00064	0.00041	0.018	0.00012
	October	0.63	2.4	0.0062	18	68	0.034	0.021	0.0077	0.000031	35	0.00020	0.00076	0.00040	0.016	0.00015
	November	0.64	3.6	0.0075	14	91	0.0064	0.020	0.0086	0.000032	40	0.00028	0.0010	0.00040	0.015	0.00022
	December	0.70	3.9	0.0080	12	97	0.0067	0.021	0.0088	0.000034	42	0.00030	0.0011	0.00041	0.015	0.00023
BJ200mD/S Operations	January	0.46	0.75	0.0095	180	260	0.0096	0.050	0.012	0.000046	260	0.0016	0.0067	0.0027	0.38	0.0042
	February	0.44	0.78	0.0098	190	270	0.0099	0.051	0.012	0.000048	270	0.0017	0.0070	0.0028	0.40	0.0044
	March	0.45	0.80	0.010	200	280	0.010	0.053	0.012	0.000049	280	0.0018	0.0073	0.0029	0.41	0.0046
	April	0.47	0.82	0.011	200	290	0.011	0.055	0.013	0.000051	300	0.0018	0.0076	0.0030	0.43	0.0048
	May	1.0	0.87	0.013	200	290	0.072	0.058	0.013	0.000061	300	0.0019	0.0077	0.0030	0.43	0.0047
	June	1.2	0.87	0.014	200	290	0.089	0.058	0.013	0.000064	290	0.0018	0.0075	0.0030	0.42	0.0046
	July	1.1	0.81	0.012	180	260	0.083	0.053	0.012	0.000058	260	0.0016	0.0067	0.0027	0.37	0.0042
	August	1.0	0.76	0.012	170	250	0.083	0.050	0.011	0.000055	250	0.0015	0.0064	0.0026	0.34	0.0040
	September	0.90	0.72	0.011	180	250	0.069	0.047	0.011	0.000050	250	0.0014	0.0065	0.0026	0.35	0.0040
	October	0.68	0.70	0.0097	180	250	0.045	0.045	0.011	0.000046	260	0.0014	0.0066	0.0026	0.35	0.0041
	November	0.38	0.70	0.0087	190	260	0.0088	0.046	0.011	0.000042	270	0.0015	0.0069	0.0027	0.37	0.0043
	December	0.40	0.73	0.0091	190	280	0.0092	0.048	0.011	0.000044	280	0.0016	0.0073	0.0028	0.38	0.0045
BJ200mD/S Post/Closure	January	0.23	0.26	0.0093	200	290	0.0060	0.049	0.0095	0.000087	290	0.0011	0.0077	0.0030	0.40	0.0047
	February	0.23	0.26	0.0093	200	280	0.0060	0.048	0.0095	0.000092	290	0.0011	0.0075	0.0029	0.40	0.0047
	March	0.23	0.26	0.0092	200	280	0.0060	0.047	0.0096	0.00011	290	0.0011	0.0075	0.0029	0.40	0.0047
	April	0.23	0.26	0.0092	200	280	0.0060	0.047	0.0096	0.000075	290	0.0011	0.0074	0.0029	0.39	0.0047
	May	0.93	0.33	0.012	190	270	0.085	0.050	0.0095	0.000058	280	0.0010	0.0071	0.0029	0.37	0.0044
	June	0.98	0.33	0.012	180	260	0.093	0.048	0.0093	0.000058	260	0.00097	0.0067	0.0027	0.35	0.0041
	July	0.91	0.31	0.011	160	220	0.088	0.042	0.0086	0.000055	220	0.00083	0.0056	0.0024	0.30	0.0035
	August	0.89	0.31	0.0099	140	190	0.090	0.038	0.0081	0.000054	190	0.00072	0.0048	0.0021	0.26	0.0030
	September	0.78	0.29	0.0089	120	170	0.077	0.034	0.0077	0.000053	170	0.00062	0.0041	0.0019	0.22	0.0026
	October	0.59	0.27	0.0078	110	160	0.057	0.032	0.0077	0.000056	160	0.00058	0.0038	0.0017	0.21	0.0024
	November	0.12	0.23	0.0057	110	160	0.0042	0.029	0.0082	0.000075	160	0.00059	0.0037	0.0017	0.20	0.0026
	December	0.12	0.23	0.0057	110	160	0.0042	0.029	0.0084	0.000081	160	0.00058	0.0037	0.0017	0.20	0.0027

