Lynn Lake Gold Project Environmental Impact Statement: Supplemental Filing Re: MacLellan Site Water Balance/Water Quality Model Update Following Mine Rock Storage Area Refinement

May 10, 2021

Prepared by:

Stantec Consulting Ltd.

Table of Contents

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

Abbreviations

CWQG-FAL	Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life
EIS	Environmental Impact Statement
GCDWQ	Government of Canada Drinking Water Quality Guidelines
IAAC	Impact Assessment Agency of Canada
LOM	Life of Mine
MDMER	Metal and Diamond Mine Effluent Regulation
MRSA	Mine Rock Storage Area
MWQSOG	Manitoba Water Quality Standards, Objectives, and Guidelines
POPC	Parameter of Potential Concern
TMF	Tailings Management Area

1.0 INTRODUCTION

Alamos Gold Inc. (Alamos) is proposing the redevelopment of two historical gold mines near Lynn Lake, Manitoba. The Lynn Lake Gold Project (the Project) includes redevelopment at two sites: the Gordon site and the MacLellan site. An Environmental Impact Statement (EIS) was accepted by the Impact Assessment Agency of Canada (IAAC) and the Province of Manitoba, respectively, in August 2020. This report is a supplemental filing regarding a Project refinement to the MacLellan site Mine Rock Storage Area (MRSA) and is provided to support the review of the Project by both regulatory agencies.

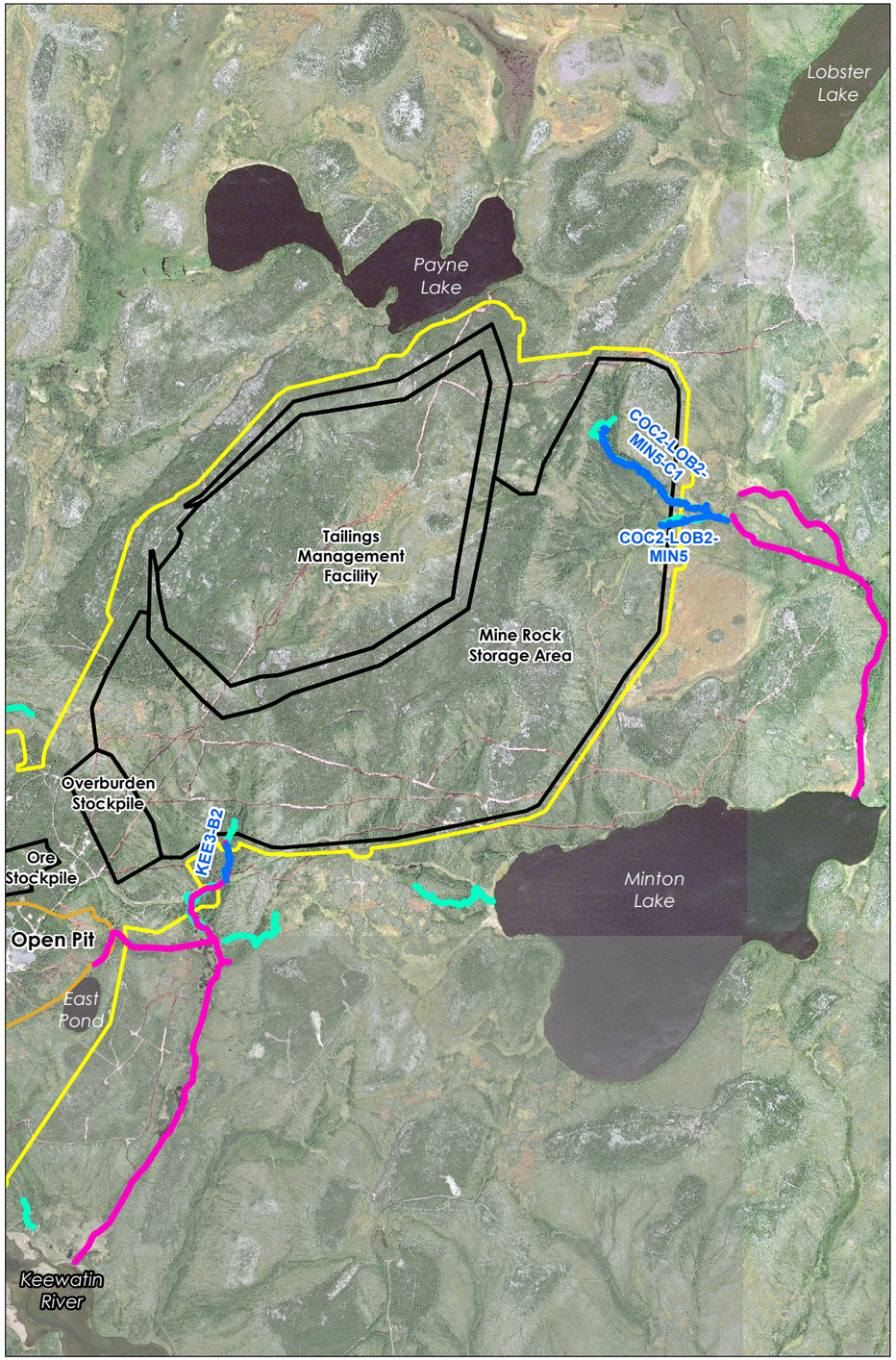
Two fish-bearing tributaries of Minton Lake and one fish-bearing tributary of the Keewatin River were identified within the MRSA footprint at the MacLellan site during follow-up fish surveys in spring and summer 2020. The report documenting these findings is provided as Appendix A to this report. To eliminate the need for an amendment of Schedule 2 of the Metal and Diamond Mine Effluent Regulation (MDMER), Alamos has redesigned the MRSA at the MacLellan site to avoid these three streams. More specifically, the MRSA has been redesigned by (Figure 1-1):

- Eliminating mine rock from the northeast corner of the previous MRSA footprint.
- Extending the MRSA to the northwest to extend the length that abuts the Tailings Management Facility (TMF).
- Increasing the height of mine rock stored in the southeastern portion of the MRSA by approximately 5 m.
- Modifying the southern boundary of the MRSA to further avoid the Keewatin tributary.

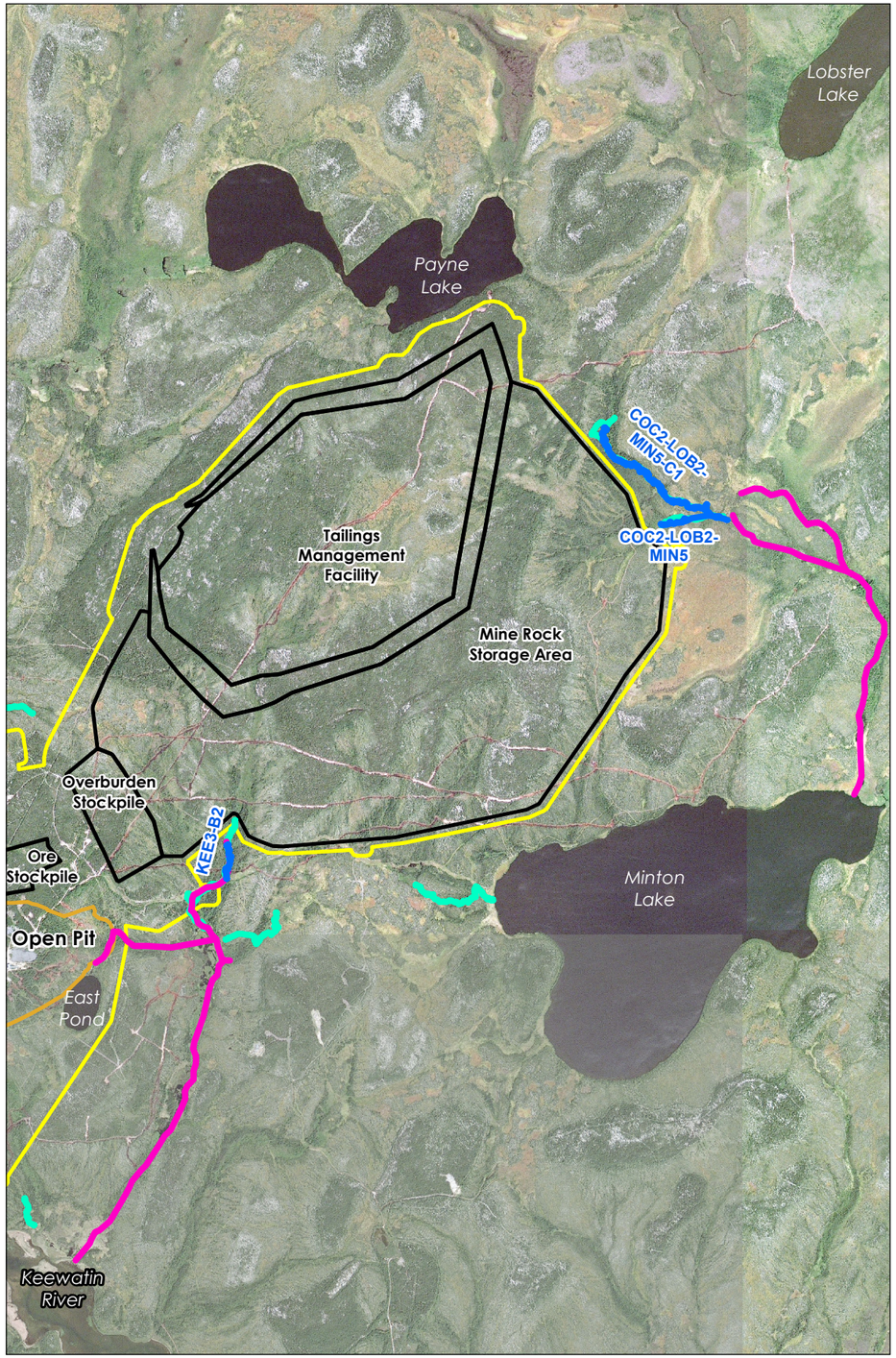
These changes in the MRSA footprint have the potential to alter the prediction and assessment of changes to groundwater, surface water, and fish and fish habitat at the MacLellan site from what was presented in the EIS. This is because the redesigned MRSA may alter contact water retention times and flow rates in the MRSA, groundwater flow rates and flow paths, contact water and non-contact water management structures, and surface flow generated from affected watershed areas. These in turn have the potential to alter the prediction and assessment of changes to lake levels, surface water quantity and quality and, ultimately, fish and fish habitat.

The purpose of this report is to describe the methods and results of updated groundwater modelling and surface water balance/water quality modelling at the MacLellan site and to reassess potential effects to groundwater, surface water quantity, surface water quality, and fish and fish habitat based on updated model results. The report concludes with a comparison of residual effects characterizations and significance determinations for groundwater, surface water quantity, surface water quality, and fish and fish habitat to those in the EIS.

Before the current redesign



After the current redesign



Stantec

Project Infrastructure
- Proposed Open Pit
- Potential Infrastructure
- Project Development Area

Survey Locations
- Fish-bearing Habitat Confirmed in Summer 2020
- Fish-bearing Habitat Confirmed in 2016
- May 2020 tracks

N

0 500 1,000 Metres
(At original document size of 11x17)
1:30,000

Notes
1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada.
3. Imagery: SPOT-7 imagery, BlackBridge Gemoatics Corp. July 2015.

Project Location
Lynn Lake, Manitoba

Prepared by ACampigotto on 2021-04-12
Technical Review by BHorne on 2021-04-12

Client/Project
ALAMOS GOLD INC.
Lynn Lake Gold Project

111473010

Map No.
1

DRAFT

Title
Comparison of Mine Rock Storage Area Footprints Before and After Redesign to Avoid Fish-bearing Watercourses

G:_GIS Project Folder\111473008 LGGP EA\working\ACV\20200528_Spring_watercourse_investigations\Comparison_of_MRSA_1MF_with_streams_20210412.mxd Revised: 2021-04-12 By: ACampigotto

2.0 METHODS

2.1 CONTACT WATER FLOW UPDATE

Water infiltration rates through the MRSA pile were simulated using a dual porosity model for macropore and matrix flow. It was assumed that mine rock was initially placed dry and that wetting of the matrix continued over the years following placement. The increase in MRSA height increased the time for the wetting front in the matrix material to reach the base of the MRSA and to breakthrough into the subsurface or seep through the toe.

The wetting simulations were presented in the EIS (Volume 5, Appendix E). The simulations were updated for the redesigned MRSA, using the same model (MACRO 5.2) and the same inputs and assumptions except for the MRSA pile height.

2.2 GROUNDWATER MODEL UPDATE

The groundwater flow model was developed using FEFLOW (Diersch et al. 2013) and was calibrated to steady-state water levels and baseflow estimates in watercourses. Development of the MacLellan site groundwater flow model is documented in the EIS (Volume 5, Appendix G).

The groundwater flow model was updated to incorporate the two surface water tributaries in the Minton Lake watershed (COC2-LOB2-MIN5-C1 and COC2-LOB2-MIN5) that were identified as fish-bearing in 2020, the extension of the fish-bearing section of the Keewatin River tributary KEE3-B2, and the accompanying modifications to the MRSA footprint and ditch alignments (Figure 1-1). Tributaries COC2-LOB2-MIN5-C1, COC2-LOB2-MIN5, and KEE3-B2 were input to the model using a head-dependent flux boundary, consistent with the methods presented in the EIS (Volume 5, Appendix G). The MRSA footprint, and the location of the associated seepage collection ditches, were updated in the groundwater flow model with the remaining characteristics of the MRSA (i.e., layering and hydrogeological properties) consistent with the original MacLellan site groundwater flow model methodology presented in the EIS (Volume 5, Appendix G).

The construction, operation, and closure model scenarios were run with the updated groundwater flow model to estimate the groundwater discharge to watercourses and lakes and the fate of groundwater that recharges beneath the MRSA and TMF. This analysis was conducted using the same methods outlined in the EIS (Volume 5, Appendix G).

2.3 WATER BALANCE/WATER QUALITY MODEL UPDATE

The MacLellan water balance and water quality models were updated to account for changes to the following inputs based on the refinements to the MRSA:

- Watershed areas (Table 2-1)

- MRSA configuration through operation
- Contact water infiltration rates in the MRSA (Section 3.1)
- Groundwater seepage rates (Section 3.2.1).

Updated inputs were incorporated into the existing GoldSim™ model developed for the MacLellan site. The water balance model for the MacLellan site included the open pit and associated historical underground workings, overburden storage area, MRSA, processing plant, ore stockpile, and TMF. This model was used to predict potential changes to streamflows and lake levels (i.e., surface water quantity) and potential changes to surface water quality in the downstream receiving environment. Meteorological and hydrological inputs to the model were unchanged from the original model. Table 2-1 provides a summary of the updated watershed areas as a result changes made to the MRSA. Like the model runs used in for the EIS submission, changes in streamflows and lake levels were predicted using average, 1:25-year dry, and 1:25-year wet climate scenarios.

Table 2-1 Summary of Watershed Area Changes Due to Project - MacLellan site

Watershed (model node)	Baseline Area (km²)	EIS Model		Model Update		Difference
		Area Affected by Project (km²)	Percent Area Affected by Project (%)	Area Affected by Project (km²)	Percent Area Affected by Project (%)	Area Difference (km²)
East Pond (QM04)	5.69	-3.67	-64%	3.65	64%	0.02
Minton Lake (QM07)	12.02	-2.39	-20%	-2.15	-18%	0.24
Payne Lake	7.90	-0.32	-4%	-0.32	-4%	0.00
Notes: Positive values indicate an increase in watershed area, negative values indicate a decrease in watershed area						

2.4 SURFACE WATER QUANTITY ASSESSMENT METHODS

Outputs from the GoldSim™ model were compared with streamflows and lake levels under existing conditions to assess potential Project-related changes in surface water quantity during construction, operation, and decommissioning/closure. Like the EIS, streamflows and lake levels under existing conditions were used as benchmarks when comparing with Project-related changes during construction, operation, decommissioning/closure, and post-closure mine phases. Changes in surface water quantity were assessed at the sub-watershed scale.

Potential residual effects, and the significance of potential residual effects, of the Project on surface water quantity at the MacLellan site were characterized using the same criteria and definitions used in the EIS (Volume 1, Section 9.1.5 of Chapter 9 Assessment of Potential Effects on Surface Water).

2.5 SURFACE WATER QUALITY ASSESSMENT METHODS

Consistent with the EIS, water quality parameters predicted by the GoldSim™ model included geochemical species that are commonly associated with metal mining operation, including total and dissolved metals (e.g., aluminum, cadmium, copper), metalloids (e.g., arsenic, selenium, antimony), nutrients (e.g., ammonia, nitrate, nitrite, phosphorus), and major anions (e.g., chloride, sulphate, fluoride).

As described in the EIS (Volume 1, Chapter 9), potential changes in surface water quality were assessed for construction, operation, decommissioning/closure, and post-closure mine phases. Two scenarios were modeled to predict monthly water quality concentrations at the same nodes used in the EIS (Table 2-2) for each mine phase to encompass the range of water quality conditions that may occur:

- **Expected Case**: Average precipitation scenario from the hydrology model paired with mean geochemical source terms (i.e., loading rates from humidity cell tests) and mean background monthly water quality.
- **Upper-Case**: Average precipitation scenario from the hydrology model paired with 95th percentile geochemistry and 95th percentile monthly background water quality.

Results from the Expected Case were used to evaluate where and when water quality parameters may exceed applicable guidelines during construction, operation, decommissioning/closure, and post-closure. Results from the Upper-Case were used to show potential extreme changes in water quality parameters. However, due to the conservatism and low probability of occurrence of the Upper-Case scenario, results of the Upper-Case scenario are presented only for comparison and the characterization and significance of potential residual effects on surface water quality were based only on the Expected Case scenario.

Table 2-2 MacLellan Site Assessment Nodes

Assessment Node Name	Corresponding Water Quality Site	Assessment Node Description
QM02	AQM4	Keewatin River upstream of the Project Development Area (PDA); reference site, no anticipated effects
KEE3-PAY1	AQM31	Tributary to Keewatin River; downstream of Payne Lake; adjacent to TMF
QM03	AQM7	Keewatin River; First node downstream of collection pond discharge
KEE3-B1	AQM18	Small tributary to Keewatin River; Within PDA; South East of Open Pit
QM06	AQM8	Keewatin River; downstream of QM03, KEE3-B1, and PDA
QM05	AQM29	Keewatin River; downstream of QM06 and confluence with Lynn River
Minton Lake	AQM16	South East of MRSA and TMF
QM10	AQM10	South Cockeram River; downstream of Minton Lake
QM08	AQM11	South Cockeram Lake; downstream of QM10

Parameters of Potential Concern (POPCs) were identified using the same approach used in the EIS; POPCs were predicted using Expected Case parameters that met the following two criteria during any mine phase:

- The parameter was predicted to exceed an applicable water quality guideline (i.e., Canadian Water Quality Guideline for the Protection of Aquatic Life (CWQG-FAL); Manitoba Water Quality Standards, Objectives, and Guidelines for the Protection of Aquatic Life (MWQSOG-FAL); Health Canada drinking water guidelines (Health Canada 2020); Manitoba drinking water guidelines (MWS 2011)).
- The parameter was predicted to exceed the corresponding modelled baseline concentration by greater than 20% for the same node, phase, and month.

Modelled parameters screened for POPCs included those for which long-term and short-term CWQG-FAL and MWQSOG-FAL or Health Canada (GCDWQ; Health Canada 2020) and MWQSOG (MWS 2011) drinking water guidelines existed. The same conservative assumptions as those described in the EIS were used to calculate water quality guidelines that were hardness-dependent (e.g., copper), pH-dependent (e.g., aluminum), temperature-dependent (e.g., ammonia), and/or dissolved organic carbon dependent (e.g., zinc). Parameters predicted to exceed these criteria with a low frequency (i.e., no more than two monthly exceedances in 140 modelled years, including all Project phases) were not screened in as POPCs.

Potential residual effects, and the significance of potential residual effects, of the Project on surface water quantity at the MacLellan site were characterized using the same criteria and definitions used in the EIS (Volume 1, Section 9.1.5 of Chapter 9 Assessment of Potential Effects on Surface Water).

2.6 FISH HABITAT ASSESSMENT METHODS

Potential effects on fish habitat were assessed quantitatively by:

- Comparing water balance model predictions to baseline stream discharges. These comparisons were conducted for three modeled climate scenarios to depict the range of likely flow changes: average; 1:25 year dry; and 1:25 year wet.
- Comparison of water balance model predictions to baseline water levels in lakes and percent changes in maximum lake depths.

2.7 FISH HEALTH, GROWTH AND SURVIVAL ASSESSMENT METHODS

The potential for POPCs to cause lethal or sub-lethal effects to fish (direct effects) and to primary and secondary producers (indirect effects), such as algae, plankton, and benthic invertebrates were assessed using the same methods used in the EIS (Volume 2, Chapter 10 Assessment of Potential Effects to Fish and Fish Habitat). These methods were:

- Determining whether the existing guideline incorporated the most up-to-date science or considered relevant toxicity modifying factors.

- Comparing predicted concentrations to those identified to cause acute or chronic toxicity to fish and aquatic biota in the scientific literature.
- Comparing the appropriateness of the guideline to the aquatic biota and fish in the local assessment area (LAA).
- Evaluating co-occurring parameters that may influence the toxicity of the POPC based on the scientific literature.
- Assessing the potential acute and/or chronic toxicological effects of the POPC on effects to survival, reproduction, development, or growth that could have effects at the population-level.

Proposed changes to the MRSA at the MacLellan site will not affect any other pathway of effect to fish health, survival, and growth (e.g., sound overpressures from blasting). Therefore, this assessment is limited to potential changes in surface water quality caused by the refined Project footprint (i.e., redesigned MRSA).

Potential residual effects, and the significance of potential residual effects, of the Project on fish health, growth, and survival at the MacLellan site were characterized using the same criteria and definitions used in the EIS (Volume 2, Section 10.1.5, Chapter 10 Assessment of Potential Effects on Fish and Fish Habitat).

3.0 RESULTS

3.1 UPDATED CONTACT WATER FLOW RATES

The change in MRSA height increased the time for the wetting front in the matrix material to reach the base of the MRSA and to breakthrough into the subsurface or seep through the toe. The original estimate for completion of the wetting process was three years after cover placement (i.e., mine year 22). It was estimated that the 5 m increase in mine rock height would increase the time for wetting by an additional three years (i.e., completion of the wetting process in mine year 25). There were no changes to the flow rates presented in the EIS (Volume 5, Appendix E), just a change in the timing.

3.2 UPDATED GROUNDWATER MODEL RESULTS

The predicted net groundwater discharge to surface water features using the updated groundwater flow model were compared with the results of the EIS groundwater flow modelling. The relative changes to the EIS values are presented in the following sections for baseline, construction, end of operation, and closure (i.e., post-closure) phases of the Lynn Lake Gold Project for the MacLellan site.

3.2.1 Baseline

The area located east of the original MRSA footprint was previously simulated in the EIS as a groundwater discharge zone associated with a fen. The presence of tributaries COC2-LOB2-MIN5 and COC2-LOB2-MIN5-C1 results in more groundwater discharge in the area east of the proposed MRSA (i.e., ~0.0017 m^3/s; Table 3-1). It also results in a <1% reduction in baseflow to Minton Lake compared with the EIS prediction. This is interpreted to be a result of groundwater discharge to COC2-LOB2-MIN5-C1 that flows to Minton Lake via surface water rather than discharging directly to Minton Lake via groundwater.

Table 3-1 Changes to Estimated Net Groundwater Discharge to Watercourses and Lakes under Baseline Conditions for EIS and Refined MRSA Design

Watercourse	Net Groundwater to Surface Water for EIS MRSA Design (m^3/s)[1]	Change in Refined MRSA Design (%)
Lakes		
Dot Lake	0.0060	0.0
Minton Lake	0.030	-0.6
Payne Lake	0.0007	0.0
Watercourses		
Keewatin River	0.0090	0.0
Lynn River	0.0043	0.0
Tributary of Keewatin River (KEE3-B1, including KEE3-B2)	<<0.0001	0.0
Watercourse	**Net Groundwater to Surface Water in Refined MRSA Design (m^3/s)[1]**	**Change in Refined MRSA Design (%)**
Additional Tributaries		
KEE3-B2	0.0027	-[2]
COC2-LOB2-MIN5-C1	0.0017	-[2]
COC2-LOB2-MIN5	<<0.0001	-[2]

NOTES:
[1] Positive value represents flow from groundwater to surface water
Negative value represents flow from surface water to groundwater
[2] no change because tributary was not included in original model

3.2.2 Construction

The groundwater discharge rate to Payne Lake during construction is predicted to decrease by about 10% compared with the EIS (Table 3-2). The presence of tributaries COC2-LOB2-MIN5 and COC2-LOB2-MIN5-C1 lowers the groundwater level upgradient of Payne Lake, resulting in a decrease in the hydraulic gradient and associated groundwater discharge to Payne Lake. The groundwater discharge rate to Minton Lake during construction is predicted to decrease by about 1% compared with the EIS. Again, this is interpreted to be a result of groundwater that discharges to tributary COC2-LOB2-MIN5-C1 and flows as surface water to Minton Lake instead of discharging to Minton Lake via groundwater.

Table 3-2 Comparison of Estimated Net Groundwater Discharge to Watercourses and Lakes during Construction for EIS and Refined MRSA Design

Watercourse	Net Groundwater to Surface Water for EIS MRSA Design (m^3/s)[1]	Change in Refined MRSA Design (%)
Lakes		
Dot Lake	0.0060	0.0
Minton Lake	0.0040	-1.4
Payne Lake	0.0014	-10.4
Watercourses		
Keewatin River	0.0090	-0.2
Lynn River	0.0043	0.0
Tributary of Keewatin River (KEE3KEE3-B1, including KEE3KEE3-B2)	<0.0001	0.0
Watercourse	**Net Groundwater to Surface Water in Refined MRSA Design (m^3/s)[1]**	**Change in Refined MRSA Design (%)**
Additional Tributaries		
KEE3KEE3-B2 extension	0.0026	-[2]
COC2-LOB2-MIN5-C1	0.0011	-[2]
COC2-LOB2-MIN5	0.0001	-[2]

NOTES:
[1] Positive value represents flow from groundwater to surface water
Negative value represents flow from surface water to groundwater
[2] no change because tributary was not included in original model

3.2.3 Operation

The groundwater discharge rate to Minton Lake during operation increased by about 6% compared with the EIS due to the shift in the dimensions of the MRSA and the location of the seepage collection ditches (Table 3-3). Groundwater discharge to the seepage collection ditches is predicted to decrease by about 22% compared with the EIS due to the reduced footprint of the MRSA and the presence of tributaries COC2-LOB2-MIN5 and COC2-LOB2-MIN5-C1.

Table 3-3 Comparison of Estimated Net Groundwater Discharge to Watercourses and Lakes at End of Operations with Two-Metre-Deep Seepage Collection Ditches for EIS and Refined MRSA Design

Watercourse	Net Groundwater to Surface Water for EIS MRSA Design (m^3/s)[1]	Change in Refined MRSA Design (%)
Lakes		
Dot Lake	0.0060	-2.1
Minton Lake	0.0060	+7.1
Payne Lake	0.0038	-1.8
Watercourses		
Keewatin River	0.0080	0.0
Lynn River	0.0060	+1.1
Tributary of Keewatin River (KEE3-B1, including KEE3-B2)	0.0011	+27.2
Seepage Collection Ditches	0.0098	-22.4
Watercourse	**Net Groundwater to Surface Water in Refined MRSA Design (m^3/s)[1]**	**Change in Refined MRSA Design (%)**
Additional Tributaries		
KEE3-B2 extension	0.0006	-[2]
COC2-LOB2-MIN5-C1	0.0002	-[2]
COC2-LOB2-MIN5	0.0001	-[2]

NOTES:
1 Positive value represents flow from groundwater to surface water
Negative value represents flow from surface water to groundwater
[2] no change because tributary was not included in original model

The discharge rates from the MRSA and TMF to the receiving environment during operation with a 2 m deep seepage collection ditch are shown on Table 3-4. As shown, the fluxes from the MRSA and TMF for the updated and EIS groundwater flow model predictions are consistent, except for the flux to Minton Lake and the seepage collection ditches. The discharge rates from the MRSA to the seepage collection ditches and Minton Lake are reduced based on the reduced footprint of the MRSA compared with the EIS. No groundwater discharge is predicted from the MRSA or TMF to tributaries COC2-LOB2-MIN5 or COC2-LOB2-MIN5-C1 because groundwater flow from the MRSA is intercepted by the seepage collection ditches.

Table 3-4 Comparison of Predicted Groundwater Discharge Rates (m^3/s) from Mine Rock Storage Area and Tailings Management Facility to Receiving Environment at End of Operation with 2-m Deep Seepage Collection Ditches for EIS and Refined MRSA Design

Project Infrastructure	Receptor	Groundwater Discharge (m^3/s) arriving within 300 years EIS MRSA Design	Change in Refined MRSA Design (%)
MRSA	Keewatin River	0.00003	0.0
	Tributary of Keewatin River (KEE3-B1)	0.001412	0.0
	Open Pit	0.000513	0.0
	Minton Lake	0.001499	-33.9
	Seepage Collection Ditches	0.003431	-3.6
TMF	Watercourse connecting Payne Lake and Keewatin River (KEE3-Pay1)	0.000001	0.0
	Keewatin River	0.000112	0.0
	Tributary of Keewatin River (KEE3-B1, including KEE3-B2 extension)	0.00201	0.0
	Open Pit	<0.000001	0.0
	Minton Lake	0.000486	0.0
	Cockeram Lake	<0.000001	0.0
	Seepage Collection Ditches	0.000217	0.0

3.2.4 Closure

Similar to operation, the groundwater discharge rate to Minton Lake during closure (when the open pit has filled) is predicted to increase by about 7% compared with the EIS due to the change in MRSA footprint and the location of the seepage collection ditches (Table 3-5). The groundwater discharge to the seepage collection ditches is predicted to decrease by about 24% compared with the EIS because of the reduced MRSA footprint and the presence of tributaries COC2-LOB2-MIN5 and COC2-LOB2-MIN5-C1.

Table 3-5 Comparison of Estimated Net Groundwater Discharge to Watercourses and Lakes at End of Closure with 2-m Deep Seepage Collection Ditches for EIS and Refined MRSA Design

Watercourse	Net Groundwater to Surface Water for EIS MRSA Design (m^3/s)[1]	Change in Refined MRSA Design (%)
Lakes		
Dot Lake	0.0060	-1.0
Minton Lake	0.0030	+7.1
Payne Lake	0.0028	+5.6
Watercourses		
Keewatin River	0.0089	0.0
Lynn River	0.0057	+1.1
Tributary of Keewatin River (KEE3-B1, including KEE3-B2)	0.0017	+27.2
Seepage Collection Ditches	0.0104	-24.0
Watercourse	**Net Groundwater to Surface Water in Refined MRSA Design (m^3/s)[1]**	**Change in Refined MRSA Design (%)**
Additional Tributaries		
KEE3-B2 extension	0.0005	-[2]
COC2-LOB2-MIN5-C1	0.0002	-[2]
COC2-LOB2-MIN5	0.0001	-[2]

NOTES:
[1] Positive value represents flow from groundwater to surface water
Negative value represents flow from surface water to groundwater
[2] no change because tributary was not included in original model

With inclusion of a 2-m deep seepage collection ditch, fluxes from the MRSA and TMF to the receiving environment at the end of closure for the updated and EIS groundwater flow model predictions are consistent, with the exception of the flux to Minton Lake and the seepage collection ditches (Table 3-6). The discharge rates from the MRSA to the seepage collection ditches and Minton Lake are reduced compared with the EIS because of the reduced MRSA footprint. No flow is predicted from the MRSA or TMF to tributaries COC2-LOB2-MIN5 or COC2-LOB2-MIN5-C1 because groundwater flow from the MRSA is intercepted by the seepage collection ditches.

Table 3-6 Comparison of Predicted Groundwater Discharge Rates from Mine Rock Storage Area and Tailings Management Facility to Receiving Environment at Closure (Pit Full, with 2-m Deep Seepage Collection Ditches) for EIS and Refined MRSA Design

Project Infrastructure	Receptor	Groundwater Discharge (m^3/s) arriving within 300 years EIS MRSA Design	Refined MRSA Design
MRSA	Keewatin River	0.000031	0.0
	Tributary of Keewatin River (KEE3-B1, including KEE3-B2 extension)	0.00148	0.0
	Open Pit	0.000441	0.0
	Minton Lake	0.001166	-43.6
	Seepage Collection Ditches	0.00393	-3.8
TMF	Watercourse connecting Payne Lake and Keewatin River (KEE3-Pay1)	0.000002	0.0
	Keewatin River	0.000117	0.0
	Tributary of Keewatin River (KEE3-B1, including KEE3-B2 extension)	0.002187	0.0
	Open Pit	<0.000074	0.0
	Minton Lake	0.000486	0.0
	Cockeram Lake	<0.000001	0.0
	Seepage Collection Ditches	0.000498	0.0

3.3 UPDATED WATER BALANCE/WATER QUALITY MODEL RESULTS

3.3.1 Surface Water Quantity

Compared with what was presented in the EIS, the only changes in streamflow at the MacLellan site due to the refinement of the MRSA are predicted to occur at the East Pond outlet (KEE3-B1) and Minton Lake outlet (QM07) model nodes. Complete results of the updated water balance model for all MacLellan nodes in the GoldSim™ model can be found in Appendix B of this report.

3.3.1.1 East Pond Outlet (KEE3-B1)

The redesigned MRSA results in a smaller catchment area reporting to the East Pond outlet (KEE3-B1) during the post-closure phase when the open pit is filling with water. This is predicted to result in stream discharges that are, at most, 0.005 m^3/s (5 L/s) lower between May and December when compared with the EIS prediction (Table 3-7). These changes equate to between 4% and 20% reductions in flow during the open-water season when compared with results predicted by the original model. There are no

changes in streamflow in the East Pond outlet during construction, operation, or decommissioning and closure mine phases compared with the EIS model predictions (Table 3-8).

During post-closure, when the open pit is filling with water, flows in the East Pond outlet are now predicted to be 64% lower than baseline between May and December (Table 10). In contrast, flows in the East Pond outlet were predicted to range between 54% and 63% lower than baseline in the EIS.

Predicted changes in streamflow during post-closure, when the open pit is filled and draining into the East Pond outlet, are virtually the same as predicted in the EIS (i.e., between 50% and 115% greater than baseline between May and October).

Table 3-7 Differences Between EIS and Updated Model Streamflow – Average Climate Conditions – at the East Pond Outlet (KEE3-B1)

Month	Existing Conditions		Construction (year -2 to -1)		Operation (year 1 to 13)		Decommissioning and Closure (year 14 to 19)		Post-Closure Prior to Open Pit Filling (Year 20 to Year 35)		Post-Closure After Open Pit is Filled (Year 35+)	
	Change (m^3/s)	Change (%)	Change (m^3/s)	Change (%)	Change (m^3/s)	Change (%)	Change (m^3/s)	Change (%)	Change (m^3/s)	Change (%)	Change (m^3/s)	Change (%)
Jan	0.000	0%	0.000	0%	0.000	0%	0.000	0%	0.000	0%	0.000	0%
Feb	0.000	0%	0.000	0%	0.000	0%	0.000	0%	0.000	0%	0.000	0%
Mar	0.000	0%	0.000	0%	0.000	0%	0.000	0%	0.000	0%	0.000	0%
Apr	0.000	0%	0.000	0%	0.000	0%	0.000	0%	0.000	0%	0.000	0%
May	0.000	0%	0.000	0%	0.000	0%	0.000	0%	-0.002	-4%	-0.002	-1%
Jun	0.000	0%	0.000	0%	0.000	0%	0.000	0%	-0.004	-17%	0.000	0%
Jul	0.000	0%	0.000	0%	0.000	0%	0.000	0%	-0.005	-16%	0.000	0%
Aug	0.000	0%	0.000	0%	0.000	0%	0.000	0%	-0.004	-14%	0.000	0%
Sep	0.000	0%	0.000	0%	0.000	0%	0.000	0%	-0.005	-20%	0.000	0%
Oct	0.000	0%	0.000	0%	0.000	0%	0.000	0%	-0.004	-19%	0.000	0%
Nov	0.000	0%	0.000	0%	0.000	0%	0.000	0%	-0.002	<-1%	0.000	0%
Dec	0.000	0%	0.000	0%	0.000	0%	0.000	0%	-0.001	<-1%	-0.001	<-1%
Annual	0.000	0%	0.000	0%	0.000	0%	0.000	0%	-0.002	-19%	0.000	0%

Table 3-8 Updated Streamflows Predictions – Average Climate – in the East Pond outlet (QM04) for Each Mine Phase

Month	Existing Conditions	Construction (Year -2 to Year -1)			Operation (Year 1 to Year 13)			Decommissioning and Closure (Year 14 to Year 19)			Post-Closure Prior to Open Pit Filling (Year 20 to Year 35)			Post-Closure After Open Pit is Filled (Year 35+)		
	Flow (m^3/s)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Change (m^3/s)	Change (%)
Jan	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	-	0.022	0.022	-
Feb	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	-	0.027	0.027	-
Mar	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	-	0.030	0.030	-
Apr	0.010	<0.01	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	-	0.035	0.026	-
May	0.127	0.045	-0.081	-64%	0.045	-0.081	-64%	0.045	-0.081	-64%	0.045	-0.081	-64%	0.190	0.064	50%
Jun	0.053	0.019	-0.034	-64%	0.019	-0.034	-64%	0.019	-0.034	-64%	0.019	-0.034	-64%	0.091	0.037	70%
Jul	0.075	0.027	-0.048	-64%	0.027	-0.048	-64%	0.027	-0.048	-64%	0.027	-0.048	-64%	0.121	0.045	60%
Aug	0.065	0.023	-0.042	-64%	0.023	-0.042	-64%	0.023	-0.042	-64%	0.023	-0.042	-64%	0.097	0.032	49%
Sep	0.057	0.020	-0.036	-64%	0.020	-0.036	-64%	0.020	-0.036	-64%	0.020	-0.036	-64%	0.104	0.047	84%
Oct	0.036	0.013	-0.023	-64%	0.013	-0.023	-64%	0.013	-0.023	-64%	0.013	-0.023	-64%	0.076	0.041	115%
Nov	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	-	0.032	0.029	-
Dec	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	-	<0.01	<0.01	-	0.017	0.017	-
Annual	0.035	0.013	-0.023	-64%	0.013	-0.022	-63%	0.013	-0.022	-62%	0.013	-0.022	-62%	0.070	0.035	98%

Notes:

"–" indicates percent change cannot be calculated as baseline streamflow is 0 m^3/s or frozen

"<0.01" indicates flows during winter months (December to April) are less than or equal to 0.01 m^3/s and are likely frozen

A negative percent change indicates a decrease in flows are predicted.

Modelled baseline data has minor variations for each Project phase due to artifacts of the modelling process. Baseline values reported here are for the 2020 modelling period. Calculations for the absolute and percent change in streamflow for each phase used baseline data calculated for that specific phase and may have minor disagreement with the baseline data presented here.

3.3.1.2 Keewatin River

There is no change in predicted streamflow in the Keewatin River downstream of the East Pond outlet. This is because streamflow in the East Pond outlet and the predicted changes to streamflow in the East Pond outlet, relative to the flows in Keewatin River, are too small, to result in any measurable change.

3.3.1.3 Minton Lake Outlet

The redesigned MRSA results in a larger percentage of the existing Minton Lake catchment area reporting to the Minton Lake outlet (QM07) during construction, operation, closure, and post-closure phases than in the EIS. This is because the refined MRSA footprint in the Minton Lake catchment was intentionally reduced to avoid fish habitat in the headwater tributaries.

At the Minton Lake outlet, the increased catchment area was predicted to result in between 0.001 m^3/s and 0.003 m^3/s (i.e., 1 L/s to 3/s) more water from May to December during construction, operation, decommissioning and closure, and post-closure phases (Table 3-9) than predicted in the EIS. These predicted increases in flow are between 3% and 7% higher than the original model predictions.

Although the refined MRSA reduces the predicted effects in the Minton Lake catchment, monthly flows at the Minton Lake outlet are still predicted to be smaller than baseline flows during construction, operation, decommissioning and closure and post-closure phases (Table 3-10). However, monthly flow reductions are now predicted to be between 11% and 26% lower than baseline compared with between 14% and 31% lower than baseline predicted by the EIS model, resulting in a smaller effect of the Project on flows in the Minton Lake outlet.

Table 3-9 Differences Between EIS and Updated Model Streamflow – Average Climate Conditions – at the Minton Lake Outlet (QM07)

Month	Existing Conditions		Construction (year -2 to -1)		Operation (year 1 to 13)		Decommissioning and Closure (year 14 to 19)		Post-Closure (year 20+)	
	Change (m^3/s)	Change (%)	Change (m^3/s)	Change (%)	Change (m^3/s)	Change (%)	Change (m^3/s)	Change (%)	Change (m3/s)	Change (%)
Jan	0.000	0%	0.000	0%	0.000	0%	0.001	3%	0.000	0%
Feb	0.000	0%	0.000	0%	0.000	0%	0.000	0%	0.000	0%
Mar	0.000	0%	0.000	0%	0.000	0%	0.000	0%	0.000	0%
Apr	0.000	0%	0.000	0%	0.000	0%	0.000	0%	0.000	0%
May	0.000	0%	0.002	4%	0.002	5%	0.002	5%	0.002	5%
Jun	0.000	0%	0.003	5%	0.003	5%	0.003	6%	0.003	5%
Jul	0.000	0%	0.001	5%	0.001	5%	0.002	6%	0.001	5%
Aug	0.000	0%	0.002	7%	0.002	7%	0.002	7%	0.002	7%
Sep	0.000	0%	0.003	6%	0.003	6%	0.003	7%	0.003	6%
Oct	0.000	0%	0.003	5%	0.003	5%	0.003	5%	0.003	5%
Nov	0.000	0%	0.002	4%	0.002	4%	0.002	5%	0.002	4%
Dec	0.000	0%	0.001	3%	0.001	3%	0.001	4%	0.001	3%
Annual	0.000	0%	0.001	4%	0.001	4%	0.002	5%	0.001	4%

Table 3-10 Updated Model Results – Average Climate – Minton Lake Outlet (QM07)

Month	Existing Conditions	Construction (Year -2 to Year -1)			Operation (Year 1 to Year 13)			Decommission and Closure (Year 14 to Year 19)			Post-Closure (Year 20 +)		
	Flow (m^3/s)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Change (m^3/s)	Change (%)
Jan	0.024	0.024	-0.001	-3%	0.023	-0.001	-6%	0.022	-0.002	-9%	0.022	-0.002	-10%
Feb	0.018	0.018	0.000	0%	0.018	0.000	-3%	0.017	-0.001	-7%	0.017	-0.001	-8%
Mar	0.015	0.015	0.000	3%	0.015	0.000	1%	0.014	-0.001	-4%	0.014	-0.001	-5%
Apr	0.013	0.014	0.001	5%	0.013	0.000	3%	0.013	0.000	-2%	0.013	0.000	-4%
May	0.057	0.047	-0.010	-17%	0.047	-0.010	-18%	0.046	-0.011	-20%	0.046	-0.011	-20%
Jun	0.068	0.055	-0.013	-19%	0.055	-0.013	-19%	0.054	-0.014	-21%	0.054	-0.014	-21%
Jul	0.036	0.029	-0.007	-19%	0.029	-0.007	-19%	0.028	-0.008	-21%	0.028	-0.008	-21%
Aug	0.038	0.029	-0.009	-24%	0.029	-0.009	-24%	0.028	-0.010	-26%	0.028	-0.010	-26%
Sep	0.063	0.049	-0.014	-23%	0.049	-0.014	-23%	0.048	-0.015	-24%	0.048	-0.015	-24%
Oct	0.072	0.058	-0.014	-20%	0.058	-0.014	-20%	0.057	-0.015	-21%	0.057	-0.015	-21%
Nov	0.054	0.046	-0.008	-15%	0.046	-0.008	-15%	0.046	-0.009	-16%	0.045	-0.009	-17%
Dec	0.036	0.032	-0.004	-11%	0.032	-0.004	-11%	0.031	-0.005	-13%	0.031	-0.005	-14%
Annual	0.041	0.035	-0.007	-16%	0.034	-0.007	-16%	0.034	-0.008	-18%	0.033	-0.008	-19%

Notes:

A negative percent change indicates a decrease in flows are predicted.

Modelled baseline data has minor variations for each Project phase due to artifacts of the modelling process. Baseline values reported here are for the 2020 modelling period. Calculations for the absolute and percent change in streamflow for each phase used baseline data calculated for that specific phase and may have minor disagreement with the baseline data presented here.

3.3.1.4 Minton Lake

The larger catchment area reporting to Minton Lake following construction of the Project is also predicted to result in smaller effects on water levels in Minton Lake than those predicted in the EIS. Water levels in Minton Lake are predicted to be up to 0.010 m (1 cm) higher than those predicted in the EIS (Table 3-11). As a result, water levels in Minton Lake are now predicted to be between 2.6 cm and 4.3 cm lower in the open water months (i.e., May to October) and 0.2 cm to 2.5 cm lower during the winter months (i.e., November to April) during construction and operation compared with baseline (Table 3-12). Water levels in Minton Lake are now predicted to be between 3.3 cm and 4.6 cm lower in the open water months and between 0.2 cm and 2.9 cm lower during the winter months during decommissioning/closure and post-closure phases compared with baseline.

Table 3-11 Differences Between EIS and Updated Model Minton Lake Water Level – Average Climate Conditions

		Change in Water Level (m)			
Month	**Existing Conditions**	**Construction (year -2 to -1)**	**Operation (year 1 to 13)**	**Decommission, Reclamation, Closure (year 14 to 19)**	**Post-Closure (year 20+)**
Jan	0.000	0.001	0.002	0.003	0.002
Feb	0.001	0.001	0.002	0.002	0.002
Mar	0.001	0.000	0.001	0.002	0.001
Apr	0.001	0.000	0.001	0.002	0.001
May	0.000	0.006	0.006	0.007	0.006
Jun	0.000	0.008	0.008	0.009	0.008
Jul	0.000	0.006	0.006	0.007	0.006
Aug	0.000	0.008	0.007	0.008	0.007
Sep	0.000	0.009	0.009	0.010	0.009
Oct	0.000	0.008	0.008	0.009	0.008
Nov	0.000	0.006	0.006	0.007	0.006
Dec	0.000	0.004	0.004	0.004	0.004
Annual	0.000	0.005	0.005	0.006	0.005

Table 3-12 Updated Model Results – Average Climate Scenario – Minton Lake Water Level

Month	Existing Conditions	Construction (year -2 to -1)		Operation (year 1 to 13)		Decommission, Reclamation, Closure (year 14 to 19)		Post-Closure (year 20+)	
	Level (masl)	Level (masl)	Change (m)	Level (masl)	Change (m)	Level (masl)	Change (m)	Level (masl)	Change (m)
January	329.920	329.917	-0.003	329.913	-0.007	329.910	-0.010	329.909	-0.011
February	329.891	329.891	0.000	329.888	-0.003	329.884	-0.007	329.883	-0.008
March	329.871	329.874	0.002	329.872	0.000	329.867	-0.004	329.866	-0.005
April	329.861	329.865	0.004	329.864	0.003	329.859	-0.002	329.858	-0.003
May	330.028	330.000	-0.028	329.999	-0.029	329.996	-0.033	329.995	-0.033
June	330.068	330.031	-0.037	330.030	-0.037	330.027	-0.040	330.027	-0.041
July	329.966	329.939	-0.026	329.939	-0.027	329.936	-0.030	329.935	-0.030
August	329.974	329.940	-0.034	329.940	-0.034	329.936	-0.038	329.936	-0.039
September	330.055	330.012	-0.043	330.012	-0.043	330.009	-0.046	330.009	-0.046
October	330.080	330.040	-0.040	330.040	-0.040	330.037	-0.042	330.037	-0.043
November	330.029	330.004	-0.025	330.004	-0.025	330.001	-0.028	330.001	-0.029
December	329.967	329.952	-0.015	329.952	-0.015	329.948	-0.019	329.948	-0.019
Annual	329.976	329.955	-0.020	329.955	-0.021	329.951	-0.025	329.950	-0.025

3.3.2 Surface Water Quality

Surface water quality POPCs identified at the MacLellan site by the updated model are listed in Table 3-13. Like the original surface water quality model predictions, all POPCs occur in the post-closure phase. The only differences to the list of POPCs shown in Table 3-13 and the list of POPCs in the EIS are the absence of total aluminum as a POPC in the Keewatin River downstream of the Project (QM06) and the addition of phosphorus as a POPC in the KEE3-B1 (a Keewatin River tributary draining East Pond outlet).

Table 3-13 Parameters of Potential Concern in the MacLellan Site Receiving Environment for the Expected Case

Parameter of Potential Concern (POPC)	Assessment Node Associated with Identification of POPC	Phase Associated with Identification of POPC	Identified as a POPC in the MacLellan site Receiving Environment in EIS?
Total Aluminum	KEE3-B1	Post-Closure	Yes
Total Arsenic	KEE3-B1	Post-Closure	Yes
Total Cadmium	Minton Lake, KEE3-B1	Post-Closure	Yes
Dissolved Cadmium	KEE3-B1	Post-Closure	Yes
Total Copper	KEE3-B1	Post-Closure	Yes
Fluoride	KEE3-B1	Post-Closure	Yes
Phosphorus	KEE3-B1	Post-Closure	No

Consistent with the original model characterization of mine discharges in the EIS (Volume 1, Chapter 9, Appendix 9E), surface water quality of each potential source of discharge to the receiving environment at the MacLellan site was predicted to be below the short-term CWQG-FAL and MWQSOG-FAL and below Schedule 4 effluent limits of the MDMER for the Expected Case (Appendix C of this report). These potential sources of discharge are the:

- Collection pond effluent to the Keewatin River during construction and operation.
- Groundwater seepage from the MRSA to tributary KEE3-B1 and to Minton Lake.
- Overflow from the open pit to tributary KEE3-B1 in post-closure.

A detailed summary of monthly model predictions for the Expected Case and Upper-Case, by mine phase, is provided for all MacLellan assessment nodes and modelled parameters with existing and calculated CWQG-FAL and MWQSOG-FAL in Appendix D of this report. A discussion of each POPC predicted by the updated surface water quality model is provided in the sections below.

Four new water quality parameters were identified as POPCs by the updated model. These parameters were limited to node KEE3-B1 and included:

- Total antimony: maximum concentration = 0.007 mg/L, which exceeded the Health Canada and MWQSOG drinking water quality guideline of 0.006 mg/L in two months in post-closure.
- Dissolved hexavalent chromium: maximum concentration = 0.0013 mg/L, which exceeded the CWQG-FAL of 0.001 mg/L for total hexavalent chromium in two months in post-closure.
- Total selenium: maximum concentration of 0.0011 mg/L, which exceeded the CWQG-FAL of 0.001 mg/L in two months in post-closure.
- Total zinc: maximum concentration of 0.034 mg/L, which exceeded the CWQG-FAL of 0.03 mg/L in two months in post-closure.

These parameters were identified in the updated model and not in the original model because the updated model assumes that the seepage diversion ditches around the MacLellan site PDA do not capture all seepage to tributary KEE3-B1 in late winter/early spring and, therefore, seepage constitutes up to 40% of flow in tributary KEE3-B1 in April. It is more likely however, that seepage from the MRSA will be frozen in April and, therefore, that the updated modeled predictions for April are conservative. If snowmelt were to occur early and the seepage from the MRSA is not frozen, this seepage will be accompanied by snowmelt which will act to dilute the seepage concentrations. Given that these low-frequency exceedances are temporary and can be easily managed through ditch optimization or routing the headwaters of KEE3-B1 to the open pit as part of detailed design, they are not carried through the effect assessment.

These water quality parameters did not exceed the POPC screening criteria more than twice across 140 modeled years. In the rare occasions when these parameters did exceed POPC screening criteria, the predicted concentrations did not exceed guidelines by more than 1.3 times the guideline value. Therefore, these POPCs were not carried forward as POPCs in the effects assessment because of their low frequency of occurrence and low magnitude of exceedance.

3.3.2.1 Total Aluminum

The updated Expected Case and Upper-Case model predictions resulted in mean and maximum aluminum concentrations at KEE3-B1 that were either the same or lower than the original model predictions, depending on mine phase (Table 3-14).

For the Expected Case, the highest predicted mean and maximum total aluminum concentrations in KEE3-B1 occur during post-closure after the open pit is filled and discharging to KEE3-B1. These values are 0.15 mg/L and 0.20 mg/L, respectively, which are the same as those predicted in the EIS model (Table 3-14). This maximum value is two times the long-term CWQG-FAL and MWQSOG-FAL (0.1 mg/L) and approximately 28 times the updated Modelled Baseline in post-closure (Table 3-14; Figures E1 and E2, Appendix E of this report).

For the Upper-Case, the highest predicted mean and maximum total aluminum concentrations in KEE3-B1 also occur during post-closure after the open pit is filled and discharging to KEE3-B1. These values are 0.16 mg/L and 0.20 mg/L, respectively (Table 3-14), which are the same or lower than those predicted in the EIS model. This maximum value is two times the long-term CWQG-FAL and MWQSOG-FAL of 0.1 mg/L when pH ≥ 6.5 and 21 times modelled Upper-Case Baseline in post-closure. This maximum value occurs in April and repeats annually from approximately Year 42 onward (Figures E1 and E2, Appendix E of this report). Upper-Case maximum values are equivalent to Expected Case maximum values due to a solubility constraint of 0.2 mg/L applied in the model in the EIS (Volume 5; Appendix E).

Aluminum was identified as a POPC in the Keewatin River downstream of the MacLellan site (QM06) for the Upper-Case scenario in the EIS. In the updated model, the maximum total aluminum concentration does not exceed 0.05 mg/L and does not simultaneously exceed the long-term CWQG-FAL and MWQSOG-FAL and baseline +20% at QM06 for the Upper-Case scenario (Table 3-14) and, therefore, is not a POPC in the Keewatin River in the updated model (Figures E1 and E2, Appendix E of this report).

Updated model predictions by mine phase and month are presented in Appendix D of this report. Time series plots for total aluminum, including LOM predictions and mean seasonal variability plots are presented in Appendix E of this report (Figures E1, E2, and E3).

Table 3-14 Comparison of Predicted Aluminum Concentrations, by Phase, to Federal and Provincial Water Quality Guidelines at the Keewatin River tributary (KEE3-B1) and the Keewatin River downstream of the Project (QM06) for the Expected Case and Upper-Case Scenarios

Scenario	Node	Phase	Number of Years in Phase	Long term CWQG-FAL and MWQSOG-FAL (mg/L)	Original Modelled Baseline		Updated Modelled Baseline		Original Project Predictions		Updated Project Predictions				
					Phase Mean (mg/L)	Phase Max (mg/L)	Phase Mean (mg/L)	Phase Max (mg/L)	Phase Mean (mg/L)	Phase Max (mg/L)	Phase Mean (mg/L)	Phase Max (mg/L)	Max fold Change: Project vs. Baseline	Max fold Guideline Exceedance (mg/L)	Percent Exceedances across all Phases (2021 - 2150)
Expected Case	KEE3-B1	Construction	2	0.1	0.0115	0.0150	0.0115	0.0150	0.0115	0.0150	0.0115	0.0150	-	-	-
		Operation	13	0.1	0.0115	0.0150	0.0115	0.0150	0.0115	0.0150	0.0115	0.0150	-	-	-
		Closure	5 to 6	0.1	0.0115	0.0150	0.0115	0.0150	0.0115	0.0150	0.0115	0.0150	-	-	-
		Post-closure	109	0.1	0.0115	0.0150	0.0115	0.0150	0.1520	0.2000	0.1520	0.1980	28.3	2.0	70.9%
Upper-Case	KEE3-B1	Construction	2	0.1	0.0166	0.0220	0.0166	0.0220	0.0166	0.0220	0.0166	0.0220	-	-	-
		Operation	13	0.1	0.0166	0.0220	0.0166	0.0220	0.0417	0.1410	0.0415	0.1410	6.4	1.4	0.7%
		Closure	5 to 6	0.1	0.0166	0.0220	0.0166	0.0220	0.0510	0.1630	0.0506	0.1630	7.4	1.6	0.4%
		Post-closure	109	0.1	0.0166	0.0220	0.0166	0.0220	0.1630	0.2020	0.1630	0.2010	21.0	2.0	73.8%

Notes: CWQG-FAL = Canadian Water Quality Guideline - Freshwater Aquatic Life; MWQSOG-FAL = Manitoba Standards, Objectives, and Guidelines - Freshwater Aquatic Life
The CWQG-FAL and MWQSOG-FAL are the same for total aluminum. The guideline is pH-dependent (0.005 mg/L when pH is equal to or below 6.5, and 0.1 mg/L when pH is above 6.5). There is no short-term guideline.
Maximum magnitudes and frequencies of exceedances only shown for nodes and phases in which at least a single month exceeded (1) baseline + 20% and (2) the applicable guideline by any amount.
"-" = not applicable; values not provided for phases not associated with the identification of the POPC
Underlined values = updated values that are lower than original model predictions presented in the EIS

3.3.2.2 Total Arsenic

The updated Expected Case and Upper-Case model predictions resulted in mean and maximum arsenic concentrations in Keewatin River tributary KEE3-B1 that were the same or moderately higher than the EIS predictions, depending on the mine phase. A summary of the updated model predictions alongside the EIS values are presented in Table 3-15.

For the Expected Case scenario, the highest mean and maximum arsenic concentration in KEE3-B1 were predicted to occur during post-closure (Table 3-15). This predicted mean arsenic concentration (0.008 mg/L) is the same as predicted by the EIS model and is approximately 1.6 times higher than the long-term CWQL-FAL (0.005 mg/L) and six times higher than the modelled baseline concentration. The updated maximum arsenic concentration (0.041 mg/L) is approximately 80% higher as the EIS model prediction and approximately eight times higher than the long-term CWQG-FAL (0.005 mg/L) and 37 times higher than the modelled baseline concentration. However, total arsenic concentrations are predicted to exceed 0.025 mg/L only twice during the 140 years of modelling (Figure E4; Appendix E of this report).

For the Upper-Case scenario, the highest maximum arsenic concentration in KEE3-B1 (0.148 mg/L) is predicted to occur in the closure phase (Table 3-15). This maximum total arsenic concentration is approximately 30 times the long-term CWQG-FAL, and 105 times modelled Upper Baseline. However, mean total arsenic concentrations in KEE3-B1 for the Upper-Case scenario are predicted to remain below 0.02 mg/L in post-closure, a value approximately four times higher than the long-term CWQG-FAL (0.005 mg/L).

Updated model predictions by mine phase and month are presented in Appendix D of this report. Time series plots for total arsenic, including Life-of-Mine (LOM) predictions and mean seasonal variability plots are presented in Appendix E of this report (Figures E4 and E5).

Table 3-15 Predicted Total Arsenic Concentrations at KEE3-B1 Associated with Exceedances of Screening Criteria in the Expected Case and Corresponding Upper-Case Predictions

Scenario	Node	Phase	Number of Years in Phase	CWQG-FAL long (mg/L)	Modelled Baseline[1]		Original Project Predictions		Updated Project Predictions				
					Phase Mean (mg/L)	Phase Max (mg/L)	Phase Mean (mg/L)	Phase Max (mg/L)	Phase Mean (mg/L)	Phase Max (mg/L)	Max fold Change: Project vs. Baseline	Max fold Guideline Exceedance (mg/L)	Percent exceedances across all phases (2021 - 2150)
Expected Case	KEE3-B1	Construction	2	0.005	0.00101	0.0011	0.00101	0.0011	0.00101	0.0011	-	-	
		Operation	13	0.005	0.00101	0.0011	0.00101	0.0011	0.00101	0.0011	-	-	
		Closure	5 to 6	0.005	0.00101	0.0011	0.00101	0.0011	0.00101	0.0011	-	-	
		Post-closure	109	0.005	0.00101	0.0011	0.0083	0.0227	0.00797	0.0405	36.8	8.1	73.5%
Upper-Case	KEE3-B1	Construction	2	0.005	0.00125	0.0014	0.00125	0.0014	0.00125	0.0014	-	-	
		Operation	13	0.005	0.00125	0.0014	0.0158	0.0891	0.0160	0.1090	77.5	21.8	5.6%
		Closure	5 to 6	0.005	0.00125	0.0014	0.0284	0.1200	0.0283	0.1480	105	29.6	3.1%
		Post-closure	109	0.005	0.00125	0.0014	0.0207	0.0785	0.0195	0.0851	60.8	17.02	80.1%

Notes:
[1] the updated modelled baseline mean and max values were the same as the original modelled baseline values
CWQG-FAL = Canadian Water Quality Guideline - Freshwater Aquatic Life. There is no corresponding short-term guideline.
Maximum magnitudes and frequencies of exceedances only shown for nodes and phases in which at least a single month exceeded (1) baseline + 20% and (2) the applicable guideline by any amount.
"-" = not applicable; values not provided for phases not associated with the identification of the POPC
Shaded cells = updated values that are greater than the original model predictions presented in the EIS
Underlined values = updated values that are lower than original model predictions presented in the EIS

3.3.2.3 Total and Dissolved Cadmium

The updated Expected Case and Upper-Case model predictions resulted in mean and maximum concentrations of total and dissolved cadmium that are identical or within the same order of magnitude (higher or lower) compared with the EIS predictions, depending on the assessment node and phase (Table 3-16 and Table 3-17).

Total Cadmium

For the Expected Case, the highest total cadmium concentrations in KEE3-B1 and Minton Lake are predicted to occur during post-closure (Table 3-16), the same mine phase when total cadmium concentrations in KEE-B1 and Minton Lake were predicted to be highest by the EIS model. The updated mean and maximum total cadmium concentrations in KEE3-B1 during post-closure are predicted to be 0.000065 mg/L and 0.00095 mg/L, respectively (Table 3-16). The updated mean total cadmium concentration is 4% lower than the mean total cadmium concentration predicted by the EIS model while the updated maximum total cadmium concentration is 84% higher than the maximum total cadmium concentration predicted by the EIS model. The updated maximum total cadmium concentration is approximately 2.9 times greater than the long-term CWQG-FAL (total cadmium) and 212 times greater than Expected Baseline (Table 3-16).

The updated mean and maximum total cadmium concentrations in Minton Lake during post-closure are predicted to be 0.000021 mg/L and 0.000042 mg/L, respectively (Table 3-16). These predicted concentrations are the same as those predicted by the EIS model. The updated maximum total cadmium concentration is only marginally greater than the long-term CWQG-FAL (total cadmium) and nine times greater than Expected Baseline (Table 3-16).

For the Upper-Case scenario, the maximum predicted total cadmium concentrations during post-closure are:

- 0.003 mg/L in KEE3-B1, a maximum cadmium concentration approximately nine times higher than the hardness-dependent CWQG-FAL (total cadmium) and 591 times higher than the Upper Baseline.
- 0.00027 mg/L in Minton Lake, a maximum cadmium concentration approximately seven times higher than the hardness-dependent CWQG-FAL (total cadmium) and 31 times higher than the Upper Baseline.

Table 3-16 Predicted Total Cadmium Concentrations by Phase at KEE3-B1 and Minton Lake Associated with Exceedances of Screening Criteria in the Expected Case and Corresponding Upper-Case Predictions

Scenario	Node	Phase	Number of Years in Phase	CWQG-FAL long (mg/L)	Original Modelled Baseline		Updated Modelled Baseline		Original Project Predictions		Updated Project Predictions				
					Phase Mean (mg/L)	Phase Max (mg/L)	Phase Mean (mg/L)	Phase Max (mg/L)	Phase Mean (mg/L)	Phase Max (mg/L)	Phase Mean (mg/L)	Phase Max (mg/L)	Max fold Change: Project vs. Baseline	Max fold Guideline Exceedance (mg/L)	Percent exceedances across all phases (2021 - 2150)
Expected Case	KEE3-B1	Construction	2	0.000314 - 0.000467	0.00000435	0.0000046	0.00000435	0.0000046	0.00000435	0.0000046	0.00000435	0.0000046	-	-	
		Operation	13	0.000314 - 0.000467	0.00000435	0.0000046	0.00000435	0.0000046	0.00000435	0.0000046	0.00000435	0.0000046	-	-	
		Closure	5 to 6	0.000314 - 0.000467	0.00000435	0.0000046	0.00000435	0.0000046	0.00000435	0.0000046	0.00000435	0.0000046	-	-	
		Post-closure	109	0.000314 - 0.000467	0.00000435	0.0000046	0.00000435	0.0000046	0.0000675	0.000518	0.000065	0.000954	212	2.89	4.8
	Minton Lake	Construction	2	0.0000375 - 0.0000606	0.00000472	0.00000492	0.00000465	0.00000481	0.0000047	0.00000488	0.00000469	0.00000487	-	-	-
		Operation	13	0.0000375 - 0.0000606	0.00000483	0.00000499	0.00000465	0.00000481	0.00000478	0.00000495	0.00000477	0.00000493	-	-	-
		Closure	5 to 6	0.0000375 - 0.0000606	0.00000471	0.00000494	0.00000465	0.00000481	0.00000474	0.00000493	0.00000473	0.00000491	-	-	-
		Post-closure	109	0.0000375 - 0.0000606	0.00000465	0.00000481	0.00000465	0.00000481	0.0000214	0.0000423	0.0000208	0.0000419	8.47	1.05	1
Upper-Case	KEE3-B1	Construction	2	0.000314 - 0.000467	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	-	-	
		Operation	13	0.000314 - 0.000467	0.000005	0.000005	0.000005	0.000005	0.000129	0.000807	0.000130	0.00111	223	3.47	0.6
		Closure	5 to 6	0.000314 - 0.000467	0.000005	0.000005	0.000005	0.000005	0.000302	0.00133	0.000303	0.00177	355	5.64	0.7
		Post-closure	109	0.000314 - 0.000467	0.000005	0.000005	0.000005	0.000005	0.000475	0.00246	0.000435	0.00296	591	9.43	57.1
	Minton Lake	Construction	2	0.0000375 - 0.0000606	0.00000897	0.00000942	0.00000849	0.00000868	0.0000092	0.00000981	0.00000915	0.00000972	-	-	
		Operation	13	0.0000375 - 0.0000606	0.00000969	0.00001	0.00000849	0.00000868	0.0000444	0.0000848	0.000048	0.0000977	11.3	2.42	5.3
		Closure	5 to 6	0.0000375 - 0.0000606	0.00000888	0.00000986	0.0000085	0.00000868	0.0000979	0.000124	0.000102	0.000133	15.4	3.33	4.6
		Post-closure	109	0.0000375 - 0.0000606	0.0000085	0.00000873	0.0000085	0.00000868	0.000259	0.000274	0.000249	0.000272	31.3	6.75	83.8

Notes:
CWQG-FAL = Canadian Water Quality Guideline - Freshwater Aquatic Life
The long-term and short-term guidelines for cadmium are hardness-dependent. The short-term guideline was excluded from this Table because no exceedances were predicted.
Monthly mean baseline hardness was used to calculate the guidelines for each month (shown as ranges in Table).
Maximum magnitudes and frequencies of exceedances only shown for nodes and phases in which at least a single month exceeded (1) baseline + 20% and (2) the applicable guideline by any amount.
"-" = not applicable; values not provided for phases not associated with the identification of the POPC
Shaded cells indicate where updated predictions exceed the EIS predictions. Differences limited to the last decimal place were not shaded
Underlined values = updated values that are lower than original model predictions presented in the EIS.

Dissolved Cadmium

For the Expected Case, the highest dissolved cadmium concentration in KEE3-B1 is predicted to occur during post-closure, the same mine phase when the dissolved cadmium concentration in KEE-B1 was also predicted to be highest by the EIS model. The updated mean and maximum dissolved cadmium concentrations in KEE3-B1 during post-closure are predicted to be 0.000062 mg/L and 0.00095 mg/L, respectively (Table 3-17). The updated mean dissolved cadmium concentration is 4% lower than the EIS model predicted mean dissolved cadmium concentration while the updated maximum dissolved cadmium concentration is 84% higher than the EIS model predicted maximum dissolved cadmium concentration. The updated maximum dissolved cadmium concentration is approximately 2.2 times greater than the MWQSOG-FAL (dissolved cadmium) and 212 times greater than Expected Baseline (Table 3-17).

For the Upper-Case scenario, the maximum predicted dissolved cadmium concentrations in KEE3-B1 occurs during post-closure is 0.003 mg/L (Table 3-17), a maximum dissolved cadmium concentration approximately six times higher than the hardness-dependent MWQSOG-FAL (dissolved cadmium) and 591 times higher than the Upper Baseline (Table 3-17).

Dissolved cadmium was not identified as a POPC in Minton Lake by the updated model. This is the same outcome predicted by the EIS model.

Updated model predictions by mine phase and month are presented in Appendix D of this report. Time series plots for total cadmium (which is similar to dissolved cadmium in predicted concentrations), including LOM predictions and mean seasonal variability plots are presented in Appendix E of this report (Figures E6, E7, and E8).

Table 3-17 Predicted Dissolved Cadmium Concentrations by Phase at KEE3-B1 Associated with Exceedances of Screening Criteria in the Expected Case and Corresponding Upper-Case Predictions

Scenario	Node	Phase	Number of Years in Phase	Long-term MWQSOG-FAL (mg/L)	Modelled Baseline[1]		Original Project Predictions		Updated Project Predictions				
					Phase Mean (mg/L)	Phase Max (mg/L)	Phase Mean (mg/L)	Phase Max (mg/L)	Phase Mean (mg/L)	Phase Max (mg/L)	Max fold Change: Project vs. Baseline	Max fold Guideline Exceedance (mg/L)	Percent exceedances across all phases (2021 - 2150)
Expected Case	KEE3-B1	Construction	2	0.000435 - 0.000607	0.00000435	0.0000046	0.00000435	0.0000046	0.00000435	0.0000046	-		
		Operation	13	0.000435 - 0.000607	0.00000435	0.0000046	0.00000435	0.0000046	0.00000435	0.0000046	-		
		Closure	5 to 6	0.000435 - 0.000607	0.00000435	0.0000046	0.00000435	0.0000046	0.00000435	0.0000046	-		
		Post-closure	109	0.000435 - 0.000607	0.00000435	0.0000046	0.0000644	0.000518	0.0000619	0.000954	212	2.19	1.0%
Upper-Case	KEE3-B1	Construction	2	0.000435 - 0.000607	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	-		
		Operation	13	0.000435 - 0.000607	0.000005	0.000005	0.000131	0.000818	0.000132	0.00112	225	2.57	0.6%
		Closure	5 to 6	0.000435 - 0.000607	0.000005	0.000005	0.000304	0.00134	0.000305	0.00178	357	4.09	0.4%
		Post-closure	109	0.000435 - 0.000607	0.000005	0.000005	0.000472	0.00247	0.000433	0.00297	593	6.83	15.5%

Notes:
[1] the updated modelled baseline values were the same as the original modelled baseline values.
MWQSOG-FAL = Manitoba Water Quality Standards, Objectives, and Guidelines - Freshwater Aquatic Life
The long-term and short-term guidelines for dissolved cadmium are hardness-dependent. The short-term guideline was excluded from this Table because no exceedances were predicted.
Monthly mean baseline hardness was used to calculate the guidelines for each month (shown as ranges in Table).
Maximum magnitudes and frequencies of exceedances only shown for nodes and phases in which at least a single month exceeded (1) baseline + 20% and (2) the applicable guideline by any amount.
"-" = not applicable; metrics not provided for phases not associated with the identification of the POPC
Shaded cells indicate where updated predictions exceed the EIS predictions. Differences limited to the last decimal place were not shaded.
Underlined values = updated values that are lower than original model predictions presented in the EIS.

3.3.2.4 Total Copper

The updated Expected Case and Upper-Case model predictions resulted in mean and maximum concentrations of total copper in KEE3-B1 that are either the same or moderately higher than the EIS predictions, depending on the mine phase (Table 3-18).

For the Expected Case scenario, the mean and maximum total copper concentrations in KEE3-B1 are predicted to occur during the post-closure phase, the same mine phase that total copper concentrations in KEE3-B1 were predicted to be highest in the EIS model. The mean and maximum total copper concentrations in KEE3-B1 in post-closure are 0.003 mg/L and 0.009 mg/L (Table 3-18). The updated mean total copper concentration is the same as the total copper concentration predicted by the EIS model and is lower than the long-term CWQG-FAL (0.004 mg/L). The updated maximum total copper concentration is 80% higher than the maximum total copper concentration predicted by the EIS model and is approximately two times higher than the long-term CWQG-FAL (0.004 mg/L when hardness is >180 mg/L $CaCO_3$) and 26 times higher than the Expected Baseline concentration.

For the Upper-Case scenario, the mean and maximum total copper concentrations in KEE3-B1 are predicted to occur during the post-closure phase (Table 3-18). The mean total copper concentration (0.007 mg/L) is approximately 0.8 times higher than the long-term CWQG-FAL (0.004 mg/L when hardness is >180 mg/L $CaCO_3$) and approximately 13 times higher than the Upper Baseline. The maximum total copper concentration (0.024 mg/L) is approximately six times higher than the long-term CWQG-FAL (0.004 mg/L when hardness is >180 mg/L $CaCO_3$) and 36 times higher than the Upper Baseline during closure and post-closure mine phases (Table 3-18).

Updated model predictions by mine phase and month are presented in Appendix D of this report. Time series plots for total copper, including LOM predictions and mean seasonal variability plots are presented in Appendix E of this report (Figures E9 and E10).

Table 3-18 Predicted Copper Concentrations by Phase at KEE3-B1 Associated with Exceedances of Screening Criteria in the Expected Case and Corresponding Upper-Case Predictions

Scenario	Node	Phase	Number of Years in Phase	CWQG-FAL long (mg/L)	Modelled Baseline[1]		Original Project Predictions		Updated Project Predictions				
					Phase Mean (mg/L)	Phase Max (mg/L)	Phase Mean (mg/L)	Phase Max (mg/L)	Phase Mean (mg/L)	Phase Max (mg/L)	Max fold Change: Project vs. Baseline	Max fold Guideline Exceedance (mg/L)	Percent exceedances across all phases (2021 - 2150)
Expected Case	KEE3-B1	Construction	2	0.004	0.000297	0.00034	0.000297	0.00034	0.000297	0.00034	-	-	
		Operation	13	0.004	0.000297	0.00034	0.000297	0.00034	0.000297	0.00034	-	-	
		Closure	5 to 6	0.004	0.000297	0.00034	0.000297	0.00034	0.000297	0.00034	-	-	
		Post-closure	109	0.004	0.000297	0.00034	0.0029	0.00586	0.00283	0.00868	25.5	2.17	6.7%
Upper-Case	KEE3-B1	Construction	2	0.004	0.000507	0.00066	0.000507	0.00066	0.000507	0.00066	-	-	
		Operation	13	0.004	0.000507	0.00066	0.00418	0.0201	0.00425	0.0204	30.8	5.1	70.0%
		Closure	5 to 6	0.004	0.000507	0.00066	0.00581	0.0235	0.00569	0.0239	36.3	5.98	47.0%
		Post-closure	109	0.004	0.000507	0.00066	0.00764	0.024	0.00728	0.0239	36.3	5.98	1250%

Notes:
[1] the updated modelled baseline values were the same as the original modelled baseline values
CWQG-FAL = Canadian Water Quality Guideline - Freshwater Aquatic Life
The long-term guideline for copper is hardness-dependent. Monthly mean baseline hardness was used to calculate the guideline value for each month.
Maximum magnitudes and frequencies of exceedances only shown for nodes and phases in which at least a single month exceeded (1) baseline + 20% and (2) the applicable guideline by any amount.
"-" = not applicable; values not provided for phases not associated with the identification of the POPC

Shaded cells indicate where updated predictions exceed the EIS predictions. Differences limited to the last decimal place were not shaded

Underlined values = updated values that are lower than original model predictions presented in the EIS.

3.3.2.5 Fluoride

The updated Expected Case and Upper-Case model predictions resulted in mean and maximum fluoride concentrations in KEE3-B1 to be the same or moderately higher than the EIS predictions, depending on the mine phase (Table 3-19).

For the Expected Case scenario, the highest mean and maximum fluoride concentrations in KEE3-B1 were predicted to occur during the post-closure phase, the same phase that mean and maximum fluoride concentrations in KEE3-B1 were predicted to be highest in the EIS model. The mean and maximum fluoride concentrations in KEE3-B1 during post-closure were 0.11 mg/L and 0.35 mg/L, respectively (Table 3-19). The updated mean fluoride concentration in KEE-B1 during post-closure is the same as the mean fluoride concentration predicted by the EIS model and is lower than the long-term CWQG-FAL and MWQSOG-FAL (0.12 mg/L). The updated maximum fluoride concentration in KEE3-B1 is 70% higher than the EIS model prediction and is approximately 1.8 times higher than the long-term CWQG-FAL and MWQSOG-FAL (0.12 mg/L) and five times higher than the Expected Baseline (Table 3-19). However, fluoride concentrations in KEE3-B1 are not predicted to exceed 0.15 mg/L following the overflow of the open pit (Appendix D of this report).

For the Upper-Case scenario, the predicted mean (0.48 mg/L) and maximum (1.57 mg/L) fluoride concentrations are approximately three times higher and 12 times higher than the long-term CWQG-FAL and MWQSOG-FAL (0.12 mg/L), respectively, and approximately nine time higher and 28 times higher than the Upper Baseline during the post-closure phase (Table 3-19).

Updated model predictions by mine phase and month are presented in Appendix B of this report. Time series plots for fluoride, including LOM predictions and mean seasonal variability plots are presented in Appendix E of this report (Figures E11 and E12).

Table 3-19 Predicted Fluoride Concentrations by Phase at KEE3-B1 Associated with Exceedances of Screening Criteria in the Expected Case and Corresponding Upper-Case Predictions

Scenario	Node	Phase	Number of Years in Phase	Long term CWQG-FAL and MWQSOG-FAL (mg/L)	Modelled Baseline[1]		Original Project Predictions		Updated Project Predictions				
					Phase Mean (mg/L)	Phase Max (mg/L)	Phase Mean (mg/L)	Phase Max (mg/L)	Phase Mean (mg/L)	Phase Max (mg/L)	Max fold Change: Project vs. Baseline	Max fold Guideline Exceedance (mg/L)	Percent exceedances across all phases (2021 - 2150)
Expected Case	KEE3-B1	Construction	2	0.12	0.0403	0.044	0.0403	0.044	0.0403	0.044	-	-	-
		Operation	13	0.12	0.0403	0.044	0.0403	0.044	0.0403	0.044	-	-	-
		Closure	5 to 6	0.12	0.0403	0.044	0.0403	0.044	0.0403	0.044	-	-	-
		Post-closure	109	0.12	0.0403	0.044	0.1090	0.207	0.1100	0.351	7.97	2.92	23
Upper-Case	KEE3-B1	Construction	2	0.12	0.0468	0.053	0.0468	0.053	0.0468	0.053	-	-	-
		Operation	13	0.12	0.0468	0.053	0.1860	0.819	0.1900	0.961	18.1	8.01	5.6
		Closure	5 to 6	0.12	0.0468	0.053	0.2680	1.010	0.2690	1.200	22.6	10	3.1
		Post-closure	109	0.12	0.0468	0.053	0.5170	1.340	0.4770	1.530	28.8	12.75	80.1

Notes:
[1] the updated modelled baseline values were the same as the original modelled baseline values
CWQG-FAL = Canadian Water Quality Guideline - Freshwater Aquatic Life

MWQSOG-FAL = Manitoba Water Quality Standards, Objectives, and Guidelines - Freshwater Aquatic Life
Maximum magnitudes and frequencies of exceedances only shown for nodes and phases in which at least a single month exceeded (1) baseline + 20% and (2) the applicable guideline by any amount.
"-" = not applicable; values not provided for phases not associated with the identification of the POPC

Shaded cells indicate where updated predictions exceed the EIS predictions. Differences limited to the last decimal place were not shaded

Underlined values = updated values that are lower than original model predictions presented in the EIS.

3.3.2.6 Phosphorus

The updated Expected Case and Upper-Case model predictions resulted in mean and maximum phosphorus concentrations that were the same or moderately higher than the EIS predictions, depending on the mine phase (Table 3-20). Although the EIS did not identify phosphorus as a POPC at the MacLellan site, phosphorus was carried forward in this updated assessment because it was predicted to regularly exceed the MWQG-FAL (0.025 mg/L) and baseline +20% at node KEE3-B1 for the first 12 years of post-closure.

For the Expected Case scenario, the highest mean and maximum phosphorus concentrations in KEE3-B1 were predicted to occur during the post-closure phase. The mean and maximum fluoride concentrations in KEE3-B1 during post-closure were 0.017 mg/L and 0.032 mg/L, respectively (Table 3-20). The predicted mean phosphorus concentration (0.017 mg/L) in KEE-B1 during post-closure is lower than the long-term MWQSOG-FAL (0.025 mg/L) while the predicted maximum phosphorus concentration (0.032 mg/L) in KEE3-B1 during post-closure is approximately 1.3 times higher than the long-term MWQSOG-FAL (0.025 mg/L) and approximately 1.5 times higher than the Modelled Baseline concentrations (Table 3-20).

For the Upper-Case scenario, the predicted mean (0.04 mg/L) and maximum (0.06 mg/L) fluoride concentrations at KEE3-B1 during post-closure are approximately 1.7 times higher and 2.4 times higher than the long-term MWQSOG-FAL (0.025 mg/L), respectively, and approximately 1.5 times higher and 3.4 times higher than the Upper-Case Baseline concentrations, respectively, during the post-closure phase (Table 3-20).

Updated model predictions by mine phase and month are presented in Appendix D of this report. Time series plots for phosphorus, including LOM predictions and mean seasonal variability plots, are presented in Appendix E of this report (Figures E13 and E14).

Table 3-20 Predicted Phosphorus Concentrations by Phase at KEE3-B1 Associated with Exceedances of Screening Criteria in the Expected Case and Corresponding Upper-Case Predictions

Scenario	Node	Phase	Number of Years in Phase	Long term MWQSOG-FAL (mg/L)	Original Modelled Baseline		Updated Modelled Baseline		Original Project Predictions		Updated Project Predictions				
					Phase Mean (mg/L)	Phase Max (mg/L)	Phase Mean (mg/L)	Phase Max (mg/L)	Phase Mean (mg/L)	Phase Max (mg/L)	Phase Mean (mg/L)	Phase Max (mg/L)	Max fold Change: Project vs. Baseline	Max fold Guideline Exceedance (mg/L)	Percent exceedances across all phases (2021 - 2150)
Expected Case	KEE3-B1	Construction	2	0.025	0.0208	0.026	0.0208	0.026	0.0208	0.026	0.0208	0.026	-	-	-
		Operation	13	0.025	0.0208	0.026	0.0208	0.026	0.0208	0.026	0.0208	0.026	-	-	-
		Closure	5 to 6	0.025	0.0208	0.026	0.0208	0.026	0.0208	0.026	0.0208	0.026	-	-	-
		Post-closure	109	0.025	0.0208	0.026	0.0208	0.026	0.014	0.0262	0.0172	0.032	1.46	1.28	2.9%
Upper-Case	KEE3-B1	Construction	2	0.025	0.0273	0.04	0.0273	0.04	0.0273	0.04	0.0273	0.04	-	-	-
		Operation	13	0.025	0.0273	0.04	0.0273	0.04	0.0297	0.0422	0.0301	0.0475	1.83	1.9	8.3%
		Closure	5 to 6	0.025	0.0273	0.04	0.0273	0.04	0.0315	0.0438	0.0318	0.0503	1.94	2.01	3.8%
		Post-closure	109	0.025	0.0273	0.04	0.0273	0.04	0.0423	0.0568	0.0417	0.0595	3.42	2.38	82.9%

Notes:
MWQSOG-FAL = Manitoba Water Quality Standards, Objectives, and Guidelines - Freshwater Aquatic Life
Maximum magnitudes and frequencies of exceedances only shown for nodes and phases in which at least a single month exceeded (1) baseline + 20% and (2) the applicable guideline by any amount.
"-" = not applicable; values not provided for phases not associated with the identification of the POPC
Shaded cells indicate where updated predictions exceed the EIS predictions. Differences limited to the last decimal place were not shaded.
Underlined values = updated values that are lower than original model predictions presented in the EIS

4.0 UPDATED ASSESSMENTS OF POTENTIAL EFFECTS

4.1 ASSESSMENT OF POTENTIAL EFFECTS TO GROUNDWATER

Updated groundwater flow modelling was conducted to assess the effects of Refined MRSA design, the presence of two headwater tributaries of Minton Lake (COC2-LOB2-MIN5-C1 and COC2-LOB2-MIN5), and the extension of Keewatin River tributary KEE3-B2 on the predicted groundwater discharge rates at the MacLellan site. The updated model predicts a small (<10% decrease) redistribution of groundwater flows in the vicinity of the TMF and MRSA compared with the EIS. The groundwater discharge rates from the MRSA to the receiving environment were reduced due to the reduced footprint of the MRSA. Therefore, the EIS is conservative in the assessment of potential effects of seepage from the MRSA to the receiving environment.

Given the <10% decrease in groundwater discharges to the receiving surface water features at the MacLellan site, the residual effects characterization for groundwater in the EIS remains valid and conservative. Table 4-1 summaries the characterization of potential residual Project effects to groundwater at the MacLellan site as presented in the EIS.

Table 4-1 Project Residual Effects on Groundwater at the MacLellan Site

Residual Effect	Residual Effects Characterization								
	Project Phase	Direction	Magnitude	Geographic Extent	Duration	Timing	Frequency	Reversibility	Ecological and Socio-economic Context
Change in Groundwater Quantity and/or Flow	C	A	H	PDA and LAA/RAA	MT	A	C	R	D
	O	A	L	PDA and LAA/RAA	MT	A	C	I	D
	D	A	L	LAA/RAA	LT	A	C	I	D
Change in Groundwater Quality	C	P	M	PDA and LAA/RAA	ST	A	C	I	D
	O	A	M	PDA and LAA/RAA	LT	A	C	I	D
	D	A	M	PDA and LAA/RAA	LT	A	C	I	D

KEY

See Table 8-2 for detailed definitions

Project Phase
C: Construction
O: Operation
D: Decommissioning

Direction:
P: Positive
A: Adverse

Magnitude:
N: Negligible
L: Low
M: Moderate
H: High

Geographic Extent:
PDA: Project Development Area
LAA: Local Assessment Area
RAA: Regional Assessment Area

Duration:
ST: Short-term;
MT: Medium-term
LT: Long-term

N/A: Not applicable

Timing:
N/A: Not Applicable
A: Applicable

Frequency:
S: Single event
IR: Multiple irregular event
R: Multiple regular event
C: Continuous

Reversibility:
R: Reversible
I: Irreversible

Ecological/Socio-Economic Context:
D: Disturbed
U: Undisturbed

4.2 ASSESSMENT OF POTENTIAL EFFECTS TO SURFACE WATER QUANTITY

The updated predictions of potential changes in streamflows and lake levels in the MacLellan site LAA are not large enough to change the conclusions of the original characterization or significance determination of potential residual effects to surface water quantity presented in Chapter 9 of the EIS (Volume 1; Assessment of Potential Effects to Surface Water). Table 4-2 summarizes the characterization of potential residual effects to surface water quantity at the MacLellan site as presented in the EIS. In summary:

- The magnitude of potential changes in streamflow in KEE3-B1 is high because the predicted reductions in flow exceed 30% relative to existing conditions on a mean monthly basis in all mine phases. Flows in KEE3-B1 are reduced by more than 30% starting during construction and continuing into closure while the open pit fills with water. However, once the open pit is filled, overflow from the pit lake is predicted to increase flows in KEE3-B1 by more than 30% due to the larger run-off volumes reporting from the larger upstream catchment area. Once filled, higher flows in KEE3-B1 are predicted to continue in perpetuity

- The magnitude of potential changes in streamflow in the Minton Lake outlet is moderate because the predicted reductions in flow are between 10% and 30% relative to existing conditions on a monthly basis in all mine phases. These reductions are due primarily to reductions in surface runoff caused by the smaller upstream catchment area created by construction of the MRSA in the Minton Lake headwaters

- The magnitude of potential changes in water levels in Minton Lake is negligible because the predicted reductions in water levels are <5% of mean monthly water levels relative to existing conditions

- The predicted reductions in streamflows in KEE3-B1 and Minton Lake outlet and predicted reduction in water levels in Minton Lake begin during construction with the development of mine infrastructure within the PDA and continue through decommissioning/closure into post-closure.

- The timing of changes is predicted to occur continuously during most months throughout the year and are not expected to be affected by seasonal aspects.

- Changes in streamflow and lake levels are anticipated to be contained to the LAA as the changes in streamflow are predicted to be negligible in magnitude at Cockeram Lake.

- Predicted changes in water quantity are associated with watercourses and waterbodies that have either previously been or potentially continue to be influenced by historical anthropogenic disturbance, including the historical MacLellan Mine.

Table 4-2 Project Residual Effects on Surface Water Quantity at the MacLellan Site

Residual Effect	Project Phase	Residual Effects Characterization							
		Direction	Magnitude	Geographic Extent	Duration	Timing	Frequency	Reversibility	Ecological and Socio-economic Context
MacLellan site									
Change in Surface Water Quantity	C	A	N	LAA	ST	N/A	C	R	D
	O	A	N	LAA	MT	N/A	C	R	D
	D	A	N	LAA	LT	N/A	C	I	D

KEY

Project Phase
C: Construction
O: Operation
D: Decommissioning

Direction:
P: Positive
A: Adverse
N: Neutral

Magnitude:
N: Negligible
L: Low
M: Moderate
H: High

Geographic Extent:
PDA: Project Development Area
LAA: Local Assessment Area
RAA: Regional Assessment Area

Duration:
ST: Short-term;
MT: Medium-term
LT: Long-term
N/A: Not applicable

Timing:
N/A: Not Applicable
A: Applicable

Frequency:
S: Single event
IR: Multiple Irregular event
R: Multiple regular event
C: Continuous

Reversibility:
R: Reversible
I: Irreversible

Ecological/Socio-Economic Context:
D: Disturbed
U: Undisturbed

Although there are likely to be measurable changes in lake levels and streamflows in some waterbodies within the MacLellan LAA, the predicted changes are expected to be negligible at the downstream extent of the LAA. Therefore, for the average climate scenario, Project-related changes in surface water quantity are predicted to remain as not significant.