**BJ200mD/S Cumulative Conservative**

		D-Mg	D-Ma	D-Hg	D-Mo	D-Ni	D-K	D-Se	D-Ag	D-Na	D-Tl	D-Zn	T-Al	T-As	T-Cd	T-Ca
BJ200mD/S Construction	January	3.3	0.28	0.000083	0.0045	0.0012	4.2	0.00057	0.000082	22	0.00013	0.0087	0.028	0.0087	0.000062	85
	February	3.3	0.28	0.000087	0.0044	0.0012	4.2	0.00058	0.000083	22	0.00013	0.0086	0.028	0.0087	0.000062	84
	March	3.4	0.29	0.000088	0.0045	0.0012	4.3	0.00059	0.000084	23	0.00013	0.0088	0.028	0.0089	0.000064	86
	April	3.0	0.24	0.0000100	0.0041	0.0011	3.7	0.00061	0.000081	19	0.00012	0.0077	0.029	0.0085	0.000056	76
	May	1.9	0.13	0.000013	0.0028	0.00092	2.0	0.00069	0.000077	9.7	0.00074	0.0057	0.089	0.0078	0.000046	49
	June	1.4	0.077	0.000014	0.0023	0.00084	1.4	0.00072	0.000075	5.8	0.00056	0.0048	0.11	0.0075	0.000041	37
	July	1.5	0.088	0.000013	0.0024	0.00084	1.5	0.00070	0.000074	6.7	0.00060	0.0049	0.100	0.0074	0.000040	40
	August	2.0	0.13	0.000012	0.0029	0.00092	2.1	0.00067	0.000075	10	0.00076	0.0056	0.100	0.0076	0.000043	51
	September	1.9	0.13	0.000012	0.0028	0.00091	2.0	0.00068	0.000075	10.0	0.00074	0.0055	0.087	0.0077	0.000043	49
	October	2.3	0.16	0.000011	0.0033	0.00098	2.6	0.00067	0.000077	13	0.00088	0.0062	0.061	0.0080	0.000047	58
	November	3.0	0.25	0.000097	0.0042	0.0011	3.7	0.00062	0.000082	20	0.00012	0.0077	0.030	0.0086	0.000057	77
	December	3.2	0.27	0.000096	0.0044	0.0012	4.0	0.00062	0.000084	21	0.00012	0.0083	0.030	0.0089	0.000061	81
BJ200mD/S Operations	January	7.8	1.3	0.000016	0.0093	0.017	2.7	0.0016	0.000066	6.2	0.00061	0.035	0.066	0.012	0.000046	260
	February	8.1	1.4	0.000016	0.0096	0.018	2.9	0.0016	0.000068	6.4	0.00063	0.036	0.068	0.012	0.000048	270
	March	8.4	1.5	0.000016	0.0099	0.019	3.0	0.0017	0.000071	6.6	0.00065	0.038	0.069	0.013	0.000049	280
	April	8.7	1.5	0.000016	0.010	0.019	3.1	0.0017	0.000074	6.8	0.00066	0.039	0.071	0.013	0.000051	300
	May	8.7	1.5	0.000015	0.010	0.019	3.3	0.0017	0.000074	7.0	0.00068	0.041	0.13	0.013	0.000064	300
	June	8.6	1.5	0.000015	0.010	0.019	3.3	0.0017	0.000073	6.9	0.00067	0.040	0.15	0.013	0.000066	290
	July	7.7	1.3	0.000013	0.0091	0.017	2.9	0.0016	0.000066	6.3	0.00063	0.036	0.14	0.012	0.000061	260
	August	7.1	1.3	0.000012	0.0085	0.016	2.7	0.0015	0.000061	5.9	0.00060	0.034	0.13	0.012	0.000057	250
	September	7.2	1.3	0.000012	0.0081	0.017	2.5	0.0014	0.000057	6.0	0.00058	0.035	0.12	0.011	0.000052	250
	October	7.3	1.3	0.000011	0.0081	0.017	2.4	0.0014	0.000057	6.0	0.00057	0.035	0.093	0.011	0.000047	260
	November	7.6	1.4	0.000012	0.0084	0.018	2.5	0.0015	0.000060	6.1	0.00058	0.036	0.062	0.011	0.000042	270
	December	7.9	1.4	0.000013	0.0088	0.019	2.6	0.0015	0.000063	6.4	0.00060	0.038	0.064	0.012	0.000044	280
BJ200mD/S Post/Closure	January	8.3	1.5	0.000016	0.0045	0.020	1.7	0.0014	0.000058	6.7	0.00058	0.040	0.15	0.021	0.00013	290
	February	8.2	1.5	0.000017	0.0045	0.019	1.7	0.0013	0.000062	6.6	0.00058	0.039	0.16	0.022	0.00013	290
	March	8.2	1.5	0.000019	0.0045	0.019	1.7	0.0013	0.000071	7.0	0.00058	0.039	0.19	0.025	0.00016	290
	April	8.2	1.5	0.000014	0.0045	0.019	1.7	0.0013	0.000052	6.6	0.00058	0.039	0.12	0.018	0.00010	290
	May	7.9	1.4	0.000087	0.0044	0.018	1.9	0.0013	0.000047	6.6	0.00058	0.038	0.14	0.011	0.000066	280
	June	7.4	1.3	0.000085	0.0042	0.017	1.8	0.0013	0.000044	6.2	0.00057	0.036	0.15	0.010	0.000062	260
	July	6.4	1.1	0.000081	0.0038	0.014	1.6	0.0011	0.000039	5.5	0.00052	0.031	0.14	0.0097	0.000059	220
	August	5.6	0.96	0.000078	0.0035	0.012	1.4	0.0011	0.000034	4.9	0.00049	0.027	0.14	0.0096	0.000058	190
	September	4.9	0.82	0.000079	0.0033	0.011	1.3	0.00099	0.000032	4.5	0.00046	0.024	0.13	0.0097	0.000059	170
	October	4.6	0.75	0.000089	0.0032	0.0097	1.2	0.00096	0.000034	4.5	0.00044	0.023	0.12	0.011	0.000069	160
	November	4.8	0.74	0.000013	0.0033	0.0095	1.1	0.00097	0.000048	5.4	0.00043	0.025	0.12	0.018	0.00011	160
	December	4.8	0.73	0.000015	0.0034	0.0094	1.1	0.00097	0.000052	5.7	0.00043	0.025	0.13	0.020	0.00012	160

**BJ200mD/S Cumulative Conservative**

		T-Cr	T-Co	T-Cu	T-Fe	T-Pb	T-Mg	T-Ma	T-Hg	T-Mo	T-Ni	T-K	T-Se	T-Ag	T-Na	T-Tl	T-Zn
BJ200mD/S Construction	January	0.00033	0.0012	0.00041	0.022	0.00025	3.3	0.29	0.000011	0.0047	0.014	4.2	0.00058	0.0000083	44	0.00013	0.0087
	February	0.00033	0.0012	0.00041	0.023	0.00024	3.3	0.28	0.000011	0.0047	0.014	4.2	0.00059	0.0000084	44	0.00013	0.0086
	March	0.00033	0.0013	0.00041	0.022	0.00025	3.4	0.29	0.000012	0.0048	0.014	4.3	0.00059	0.0000085	45	0.00013	0.0088
	April	0.00030	0.0011	0.00040	0.024	0.00022	3.0	0.25	0.000012	0.0043	0.012	3.7	0.00062	0.0000082	38	0.00012	0.0077
	May	0.00020	0.00074	0.00066	0.25	0.00036	1.9	0.13	0.000015	0.0029	0.0055	2.0	0.00070	0.000038	18	0.000074	0.0064
	June	0.00017	0.00059	0.00074	0.32	0.00040	1.5	0.084	0.000017	0.0023	0.0029	1.4	0.00073	0.000048	9.3	0.000056	0.0057
	July	0.00017	0.00061	0.00070	0.30	0.00038	1.6	0.094	0.000015	0.0025	0.0035	1.5	0.00071	0.000045	11	0.000060	0.0057
	August	0.00021	0.00074	0.00070	0.30	0.00038	2.0	0.14	0.000014	0.0030	0.0060	2.1	0.00068	0.000045	19	0.000076	0.0060
	September	0.00020	0.00072	0.00064	0.25	0.00035	1.9	0.13	0.000014	0.0029	0.0057	2.0	0.00069	0.000038	18	0.000074	0.0060
	October	0.00023	0.00085	0.00053	0.14	0.00028	2.3	0.17	0.000014	0.0034	0.0077	2.6	0.00067	0.000024	25	0.000088	0.0065
	November	0.00030	0.0011	0.00040	0.024	0.00022	3.0	0.25	0.000012	0.0044	0.012	3.7	0.00063	0.0000083	39	0.00012	0.0078
	December	0.00032	0.0012	0.00041	0.023	0.00023	3.2	0.27	0.000012	0.0046	0.013	4.0	0.00063	0.0000085	42	0.00012	0.0083