4.3 ASSESSMENT OF POTENTIAL EFFECTS TO SURFACE WATER QUALITY

Although the updated water quality model predicts POPC concentrations to be the same, moderately higher, or moderately lower relative to the EIS, the overall characterization and significance of residual effects to surface water quality has not changed from the water quality residual effects assessment presented in Chapter 9 of the EIS (Volume 1; Assessment of Potential Effects to Surface Water).

Like the original model predictions, potential changes in surface water quality due to the Project occur at different locations, at different times, and at different magnitudes, frequencies, and durations. Therefore, like the EIS, residual effects have been characterized by mine phase by considering the location at which the greatest potential change in surface water quality is predicted to occur. The residual effect characterization is, therefore, conservative. Similarly, conservatism in the water quality model has resulted in predicted changes in water quality that are likely over-estimated in both magnitude and frequency. A summary of residual effects to surface water quality because of the Project are described below and summarized in Table 4-3. In summary:

- Consistent with the EIS, the magnitude of potential residual effects is characterized as low during construction, operation, and decommissioning/closure phases because predicted changes in water quality do not exceed modelled baseline +20% or do not exceed provincial and federal water quality guidelines for the protection of aquatic life at any location within the MacLellan LAA (i.e., no POPCs were identified for construction, operation, and decommissioning/closure at any model node).

- Consistent with the EIS, the magnitude of potential residual effects is characterized as moderate during post-closure because, while the concentrations of total aluminum, total arsenic, total and dissolved cadmium, total copper, fluoride, and phosphorus in the Keewatin River tributary KEE3-B1 and in Minton Lake (total cadmium only) are predicted to exceed the modelled baseline by more than 20% and exceed the long-term guidelines for the protection of aquatic life, the predicted concentrations of these parameters are not expected to result in adverse effects to fish and aquatic biota (see Section 4.5 of this report).

- The geographic extent of predicted changes in surface water quality is restricted to the MacLellan site LAA. However, the updated MacLellan site water quality model predicts that the spatial extent of potential residual effects would be reduced and limited to near-field waterbodies KEE3-B1 and Minton Lake. This contrasts with the EIS predicted POPCs occurring in the Keewatin River downstream of the PDA.

- The seasonal timing of Project residual effects within the MacLellan LAA depends on the POPC; residual effects due to aluminum and arsenic generally occur in all months in tributary KEE3-B1, whereas residual effects due to copper and fluoride generally occur in the winter (November to April) due to reduced flows and dilution capacity. Because residual effects are predicted to occur in all months (when all POPCs are considered together), the seasonal timing of residual effects is characterized as ‘not applicable’.

- The frequency of potential residual effects to surface water quality is characterized as a multiple regular event because POPCs are predicted to be elevated during the same time of year during the same flow conditions.

- The duration of potential residual effects to surface water quality is characterized as medium-term during construction and operation phases and long-term during decommissioning/closure. This is

because the concentrations of POPCs exceed modelled baseline +20% and provincial and federal guidelines for multiple years beyond closure/decommissioning (aluminum, arsenic, cadmium, copper, fluoride, and phosphorus).

- Reversibility of potential residual effects is characterized as irreversible because the POPCs are predicted to occur in post-closure and are not predicted to return to baseline concentrations within the time frame predicted by the water quality models.
- The ecological context for the potential residual effects is characterized as disturbed due to the effect of the former mining operation at the MacLellan site. Predicted changes in water quality are associated with waterbodies that have either previously been or potentially continue to be influenced by historical anthropogenic activity.

Table 4-3 Project Residual Effects on Surface Water Quality at the MacLellan Site

Residual Effect	Project Phase	Residual Effects Characterization							
		Direction	Magnitude	Geographic Extent	Duration	Timing	Frequency	Reversibility	Ecological and Socio-economic
Change in Surface Water Quality	C	A	L	LAA	MT	NA	R	R	D
	O	A	L	LAA	MT	NA	R	R	D
	D	A	M	LAA	LT	NA	R	I	D

KEY

See Table 9-5 for detailed definitions

Project Phase
C: Construction
O: Operation
D: Decommissioning

Direction:
P: Positive
A: Adverse
N: Neutral

Magnitude:
N: Negligible
L: Low
M: Moderate
H: High

Geographic Extent:
PDA: Project Development Area
LAA: Local Assessment Area
RAA: Regional Assessment Area

Duration:
ST: Short-term;
MT: Medium-term
LT: Long-term
N/A: Not applicable

Timing:
N/A: Not Applicable
A: Applicable

Frequency:
S: Single event
IR: Multiple Irregular event
R: Multiple regular event
C: Continuous

Reversibility:
R: Reversible
I: Irreversible

Ecological/Socio-Economic Context:
D: Disturbed
U: Undisturbed

For the Expected Case scenario, Project-related changes in surface water quality are predicted to remain not significant. This is because, although there are likely to be measurable changes in specific water quality parameters with Keewatin River tributary KEE3-B1 and Minton Lake during post-closure, the predicted changes are not expected to result in acute or chronic toxicological effects to fish and aquatic life at the community or population level (see Section 4.5 of this report).

4.4 ASSESSMENT OF POTENTIAL EFFECTS TO FISH HABITAT

The updated model predictions of changes in streamflows in the Keewatin River tributary KEE3-B1, the Keewatin River, and in the Minton Lake outlet along with updated model predictions of changes in water levels in East Pond and in Minton Lake are not large enough to alter the characterization of potential residual effects to fish habitat included in the EIS. This is because:

- The combined effect of the lowering of the groundwater table by development of the open pit and the larger reduction of the upstream catchment area during construction, operation, decommissioning/ closure, and post-closure (while the open pit is filling with water) are still predicted to dewater East Pond and the upper reach of tributary KEE3-B1 and substantially reduce flows in the lower reach of tributary KEE3-B1. Like the EIS model, water is not predicted to fill East Pond and flow in tributary KEE3-B1 until after the open pit has filled with water and the groundwater table has returned to near-baseline levels, a duration of at least 36 years. As result, Alamos continues to consider the predicted effects to East Pond and tributary KEE3-B1 as harmful alteration, disruption, or destruction (HADD) of fish habitat. Alamos continues to prepare an offsetting plan and a paragraph 35(2)(b) *Fisheries Act* authorization application that includes East Pond and tributary KEE3-B1.
- Predicted effects to flows in the Keewatin River are unchanged from the EIS.
- Flow reductions in the Minton Lake outlet and water level reductions in Minton Lake are predicted to be smaller than predicted by the EIS model because of the smaller area that the MRSA encroaches into the Minton Lake watershed. However, these changes are not large enough to alter the residual effect characterization provided in the EIS.

A summary of residual effects to fish habitat at the MacLellan site is provided in Table 4-4.

Table 4-4 Project Residual Effects on Fish Habitat in the MacLellan Site LAA

Residual Effect	Residual Effects Characterization								
	Project Phase	Direction	Magnitude	Geographic Extent	Duration	Timing	Frequency	Reversibility	Ecological and Socio-economic Context
MacLellan site									
Change in Fish Habitat	C, O, D	A	L	LAA	ST	A	R	R	D

KEY

See Table 10-5 for detailed definitions

Project Phase
C: Construction
O: Operation
D: Decommissioning/closure

Direction:
P: Positive
A: Adverse
N: Neutral

Magnitude:
N: Negligible
L: Low
M: Moderate
H: High

Geographic Extent:
PDA: Project Development Area
LAA: Local Assessment Area
RAA: Regional Assessment Area

Duration:
ST: Short-term;
MT: Medium-term
LT: Long-term

Timing:
N/A: Not Applicable
A: Applicable

Frequency:
S: Single event
IR: Multiple Irregular event
R: Multiple Regular event
C: Continuous

Reversibility:
R: Reversible
I: Irreversible

Ecological/Socio-Economic Context (Fish Habitat):
D: Disturbed
U: Undisturbed

Ecological/Socio-Economic Context (Fish Health, Growth, or Survival):
R: Resilient
NR: Not Resilient

4.5 ASSESSMENT OF POTENTIAL EFFECTS TO FISH HEALTH, GROWTH, AND SURVIVAL

The updated Expected Case water quality predictions in the Keewatin River tributary KEE3-B1, the Keewatin River, and in Minton Lake are not large enough to alter the characterization of potential residual effects to fish health, growth, and survival included in the EIS. This is because, during post-closure:

- Updated mean and maximum total aluminum concentrations in tributary KEE3-B1 and in the Keewatin River are the same or lower than predicted by the EIS model.
- Updated mean total arsenic concentration in tributary KEE3-B1 is the same as predicted by the EIS model (0.008 mg/L) and, while the updated maximum total arsenic concentration in tributary KEE3-B1 (0.041 mg/L) is nearly 80% higher than predicted by the EIS model (0.023 mg/L) and approximately eight times higher than the long-term CWQG-FAL (0.005 mg/L), no adverse effect to the health, growth, or survival of fish and aquatic biota in tributary KEE3-B1 is expected to occur because:
  - The long-term CWQG-FAL for total arsenic was derived by applying a safety factor of 10 to the toxicity threshold of 0.05 mg/L for the most sensitive algae species (CCME 2001).
  - Adverse effects in fish and benthic invertebrates are typically observed at arsenic concentrations between 0.3 mg/L and 1.0 mg/L, concentrations an order of magnitude higher than the maximum total arsenic concentrations predicted in tributary KEE3-B1 during post-closure.
  - Updated maximum total arsenic concentrations are predicted to exceed 0.04 mg/L only twice (April in Years 35 and 36) and are predicted to be below 0.015 mg/L beyond Year 36, a maximum concentration at least 70% lower than the toxicity threshold of the most sensitive algae species.
  - Update maximum total arsenic concentrations are predicted never to exceed the long-term MWQSOG-FAL for total arsenic (0.15 mg/L).
- Updated mean and maximum total cadmium concentrations and updated mean and maximum dissolved cadmium concentrations in Minton Lake are the same as those predicted by the EIS model.
- Updated mean total and dissolved cadmium concentrations in tributary KEE3-B1 are slightly lower than predicted by the EIS model and, while the updated maximum total and dissolved cadmium concentrations in tributary KEE3-B1 (0.00095 mg/L) are over 80% higher than predicted by the EIS model (0.00052 mg/L) and over two times higher than the hardness-dependent, long-term CWQG-FAL and long-term MWQSOG-FAL, respectively, no adverse effect to the health, growth, or survival of fish and aquatic biota in tributary KEE3-B1 is expected to occur because:
  - Water hardness in tributary KEE3-B1 is predicted to increase more than three times at post-closure and, therefore, maximum total cadmium concentrations in tributary KEE3-B1 are

predicted to be lower than the predicted long-term CWQG-FAL when the predicted water hardness is used to calculate the long-term CWQG-FAL.

  - Maximum total and dissolved cadmium concentrations are predicted to exceed the long-term CWQG-FAL and long-term MWQSOG-FAL only during the first 14 years of post-closure while the open-pit is filling with water. Maximum total and dissolved cadmium concentrations are predicted to be at least three times lower than the CWQG-FAL and MWQSOG-FAL once the open pit is full and discharging to tributary KEE3-B1 for perpetuity.

  - Dissolved cadmium concentrations, the more biologically available form of cadmium, are not predicted to exceed the recently updated US EPA dissolved cadmium guideline (0.0013 mg/L; US EPA 2016), calculated using baseline or predicted hardness values.

- Updated mean total copper concentrations in tributary KEE3-B1 during post-closure (0.0028 mg/L) are slightly lower than those predicted by the EIS model (0.0029 mg/L) and, while the updated maximum copper concentrations in tributary KEE3-B1 (0.0087 mg/L) is nearly 50% higher than predicted by the EIS model (0.0059 mg/L) and two times the hardness dependent CWQG-FAL (0.004 mg/L), no adverse effect to the health, growth, or survival of fish and aquatic biota in tributary KEE3-B1 is expected to occur because:

  - The CWQG-FAL incorporates a five-fold safety factor due to uncertainty regarding the influence of water hardness on copper toxicity. This safety factor is outdated because more recent research since the guideline was developed in 1987 (CCREM 1987) has shown that a strong correlation between copper toxicity and water hardness exists and, therefore, if this safety factor is removed or reduced, or if the predicted water hardness in tributary KEE3-B1 in post-closure is used to calculate the guideline instead of average baseline water hardness, the predicted maximum total copper concentrations in tributary KEE3-B1 would not exceed the CWQG-FAL

  - Maximum dissolved copper concentrations, the more biologically available form of copper, are predicted to not exceed the hardness dependent MWQSOG-FAL.

- Updated mean fluoride concentrations in tributary KEE3-B1 during post-closure (0.110 mg/L) are the same as those predicted by the EIS model (0.109 mg/L) and, while the updated maximum fluoride concentration in tributary KEE3-B1 (0.351 mg/L) is nearly 70% higher than predicted by the EIS model (0.207 mg/L) and almost three times the long-term CWQG-FAL and long-term MWQSOG-FAL (0.12 mg/L), no adverse effect to the health, growth, or survival of fish and aquatic biota in tributary KEE3-B1 is expected to occur because:

  - The long-term CWQG-FAL and long-term MWQSOG-FAL for fluoride are interim guidelines that apply a safety factor of 100 to the fluoride concentration found in one study to cause increased mortality in caddisflies (11.5 mg/L; CCME 2002).

  - Most studies to date have found adverse effects to fish and other aquatic biota begin to occur at fluoride concentrations >1.0 mg/L (Camargo 2003), a fluoride concentration that is an order of magnitude greater than the maximum fluoride concentration predicted in tributary KEE3-B1 in post-closure.
  - The updated maximum fluoride concentration (0.351 mg/L) is lower than the fluoride toxicity benchmark of 0.5 mg/L proposed by Camargo (2003) based on adverse effects to the migratory behaviour of Pacific salmon, the most sensitive species and lowest sublethal end-point noted by Damkaer and Dey (1989).

- Updated mean phosphorus concentrations in tributary KEE3-B1 during post-closure (0.017 mg/L) is lower than the MWQSOG-FAL (0.025 mg/L) and the updated maximum phosphorus concentration (0.032 mg/L) is only 25% higher than the MWQSOG-FAL, only occurs this high twice, in April 2035 and April 2036, and is predicted to be below the MWQSOG-FAL beyond 2036. As a result, an increase in primary production large enough to change in trophic status of tributary KEE3-B1 is unlikely to occur during post-closure.

A summary of Project residual effects characterization is provided in Table 4-5. The magnitude of residual effects to fish health, growth, and survival due to the updated water quality predictions in tributary KEE3-B1 and Minton Lake continues to be rated as negligible, despite the guideline exceedances discussed above, because the updated mean and maximum concentrations are unlikely to cause a measurable change in the abundance, structure, or health of focal fish populations in the LAA.

Table 4-5 Project Residual Effects on Fish Health, Growth, and Survival in the MacLellan Site LAA

Residual Effect	Residual Effects Characterization								
	Project Phase	Direction	Magnitude	Geographic Extent	Duration	Timing	Frequency	Reversibility	Ecological and Socio-economic Context
MacLellan site									
Change in Fish Health, Growth, or Survival	D	A	N	LAA	LT	A	R	I	R

KEY

See Table 10-5 for detailed definitions

Project Phase
C: Construction
O: Operation
D: Decommissioning/closure

Direction:
P: Positive
A: Adverse
N: Neutral

Magnitude:
N: Negligible
L: Low
M: Moderate
H: High

Geographic Extent:
PDA: Project Development Area
LAA: Local Assessment Area
RAA: Regional Assessment Area

Duration:
ST: Short-term;
MT: Medium-term
LT: Long-term

Timing:
N/A: Not Applicable
A: Applicable

Frequency:
S: Single event
IR: Multiple Irregular event
R: Multiple Regular event
C: Continuous

Reversibility:
R: Reversible
I: Irreversible

Ecological/Socio-Economic Context (Fish Habitat):
D: Disturbed
U: Undisturbed

Ecological/Socio-Economic Context (Fish Health, Growth, or Survival):
R: Resilient
NR: Not Resilient

5.0 UPDATED SUMMARY OF POTENTIAL CUMULATIVE EFFECTS

No changes in the cumulative effects assessments for groundwater quantity or quality, surface water quantity or quality, or fish habitat and fish health, growth, and survival provided in the EIS are required because no new residual effects or any change to the characterization of previously identified residual effects for any of these Valued Components is expected to occur due to the refined MRSA at the MacLellan site.

6.0 REFERENCES

Canadian Council of Ministers of the Environment (CCME). 2001. Canadian Water Quality Guidelines for the Protection of Aquatic Life – Arsenic. CCME, Hull, QC. http://ceqg-rcqe.ccme.ca/download/en/143/.

CCME. 2002. Canadian Water Quality Guidelines for the Protection of Aquatic Life – Inorganic Fluorides. CCME, Hull, QC. http://ceqg-rcqe.ccme.ca/download/en/180/.

CCREM (Canadian Council of Resource and Environment Ministers). 1987. Canadian Water Quality Guidelines. CCREM, Ottawa, ON. 1484pp.

Camargo, J.A. 2003. Fluoride Toxicity to Aquatic Organisms: a review. Chemosphere. 50:251-264.

Damkaer, D.M. and D.B. Dey. 1989. Evidence for Fluoride Effects on Salmon Passage at John Day Dam, Columbia River, 1982-1986. North American Journal of Fisheries Management. 9:154-162.

Diersch, H.-J., 2013. FeFlow: finite element modeling of flow, mass and heat transport in porous and fractured media, Springer Science & Business Media

Stantec 2021. Lynn Lake Gold Project: Re-assessment of Streams Near Mine Rock Storage Areas and Tailings Management Facility at the MacLellan and Gordon Sites. A report prepared for Alamos Gold Inc., by Stantec Consulting Limited.

US EPA. 2016. Aquatic Life Ambient Water Quality Criteria, Cadmium – 2016. US EPA, Office of Water, Washington, DC. EPA-820-R-16-002. 721pp.

Appendix A LYNN LAKE GOLD PROJECT: RE-ASSESSMENT OF STREAMS NEAR MINE ROCK STORAGE AREAS AND TAILINGS MANAGEMENT FACILITY AT THE MACLELLAN AND GORDON SITES

Lynn Lake Gold Project: Re-Assessment of Streams Near Mine Rock Storage Areas and Tailings Management Facility at the MacLellan and Gordon Sites

November 13, 2020

Prepared for:

Alamos Gold Inc.

Prepared by:

Stantec Consulting Ltd.

LYNN LAKE GOLD PROJECT: RE-ASSESSMENT OF STREAMS NEAR MINE ROCK STORAGE AREAS AND TAILINGS MANAGEMENT FACILITY AT THE MACLELLAN AND GORDON SITES

Prepared by **Sandra Nelson, M.Sc., R.P.Bio.**

<original signed by>

Reviewed by _____
(signature)
Brad Horne, B.Sc., M.Sc., R.P.Bio.

<original signed by>

Approved by _____
(signature)
Karen Mathers, B.Sc., M.Sc., P.Geo. FGC, PMP

Table of Contents

LIST OF FIGURES

LIST OF APPENDICES

1.0 INTRODUCTION

The current mine plan for the Lynn Lake Gold Project (LLGP) includes a proposed Tailings Management Facility (TMF) at the MacLellan site, and proposed Mine Rock Storage Area (MRSAs) and overburden and ore stockpiles at the MacLellan and Gordon sites. To date, the location and design of these proposed facilities has been selected based partially on the location of fish-bearing watercourses and waterbodies. This is because of Alamos Gold Inc's (Alamos) desire to avoid deposition of mine materials (rock or tailings) into any "waters frequented by fish" at the MacLellan or Gordon sites; an activity that would require designation of those waters as a "Tailings Impoundment Area" on Schedule 2 of the Metal and Diamond Mine Effluent Regulation (MDMER).

Stantec conducted field work in the summer and fall of 2016 to confirm the existence and fish-bearing status of watercourses that could contain water at some time of the year that could potentially trigger the Schedule 2 amendment process. An additional survey was conducted in fall 2019 to address changes to TMF and MRSA design at the MacLellan site. This survey investigated two potential watercourses: a headwater tributary of Payne Lake in the vicinity of the proposed location for the TMF and a headwater tributary of Minton Lake in the vicinity of the proposed MRSA. A third survey was conducted in spring 2020 to confirm the existence and fish-bearing status of watercourses near the locations for the proposed TMF and MRSAs at the MacLellan and Gordon sites during the spring freshet. This was done to fulfill a requirement for multi-season sampling to confirm the fish-bearing status of streams near the proposed locations for the TMF and MRSAs communicated by Fisheries and Oceans Canada (DFO) in July 2019. A fourth survey was then conducted in summer 2020 to assess the permanence and fish-bearing status of the watercourse extensions identified at the MacLellan site during the spring survey.

The objective of this memorandum is to summarize results of the spring and summer 2020 surveys, to compare those results with those from the 2016 and 2019 surveys and to describe the potential implications for permitting of the LLGP. Photographs are provided in **Appendix A** and maps in **Appendix B**.

2.0 METHODS

Watercourses and waterbodies within, adjacent to, or downstream of the proposed locations for the TMF, MRSAs, and overburden and ore stockpiles were identified using 1:50,000 CANVEC imagery obtained from the provincial government and Light Detection and Ranging (LiDAR) data obtained by Alamos. The 1:50,000 CANVEC imagery was used to identify larger watercourses and waterbodies. LiDAR data was used to map likely drainage pathways of smaller watercourses based on topography. Maps 1 and 2 (Appendix B) show the location of these potential watercourses and waterbodies at the Gordon and MacLellan sites, respectively.

The spring survey was conducted between May 25 and June 3, 2020, and included walking all the CANVEC and LiDAR mapped drainages within or near the proposed locations of the TMF, MRSAs, and overburden and ore stockpiles. This was done to identify the full length of potential watercourses not

previously observed during lower flow conditions in 2016 or 2019. A total of five potential watercourses at the Gordon site and 11 potential watercourses at the MacLellan site were identified within the proposed TMF and MRSA footprints and were assessed during the spring 2020 survey. The five watercourses assessed at the Gordon site were (see Map 1, Appendix B):

- Headwater tributaries of an unnamed Gordon Lake tributary: FAR7-A1; FAR7-A1-A1; and FAR7-A1-A1-A1.
- A headwater tributary of Farley Lake tributary: FAR5-C1.
- A headwater tributary of a small pond south of Farley Lake: FAR5-A3.

The 11 watercourses assessed at the MacLellan site were (see Map 2, Appendix B):

- Three headwaters tributaries of an unnamed Keewatin River tributary potentially draining the southern area of the MRSA: KEE3-B2; KEE3-B2-B1; and KEE-B2-C1.
- Three headwaters tributaries of an unnamed Minton Lake tributary potentially draining the northeastern corner of the MRSA: COC2-LOB2-MIN5; COC2-LOB2-MIN5-C1; and COC2-LOB2-MIN5-D1.
- A headwater tributary of Minton Lake potentially draining the southeastern corner of the MRSA (COC2-LOB2-MIN4-A1).
- A tributary of the Keewatin River potentially draining the area within the proposed open pit (KEE3-E1).
- A headwater tributary of Payne Lake potentially draining an area north of the TMF (KEE3-PAY2-A1).
- Two tributaries of the Keewatin River potentially draining the area west of the MRSA and TMF (KEE3-D1 and KEE3-C1).

Only those streams identified within the proposed footprints of the TMF or MRSA at the MacLellan site in spring 2020 were surveyed in summer 2020. These included the following three streams at the MacLellan site:

- A headwater tributary potentially draining the southern area of the MRSA and TMF: KEE3-B2.
- A headwater tributary of an unnamed Minton Lake tributary potentially draining the northeastern corner of the MRSA: COC2-LOB2-MIN5.
- A headwater tributary of an unnamed Minton Lake tributary potentially draining the northeastern corner of the MRSA: COC2-LOB2-MIN5-C1.

All three streams were surveyed on August 18, 2020. No streams at the Gordon site were identified within the proposed MRSA or overburden or ore stockpile footprints in spring and, therefore, no streams were revisited at the Gordon site in summer.

During spring and summer 2020 surveys, point and track waypoint files for the mapped drainages and polygons for the proposed mine infrastructure were loaded onto hand-held GPS units. Field crews walked upstream in each drainage from the upstream most point of known fish-bearing habitat until no further signs of channel scour or surface water were observed. Continuous waypoints along each watercourse

were collected using the track function on the handheld GPS. Additional waypoints and photographs were collected at the upstream extent of the defined channel, at beaver dams, any potential seasonal or permanent barriers to fish passage, and at transitions with wetland habitats.

Channel widths and depths were measured with a fiberglass tape measure and a meter stick, respectively. Habitat types (e.g., riffle, run, pool) were classified and dominant and subdominant substrate and cover types were recorded. Fish presence was determined using a back-pack electrofisher, targeting a minimum of 100 m of linear channel except where less than 100 m of channel habitat was available.

3.0 RESULTS

3.1 FLOW CONDITIONS

Based on data from the Water Survey of Canada hydrometric station on the Footprint River (Station ID 05TF002; the Footprint River is approximately 175 km south of Lynn Lake with a similar watershed area as the Keewatin River), water levels in northwestern Manitoba were higher than normal[1] in 2020. Maximum discharge in 2020 represented approximately the 1 in 15-year return period event, based on the period of record at the Footprint River station which has been operating since 1977 (Figure 1, below). These data are consistent with precipitation data from the Lynn Lake airport which show a total annual precipitation, by water year[2], in 2020 exceeding 500 mm for the first time in time in the last 10 years (Figure 2, below). In comparison, maximum discharge in the Footprint River in 2016 and 2019 were lower than normal, representing peak stream flows of approximately half of a normal flow year (see Figure 1) with lower-than-average annual precipitation[3] at the Lynn Lake airport (see Figure 2).

Although surveys were not conducted in 2017, peak flows in the Footprint River exceeded the predicted 1:200-year flood (see Figure 1). Annual precipitation volumes at the Lynn Lake airport were near average in 2017. However, anecdotal information from Alamos and Stantec employees working at the MacLellan and Gordon sites corroborate the evidence from the Footprint River that water levels near Lynn Lake were high in 2017.

[1] "Normal" is represented by the 1 in 2-year maximum discharge on Figure 1
[2] Water year is defined as the period from October 1 – September 31, with the year at which September 31 lies is used as the water year.
[3] Average annual precipitation at the Lynn Lake airport between 2011 and 2020 is 420 mm

Figure 1 **Maximum Annual Discharge in the Footprint River near Nelson House (05TF002), Manitoba between 1978 and 2020 (Source: Water Survey of Canada)**

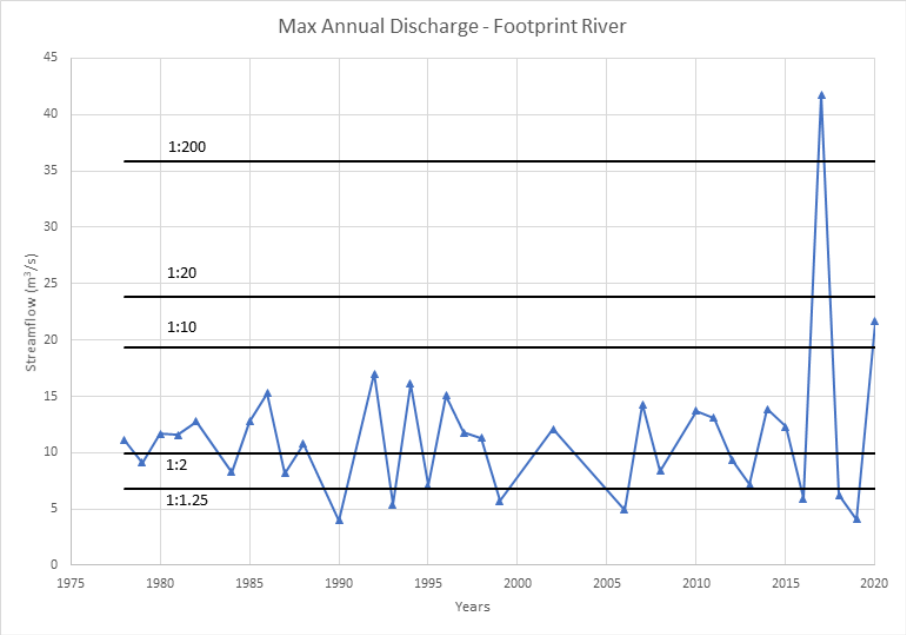
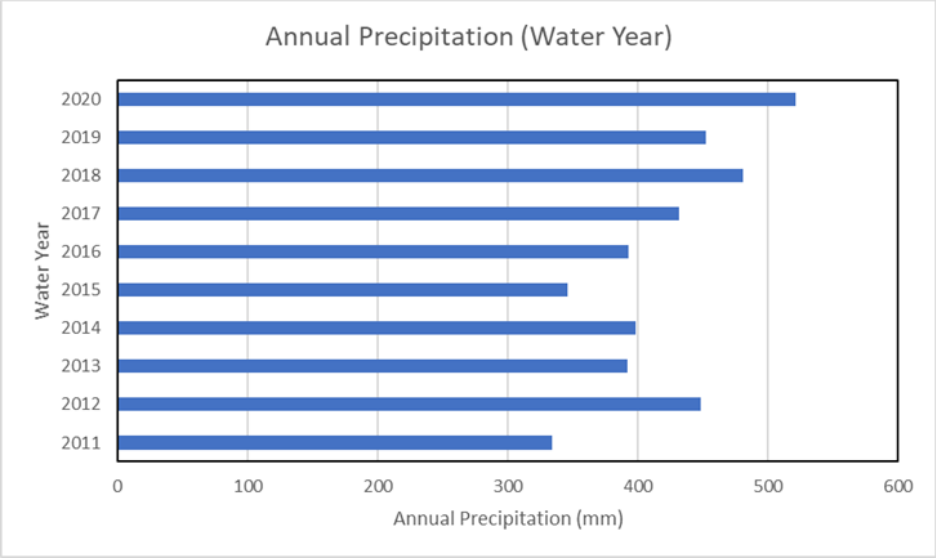


Figure 2 **Total Annual Precipitation (Rain and Snow-Melt) at the Lynn Lake Airport between 2011 and 2020 (Note: 2020 results do not include precipitation data from after August)**



3.2 GORDON SITE

Map 3 (Appendix B) shows the spatial extent of waypoints and GPS tracks collected in the field at the Gordon site in summer 2016 and spring 2020. Map 4 (Appendix B) shows the spatial extent of confirmed fish-bearing watercourses near the proposed MRSA and overburden and ore stockpiles at the Gordon site. Based on results of the spring 2020 survey, none of the five surveyed watercourses extended within the proposed footprints for the MRSA or overburden and ore stockpiles. Results for each surveyed watercourse are described below.

3.2.1 FAR7-A1

During the July 2016 survey, watercourse FAR7-A1 was confined within defined channels for approximately 700 m upstream of Gordon Lake; multiple braided channels in the lower 400 m and a single channel in the upper 300 m. Impediments to fish passage in the form of beaver dams and dense woody debris existed throughout this tributary. However, there were no permanent barriers to fish passage. This watercourse was assumed to be fish-bearing because it is connected to Gordon Lake which is known to support brook stickleback (*Culaea inconstans*). Habitat in watercourse FAR7-A1 was resurveyed in September 2016. This survey found again that the upstream extent of perennial habitat in FAR7-A1 was outside of the proposed MRSA footprint.

The survey in spring 2020 extended fish habitat in FAR7-A1 approximately 350 m further upstream than previously identified in 2016; disconnected pools observed in September 2016 were connected in spring 2020 during high flows. At its upstream end, the channel originates in a bog approximately 100 m west of the western boundary of the proposed MRSA. Therefore, this channel does not extend into the proposed MRSA footprint. No fish were captured in spring 2020. However, this Gordon Lake tributary is assumed to be fish-bearing over the extent shown on Map 4 (Appendix B).

3.2.2 FAR7-A1-A1

Field verification during low-flow conditions in 2016 found no defined channel in this mapped drainage, a potential tributary to FAR7-A1. Pooled water was observed during the fall 2016 survey but there was no surface connection to FAR7-A1.

Consistent with low-flow conditions observed in 2016, no defined channel was detected along the LiDAR identified FAR7-A1-A1 drainage in spring 2020. Instead, only an isolated bog near, but not connected to, the FAR7-A1 channel was observed. No habitat suitable for electrofishing was identified in the bog or elsewhere along the FAR7-A1-A1 mapped drainage.

3.2.3 FAR7-A1-A1-A1

Field verification during low-flow conditions in 2016 found no defined channel at this mapped drainage, another potential tributary of FAR7-A1. A small, isolated bog (the same bog described above for FAR7-A1-A1) was found near the mapped confluence of FAR7-A1-A1-A1 and FAR7-A1-A1. However, this bog

had no defined inlets or outlets and there was no surface connection to any fish-bearing watercourse or waterbody upstream or downstream.

Consistent with field observations in 2016, there was no evidence of a defined channel flowing to or from the bog during high-flow conditions in spring 2020. Therefore, there is no channel that is hydraulically connected to FAR7-A1-A1 or any other fish-bearing habitat downstream. Due to the absence of defined channel, no electrofishing was conducted at this location in spring 2020.

3.2.4 FAR5-A3

Field verification during low-flow conditions in 2016 found no defined channel at this location east or west of the Gordon site access road. Pooled water was observed both sides of the access road and over the ford crossing. However, there was no surface connection from any of these pools to any fish-bearing watercourse or to Farley Lake downstream.

Consistent with low-flow conditions observed in 2016, there was no defined channel observed at this location in spring 2020. Due to the absence of a defined channel, no electrofishing was conducted at this location.

3.2.5 FAR5-C1

Field verification during low-flow conditions in 2016 found pooled water on the west side of the Gordon site access road, in the road-side ditches, and along the ATV trails leading to the groundwater monitoring wells on the west side of the road. However, no defined channel was present and there was no discernable flow downstream of the access road. There was no culvert under the access road to convey water from the west side of the road to the east side. As a result, the access road was a barrier to fish passage and the standing water on the west side of the Farley Lake access road within the footprint of the proposed ore stockpile was non-fish-bearing.

On the east side of the access road, a defined channel is present from the road to the confluence with Farley Lake and water was flowing in this channel in fall 2016. However, the water appears to originate from subsurface because there is no culvert under the road and, therefore, no surface connection between the standing water on the west side of the road and the channel on the east side of the road. The channel east of the Farley Lake access road was assumed to be fish-bearing during the open-water months of the year.

Consistent with low-flow conditions observed in 2016, there was no defined channel observed upstream of the site access road at this location in spring 2020. However, water was pooled in a depression on the upstream side of the access road. Because of the barrier posed by the access road and lack of defined channel, habitat upstream of the site access road is non-fish-bearing. The upstream extent of fish-bearing habitat in FAR5-C1 does not overlap with any of the proposed mine components at the Gordon site. Due to the absence of fish habitat at this location, no electrofishing was conducted in spring 2020.

3.3 MACLELLAN SITE

Map 5 (Appendix B) shows the spatially extent of waypoints and GPS tracks collected in the field at the MacLellan site in September 2015, September 2019, and May and August 2020. Map 6 (Appendix B) shows the high-flow extent of confirmed fish-bearing watercourses within, adjacent to, or downstream of the proposed TMF and MRSA at the MacLellan site. Based on results of the spring and summer 2020 surveys, three of the 11 surveyed watercourses at the MacLellan site extend within the proposed MRSA footprint as it is currently designed: KEE3-B2, COC2-LOB2-MIN5 and COC2-LOB2-MIN5-C1. Results for each surveyed watercourse are described below.

3.3.1 KEE3-B2

Field verification during low-flow conditions in 2016 confirmed that KEE3-B2 had a defined channel that extended approximately 650 meters north from the beaver influenced confluences of KEE3-B2-A1 (the outlet of East Pond), KEE3-B2-B1, and KEE3-B2. Flowing water was observed in the channel in fall 2016 and this watercourse was assumed to be fish-bearing because it was hydraulically connected to the Keewatin River via reach KEE3-B1.

Field verification during high-flow conditions in spring 2020 determined that the channel extended for an additional 250 m north beyond the upstream extent identified in 2016. This new upstream extent of KEE3-B2 is approximately 70 m inside the proposed MRSA footprint. The channel was highly braided for most of this new length. Although no fish were observed or captured, this channel was assumed to be fish-bearing due to the absence of barriers to fish passage between it, the fish-bearing reach KEE3-B1, and the Keewatin River; a large beaver dam and pond is present near the confluence of KEE3-B2 and KEE3-B2-A1, but this structure is an impediment to fish passage and not a permanent barrier.

Field verification during summer 2020 confirmed the existence of braided channels within the proposed MRSA footprint. Except for approximately 130 m at the upstream ends, flowing water was present in all channels during the survey. A barrier to fish passage, at least during low flow conditions, was identified at a location approximately 200 m downstream from the proposed MRSA boundary during the summer survey in the form of an upwelling with no surface connection between water in the channels upstream and downstream. No fish were captured in the channel downstream of this upwelling, but this habitat is considered fish-bearing because there are no permanent barriers to fish passage downstream to the Keewatin River. Electrofishing could not be conducted upstream of this upwelling in summer due to the density of vegetation over the channels. Although fish could not pass upstream past the upwelling in summer, this barrier was not present during the spring survey. Therefore, although unlikely, it is possible that fish could have moved upstream into the braided channels within the proposed MRSA footprint. For this reason, the entire length of KEE3-B2, including the portion within the proposed MRSA footprint, is considered fish-bearing.

3.3.2 KEE3-B2-B1

Field verification during low-flow conditions in 2016 confirmed the presence of isolated pools in KEE3-B2-B1 with no connectivity to the flooded area at the beaver influenced confluences of KEE3-B2-A1, KEE3-B2-B1, and KEE3-B2.

During high-flow conditions in spring 2020, multiple channels with flowing water were observed in KEE3-B2-B1 connecting it to the flooded area at the confluences of KEE3-B2-A1, KEE3-B2-B1, and KEE3-B2. These channels extended for approximately 500 m upstream from this confluence. However, they terminated approximately 350 m south of the proposed MRSA boundary. No fish were observed or captured at three different locations in these channels. While likely ephemeral or disconnected from downstream habitat during low-flows, habitat in KEE3-B2-B1 is assumed to be fish-bearing during high-flow condition due to the absence of permanent barriers to fish passage.

3.3.3 KEE3-B2-C1

Neither survey during low-flow conditions in summer 2016 or during high-flow conditions in spring 2020 identified any defined channel or potentially fish-bearing habitat in the topographic low area identified as KEE3-B2-C1 by LiDAR imagery. KEE3-B2-C1 does not exist.

3.3.4 COC2-LOB2-MIN4-A1

This mapped drainage was first surveyed in the fall 2019, after the redesign of the proposed TMF and MRSA. This was because LiDAR imagery showed a topographic depression extending west and then north from Minton Lake into the proposed MRSA footprint. Field verification during low-flow conditions in fall 2019 found that a defined channel with water extended only 140 m west from Minton Lake.

Field verification during high-flow conditions in spring 2020 confirmed that COC2-LOB2-MIN4-A1 has a defined channel that starts at Minton Lake and extends upstream for approximately 500 m. A bog forms the headwaters of the defined channel. Neither the defined channel nor the bog extended into the proposed MRSA footprint, which begins approximately 260 m further north. Based on electrofishing conducted in spring 2020, COC2-LOB2-MIN4-A1 is a fish-bearing watercourse. This is because there were no barrier to fish passage between it and Minton Lake and yellow perch (*Perca flavescens*) and brook stickleback were captured in the channel approximately 100 m upstream from Minton Lake.

3.3.5 COC2-LOB2-MIN5

This watercourse was surveyed in July 2016 during low-flow conditions. During this survey, a defined channel was found to extend approximately 750 m upstream from a large beaver dam complex; the defined channel terminated in a wetland area with no visible surface water inflows. The upper 700 m of this channel extended into the footprint of the originally proposed (i.e., 2016) TMF footprint. Because there were no permanent barriers to fish passage present between this channel and fish-bearing habitat downstream, COC2-LOB2-MIN5 was assumed to be fish-bearing. As a result, the proposed TMF footprint was redesigned and relocated to avoid this stream.

Field verification during high-flow conditions in spring 2020 determined that the defined channel of COC2-LOB2-MIN5 extended an additional 400 m from the upstream extent identified in 2016. This channel ended at a wetland approximately 60 m inside the proposed MRSA. Field verification in summer 2020 confirmed the presence of flowing water in the entirety of the defined channel in COC2-LOB2-MIN5, including the portion of the channel falling within the proposed MRSA footprint. Although no fish were observed or captured in spring 2020 and no fishing was conducted in summer 2020, this watercourse is assumed to be fish-bearing due to the absence of barriers to fish passage, its connectivity to known fish-bearing habitat downstream, and presence of flowing water throughout the open-water season in 2020.

3.3.6 COC2-LOB2-MIN5-C1

This mapped drainage was not surveyed in 2016 because the upstream extent of channelized habitat in COC2-LOB2-MIN5 was found to terminate further downstream. Field verification during high-flow conditions in spring 2020 determined that a defined channel in COC2-LOB2-MIN5-C1 extended approximately 1,000 m further upstream from the previous upstream extent of fish-bearing habitat identified in summer 2016. This defined channel extended for approximately 750 m into the footprint of the proposed MRSA. Braided channels and water flowing under hummocks were observed approximately 450 m upstream of the MRSA boundary. These features likely create impediments, but not barriers, to upstream fish movements in COC2-LOB2-MIN5-C1 during high flows. No fish were observed or captured in COC2-LOB2-MIN5-C1 in spring 2020.

Field verification during summer 2020 confirmed the presence of flowing water in the braided channels of COC2-LOB2-MIN5-C1. Two brook sticklebacks were captured in a small pool located approximately 70 m inside of the proposed MRSA boundary. Approximately 75 m upstream from this pool, water flowed under hummocks with no visible surface connection. However, small fish such as brook stickleback are likely able to swim under or through the hummocks. Similar “under-hummock” flow was observed approximately 70 m further upstream. Again, this feature was unlikely to be a barrier to passage by brook stickleback. An orange algae or bacteria bloom was observed in increasing abundance moving upstream in COC2-LOB2-MIN5-C1 from approximately 300 m inside the proposed MRSA boundary to the upstream extent of the watercourse.

3.3.7 COC2-LOB2-MIN5-D1

This mapped drainage was not surveyed in July 2016 because the upstream extent of channelized habitat in COC2-LOB2-MIN5 was found to terminate approximately 130 m downstream of where COC2-LOB2-MIN5-D1 would flow into COC2-LOB2-MIN5. Although the intent was to survey this mapped drainage in spring 2020, the upstream extent of channelized habitat in COC2-LOB2-MIN5 was again found to terminate downstream of the supposed confluence of COC2-LOB2-MIN5-D1. Therefore, this mapped drainage does not exist.

3.3.8 KEE3-C1

Field verification during low-flow conditions in 2016 found a defined channel in KEE3-C1 extending for approximately 40 m upstream of its confluence with the Keewatin River. There was a beaver dam

approximately 10 m upstream of the confluence that may have created an impediment to fish passage at low flows. Intermittent pools were present upstream of the defined channel, but they were not hydraulically connected to the downstream channel isolated from the downstream channel. None of these pools were located within 500 m of the western boundary of the proposed MRSA footprint. No fish were captured or observed in the defined channel or in the isolated pools in summer 2016.

Field verification during high-flow conditions in spring 2020 found that the channel of KEE3-C1 extended approximately 500 m upstream from the Keewatin River. Most of this watercourse, between 100 and 400 m upstream from the Keewatin River, was comprised of braided channels. However, the upstream end of KEE3-C1 terminated approximately 300 m from the western edge of the proposed MRSA footprint. Electrofishing was conducted near the confluence with Keewatin River and no fish were captured or observed. Despite the absence of fish in 2016 and 2020, KEE3-C1 is assumed to be fish-bearing within the areas with defined channels.

3.3.9 KEE3-D1

No defined channel was observed in this mapped drainage in fall 2016 or in spring 2020. This mapped drainage does not exist and is not fish habitat.

3.3.10 KEE3-E1

In fall 2016, intermittent pools were identified along this mapped drainage but there were no surface connections between any of the pools and the Keewatin River. The spring 2020 survey confirmed the 2016 results: there is a wetland area with no surface connection to the Keewatin River. This mapped drainage is not a watercourse and the wetland area is approximately 1,000 m from the southern boundary of the proposed open pit.

3.3.11 KEE3-PAY2-A1

This mapped drainage was first surveyed in fall 2019 and again in spring 2020 because it is located immediately north of the proposed TMF footprint. Field verification during spring 2020 confirmed that KEE3-PAY2-A1 has a defined channel that extends approximately 300 m upstream from a ‘floating bog’ near the southern shoreline of Payne Lake. The upstream end of this channel diffuses into a sphagnum bog located approximately 200 m short of the proposed TMF footprint. No fish were observed or captured in this channel. However, it is assumed to be fish-bearing, at least during high flows, because there are no barriers to fish passage in the channel and its connection to Payne Lake.

4.0 CONCLUSIONS AND RECOMMENDATION

Based on results of the spring and summer 2020 surveys, three fish-bearing watercourses lie within the proposed footprint of the MRSA at the MacLellan site:

1. KEE3-B2, which extends approximately 70 m into the southern boundary of the proposed MRSA.

2. COC2-LOB2-MIN5, which extends approximately 50 m into the northeast portion of the proposed MRSA.
3. COC2-LOB2-MIN5-C1, which extends approximately 700 m into the northeast corner of the proposed MRSA.

Fish were captured only in one of the three watercourses (COC2-LOB2-MIN5-C1) and only during the summer 2020 survey; two brook sticklebacks located approximately 70 m inside the proposed MRSA boundary. However, the presence of these fish strongly suggests that, at least in high water years such as 2020, fish are likely present in all three tributaries. This is because, even though all three streams are small, highly braided, and frequently flow under and through peat hummocks, brook stickleback are small, and based on their presence in COC2-LOB2-MIN5-C1, are able to swim up these small channels and to colonize the upstream habitat when water is present and flowing.

Classifying the full extent of these three streams as fish-bearing is conservative because there are large periods of time when fish are unlikely to be present in these watercourses, given that:

- They are small enough to freeze to the bottom in winter.
- They have no flow in summer during low-water years (such as 2016 and 2019).
- There are barriers to upstream fish passage that would prevent upstream fish passage except during high flow years (e.g., the upwelling in KEE3-B2 and short-dry sections in COC2-LOB2-MIN5-C1).
- There is abundant algae growth in the upper headwaters, at least in COC2-LOB2-MIN5-C1, that would likely preclude use of this habitat by fish, even brook stickleback.

Nevertheless, it is Stantec's opinion that these watercourses constitute "waters frequented by fish" and, therefore, watercourses that would require designation as "Tailings Impoundment Areas" on Schedule 2 of the MDMER. On this basis, Stantec recommends that Alamos redesign the proposed MRSA boundaries at the MacLellan site.

Appendix A PHOTOGRAPHS

Client:	**Alamos Gold Inc.**	**Project:**	**Lynn Lake Gold Project**
		Site Location:	**Gordon Site**

Photograph ID: 1	
Photo Location: FAR5-C1. UTM coordinates: 6307231 m N, 412348 m E (Zone 14N).	
Direction: Upstream	
Survey Date: 03 Jun 2020	
Comments: End of channel.	
Photograph ID: 2	
Photo Location: FAR5-C1. UTM coordinates: 6307231 m N, 412348 m E (Zone 14N).	
Direction: Downstream	
Survey Date: 03 Jun 2020	
Comments: End of channel.	

Client:	**Alamos Gold Inc.**	**Project:**	**Lynn Lake Gold Project**
		Site Location:	**Gordon Site**

Photograph ID: 3 **Photo Location:** FAR5-A3. UTM coordinates: 6306893 m N, 412315 m E (Zone 14N). **Direction:** Upstream **Survey Date:** 03 Jun 2020 **Comments:** End of channel.	
Photograph ID: 4 **Photo Location:** FAR5-A3. UTM coordinates: 6306893 m N, 412315 m E (Zone 14N). **Direction:** Downstream **Survey Date:** 03 Jun 2020 **Comments:** End of channel.	

Client:	**Alamos Gold Inc.**	**Project:**	**Lynn Lake Gold Project**
		Site Location:	**Gordon Site**

Photograph ID: 5	
Photo Location: FAR7-A1. UTM coordinates: 6307150 m N, 411240 m E (Zone 14N).	
Direction: Upstream	
Survey Date: 30 May 2020	
Comments: End of channel.	

Photograph ID: 6	
Photo Location: FAR7-A1. UTM coordinates: 6307150 m N, 411240 m E (Zone 14N).	
Direction: Downstream	
Survey Date: 30 May 2020	
Comments: End of channel.	

Client:	**Alamos Gold Inc.**	**Project:**	**Lynn Lake Gold Project**
		Site Location:	**Gordon Site**

Photograph ID: 7 **Photo Location:** FAR7-A1-A1. UTM coordinates: 6307587 m N, 411475 m E (Zone 14N). **Direction:** Upstream **Survey Date:** 03 Jun 2020 **Comments:** End of channel.	
Photograph ID: 8 **Photo Location:** FAR7-A1-A1. UTM coordinates: 6307587 m N, 411475 m E (Zone 14N). **Direction:** Downstream **Survey Date:** 03 Jun 2020 **Comments:** End of channel.	

Client:	**Alamos Gold Inc.**	**Project:**	**Lynn Lake Gold Project**
		Site Location:	**Gordon Site**

Photograph ID: 9 **Photo Location:** FAR7-A1-A1-A1. UTM coordinates: 6307626 m N, 411513 m E (Zone 14N). **Direction:** Upstream **Survey Date:** 03 Jun 2020 **Comments:** End of channel.	
Photograph ID: 10 **Photo Location:** FAR7-A1-A1-A1. UTM coordinates: 6307626 m N, 411513 m E (Zone 14N). **Direction:** Downstream **Survey Date:** 03 Jun 2020 **Comments:** End of channel.	

Client:	**Alamos Gold Inc.**	**Project:**	**Lynn Lake Gold Project**
		Site Location:	**MacLellan Site**

Photograph ID: 11	
Photo Location: KEE3-B2. UTM coordinates: 6308314 m N, 382235 m E (Zone 14N).	
Direction: Upstream	
Survey Date: 29 May 2020	
Comments: End of channel (Inside MRSA).	

Photograph ID: 12	
Photo Location: KEE3-B2. UTM coordinates: 6308314 m N, 382235 m E (Zone 14N).	
Direction: Downstream	
Survey Date: 29 May 2020	
Comments: End of channel (Inside MRSA).	

Client:	**Alamos Gold Inc.**	**Project:**	**Lynn Lake Gold Project**
		Site Location:	**MacLellan Site**

Photograph ID: 13	
Photo Location: KEE3-B2. UTM coordinates: 6307961 m N, 382099 m E (Zone 14N).	
Direction: Upstream	
Survey Date: 29 May 2020	
Comments: Location is downstream of the MRSA.	

Photograph ID: 14	
Photo Location: KEE3-B2. UTM coordinates: 6307961 m N, 382099 m E (Zone 14N).	
Direction: Downstream	
Survey Date: 29 May 2020	
Comments: Location is downstream of the MRSA.	

Client:	**Alamos Gold Inc.**	**Project:**	**Lynn Lake Gold Project**
		Site Location:	**MacLellan Site**

Photograph ID: 15	
Photo Location: KEE3-B2-B1. UTM coordinates: 6307596 m N, 382254 m E (Zone 14N).	
Direction: Upstream	
Survey Date: 29 May 2020	
Comments: End of channel.	
Photograph ID: 16	
Photo Location: KEE3-B2-B1. UTM coordinates: 6307596 m N, 382254 m E (Zone 14N).	
Direction: Downstream	
Survey Date: 29 May 2020	
Comments: End of channel (Inside MRSA).	

Client:	**Alamos Gold Inc.**	**Project:**	**Lynn Lake Gold Project**
		Site Location:	**MacLellan Site**

Photograph ID: 17 **Photo Location:** KEE3-B2-C1 **Direction:** North **Survey Date:** 29 May 2020 **Comments:** No channel identified.	
Photograph ID: 18 **Photo Location:** KEE3-B2-C1 **Direction:** South **Survey Date:** 29 May 2020 **Comments:** No channel identified.	

Client:	Alamos Gold Inc.	Project:	Lynn Lake Gold Project
		Site Location:	MacLellan Site

Photograph ID: 19 **Photo Location:** KEE3-C1. UTM coordinates: 6308875 m N, 381177 m E (Zone 14N). **Direction:** Upstream **Survey Date:** 31 May 2020 **Comments:** End of channel.	
Photograph ID: 20 **Photo Location:** KEE3-C1. UTM coordinates: 6308875 m N, 381177 m E (Zone 14N). **Direction:** Downstream **Survey Date:** 31 May 2020 **Comments:** End of channel.	

Client:	**Alamos Gold Inc.**	**Project:**	**Lynn Lake Gold Project**
		Site Location:	**MacLellan Site**

Photograph ID: 21 **Photo Location:** KEE3-D1. UTM coordinates: 6309498 m N, 380678 m E (Zone 14N). **Direction:** Upstream **Survey Date:** 31 May 2020 **Comments:** End of channel.	
Photograph ID: 22 **Photo Location:** KEE3-D1. UTM coordinates: 6309498 m N, 380678 m E (Zone 14N). **Direction:** Downstream **Survey Date:** 31 May 2020 **Comments:** End of channel.	

Client:	**Alamos Gold Inc.**	**Project:**	**Lynn Lake Gold Project**
		Site Location:	**MacLellan Site**

Photograph ID: 23	
Photo Location: KEE3-E1. UTM coordinates: 6306331 m N, 381131 m E (Zone 14N).	
Direction: Upstream	
Survey Date: 31 May 2020	
Comments: End of channel.	
Photograph ID: 24	
Photo Location: KEE3-E1. UTM coordinates: 6306331 m N, 381131 m E (Zone 14N).	
Direction: Downstream	
Survey Date: 31 May 2020	
Comments: End of channel.	

Client:	**Alamos Gold Inc.**	**Project:**	**Lynn Lake Gold Project**
		Site Location:	**MacLellan Site**

Photograph ID: 25 **Photo Location:** KEE3-PAY2-A1. UTM coordinates: 6310864 m N, 382833 m E (Zone 14N). **Direction:** Upstream **Survey Date:** 31 May 2020 **Comments:** End of channel.	
Photograph ID: 26 **Photo Location:** KEE3-PAY2-A1. UTM coordinates: 6310864 m N, 382833 m E (Zone 14N). **Direction:** Downstream **Survey Date:** 31 May 2020 **Comments:** End of channel.	

Client:	**Alamos Gold Inc.**	**Project:**	**Lynn Lake Gold Project**
		Site Location:	**MacLellan Site**

Photograph ID: 27	
Photo Location: COC2-LOB2-MIN4-A1. UTM coordinates: 6307973 m N, 383181 m E (Zone 14N).	
Direction: Upstream	
Survey Date: 30 May 2020	
Comments: End of channel.	

Photograph ID: 28	
Photo Location: COC2-LOB2-MIN4-A1. UTM coordinates: 6307973 m N, 383181 m E (Zone 14N).	
Direction: Downstream	
Survey Date: 30 May 2020	
Comments: End of channel.	

Client:	**Alamos Gold Inc.**	**Project:**	**Lynn Lake Gold Project**
		Site Location:	**MacLellan Site**

Photograph ID: 29 **Photo Location:** COC2-LOB2-MIN4-B1 **Direction:** North **Survey Date:** 29 May 2020 **Comments:** No channel identified.	
Photograph ID: 30 **Photo Location:** COC2-LOB2-MIN4-B1 **Direction:** South **Survey Date:** 29 May 2020 **Comments:** No channel identified.	

Client:	**Alamos Gold Inc.**	**Project:**	**Lynn Lake Gold Project**
		Site Location:	**MacLellan Site**

Photograph ID: 31	
Photo Location: COC2-LOB2-MIN5. UTM coordinates: 6309868 m N, 384465 m E (Zone 14N).	
Direction: Upstream	
Survey Date: 30 May 2020	
Comments: End of channel (Inside MRSA).	

Photograph ID: 32	
Photo Location: COC2-LOB2-MIN5. UTM coordinates: 6309868 m N, 384465 m E (Zone 14N).	
Direction: Downstream	
Survey Date: 30 May 2020	
Comments: End of channel (Inside MRSA).	

Client:	**Alamos Gold Inc.**	**Project:**	**Lynn Lake Gold Project**
		Site Location:	**MacLellan Site**

Photograph ID: 33	
Photo Location: COC2-LOB2-MIN5. UTM coordinates: 6309894 m N, 384765 m E (Zone 14N).	
Direction: Upstream	
Survey Date: 30 May 2020	
Comments: Location is downstream of the MRSA.	

Photograph ID: 34	
Photo Location: COC2-LOB2-MIN5. UTM coordinates: 6309894 m N, 384765 m E (Zone 14N).	
Direction: Downstream	
Survey Date: 30 May 2020	
Comments: Location is downstream of the MRSA.	

Client:	**Alamos Gold Inc.**	**Project:**	**Lynn Lake Gold Project**
		Site Location:	**MacLellan Site**

Photograph ID: 35	
Photo Location: COC2-LOB2-MIN5-C1. UTM coordinates: 6310425 m N, 384220 m E (Zone 14N).	
Direction: Upstream	
Survey Date: 30 May 2020	
Comments: End of channel (Inside MRSA).	

Photograph ID: 36	
Photo Location: COC2-LOB2-MIN5-C1. UTM coordinates: 6310425 m N, 384220 m E (Zone 14N).	
Direction: Downstream	
Survey Date: 30 May 2020	
Comments: End of channel (Inside MRSA).	

Client:	**Alamos Gold Inc.**	**Project:**	**Lynn Lake Gold Project**
		Site Location:	**MacLellan Site**

Photograph ID: 37	
Photo Location: COC2-LOB2-MIN5-C1. UTM coordinates: 6309987 m N, 3384533 m E (Zone 14N).	
Direction: Upstream	
Survey Date: 30 May 2020	
Comments: Location is downstream of the MRSA.	

Photograph ID: 38	
Photo Location: COC2-LOB2-MIN5-C1. UTM coordinates: 6309987 m N, 3384533 m E (Zone 14N).	
Direction: Downstream	
Survey Date: 30 May 2020	
Comments: Location is downstream of the MRSA.	

Stantec

Photographic Log

Client:	**Alamos Gold Inc.**	**Project:**	**Lynn Lake Gold Project**
		Site Location:	**MacLellan Site**

Photograph ID: 1	
Photo Location: KEE3-B2. UTM coordinates: 6308189 m N, 382197 m E (Zone 14N).	
Direction: Downstream	
Survey Date: 2020-08-18	
Comments: Upstream end of channel.	
Photograph ID: 2	
Photo Location: KEE3-B2. UTM cooridnates: 6308059 m N, 382189 m E (Zone 14N).	
Direction: Upstream	
Survey Date: 2020-08-18	
Comments: Near cutline crossing.	

Client:	**Alamos Gold Inc.**	**Project:**	**Lynn Lake Gold Project**
		Site Location:	**MacLellan Site**

Photograph ID: 3	
Photo Location: COC2-LOB2-MIN5. UTM coordinates: 6309869 m N, 384465 m E (Zone 14N).	
Direction: Downstream	
Survey Date: 2020-08-18	
Comments: Wetland at upstream end of channel.	
Photograph ID: 4	
Photo Location: COC2-LOB2-MIN5. Approximate UTM coordinates: 6309889 m N, 384587 m E (Zone 14N).	
Direction: Upstream	
Survey Date: 2020-08-18	
Comments: Wetted area.	

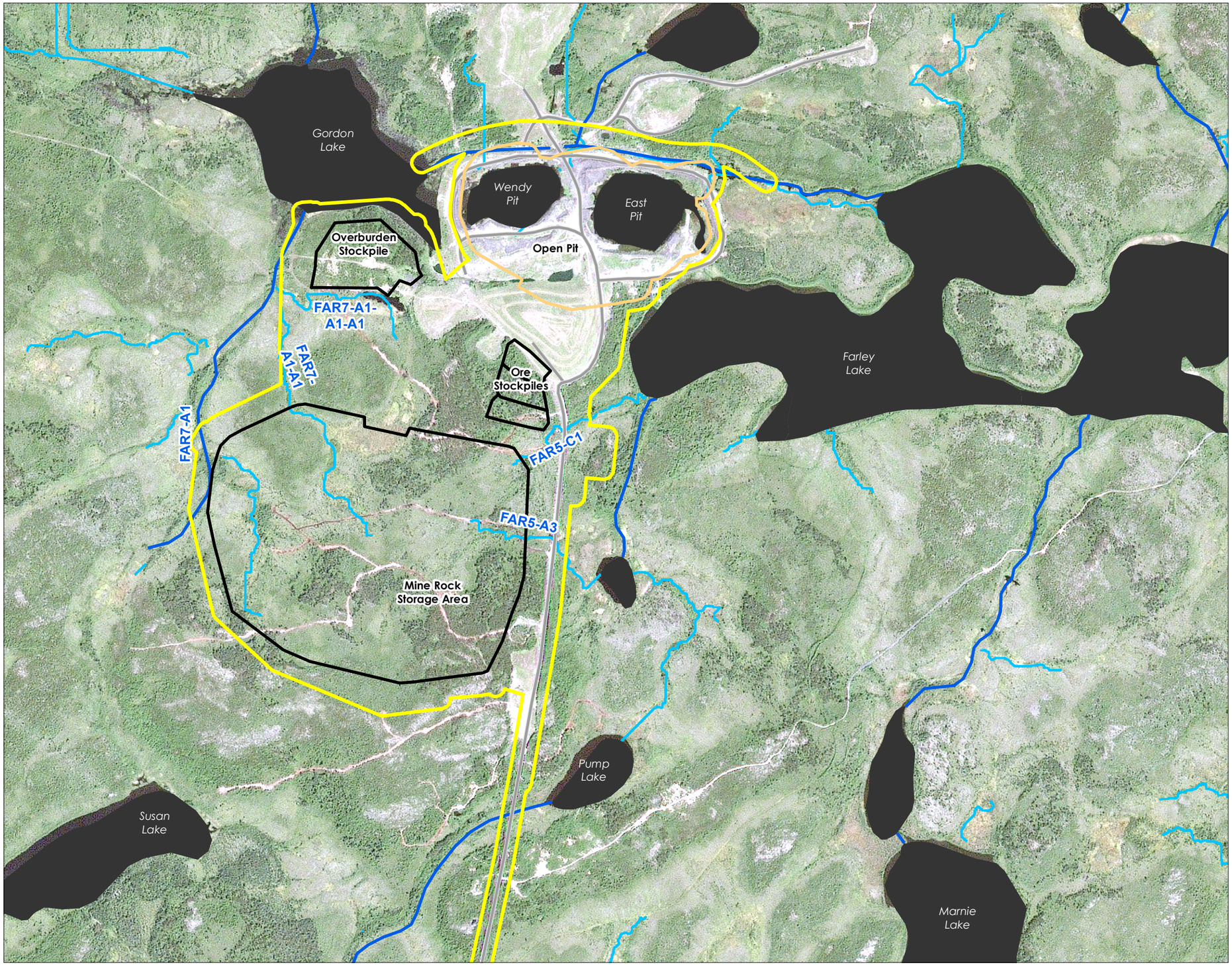
Client:	**Alamos Gold Inc.**	**Project:**	**Lynn Lake Gold Project**
		Site Location:	**MacLellan Site**

Photograph ID: 5	
Photo Location: COC2-LOB2-MIN5-C1. UTM coordinates: 6310366 m N, 384176 m E (Zone 14N).	
Direction: Upstream	
Survey Date: 2020-08-18	
Comments: Upstream end of wetted habitat at time of survey.	
Photograph ID: 6	
Photo Location: COC2-LOB2-MIN5-C1. UTM coordinates: 6310366 m N, 384176 m E (Zone 14N).	
Direction: Downstream	
Survey Date: 2020-08-18	
Comments: Upstream end of wetted habitat at time of survey.	

Client:	**Alamos Gold Inc.**	**Project:**	**Lynn Lake Gold Project**
		Site Location:	**MacLellan Site**

Photograph ID: 7	
Photo Location: COC2-LOB2-MIN5-C1. UTM coordinates: 6310135 m N, 384388 m E (Zone 14N).	
Direction: Upstream	
Survey Date: 2020-08-18	
Comments: Stream habitat within the MRSA.	
Photograph ID: 8	
Photo Location: COC2-LOB2-MIN5-C1. UTM coordinates: 6309952 m N, 384642 m E (Zone 14N).	
Direction: Upstream	
Survey Date: 2020-08-18	
Comments: Looking upstream at wetland area near MRSA boundary.	

Appendix B MAPS



Stantec

Project Infrastructure

- Proposed Open Pit
- Potential Infrastructure
- Project Development Area

Survey Locations

- Watercourses (CANVEC 1:50k data)
- Drainages (LiDAR data)

Landbase

- Existing Access

N

0 250 500 Metres

(At original document size of 11x17)
1:12,000

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada.
3. Imagery: SPOT-7 imagery, BlackBridge Gemoatics Corp. July 2015.

Project Location
Lynn Lake, Manitoba

Prepared by ACampigotto on 2020-08-28
Technical Review by BHorne on 2020-08-28

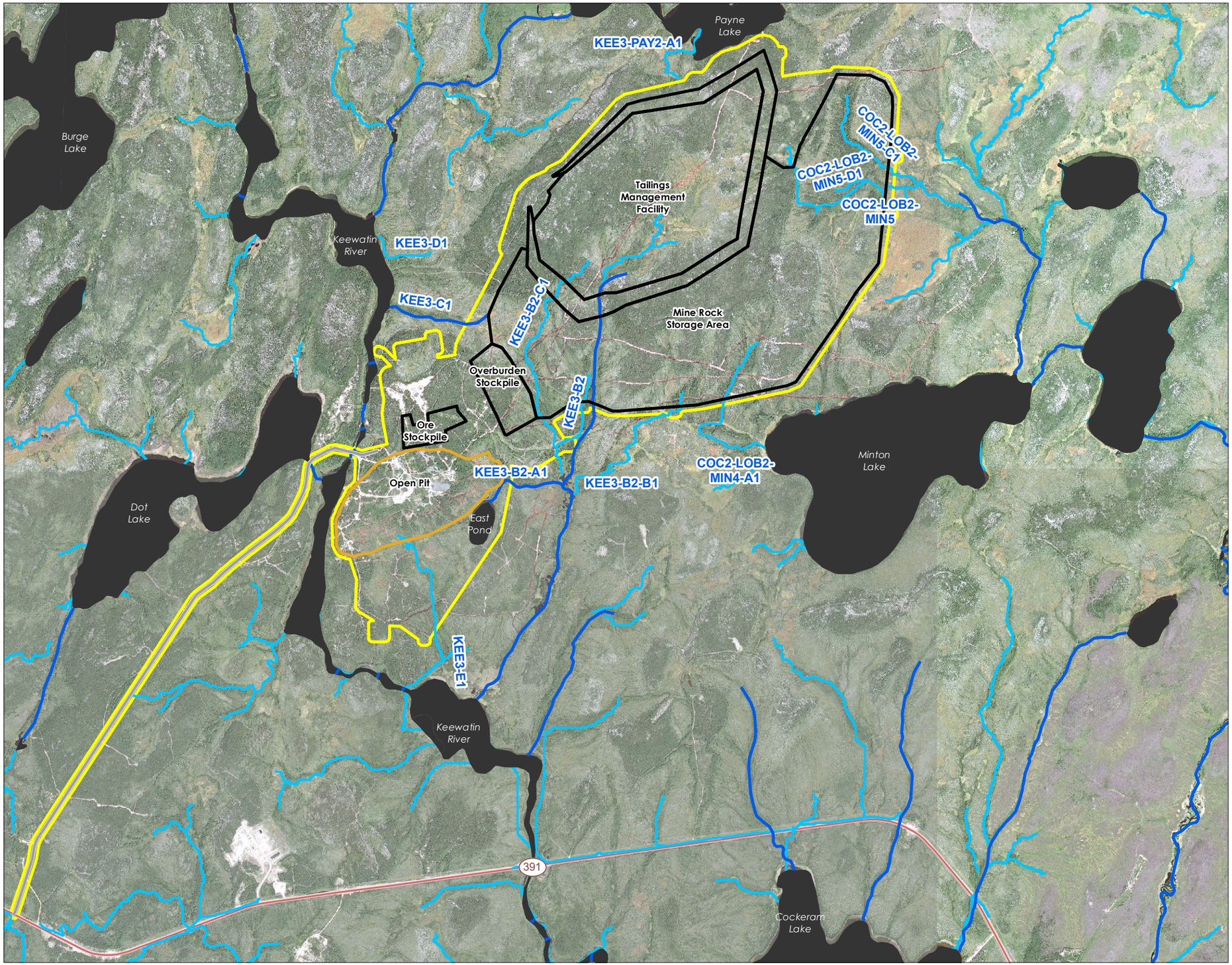
Client/Project
ALAMOS GOLD INC.
Lynn Lake Gold Project

111473010

Map No.
1

Title
LiDAR Drainages and CANVEC Watercourses - Gordon site

G:_GIS Project Folders\111473009 LGP EA\working\ACs 20200908 Spring watercourse investigations\Map1_Gordon Lidar and Canvec_20200904.mxd Revised: 2020-08-28 by ACampigotto



Stantec

Project Infrastructure
- Proposed Open Pit
- Potential Infrastructure
- Project Development Area

Survey Locations
- Watercourses (CANVEC 1:50k data)
- Drainages (LiDAR data)

Landbase
- Highway
- Existing Access Road

N

0 0.5 1 Kilometres
(At original document size of 11x17)
1:30,000

Notes
1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada.
3. Imagery: SPOT-7 imagery, BlackBridge Gemoatics Corp. July 2015.

Project Location
Lynn Lake, Manitoba

Prepared by ACampigotto on 2020-08-28
Technical Review by BHorne on 2020-08-28

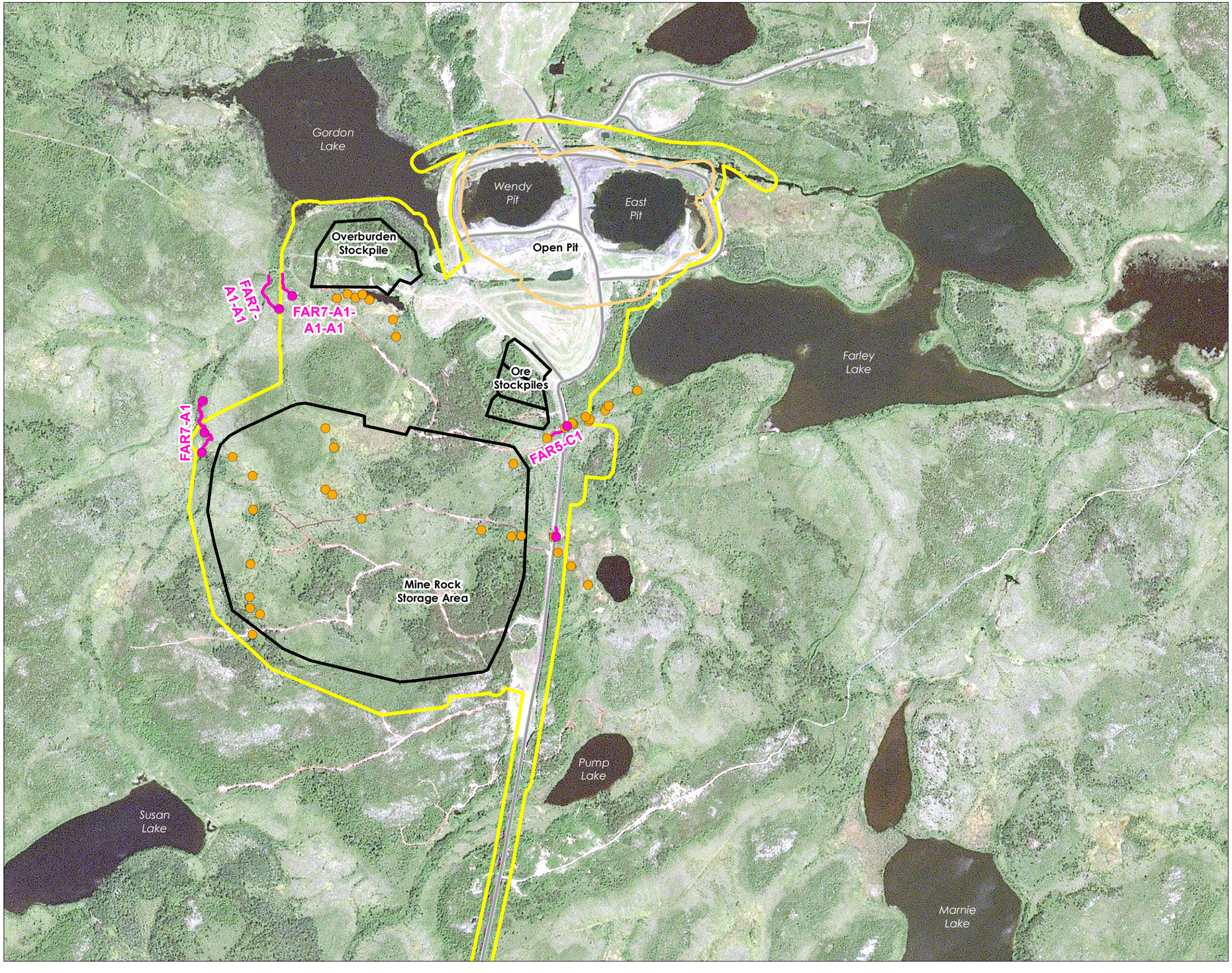
Client/Project
ALAMOS GOLD INC.
Lynn Lake Gold Project

111473010

Map No.
2

Title
LiDAR Drainages and CANVEC Watercourses - MacLellan site

G:_GIS Project Folder\111473009 LGP EA working\MXD\20200828 Spring watercourse investigations\Map2_MacLellan Lidar and Canvec_20200804.mxd Revised: 2020-08-28 By: ACampigotto



Stantec

Project Infrastructure

- Proposed Open Pit
- Potential Infrastructure
- Project Development Area

Survey Locations

- July 2016 waypoints
- 2020 Waypoints Collected in Field
- 2020 Tracks Collected in Field

Landbase

- Existing Access Road

N

0 250 500 Metres

(At original document size of 11x17)
1:12,000

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada.
3. Imagery: SPOT-7 imagery, BlackBridge Gemoatics Corp. July 2015.

Project Location
Lynn Lake, Manitoba

Prepared by ACampigotto on 2020-09-01
Technical Review by BHorne on 2020-09-01

Client/Project
ALAMOS GOLD INC.
Lynn Lake Gold Project

111473010

Map No.
3

Title
Site Drainage and Watercourse Field Verification Extents - Gordon site

G:\...GIS Project Folder\111473009_LGP_EA\working\ACs\20200908_Spring watercourse investigations\Maps_Gordon_SiteDrainageAreaVerification_20200904.mxd Revised: 2020-09-01 By: ACampigotto

Stantec

Project Infrastructure

- Proposed Open Pit
- Potential Infrastructure
- Project Development Area

Survey Locations

- Fish-bearing Habitat Identified in 2016
- Fish-bearing Habitat Identified in 2020

Landbase

- Existing Access

N

0 250 500 Metres

(At original document size of 11x17)
1:12,000

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada.
3. Imagery: SPOT-7 imagery, BlackBridge Gemoatics Corp. July 2015.

Project Location
Lynn Lake, Manitoba

Prepared by ACampigotto on 2020-08-04
Technical Review by SNelson on 2020-08-04

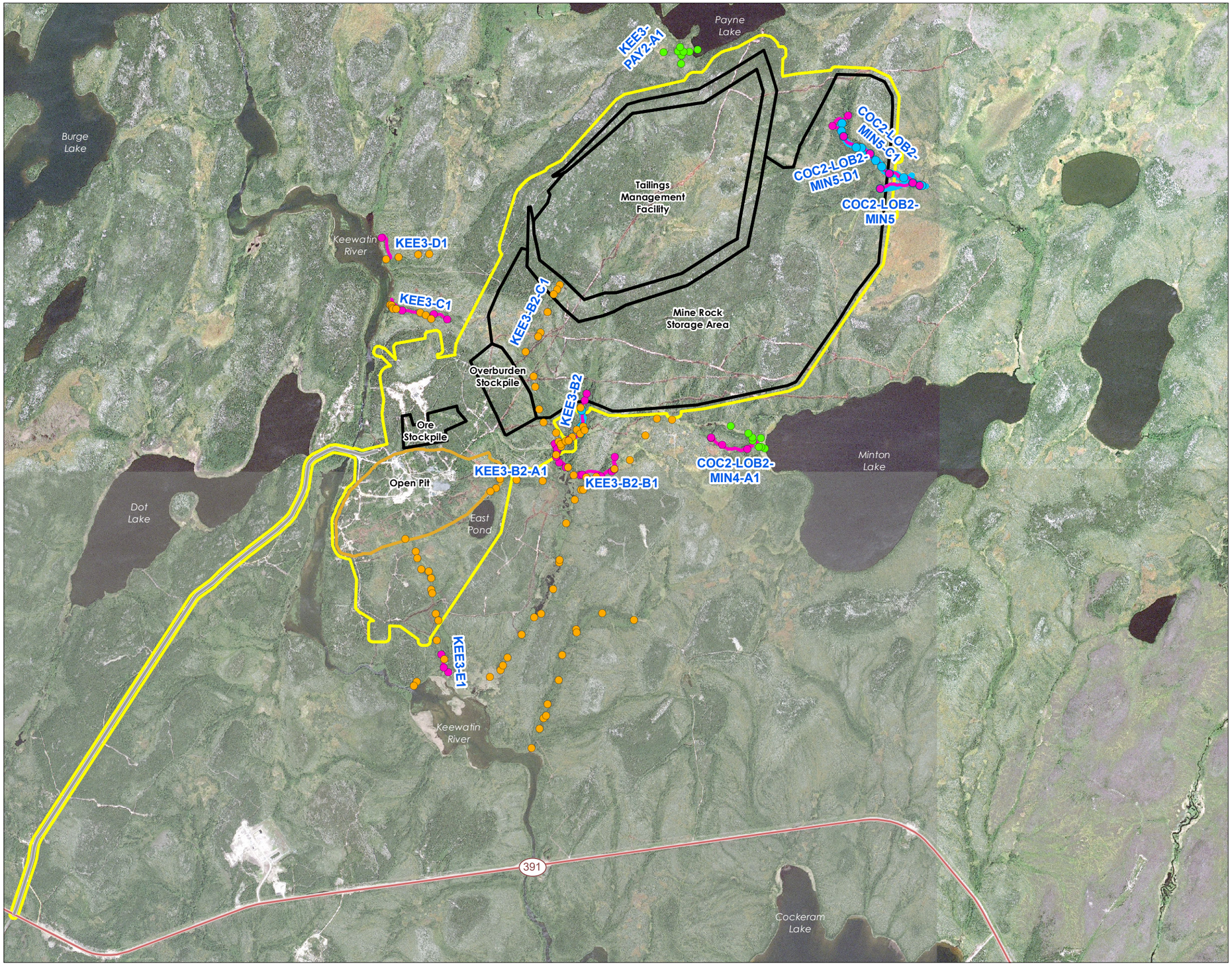
Client/Project
ALAMOS GOLD INC.
Lynn Lake Gold Project

111473010

Map No.
4

Title
Field-Verified Watercourses - Gordon site

G:_GIS Project Folder\111473009_ILGP-EA\working\ACV\20200598-Stantec-watercourse-investigations\Vespr4_Gordon_FieldVerifiedWatercourses_20200804.mxd Revised: 2020-08-04 By: ACampigotto



Stantec

Project Infrastructure
- Proposed Open Pit
- Potential Infrastructure
- Project Development Area

Survey Locations
- September 2016 waypoints
- September 2019 waypoints
- May 2020 waypoints
- May 2020 tracks
- August 2020 waypoints
- August 2020 tracks

Landbase
- Highway
- Existing Access Road

N

0 0.5 1 Kilometres
(At original document size of 11x17)
1:30,000

Notes
1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada.
3. Imagery: SPOT-7 imagery, BlackBridge Gemoatics Corp. July 2015.

Project Location
Lynn Lake, Manitoba

Prepared by ACampigotto on 2020-09-01
Technical Review by BHorne on 2020-09-01

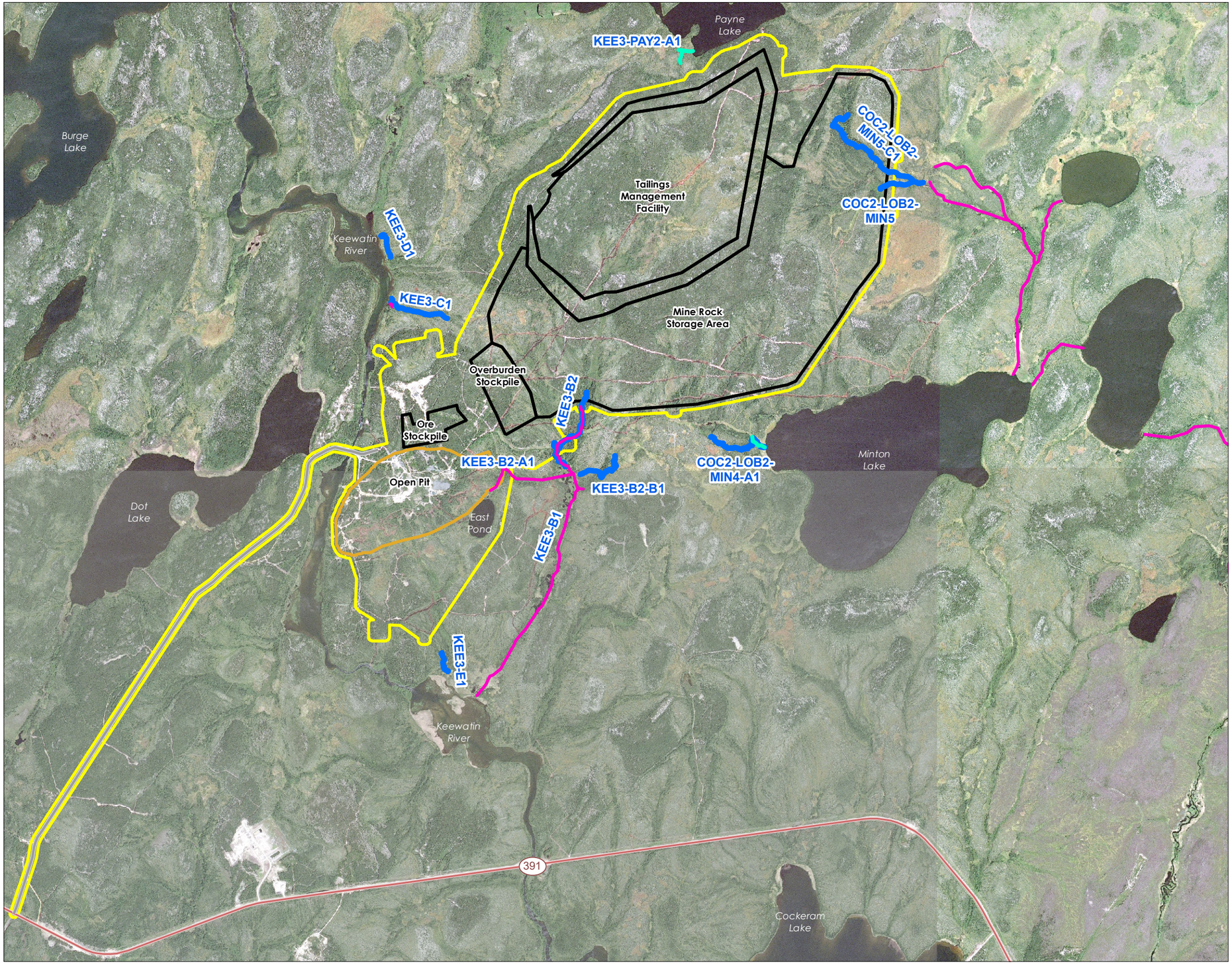
Client/Project
ALAMOS GOLD INC.
Lynn Lake Gold Project

111473010

Map No.
5

Title
Site Drainage and Watercourse Field Verification Extents - MacLellan site

G:\...GIS Project Folder\111473009_LGP_EA\working\ACv_20200908_Spring_watercourse_investigations\Maps_MacLellan_SiteDrainageAndVerification_20200904.mxd Revised: 2020-09-01 By: ACampigotto



Stantec

Project Infrastructure
- Proposed Open Pit
- Potential Infrastructure
- Project Development Area

Survey Locations
- Fish-bearing Habitat Identified in 2016
- Fish-bearing Habitat Identified in 2019
- Fish-bearing Habitat Identified in 2020

Landbase
- Highway
- Existing Access Road

N

0 0.5 1 Kilometres
(At original document size of 11x17)
1:30,000

Notes
1. Coordinate System: NAD 1983 UTM Zone 14N
2. Base Data Sources: Government of Manitoba and Government of Canada.
3. Imagery: SPOT-7 imagery, BlackBridge Gemoatics Corp. July 2015.

Project Location
Lynn Lake, Manitoba

Prepared by ACampigotto on 2020-08-28
Technical Review by BHorne on 2020-08-28

Client/Project
ALAMOS GOLD INC.
Lynn Lake Gold Project

111473010

Map No.
6

Title
Field-Verified Watercourses - MacLellan site

G:_GIS Project Folder\111473009 LGP EA working\ACs 20200908 Spring watercourse investigations\Mxds_Maclellan Field-verified watercourses_20200904.mxd Revised: 2020-09-01 By: ACampigotto

Appendix B UPDATED MACLELLAN SITE WATER BALANCE MODEL RESULTS

	Month	Existing Conditions	Construction			Operation			Active Closure			Post-Closure		
		Flow (m^3/s)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Change (m^3/s)	Change (%)
QM03	Jan	7.05	7.05	0.01	0%	7.05	0.01	0%	7.05	0.01	0%	7.05	0.00	0%
	Feb	6.41	6.42	0.01	0%	6.45	0.04	1%	6.42	0.01	0%	6.41	0.00	0%
	Mar	5.84	5.86	0.02	0%	5.92	0.08	1%	5.86	0.02	0%	5.84	0.00	0%
	Apr	5.37	5.39	0.02	0%	5.38	0.02	0%	5.37	0.00	0%	5.36	0.00	0%
	May	7.47	7.49	0.02	0%	7.49	0.02	0%	7.45	-0.02	0%	7.44	-0.02	0%
	Jun	11.97	11.99	0.03	0%	12.05	0.08	1%	11.97	0.00	0%	11.95	-0.01	0%
	Jul	13.21	13.23	0.03	0%	13.30	0.09	1%	13.21	0.00	0%	13.19	-0.01	0%
	Aug	9.87	9.89	0.02	0%	9.94	0.08	1%	9.87	0.00	0%	9.85	-0.01	0%
	Sep	7.17	7.19	0.02	0%	7.23	0.05	1%	7.17	0.00	0%	7.16	-0.01	0%
	Oct	6.17	6.18	0.01	0%	6.19	0.02	0%	6.17	0.00	0%	6.17	-0.01	0%
	Nov	6.92	6.93	0.01	0%	6.93	0.01	0%	6.92	0.00	0%	6.92	0.00	0%
	Dec	7.53	7.53	0.01	0%	7.53	0.00	0%	7.53	0.00	0%	7.53	0.00	0%
	Annual	7.91	7.93	0.02	0%	7.96	0.04	1%	7.91	0.00	0%	7.91	-0.01	0%
QM04	Jan	0.00	0.00	0.00	n/a	0.00	0.00	n/a	0.00	0.00	n/a	0.02	0.02	n/a
	Feb	0.00	0.00	0.00	n/a	0.00	0.00	n/a	0.00	0.00	n/a	0.02	0.02	n/a
	Mar	0.00	0.00	0.00	n/a	0.00	0.00	n/a	0.00	0.00	n/a	0.03	0.03	n/a
	Apr	0.01	0.00	-0.01	n/a	0.00	-0.01	n/a	0.00	-0.01	n/a	0.03	0.02	n/a
	May	0.13	0.05	-0.08	-64%	0.05	-0.08	-64%	0.05	-0.08	-64%	0.17	0.04	34%
	Jun	0.05	0.02	-0.03	-64%	0.02	-0.03	-64%	0.02	-0.03	-64%	0.08	0.03	51%
	Jul	0.08	0.03	-0.05	-64%	0.03	-0.05	-64%	0.03	-0.05	-64%	0.11	0.03	42%
	Aug	0.07	0.02	-0.04	-64%	0.02	-0.04	-64%	0.02	-0.04	-64%	0.09	0.02	33%
	Sep	0.06	0.02	-0.04	-64%	0.02	-0.04	-64%	0.02	-0.04	-64%	0.09	0.04	62%
	Oct	0.04	0.01	-0.02	-64%	0.01	-0.02	-64%	0.01	-0.02	-64%	0.07	0.03	89%
	Nov	0.00	0.00	0.00	n/a	0.00	0.00	n/a	0.00	0.00	n/a	0.03	0.02	n/a
	Dec	0.00	0.00	0.00	n/a	0.00	0.00	n/a	0.00	0.00	n/a	0.02	0.02	n/a
	Annual	0.04	0.01	-0.02	-64%	0.01	-0.02	-63%	0.01	-0.02	-62%	0.06	0.03	75%
QM06	Jan	7.05	7.05	0.01	0%	7.06	0.01	0%	7.05	0.01	0%	7.07	0.02	0%
	Feb	6.41	6.42	0.01	0%	6.45	0.04	1%	6.42	0.01	0%	6.43	0.02	0%
	Mar	5.84	5.86	0.02	0%	5.92	0.08	1%	5.86	0.02	0%	5.87	0.03	0%
	Apr	5.39	5.40	0.01	0%	5.40	0.01	0%	5.38	-0.01	0%	5.40	0.02	0%
	May	7.69	7.64	-0.06	-1%	7.64	-0.06	-1%	7.60	-0.10	-1%	7.71	0.02	0%
	Jun	12.06	12.05	-0.01	0%	12.11	0.05	0%	12.03	-0.03	0%	12.08	0.02	0%
	Jul	13.35	13.32	-0.02	0%	13.38	0.04	0%	13.30	-0.04	0%	13.36	0.01	0%
	Aug	9.98	9.96	-0.02	0%	10.02	0.03	0%	9.94	-0.04	0%	9.99	0.01	0%
	Sep	7.27	7.26	-0.02	0%	7.29	0.02	0%	7.24	-0.04	-1%	7.30	0.02	0%
	Oct	6.24	6.23	-0.01	0%	6.23	0.00	0%	6.21	-0.03	0%	6.26	0.02	0%
	Nov	6.93	6.94	0.01	0%	6.94	0.01	0%	6.93	0.00	0%	6.95	0.02	0%
	Dec	7.53	7.53	0.01	0%	7.53	0.00	0%	7.53	0.00	0%	7.54	0.02	0%
	Annual	7.98	7.97	-0.01	0%	8.00	0.02	0%	7.96	-0.02	0%	8.00	0.02	0%
QM07	Jan	0.02	0.02	0.00	-3%	0.02	0.00	-6%	0.02	0.00	-9%	0.02	0.00	-10%
	Feb	0.02	0.02	0.00	0%	0.02	0.00	-3%	0.02	0.00	-7%	0.02	0.00	-8%
	Mar	0.01	0.02	0.00	3%	0.01	0.00	1%	0.01	0.00	-4%	0.01	0.00	-5%
	Apr	0.01	0.01	0.00	5%	0.01	0.00	3%	0.01	0.00	-2%	0.01	0.00	-4%
	May	0.06	0.05	-0.01	-17%	0.05	-0.01	-18%	0.05	-0.01	-20%	0.05	-0.01	-20%
	Jun	0.07	0.06	-0.01	-19%	0.05	-0.01	-19%	0.05	-0.01	-21%	0.05	-0.01	-21%
	Jul	0.04	0.03	-0.01	-19%	0.03	-0.01	-19%	0.03	-0.01	-21%	0.03	-0.01	-21%
	Aug	0.04	0.03	-0.01	-24%	0.03	-0.01	-24%	0.03	-0.01	-26%	0.03	-0.01	-26%
	Sep	0.06	0.05	-0.01	-23%	0.05	-0.01	-23%	0.05	-0.02	-24%	0.05	-0.02	-24%
	Oct	0.07	0.06	-0.01	-20%	0.06	-0.01	-20%	0.06	-0.02	-21%	0.06	-0.02	-21%
	Nov	0.05	0.05	-0.01	-15%	0.05	-0.01	-15%	0.05	-0.01	-16%	0.05	-0.01	-17%
	Dec	0.04	0.03	0.00	-11%	0.03	0.00	-11%	0.03	0.00	-13%	0.03	0.00	-14%
	Annual	0.04	0.03	-0.01	-16%	0.03	-0.01	-16%	0.03	-0.01	-18%	0.03	-0.01	-19%

Existing Conditions	Construction (year -2 to -1)			Operation (year 1 to 13)			Decommission, Reclamation, Closure (year 14 to 19)			Post-Closure (year 20+)		
Flow (m^3/s)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Change (m^3/s)	Change (%)
7.05	7.05	0.01	0%	7.05	0.01	0%	7.05	0.01	0%	7.05	0.00	0%
6.41	6.42	0.01	0%	6.45	0.04	1%	6.42	0.01	0%	6.41	0.00	0%
5.84	5.86	0.02	0%	5.92	0.08	1%	5.86	0.02	0%	5.84	0.00	0%
5.37	5.39	0.02	0%	5.38	0.02	0%	5.37	0.00	0%	5.36	0.00	0%
7.47	7.49	0.02	0%	7.49	0.02	0%	7.45	-0.02	0%	7.44	-0.02	0%
11.97	11.99	0.03	0%	12.05	0.08	1%	11.97	0.00	0%	11.95	-0.01	0%
13.21	13.23	0.03	0%	13.30	0.09	1%	13.21	0.00	0%	13.19	-0.01	0%
9.87	9.89	0.02	0%	9.94	0.08	1%	9.87	0.00	0%	9.85	-0.01	0%
7.17	7.19	0.02	0%	7.23	0.05	1%	7.17	0.00	0%	7.16	-0.01	0%
6.17	6.18	0.01	0%	6.19	0.02	0%	6.17	0.00	0%	6.17	-0.01	0%
6.92	6.93	0.01	0%	6.93	0.01	0%	6.92	0.00	0%	6.92	0.00	0%
7.53	7.53	0.01	0%	7.53	0.00	0%	7.53	0.00	0%	7.53	0.00	0%
7.91	7.93	0.02	0%	7.96	0.04	1%	7.91	0.00	0%	7.91	-0.01	0%
0.00	0.00	0.00	n/a	0.00	0.00	n/a	0.00	0.00	n/a	0.02	0.02	n/a
0.00	0.00	0.00	n/a	0.00	0.00	n/a	0.00	0.00	n/a	0.02	0.02	n/a
0.00	0.00	0.00	n/a	0.00	0.00	n/a	0.00	0.00	n/a	0.03	0.03	n/a
0.01	0.00	-0.01	n/a	0.00	-0.01	n/a	0.00	-0.01	n/a	0.03	0.02	n/a
0.13	0.05	-0.08	-64%	0.05	-0.08	-64%	0.05	-0.08	-64%	0.17	0.04	34%
0.05	0.02	-0.03	-64%	0.02	-0.03	-64%	0.02	-0.03	-64%	0.08	0.03	51%
0.08	0.03	-0.05	-64%	0.03	-0.05	-64%	0.03	-0.05	-64%	0.11	0.03	42%
0.07	0.02	-0.04	-64%	0.02	-0.04	-64%	0.02	-0.04	-64%	0.09	0.02	33%
0.06	0.02	-0.04	-64%	0.02	-0.04	-64%	0.02	-0.04	-64%	0.09	0.04	62%
0.04	0.01	-0.02	-64%	0.01	-0.02	-64%	0.01	-0.02	-64%	0.07	0.03	89%
0.00	0.00	0.00	n/a	0.00	0.00	n/a	0.00	0.00	n/a	0.03	0.02	n/a
0.00	0.00	0.00	n/a	0.00	0.00	n/a	0.00	0.00	n/a	0.02	0.02	n/a
0.04	0.01	-0.02	-64%	0.01	-0.02	-63%	0.01	-0.02	-62%	0.06	0.03	75%
7.05	7.05	0.01	0%	7.06	0.01	0%	7.05	0.01	0%	7.07	0.02	0%
6.41	6.42	0.01	0%	6.45	0.04	1%	6.42	0.01	0%	6.43	0.02	0%
5.84	5.86	0.02	0%	5.92	0.08	1%	5.86	0.02	0%	5.87	0.03	0%
5.39	5.40	0.01	0%	5.40	0.01	0%	5.38	-0.01	0%	5.40	0.02	0%
7.69	7.64	-0.06	-1%	7.64	-0.06	-1%	7.60	-0.10	-1%	7.71	0.02	0%
12.06	12.05	-0.01	0%	12.11	0.05	0%	12.03	-0.03	0%	12.08	0.02	0%
13.35	13.32	-0.02	0%	13.38	0.04	0%	13.30	-0.04	0%	13.36	0.01	0%
9.98	9.96	-0.02	0%	10.02	0.03	0%	9.94	-0.04	0%	9.99	0.01	0%
7.27	7.26	-0.02	0%	7.29	0.02	0%	7.24	-0.04	-1%	7.30	0.02	0%
6.24	6.23	-0.01	0%	6.23	0.00	0%	6.21	-0.03	0%	6.26	0.02	0%
6.93	6.94	0.01	0%	6.94	0.01	0%	6.93	0.00	0%	6.95	0.02	0%
7.53	7.53	0.01	0%	7.53	0.00	0%	7.53	0.00	0%	7.54	0.02	0%
7.98	7.97	-0.01	0%	8.00	0.02	0%	7.96	-0.02	0%	8.00	0.02	0%
0.02	0.02	0.00	-3%	0.02	0.00	-6%	0.02	0.00	-9%	0.02	0.00	-10%
0.02	0.02	0.00	0%	0.02	0.00	-3%	0.02	0.00	-7%	0.02	0.00	-8%
0.01	0.02	0.00	3%	0.01	0.00	1%	0.01	0.00	-4%	0.01	0.00	-5%
0.01	0.01	0.00	5%	0.01	0.00	3%	0.01	0.00	-2%	0.01	0.00	-4%
0.06	0.05	-0.01	-17%	0.05	-0.01	-18%	0.05	-0.01	-20%	0.05	-0.01	-20%
0.07	0.06	-0.01	-19%	0.05	-0.01	-19%	0.05	-0.01	-21%	0.05	-0.01	-21%
0.04	0.03	-0.01	-19%	0.03	-0.01	-19%	0.03	-0.01	-21%	0.03	-0.01	-21%
0.04	0.03	-0.01	-24%	0.03	-0.01	-24%	0.03	-0.01	-26%	0.03	-0.01	-26%
0.06	0.05	-0.01	-23%	0.05	-0.01	-23%	0.05	-0.02	-24%	0.05	-0.02	-24%
0.07	0.06	-0.01	-20%	0.06	-0.01	-20%	0.06	-0.02	-21%	0.06	-0.02	-21%
0.05	0.05	-0.01	-15%	0.05	-0.01	-15%	0.05	-0.01	-16%	0.05	-0.01	-17%
0.04	0.03	0.00	-11%	0.03	0.00	-11%	0.03	0.00	-13%	0.03	0.00	-14%
0.04	0.03	-0.01	-16%	0.03	-0.01	-16%	0.03	-0.01	-18%	0.03	-0.01	-19%

	Month	Existing Conditions	Construction (2021-2022)		Operation (2023-2035)		Decommission, Reclamation, Closure		Post-Closure (2042 +)	
		Level (masl)	Level (masl)	Change (m)	Level (masl)	Change (m)	Level (masl)	Change (m)	Level (masl)	Change (m)
Minton Lake	Jan	329.920	329.917	-0.003	329.913	-0.007	329.910	-0.010	329.909	-0.011
	Feb	329.891	329.891	0.000	329.888	-0.003	329.884	-0.007	329.883	-0.008
	Mar	329.871	329.874	0.002	329.872	0.000	329.867	-0.004	329.866	-0.005
	Apr	329.861	329.865	0.004	329.864	0.003	329.859	-0.002	329.858	-0.003
	May	330.028	330.000	-0.028	329.999	-0.029	329.996	-0.033	329.995	-0.033
	Jun	330.068	330.031	-0.037	330.030	-0.037	330.027	-0.040	330.027	-0.041
	Jul	329.966	329.939	-0.026	329.939	-0.027	329.936	-0.030	329.935	-0.030
	Aug	329.974	329.940	-0.034	329.940	-0.034	329.936	-0.038	329.936	-0.039
	Sep	330.055	330.012	-0.043	330.012	-0.043	330.009	-0.046	330.009	-0.046
	Oct	330.080	330.040	-0.040	330.040	-0.040	330.037	-0.042	330.037	-0.043
	Nov	330.029	330.004	-0.025	330.004	-0.025	330.001	-0.028	330.001	-0.029
	Dec	329.967	329.952	-0.015	329.952	-0.015	329.948	-0.019	329.948	-0.019
	Annual	329.976	329.955	-0.020	329.955	-0.021	329.951	-0.025	329.950	-0.025

	Month	Existing Conditions	Construction (2021-2022)		Operation (2023-2035)		Decommission, Reclamation, Closure		Post-Closure (2042 +)	
		Level (masl)	Level (masl)	Change (m)	Level (masl)	Change (m)	Level (masl)	Change (m)	Level (masl)	Change (m)
Minton Lake	Jan	329.920	329.917	-0.003	329.913	-0.007	329.910	-0.010	329.909	-0.011
	Feb	329.891	329.891	0.000	329.888	-0.003	329.884	-0.007	329.883	-0.008
	Mar	329.871	329.874	0.002	329.872	0.000	329.867	-0.004	329.866	-0.005
	Apr	329.861	329.865	0.004	329.864	0.003	329.859	-0.002	329.858	-0.003
	May	330.028	330.000	-0.028	329.999	-0.029	329.996	-0.033	329.995	-0.033
	Jun	330.068	330.031	-0.037	330.030	-0.037	330.027	-0.040	330.027	-0.041
	Jul	329.966	329.939	-0.026	329.939	-0.027	329.936	-0.030	329.935	-0.030
	Aug	329.974	329.940	-0.034	329.940	-0.034	329.936	-0.038	329.936	-0.039
	Sep	330.055	330.012	-0.043	330.012	-0.043	330.009	-0.046	330.009	-0.046
	Oct	330.080	330.040	-0.040	330.040	-0.040	330.037	-0.042	330.037	-0.043
	Nov	330.029	330.004	-0.025	330.004	-0.025	330.001	-0.028	330.001	-0.029
	Dec	329.967	329.952	-0.015	329.952	-0.015	329.948	-0.019	329.948	-0.019
	Annual	329.976	329.955	-0.020	329.955	-0.021	329.951	-0.025	329.950	-0.025

		Average Climate Conditions													1:25 Dry Climate Conditions											
	Month	Existing Conditions	Construction (year -2 to -1)			Operation (year 1 to 13)			Decommission, Reclamation, Closure (year 14 to 19)			Post-Closure (year 20+)			Existing Conditions	Construction (year -2 to -1)			Operation (year 1 to 13)			Decommission, Reclamation, Closure (year 14 to 19)			Post-Closure (year 20+)		
		Flow (m^3/s)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Change (m^3/s)	Change (%)
QM01	Jan	7.046	7.046	0.000	0%	7.048	0.002	0%	7.048	0.003	0%	7.048	0.002	0%	5.083	5.083	0.000	0%	5.085	0.002	0%	5.086	0.002	0%	5.085	0.002	0%
	Feb	6.408	6.408	0.000	0%	6.408	0.000	0%	6.407	-0.001	0%	6.408	0.000	0%	4.644	4.644	0.000	0%	4.643	0.000	0%	4.643	-0.001	0%	4.644	0.000	0%
	Mar	5.844	5.844	0.000	0%	5.841	-0.003	0%	5.840	-0.004	0%	5.842	-0.002	0%	4.258	4.258	0.000	0%	4.256	-0.002	0%	4.255	-0.002	0%	4.256	-0.002	0%
	Apr	5.326	5.326	0.000	0%	5.323	-0.003	0%	5.322	-0.004	0%	5.323	-0.002	0%	3.901	3.901	0.000	0%	3.900	-0.002	0%	3.899	-0.002	0%	3.900	-0.001	0%
	May	6.912	6.912	0.000	0%	6.910	-0.002	0%	6.909	-0.003	0%	6.910	-0.002	0%	4.607	4.607	0.000	0%	4.605	-0.002	0%	4.604	-0.002	0%	4.605	-0.001	0%
	Jun	11.730	11.730	0.000	0%	11.730	0.000	0%	11.730	0.000	0%	11.730	0.000	0%	7.241	7.241	0.000	0%	7.239	-0.001	0%	7.239	-0.002	0%	7.239	-0.001	0%
	Jul	12.875	12.875	0.000	0%	12.875	0.000	0%	12.875	0.000	0%	12.875	0.000	0%	8.150	8.150	0.000	0%	8.149	-0.001	0%	8.149	-0.002	0%	8.149	-0.001	0%
	Aug	9.580	9.580	0.000	0%	9.578	-0.002	0%	9.577	-0.002	0%	9.578	-0.002	0%	6.471	6.471	0.000	0%	6.470	-0.001	0%	6.470	-0.002	0%	6.470	-0.001	0%
	Sep	6.925	6.925	0.000	0%	6.923	-0.001	0%	6.923	-0.002	0%	6.923	-0.001	0%	5.004	5.004	0.000	0%	5.003	-0.001	0%	5.003	-0.001	0%	5.003	-0.001	0%
	Oct	6.018	6.018	0.000	0%	6.017	-0.001	0%	6.016	-0.002	0%	6.017	-0.001	0%	4.397	4.397	0.000	0%	4.396	-0.001	0%	4.396	-0.001	0%	4.397	-0.001	0%
	Nov	6.908	6.908	0.000	0%	6.907	-0.001	0%	6.906	-0.002	0%	6.907	-0.001	0%	4.966	4.966	0.000	0%	4.965	-0.001	0%	4.965	-0.001	0%	4.965	-0.001	0%
	Dec	7.526	7.526	0.000	0%	7.524	-0.001	0%	7.524	-0.002	0%	7.524	-0.001	0%	5.393	5.393	0.000	0%	5.392	-0.001	0%	5.392	-0.001	0%	5.392	-0.001	0%
	Annual	7.758	7.758	0.000	0%	7.757	-0.001	0%	7.756	-0.002	0%	7.757	-0.001	0%	5.343	5.343	0.000	0%	5.342	-0.001	0%	5.342	-0.001	0%	5.342	-0.001	0%
QM02	Jan	7.046	7.046	0.000	0%	7.050	0.004	0%	7.051	0.005	0%	7.050	0.004	0%	5.083	5.083	0.000	0%	5.087	0.004	0%	5.088	0.005	0%	5.088	0.004	0%
	Feb	6.408	6.408	0.000	0%	6.410	0.002	0%	6.410	0.002	0%	6.410	0.002	0%	4.644	4.644	0.000	0%	4.646	0.002	0%	4.646	0.002	0%	4.646	0.002	0%
	Mar	5.844	5.844	0.000	0%	5.843	-0.001	0%	5.843	-0.001	0%	5.844	0.000	0%	4.258	4.258	0.000	0%	4.258	0.000	0%	4.258	0.000	0%	4.259	0.001	0%
	Apr	5.347	5.346	-0.001	0%	5.343	-0.003	0%	5.343	-0.004	0%	5.344	-0.002	0%	3.926	3.925	-0.001	0%	3.924	-0.002	0%	3.923	-0.003	0%	3.924	-0.002	0%
	May	7.190	7.181	-0.009	0%	7.179	-0.011	0%	7.178	-0.011	0%	7.179	-0.011	0%	4.793	4.787	-0.006	0%	4.785	-0.007	0%	4.785	-0.008	0%	4.785	-0.007	0%
	Jun	11.850	11.845	-0.005	0%	11.843	-0.007	0%	11.842	-0.008	0%	11.843	-0.007	0%	7.324	7.322	-0.003	0%	7.320	-0.004	0%	7.320	-0.004	0%	7.321	-0.004	0%
	Jul	13.045	13.035	-0.010	0%	13.035	-0.010	0%	13.035	-0.010	0%	13.035	-0.010	0%	8.270	8.266	-0.004	0%	8.265	-0.005	0%	8.264	-0.005	0%	8.265	-0.005	0%
	Aug	9.723	9.718	-0.005	0%	9.716	-0.007	0%	9.716	-0.007	0%	9.716	-0.007	0%	6.575	6.572	-0.003	0%	6.571	-0.004	0%	6.571	-0.005	0%	6.571	-0.004	0%
	Sep	7.049	7.045	-0.004	0%	7.043	-0.006	0%	7.043	-0.006	0%	7.043	-0.005	0%	5.093	5.090	-0.003	0%	5.089	-0.004	0%	5.089	-0.004	0%	5.089	-0.004	0%
	Oct	6.096	6.094	-0.002	0%	6.093	-0.003	0%	6.092	-0.004	0%	6.093	-0.003	0%	4.453	4.452	-0.002	0%	4.451	-0.003	0%	4.450	-0.003	0%	4.451	-0.003	0%
	Nov	6.916	6.915	0.000	0%	6.915	0.000	0%	6.915	-0.001	0%	6.915	0.000	0%	4.971	4.971	0.000	0%	4.972	0.000	0%	4.971	0.000	0%	4.972	0.001	0%
	Dec	7.526	7.526	0.000	0%	7.526	0.001	0%	7.526	0.001	0%	7.527	0.001	0%	5.393	5.393	0.000	0%	5.394	0.001	0%	5.394	0.001	0%	5.394	0.002	0%
	Annual	7.836	7.833	-0.003	0%	7.833	-0.003	0%	7.833	-0.004	0%	7.833	-0.003	0%	5.399	5.397	-0.002	0%	5.397	-0.002	0%	5.397	-0.002	0%	5.397	-0.002	0%
QM03	Jan	7.046	7.052	0.006	0%	7.054	0.008	0%	7.051	0.005	0%	7.050	0.004	0%	5.083	5.090	0.007	0%	5.080	-0.004	0%	5.088	0.004	0%	5.087	0.004	0%
	Feb	6.408	6.418	0.010	0%	6.451	0.043	1%	6.419	0.011	0%	6.410	0.002	0%	4.644	4.653	0.009	0%	4.662	0.018	0%	4.652	0.008	0%	4.646	0.002	0%
	Mar	5.844	5.861	0.017	0%	5.923	0.079	1%	5.860	0.015	0%	5.844	0.000	0%	4.258	4.273	0.016	0%	4.319	0.061	1%	4.273	0.015	0%	4.258	0.000	0%
	Apr	5.368	5.387	0.020	0%	5.385	0.017	0%	5.367	-0.001	0%	5.364	-0.004	0%	3.951	3.968	0.017	0%	3.967	0.016	0%	3.950	-0.001	0%	3.947	-0.004	0%
	May	7.466	7.489	0.023	0%	7.490	0.023	0%	7.449	-0.017	0%	7.441	-0.025	0%	4.978	5.000	0.022	0%	5.000	0.022	0%	4.968	-0.010	0%	4.961	-0.017	0%
	Jun	11.965	11.990	0.025	0%	12.048	0.083	1%	11.968	0.003	0%	11.953	-0.012	0%	7.408	7.430	0.022	0%	7.483	0.075	1%	7.413	0.006	0%	7.399	-0.008	0%
	Jul	13.205	13.230	0.025	0%	13.295	0.090	1%	13.210	0.005	0%	13.193	-0.012	0%	8.388	8.411	0.022	0%	8.465	0.077	1%	8.393	0.004	0%	8.377	-0.011	0%
	Aug	9.865	9.889	0.024	0%	9.941	0.076	1%	9.867	0.002	0%	9.851	-0.014	0%	6.679	6.700	0.021	0%	6.747	0.068	1%	6.683	0.004	0%	6.669	-0.010	0%
	Sep	7.172	7.191	0.019	0%	7.226	0.054	1%	7.171	-0.001	0%	7.160	-0.011	0%	5.182	5.199	0.017	0%	5.227	0.046	1%	5.182	0.001	0%	5.173	-0.009	0%
	Oct	6.174	6.185	0.011	0%	6.193	0.019	0%	6.170	-0.004	0%	6.166	-0.008	0%	4.509	4.518	0.009	0%	4.522	0.013	0%	4.506	-0.003	0%	4.503	-0.006	0%
	Nov	6.923	6.932	0.009	0%	6.931	0.008	0%	6.923	0.001	0%	6.922	-0.001	0%	4.976	4.984	0.008	0%	4.981	0.004	0%	4.977	0.001	0%	4.976	0.000	0%
	Dec	7.526	7.533	0.007	0%	7.528	0.003	0%	7.526	0.000	0%	7.526	0.000	0%	5.393	5.400	0.007	0%	5.390	-0.003	0%	5.394	0.001	0%	5.394	0.001	0%
	Annual	7.913	7.930	0.016	0%	7.955	0.042	1%	7.915	0.002	0%	7.906	-0.007	0%	5.454	5.469	0.015	0%	5.487	0.033	1%	5.457	0.002	0%	5.449	-0.005	0%
QM04	Jan	0.000	0.000	0.000	n/a	0.001	0.001	n/a	0.002	0.002	n/a	0.019	0.019	n/a	0.000	0.000	0.000	n/a	0.001	0.001	n/a	0.002	0.002	n/a	0.015	0.015	n/a
	Feb	0.000	0.000	0.000	n/a	0.001	0.001	n/a	0.002	0.002	n/a	0.023	0.023	n/a	0.000	0.000	0.000	n/a	0.001	0.001	n/a	0.002	0.002	n/a	0.016	0.016	n/a
	Mar	0.000	0.000	0.000	n/a	0.001	0.001	n/a	0.002	0.002	n/a	0.026	0.026	n/a	0.000	0.000	0.000	n/a	0.001	0.001	n/a	0.002	0.002	n/a	0.018	0.018	n/a
	Apr	0.010	0.003	-0.006	n/a	0.004	-0.006	n/a	0.004	-0.006	n/a	0.031	0.021	n/a	0.011	0.004	-0.007	-64%	0.004	-0.007	-63%	0.004	-0.007	-63%	0.023	0.012	104%
	May	0.127	0.045	-0.081	-64%	0.045	-0.081	-64%	0.045	-0.081	-64%	0.169	0.043	34%	0.085	0.030	-0.054	-64%	0.030	-0.054	-64%	0.030	-0.054	-64%	0.110	0.025	30%
	Jun	0.053	0.019	-0.034	-64%	0.019	-0.034	-64%	0.019	-0.034	-64%	0.080	0.027	51%	0.038	0.014	-0.025	-64%	0.014	-0.025	-64%	0.014	-0.025	-64%	0.045	0.007	18%
	Jul	0.075	0.027	-0.048	-64%	0.027	-0.048	-64%	0.027	-0.048	-64%	0.107	0.032	42%	0.054	0.020	-0.035	-64%	0.020	-0.035	-64%	0.020	-0.035	-64%	0.061	0.006	11%
	Aug	0.065	0.023	-0.042	-64%	0.023	-0.042	-64%	0.023	-0.042	-64%	0.087	0.021	33%	0.047	0.017	-0.030	-64%	0.017	-0.030	-64%	0.017	-0.030	-64%	0.049	0.002	3%
	Sep	0.057	0.020	-0.036	-64%	0.020	-0.036	-64%	0.020	-0.036	-64%	0.092	0.035	62%	0.041	0.015	-0.026	-64%	0.015	-0.026	-64%	0.015	-0.026	-64%	0.056	0.016	39%
	Oct	0.036	0.013	-0.023	-64%	0.013	-0.023	-64%	0.013	-0.023	-64%	0.067	0.032	89%	0.026	0.009	-0.016	-64%	0.009	-0.016	-64%	0.009	-0.016	-64%	0.045	0.020	77%
	Nov	0.003	0.001	-0.002	n/a	0.002	-0.001	n/a	0.002	-0.001	n/a	0.028	0.024	n/a	0.002	0.001	-0.001	n/a	0.002	-0.001	n/a	0.002	0.000	n/a	0.020	0.017	n/a
	Dec	0.000	0.000	0.000	n/a	0.001	0.001	n/a	0.002	0.002	n/a	0.015	0.015	n/a	0.000	0.000	0.000	n/a	0.001	0.001	n/a	0.002	0.002	n/a	0.013	0.013	n/a
	Annual	0.035	0.013	-0.023	-64%	0.013	-0.022	-63%	0.013	-0.022	-62%	0.062	0.026	75%	0.025	0.009	-0.016	-64%	0.010	-0.016	-62%	0.010	-0.016	-62%	0.039	0.014	54%
QM05	Jan	2.011	2.390	0.380	19%	2.398	0.387	19%	2.397	0.387	19%	2.397	0.386	19%	1.401	1.673	0.273	19%	1.680	0.280	20%	1.680	0.279	20%	1.680	0.279	20%
	Feb	1.842	2.015	0.174	9%	2.020	0.179	10%	2.020	0.178	10%	2.020	0.179	10%	1.289	1.418	0.130	10%	1.424	0.136	11%	1.424	0.135	11%	1.424	0.136	11%
	Mar	1.682	1.665	-0.017	-1%	1.669	-0.012	-1%	1.668	-0.014	-1%	1.668	-0.013	-1%	1.183	1.178	-0.005	0%	1.183	0.001	0%	1.183	0.000	0%	1.183	0.000	0%
	Apr	1.542	1.375	-0.167	-11%	1.380	-0.162	-11%	1.379	-0.163	-11%	1.379	-0.162	-11%	1.090	0.979	-0.112	-10%	0.984	-0.106	-10%	0.983	-0.107	-10%	0.984	-0.106	-10%
	May	3.787	3.509	-0.278	-7%	3.514	-0.273	-7%	3.513	-0.274	-7%	3.514	-0.273	-7%	2.655	2.463	-0.192	-7%	2.468	-0.187	-7%	2.468	-0.188	-7%	2.468	-0.187	-7%
	Jun	8.145	7.785	-0.360	-4%	7.791	-0.354	-4%	7.790	-0.355	-4%	7.790	-0.354	-4%	4.634	4.381	-0.253	-5%	4.386	-0.247	-5%	4.386	-0.248	-5%	4.386	-0.247	-5%
	Jul	6.107	5.851	-0.256	-4%	5.856	-0.251	-4%	5.855	-0.251	-4%	5.856	-0.251	-4%	3.318	3.161	-0.157	-5%	3.166	-0.151	-5%	3.166	-0.152	-5%	3.166	-0.151	-5%
	Aug	4.056	3.751	-0.305	-8%	3.757	-0.299	-7%	3.756	-0.300	-7%	3.756	-0.299	-7%	2.566	2.369	-0.197	-8%	2.375	-0.191	-7%	2.374	-0.191	-7%	2.374	-0.191	-7%
	Sep	3.198	2.983	-0.215	-7%	2.989	-0.208	-7%	2.988	-0.209	-7%	2.988	-0.209	-7%	2.147	1.958	-0.189	-9%	1.964	-0.183	-9%	1.964	-0.183	-9%	1.964	-0.183	-9%
	Oct	2.609	2.711	0.102	4%	2.717	0.108	4%	2.717	0.108	4%	2.717	0.108	4%	1.800	1.839	0.039	2%	1.845	0.046	3%	1.845	0.045	3%	1.845	0.045	3%
	Nov	2.268	2.670	0.403	18%	2.677	0.409	18%	2.676	0.409	18%	2.676	0.409	18%	1.576	1.843	0.267	17%	1.850	0.274	17%	1.849	0.273	17%	1.849	0.273	17%
	Dec	2.145	2.635	0.491	23%	2.642	0.497	23%	2.641	0.497	23%	2.641	0.497	23%	1.492	1.834	0.342	23%	1.840	0.349	23%	1.840	0.348	23%	1.840	0.348	23%
	Annual	3.282	3.278	-0.004	0%	3.284	0.002	0%	3.283	0.001	0%	3.284	0.001	0%	2.096	2.091	-0.004	0%	2.097	0.002	0%	2.097	0.001	0%	2.097	0.001	0%
	Jan	7.046	7.052	0.006	0%	7.055	0.009	0%	7.053	0.007	0%	7.069	0.023	0%	5.083	5.090	0.007	0%	5.081	-0.003	0%	5.089	0.006	0%	5.102	0.018	0%
	Feb	6.408	6.418	0.010	0%	6.452	0.044	1%	6.420	0.012	0%	6.433	0.025	0%	4.644	4.653	0.009	0%	4.663	0.020	0%	4.653	0.010	0%	4.661	0.018	0%
	Mar	5.844	5.861	0.017	0%	5.924	0.080	1%	5.861	0.017	0%	5.869	0.025	0%	4.258	4.273	0.016	0%	4.320	0.062	1%	4.274	0.016	0%	4.276	0.018	0%
	Apr	5.386	5.398	0.012	0%	5.396	0.011	0%	5.378	-0.007	0%	5.402	0.017	0%	3.971	3.982	0.010	0%	3.980	0.008	0%	3.963	-0.008	0%	3.979	0.008	0%
	May	7.695	7.637	-0.058	-1%	7.637	-0.057	-1%	7.597	-0.098	-1%	7.713	0.018	0%	5.131	5.099	-0.032	-1%	5.099	-0.032	-1%	5.066	-0.065	-1%	5.140	0.009	0%
	Jun	12.060	12.050	-0.010	0%	12.109	0.049	0%	12.030	-0.030	0%	12.077	0.017	0%	7.477	7.474	-0.003	0%	7.528	0.051	1%	7.458	-0.019	0%	7.475	-0.001	0%

		Average Climate Conditions													1:25 Dry Climate Conditions											
	Month	Existing Conditions	Construction (year -2 to -1)			Operation (year 1 to 13)			Decommission, Reclamation, Closure (year 14 to 19)			Post-Closure (year 20+)			Existing Conditions	Construction (year -2 to -1)			Operation (year 1 to 13)			Decommission, Reclamation, Closure (year 14 to 19)			Post-Closure (year 20+)		
		Flow (m^3/s)	Flow (m^3/s)	Change (m^3/s	Change (%)	Flow (m^3/s)	Change (m^3/s	Change (%)	Flow (m^3/s)	Change (m^3/s	Change (%)	Flow (m^3/s)	Change (m^3/s	Change (%)	Flow (m^3/s)	Flow (m^3/s)	Change (m^3/s	Change (%)	Flow (m^3/s)	Change (m^3/s	Change (%)	Flow (m^3/s)	Change (m^3/s	Change (%)	Flow (m^3/s)	Change (m^3/s	Change (%)
QM06	Jul	13.345	13.320	-0.025	0%	13.381	0.036	0%	13.300	-0.045	0%	13.360	0.015	0%	8.487	8.474	-0.013	0%	8.529	0.042	0%	8.456	-0.031	0%	8.482	-0.005	0%
	Aug	9.983	9.965	-0.018	0%	10.017	0.034	0%	9.944	-0.040	0%	9.991	0.008	0%	6.765	6.755	-0.009	0%	6.802	0.038	1%	6.738	-0.027	0%	6.757	-0.008	0%
	Sep	7.274	7.257	-0.017	0%	7.292	0.018	0%	7.237	-0.037	-1%	7.298	0.024	0%	5.255	5.246	-0.009	0%	5.275	0.019	0%	5.230	-0.025	0%	5.262	0.007	0%
	Oct	6.238	6.226	-0.012	0%	6.234	-0.004	0%	6.211	-0.027	0%	6.262	0.024	0%	4.555	4.548	-0.007	0%	4.552	-0.003	0%	4.536	-0.019	0%	4.569	0.014	0%
	Nov	6.929	6.936	0.007	0%	6.935	0.007	0%	6.928	0.000	0%	6.952	0.024	0%	4.980	4.987	0.007	0%	4.984	0.004	0%	4.981	0.001	0%	4.998	0.017	0%
	Dec	7.526	7.533	0.007	0%	7.529	0.004	0%	7.528	0.002	0%	7.541	0.016	0%	5.393	5.400	0.007	0%	5.391	-0.002	0%	5.395	0.003	0%	5.407	0.014	0%
	Annual	7.978	7.971	-0.007	0%	7.997	0.019	0%	7.957	-0.020	0%	7.997	0.020	0%	5.500	5.498	-0.002	0%	5.517	0.017	0%	5.487	-0.013	0%	5.509	0.009	0%
QM07	Jan	0.024	0.024	-0.001	-3%	0.023	-0.001	-6%	0.022	-0.002	-9%	0.022	-0.002	-10%	0.018	0.017	0.000	-2%	0.017	-0.001	-6%	0.016	-0.002	-10%	0.016	-0.002	-11%
	Feb	0.018	0.018	0.000	0%	0.018	0.000	-3%	0.017	-0.001	-7%	0.017	-0.001	-8%	0.014	0.014	0.000	1%	0.014	0.000	-2%	0.013	-0.001	-7%	0.013	-0.001	-8%
	Mar	0.015	0.015	0.000	3%	0.015	0.000	1%	0.014	-0.001	-4%	0.014	-0.001	-5%	0.012	0.012	0.000	4%	0.012	0.000	2%	0.011	-0.001	-4%	0.011	-0.001	-6%
	Apr	0.013	0.014	0.001	5%	0.013	0.000	3%	0.013	0.000	-2%	0.013	0.000	-4%	0.010	0.011	0.001	6%	0.011	0.000	5%	0.010	0.000	-2%	0.010	0.000	-4%
	May	0.057	0.047	-0.010	-17%	0.047	-0.010	-18%	0.046	-0.011	-20%	0.046	-0.011	-20%	0.042	0.035	-0.007	-17%	0.035	-0.007	-17%	0.034	-0.008	-19%	0.034	-0.008	-20%
	Jun	0.068	0.055	-0.013	-19%	0.055	-0.013	-19%	0.054	-0.014	-21%	0.054	-0.014	-21%	0.048	0.039	-0.010	-20%	0.039	-0.010	-20%	0.038	-0.011	-22%	0.038	-0.011	-22%
	Jul	0.036	0.029	-0.007	-19%	0.029	-0.007	-19%	0.028	-0.008	-21%	0.028	-0.008	-21%	0.022	0.018	-0.005	-21%	0.018	-0.005	-21%	0.017	-0.005	-24%	0.017	-0.005	-24%
	Aug	0.038	0.029	-0.009	-24%	0.029	-0.009	-24%	0.028	-0.010	-26%	0.028	-0.010	-26%	0.016	0.011	-0.004	-27%	0.011	-0.004	-27%	0.011	-0.005	-31%	0.011	-0.005	-32%
	Sep	0.063	0.049	-0.014	-23%	0.049	-0.014	-23%	0.048	-0.015	-24%	0.048	-0.015	-24%	0.031	0.022	-0.008	-28%	0.022	-0.008	-28%	0.021	-0.009	-30%	0.021	-0.009	-31%
	Oct	0.072	0.058	-0.014	-20%	0.058	-0.014	-20%	0.057	-0.015	-21%	0.057	-0.015	-21%	0.041	0.032	-0.010	-23%	0.032	-0.010	-23%	0.031	-0.011	-26%	0.031	-0.011	-26%
	Nov	0.054	0.046	-0.008	-15%	0.046	-0.008	-15%	0.046	-0.009	-16%	0.045	-0.009	-17%	0.034	0.029	-0.006	-16%	0.029	-0.006	-16%	0.028	-0.006	-19%	0.028	-0.007	-19%
	Dec	0.036	0.032	-0.004	-11%	0.032	-0.004	-11%	0.031	-0.005	-13%	0.031	-0.005	-14%	0.025	0.022	-0.003	-10%	0.022	-0.003	-10%	0.021	-0.003	-14%	0.021	-0.004	-14%
	Annual	0.041	0.035	-0.007	-16%	0.034	-0.007	-16%	0.034	-0.008	-18%	0.033	-0.008	-19%	0.026	0.022	-0.004	-16%	0.022	-0.004	-17%	0.021	-0.005	-20%	0.021	-0.005	-21%
QM08	Jan	10.020	10.425	0.405	4%	10.433	0.413	4%	10.432	0.412	4%	10.447	0.427	4%	6.857	7.150	0.293	4%	7.148	0.291	4%	7.155	0.298	4%	7.167	0.310	5%
	Feb	9.093	9.300	0.207	2%	9.329	0.236	3%	9.302	0.210	2%	9.317	0.224	2%	6.272	6.432	0.160	3%	6.438	0.166	3%	6.434	0.162	3%	6.444	0.172	3%
	Mar	8.283	8.305	0.022	0%	8.370	0.088	1%	8.306	0.024	0%	8.315	0.032	0%	5.761	5.790	0.030	1%	5.841	0.080	1%	5.795	0.034	1%	5.797	0.036	1%
	Apr	7.628	7.495	-0.134	-2%	7.504	-0.124	-2%	7.479	-0.149	-2%	7.502	-0.126	-2%	5.372	5.288	-0.083	-2%	5.299	-0.073	-1%	5.277	-0.095	-2%	5.291	-0.081	-2%
	May	13.310	12.965	-0.345	-3%	12.970	-0.340	-3%	12.928	-0.382	-3%	13.043	-0.267	-2%	8.515	8.285	-0.230	-3%	8.290	-0.225	-3%	8.255	-0.259	-3%	8.329	-0.186	-2%
	Jun	26.885	26.500	-0.385	-1%	26.562	-0.323	-1%	26.483	-0.402	-1%	26.529	-0.356	-1%	15.558	15.295	-0.264	-2%	15.349	-0.209	-1%	15.282	-0.277	-2%	15.301	-0.258	-2%
	Jul	25.375	25.090	-0.285	-1%	25.153	-0.223	-1%	25.067	-0.308	-1%	25.129	-0.246	-1%	13.082	12.900	-0.182	-1%	12.959	-0.122	-1%	12.887	-0.195	-1%	12.912	-0.170	-1%
	Aug	18.685	18.365	-0.320	-2%	18.422	-0.263	-1%	18.347	-0.338	-2%	18.396	-0.289	-2%	9.995	9.796	-0.199	-2%	9.849	-0.146	-1%	9.784	-0.211	-2%	9.803	-0.192	-2%
	Sep	13.880	13.620	-0.260	-2%	13.662	-0.218	-2%	13.602	-0.278	-2%	13.660	-0.220	-2%	7.887	7.672	-0.215	-3%	7.709	-0.178	-2%	7.659	-0.228	-3%	7.690	-0.198	-3%
	Oct	10.730	10.765	0.035	0%	10.782	0.052	0%	10.755	0.025	0%	10.808	0.078	1%	6.967	6.950	-0.017	0%	6.963	-0.005	0%	6.943	-0.025	0%	6.976	0.008	0%
	Nov	10.350	10.725	0.375	4%	10.731	0.381	4%	10.720	0.370	4%	10.746	0.396	4%	6.887	7.130	0.243	4%	7.134	0.247	4%	7.128	0.242	4%	7.146	0.260	4%
	Dec	10.670	11.165	0.495	5%	11.168	0.497	5%	11.162	0.492	5%	11.179	0.509	5%	7.198	7.542	0.344	5%	7.540	0.343	5%	7.543	0.345	5%	7.555	0.358	5%
	Annual	13.742	13.727	-0.016	0%	13.757	0.015	0%	13.715	-0.027	0%	13.756	0.014	0%	8.363	8.352	-0.010	0%	8.377	0.014	0%	8.345	-0.017	0%	8.367	0.005	0%
QM09	Jan	0.000	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	n/a
	Feb	0.000	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	n/a
	Mar	0.000	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	n/a
	Apr	0.013	0.013	0.000	0%	0.013	0.000	0%	0.013	0.000	0%	0.013	0.000	0%	0.015	0.015	0.000	0%	0.015	0.000	0%	0.015	0.000	0%	0.015	0.000	0%
	May	0.168	0.168	0.000	0%	0.168	0.000	0%	0.168	0.000	0%	0.168	0.000	0%	0.112	0.112	0.000	0%	0.112	0.000	0%	0.112	0.000	0%	0.112	0.000	0%
	Jun	0.070	0.070	0.000	0%	0.070	0.000	0%	0.070	0.000	0%	0.070	0.000	0%	0.051	0.051	0.000	0%	0.051	0.000	0%	0.051	0.000	0%	0.051	0.000	0%
	Jul	0.100	0.100	0.000	0%	0.100	0.000	0%	0.100	0.000	0%	0.100	0.000	0%	0.072	0.072	0.000	0%	0.072	0.000	0%	0.072	0.000	0%	0.072	0.000	0%
	Aug	0.086	0.086	0.000	0%	0.086	0.000	0%	0.086	0.000	0%	0.086	0.000	0%	0.063	0.063	0.000	0%	0.063	0.000	0%	0.063	0.000	0%	0.063	0.000	0%
	Sep	0.075	0.075	0.000	0%	0.075	0.000	0%	0.075	0.000	0%	0.075	0.000	0%	0.054	0.054	0.000	0%	0.054	0.000	0%	0.054	0.000	0%	0.054	0.000	0%
	Oct	0.047	0.047	0.000	0%	0.047	0.000	0%	0.047	0.000	0%	0.047	0.000	0%	0.034	0.034	0.000	0%	0.034	0.000	0%	0.034	0.000	0%	0.034	0.000	0%
	Nov	0.004	0.004	0.000	n/a	0.004	0.000	n/a	0.004	0.000	n/a	0.004	0.000	n/a	0.003	0.003	0.000	n/a	0.003	0.000	n/a	0.003	0.000	n/a	0.003	0.000	n/a
	Dec	0.000	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	n/a
	Annual	0.047	0.047	0.000	0%	0.047	0.000	0%	0.047	0.000	0%	0.047	0.000	0%	0.034	0.034	0.000	0%	0.034	0.000	0%	0.034	0.000	0%	0.034	0.000	0%
AQM10 (QM11)	Jan	0.693	0.693	-0.001	0%	0.692	-0.001	0%	0.691	-0.002	0%	0.691	-0.002	0%	0.172	0.172	0.000	0%	0.171	-0.001	-1%	0.171	-0.002	-1%	0.170	-0.002	-1%
	Feb	0.587	0.587	0.000	0%	0.587	-0.001	0%	0.586	-0.002	0%	0.586	-0.002	0%	0.149	0.149	0.000	0%	0.149	0.000	0%	0.148	-0.001	-1%	0.148	-0.001	-1%
	Mar	0.500	0.501	0.000	0%	0.500	-0.001	0%	0.499	-0.001	0%	0.499	-0.001	0%	0.130	0.130	0.000	0%	0.130	0.000	0%	0.129	-0.001	0%	0.129	-0.001	-1%
	Apr	0.426	0.427	0.001	0%	0.426	0.000	0%	0.425	-0.001	0%	0.426	-0.001	0%	0.114	0.115	0.001	1%	0.114	0.000	0%	0.114	0.000	0%	0.114	-0.001	0%
	May	1.089	1.079	-0.010	-1%	1.078	-0.011	-1%	1.077	-0.012	-1%	1.077	-0.012	-1%	0.580	0.573	-0.007	-1%	0.573	-0.007	-1%	0.571	-0.009	-1%	0.571	-0.009	-1%
	Jun	2.642	2.629	-0.013	0%	2.629	-0.013	-1%	2.628	-0.015	-1%	2.628	-0.014	-1%	1.497	1.487	-0.010	-1%	1.487	-0.010	-1%	1.486	-0.011	-1%	1.486	-0.011	-1%
	Jul	1.688	1.681	-0.006	0%	1.681	-0.007	0%	1.680	-0.008	0%	1.680	-0.008	0%	0.505	0.500	-0.005	-1%	0.500	-0.005	-1%	0.499	-0.005	-1%	0.499	-0.005	-1%
	Aug	1.301	1.292	-0.009	-1%	1.292	-0.009	-1%	1.291	-0.010	-1%	1.291	-0.010	-1%	0.420	0.416	-0.004	-1%	0.416	-0.004	-1%	0.415	-0.005	-1%	0.415	-0.005	-1%
	Sep	1.414	1.400	-0.014	-1%	1.400	-0.014	-1%	1.399	-0.015	-1%	1.399	-0.015	-1%	0.382	0.374	-0.008	-2%	0.374	-0.008	-2%	0.373	-0.009	-2%	0.373	-0.010	-2%
	Oct	1.237	1.223	-0.015	-1%	1.223	-0.015	-1%	1.222	-0.016	-1%	1.221	-0.016	-1%	0.305	0.295	-0.010	-3%	0.295	-0.010	-3%	0.294	-0.011	-3%	0.294	-0.011	-4%
	Nov	1.001	0.993	-0.008	-1%	0.993	-0.008	-1%	0.992	-0.009	-1%	0.992	-0.009	-1%	0.241	0.235	-0.006	-2%	0.235	-0.006	-2%	0.234	-0.007	-3%	0.234	-0.007	-3%
	Dec	0.832	0.828	-0.004	0%	0.828	-0.004	-1%	0.827	-0.005	-1%	0.827	-0.005	-1%	0.203	0.200	-0.003	-1%	0.200	-0.003	-1%	0.200	-0.003	-2%	0.199	-0.004	-2%
	Annual	1.118	1.111	-0.007	-1%	1.111	-0.007	-1%	1.110	-0.008	-1%	1.110	-0.008	-1%	0.391	0.387	-0.004	-1%	0.387	-0.004	-1%	0.386	-0.005	-1%	0.386	-0.005	-1%

Notes:

Existing condition baseline data has minor variations for each Project phase due to artifacts of the modelling process, values for 2020 are reported as existing conditions. Calculations for the absolute and percent change in flow for each phase use baseline data calculated for that specific phase and may have minor disagreement with the reported baseline data.

		1:25 Wet Climate Conditions												
	Month	Existing Conditions	Construction (year -2 to -1)			Operation (year 1 to 13)			Decommission, Reclamation, Closure (year 14 to 19)			Post-Closure (year 20+)		
		Flow (m^3/s)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Change (m^3/s)	Change (%)
QM01	Jan	9.608	9.608	0.000	0%	9.611	0.003	0%	9.612	0.004	0%	9.611	0.003	0%
	Feb	8.688	8.688	0.000	0%	8.687	-0.001	0%	8.687	-0.001	0%	8.687	-0.001	0%
	Mar	7.881	7.881	0.000	0%	7.877	-0.004	0%	7.875	-0.006	0%	7.877	-0.004	0%
	Apr	7.142	7.142	0.000	0%	7.139	-0.004	0%	7.138	-0.005	0%	7.139	-0.003	0%
	May	9.276	9.276	0.000	0%	9.273	-0.004	0%	9.271	-0.005	0%	9.273	-0.003	0%
	Jun	15.653	15.653	0.000	0%	15.650	-0.003	0%	15.649	-0.004	0%	15.650	-0.003	0%
	Jul	21.506	21.506	0.000	0%	21.503	-0.003	0%	21.503	-0.004	0%	21.504	-0.002	0%
	Aug	23.474	23.474	0.000	0%	23.471	-0.003	0%	23.470	-0.003	0%	23.471	-0.002	0%
	Sep	17.958	17.958	0.000	0%	17.956	-0.002	0%	17.955	-0.003	0%	17.956	-0.002	0%
	Oct	10.738	10.738	0.000	0%	10.736	-0.002	0%	10.735	-0.003	0%	10.736	-0.002	0%
	Nov	9.687	9.687	0.000	0%	9.685	-0.002	0%	9.685	-0.003	0%	9.685	-0.002	0%
	Dec	10.350	10.350	0.000	0%	10.349	-0.002	0%	10.348	-0.002	0%	10.349	-0.002	0%
	Annual	12.663	12.663	0.000	0%	12.661	-0.002	0%	12.661	-0.003	0%	12.662	-0.002	0%
QM02	Jan	9.608	9.608	0.000	0%	9.613	0.005	0%	9.614	0.006	0%	9.614	0.006	0%
	Feb	8.688	8.688	0.000	0%	8.689	0.001	0%	8.689	0.001	0%	8.690	0.002	0%
	Mar	7.881	7.881	0.000	0%	7.879	-0.002	0%	7.878	-0.003	0%	7.880	-0.001	0%
	Apr	7.159	7.159	-0.001	0%	7.155	-0.004	0%	7.154	-0.005	0%	7.156	-0.004	0%
	May	9.665	9.653	-0.012	0%	9.649	-0.016	0%	9.648	-0.017	0%	9.650	-0.015	0%
	Jun	15.821	15.816	-0.005	0%	15.813	-0.008	0%	15.812	-0.009	0%	15.813	-0.008	0%
	Jul	21.732	21.725	-0.007	0%	21.722	-0.010	0%	21.721	-0.011	0%	21.722	-0.009	0%
	Aug	23.671	23.664	-0.006	0%	23.662	-0.009	0%	23.661	-0.010	0%	23.662	-0.008	0%
	Sep	18.127	18.121	-0.005	0%	18.119	-0.007	0%	18.118	-0.008	0%	18.119	-0.007	0%
	Oct	10.843	10.840	-0.003	0%	10.838	-0.005	0%	10.837	-0.006	0%	10.838	-0.005	0%
	Nov	9.701	9.701	0.000	0%	9.700	-0.001	0%	9.700	-0.002	0%	9.701	-0.001	0%
	Dec	10.350	10.350	0.000	0%	10.351	0.000	0%	10.350	0.000	0%	10.351	0.001	0%
	Annual	12.771	12.767	-0.003	0%	12.766	-0.005	0%	12.765	-0.005	0%	12.766	-0.004	0%
QM03	Jan	9.608	9.616	0.008	0%	9.620	0.012	0%	9.615	0.007	0%	9.613	0.005	0%
	Feb	8.688	8.699	0.010	0%	8.735	0.047	1%	8.699	0.010	0%	8.689	0.001	0%
	Mar	7.881	7.900	0.019	0%	7.963	0.082	1%	7.895	0.014	0%	7.879	-0.002	0%
	Apr	7.176	7.197	0.021	0%	7.195	0.018	0%	7.181	0.004	0%	7.171	-0.005	0%
	May	10.052	10.076	0.024	0%	10.143	0.091	1%	10.058	0.006	0%	10.018	-0.034	0%
	Jun	15.988	16.015	0.027	0%	16.089	0.102	1%	15.995	0.007	0%	15.971	-0.016	0%
	Jul	21.956	21.988	0.031	0%	22.073	0.117	1%	21.965	0.008	0%	21.936	-0.021	0%
	Aug	23.867	23.894	0.028	0%	23.963	0.096	0%	23.872	0.006	0%	23.848	-0.018	0%
	Sep	18.294	18.317	0.023	0%	18.374	0.079	0%	18.302	0.008	0%	18.279	-0.016	0%
	Oct	10.948	10.960	0.012	0%	10.983	0.035	0%	10.951	0.003	0%	10.937	-0.011	0%
	Nov	9.715	9.725	0.010	0%	9.725	0.010	0%	9.718	0.003	0%	9.713	-0.002	0%
	Dec	10.350	10.358	0.008	0%	10.354	0.004	0%	10.352	0.001	0%	10.351	0.000	0%
	Annual	12.877	12.895	0.018	0%	12.935	0.058	0%	12.884	0.007	0%	12.867	-0.010	0%
QM04	Jan	0.000	0.000	0.000	n/a	0.001	0.001	n/a	0.002	0.002	n/a	0.026	0.026	n/a
	Feb	0.000	0.000	0.000	n/a	0.001	0.001	n/a	0.002	0.002	n/a	0.031	0.031	n/a
	Mar	0.000	0.000	0.000	n/a	0.001	0.001	n/a	0.002	0.002	n/a	0.035	0.035	n/a
	Apr	0.008	0.003	-0.005	n/a	0.003	-0.005	n/a	0.003	-0.005	n/a	0.041	0.033	n/a
	May	0.177	0.064	-0.114	-64%	0.064	-0.114	-64%	0.064	-0.114	-64%	0.247	0.069	39%
	Jun	0.077	0.027	-0.049	-64%	0.027	-0.049	-64%	0.027	-0.049	-64%	0.129	0.053	69%
	Jul	0.103	0.037	-0.066	-64%	0.037	-0.066	-64%	0.037	-0.066	-64%	0.170	0.067	65%
	Aug	0.090	0.032	-0.058	-64%	0.032	-0.058	-64%	0.032	-0.058	-64%	0.138	0.048	53%
	Sep	0.077	0.028	-0.049	-64%	0.028	-0.049	-64%	0.028	-0.049	-64%	0.140	0.063	81%
	Oct	0.048	0.017	-0.031	-64%	0.017	-0.031	-64%	0.017	-0.031	-64%	0.096	0.048	100%
	Nov	0.006	0.002	-0.004	n/a	0.003	-0.003	n/a	0.003	-0.003	n/a	0.039	0.032	n/a
	Dec	0.000	0.000	0.000	n/a	0.001	0.001	n/a	0.002	0.002	n/a	0.019	0.019	n/a
	Annual	0.049	0.018	-0.031	-64%	0.018	-0.031	-63%	0.018	-0.031	-63%	0.092	0.044	89%
QM05	Jan	2.796	3.311	0.515	18%	3.318	0.523	19%	3.318	0.523	19%	3.318	0.522	19%
	Feb	2.546	2.774	0.228	9%	2.779	0.233	9%	2.778	0.232	9%	2.779	0.233	9%
	Mar	2.311	2.278	-0.033	-1%	2.281	-0.030	-1%	2.280	-0.031	-1%	2.281	-0.030	-1%
	Apr	2.107	1.871	-0.236	-11%	1.875	-0.232	-11%	1.874	-0.233	-11%	1.875	-0.232	-11%
	May	5.250	4.865	-0.385	-7%	4.870	-0.380	-7%	4.869	-0.381	-7%	4.869	-0.380	-7%
	Jun	12.798	12.306	-0.492	-4%	12.311	-0.487	-4%	12.310	-0.487	-4%	12.311	-0.487	-4%
	Jul	12.848	12.464	-0.384	-3%	12.470	-0.379	-3%	12.469	-0.379	-3%	12.470	-0.379	-3%
	Aug	7.245	6.823	-0.423	-6%	6.828	-0.417	-6%	6.828	-0.418	-6%	6.828	-0.417	-6%
	Sep	4.958	4.702	-0.256	-5%	4.708	-0.250	-5%	4.707	-0.251	-5%	4.707	-0.250	-5%
	Oct	3.805	3.976	0.171	4%	3.982	0.177	5%	3.981	0.176	5%	3.981	0.177	5%
	Nov	3.206	3.779	0.573	18%	3.785	0.579	18%	3.784	0.578	18%	3.784	0.579	18%
	Dec	3.001	3.679	0.678	23%	3.685	0.684	23%	3.685	0.684	23%	3.685	0.684	23%
	Annual	5.239	5.236	-0.004	0%	5.241	0.002	0%	5.240	0.001	0%	5.241	0.002	0%
	Jan	9.608	9.616	0.008	0%	9.621	0.013	0%	9.617	0.009	0%	9.639	0.031	0%
	Feb	8.688	8.699	0.010	0%	8.736	0.048	1%	8.700	0.012	0%	8.721	0.032	0%
	Mar	7.881	7.900	0.019	0%	7.964	0.084	1%	7.896	0.016	0%	7.914	0.033	0%
	Apr	7.190	7.206	0.016	0%	7.204	0.013	0%	7.190	-0.001	0%	7.218	0.028	0%
	May	10.372	10.283	-0.090	-1%	10.349	-0.023	0%	10.265	-0.108	-1%	10.408	0.035	0%
	Jun	16.126	16.104	-0.022	0%	16.179	0.053	0%	16.084	-0.042	0%	16.162	0.036	0%

		1:25 Wet Climate Conditions												
	Month	Existing Conditions	Construction (year -2 to -1)			Operation (year 1 to 13)			Decommission, Reclamation, Closure (year 14 to 19)			Post-Closure (year 20+)		
		Flow (m^3/s)	Flow (m^3/s)	Change (m^3/s	Change (%)	Flow (m^3/s)	Change (m^3/s	Change (%)	Flow (m^3/s)	Change (m^3/s	Change (%)	Flow (m^3/s)	Change (m^3/s	Change (%)
QM06	Jul	22.142	22.108	-0.035	0%	22.193	0.051	0%	22.085	-0.058	0%	22.188	0.046	0%
	Aug	24.029	23.999	-0.030	0%	24.068	0.039	0%	23.977	-0.052	0%	24.059	0.030	0%
	Sep	18.433	18.407	-0.026	0%	18.463	0.030	0%	18.392	-0.041	0%	18.480	0.047	0%
	Oct	11.035	11.016	-0.019	0%	11.039	0.004	0%	11.007	-0.028	0%	11.072	0.037	0%
	Nov	9.727	9.733	0.006	0%	9.734	0.007	0%	9.727	0.000	0%	9.757	0.030	0%
	Dec	10.350	10.358	0.008	0%	10.356	0.005	0%	10.353	0.003	0%	10.370	0.019	0%
	Annual	12.965	12.952	-0.013	0%	12.992	0.027	0%	12.941	-0.024	0%	12.999	0.034	0%
QM07	Jan	0.034	0.033	-0.001	-4%	0.031	-0.003	-9%	0.031	-0.004	-11%	0.030	-0.004	-12%
	Feb	0.024	0.024	0.000	-1%	0.023	-0.001	-5%	0.023	-0.002	-7%	0.022	-0.002	-8%
	Mar	0.019	0.020	0.000	2%	0.019	0.000	-1%	0.018	-0.001	-6%	0.018	-0.001	-6%
	Apr	0.017	0.017	0.001	4%	0.017	0.000	2%	0.016	-0.001	-3%	0.016	-0.001	-4%
	May	0.073	0.062	-0.012	-16%	0.061	-0.012	-16%	0.060	-0.013	-18%	0.060	-0.013	-18%
	Jun	0.092	0.075	-0.017	-18%	0.075	-0.017	-18%	0.074	-0.018	-20%	0.074	-0.018	-20%
	Jul	0.066	0.053	-0.013	-20%	0.053	-0.013	-20%	0.052	-0.014	-21%	0.052	-0.014	-21%
	Aug	0.096	0.077	-0.018	-19%	0.077	-0.018	-19%	0.077	-0.019	-20%	0.076	-0.019	-20%
	Sep	0.123	0.098	-0.024	-20%	0.098	-0.025	-20%	0.098	-0.025	-21%	0.097	-0.025	-21%
	Oct	0.122	0.100	-0.022	-18%	0.100	-0.022	-18%	0.099	-0.023	-19%	0.099	-0.023	-19%
	Nov	0.090	0.076	-0.014	-16%	0.076	-0.014	-16%	0.075	-0.015	-17%	0.074	-0.015	-17%
	Dec	0.055	0.048	-0.008	-14%	0.048	-0.008	-14%	0.047	-0.009	-15%	0.047	-0.009	-16%
	Annual	0.068	0.057	-0.011	-16%	0.057	-0.011	-16%	0.056	-0.012	-18%	0.055	-0.012	-18%
QM08	Jan	13.461	14.005	0.543	4%	14.015	0.554	4%	14.011	0.550	4%	14.032	0.570	4%
	Feb	12.157	12.424	0.267	2%	12.456	0.300	2%	12.424	0.267	2%	12.447	0.290	2%
	Mar	11.030	11.041	0.012	0%	11.107	0.077	1%	11.038	0.008	0%	11.056	0.026	0%
	Apr	10.094	9.897	-0.198	-2%	9.905	-0.190	-2%	9.882	-0.212	-2%	9.911	-0.183	-2%
	May	18.085	17.605	-0.480	-3%	17.672	-0.413	-2%	17.587	-0.498	-3%	17.731	-0.354	-2%
	Jun	38.222	37.681	-0.541	-1%	37.758	-0.464	-1%	37.663	-0.559	-1%	37.742	-0.480	-1%
	Jul	45.215	44.778	-0.437	-1%	44.867	-0.347	-1%	44.758	-0.457	-1%	44.861	-0.354	-1%
	Aug	37.108	36.640	-0.468	-1%	36.715	-0.392	-1%	36.623	-0.485	-1%	36.705	-0.402	-1%
	Sep	27.534	27.213	-0.321	-1%	27.275	-0.260	-1%	27.201	-0.333	-1%	27.287	-0.247	-1%
	Oct	17.446	17.529	0.084	0%	17.559	0.113	1%	17.524	0.079	0%	17.590	0.144	1%
	Nov	14.248	14.784	0.536	4%	14.792	0.545	4%	14.782	0.534	4%	14.815	0.567	4%
	Dec	14.441	15.119	0.679	5%	15.123	0.682	5%	15.119	0.678	5%	15.137	0.697	5%
	Annual	21.587	21.560	-0.027	0%	21.604	0.017	0%	21.551	-0.036	0%	21.609	0.023	0%
QM09	Jan	0.000	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	n/a
	Feb	0.000	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	n/a
	Mar	0.000	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	n/a
	Apr	0.010	0.010	0.000	0%	0.010	0.000	0%	0.010	0.000	0%	0.010	0.000	0%
	May	0.235	0.235	0.000	0%	0.235	0.000	0%	0.235	0.000	0%	0.235	0.000	0%
	Jun	0.101	0.101	0.000	0%	0.101	0.000	0%	0.101	0.000	0%	0.101	0.000	0%
	Jul	0.136	0.136	0.000	0%	0.136	0.000	0%	0.136	0.000	0%	0.136	0.000	0%
	Aug	0.119	0.119	0.000	0%	0.119	0.000	0%	0.119	0.000	0%	0.119	0.000	0%
	Sep	0.102	0.102	0.000	0%	0.102	0.000	0%	0.102	0.000	0%	0.102	0.000	0%
	Oct	0.063	0.063	0.000	0%	0.063	0.000	0%	0.063	0.000	0%	0.063	0.000	0%
	Nov	0.008	0.008	0.000	n/a	0.008	0.000	n/a	0.008	0.000	n/a	0.008	0.000	n/a
	Dec	0.000	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	n/a	0.000	0.000	n/a
	Annual	0.065	0.065	0.000	0%	0.065	0.000	0%	0.065	0.000	0%	0.065	0.000	0%
AQM10 (QM11)	Jan	0.703	0.702	-0.001	0%	0.700	-0.003	0%	0.700	-0.004	-1%	0.700	-0.004	-1%
	Feb	0.593	0.593	0.000	0%	0.592	-0.001	0%	0.591	-0.002	0%	0.591	-0.002	0%
	Mar	0.505	0.505	0.000	0%	0.504	-0.001	0%	0.503	-0.002	0%	0.503	-0.002	0%
	Apr	0.430	0.431	0.001	0%	0.430	0.000	0%	0.429	-0.001	0%	0.429	-0.001	0%
	May	1.434	1.423	-0.012	-1%	1.422	-0.012	-1%	1.420	-0.014	-1%	1.421	-0.014	-1%
	Jun	3.873	3.857	-0.017	0%	3.856	-0.017	0%	3.855	-0.018	0%	3.855	-0.018	0%
	Jul	3.638	3.625	-0.013	0%	3.624	-0.013	0%	3.623	-0.014	0%	3.623	-0.014	0%
	Aug	1.777	1.759	-0.018	-1%	1.758	-0.019	-1%	1.757	-0.020	-1%	1.757	-0.020	-1%
	Sep	1.533	1.508	-0.024	-2%	1.508	-0.025	-2%	1.507	-0.026	-2%	1.507	-0.026	-2%
	Oct	1.326	1.304	-0.022	-2%	1.303	-0.022	-2%	1.303	-0.023	-2%	1.303	-0.023	-2%
	Nov	1.037	1.023	-0.014	-1%	1.022	-0.014	-1%	1.021	-0.015	-1%	1.021	-0.015	-1%
	Dec	0.851	0.844	-0.008	-1%	0.844	-0.008	-1%	0.843	-0.009	-1%	0.843	-0.009	-1%
	Annual	1.475	1.464	-0.011	-1%	1.464	-0.011	-1%	1.463	-0.012	-1%	1.463	-0.012	-1%

Notes:
Existing condition baseline data has minor variations for each Project phase due to artifacts of the modelling process, values for 2020 are reported as existing conditions. Calculations for the absolute and percent change in flow for each phase use baseline data calculated for that specific phase and may have minor disagreement with the reported baseline data.

	Month	Average Climate Conditions									1:25 Dry Climate Conditions									1:25 Wet Climate Conditions								
		Existing Conditions	Construction (year -2 to -1)		Operation (year 1 to 13)		Decommission, Reclamation, Closure (year		Post-Closure (year 20+)		Existing Conditions	Construction (year -2 to -1)		Operation (year 1 to 13)		Decommission, Reclamation, Closure (year		Post-Closure (year 20+)		Existing Conditions	Construction (year -2 to -1)		Operation (year 1 to 13)		Decommission, Reclamation, Closure (year		Post-Closure (year 20+)	
		Level (masl)	Level (masl)	Change (m)	Level (masl)	Change (m)	Level (masl)	Change (m)	Level (masl)	Change (m)	Level (masl)	Level (masl)	Change (m)	Level (masl)	Change (m)	Level (masl)	Change (m)	Level (masl)	Change (m)	Level (masl)	Level (masl)	Change (m)	Level (masl)	Change (m)	Level (masl)	Change (m)	Level (masl)	Change (m)
Minton Lake	Jan	329.920	329.917	-0.003	329.913	-0.007	329.910	-0.010	329.909	-0.011	329.889	329.886	-0.002	329.883	-0.006	329.879	-0.009	329.878	-0.011	329.962	329.956	-0.006	329.950	-0.012	329.947	-0.015	329.946	-0.016
	Feb	329.891	329.891	0.000	329.888	-0.003	329.884	-0.007	329.883	-0.008	329.866	329.867	0.001	329.865	-0.002	329.861	-0.006	329.860	-0.007	329.921	329.920	-0.001	329.916	-0.005	329.913	-0.008	329.912	-0.009
	Mar	329.871	329.874	0.002	329.872	0.000	329.867	-0.004	329.866	-0.005	329.852	329.855	0.003	329.853	0.001	329.849	-0.003	329.847	-0.005	329.896	329.898	0.002	329.895	-0.001	329.891	-0.006	329.890	-0.006
	Apr	329.861	329.865	0.004	329.864	0.003	329.859	-0.002	329.858	-0.003	329.844	329.849	0.004	329.847	0.003	329.842	-0.002	329.841	-0.003	329.883	329.886	0.003	329.884	0.002	329.880	-0.003	329.879	-0.004
	May	330.028	330.000	-0.028	329.999	-0.029	329.996	-0.033	329.995	-0.033	329.982	329.959	-0.023	329.958	-0.023	329.954	-0.028	329.953	-0.029	330.071	330.042	-0.029	330.041	-0.030	330.038	-0.033	330.037	-0.034
	Jun	330.068	330.031	-0.037	330.030	-0.037	330.027	-0.040	330.027	-0.041	330.010	329.978	-0.032	329.978	-0.033	329.974	-0.036	329.974	-0.036	330.128	330.086	-0.041	330.086	-0.042	330.083	-0.044	330.083	-0.045
	Jul	329.966	329.939	-0.026	329.939	-0.027	329.936	-0.030	329.935	-0.030	329.909	329.886	-0.023	329.886	-0.023	329.883	-0.026	329.882	-0.027	330.063	330.025	-0.038	330.025	-0.038	330.022	-0.041	330.022	-0.041
	Aug	329.974	329.940	-0.034	329.940	-0.034	329.936	-0.038	329.936	-0.039	329.877	329.851	-0.026	329.851	-0.026	329.847	-0.030	329.846	-0.031	330.137	330.093	-0.044	330.093	-0.044	330.091	-0.046	330.090	-0.047
	Sep	330.055	330.012	-0.043	330.012	-0.043	330.009	-0.046	330.009	-0.046	329.946	329.909	-0.037	329.909	-0.037	329.905	-0.041	329.904	-0.042	330.196	330.143	-0.052	330.143	-0.052	330.142	-0.054	330.141	-0.054
	Oct	330.080	330.040	-0.040	330.040	-0.040	330.037	-0.042	330.037	-0.043	329.988	329.952	-0.036	329.952	-0.036	329.948	-0.040	329.947	-0.040	330.194	330.147	-0.047	330.147	-0.047	330.145	-0.049	330.145	-0.049
	Nov	330.029	330.004	-0.025	330.004	-0.025	330.001	-0.028	330.001	-0.029	329.962	329.939	-0.022	329.939	-0.022	329.936	-0.026	329.935	-0.027	330.123	330.088	-0.035	330.088	-0.035	330.085	-0.038	330.085	-0.038
	Dec	329.967	329.952	-0.015	329.952	-0.015	329.948	-0.019	329.948	-0.019	329.922	329.910	-0.012	329.910	-0.012	329.906	-0.016	329.905	-0.016	330.032	330.009	-0.024	330.009	-0.024	330.006	-0.026	330.005	-0.027
	Annual	329.976	329.955	-0.020	329.955	-0.021	329.951	-0.025	329.950	-0.025	329.921	329.903	-0.017	329.903	-0.018	329.899	-0.022	329.898	-0.023	330.050	330.024	-0.026	330.023	-0.027	330.020	-0.030	330.020	-0.031
Cockeram Lake	Jan	312.132	312.138	0.006	312.138	0.006	312.138	0.006	312.138	0.006	312.082	312.087	0.005	312.087	0.005	312.087	0.005	312.087	0.005	312.178	312.184	0.006	312.185	0.007	312.185	0.007	312.185	0.007
	Feb	312.119	312.122	0.003	312.122	0.004	312.122	0.003	312.122	0.003	312.071	312.074	0.003	312.074	0.003	312.074	0.003	312.075	0.003	312.162	312.165	0.003	312.165	0.004	312.165	0.003	312.165	0.004
	Mar	312.106	312.106	0.000	312.107	0.001	312.106	0.000	312.107	0.001	312.062	312.062	0.001	312.063	0.002	312.062	0.001	312.062	0.001	312.147	312.147	0.000	312.148	0.001	312.147	0.000	312.147	0.000
	Apr	312.095	312.093	-0.002	312.093	-0.002	312.093	-0.003	312.093	-0.002	312.054	312.052	-0.002	312.052	-0.002	312.052	-0.002	312.052	-0.002	312.133	312.131	-0.003	312.131	-0.003	312.130	-0.003	312.131	-0.003
	May	312.172	312.167	-0.004	312.167	-0.004	312.167	-0.005	312.168	-0.003	312.107	312.103	-0.004	312.103	-0.004	312.103	-0.004	312.104	-0.003	312.224	312.219	-0.005	312.220	-0.004	312.219	-0.005	312.221	-0.003
	Jun	312.310	312.307	-0.003	312.307	-0.003	312.306	-0.003	312.307	-0.003	312.202	312.199	-0.003	312.199	-0.002	312.199	-0.003	312.199	-0.003	312.395	312.391	-0.004	312.391	-0.003	312.391	-0.004	312.391	-0.003
	Jul	312.298	312.296	-0.002	312.296	-0.002	312.296	-0.003	312.296	-0.002	312.173	312.171	-0.002	312.172	-0.001	312.171	-0.002	312.171	-0.002	312.443	312.440	-0.003	312.441	-0.002	312.440	-0.003	312.441	-0.002
	Aug	312.235	312.232	-0.003	312.233	-0.003	312.232	-0.003	312.232	-0.003	312.131	312.128	-0.003	312.129	-0.002	312.128	-0.003	312.129	-0.003	312.389	312.386	-0.003	312.386	-0.003	312.385	-0.003	312.386	-0.003
	Sep	312.183	312.180	-0.003	312.180	-0.003	312.180	-0.003	312.180	-0.003	312.100	312.096	-0.004	312.097	-0.003	312.096	-0.004	312.096	-0.003	312.316	312.314	-0.003	312.314	-0.002	312.313	-0.003	312.314	-0.002
	Oct	312.142	312.143	0.000	312.143	0.001	312.143	0.000	312.143	0.001	312.084	312.084	0.000	312.084	0.000	312.084	0.000	312.084	0.000	312.222	312.223	0.001	312.223	0.001	312.223	0.001	312.223	0.002
	Nov	312.137	312.142	0.005	312.142	0.005	312.142	0.005	312.143	0.006	312.083	312.087	0.004	312.087	0.004	312.087	0.004	312.087	0.005	312.187	312.194	0.006	312.194	0.006	312.194	0.006	312.194	0.007
	Dec	312.142	312.148	0.007	312.148	0.007	312.148	0.007	312.149	0.007	312.088	312.094	0.006	312.094	0.006	312.094	0.006	312.094	0.006	312.190	312.198	0.008	312.198	0.008	312.198	0.008	312.198	0.008
	Annual	312.173	312.173	0.000	312.173	0.001	312.173	0.000	312.173	0.001	312.103	312.103	0.000	312.103	0.000	312.103	0.000	312.103	0.000	312.249	312.249	0.000	312.250	0.001	312.249	0.000	312.250	0.001

Notes:
Existing condition baseline data has minor variations for each Project phase due to artifacts of the modelling process, values for 2020 are reported as existing conditions. Calculations for the absolute and percent change in flow for each phase use baseline data calculated for that specific phase and may have minor disagreement with the reported baseline data.

		Average Climate Conditions							1:25 Dry Climate Conditions							1:25 Wet Climate Conditions						
	Month	Existing Conditions	Post-Closure: Filling (year 20 to 34)			Post-Closure: Pit Filled (year 36+)			Existing Conditions	Post-Closure: Filling (year 20 to 43)			Post-Closure: Pit Filled (year 44+)			Existing Conditions	Post-Closure: Filling (year 20 to 28)			Post-Closure: Pit Filled (year 29+)		
		Flow (m^3/s)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Flow (m^3/s)	Change (m^3/s)	Change (%)	Flow (m^3/s)	Change (m^3/s)	Change (%)
QM04	Jan	0.000	0.002	0.002	n/a	0.022	0.022	n/a	0.000	0.002	0.002	n/a	0.017	0.017	n/a	0.000	0.009	0.009	n/a	0.029	0.029	n/a
	Feb	0.000	0.002	0.002	n/a	0.027	0.027	n/a	0.000	0.002	0.002	n/a	0.018	0.018	n/a	0.000	0.011	0.011	n/a	0.035	0.035	n/a
	Mar	0.000	0.002	0.002	n/a	0.030	0.030	n/a	0.000	0.002	0.002	n/a	0.020	0.020	n/a	0.000	0.012	0.012	n/a	0.039	0.039	n/a
	Apr	0.010	0.004	-0.006	n/a	0.035	0.026	n/a	0.011	0.004	-0.007	-63%	0.026	0.015	132%	0.008	0.015	0.007	n/a	0.045	0.037	n/a
	May	0.127	0.045	-0.081	-64%	0.190	0.064	50%	0.085	0.030	-0.054	-64%	0.124	0.039	46%	0.177	0.126	-0.051	-29%	0.267	0.090	51%
	Jun	0.053	0.019	-0.034	-64%	0.091	0.037	70%	0.038	0.014	-0.025	-64%	0.051	0.012	32%	0.077	0.062	-0.015	-19%	0.141	0.064	84%
	Jul	0.075	0.027	-0.048	-64%	0.121	0.045	60%	0.054	0.020	-0.035	-64%	0.068	0.013	24%	0.103	0.082	-0.021	-21%	0.184	0.081	79%
	Aug	0.065	0.023	-0.042	-64%	0.097	0.032	49%	0.047	0.017	-0.030	-64%	0.055	0.007	15%	0.090	0.068	-0.022	-24%	0.150	0.060	67%
	Sep	0.057	0.020	-0.036	-64%	0.104	0.047	84%	0.041	0.015	-0.026	-64%	0.063	0.023	56%	0.077	0.072	-0.004	-6%	0.151	0.074	96%
	Oct	0.036	0.013	-0.023	-64%	0.076	0.041	115%	0.026	0.009	-0.016	-64%	0.051	0.026	101%	0.048	0.048	0.000	1%	0.104	0.056	116%
	Nov	0.003	0.002	-0.001	n/a	0.032	0.029	n/a	0.002	0.002	0.000	n/a	0.023	0.020	n/a	0.006	0.017	0.010	n/a	0.042	0.036	n/a
	Dec	0.000	0.002	0.002	n/a	0.017	0.017	n/a	0.000	0.002	0.002	n/a	0.015	0.015	n/a	0.000	0.007	0.007	n/a	0.021	0.021	n/a
	Annual	0.035	0.013	-0.022	-62%	0.070	0.035	98%	0.025	0.010	-0.016	-61%	0.044	0.019	74%	0.049	0.044	-0.005	-10%	0.101	0.052	106%

Appendix C UPDATED EFFLUENT DISCHARGE CHARACTERIZATION

End-of-pipe mine effluent concentrations were not assessed for residual environmental effects and were not directly considered in the significance determination for potential Project effects to the aquatic receiving environment. However, the quality of Project effluents is important for meeting regulatory requirements (i.e., Metal and Diamond Mine Effluent Regulation (MDMER)) and for understanding how they may influence surface water quality in the receiving environment. Below is a characterization of predicted effluent quality that conservatively assumes zero water treatment prior to discharge.

The receiving environment nodes (regardless of their proximity to discharge points) were screened against the most stringent long-term aquatic life guidelines (described in the Environmental Impact Statement (EIS) Chapter 9, Section 9.4.4). End-of-pipe effluent quality was characterized for the potential to cause acute lethality in aquatic life by screening predicted effluent water quality against the short-term Canadian Water Quality Guideline for the Protection of Aquatic Life (CWQG-FAL) and Manitoba Water Quality Standards, Objectives, and Guidelines for the Protection of Aquatic Life (MWQOSG-FAL), as well as the MDMER Schedule 4 limits for new mines that will come into force on June 1, 2021 (see EIS Chapter 9, Section 9.1.1.1). Hardness-dependent short-term guidelines were calculated for each monthly timestep using predicted hardness (as $CaCO_3$) based on values for magnesium (Mg) and calcium (Ca).

To screen against the MDMER limit for unionized ammonia (NH_3), total ammonia (as N) was converted to NH_3 using the pH and temperature-dependent equation originally developed by Emerson et al (1975) and supported by the CCME (2010). For this calculation, water temperature and pH were conservatively assigned values of 20ºC and 8.5 (percent total ammonia as NH_3 increases with pH and temperature). Total suspended solids (TSS) was not modelled and, therefore, was not assessed. Compliance with the MDMER Schedule 4 limit for TSS (15 mg/L) at end-of-pipe was assumed to occur once relevant mitigation and treatment options are implemented, where and when necessary.

Water quality predictions for the discharge of water from the open pit at MacLellan sites in post-closure assumed that the pits would become meromictic (i.e., stratified by density into a lighter, upper layer called the mixolimnion separated from the heavier, bottom layer called the monimolimnion by a chemocline). Therefore, only water quality in the upper mixolimnion was used to characterize the effluent quality from the open pits.

MacLellan Site Discharges

Contact water from the MacLellan Project Development Area will be discharged to the aquatic receiving environment via two pathways: from the collection pond during construction and operation, and from overflow from the flooded open pit during post-closure. Modelled water quality at the MacLellan site assumes the following timeline:

- The MacLellan site collection pond discharges to the Keewatin River during construction and operation (Year -2 to Year 13).
- The MacLellan site open pit discharges to Keewatin River tributary KEE3-B1 in post-closure when the pit is filled enough to begin overflowing (estimated to be approximately Year 34 onward).

Predicted water quality in the collection pond and open pit at the MacLellan Site are summarized in Tables C1 and C2. Collection pond and open pit water quality is graphically presented for MDMER Schedule 4 parameters in Figures C1 and C2. Predicted hardness values for mine discharges (as $CaCO_3$/L based on predicted calcium and magnesium) are presented in Table C3.

Results: MacLellan Site Discharges

As shown in Table C1, no exceedances of short-term water quality guidelines or MDMER limits are predicted in the MacLellan site collection pond in the Expected Case or Upper Case. A detailed summary of predicted discharge water quality by phase and month, including a comparison to water quality guidelines, is provided in Volume 5 (EIS Appendix F)

The MacLellan site collection pond will discharge into the Keewatin River during construction and operation. The predicted changes in water quality at the nearest downstream assessment node in the receiving environment (node QM03) are shown in Volume 5 (EIS Appendix F)

As shown in Table C2, no exceedances of short-term water quality guidelines or MDMER limits are predicted in the upper layer of the MacLellan open pit for the Expected Case and the Upper-Case scenarios. In post-closure, the MacLellan site open pit will overflow into the Keewatin River tributary KEE3-B1 to the east. The predicted changes in water quality at the nearest downstream assessment node in the receiving environment (node KEE3-B1) are presented in the updated residual effects assessment. Predicted hardness values for mine discharges (as $CaCO_3$/L based on predicted calcium and magnesium) are presented in Table C3.

References

Canadian Council of Ministers of the Environment (CCME). 2010. Canadian water quality guidelines for the protection of aquatic life: Ammonia. In: Canadian environmental quality guidelines, 1999, Canadian Council of Ministers of the Environment, Winnipeg.

Emerson, K., R.E. Lund, R.V. Thurston and R.C. Russo. 1975. Aqueous ammonia equilibrium calculations: effect of pH and temperature. J. Fish. Res. Board Can. 32: 2379-2383.

MWS 2011. Manitoba water quality standards, objectives, and guidelines. Report 2011-01, 72 pp. Water Science and Management Branch, Manitoba Water Stewardship, Winnipeg, MB.

Table C1 Collection Pond Water Quality During the Construction and Operation Phases: MacLellan Site

Parameter	Short-term CWQG-FAL (mg/L)	Short-term MWQSOG-FAL (mg/L)	MDMER Schedule 4 Limit (mg/L)[2]	Expected Case				Upper Case			
				Construction Phase		Operation Phase		Construction Phase		Operation Phase	
				Mean	Max	Mean	Max	Mean	Max	Mean	Max
Total Ammonia (as N)		Equation[3]		0.149	0.27	0.261	0.908	0.63	0.934	1.02	2.06
Ammonia (NH_3)[1]			0.5	0.0167	0.0302	0.0292	0.102	0.0706	0.105	0.114	0.231
Arsenic			0.1	0.0132	0.0211	0.0118	0.0265	0.0153	0.0218	0.0296	0.0675
Arsenic (d)		0.34		0.00104	0.0018	0.0099	0.0249	0.00311	0.00473	0.0275	0.0655
Boron	29			0.00763	0.0108	0.0173	0.0349	0.0172	0.0236	0.0649	0.14
Cadmium	Equation			0.000117	0.000191	0.0000325	0.000112	0.000154	0.000197	0.000453	0.00107
Cadmium (d)		Equation		0.00000561	0.00000698	0.0000142	0.000041	0.0000422	0.0000677	0.000433	0.00105
Chloride	640			2.99	5	1.51	3.58	5.46	6.68	4.32	5.5
Chromium (d)		Equation		0.000104	0.000139	0.000148	0.000185	0.000294	0.000432	0.000707	0.00117
Chromium VI (d)		0.16		0.000104	0.000139	0.000148	0.000185	0.000295	0.000432	0.000707	0.00117
Copper			0.1	0.0024	0.00286	0.00229	0.00306	0.0089	0.0122	0.0142	0.019
Copper (d)		Equation		0.000826	0.00123	0.00155	0.00209	0.00731	0.0114	0.0134	0.0186
Cyanide			0.5	0.000483	0.000572	0.000472	0.000531	0.000579	0.00076	0.000565	0.000697
Cyanide (free)		0.022		0.00053	0.000626	0.000542	0.000626	0.000886	0.00112	0.00101	0.00131
Lead			0.08	0.00242	0.00397	0.000499	0.00231	0.00256	0.00401	0.000848	0.00243
Lead (d)		Equation		0.0000561	0.0000694	0.0000908	0.000132	0.000186	0.00027	0.000396	0.000574
Manganese (d)	Equation			0.225	0.636	0.151	0.317	0.573	0.859	0.721	0.945
Molybdenum	2			0.000636	0.000929	0.00493	0.0121	0.00338	0.00519	0.0168	0.0359
Nickel			0.25	0.00351	0.00479	0.00675	0.0152	0.00619	0.00855	0.0341	0.082
Nickel (d)		Equation		0.000773	0.00112	0.00543	0.0133	0.00348	0.00543	0.0327	0.0798
Uranium	0.033			0.000334	0.000427	0.00114	0.00242	0.0048	0.00751	0.00947	0.0136
Zinc			0.4	0.00936	0.0133	0.00446	0.00887	0.0282	0.0363	0.0403	0.0543
Zinc (d)	Equation	Equation		0.00211	0.00294	0.00308	0.00387	0.021	0.0325	0.0388	0.0538

Notes:
The collection pond is planned to discharge to the receiving environment only during the Construction and Operation phases.
CWQG-FAL = Canadian Water Quality Guideline - Freshwater Aquatic Life; MWQSOG-FAL = Manitoba Water Quality Standards, Objectives, and Guidelines - Freshwater Aquatic Life; MDMER = Metal and Diamond Mining Effluent Regulations; (d) = dissolved
"Equation" = the guideline is dependent on hardness (except the MWQSOG-FAL ammonia guideline, which is dependent on pH). All hardness-depended guidelines were calculated on a month-by-month basis using predicted hardness in the collection pond (calculated from predicted Mg and Ca).
[1] Unionized ammonia (NH_3) was calculated from total ammonia (as N) using the CCME (2010) equation originally developed by Emerson et al (1975). Values for water temperature and pH were conservatively assigned 20 C and 9.0 for all calculations.
[2] Predictions were screened against the future MDMER Schedule 4 limits coming into force on June 1, 2021 (see Section 9.1.1.1).
[3] The short-term MWQSOG-FAL for ammonia (as N) was calculated with a conservatively assigned pH of 9.0.
No MDMER or short-term WQG exceedances were observed for the predicted values shown in this table.

Table C2 Open Pit Water Quality in Post-Closure: MacLellan Site

Parameter	Short-term CWQG-FAL (mg/L)	Short-term MWQSOG-FAL (mg/L)	MDMER Schedule 4 Limit (mg/L)[2]	Post-Closure			
				Expected Case		Upper Case	
				Mean	Max	Mean	Max
Total Ammonia (as N)		Equation[3]		0.248	0.422	0.567	1.1
Ammonia (NH3)[1]			0.5	0.0278	0.0575	0.0772	0.150
Arsenic			0.1	0.0166	0.0252	0.0387	0.0687
Arsenic (d)		0.34		0.0153	0.0246	0.0372	0.068
Boron	29			0.0213	0.0321	0.0704	0.127
Cadmium	Equation			0.000182	0.000228	0.00131	0.00145
Cadmium (d)		Equation		0.000168	0.000211	0.00129	0.00144
Chloride	640			3.13	3.52	4.94	6.55
Chromium (d)		Equation		0.000288	0.000324	0.00192	0.00216
Chromium VI (d)		0.16		0.000288	0.000324	0.00192	0.00216
Copper			0.1	0.00747	0.0112	0.0172	0.0265
Copper (d)		Equation		0.00413	0.0047	0.0136	0.0193
Cyanide			0.5	0.0266	0.0474	0.0526	0.0849
Cyanide (free)		0.022		0.00332	0.00359	0.00375	0.00426
Lead			0.08	0.000637	0.000728	0.00115	0.00118
Lead (d)		Equation		0.000272	0.000307	0.000749	0.000771
Manganese (d)	Equation			0.266	0.301	0.888	0.908
Molybdenum	2			0.00485	0.0122	0.0155	0.0363
Nickel			0.25	0.02	0.0226	0.0905	0.0985
Nickel (d)		Equation		0.0179	0.0202	0.0882	0.0961
Uranium	0.033			0.0015	0.0023	0.00777	0.0124
Zinc			0.4	0.00916	0.0105	0.0406	0.0476
Zinc (d)	Equation	Equation		0.00771	0.00885	0.0391	0.0468

Notes:
The open pit is planned to discharge to the receiving environment only during post-closure.
CWQG-FAL = Canadian Water Quality Guideline - Freshwater Aquatic Life; MWQSOG-FAL = Manitoba Water Quality Standards, Objectives, and Guidelines - Freshwater Aquatic Life; MDMER = Metal and Diamond Mining Effluent Regulations; (d) = dissolved
"Equation" = the guideline is dependent on hardness (except the MWQSOG-FAL ammonia guideline, which is dependent on pH). All hardness-depended guidelines were calculated on a month-by-month basis using predicted hardness in the open pit (calculated from predicted Mg and Ca).
[1] Unionized ammonia (NH3) was calculated from total ammonia (as N) using the CCME (2010) equation originally developed by Emerson et al (1975). Values for water temperature and pH were conservatively assigned 20ºC and 9.0 for all calculations.
[2] Predictions were screened against the future MDMER Schedule 4 limits coming into force on June 1, 2021 (see Section 9.1.1.1).
[3] The short-term MWQSOG-FAL for ammonia (as N) was calculated with a conservatively assigned pH of 9.0.