BJ200mD/S Operations	January	0.0017	0.0067	0.0027	0.39	0.0042	7.8	1.3	0.000016	0.0093	0.017	2.7	0.0016	0.000066	6.2	0.000061	0.035
	February	0.0017	0.0070	0.0028	0.41	0.0044	8.1	1.4	0.000016	0.0096	0.018	2.9	0.0016	0.000069	6.4	0.000062	0.036
	March	0.0018	0.0073	0.0029	0.43	0.0046	8.4	1.5	0.000016	0.0100	0.019	3.0	0.0017	0.000071	6.6	0.000064	0.038
	April	0.0019	0.0076	0.0030	0.44	0.0048	8.7	1.5	0.000016	0.010	0.019	3.1	0.0017	0.000074	6.8	0.000065	0.039
	May	0.0019	0.0077	0.0033	0.66	0.0050	8.8	1.5	0.000017	0.010	0.019	3.3	0.0017	0.00011	6.8	0.000068	0.041
	June	0.0019	0.0076	0.0033	0.72	0.0049	8.6	1.5	0.000017	0.010	0.019	3.3	0.0017	0.00011	6.7	0.000068	0.041
	July	0.0017	0.0068	0.0030	0.66	0.0044	7.7	1.3	0.000015	0.0092	0.017	2.9	0.0016	0.00010	6.1	0.000063	0.037
	August	0.0015	0.0064	0.0028	0.63	0.0041	7.2	1.3	0.000014	0.0085	0.016	2.7	0.0015	0.000099	5.8	0.000060	0.034
	September	0.0014	0.0065	0.0028	0.56	0.0042	7.2	1.3	0.000013	0.0081	0.016	2.5	0.0014	0.000088	5.8	0.000058	0.035
	October	0.0014	0.0066	0.0027	0.47	0.0042	7.3	1.3	0.000012	0.0081	0.017	2.4	0.0014	0.000075	5.9	0.000057	0.035
	November	0.0015	0.0069	0.0027	0.38	0.0043	7.6	1.4	0.000012	0.0085	0.017	2.5	0.0015	0.000060	6.1	0.000057	0.036
	December	0.0016	0.0073	0.0028	0.40	0.0045	8.0	1.4	0.000013	0.0089	0.018	2.6	0.0015	0.000063	6.4	0.000059	0.038
BJ200mD/S Post/Closure	January	0.0011	0.0077	0.0030	0.79	0.0066	8.3	1.5	0.000017	0.0045	0.020	1.7	0.0014	0.00029	7.1	0.000057	0.040
	February	0.0011	0.0075	0.0029	0.85	0.0070	8.2	1.5	0.000018	0.0045	0.019	1.7	0.0014	0.00031	7.5	0.000057	0.039
	March	0.0011	0.0075	0.0032	1.0	0.0082	8.2	1.5	0.000021	0.0045	0.019	1.7	0.0014	0.00038	8.5	0.000057	0.039
	April	0.0011	0.0074	0.0029	0.68	0.0057	8.2	1.5	0.000015	0.0045	0.019	1.7	0.0014	0.00023	6.7	0.000057	0.039
	May	0.0011	0.0072	0.0032	0.70	0.0048	7.9	1.4	0.000011	0.0044	0.018	1.9	0.0013	0.00011	6.3	0.000059	0.039
	June	0.0010	0.0067	0.0031	0.70	0.0045	7.4	1.3	0.000011	0.0042	0.017	1.8	0.0013	0.000094	6.0	0.000057	0.037
	July	0.00088	0.0057	0.0027	0.64	0.0039	6.4	1.1	0.000010	0.0038	0.014	1.6	0.0012	0.000089	5.3	0.000053	0.032
	August	0.00077	0.0049	0.0025	0.61	0.0035	5.6	0.97	0.0000100	0.0035	0.012	1.4	0.0011	0.000087	4.7	0.000049	0.029
	September	0.00067	0.0042	0.0023	0.56	0.0032	4.9	0.83	0.0000099	0.0033	0.010	1.3	0.00100	0.000092	4.4	0.000046	0.026
	October	0.00063	0.0039	0.0022	0.55	0.0035	4.7	0.77	0.000011	0.0032	0.0095	1.2	0.00097	0.00012	4.6	0.000044	0.025
	November	0.00063	0.0038	0.0024	0.62	0.0052	4.8	0.77	0.000015	0.0034	0.0093	1.1	0.00098	0.00023	6.1	0.000042	0.027
	December	0.00063	0.0038	0.0026	0.69	0.0058	4.8	0.77	0.000016	0.0034	0.0092	1.2	0.00098	0.00026	6.5	0.000042	0.028