No MDMER or short-term WQG exceedances were observed for the predicted values shown in this table.

Table C3 Predicted Hardness in Mine Discharges Used to Calculate Hardness-Dependent Water Quality Guidelines

Month	MacLellan site		Gordon Site					
	Open Pit	Collection pond	Open Pit	Collection pond	Wendy Pit[1]	East Pit[2]	Gordon Groundwater Interceptor Wells	West Farley Groundwater Interceptor Wells
Jan	184.3	233.7	322.2	127.3	132.8	137.2	153.6	157.8
Feb	177.6	200.1	322.2	133.8	129.4	135.1	153.7	157.8
Mar	177.3	190.9	322.2	113.5	124.2	133.0	153.7	157.8
Apr	176.9	204.4	322.2	141.8	90.3	130.3	153.6	157.8
May	177.6	199.8	319.3	140.6	-	127.3	153.6	157.8
Jun	177.6	185.3	322.2	132.8	-	124.5	153.6	157.8
Jul	179.8	188.7	322.2	124.2	-	121.1	153.3	157.8
Aug	179.2	188.5	325.2	124.8	-	117.1	153.3	157.8
Sep	182.2	191.8	325.6	127.6	-	111.6	153.6	157.8
Oct	196.5	206.0	325.6	114.2	-	103.2	153.6	157.8
Nov	196.5	232.1	325.6	110.1	-	48.1	153.6	157.8
Dec	198.9	252.7	325.6	121.3	-	-	153.6	157.8

Note:
All Project-induced hardness values are based on predicted Expected Case concentrations of calcium and magnesium, and presented as mg $CaCO_3$/L
[1] Predictions for the Wendy pit are based on the anticipated dewatering duration of 4 months
[2] Predictions for East Pit are based on the anticipated dewatering duration of 11 months

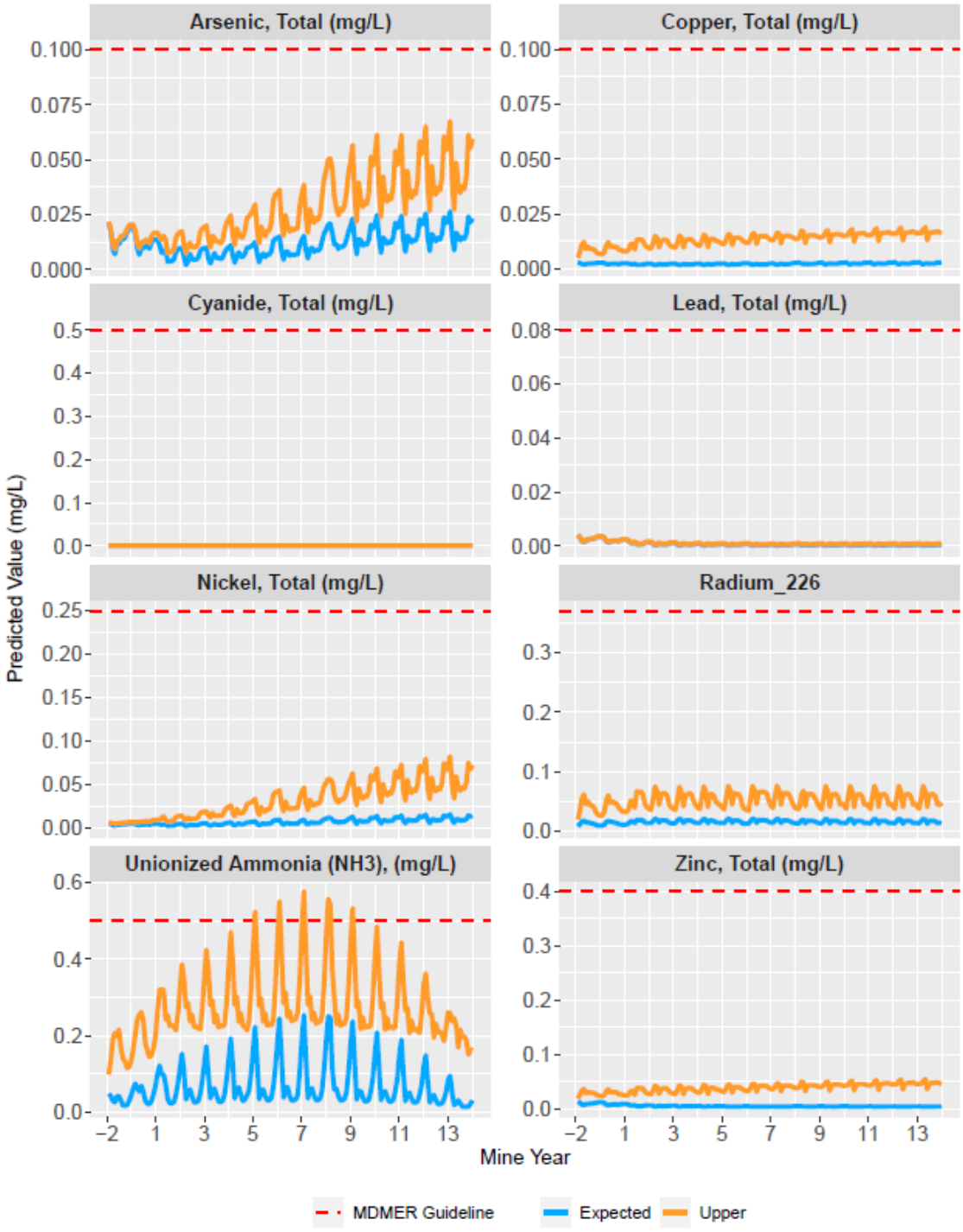


Figure C1 MDMER Schedule 4 Parameters in the Expected Case and Upper Case: MacLellan Site Collection Pond During Construction and Operation

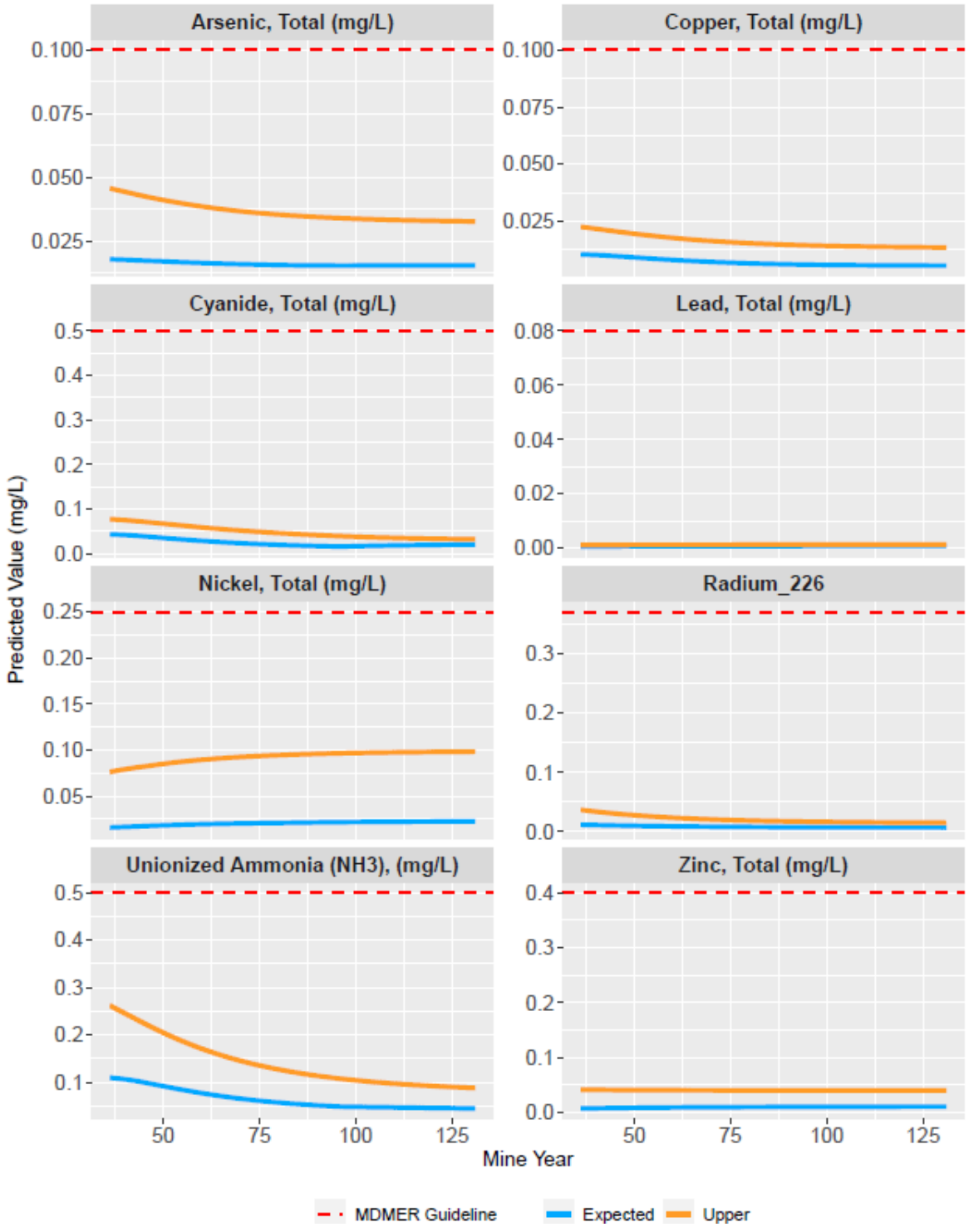


Figure C2 **MDMER Schedule 4 Parameters in the Expected Case and Upper Case: MacLellan Site Open Pit During Post-Closure**

Appendix D UPDATED WATER QUALITY PREDICTIONS

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Chloride	Construction	Jan	2	4.514	4.514	4.996	-	-	-	-	-	-
Chloride	Construction	Feb	2	3.965	3.965	4.159	-	-	-	-	-	-
Chloride	Construction	Mar	2	3.113	3.113	3.156	-	-	-	0.345	0.345	0.446
Chloride	Construction	Apr	2	2.719	2.719	2.792	-	-	-	0.100	0.100	0.100
Chloride	Construction	May	2	2.017	2.017	2.039	-	-	-	0.105	0.105	0.105
Chloride	Construction	Jun	2	2.110	2.110	2.197	-	-	-	0.102	0.102	0.102
Chloride	Construction	Jul	2	2.603	2.603	2.719	-	-	-	0.092	0.092	0.092
Chloride	Construction	Aug	2	2.650	2.650	2.728	-	-	-	5.592	5.592	5.592
Chloride	Construction	Sep	2	2.612	2.612	2.918	-	-	-	10.824	10.824	21.339
Chloride	Construction	Oct	2	3.108	3.108	3.302	-	-	-	15.112	15.112	15.112
Chloride	Construction	Nov	2	3.437	3.437	3.622	-	-	-	14.917	14.917	14.917
Chloride	Construction	Dec	2	3.699	3.699	3.889	-	-	-	15.504	15.504	15.504
Chloride	Operations	Jan	13	2.094	2.351	3.540	-	-	-	49.547	54.144	103.024
Chloride	Operations	Feb	13	1.403	1.616	3.183	-	-	-	51.550	57.952	117.545
Chloride	Operations	Mar	13	0.939	1.139	2.560	-	-	-	49.304	50.888	71.987
Chloride	Operations	Apr	13	1.401	1.619	2.974	-	-	-	46.115	43.972	47.454
Chloride	Operations	May	13	1.383	1.584	2.619	-	-	-	40.917	39.462	43.939
Chloride	Operations	Jun	13	0.980	1.055	1.307	-	-	-	40.797	39.792	43.344
Chloride	Operations	Jul	13	1.137	1.203	1.438	-	-	-	41.970	42.675	50.596
Chloride	Operations	Aug	13	1.092	1.183	1.510	-	-	-	42.866	45.263	63.028
Chloride	Operations	Sep	13	1.212	1.320	1.917	-	-	-	44.101	46.924	70.210
Chloride	Operations	Oct	13	1.564	1.660	2.263	-	-	-	44.354	47.404	71.123
Chloride	Operations	Nov	13	1.597	1.842	2.571	-	-	-	45.123	50.157	84.376
Chloride	Operations	Dec	13	1.858	2.073	2.774	-	-	-	46.987	55.400	108.357
Chloride	Closure	Jan	6	2.281	2.221	2.281	-	-	-	27.463	28.313	37.511
Chloride	Closure	Feb	6	2.341	2.307	2.341	-	-	-	27.301	28.136	37.227
Chloride	Closure	Mar	6	2.403	2.396	2.403	-	-	-	26.796	27.591	36.364
Chloride	Closure	Apr	6	2.418	2.417	2.418	-	-	-	26.261	27.015	35.460
Chloride	Closure	May	6	1.934	1.934	1.934	-	-	-	25.922	26.649	34.889
Chloride	Closure	Jun	6	1.654	1.654	1.654	-	-	-	25.775	26.489	34.637
Chloride	Closure	Jul	6	1.861	1.861	1.861	-	-	-	25.713	26.421	34.525
Chloride	Closure	Aug	6	1.930	1.930	1.930	-	-	-	25.646	26.349	34.406
Chloride	Closure	Sep	6	1.950	1.950	1.950	-	-	-	25.485	26.174	34.130
Chloride	Closure	Oct	6	1.952	1.952	1.952	-	-	-	25.158	25.821	33.584
Chloride	Closure	Nov	6	2.054	2.054	2.054	-	-	-	24.898	25.541	33.155
Chloride	Closure	Dec	6	2.202	2.202	2.202	-	-	-	24.775	25.408	32.952
Chloride	Post-Closure	Jan	109	3.587	3.934	5.346	2.937	2.690	3.247	1.199	2.727	19.379
Chloride	Post-Closure	Feb	109	3.732	4.081	5.479	2.935	2.689	3.244	1.198	2.720	19.305
Chloride	Post-Closure	Mar	109	4.788	4.952	5.600	2.929	2.687	3.239	1.194	2.697	19.073
Chloride	Post-Closure	Apr	109	4.877	5.031	5.627	2.923	2.684	3.232	1.190	2.672	18.821
Chloride	Post-Closure	May	109	3.813	3.950	4.481	2.920	2.682	3.229	1.189	2.656	18.638
Chloride	Post-Closure	Jun	109	3.491	3.570	3.873	2.923	2.687	3.232	1.191	2.644	18.476
Chloride	Post-Closure	Jul	109	4.088	4.145	4.365	2.931	2.699	3.242	1.195	2.631	18.284
Chloride	Post-Closure	Aug	109	4.195	4.262	4.518	2.940	2.711	3.252	1.200	2.619	18.084
Chloride	Post-Closure	Sep	109	4.201	4.275	4.563	2.945	2.719	3.257	1.203	2.605	17.888
Chloride	Post-Closure	Oct	109	4.045	4.153	4.571	2.943	2.719	3.256	1.201	2.586	17.683
Chloride	Post-Closure	Nov	109	3.855	4.046	4.794	2.940	2.716	3.252	1.198	2.572	17.553
Chloride	Post-Closure	Dec	109	3.701	4.000	5.164	2.939	2.713	3.249	1.196	2.566	17.492
Fluoride	Construction	Jan	2	0.0456	0.0456	0.0492	-	-	-	-	-	-
Fluoride	Construction	Feb	2	0.0521	0.0521	0.0527	-	-	-	-	-	-
Fluoride	Construction	Mar	2	0.0587	0.0587	0.0596	-	-	-	0.0024	0.0024	0.0028
Fluoride	Construction	Apr	2	0.0637	0.0637	0.0641	-	-	-	0.0006	0.0006	0.0006
Fluoride	Construction	May	2	0.0620	0.0620	0.0631	-	-	-	0.0007	0.0007	0.0007
Fluoride	Construction	Jun	2	0.0597	0.0597	0.0603	-	-	-	0.0006	0.0006	0.0006
Fluoride	Construction	Jul	2	0.0576	0.0576	0.0596	-	-	-	0.0006	0.0006	0.0006
Fluoride	Construction	Aug	2	0.0587	0.0587	0.0608	-	-	-	0.0408	0.0408	0.0408
Fluoride	Construction	Sep	2	0.0557	0.0557	0.0565	-	-	-	0.1848	0.1848	0.3674
Fluoride	Construction	Oct	2	0.0548	0.0548	0.0568	-	-	-	0.2511	0.2511	0.2511
Fluoride	Construction	Nov	2	0.0528	0.0528	0.0553	-	-	-	0.2302	0.2302	0.2302
Fluoride	Construction	Dec	2	0.0521	0.0521	0.0549	-	-	-	0.2276	0.2276	0.2276
Fluoride	Operations	Jan	13	0.0853	0.0846	0.1080	-	-	-	0.8499	0.8810	1.4416
Fluoride	Operations	Feb	13	0.0835	0.0829	0.0960	-	-	-	0.8639	0.9203	1.5968
Fluoride	Operations	Mar	13	0.0826	0.0819	0.0889	-	-	-	0.8434	0.8041	0.9477
Fluoride	Operations	Apr	13	0.0822	0.0816	0.0940	-	-	-	0.7534	0.7012	0.8034
Fluoride	Operations	May	13	0.0804	0.0798	0.0960	-	-	-	0.6715	0.6446	0.7649
Fluoride	Operations	Jun	13	0.0830	0.0829	0.0938	-	-	-	0.6726	0.6717	0.7622
Fluoride	Operations	Jul	13	0.0854	0.0853	0.0969	-	-	-	0.7493	0.7516	0.8332
Fluoride	Operations	Aug	13	0.0857	0.0856	0.0965	-	-	-	0.8019	0.8278	1.0711
Fluoride	Operations	Sep	13	0.0861	0.0863	0.0989	-	-	-	0.8181	0.8631	1.1683
Fluoride	Operations	Oct	13	0.0878	0.0882	0.1077	-	-	-	0.8164	0.8535	1.1096
Fluoride	Operations	Nov	13	0.0900	0.0876	0.1054	-	-	-	0.8199	0.8723	1.2207
Fluoride	Operations	Dec	13	0.0909	0.0884	0.1070	-	-	-	0.8353	0.9270	1.4727
Fluoride	Closure	Jan	6	0.157	0.151	0.159	-	-	-	0.6477	0.6542	0.7253
Fluoride	Closure	Feb	6	0.157	0.154	0.159	-	-	-	0.6438	0.6502	0.7198
Fluoride	Closure	Mar	6	0.157	0.157	0.159	-	-	-	0.6317	0.6376	0.7029
Fluoride	Closure	Apr	6	0.160	0.160	0.160	-	-	-	0.6192	0.6246	0.6856
Fluoride	Closure	May	6	0.156	0.156	0.156	-	-	-	0.6136	0.6187	0.6776
Fluoride	Closure	Jun	6	0.153	0.154	0.155	-	-	-	0.6169	0.6220	0.6811
Fluoride	Closure	Jul	6	0.156	0.157	0.158	-	-	-	0.6270	0.6323	0.6934
Fluoride	Closure	Aug	6	0.159	0.159	0.159	-	-	-	0.6383	0.6440	0.7072
Fluoride	Closure	Sep	6	0.159	0.159	0.159	-	-	-	0.6428	0.6485	0.7121
Fluoride	Closure	Oct	6	0.161	0.160	0.161	-	-	-	0.6378	0.6432	0.7049
Fluoride	Closure	Nov	6	0.164	0.162	0.164	-	-	-	0.6321	0.6372	0.6969
Fluoride	Closure	Dec	6	0.162	0.161	0.162	-	-	-	0.6289	0.6339	0.6926
Fluoride	Post-Closure	Jan	109	0.119	0.123	0.155	0.1237	0.1120	0.1328	0.1384	0.1759	0.5856
Fluoride	Post-Closure	Feb	109	0.121	0.125	0.148	0.1236	0.1120	0.1327	0.1378	0.1753	0.5833
Fluoride	Post-Closure	Mar	109	0.138	0.139	0.142	0.1234	0.1117	0.1325	0.1362	0.1731	0.5760
Fluoride	Post-Closure	Apr	109	0.143	0.143	0.144	0.1231	0.1115	0.1322	0.1345	0.1709	0.5682
Fluoride	Post-Closure	May	109	0.135	0.135	0.136	0.1230	0.1115	0.1321	0.1339	0.1700	0.5632
Fluoride	Post-Closure	Jun	109	0.132	0.132	0.134	0.1231	0.1117	0.1322	0.1348	0.1705	0.5601
Fluoride	Post-Closure	Jul	109	0.139	0.138	0.140	0.1235	0.1120	0.1326	0.1369	0.1723	0.5574
Fluoride	Post-Closure	Aug	109	0.142	0.141	0.142	0.1238	0.1125	0.1330	0.1394	0.1743	0.5548
Fluoride	Post-Closure	Sep	109	0.143	0.142	0.143	0.1240	0.1127	0.1332	0.1405	0.1750	0.5510
Fluoride	Post-Closure	Oct	109	0.144	0.143	0.145	0.1239	0.1127	0.1331	0.1399	0.1740	0.5454
Fluoride	Post-Closure	Nov	109	0.139	0.139	0.144	0.1238	0.1126	0.1330	0.1392	0.1730	0.5415
Fluoride	Post-Closure	Dec	109	0.127	0.130	0.144	0.1237	0.1126	0.1329	0.1387	0.1724	0.5396
Phosphorus, Total	Construction	Jan	2	0.0154	0.0154	0.0170	-	-	-	-	-	-

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Phosphorus, Total	Construction	Feb	2	0.0154	0.0154	0.0165	-	-	-	-	-	-
Phosphorus, Total	Construction	Mar	2	0.0151	0.0151	0.0154	-	-	-	0.0010	0.0010	0.0014
Phosphorus, Total	Construction	Apr	2	0.0149	0.0149	0.0150	-	-	-	0.0003	0.0003	0.0003
Phosphorus, Total	Construction	May	2	0.0151	0.0151	0.0153	-	-	-	0.0003	0.0003	0.0003
Phosphorus, Total	Construction	Jun	2	0.0168	0.0168	0.0170	-	-	-	0.0004	0.0004	0.0004
Phosphorus, Total	Construction	Jul	2	0.0161	0.0161	0.0163	-	-	-	0.0005	0.0005	0.0005
Phosphorus, Total	Construction	Aug	2	0.0154	0.0154	0.0155	-	-	-	0.0218	0.0218	0.0218
Phosphorus, Total	Construction	Sep	2	0.0123	0.0123	0.0133	-	-	-	0.0132	0.0132	0.0253
Phosphorus, Total	Construction	Oct	2	0.0115	0.0115	0.0117	-	-	-	0.0080	0.0080	0.0080
Phosphorus, Total	Construction	Nov	2	0.0119	0.0119	0.0120	-	-	-	0.0053	0.0053	0.0053
Phosphorus, Total	Construction	Dec	2	0.0130	0.0130	0.0130	-	-	-	0.0041	0.0041	0.0041
Phosphorus, Total	Operations	Jan	13	0.0128	0.0131	0.0144	-	-	-	0.0152	0.0136	0.0163
Phosphorus, Total	Operations	Feb	13	0.0128	0.0130	0.0141	-	-	-	0.0148	0.0129	0.0151
Phosphorus, Total	Operations	Mar	13	0.0127	0.0129	0.0144	-	-	-	0.0136	0.0115	0.0144
Phosphorus, Total	Operations	Apr	13	0.0128	0.0132	0.0150	-	-	-	0.0124	0.0111	0.0139
Phosphorus, Total	Operations	May	13	0.0136	0.0141	0.0160	-	-	-	0.0123	0.0117	0.0137
Phosphorus, Total	Operations	Jun	13	0.0135	0.0138	0.0147	-	-	-	0.0135	0.0134	0.0153
Phosphorus, Total	Operations	Jul	13	0.0130	0.0132	0.0139	-	-	-	0.0148	0.0160	0.0218
Phosphorus, Total	Operations	Aug	13	0.0129	0.0132	0.0138	-	-	-	0.0167	0.0185	0.0269
Phosphorus, Total	Operations	Sep	13	0.0118	0.0119	0.0122	-	-	-	0.0175	0.0190	0.0270
Phosphorus, Total	Operations	Oct	13	0.0113	0.0112	0.0118	-	-	-	0.0170	0.0176	0.0228
Phosphorus, Total	Operations	Nov	13	0.0117	0.0118	0.0121	-	-	-	0.0157	0.0162	0.0196
Phosphorus, Total	Operations	Dec	13	0.0124	0.0126	0.0133	-	-	-	0.0155	0.0153	0.0176
Phosphorus, Total	Closure	Jan	6	0.010	0.010	0.012	-	-	-	0.0185	0.0182	0.0204
Phosphorus, Total	Closure	Feb	6	0.010	0.010	0.012	-	-	-	0.0184	0.0181	0.0203
Phosphorus, Total	Closure	Mar	6	0.011	0.011	0.011	-	-	-	0.0181	0.0178	0.0200
Phosphorus, Total	Closure	Apr	6	0.011	0.011	0.011	-	-	-	0.0178	0.0175	0.0197
Phosphorus, Total	Closure	May	6	0.012	0.012	0.012	-	-	-	0.0177	0.0174	0.0196
Phosphorus, Total	Closure	Jun	6	0.012	0.012	0.012	-	-	-	0.0180	0.0178	0.0198
Phosphorus, Total	Closure	Jul	6	0.011	0.011	0.011	-	-	-	0.0186	0.0184	0.0204
Phosphorus, Total	Closure	Aug	6	0.011	0.011	0.011	-	-	-	0.0193	0.0191	0.0210
Phosphorus, Total	Closure	Sep	6	0.008	0.008	0.008	-	-	-	0.0197	0.0195	0.0213
Phosphorus, Total	Closure	Oct	6	0.008	0.008	0.008	-	-	-	0.0196	0.0195	0.0213
Phosphorus, Total	Closure	Nov	6	0.008	0.008	0.008	-	-	-	0.0195	0.0193	0.0211
Phosphorus, Total	Closure	Dec	6	0.009	0.009	0.009	-	-	-	0.0194	0.0192	0.0210
Phosphorus, Total	Post-Closure	Jan	109	0.016	0.017	0.021	0.0155	0.0143	0.0157	0.0106	0.0115	0.0210
Phosphorus, Total	Post-Closure	Feb	109	0.016	0.018	0.022	0.0155	0.0142	0.0157	0.0106	0.0114	0.0209
Phosphorus, Total	Post-Closure	Mar	109	0.020	0.021	0.023	0.0155	0.0142	0.0157	0.0105	0.0113	0.0207
Phosphorus, Total	Post-Closure	Apr	109	0.021	0.021	0.023	0.0155	0.0142	0.0156	0.0104	0.0112	0.0204
Phosphorus, Total	Post-Closure	May	109	0.023	0.023	0.025	0.0154	0.0142	0.0156	0.0103	0.0112	0.0203
Phosphorus, Total	Post-Closure	Jun	109	0.024	0.025	0.026	0.0155	0.0142	0.0157	0.0104	0.0112	0.0202
Phosphorus, Total	Post-Closure	Jul	109	0.022	0.022	0.023	0.0155	0.0143	0.0157	0.0105	0.0113	0.0203
Phosphorus, Total	Post-Closure	Aug	109	0.021	0.022	0.022	0.0156	0.0143	0.0158	0.0107	0.0115	0.0203
Phosphorus, Total	Post-Closure	Sep	109	0.017	0.017	0.017	0.0156	0.0144	0.0158	0.0107	0.0115	0.0203
Phosphorus, Total	Post-Closure	Oct	109	0.015	0.015	0.016	0.0156	0.0143	0.0158	0.0107	0.0115	0.0201
Phosphorus, Total	Post-Closure	Nov	109	0.015	0.015	0.017	0.0155	0.0143	0.0157	0.0106	0.0114	0.0200
Phosphorus, Total	Post-Closure	Dec	109	0.016	0.017	0.020	0.0155	0.0143	0.0157	0.0106	0.0114	0.0199
Ammonia (as N)	Construction	Jan	2	0.1990	0.1990	0.2231	-	-	-	-	-	-
Ammonia (as N)	Construction	Feb	2	0.2111	0.2111	0.2677	-	-	-	-	-	-
Ammonia (as N)	Construction	Mar	2	0.1688	0.1688	0.2092	-	-	-	0.0169	0.0169	0.0187
Ammonia (as N)	Construction	Apr	2	0.1495	0.1495	0.1795	-	-	-	0.0034	0.0034	0.0034
Ammonia (as N)	Construction	May	2	0.1497	0.1497	0.1736	-	-	-	0.0080	0.0080	0.0080
Ammonia (as N)	Construction	Jun	2	0.1685	0.1685	0.1819	-	-	-	0.0075	0.0075	0.0075
Ammonia (as N)	Construction	Jul	2	0.1080	0.1080	0.1103	-	-	-	0.0065	0.0065	0.0065
Ammonia (as N)	Construction	Aug	2	0.0741	0.0741	0.0840	-	-	-	0.1782	0.1782	0.1782
Ammonia (as N)	Construction	Sep	2	0.0717	0.0717	0.0790	-	-	-	1.6275	1.6275	3.2460
Ammonia (as N)	Construction	Oct	2	0.0915	0.0915	0.1096	-	-	-	2.4144	2.4144	2.4144
Ammonia (as N)	Construction	Nov	2	0.1380	0.1380	0.1697	-	-	-	2.4003	2.4003	2.4003
Ammonia (as N)	Construction	Dec	2	0.2063	0.2063	0.2544	-	-	-	2.5087	2.5087	2.5087
Ammonia (as N)	Operations	Jan	13	0.7316	0.6839	0.8969	-	-	-	8.4866	9.1637	17.0490
Ammonia (as N)	Operations	Feb	13	0.4308	0.4347	0.8559	-	-	-	8.8143	9.7869	19.4433
Ammonia (as N)	Operations	Mar	13	0.1286	0.1453	0.2914	-	-	-	8.4239	8.5637	11.7715
Ammonia (as N)	Operations	Apr	13	0.1926	0.1846	0.2711	-	-	-	7.8499	7.3943	7.9831
Ammonia (as N)	Operations	May	13	0.2355	0.2240	0.2783	-	-	-	6.8831	6.6497	7.4735
Ammonia (as N)	Operations	Jun	13	0.1543	0.1458	0.1708	-	-	-	6.9401	6.7389	7.3799
Ammonia (as N)	Operations	Jul	13	0.1034	0.0992	0.1163	-	-	-	7.1953	7.2707	8.4506
Ammonia (as N)	Operations	Aug	13	0.1033	0.1001	0.1229	-	-	-	7.3826	7.7430	10.5295
Ammonia (as N)	Operations	Sep	13	0.1198	0.1142	0.1582	-	-	-	7.6047	8.0264	11.6770
Ammonia (as N)	Operations	Oct	13	0.1780	0.1772	0.2451	-	-	-	7.6348	8.0831	*11.7538*
Ammonia (as N)	Operations	Nov	13	0.3232	0.3178	0.4394	-	-	-	7.7385	8.5243	13.9256
Ammonia (as N)	Operations	Dec	13	0.5414	0.5155	0.6968	-	-	-	8.0394	9.3892	17.9246
Ammonia (as N)	Closure	Jan	6	0.062	0.071	0.118	-	-	-	4.8547	4.9877	6.4281
Ammonia (as N)	Closure	Feb	6	0.071	0.076	0.103	-	-	-	4.8254	4.9560	6.3788
Ammonia (as N)	Closure	Mar	6	0.080	0.081	0.087	-	-	-	4.7342	4.8583	6.2286
Ammonia (as N)	Closure	Apr	6	0.082	0.083	0.083	-	-	-	4.6382	4.7555	6.0720
Ammonia (as N)	Closure	May	6	0.087	0.087	0.087	-	-	-	4.5810	4.6940	5.9774
Ammonia (as N)	Closure	Jun	6	0.090	0.090	0.090	-	-	-	4.5647	4.6760	5.9464
Ammonia (as N)	Closure	Jul	6	0.029	0.029	0.029	-	-	-	4.5708	4.6817	5.9487
Ammonia (as N)	Closure	Aug	6	0.010	0.010	0.010	-	-	-	4.5777	4.6880	5.9513
Ammonia (as N)	Closure	Sep	6	0.011	0.011	0.011	-	-	-	4.5603	4.6687	5.9180
Ammonia (as N)	Closure	Oct	6	0.011	0.011	0.011	-	-	-	4.5052	4.6095	5.8277
Ammonia (as N)	Closure	Nov	6	0.027	0.027	0.027	-	-	-	4.4591	4.5600	5.7537
Ammonia (as N)	Closure	Dec	6	0.049	0.049	0.049	-	-	-	4.4365	4.5358	5.7178
Ammonia (as N)	Post-Closure	Jan	109	0.120	0.127	0.160	0.1739	0.1850	0.2954	0.2498	0.5305	3.5891
Ammonia (as N)	Post-Closure	Feb	109	0.133	0.142	0.180	0.1738	0.1849	0.2952	0.2488	0.5284	3.5749
Ammonia (as N)	Post-Closure	Mar	109	0.174	0.179	0.199	0.1734	0.1846	0.2946	0.2460	0.5220	3.5300
Ammonia (as N)	Post-Closure	Apr	109	0.178	0.183	0.203	0.1729	0.1844	0.2941	0.2432	0.5154	3.4817
Ammonia (as N)	Post-Closure	May	109	0.187	0.193	0.213	0.1743	0.1844	0.2940	0.2423	0.5117	3.4474
Ammonia (as N)	Post-Closure	Jun	109	0.200	0.204	0.219	0.1744	0.1849	0.2945	0.2441	0.5110	3.4191
Ammonia (as N)	Post-Closure	Jul	109	0.072	0.074	0.079	0.1747	0.1855	0.2953	0.2479	0.5117	3.3870
Ammonia (as N)	Post-Closure	Aug	109	0.038	0.039	0.039	0.1749	0.1860	0.2960	0.2518	0.5125	3.3532
Ammonia (as N)	Post-Closure	Sep	109	0.039	0.040	0.040	0.1749	0.1861	0.2964	0.2533	0.5109	3.3181
Ammonia (as N)	Post-Closure	Oct	109	0.039	0.040	0.041	0.1745	0.1860	0.2961	0.2520	0.5065	3.2796
Ammonia (as N)	Post-Closure	Nov	109	0.069	0.070	0.076	0.1742	0.1858	0.2957	0.2506	0.5031	3.2548
Ammonia (as N)	Post-Closure	Dec	109	0.107	0.112	0.132	0.1741	0.1857	0.2955	0.2497	0.5013	3.2431
Nitrite (as N)	Construction	Jan	2	0.0233	0.0233	0.0339	-	-	-	-	-	-
Nitrite (as N)	Construction	Feb	2	0.0266	0.0266	0.0404	-	-	-	-	-	-

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Nitrite (as N)	Construction	Mar	2	0.0206	0.0206	0.0288	-	-	-	0.0020	0.0020	0.0029
Nitrite (as N)	Construction	Apr	2	0.0182	0.0182	0.0240	-	-	-	0.0002	0.0002	0.0002
Nitrite (as N)	Construction	May	2	0.0142	0.0142	0.0155	-	-	-	0.0011	0.0011	0.0011
Nitrite (as N)	Construction	Jun	2	0.0168	0.0168	0.0185	-	-	-	0.0007	0.0007	0.0007
Nitrite (as N)	Construction	Jul	2	0.0150	0.0150	0.0164	-	-	-	0.0005	0.0005	0.0005
Nitrite (as N)	Construction	Aug	2	0.0143	0.0143	0.0163	-	-	-	0.0296	0.0296	0.0296
Nitrite (as N)	Construction	Sep	2	0.0141	0.0141	0.0153	-	-	-	0.0363	0.0363	0.0709
Nitrite (as N)	Construction	Oct	2	0.0178	0.0178	0.0210	-	-	-	0.0236	0.0236	0.0236
Nitrite (as N)	Construction	Nov	2	0.0241	0.0241	0.0297	-	-	-	0.0198	0.0198	0.0198
Nitrite (as N)	Construction	Dec	2	0.0330	0.0330	0.0415	-	-	-	0.0192	0.0192	0.0192
Nitrite (as N)	Operations	Jan	13	0.1278	0.1183	0.1577	-	-	-	0.0676	0.0693	0.1044
Nitrite (as N)	Operations	Feb	13	0.0721	0.0752	0.1497	-	-	-	0.0701	0.0732	0.1212
Nitrite (as N)	Operations	Mar	13	0.0211	0.0241	0.0493	-	-	-	0.0672	0.0639	0.0775
Nitrite (as N)	Operations	Apr	13	0.0297	0.0290	0.0390	-	-	-	0.0607	0.0567	0.0643
Nitrite (as N)	Operations	May	13	0.0341	0.0325	0.0406	-	-	-	0.0541	0.0525	0.0599
Nitrite (as N)	Operations	Jun	13	0.0224	0.0214	0.0252	-	-	-	0.0532	0.0529	0.0592
Nitrite (as N)	Operations	Jul	13	0.0189	0.0183	0.0215	-	-	-	0.0570	0.0556	0.0608
Nitrite (as N)	Operations	Aug	13	0.0196	0.0190	0.0232	-	-	-	0.0578	0.0578	0.0722
Nitrite (as N)	Operations	Sep	13	0.0225	0.0215	0.0296	-	-	-	0.0583	0.0591	0.0780
Nitrite (as N)	Operations	Oct	13	0.0332	0.0330	0.0453	-	-	-	0.0585	0.0591	0.0772
Nitrite (as N)	Operations	Nov	13	0.0577	0.0566	0.0785	-	-	-	0.0606	0.0618	0.0898
Nitrite (as N)	Operations	Dec	13	0.0947	0.0896	0.1228	-	-	-	0.0639	0.0683	0.1266
Nitrite (as N)	Closure	Jan	6	0.005	0.007	0.016	-	-	-	0.0311	0.0320	0.0422
Nitrite (as N)	Closure	Feb	6	0.005	0.006	0.011	-	-	-	0.0309	0.0318	0.0419
Nitrite (as N)	Closure	Mar	6	0.005	0.006	0.007	-	-	-	0.0303	0.0312	0.0409
Nitrite (as N)	Closure	Apr	6	0.006	0.006	0.006	-	-	-	0.0298	0.0306	0.0399
Nitrite (as N)	Closure	May	6	0.004	0.004	0.004	-	-	-	0.0294	0.0302	0.0393
Nitrite (as N)	Closure	Jun	6	0.003	0.003	0.003	-	-	-	0.0292	0.0300	0.0390
Nitrite (as N)	Closure	Jul	6	0.003	0.003	0.003	-	-	-	0.0292	0.0299	0.0389
Nitrite (as N)	Closure	Aug	6	0.003	0.003	0.003	-	-	-	0.0291	0.0299	0.0388
Nitrite (as N)	Closure	Sep	6	0.002	0.002	0.002	-	-	-	0.0289	0.0297	0.0385
Nitrite (as N)	Closure	Oct	6	0.002	0.002	0.002	-	-	-	0.0285	0.0293	0.0379
Nitrite (as N)	Closure	Nov	6	0.003	0.003	0.003	-	-	-	0.0282	0.0290	0.0374
Nitrite (as N)	Closure	Dec	6	0.004	0.004	0.004	-	-	-	0.0281	0.0288	0.0372
Nitrite (as N)	Post-Closure	Jan	109	0.010	0.011	0.014	0.0078	0.0077	0.0092	0.0019	0.0036	0.0221
Nitrite (as N)	Post-Closure	Feb	109	0.011	0.011	0.014	0.0078	0.0077	0.0092	0.0019	0.0036	0.0221
Nitrite (as N)	Post-Closure	Mar	109	0.014	0.014	0.015	0.0078	0.0077	0.0092	0.0019	0.0036	0.0218
Nitrite (as N)	Post-Closure	Apr	109	0.014	0.014	0.015	0.0078	0.0077	0.0092	0.0019	0.0036	0.0215
Nitrite (as N)	Post-Closure	May	109	0.010	0.011	0.012	0.0078	0.0077	0.0092	0.0019	0.0036	0.0213
Nitrite (as N)	Post-Closure	Jun	109	0.009	0.009	0.010	0.0078	0.0077	0.0092	0.0019	0.0036	0.0212
Nitrite (as N)	Post-Closure	Jul	109	0.008	0.009	0.009	0.0078	0.0077	0.0092	0.0020	0.0036	0.0209
Nitrite (as N)	Post-Closure	Aug	109	0.008	0.008	0.009	0.0078	0.0078	0.0092	0.0020	0.0035	0.0207
Nitrite (as N)	Post-Closure	Sep	109	0.008	0.008	0.009	0.0078	0.0078	0.0093	0.0020	0.0035	0.0205
Nitrite (as N)	Post-Closure	Oct	109	0.008	0.008	0.009	0.0078	0.0078	0.0092	0.0019	0.0035	0.0203
Nitrite (as N)	Post-Closure	Nov	109	0.009	0.009	0.010	0.0078	0.0078	0.0092	0.0019	0.0035	0.0201
Nitrite (as N)	Post-Closure	Dec	109	0.010	0.010	0.012	0.0078	0.0078	0.0092	0.0019	0.0035	0.0200
N_Nitrate_Nitrite	Construction	Jan	2	0.5574	0.5574	1.0853	-	-	-	-	-	-
N_Nitrate_Nitrite	Construction	Feb	2	0.6911	0.6911	1.3397	-	-	-	-	-	-
N_Nitrate_Nitrite	Construction	Mar	2	0.4232	0.4232	0.7920	-	-	-	0.0552	0.0552	0.1089
N_Nitrate_Nitrite	Construction	Apr	2	0.3200	0.3200	0.5806	-	-	-	0.0004	0.0004	0.0004
N_Nitrate_Nitrite	Construction	May	2	0.3510	0.3510	0.5411	-	-	-	0.0390	0.0390	0.0390
N_Nitrate_Nitrite	Construction	Jun	2	0.3683	0.3683	0.4816	-	-	-	0.0241	0.0241	0.0241
N_Nitrate_Nitrite	Construction	Jul	2	0.3184	0.3184	0.3819	-	-	-	0.0164	0.0164	0.0164
N_Nitrate_Nitrite	Construction	Aug	2	0.2968	0.2968	0.3774	-	-	-	0.9950	0.9950	0.9950
N_Nitrate_Nitrite	Construction	Sep	2	0.3081	0.3081	0.3736	-	-	-	1.1566	1.1566	2.2585
N_Nitrate_Nitrite	Construction	Oct	2	0.4701	0.4701	0.6080	-	-	-	0.5186	0.5186	0.5186
N_Nitrate_Nitrite	Construction	Nov	2	0.7278	0.7278	0.9643	-	-	-	0.3738	0.3738	0.3738
N_Nitrate_Nitrite	Construction	Dec	2	1.0729	1.0729	1.4323	-	-	-	0.3310	0.3310	0.3310
N_Nitrate_Nitrite	Operations	Jan	13	5.1617	4.7642	6.4815	-	-	-	1.2777	1.2426	2.4254
N_Nitrate_Nitrite	Operations	Feb	13	2.7480	2.8734	6.1351	-	-	-	1.3428	1.2899	2.0222
N_Nitrate_Nitrite	Operations	Mar	13	0.5106	0.6420	1.7527	-	-	-	1.2605	1.1070	1.4040
N_Nitrate_Nitrite	Operations	Apr	13	0.8993	0.8539	1.2288	-	-	-	1.0972	0.9797	1.2173
N_Nitrate_Nitrite	Operations	May	13	1.1528	1.0653	1.4152	-	-	-	0.9800	0.9029	1.1457
N_Nitrate_Nitrite	Operations	Jun	13	0.6207	0.5667	0.7325	-	-	-	0.9593	0.9065	1.1319
N_Nitrate_Nitrite	Operations	Jul	13	0.4737	0.4407	0.5804	-	-	-	0.9964	0.9465	1.1490
N_Nitrate_Nitrite	Operations	Aug	13	0.5016	0.4704	0.6601	-	-	-	1.0097	0.9799	1.1636
N_Nitrate_Nitrite	Operations	Sep	13	0.6395	0.5908	0.9622	-	-	-	1.0448	0.9977	1.1717
N_Nitrate_Nitrite	Operations	Oct	13	1.1168	1.1179	1.6693	-	-	-	1.0528	0.9952	1.1689
N_Nitrate_Nitrite	Operations	Nov	13	2.1794	2.1241	3.0984	-	-	-	1.1030	1.0327	1.2134
N_Nitrate_Nitrite	Operations	Dec	13	3.7650	3.5317	4.9733	-	-	-	1.1954	1.1540	2.0357
N_Nitrate_Nitrite	Closure	Jan	6	0.009	0.069	0.366	-	-	-	0.4222	0.4345	0.5682
N_Nitrate_Nitrite	Closure	Feb	6	0.009	0.043	0.211	-	-	-	0.4196	0.4318	0.5638
N_Nitrate_Nitrite	Closure	Mar	6	0.009	0.016	0.053	-	-	-	0.4117	0.4233	0.5506
N_Nitrate_Nitrite	Closure	Apr	6	0.009	0.010	0.014	-	-	-	0.4034	0.4143	0.5367
N_Nitrate_Nitrite	Closure	May	6	0.009	0.009	0.010	-	-	-	0.3982	0.4088	0.5282
N_Nitrate_Nitrite	Closure	Jun	6	0.009	0.009	0.009	-	-	-	0.3964	0.4068	0.5249
N_Nitrate_Nitrite	Closure	Jul	6	0.009	0.009	0.009	-	-	-	0.3962	0.4065	0.5242
N_Nitrate_Nitrite	Closure	Aug	6	0.009	0.009	0.009	-	-	-	0.3961	0.4063	0.5235
N_Nitrate_Nitrite	Closure	Sep	6	0.009	0.009	0.009	-	-	-	0.3941	0.4042	0.5199
N_Nitrate_Nitrite	Closure	Oct	6	0.009	0.009	0.009	-	-	-	0.3892	0.3989	0.5118
N_Nitrate_Nitrite	Closure	Nov	6	0.009	0.009	0.009	-	-	-	0.3852	0.3945	0.5052
N_Nitrate_Nitrite	Closure	Dec	6	0.009	0.009	0.009	-	-	-	0.3832	0.3924	0.5021
N_Nitrate_Nitrite	Post-Closure	Jan	109	0.085	0.087	0.100	0.0732	0.0686	0.0825	0.0164	0.0407	0.3047
N_Nitrate_Nitrite	Post-Closure	Feb	109	0.087	0.089	0.100	0.0731	0.0686	0.0824	0.0164	0.0405	0.3035
N_Nitrate_Nitrite	Post-Closure	Mar	109	0.098	0.098	0.100	0.0730	0.0684	0.0823	0.0162	0.0401	0.2997
N_Nitrate_Nitrite	Post-Closure	Apr	109	0.102	0.101	0.102	0.0728	0.0683	0.0821	0.0161	0.0396	0.2956
N_Nitrate_Nitrite	Post-Closure	May	109	0.101	0.101	0.102	0.0728	0.0682	0.0820	0.0160	0.0393	0.2927
N_Nitrate_Nitrite	Post-Closure	Jun	109	0.101	0.101	0.103	0.0729	0.0683	0.0821	0.0161	0.0391	0.2902
N_Nitrate_Nitrite	Post-Closure	Jul	109	0.102	0.102	0.103	0.0731	0.0686	0.0823	0.0163	0.0391	0.2873
N_Nitrate_Nitrite	Post-Closure	Aug	109	0.103	0.103	0.103	0.0733	0.0688	0.0826	0.0165	0.0390	0.2842
N_Nitrate_Nitrite	Post-Closure	Sep	109	0.103	0.102	0.103	0.0734	0.0689	0.0827	0.0166	0.0388	0.2812
N_Nitrate_Nitrite	Post-Closure	Oct	109	0.104	0.103	0.104	0.0733	0.0689	0.0827	0.0165	0.0385	0.2779
N_Nitrate_Nitrite	Post-Closure	Nov	109	0.100	0.100	0.103	0.0733	0.0689	0.0826	0.0165	0.0383	0.2758
N_Nitrate_Nitrite	Post-Closure	Dec	109	0.091	0.093	0.102	0.0732	0.0689	0.0825	0.0164	0.0381	0.2748
Cyanide, Total	Construction	Jan	2	0.00044	0.00044	0.00045	-	-	-	-	-	-
Cyanide, Total	Construction	Feb	2	0.00046	0.00046	0.00046	-	-	-	-	-	-
Cyanide, Total	Construction	Mar	2	0.00048	0.00048	0.00048	-	-	-	0.00003	0.00003	0.00003

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Cyanide, Total	Construction	Apr	2	0.00049	0.00049	0.00049	-	-	-	0.00001	0.00001	0.00001
Cyanide, Total	Construction	May	2	0.00051	0.00051	0.00051	-	-	-	0.00001	0.00001	0.00001
Cyanide, Total	Construction	Jun	2	0.00052	0.00052	0.00052	-	-	-	0.00001	0.00001	0.00001
Cyanide, Total	Construction	Jul	2	0.00050	0.00050	0.00050	-	-	-	0.00001	0.00001	0.00001
Cyanide, Total	Construction	Aug	2	0.00049	0.00049	0.00049	-	-	-	0.00051	0.00051	0.00051
Cyanide, Total	Construction	Sep	2	0.00046	0.00046	0.00048	-	-	-	1.02906	1.02906	2.05809
Cyanide, Total	Construction	Oct	2	0.00047	0.00047	0.00047	-	-	-	1.69090	1.69090	1.69090
Cyanide, Total	Construction	Nov	2	0.00046	0.00046	0.00046	-	-	-	1.75756	1.75756	1.75756
Cyanide, Total	Construction	Dec	2	0.00046	0.00046	0.00046	-	-	-	1.87309	1.87309	1.87309
Cyanide, Total	Operations	Jan	13	0.00042	0.00043	0.00047	-	-	-	3.42832	4.61957	11.42507
Cyanide, Total	Operations	Feb	13	0.00047	0.00047	0.00051	-	-	-	3.79229	5.24222	13.86490
Cyanide, Total	Operations	Mar	13	0.00050	0.00050	0.00052	-	-	-	4.16005	4.58108	8.80796
Cyanide, Total	Operations	Apr	13	0.00047	0.00047	0.00050	-	-	-	3.74264	3.96788	5.56006
Cyanide, Total	Operations	May	13	0.00046	0.00046	0.00051	-	-	-	3.31264	3.39591	4.86180
Cyanide, Total	Operations	Jun	13	0.00050	0.00050	0.00053	-	-	-	3.05428	3.04879	4.41052
Cyanide, Total	Operations	Jul	13	0.00049	0.00049	0.00052	-	-	-	2.62877	2.82578	4.82258
Cyanide, Total	Operations	Aug	13	0.00049	0.00049	0.00052	-	-	-	2.28651	2.65438	5.59248
Cyanide, Total	Operations	Sep	13	0.00047	0.00048	0.00051	-	-	-	2.16204	2.66249	6.37113
Cyanide, Total	Operations	Oct	13	0.00046	0.00045	0.00049	-	-	-	2.30172	2.91065	7.25257
Cyanide, Total	Operations	Nov	13	0.00043	0.00044	0.00048	-	-	-	2.63436	3.51106	9.68816
Cyanide, Total	Operations	Dec	13	0.00042	0.00043	0.00047	-	-	-	3.02363	4.33671	13.34722
Cyanide, Total	Closure	Jan	6	0.000	0.000	0.000	-	-	-	0.63164	0.64756	0.81993
Cyanide, Total	Closure	Feb	6	0.000	0.000	0.000	-	-	-	0.62782	0.64345	0.81362
Cyanide, Total	Closure	Mar	6	0.000	0.000	0.000	-	-	-	0.61592	0.63073	0.79441
Cyanide, Total	Closure	Apr	6	0.000	0.000	0.000	-	-	-	0.60342	0.61740	0.77441
Cyanide, Total	Closure	May	6	0.000	0.000	0.000	-	-	-	0.59619	0.60965	0.76263
Cyanide, Total	Closure	Jun	6	0.000	0.000	0.000	-	-	-	0.59473	0.60800	0.75955
Cyanide, Total	Closure	Jul	6	0.000	0.000	0.000	-	-	-	0.59671	0.60995	0.76135
Cyanide, Total	Closure	Aug	6	0.000	0.000	0.000	-	-	-	0.59898	0.61220	0.76347
Cyanide, Total	Closure	Sep	6	0.000	0.000	0.000	-	-	-	0.59762	0.61064	0.76037
Cyanide, Total	Closure	Oct	6	0.000	0.000	0.000	-	-	-	0.59076	0.60327	0.74923
Cyanide, Total	Closure	Nov	6	0.000	0.000	0.000	-	-	-	0.58482	0.59691	0.73985
Cyanide, Total	Closure	Dec	6	0.000	0.000	0.000	-	-	-	0.58185	0.59373	0.73522
Cyanide, Total	Post-Closure	Jan	109	0.000	0.000	0.001	0.01854	0.01830	0.03202	0.04302	0.07977	0.48025
Cyanide, Total	Post-Closure	Feb	109	0.000	0.000	0.001	0.01853	0.01829	0.03199	0.04285	0.07945	0.47834
Cyanide, Total	Post-Closure	Mar	109	0.000	0.000	0.001	0.01857	0.01827	0.03193	0.04231	0.07845	0.47230
Cyanide, Total	Post-Closure	Apr	109	0.000	0.001	0.001	0.01861	0.01826	0.03186	0.04176	0.07740	0.46579
Cyanide, Total	Post-Closure	May	109	0.001	0.001	0.001	0.01857	0.01826	0.03183	0.04158	0.07685	0.46123
Cyanide, Total	Post-Closure	Jun	109	0.001	0.001	0.001	0.01857	0.01830	0.03187	0.04186	0.07680	0.45758
Cyanide, Total	Post-Closure	Jul	109	0.001	0.001	0.001	0.01859	0.01837	0.03197	0.04253	0.07708	0.45354
Cyanide, Total	Post-Closure	Aug	109	0.001	0.001	0.001	0.01865	0.01845	0.03207	0.04330	0.07743	0.44938
Cyanide, Total	Post-Closure	Sep	109	0.001	0.001	0.001	0.01870	0.01850	0.03212	0.04364	0.07737	0.44493
Cyanide, Total	Post-Closure	Oct	109	0.001	0.001	0.001	0.01870	0.01851	0.03210	0.04345	0.07677	0.43986
Cyanide, Total	Post-Closure	Nov	109	0.000	0.000	0.001	0.01868	0.01849	0.03206	0.04321	0.07627	0.43656
Cyanide, Total	Post-Closure	Dec	109	0.000	0.000	0.001	0.01867	0.01848	0.03204	0.04305	0.07600	0.43499
Cyanide, Free	Construction	Jan	2	0.00046	0.00046	0.00048	-	-	-	-	-	-
Cyanide, Free	Construction	Feb	2	0.00050	0.00050	0.00050	-	-	-	-	-	-
Cyanide, Free	Construction	Mar	2	0.00053	0.00053	0.00053	-	-	-	0.00003	0.00003	0.00003
Cyanide, Free	Construction	Apr	2	0.00055	0.00055	0.00055	-	-	-	0.00001	0.00001	0.00001
Cyanide, Free	Construction	May	2	0.00058	0.00058	0.00058	-	-	-	0.00001	0.00001	0.00001
Cyanide, Free	Construction	Jun	2	0.00059	0.00059	0.00059	-	-	-	0.00001	0.00001	0.00001
Cyanide, Free	Construction	Jul	2	0.00055	0.00055	0.00056	-	-	-	0.00001	0.00001	0.00001
Cyanide, Free	Construction	Aug	2	0.00054	0.00054	0.00055	-	-	-	0.00051	0.00051	0.00051
Cyanide, Free	Construction	Sep	2	0.00051	0.00051	0.00053	-	-	-	0.00576	0.00576	0.01150
Cyanide, Free	Construction	Oct	2	0.00051	0.00051	0.00051	-	-	-	0.00693	0.00693	0.00693
Cyanide, Free	Construction	Nov	2	0.00050	0.00050	0.00050	-	-	-	0.00524	0.00524	0.00524
Cyanide, Free	Construction	Dec	2	0.00049	0.00049	0.00050	-	-	-	0.00439	0.00439	0.00439
Cyanide, Free	Operations	Jan	13	0.00047	0.00048	0.00053	-	-	-	0.02075	0.01917	*0.02482*
Cyanide, Free	Operations	Feb	13	0.00054	0.00054	0.00059	-	-	-	0.02053	0.01879	*0.02288*
Cyanide, Free	Operations	Mar	13	0.00059	0.00059	0.00061	-	-	-	0.01904	0.01610	0.01958
Cyanide, Free	Operations	Apr	13	0.00054	0.00054	0.00057	-	-	-	0.01617	0.01372	0.01826
Cyanide, Free	Operations	May	13	0.00053	0.00053	0.00057	-	-	-	0.01419	0.01285	0.01729
Cyanide, Free	Operations	Jun	13	0.00058	0.00058	0.00061	-	-	-	0.01496	0.01464	0.01746
Cyanide, Free	Operations	Jul	13	0.00057	0.00057	0.00060	-	-	-	0.01853	0.01861	*0.02440*
Cyanide, Free	Operations	Aug	13	0.00057	0.00057	0.00060	-	-	-	0.02048	*0.02253*	*0.03317*
Cyanide, Free	Operations	Sep	13	0.00055	0.00056	0.00059	-	-	-	*0.02223*	*0.02395*	*0.03473*
Cyanide, Free	Operations	Oct	13	0.00053	0.00052	0.00058	-	-	-	0.02196	*0.02279*	*0.03045*
Cyanide, Free	Operations	Nov	13	0.00050	0.00051	0.00053	-	-	-	0.02103	0.02180	*0.02733*
Cyanide, Free	Operations	Dec	13	0.00048	0.00049	0.00053	-	-	-	0.02087	0.02137	*0.02601*
Cyanide, Free	Closure	Jan	6	0.000	0.000	0.000	-	-	-	*0.02420*	*0.02380*	*0.02710*
Cyanide, Free	Closure	Feb	6	0.000	0.000	0.000	-	-	-	*0.02406*	*0.02365*	*0.02696*
Cyanide, Free	Closure	Mar	6	0.000	0.000	0.000	-	-	-	*0.02360*	*0.02320*	*0.02652*
Cyanide, Free	Closure	Apr	6	0.000	0.000	0.000	-	-	-	*0.02315*	*0.02276*	*0.02608*
Cyanide, Free	Closure	May	6	0.000	0.000	0.000	-	-	-	*0.02306*	*0.02267*	*0.02596*
Cyanide, Free	Closure	Jun	6	0.000	0.000	0.000	-	-	-	*0.02350*	*0.02313*	*0.02634*
Cyanide, Free	Closure	Jul	6	0.000	0.000	0.000	-	-	-	*0.02442*	*0.02408*	*0.02716*
Cyanide, Free	Closure	Aug	6	0.000	0.000	0.000	-	-	-	*0.02545*	*0.02514*	*0.02807*
Cyanide, Free	Closure	Sep	6	0.000	0.000	0.000	-	-	-	*0.02601*	*0.02572*	*0.02856*
Cyanide, Free	Closure	Oct	6	0.000	0.000	0.000	-	-	-	*0.02596*	*0.02567*	*0.02848*
Cyanide, Free	Closure	Nov	6	0.000	0.000	0.000	-	-	-	*0.02577*	*0.02547*	*0.02827*
Cyanide, Free	Closure	Dec	6	0.000	0.000	0.000	-	-	-	*0.02563*	*0.02534*	*0.02814*
Cyanide, Free	Post-Closure	Jan	109	0.000	0.000	0.001	0.00307	0.00266	0.00323	0.01094	0.01238	*0.02804*
Cyanide, Free	Post-Closure	Feb	109	0.000	0.000	0.001	0.00307	0.00265	0.00323	0.01090	0.01233	*0.02793*
Cyanide, Free	Post-Closure	Mar	109	0.000	0.000	0.001	0.00307	0.00265	0.00322	0.01076	0.01218	*0.02758*
Cyanide, Free	Post-Closure	Apr	109	0.000	0.001	0.001	0.00306	0.00265	0.00322	0.01062	0.01202	*0.02721*
Cyanide, Free	Post-Closure	May	109	0.001	0.001	0.001	0.00306	0.00265	0.00321	0.01058	0.01196	*0.02699*
Cyanide, Free	Post-Closure	Jun	109	0.001	0.001	0.001	0.00306	0.00265	0.00322	0.01065	0.01202	*0.02691*
Cyanide, Free	Post-Closure	Jul	109	0.001	0.001	0.001	0.00307	0.00266	0.00323	0.01083	0.01218	*0.02690*
Cyanide, Free	Post-Closure	Aug	109	0.001	0.001	0.001	0.00308	0.00267	0.00324	0.01103	0.01237	*0.02691*
Cyanide, Free	Post-Closure	Sep	109	0.001	0.001	0.001	0.00308	0.00268	0.00324	0.01112	0.01244	*0.02681*
Cyanide, Free	Post-Closure	Oct	109	0.001	0.001	0.001	0.00308	0.00268	0.00324	0.01107	0.01238	*0.02658*
Cyanide, Free	Post-Closure	Nov	109	0.000	0.000	0.001	0.00308	0.00268	0.00324	0.01101	0.01231	*0.02640*
Cyanide, Free	Post-Closure	Dec	109	0.000	0.000	0.001	0.00308	0.00268	0.00323	0.01097	0.01226	*0.02630*
Aluminum, Total	Construction	Jan	2	0.476	0.476	0.504	-	-	-	-	-	-
Aluminum, Total	Construction	Feb	2	0.407	0.407	0.413	-	-	-	-	-	-
Aluminum, Total	Construction	Mar	2	0.298	0.298	0.302	-	-	-	0.001	0.001	0.001
Aluminum, Total	Construction	Apr	2	0.252	0.252	0.262	-	-	-	0.0002	0.0002	0.0002

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Aluminum, Total	Construction	May	2	0.224	0.224	0.228	-	-	-	0.0002	0.0002	0.0002
Aluminum, Total	Construction	Jun	2	0.265	0.265	0.269	-	-	-	0.0002	0.0002	0.0002
Aluminum, Total	Construction	Jul	2	0.310	0.310	0.324	-	-	-	0.0002	0.0002	0.0002
Aluminum, Total	Construction	Aug	2	0.311	0.311	0.328	-	-	-	0.010	0.010	0.010
Aluminum, Total	Construction	Sep	2	0.305	0.305	0.350	-	-	-	0.146	0.146	0.291
Aluminum, Total	Construction	Oct	2	0.367	0.367	0.400	-	-	-	0.211	0.211	0.211
Aluminum, Total	Construction	Nov	2	0.397	0.397	0.431	-	-	-	0.198	0.198	0.198
Aluminum, Total	Construction	Dec	2	0.411	0.411	0.446	-	-	-	0.199	0.199	0.199
Aluminum, Total	Operations	Jan	13	0.266	0.276	0.367	-	-	-	0.224	0.221	0.225
Aluminum, Total	Operations	Feb	13	0.154	0.173	0.317	-	-	-	0.221	0.219	0.223
Aluminum, Total	Operations	Mar	13	0.089	0.105	0.236	-	-	-	0.205	0.198	0.216
Aluminum, Total	Operations	Apr	13	0.166	0.169	0.275	-	-	-	0.188	0.180	0.204
Aluminum, Total	Operations	May	13	0.222	0.218	0.287	-	-	-	0.176	0.175	0.195
Aluminum, Total	Operations	Jun	13	0.146	0.141	0.156	-	-	-	0.197	0.194	0.217
Aluminum, Total	Operations	Jul	13	0.153	0.148	0.157	-	-	-	0.212	0.225	0.273
Aluminum, Total	Operations	Aug	13	0.144	0.142	0.172	-	-	-	0.236	0.245	0.297
Aluminum, Total	Operations	Sep	13	0.167	0.163	0.229	-	-	-	0.238	0.244	0.272
Aluminum, Total	Operations	Oct	13	0.240	0.221	0.253	-	-	-	0.231	0.230	0.239
Aluminum, Total	Operations	Nov	13	0.223	0.234	0.279	-	-	-	0.227	0.224	0.230
Aluminum, Total	Operations	Dec	13	0.249	0.252	0.284	-	-	-	0.225	0.224	0.228
Aluminum, Total	Closure	Jan	6	0.532	0.495	0.533	-	-	-	0.243	0.241	0.261
Aluminum, Total	Closure	Feb	6	0.532	0.511	0.533	-	-	-	0.242	0.240	0.259
Aluminum, Total	Closure	Mar	6	0.532	0.528	0.533	-	-	-	0.237	0.235	0.255
Aluminum, Total	Closure	Apr	6	0.534	0.533	0.534	-	-	-	0.233	0.230	0.251
Aluminum, Total	Closure	May	6	0.533	0.533	0.533	-	-	-	0.232	0.229	0.250
Aluminum, Total	Closure	Jun	6	0.535	0.535	0.536	-	-	-	0.235	0.233	0.253
Aluminum, Total	Closure	Jul	6	0.536	0.536	0.537	-	-	-	0.243	0.241	0.260
Aluminum, Total	Closure	Aug	6	0.537	0.537	0.537	-	-	-	0.252	0.250	0.268
Aluminum, Total	Closure	Sep	6	0.535	0.535	0.535	-	-	-	0.257	0.255	0.272
Aluminum, Total	Closure	Oct	6	0.534	0.533	0.534	-	-	-	0.256	0.254	0.271
Aluminum, Total	Closure	Nov	6	0.534	0.533	0.534	-	-	-	0.254	0.252	0.269
Aluminum, Total	Closure	Dec	6	0.534	0.533	0.534	-	-	-	0.252	0.251	0.267
Aluminum, Total	Post-Closure	Jan	109	0.537	0.539	0.546	0.296	0.244	0.323	0.096	0.110	0.267
Aluminum, Total	Post-Closure	Feb	109	0.539	0.541	0.547	0.295	0.243	0.323	0.095	0.110	0.265
Aluminum, Total	Post-Closure	Mar	109	0.547	0.547	0.548	0.295	0.243	0.322	0.094	0.108	0.262
Aluminum, Total	Post-Closure	Apr	109	0.550	0.550	0.551	0.295	0.243	0.322	0.093	0.107	0.259
Aluminum, Total	Post-Closure	May	109	0.548	0.548	0.549	0.294	0.243	0.322	0.093	0.106	0.256
Aluminum, Total	Post-Closure	Jun	109	0.549	0.549	0.550	0.295	0.244	0.322	0.093	0.107	0.256
Aluminum, Total	Post-Closure	Jul	109	0.550	0.549	0.550	0.296	0.245	0.323	0.095	0.108	0.255
Aluminum, Total	Post-Closure	Aug	109	0.551	0.550	0.551	0.297	0.246	0.324	0.097	0.110	0.255
Aluminum, Total	Post-Closure	Sep	109	0.548	0.548	0.548	0.297	0.246	0.324	0.097	0.111	0.254
Aluminum, Total	Post-Closure	Oct	109	0.547	0.546	0.547	0.297	0.247	0.324	0.097	0.110	0.252
Aluminum, Total	Post-Closure	Nov	109	0.546	0.545	0.547	0.297	0.247	0.324	0.096	0.109	0.250
Aluminum, Total	Post-Closure	Dec	109	0.541	0.542	0.547	0.297	0.246	0.324	0.096	0.109	0.249
Antimony, Dissolve	Construction	Jan	2	0.000094	0.000094	0.000117	-	-	-	-	-	-
Antimony, Dissolve	Construction	Feb	2	0.000094	0.000094	0.000116	-	-	-	-	-	-
Antimony, Dissolve	Construction	Mar	2	0.000093	0.000093	0.000116	-	-	-	0.000013	0.000013	0.000020
Antimony, Dissolve	Construction	Apr	2	0.000093	0.000093	0.000117	-	-	-	0.000001	0.000001	0.000001
Antimony, Dissolve	Construction	May	2	0.000095	0.000095	0.000119	-	-	-	0.000006	0.000006	0.000006
Antimony, Dissolve	Construction	Jun	2	0.000109	0.000109	0.000140	-	-	-	0.000002	0.000002	0.000002
Antimony, Dissolve	Construction	Jul	2	0.000119	0.000119	0.000156	-	-	-	0.000003	0.000003	0.000003
Antimony, Dissolve	Construction	Aug	2	0.000124	0.000124	0.000164	-	-	-	0.000215	0.000215	0.000215
Antimony, Dissolve	Construction	Sep	2	0.000122	0.000122	0.000152	-	-	-	0.010695	0.010695	0.021378
Antimony, Dissolve	Construction	Oct	2	0.000147	0.000147	0.000195	-	-	-	0.016581	0.016581	0.016581
Antimony, Dissolve	Construction	Nov	2	0.000161	0.000161	0.000215	-	-	-	0.016315	0.016315	0.016315
Antimony, Dissolve	Construction	Dec	2	0.000169	0.000169	0.000225	-	-	-	0.016907	0.016907	0.016907
Antimony, Dissolve	Operations	Jan	13	0.001901	0.002554	0.004902	-	-	-	0.059383	0.063326	0.114214
Antimony, Dissolve	Operations	Feb	13	0.001306	0.001664	0.004201	-	-	-	0.061432	0.067285	0.129486
Antimony, Dissolve	Operations	Mar	13	0.000779	0.000841	0.002393	-	-	-	0.058997	0.058946	0.077892
Antimony, Dissolve	Operations	Apr	13	0.001320	0.001231	0.002046	-	-	-	0.054082	0.050904	0.056032
Antimony, Dissolve	Operations	May	13	0.001832	0.001664	0.002837	-	-	-	0.047371	0.045842	0.053166
Antimony, Dissolve	Operations	Jun	13	0.001216	0.001105	0.001768	-	-	-	0.047018	0.046729	0.052623
Antimony, Dissolve	Operations	Jul	13	0.001229	0.001132	0.001839	-	-	-	0.050460	0.050972	0.057626
Antimony, Dissolve	Operations	Aug	13	0.001156	0.001093	0.001753	-	-	-	0.053017	0.054872	0.072852
Antimony, Dissolve	Operations	Sep	13	0.001300	0.001295	0.002060	-	-	-	0.054243	0.057074	0.080827
Antimony, Dissolve	Operations	Oct	13	0.001903	0.001885	0.003151	-	-	-	0.054363	0.057300	0.080511
Antimony, Dissolve	Operations	Nov	13	0.002610	0.002052	0.003167	-	-	-	0.055434	0.059991	0.094019
Antimony, Dissolve	Operations	Dec	13	0.002949	0.002411	0.003968	-	-	-	0.056869	0.065465	0.119070
Antimony, Dissolve	Closure	Jan	6	0.008	0.007	0.008	-	-	-	0.037337	0.038195	0.047490
Antimony, Dissolve	Closure	Feb	6	0.008	0.008	0.008	-	-	-	0.037111	0.037953	0.047125
Antimony, Dissolve	Closure	Mar	6	0.008	0.008	0.008	-	-	-	0.036408	0.037204	0.046012
Antimony, Dissolve	Closure	Apr	6	0.008	0.008	0.008	-	-	-	0.035671	0.036421	0.044857
Antimony, Dissolve	Closure	May	6	0.008	0.008	0.008	-	-	-	0.035259	0.035981	0.044195
Antimony, Dissolve	Closure	Jun	6	0.008	0.008	0.008	-	-	-	0.035214	0.035926	0.044070
Antimony, Dissolve	Closure	Jul	6	0.008	0.008	0.008	-	-	-	0.035399	0.036113	0.044265
Antimony, Dissolve	Closure	Aug	6	0.008	0.008	0.008	-	-	-	0.035610	0.036325	0.044490
Antimony, Dissolve	Closure	Sep	6	0.008	0.008	0.008	-	-	-	0.035580	0.036285	0.044375
Antimony, Dissolve	Closure	Oct	6	0.008	0.008	0.008	-	-	-	0.035192	0.035869	0.043752
Antimony, Dissolve	Closure	Nov	6	0.008	0.008	0.008	-	-	-	0.034843	0.035496	0.043211
Antimony, Dissolve	Closure	Dec	6	0.008	0.008	0.008	-	-	-	0.034666	0.035308	0.042941
Antimony, Dissolve	Post-Closure	Jan	109	0.002	0.002	0.007	0.002532	0.002325	0.003371	0.003304	0.005479	0.029176
Antimony, Dissolve	Post-Closure	Feb	109	0.002	0.002	0.005	0.002530	0.002324	0.003369	0.003291	0.005457	0.029060
Antimony, Dissolve	Post-Closure	Mar	109	0.003	0.003	0.003	0.002525	0.002322	0.003362	0.003250	0.005388	0.028693
Antimony, Dissolve	Post-Closure	Apr	109	0.003	0.003	0.003	0.002519	0.002320	0.003356	0.003208	0.005317	0.028298
Antimony, Dissolve	Post-Closure	May	109	0.003	0.003	0.003	0.002521	0.002320	0.003353	0.003194	0.005281	0.028025
Antimony, Dissolve	Post-Closure	Jun	109	0.003	0.003	0.003	0.002526	0.002325	0.003356	0.003216	0.005283	0.027814
Antimony, Dissolve	Post-Closure	Jul	109	0.003	0.003	0.003	0.002532	0.002334	0.003366	0.003268	0.005312	0.027587
Antimony, Dissolve	Post-Closure	Aug	109	0.003	0.003	0.003	0.002538	0.002344	0.003375	0.003327	0.005347	0.027355
Antimony, Dissolve	Post-Closure	Sep	109	0.003	0.003	0.003	0.002541	0.002351	0.003381	0.003354	0.005349	0.027098
Antimony, Dissolve	Post-Closure	Oct	109	0.003	0.003	0.003	0.002539	0.002351	0.003380	0.003339	0.005311	0.026795
Antimony, Dissolve	Post-Closure	Nov	109	0.003	0.003	0.003	0.002536	0.002350	0.003376	0.003321	0.005277	0.026595
Antimony, Dissolve	Post-Closure	Dec	109	0.002	0.002	0.003	0.002534	0.002349	0.003373	0.003309	0.005258	0.026500
Antimony, Total	Construction	Jan	2	0.000242	0.000242	0.000254	-	-	-	-	-	-
Antimony, Total	Construction	Feb	2	0.000216	0.000216	0.000232	-	-	-	-	-	-
Antimony, Total	Construction	Mar	2	0.000177	0.000177	0.000193	-	-	-	0.000013	0.000013	0.000020
Antimony, Total	Construction	Apr	2	0.000162	0.000162	0.000176	-	-	-	0.000001	0.000001	0.000001
Antimony, Total	Construction	May	2	0.000164	0.000164	0.000189	-	-	-	0.000006	0.000006	0.000006

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Antimony, Total	Construction	Jun	2	0.000182	0.000182	0.000205	-	-	-	0.000002	0.000002	0.000002
Antimony, Total	Construction	Jul	2	0.000215	0.000215	0.000238	-	-	-	0.000003	0.000003	0.000003
Antimony, Total	Construction	Aug	2	0.000223	0.000223	0.000248	-	-	-	0.000242	0.000242	0.000242
Antimony, Total	Construction	Sep	2	0.000212	0.000212	0.000219	-	-	-	0.010297	0.010297	0.020580
Antimony, Total	Construction	Oct	2	0.000252	0.000252	0.000278	-	-	-	0.015908	0.015908	0.015908
Antimony, Total	Construction	Nov	2	0.000274	0.000274	0.000305	-	-	-	0.015627	0.015627	0.015627
Antimony, Total	Construction	Dec	2	0.000285	0.000285	0.000318	-	-	-	0.016178	0.016178	0.016178
Antimony, Total	Operations	Jan	13	0.001913	0.002577	0.004912	-	-	-	0.056958	0.060679	0.109154
Antimony, Total	Operations	Feb	13	0.001313	0.001678	0.004212	-	-	-	0.058906	0.064445	0.123694
Antimony, Total	Operations	Mar	13	0.000782	0.000849	0.002400	-	-	-	0.056589	0.056459	0.074387
Antimony, Total	Operations	Apr	13	0.001326	0.001243	0.002053	-	-	-	0.051913	0.048758	0.053763
Antimony, Total	Operations	May	13	0.001841	0.001678	0.002846	-	-	-	0.045390	0.043917	0.051012
Antimony, Total	Operations	Jun	13	0.001221	0.001114	0.001774	-	-	-	0.044941	0.044790	0.050499
Antimony, Total	Operations	Jul	13	0.001240	0.001145	0.001848	-	-	-	0.048448	0.048897	0.055197
Antimony, Total	Operations	Aug	13	0.001166	0.001106	0.001762	-	-	-	0.051022	0.052676	0.069841
Antimony, Total	Operations	Sep	13	0.001307	0.001305	0.002067	-	-	-	0.052087	0.054799	0.077474
Antimony, Total	Operations	Oct	13	0.001911	0.001900	0.003160	-	-	-	0.052229	0.055000	0.077092
Antimony, Total	Operations	Nov	13	0.002621	0.002069	0.003176	-	-	-	0.053225	0.057549	0.089913
Antimony, Total	Operations	Dec	13	0.002958	0.002428	0.003977	-	-	-	0.054591	0.062759	0.113757
Antimony, Total	Closure	Jan	6	0.008	0.007	0.008	-	-	-	0.036015	0.036830	0.045660
Antimony, Total	Closure	Feb	6	0.008	0.008	0.008	-	-	-	0.035797	0.036597	0.045308
Antimony, Total	Closure	Mar	6	0.008	0.008	0.008	-	-	-	0.035119	0.035875	0.044239
Antimony, Total	Closure	Apr	6	0.008	0.008	0.008	-	-	-	0.034409	0.035121	0.043129
Antimony, Total	Closure	May	6	0.008	0.008	0.008	-	-	-	0.034013	0.034698	0.042495
Antimony, Total	Closure	Jun	6	0.008	0.008	0.008	-	-	-	0.033976	0.034652	0.042383
Antimony, Total	Closure	Jul	6	0.008	0.008	0.008	-	-	-	0.034166	0.034843	0.042585
Antimony, Total	Closure	Aug	6	0.008	0.008	0.008	-	-	-	0.034381	0.035060	0.042817
Antimony, Total	Closure	Sep	6	0.008	0.008	0.008	-	-	-	0.034360	0.035029	0.042717
Antimony, Total	Closure	Oct	6	0.008	0.008	0.008	-	-	-	0.033988	0.034631	0.042121
Antimony, Total	Closure	Nov	6	0.008	0.008	0.008	-	-	-	0.033652	0.034272	0.041602
Antimony, Total	Closure	Dec	6	0.008	0.008	0.008	-	-	-	0.033481	0.034090	0.041341
Antimony, Total	Post-Closure	Jan	109	0.002	0.002	0.007	0.002532	0.002314	0.003329	0.003304	0.005402	0.028263
Antimony, Total	Post-Closure	Feb	109	0.002	0.002	0.005	0.002530	0.002313	0.003326	0.003291	0.005381	0.028151
Antimony, Total	Post-Closure	Mar	109	0.003	0.003	0.003	0.002524	0.002311	0.003320	0.003250	0.005313	0.027795
Antimony, Total	Post-Closure	Apr	109	0.003	0.003	0.003	0.002519	0.002309	0.003314	0.003208	0.005242	0.027413
Antimony, Total	Post-Closure	May	109	0.003	0.003	0.003	0.002516	0.002309	0.003311	0.003194	0.005207	0.027149
Antimony, Total	Post-Closure	Jun	109	0.003	0.003	0.003	0.002518	0.002314	0.003314	0.003216	0.005210	0.026946
Antimony, Total	Post-Closure	Jul	109	0.003	0.003	0.003	0.002532	0.002323	0.003324	0.003268	0.005240	0.026730
Antimony, Total	Post-Closure	Aug	109	0.003	0.003	0.003	0.002538	0.002333	0.003333	0.003327	0.005276	0.026508
Antimony, Total	Post-Closure	Sep	109	0.003	0.003	0.003	0.002541	0.002339	0.003338	0.003354	0.005279	0.026261
Antimony, Total	Post-Closure	Oct	109	0.003	0.003	0.003	0.002539	0.002340	0.003337	0.003339	0.005241	0.025968
Antimony, Total	Post-Closure	Nov	109	0.003	0.003	0.003	0.002536	0.002339	0.003333	0.003321	0.005208	0.025775
Antimony, Total	Post-Closure	Dec	109	0.002	0.002	0.003	0.002534	0.002337	0.003331	0.003309	0.005189	0.025682
Arsenic, Dissolved	Construction	Jan	2	0.000939	0.000939	0.001058	-	-	-	-	-	-
Arsenic, Dissolved	Construction	Feb	2	0.000899	0.000899	0.001044	-	-	-	-	-	-
Arsenic, Dissolved	Construction	Mar	2	0.000748	0.000748	0.000837	-	-	-	0.000119	0.000119	0.000170
Arsenic, Dissolved	Construction	Apr	2	0.000791	0.000791	0.000955	-	-	-	0.000016	0.000016	0.000016
Arsenic, Dissolved	Construction	May	2	0.000806	0.000806	0.001042	-	-	-	0.000050	0.000050	0.000050
Arsenic, Dissolved	Construction	Jun	2	0.000881	0.000881	0.001122	-	-	-	0.000022	0.000022	0.000022
Arsenic, Dissolved	Construction	Jul	2	0.001026	0.001026	0.001299	-	-	-	0.000026	0.000026	0.000026
Arsenic, Dissolved	Construction	Aug	2	0.001071	0.001071	0.001371	-	-	-	0.002023	0.002023	0.002023
Arsenic, Dissolved	Construction	Sep	2	0.001009	0.001009	0.001227	-	-	-	0.013447	0.013447	0.026776
Arsenic, Dissolved	Construction	Oct	2	0.001212	0.001212	0.001568	-	-	-	0.013939	0.013939	0.013939
Arsenic, Dissolved	Construction	Nov	2	0.001343	0.001343	0.001752	-	-	-	0.010714	0.010714	0.010714
Arsenic, Dissolved	Construction	Dec	2	0.001433	0.001433	0.001862	-	-	-	0.009202	0.009202	0.009202
Arsenic, Dissolved	Operations	Jan	13	0.013341	0.014606	0.024742	-	-	-	0.050831	0.046248	0.057919
Arsenic, Dissolved	Operations	Feb	13	0.007844	0.008906	0.018668	-	-	-	0.049467	0.045859	0.057590
Arsenic, Dissolved	Operations	Mar	13	0.004323	0.004873	0.011127	-	-	-	0.045254	0.040836	0.056179
Arsenic, Dissolved	Operations	Apr	13	0.007513	0.007865	0.013641	-	-	-	0.039376	0.035714	0.053374
Arsenic, Dissolved	Operations	May	13	0.010148	0.010522	0.018323	-	-	-	0.034731	0.033178	0.050737
Arsenic, Dissolved	Operations	Jun	13	0.007353	0.007397	0.012773	-	-	-	0.036162	0.036415	0.050975
Arsenic, Dissolved	Operations	Jul	13	0.008141	0.008031	0.013786	-	-	-	0.044613	0.044293	0.053642
Arsenic, Dissolved	Operations	Aug	13	0.007694	0.007779	0.013150	-	-	-	0.053823	0.052076	0.062671
Arsenic, Dissolved	Operations	Sep	13	0.008483	0.009109	0.015369	-	-	-	0.056143	0.055271	0.065974
Arsenic, Dissolved	Operations	Oct	13	0.011948	0.013011	0.023246	-	-	-	0.054532	0.053588	0.058994
Arsenic, Dissolved	Operations	Nov	13	0.015541	0.013586	0.021328	-	-	-	0.052236	0.052105	0.058153
Arsenic, Dissolved	Operations	Dec	13	0.017423	0.015064	0.023207	-	-	-	0.051895	0.051739	0.058016
Arsenic, Dissolved	Closure	Jan	6	0.062	0.057	0.063	-	-	-	0.057478	0.057404	0.057954
Arsenic, Dissolved	Closure	Feb	6	0.062	0.060	0.063	-	-	-	0.057132	0.057048	0.057656
Arsenic, Dissolved	Closure	Mar	6	0.062	0.062	0.063	-	-	-	0.056052	0.055948	0.056718
Arsenic, Dissolved	Closure	Apr	6	0.064	0.063	0.064	-	-	-	0.054959	0.054834	0.055750
Arsenic, Dissolved	Closure	May	6	0.063	0.063	0.063	-	-	-	0.054578	0.054446	0.055404
Arsenic, Dissolved	Closure	Jun	6	0.062	0.063	0.063	-	-	-	0.055193	0.055079	0.055949
Arsenic, Dissolved	Closure	Jul	6	0.063	0.063	0.063	-	-	-	0.056644	0.056569	0.057245
Arsenic, Dissolved	Closure	Aug	6	0.064	0.064	0.064	-	-	-	0.058267	0.058236	0.058697
Arsenic, Dissolved	Closure	Sep	6	0.063	0.063	0.063	-	-	-	0.059061	0.059052	0.059406
Arsenic, Dissolved	Closure	Oct	6	0.064	0.064	0.064	-	-	-	0.058753	0.058735	0.059122
Arsenic, Dissolved	Closure	Nov	6	0.065	0.064	0.065	-	-	-	0.058261	0.058228	0.058669
Arsenic, Dissolved	Closure	Dec	6	0.065	0.064	0.065	-	-	-	0.057966	0.057924	0.058397
Arsenic, Dissolved	Post-Closure	Jan	109	0.012	0.013	0.052	0.007717	0.006688	0.008603	0.017901	0.021287	0.058183
Arsenic, Dissolved	Post-Closure	Feb	109	0.013	0.013	0.034	0.007750	0.006718	0.008639	0.017829	0.021202	0.057953
Arsenic, Dissolved	Post-Closure	Mar	109	0.014	0.014	0.018	0.007843	0.006804	0.008741	0.017606	0.020936	0.057222
Arsenic, Dissolved	Post-Closure	Apr	109	0.015	0.015	0.015	0.007941	0.006898	0.008850	0.017380	0.020664	0.056446
Arsenic, Dissolved	Post-Closure	May	109	0.015	0.014	0.015	0.007921	0.006888	0.008829	0.017306	0.020555	0.055969
Arsenic, Dissolved	Post-Closure	Jun	109	0.014	0.014	0.015	0.007842	0.006827	0.008743	0.017428	0.020647	0.055728
Arsenic, Dissolved	Post-Closure	Jul	109	0.015	0.014	0.015	0.007820	0.006818	0.008719	0.017714	0.020897	0.055580
Arsenic, Dissolved	Post-Closure	Aug	109	0.015	0.015	0.015	0.007804	0.006814	0.008703	0.018042	0.021187	0.055455
Arsenic, Dissolved	Post-Closure	Sep	109	0.015	0.014	0.015	0.007765	0.006788	0.008660	0.018189	0.021297	0.055160
Arsenic, Dissolved	Post-Closure	Oct	109	0.015	0.015	0.015	0.007689	0.006728	0.008576	0.018113	0.021183	0.054635
Arsenic, Dissolved	Post-Closure	Nov	109	0.014	0.014	0.015	0.007658	0.006703	0.008540	0.018013	0.021059	0.054253
Arsenic, Dissolved	Post-Closure	Dec	109	0.013	0.013	0.014	0.007689	0.006731	0.008574	0.017949	0.020984	0.054058
Arsenic, Total	Construction	Jan	2	0.019924	0.019924	0.021149	-	-	-	-	-	-
Arsenic, Total	Construction	Feb	2	0.016646	0.016646	0.017254	-	-	-	-	-	-
Arsenic, Total	Construction	Mar	2	0.011706	0.011706	0.012480	-	-	-	0.000119	0.000119	0.000169
Arsenic, Total	Construction	Apr	2	0.009696	0.009696	0.010762	-	-	-	0.000016	0.000016	0.000016
Arsenic, Total	Construction	May	2	0.008676	0.008676	0.009362	-	-	-	0.000051	0.000051	0.000051
Arsenic, Total	Construction	Jun	2	0.010270	0.010270	0.011160	-	-	-	0.000022	0.000022	0.000022

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Arsenic, Total	Construction	Jul	2	0.012159	0.012159	0.013572	-	-	-	0.000027	0.000027	0.000027
Arsenic, Total	Construction	Aug	2	0.012277	0.012277	0.013787	-	-	-	0.002028	0.002028	0.002028
Arsenic, Total	Construction	Sep	2	0.012143	0.012143	0.014758	-	-	-	0.013494	0.013494	0.026870
Arsenic, Total	Construction	Oct	2	0.014646	0.014646	0.016961	-	-	-	0.014008	0.014008	0.014008
Arsenic, Total	Construction	Nov	2	0.015922	0.015922	0.018320	-	-	-	0.010785	0.010785	0.010785
Arsenic, Total	Construction	Dec	2	0.016499	0.016499	0.018989	-	-	-	0.009276	0.009276	0.009276
Arsenic, Total	Operations	Jan	13	0.015289	0.017902	0.026386	-	-	-	0.051127	0.046633	0.058152
Arsenic, Total	Operations	Feb	13	0.010907	0.010880	0.020474	-	-	-	0.049789	0.046201	0.057825
Arsenic, Total	Operations	Mar	13	0.006535	0.005948	0.012187	-	-	-	0.045507	0.041090	0.056409
Arsenic, Total	Operations	Apr	13	0.008526	0.009578	0.014634	-	-	-	0.039602	0.035930	0.053593
Arsenic, Total	Operations	May	13	0.011554	0.012722	0.019714	-	-	-	0.034930	0.033372	0.050943
Arsenic, Total	Operations	Jun	13	0.008274	0.008676	0.013650	-	-	-	0.036357	0.036611	0.051176
Arsenic, Total	Operations	Jul	13	0.009137	0.009367	0.014702	-	-	-	0.044820	0.044505	0.053843
Arsenic, Total	Operations	Aug	13	0.008606	0.009055	0.014008	-	-	-	0.054041	0.052299	0.062877
Arsenic, Total	Operations	Sep	13	0.009967	0.010614	0.016381	-	-	-	0.056362	0.055502	0.066191
Arsenic, Total	Operations	Oct	13	0.013312	0.015180	0.024754	-	-	-	0.054750	0.053820	0.059216
Arsenic, Total	Operations	Nov	13	0.017247	0.015950	0.022678	-	-	-	0.052469	0.052351	0.058376
Arsenic, Total	Operations	Dec	13	0.019290	0.017585	0.024684	-	-	-	0.052124	0.052069	0.058244
Arsenic, Total	Closure	Jan	6	0.064	0.059	0.065	-	-	-	0.057612	0.057542	0.058057
Arsenic, Total	Closure	Feb	6	0.064	0.061	0.065	-	-	-	0.057265	0.057186	0.057759
Arsenic, Total	Closure	Mar	6	0.064	0.063	0.065	-	-	-	0.056183	0.056082	0.056818
Arsenic, Total	Closure	Apr	6	0.065	0.065	0.065	-	-	-	0.055087	0.054966	0.055849
Arsenic, Total	Closure	May	6	0.065	0.065	0.065	-	-	-	0.054704	0.054576	0.055501
Arsenic, Total	Closure	Jun	6	0.064	0.064	0.065	-	-	-	0.055319	0.055208	0.056047
Arsenic, Total	Closure	Jul	6	0.064	0.065	0.065	-	-	-	0.056769	0.056697	0.057342
Arsenic, Total	Closure	Aug	6	0.065	0.065	0.065	-	-	-	0.058392	0.058364	0.058794
Arsenic, Total	Closure	Sep	6	0.065	0.065	0.065	-	-	-	0.059185	0.059179	0.059502
Arsenic, Total	Closure	Oct	6	0.066	0.065	0.066	-	-	-	0.058875	0.058861	0.059217
Arsenic, Total	Closure	Nov	6	0.067	0.066	0.067	-	-	-	0.058382	0.058352	0.058763
Arsenic, Total	Closure	Dec	6	0.066	0.066	0.066	-	-	-	0.058086	0.058047	0.058490
Arsenic, Total	Post-Closure	Jan	109	0.015	0.016	0.054	0.008583	0.007335	0.009212	0.017903	0.021297	0.058277
Arsenic, Total	Post-Closure	Feb	109	0.015	0.016	0.037	0.008619	0.007368	0.009250	0.017831	0.021212	0.058045
Arsenic, Total	Post-Closure	Mar	109	0.017	0.017	0.020	0.008723	0.007463	0.009360	0.017608	0.020946	0.057314
Arsenic, Total	Post-Closure	Apr	109	0.018	0.017	0.018	0.008832	0.007566	0.009478	0.017382	0.020673	0.056537
Arsenic, Total	Post-Closure	May	109	0.017	0.017	0.017	0.008811	0.007555	0.009455	0.017308	0.020565	0.056059
Arsenic, Total	Post-Closure	Jun	109	0.017	0.017	0.017	0.008724	0.007489	0.009362	0.017430	0.020657	0.055817
Arsenic, Total	Post-Closure	Jul	109	0.017	0.017	0.017	0.008698	0.007479	0.009337	0.017716	0.020906	0.055668
Arsenic, Total	Post-Closure	Aug	109	0.018	0.017	0.018	0.008681	0.007475	0.009319	0.018045	0.021196	0.055542
Arsenic, Total	Post-Closure	Sep	109	0.017	0.017	0.017	0.008638	0.007446	0.009273	0.018191	0.021306	0.055246
Arsenic, Total	Post-Closure	Oct	109	0.018	0.017	0.018	0.008554	0.007380	0.009184	0.018116	0.021192	0.054720
Arsenic, Total	Post-Closure	Nov	109	0.017	0.017	0.017	0.008519	0.007353	0.009145	0.018015	0.021068	0.054337
Arsenic, Total	Post-Closure	Dec	109	0.016	0.016	0.017	0.008553	0.007384	0.009181	0.017951	0.020993	0.054142
Barium, Total	Construction	Jan	2	0.0469	0.0469	0.0529	-	-	-	-	-	-
Barium, Total	Construction	Feb	2	0.0435	0.0435	0.0466	-	-	-	-	-	-
Barium, Total	Construction	Mar	2	0.0374	0.0374	0.0385	-	-	-	0.0034	0.0034	0.0045
Barium, Total	Construction	Apr	2	0.0351	0.0351	0.0355	-	-	-	0.0010	0.0010	0.0010
Barium, Total	Construction	May	2	0.0294	0.0294	0.0295	-	-	-	0.0011	0.0011	0.0011
Barium, Total	Construction	Jun	2	0.0299	0.0299	0.0299	-	-	-	0.0011	0.0011	0.0011
Barium, Total	Construction	Jul	2	0.0315	0.0315	0.0320	-	-	-	0.0010	0.0010	0.0010
Barium, Total	Construction	Aug	2	0.0308	0.0308	0.0308	-	-	-	0.0507	0.0507	0.0507
Barium, Total	Construction	Sep	2	0.0285	0.0285	0.0307	-	-	-	0.0724	0.0724	0.1420
Barium, Total	Construction	Oct	2	0.0313	0.0313	0.0319	-	-	-	0.0825	0.0825	0.0825
Barium, Total	Construction	Nov	2	0.0344	0.0344	0.0348	-	-	-	0.0759	0.0759	0.0759
Barium, Total	Construction	Dec	2	0.0381	0.0381	0.0384	-	-	-	0.0756	0.0756	0.0756
Barium, Total	Operations	Jan	13	0.0468	0.0489	0.0600	-	-	-	0.0814	0.0810	0.0839
Barium, Total	Operations	Feb	13	0.0380	0.0364	0.0512	-	-	-	0.0807	0.0805	0.0833
Barium, Total	Operations	Mar	13	0.0275	0.0280	0.0376	-	-	-	0.0757	0.0748	0.0815
Barium, Total	Operations	Apr	13	0.0348	0.0357	0.0416	-	-	-	0.0712	0.0694	0.0782
Barium, Total	Operations	May	13	0.0361	0.0385	0.0474	-	-	-	0.0674	0.0673	0.0754
Barium, Total	Operations	Jun	13	0.0299	0.0307	0.0374	-	-	-	0.0738	0.0725	0.0760
Barium, Total	Operations	Jul	13	0.0311	0.0316	0.0388	-	-	-	0.0794	0.0810	0.0902
Barium, Total	Operations	Aug	13	0.0302	0.0310	0.0377	-	-	-	0.0840	0.0868	0.0961
Barium, Total	Operations	Sep	13	0.0333	0.0329	0.0407	-	-	-	0.0861	0.0867	0.0901
Barium, Total	Operations	Oct	13	0.0369	0.0395	0.0527	-	-	-	0.0839	0.0831	0.0856
Barium, Total	Operations	Nov	13	0.0439	0.0423	0.0510	-	-	-	0.0824	0.0816	0.0847
Barium, Total	Operations	Dec	13	0.0490	0.0471	0.0561	-	-	-	0.0820	0.0818	0.0843
Barium, Total	Closure	Jan	6	0.112	0.105	0.113	-	-	-	0.0802	0.0804	0.0825
Barium, Total	Closure	Feb	6	0.113	0.109	0.114	-	-	-	0.0798	0.0799	0.0820
Barium, Total	Closure	Mar	6	0.114	0.114	0.115	-	-	-	0.0784	0.0785	0.0802
Barium, Total	Closure	Apr	6	0.116	0.116	0.116	-	-	-	0.0770	0.0771	0.0784
Barium, Total	Closure	May	6	0.111	0.111	0.111	-	-	-	0.0764	0.0765	0.0777
Barium, Total	Closure	Jun	6	0.108	0.109	0.109	-	-	-	0.0771	0.0772	0.0785
Barium, Total	Closure	Jul	6	0.108	0.108	0.109	-	-	-	0.0787	0.0789	0.0806
Barium, Total	Closure	Aug	6	0.109	0.109	0.109	-	-	-	0.0806	0.0808	0.0828
Barium, Total	Closure	Sep	6	0.108	0.108	0.108	-	-	-	0.0814	0.0816	0.0838
Barium, Total	Closure	Oct	6	0.109	0.108	0.109	-	-	-	0.0809	0.0811	0.0832
Barium, Total	Closure	Nov	6	0.112	0.111	0.112	-	-	-	0.0803	0.0804	0.0824
Barium, Total	Closure	Dec	6	0.114	0.113	0.114	-	-	-	0.0799	0.0800	0.0819
Barium, Total	Post-Closure	Jan	109	0.076	0.080	0.110	0.0559	0.0491	0.0583	0.0292	0.0333	0.0784
Barium, Total	Post-Closure	Feb	109	0.079	0.083	0.106	0.0558	0.0490	0.0583	0.0291	0.0332	0.0781
Barium, Total	Post-Closure	Mar	109	0.094	0.095	0.102	0.0557	0.0490	0.0582	0.0288	0.0329	0.0772
Barium, Total	Post-Closure	Apr	109	0.097	0.098	0.102	0.0556	0.0489	0.0580	0.0286	0.0326	0.0763
Barium, Total	Post-Closure	May	109	0.087	0.088	0.092	0.0556	0.0489	0.0580	0.0285	0.0325	0.0757
Barium, Total	Post-Closure	Jun	109	0.084	0.085	0.087	0.0557	0.0490	0.0581	0.0287	0.0326	0.0754
Barium, Total	Post-Closure	Jul	109	0.084	0.084	0.085	0.0558	0.0492	0.0582	0.0290	0.0329	0.0752
Barium, Total	Post-Closure	Aug	109	0.084	0.084	0.085	0.0560	0.0494	0.0584	0.0294	0.0332	0.0751
Barium, Total	Post-Closure	Sep	109	0.082	0.082	0.082	0.0561	0.0495	0.0585	0.0296	0.0334	0.0747
Barium, Total	Post-Closure	Oct	109	0.081	0.081	0.082	0.0561	0.0495	0.0585	0.0295	0.0332	0.0741
Barium, Total	Post-Closure	Nov	109	0.080	0.081	0.087	0.0560	0.0495	0.0584	0.0293	0.0330	0.0736
Barium, Total	Post-Closure	Dec	109	0.079	0.081	0.094	0.0560	0.0494	0.0583	0.0292	0.0329	0.0733
Boron, Total	Construction	Jan	2	0.0094	0.0094	0.0108	-	-	-	-	-	-
Boron, Total	Construction	Feb	2	0.0096	0.0096	0.0104	-	-	-	-	-	-
Boron, Total	Construction	Mar	2	0.0096	0.0096	0.0097	-	-	-	0.0007	0.0007	0.0009
Boron, Total	Construction	Apr	2	0.0096	0.0096	0.0097	-	-	-	0.0002	0.0002	0.0002
Boron, Total	Construction	May	2	0.0078	0.0078	0.0080	-	-	-	0.0002	0.0002	0.0002
Boron, Total	Construction	Jun	2	0.0070	0.0070	0.0071	-	-	-	0.0002	0.0002	0.0002
Boron, Total	Construction	Jul	2	0.0065	0.0065	0.0069	-	-	-	0.0001	0.0001	0.0001

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Boron, Total	Construction	Aug	2	0.0065	0.0065	0.0070	-	-	-	0.0064	0.0064	0.0064
Boron, Total	Construction	Sep	2	0.0062	0.0062	0.0063	-	-	-	0.0294	0.0294	0.0585
Boron, Total	Construction	Oct	2	0.0063	0.0063	0.0068	-	-	-	0.0385	0.0385	0.0385
Boron, Total	Construction	Nov	2	0.0069	0.0069	0.0075	-	-	-	0.0365	0.0365	0.0365
Boron, Total	Construction	Dec	2	0.0079	0.0079	0.0086	-	-	-	0.0370	0.0370	0.0370
Boron, Total	Operations	Jan	13	0.0220	0.0227	0.0347	-	-	-	0.0425	0.0429	0.0461
Boron, Total	Operations	Feb	13	0.0157	0.0167	0.0256	-	-	-	0.0421	0.0426	0.0457
Boron, Total	Operations	Mar	13	0.0119	0.0126	0.0185	-	-	-	0.0400	0.0394	0.0448
Boron, Total	Operations	Apr	13	0.0154	0.0161	0.0225	-	-	-	0.0364	0.0366	0.0430
Boron, Total	Operations	May	13	0.0168	0.0177	0.0264	-	-	-	0.0353	0.0355	0.0414
Boron, Total	Operations	Jun	13	0.0143	0.0145	0.0206	-	-	-	0.0381	0.0382	0.0419
Boron, Total	Operations	Jul	13	0.0153	0.0153	0.0218	-	-	-	0.0430	0.0429	0.0462
Boron, Total	Operations	Aug	13	0.0149	0.0150	0.0211	-	-	-	0.0461	0.0461	0.0494
Boron, Total	Operations	Sep	13	0.0156	0.0163	0.0234	-	-	-	0.0463	0.0463	0.0477
Boron, Total	Operations	Oct	13	0.0189	0.0201	0.0316	-	-	-	0.0454	0.0445	0.0474
Boron, Total	Operations	Nov	13	0.0228	0.0211	0.0301	-	-	-	0.0443	0.0437	0.0470
Boron, Total	Operations	Dec	13	0.0250	0.0232	0.0326	-	-	-	0.0438	0.0438	0.0468
Boron, Total	Closure	Jan	6	0.075	0.070	0.076	-	-	-	0.0438	0.0441	0.0466
Boron, Total	Closure	Feb	6	0.076	0.073	0.076	-	-	-	0.0436	0.0438	0.0462
Boron, Total	Closure	Mar	6	0.076	0.076	0.077	-	-	-	0.0428	0.0430	0.0452
Boron, Total	Closure	Apr	6	0.078	0.077	0.078	-	-	-	0.0419	0.0421	0.0441
Boron, Total	Closure	May	6	0.075	0.075	0.075	-	-	-	0.0416	0.0418	0.0436
Boron, Total	Closure	Jun	6	0.074	0.074	0.075	-	-	-	0.0419	0.0421	0.0440
Boron, Total	Closure	Jul	6	0.074	0.074	0.074	-	-	-	0.0428	0.0430	0.0451
Boron, Total	Closure	Aug	6	0.075	0.075	0.075	-	-	-	0.0437	0.0439	0.0462
Boron, Total	Closure	Sep	6	0.075	0.074	0.075	-	-	-	0.0441	0.0444	0.0467
Boron, Total	Closure	Oct	6	0.076	0.075	0.076	-	-	-	0.0438	0.0440	0.0463
Boron, Total	Closure	Nov	6	0.077	0.076	0.077	-	-	-	0.0435	0.0437	0.0458
Boron, Total	Closure	Dec	6	0.078	0.077	0.078	-	-	-	0.0432	0.0434	0.0455
Boron, Total	Post-Closure	Jan	109	0.025	0.026	0.066	0.0193	0.0169	0.0204	0.0119	0.0144	0.0416
Boron, Total	Post-Closure	Feb	109	0.026	0.027	0.050	0.0193	0.0169	0.0204	0.0119	0.0143	0.0415
Boron, Total	Post-Closure	Mar	109	0.030	0.031	0.035	0.0193	0.0169	0.0204	0.0117	0.0142	0.0410
Boron, Total	Post-Closure	Apr	109	0.031	0.031	0.032	0.0192	0.0168	0.0203	0.0116	0.0140	0.0404
Boron, Total	Post-Closure	May	109	0.027	0.027	0.027	0.0192	0.0168	0.0203	0.0116	0.0140	0.0401
Boron, Total	Post-Closure	Jun	109	0.025	0.025	0.026	0.0192	0.0169	0.0203	0.0116	0.0140	0.0399
Boron, Total	Post-Closure	Jul	109	0.025	0.025	0.026	0.0193	0.0169	0.0204	0.0118	0.0142	0.0398
Boron, Total	Post-Closure	Aug	109	0.026	0.026	0.026	0.0193	0.0170	0.0204	0.0120	0.0143	0.0396
Boron, Total	Post-Closure	Sep	109	0.026	0.025	0.026	0.0194	0.0170	0.0205	0.0121	0.0144	0.0394
Boron, Total	Post-Closure	Oct	109	0.026	0.026	0.026	0.0194	0.0170	0.0204	0.0120	0.0143	0.0390
Boron, Total	Post-Closure	Nov	109	0.026	0.026	0.027	0.0193	0.0170	0.0204	0.0120	0.0142	0.0387
Boron, Total	Post-Closure	Dec	109	0.026	0.027	0.029	0.0193	0.0170	0.0204	0.0119	0.0142	0.0386
Cadmium, Dissolved	Construction	Jan	2	0.0000045	0.0000045	0.0000048	-	-	-	-	-	-
Cadmium, Dissolved	Construction	Feb	2	0.0000051	0.0000051	0.0000051	-	-	-	-	-	-
Cadmium, Dissolved	Construction	Mar	2	0.0000058	0.0000058	0.0000060	-	-	-	0.0000003	0.0000003	0.0000003
Cadmium, Dissolved	Construction	Apr	2	0.0000061	0.0000061	0.0000062	-	-	-	0.0000001	0.0000001	0.0000001
Cadmium, Dissolved	Construction	May	2	0.0000063	0.0000063	0.0000064	-	-	-	0.0000001	0.0000001	0.0000001
Cadmium, Dissolved	Construction	Jun	2	0.0000062	0.0000062	0.0000063	-	-	-	0.0000001	0.0000001	0.0000001
Cadmium, Dissolved	Construction	Jul	2	0.0000058	0.0000058	0.0000060	-	-	-	0.0000001	0.0000001	0.0000001
Cadmium, Dissolved	Construction	Aug	2	0.0000057	0.0000057	0.0000060	-	-	-	0.0000046	0.0000046	0.0000046
Cadmium, Dissolved	Construction	Sep	2	0.0000054	0.0000054	0.0000054	-	-	-	0.0000475	0.0000475	0.0000947
Cadmium, Dissolved	Construction	Oct	2	0.0000053	0.0000053	0.0000056	-	-	-	0.0000661	0.0000661	0.0000661
Cadmium, Dissolved	Construction	Nov	2	0.0000052	0.0000052	0.0000055	-	-	-	0.0000602	0.0000602	0.0000602
Cadmium, Dissolved	Construction	Dec	2	0.0000052	0.0000052	0.0000055	-	-	-	0.0000592	0.0000592	0.0000592
Cadmium, Dissolved	Operations	Jan	13	0.0000178	0.0000211	0.0000421	-	-	-	0.0000675	0.0000659	0.0000699
Cadmium, Dissolved	Operations	Feb	13	0.0000139	0.0000172	0.0000384	-	-	-	0.0000655	0.0000646	0.0000689
Cadmium, Dissolved	Operations	Mar	13	0.0000105	0.0000117	0.0000242	-	-	-	0.0000600	0.0000580	0.0000664
Cadmium, Dissolved	Operations	Apr	13	0.0000126	0.0000126	0.0000195	-	-	-	0.0000531	0.0000530	0.0000627
Cadmium, Dissolved	Operations	May	13	0.0000143	0.0000147	0.0000247	-	-	-	0.0000525	0.0000524	0.0000600
Cadmium, Dissolved	Operations	Jun	13	0.0000122	0.0000118	0.0000169	-	-	-	0.0000596	0.0000599	0.0000698
Cadmium, Dissolved	Operations	Jul	13	0.0000123	0.0000112	0.0000150	-	-	-	0.0000667	0.0000717	0.0000920
Cadmium, Dissolved	Operations	Aug	13	0.0000121	0.0000111	0.0000146	-	-	-	0.0000768	0.0000799	0.0001016
Cadmium, Dissolved	Operations	Sep	13	0.0000129	0.0000119	0.0000166	-	-	-	0.0000776	0.0000792	0.0000906
Cadmium, Dissolved	Operations	Oct	13	0.0000161	0.0000143	0.0000232	-	-	-	0.0000743	0.0000734	0.0000774
Cadmium, Dissolved	Operations	Nov	13	0.0000157	0.0000158	0.0000251	-	-	-	0.0000721	0.0000698	0.0000731
Cadmium, Dissolved	Operations	Dec	13	0.0000171	0.0000187	0.0000329	-	-	-	0.0000705	0.0000683	0.0000717
Cadmium, Dissolved	Closure	Jan	6	0.0000302	0.0000291	0.0000306	-	-	-	0.0000896	0.0000880	0.0001008
Cadmium, Dissolved	Closure	Feb	6	0.0000302	0.0000296	0.0000305	-	-	-	0.0000890	0.0000875	0.0001003
Cadmium, Dissolved	Closure	Mar	6	0.0000302	0.0000302	0.0000306	-	-	-	0.0000873	0.0000858	0.0000986
Cadmium, Dissolved	Closure	Apr	6	0.0000308	0.0000307	0.0000308	-	-	-	0.0000857	0.0000842	0.0000970
Cadmium, Dissolved	Closure	May	6	0.0000306	0.0000305	0.0000306	-	-	-	0.0000854	0.0000839	0.0000966
Cadmium, Dissolved	Closure	Jun	6	0.0000304	0.0000305	0.0000307	-	-	-	0.0000870	0.0000856	0.0000980
Cadmium, Dissolved	Closure	Jul	6	0.0000304	0.0000305	0.0000306	-	-	-	0.0000905	0.0000892	0.0001010
Cadmium, Dissolved	Closure	Aug	6	0.0000308	0.0000307	0.0000308	-	-	-	0.0000944	0.0000931	0.0001045
Cadmium, Dissolved	Closure	Sep	6	0.0000306	0.0000306	0.0000306	-	-	-	0.0000965	0.0000953	0.0001063
Cadmium, Dissolved	Closure	Oct	6	0.0000310	0.0000308	0.0000310	-	-	-	0.0000963	0.0000952	0.0001060
Cadmium, Dissolved	Closure	Nov	6	0.0000314	0.0000311	0.0000314	-	-	-	0.0000956	0.0000944	0.0001053
Cadmium, Dissolved	Closure	Dec	6	0.0000312	0.0000309	0.0000312	-	-	-	0.0000951	0.0000939	0.0001048
Cadmium, Dissolved	Post-Closure	Jan	109	0.0002880	0.0002917	0.0003215	0.0000501	0.0000423	0.0000585	0.0000414	0.0000467	0.0001044
Cadmium, Dissolved	Post-Closure	Feb	109	0.0002936	0.0002979	0.0003199	0.0000509	0.0000430	0.0000595	0.0000412	0.0000465	0.0001040
Cadmium, Dissolved	Post-Closure	Mar	109	0.0003245	0.0003238	0.0003289	0.0000532	0.0000450	0.0000621	0.0000407	0.0000459	0.0001027
Cadmium, Dissolved	Post-Closure	Apr	109	0.0003388	0.0003350	0.0003397	0.0000557	0.0000471	0.0000650	0.0000402	0.0000453	0.0001013
Cadmium, Dissolved	Post-Closure	May	109	0.0003359	0.0003328	0.0003366	0.0000553	0.0000467	0.0000644	0.0000400	0.0000451	0.0001005
Cadmium, Dissolved	Post-Closure	Jun	109	0.0003334	0.0003314	0.0003375	0.0000533	0.0000451	0.0000621	0.0000403	0.0000454	0.0001002
Cadmium, Dissolved	Post-Closure	Jul	109	0.0003335	0.0003313	0.0003362	0.0000524	0.0000444	0.0000611	0.0000410	0.0000460	0.0001002
Cadmium, Dissolved	Post-Closure	Aug	109	0.0003393	0.0003357	0.0003393	0.0000518	0.0000439	0.0000602	0.0000417	0.0000467	0.0001002
Cadmium, Dissolved	Post-Closure	Sep	109	0.0003378	0.0003344	0.0003378	0.0000508	0.0000431	0.0000591	0.0000421	0.0000469	0.0000999
Cadmium, Dissolved	Post-Closure	Oct	109	0.0003444	0.0003390	0.0003446	0.0000494	0.0000419	0.0000574	0.0000419	0.0000467	0.0000990
Cadmium, Dissolved	Post-Closure	Nov	109	0.0003355	0.0003314	0.0003397	0.0000489	0.0000415	0.0000568	0.0000417	0.0000464	0.0000983
Cadmium, Dissolved	Post-Closure	Dec	109	0.0003083	0.0003108	0.0003290	0.0000497	0.0000422	0.0000577	0.0000415	0.0000463	0.0000980
Cadmium, Total	Construction	Jan	2	0.0001788	0.0001788	0.0001907	-	-	-	-	-	-
Cadmium, Total	Construction	Feb	2	0.0001497	0.0001497	0.0001564	-	-	-	-	-	-
Cadmium, Total	Construction	Mar	2	0.0001055	0.0001055	0.0001142	-	-	-	0.0000003	0.0000003	0.0000003
Cadmium, Total	Construction	Apr	2	0.0000878	0.0000878	0.0000990	-	-	-	0.0000001	0.0000001	0.0000001
Cadmium, Total	Construction	May	2	0.0000780	0.0000780	0.0000868	-	-	-	0.0000001	0.0000001	0.0000001
Cadmium, Total	Construction	Jun	2	0.0000923	0.0000923	0.0001024	-	-	-	0.0000001	0.0000001	0.0000001
Cadmium, Total	Construction	Jul	2	0.0001082	0.0001082	0.0001232	-	-	-	0.0000001	0.0000001	0.0000001
Cadmium, Total	Construction	Aug	2	0.0001088	0.0001088	0.0001249	-	-	-	0.0000046	0.0000046	0.0000046

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Chloride	Construction	Jan	2	4.514	4.514	4.996	-	-	-	-	-	-
Chloride	Construction	Feb	2	3.965	3.965	4.159	-	-	-	-	-	-
Chloride	Construction	Mar	2	3.113	3.113	3.156	-	-	-	0.345	0.345	0.446
Chloride	Construction	Apr	2	2.719	2.719	2.792	-	-	-	0.100	0.100	0.100
Chloride	Construction	May	2	2.017	2.017	2.039	-	-	-	0.105	0.105	0.105
Chloride	Construction	Jun	2	2.110	2.110	2.197	-	-	-	0.102	0.102	0.102
Chloride	Construction	Jul	2	2.603	2.603	2.719	-	-	-	0.092	0.092	0.092
Chloride	Construction	Aug	2	2.650	2.650	2.728	-	-	-	5.592	5.592	5.592
Chloride	Construction	Sep	2	2.612	2.612	2.918	-	-	-	10.824	10.824	21.339
Chloride	Construction	Oct	2	3.108	3.108	3.302	-	-	-	15.112	15.112	15.112
Chloride	Construction	Nov	2	3.437	3.437	3.622	-	-	-	14.917	14.917	14.917
Chloride	Construction	Dec	2	3.699	3.699	3.889	-	-	-	15.504	15.504	15.504
Chloride	Operations	Jan	13	2.094	2.351	3.540	-	-	-	49.547	54.144	103.024
Chloride	Operations	Feb	13	1.403	1.616	3.183	-	-	-	51.550	57.952	117.545
Chloride	Operations	Mar	13	0.939	1.139	2.560	-	-	-	49.304	50.888	71.987
Chloride	Operations	Apr	13	1.401	1.619	2.974	-	-	-	46.115	43.972	47.454
Chloride	Operations	May	13	1.383	1.584	2.619	-	-	-	40.917	39.462	43.939
Chloride	Operations	Jun	13	0.980	1.055	1.307	-	-	-	40.797	39.792	43.344
Chloride	Operations	Jul	13	1.137	1.203	1.438	-	-	-	41.970	42.675	50.596
Chloride	Operations	Aug	13	1.092	1.183	1.510	-	-	-	42.866	45.263	63.028
Chloride	Operations	Sep	13	1.212	1.320	1.917	-	-	-	44.101	46.924	70.210
Chloride	Operations	Oct	13	1.564	1.660	2.263	-	-	-	44.354	47.404	71.123
Chloride	Operations	Nov	13	1.597	1.842	2.571	-	-	-	45.123	50.157	84.376
Chloride	Operations	Dec	13	1.858	2.073	2.774	-	-	-	46.987	55.400	108.357
Chloride	Closure	Jan	6	2.281	2.221	2.281	-	-	-	27.463	28.313	37.511
Chloride	Closure	Feb	6	2.341	2.307	2.341	-	-	-	27.301	28.136	37.227
Chloride	Closure	Mar	6	2.403	2.396	2.403	-	-	-	26.796	27.591	36.364
Chloride	Closure	Apr	6	2.418	2.417	2.418	-	-	-	26.261	27.015	35.460
Chloride	Closure	May	6	1.934	1.934	1.934	-	-	-	25.922	26.649	34.889
Chloride	Closure	Jun	6	1.654	1.654	1.654	-	-	-	25.775	26.489	34.637
Chloride	Closure	Jul	6	1.861	1.861	1.861	-	-	-	25.713	26.421	34.525
Chloride	Closure	Aug	6	1.930	1.930	1.930	-	-	-	25.646	26.349	34.406
Chloride	Closure	Sep	6	1.950	1.950	1.950	-	-	-	25.485	26.174	34.130
Chloride	Closure	Oct	6	1.952	1.952	1.952	-	-	-	25.158	25.821	33.584
Chloride	Closure	Nov	6	2.054	2.054	2.054	-	-	-	24.898	25.541	33.155
Chloride	Closure	Dec	6	2.202	2.202	2.202	-	-	-	24.775	25.408	32.952
Chloride	Post-Closure	Jan	109	3.587	3.934	5.346	2.937	2.690	3.247	1.199	2.727	19.379
Chloride	Post-Closure	Feb	109	3.732	4.081	5.479	2.935	2.689	3.244	1.198	2.720	19.305
Chloride	Post-Closure	Mar	109	4.788	4.952	5.600	2.929	2.687	3.239	1.194	2.697	19.073
Chloride	Post-Closure	Apr	109	4.877	5.031	5.627	2.923	2.684	3.232	1.190	2.672	18.821
Chloride	Post-Closure	May	109	3.813	3.950	4.481	2.920	2.682	3.229	1.189	2.656	18.638
Chloride	Post-Closure	Jun	109	3.491	3.570	3.873	2.923	2.687	3.232	1.191	2.644	18.476
Chloride	Post-Closure	Jul	109	4.088	4.145	4.365	2.931	2.699	3.242	1.195	2.631	18.284
Chloride	Post-Closure	Aug	109	4.195	4.262	4.518	2.940	2.711	3.252	1.200	2.619	18.084
Chloride	Post-Closure	Sep	109	4.201	4.275	4.563	2.945	2.719	3.257	1.203	2.605	17.888
Chloride	Post-Closure	Oct	109	4.045	4.153	4.571	2.943	2.719	3.256	1.201	2.586	17.683
Chloride	Post-Closure	Nov	109	3.855	4.046	4.794	2.940	2.716	3.252	1.198	2.572	17.553
Chloride	Post-Closure	Dec	109	3.701	4.000	5.164	2.939	2.713	3.249	1.196	2.566	17.492
Fluoride	Construction	Jan	2	0.0456	0.0456	0.0492	-	-	-	-	-	-
Fluoride	Construction	Feb	2	0.0521	0.0521	0.0527	-	-	-	-	-	-
Fluoride	Construction	Mar	2	0.0587	0.0587	0.0596	-	-	-	0.0024	0.0024	0.0028
Fluoride	Construction	Apr	2	0.0637	0.0637	0.0641	-	-	-	0.0006	0.0006	0.0006
Fluoride	Construction	May	2	0.0620	0.0620	0.0631	-	-	-	0.0007	0.0007	0.0007
Fluoride	Construction	Jun	2	0.0597	0.0597	0.0603	-	-	-	0.0006	0.0006	0.0006
Fluoride	Construction	Jul	2	0.0576	0.0576	0.0596	-	-	-	0.0006	0.0006	0.0006
Fluoride	Construction	Aug	2	0.0587	0.0587	0.0608	-	-	-	0.0408	0.0408	0.0408
Fluoride	Construction	Sep	2	0.0557	0.0557	0.0565	-	-	-	0.1848	0.1848	0.3674
Fluoride	Construction	Oct	2	0.0548	0.0548	0.0568	-	-	-	0.2511	0.2511	0.2511
Fluoride	Construction	Nov	2	0.0528	0.0528	0.0553	-	-	-	0.2302	0.2302	0.2302
Fluoride	Construction	Dec	2	0.0521	0.0521	0.0549	-	-	-	0.2276	0.2276	0.2276
Fluoride	Operations	Jan	13	0.0853	0.0846	0.1080	-	-	-	0.8499	0.8810	1.4416
Fluoride	Operations	Feb	13	0.0835	0.0829	0.0960	-	-	-	0.8639	0.9203	1.5968
Fluoride	Operations	Mar	13	0.0826	0.0819	0.0889	-	-	-	0.8434	0.8041	0.9477
Fluoride	Operations	Apr	13	0.0822	0.0816	0.0940	-	-	-	0.7534	0.7012	0.8034
Fluoride	Operations	May	13	0.0804	0.0798	0.0960	-	-	-	0.6715	0.6446	0.7649
Fluoride	Operations	Jun	13	0.0830	0.0829	0.0938	-	-	-	0.6726	0.6717	0.7622
Fluoride	Operations	Jul	13	0.0854	0.0853	0.0969	-	-	-	0.7493	0.7516	0.8332
Fluoride	Operations	Aug	13	0.0857	0.0856	0.0965	-	-	-	0.8019	0.8278	1.0711
Fluoride	Operations	Sep	13	0.0861	0.0863	0.0989	-	-	-	0.8181	0.8631	1.1683
Fluoride	Operations	Oct	13	0.0878	0.0882	0.1077	-	-	-	0.8164	0.8535	1.1096
Fluoride	Operations	Nov	13	0.0900	0.0876	0.1054	-	-	-	0.8199	0.8723	1.2207
Fluoride	Operations	Dec	13	0.0909	0.0884	0.1070	-	-	-	0.8353	0.9270	1.4727
Fluoride	Closure	Jan	6	0.157	0.151	0.159	-	-	-	0.6477	0.6542	0.7253
Fluoride	Closure	Feb	6	0.157	0.154	0.159	-	-	-	0.6438	0.6502	0.7198
Fluoride	Closure	Mar	6	0.157	0.157	0.159	-	-	-	0.6317	0.6376	0.7029
Fluoride	Closure	Apr	6	0.160	0.160	0.160	-	-	-	0.6192	0.6246	0.6856
Fluoride	Closure	May	6	0.156	0.156	0.156	-	-	-	0.6136	0.6187	0.6776
Fluoride	Closure	Jun	6	0.153	0.154	0.155	-	-	-	0.6169	0.6220	0.6811
Fluoride	Closure	Jul	6	0.156	0.157	0.158	-	-	-	0.6270	0.6323	0.6934
Fluoride	Closure	Aug	6	0.159	0.159	0.159	-	-	-	0.6383	0.6440	0.7072
Fluoride	Closure	Sep	6	0.159	0.159	0.159	-	-	-	0.6428	0.6485	0.7121
Fluoride	Closure	Oct	6	0.161	0.160	0.161	-	-	-	0.6378	0.6432	0.7049
Fluoride	Closure	Nov	6	0.164	0.162	0.164	-	-	-	0.6321	0.6372	0.6969
Fluoride	Closure	Dec	6	0.162	0.161	0.162	-	-	-	0.6289	0.6339	0.6926
Fluoride	Post-Closure	Jan	109	0.119	0.123	0.155	0.1237	0.1120	0.1328	0.1384	0.1759	0.5856
Fluoride	Post-Closure	Feb	109	0.121	0.125	0.148	0.1236	0.1120	0.1327	0.1378	0.1753	0.5833
Fluoride	Post-Closure	Mar	109	0.138	0.139	0.142	0.1234	0.1117	0.1325	0.1362	0.1731	0.5760
Fluoride	Post-Closure	Apr	109	0.143	0.143	0.144	0.1231	0.1115	0.1322	0.1345	0.1709	0.5682
Fluoride	Post-Closure	May	109	0.135	0.135	0.136	0.1230	0.1115	0.1321	0.1339	0.1700	0.5632
Fluoride	Post-Closure	Jun	109	0.132	0.132	0.134	0.1231	0.1117	0.1322	0.1348	0.1705	0.5601
Fluoride	Post-Closure	Jul	109	0.139	0.138	0.140	0.1235	0.1120	0.1326	0.1369	0.1723	0.5574
Fluoride	Post-Closure	Aug	109	0.142	0.141	0.142	0.1238	0.1125	0.1330	0.1394	0.1743	0.5548
Fluoride	Post-Closure	Sep	109	0.143	0.142	0.143	0.1240	0.1127	0.1332	0.1405	0.1750	0.5510
Fluoride	Post-Closure	Oct	109	0.144	0.143	0.145	0.1239	0.1127	0.1331	0.1399	0.1740	0.5454
Fluoride	Post-Closure	Nov	109	0.139	0.139	0.144	0.1238	0.1126	0.1330	0.1392	0.1730	0.5415
Fluoride	Post-Closure	Dec	109	0.127	0.130	0.144	0.1237	0.1126	0.1329	0.1387	0.1724	0.5396
Phosphorus, Total	Construction	Jan	2	0.0154	0.0154	0.0170	-	-	-	-	-	-

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Phosphorus, Total	Construction	Feb	2	0.0154	0.0154	0.0165	-	-	-	-	-	-
Phosphorus, Total	Construction	Mar	2	0.0151	0.0151	0.0154	-	-	-	0.0010	0.0010	0.0014
Phosphorus, Total	Construction	Apr	2	0.0149	0.0149	0.0150	-	-	-	0.0003	0.0003	0.0003
Phosphorus, Total	Construction	May	2	0.0151	0.0151	0.0153	-	-	-	0.0003	0.0003	0.0003
Phosphorus, Total	Construction	Jun	2	0.0168	0.0168	0.0170	-	-	-	0.0004	0.0004	0.0004
Phosphorus, Total	Construction	Jul	2	0.0161	0.0161	0.0163	-	-	-	0.0005	0.0005	0.0005
Phosphorus, Total	Construction	Aug	2	0.0154	0.0154	0.0155	-	-	-	0.0218	0.0218	0.0218
Phosphorus, Total	Construction	Sep	2	0.0123	0.0123	0.0133	-	-	-	0.0132	0.0132	0.0253
Phosphorus, Total	Construction	Oct	2	0.0115	0.0115	0.0117	-	-	-	0.0080	0.0080	0.0080
Phosphorus, Total	Construction	Nov	2	0.0119	0.0119	0.0120	-	-	-	0.0053	0.0053	0.0053
Phosphorus, Total	Construction	Dec	2	0.0130	0.0130	0.0130	-	-	-	0.0041	0.0041	0.0041
Phosphorus, Total	Operations	Jan	13	0.0128	0.0131	0.0144	-	-	-	0.0152	0.0136	0.0163
Phosphorus, Total	Operations	Feb	13	0.0128	0.0130	0.0141	-	-	-	0.0148	0.0129	0.0151
Phosphorus, Total	Operations	Mar	13	0.0127	0.0129	0.0144	-	-	-	0.0136	0.0115	0.0144
Phosphorus, Total	Operations	Apr	13	0.0128	0.0132	0.0150	-	-	-	0.0124	0.0111	0.0139
Phosphorus, Total	Operations	May	13	0.0136	0.0141	0.0160	-	-	-	0.0123	0.0117	0.0137
Phosphorus, Total	Operations	Jun	13	0.0135	0.0138	0.0147	-	-	-	0.0135	0.0134	0.0153
Phosphorus, Total	Operations	Jul	13	0.0130	0.0132	0.0139	-	-	-	0.0148	0.0160	0.0218
Phosphorus, Total	Operations	Aug	13	0.0129	0.0132	0.0138	-	-	-	0.0167	0.0185	0.0269
Phosphorus, Total	Operations	Sep	13	0.0118	0.0119	0.0122	-	-	-	0.0175	0.0190	0.0270
Phosphorus, Total	Operations	Oct	13	0.0113	0.0112	0.0118	-	-	-	0.0170	0.0176	0.0228
Phosphorus, Total	Operations	Nov	13	0.0117	0.0118	0.0121	-	-	-	0.0157	0.0162	0.0196
Phosphorus, Total	Operations	Dec	13	0.0124	0.0126	0.0133	-	-	-	0.0155	0.0153	0.0176
Phosphorus, Total	Closure	Jan	6	0.010	0.010	0.012	-	-	-	0.0185	0.0182	0.0204
Phosphorus, Total	Closure	Feb	6	0.010	0.010	0.012	-	-	-	0.0184	0.0181	0.0203
Phosphorus, Total	Closure	Mar	6	0.011	0.011	0.011	-	-	-	0.0181	0.0178	0.0200
Phosphorus, Total	Closure	Apr	6	0.011	0.011	0.011	-	-	-	0.0178	0.0175	0.0197
Phosphorus, Total	Closure	May	6	0.012	0.012	0.012	-	-	-	0.0177	0.0174	0.0196
Phosphorus, Total	Closure	Jun	6	0.012	0.012	0.012	-	-	-	0.0180	0.0178	0.0198
Phosphorus, Total	Closure	Jul	6	0.011	0.011	0.011	-	-	-	0.0186	0.0184	0.0204
Phosphorus, Total	Closure	Aug	6	0.011	0.011	0.011	-	-	-	0.0193	0.0191	0.0210
Phosphorus, Total	Closure	Sep	6	0.008	0.008	0.008	-	-	-	0.0197	0.0195	0.0213
Phosphorus, Total	Closure	Oct	6	0.008	0.008	0.008	-	-	-	0.0196	0.0195	0.0213
Phosphorus, Total	Closure	Nov	6	0.008	0.008	0.008	-	-	-	0.0195	0.0193	0.0211
Phosphorus, Total	Closure	Dec	6	0.009	0.009	0.009	-	-	-	0.0194	0.0192	0.0210
Phosphorus, Total	Post-Closure	Jan	109	0.016	0.017	0.021	0.0155	0.0143	0.0157	0.0106	0.0115	0.0210
Phosphorus, Total	Post-Closure	Feb	109	0.016	0.018	0.022	0.0155	0.0142	0.0157	0.0106	0.0114	0.0209
Phosphorus, Total	Post-Closure	Mar	109	0.020	0.021	0.023	0.0155	0.0142	0.0157	0.0105	0.0113	0.0207
Phosphorus, Total	Post-Closure	Apr	109	0.021	0.021	0.023	0.0155	0.0142	0.0156	0.0104	0.0112	0.0204
Phosphorus, Total	Post-Closure	May	109	0.023	0.023	0.025	0.0154	0.0142	0.0156	0.0103	0.0112	0.0203
Phosphorus, Total	Post-Closure	Jun	109	0.024	0.025	0.026	0.0155	0.0142	0.0157	0.0104	0.0112	0.0202
Phosphorus, Total	Post-Closure	Jul	109	0.022	0.022	0.023	0.0155	0.0143	0.0157	0.0105	0.0113	0.0203
Phosphorus, Total	Post-Closure	Aug	109	0.021	0.022	0.022	0.0156	0.0143	0.0158	0.0107	0.0115	0.0203
Phosphorus, Total	Post-Closure	Sep	109	0.017	0.017	0.017	0.0156	0.0144	0.0158	0.0107	0.0115	0.0203
Phosphorus, Total	Post-Closure	Oct	109	0.015	0.015	0.016	0.0156	0.0143	0.0158	0.0107	0.0115	0.0201
Phosphorus, Total	Post-Closure	Nov	109	0.015	0.015	0.017	0.0155	0.0143	0.0157	0.0106	0.0114	0.0200
Phosphorus, Total	Post-Closure	Dec	109	0.016	0.017	0.020	0.0155	0.0143	0.0157	0.0106	0.0114	0.0199
Ammonia (as N)	Construction	Jan	2	0.1990	0.1990	0.2231	-	-	-	-	-	-
Ammonia (as N)	Construction	Feb	2	0.2111	0.2111	0.2677	-	-	-	-	-	-
Ammonia (as N)	Construction	Mar	2	0.1688	0.1688	0.2092	-	-	-	0.0169	0.0169	0.0187
Ammonia (as N)	Construction	Apr	2	0.1495	0.1495	0.1795	-	-	-	0.0034	0.0034	0.0034
Ammonia (as N)	Construction	May	2	0.1497	0.1497	0.1736	-	-	-	0.0080	0.0080	0.0080
Ammonia (as N)	Construction	Jun	2	0.1685	0.1685	0.1819	-	-	-	0.0075	0.0075	0.0075
Ammonia (as N)	Construction	Jul	2	0.1080	0.1080	0.1103	-	-	-	0.0065	0.0065	0.0065
Ammonia (as N)	Construction	Aug	2	0.0741	0.0741	0.0840	-	-	-	0.1782	0.1782	0.1782
Ammonia (as N)	Construction	Sep	2	0.0717	0.0717	0.0790	-	-	-	1.6275	1.6275	3.2460
Ammonia (as N)	Construction	Oct	2	0.0915	0.0915	0.1096	-	-	-	2.4144	2.4144	2.4144
Ammonia (as N)	Construction	Nov	2	0.1380	0.1380	0.1697	-	-	-	2.4003	2.4003	2.4003
Ammonia (as N)	Construction	Dec	2	0.2063	0.2063	0.2544	-	-	-	2.5087	2.5087	2.5087
Ammonia (as N)	Operations	Jan	13	0.7316	0.6839	0.8969	-	-	-	8.4866	9.1637	17.0490
Ammonia (as N)	Operations	Feb	13	0.4308	0.4347	0.8559	-	-	-	8.8143	9.7869	19.4433
Ammonia (as N)	Operations	Mar	13	0.1286	0.1453	0.2914	-	-	-	8.4239	8.5637	11.7715
Ammonia (as N)	Operations	Apr	13	0.1926	0.1846	0.2711	-	-	-	7.8499	7.3943	7.9831
Ammonia (as N)	Operations	May	13	0.2355	0.2240	0.2783	-	-	-	6.8831	6.6497	7.4735
Ammonia (as N)	Operations	Jun	13	0.1543	0.1458	0.1708	-	-	-	6.9401	6.7389	7.3799
Ammonia (as N)	Operations	Jul	13	0.1034	0.0992	0.1163	-	-	-	7.1953	7.2707	8.4506
Ammonia (as N)	Operations	Aug	13	0.1033	0.1001	0.1229	-	-	-	7.3826	7.7430	10.5295
Ammonia (as N)	Operations	Sep	13	0.1198	0.1142	0.1582	-	-	-	7.6047	8.0264	11.6770
Ammonia (as N)	Operations	Oct	13	0.1780	0.1772	0.2451	-	-	-	7.6348	8.0831	*11.7538*
Ammonia (as N)	Operations	Nov	13	0.3232	0.3178	0.4394	-	-	-	7.7385	8.5243	13.9256
Ammonia (as N)	Operations	Dec	13	0.5414	0.5155	0.6968	-	-	-	8.0394	9.3892	17.9246
Ammonia (as N)	Closure	Jan	6	0.062	0.071	0.118	-	-	-	4.8547	4.9877	6.4281
Ammonia (as N)	Closure	Feb	6	0.071	0.076	0.103	-	-	-	4.8254	4.9560	6.3788
Ammonia (as N)	Closure	Mar	6	0.080	0.081	0.087	-	-	-	4.7342	4.8583	6.2286
Ammonia (as N)	Closure	Apr	6	0.082	0.083	0.083	-	-	-	4.6382	4.7555	6.0720
Ammonia (as N)	Closure	May	6	0.087	0.087	0.087	-	-	-	4.5810	4.6940	5.9774
Ammonia (as N)	Closure	Jun	6	0.090	0.090	0.090	-	-	-	4.5647	4.6760	5.9464
Ammonia (as N)	Closure	Jul	6	0.029	0.029	0.029	-	-	-	4.5708	4.6817	5.9487
Ammonia (as N)	Closure	Aug	6	0.010	0.010	0.010	-	-	-	4.5777	4.6880	5.9513
Ammonia (as N)	Closure	Sep	6	0.011	0.011	0.011	-	-	-	4.5603	4.6687	5.9180
Ammonia (as N)	Closure	Oct	6	0.011	0.011	0.011	-	-	-	4.5052	4.6095	5.8277
Ammonia (as N)	Closure	Nov	6	0.027	0.027	0.027	-	-	-	4.4591	4.5600	5.7537
Ammonia (as N)	Closure	Dec	6	0.049	0.049	0.049	-	-	-	4.4365	4.5358	5.7178
Ammonia (as N)	Post-Closure	Jan	109	0.120	0.127	0.160	0.1739	0.1850	0.2954	0.2498	0.5305	3.5891
Ammonia (as N)	Post-Closure	Feb	109	0.133	0.142	0.180	0.1738	0.1849	0.2952	0.2488	0.5284	3.5749
Ammonia (as N)	Post-Closure	Mar	109	0.174	0.179	0.199	0.1734	0.1846	0.2946	0.2460	0.5220	3.5300
Ammonia (as N)	Post-Closure	Apr	109	0.178	0.183	0.203	0.1729	0.1844	0.2941	0.2432	0.5154	3.4817
Ammonia (as N)	Post-Closure	May	109	0.187	0.193	0.213	0.1743	0.1844	0.2940	0.2423	0.5117	3.4474
Ammonia (as N)	Post-Closure	Jun	109	0.200	0.204	0.219	0.1744	0.1849	0.2945	0.2441	0.5110	3.4191
Ammonia (as N)	Post-Closure	Jul	109	0.072	0.074	0.079	0.1747	0.1855	0.2953	0.2479	0.5117	3.3870
Ammonia (as N)	Post-Closure	Aug	109	0.038	0.039	0.039	0.1749	0.1860	0.2960	0.2518	0.5125	3.3532
Ammonia (as N)	Post-Closure	Sep	109	0.039	0.040	0.040	0.1749	0.1861	0.2964	0.2533	0.5109	3.3181
Ammonia (as N)	Post-Closure	Oct	109	0.039	0.040	0.041	0.1745	0.1860	0.2961	0.2520	0.5065	3.2796
Ammonia (as N)	Post-Closure	Nov	109	0.069	0.070	0.076	0.1742	0.1858	0.2957	0.2506	0.5031	3.2548
Ammonia (as N)	Post-Closure	Dec	109	0.107	0.112	0.132	0.1741	0.1857	0.2955	0.2497	0.5013	3.2431
Nitrite (as N)	Construction	Jan	2	0.0233	0.0233	0.0339	-	-	-	-	-	-
Nitrite (as N)	Construction	Feb	2	0.0266	0.0266	0.0404	-	-	-	-	-	-

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Nitrite (as N)	Construction	Mar	2	0.0206	0.0206	0.0288	-	-	-	0.0020	0.0020	0.0029
Nitrite (as N)	Construction	Apr	2	0.0182	0.0182	0.0240	-	-	-	0.0002	0.0002	0.0002
Nitrite (as N)	Construction	May	2	0.0142	0.0142	0.0155	-	-	-	0.0011	0.0011	0.0011
Nitrite (as N)	Construction	Jun	2	0.0168	0.0168	0.0185	-	-	-	0.0007	0.0007	0.0007
Nitrite (as N)	Construction	Jul	2	0.0150	0.0150	0.0164	-	-	-	0.0005	0.0005	0.0005
Nitrite (as N)	Construction	Aug	2	0.0143	0.0143	0.0163	-	-	-	0.0296	0.0296	0.0296
Nitrite (as N)	Construction	Sep	2	0.0141	0.0141	0.0153	-	-	-	0.0363	0.0363	0.0709
Nitrite (as N)	Construction	Oct	2	0.0178	0.0178	0.0210	-	-	-	0.0236	0.0236	0.0236
Nitrite (as N)	Construction	Nov	2	0.0241	0.0241	0.0297	-	-	-	0.0198	0.0198	0.0198
Nitrite (as N)	Construction	Dec	2	0.0330	0.0330	0.0415	-	-	-	0.0192	0.0192	0.0192
Nitrite (as N)	Operations	Jan	13	0.1278	0.1183	0.1577	-	-	-	0.0676	0.0693	0.1044
Nitrite (as N)	Operations	Feb	13	0.0721	0.0752	0.1497	-	-	-	0.0701	0.0732	0.1212
Nitrite (as N)	Operations	Mar	13	0.0211	0.0241	0.0493	-	-	-	0.0672	0.0639	0.0775
Nitrite (as N)	Operations	Apr	13	0.0297	0.0290	0.0390	-	-	-	0.0607	0.0567	0.0643
Nitrite (as N)	Operations	May	13	0.0341	0.0325	0.0406	-	-	-	0.0541	0.0525	0.0599
Nitrite (as N)	Operations	Jun	13	0.0224	0.0214	0.0252	-	-	-	0.0532	0.0529	0.0592
Nitrite (as N)	Operations	Jul	13	0.0189	0.0183	0.0215	-	-	-	0.0570	0.0556	0.0608
Nitrite (as N)	Operations	Aug	13	0.0196	0.0190	0.0232	-	-	-	0.0578	0.0578	0.0722
Nitrite (as N)	Operations	Sep	13	0.0225	0.0215	0.0296	-	-	-	0.0583	0.0591	0.0780
Nitrite (as N)	Operations	Oct	13	0.0332	0.0330	0.0453	-	-	-	0.0585	0.0591	0.0772
Nitrite (as N)	Operations	Nov	13	0.0577	0.0566	0.0785	-	-	-	0.0606	0.0618	0.0898
Nitrite (as N)	Operations	Dec	13	0.0947	0.0896	0.1228	-	-	-	0.0639	0.0683	0.1266
Nitrite (as N)	Closure	Jan	6	0.005	0.007	0.016	-	-	-	0.0311	0.0320	0.0422
Nitrite (as N)	Closure	Feb	6	0.005	0.006	0.011	-	-	-	0.0309	0.0318	0.0419
Nitrite (as N)	Closure	Mar	6	0.005	0.006	0.007	-	-	-	0.0303	0.0312	0.0409
Nitrite (as N)	Closure	Apr	6	0.006	0.006	0.006	-	-	-	0.0298	0.0306	0.0399
Nitrite (as N)	Closure	May	6	0.004	0.004	0.004	-	-	-	0.0294	0.0302	0.0393
Nitrite (as N)	Closure	Jun	6	0.003	0.003	0.003	-	-	-	0.0292	0.0300	0.0390
Nitrite (as N)	Closure	Jul	6	0.003	0.003	0.003	-	-	-	0.0292	0.0299	0.0389
Nitrite (as N)	Closure	Aug	6	0.003	0.003	0.003	-	-	-	0.0291	0.0299	0.0388
Nitrite (as N)	Closure	Sep	6	0.002	0.002	0.002	-	-	-	0.0289	0.0297	0.0385
Nitrite (as N)	Closure	Oct	6	0.002	0.002	0.002	-	-	-	0.0285	0.0293	0.0379
Nitrite (as N)	Closure	Nov	6	0.003	0.003	0.003	-	-	-	0.0282	0.0290	0.0374
Nitrite (as N)	Closure	Dec	6	0.004	0.004	0.004	-	-	-	0.0281	0.0288	0.0372
Nitrite (as N)	Post-Closure	Jan	109	0.010	0.011	0.014	0.0078	0.0077	0.0092	0.0019	0.0036	0.0221
Nitrite (as N)	Post-Closure	Feb	109	0.011	0.011	0.014	0.0078	0.0077	0.0092	0.0019	0.0036	0.0221
Nitrite (as N)	Post-Closure	Mar	109	0.014	0.014	0.015	0.0078	0.0077	0.0092	0.0019	0.0036	0.0218
Nitrite (as N)	Post-Closure	Apr	109	0.014	0.014	0.015	0.0078	0.0077	0.0092	0.0019	0.0036	0.0215
Nitrite (as N)	Post-Closure	May	109	0.010	0.011	0.012	0.0078	0.0077	0.0092	0.0019	0.0036	0.0213
Nitrite (as N)	Post-Closure	Jun	109	0.009	0.009	0.010	0.0078	0.0077	0.0092	0.0019	0.0036	0.0212
Nitrite (as N)	Post-Closure	Jul	109	0.008	0.009	0.009	0.0078	0.0077	0.0092	0.0020	0.0036	0.0209
Nitrite (as N)	Post-Closure	Aug	109	0.008	0.008	0.009	0.0078	0.0078	0.0092	0.0020	0.0035	0.0207
Nitrite (as N)	Post-Closure	Sep	109	0.008	0.008	0.009	0.0078	0.0078	0.0093	0.0020	0.0035	0.0205
Nitrite (as N)	Post-Closure	Oct	109	0.008	0.008	0.009	0.0078	0.0078	0.0092	0.0019	0.0035	0.0203
Nitrite (as N)	Post-Closure	Nov	109	0.009	0.009	0.010	0.0078	0.0078	0.0092	0.0019	0.0035	0.0201
Nitrite (as N)	Post-Closure	Dec	109	0.010	0.010	0.012	0.0078	0.0078	0.0092	0.0019	0.0035	0.0200
N_Nitrate_Nitrite	Construction	Jan	2	0.5574	0.5574	1.0853	-	-	-	-	-	-
N_Nitrate_Nitrite	Construction	Feb	2	0.6911	0.6911	1.3397	-	-	-	-	-	-
N_Nitrate_Nitrite	Construction	Mar	2	0.4232	0.4232	0.7920	-	-	-	0.0552	0.0552	0.1089
N_Nitrate_Nitrite	Construction	Apr	2	0.3200	0.3200	0.5806	-	-	-	0.0004	0.0004	0.0004
N_Nitrate_Nitrite	Construction	May	2	0.3510	0.3510	0.5411	-	-	-	0.0390	0.0390	0.0390
N_Nitrate_Nitrite	Construction	Jun	2	0.3683	0.3683	0.4816	-	-	-	0.0241	0.0241	0.0241
N_Nitrate_Nitrite	Construction	Jul	2	0.3184	0.3184	0.3819	-	-	-	0.0164	0.0164	0.0164
N_Nitrate_Nitrite	Construction	Aug	2	0.2968	0.2968	0.3774	-	-	-	0.9950	0.9950	0.9950
N_Nitrate_Nitrite	Construction	Sep	2	0.3081	0.3081	0.3736	-	-	-	1.1566	1.1566	2.2585
N_Nitrate_Nitrite	Construction	Oct	2	0.4701	0.4701	0.6080	-	-	-	0.5186	0.5186	0.5186
N_Nitrate_Nitrite	Construction	Nov	2	0.7278	0.7278	0.9643	-	-	-	0.3738	0.3738	0.3738
N_Nitrate_Nitrite	Construction	Dec	2	1.0729	1.0729	1.4323	-	-	-	0.3310	0.3310	0.3310
N_Nitrate_Nitrite	Operations	Jan	13	5.1617	4.7642	6.4815	-	-	-	1.2777	1.2426	2.4254
N_Nitrate_Nitrite	Operations	Feb	13	2.7480	2.8734	6.1351	-	-	-	1.3428	1.2899	2.0222
N_Nitrate_Nitrite	Operations	Mar	13	0.5106	0.6420	1.7527	-	-	-	1.2605	1.1070	1.4040
N_Nitrate_Nitrite	Operations	Apr	13	0.8993	0.8539	1.2288	-	-	-	1.0972	0.9797	1.2173
N_Nitrate_Nitrite	Operations	May	13	1.1528	1.0653	1.4152	-	-	-	0.9800	0.9029	1.1457
N_Nitrate_Nitrite	Operations	Jun	13	0.6207	0.5667	0.7325	-	-	-	0.9593	0.9065	1.1319
N_Nitrate_Nitrite	Operations	Jul	13	0.4737	0.4407	0.5804	-	-	-	0.9964	0.9465	1.1490
N_Nitrate_Nitrite	Operations	Aug	13	0.5016	0.4704	0.6601	-	-	-	1.0097	0.9799	1.1636
N_Nitrate_Nitrite	Operations	Sep	13	0.6395	0.5908	0.9622	-	-	-	1.0448	0.9977	1.1717
N_Nitrate_Nitrite	Operations	Oct	13	1.1168	1.1179	1.6693	-	-	-	1.0528	0.9952	1.1689
N_Nitrate_Nitrite	Operations	Nov	13	2.1794	2.1241	3.0984	-	-	-	1.1030	1.0327	1.2134
N_Nitrate_Nitrite	Operations	Dec	13	3.7650	3.5317	4.9733	-	-	-	1.1954	1.1540	2.0357
N_Nitrate_Nitrite	Closure	Jan	6	0.009	0.069	0.366	-	-	-	0.4222	0.4345	0.5682
N_Nitrate_Nitrite	Closure	Feb	6	0.009	0.043	0.211	-	-	-	0.4196	0.4318	0.5638
N_Nitrate_Nitrite	Closure	Mar	6	0.009	0.016	0.053	-	-	-	0.4117	0.4233	0.5506
N_Nitrate_Nitrite	Closure	Apr	6	0.009	0.010	0.014	-	-	-	0.4034	0.4143	0.5367
N_Nitrate_Nitrite	Closure	May	6	0.009	0.009	0.010	-	-	-	0.3982	0.4088	0.5282
N_Nitrate_Nitrite	Closure	Jun	6	0.009	0.009	0.009	-	-	-	0.3964	0.4068	0.5249
N_Nitrate_Nitrite	Closure	Jul	6	0.009	0.009	0.009	-	-	-	0.3962	0.4065	0.5242
N_Nitrate_Nitrite	Closure	Aug	6	0.009	0.009	0.009	-	-	-	0.3961	0.4063	0.5235
N_Nitrate_Nitrite	Closure	Sep	6	0.009	0.009	0.009	-	-	-	0.3941	0.4042	0.5199
N_Nitrate_Nitrite	Closure	Oct	6	0.009	0.009	0.009	-	-	-	0.3892	0.3989	0.5118
N_Nitrate_Nitrite	Closure	Nov	6	0.009	0.009	0.009	-	-	-	0.3852	0.3945	0.5052
N_Nitrate_Nitrite	Closure	Dec	6	0.009	0.009	0.009	-	-	-	0.3832	0.3924	0.5021
N_Nitrate_Nitrite	Post-Closure	Jan	109	0.085	0.087	0.100	0.0732	0.0686	0.0825	0.0164	0.0407	0.3047
N_Nitrate_Nitrite	Post-Closure	Feb	109	0.087	0.089	0.100	0.0731	0.0686	0.0824	0.0164	0.0405	0.3035
N_Nitrate_Nitrite	Post-Closure	Mar	109	0.098	0.098	0.100	0.0730	0.0684	0.0823	0.0162	0.0401	0.2997
N_Nitrate_Nitrite	Post-Closure	Apr	109	0.102	0.101	0.102	0.0728	0.0683	0.0821	0.0161	0.0396	0.2956
N_Nitrate_Nitrite	Post-Closure	May	109	0.101	0.101	0.102	0.0728	0.0682	0.0820	0.0160	0.0393	0.2927
N_Nitrate_Nitrite	Post-Closure	Jun	109	0.101	0.101	0.103	0.0729	0.0683	0.0821	0.0161	0.0391	0.2902
N_Nitrate_Nitrite	Post-Closure	Jul	109	0.102	0.102	0.103	0.0731	0.0686	0.0823	0.0163	0.0391	0.2873
N_Nitrate_Nitrite	Post-Closure	Aug	109	0.103	0.103	0.103	0.0733	0.0688	0.0826	0.0165	0.0390	0.2842
N_Nitrate_Nitrite	Post-Closure	Sep	109	0.103	0.102	0.103	0.0734	0.0689	0.0827	0.0166	0.0388	0.2812
N_Nitrate_Nitrite	Post-Closure	Oct	109	0.104	0.103	0.104	0.0733	0.0689	0.0827	0.0165	0.0385	0.2779
N_Nitrate_Nitrite	Post-Closure	Nov	109	0.100	0.100	0.103	0.0733	0.0689	0.0826	0.0165	0.0383	0.2758
N_Nitrate_Nitrite	Post-Closure	Dec	109	0.091	0.093	0.102	0.0732	0.0689	0.0825	0.0164	0.0381	0.2748
Cyanide, Total	Construction	Jan	2	0.00044	0.00044	0.00045	-	-	-	-	-	-
Cyanide, Total	Construction	Feb	2	0.00046	0.00046	0.00046	-	-	-	-	-	-
Cyanide, Total	Construction	Mar	2	0.00048	0.00048	0.00048	-	-	-	0.00003	0.00003	0.00003

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Cyanide, Total	Construction	Apr	2	0.00049	0.00049	0.00049	-	-	-	0.00001	0.00001	0.00001
Cyanide, Total	Construction	May	2	0.00051	0.00051	0.00051	-	-	-	0.00001	0.00001	0.00001
Cyanide, Total	Construction	Jun	2	0.00052	0.00052	0.00052	-	-	-	0.00001	0.00001	0.00001
Cyanide, Total	Construction	Jul	2	0.00050	0.00050	0.00050	-	-	-	0.00001	0.00001	0.00001
Cyanide, Total	Construction	Aug	2	0.00049	0.00049	0.00049	-	-	-	0.00051	0.00051	0.00051
Cyanide, Total	Construction	Sep	2	0.00046	0.00046	0.00048	-	-	-	1.02906	1.02906	2.05809
Cyanide, Total	Construction	Oct	2	0.00047	0.00047	0.00047	-	-	-	1.69090	1.69090	1.69090
Cyanide, Total	Construction	Nov	2	0.00046	0.00046	0.00046	-	-	-	1.75756	1.75756	1.75756
Cyanide, Total	Construction	Dec	2	0.00046	0.00046	0.00046	-	-	-	1.87309	1.87309	1.87309
Cyanide, Total	Operations	Jan	13	0.00042	0.00043	0.00047	-	-	-	3.42832	4.61957	11.42507
Cyanide, Total	Operations	Feb	13	0.00047	0.00047	0.00051	-	-	-	3.79229	5.24222	13.86490
Cyanide, Total	Operations	Mar	13	0.00050	0.00050	0.00052	-	-	-	4.16005	4.58108	8.80796
Cyanide, Total	Operations	Apr	13	0.00047	0.00047	0.00050	-	-	-	3.74264	3.96788	5.56006
Cyanide, Total	Operations	May	13	0.00046	0.00046	0.00051	-	-	-	3.31264	3.39591	4.86180
Cyanide, Total	Operations	Jun	13	0.00050	0.00050	0.00053	-	-	-	3.05428	3.04879	4.41052
Cyanide, Total	Operations	Jul	13	0.00049	0.00049	0.00052	-	-	-	2.62877	2.82578	4.82258
Cyanide, Total	Operations	Aug	13	0.00049	0.00049	0.00052	-	-	-	2.28651	2.65438	5.59248
Cyanide, Total	Operations	Sep	13	0.00047	0.00048	0.00051	-	-	-	2.16204	2.66249	6.37113
Cyanide, Total	Operations	Oct	13	0.00046	0.00045	0.00049	-	-	-	2.30172	2.91065	7.25257
Cyanide, Total	Operations	Nov	13	0.00043	0.00044	0.00048	-	-	-	2.63436	3.51106	9.68816
Cyanide, Total	Operations	Dec	13	0.00042	0.00043	0.00047	-	-	-	3.02363	4.33671	13.34722
Cyanide, Total	Closure	Jan	6	0.000	0.000	0.000	-	-	-	0.63164	0.64756	0.81993
Cyanide, Total	Closure	Feb	6	0.000	0.000	0.000	-	-	-	0.62782	0.64345	0.81362
Cyanide, Total	Closure	Mar	6	0.000	0.000	0.000	-	-	-	0.61592	0.63073	0.79441
Cyanide, Total	Closure	Apr	6	0.000	0.000	0.000	-	-	-	0.60342	0.61740	0.77441
Cyanide, Total	Closure	May	6	0.000	0.000	0.000	-	-	-	0.59619	0.60965	0.76263
Cyanide, Total	Closure	Jun	6	0.000	0.000	0.000	-	-	-	0.59473	0.60800	0.75955
Cyanide, Total	Closure	Jul	6	0.000	0.000	0.000	-	-	-	0.59671	0.60995	0.76135
Cyanide, Total	Closure	Aug	6	0.000	0.000	0.000	-	-	-	0.59898	0.61220	0.76347
Cyanide, Total	Closure	Sep	6	0.000	0.000	0.000	-	-	-	0.59762	0.61064	0.76037
Cyanide, Total	Closure	Oct	6	0.000	0.000	0.000	-	-	-	0.59076	0.60327	0.74923
Cyanide, Total	Closure	Nov	6	0.000	0.000	0.000	-	-	-	0.58482	0.59691	0.73985
Cyanide, Total	Closure	Dec	6	0.000	0.000	0.000	-	-	-	0.58185	0.59373	0.73522
Cyanide, Total	Post-Closure	Jan	109	0.000	0.000	0.001	0.01854	0.01830	0.03202	0.04302	0.07977	0.48025
Cyanide, Total	Post-Closure	Feb	109	0.000	0.000	0.001	0.01853	0.01829	0.03199	0.04285	0.07945	0.47834
Cyanide, Total	Post-Closure	Mar	109	0.000	0.000	0.001	0.01857	0.01827	0.03193	0.04231	0.07845	0.47230
Cyanide, Total	Post-Closure	Apr	109	0.000	0.001	0.001	0.01861	0.01826	0.03186	0.04176	0.07740	0.46579
Cyanide, Total	Post-Closure	May	109	0.001	0.001	0.001	0.01857	0.01826	0.03183	0.04158	0.07685	0.46123
Cyanide, Total	Post-Closure	Jun	109	0.001	0.001	0.001	0.01857	0.01830	0.03187	0.04186	0.07680	0.45758
Cyanide, Total	Post-Closure	Jul	109	0.001	0.001	0.001	0.01859	0.01837	0.03197	0.04253	0.07708	0.45354
Cyanide, Total	Post-Closure	Aug	109	0.001	0.001	0.001	0.01865	0.01845	0.03207	0.04330	0.07743	0.44938
Cyanide, Total	Post-Closure	Sep	109	0.001	0.001	0.001	0.01870	0.01850	0.03212	0.04364	0.07737	0.44493
Cyanide, Total	Post-Closure	Oct	109	0.001	0.001	0.001	0.01870	0.01851	0.03210	0.04345	0.07677	0.43986
Cyanide, Total	Post-Closure	Nov	109	0.000	0.000	0.001	0.01868	0.01849	0.03206	0.04321	0.07627	0.43656
Cyanide, Total	Post-Closure	Dec	109	0.000	0.000	0.001	0.01867	0.01848	0.03204	0.04305	0.07600	0.43499
Cyanide, Free	Construction	Jan	2	0.00046	0.00046	0.00048	-	-	-	-	-	-
Cyanide, Free	Construction	Feb	2	0.00050	0.00050	0.00050	-	-	-	-	-	-
Cyanide, Free	Construction	Mar	2	0.00053	0.00053	0.00053	-	-	-	0.00003	0.00003	0.00003
Cyanide, Free	Construction	Apr	2	0.00055	0.00055	0.00055	-	-	-	0.00001	0.00001	0.00001
Cyanide, Free	Construction	May	2	0.00058	0.00058	0.00058	-	-	-	0.00001	0.00001	0.00001
Cyanide, Free	Construction	Jun	2	0.00059	0.00059	0.00059	-	-	-	0.00001	0.00001	0.00001
Cyanide, Free	Construction	Jul	2	0.00055	0.00055	0.00056	-	-	-	0.00001	0.00001	0.00001
Cyanide, Free	Construction	Aug	2	0.00054	0.00054	0.00055	-	-	-	0.00051	0.00051	0.00051
Cyanide, Free	Construction	Sep	2	0.00051	0.00051	0.00053	-	-	-	0.00576	0.00576	0.01150
Cyanide, Free	Construction	Oct	2	0.00051	0.00051	0.00051	-	-	-	0.00693	0.00693	0.00693
Cyanide, Free	Construction	Nov	2	0.00050	0.00050	0.00050	-	-	-	0.00524	0.00524	0.00524
Cyanide, Free	Construction	Dec	2	0.00049	0.00049	0.00050	-	-	-	0.00439	0.00439	0.00439
Cyanide, Free	Operations	Jan	13	0.00047	0.00048	0.00053	-	-	-	0.02075	0.01917	*0.02482*
Cyanide, Free	Operations	Feb	13	0.00054	0.00054	0.00059	-	-	-	0.02053	0.01879	*0.02288*
Cyanide, Free	Operations	Mar	13	0.00059	0.00059	0.00061	-	-	-	0.01904	0.01610	0.01958
Cyanide, Free	Operations	Apr	13	0.00054	0.00054	0.00057	-	-	-	0.01617	0.01372	0.01826
Cyanide, Free	Operations	May	13	0.00053	0.00053	0.00057	-	-	-	0.01419	0.01285	0.01729
Cyanide, Free	Operations	Jun	13	0.00058	0.00058	0.00061	-	-	-	0.01496	0.01464	0.01746
Cyanide, Free	Operations	Jul	13	0.00057	0.00057	0.00060	-	-	-	0.01853	0.01861	*0.02440*
Cyanide, Free	Operations	Aug	13	0.00057	0.00057	0.00060	-	-	-	0.02048	*0.02253*	*0.03317*
Cyanide, Free	Operations	Sep	13	0.00055	0.00056	0.00059	-	-	-	*0.02223*	*0.02395*	*0.03473*
Cyanide, Free	Operations	Oct	13	0.00053	0.00052	0.00058	-	-	-	0.02196	*0.02279*	*0.03045*
Cyanide, Free	Operations	Nov	13	0.00050	0.00051	0.00053	-	-	-	0.02103	0.02180	*0.02733*
Cyanide, Free	Operations	Dec	13	0.00048	0.00049	0.00053	-	-	-	0.02087	0.02137	*0.02601*
Cyanide, Free	Closure	Jan	6	0.000	0.000	0.000	-	-	-	*0.02420*	*0.02380*	*0.02710*
Cyanide, Free	Closure	Feb	6	0.000	0.000	0.000	-	-	-	*0.02406*	*0.02365*	*0.02696*
Cyanide, Free	Closure	Mar	6	0.000	0.000	0.000	-	-	-	*0.02360*	*0.02320*	*0.02652*
Cyanide, Free	Closure	Apr	6	0.000	0.000	0.000	-	-	-	*0.02315*	*0.02276*	*0.02608*
Cyanide, Free	Closure	May	6	0.000	0.000	0.000	-	-	-	*0.02306*	*0.02267*	*0.02596*
Cyanide, Free	Closure	Jun	6	0.000	0.000	0.000	-	-	-	*0.02350*	*0.02313*	*0.02634*
Cyanide, Free	Closure	Jul	6	0.000	0.000	0.000	-	-	-	*0.02442*	*0.02408*	*0.02716*
Cyanide, Free	Closure	Aug	6	0.000	0.000	0.000	-	-	-	*0.02545*	*0.02514*	*0.02807*
Cyanide, Free	Closure	Sep	6	0.000	0.000	0.000	-	-	-	*0.02601*	*0.02572*	*0.02856*
Cyanide, Free	Closure	Oct	6	0.000	0.000	0.000	-	-	-	*0.02596*	*0.02567*	*0.02848*
Cyanide, Free	Closure	Nov	6	0.000	0.000	0.000	-	-	-	*0.02577*	*0.02547*	*0.02827*
Cyanide, Free	Closure	Dec	6	0.000	0.000	0.000	-	-	-	*0.02563*	*0.02534*	*0.02814*
Cyanide, Free	Post-Closure	Jan	109	0.000	0.000	0.001	0.00307	0.00266	0.00323	0.01094	0.01238	*0.02804*
Cyanide, Free	Post-Closure	Feb	109	0.000	0.000	0.001	0.00307	0.00265	0.00323	0.01090	0.01233	*0.02793*
Cyanide, Free	Post-Closure	Mar	109	0.000	0.000	0.001	0.00307	0.00265	0.00322	0.01076	0.01218	*0.02758*
Cyanide, Free	Post-Closure	Apr	109	0.000	0.001	0.001	0.00306	0.00265	0.00322	0.01062	0.01202	*0.02721*
Cyanide, Free	Post-Closure	May	109	0.001	0.001	0.001	0.00306	0.00265	0.00321	0.01058	0.01196	*0.02699*
Cyanide, Free	Post-Closure	Jun	109	0.001	0.001	0.001	0.00306	0.00265	0.00322	0.01065	0.01202	*0.02691*
Cyanide, Free	Post-Closure	Jul	109	0.001	0.001	0.001	0.00307	0.00266	0.00323	0.01083	0.01218	*0.02690*
Cyanide, Free	Post-Closure	Aug	109	0.001	0.001	0.001	0.00308	0.00267	0.00324	0.01103	0.01237	*0.02691*
Cyanide, Free	Post-Closure	Sep	109	0.001	0.001	0.001	0.00308	0.00268	0.00324	0.01112	0.01244	*0.02681*
Cyanide, Free	Post-Closure	Oct	109	0.001	0.001	0.001	0.00308	0.00268	0.00324	0.01107	0.01238	*0.02658*
Cyanide, Free	Post-Closure	Nov	109	0.000	0.000	0.001	0.00308	0.00268	0.00324	0.01101	0.01231	*0.02640*
Cyanide, Free	Post-Closure	Dec	109	0.000	0.000	0.001	0.00308	0.00268	0.00323	0.01097	0.01226	*0.02630*
Aluminum, Total	Construction	Jan	2	0.476	0.476	0.504	-	-	-	-	-	-
Aluminum, Total	Construction	Feb	2	0.407	0.407	0.413	-	-	-	-	-	-
Aluminum, Total	Construction	Mar	2	0.298	0.298	0.302	-	-	-	0.001	0.001	0.001
Aluminum, Total	Construction	Apr	2	0.252	0.252	0.262	-	-	-	0.0002	0.0002	0.0002

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Aluminum, Total	Construction	May	2	0.224	0.224	0.228	-	-	-	0.0002	0.0002	0.0002
Aluminum, Total	Construction	Jun	2	0.265	0.265	0.269	-	-	-	0.0002	0.0002	0.0002
Aluminum, Total	Construction	Jul	2	0.310	0.310	0.324	-	-	-	0.0002	0.0002	0.0002
Aluminum, Total	Construction	Aug	2	0.311	0.311	0.328	-	-	-	0.010	0.010	0.010
Aluminum, Total	Construction	Sep	2	0.305	0.305	0.350	-	-	-	0.146	0.146	0.291
Aluminum, Total	Construction	Oct	2	0.367	0.367	0.400	-	-	-	0.211	0.211	0.211
Aluminum, Total	Construction	Nov	2	0.397	0.397	0.431	-	-	-	0.198	0.198	0.198
Aluminum, Total	Construction	Dec	2	0.411	0.411	0.446	-	-	-	0.199	0.199	0.199
Aluminum, Total	Operations	Jan	13	0.266	0.276	0.367	-	-	-	0.224	0.221	0.225
Aluminum, Total	Operations	Feb	13	0.154	0.173	0.317	-	-	-	0.221	0.219	0.223
Aluminum, Total	Operations	Mar	13	0.089	0.105	0.236	-	-	-	0.205	0.198	0.216
Aluminum, Total	Operations	Apr	13	0.166	0.169	0.275	-	-	-	0.188	0.180	0.204
Aluminum, Total	Operations	May	13	0.222	0.218	0.287	-	-	-	0.176	0.175	0.195
Aluminum, Total	Operations	Jun	13	0.146	0.141	0.156	-	-	-	0.197	0.194	0.217
Aluminum, Total	Operations	Jul	13	0.153	0.148	0.157	-	-	-	0.212	0.225	0.273
Aluminum, Total	Operations	Aug	13	0.144	0.142	0.172	-	-	-	0.236	0.245	0.297
Aluminum, Total	Operations	Sep	13	0.167	0.163	0.229	-	-	-	0.238	0.244	0.272
Aluminum, Total	Operations	Oct	13	0.240	0.221	0.253	-	-	-	0.231	0.230	0.239
Aluminum, Total	Operations	Nov	13	0.223	0.234	0.279	-	-	-	0.227	0.224	0.230
Aluminum, Total	Operations	Dec	13	0.249	0.252	0.284	-	-	-	0.225	0.224	0.228
Aluminum, Total	Closure	Jan	6	0.532	0.495	0.533	-	-	-	0.243	0.241	0.261
Aluminum, Total	Closure	Feb	6	0.532	0.511	0.533	-	-	-	0.242	0.240	0.259
Aluminum, Total	Closure	Mar	6	0.532	0.528	0.533	-	-	-	0.237	0.235	0.255
Aluminum, Total	Closure	Apr	6	0.534	0.533	0.534	-	-	-	0.233	0.230	0.251
Aluminum, Total	Closure	May	6	0.533	0.533	0.533	-	-	-	0.232	0.229	0.250
Aluminum, Total	Closure	Jun	6	0.535	0.535	0.536	-	-	-	0.235	0.233	0.253
Aluminum, Total	Closure	Jul	6	0.536	0.536	0.537	-	-	-	0.243	0.241	0.260
Aluminum, Total	Closure	Aug	6	0.537	0.537	0.537	-	-	-	0.252	0.250	0.268
Aluminum, Total	Closure	Sep	6	0.535	0.535	0.535	-	-	-	0.257	0.255	0.272
Aluminum, Total	Closure	Oct	6	0.534	0.533	0.534	-	-	-	0.256	0.254	0.271
Aluminum, Total	Closure	Nov	6	0.534	0.533	0.534	-	-	-	0.254	0.252	0.269
Aluminum, Total	Closure	Dec	6	0.534	0.533	0.534	-	-	-	0.252	0.251	0.267
Aluminum, Total	Post-Closure	Jan	109	0.537	0.539	0.546	0.296	0.244	0.323	0.096	0.110	0.267
Aluminum, Total	Post-Closure	Feb	109	0.539	0.541	0.547	0.295	0.243	0.323	0.095	0.110	0.265
Aluminum, Total	Post-Closure	Mar	109	0.547	0.547	0.548	0.295	0.243	0.322	0.094	0.108	0.262
Aluminum, Total	Post-Closure	Apr	109	0.550	0.550	0.551	0.295	0.243	0.322	0.093	0.107	0.259
Aluminum, Total	Post-Closure	May	109	0.548	0.548	0.549	0.294	0.243	0.322	0.093	0.106	0.256
Aluminum, Total	Post-Closure	Jun	109	0.549	0.549	0.550	0.295	0.244	0.322	0.093	0.107	0.256
Aluminum, Total	Post-Closure	Jul	109	0.550	0.549	0.550	0.296	0.245	0.323	0.095	0.108	0.255
Aluminum, Total	Post-Closure	Aug	109	0.551	0.550	0.551	0.297	0.246	0.324	0.097	0.110	0.255
Aluminum, Total	Post-Closure	Sep	109	0.548	0.548	0.548	0.297	0.246	0.324	0.097	0.111	0.254
Aluminum, Total	Post-Closure	Oct	109	0.547	0.546	0.547	0.297	0.247	0.324	0.097	0.110	0.252
Aluminum, Total	Post-Closure	Nov	109	0.546	0.545	0.547	0.297	0.247	0.324	0.096	0.109	0.250
Aluminum, Total	Post-Closure	Dec	109	0.541	0.542	0.547	0.297	0.246	0.324	0.096	0.109	0.249
Antimony, Dissolve	Construction	Jan	2	0.000094	0.000094	0.000117	-	-	-	-	-	-
Antimony, Dissolve	Construction	Feb	2	0.000094	0.000094	0.000116	-	-	-	-	-	-
Antimony, Dissolve	Construction	Mar	2	0.000093	0.000093	0.000116	-	-	-	0.000013	0.000013	0.000020
Antimony, Dissolve	Construction	Apr	2	0.000093	0.000093	0.000117	-	-	-	0.000001	0.000001	0.000001
Antimony, Dissolve	Construction	May	2	0.000095	0.000095	0.000119	-	-	-	0.000006	0.000006	0.000006
Antimony, Dissolve	Construction	Jun	2	0.000109	0.000109	0.000140	-	-	-	0.000002	0.000002	0.000002
Antimony, Dissolve	Construction	Jul	2	0.000119	0.000119	0.000156	-	-	-	0.000003	0.000003	0.000003
Antimony, Dissolve	Construction	Aug	2	0.000124	0.000124	0.000164	-	-	-	0.000215	0.000215	0.000215
Antimony, Dissolve	Construction	Sep	2	0.000122	0.000122	0.000152	-	-	-	0.010695	0.010695	0.021378
Antimony, Dissolve	Construction	Oct	2	0.000147	0.000147	0.000195	-	-	-	0.016581	0.016581	0.016581
Antimony, Dissolve	Construction	Nov	2	0.000161	0.000161	0.000215	-	-	-	0.016315	0.016315	0.016315
Antimony, Dissolve	Construction	Dec	2	0.000169	0.000169	0.000225	-	-	-	0.016907	0.016907	0.016907
Antimony, Dissolve	Operations	Jan	13	0.001901	0.002554	0.004902	-	-	-	0.059383	0.063326	0.114214
Antimony, Dissolve	Operations	Feb	13	0.001306	0.001664	0.004201	-	-	-	0.061432	0.067285	0.129486
Antimony, Dissolve	Operations	Mar	13	0.000779	0.000841	0.002393	-	-	-	0.058997	0.058946	0.077892
Antimony, Dissolve	Operations	Apr	13	0.001320	0.001231	0.002046	-	-	-	0.054082	0.050904	0.056032
Antimony, Dissolve	Operations	May	13	0.001832	0.001664	0.002837	-	-	-	0.047371	0.045842	0.053166
Antimony, Dissolve	Operations	Jun	13	0.001216	0.001105	0.001768	-	-	-	0.047018	0.046729	0.052623
Antimony, Dissolve	Operations	Jul	13	0.001229	0.001132	0.001839	-	-	-	0.050460	0.050972	0.057626
Antimony, Dissolve	Operations	Aug	13	0.001156	0.001093	0.001753	-	-	-	0.053017	0.054872	0.072852
Antimony, Dissolve	Operations	Sep	13	0.001300	0.001295	0.002060	-	-	-	0.054243	0.057074	0.080827
Antimony, Dissolve	Operations	Oct	13	0.001903	0.001885	0.003151	-	-	-	0.054363	0.057300	0.080511
Antimony, Dissolve	Operations	Nov	13	0.002610	0.002052	0.003167	-	-	-	0.055434	0.059991	0.094019
Antimony, Dissolve	Operations	Dec	13	0.002949	0.002411	0.003968	-	-	-	0.056869	0.065465	0.119070
Antimony, Dissolve	Closure	Jan	6	0.008	0.007	0.008	-	-	-	0.037337	0.038195	0.047490
Antimony, Dissolve	Closure	Feb	6	0.008	0.008	0.008	-	-	-	0.037111	0.037953	0.047125
Antimony, Dissolve	Closure	Mar	6	0.008	0.008	0.008	-	-	-	0.036408	0.037204	0.046012
Antimony, Dissolve	Closure	Apr	6	0.008	0.008	0.008	-	-	-	0.035671	0.036421	0.044857
Antimony, Dissolve	Closure	May	6	0.008	0.008	0.008	-	-	-	0.035259	0.035981	0.044195
Antimony, Dissolve	Closure	Jun	6	0.008	0.008	0.008	-	-	-	0.035214	0.035926	0.044070
Antimony, Dissolve	Closure	Jul	6	0.008	0.008	0.008	-	-	-	0.035399	0.036113	0.044265
Antimony, Dissolve	Closure	Aug	6	0.008	0.008	0.008	-	-	-	0.035610	0.036325	0.044490
Antimony, Dissolve	Closure	Sep	6	0.008	0.008	0.008	-	-	-	0.035580	0.036285	0.044375
Antimony, Dissolve	Closure	Oct	6	0.008	0.008	0.008	-	-	-	0.035192	0.035869	0.043752
Antimony, Dissolve	Closure	Nov	6	0.008	0.008	0.008	-	-	-	0.034843	0.035496	0.043211
Antimony, Dissolve	Closure	Dec	6	0.008	0.008	0.008	-	-	-	0.034666	0.035308	0.042941
Antimony, Dissolve	Post-Closure	Jan	109	0.002	0.002	0.007	0.002532	0.002325	0.003371	0.003304	0.005479	0.029176
Antimony, Dissolve	Post-Closure	Feb	109	0.002	0.002	0.005	0.002530	0.002324	0.003369	0.003291	0.005457	0.029060
Antimony, Dissolve	Post-Closure	Mar	109	0.003	0.003	0.003	0.002525	0.002322	0.003362	0.003250	0.005388	0.028693
Antimony, Dissolve	Post-Closure	Apr	109	0.003	0.003	0.003	0.002519	0.002320	0.003356	0.003208	0.005317	0.028298
Antimony, Dissolve	Post-Closure	May	109	0.003	0.003	0.003	0.002521	0.002320	0.003353	0.003194	0.005281	0.028025
Antimony, Dissolve	Post-Closure	Jun	109	0.003	0.003	0.003	0.002526	0.002325	0.003356	0.003216	0.005283	0.027814
Antimony, Dissolve	Post-Closure	Jul	109	0.003	0.003	0.003	0.002532	0.002334	0.003366	0.003268	0.005312	0.027587
Antimony, Dissolve	Post-Closure	Aug	109	0.003	0.003	0.003	0.002538	0.002344	0.003375	0.003327	0.005347	0.027355
Antimony, Dissolve	Post-Closure	Sep	109	0.003	0.003	0.003	0.002541	0.002351	0.003381	0.003354	0.005349	0.027098
Antimony, Dissolve	Post-Closure	Oct	109	0.003	0.003	0.003	0.002539	0.002351	0.003380	0.003339	0.005311	0.026795
Antimony, Dissolve	Post-Closure	Nov	109	0.003	0.003	0.003	0.002536	0.002350	0.003376	0.003321	0.005277	0.026595
Antimony, Dissolve	Post-Closure	Dec	109	0.002	0.002	0.003	0.002534	0.002349	0.003373	0.003309	0.005258	0.026500
Antimony, Total	Construction	Jan	2	0.000242	0.000242	0.000254	-	-	-	-	-	-
Antimony, Total	Construction	Feb	2	0.000216	0.000216	0.000232	-	-	-	-	-	-
Antimony, Total	Construction	Mar	2	0.000177	0.000177	0.000193	-	-	-	0.000013	0.000013	0.000020
Antimony, Total	Construction	Apr	2	0.000162	0.000162	0.000176	-	-	-	0.000001	0.000001	0.000001
Antimony, Total	Construction	May	2	0.000164	0.000164	0.000189	-	-	-	0.000006	0.000006	0.000006

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Antimony, Total	Construction	Jun	2	0.000182	0.000182	0.000205	-	-	-	0.000002	0.000002	0.000002
Antimony, Total	Construction	Jul	2	0.000215	0.000215	0.000238	-	-	-	0.000003	0.000003	0.000003
Antimony, Total	Construction	Aug	2	0.000223	0.000223	0.000248	-	-	-	0.000242	0.000242	0.000242
Antimony, Total	Construction	Sep	2	0.000212	0.000212	0.000219	-	-	-	0.010297	0.010297	0.020580
Antimony, Total	Construction	Oct	2	0.000252	0.000252	0.000278	-	-	-	0.015908	0.015908	0.015908
Antimony, Total	Construction	Nov	2	0.000274	0.000274	0.000305	-	-	-	0.015627	0.015627	0.015627
Antimony, Total	Construction	Dec	2	0.000285	0.000285	0.000318	-	-	-	0.016178	0.016178	0.016178
Antimony, Total	Operations	Jan	13	0.001913	0.002577	0.004912	-	-	-	0.056958	0.060679	0.109154
Antimony, Total	Operations	Feb	13	0.001313	0.001678	0.004212	-	-	-	0.058906	0.064445	0.123694
Antimony, Total	Operations	Mar	13	0.000782	0.000849	0.002400	-	-	-	0.056589	0.056459	0.074387
Antimony, Total	Operations	Apr	13	0.001326	0.001243	0.002053	-	-	-	0.051913	0.048758	0.053763
Antimony, Total	Operations	May	13	0.001841	0.001678	0.002846	-	-	-	0.045390	0.043917	0.051012
Antimony, Total	Operations	Jun	13	0.001221	0.001114	0.001774	-	-	-	0.044941	0.044790	0.050499
Antimony, Total	Operations	Jul	13	0.001240	0.001145	0.001848	-	-	-	0.048448	0.048897	0.055197
Antimony, Total	Operations	Aug	13	0.001166	0.001106	0.001762	-	-	-	0.051022	0.052676	0.069841
Antimony, Total	Operations	Sep	13	0.001307	0.001305	0.002067	-	-	-	0.052087	0.054799	0.077474
Antimony, Total	Operations	Oct	13	0.001911	0.001900	0.003160	-	-	-	0.052229	0.055000	0.077092
Antimony, Total	Operations	Nov	13	0.002621	0.002069	0.003176	-	-	-	0.053225	0.057549	0.089913
Antimony, Total	Operations	Dec	13	0.002958	0.002428	0.003977	-	-	-	0.054591	0.062759	0.113757
Antimony, Total	Closure	Jan	6	0.008	0.007	0.008	-	-	-	0.036015	0.036830	0.045660
Antimony, Total	Closure	Feb	6	0.008	0.008	0.008	-	-	-	0.035797	0.036597	0.045308
Antimony, Total	Closure	Mar	6	0.008	0.008	0.008	-	-	-	0.035119	0.035875	0.044239
Antimony, Total	Closure	Apr	6	0.008	0.008	0.008	-	-	-	0.034409	0.035121	0.043129
Antimony, Total	Closure	May	6	0.008	0.008	0.008	-	-	-	0.034013	0.034698	0.042495
Antimony, Total	Closure	Jun	6	0.008	0.008	0.008	-	-	-	0.033976	0.034652	0.042383
Antimony, Total	Closure	Jul	6	0.008	0.008	0.008	-	-	-	0.034166	0.034843	0.042585
Antimony, Total	Closure	Aug	6	0.008	0.008	0.008	-	-	-	0.034381	0.035060	0.042817
Antimony, Total	Closure	Sep	6	0.008	0.008	0.008	-	-	-	0.034360	0.035029	0.042717
Antimony, Total	Closure	Oct	6	0.008	0.008	0.008	-	-	-	0.033988	0.034631	0.042121
Antimony, Total	Closure	Nov	6	0.008	0.008	0.008	-	-	-	0.033652	0.034272	0.041602
Antimony, Total	Closure	Dec	6	0.008	0.008	0.008	-	-	-	0.033481	0.034090	0.041341
Antimony, Total	Post-Closure	Jan	109	0.002	0.002	0.007	0.002532	0.002314	0.003329	0.003304	0.005402	0.028263
Antimony, Total	Post-Closure	Feb	109	0.002	0.002	0.005	0.002530	0.002313	0.003326	0.003291	0.005381	0.028151
Antimony, Total	Post-Closure	Mar	109	0.003	0.003	0.003	0.002524	0.002311	0.003320	0.003250	0.005313	0.027795
Antimony, Total	Post-Closure	Apr	109	0.003	0.003	0.003	0.002519	0.002309	0.003314	0.003208	0.005242	0.027413
Antimony, Total	Post-Closure	May	109	0.003	0.003	0.003	0.002516	0.002309	0.003311	0.003194	0.005207	0.027149
Antimony, Total	Post-Closure	Jun	109	0.003	0.003	0.003	0.002518	0.002314	0.003314	0.003216	0.005210	0.026946
Antimony, Total	Post-Closure	Jul	109	0.003	0.003	0.003	0.002532	0.002323	0.003324	0.003268	0.005240	0.026730
Antimony, Total	Post-Closure	Aug	109	0.003	0.003	0.003	0.002538	0.002333	0.003333	0.003327	0.005276	0.026508
Antimony, Total	Post-Closure	Sep	109	0.003	0.003	0.003	0.002541	0.002339	0.003338	0.003354	0.005279	0.026261
Antimony, Total	Post-Closure	Oct	109	0.003	0.003	0.003	0.002539	0.002340	0.003337	0.003339	0.005241	0.025968
Antimony, Total	Post-Closure	Nov	109	0.003	0.003	0.003	0.002536	0.002339	0.003333	0.003321	0.005208	0.025775
Antimony, Total	Post-Closure	Dec	109	0.002	0.002	0.003	0.002534	0.002337	0.003331	0.003309	0.005189	0.025682
Arsenic, Dissolved	Construction	Jan	2	0.000939	0.000939	0.001058	-	-	-	-	-	-
Arsenic, Dissolved	Construction	Feb	2	0.000899	0.000899	0.001044	-	-	-	-	-	-
Arsenic, Dissolved	Construction	Mar	2	0.000748	0.000748	0.000837	-	-	-	0.000119	0.000119	0.000170
Arsenic, Dissolved	Construction	Apr	2	0.000791	0.000791	0.000955	-	-	-	0.000016	0.000016	0.000016
Arsenic, Dissolved	Construction	May	2	0.000806	0.000806	0.001042	-	-	-	0.000050	0.000050	0.000050
Arsenic, Dissolved	Construction	Jun	2	0.000881	0.000881	0.001122	-	-	-	0.000022	0.000022	0.000022
Arsenic, Dissolved	Construction	Jul	2	0.001026	0.001026	0.001299	-	-	-	0.000026	0.000026	0.000026
Arsenic, Dissolved	Construction	Aug	2	0.001071	0.001071	0.001371	-	-	-	0.002023	0.002023	0.002023
Arsenic, Dissolved	Construction	Sep	2	0.001009	0.001009	0.001227	-	-	-	0.013447	0.013447	0.026776
Arsenic, Dissolved	Construction	Oct	2	0.001212	0.001212	0.001568	-	-	-	0.013939	0.013939	0.013939
Arsenic, Dissolved	Construction	Nov	2	0.001343	0.001343	0.001752	-	-	-	0.010714	0.010714	0.010714
Arsenic, Dissolved	Construction	Dec	2	0.001433	0.001433	0.001862	-	-	-	0.009202	0.009202	0.009202
Arsenic, Dissolved	Operations	Jan	13	0.013341	0.014606	0.024742	-	-	-	0.050831	0.046248	0.057919
Arsenic, Dissolved	Operations	Feb	13	0.007844	0.008906	0.018668	-	-	-	0.049467	0.045859	0.057590
Arsenic, Dissolved	Operations	Mar	13	0.004323	0.004873	0.011127	-	-	-	0.045254	0.040836	0.056179
Arsenic, Dissolved	Operations	Apr	13	0.007513	0.007865	0.013641	-	-	-	0.039376	0.035714	0.053374
Arsenic, Dissolved	Operations	May	13	0.010148	0.010522	0.018323	-	-	-	0.034731	0.033178	0.050737
Arsenic, Dissolved	Operations	Jun	13	0.007353	0.007397	0.012773	-	-	-	0.036162	0.036415	0.050975
Arsenic, Dissolved	Operations	Jul	13	0.008141	0.008031	0.013786	-	-	-	0.044613	0.044293	0.053642
Arsenic, Dissolved	Operations	Aug	13	0.007694	0.007779	0.013150	-	-	-	0.053823	0.052076	0.062671
Arsenic, Dissolved	Operations	Sep	13	0.008483	0.009109	0.015369	-	-	-	0.056143	0.055271	0.065974
Arsenic, Dissolved	Operations	Oct	13	0.011948	0.013011	0.023246	-	-	-	0.054532	0.053588	0.058994
Arsenic, Dissolved	Operations	Nov	13	0.015541	0.013586	0.021328	-	-	-	0.052236	0.052105	0.058153
Arsenic, Dissolved	Operations	Dec	13	0.017423	0.015064	0.023207	-	-	-	0.051895	0.051739	0.058016
Arsenic, Dissolved	Closure	Jan	6	0.062	0.057	0.063	-	-	-	0.057478	0.057404	0.057954
Arsenic, Dissolved	Closure	Feb	6	0.062	0.060	0.063	-	-	-	0.057132	0.057048	0.057656
Arsenic, Dissolved	Closure	Mar	6	0.062	0.062	0.063	-	-	-	0.056052	0.055948	0.056718
Arsenic, Dissolved	Closure	Apr	6	0.064	0.063	0.064	-	-	-	0.054959	0.054834	0.055750
Arsenic, Dissolved	Closure	May	6	0.063	0.063	0.063	-	-	-	0.054578	0.054446	0.055404
Arsenic, Dissolved	Closure	Jun	6	0.062	0.063	0.063	-	-	-	0.055193	0.055079	0.055949
Arsenic, Dissolved	Closure	Jul	6	0.063	0.063	0.063	-	-	-	0.056644	0.056569	0.057245
Arsenic, Dissolved	Closure	Aug	6	0.064	0.064	0.064	-	-	-	0.058267	0.058236	0.058697
Arsenic, Dissolved	Closure	Sep	6	0.063	0.063	0.063	-	-	-	0.059061	0.059052	0.059406
Arsenic, Dissolved	Closure	Oct	6	0.064	0.064	0.064	-	-	-	0.058753	0.058735	0.059122
Arsenic, Dissolved	Closure	Nov	6	0.065	0.064	0.065	-	-	-	0.058261	0.058228	0.058669
Arsenic, Dissolved	Closure	Dec	6	0.065	0.064	0.065	-	-	-	0.057966	0.057924	0.058397
Arsenic, Dissolved	Post-Closure	Jan	109	0.012	0.013	0.052	0.007717	0.006688	0.008603	0.017901	0.021287	0.058183
Arsenic, Dissolved	Post-Closure	Feb	109	0.013	0.013	0.034	0.007750	0.006718	0.008639	0.017829	0.021202	0.057953
Arsenic, Dissolved	Post-Closure	Mar	109	0.014	0.014	0.018	0.007843	0.006804	0.008741	0.017606	0.020936	0.057222
Arsenic, Dissolved	Post-Closure	Apr	109	0.015	0.015	0.015	0.007941	0.006898	0.008850	0.017380	0.020664	0.056446
Arsenic, Dissolved	Post-Closure	May	109	0.015	0.014	0.015	0.007921	0.006888	0.008829	0.017306	0.020555	0.055969
Arsenic, Dissolved	Post-Closure	Jun	109	0.014	0.014	0.015	0.007842	0.006827	0.008743	0.017428	0.020647	0.055728
Arsenic, Dissolved	Post-Closure	Jul	109	0.015	0.014	0.015	0.007820	0.006818	0.008719	0.017714	0.020897	0.055580
Arsenic, Dissolved	Post-Closure	Aug	109	0.015	0.015	0.015	0.007804	0.006814	0.008703	0.018042	0.021187	0.055455
Arsenic, Dissolved	Post-Closure	Sep	109	0.015	0.014	0.015	0.007765	0.006788	0.008660	0.018189	0.021297	0.055160
Arsenic, Dissolved	Post-Closure	Oct	109	0.015	0.015	0.015	0.007689	0.006728	0.008576	0.018113	0.021183	0.054635
Arsenic, Dissolved	Post-Closure	Nov	109	0.014	0.014	0.015	0.007658	0.006703	0.008540	0.018013	0.021059	0.054253
Arsenic, Dissolved	Post-Closure	Dec	109	0.013	0.013	0.014	0.007689	0.006731	0.008574	0.017949	0.020984	0.054058
Arsenic, Total	Construction	Jan	2	0.019924	0.019924	0.021149	-	-	-	-	-	-
Arsenic, Total	Construction	Feb	2	0.016646	0.016646	0.017254	-	-	-	-	-	-
Arsenic, Total	Construction	Mar	2	0.011706	0.011706	0.012480	-	-	-	0.000119	0.000119	0.000169
Arsenic, Total	Construction	Apr	2	0.009696	0.009696	0.010762	-	-	-	0.000016	0.000016	0.000016
Arsenic, Total	Construction	May	2	0.008676	0.008676	0.009362	-	-	-	0.000051	0.000051	0.000051
Arsenic, Total	Construction	Jun	2	0.010270	0.010270	0.011160	-	-	-	0.000022	0.000022	0.000022

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Arsenic, Total	Construction	Jul	2	0.012159	0.012159	0.013572	-	-	-	0.000027	0.000027	0.000027
Arsenic, Total	Construction	Aug	2	0.012277	0.012277	0.013787	-	-	-	0.002028	0.002028	0.002028
Arsenic, Total	Construction	Sep	2	0.012143	0.012143	0.014758	-	-	-	0.013494	0.013494	0.026870
Arsenic, Total	Construction	Oct	2	0.014646	0.014646	0.016961	-	-	-	0.014008	0.014008	0.014008
Arsenic, Total	Construction	Nov	2	0.015922	0.015922	0.018320	-	-	-	0.010785	0.010785	0.010785
Arsenic, Total	Construction	Dec	2	0.016499	0.016499	0.018989	-	-	-	0.009276	0.009276	0.009276
Arsenic, Total	Operations	Jan	13	0.015289	0.017902	0.026386	-	-	-	0.051127	0.046633	0.058152
Arsenic, Total	Operations	Feb	13	0.010907	0.010880	0.020474	-	-	-	0.049789	0.046201	0.057825
Arsenic, Total	Operations	Mar	13	0.006535	0.005948	0.012187	-	-	-	0.045507	0.041090	0.056409
Arsenic, Total	Operations	Apr	13	0.008526	0.009578	0.014634	-	-	-	0.039602	0.035930	0.053593
Arsenic, Total	Operations	May	13	0.011554	0.012722	0.019714	-	-	-	0.034930	0.033372	0.050943
Arsenic, Total	Operations	Jun	13	0.008274	0.008676	0.013650	-	-	-	0.036357	0.036611	0.051176
Arsenic, Total	Operations	Jul	13	0.009137	0.009367	0.014702	-	-	-	0.044820	0.044505	0.053843
Arsenic, Total	Operations	Aug	13	0.008606	0.009055	0.014008	-	-	-	0.054041	0.052299	0.062877
Arsenic, Total	Operations	Sep	13	0.009967	0.010614	0.016381	-	-	-	0.056362	0.055502	0.066191
Arsenic, Total	Operations	Oct	13	0.013312	0.015180	0.024754	-	-	-	0.054750	0.053820	0.059216
Arsenic, Total	Operations	Nov	13	0.017247	0.015950	0.022678	-	-	-	0.052469	0.052351	0.058376
Arsenic, Total	Operations	Dec	13	0.019290	0.017585	0.024684	-	-	-	0.052124	0.052069	0.058244
Arsenic, Total	Closure	Jan	6	0.064	0.059	0.065	-	-	-	0.057612	0.057542	0.058057
Arsenic, Total	Closure	Feb	6	0.064	0.061	0.065	-	-	-	0.057265	0.057186	0.057759
Arsenic, Total	Closure	Mar	6	0.064	0.063	0.065	-	-	-	0.056183	0.056082	0.056818
Arsenic, Total	Closure	Apr	6	0.065	0.065	0.065	-	-	-	0.055087	0.054966	0.055849
Arsenic, Total	Closure	May	6	0.065	0.065	0.065	-	-	-	0.054704	0.054576	0.055501
Arsenic, Total	Closure	Jun	6	0.064	0.064	0.065	-	-	-	0.055319	0.055208	0.056047
Arsenic, Total	Closure	Jul	6	0.064	0.065	0.065	-	-	-	0.056769	0.056697	0.057342
Arsenic, Total	Closure	Aug	6	0.065	0.065	0.065	-	-	-	0.058392	0.058364	0.058794
Arsenic, Total	Closure	Sep	6	0.065	0.065	0.065	-	-	-	0.059185	0.059179	0.059502
Arsenic, Total	Closure	Oct	6	0.066	0.065	0.066	-	-	-	0.058875	0.058861	0.059217
Arsenic, Total	Closure	Nov	6	0.067	0.066	0.067	-	-	-	0.058382	0.058352	0.058763
Arsenic, Total	Closure	Dec	6	0.066	0.066	0.066	-	-	-	0.058086	0.058047	0.058490
Arsenic, Total	Post-Closure	Jan	109	0.015	0.016	0.054	0.008583	0.007335	0.009212	0.017903	0.021297	0.058277
Arsenic, Total	Post-Closure	Feb	109	0.015	0.016	0.037	0.008619	0.007368	0.009250	0.017831	0.021212	0.058045
Arsenic, Total	Post-Closure	Mar	109	0.017	0.017	0.020	0.008723	0.007463	0.009360	0.017608	0.020946	0.057314
Arsenic, Total	Post-Closure	Apr	109	0.018	0.017	0.018	0.008832	0.007566	0.009478	0.017382	0.020673	0.056537
Arsenic, Total	Post-Closure	May	109	0.017	0.017	0.017	0.008811	0.007555	0.009455	0.017308	0.020565	0.056059
Arsenic, Total	Post-Closure	Jun	109	0.017	0.017	0.017	0.008724	0.007489	0.009362	0.017430	0.020657	0.055817
Arsenic, Total	Post-Closure	Jul	109	0.017	0.017	0.017	0.008698	0.007479	0.009337	0.017716	0.020906	0.055668
Arsenic, Total	Post-Closure	Aug	109	0.018	0.017	0.018	0.008681	0.007475	0.009319	0.018045	0.021196	0.055542
Arsenic, Total	Post-Closure	Sep	109	0.017	0.017	0.017	0.008638	0.007446	0.009273	0.018191	0.021306	0.055246
Arsenic, Total	Post-Closure	Oct	109	0.018	0.017	0.018	0.008554	0.007380	0.009184	0.018116	0.021192	0.054720
Arsenic, Total	Post-Closure	Nov	109	0.017	0.017	0.017	0.008519	0.007353	0.009145	0.018015	0.021068	0.054337
Arsenic, Total	Post-Closure	Dec	109	0.016	0.016	0.017	0.008553	0.007384	0.009181	0.017951	0.020993	0.054142
Barium, Total	Construction	Jan	2	0.0469	0.0469	0.0529	-	-	-	-	-	-
Barium, Total	Construction	Feb	2	0.0435	0.0435	0.0466	-	-	-	-	-	-
Barium, Total	Construction	Mar	2	0.0374	0.0374	0.0385	-	-	-	0.0034	0.0034	0.0045
Barium, Total	Construction	Apr	2	0.0351	0.0351	0.0355	-	-	-	0.0010	0.0010	0.0010
Barium, Total	Construction	May	2	0.0294	0.0294	0.0295	-	-	-	0.0011	0.0011	0.0011
Barium, Total	Construction	Jun	2	0.0299	0.0299	0.0299	-	-	-	0.0011	0.0011	0.0011
Barium, Total	Construction	Jul	2	0.0315	0.0315	0.0320	-	-	-	0.0010	0.0010	0.0010
Barium, Total	Construction	Aug	2	0.0308	0.0308	0.0308	-	-	-	0.0507	0.0507	0.0507
Barium, Total	Construction	Sep	2	0.0285	0.0285	0.0307	-	-	-	0.0724	0.0724	0.1420
Barium, Total	Construction	Oct	2	0.0313	0.0313	0.0319	-	-	-	0.0825	0.0825	0.0825
Barium, Total	Construction	Nov	2	0.0344	0.0344	0.0348	-	-	-	0.0759	0.0759	0.0759
Barium, Total	Construction	Dec	2	0.0381	0.0381	0.0384	-	-	-	0.0756	0.0756	0.0756
Barium, Total	Operations	Jan	13	0.0468	0.0489	0.0600	-	-	-	0.0814	0.0810	0.0839
Barium, Total	Operations	Feb	13	0.0380	0.0364	0.0512	-	-	-	0.0807	0.0805	0.0833
Barium, Total	Operations	Mar	13	0.0275	0.0280	0.0376	-	-	-	0.0757	0.0748	0.0815
Barium, Total	Operations	Apr	13	0.0348	0.0357	0.0416	-	-	-	0.0712	0.0694	0.0782
Barium, Total	Operations	May	13	0.0361	0.0385	0.0474	-	-	-	0.0674	0.0673	0.0754
Barium, Total	Operations	Jun	13	0.0299	0.0307	0.0374	-	-	-	0.0738	0.0725	0.0760
Barium, Total	Operations	Jul	13	0.0311	0.0316	0.0388	-	-	-	0.0794	0.0810	0.0902
Barium, Total	Operations	Aug	13	0.0302	0.0310	0.0377	-	-	-	0.0840	0.0868	0.0961
Barium, Total	Operations	Sep	13	0.0333	0.0329	0.0407	-	-	-	0.0861	0.0867	0.0901
Barium, Total	Operations	Oct	13	0.0369	0.0395	0.0527	-	-	-	0.0839	0.0831	0.0856
Barium, Total	Operations	Nov	13	0.0439	0.0423	0.0510	-	-	-	0.0824	0.0816	0.0847
Barium, Total	Operations	Dec	13	0.0490	0.0471	0.0561	-	-	-	0.0820	0.0818	0.0843
Barium, Total	Closure	Jan	6	0.112	0.105	0.113	-	-	-	0.0802	0.0804	0.0825
Barium, Total	Closure	Feb	6	0.113	0.109	0.114	-	-	-	0.0798	0.0799	0.0820
Barium, Total	Closure	Mar	6	0.114	0.114	0.115	-	-	-	0.0784	0.0785	0.0802
Barium, Total	Closure	Apr	6	0.116	0.116	0.116	-	-	-	0.0770	0.0771	0.0784
Barium, Total	Closure	May	6	0.111	0.111	0.111	-	-	-	0.0764	0.0765	0.0777
Barium, Total	Closure	Jun	6	0.108	0.109	0.109	-	-	-	0.0771	0.0772	0.0785
Barium, Total	Closure	Jul	6	0.108	0.108	0.109	-	-	-	0.0787	0.0789	0.0806
Barium, Total	Closure	Aug	6	0.109	0.109	0.109	-	-	-	0.0806	0.0808	0.0828
Barium, Total	Closure	Sep	6	0.108	0.108	0.108	-	-	-	0.0814	0.0816	0.0838
Barium, Total	Closure	Oct	6	0.109	0.108	0.109	-	-	-	0.0809	0.0811	0.0832
Barium, Total	Closure	Nov	6	0.112	0.111	0.112	-	-	-	0.0803	0.0804	0.0824
Barium, Total	Closure	Dec	6	0.114	0.113	0.114	-	-	-	0.0799	0.0800	0.0819
Barium, Total	Post-Closure	Jan	109	0.076	0.080	0.110	0.0559	0.0491	0.0583	0.0292	0.0333	0.0784
Barium, Total	Post-Closure	Feb	109	0.079	0.083	0.106	0.0558	0.0490	0.0583	0.0291	0.0332	0.0781
Barium, Total	Post-Closure	Mar	109	0.094	0.095	0.102	0.0557	0.0490	0.0582	0.0288	0.0329	0.0772
Barium, Total	Post-Closure	Apr	109	0.097	0.098	0.102	0.0556	0.0489	0.0580	0.0286	0.0326	0.0763
Barium, Total	Post-Closure	May	109	0.087	0.088	0.092	0.0556	0.0489	0.0580	0.0285	0.0325	0.0757
Barium, Total	Post-Closure	Jun	109	0.084	0.085	0.087	0.0557	0.0490	0.0581	0.0287	0.0326	0.0754
Barium, Total	Post-Closure	Jul	109	0.084	0.084	0.085	0.0558	0.0492	0.0582	0.0290	0.0329	0.0752
Barium, Total	Post-Closure	Aug	109	0.084	0.084	0.085	0.0560	0.0494	0.0584	0.0294	0.0332	0.0751
Barium, Total	Post-Closure	Sep	109	0.082	0.082	0.082	0.0561	0.0495	0.0585	0.0296	0.0334	0.0747
Barium, Total	Post-Closure	Oct	109	0.081	0.081	0.082	0.0561	0.0495	0.0585	0.0295	0.0332	0.0741
Barium, Total	Post-Closure	Nov	109	0.080	0.081	0.087	0.0560	0.0495	0.0584	0.0293	0.0330	0.0736
Barium, Total	Post-Closure	Dec	109	0.079	0.081	0.094	0.0560	0.0494	0.0583	0.0292	0.0329	0.0733
Boron, Total	Construction	Jan	2	0.0094	0.0094	0.0108	-	-	-	-	-	-
Boron, Total	Construction	Feb	2	0.0096	0.0096	0.0104	-	-	-	-	-	-
Boron, Total	Construction	Mar	2	0.0096	0.0096	0.0097	-	-	-	0.0007	0.0007	0.0009
Boron, Total	Construction	Apr	2	0.0096	0.0096	0.0097	-	-	-	0.0002	0.0002	0.0002
Boron, Total	Construction	May	2	0.0078	0.0078	0.0080	-	-	-	0.0002	0.0002	0.0002
Boron, Total	Construction	Jun	2	0.0070	0.0070	0.0071	-	-	-	0.0002	0.0002	0.0002
Boron, Total	Construction	Jul	2	0.0065	0.0065	0.0069	-	-	-	0.0001	0.0001	0.0001

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Boron, Total	Construction	Aug	2	0.0065	0.0065	0.0070	-	-	-	0.0064	0.0064	0.0064
Boron, Total	Construction	Sep	2	0.0062	0.0062	0.0063	-	-	-	0.0294	0.0294	0.0585
Boron, Total	Construction	Oct	2	0.0063	0.0063	0.0068	-	-	-	0.0385	0.0385	0.0385
Boron, Total	Construction	Nov	2	0.0069	0.0069	0.0075	-	-	-	0.0365	0.0365	0.0365
Boron, Total	Construction	Dec	2	0.0079	0.0079	0.0086	-	-	-	0.0370	0.0370	0.0370
Boron, Total	Operations	Jan	13	0.0220	0.0227	0.0347	-	-	-	0.0425	0.0429	0.0461
Boron, Total	Operations	Feb	13	0.0157	0.0167	0.0256	-	-	-	0.0421	0.0426	0.0457
Boron, Total	Operations	Mar	13	0.0119	0.0126	0.0185	-	-	-	0.0400	0.0394	0.0448
Boron, Total	Operations	Apr	13	0.0154	0.0161	0.0225	-	-	-	0.0364	0.0366	0.0430
Boron, Total	Operations	May	13	0.0168	0.0177	0.0264	-	-	-	0.0353	0.0355	0.0414
Boron, Total	Operations	Jun	13	0.0143	0.0145	0.0206	-	-	-	0.0381	0.0382	0.0419
Boron, Total	Operations	Jul	13	0.0153	0.0153	0.0218	-	-	-	0.0430	0.0429	0.0462
Boron, Total	Operations	Aug	13	0.0149	0.0150	0.0211	-	-	-	0.0461	0.0461	0.0494
Boron, Total	Operations	Sep	13	0.0156	0.0163	0.0234	-	-	-	0.0463	0.0463	0.0477
Boron, Total	Operations	Oct	13	0.0189	0.0201	0.0316	-	-	-	0.0454	0.0445	0.0474
Boron, Total	Operations	Nov	13	0.0228	0.0211	0.0301	-	-	-	0.0443	0.0437	0.0470
Boron, Total	Operations	Dec	13	0.0250	0.0232	0.0326	-	-	-	0.0438	0.0438	0.0468
Boron, Total	Closure	Jan	6	0.075	0.070	0.076	-	-	-	0.0438	0.0441	0.0466
Boron, Total	Closure	Feb	6	0.076	0.073	0.076	-	-	-	0.0436	0.0438	0.0462
Boron, Total	Closure	Mar	6	0.076	0.076	0.077	-	-	-	0.0428	0.0430	0.0452
Boron, Total	Closure	Apr	6	0.078	0.077	0.078	-	-	-	0.0419	0.0421	0.0441
Boron, Total	Closure	May	6	0.075	0.075	0.075	-	-	-	0.0416	0.0418	0.0436
Boron, Total	Closure	Jun	6	0.074	0.074	0.075	-	-	-	0.0419	0.0421	0.0440
Boron, Total	Closure	Jul	6	0.074	0.074	0.074	-	-	-	0.0428	0.0430	0.0451
Boron, Total	Closure	Aug	6	0.075	0.075	0.075	-	-	-	0.0437	0.0439	0.0462
Boron, Total	Closure	Sep	6	0.075	0.074	0.075	-	-	-	0.0441	0.0444	0.0467
Boron, Total	Closure	Oct	6	0.076	0.075	0.076	-	-	-	0.0438	0.0440	0.0463
Boron, Total	Closure	Nov	6	0.077	0.076	0.077	-	-	-	0.0435	0.0437	0.0458
Boron, Total	Closure	Dec	6	0.078	0.077	0.078	-	-	-	0.0432	0.0434	0.0455
Boron, Total	Post-Closure	Jan	109	0.025	0.026	0.066	0.0193	0.0169	0.0204	0.0119	0.0144	0.0416
Boron, Total	Post-Closure	Feb	109	0.026	0.027	0.050	0.0193	0.0169	0.0204	0.0119	0.0143	0.0415
Boron, Total	Post-Closure	Mar	109	0.030	0.031	0.035	0.0193	0.0169	0.0204	0.0117	0.0142	0.0410
Boron, Total	Post-Closure	Apr	109	0.031	0.031	0.032	0.0192	0.0168	0.0203	0.0116	0.0140	0.0404
Boron, Total	Post-Closure	May	109	0.027	0.027	0.027	0.0192	0.0168	0.0203	0.0116	0.0140	0.0401
Boron, Total	Post-Closure	Jun	109	0.025	0.025	0.026	0.0192	0.0169	0.0203	0.0116	0.0140	0.0399
Boron, Total	Post-Closure	Jul	109	0.025	0.025	0.026	0.0193	0.0169	0.0204	0.0118	0.0142	0.0398
Boron, Total	Post-Closure	Aug	109	0.026	0.026	0.026	0.0193	0.0170	0.0204	0.0120	0.0143	0.0396
Boron, Total	Post-Closure	Sep	109	0.026	0.025	0.026	0.0194	0.0170	0.0205	0.0121	0.0144	0.0394
Boron, Total	Post-Closure	Oct	109	0.026	0.026	0.026	0.0194	0.0170	0.0204	0.0120	0.0143	0.0390
Boron, Total	Post-Closure	Nov	109	0.026	0.026	0.027	0.0193	0.0170	0.0204	0.0120	0.0142	0.0387
Boron, Total	Post-Closure	Dec	109	0.026	0.027	0.029	0.0193	0.0170	0.0204	0.0119	0.0142	0.0386
Cadmium, Dissolved	Construction	Jan	2	0.0000045	0.0000045	0.0000048	-	-	-	-	-	-
Cadmium, Dissolved	Construction	Feb	2	0.0000051	0.0000051	0.0000051	-	-	-	-	-	-
Cadmium, Dissolved	Construction	Mar	2	0.0000058	0.0000058	0.0000060	-	-	-	0.0000003	0.0000003	0.0000003
Cadmium, Dissolved	Construction	Apr	2	0.0000061	0.0000061	0.0000062	-	-	-	0.0000001	0.0000001	0.0000001
Cadmium, Dissolved	Construction	May	2	0.0000063	0.0000063	0.0000064	-	-	-	0.0000001	0.0000001	0.0000001
Cadmium, Dissolved	Construction	Jun	2	0.0000062	0.0000062	0.0000063	-	-	-	0.0000001	0.0000001	0.0000001
Cadmium, Dissolved	Construction	Jul	2	0.0000058	0.0000058	0.0000060	-	-	-	0.0000001	0.0000001	0.0000001
Cadmium, Dissolved	Construction	Aug	2	0.0000057	0.0000057	0.0000060	-	-	-	0.0000046	0.0000046	0.0000046
Cadmium, Dissolved	Construction	Sep	2	0.0000054	0.0000054	0.0000054	-	-	-	0.0000475	0.0000475	0.0000947
Cadmium, Dissolved	Construction	Oct	2	0.0000053	0.0000053	0.0000056	-	-	-	0.0000661	0.0000661	0.0000661
Cadmium, Dissolved	Construction	Nov	2	0.0000052	0.0000052	0.0000055	-	-	-	0.0000602	0.0000602	0.0000602
Cadmium, Dissolved	Construction	Dec	2	0.0000052	0.0000052	0.0000055	-	-	-	0.0000592	0.0000592	0.0000592
Cadmium, Dissolved	Operations	Jan	13	0.0000178	0.0000211	0.0000421	-	-	-	0.0000675	0.0000659	0.0000699
Cadmium, Dissolved	Operations	Feb	13	0.0000139	0.0000172	0.0000384	-	-	-	0.0000655	0.0000646	0.0000689
Cadmium, Dissolved	Operations	Mar	13	0.0000105	0.0000117	0.0000242	-	-	-	0.0000600	0.0000580	0.0000664
Cadmium, Dissolved	Operations	Apr	13	0.0000126	0.0000126	0.0000195	-	-	-	0.0000531	0.0000530	0.0000627
Cadmium, Dissolved	Operations	May	13	0.0000143	0.0000147	0.0000247	-	-	-	0.0000525	0.0000524	0.0000600
Cadmium, Dissolved	Operations	Jun	13	0.0000122	0.0000118	0.0000169	-	-	-	0.0000596	0.0000599	0.0000698
Cadmium, Dissolved	Operations	Jul	13	0.0000123	0.0000112	0.0000150	-	-	-	0.0000667	0.0000717	0.0000920
Cadmium, Dissolved	Operations	Aug	13	0.0000121	0.0000111	0.0000146	-	-	-	0.0000768	0.0000799	0.0001016
Cadmium, Dissolved	Operations	Sep	13	0.0000129	0.0000119	0.0000166	-	-	-	0.0000776	0.0000792	0.0000906
Cadmium, Dissolved	Operations	Oct	13	0.0000161	0.0000143	0.0000232	-	-	-	0.0000743	0.0000734	0.0000774
Cadmium, Dissolved	Operations	Nov	13	0.0000157	0.0000158	0.0000251	-	-	-	0.0000721	0.0000698	0.0000731
Cadmium, Dissolved	Operations	Dec	13	0.0000171	0.0000187	0.0000329	-	-	-	0.0000705	0.0000683	0.0000717
Cadmium, Dissolved	Closure	Jan	6	0.0000302	0.0000291	0.0000306	-	-	-	0.0000896	0.0000880	0.0001008
Cadmium, Dissolved	Closure	Feb	6	0.0000302	0.0000296	0.0000305	-	-	-	0.0000890	0.0000875	0.0001003
Cadmium, Dissolved	Closure	Mar	6	0.0000302	0.0000302	0.0000306	-	-	-	0.0000873	0.0000858	0.0000986
Cadmium, Dissolved	Closure	Apr	6	0.0000308	0.0000307	0.0000308	-	-	-	0.0000857	0.0000842	0.0000970
Cadmium, Dissolved	Closure	May	6	0.0000306	0.0000305	0.0000306	-	-	-	0.0000854	0.0000839	0.0000966
Cadmium, Dissolved	Closure	Jun	6	0.0000304	0.0000305	0.0000307	-	-	-	0.0000870	0.0000856	0.0000980
Cadmium, Dissolved	Closure	Jul	6	0.0000304	0.0000305	0.0000306	-	-	-	0.0000905	0.0000892	0.0001010
Cadmium, Dissolved	Closure	Aug	6	0.0000308	0.0000307	0.0000308	-	-	-	0.0000944	0.0000931	0.0001045
Cadmium, Dissolved	Closure	Sep	6	0.0000306	0.0000306	0.0000306	-	-	-	0.0000965	0.0000953	0.0001063
Cadmium, Dissolved	Closure	Oct	6	0.0000310	0.0000308	0.0000310	-	-	-	0.0000963	0.0000952	0.0001060
Cadmium, Dissolved	Closure	Nov	6	0.0000314	0.0000311	0.0000314	-	-	-	0.0000956	0.0000944	0.0001053
Cadmium, Dissolved	Closure	Dec	6	0.0000312	0.0000309	0.0000312	-	-	-	0.0000951	0.0000939	0.0001048
Cadmium, Dissolved	Post-Closure	Jan	109	0.0002880	0.0002917	0.0003215	0.0000501	0.0000423	0.0000585	0.0000414	0.0000467	0.0001044
Cadmium, Dissolved	Post-Closure	Feb	109	0.0002936	0.0002979	0.0003199	0.0000509	0.0000430	0.0000595	0.0000412	0.0000465	0.0001040
Cadmium, Dissolved	Post-Closure	Mar	109	0.0003245	0.0003238	0.0003289	0.0000532	0.0000450	0.0000621	0.0000407	0.0000459	0.0001027
Cadmium, Dissolved	Post-Closure	Apr	109	0.0003388	0.0003350	0.0003397	0.0000557	0.0000471	0.0000650	0.0000402	0.0000453	0.0001013
Cadmium, Dissolved	Post-Closure	May	109	0.0003359	0.0003328	0.0003366	0.0000553	0.0000467	0.0000644	0.0000400	0.0000451	0.0001005
Cadmium, Dissolved	Post-Closure	Jun	109	0.0003334	0.0003314	0.0003375	0.0000533	0.0000451	0.0000621	0.0000403	0.0000454	0.0001002
Cadmium, Dissolved	Post-Closure	Jul	109	0.0003335	0.0003313	0.0003362	0.0000524	0.0000444	0.0000611	0.0000410	0.0000460	0.0001002
Cadmium, Dissolved	Post-Closure	Aug	109	0.0003393	0.0003357	0.0003393	0.0000518	0.0000439	0.0000602	0.0000417	0.0000467	0.0001002
Cadmium, Dissolved	Post-Closure	Sep	109	0.0003378	0.0003344	0.0003378	0.0000508	0.0000431	0.0000591	0.0000421	0.0000469	0.0000999
Cadmium, Dissolved	Post-Closure	Oct	109	0.0003444	0.0003390	0.0003446	0.0000494	0.0000419	0.0000574	0.0000419	0.0000467	0.0000990
Cadmium, Dissolved	Post-Closure	Nov	109	0.0003355	0.0003314	0.0003397	0.0000489	0.0000415	0.0000568	0.0000417	0.0000464	0.0000983
Cadmium, Dissolved	Post-Closure	Dec	109	0.0003083	0.0003108	0.0003290	0.0000497	0.0000422	0.0000577	0.0000415	0.0000463	0.0000980
Cadmium, Total	Construction	Jan	2	0.0001788	0.0001788	0.0001907	-	-	-	-	-	-
Cadmium, Total	Construction	Feb	2	0.0001497	0.0001497	0.0001564	-	-	-	-	-	-
Cadmium, Total	Construction	Mar	2	0.0001055	0.0001055	0.0001142	-	-	-	0.0000003	0.0000003	0.0000003
Cadmium, Total	Construction	Apr	2	0.0000878	0.0000878	0.0000990	-	-	-	0.0000001	0.0000001	0.0000001
Cadmium, Total	Construction	May	2	0.0000780	0.0000780	0.0000868	-	-	-	0.0000001	0.0000001	0.0000001
Cadmium, Total	Construction	Jun	2	0.0000923	0.0000923	0.0001024	-	-	-	0.0000001	0.0000001	0.0000001
Cadmium, Total	Construction	Jul	2	0.0001082	0.0001082	0.0001232	-	-	-	0.0000001	0.0000001	0.0000001
Cadmium, Total	Construction	Aug	2	0.0001088	0.0001088	0.0001249	-	-	-	0.0000046	0.0000046	0.0000046

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Cadmium, Total	Construction	Sep	2	0.0001077	0.0001077	0.0001336	-	-	-	0.0000394	0.0000394	0.0000786
Cadmium, Total	Construction	Oct	2	0.0001289	0.0001289	0.0001528	-	-	-	0.0000526	0.0000526	0.0000526
Cadmium, Total	Construction	Nov	2	0.0001393	0.0001393	0.0001644	-	-	-	0.0000464	0.0000464	0.0000464
Cadmium, Total	Construction	Dec	2	0.0001437	0.0001437	0.0001698	-	-	-	0.0000446	0.0000446	0.0000446
Cadmium, Total	Operations	Jan	13	0.0000505	0.0000529	0.0001110	-	-	-	0.0000516	0.0000497	0.0000551
Cadmium, Total	Operations	Feb	13	0.0000263	0.0000362	0.0000905	-	-	-	0.0000492	0.0000482	0.0000540
Cadmium, Total	Operations	Mar	13	0.0000176	0.0000221	0.0000609	-	-	-	0.0000446	0.0000431	0.0000519
Cadmium, Total	Operations	Apr	13	0.0000252	0.0000293	0.0000672	-	-	-	0.0000392	0.0000395	0.0000488
Cadmium, Total	Operations	May	13	0.0000319	0.0000361	0.0000701	-	-	-	0.0000386	0.0000397	0.0000470
Cadmium, Total	Operations	Jun	13	0.0000227	0.0000243	0.0000316	-	-	-	0.0000461	0.0000468	0.0000567
Cadmium, Total	Operations	Jul	13	0.0000227	0.0000243	0.0000329	-	-	-	0.0000535	0.0000579	0.0000777
Cadmium, Total	Operations	Aug	13	0.0000218	0.0000236	0.0000314	-	-	-	0.0000632	0.0000657	0.0000869
Cadmium, Total	Operations	Sep	13	0.0000248	0.0000266	0.0000356	-	-	-	0.0000627	0.0000649	0.0000760
Cadmium, Total	Operations	Oct	13	0.0000333	0.0000356	0.0000585	-	-	-	0.0000608	0.0000591	0.0000634
Cadmium, Total	Operations	Nov	13	0.0000372	0.0000389	0.0000668	-	-	-	0.0000578	0.0000550	0.0000602
Cadmium, Total	Operations	Dec	13	0.0000407	0.0000433	0.0000697	-	-	-	0.0000556	0.0000527	0.0000598
Cadmium, Total	Closure	Jan	6	0.0000489	0.0000475	0.0000493	-	-	-	0.0000810	0.0000791	0.0000942
Cadmium, Total	Closure	Feb	6	0.0000489	0.0000481	0.0000492	-	-	-	0.0000805	0.0000787	0.0000937
Cadmium, Total	Closure	Mar	6	0.0000489	0.0000488	0.0000493	-	-	-	0.0000790	0.0000772	0.0000922
Cadmium, Total	Closure	Apr	6	0.0000495	0.0000494	0.0000495	-	-	-	0.0000775	0.0000757	0.0000907
Cadmium, Total	Closure	May	6	0.0000493	0.0000493	0.0000493	-	-	-	0.0000773	0.0000755	0.0000903
Cadmium, Total	Closure	Jun	6	0.0000492	0.0000494	0.0000496	-	-	-	0.0000790	0.0000773	0.0000918
Cadmium, Total	Closure	Jul	6	0.0000493	0.0000494	0.0000495	-	-	-	0.0000825	0.0000809	0.0000949
Cadmium, Total	Closure	Aug	6	0.0000497	0.0000496	0.0000497	-	-	-	0.0000864	0.0000849	0.0000983
Cadmium, Total	Closure	Sep	6	0.0000494	0.0000494	0.0000494	-	-	-	0.0000885	0.0000872	0.0001002
Cadmium, Total	Closure	Oct	6	0.0000498	0.0000496	0.0000498	-	-	-	0.0000885	0.0000871	0.0001000
Cadmium, Total	Closure	Nov	6	0.0000501	0.0000498	0.0000501	-	-	-	0.0000878	0.0000865	0.0000993
Cadmium, Total	Closure	Dec	6	0.0000499	0.0000496	0.0000499	-	-	-	0.0000874	0.0000860	0.0000988
Cadmium, Total	Post-Closure	Jan	109	0.0003169	0.0003206	0.0003504	0.0000542	0.0000458	0.0000632	0.0000414	0.0000462	0.0000985
Cadmium, Total	Post-Closure	Feb	109	0.0003226	0.0003268	0.0003488	0.0000551	0.0000465	0.0000642	0.0000412	0.0000460	0.0000981
Cadmium, Total	Post-Closure	Mar	109	0.0003535	0.0003527	0.0003578	0.0000576	0.0000486	0.0000671	0.0000407	0.0000454	0.0000968
Cadmium, Total	Post-Closure	Apr	109	0.0003678	0.0003639	0.0003686	0.0000603	0.0000509	0.0000701	0.0000402	0.0000449	0.0000955
Cadmium, Total	Post-Closure	May	109	0.0003649	0.0003618	0.0003656	0.0000598	0.0000505	0.0000696	0.0000400	0.0000446	0.0000948
Cadmium, Total	Post-Closure	Jun	109	0.0003625	0.0003605	0.0003666	0.0000577	0.0000488	0.0000670	0.0000403	0.0000449	0.0000946
Cadmium, Total	Post-Closure	Jul	109	0.0003627	0.0003605	0.0003654	0.0000567	0.0000480	0.0000659	0.0000410	0.0000455	0.0000946
Cadmium, Total	Post-Closure	Aug	109	0.0003685	0.0003649	0.0003685	0.0000560	0.0000475	0.0000650	0.0000417	0.0000462	0.0000947
Cadmium, Total	Post-Closure	Sep	109	0.0003669	0.0003636	0.0003669	0.0000550	0.0000466	0.0000638	0.0000421	0.0000465	0.0000944
Cadmium, Total	Post-Closure	Oct	109	0.0003735	0.0003680	0.0003737	0.0000534	0.0000453	0.0000619	0.0000419	0.0000462	0.0000936
Cadmium, Total	Post-Closure	Nov	109	0.0003645	0.0003604	0.0003687	0.0000529	0.0000449	0.0000614	0.0000417	0.0000460	0.0000930
Cadmium, Total	Post-Closure	Dec	109	0.0003373	0.0003398	0.0003579	0.0000538	0.0000456	0.0000623	0.0000415	0.0000458	0.0000927
Chromium, Dissolve	Construction	Jan	2	0.0000860	0.0000860	0.0000866	-	-	-	-	-	-
Chromium, Dissolve	Construction	Feb	2	0.0001008	0.0001008	0.0001042	-	-	-	-	-	-
Chromium, Dissolve	Construction	Mar	2	0.0001194	0.0001194	0.0001199	-	-	-	0.0000043	0.0000043	0.0000056
Chromium, Dissolve	Construction	Apr	2	0.0001279	0.0001279	0.0001287	-	-	-	0.0000013	0.0000013	0.0000013
Chromium, Dissolve	Construction	May	2	0.0001255	0.0001255	0.0001261	-	-	-	0.0000013	0.0000013	0.0000013
Chromium, Dissolve	Construction	Jun	2	0.0001157	0.0001157	0.0001159	-	-	-	0.0000012	0.0000012	0.0000012
Chromium, Dissolve	Construction	Jul	2	0.0001049	0.0001049	0.0001086	-	-	-	0.0000010	0.0000010	0.0000010
Chromium, Dissolve	Construction	Aug	2	0.0001045	0.0001045	0.0001086	-	-	-	0.0000539	0.0000539	0.0000539
Chromium, Dissolve	Construction	Sep	2	0.0000970	0.0000970	0.0000975	-	-	-	0.0000998	0.0000998	0.0001967
Chromium, Dissolve	Construction	Oct	2	0.0000911	0.0000911	0.0000956	-	-	-	0.0001095	0.0001095	0.0001095
Chromium, Dissolve	Construction	Nov	2	0.0000880	0.0000880	0.0000936	-	-	-	0.0000939	0.0000939	0.0000939
Chromium, Dissolve	Construction	Dec	2	0.0000902	0.0000902	0.0000964	-	-	-	0.0000887	0.0000887	0.0000887
Chromium, Dissolve	Operations	Jan	13	0.0001446	0.0001421	0.0001674	-	-	-	0.0001029	0.0001001	0.0001200
Chromium, Dissolve	Operations	Feb	13	0.0001513	0.0001506	0.0001656	-	-	-	0.0000970	0.0000963	0.0001174
Chromium, Dissolve	Operations	Mar	13	0.0001568	0.0001558	0.0001642	-	-	-	0.0000888	0.0000886	0.0001133
Chromium, Dissolve	Operations	Apr	13	0.0001521	0.0001498	0.0001624	-	-	-	0.0000942	0.0000939	0.0001114
Chromium, Dissolve	Operations	May	13	0.0001427	0.0001398	0.0001559	-	-	-	0.0001027	0.0001039	0.0001136
Chromium, Dissolve	Operations	Jun	13	0.0001522	0.0001512	0.0001622	-	-	-	0.0001134	0.0001153	0.0001303
Chromium, Dissolve	Operations	Jul	13	0.0001525	0.0001518	0.0001636	-	-	-	0.0001264	0.0001292	0.0001543
Chromium, Dissolve	Operations	Aug	13	0.0001538	0.0001527	0.0001642	-	-	-	0.0001368	0.0001403	0.0001662
Chromium, Dissolve	Operations	Sep	13	0.0001526	0.0001500	0.0001632	-	-	-	0.0001398	0.0001369	0.0001479
Chromium, Dissolve	Operations	Oct	13	0.0001512	0.0001441	0.0001630	-	-	-	0.0001326	0.0001245	0.0001431
Chromium, Dissolve	Operations	Nov	13	0.0001471	0.0001440	0.0001653	-	-	-	0.0001236	0.0001148	0.0001422
Chromium, Dissolve	Operations	Dec	13	0.0001494	0.0001466	0.0001679	-	-	-	0.0001154	0.0001090	0.0001414
Chromium, Dissolve	Closure	Jan	6	0.0001878	0.0001856	0.0001900	-	-	-	0.0001715	0.0001689	0.0001905
Chromium, Dissolve	Closure	Feb	6	0.0001894	0.0001882	0.0001909	-	-	-	0.0001706	0.0001679	0.0001895
Chromium, Dissolve	Closure	Mar	6	0.0001910	0.0001913	0.0001930	-	-	-	0.0001675	0.0001649	0.0001866
Chromium, Dissolve	Closure	Apr	6	0.0001947	0.0001941	0.0001947	-	-	-	0.0001644	0.0001619	0.0001836
Chromium, Dissolve	Closure	May	6	0.0001851	0.0001851	0.0001851	-	-	-	0.0001638	0.0001613	0.0001828
Chromium, Dissolve	Closure	Jun	6	0.0001793	0.0001799	0.0001813	-	-	-	0.0001668	0.0001644	0.0001853
Chromium, Dissolve	Closure	Jul	6	0.0001796	0.0001801	0.0001810	-	-	-	0.0001730	0.0001707	0.0001908
Chromium, Dissolve	Closure	Aug	6	0.0001821	0.0001817	0.0001821	-	-	-	0.0001799	0.0001778	0.0001969
Chromium, Dissolve	Closure	Sep	6	0.0001810	0.0001808	0.0001810	-	-	-	0.0001836	0.0001817	0.0002002
Chromium, Dissolve	Closure	Oct	6	0.0001832	0.0001821	0.0001832	-	-	-	0.0001832	0.0001813	0.0001996
Chromium, Dissolve	Closure	Nov	6	0.0001884	0.0001864	0.0001884	-	-	-	0.0001818	0.0001799	0.0001982
Chromium, Dissolve	Closure	Dec	6	0.0001912	0.0001896	0.0001912	-	-	-	0.0001809	0.0001790	0.0001973
Chromium, Dissolve	Post-Closure	Jan	109	0.0004231	0.0004325	0.0004857	0.0002816	0.0002503	0.0003079	0.0000830	0.0000925	0.0001966
Chromium, Dissolve	Post-Closure	Feb	109	0.0004335	0.0004434	0.0004874	0.0002814	0.0002503	0.0003077	0.0000827	0.0000922	0.0001959
Chromium, Dissolve	Post-Closure	Mar	109	0.0004877	0.0004886	0.0004944	0.0002810	0.0002497	0.0003071	0.0000818	0.0000912	0.0001935
Chromium, Dissolve	Post-Closure	Apr	109	0.0005078	0.0005045	0.0005100	0.0002805	0.0002493	0.0003065	0.0000809	0.0000901	0.0001911
Chromium, Dissolve	Post-Closure	May	109	0.0004861	0.0004835	0.0004879	0.0002803	0.0002492	0.0003063	0.0000806	0.0000897	0.0001896
Chromium, Dissolve	Post-Closure	Jun	109	0.0004761	0.0004742	0.0004816	0.0002807	0.0002496	0.0003066	0.0000811	0.0000902	0.0001891
Chromium, Dissolve	Post-Closure	Jul	109	0.0004772	0.0004749	0.0004809	0.0002816	0.0002505	0.0003075	0.0000823	0.0000913	0.0001891
Chromium, Dissolve	Post-Closure	Aug	109	0.0004849	0.0004807	0.0004849	0.0002825	0.0002514	0.0003084	0.0000836	0.0000925	0.0001892
Chromium, Dissolve	Post-Closure	Sep	109	0.0004825	0.0004787	0.0004825	0.0002830	0.0002519	0.0003088	0.0000842	0.0000930	0.0001885
Chromium, Dissolve	Post-Closure	Oct	109	0.0004900	0.0004837	0.0004908	0.0002829	0.0002519	0.0003087	0.0000839	0.0000926	0.0001869
Chromium, Dissolve	Post-Closure	Nov	109	0.0004809	0.0004771	0.0004874	0.0002826	0.0002518	0.0003083	0.0000835	0.0000921	0.0001857
Chromium, Dissolve	Post-Closure	Dec	109	0.0004492	0.0004554	0.0004904	0.0002825	0.0002518	0.0003082	0.0000832	0.0000918	0.0001850
Chromium (VI), Diss	Construction	Jan	2	0.0000860	0.0000860	0.0000866	-	-	-	-	-	-
Chromium (VI), Diss	Construction	Feb	2	0.0001008	0.0001008	0.0001042	-	-	-	-	-	-
Chromium (VI), Diss	Construction	Mar	2	0.0001194	0.0001194	0.0001199	-	-	-	0.0000043	0.0000043	0.0000056
Chromium (VI), Diss	Construction	Apr	2	0.0001278	0.0001278	0.0001287	-	-	-	0.0000013	0.0000013	0.0000013
Chromium (VI), Diss	Construction	May	2	0.0001255	0.0001255	0.0001261	-	-	-	0.0000013	0.0000013	0.0000013
Chromium (VI), Diss	Construction	Jun	2	0.0001157	0.0001157	0.0001159	-	-	-	0.0000012	0.0000012	0.0000012
Chromium (VI), Diss	Construction	Jul	2	0.0001049	0.0001049	0.0001086	-	-	-	0.0000010	0.0000010	0.0000010
Chromium (VI), Diss	Construction	Aug	2	0.0001045	0.0001045	0.0001086	-	-	-	0.0000539	0.0000539	0.0000539
Chromium (VI), Diss	Construction	Sep	2	0.0000970	0.0000970	0.0000975	-	-	-	0.0000998	0.0000998	0.0001967

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Chromium (VI), Diss	Construction	Oct	2	0.0000911	0.0000911	0.0000956	-	-	-	0.0001095	0.0001095	0.0001095
Chromium (VI), Diss	Construction	Nov	2	0.0000880	0.0000880	0.0000936	-	-	-	0.0000939	0.0000939	0.0000939
Chromium (VI), Diss	Construction	Dec	2	0.0000902	0.0000902	0.0000964	-	-	-	0.0000887	0.0000887	0.0000887
Chromium (VI), Diss	Operations	Jan	13	0.0001446	0.0001421	0.0001674	-	-	-	0.0001029	0.0001001	0.0001200
Chromium (VI), Diss	Operations	Feb	13	0.0001513	0.0001506	0.0001656	-	-	-	0.0000970	0.0000963	0.0001174
Chromium (VI), Diss	Operations	Mar	13	0.0001568	0.0001558	0.0001642	-	-	-	0.0000888	0.0000886	0.0001133
Chromium (VI), Diss	Operations	Apr	13	0.0001521	0.0001498	0.0001624	-	-	-	0.0000942	0.0000939	0.0001114
Chromium (VI), Diss	Operations	May	13	0.0001427	0.0001398	0.0001559	-	-	-	0.0001027	0.0001039	0.0001136
Chromium (VI), Diss	Operations	Jun	13	0.0001522	0.0001512	0.0001622	-	-	-	0.0001134	0.0001153	0.0001303
Chromium (VI), Diss	Operations	Jul	13	0.0001525	0.0001518	0.0001636	-	-	-	0.0001264	0.0001292	0.0001543
Chromium (VI), Diss	Operations	Aug	13	0.0001538	0.0001527	0.0001642	-	-	-	0.0001368	0.0001403	0.0001662
Chromium (VI), Diss	Operations	Sep	13	0.0001526	0.0001500	0.0001632	-	-	-	0.0001398	0.0001369	0.0001479
Chromium (VI), Diss	Operations	Oct	13	0.0001512	0.0001441	0.0001630	-	-	-	0.0001326	0.0001245	0.0001431
Chromium (VI), Diss	Operations	Nov	13	0.0001471	0.0001440	0.0001653	-	-	-	0.0001236	0.0001148	0.0001422
Chromium (VI), Diss	Operations	Dec	13	0.0001494	0.0001466	0.0001679	-	-	-	0.0001154	0.0001090	0.0001414
Chromium (VI), Diss	Closure	Jan	6	0.0001878	0.0001856	0.0001900	-	-	-	0.0001715	0.0001689	0.0001905
Chromium (VI), Diss	Closure	Feb	6	0.0001894	0.0001882	0.0001909	-	-	-	0.0001706	0.0001679	0.0001895
Chromium (VI), Diss	Closure	Mar	6	0.0001910	0.0001913	0.0001930	-	-	-	0.0001675	0.0001649	0.0001866
Chromium (VI), Diss	Closure	Apr	6	0.0001947	0.0001941	0.0001947	-	-	-	0.0001644	0.0001619	0.0001836
Chromium (VI), Diss	Closure	May	6	0.0001851	0.0001851	0.0001851	-	-	-	0.0001638	0.0001613	0.0001828
Chromium (VI), Diss	Closure	Jun	6	0.0001793	0.0001799	0.0001813	-	-	-	0.0001668	0.0001644	0.0001853
Chromium (VI), Diss	Closure	Jul	6	0.0001796	0.0001801	0.0001810	-	-	-	0.0001730	0.0001707	0.0001908
Chromium (VI), Diss	Closure	Aug	6	0.0001821	0.0001817	0.0001821	-	-	-	0.0001799	0.0001778	0.0001969
Chromium (VI), Diss	Closure	Sep	6	0.0001810	0.0001808	0.0001810	-	-	-	0.0001836	0.0001817	0.0002002
Chromium (VI), Diss	Closure	Oct	6	0.0001832	0.0001821	0.0001832	-	-	-	0.0001832	0.0001813	0.0001996
Chromium (VI), Diss	Closure	Nov	6	0.0001884	0.0001864	0.0001884	-	-	-	0.0001818	0.0001799	0.0001982
Chromium (VI), Diss	Closure	Dec	6	0.0001912	0.0001896	0.0001912	-	-	-	0.0001809	0.0001790	0.0001973
Chromium (VI), Diss	Post-Closure	Jan	109	0.0004231	0.0004325	0.0004857	0.0002816	0.0002503	0.0003079	0.0000830	0.0000925	0.0001966
Chromium (VI), Diss	Post-Closure	Feb	109	0.0004335	0.0004434	0.0004874	0.0002814	0.0002503	0.0003077	0.0000827	0.0000922	0.0001959
Chromium (VI), Diss	Post-Closure	Mar	109	0.0004877	0.0004886	0.0004944	0.0002810	0.0002497	0.0003071	0.0000818	0.0000912	0.0001935
Chromium (VI), Diss	Post-Closure	Apr	109	0.0005078	0.0005045	0.0005100	0.0002805	0.0002493	0.0003065	0.0000809	0.0000901	0.0001911
Chromium (VI), Diss	Post-Closure	May	109	0.0004861	0.0004835	0.0004879	0.0002803	0.0002492	0.0003063	0.0000806	0.0000897	0.0001896
Chromium (VI), Diss	Post-Closure	Jun	109	0.0004761	0.0004742	0.0004816	0.0002807	0.0002496	0.0003066	0.0000811	0.0000902	0.0001891
Chromium (VI), Diss	Post-Closure	Jul	109	0.0004772	0.0004749	0.0004809	0.0002816	0.0002505	0.0003075	0.0000823	0.0000913	0.0001891
Chromium (VI), Diss	Post-Closure	Aug	109	0.0004849	0.0004807	0.0004849	0.0002825	0.0002514	0.0003084	0.0000836	0.0000925	0.0001892
Chromium (VI), Diss	Post-Closure	Sep	109	0.0004825	0.0004787	0.0004825	0.0002830	0.0002519	0.0003088	0.0000842	0.0000930	0.0001885
Chromium (VI), Diss	Post-Closure	Oct	109	0.0004900	0.0004837	0.0004908	0.0002829	0.0002519	0.0003087	0.0000839	0.0000926	0.0001869
Chromium (VI), Diss	Post-Closure	Nov	109	0.0004809	0.0004771	0.0004874	0.0002826	0.0002518	0.0003083	0.0000835	0.0000921	0.0001857
Chromium (VI), Diss	Post-Closure	Dec	109	0.0004492	0.0004554	0.0004904	0.0002825	0.0002518	0.0003082	0.0000832	0.0000918	0.0001850
Chromium, Total	Construction	Jan	2	0.0031343	0.0031343	0.0033233	-	-	-	-	-	-
Chromium, Total	Construction	Feb	2	0.0026898	0.0026898	0.0027323	-	-	-	-	-	-
Chromium, Total	Construction	Mar	2	0.0019930	0.0019930	0.0020030	-	-	-	0.0000064	0.0000064	0.0000088
Chromium, Total	Construction	Apr	2	0.0016921	0.0016921	0.0017414	-	-	-	0.0000020	0.0000020	0.0000020
Chromium, Total	Construction	May	2	0.0015058	0.0015058	0.0015254	-	-	-	0.0000020	0.0000020	0.0000020
Chromium, Total	Construction	Jun	2	0.0017809	0.0017809	0.0017961	-	-	-	0.0000022	0.0000022	0.0000022
Chromium, Total	Construction	Jul	2	0.0020591	0.0020591	0.0021322	-	-	-	0.0000020	0.0000020	0.0000020
Chromium, Total	Construction	Aug	2	0.0020616	0.0020616	0.0021525	-	-	-	0.0000614	0.0000614	0.0000614
Chromium, Total	Construction	Sep	2	0.0020200	0.0020200	0.0022985	-	-	-	0.0003604	0.0003604	0.0007176
Chromium, Total	Construction	Oct	2	0.0024264	0.0024264	0.0026243	-	-	-	0.0005285	0.0005285	0.0005285
Chromium, Total	Construction	Nov	2	0.0026278	0.0026278	0.0028254	-	-	-	0.0005198	0.0005198	0.0005198
Chromium, Total	Construction	Dec	2	0.0027203	0.0027203	0.0029272	-	-	-	0.0005394	0.0005394	0.0005394
Chromium, Total	Operations	Jan	13	0.0018201	0.0018757	0.0024649	-	-	-	0.0005902	0.0005986	0.0006535
Chromium, Total	Operations	Feb	13	0.0010571	0.0011874	0.0021435	-	-	-	0.0005978	0.0006022	0.0006441
Chromium, Total	Operations	Mar	13	0.0006165	0.0007374	0.0016221	-	-	-	0.0005657	0.0005496	0.0005780
Chromium, Total	Operations	Apr	13	0.0011369	0.0011699	0.0018905	-	-	-	0.0005254	0.0005117	0.0005533
Chromium, Total	Operations	May	13	0.0015137	0.0015008	0.0019708	-	-	-	0.0004969	0.0004952	0.0005400
Chromium, Total	Operations	Jun	13	0.0010166	0.0009810	0.0010976	-	-	-	0.0005170	0.0005200	0.0005608
Chromium, Total	Operations	Jul	13	0.0010455	0.0010166	0.0010720	-	-	-	0.0005428	0.0005574	0.0006336
Chromium, Total	Operations	Aug	13	0.0009892	0.0009758	0.0011901	-	-	-	0.0005610	0.0005803	0.0006561
Chromium, Total	Operations	Sep	13	0.0011389	0.0011190	0.0015773	-	-	-	0.0005688	0.0005791	0.0006419
Chromium, Total	Operations	Oct	13	0.0016356	0.0015036	0.0017384	-	-	-	0.0005647	0.0005650	0.0006086
Chromium, Total	Operations	Nov	13	0.0015058	0.0015919	0.0019098	-	-	-	0.0005657	0.0005708	0.0006247
Chromium, Total	Operations	Dec	13	0.0016855	0.0017143	0.0019515	-	-	-	0.0005778	0.0005869	0.0006625
Chromium, Total	Closure	Jan	6	0.0034879	0.0032510	0.0034902	-	-	-	0.0004379	0.0004438	0.0005071
Chromium, Total	Closure	Feb	6	0.0034907	0.0033567	0.0034922	-	-	-	0.0004354	0.0004410	0.0005033
Chromium, Total	Closure	Mar	6	0.0034934	0.0034649	0.0034955	-	-	-	0.0004273	0.0004326	0.0004917
Chromium, Total	Closure	Apr	6	0.0034974	0.0034934	0.0034975	-	-	-	0.0004191	0.0004240	0.0004798
Chromium, Total	Closure	May	6	0.0034999	0.0034992	0.0034999	-	-	-	0.0004151	0.0004198	0.0004739
Chromium, Total	Closure	Jun	6	0.0035157	0.0035163	0.0035177	-	-	-	0.0004167	0.0004214	0.0004754
Chromium, Total	Closure	Jul	6	0.0035059	0.0035063	0.0035072	-	-	-	0.0004222	0.0004270	0.0004821
Chromium, Total	Closure	Aug	6	0.0035047	0.0035044	0.0035047	-	-	-	0.0004283	0.0004333	0.0004894
Chromium, Total	Closure	Sep	6	0.0034951	0.0034949	0.0034951	-	-	-	0.0004303	0.0004352	0.0004913
Chromium, Total	Closure	Oct	6	0.0034838	0.0034826	0.0034838	-	-	-	0.0004266	0.0004313	0.0004857
Chromium, Total	Closure	Nov	6	0.0034843	0.0034823	0.0034843	-	-	-	0.0004226	0.0004272	0.0004801
Chromium, Total	Closure	Dec	6	0.0034899	0.0034883	0.0034899	-	-	-	0.0004205	0.0004249	0.0004771
Chromium, Total	Post-Closure	Jan	109	0.0037703	0.0037798	0.0038347	0.0019209	0.0015852	0.0021214	0.0000885	0.0001132	0.0003825
Chromium, Total	Post-Closure	Feb	109	0.0037830	0.0037935	0.0038403	0.0019197	0.0015846	0.0021199	0.0000882	0.0001128	0.0003810
Chromium, Total	Post-Closure	Mar	109	0.0038419	0.0038433	0.0038490	0.0019170	0.0015832	0.0021161	0.0000873	0.0001116	0.0003764
Chromium, Total	Post-Closure	Apr	109	0.0038625	0.0038597	0.0038650	0.0019141	0.0015819	0.0021121	0.0000864	0.0001103	0.0003715
Chromium, Total	Post-Closure	May	109	0.0038540	0.0038522	0.0038563	0.0019130	0.0015820	0.0021102	0.0000861	0.0001098	0.0003683
Chromium, Total	Post-Closure	Jun	109	0.0038644	0.0038635	0.0038704	0.0019159	0.0015856	0.0021127	0.0000867	0.0001102	0.0003662
Chromium, Total	Post-Closure	Jul	109	0.0038361	0.0038342	0.0038398	0.0019224	0.0015925	0.0021188	0.0000880	0.0001112	0.0003643
Chromium, Total	Post-Closure	Aug	109	0.0038358	0.0038318	0.0038358	0.0019292	0.0015996	0.0021251	0.0000893	0.0001122	0.0003623
Chromium, Total	Post-Closure	Sep	109	0.0038257	0.0038220	0.0038257	0.0019332	0.0016042	0.0021285	0.0000898	0.0001125	0.0003596
Chromium, Total	Post-Closure	Oct	109	0.0038217	0.0038153	0.0038225	0.0019330	0.0016051	0.0021275	0.0000894	0.0001118	0.0003560
Chromium, Total	Post-Closure	Nov	109	0.0038148	0.0038106	0.0038211	0.0019313	0.0016044	0.0021252	0.0000889	0.0001112	0.0003534
Chromium, Total	Post-Closure	Dec	109	0.0037929	0.0037990	0.0038338	0.0019302	0.0016038	0.0021238	0.0000887	0.0001108	0.0003522
Copper, Dissolved	Construction	Jan	2	0.00051	0.00051	0.00057	-	-	-	-	-	-
Copper, Dissolved	Construction	Feb	2	0.00070	0.00070	0.00071	-	-	-	-	-	-
Copper, Dissolved	Construction	Mar	2	0.00094	0.00094	0.00094	-	-	-	0.00002	0.00002	0.00002
Copper, Dissolved	Construction	Apr	2	0.00105	0.00105	0.00107	-	-	-	0.00000	0.00000	0.00000
Copper, Dissolved	Construction	May	2	0.00110	0.00110	0.00111	-	-	-	0.00001	0.00001	0.00001
Copper, Dissolved	Construction	Jun	2	0.00101	0.00101	0.00102	-	-	-	0.00000	0.00000	0.00000
Copper, Dissolved	Construction	Jul	2	0.00089	0.00089	0.00093	-	-	-	0.00000	0.00000	0.00000
Copper, Dissolved	Construction	Aug	2	0.00088	0.00088	0.00093	-	-	-	0.00023	0.00023	0.00023
Copper, Dissolved	Construction	Sep	2	0.00080	0.00080	0.00081	-	-	-	0.02274	0.02274	0.04546
Copper, Dissolved	Construction	Oct	2	0.00070	0.00070	0.00076	-	-	-	0.03646	0.03646	0.03646

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Copper, Dissolved	Construction	Nov	2	0.00064	0.00064	0.00071	-	-	-	0.03626	0.03626	0.03626
Copper, Dissolved	Construction	Dec	2	0.00064	0.00064	0.00072	-	-	-	0.03782	0.03782	0.03782
Copper, Dissolved	Operations	Jan	13	0.00154	0.00151	0.00201	-	-	-	0.04127	0.04200	0.04651
Copper, Dissolved	Operations	Feb	13	0.00156	0.00154	0.00182	-	-	-	0.04211	0.04231	0.04575
Copper, Dissolved	Operations	Mar	13	0.00157	0.00154	0.00170	-	-	-	0.03959	0.03837	0.04078
Copper, Dissolved	Operations	Apr	13	0.00154	0.00150	0.00177	-	-	-	0.03613	0.03487	0.03863
Copper, Dissolved	Operations	May	13	0.00151	0.00147	0.00181	-	-	-	0.03339	0.03305	0.03696
Copper, Dissolved	Operations	Jun	13	0.00158	0.00156	0.00179	-	-	-	0.03483	0.03489	0.03810
Copper, Dissolved	Operations	Jul	13	0.00159	0.00158	0.00182	-	-	-	0.03675	0.03798	0.04405
Copper, Dissolved	Operations	Aug	13	0.00160	0.00158	0.00182	-	-	-	0.03815	0.03993	0.04626
Copper, Dissolved	Operations	Sep	13	0.00159	0.00157	0.00184	-	-	-	0.03891	0.04000	0.04538
Copper, Dissolved	Operations	Oct	13	0.00160	0.00156	0.00197	-	-	-	0.03871	0.03912	0.04313
Copper, Dissolved	Operations	Nov	13	0.00164	0.00156	0.00195	-	-	-	0.03916	0.03967	0.04441
Copper, Dissolved	Operations	Dec	13	0.00167	0.00159	0.00200	-	-	-	0.04037	0.04093	0.04715
Copper, Dissolved	Closure	Jan	6	0.00296	0.00284	0.00300	-	-	-	0.02956	0.02991	0.03380
Copper, Dissolved	Closure	Feb	6	0.00297	0.00291	0.00300	-	-	-	0.02938	0.02973	0.03354
Copper, Dissolved	Closure	Mar	6	0.00298	0.00298	0.00302	-	-	-	0.02882	0.02915	0.03275
Copper, Dissolved	Closure	Apr	6	0.00304	0.00303	0.00304	-	-	-	0.02825	0.02855	0.03194
Copper, Dissolved	Closure	May	6	0.00299	0.00299	0.00299	-	-	-	0.02798	0.02827	0.03155
Copper, Dissolved	Closure	Jun	6	0.00295	0.00296	0.00299	-	-	-	0.02810	0.02839	0.03167
Copper, Dissolved	Closure	Jul	6	0.00296	0.00297	0.00298	-	-	-	0.02852	0.02881	0.03217
Copper, Dissolved	Closure	Aug	6	0.00300	0.00300	0.00300	-	-	-	0.02899	0.02929	0.03274
Copper, Dissolved	Closure	Sep	6	0.00296	0.00296	0.00296	-	-	-	0.02915	0.02946	0.03291
Copper, Dissolved	Closure	Oct	6	0.00300	0.00298	0.00300	-	-	-	0.02891	0.02921	0.03256
Copper, Dissolved	Closure	Nov	6	0.00305	0.00302	0.00305	-	-	-	0.02865	0.02893	0.03218
Copper, Dissolved	Closure	Dec	6	0.00305	0.00303	0.00305	-	-	-	0.02850	0.02877	0.03198
Copper, Dissolved	Post-Closure	Jan	109	0.00316	0.00322	0.00356	0.00178	0.00158	0.00196	0.00556	0.00729	0.02615
Copper, Dissolved	Post-Closure	Feb	109	0.00323	0.00330	0.00356	0.00179	0.00159	0.00197	0.00554	0.00726	0.02605
Copper, Dissolved	Post-Closure	Mar	109	0.00360	0.00360	0.00365	0.00182	0.00162	0.00201	0.00547	0.00717	0.02572
Copper, Dissolved	Post-Closure	Apr	109	0.00376	0.00372	0.00377	0.00186	0.00165	0.00205	0.00540	0.00708	0.02537
Copper, Dissolved	Post-Closure	May	109	0.00366	0.00364	0.00367	0.00185	0.00165	0.00205	0.00538	0.00704	0.02514
Copper, Dissolved	Post-Closure	Jun	109	0.00361	0.00360	0.00366	0.00182	0.00162	0.00201	0.00542	0.00706	0.02499
Copper, Dissolved	Post-Closure	Jul	109	0.00361	0.00359	0.00364	0.00181	0.00162	0.00200	0.00550	0.00713	0.02486
Copper, Dissolved	Post-Closure	Aug	109	0.00367	0.00363	0.00367	0.00180	0.00161	0.00199	0.00561	0.00721	0.02473
Copper, Dissolved	Post-Closure	Sep	109	0.00361	0.00358	0.00361	0.00179	0.00160	0.00198	0.00565	0.00724	0.02455
Copper, Dissolved	Post-Closure	Oct	109	0.00366	0.00361	0.00366	0.00176	0.00157	0.00195	0.00563	0.00720	0.02430
Copper, Dissolved	Post-Closure	Nov	109	0.00360	0.00356	0.00364	0.00175	0.00157	0.00194	0.00560	0.00715	0.02412
Copper, Dissolved	Post-Closure	Dec	109	0.00336	0.00339	0.00361	0.00177	0.00158	0.00195	0.00558	0.00713	0.02403
Copper, Total	Construction	Jan	2	0.00280	0.00280	0.00286	-	-	-	-	-	-
Copper, Total	Construction	Feb	2	0.00263	0.00263	0.00266	-	-	-	-	-	-
Copper, Total	Construction	Mar	2	0.00232	0.00232	0.00234	-	-	-	0.00002	0.00002	0.00002
Copper, Total	Construction	Apr	2	0.00220	0.00220	0.00223	-	-	-	0.00000	0.00000	0.00000
Copper, Total	Construction	May	2	0.00212	0.00212	0.00214	-	-	-	0.00001	0.00001	0.00001
Copper, Total	Construction	Jun	2	0.00224	0.00224	0.00227	-	-	-	0.00001	0.00001	0.00001
Copper, Total	Construction	Jul	2	0.00235	0.00235	0.00238	-	-	-	0.00001	0.00001	0.00001
Copper, Total	Construction	Aug	2	0.00236	0.00236	0.00240	-	-	-	0.00030	0.00030	0.00030
Copper, Total	Construction	Sep	2	0.00227	0.00227	0.00248	-	-	-	0.09956	0.09956	0.19911
Copper, Total	Construction	Oct	2	0.00250	0.00250	0.00262	-	-	-	0.16479	0.16479	0.16479
Copper, Total	Construction	Nov	2	0.00258	0.00258	0.00270	-	-	-	0.16723	0.16723	0.16723
Copper, Total	Construction	Dec	2	0.00263	0.00263	0.00274	-	-	-	0.17654	0.17654	0.17654
Copper, Total	Operations	Jan	13	0.00258	0.00267	0.00305	-	-	-	0.19119	0.19578	0.22308
Copper, Total	Operations	Feb	13	0.00230	0.00223	0.00275	-	-	-	0.19662	0.19836	0.21951
Copper, Total	Operations	Mar	13	0.00193	0.00192	0.00227	-	-	-	0.18282	0.18026	0.19489
Copper, Total	Operations	Apr	13	0.00217	0.00217	0.00240	-	-	-	0.16794	0.16343	0.18455
Copper, Total	Operations	May	13	0.00229	0.00237	0.00270	-	-	-	0.15533	0.15342	0.17493
Copper, Total	Operations	Jun	13	0.00209	0.00211	0.00235	-	-	-	0.15985	0.15916	0.17732
Copper, Total	Operations	Jul	13	0.00214	0.00216	0.00241	-	-	-	0.16590	0.16942	0.19929
Copper, Total	Operations	Aug	13	0.00210	0.00213	0.00237	-	-	-	0.16946	0.17535	0.20819
Copper, Total	Operations	Sep	13	0.00224	0.00223	0.00250	-	-	-	0.17154	0.17626	0.20743
Copper, Total	Operations	Oct	13	0.00238	0.00249	0.00296	-	-	-	0.17173	0.17496	0.20120
Copper, Total	Operations	Nov	13	0.00259	0.00254	0.00283	-	-	-	0.17587	0.18031	0.21242
Copper, Total	Operations	Dec	13	0.00271	0.00263	0.00294	-	-	-	0.18363	0.18837	0.22626
Copper, Total	Closure	Jan	6	0.00508	0.00481	0.00512	-	-	-	0.11106	0.11407	0.14661
Copper, Total	Closure	Feb	6	0.00508	0.00493	0.00510	-	-	-	0.11039	0.11334	0.14548
Copper, Total	Closure	Mar	6	0.00508	0.00506	0.00512	-	-	-	0.10830	0.11110	0.14205
Copper, Total	Closure	Apr	6	0.00514	0.00512	0.00514	-	-	-	0.10610	0.10874	0.13847
Copper, Total	Closure	May	6	0.00510	0.00510	0.00510	-	-	-	0.10479	0.10734	0.13631
Copper, Total	Closure	Jun	6	0.00509	0.00510	0.00512	-	-	-	0.10443	0.10694	0.13562
Copper, Total	Closure	Jul	6	0.00510	0.00511	0.00512	-	-	-	0.10460	0.10711	0.13572
Copper, Total	Closure	Aug	6	0.00514	0.00514	0.00514	-	-	-	0.10481	0.10730	0.13584
Copper, Total	Closure	Sep	6	0.00512	0.00512	0.00512	-	-	-	0.10444	0.10690	0.13512
Copper, Total	Closure	Oct	6	0.00515	0.00513	0.00515	-	-	-	0.10320	0.10555	0.13308
Copper, Total	Closure	Nov	6	0.00519	0.00516	0.00519	-	-	-	0.10214	0.10442	0.13139
Copper, Total	Closure	Dec	6	0.00518	0.00515	0.00518	-	-	-	0.10163	0.10387	0.13057
Copper, Total	Post-Closure	Jan	109	0.00531	0.00538	0.00573	0.00269	0.00261	0.00403	0.00570	0.01216	0.08248
Copper, Total	Post-Closure	Feb	109	0.00538	0.00544	0.00572	0.00271	0.00263	0.00405	0.00568	0.01211	0.08215
Copper, Total	Post-Closure	Mar	109	0.00574	0.00574	0.00579	0.00276	0.00268	0.00413	0.00561	0.01196	0.08111
Copper, Total	Post-Closure	Apr	109	0.00590	0.00586	0.00591	0.00283	0.00273	0.00422	0.00554	0.01180	0.07999
Copper, Total	Post-Closure	May	109	0.00584	0.00581	0.00585	0.00282	0.00273	0.00420	0.00551	0.01171	0.07920
Copper, Total	Post-Closure	Jun	109	0.00582	0.00580	0.00586	0.00277	0.00269	0.00414	0.00555	0.01169	0.07854
Copper, Total	Post-Closure	Jul	109	0.00581	0.00579	0.00584	0.00275	0.00267	0.00411	0.00564	0.01170	0.07780
Copper, Total	Post-Closure	Aug	109	0.00587	0.00583	0.00587	0.00274	0.00266	0.00409	0.00574	0.01173	0.07704
Copper, Total	Post-Closure	Sep	109	0.00585	0.00582	0.00585	0.00271	0.00264	0.00406	0.00578	0.01170	0.07624
Copper, Total	Post-Closure	Oct	109	0.00591	0.00586	0.00591	0.00267	0.00260	0.00400	0.00576	0.01161	0.07536
Copper, Total	Post-Closure	Nov	109	0.00581	0.00577	0.00586	0.00266	0.00259	0.00398	0.00572	0.01153	0.07479
Copper, Total	Post-Closure	Dec	109	0.00553	0.00556	0.00580	0.00267	0.00261	0.00400	0.00570	0.01149	0.07452
Iron, Total	Construction	Jan	2	0.197	0.197	0.200	-	-	-	-	-	-
Iron, Total	Construction	Feb	2	0.200	0.200	0.200	-	-	-	-	-	-
Iron, Total	Construction	Mar	2	0.200	0.200	0.200	-	-	-	0.011	0.011	0.016
Iron, Total	Construction	Apr	2	0.200	0.200	0.200	-	-	-	0.004	0.004	0.004
Iron, Total	Construction	May	2	0.200	0.200	0.200	-	-	-	0.003	0.003	0.003
Iron, Total	Construction	Jun	2	0.200	0.200	0.200	-	-	-	0.004	0.004	0.004
Iron, Total	Construction	Jul	2	0.200	0.200	0.200	-	-	-	0.004	0.004	0.004
Iron, Total	Construction	Aug	2	0.200	0.200	0.200	-	-	-	0.140	0.140	0.140
Iron, Total	Construction	Sep	2	0.200	0.200	0.200	-	-	-	0.097	0.097	0.187
Iron, Total	Construction	Oct	2	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Construction	Nov	2	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Iron, Total	Construction	Dec	2	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Operations	Jan	13	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Operations	Feb	13	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Operations	Mar	13	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Operations	Apr	13	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Operations	May	13	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Operations	Jun	13	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Operations	Jul	13	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Operations	Aug	13	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Operations	Sep	13	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Operations	Oct	13	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Operations	Nov	13	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Operations	Dec	13	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Closure	Jan	6	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Closure	Feb	6	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Closure	Mar	6	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Closure	Apr	6	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Closure	May	6	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Closure	Jun	6	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Closure	Jul	6	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Closure	Aug	6	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Closure	Sep	6	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Closure	Oct	6	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Closure	Nov	6	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Closure	Dec	6	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Post-Closure	Jan	109	0.200	0.200	0.200	0.167	0.161	0.179	0.200	0.200	0.200
Iron, Total	Post-Closure	Feb	109	0.200	0.200	0.200	0.167	0.161	0.179	0.200	0.200	0.200
Iron, Total	Post-Closure	Mar	109	0.200	0.200	0.200	0.166	0.161	0.178	0.200	0.200	0.200
Iron, Total	Post-Closure	Apr	109	0.200	0.200	0.200	0.166	0.160	0.178	0.200	0.200	0.200
Iron, Total	Post-Closure	May	109	0.200	0.200	0.200	0.166	0.160	0.178	0.200	0.200	0.200
Iron, Total	Post-Closure	Jun	109	0.200	0.200	0.200	0.166	0.160	0.178	0.200	0.200	0.200
Iron, Total	Post-Closure	Jul	109	0.200	0.200	0.200	0.167	0.161	0.179	0.200	0.200	0.200
Iron, Total	Post-Closure	Aug	109	0.200	0.200	0.200	0.167	0.161	0.179	0.200	0.200	0.200
Iron, Total	Post-Closure	Sep	109	0.200	0.200	0.200	0.167	0.161	0.179	0.200	0.200	0.200
Iron, Total	Post-Closure	Oct	109	0.200	0.200	0.200	0.167	0.161	0.179	0.200	0.200	0.200
Iron, Total	Post-Closure	Nov	109	0.200	0.200	0.200	0.167	0.161	0.179	0.200	0.200	0.200
Iron, Total	Post-Closure	Dec	109	0.200	0.200	0.200	0.167	0.161	0.179	0.200	0.200	0.200
Lead, Dissolved	Construction	Jan	2	0.000044	0.000044	0.000047	-	-	-	-	-	-
Lead, Dissolved	Construction	Feb	2	0.000051	0.000051	0.000051	-	-	-	-	-	-
Lead, Dissolved	Construction	Mar	2	0.000058	0.000058	0.000059	-	-	-	0.000002	0.000002	0.000003
Lead, Dissolved	Construction	Apr	2	0.000063	0.000063	0.000063	-	-	-	0.000001	0.000001	0.000001
Lead, Dissolved	Construction	May	2	0.000065	0.000065	0.000066	-	-	-	0.000001	0.000001	0.000001
Lead, Dissolved	Construction	Jun	2	0.000064	0.000064	0.000064	-	-	-	0.000001	0.000001	0.000001
Lead, Dissolved	Construction	Jul	2	0.000059	0.000059	0.000061	-	-	-	0.000001	0.000001	0.000001
Lead, Dissolved	Construction	Aug	2	0.000058	0.000058	0.000060	-	-	-	0.000041	0.000041	0.000041
Lead, Dissolved	Construction	Sep	2	0.000054	0.000054	0.000055	-	-	-	0.000300	0.000300	0.000597
Lead, Dissolved	Construction	Oct	2	0.000052	0.000052	0.000055	-	-	-	0.000427	0.000427	0.000427
Lead, Dissolved	Construction	Nov	2	0.000050	0.000050	0.000053	-	-	-	0.000400	0.000400	0.000400
Lead, Dissolved	Construction	Dec	2	0.000050	0.000050	0.000053	-	-	-	0.000402	0.000402	0.000402
Lead, Dissolved	Operations	Jan	13	0.000091	0.000097	0.000133	-	-	-	0.000451	0.000446	0.000456
Lead, Dissolved	Operations	Feb	13	0.000089	0.000092	0.000120	-	-	-	0.000444	0.000441	0.000452
Lead, Dissolved	Operations	Mar	13	0.000086	0.000086	0.000102	-	-	-	0.000412	0.000399	0.000437
Lead, Dissolved	Operations	Apr	13	0.000089	0.000086	0.000099	-	-	-	0.000379	0.000367	0.000414
Lead, Dissolved	Operations	May	13	0.000092	0.000089	0.000106	-	-	-	0.000361	0.000360	0.000398
Lead, Dissolved	Operations	Jun	13	0.000090	0.000089	0.000100	-	-	-	0.000402	0.000398	0.000444
Lead, Dissolved	Operations	Jul	13	0.000090	0.000089	0.000101	-	-	-	0.000433	0.000458	0.000554
Lead, Dissolved	Operations	Aug	13	0.000090	0.000088	0.000100	-	-	-	0.000481	0.000499	0.000601
Lead, Dissolved	Operations	Sep	13	0.000090	0.000089	0.000103	-	-	-	0.000485	0.000496	0.000548
Lead, Dissolved	Operations	Oct	13	0.000095	0.000093	0.000115	-	-	-	0.000471	0.000467	0.000483
Lead, Dissolved	Operations	Nov	13	0.000102	0.000094	0.000113	-	-	-	0.000461	0.000454	0.000467
Lead, Dissolved	Operations	Dec	13	0.000108	0.000098	0.000122	-	-	-	0.000455	0.000452	0.000460
Lead, Dissolved	Closure	Jan	6	0.000174	0.000167	0.000176	-	-	-	0.000497	0.000492	0.000531
Lead, Dissolved	Closure	Feb	6	0.000174	0.000170	0.000175	-	-	-	0.000494	0.000489	0.000529
Lead, Dissolved	Closure	Mar	6	0.000174	0.000174	0.000176	-	-	-	0.000485	0.000480	0.000520
Lead, Dissolved	Closure	Apr	6	0.000177	0.000176	0.000177	-	-	-	0.000476	0.000471	0.000511
Lead, Dissolved	Closure	May	6	0.000176	0.000176	0.000176	-	-	-	0.000473	0.000468	0.000509
Lead, Dissolved	Closure	Jun	6	0.000175	0.000175	0.000177	-	-	-	0.000480	0.000476	0.000515
Lead, Dissolved	Closure	Jul	6	0.000174	0.000175	0.000176	-	-	-	0.000496	0.000492	0.000529
Lead, Dissolved	Closure	Aug	6	0.000176	0.000176	0.000176	-	-	-	0.000514	0.000511	0.000545
Lead, Dissolved	Closure	Sep	6	0.000175	0.000175	0.000175	-	-	-	0.000524	0.000520	0.000553
Lead, Dissolved	Closure	Oct	6	0.000178	0.000176	0.000178	-	-	-	0.000522	0.000518	0.000551
Lead, Dissolved	Closure	Nov	6	0.000180	0.000178	0.000180	-	-	-	0.000518	0.000514	0.000547
Lead, Dissolved	Closure	Dec	6	0.000179	0.000178	0.000179	-	-	-	0.000515	0.000512	0.000545
Lead, Dissolved	Post-Closure	Jan	109	0.000354	0.000361	0.000402	0.000263	0.000224	0.000288	0.000197	0.000226	0.000543
Lead, Dissolved	Post-Closure	Feb	109	0.000361	0.000368	0.000401	0.000263	0.000224	0.000288	0.000196	0.000225	0.000541
Lead, Dissolved	Post-Closure	Mar	109	0.000402	0.000402	0.000408	0.000262	0.000223	0.000287	0.000194	0.000222	0.000534
Lead, Dissolved	Post-Closure	Apr	109	0.000419	0.000416	0.000421	0.000262	0.000223	0.000287	0.000191	0.000219	0.000527
Lead, Dissolved	Post-Closure	May	109	0.000416	0.000413	0.000417	0.000262	0.000223	0.000286	0.000190	0.000218	0.000522
Lead, Dissolved	Post-Closure	Jun	109	0.000414	0.000413	0.000419	0.000262	0.000223	0.000287	0.000192	0.000219	0.000521
Lead, Dissolved	Post-Closure	Jul	109	0.000413	0.000411	0.000416	0.000263	0.000224	0.000288	0.000195	0.000222	0.000520
Lead, Dissolved	Post-Closure	Aug	109	0.000419	0.000415	0.000419	0.000264	0.000225	0.000288	0.000198	0.000225	0.000520
Lead, Dissolved	Post-Closure	Sep	109	0.000417	0.000413	0.000417	0.000264	0.000226	0.000289	0.000200	0.000227	0.000517
Lead, Dissolved	Post-Closure	Oct	109	0.000424	0.000418	0.000424	0.000264	0.000226	0.000289	0.000199	0.000225	0.000513
Lead, Dissolved	Post-Closure	Nov	109	0.000411	0.000408	0.000417	0.000264	0.000226	0.000288	0.000198	0.000224	0.000509
Lead, Dissolved	Post-Closure	Dec	109	0.000378	0.000383	0.000410	0.000264	0.000226	0.000288	0.000197	0.000223	0.000507
Lead, Total	Construction	Jan	2	0.003715	0.003715	0.003970	-	-	-	-	-	-
Lead, Total	Construction	Feb	2	0.003099	0.003099	0.003240	-	-	-	-	-	-
Lead, Total	Construction	Mar	2	0.002161	0.002161	0.002344	-	-	-	0.000002	0.000002	0.000003
Lead, Total	Construction	Apr	2	0.001789	0.001789	0.002021	-	-	-	0.000001	0.000001	0.000001
Lead, Total	Construction	May	2	0.001586	0.001586	0.001770	-	-	-	0.000001	0.000001	0.000001
Lead, Total	Construction	Jun	2	0.001897	0.001897	0.002109	-	-	-	0.000001	0.000001	0.000001
Lead, Total	Construction	Jul	2	0.002228	0.002228	0.002544	-	-	-	0.000001	0.000001	0.000001
Lead, Total	Construction	Aug	2	0.002237	0.002237	0.002575	-	-	-	0.000050	0.000050	0.000050
Lead, Total	Construction	Sep	2	0.002216	0.002216	0.002756	-	-	-	0.000638	0.000638	0.001273
Lead, Total	Construction	Oct	2	0.002661	0.002661	0.003163	-	-	-	0.000983	0.000983	0.000983
Lead, Total	Construction	Nov	2	0.002882	0.002882	0.003408	-	-	-	0.000967	0.000967	0.000967
Lead, Total	Construction	Dec	2	0.002976	0.002976	0.003524	-	-	-	0.001001	0.001001	0.001001

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Lead, Total	Operations	Jan	13	0.000565	0.000801	0.002283	-	-	-	0.001097	0.001110	0.001210
Lead, Total	Operations	Feb	13	0.000375	0.000514	0.001822	-	-	-	0.001111	0.001115	0.001191
Lead, Total	Operations	Mar	13	0.000211	0.000316	0.001172	-	-	-	0.001047	0.001011	0.001065
Lead, Total	Operations	Apr	13	0.000342	0.000459	0.001302	-	-	-	0.000956	0.000922	0.001009
Lead, Total	Operations	May	13	0.000444	0.000575	0.001365	-	-	-	0.000887	0.000880	0.000972
Lead, Total	Operations	Jun	13	0.000314	0.000375	0.000579	-	-	-	0.000931	0.000936	0.001011
Lead, Total	Operations	Jul	13	0.000322	0.000384	0.000612	-	-	-	0.000990	0.001027	0.001183
Lead, Total	Operations	Aug	13	0.000307	0.000370	0.000582	-	-	-	0.001037	0.001084	0.001241
Lead, Total	Operations	Sep	13	0.000348	0.000421	0.000666	-	-	-	0.001061	0.001085	0.001208
Lead, Total	Operations	Oct	13	0.000478	0.000569	0.001135	-	-	-	0.001048	0.001054	0.001138
Lead, Total	Operations	Nov	13	0.000455	0.000611	0.001291	-	-	-	0.001052	0.001061	0.001158
Lead, Total	Operations	Dec	13	0.000509	0.000650	0.001329	-	-	-	0.001078	0.001089	0.001227
Lead, Total	Closure	Jan	6	0.000654	0.000633	0.000656	-	-	-	0.000850	0.000857	0.000929
Lead, Total	Closure	Feb	6	0.000654	0.000642	0.000655	-	-	-	0.000845	0.000851	0.000922
Lead, Total	Closure	Mar	6	0.000653	0.000651	0.000656	-	-	-	0.000829	0.000835	0.000900
Lead, Total	Closure	Apr	6	0.000657	0.000656	0.000657	-	-	-	0.000813	0.000818	0.000878
Lead, Total	Closure	May	6	0.000665	0.000665	0.000665	-	-	-	0.000806	0.000811	0.000868
Lead, Total	Closure	Jun	6	0.000673	0.000673	0.000675	-	-	-	0.000811	0.000816	0.000874
Lead, Total	Closure	Jul	6	0.000664	0.000664	0.000665	-	-	-	0.000826	0.000831	0.000893
Lead, Total	Closure	Aug	6	0.000663	0.000663	0.000663	-	-	-	0.000843	0.000848	0.000913
Lead, Total	Closure	Sep	6	0.000660	0.000659	0.000660	-	-	-	0.000850	0.000856	0.000921
Lead, Total	Closure	Oct	6	0.000659	0.000658	0.000659	-	-	-	0.000844	0.000849	0.000912
Lead, Total	Closure	Nov	6	0.000661	0.000659	0.000661	-	-	-	0.000836	0.000841	0.000902
Lead, Total	Closure	Dec	6	0.000659	0.000658	0.000659	-	-	-	0.000832	0.000837	0.000897
Lead, Total	Post-Closure	Jan	109	0.001046	0.001052	0.001093	0.000606	0.000503	0.000669	0.000199	0.000249	0.000787
Lead, Total	Post-Closure	Feb	109	0.001053	0.001059	0.001092	0.000606	0.000503	0.000668	0.000199	0.000248	0.000784
Lead, Total	Post-Closure	Mar	109	0.001094	0.001094	0.001099	0.000605	0.000503	0.000667	0.000196	0.000245	0.000774
Lead, Total	Post-Closure	Apr	109	0.001111	0.001107	0.001112	0.000604	0.000502	0.000666	0.000194	0.000242	0.000764
Lead, Total	Post-Closure	May	109	0.001128	0.001125	0.001129	0.000604	0.000502	0.000665	0.000193	0.000240	0.000757
Lead, Total	Post-Closure	Jun	109	0.001140	0.001138	0.001145	0.000605	0.000503	0.000666	0.000194	0.000241	0.000753
Lead, Total	Post-Closure	Jul	109	0.001119	0.001117	0.001122	0.000607	0.000506	0.000668	0.000197	0.000244	0.000750
Lead, Total	Post-Closure	Aug	109	0.001120	0.001116	0.001120	0.000609	0.000508	0.000670	0.000201	0.000247	0.000747
Lead, Total	Post-Closure	Sep	109	0.001114	0.001110	0.001114	0.000610	0.000509	0.000671	0.000203	0.000248	0.000742
Lead, Total	Post-Closure	Oct	109	0.001117	0.001111	0.001118	0.000610	0.000510	0.000671	0.000202	0.000246	0.000735
Lead, Total	Post-Closure	Nov	109	0.001104	0.001100	0.001109	0.000609	0.000509	0.000670	0.000201	0.000245	0.000729
Lead, Total	Post-Closure	Dec	109	0.001071	0.001075	0.001102	0.000609	0.000509	0.000669	0.000200	0.000244	0.000727
Manganese, Dissolv	Construction	Jan	2	0.459	0.459	0.636	-	-	-	-	-	-
Manganese, Dissolv	Construction	Feb	2	0.431	0.431	0.533	-	-	-	-	-	-
Manganese, Dissolv	Construction	Mar	2	0.385	0.385	0.410	-	-	-	0.037	0.037	0.056
Manganese, Dissolv	Construction	Apr	2	0.354	0.354	0.367	-	-	-	0.013	0.013	0.013
Manganese, Dissolv	Construction	May	2	0.242	0.242	0.246	-	-	-	0.011	0.011	0.011
Manganese, Dissolv	Construction	Jun	2	0.230	0.230	0.243	-	-	-	0.011	0.011	0.011
Manganese, Dissolv	Construction	Jul	2	0.155	0.155	0.169	-	-	-	0.009	0.009	0.009
Manganese, Dissolv	Construction	Aug	2	0.109	0.109	0.112	-	-	-	0.199	0.199	0.199
Manganese, Dissolv	Construction	Sep	2	0.073	0.073	0.080	-	-	-	0.247	0.247	0.485
Manganese, Dissolv	Construction	Oct	2	0.059	0.059	0.060	-	-	-	0.156	0.156	0.156
Manganese, Dissolv	Construction	Nov	2	0.117	0.117	0.121	-	-	-	0.110	0.110	0.110
Manganese, Dissolv	Construction	Dec	2	0.218	0.218	0.225	-	-	-	0.094	0.094	0.094
Manganese, Dissolv	Operations	Jan	13	0.257	0.269	0.351	-	-	-	0.094	0.087	0.114
Manganese, Dissolv	Operations	Feb	13	0.189	0.207	0.313	-	-	-	0.083	0.081	0.109
Manganese, Dissolv	Operations	Mar	13	0.139	0.164	0.319	-	-	-	0.089	0.088	0.106
Manganese, Dissolv	Operations	Apr	13	0.203	0.227	0.387	-	-	-	0.089	0.088	0.103
Manganese, Dissolv	Operations	May	13	0.181	0.200	0.315	-	-	-	0.093	0.095	0.113
Manganese, Dissolv	Operations	Jun	13	0.132	0.136	0.155	-	-	-	0.113	0.118	0.168
Manganese, Dissolv	Operations	Jul	13	0.096	0.096	0.100	-	-	-	0.137	0.151	0.230
Manganese, Dissolv	Operations	Aug	13	0.092	0.092	0.094	-	-	-	0.155	0.169	0.245
Manganese, Dissolv	Operations	Sep	13	0.078	0.078	0.081	-	-	-	0.156	0.160	0.200
Manganese, Dissolv	Operations	Oct	13	0.075	0.073	0.080	-	-	-	0.144	0.134	0.158
Manganese, Dissolv	Operations	Nov	13	0.131	0.131	0.134	-	-	-	0.129	0.113	0.157
Manganese, Dissolv	Operations	Dec	13	0.214	0.215	0.237	-	-	-	0.114	0.101	0.156
Manganese, Dissolv	Closure	Jan	6	0.286	0.281	0.286	-	-	-	0.272	0.262	0.344
Manganese, Dissolv	Closure	Feb	6	0.322	0.320	0.323	-	-	-	0.271	0.261	0.342
Manganese, Dissolv	Closure	Mar	6	0.361	0.360	0.362	-	-	-	0.267	0.257	0.338
Manganese, Dissolv	Closure	Apr	6	0.371	0.371	0.371	-	-	-	0.264	0.254	0.334
Manganese, Dissolv	Closure	May	6	0.280	0.280	0.280	-	-	-	0.265	0.255	0.334
Manganese, Dissolv	Closure	Jun	6	0.227	0.227	0.227	-	-	-	0.272	0.264	0.340
Manganese, Dissolv	Closure	Jul	6	0.141	0.141	0.142	-	-	-	0.286	0.278	0.353
Manganese, Dissolv	Closure	Aug	6	0.119	0.119	0.119	-	-	-	0.301	0.293	0.366
Manganese, Dissolv	Closure	Sep	6	0.092	0.092	0.092	-	-	-	0.310	0.302	0.373
Manganese, Dissolv	Closure	Oct	6	0.083	0.083	0.083	-	-	-	0.310	0.302	0.372
Manganese, Dissolv	Closure	Nov	6	0.148	0.148	0.148	-	-	-	0.307	0.300	0.369
Manganese, Dissolv	Closure	Dec	6	0.239	0.238	0.239	-	-	-	0.306	0.299	0.368
Manganese, Dissolv	Post-Closure	Jan	109	0.523	0.552	0.676	0.286	0.257	0.310	0.222	0.234	0.367
Manganese, Dissolv	Post-Closure	Feb	109	0.577	0.612	0.757	0.286	0.257	0.310	0.221	0.233	0.365
Manganese, Dissolv	Post-Closure	Mar	109	0.741	0.760	0.832	0.286	0.257	0.309	0.220	0.232	0.362
Manganese, Dissolv	Post-Closure	Apr	109	0.761	0.779	0.849	0.286	0.257	0.309	0.218	0.230	0.359
Manganese, Dissolv	Post-Closure	May	109	0.560	0.575	0.633	0.286	0.257	0.309	0.218	0.230	0.357
Manganese, Dissolv	Post-Closure	Jun	109	0.484	0.491	0.518	0.286	0.258	0.309	0.220	0.231	0.357
Manganese, Dissolv	Post-Closure	Jul	109	0.316	0.318	0.326	0.287	0.258	0.310	0.223	0.234	0.359
Manganese, Dissolv	Post-Closure	Aug	109	0.275	0.275	0.276	0.288	0.259	0.311	0.225	0.236	0.360
Manganese, Dissolv	Post-Closure	Sep	109	0.218	0.218	0.218	0.288	0.259	0.311	0.226	0.237	0.359
Manganese, Dissolv	Post-Closure	Oct	109	0.200	0.198	0.201	0.288	0.259	0.310	0.224	0.236	0.356
Manganese, Dissolv	Post-Closure	Nov	109	0.321	0.323	0.338	0.287	0.258	0.310	0.223	0.234	0.353
Manganese, Dissolv	Post-Closure	Dec	109	0.475	0.493	0.565	0.287	0.258	0.310	0.222	0.233	0.352
Mercury, Dissolved	Construction	Jan	2	0.0000011	0.0000011	0.0000011	-	-	-	-	-	-
Mercury, Dissolved	Construction	Feb	2	0.0000012	0.0000012	0.0000012	-	-	-	-	-	-
Mercury, Dissolved	Construction	Mar	2	0.0000013	0.0000013	0.0000013	-	-	-	0.0000001	0.0000001	0.0000001
Mercury, Dissolved	Construction	Apr	2	0.0000014	0.0000014	0.0000014	-	-	-	0.00000002	0.00000002	0.00000002
Mercury, Dissolved	Construction	May	2	0.0000014	0.0000014	0.0000014	-	-	-	0.00000002	0.00000002	0.00000002
Mercury, Dissolved	Construction	Jun	2	0.0000015	0.0000015	0.0000015	-	-	-	0.00000002	0.00000002	0.00000002
Mercury, Dissolved	Construction	Jul	2	0.0000014	0.0000014	0.0000014	-	-	-	0.00000002	0.00000002	0.00000002
Mercury, Dissolved	Construction	Aug	2	0.0000013	0.0000013	0.0000014	-	-	-	0.0000012	0.0000012	0.0000012
Mercury, Dissolved	Construction	Sep	2	0.0000012	0.0000012	0.0000012	-	-	-	0.0000119	0.0000119	0.0000237
Mercury, Dissolved	Construction	Oct	2	0.0000011	0.0000011	0.0000011	-	-	-	0.0000141	0.0000141	0.0000141
Mercury, Dissolved	Construction	Nov	2	0.0000011	0.0000011	0.0000011	-	-	-	0.0000107	0.0000107	0.0000107
Mercury, Dissolved	Construction	Dec	2	0.0000011	0.0000011	0.0000011	-	-	-	0.0000089	0.0000089	0.0000089
Mercury, Dissolved	Operations	Jan	13	0.0000014	0.0000014	0.0000015	-	-	-	0.0000111	0.0000096	0.0000130

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Mercury, Dissolved	Operations	Feb	13	0.0000015	0.0000015	0.0000015	-	-	-	0.0000094	0.0000086	0.0000124
Mercury, Dissolved	Operations	Mar	13	0.0000015	0.0000015	0.0000016	-	-	-	0.0000077	0.0000073	0.0000116
Mercury, Dissolved	Operations	Apr	13	0.0000015	0.0000015	0.0000015	-	-	-	0.0000063	0.0000066	0.0000106
Mercury, Dissolved	Operations	May	13	0.0000015	0.0000014	0.0000015	-	-	-	0.0000072	0.0000074	0.0000102
Mercury, Dissolved	Operations	Jun	13	0.0000015	0.0000015	0.0000016	-	-	-	0.0000101	0.0000108	0.0000167
Mercury, Dissolved	Operations	Jul	13	0.0000015	0.0000015	0.0000016	-	-	-	0.0000140	0.0000160	0.0000271
Mercury, Dissolved	Operations	Aug	13	0.0000015	0.0000015	0.0000016	-	-	-	0.0000176	0.0000198	0.0000317
Mercury, Dissolved	Operations	Sep	13	0.0000015	0.0000015	0.0000015	-	-	-	0.0000180	0.0000192	0.0000258
Mercury, Dissolved	Operations	Oct	13	0.0000014	0.0000014	0.0000015	-	-	-	0.0000169	0.0000161	0.0000193
Mercury, Dissolved	Operations	Nov	13	0.0000014	0.0000014	0.0000015	-	-	-	0.0000151	0.0000135	0.0000177
Mercury, Dissolved	Operations	Dec	13	0.0000014	0.0000014	0.0000015	-	-	-	0.0000137	0.0000117	0.0000175
Mercury, Dissolved	Closure	Jan	6	0.0000013	0.0000013	0.0000014	-	-	-	0.0000333	0.0000320	0.0000431
Mercury, Dissolved	Closure	Feb	6	0.0000013	0.0000013	0.0000014	-	-	-	0.0000331	0.0000318	0.0000429
Mercury, Dissolved	Closure	Mar	6	0.0000013	0.0000013	0.0000013	-	-	-	0.0000325	0.0000312	0.0000422
Mercury, Dissolved	Closure	Apr	6	0.0000013	0.0000013	0.0000013	-	-	-	0.0000319	0.0000306	0.0000415
Mercury, Dissolved	Closure	May	6	0.0000014	0.0000014	0.0000014	-	-	-	0.0000319	0.0000307	0.0000414
Mercury, Dissolved	Closure	Jun	6	0.0000014	0.0000014	0.0000014	-	-	-	0.0000329	0.0000317	0.0000423
Mercury, Dissolved	Closure	Jul	6	0.0000013	0.0000013	0.0000014	-	-	-	0.0000349	0.0000337	0.0000440
Mercury, Dissolved	Closure	Aug	6	0.0000013	0.0000013	0.0000013	-	-	-	0.0000370	0.0000360	0.0000459
Mercury, Dissolved	Closure	Sep	6	0.0000013	0.0000013	0.0000013	-	-	-	0.0000383	0.0000373	0.0000470
Mercury, Dissolved	Closure	Oct	6	0.0000012	0.0000012	0.0000012	-	-	-	0.0000384	0.0000374	0.0000469
Mercury, Dissolved	Closure	Nov	6	0.0000013	0.0000013	0.0000013	-	-	-	0.0000381	0.0000371	0.0000466
Mercury, Dissolved	Closure	Dec	6	0.0000013	0.0000013	0.0000013	-	-	-	0.0000380	0.0000370	0.0000464
Mercury, Dissolved	Post-Closure	Jan	109	0.0000011	0.0000011	0.0000014	0.0000064	0.0000054	0.0000064	0.0000224	0.0000244	0.0000462
Mercury, Dissolved	Post-Closure	Feb	109	0.0000011	0.0000012	0.0000014	0.0000064	0.0000054	0.0000064	0.0000223	0.0000243	0.0000461
Mercury, Dissolved	Post-Closure	Mar	109	0.0000013	0.0000013	0.0000014	0.0000064	0.0000054	0.0000064	0.0000220	0.0000240	0.0000455
Mercury, Dissolved	Post-Closure	Apr	109	0.0000014	0.0000014	0.0000015	0.0000063	0.0000054	0.0000064	0.0000218	0.0000237	0.0000449
Mercury, Dissolved	Post-Closure	May	109	0.0000014	0.0000015	0.0000016	0.0000063	0.0000054	0.0000064	0.0000217	0.0000236	0.0000445
Mercury, Dissolved	Post-Closure	Jun	109	0.0000015	0.0000015	0.0000016	0.0000063	0.0000054	0.0000064	0.0000218	0.0000237	0.0000445
Mercury, Dissolved	Post-Closure	Jul	109	0.0000014	0.0000015	0.0000015	0.0000064	0.0000054	0.0000064	0.0000222	0.0000241	0.0000446
Mercury, Dissolved	Post-Closure	Aug	109	0.0000014	0.0000014	0.0000015	0.0000064	0.0000054	0.0000064	0.0000226	0.0000245	0.0000447
Mercury, Dissolved	Post-Closure	Sep	109	0.0000012	0.0000012	0.0000013	0.0000064	0.0000054	0.0000064	0.0000228	0.0000246	0.0000446
Mercury, Dissolved	Post-Closure	Oct	109	0.0000012	0.0000012	0.0000012	0.0000064	0.0000054	0.0000064	0.0000227	0.0000245	0.0000443
Mercury, Dissolved	Post-Closure	Nov	109	0.0000011	0.0000012	0.0000013	0.0000064	0.0000054	0.0000064	0.0000226	0.0000244	0.0000440
Mercury, Dissolved	Post-Closure	Dec	109	0.0000011	0.0000011	0.0000014	0.0000064	0.0000054	0.0000064	0.0000225	0.0000243	0.0000438
Mercury, Total	Construction	Jan	2	0.0000019	0.0000019	0.0000022	-	-	-	-	-	-
Mercury, Total	Construction	Feb	2	0.0000019	0.0000019	0.0000021	-	-	-	-	-	-
Mercury, Total	Construction	Mar	2	0.0000019	0.0000019	0.0000020	-	-	-	0.0000001	0.0000001	0.0000002
Mercury, Total	Construction	Apr	2	0.0000019	0.0000019	0.0000019	-	-	-	0.0000000	0.0000000	0.0000000
Mercury, Total	Construction	May	2	0.0000018	0.0000018	0.0000018	-	-	-	0.0000000	0.0000000	0.0000000
Mercury, Total	Construction	Jun	2	0.0000019	0.0000019	0.0000019	-	-	-	0.0000000	0.0000000	0.0000000
Mercury, Total	Construction	Jul	2	0.0000017	0.0000017	0.0000017	-	-	-	0.0000000	0.0000000	0.0000000
Mercury, Total	Construction	Aug	2	0.0000016	0.0000016	0.0000016	-	-	-	0.0000015	0.0000015	0.0000015
Mercury, Total	Construction	Sep	2	0.0000014	0.0000014	0.0000015	-	-	-	0.0000121	0.0000121	0.0000242
Mercury, Total	Construction	Oct	2	0.0000014	0.0000014	0.0000014	-	-	-	0.0000142	0.0000142	0.0000142
Mercury, Total	Construction	Nov	2	0.0000015	0.0000015	0.0000015	-	-	-	0.0000107	0.0000107	0.0000107
Mercury, Total	Construction	Dec	2	0.0000016	0.0000016	0.0000016	-	-	-	0.0000090	0.0000090	0.0000090
Mercury, Total	Operations	Jan	13	0.0000017	0.0000017	0.0000018	-	-	-	0.0000111	0.0000096	0.0000130
Mercury, Total	Operations	Feb	13	0.0000017	0.0000017	0.0000018	-	-	-	0.0000095	0.0000086	0.0000124
Mercury, Total	Operations	Mar	13	0.0000017	0.0000017	0.0000018	-	-	-	0.0000077	0.0000073	0.0000116
Mercury, Total	Operations	Apr	13	0.0000017	0.0000017	0.0000019	-	-	-	0.0000063	0.0000066	0.0000106
Mercury, Total	Operations	May	13	0.0000017	0.0000017	0.0000018	-	-	-	0.0000072	0.0000075	0.0000103
Mercury, Total	Operations	Jun	13	0.0000017	0.0000017	0.0000017	-	-	-	0.0000101	0.0000109	0.0000168
Mercury, Total	Operations	Jul	13	0.0000016	0.0000016	0.0000016	-	-	-	0.0000141	0.0000161	0.0000271
Mercury, Total	Operations	Aug	13	0.0000016	0.0000016	0.0000016	-	-	-	0.0000176	0.0000198	0.0000317
Mercury, Total	Operations	Sep	13	0.0000015	0.0000015	0.0000016	-	-	-	0.0000180	0.0000192	0.0000258
Mercury, Total	Operations	Oct	13	0.0000015	0.0000015	0.0000015	-	-	-	0.0000170	0.0000162	0.0000193
Mercury, Total	Operations	Nov	13	0.0000015	0.0000015	0.0000016	-	-	-	0.0000152	0.0000135	0.0000177
Mercury, Total	Operations	Dec	13	0.0000017	0.0000017	0.0000017	-	-	-	0.0000137	0.0000117	0.0000175
Mercury, Total	Closure	Jan	6	0.0000017	0.0000017	0.0000017	-	-	-	0.0000334	0.0000320	0.0000432
Mercury, Total	Closure	Feb	6	0.0000017	0.0000017	0.0000018	-	-	-	0.0000332	0.0000319	0.0000430
Mercury, Total	Closure	Mar	6	0.0000018	0.0000018	0.0000018	-	-	-	0.0000326	0.0000313	0.0000423
Mercury, Total	Closure	Apr	6	0.0000018	0.0000018	0.0000018	-	-	-	0.0000320	0.0000307	0.0000416
Mercury, Total	Closure	May	6	0.0000018	0.0000018	0.0000018	-	-	-	0.0000320	0.0000308	0.0000415
Mercury, Total	Closure	Jun	6	0.0000017	0.0000017	0.0000017	-	-	-	0.0000330	0.0000318	0.0000423
Mercury, Total	Closure	Jul	6	0.0000015	0.0000015	0.0000015	-	-	-	0.0000349	0.0000338	0.0000441
Mercury, Total	Closure	Aug	6	0.0000015	0.0000015	0.0000015	-	-	-	0.0000371	0.0000360	0.0000460
Mercury, Total	Closure	Sep	6	0.0000014	0.0000014	0.0000014	-	-	-	0.0000384	0.0000373	0.0000470
Mercury, Total	Closure	Oct	6	0.0000014	0.0000014	0.0000014	-	-	-	0.0000385	0.0000374	0.0000470
Mercury, Total	Closure	Nov	6	0.0000015	0.0000015	0.0000015	-	-	-	0.0000382	0.0000372	0.0000467
Mercury, Total	Closure	Dec	6	0.0000016	0.0000016	0.0000016	-	-	-	0.0000380	0.0000370	0.0000465
Mercury, Total	Post-Closure	Jan	109	0.0000017	0.0000018	0.0000022	0.0000067	0.0000056	0.0000067	0.0000225	0.0000245	0.0000463
Mercury, Total	Post-Closure	Feb	109	0.0000018	0.0000019	0.0000023	0.0000067	0.0000056	0.0000067	0.0000224	0.0000244	0.0000461
Mercury, Total	Post-Closure	Mar	109	0.0000022	0.0000022	0.0000024	0.0000066	0.0000056	0.0000067	0.0000222	0.0000241	0.0000456
Mercury, Total	Post-Closure	Apr	109	0.0000022	0.0000023	0.0000025	0.0000066	0.0000056	0.0000067	0.0000219	0.0000238	0.0000449
Mercury, Total	Post-Closure	May	109	0.0000021	0.0000021	0.0000023	0.0000066	0.0000056	0.0000067	0.0000218	0.0000237	0.0000446
Mercury, Total	Post-Closure	Jun	109	0.0000021	0.0000021	0.0000023	0.0000066	0.0000056	0.0000067	0.0000219	0.0000238	0.0000446
Mercury, Total	Post-Closure	Jul	109	0.0000018	0.0000018	0.0000018	0.0000067	0.0000056	0.0000067	0.0000223	0.0000242	0.0000447
Mercury, Total	Post-Closure	Aug	109	0.0000017	0.0000017	0.0000017	0.0000067	0.0000057	0.0000067	0.0000227	0.0000246	0.0000448
Mercury, Total	Post-Closure	Sep	109	0.0000015	0.0000015	0.0000015	0.0000067	0.0000057	0.0000067	0.0000229	0.0000247	0.0000447
Mercury, Total	Post-Closure	Oct	109	0.0000014	0.0000014	0.0000015	0.0000067	0.0000057	0.0000067	0.0000228	0.0000246	0.0000444
Mercury, Total	Post-Closure	Nov	109	0.0000015	0.0000015	0.0000017	0.0000067	0.0000057	0.0000067	0.0000227	0.0000245	0.0000441
Mercury, Total	Post-Closure	Dec	109	0.0000016	0.0000017	0.0000020	0.0000067	0.0000057	0.0000067	0.0000226	0.0000244	0.0000439
Molybdenum, Total	Construction	Jan	2	0.000347	0.000347	0.000479	-	-	-	-	-	-
Molybdenum, Total	Construction	Feb	2	0.000443	0.000443	0.000532	-	-	-	-	-	-
Molybdenum, Total	Construction	Mar	2	0.000571	0.000571	0.000658	-	-	-	0.000037	0.000037	0.000067
Molybdenum, Total	Construction	Apr	2	0.000632	0.000632	0.000727	-	-	-	0.000001	0.000001	0.000001
Molybdenum, Total	Construction	May	2	0.000710	0.000710	0.000839	-	-	-	0.000018	0.000018	0.000018
Molybdenum, Total	Construction	Jun	2	0.000679	0.000679	0.000801	-	-	-	0.000004	0.000004	0.000004
Molybdenum, Total	Construction	Jul	2	0.000661	0.000661	0.000816	-	-	-	0.000006	0.000006	0.000006
Molybdenum, Total	Construction	Aug	2	0.000679	0.000679	0.000846	-	-	-	0.000573	0.000573	0.000573
Molybdenum, Total	Construction	Sep	2	0.000649	0.000649	0.000780	-	-	-	0.008876	0.008876	0.017716
Molybdenum, Total	Construction	Oct	2	0.000689	0.000689	0.000892	-	-	-	0.012183	0.012183	0.012183
Molybdenum, Total	Construction	Nov	2	0.000700	0.000700	0.000931	-	-	-	0.011701	0.011701	0.011701
Molybdenum, Total	Construction	Dec	2	0.000710	0.000710	0.000953	-	-	-	0.011964	0.011964	0.011964
Molybdenum, Total	Operations	Jan	13	0.006546	0.006738	0.012007	-	-	-	0.047200	0.048119	0.079273
Molybdenum, Total	Operations	Feb	13	0.003988	0.004286	0.007896	-	-	-	0.048564	0.050719	0.089457

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Molybdenum, Total	Operations	Mar	13	0.002455	0.002684	0.005046	-	-	-	0.047397	0.044904	0.054093
Molybdenum, Total	Operations	Apr	13	0.003782	0.004006	0.006869	-	-	-	0.041022	0.039162	0.046425
Molybdenum, Total	Operations	May	13	0.004855	0.005148	0.008995	-	-	-	0.036323	0.035505	0.044119
Molybdenum, Total	Operations	Jun	13	0.003811	0.003903	0.006530	-	-	-	0.036027	0.036357	0.043829
Molybdenum, Total	Operations	Jul	13	0.004234	0.004233	0.007030	-	-	-	0.040026	0.039902	0.045010
Molybdenum, Total	Operations	Aug	13	0.004047	0.004126	0.006740	-	-	-	0.043401	0.043216	0.053063
Molybdenum, Total	Operations	Sep	13	0.004387	0.004719	0.007766	-	-	-	0.044063	0.045057	0.058772
Molybdenum, Total	Operations	Oct	13	0.005864	0.006438	0.011395	-	-	-	0.043271	0.045170	0.057963
Molybdenum, Total	Operations	Nov	13	0.007332	0.006611	0.010466	-	-	-	0.044667	0.046852	0.066518
Molybdenum, Total	Operations	Dec	13	0.007948	0.007157	0.011243	-	-	-	0.046877	0.050451	0.082999
Molybdenum, Total	Closure	Jan	6	0.029938	0.027559	0.030360	-	-	-	0.033095	0.033853	0.042058
Molybdenum, Total	Closure	Feb	6	0.029925	0.028590	0.030197	-	-	-	0.032895	0.033638	0.041734
Molybdenum, Total	Closure	Mar	6	0.029879	0.029701	0.030272	-	-	-	0.032272	0.032975	0.040749
Molybdenum, Total	Closure	Apr	6	0.030500	0.030364	0.030512	-	-	-	0.031619	0.032281	0.039726
Molybdenum, Total	Closure	May	6	0.030221	0.030210	0.030224	-	-	-	0.031254	0.031891	0.039140
Molybdenum, Total	Closure	Jun	6	0.030009	0.030133	0.030383	-	-	-	0.031216	0.031844	0.039032
Molybdenum, Total	Closure	Jul	6	0.030163	0.030249	0.030420	-	-	-	0.031383	0.032012	0.039209
Molybdenum, Total	Closure	Aug	6	0.030638	0.030564	0.030638	-	-	-	0.031573	0.032204	0.039411
Molybdenum, Total	Closure	Sep	6	0.030441	0.030408	0.030441	-	-	-	0.031548	0.032170	0.039313
Molybdenum, Total	Closure	Oct	6	0.030875	0.030657	0.030875	-	-	-	0.031205	0.031802	0.038761
Molybdenum, Total	Closure	Nov	6	0.031283	0.030905	0.031283	-	-	-	0.030896	0.031472	0.038282
Molybdenum, Total	Closure	Dec	6	0.031015	0.030718	0.031015	-	-	-	0.030739	0.031305	0.038043
Molybdenum, Total	Post-Closure	Jan	109	0.003102	0.003358	0.024366	0.003403	0.003327	0.005211	0.002959	0.004887	0.025892
Molybdenum, Total	Post-Closure	Feb	109	0.003164	0.003325	0.014543	0.003400	0.003325	0.005207	0.002947	0.004867	0.025789
Molybdenum, Total	Post-Closure	Mar	109	0.003501	0.003515	0.005496	0.003391	0.003320	0.005198	0.002910	0.004806	0.025463
Molybdenum, Total	Post-Closure	Apr	109	0.003654	0.003616	0.003683	0.003383	0.003316	0.005187	0.002873	0.004742	0.025113
Molybdenum, Total	Post-Closure	May	109	0.003621	0.003590	0.003629	0.003378	0.003315	0.005182	0.002860	0.004710	0.024871
Molybdenum, Total	Post-Closure	Jun	109	0.003595	0.003575	0.003639	0.003383	0.003321	0.005187	0.002880	0.004713	0.024684
Molybdenum, Total	Post-Closure	Jul	109	0.003585	0.003563	0.003614	0.003407	0.003334	0.005201	0.002926	0.004738	0.024483
Molybdenum, Total	Post-Closure	Aug	109	0.003644	0.003606	0.003644	0.003414	0.003346	0.005217	0.002980	0.004770	0.024278
Molybdenum, Total	Post-Closure	Sep	109	0.003630	0.003595	0.003630	0.003417	0.003354	0.005226	0.003003	0.004772	0.024050
Molybdenum, Total	Post-Closure	Oct	109	0.003701	0.003644	0.003704	0.003413	0.003354	0.005224	0.002990	0.004738	0.023782
Molybdenum, Total	Post-Closure	Nov	109	0.003607	0.003565	0.003652	0.003408	0.003352	0.005218	0.002974	0.004708	0.023605
Molybdenum, Total	Post-Closure	Dec	109	0.003319	0.003348	0.003548	0.003405	0.003350	0.005214	0.002963	0.004691	0.023520
Nickel, Dissolved	Construction	Jan	2	0.000577	0.000577	0.000678	-	-	-	-	-	-
Nickel, Dissolved	Construction	Feb	2	0.000623	0.000623	0.000708	-	-	-	-	-	-
Nickel, Dissolved	Construction	Mar	2	0.000679	0.000679	0.000774	-	-	-	0.000061	0.000061	0.000089
Nickel, Dissolved	Construction	Apr	2	0.000707	0.000707	0.000806	-	-	-	0.000008	0.000008	0.000008
Nickel, Dissolved	Construction	May	2	0.000732	0.000732	0.000836	-	-	-	0.000027	0.000027	0.000027
Nickel, Dissolved	Construction	Jun	2	0.000782	0.000782	0.000908	-	-	-	0.000012	0.000012	0.000012
Nickel, Dissolved	Construction	Jul	2	0.000801	0.000801	0.000964	-	-	-	0.000015	0.000015	0.000015
Nickel, Dissolved	Construction	Aug	2	0.000821	0.000821	0.000995	-	-	-	0.001090	0.001090	0.001090
Nickel, Dissolved	Construction	Sep	2	0.000760	0.000760	0.000881	-	-	-	0.010166	0.010166	0.020268
Nickel, Dissolved	Construction	Oct	2	0.000830	0.000830	0.001036	-	-	-	0.012314	0.012314	0.012314
Nickel, Dissolved	Construction	Nov	2	0.000871	0.000871	0.001108	-	-	-	0.010606	0.010606	0.010606
Nickel, Dissolved	Construction	Dec	2	0.000904	0.000904	0.001154	-	-	-	0.010033	0.010033	0.010033
Nickel, Dissolved	Operations	Jan	13	0.007236	0.007588	0.013254	-	-	-	0.012525	0.012155	0.015142
Nickel, Dissolved	Operations	Feb	13	0.004356	0.004762	0.009092	-	-	-	0.011768	0.011660	0.014808
Nickel, Dissolved	Operations	Mar	13	0.002596	0.002870	0.005684	-	-	-	0.010801	0.010658	0.014371
Nickel, Dissolved	Operations	Apr	13	0.004145	0.004387	0.007504	-	-	-	0.009579	0.009792	0.013682
Nickel, Dissolved	Operations	May	13	0.005413	0.005716	0.009913	-	-	-	0.009111	0.009803	0.013190
Nickel, Dissolved	Operations	Jun	13	0.004148	0.004234	0.007109	-	-	-	0.011734	0.011680	0.013747
Nickel, Dissolved	Operations	Jul	13	0.004600	0.004588	0.007655	-	-	-	0.014436	0.014721	0.018684
Nickel, Dissolved	Operations	Aug	13	0.004382	0.004463	0.007327	-	-	-	0.016277	0.016923	0.021068
Nickel, Dissolved	Operations	Sep	13	0.004760	0.005125	0.008465	-	-	-	0.017052	0.016865	0.018695
Nickel, Dissolved	Operations	Oct	13	0.006456	0.007083	0.012529	-	-	-	0.016339	0.015416	0.018130
Nickel, Dissolved	Operations	Nov	13	0.008169	0.007314	0.011505	-	-	-	0.015166	0.014201	0.018096
Nickel, Dissolved	Operations	Dec	13	0.008949	0.007977	0.012411	-	-	-	0.014128	0.013411	0.018026
Nickel, Dissolved	Closure	Jan	6	0.033091	0.030463	0.033555	-	-	-	0.022289	0.021918	0.024956
Nickel, Dissolved	Closure	Feb	6	0.033080	0.031606	0.033380	-	-	-	0.022155	0.021784	0.024828
Nickel, Dissolved	Closure	Mar	6	0.033034	0.032837	0.033467	-	-	-	0.021737	0.021370	0.024424
Nickel, Dissolved	Closure	Apr	6	0.033719	0.033569	0.033733	-	-	-	0.021323	0.020960	0.024013
Nickel, Dissolved	Closure	May	6	0.033421	0.033409	0.033424	-	-	-	0.021237	0.020881	0.023905
Nickel, Dissolved	Closure	Jun	6	0.033194	0.033330	0.033606	-	-	-	0.021644	0.021302	0.024254
Nickel, Dissolved	Closure	Jul	6	0.033359	0.033454	0.033642	-	-	-	0.022492	0.022175	0.025006
Nickel, Dissolved	Closure	Aug	6	0.033881	0.033800	0.033881	-	-	-	0.023441	0.023151	0.025847
Nickel, Dissolved	Closure	Sep	6	0.033633	0.033597	0.033633	-	-	-	0.023955	0.023683	0.026293
Nickel, Dissolved	Closure	Oct	6	0.034098	0.033859	0.034098	-	-	-	0.023906	0.023639	0.026220
Nickel, Dissolved	Closure	Nov	6	0.034554	0.034138	0.034554	-	-	-	0.023726	0.023459	0.026033
Nickel, Dissolved	Closure	Dec	6	0.034270	0.033944	0.034270	-	-	-	0.023606	0.023337	0.025912
Nickel, Dissolved	Post-Closure	Jan	109	0.025075	0.025625	0.032187	0.017032	0.014097	0.018809	0.010077	0.011400	0.025818
Nickel, Dissolved	Post-Closure	Feb	109	0.025572	0.026067	0.030065	0.017021	0.014091	0.018795	0.010037	0.011355	0.025715
Nickel, Dissolved	Post-Closure	Mar	109	0.028279	0.028240	0.028660	0.016995	0.014079	0.018762	0.009911	0.011212	0.025391
Nickel, Dissolved	Post-Closure	Apr	109	0.029525	0.029197	0.029601	0.016967	0.014068	0.018725	0.009784	0.011067	0.025049
Nickel, Dissolved	Post-Closure	May	109	0.029283	0.029019	0.029350	0.016955	0.014070	0.018709	0.009742	0.011012	0.024850
Nickel, Dissolved	Post-Closure	Jun	109	0.029076	0.028906	0.029433	0.016980	0.014102	0.018731	0.009811	0.011069	0.024777
Nickel, Dissolved	Post-Closure	Jul	109	0.029092	0.028908	0.029331	0.017036	0.014164	0.018786	0.009973	0.011216	0.024769
Nickel, Dissolved	Post-Closure	Aug	109	0.029599	0.029291	0.029599	0.017093	0.014228	0.018842	0.010158	0.011387	0.024777
Nickel, Dissolved	Post-Closure	Sep	109	0.029401	0.029115	0.029401	0.017126	0.014270	0.018873	0.010241	0.011455	0.024688
Nickel, Dissolved	Post-Closure	Oct	109	0.029955	0.029487	0.029974	0.017123	0.014279	0.018865	0.010199	0.011398	0.024470
Nickel, Dissolved	Post-Closure	Nov	109	0.029187	0.028837	0.029554	0.017107	0.014272	0.018844	0.010142	0.011332	0.024303
Nickel, Dissolved	Post-Closure	Dec	109	0.026840	0.027064	0.028656	0.017097	0.014267	0.018832	0.010106	0.011292	0.024216
Nickel, Total	Construction	Jan	2	0.004616	0.004616	0.004792	-	-	-	-	-	-
Nickel, Total	Construction	Feb	2	0.004047	0.004047	0.004052	-	-	-	-	-	-
Nickel, Total	Construction	Mar	2	0.003148	0.003148	0.003201	-	-	-	0.000070	0.000070	0.000093
Nickel, Total	Construction	Apr	2	0.002766	0.002766	0.002772	-	-	-	0.000010	0.000010	0.000010
Nickel, Total	Construction	May	2	0.002509	0.002509	0.002556	-	-	-	0.000029	0.000029	0.000029
Nickel, Total	Construction	Jun	2	0.002903	0.002903	0.002977	-	-	-	0.000014	0.000014	0.000014
Nickel, Total	Construction	Jul	2	0.003351	0.003351	0.003373	-	-	-	0.000016	0.000016	0.000016
Nickel, Total	Construction	Aug	2	0.003391	0.003391	0.003404	-	-	-	0.001201	0.001201	0.001201
Nickel, Total	Construction	Sep	2	0.003262	0.003262	0.003540	-	-	-	0.010210	0.010210	0.020350
Nickel, Total	Construction	Oct	2	0.003851	0.003851	0.003951	-	-	-	0.012331	0.012331	0.012331
Nickel, Total	Construction	Nov	2	0.004162	0.004162	0.004235	-	-	-	0.010616	0.010616	0.010616
Nickel, Total	Construction	Dec	2	0.004325	0.004325	0.004399	-	-	-	0.010042	0.010042	0.010042
Nickel, Total	Operations	Jan	13	0.009046	0.009666	0.015143	-	-	-	0.012529	0.012159	0.015145
Nickel, Total	Operations	Feb	13	0.005352	0.006006	0.010985	-	-	-	0.011771	0.011663	0.014811
Nickel, Total	Operations	Mar	13	0.003099	0.003569	0.006829	-	-	-	0.010806	0.010665	0.014374

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Nickel, Total	Operations	Apr	13	0.005157	0.005609	0.008652	-	-	-	0.009584	0.009799	0.013687
Nickel, Total	Operations	May	13	0.006781	0.007310	0.011483	-	-	-	0.009116	0.009809	0.013195
Nickel, Total	Operations	Jun	13	0.005037	0.005196	0.008091	-	-	-	0.011738	0.011684	0.013751
Nickel, Total	Operations	Jul	13	0.005583	0.005614	0.008701	-	-	-	0.014440	0.014726	0.018691
Nickel, Total	Operations	Aug	13	0.005282	0.005442	0.008309	-	-	-	0.016281	0.016930	0.021080
Nickel, Total	Operations	Sep	13	0.005913	0.006263	0.009610	-	-	-	0.017056	0.016872	0.018705
Nickel, Total	Operations	Oct	13	0.007907	0.008678	0.014232	-	-	-	0.016343	0.015421	0.018136
Nickel, Total	Operations	Nov	13	0.009843	0.009023	0.013041	-	-	-	0.015170	0.014204	0.018101
Nickel, Total	Operations	Dec	13	0.010796	0.009837	0.014106	-	-	-	0.014131	0.013415	0.018031
Nickel, Total	Closure	Jan	6	0.036884	0.033992	0.037348	-	-	-	0.022299	0.021928	0.024968
Nickel, Total	Closure	Feb	6	0.036881	0.035257	0.037181	-	-	-	0.022165	0.021794	0.024840
Nickel, Total	Closure	Mar	6	0.036841	0.036612	0.037274	-	-	-	0.021747	0.021380	0.024436
Nickel, Total	Closure	Apr	6	0.037528	0.037374	0.037542	-	-	-	0.021333	0.020970	0.024026
Nickel, Total	Closure	May	6	0.037203	0.037190	0.037205	-	-	-	0.021248	0.020891	0.023918
Nickel, Total	Closure	Jun	6	0.036976	0.037112	0.037387	-	-	-	0.021654	0.021313	0.024267
Nickel, Total	Closure	Jul	6	0.037174	0.037268	0.037457	-	-	-	0.022503	0.022186	0.025019
Nickel, Total	Closure	Aug	6	0.037705	0.037624	0.037705	-	-	-	0.023452	0.023162	0.025861
Nickel, Total	Closure	Sep	6	0.037424	0.037388	0.037424	-	-	-	0.023966	0.023694	0.026307
Nickel, Total	Closure	Oct	6	0.037864	0.037625	0.037864	-	-	-	0.023918	0.023650	0.026234
Nickel, Total	Closure	Nov	6	0.038323	0.037907	0.038323	-	-	-	0.023738	0.023470	0.026047
Nickel, Total	Closure	Dec	6	0.038055	0.037729	0.038055	-	-	-	0.023618	0.023348	0.025926
Nickel, Total	Post-Closure	Jan	109	0.028979	0.029534	0.036017	0.018935	0.015648	0.020919	0.010096	0.011419	0.025831
Nickel, Total	Post-Closure	Feb	109	0.029487	0.029987	0.033958	0.018923	0.015642	0.020904	0.010056	0.011374	0.025729
Nickel, Total	Post-Closure	Mar	109	0.032223	0.032187	0.032605	0.018894	0.015629	0.020867	0.009930	0.011231	0.025405
Nickel, Total	Post-Closure	Apr	109	0.033471	0.033146	0.033549	0.018863	0.015617	0.020827	0.009803	0.011086	0.025063
Nickel, Total	Post-Closure	May	109	0.033154	0.032892	0.033222	0.018851	0.015619	0.020808	0.009761	0.011031	0.024864
Nickel, Total	Post-Closure	Jun	109	0.032928	0.032758	0.033284	0.018878	0.015655	0.020833	0.009830	0.011088	0.024791
Nickel, Total	Post-Closure	Jul	109	0.033008	0.032825	0.033248	0.018940	0.015724	0.020894	0.009992	0.011235	0.024783
Nickel, Total	Post-Closure	Aug	109	0.033532	0.033226	0.033532	0.019005	0.015795	0.020957	0.010178	0.011406	0.024792
Nickel, Total	Post-Closure	Sep	109	0.033273	0.032988	0.033273	0.019042	0.015842	0.020991	0.010261	0.011474	0.024702
Nickel, Total	Post-Closure	Oct	109	0.033795	0.033327	0.033814	0.019039	0.015852	0.020982	0.010218	0.011417	0.024484
Nickel, Total	Post-Closure	Nov	109	0.033045	0.032696	0.033413	0.019021	0.015844	0.020959	0.010161	0.011351	0.024317
Nickel, Total	Post-Closure	Dec	109	0.030732	0.030960	0.032563	0.019010	0.015838	0.020945	0.010125	0.011311	0.024230
Selenium, Total	Construction	Jan	2	0.000166	0.000166	0.000170	-	-	-	-	-	-
Selenium, Total	Construction	Feb	2	0.000152	0.000152	0.000155	-	-	-	-	-	-
Selenium, Total	Construction	Mar	2	0.000130	0.000130	0.000133	-	-	-	0.000003	0.000003	0.000003
Selenium, Total	Construction	Apr	2	0.000121	0.000121	0.000126	-	-	-	0.00	0.00	0.00
Selenium, Total	Construction	May	2	0.000116	0.000116	0.000119	-	-	-	0.000001	0.000001	0.000001
Selenium, Total	Construction	Jun	2	0.000124	0.000124	0.000128	-	-	-	0.000001	0.000001	0.000001
Selenium, Total	Construction	Jul	2	0.000131	0.000131	0.000136	-	-	-	0.000001	0.000001	0.000001
Selenium, Total	Construction	Aug	2	0.000131	0.000131	0.000137	-	-	-	0.000054	0.000054	0.000054
Selenium, Total	Construction	Sep	2	0.000127	0.000127	0.000143	-	-	-	0.000979	0.000979	0.001954
Selenium, Total	Construction	Oct	2	0.000142	0.000142	0.000152	-	-	-	0.001459	0.001459	0.001459
Selenium, Total	Construction	Nov	2	0.000149	0.000149	0.000159	-	-	-	0.001403	0.001403	0.001403
Selenium, Total	Construction	Dec	2	0.000152	0.000152	0.000163	-	-	-	0.001434	0.001434	0.001434
Selenium, Total	Operations	Jan	13	0.000231	0.000247	0.000372	-	-	-	0.005168	0.005439	0.009515
Selenium, Total	Operations	Feb	13	0.000164	0.000178	0.000274	-	-	-	0.005217	0.005747	0.010715
Selenium, Total	Operations	Mar	13	0.000123	0.000132	0.000195	-	-	-	0.005115	0.005032	0.006417
Selenium, Total	Operations	Apr	13	0.000159	0.000168	0.000238	-	-	-	0.004668	0.004351	0.004864
Selenium, Total	Operations	May	13	0.000187	0.000198	0.000293	-	-	-	0.004079	0.003935	0.004616
Selenium, Total	Operations	Jun	13	0.000159	0.000163	0.000229	-	-	-	0.004039	0.004041	0.004579
Selenium, Total	Operations	Jul	13	0.000170	0.000171	0.000242	-	-	-	0.004429	0.004452	0.004980
Selenium, Total	Operations	Aug	13	0.000165	0.000169	0.000234	-	-	-	0.004684	0.004836	0.006350
Selenium, Total	Operations	Sep	13	0.000174	0.000184	0.000261	-	-	-	0.004817	0.005037	0.007015
Selenium, Total	Operations	Oct	13	0.000212	0.000230	0.000355	-	-	-	0.004817	0.005033	0.006885
Selenium, Total	Operations	Nov	13	0.000252	0.000236	0.000331	-	-	-	0.004862	0.005228	0.007897
Selenium, Total	Operations	Dec	13	0.000271	0.000252	0.000353	-	-	-	0.004974	0.005656	0.009856
Selenium, Total	Closure	Jan	6	0.000823	0.000763	0.000834	-	-	-	0.003470	0.003533	0.004214
Selenium, Total	Closure	Feb	6	0.000823	0.000790	0.000830	-	-	-	0.003449	0.003511	0.004181
Selenium, Total	Closure	Mar	6	0.000822	0.000818	0.000833	-	-	-	0.003384	0.003442	0.004083
Selenium, Total	Closure	Apr	6	0.000839	0.000835	0.000839	-	-	-	0.003316	0.003370	0.003981
Selenium, Total	Closure	May	6	0.000831	0.000830	0.000831	-	-	-	0.003281	0.003333	0.003926
Selenium, Total	Closure	Jun	6	0.000825	0.000828	0.000834	-	-	-	0.003285	0.003337	0.003926
Selenium, Total	Closure	Jul	6	0.000827	0.000830	0.000834	-	-	-	0.003317	0.003369	0.003963
Selenium, Total	Closure	Aug	6	0.000840	0.000838	0.000840	-	-	-	0.003352	0.003405	0.004004
Selenium, Total	Closure	Sep	6	0.000834	0.000834	0.000834	-	-	-	0.003359	0.003412	0.004007
Selenium, Total	Closure	Oct	6	0.000846	0.000840	0.000846	-	-	-	0.003327	0.003377	0.003957
Selenium, Total	Closure	Nov	6	0.000857	0.000847	0.000857	-	-	-	0.003295	0.003343	0.003909
Selenium, Total	Closure	Dec	6	0.000851	0.000843	0.000851	-	-	-	0.003278	0.003325	0.003885
Selenium, Total	Post-Closure	Jan	109	0.000369	0.000381	0.000740	0.000380	0.000333	0.000434	0.000467	0.000669	0.002874
Selenium, Total	Post-Closure	Feb	109	0.000376	0.000386	0.000588	0.000380	0.000333	0.000434	0.000465	0.000666	0.002862
Selenium, Total	Post-Closure	Mar	109	0.000418	0.000419	0.000447	0.000379	0.000332	0.000433	0.000459	0.000658	0.002826
Selenium, Total	Post-Closure	Apr	109	0.000435	0.000432	0.000436	0.000378	0.000332	0.000432	0.000453	0.000649	0.002787
Selenium, Total	Post-Closure	May	109	0.000429	0.000427	0.000431	0.000378	0.000332	0.000432	0.000451	0.000645	0.002761
Selenium, Total	Post-Closure	Jun	109	0.000427	0.000425	0.000432	0.000378	0.000333	0.000433	0.000454	0.000647	0.002743
Selenium, Total	Post-Closure	Jul	109	0.000425	0.000423	0.000429	0.000379	0.000334	0.000434	0.000462	0.000652	0.002724
Selenium, Total	Post-Closure	Aug	109	0.000431	0.000428	0.000431	0.000380	0.000336	0.000435	0.000470	0.000658	0.002706
Selenium, Total	Post-Closure	Sep	109	0.000429	0.000426	0.000429	0.000381	0.000336	0.000436	0.000474	0.000660	0.002683
Selenium, Total	Post-Closure	Oct	109	0.000436	0.000430	0.000436	0.000381	0.000337	0.000436	0.000472	0.000655	0.002654
Selenium, Total	Post-Closure	Nov	109	0.000424	0.000421	0.000430	0.000380	0.000336	0.000435	0.000469	0.000651	0.002635
Selenium, Total	Post-Closure	Dec	109	0.000393	0.000397	0.000425	0.000380	0.000336	0.000435	0.000468	0.000649	0.002625
Silver, Total	Construction	Jan	2	0.000074	0.000074	0.000079	-	-	-	-	-	-
Silver, Total	Construction	Feb	2	0.000063	0.000063	0.000065	-	-	-	-	-	-
Silver, Total	Construction	Mar	2	0.000045	0.000045	0.000049	-	-	-	0.0000003	0.0000003	0.0000003
Silver, Total	Construction	Apr	2	0.000038	0.000038	0.000043	-	-	-	0.00000007	0.00000007	0.00000007
Silver, Total	Construction	May	2	0.000034	0.000034	0.000038	-	-	-	0.000000	0.000000	0.000000
Silver, Total	Construction	Jun	2	0.000040	0.000040	0.000044	-	-	-	0.000000	0.000000	0.000000
Silver, Total	Construction	Jul	2	0.000047	0.000047	0.000052	-	-	-	0.000000	0.000000	0.000000
Silver, Total	Construction	Aug	2	0.000047	0.000047	0.000053	-	-	-	0.000005	0.000005	0.000005
Silver, Total	Construction	Sep	2	0.000046	0.000046	0.000056	-	-	-	0.000016	0.000016	0.000031
Silver, Total	Construction	Oct	2	0.000055	0.000055	0.000064	-	-	-	0.000018	0.000018	0.000018
Silver, Total	Construction	Nov	2	0.000059	0.000059	0.000069	-	-	-	0.000015	0.000015	0.000015
Silver, Total	Construction	Dec	2	0.000061	0.000061	0.000071	-	-	-	0.000013	0.000013	0.000013
Silver, Total	Operations	Jan	13	0.000017	0.000022	0.000048	-	-	-	0.000015	0.000014	0.000018
Silver, Total	Operations	Feb	13	0.000012	0.000015	0.000039	-	-	-	0.000014	0.000013	0.000017
Silver, Total	Operations	Mar	13	0.000009	0.000011	0.000027	-	-	-	0.000012	0.000012	0.000016
Silver, Total	Operations	Apr	13	0.000012	0.000014	0.000029	-	-	-	0.000011	0.000011	0.000015

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Silver, Total	Operations	May	13	0.000015	0.000017	0.000031	-	-	-	0.000012	0.000012	0.000015
Silver, Total	Operations	Jun	13	0.000012	0.000013	0.000016	-	-	-	0.000015	0.000015	0.000021
Silver, Total	Operations	Jul	13	0.000012	0.000013	0.000016	-	-	-	0.000018	0.000020	0.000030
Silver, Total	Operations	Aug	13	0.000012	0.000013	0.000016	-	-	-	0.000022	0.000024	0.000035
Silver, Total	Operations	Sep	13	0.000013	0.000014	0.000017	-	-	-	0.000023	0.000023	0.000029
Silver, Total	Operations	Oct	13	0.000017	0.000017	0.000026	-	-	-	0.000021	0.000020	0.000023
Silver, Total	Operations	Nov	13	0.000016	0.000018	0.000029	-	-	-	0.000020	0.000018	0.000022
Silver, Total	Operations	Dec	13	0.000016	0.000019	0.000030	-	-	-	0.000018	0.000016	0.000022
Silver, Total	Closure	Jan	6	0.000025	0.000024	0.000025	-	-	-	0.000036	0.000035	0.000044
Silver, Total	Closure	Feb	6	0.000025	0.000024	0.000025	-	-	-	0.000036	0.000035	0.000044
Silver, Total	Closure	Mar	6	0.000025	0.000025	0.000025	-	-	-	0.000035	0.000034	0.000043
Silver, Total	Closure	Apr	6	0.000025	0.000025	0.000025	-	-	-	0.000034	0.000033	0.000043
Silver, Total	Closure	May	6	0.000025	0.000025	0.000025	-	-	-	0.000034	0.000033	0.000043
Silver, Total	Closure	Jun	6	0.000025	0.000025	0.000025	-	-	-	0.000035	0.000034	0.000043
Silver, Total	Closure	Jul	6	0.000025	0.000025	0.000025	-	-	-	0.000037	0.000036	0.000045
Silver, Total	Closure	Aug	6	0.000025	0.000025	0.000025	-	-	-	0.000039	0.000038	0.000047
Silver, Total	Closure	Sep	6	0.000025	0.000025	0.000025	-	-	-	0.000040	0.000039	0.000048
Silver, Total	Closure	Oct	6	0.000025	0.000025	0.000025	-	-	-	0.000040	0.000040	0.000048
Silver, Total	Closure	Nov	6	0.000025	0.000025	0.000025	-	-	-	0.000040	0.000039	0.000047
Silver, Total	Closure	Dec	6	0.000025	0.000025	0.000025	-	-	-	0.000040	0.000039	0.000047
Silver, Total	Post-Closure	Jan	109	0.000033	0.000033	0.000036	0.000024	0.000020	0.000026	0.000022	0.000024	0.000047
Silver, Total	Post-Closure	Feb	109	0.000033	0.000033	0.000036	0.000024	0.000020	0.000026	0.000022	0.000024	0.000047
Silver, Total	Post-Closure	Mar	109	0.000035	0.000035	0.000036	0.000024	0.000020	0.000026	0.000022	0.000024	0.000046
Silver, Total	Post-Closure	Apr	109	0.000036	0.000036	0.000036	0.000024	0.000020	0.000026	0.000021	0.000023	0.000046
Silver, Total	Post-Closure	May	109	0.000036	0.000036	0.000036	0.000024	0.000020	0.000026	0.000021	0.000023	0.000045
Silver, Total	Post-Closure	Jun	109	0.000036	0.000036	0.000036	0.000024	0.000020	0.000026	0.000021	0.000023	0.000045
Silver, Total	Post-Closure	Jul	109	0.000036	0.000036	0.000036	0.000024	0.000020	0.000026	0.000022	0.000024	0.000045
Silver, Total	Post-Closure	Aug	109	0.000036	0.000036	0.000036	0.000024	0.000020	0.000026	0.000022	0.000024	0.000045
Silver, Total	Post-Closure	Sep	109	0.000036	0.000036	0.000036	0.000024	0.000020	0.000026	0.000022	0.000024	0.000045
Silver, Total	Post-Closure	Oct	109	0.000036	0.000036	0.000037	0.000024	0.000020	0.000026	0.000022	0.000024	0.000045
Silver, Total	Post-Closure	Nov	109	0.000036	0.000036	0.000036	0.000024	0.000020	0.000026	0.000022	0.000024	0.000045
Silver, Total	Post-Closure	Dec	109	0.000034	0.000034	0.000036	0.000024	0.000020	0.000026	0.000022	0.000024	0.000045
Thallium, Total	Construction	Jan	2	0.000137	0.000137	0.000146	-	-	-	-	-	-
Thallium, Total	Construction	Feb	2	0.000119	0.000119	0.000124	-	-	-	-	-	-
Thallium, Total	Construction	Mar	2	0.000090	0.000090	0.000096	-	-	-	0.000002	0.000002	0.000003
Thallium, Total	Construction	Apr	2	0.000079	0.000079	0.000086	-	-	-	0.0000006	0.0000006	0.0000006
Thallium, Total	Construction	May	2	0.000072	0.000072	0.000078	-	-	-	0.000001	0.000001	0.000001
Thallium, Total	Construction	Jun	2	0.000083	0.000083	0.000090	-	-	-	0.000001	0.000001	0.000001
Thallium, Total	Construction	Jul	2	0.000091	0.000091	0.000100	-	-	-	0.000001	0.000001	0.000001
Thallium, Total	Construction	Aug	2	0.000089	0.000089	0.000099	-	-	-	0.000035	0.000035	0.000035
Thallium, Total	Construction	Sep	2	0.000087	0.000087	0.000105	-	-	-	0.000030	0.000030	0.000059
Thallium, Total	Construction	Oct	2	0.000102	0.000102	0.000117	-	-	-	0.000024	0.000024	0.000024
Thallium, Total	Construction	Nov	2	0.000109	0.000109	0.000125	-	-	-	0.000019	0.000019	0.000019
Thallium, Total	Construction	Dec	2	0.000113	0.000113	0.000129	-	-	-	0.000017	0.000017	0.000017
Thallium, Total	Operations	Jan	13	0.000053	0.000056	0.000093	-	-	-	0.000017	0.000017	0.000022
Thallium, Total	Operations	Feb	13	0.000040	0.000043	0.000079	-	-	-	0.000016	0.000016	0.000022
Thallium, Total	Operations	Mar	13	0.000033	0.000035	0.000059	-	-	-	0.000015	0.000015	0.000021
Thallium, Total	Operations	Apr	13	0.000040	0.000041	0.000064	-	-	-	0.000015	0.000016	0.000021
Thallium, Total	Operations	May	13	0.000046	0.000046	0.000066	-	-	-	0.000017	0.000018	0.000021
Thallium, Total	Operations	Jun	13	0.000039	0.000039	0.000042	-	-	-	0.000020	0.000020	0.000023
Thallium, Total	Operations	Jul	13	0.000038	0.000038	0.000041	-	-	-	0.000023	0.000023	0.000028
Thallium, Total	Operations	Aug	13	0.000038	0.000037	0.000040	-	-	-	0.000025	0.000026	0.000029
Thallium, Total	Operations	Sep	13	0.000041	0.000040	0.000043	-	-	-	0.000026	0.000025	0.000028
Thallium, Total	Operations	Oct	13	0.000047	0.000046	0.000056	-	-	-	0.000024	0.000023	0.000029
Thallium, Total	Operations	Nov	13	0.000047	0.000048	0.000062	-	-	-	0.000022	0.000021	0.000029
Thallium, Total	Operations	Dec	13	0.000050	0.000051	0.000064	-	-	-	0.000020	0.000019	0.000029
Thallium, Total	Closure	Jan	6	0.000081	0.000078	0.000082	-	-	-	0.000034	0.000033	0.000037
Thallium, Total	Closure	Feb	6	0.000082	0.000080	0.000082	-	-	-	0.000034	0.000033	0.000037
Thallium, Total	Closure	Mar	6	0.000082	0.000082	0.000083	-	-	-	0.000033	0.000033	0.000036
Thallium, Total	Closure	Apr	6	0.000083	0.000083	0.000083	-	-	-	0.000032	0.000032	0.000035
Thallium, Total	Closure	May	6	0.000083	0.000083	0.000083	-	-	-	0.000032	0.000032	0.000035
Thallium, Total	Closure	Jun	6	0.000083	0.000083	0.000084	-	-	-	0.000033	0.000032	0.000036
Thallium, Total	Closure	Jul	6	0.000080	0.000081	0.000081	-	-	-	0.000034	0.000034	0.000037
Thallium, Total	Closure	Aug	6	0.000080	0.000080	0.000080	-	-	-	0.000035	0.000035	0.000038
Thallium, Total	Closure	Sep	6	0.000080	0.000080	0.000080	-	-	-	0.000036	0.000035	0.000038
Thallium, Total	Closure	Oct	6	0.000081	0.000080	0.000081	-	-	-	0.000036	0.000035	0.000038
Thallium, Total	Closure	Nov	6	0.000082	0.000082	0.000082	-	-	-	0.000035	0.000035	0.000038
Thallium, Total	Closure	Dec	6	0.000083	0.000082	0.000083	-	-	-	0.000035	0.000035	0.000038
Thallium, Total	Post-Closure	Jan	109	0.000070	0.000073	0.000085	0.000051	0.000045	0.000053	0.000019	0.000020	0.000038
Thallium, Total	Post-Closure	Feb	109	0.000072	0.000075	0.000085	0.000051	0.000045	0.000053	0.000019	0.000020	0.000038
Thallium, Total	Post-Closure	Mar	109	0.000082	0.000083	0.000086	0.000051	0.000045	0.000053	0.000018	0.000020	0.000037
Thallium, Total	Post-Closure	Apr	109	0.000085	0.000085	0.000087	0.000051	0.000045	0.000053	0.000018	0.000020	0.000037
Thallium, Total	Post-Closure	May	109	0.000085	0.000086	0.000088	0.000051	0.000045	0.000053	0.000018	0.000020	0.000036
Thallium, Total	Post-Closure	Jun	109	0.000087	0.000087	0.000089	0.000051	0.000045	0.000053	0.000018	0.000020	0.000036
Thallium, Total	Post-Closure	Jul	109	0.000081	0.000081	0.000081	0.000051	0.000045	0.000053	0.000019	0.000020	0.000036
Thallium, Total	Post-Closure	Aug	109	0.000080	0.000080	0.000080	0.000051	0.000045	0.000054	0.000019	0.000020	0.000036
Thallium, Total	Post-Closure	Sep	109	0.000079	0.000079	0.000080	0.000051	0.000045	0.000054	0.000019	0.000020	0.000036
Thallium, Total	Post-Closure	Oct	109	0.000079	0.000079	0.000080	0.000051	0.000045	0.000054	0.000019	0.000020	0.000036
Thallium, Total	Post-Closure	Nov	109	0.000077	0.000078	0.000082	0.000051	0.000045	0.000054	0.000019	0.000020	0.000036
Thallium, Total	Post-Closure	Dec	109	0.000073	0.000075	0.000084	0.000051	0.000045	0.000053	0.000019	0.000020	0.000036
Uranium, Total	Construction	Jan	2	0.000245	0.000245	0.000281	-	-	-	-	-	-
Uranium, Total	Construction	Feb	2	0.000285	0.000285	0.000298	-	-	-	-	-	-
Uranium, Total	Construction	Mar	2	0.000334	0.000334	0.000344	-	-	-	0.000008	0.000008	0.000013
Uranium, Total	Construction	Apr	2	0.000359	0.000359	0.000372	-	-	-	0.0000006	0.0000006	0.0000006
Uranium, Total	Construction	May	2	0.000377	0.000377	0.000389	-	-	-	0.000004	0.000004	0.000004
Uranium, Total	Construction	Jun	2	0.000368	0.000368	0.000383	-	-	-	0.000001	0.000001	0.000001
Uranium, Total	Construction	Jul	2	0.000348	0.000348	0.000375	-	-	-	0.000002	0.000002	0.000002
Uranium, Total	Construction	Aug	2	0.000352	0.000352	0.000380	-	-	-	0.000130	0.000130	0.000130
Uranium, Total	Construction	Sep	2	0.000332	0.000332	0.000342	-	-	-	0.001198	0.001198	0.002389
Uranium, Total	Construction	Oct	2	0.000331	0.000331	0.000363	-	-	-	0.001509	0.001509	0.001509
Uranium, Total	Construction	Nov	2	0.000324	0.000324	0.000362	-	-	-	0.001411	0.001411	0.001411
Uranium, Total	Construction	Dec	2	0.000323	0.000323	0.000363	-	-	-	0.001420	0.001420	0.001420
Uranium, Total	Operations	Jan	13	0.001402	0.001423	0.002407	-	-	-	0.001752	0.001773	0.002090
Uranium, Total	Operations	Feb	13	0.000981	0.001023	0.001622	-	-	-	0.001715	0.001747	0.002065
Uranium, Total	Operations	Mar	13	0.000732	0.000765	0.001157	-	-	-	0.001636	0.001627	0.002032
Uranium, Total	Operations	Apr	13	0.000941	0.000975	0.001506	-	-	-	0.001511	0.001534	0.001968
Uranium, Total	Operations	May	13	0.001112	0.001160	0.001870	-	-	-	0.001438	0.001507	0.001909

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Uranium, Total	Operations	Jun	13	0.000959	0.000976	0.001459	-	-	-	0.001584	0.001641	0.001950
Uranium, Total	Operations	Jul	13	0.001034	0.001035	0.001550	-	-	-	0.001850	0.001864	0.002077
Uranium, Total	Operations	Aug	13	0.001005	0.001019	0.001500	-	-	-	0.002035	0.002027	0.002208
Uranium, Total	Operations	Sep	13	0.001060	0.001115	0.001676	-	-	-	0.002064	0.002041	0.002294
Uranium, Total	Operations	Oct	13	0.001304	0.001400	0.002307	-	-	-	0.002015	0.001957	0.002322
Uranium, Total	Operations	Nov	13	0.001549	0.001423	0.002145	-	-	-	0.001938	0.001899	0.002319
Uranium, Total	Operations	Dec	13	0.001647	0.001513	0.002277	-	-	-	0.001881	0.001872	0.002315
Uranium, Total	Closure	Jan	6	0.005585	0.005164	0.005664	-	-	-	0.002117	0.002133	0.002305
Uranium, Total	Closure	Feb	6	0.005583	0.005347	0.005634	-	-	-	0.002104	0.002120	0.002287
Uranium, Total	Closure	Mar	6	0.005575	0.005544	0.005648	-	-	-	0.002065	0.002078	0.002233
Uranium, Total	Closure	Apr	6	0.005690	0.005665	0.005693	-	-	-	0.002024	0.002036	0.002178
Uranium, Total	Closure	May	6	0.005639	0.005637	0.005639	-	-	-	0.002006	0.002018	0.002154
Uranium, Total	Closure	Jun	6	0.005600	0.005623	0.005669	-	-	-	0.002020	0.002032	0.002170
Uranium, Total	Closure	Jul	6	0.005627	0.005643	0.005675	-	-	-	0.002058	0.002071	0.002216
Uranium, Total	Closure	Aug	6	0.005715	0.005701	0.005715	-	-	-	0.002101	0.002114	0.002269
Uranium, Total	Closure	Sep	6	0.005678	0.005671	0.005678	-	-	-	0.002119	0.002133	0.002290
Uranium, Total	Closure	Oct	6	0.005758	0.005717	0.005758	-	-	-	0.002104	0.002117	0.002268
Uranium, Total	Closure	Nov	6	0.005834	0.005764	0.005834	-	-	-	0.002085	0.002097	0.002243
Uranium, Total	Closure	Dec	6	0.005785	0.005730	0.005785	-	-	-	0.002074	0.002086	0.002229
Uranium, Total	Post-Closure	Jan	109	0.001771	0.001834	0.004835	0.001339	0.001124	0.001376	0.000492	0.000616	0.001968
Uranium, Total	Post-Closure	Feb	109	0.001806	0.001854	0.003484	0.001338	0.001124	0.001375	0.000490	0.000613	0.001960
Uranium, Total	Post-Closure	Mar	109	0.001997	0.001997	0.002240	0.001335	0.001122	0.001373	0.000484	0.000606	0.001935
Uranium, Total	Post-Closure	Apr	109	0.002084	0.002062	0.002090	0.001333	0.001121	0.001370	0.000477	0.000598	0.001909
Uranium, Total	Post-Closure	May	109	0.002067	0.002049	0.002072	0.001331	0.001121	0.001369	0.000475	0.000594	0.001892
Uranium, Total	Post-Closure	Jun	109	0.002053	0.002041	0.002078	0.001333	0.001124	0.001370	0.000479	0.000597	0.001882
Uranium, Total	Post-Closure	Jul	109	0.002050	0.002037	0.002066	0.001337	0.001128	0.001374	0.000487	0.000603	0.001874
Uranium, Total	Post-Closure	Aug	109	0.002084	0.002063	0.002084	0.001340	0.001133	0.001378	0.000496	0.000611	0.001866
Uranium, Total	Post-Closure	Sep	109	0.002073	0.002053	0.002073	0.001343	0.001136	0.001380	0.000500	0.000613	0.001854
Uranium, Total	Post-Closure	Oct	109	0.002113	0.002081	0.002115	0.001342	0.001137	0.001380	0.000497	0.000610	0.001835
Uranium, Total	Post-Closure	Nov	109	0.002060	0.002035	0.002085	0.001340	0.001136	0.001378	0.000495	0.000606	0.001822
Uranium, Total	Post-Closure	Dec	109	0.001895	0.001911	0.002024	0.001339	0.001136	0.001377	0.000493	0.000604	0.001816
Zinc, Dissolved	Construction	Jan	2	0.00144	0.00144	0.00160	-	-	-	-	-	-
Zinc, Dissolved	Construction	Feb	2	0.00183	0.00183	0.00183	-	-	-	-	-	-
Zinc, Dissolved	Construction	Mar	2	0.00233	0.00233	0.00233	-	-	-	0.00006	0.00006	0.00007
Zinc, Dissolved	Construction	Apr	2	0.00256	0.00256	0.00259	-	-	-	0.00002	0.00002	0.00002
Zinc, Dissolved	Construction	May	2	0.00268	0.00268	0.00270	-	-	-	0.00002	0.00002	0.00002
Zinc, Dissolved	Construction	Jun	2	0.00253	0.00253	0.00254	-	-	-	0.00002	0.00002	0.00002
Zinc, Dissolved	Construction	Jul	2	0.00219	0.00219	0.00226	-	-	-	0.00002	0.00002	0.00002
Zinc, Dissolved	Construction	Aug	2	0.00214	0.00214	0.00223	-	-	-	0.00073	0.00073	0.00073
Zinc, Dissolved	Construction	Sep	2	0.00204	0.00204	0.00204	-	-	-	0.00271	0.00271	0.00539
Zinc, Dissolved	Construction	Oct	2	0.00190	0.00190	0.00200	-	-	-	0.00300	0.00300	0.00300
Zinc, Dissolved	Construction	Nov	2	0.00177	0.00177	0.00189	-	-	-	0.00225	0.00225	0.00225
Zinc, Dissolved	Construction	Dec	2	0.00173	0.00173	0.00187	-	-	-	0.00188	0.00188	0.00188
Zinc, Dissolved	Operations	Jan	13	0.00277	0.00281	0.00346	-	-	-	0.00236	0.00209	0.00295
Zinc, Dissolved	Operations	Feb	13	0.00328	0.00319	0.00360	-	-	-	0.00201	0.00186	0.00281
Zinc, Dissolved	Operations	Mar	13	0.00340	0.00337	0.00356	-	-	-	0.00166	0.00162	0.00264
Zinc, Dissolved	Operations	Apr	13	0.00317	0.00309	0.00330	-	-	-	0.00163	0.00175	0.00252
Zinc, Dissolved	Operations	May	13	0.00295	0.00289	0.00315	-	-	-	0.00217	0.00214	0.00258
Zinc, Dissolved	Operations	Jun	13	0.00329	0.00325	0.00337	-	-	-	0.00260	0.00278	0.00390
Zinc, Dissolved	Operations	Jul	13	0.00324	0.00319	0.00329	-	-	-	0.00329	0.00365	0.00560
Zinc, Dissolved	Operations	Aug	13	0.00327	0.00321	0.00332	-	-	-	0.00383	0.00431	0.00638
Zinc, Dissolved	Operations	Sep	13	0.00322	0.00314	0.00327	-	-	-	0.00406	0.00415	0.00525
Zinc, Dissolved	Operations	Oct	13	0.00299	0.00292	0.00325	-	-	-	0.00377	0.00351	0.00413
Zinc, Dissolved	Operations	Nov	13	0.00301	0.00288	0.00324	-	-	-	0.00336	0.00295	0.00411
Zinc, Dissolved	Operations	Dec	13	0.00303	0.00289	0.00335	-	-	-	0.00298	0.00256	0.00407
Zinc, Dissolved	Closure	Jan	6	0.00232	0.00241	0.00294	-	-	-	0.00702	0.00677	0.00885
Zinc, Dissolved	Closure	Feb	6	0.00232	0.00237	0.00267	-	-	-	0.00698	0.00673	0.00880
Zinc, Dissolved	Closure	Mar	6	0.00232	0.00233	0.00241	-	-	-	0.00685	0.00660	0.00866
Zinc, Dissolved	Closure	Apr	6	0.00235	0.00235	0.00236	-	-	-	0.00672	0.00649	0.00852
Zinc, Dissolved	Closure	May	6	0.00231	0.00231	0.00231	-	-	-	0.00672	0.00649	0.00850
Zinc, Dissolved	Closure	Jun	6	0.00228	0.00229	0.00230	-	-	-	0.00692	0.00669	0.00866
Zinc, Dissolved	Closure	Jul	6	0.00221	0.00221	0.00222	-	-	-	0.00730	0.00708	0.00899
Zinc, Dissolved	Closure	Aug	6	0.00221	0.00221	0.00221	-	-	-	0.00772	0.00752	0.00937
Zinc, Dissolved	Closure	Sep	6	0.00226	0.00225	0.00226	-	-	-	0.00796	0.00777	0.00957
Zinc, Dissolved	Closure	Oct	6	0.00230	0.00229	0.00230	-	-	-	0.00797	0.00779	0.00957
Zinc, Dissolved	Closure	Nov	6	0.00235	0.00232	0.00235	-	-	-	0.00792	0.00774	0.00950
Zinc, Dissolved	Closure	Dec	6	0.00235	0.00233	0.00235	-	-	-	0.00788	0.00770	0.00946
Zinc, Dissolved	Post-Closure	Jan	109	0.01058	0.01076	0.01199	0.00752	0.00650	0.00832	0.00451	0.00492	0.00942
Zinc, Dissolved	Post-Closure	Feb	109	0.01080	0.01100	0.01195	0.00751	0.00649	0.00831	0.00449	0.00490	0.00939
Zinc, Dissolved	Post-Closure	Mar	109	0.01202	0.01202	0.01219	0.00750	0.00648	0.00830	0.00443	0.00484	0.00927
Zinc, Dissolved	Post-Closure	Apr	109	0.01254	0.01242	0.01258	0.00749	0.00647	0.00828	0.00438	0.00478	0.00915
Zinc, Dissolved	Post-Closure	May	109	0.01236	0.01228	0.01240	0.00749	0.00647	0.00827	0.00436	0.00476	0.00908
Zinc, Dissolved	Post-Closure	Jun	109	0.01227	0.01222	0.01242	0.00750	0.00649	0.00828	0.00439	0.00478	0.00907
Zinc, Dissolved	Post-Closure	Jul	109	0.01213	0.01206	0.01223	0.00752	0.00651	0.00831	0.00446	0.00485	0.00909
Zinc, Dissolved	Post-Closure	Aug	109	0.01230	0.01218	0.01230	0.00755	0.00654	0.00833	0.00454	0.00493	0.00911
Zinc, Dissolved	Post-Closure	Sep	109	0.01235	0.01225	0.01235	0.00756	0.00655	0.00835	0.00458	0.00496	0.00909
Zinc, Dissolved	Post-Closure	Oct	109	0.01261	0.01243	0.01262	0.00756	0.00655	0.00834	0.00456	0.00493	0.00902
Zinc, Dissolved	Post-Closure	Nov	109	0.01227	0.01216	0.01244	0.00755	0.00655	0.00833	0.00453	0.00491	0.00896
Zinc, Dissolved	Post-Closure	Dec	109	0.01131	0.01143	0.01222	0.00755	0.00655	0.00833	0.00452	0.00489	0.00893
Zinc, Total	Construction	Jan	2	0.01261	0.01261	0.01325	-	-	-	-	-	-
Zinc, Total	Construction	Feb	2	0.01112	0.01112	0.01154	-	-	-	-	-	-
Zinc, Total	Construction	Mar	2	0.00877	0.00877	0.00929	-	-	-	0.00007	0.00007	0.00009
Zinc, Total	Construction	Apr	2	0.00786	0.00786	0.00851	-	-	-	0.00002	0.00002	0.00002
Zinc, Total	Construction	May	2	0.00722	0.00722	0.00785	-	-	-	0.00002	0.00002	0.00002
Zinc, Total	Construction	Jun	2	0.00810	0.00810	0.00874	-	-	-	0.00003	0.00003	0.00003
Zinc, Total	Construction	Jul	2	0.00897	0.00897	0.00982	-	-	-	0.00003	0.00003	0.00003
Zinc, Total	Construction	Aug	2	0.00901	0.00901	0.00992	-	-	-	0.00154	0.00154	0.00154
Zinc, Total	Construction	Sep	2	0.00868	0.00868	0.01030	-	-	-	0.00340	0.00340	0.00671
Zinc, Total	Construction	Oct	2	0.00983	0.00983	0.01122	-	-	-	0.00380	0.00380	0.00380
Zinc, Total	Construction	Nov	2	0.01038	0.01038	0.01182	-	-	-	0.00302	0.00302	0.00302
Zinc, Total	Construction	Dec	2	0.01064	0.01064	0.01213	-	-	-	0.00267	0.00267	0.00267
Zinc, Total	Operations	Jan	13	0.00472	0.00516	0.00879	-	-	-	0.00318	0.00292	0.00371
Zinc, Total	Operations	Feb	13	0.00430	0.00460	0.00768	-	-	-	0.00284	0.00270	0.00358
Zinc, Total	Operations	Mar	13	0.00392	0.00415	0.00612	-	-	-	0.00245	0.00239	0.00338
Zinc, Total	Operations	Apr	13	0.00408	0.00435	0.00638	-	-	-	0.00232	0.00244	0.00323
Zinc, Total	Operations	May	13	0.00423	0.00453	0.00649	-	-	-	0.00278	0.00279	0.00325
Zinc, Total	Operations	Jun	13	0.00409	0.00422	0.00473	-	-	-	0.00329	0.00345	0.00458

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Zinc, Total	Operations	Jul	13	0.00413	0.00426	0.00489	-	-	-	0.00396	0.00438	0.00638
Zinc, Total	Operations	Aug	13	0.00411	0.00424	0.00482	-	-	-	0.00471	0.00507	0.00722
Zinc, Total	Operations	Sep	13	0.00412	0.00427	0.00494	-	-	-	0.00475	0.00492	0.00604
Zinc, Total	Operations	Oct	13	0.00432	0.00451	0.00592	-	-	-	0.00450	0.00426	0.00480
Zinc, Total	Operations	Nov	13	0.00438	0.00461	0.00627	-	-	-	0.00411	0.00371	0.00474
Zinc, Total	Operations	Dec	13	0.00456	0.00475	0.00641	-	-	-	0.00376	0.00335	0.00470
Zinc, Total	Closure	Jan	6	0.00422	0.00423	0.00439	-	-	-	0.00750	0.00726	0.00924
Zinc, Total	Closure	Feb	6	0.00422	0.00423	0.00433	-	-	-	0.00746	0.00722	0.00920
Zinc, Total	Closure	Mar	6	0.00423	0.00424	0.00427	-	-	-	0.00732	0.00709	0.00905
Zinc, Total	Closure	Apr	6	0.00427	0.00426	0.00427	-	-	-	0.00719	0.00696	0.00890
Zinc, Total	Closure	May	6	0.00424	0.00424	0.00424	-	-	-	0.00718	0.00696	0.00887
Zinc, Total	Closure	Jun	6	0.00423	0.00423	0.00425	-	-	-	0.00737	0.00716	0.00904
Zinc, Total	Closure	Jul	6	0.00426	0.00427	0.00428	-	-	-	0.00775	0.00755	0.00937
Zinc, Total	Closure	Aug	6	0.00430	0.00430	0.00430	-	-	-	0.00818	0.00799	0.00975
Zinc, Total	Closure	Sep	6	0.00419	0.00419	0.00419	-	-	-	0.00842	0.00824	0.00995
Zinc, Total	Closure	Oct	6	0.00417	0.00416	0.00417	-	-	-	0.00843	0.00825	0.00994
Zinc, Total	Closure	Nov	6	0.00422	0.00419	0.00422	-	-	-	0.00837	0.00820	0.00988
Zinc, Total	Closure	Dec	6	0.00424	0.00422	0.00424	-	-	-	0.00833	0.00815	0.00983
Zinc, Total	Post-Closure	Jan	109	0.01316	0.01335	0.01465	0.00889	0.00763	0.00985	0.00461	0.00505	0.00980
Zinc, Total	Post-Closure	Feb	109	0.01339	0.01360	0.01463	0.00889	0.00762	0.00984	0.00459	0.00503	0.00976
Zinc, Total	Post-Closure	Mar	109	0.01467	0.01468	0.01484	0.00887	0.00761	0.00982	0.00454	0.00497	0.00964
Zinc, Total	Post-Closure	Apr	109	0.01519	0.01508	0.01524	0.00886	0.00760	0.00980	0.00448	0.00490	0.00951
Zinc, Total	Post-Closure	May	109	0.01505	0.01497	0.01509	0.00885	0.00760	0.00979	0.00446	0.00488	0.00944
Zinc, Total	Post-Closure	Jun	109	0.01499	0.01494	0.01514	0.00887	0.00762	0.00981	0.00449	0.00491	0.00942
Zinc, Total	Post-Closure	Jul	109	0.01510	0.01504	0.01520	0.00889	0.00765	0.00983	0.00456	0.00497	0.00944
Zinc, Total	Post-Closure	Aug	109	0.01532	0.01521	0.01532	0.00892	0.00768	0.00986	0.00465	0.00505	0.00946
Zinc, Total	Post-Closure	Sep	109	0.01504	0.01494	0.01504	0.00894	0.00770	0.00988	0.00468	0.00508	0.00944
Zinc, Total	Post-Closure	Oct	109	0.01516	0.01499	0.01518	0.00894	0.00770	0.00987	0.00466	0.00506	0.00937
Zinc, Total	Post-Closure	Nov	109	0.01483	0.01472	0.01500	0.00893	0.00770	0.00986	0.00464	0.00503	0.00930
Zinc, Total	Post-Closure	Dec	109	0.01388	0.01402	0.01486	0.00893	0.00770	0.00986	0.00462	0.00501	0.00927

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Cadmium, Total	Construction	Sep	2	0.0001077	0.0001077	0.0001336	-	-	-	0.0000394	0.0000394	0.0000786
Cadmium, Total	Construction	Oct	2	0.0001289	0.0001289	0.0001528	-	-	-	0.0000526	0.0000526	0.0000526
Cadmium, Total	Construction	Nov	2	0.0001393	0.0001393	0.0001644	-	-	-	0.0000464	0.0000464	0.0000464
Cadmium, Total	Construction	Dec	2	0.0001437	0.0001437	0.0001698	-	-	-	0.0000446	0.0000446	0.0000446
Cadmium, Total	Operations	Jan	13	0.0000505	0.0000529	0.0001110	-	-	-	0.0000516	0.0000497	0.0000551
Cadmium, Total	Operations	Feb	13	0.0000263	0.0000362	0.0000905	-	-	-	0.0000492	0.0000482	0.0000540
Cadmium, Total	Operations	Mar	13	0.0000176	0.0000221	0.0000609	-	-	-	0.0000446	0.0000431	0.0000519
Cadmium, Total	Operations	Apr	13	0.0000252	0.0000293	0.0000672	-	-	-	0.0000392	0.0000395	0.0000488
Cadmium, Total	Operations	May	13	0.0000319	0.0000361	0.0000701	-	-	-	0.0000386	0.0000397	0.0000470
Cadmium, Total	Operations	Jun	13	0.0000227	0.0000243	0.0000316	-	-	-	0.0000461	0.0000468	0.0000567
Cadmium, Total	Operations	Jul	13	0.0000227	0.0000243	0.0000329	-	-	-	0.0000535	0.0000579	0.0000777
Cadmium, Total	Operations	Aug	13	0.0000218	0.0000236	0.0000314	-	-	-	0.0000632	0.0000657	0.0000869
Cadmium, Total	Operations	Sep	13	0.0000248	0.0000266	0.0000356	-	-	-	0.0000627	0.0000649	0.0000760
Cadmium, Total	Operations	Oct	13	0.0000333	0.0000356	0.0000585	-	-	-	0.0000608	0.0000591	0.0000634
Cadmium, Total	Operations	Nov	13	0.0000372	0.0000389	0.0000668	-	-	-	0.0000578	0.0000550	0.0000602
Cadmium, Total	Operations	Dec	13	0.0000407	0.0000433	0.0000697	-	-	-	0.0000556	0.0000527	0.0000598
Cadmium, Total	Closure	Jan	6	0.0000489	0.0000475	0.0000493	-	-	-	0.0000810	0.0000791	0.0000942
Cadmium, Total	Closure	Feb	6	0.0000489	0.0000481	0.0000492	-	-	-	0.0000805	0.0000787	0.0000937
Cadmium, Total	Closure	Mar	6	0.0000489	0.0000488	0.0000493	-	-	-	0.0000790	0.0000772	0.0000922
Cadmium, Total	Closure	Apr	6	0.0000495	0.0000494	0.0000495	-	-	-	0.0000775	0.0000757	0.0000907
Cadmium, Total	Closure	May	6	0.0000493	0.0000493	0.0000493	-	-	-	0.0000773	0.0000755	0.0000903
Cadmium, Total	Closure	Jun	6	0.0000492	0.0000494	0.0000496	-	-	-	0.0000790	0.0000773	0.0000918
Cadmium, Total	Closure	Jul	6	0.0000493	0.0000494	0.0000495	-	-	-	0.0000825	0.0000809	0.0000949
Cadmium, Total	Closure	Aug	6	0.0000497	0.0000496	0.0000497	-	-	-	0.0000864	0.0000849	0.0000983
Cadmium, Total	Closure	Sep	6	0.0000494	0.0000494	0.0000494	-	-	-	0.0000885	0.0000872	0.0001002
Cadmium, Total	Closure	Oct	6	0.0000498	0.0000496	0.0000498	-	-	-	0.0000885	0.0000871	0.0001000
Cadmium, Total	Closure	Nov	6	0.0000501	0.0000498	0.0000501	-	-	-	0.0000878	0.0000865	0.0000993
Cadmium, Total	Closure	Dec	6	0.0000499	0.0000496	0.0000499	-	-	-	0.0000874	0.0000860	0.0000988
Cadmium, Total	Post-Closure	Jan	109	0.0003169	0.0003206	0.0003504	0.0000542	0.0000458	0.0000632	0.0000414	0.0000462	0.0000985
Cadmium, Total	Post-Closure	Feb	109	0.0003226	0.0003268	0.0003488	0.0000551	0.0000465	0.0000642	0.0000412	0.0000460	0.0000981
Cadmium, Total	Post-Closure	Mar	109	0.0003535	0.0003527	0.0003578	0.0000576	0.0000486	0.0000671	0.0000407	0.0000454	0.0000968
Cadmium, Total	Post-Closure	Apr	109	0.0003678	0.0003639	0.0003686	0.0000603	0.0000509	0.0000701	0.0000402	0.0000449	0.0000955
Cadmium, Total	Post-Closure	May	109	0.0003649	0.0003618	0.0003656	0.0000598	0.0000505	0.0000696	0.0000400	0.0000446	0.0000948
Cadmium, Total	Post-Closure	Jun	109	0.0003625	0.0003605	0.0003666	0.0000577	0.0000488	0.0000670	0.0000403	0.0000449	0.0000946
Cadmium, Total	Post-Closure	Jul	109	0.0003627	0.0003605	0.0003654	0.0000567	0.0000480	0.0000659	0.0000410	0.0000455	0.0000946
Cadmium, Total	Post-Closure	Aug	109	0.0003685	0.0003649	0.0003685	0.0000560	0.0000475	0.0000650	0.0000417	0.0000462	0.0000947
Cadmium, Total	Post-Closure	Sep	109	0.0003669	0.0003636	0.0003669	0.0000550	0.0000466	0.0000638	0.0000421	0.0000465	0.0000944
Cadmium, Total	Post-Closure	Oct	109	0.0003735	0.0003680	0.0003737	0.0000534	0.0000453	0.0000619	0.0000419	0.0000462	0.0000936
Cadmium, Total	Post-Closure	Nov	109	0.0003645	0.0003604	0.0003687	0.0000529	0.0000449	0.0000614	0.0000417	0.0000460	0.0000930
Cadmium, Total	Post-Closure	Dec	109	0.0003373	0.0003398	0.0003579	0.0000538	0.0000456	0.0000623	0.0000415	0.0000458	0.0000927
Chromium, Dissolve	Construction	Jan	2	0.0000860	0.0000860	0.0000866	-	-	-	-	-	-
Chromium, Dissolve	Construction	Feb	2	0.0001008	0.0001008	0.0001042	-	-	-	-	-	-
Chromium, Dissolve	Construction	Mar	2	0.0001194	0.0001194	0.0001199	-	-	-	0.0000043	0.0000043	0.0000056
Chromium, Dissolve	Construction	Apr	2	0.0001279	0.0001279	0.0001287	-	-	-	0.0000013	0.0000013	0.0000013
Chromium, Dissolve	Construction	May	2	0.0001255	0.0001255	0.0001261	-	-	-	0.0000013	0.0000013	0.0000013
Chromium, Dissolve	Construction	Jun	2	0.0001157	0.0001157	0.0001159	-	-	-	0.0000012	0.0000012	0.0000012
Chromium, Dissolve	Construction	Jul	2	0.0001049	0.0001049	0.0001086	-	-	-	0.0000010	0.0000010	0.0000010
Chromium, Dissolve	Construction	Aug	2	0.0001045	0.0001045	0.0001086	-	-	-	0.0000539	0.0000539	0.0000539
Chromium, Dissolve	Construction	Sep	2	0.0000970	0.0000970	0.0000975	-	-	-	0.0000998	0.0000998	0.0001967
Chromium, Dissolve	Construction	Oct	2	0.0000911	0.0000911	0.0000956	-	-	-	0.0001095	0.0001095	0.0001095
Chromium, Dissolve	Construction	Nov	2	0.0000880	0.0000880	0.0000936	-	-	-	0.0000939	0.0000939	0.0000939
Chromium, Dissolve	Construction	Dec	2	0.0000902	0.0000902	0.0000964	-	-	-	0.0000887	0.0000887	0.0000887
Chromium, Dissolve	Operations	Jan	13	0.0001446	0.0001421	0.0001674	-	-	-	0.0001029	0.0001001	0.0001200
Chromium, Dissolve	Operations	Feb	13	0.0001513	0.0001506	0.0001656	-	-	-	0.0000970	0.0000963	0.0001174
Chromium, Dissolve	Operations	Mar	13	0.0001568	0.0001558	0.0001642	-	-	-	0.0000888	0.0000886	0.0001133
Chromium, Dissolve	Operations	Apr	13	0.0001521	0.0001498	0.0001624	-	-	-	0.0000942	0.0000939	0.0001114
Chromium, Dissolve	Operations	May	13	0.0001427	0.0001398	0.0001559	-	-	-	0.0001027	0.0001039	0.0001136
Chromium, Dissolve	Operations	Jun	13	0.0001522	0.0001512	0.0001622	-	-	-	0.0001134	0.0001153	0.0001303
Chromium, Dissolve	Operations	Jul	13	0.0001525	0.0001518	0.0001636	-	-	-	0.0001264	0.0001292	0.0001543
Chromium, Dissolve	Operations	Aug	13	0.0001538	0.0001527	0.0001642	-	-	-	0.0001368	0.0001403	0.0001662
Chromium, Dissolve	Operations	Sep	13	0.0001526	0.0001500	0.0001632	-	-	-	0.0001398	0.0001369	0.0001479
Chromium, Dissolve	Operations	Oct	13	0.0001512	0.0001441	0.0001630	-	-	-	0.0001326	0.0001245	0.0001431
Chromium, Dissolve	Operations	Nov	13	0.0001471	0.0001440	0.0001653	-	-	-	0.0001236	0.0001148	0.0001422
Chromium, Dissolve	Operations	Dec	13	0.0001494	0.0001466	0.0001679	-	-	-	0.0001154	0.0001090	0.0001414
Chromium, Dissolve	Closure	Jan	6	0.0001878	0.0001856	0.0001900	-	-	-	0.0001715	0.0001689	0.0001905
Chromium, Dissolve	Closure	Feb	6	0.0001894	0.0001882	0.0001909	-	-	-	0.0001706	0.0001679	0.0001895
Chromium, Dissolve	Closure	Mar	6	0.0001910	0.0001913	0.0001930	-	-	-	0.0001675	0.0001649	0.0001866
Chromium, Dissolve	Closure	Apr	6	0.0001947	0.0001941	0.0001947	-	-	-	0.0001644	0.0001619	0.0001836
Chromium, Dissolve	Closure	May	6	0.0001851	0.0001851	0.0001851	-	-	-	0.0001638	0.0001613	0.0001828
Chromium, Dissolve	Closure	Jun	6	0.0001793	0.0001799	0.0001813	-	-	-	0.0001668	0.0001644	0.0001853
Chromium, Dissolve	Closure	Jul	6	0.0001796	0.0001801	0.0001810	-	-	-	0.0001730	0.0001707	0.0001908
Chromium, Dissolve	Closure	Aug	6	0.0001821	0.0001817	0.0001821	-	-	-	0.0001799	0.0001778	0.0001969
Chromium, Dissolve	Closure	Sep	6	0.0001810	0.0001808	0.0001810	-	-	-	0.0001836	0.0001817	0.0002002
Chromium, Dissolve	Closure	Oct	6	0.0001832	0.0001821	0.0001832	-	-	-	0.0001832	0.0001813	0.0001996
Chromium, Dissolve	Closure	Nov	6	0.0001884	0.0001864	0.0001884	-	-	-	0.0001818	0.0001799	0.0001982
Chromium, Dissolve	Closure	Dec	6	0.0001912	0.0001896	0.0001912	-	-	-	0.0001809	0.0001790	0.0001973
Chromium, Dissolve	Post-Closure	Jan	109	0.0004231	0.0004325	0.0004857	0.0002816	0.0002503	0.0003079	0.0000830	0.0000925	0.0001966
Chromium, Dissolve	Post-Closure	Feb	109	0.0004335	0.0004434	0.0004874	0.0002814	0.0002503	0.0003077	0.0000827	0.0000922	0.0001959
Chromium, Dissolve	Post-Closure	Mar	109	0.0004877	0.0004886	0.0004944	0.0002810	0.0002497	0.0003071	0.0000818	0.0000912	0.0001935
Chromium, Dissolve	Post-Closure	Apr	109	0.0005078	0.0005045	0.0005100	0.0002805	0.0002493	0.0003065	0.0000809	0.0000901	0.0001911
Chromium, Dissolve	Post-Closure	May	109	0.0004861	0.0004835	0.0004879	0.0002803	0.0002492	0.0003063	0.0000806	0.0000897	0.0001896
Chromium, Dissolve	Post-Closure	Jun	109	0.0004761	0.0004742	0.0004816	0.0002807	0.0002496	0.0003066	0.0000811	0.0000902	0.0001891
Chromium, Dissolve	Post-Closure	Jul	109	0.0004772	0.0004749	0.0004809	0.0002816	0.0002505	0.0003075	0.0000823	0.0000913	0.0001891
Chromium, Dissolve	Post-Closure	Aug	109	0.0004849	0.0004807	0.0004849	0.0002825	0.0002514	0.0003084	0.0000836	0.0000925	0.0001892
Chromium, Dissolve	Post-Closure	Sep	109	0.0004825	0.0004787	0.0004825	0.0002830	0.0002519	0.0003088	0.0000842	0.0000930	0.0001885
Chromium, Dissolve	Post-Closure	Oct	109	0.0004900	0.0004837	0.0004908	0.0002829	0.0002519	0.0003087	0.0000839	0.0000926	0.0001869
Chromium, Dissolve	Post-Closure	Nov	109	0.0004809	0.0004771	0.0004874	0.0002826	0.0002518	0.0003083	0.0000835	0.0000921	0.0001857
Chromium, Dissolve	Post-Closure	Dec	109	0.0004492	0.0004554	0.0004904	0.0002825	0.0002518	0.0003082	0.0000832	0.0000918	0.0001850
Chromium (VI), Diss	Construction	Jan	2	0.0000860	0.0000860	0.0000866	-	-	-	-	-	-
Chromium (VI), Diss	Construction	Feb	2	0.0001008	0.0001008	0.0001042	-	-	-	-	-	-
Chromium (VI), Diss	Construction	Mar	2	0.0001194	0.0001194	0.0001199	-	-	-	0.0000043	0.0000043	0.0000056
Chromium (VI), Diss	Construction	Apr	2	0.0001278	0.0001278	0.0001287	-	-	-	0.0000013	0.0000013	0.0000013
Chromium (VI), Diss	Construction	May	2	0.0001255	0.0001255	0.0001261	-	-	-	0.0000013	0.0000013	0.0000013
Chromium (VI), Diss	Construction	Jun	2	0.0001157	0.0001157	0.0001159	-	-	-	0.0000012	0.0000012	0.0000012
Chromium (VI), Diss	Construction	Jul	2	0.0001049	0.0001049	0.0001086	-	-	-	0.0000010	0.0000010	0.0000010
Chromium (VI), Diss	Construction	Aug	2	0.0001045	0.0001045	0.0001086	-	-	-	0.0000539	0.0000539	0.0000539
Chromium (VI), Diss	Construction	Sep	2	0.0000970	0.0000970	0.0000975	-	-	-	0.0000998	0.0000998	0.0001967

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Chromium (VI), Diss	Construction	Oct	2	0.0000911	0.0000911	0.0000956	-	-	-	0.0001095	0.0001095	0.0001095
Chromium (VI), Diss	Construction	Nov	2	0.0000880	0.0000880	0.0000936	-	-	-	0.0000939	0.0000939	0.0000939
Chromium (VI), Diss	Construction	Dec	2	0.0000902	0.0000902	0.0000964	-	-	-	0.0000887	0.0000887	0.0000887
Chromium (VI), Diss	Operations	Jan	13	0.0001446	0.0001421	0.0001674	-	-	-	0.0001029	0.0001001	0.0001200
Chromium (VI), Diss	Operations	Feb	13	0.0001513	0.0001506	0.0001656	-	-	-	0.0000970	0.0000963	0.0001174
Chromium (VI), Diss	Operations	Mar	13	0.0001568	0.0001558	0.0001642	-	-	-	0.0000888	0.0000886	0.0001133
Chromium (VI), Diss	Operations	Apr	13	0.0001521	0.0001498	0.0001624	-	-	-	0.0000942	0.0000939	0.0001114
Chromium (VI), Diss	Operations	May	13	0.0001427	0.0001398	0.0001559	-	-	-	0.0001027	0.0001039	0.0001136
Chromium (VI), Diss	Operations	Jun	13	0.0001522	0.0001512	0.0001622	-	-	-	0.0001134	0.0001153	0.0001303
Chromium (VI), Diss	Operations	Jul	13	0.0001525	0.0001518	0.0001636	-	-	-	0.0001264	0.0001292	0.0001543
Chromium (VI), Diss	Operations	Aug	13	0.0001538	0.0001527	0.0001642	-	-	-	0.0001368	0.0001403	0.0001662
Chromium (VI), Diss	Operations	Sep	13	0.0001526	0.0001500	0.0001632	-	-	-	0.0001398	0.0001369	0.0001479
Chromium (VI), Diss	Operations	Oct	13	0.0001512	0.0001441	0.0001630	-	-	-	0.0001326	0.0001245	0.0001431
Chromium (VI), Diss	Operations	Nov	13	0.0001471	0.0001440	0.0001653	-	-	-	0.0001236	0.0001148	0.0001422
Chromium (VI), Diss	Operations	Dec	13	0.0001494	0.0001466	0.0001679	-	-	-	0.0001154	0.0001090	0.0001414
Chromium (VI), Diss	Closure	Jan	6	0.0001878	0.0001856	0.0001900	-	-	-	0.0001715	0.0001689	0.0001905
Chromium (VI), Diss	Closure	Feb	6	0.0001894	0.0001882	0.0001909	-	-	-	0.0001706	0.0001679	0.0001895
Chromium (VI), Diss	Closure	Mar	6	0.0001910	0.0001913	0.0001930	-	-	-	0.0001675	0.0001649	0.0001866
Chromium (VI), Diss	Closure	Apr	6	0.0001947	0.0001941	0.0001947	-	-	-	0.0001644	0.0001619	0.0001836
Chromium (VI), Diss	Closure	May	6	0.0001851	0.0001851	0.0001851	-	-	-	0.0001638	0.0001613	0.0001828
Chromium (VI), Diss	Closure	Jun	6	0.0001793	0.0001799	0.0001813	-	-	-	0.0001668	0.0001644	0.0001853
Chromium (VI), Diss	Closure	Jul	6	0.0001796	0.0001801	0.0001810	-	-	-	0.0001730	0.0001707	0.0001908
Chromium (VI), Diss	Closure	Aug	6	0.0001821	0.0001817	0.0001821	-	-	-	0.0001799	0.0001778	0.0001969
Chromium (VI), Diss	Closure	Sep	6	0.0001810	0.0001808	0.0001810	-	-	-	0.0001836	0.0001817	0.0002002
Chromium (VI), Diss	Closure	Oct	6	0.0001832	0.0001821	0.0001832	-	-	-	0.0001832	0.0001813	0.0001996
Chromium (VI), Diss	Closure	Nov	6	0.0001884	0.0001864	0.0001884	-	-	-	0.0001818	0.0001799	0.0001982
Chromium (VI), Diss	Closure	Dec	6	0.0001912	0.0001896	0.0001912	-	-	-	0.0001809	0.0001790	0.0001973
Chromium (VI), Diss	Post-Closure	Jan	109	0.0004231	0.0004325	0.0004857	0.0002816	0.0002503	0.0003079	0.0000830	0.0000925	0.0001966
Chromium (VI), Diss	Post-Closure	Feb	109	0.0004335	0.0004434	0.0004874	0.0002814	0.0002503	0.0003077	0.0000827	0.0000922	0.0001959
Chromium (VI), Diss	Post-Closure	Mar	109	0.0004877	0.0004886	0.0004944	0.0002810	0.0002497	0.0003071	0.0000818	0.0000912	0.0001935
Chromium (VI), Diss	Post-Closure	Apr	109	0.0005078	0.0005045	0.0005100	0.0002805	0.0002493	0.0003065	0.0000809	0.0000901	0.0001911
Chromium (VI), Diss	Post-Closure	May	109	0.0004861	0.0004835	0.0004879	0.0002803	0.0002492	0.0003063	0.0000806	0.0000897	0.0001896
Chromium (VI), Diss	Post-Closure	Jun	109	0.0004761	0.0004742	0.0004816	0.0002807	0.0002496	0.0003066	0.0000811	0.0000902	0.0001891
Chromium (VI), Diss	Post-Closure	Jul	109	0.0004772	0.0004749	0.0004809	0.0002816	0.0002505	0.0003075	0.0000823	0.0000913	0.0001891
Chromium (VI), Diss	Post-Closure	Aug	109	0.0004849	0.0004807	0.0004849	0.0002825	0.0002514	0.0003084	0.0000836	0.0000925	0.0001892
Chromium (VI), Diss	Post-Closure	Sep	109	0.0004825	0.0004787	0.0004825	0.0002830	0.0002519	0.0003088	0.0000842	0.0000930	0.0001885
Chromium (VI), Diss	Post-Closure	Oct	109	0.0004900	0.0004837	0.0004908	0.0002829	0.0002519	0.0003087	0.0000839	0.0000926	0.0001869
Chromium (VI), Diss	Post-Closure	Nov	109	0.0004809	0.0004771	0.0004874	0.0002826	0.0002518	0.0003083	0.0000835	0.0000921	0.0001857
Chromium (VI), Diss	Post-Closure	Dec	109	0.0004492	0.0004554	0.0004904	0.0002825	0.0002518	0.0003082	0.0000832	0.0000918	0.0001850
Chromium, Total	Construction	Jan	2	0.0031343	0.0031343	0.0033233	-	-	-	-	-	-
Chromium, Total	Construction	Feb	2	0.0026898	0.0026898	0.0027323	-	-	-	-	-	-
Chromium, Total	Construction	Mar	2	0.0019930	0.0019930	0.0020030	-	-	-	0.0000064	0.0000064	0.0000088
Chromium, Total	Construction	Apr	2	0.0016921	0.0016921	0.0017414	-	-	-	0.0000020	0.0000020	0.0000020
Chromium, Total	Construction	May	2	0.0015058	0.0015058	0.0015254	-	-	-	0.0000020	0.0000020	0.0000020
Chromium, Total	Construction	Jun	2	0.0017809	0.0017809	0.0017961	-	-	-	0.0000022	0.0000022	0.0000022
Chromium, Total	Construction	Jul	2	0.0020591	0.0020591	0.0021322	-	-	-	0.0000020	0.0000020	0.0000020
Chromium, Total	Construction	Aug	2	0.0020616	0.0020616	0.0021525	-	-	-	0.0000614	0.0000614	0.0000614
Chromium, Total	Construction	Sep	2	0.0020200	0.0020200	0.0022985	-	-	-	0.0003604	0.0003604	0.0007176
Chromium, Total	Construction	Oct	2	0.0024264	0.0024264	0.0026243	-	-	-	0.0005285	0.0005285	0.0005285
Chromium, Total	Construction	Nov	2	0.0026278	0.0026278	0.0028254	-	-	-	0.0005198	0.0005198	0.0005198
Chromium, Total	Construction	Dec	2	0.0027203	0.0027203	0.0029272	-	-	-	0.0005394	0.0005394	0.0005394
Chromium, Total	Operations	Jan	13	0.0018201	0.0018757	0.0024649	-	-	-	0.0005902	0.0005986	0.0006535
Chromium, Total	Operations	Feb	13	0.0010571	0.0011874	0.0021435	-	-	-	0.0005978	0.0006022	0.0006441
Chromium, Total	Operations	Mar	13	0.0006165	0.0007374	0.0016221	-	-	-	0.0005657	0.0005496	0.0005780
Chromium, Total	Operations	Apr	13	0.0011369	0.0011699	0.0018905	-	-	-	0.0005254	0.0005117	0.0005533
Chromium, Total	Operations	May	13	0.0015137	0.0015008	0.0019708	-	-	-	0.0004969	0.0004952	0.0005400
Chromium, Total	Operations	Jun	13	0.0010166	0.0009810	0.0010976	-	-	-	0.0005170	0.0005200	0.0005608
Chromium, Total	Operations	Jul	13	0.0010455	0.0010166	0.0010720	-	-	-	0.0005428	0.0005574	0.0006336
Chromium, Total	Operations	Aug	13	0.0009892	0.0009758	0.0011901	-	-	-	0.0005610	0.0005803	0.0006561
Chromium, Total	Operations	Sep	13	0.0011389	0.0011190	0.0015773	-	-	-	0.0005688	0.0005791	0.0006419
Chromium, Total	Operations	Oct	13	0.0016356	0.0015036	0.0017384	-	-	-	0.0005647	0.0005650	0.0006086
Chromium, Total	Operations	Nov	13	0.0015058	0.0015919	0.0019098	-	-	-	0.0005657	0.0005708	0.0006247
Chromium, Total	Operations	Dec	13	0.0016855	0.0017143	0.0019515	-	-	-	0.0005778	0.0005869	0.0006625
Chromium, Total	Closure	Jan	6	0.0034879	0.0032510	0.0034902	-	-	-	0.0004379	0.0004438	0.0005071
Chromium, Total	Closure	Feb	6	0.0034907	0.0033567	0.0034922	-	-	-	0.0004354	0.0004410	0.0005033
Chromium, Total	Closure	Mar	6	0.0034934	0.0034649	0.0034955	-	-	-	0.0004273	0.0004326	0.0004917
Chromium, Total	Closure	Apr	6	0.0034974	0.0034934	0.0034975	-	-	-	0.0004191	0.0004240	0.0004798
Chromium, Total	Closure	May	6	0.0034999	0.0034992	0.0034999	-	-	-	0.0004151	0.0004198	0.0004739
Chromium, Total	Closure	Jun	6	0.0035157	0.0035163	0.0035177	-	-	-	0.0004167	0.0004214	0.0004754
Chromium, Total	Closure	Jul	6	0.0035059	0.0035063	0.0035072	-	-	-	0.0004222	0.0004270	0.0004821
Chromium, Total	Closure	Aug	6	0.0035047	0.0035044	0.0035047	-	-	-	0.0004283	0.0004333	0.0004894
Chromium, Total	Closure	Sep	6	0.0034951	0.0034949	0.0034951	-	-	-	0.0004303	0.0004352	0.0004913
Chromium, Total	Closure	Oct	6	0.0034838	0.0034826	0.0034838	-	-	-	0.0004266	0.0004313	0.0004857
Chromium, Total	Closure	Nov	6	0.0034843	0.0034823	0.0034843	-	-	-	0.0004226	0.0004272	0.0004801
Chromium, Total	Closure	Dec	6	0.0034899	0.0034883	0.0034899	-	-	-	0.0004205	0.0004249	0.0004771
Chromium, Total	Post-Closure	Jan	109	0.0037703	0.0037798	0.0038347	0.0019209	0.0015852	0.0021214	0.0000885	0.0001132	0.0003825
Chromium, Total	Post-Closure	Feb	109	0.0037830	0.0037935	0.0038403	0.0019197	0.0015846	0.0021199	0.0000882	0.0001128	0.0003810
Chromium, Total	Post-Closure	Mar	109	0.0038419	0.0038433	0.0038490	0.0019170	0.0015832	0.0021161	0.0000873	0.0001116	0.0003764
Chromium, Total	Post-Closure	Apr	109	0.0038625	0.0038597	0.0038650	0.0019141	0.0015819	0.0021121	0.0000864	0.0001103	0.0003715
Chromium, Total	Post-Closure	May	109	0.0038540	0.0038522	0.0038563	0.0019130	0.0015820	0.0021102	0.0000861	0.0001098	0.0003683
Chromium, Total	Post-Closure	Jun	109	0.0038644	0.0038635	0.0038704	0.0019159	0.0015856	0.0021127	0.0000867	0.0001102	0.0003662
Chromium, Total	Post-Closure	Jul	109	0.0038361	0.0038342	0.0038398	0.0019224	0.0015925	0.0021188	0.0000880	0.0001112	0.0003643
Chromium, Total	Post-Closure	Aug	109	0.0038358	0.0038318	0.0038358	0.0019292	0.0015996	0.0021251	0.0000893	0.0001122	0.0003623
Chromium, Total	Post-Closure	Sep	109	0.0038257	0.0038220	0.0038257	0.0019332	0.0016042	0.0021285	0.0000898	0.0001125	0.0003596
Chromium, Total	Post-Closure	Oct	109	0.0038217	0.0038153	0.0038225	0.0019330	0.0016051	0.0021275	0.0000894	0.0001118	0.0003560
Chromium, Total	Post-Closure	Nov	109	0.0038148	0.0038106	0.0038211	0.0019313	0.0016044	0.0021252	0.0000889	0.0001112	0.0003534
Chromium, Total	Post-Closure	Dec	109	0.0037929	0.0037990	0.0038338	0.0019302	0.0016038	0.0021238	0.0000887	0.0001108	0.0003522
Copper, Dissolved	Construction	Jan	2	0.00051	0.00051	0.00057	-	-	-	-	-	-
Copper, Dissolved	Construction	Feb	2	0.00070	0.00070	0.00071	-	-	-	-	-	-
Copper, Dissolved	Construction	Mar	2	0.00094	0.00094	0.00094	-	-	-	0.00002	0.00002	0.00002
Copper, Dissolved	Construction	Apr	2	0.00105	0.00105	0.00107	-	-	-	0.00000	0.00000	0.00000
Copper, Dissolved	Construction	May	2	0.00110	0.00110	0.00111	-	-	-	0.00001	0.00001	0.00001
Copper, Dissolved	Construction	Jun	2	0.00101	0.00101	0.00102	-	-	-	0.00000	0.00000	0.00000
Copper, Dissolved	Construction	Jul	2	0.00089	0.00089	0.00093	-	-	-	0.00000	0.00000	0.00000
Copper, Dissolved	Construction	Aug	2	0.00088	0.00088	0.00093	-	-	-	0.00023	0.00023	0.00023
Copper, Dissolved	Construction	Sep	2	0.00080	0.00080	0.00081	-	-	-	0.02274	0.02274	0.04546
Copper, Dissolved	Construction	Oct	2	0.00070	0.00070	0.00076	-	-	-	0.03646	0.03646	0.03646

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Copper, Dissolved	Construction	Nov	2	0.00064	0.00064	0.00071	-	-	-	0.03626	0.03626	0.03626
Copper, Dissolved	Construction	Dec	2	0.00064	0.00064	0.00072	-	-	-	0.03782	0.03782	0.03782
Copper, Dissolved	Operations	Jan	13	0.00154	0.00151	0.00201	-	-	-	0.04127	0.04200	0.04651
Copper, Dissolved	Operations	Feb	13	0.00156	0.00154	0.00182	-	-	-	0.04211	0.04231	0.04575
Copper, Dissolved	Operations	Mar	13	0.00157	0.00154	0.00170	-	-	-	0.03959	0.03837	0.04078
Copper, Dissolved	Operations	Apr	13	0.00154	0.00150	0.00177	-	-	-	0.03613	0.03487	0.03863
Copper, Dissolved	Operations	May	13	0.00151	0.00147	0.00181	-	-	-	0.03339	0.03305	0.03696
Copper, Dissolved	Operations	Jun	13	0.00158	0.00156	0.00179	-	-	-	0.03483	0.03489	0.03810
Copper, Dissolved	Operations	Jul	13	0.00159	0.00158	0.00182	-	-	-	0.03675	0.03798	0.04405
Copper, Dissolved	Operations	Aug	13	0.00160	0.00158	0.00182	-	-	-	0.03815	0.03993	0.04626
Copper, Dissolved	Operations	Sep	13	0.00159	0.00157	0.00184	-	-	-	0.03891	0.04000	0.04538
Copper, Dissolved	Operations	Oct	13	0.00160	0.00156	0.00197	-	-	-	0.03871	0.03912	0.04313
Copper, Dissolved	Operations	Nov	13	0.00164	0.00156	0.00195	-	-	-	0.03916	0.03967	0.04441
Copper, Dissolved	Operations	Dec	13	0.00167	0.00159	0.00200	-	-	-	0.04037	0.04093	0.04715
Copper, Dissolved	Closure	Jan	6	0.00296	0.00284	0.00300	-	-	-	0.02956	0.02991	0.03380
Copper, Dissolved	Closure	Feb	6	0.00297	0.00291	0.00300	-	-	-	0.02938	0.02973	0.03354
Copper, Dissolved	Closure	Mar	6	0.00298	0.00298	0.00302	-	-	-	0.02882	0.02915	0.03275
Copper, Dissolved	Closure	Apr	6	0.00304	0.00303	0.00304	-	-	-	0.02825	0.02855	0.03194
Copper, Dissolved	Closure	May	6	0.00299	0.00299	0.00299	-	-	-	0.02798	0.02827	0.03155
Copper, Dissolved	Closure	Jun	6	0.00295	0.00296	0.00299	-	-	-	0.02810	0.02839	0.03167
Copper, Dissolved	Closure	Jul	6	0.00296	0.00297	0.00298	-	-	-	0.02852	0.02881	0.03217
Copper, Dissolved	Closure	Aug	6	0.00300	0.00300	0.00300	-	-	-	0.02899	0.02929	0.03274
Copper, Dissolved	Closure	Sep	6	0.00296	0.00296	0.00296	-	-	-	0.02915	0.02946	0.03291
Copper, Dissolved	Closure	Oct	6	0.00300	0.00298	0.00300	-	-	-	0.02891	0.02921	0.03256
Copper, Dissolved	Closure	Nov	6	0.00305	0.00302	0.00305	-	-	-	0.02865	0.02893	0.03218
Copper, Dissolved	Closure	Dec	6	0.00305	0.00303	0.00305	-	-	-	0.02850	0.02877	0.03198
Copper, Dissolved	Post-Closure	Jan	109	0.00316	0.00322	0.00356	0.00178	0.00158	0.00196	0.00556	0.00729	0.02615
Copper, Dissolved	Post-Closure	Feb	109	0.00323	0.00330	0.00356	0.00179	0.00159	0.00197	0.00554	0.00726	0.02605
Copper, Dissolved	Post-Closure	Mar	109	0.00360	0.00360	0.00365	0.00182	0.00162	0.00201	0.00547	0.00717	0.02572
Copper, Dissolved	Post-Closure	Apr	109	0.00376	0.00372	0.00377	0.00186	0.00165	0.00205	0.00540	0.00708	0.02537
Copper, Dissolved	Post-Closure	May	109	0.00366	0.00364	0.00367	0.00185	0.00165	0.00205	0.00538	0.00704	0.02514
Copper, Dissolved	Post-Closure	Jun	109	0.00361	0.00360	0.00366	0.00182	0.00162	0.00201	0.00542	0.00706	0.02499
Copper, Dissolved	Post-Closure	Jul	109	0.00361	0.00359	0.00364	0.00181	0.00162	0.00200	0.00550	0.00713	0.02486
Copper, Dissolved	Post-Closure	Aug	109	0.00367	0.00363	0.00367	0.00180	0.00161	0.00199	0.00561	0.00721	0.02473
Copper, Dissolved	Post-Closure	Sep	109	0.00361	0.00358	0.00361	0.00179	0.00160	0.00198	0.00565	0.00724	0.02455
Copper, Dissolved	Post-Closure	Oct	109	0.00366	0.00361	0.00366	0.00176	0.00157	0.00195	0.00563	0.00720	0.02430
Copper, Dissolved	Post-Closure	Nov	109	0.00360	0.00356	0.00364	0.00175	0.00157	0.00194	0.00560	0.00715	0.02412
Copper, Dissolved	Post-Closure	Dec	109	0.00336	0.00339	0.00361	0.00177	0.00158	0.00195	0.00558	0.00713	0.02403
Copper, Total	Construction	Jan	2	0.00280	0.00280	0.00286	-	-	-	-	-	-
Copper, Total	Construction	Feb	2	0.00263	0.00263	0.00266	-	-	-	-	-	-
Copper, Total	Construction	Mar	2	0.00232	0.00232	0.00234	-	-	-	0.00002	0.00002	0.00002
Copper, Total	Construction	Apr	2	0.00220	0.00220	0.00223	-	-	-	0.00000	0.00000	0.00000
Copper, Total	Construction	May	2	0.00212	0.00212	0.00214	-	-	-	0.00001	0.00001	0.00001
Copper, Total	Construction	Jun	2	0.00224	0.00224	0.00227	-	-	-	0.00001	0.00001	0.00001
Copper, Total	Construction	Jul	2	0.00235	0.00235	0.00238	-	-	-	0.00001	0.00001	0.00001
Copper, Total	Construction	Aug	2	0.00236	0.00236	0.00240	-	-	-	0.00030	0.00030	0.00030
Copper, Total	Construction	Sep	2	0.00227	0.00227	0.00248	-	-	-	0.09956	0.09956	0.19911
Copper, Total	Construction	Oct	2	0.00250	0.00250	0.00262	-	-	-	0.16479	0.16479	0.16479
Copper, Total	Construction	Nov	2	0.00258	0.00258	0.00270	-	-	-	0.16723	0.16723	0.16723
Copper, Total	Construction	Dec	2	0.00263	0.00263	0.00274	-	-	-	0.17654	0.17654	0.17654
Copper, Total	Operations	Jan	13	0.00258	0.00267	0.00305	-	-	-	0.19119	0.19578	0.22308
Copper, Total	Operations	Feb	13	0.00230	0.00223	0.00275	-	-	-	0.19662	0.19836	0.21951
Copper, Total	Operations	Mar	13	0.00193	0.00192	0.00227	-	-	-	0.18282	0.18026	0.19489
Copper, Total	Operations	Apr	13	0.00217	0.00217	0.00240	-	-	-	0.16794	0.16343	0.18455
Copper, Total	Operations	May	13	0.00229	0.00237	0.00270	-	-	-	0.15533	0.15342	0.17493
Copper, Total	Operations	Jun	13	0.00209	0.00211	0.00235	-	-	-	0.15985	0.15916	0.17732
Copper, Total	Operations	Jul	13	0.00214	0.00216	0.00241	-	-	-	0.16590	0.16942	0.19929
Copper, Total	Operations	Aug	13	0.00210	0.00213	0.00237	-	-	-	0.16946	0.17535	0.20819
Copper, Total	Operations	Sep	13	0.00224	0.00223	0.00250	-	-	-	0.17154	0.17626	0.20743
Copper, Total	Operations	Oct	13	0.00238	0.00249	0.00296	-	-	-	0.17173	0.17496	0.20120
Copper, Total	Operations	Nov	13	0.00259	0.00254	0.00283	-	-	-	0.17587	0.18031	0.21242
Copper, Total	Operations	Dec	13	0.00271	0.00263	0.00294	-	-	-	0.18363	0.18837	0.22626
Copper, Total	Closure	Jan	6	0.00508	0.00481	0.00512	-	-	-	0.11106	0.11407	0.14661
Copper, Total	Closure	Feb	6	0.00508	0.00493	0.00510	-	-	-	0.11039	0.11334	0.14548
Copper, Total	Closure	Mar	6	0.00508	0.00506	0.00512	-	-	-	0.10830	0.11110	0.14205
Copper, Total	Closure	Apr	6	0.00514	0.00512	0.00514	-	-	-	0.10610	0.10874	0.13847
Copper, Total	Closure	May	6	0.00510	0.00510	0.00510	-	-	-	0.10479	0.10734	0.13631
Copper, Total	Closure	Jun	6	0.00509	0.00510	0.00512	-	-	-	0.10443	0.10694	0.13562
Copper, Total	Closure	Jul	6	0.00510	0.00511	0.00512	-	-	-	0.10460	0.10711	0.13572
Copper, Total	Closure	Aug	6	0.00514	0.00514	0.00514	-	-	-	0.10481	0.10730	0.13584
Copper, Total	Closure	Sep	6	0.00512	0.00512	0.00512	-	-	-	0.10444	0.10690	0.13512
Copper, Total	Closure	Oct	6	0.00515	0.00513	0.00515	-	-	-	0.10320	0.10555	0.13308
Copper, Total	Closure	Nov	6	0.00519	0.00516	0.00519	-	-	-	0.10214	0.10442	0.13139
Copper, Total	Closure	Dec	6	0.00518	0.00515	0.00518	-	-	-	0.10163	0.10387	0.13057
Copper, Total	Post-Closure	Jan	109	0.00531	0.00538	0.00573	0.00269	0.00261	0.00403	0.00570	0.01216	0.08248
Copper, Total	Post-Closure	Feb	109	0.00538	0.00544	0.00572	0.00271	0.00263	0.00405	0.00568	0.01211	0.08215
Copper, Total	Post-Closure	Mar	109	0.00574	0.00574	0.00579	0.00276	0.00268	0.00413	0.00561	0.01196	0.08111
Copper, Total	Post-Closure	Apr	109	0.00590	0.00586	0.00591	0.00283	0.00273	0.00422	0.00554	0.01180	0.07999
Copper, Total	Post-Closure	May	109	0.00584	0.00581	0.00585	0.00282	0.00273	0.00420	0.00551	0.01171	0.07920
Copper, Total	Post-Closure	Jun	109	0.00582	0.00580	0.00586	0.00277	0.00269	0.00414	0.00555	0.01169	0.07854
Copper, Total	Post-Closure	Jul	109	0.00581	0.00579	0.00584	0.00275	0.00267	0.00411	0.00564	0.01170	0.07780
Copper, Total	Post-Closure	Aug	109	0.00587	0.00583	0.00587	0.00274	0.00266	0.00409	0.00574	0.01173	0.07704
Copper, Total	Post-Closure	Sep	109	0.00585	0.00582	0.00585	0.00271	0.00264	0.00406	0.00578	0.01170	0.07624
Copper, Total	Post-Closure	Oct	109	0.00591	0.00586	0.00591	0.00267	0.00260	0.00400	0.00576	0.01161	0.07536
Copper, Total	Post-Closure	Nov	109	0.00581	0.00577	0.00586	0.00266	0.00259	0.00398	0.00572	0.01153	0.07479
Copper, Total	Post-Closure	Dec	109	0.00553	0.00556	0.00580	0.00267	0.00261	0.00400	0.00570	0.01149	0.07452
Iron, Total	Construction	Jan	2	0.197	0.197	0.200	-	-	-	-	-	-
Iron, Total	Construction	Feb	2	0.200	0.200	0.200	-	-	-	-	-	-
Iron, Total	Construction	Mar	2	0.200	0.200	0.200	-	-	-	0.011	0.011	0.016
Iron, Total	Construction	Apr	2	0.200	0.200	0.200	-	-	-	0.004	0.004	0.004
Iron, Total	Construction	May	2	0.200	0.200	0.200	-	-	-	0.003	0.003	0.003
Iron, Total	Construction	Jun	2	0.200	0.200	0.200	-	-	-	0.004	0.004	0.004
Iron, Total	Construction	Jul	2	0.200	0.200	0.200	-	-	-	0.004	0.004	0.004
Iron, Total	Construction	Aug	2	0.200	0.200	0.200	-	-	-	0.140	0.140	0.140
Iron, Total	Construction	Sep	2	0.200	0.200	0.200	-	-	-	0.097	0.097	0.187
Iron, Total	Construction	Oct	2	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Construction	Nov	2	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Iron, Total	Construction	Dec	2	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Operations	Jan	13	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Operations	Feb	13	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Operations	Mar	13	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Operations	Apr	13	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Operations	May	13	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Operations	Jun	13	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Operations	Jul	13	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Operations	Aug	13	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Operations	Sep	13	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Operations	Oct	13	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Operations	Nov	13	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Operations	Dec	13	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Closure	Jan	6	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Closure	Feb	6	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Closure	Mar	6	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Closure	Apr	6	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Closure	May	6	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Closure	Jun	6	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Closure	Jul	6	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Closure	Aug	6	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Closure	Sep	6	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Closure	Oct	6	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Closure	Nov	6	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Closure	Dec	6	0.200	0.200	0.200	-	-	-	0.200	0.200	0.200
Iron, Total	Post-Closure	Jan	109	0.200	0.200	0.200	0.167	0.161	0.179	0.200	0.200	0.200
Iron, Total	Post-Closure	Feb	109	0.200	0.200	0.200	0.167	0.161	0.179	0.200	0.200	0.200
Iron, Total	Post-Closure	Mar	109	0.200	0.200	0.200	0.166	0.161	0.178	0.200	0.200	0.200
Iron, Total	Post-Closure	Apr	109	0.200	0.200	0.200	0.166	0.160	0.178	0.200	0.200	0.200
Iron, Total	Post-Closure	May	109	0.200	0.200	0.200	0.166	0.160	0.178	0.200	0.200	0.200
Iron, Total	Post-Closure	Jun	109	0.200	0.200	0.200	0.166	0.160	0.178	0.200	0.200	0.200
Iron, Total	Post-Closure	Jul	109	0.200	0.200	0.200	0.167	0.161	0.179	0.200	0.200	0.200
Iron, Total	Post-Closure	Aug	109	0.200	0.200	0.200	0.167	0.161	0.179	0.200	0.200	0.200
Iron, Total	Post-Closure	Sep	109	0.200	0.200	0.200	0.167	0.161	0.179	0.200	0.200	0.200
Iron, Total	Post-Closure	Oct	109	0.200	0.200	0.200	0.167	0.161	0.179	0.200	0.200	0.200
Iron, Total	Post-Closure	Nov	109	0.200	0.200	0.200	0.167	0.161	0.179	0.200	0.200	0.200
Iron, Total	Post-Closure	Dec	109	0.200	0.200	0.200	0.167	0.161	0.179	0.200	0.200	0.200
Lead, Dissolved	Construction	Jan	2	0.000044	0.000044	0.000047	-	-	-	-	-	-
Lead, Dissolved	Construction	Feb	2	0.000051	0.000051	0.000051	-	-	-	-	-	-
Lead, Dissolved	Construction	Mar	2	0.000058	0.000058	0.000059	-	-	-	0.000002	0.000002	0.000003
Lead, Dissolved	Construction	Apr	2	0.000063	0.000063	0.000063	-	-	-	0.000001	0.000001	0.000001
Lead, Dissolved	Construction	May	2	0.000065	0.000065	0.000066	-	-	-	0.000001	0.000001	0.000001
Lead, Dissolved	Construction	Jun	2	0.000064	0.000064	0.000064	-	-	-	0.000001	0.000001	0.000001
Lead, Dissolved	Construction	Jul	2	0.000059	0.000059	0.000061	-	-	-	0.000001	0.000001	0.000001
Lead, Dissolved	Construction	Aug	2	0.000058	0.000058	0.000060	-	-	-	0.000041	0.000041	0.000041
Lead, Dissolved	Construction	Sep	2	0.000054	0.000054	0.000055	-	-	-	0.000300	0.000300	0.000597
Lead, Dissolved	Construction	Oct	2	0.000052	0.000052	0.000055	-	-	-	0.000427	0.000427	0.000427
Lead, Dissolved	Construction	Nov	2	0.000050	0.000050	0.000053	-	-	-	0.000400	0.000400	0.000400
Lead, Dissolved	Construction	Dec	2	0.000050	0.000050	0.000053	-	-	-	0.000402	0.000402	0.000402
Lead, Dissolved	Operations	Jan	13	0.000091	0.000097	0.000133	-	-	-	0.000451	0.000446	0.000456
Lead, Dissolved	Operations	Feb	13	0.000089	0.000092	0.000120	-	-	-	0.000444	0.000441	0.000452
Lead, Dissolved	Operations	Mar	13	0.000086	0.000086	0.000102	-	-	-	0.000412	0.000399	0.000437
Lead, Dissolved	Operations	Apr	13	0.000089	0.000086	0.000099	-	-	-	0.000379	0.000367	0.000414
Lead, Dissolved	Operations	May	13	0.000092	0.000089	0.000106	-	-	-	0.000361	0.000360	0.000398
Lead, Dissolved	Operations	Jun	13	0.000090	0.000089	0.000100	-	-	-	0.000402	0.000398	0.000444
Lead, Dissolved	Operations	Jul	13	0.000090	0.000089	0.000101	-	-	-	0.000433	0.000458	0.000554
Lead, Dissolved	Operations	Aug	13	0.000090	0.000088	0.000100	-	-	-	0.000481	0.000499	0.000601
Lead, Dissolved	Operations	Sep	13	0.000090	0.000089	0.000103	-	-	-	0.000485	0.000496	0.000548
Lead, Dissolved	Operations	Oct	13	0.000095	0.000093	0.000115	-	-	-	0.000471	0.000467	0.000483
Lead, Dissolved	Operations	Nov	13	0.000102	0.000094	0.000113	-	-	-	0.000461	0.000454	0.000467
Lead, Dissolved	Operations	Dec	13	0.000108	0.000098	0.000122	-	-	-	0.000455	0.000452	0.000460
Lead, Dissolved	Closure	Jan	6	0.000174	0.000167	0.000176	-	-	-	0.000497	0.000492	0.000531
Lead, Dissolved	Closure	Feb	6	0.000174	0.000170	0.000175	-	-	-	0.000494	0.000489	0.000529
Lead, Dissolved	Closure	Mar	6	0.000174	0.000174	0.000176	-	-	-	0.000485	0.000480	0.000520
Lead, Dissolved	Closure	Apr	6	0.000177	0.000176	0.000177	-	-	-	0.000476	0.000471	0.000511
Lead, Dissolved	Closure	May	6	0.000176	0.000176	0.000176	-	-	-	0.000473	0.000468	0.000509
Lead, Dissolved	Closure	Jun	6	0.000175	0.000175	0.000177	-	-	-	0.000480	0.000476	0.000515
Lead, Dissolved	Closure	Jul	6	0.000174	0.000175	0.000176	-	-	-	0.000496	0.000492	0.000529
Lead, Dissolved	Closure	Aug	6	0.000176	0.000176	0.000176	-	-	-	0.000514	0.000511	0.000545
Lead, Dissolved	Closure	Sep	6	0.000175	0.000175	0.000175	-	-	-	0.000524	0.000520	0.000553
Lead, Dissolved	Closure	Oct	6	0.000178	0.000176	0.000178	-	-	-	0.000522	0.000518	0.000551
Lead, Dissolved	Closure	Nov	6	0.000180	0.000178	0.000180	-	-	-	0.000518	0.000514	0.000547
Lead, Dissolved	Closure	Dec	6	0.000179	0.000178	0.000179	-	-	-	0.000515	0.000512	0.000545
Lead, Dissolved	Post-Closure	Jan	109	0.000354	0.000361	0.000402	0.000263	0.000224	0.000288	0.000197	0.000226	0.000543
Lead, Dissolved	Post-Closure	Feb	109	0.000361	0.000368	0.000401	0.000263	0.000224	0.000288	0.000196	0.000225	0.000541
Lead, Dissolved	Post-Closure	Mar	109	0.000402	0.000402	0.000408	0.000262	0.000223	0.000287	0.000194	0.000222	0.000534
Lead, Dissolved	Post-Closure	Apr	109	0.000419	0.000416	0.000421	0.000262	0.000223	0.000287	0.000191	0.000219	0.000527
Lead, Dissolved	Post-Closure	May	109	0.000416	0.000413	0.000417	0.000262	0.000223	0.000286	0.000190	0.000218	0.000522
Lead, Dissolved	Post-Closure	Jun	109	0.000414	0.000413	0.000419	0.000262	0.000223	0.000287	0.000192	0.000219	0.000521
Lead, Dissolved	Post-Closure	Jul	109	0.000413	0.000411	0.000416	0.000263	0.000224	0.000288	0.000195	0.000222	0.000520
Lead, Dissolved	Post-Closure	Aug	109	0.000419	0.000415	0.000419	0.000264	0.000225	0.000288	0.000198	0.000225	0.000520
Lead, Dissolved	Post-Closure	Sep	109	0.000417	0.000413	0.000417	0.000264	0.000226	0.000289	0.000200	0.000227	0.000517
Lead, Dissolved	Post-Closure	Oct	109	0.000424	0.000418	0.000424	0.000264	0.000226	0.000289	0.000199	0.000225	0.000513
Lead, Dissolved	Post-Closure	Nov	109	0.000411	0.000408	0.000417	0.000264	0.000226	0.000288	0.000198	0.000224	0.000509
Lead, Dissolved	Post-Closure	Dec	109	0.000378	0.000383	0.000410	0.000264	0.000226	0.000288	0.000197	0.000223	0.000507
Lead, Total	Construction	Jan	2	0.003715	0.003715	0.003970	-	-	-	-	-	-
Lead, Total	Construction	Feb	2	0.003099	0.003099	0.003240	-	-	-	-	-	-
Lead, Total	Construction	Mar	2	0.002161	0.002161	0.002344	-	-	-	0.000002	0.000002	0.000003
Lead, Total	Construction	Apr	2	0.001789	0.001789	0.002021	-	-	-	0.000001	0.000001	0.000001
Lead, Total	Construction	May	2	0.001586	0.001586	0.001770	-	-	-	0.000001	0.000001	0.000001
Lead, Total	Construction	Jun	2	0.001897	0.001897	0.002109	-	-	-	0.000001	0.000001	0.000001
Lead, Total	Construction	Jul	2	0.002228	0.002228	0.002544	-	-	-	0.000001	0.000001	0.000001
Lead, Total	Construction	Aug	2	0.002237	0.002237	0.002575	-	-	-	0.000050	0.000050	0.000050
Lead, Total	Construction	Sep	2	0.002216	0.002216	0.002756	-	-	-	0.000638	0.000638	0.001273
Lead, Total	Construction	Oct	2	0.002661	0.002661	0.003163	-	-	-	0.000983	0.000983	0.000983
Lead, Total	Construction	Nov	2	0.002882	0.002882	0.003408	-	-	-	0.000967	0.000967	0.000967
Lead, Total	Construction	Dec	2	0.002976	0.002976	0.003524	-	-	-	0.001001	0.001001	0.001001

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Lead, Total	Operations	Jan	13	0.000565	0.000801	0.002283	-	-	-	0.001097	0.001110	0.001210
Lead, Total	Operations	Feb	13	0.000375	0.000514	0.001822	-	-	-	0.001111	0.001115	0.001191
Lead, Total	Operations	Mar	13	0.000211	0.000316	0.001172	-	-	-	0.001047	0.001011	0.001065
Lead, Total	Operations	Apr	13	0.000342	0.000459	0.001302	-	-	-	0.000956	0.000922	0.001009
Lead, Total	Operations	May	13	0.000444	0.000575	0.001365	-	-	-	0.000887	0.000880	0.000972
Lead, Total	Operations	Jun	13	0.000314	0.000375	0.000579	-	-	-	0.000931	0.000936	0.001011
Lead, Total	Operations	Jul	13	0.000322	0.000384	0.000612	-	-	-	0.000990	0.001027	0.001183
Lead, Total	Operations	Aug	13	0.000307	0.000370	0.000582	-	-	-	0.001037	0.001084	0.001241
Lead, Total	Operations	Sep	13	0.000348	0.000421	0.000666	-	-	-	0.001061	0.001085	0.001208
Lead, Total	Operations	Oct	13	0.000478	0.000569	0.001135	-	-	-	0.001048	0.001054	0.001138
Lead, Total	Operations	Nov	13	0.000455	0.000611	0.001291	-	-	-	0.001052	0.001061	0.001158
Lead, Total	Operations	Dec	13	0.000509	0.000650	0.001329	-	-	-	0.001078	0.001089	0.001227
Lead, Total	Closure	Jan	6	0.000654	0.000633	0.000656	-	-	-	0.000850	0.000857	0.000929
Lead, Total	Closure	Feb	6	0.000654	0.000642	0.000655	-	-	-	0.000845	0.000851	0.000922
Lead, Total	Closure	Mar	6	0.000653	0.000651	0.000656	-	-	-	0.000829	0.000835	0.000900
Lead, Total	Closure	Apr	6	0.000657	0.000656	0.000657	-	-	-	0.000813	0.000818	0.000878
Lead, Total	Closure	May	6	0.000665	0.000665	0.000665	-	-	-	0.000806	0.000811	0.000868
Lead, Total	Closure	Jun	6	0.000673	0.000673	0.000675	-	-	-	0.000811	0.000816	0.000874
Lead, Total	Closure	Jul	6	0.000664	0.000664	0.000665	-	-	-	0.000826	0.000831	0.000893
Lead, Total	Closure	Aug	6	0.000663	0.000663	0.000663	-	-	-	0.000843	0.000848	0.000913
Lead, Total	Closure	Sep	6	0.000660	0.000659	0.000660	-	-	-	0.000850	0.000856	0.000921
Lead, Total	Closure	Oct	6	0.000659	0.000658	0.000659	-	-	-	0.000844	0.000849	0.000912
Lead, Total	Closure	Nov	6	0.000661	0.000659	0.000661	-	-	-	0.000836	0.000841	0.000902
Lead, Total	Closure	Dec	6	0.000659	0.000658	0.000659	-	-	-	0.000832	0.000837	0.000897
Lead, Total	Post-Closure	Jan	109	0.001046	0.001052	0.001093	0.000606	0.000503	0.000669	0.000199	0.000249	0.000787
Lead, Total	Post-Closure	Feb	109	0.001053	0.001059	0.001092	0.000606	0.000503	0.000668	0.000199	0.000248	0.000784
Lead, Total	Post-Closure	Mar	109	0.001094	0.001094	0.001099	0.000605	0.000503	0.000667	0.000196	0.000245	0.000774
Lead, Total	Post-Closure	Apr	109	0.001111	0.001107	0.001112	0.000604	0.000502	0.000666	0.000194	0.000242	0.000764
Lead, Total	Post-Closure	May	109	0.001128	0.001125	0.001129	0.000604	0.000502	0.000665	0.000193	0.000240	0.000757
Lead, Total	Post-Closure	Jun	109	0.001140	0.001138	0.001145	0.000605	0.000503	0.000666	0.000194	0.000241	0.000753
Lead, Total	Post-Closure	Jul	109	0.001119	0.001117	0.001122	0.000607	0.000506	0.000668	0.000197	0.000244	0.000750
Lead, Total	Post-Closure	Aug	109	0.001120	0.001116	0.001120	0.000609	0.000508	0.000670	0.000201	0.000247	0.000747
Lead, Total	Post-Closure	Sep	109	0.001114	0.001110	0.001114	0.000610	0.000509	0.000671	0.000203	0.000248	0.000742
Lead, Total	Post-Closure	Oct	109	0.001117	0.001111	0.001118	0.000610	0.000510	0.000671	0.000202	0.000246	0.000735
Lead, Total	Post-Closure	Nov	109	0.001104	0.001100	0.001109	0.000609	0.000509	0.000670	0.000201	0.000245	0.000729
Lead, Total	Post-Closure	Dec	109	0.001071	0.001075	0.001102	0.000609	0.000509	0.000669	0.000200	0.000244	0.000727
Manganese, Dissolv	Construction	Jan	2	0.459	0.459	0.636	-	-	-	-	-	-
Manganese, Dissolv	Construction	Feb	2	0.431	0.431	0.533	-	-	-	-	-	-
Manganese, Dissolv	Construction	Mar	2	0.385	0.385	0.410	-	-	-	0.037	0.037	0.056
Manganese, Dissolv	Construction	Apr	2	0.354	0.354	0.367	-	-	-	0.013	0.013	0.013
Manganese, Dissolv	Construction	May	2	0.242	0.242	0.246	-	-	-	0.011	0.011	0.011
Manganese, Dissolv	Construction	Jun	2	0.230	0.230	0.243	-	-	-	0.011	0.011	0.011
Manganese, Dissolv	Construction	Jul	2	0.155	0.155	0.169	-	-	-	0.009	0.009	0.009
Manganese, Dissolv	Construction	Aug	2	0.109	0.109	0.112	-	-	-	0.199	0.199	0.199
Manganese, Dissolv	Construction	Sep	2	0.073	0.073	0.080	-	-	-	0.247	0.247	0.485
Manganese, Dissolv	Construction	Oct	2	0.059	0.059	0.060	-	-	-	0.156	0.156	0.156
Manganese, Dissolv	Construction	Nov	2	0.117	0.117	0.121	-	-	-	0.110	0.110	0.110
Manganese, Dissolv	Construction	Dec	2	0.218	0.218	0.225	-	-	-	0.094	0.094	0.094
Manganese, Dissolv	Operations	Jan	13	0.257	0.269	0.351	-	-	-	0.094	0.087	0.114
Manganese, Dissolv	Operations	Feb	13	0.189	0.207	0.313	-	-	-	0.083	0.081	0.109
Manganese, Dissolv	Operations	Mar	13	0.139	0.164	0.319	-	-	-	0.089	0.088	0.106
Manganese, Dissolv	Operations	Apr	13	0.203	0.227	0.387	-	-	-	0.089	0.088	0.103
Manganese, Dissolv	Operations	May	13	0.181	0.200	0.315	-	-	-	0.093	0.095	0.113
Manganese, Dissolv	Operations	Jun	13	0.132	0.136	0.155	-	-	-	0.113	0.118	0.168
Manganese, Dissolv	Operations	Jul	13	0.096	0.096	0.100	-	-	-	0.137	0.151	0.230
Manganese, Dissolv	Operations	Aug	13	0.092	0.092	0.094	-	-	-	0.155	0.169	0.245
Manganese, Dissolv	Operations	Sep	13	0.078	0.078	0.081	-	-	-	0.156	0.160	0.200
Manganese, Dissolv	Operations	Oct	13	0.075	0.073	0.080	-	-	-	0.144	0.134	0.158
Manganese, Dissolv	Operations	Nov	13	0.131	0.131	0.134	-	-	-	0.129	0.113	0.157
Manganese, Dissolv	Operations	Dec	13	0.214	0.215	0.237	-	-	-	0.114	0.101	0.156
Manganese, Dissolv	Closure	Jan	6	0.286	0.281	0.286	-	-	-	0.272	0.262	0.344
Manganese, Dissolv	Closure	Feb	6	0.322	0.320	0.323	-	-	-	0.271	0.261	0.342
Manganese, Dissolv	Closure	Mar	6	0.361	0.360	0.362	-	-	-	0.267	0.257	0.338
Manganese, Dissolv	Closure	Apr	6	0.371	0.371	0.371	-	-	-	0.264	0.254	0.334
Manganese, Dissolv	Closure	May	6	0.280	0.280	0.280	-	-	-	0.265	0.255	0.334
Manganese, Dissolv	Closure	Jun	6	0.227	0.227	0.227	-	-	-	0.272	0.264	0.340
Manganese, Dissolv	Closure	Jul	6	0.141	0.141	0.142	-	-	-	0.286	0.278	0.353
Manganese, Dissolv	Closure	Aug	6	0.119	0.119	0.119	-	-	-	0.301	0.293	0.366
Manganese, Dissolv	Closure	Sep	6	0.092	0.092	0.092	-	-	-	0.310	0.302	0.373
Manganese, Dissolv	Closure	Oct	6	0.083	0.083	0.083	-	-	-	0.310	0.302	0.372
Manganese, Dissolv	Closure	Nov	6	0.148	0.148	0.148	-	-	-	0.307	0.300	0.369
Manganese, Dissolv	Closure	Dec	6	0.239	0.238	0.239	-	-	-	0.306	0.299	0.368
Manganese, Dissolv	Post-Closure	Jan	109	0.523	0.552	0.676	0.286	0.257	0.310	0.222	0.234	0.367
Manganese, Dissolv	Post-Closure	Feb	109	0.577	0.612	0.757	0.286	0.257	0.310	0.221	0.233	0.365
Manganese, Dissolv	Post-Closure	Mar	109	0.741	0.760	0.832	0.286	0.257	0.309	0.220	0.232	0.362
Manganese, Dissolv	Post-Closure	Apr	109	0.761	0.779	0.849	0.286	0.257	0.309	0.218	0.230	0.359
Manganese, Dissolv	Post-Closure	May	109	0.560	0.575	0.633	0.286	0.257	0.309	0.218	0.230	0.357
Manganese, Dissolv	Post-Closure	Jun	109	0.484	0.491	0.518	0.286	0.258	0.309	0.220	0.231	0.357
Manganese, Dissolv	Post-Closure	Jul	109	0.316	0.318	0.326	0.287	0.258	0.310	0.223	0.234	0.359
Manganese, Dissolv	Post-Closure	Aug	109	0.275	0.275	0.276	0.288	0.259	0.311	0.225	0.236	0.360
Manganese, Dissolv	Post-Closure	Sep	109	0.218	0.218	0.218	0.288	0.259	0.311	0.226	0.237	0.359
Manganese, Dissolv	Post-Closure	Oct	109	0.200	0.198	0.201	0.288	0.259	0.310	0.224	0.236	0.356
Manganese, Dissolv	Post-Closure	Nov	109	0.321	0.323	0.338	0.287	0.258	0.310	0.223	0.234	0.353
Manganese, Dissolv	Post-Closure	Dec	109	0.475	0.493	0.565	0.287	0.258	0.310	0.222	0.233	0.352
Mercury, Dissolved	Construction	Jan	2	0.0000011	0.0000011	0.0000011	-	-	-	-	-	-
Mercury, Dissolved	Construction	Feb	2	0.0000012	0.0000012	0.0000012	-	-	-	-	-	-
Mercury, Dissolved	Construction	Mar	2	0.0000013	0.0000013	0.0000013	-	-	-	0.0000001	0.0000001	0.0000001
Mercury, Dissolved	Construction	Apr	2	0.0000014	0.0000014	0.0000014	-	-	-	0.00000002	0.00000002	0.00000002
Mercury, Dissolved	Construction	May	2	0.0000014	0.0000014	0.0000014	-	-	-	0.00000002	0.00000002	0.00000002
Mercury, Dissolved	Construction	Jun	2	0.0000015	0.0000015	0.0000015	-	-	-	0.00000002	0.00000002	0.00000002
Mercury, Dissolved	Construction	Jul	2	0.0000014	0.0000014	0.0000014	-	-	-	0.00000002	0.00000002	0.00000002
Mercury, Dissolved	Construction	Aug	2	0.0000013	0.0000013	0.0000014	-	-	-	0.0000012	0.0000012	0.0000012
Mercury, Dissolved	Construction	Sep	2	0.0000012	0.0000012	0.0000012	-	-	-	0.0000119	0.0000119	0.0000237
Mercury, Dissolved	Construction	Oct	2	0.0000011	0.0000011	0.0000011	-	-	-	0.0000141	0.0000141	0.0000141
Mercury, Dissolved	Construction	Nov	2	0.0000011	0.0000011	0.0000011	-	-	-	0.0000107	0.0000107	0.0000107
Mercury, Dissolved	Construction	Dec	2	0.0000011	0.0000011	0.0000011	-	-	-	0.0000089	0.0000089	0.0000089
Mercury, Dissolved	Operations	Jan	13	0.0000014	0.0000014	0.0000015	-	-	-	0.0000111	0.0000096	0.0000130

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Mercury, Dissolved	Operations	Feb	13	0.0000015	0.0000015	0.0000015	-	-	-	0.0000094	0.0000086	0.0000124
Mercury, Dissolved	Operations	Mar	13	0.0000015	0.0000015	0.0000016	-	-	-	0.0000077	0.0000073	0.0000116
Mercury, Dissolved	Operations	Apr	13	0.0000015	0.0000015	0.0000015	-	-	-	0.0000063	0.0000066	0.0000106
Mercury, Dissolved	Operations	May	13	0.0000015	0.0000014	0.0000015	-	-	-	0.0000072	0.0000074	0.0000102
Mercury, Dissolved	Operations	Jun	13	0.0000015	0.0000015	0.0000016	-	-	-	0.0000101	0.0000108	0.0000167
Mercury, Dissolved	Operations	Jul	13	0.0000015	0.0000015	0.0000016	-	-	-	0.0000140	0.0000160	0.0000271
Mercury, Dissolved	Operations	Aug	13	0.0000015	0.0000015	0.0000016	-	-	-	0.0000176	0.0000198	0.0000317
Mercury, Dissolved	Operations	Sep	13	0.0000015	0.0000015	0.0000015	-	-	-	0.0000180	0.0000192	0.0000258
Mercury, Dissolved	Operations	Oct	13	0.0000014	0.0000014	0.0000015	-	-	-	0.0000169	0.0000161	0.0000193
Mercury, Dissolved	Operations	Nov	13	0.0000014	0.0000014	0.0000015	-	-	-	0.0000151	0.0000135	0.0000177
Mercury, Dissolved	Operations	Dec	13	0.0000014	0.0000014	0.0000015	-	-	-	0.0000137	0.0000117	0.0000175
Mercury, Dissolved	Closure	Jan	6	0.0000013	0.0000013	0.0000014	-	-	-	0.0000333	0.0000320	0.0000431
Mercury, Dissolved	Closure	Feb	6	0.0000013	0.0000013	0.0000014	-	-	-	0.0000331	0.0000318	0.0000429
Mercury, Dissolved	Closure	Mar	6	0.0000013	0.0000013	0.0000013	-	-	-	0.0000325	0.0000312	0.0000422
Mercury, Dissolved	Closure	Apr	6	0.0000013	0.0000013	0.0000013	-	-	-	0.0000319	0.0000306	0.0000415
Mercury, Dissolved	Closure	May	6	0.0000014	0.0000014	0.0000014	-	-	-	0.0000319	0.0000307	0.0000414
Mercury, Dissolved	Closure	Jun	6	0.0000014	0.0000014	0.0000014	-	-	-	0.0000329	0.0000317	0.0000423
Mercury, Dissolved	Closure	Jul	6	0.0000013	0.0000013	0.0000014	-	-	-	0.0000349	0.0000337	0.0000440
Mercury, Dissolved	Closure	Aug	6	0.0000013	0.0000013	0.0000013	-	-	-	0.0000370	0.0000360	0.0000459
Mercury, Dissolved	Closure	Sep	6	0.0000013	0.0000013	0.0000013	-	-	-	0.0000383	0.0000373	0.0000470
Mercury, Dissolved	Closure	Oct	6	0.0000012	0.0000012	0.0000012	-	-	-	0.0000384	0.0000374	0.0000469
Mercury, Dissolved	Closure	Nov	6	0.0000013	0.0000013	0.0000013	-	-	-	0.0000381	0.0000371	0.0000466
Mercury, Dissolved	Closure	Dec	6	0.0000013	0.0000013	0.0000013	-	-	-	0.0000380	0.0000370	0.0000464
Mercury, Dissolved	Post-Closure	Jan	109	0.0000011	0.0000011	0.0000014	0.0000064	0.0000054	0.0000064	0.0000224	0.0000244	0.0000462
Mercury, Dissolved	Post-Closure	Feb	109	0.0000011	0.0000012	0.0000014	0.0000064	0.0000054	0.0000064	0.0000223	0.0000243	0.0000461
Mercury, Dissolved	Post-Closure	Mar	109	0.0000013	0.0000013	0.0000014	0.0000064	0.0000054	0.0000064	0.0000220	0.0000240	0.0000455
Mercury, Dissolved	Post-Closure	Apr	109	0.0000014	0.0000014	0.0000015	0.0000063	0.0000054	0.0000064	0.0000218	0.0000237	0.0000449
Mercury, Dissolved	Post-Closure	May	109	0.0000014	0.0000015	0.0000016	0.0000063	0.0000054	0.0000064	0.0000217	0.0000236	0.0000445
Mercury, Dissolved	Post-Closure	Jun	109	0.0000015	0.0000015	0.0000016	0.0000063	0.0000054	0.0000064	0.0000218	0.0000237	0.0000445
Mercury, Dissolved	Post-Closure	Jul	109	0.0000014	0.0000015	0.0000015	0.0000064	0.0000054	0.0000064	0.0000222	0.0000241	0.0000446
Mercury, Dissolved	Post-Closure	Aug	109	0.0000014	0.0000014	0.0000015	0.0000064	0.0000054	0.0000064	0.0000226	0.0000245	0.0000447
Mercury, Dissolved	Post-Closure	Sep	109	0.0000012	0.0000012	0.0000013	0.0000064	0.0000054	0.0000064	0.0000228	0.0000246	0.0000446
Mercury, Dissolved	Post-Closure	Oct	109	0.0000012	0.0000012	0.0000012	0.0000064	0.0000054	0.0000064	0.0000227	0.0000245	0.0000443
Mercury, Dissolved	Post-Closure	Nov	109	0.0000011	0.0000012	0.0000013	0.0000064	0.0000054	0.0000064	0.0000226	0.0000244	0.0000440
Mercury, Dissolved	Post-Closure	Dec	109	0.0000011	0.0000011	0.0000014	0.0000064	0.0000054	0.0000064	0.0000225	0.0000243	0.0000438
Mercury, Total	Construction	Jan	2	0.0000019	0.0000019	0.0000022	-	-	-	-	-	-
Mercury, Total	Construction	Feb	2	0.0000019	0.0000019	0.0000021	-	-	-	-	-	-
Mercury, Total	Construction	Mar	2	0.0000019	0.0000019	0.0000020	-	-	-	0.0000001	0.0000001	0.0000002
Mercury, Total	Construction	Apr	2	0.0000019	0.0000019	0.0000019	-	-	-	0.0000000	0.0000000	0.0000000
Mercury, Total	Construction	May	2	0.0000018	0.0000018	0.0000018	-	-	-	0.0000000	0.0000000	0.0000000
Mercury, Total	Construction	Jun	2	0.0000019	0.0000019	0.0000019	-	-	-	0.0000000	0.0000000	0.0000000
Mercury, Total	Construction	Jul	2	0.0000017	0.0000017	0.0000017	-	-	-	0.0000000	0.0000000	0.0000000
Mercury, Total	Construction	Aug	2	0.0000016	0.0000016	0.0000016	-	-	-	0.0000015	0.0000015	0.0000015
Mercury, Total	Construction	Sep	2	0.0000014	0.0000014	0.0000015	-	-	-	0.0000121	0.0000121	0.0000242
Mercury, Total	Construction	Oct	2	0.0000014	0.0000014	0.0000014	-	-	-	0.0000142	0.0000142	0.0000142
Mercury, Total	Construction	Nov	2	0.0000015	0.0000015	0.0000015	-	-	-	0.0000107	0.0000107	0.0000107
Mercury, Total	Construction	Dec	2	0.0000016	0.0000016	0.0000016	-	-	-	0.0000090	0.0000090	0.0000090
Mercury, Total	Operations	Jan	13	0.0000017	0.0000017	0.0000018	-	-	-	0.0000111	0.0000096	0.0000130
Mercury, Total	Operations	Feb	13	0.0000017	0.0000017	0.0000018	-	-	-	0.0000095	0.0000086	0.0000124
Mercury, Total	Operations	Mar	13	0.0000017	0.0000017	0.0000018	-	-	-	0.0000077	0.0000073	0.0000116
Mercury, Total	Operations	Apr	13	0.0000017	0.0000017	0.0000019	-	-	-	0.0000063	0.0000066	0.0000106
Mercury, Total	Operations	May	13	0.0000017	0.0000017	0.0000018	-	-	-	0.0000072	0.0000075	0.0000103
Mercury, Total	Operations	Jun	13	0.0000017	0.0000017	0.0000017	-	-	-	0.0000101	0.0000109	0.0000168
Mercury, Total	Operations	Jul	13	0.0000016	0.0000016	0.0000016	-	-	-	0.0000141	0.0000161	0.0000271
Mercury, Total	Operations	Aug	13	0.0000016	0.0000016	0.0000016	-	-	-	0.0000176	0.0000198	0.0000317
Mercury, Total	Operations	Sep	13	0.0000015	0.0000015	0.0000016	-	-	-	0.0000180	0.0000192	0.0000258
Mercury, Total	Operations	Oct	13	0.0000015	0.0000015	0.0000015	-	-	-	0.0000170	0.0000162	0.0000193
Mercury, Total	Operations	Nov	13	0.0000015	0.0000015	0.0000016	-	-	-	0.0000152	0.0000135	0.0000177
Mercury, Total	Operations	Dec	13	0.0000017	0.0000017	0.0000017	-	-	-	0.0000137	0.0000117	0.0000175
Mercury, Total	Closure	Jan	6	0.0000017	0.0000017	0.0000017	-	-	-	0.0000334	0.0000320	0.0000432
Mercury, Total	Closure	Feb	6	0.0000017	0.0000017	0.0000018	-	-	-	0.0000332	0.0000319	0.0000430
Mercury, Total	Closure	Mar	6	0.0000018	0.0000018	0.0000018	-	-	-	0.0000326	0.0000313	0.0000423
Mercury, Total	Closure	Apr	6	0.0000018	0.0000018	0.0000018	-	-	-	0.0000320	0.0000307	0.0000416
Mercury, Total	Closure	May	6	0.0000018	0.0000018	0.0000018	-	-	-	0.0000320	0.0000308	0.0000415
Mercury, Total	Closure	Jun	6	0.0000017	0.0000017	0.0000017	-	-	-	0.0000330	0.0000318	0.0000423
Mercury, Total	Closure	Jul	6	0.0000015	0.0000015	0.0000015	-	-	-	0.0000349	0.0000338	0.0000441
Mercury, Total	Closure	Aug	6	0.0000015	0.0000015	0.0000015	-	-	-	0.0000371	0.0000360	0.0000460
Mercury, Total	Closure	Sep	6	0.0000014	0.0000014	0.0000014	-	-	-	0.0000384	0.0000373	0.0000470
Mercury, Total	Closure	Oct	6	0.0000014	0.0000014	0.0000014	-	-	-	0.0000385	0.0000374	0.0000470
Mercury, Total	Closure	Nov	6	0.0000015	0.0000015	0.0000015	-	-	-	0.0000382	0.0000372	0.0000467
Mercury, Total	Closure	Dec	6	0.0000016	0.0000016	0.0000016	-	-	-	0.0000380	0.0000370	0.0000465
Mercury, Total	Post-Closure	Jan	109	0.0000017	0.0000018	0.0000022	0.0000067	0.0000056	0.0000067	0.0000225	0.0000245	0.0000463
Mercury, Total	Post-Closure	Feb	109	0.0000018	0.0000019	0.0000023	0.0000067	0.0000056	0.0000067	0.0000224	0.0000244	0.0000461
Mercury, Total	Post-Closure	Mar	109	0.0000022	0.0000022	0.0000024	0.0000066	0.0000056	0.0000067	0.0000222	0.0000241	0.0000456
Mercury, Total	Post-Closure	Apr	109	0.0000022	0.0000023	0.0000025	0.0000066	0.0000056	0.0000067	0.0000219	0.0000238	0.0000449
Mercury, Total	Post-Closure	May	109	0.0000021	0.0000021	0.0000023	0.0000066	0.0000056	0.0000067	0.0000218	0.0000237	0.0000446
Mercury, Total	Post-Closure	Jun	109	0.0000021	0.0000021	0.0000023	0.0000066	0.0000056	0.0000067	0.0000219	0.0000238	0.0000446
Mercury, Total	Post-Closure	Jul	109	0.0000018	0.0000018	0.0000018	0.0000067	0.0000056	0.0000067	0.0000223	0.0000242	0.0000447
Mercury, Total	Post-Closure	Aug	109	0.0000017	0.0000017	0.0000017	0.0000067	0.0000057	0.0000067	0.0000227	0.0000246	0.0000448
Mercury, Total	Post-Closure	Sep	109	0.0000015	0.0000015	0.0000015	0.0000067	0.0000057	0.0000067	0.0000229	0.0000247	0.0000447
Mercury, Total	Post-Closure	Oct	109	0.0000014	0.0000014	0.0000015	0.0000067	0.0000057	0.0000067	0.0000228	0.0000246	0.0000444
Mercury, Total	Post-Closure	Nov	109	0.0000015	0.0000015	0.0000017	0.0000067	0.0000057	0.0000067	0.0000227	0.0000245	0.0000441
Mercury, Total	Post-Closure	Dec	109	0.0000016	0.0000017	0.0000020	0.0000067	0.0000057	0.0000067	0.0000226	0.0000244	0.0000439
Molybdenum, Total	Construction	Jan	2	0.000347	0.000347	0.000479	-	-	-	-	-	-
Molybdenum, Total	Construction	Feb	2	0.000443	0.000443	0.000532	-	-	-	-	-	-
Molybdenum, Total	Construction	Mar	2	0.000571	0.000571	0.000658	-	-	-	0.000037	0.000037	0.000067
Molybdenum, Total	Construction	Apr	2	0.000632	0.000632	0.000727	-	-	-	0.000001	0.000001	0.000001
Molybdenum, Total	Construction	May	2	0.000710	0.000710	0.000839	-	-	-	0.000018	0.000018	0.000018
Molybdenum, Total	Construction	Jun	2	0.000679	0.000679	0.000801	-	-	-	0.000004	0.000004	0.000004
Molybdenum, Total	Construction	Jul	2	0.000661	0.000661	0.000816	-	-	-	0.000006	0.000006	0.000006
Molybdenum, Total	Construction	Aug	2	0.000679	0.000679	0.000846	-	-	-	0.000573	0.000573	0.000573
Molybdenum, Total	Construction	Sep	2	0.000649	0.000649	0.000780	-	-	-	0.008876	0.008876	0.017716
Molybdenum, Total	Construction	Oct	2	0.000689	0.000689	0.000892	-	-	-	0.012183	0.012183	0.012183
Molybdenum, Total	Construction	Nov	2	0.000700	0.000700	0.000931	-	-	-	0.011701	0.011701	0.011701
Molybdenum, Total	Construction	Dec	2	0.000710	0.000710	0.000953	-	-	-	0.011964	0.011964	0.011964
Molybdenum, Total	Operations	Jan	13	0.006546	0.006738	0.012007	-	-	-	0.047200	0.048119	0.079273
Molybdenum, Total	Operations	Feb	13	0.003988	0.004286	0.007896	-	-	-	0.048564	0.050719	0.089457

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Molybdenum, Total	Operations	Mar	13	0.002455	0.002684	0.005046	-	-	-	0.047397	0.044904	0.054093
Molybdenum, Total	Operations	Apr	13	0.003782	0.004006	0.006869	-	-	-	0.041022	0.039162	0.046425
Molybdenum, Total	Operations	May	13	0.004855	0.005148	0.008995	-	-	-	0.036323	0.035505	0.044119
Molybdenum, Total	Operations	Jun	13	0.003811	0.003903	0.006530	-	-	-	0.036027	0.036357	0.043829
Molybdenum, Total	Operations	Jul	13	0.004234	0.004233	0.007030	-	-	-	0.040026	0.039902	0.045010
Molybdenum, Total	Operations	Aug	13	0.004047	0.004126	0.006740	-	-	-	0.043401	0.043216	0.053063
Molybdenum, Total	Operations	Sep	13	0.004387	0.004719	0.007766	-	-	-	0.044063	0.045057	0.058772
Molybdenum, Total	Operations	Oct	13	0.005864	0.006438	0.011395	-	-	-	0.043271	0.045170	0.057963
Molybdenum, Total	Operations	Nov	13	0.007332	0.006611	0.010466	-	-	-	0.044667	0.046852	0.066518
Molybdenum, Total	Operations	Dec	13	0.007948	0.007157	0.011243	-	-	-	0.046877	0.050451	0.082999
Molybdenum, Total	Closure	Jan	6	0.029938	0.027559	0.030360	-	-	-	0.033095	0.033853	0.042058
Molybdenum, Total	Closure	Feb	6	0.029925	0.028590	0.030197	-	-	-	0.032895	0.033638	0.041734
Molybdenum, Total	Closure	Mar	6	0.029879	0.029701	0.030272	-	-	-	0.032272	0.032975	0.040749
Molybdenum, Total	Closure	Apr	6	0.030500	0.030364	0.030512	-	-	-	0.031619	0.032281	0.039726
Molybdenum, Total	Closure	May	6	0.030221	0.030210	0.030224	-	-	-	0.031254	0.031891	0.039140
Molybdenum, Total	Closure	Jun	6	0.030009	0.030133	0.030383	-	-	-	0.031216	0.031844	0.039032
Molybdenum, Total	Closure	Jul	6	0.030163	0.030249	0.030420	-	-	-	0.031383	0.032012	0.039209
Molybdenum, Total	Closure	Aug	6	0.030638	0.030564	0.030638	-	-	-	0.031573	0.032204	0.039411
Molybdenum, Total	Closure	Sep	6	0.030441	0.030408	0.030441	-	-	-	0.031548	0.032170	0.039313
Molybdenum, Total	Closure	Oct	6	0.030875	0.030657	0.030875	-	-	-	0.031205	0.031802	0.038761
Molybdenum, Total	Closure	Nov	6	0.031283	0.030905	0.031283	-	-	-	0.030896	0.031472	0.038282
Molybdenum, Total	Closure	Dec	6	0.031015	0.030718	0.031015	-	-	-	0.030739	0.031305	0.038043
Molybdenum, Total	Post-Closure	Jan	109	0.003102	0.003358	0.024366	0.003403	0.003327	0.005211	0.002959	0.004887	0.025892
Molybdenum, Total	Post-Closure	Feb	109	0.003164	0.003325	0.014543	0.003400	0.003325	0.005207	0.002947	0.004867	0.025789
Molybdenum, Total	Post-Closure	Mar	109	0.003501	0.003515	0.005496	0.003391	0.003320	0.005198	0.002910	0.004806	0.025463
Molybdenum, Total	Post-Closure	Apr	109	0.003654	0.003616	0.003683	0.003383	0.003316	0.005187	0.002873	0.004742	0.025113
Molybdenum, Total	Post-Closure	May	109	0.003621	0.003590	0.003629	0.003378	0.003315	0.005182	0.002860	0.004710	0.024871
Molybdenum, Total	Post-Closure	Jun	109	0.003595	0.003575	0.003639	0.003383	0.003321	0.005187	0.002880	0.004713	0.024684
Molybdenum, Total	Post-Closure	Jul	109	0.003585	0.003563	0.003614	0.003407	0.003334	0.005201	0.002926	0.004738	0.024483
Molybdenum, Total	Post-Closure	Aug	109	0.003644	0.003606	0.003644	0.003414	0.003346	0.005217	0.002980	0.004770	0.024278
Molybdenum, Total	Post-Closure	Sep	109	0.003630	0.003595	0.003630	0.003417	0.003354	0.005226	0.003003	0.004772	0.024050
Molybdenum, Total	Post-Closure	Oct	109	0.003701	0.003644	0.003704	0.003413	0.003354	0.005224	0.002990	0.004738	0.023782
Molybdenum, Total	Post-Closure	Nov	109	0.003607	0.003565	0.003652	0.003408	0.003352	0.005218	0.002974	0.004708	0.023605
Molybdenum, Total	Post-Closure	Dec	109	0.003319	0.003348	0.003548	0.003405	0.003350	0.005214	0.002963	0.004691	0.023520
Nickel, Dissolved	Construction	Jan	2	0.000577	0.000577	0.000678	-	-	-	-	-	-
Nickel, Dissolved	Construction	Feb	2	0.000623	0.000623	0.000708	-	-	-	-	-	-
Nickel, Dissolved	Construction	Mar	2	0.000679	0.000679	0.000774	-	-	-	0.000061	0.000061	0.000089
Nickel, Dissolved	Construction	Apr	2	0.000707	0.000707	0.000806	-	-	-	0.000008	0.000008	0.000008
Nickel, Dissolved	Construction	May	2	0.000732	0.000732	0.000836	-	-	-	0.000027	0.000027	0.000027
Nickel, Dissolved	Construction	Jun	2	0.000782	0.000782	0.000908	-	-	-	0.000012	0.000012	0.000012
Nickel, Dissolved	Construction	Jul	2	0.000801	0.000801	0.000964	-	-	-	0.000015	0.000015	0.000015
Nickel, Dissolved	Construction	Aug	2	0.000821	0.000821	0.000995	-	-	-	0.001090	0.001090	0.001090
Nickel, Dissolved	Construction	Sep	2	0.000760	0.000760	0.000881	-	-	-	0.010166	0.010166	0.020268
Nickel, Dissolved	Construction	Oct	2	0.000830	0.000830	0.001036	-	-	-	0.012314	0.012314	0.012314
Nickel, Dissolved	Construction	Nov	2	0.000871	0.000871	0.001108	-	-	-	0.010606	0.010606	0.010606
Nickel, Dissolved	Construction	Dec	2	0.000904	0.000904	0.001154	-	-	-	0.010033	0.010033	0.010033
Nickel, Dissolved	Operations	Jan	13	0.007236	0.007588	0.013254	-	-	-	0.012525	0.012155	0.015142
Nickel, Dissolved	Operations	Feb	13	0.004356	0.004762	0.009092	-	-	-	0.011768	0.011660	0.014808
Nickel, Dissolved	Operations	Mar	13	0.002596	0.002870	0.005684	-	-	-	0.010801	0.010658	0.014371
Nickel, Dissolved	Operations	Apr	13	0.004145	0.004387	0.007504	-	-	-	0.009579	0.009792	0.013682
Nickel, Dissolved	Operations	May	13	0.005413	0.005716	0.009913	-	-	-	0.009111	0.009803	0.013190
Nickel, Dissolved	Operations	Jun	13	0.004148	0.004234	0.007109	-	-	-	0.011734	0.011680	0.013747
Nickel, Dissolved	Operations	Jul	13	0.004600	0.004588	0.007655	-	-	-	0.014436	0.014721	0.018684
Nickel, Dissolved	Operations	Aug	13	0.004382	0.004463	0.007327	-	-	-	0.016277	0.016923	0.021068
Nickel, Dissolved	Operations	Sep	13	0.004760	0.005125	0.008465	-	-	-	0.017052	0.016865	0.018695
Nickel, Dissolved	Operations	Oct	13	0.006456	0.007083	0.012529	-	-	-	0.016339	0.015416	0.018130
Nickel, Dissolved	Operations	Nov	13	0.008169	0.007314	0.011505	-	-	-	0.015166	0.014201	0.018096
Nickel, Dissolved	Operations	Dec	13	0.008949	0.007977	0.012411	-	-	-	0.014128	0.013411	0.018026
Nickel, Dissolved	Closure	Jan	6	0.033091	0.030463	0.033555	-	-	-	0.022289	0.021918	0.024956
Nickel, Dissolved	Closure	Feb	6	0.033080	0.031606	0.033380	-	-	-	0.022155	0.021784	0.024828
Nickel, Dissolved	Closure	Mar	6	0.033034	0.032837	0.033467	-	-	-	0.021737	0.021370	0.024424
Nickel, Dissolved	Closure	Apr	6	0.033719	0.033569	0.033733	-	-	-	0.021323	0.020960	0.024013
Nickel, Dissolved	Closure	May	6	0.033421	0.033409	0.033424	-	-	-	0.021237	0.020881	0.023905
Nickel, Dissolved	Closure	Jun	6	0.033194	0.033330	0.033606	-	-	-	0.021644	0.021302	0.024254
Nickel, Dissolved	Closure	Jul	6	0.033359	0.033454	0.033642	-	-	-	0.022492	0.022175	0.025006
Nickel, Dissolved	Closure	Aug	6	0.033881	0.033800	0.033881	-	-	-	0.023441	0.023151	0.025847
Nickel, Dissolved	Closure	Sep	6	0.033633	0.033597	0.033633	-	-	-	0.023955	0.023683	0.026293
Nickel, Dissolved	Closure	Oct	6	0.034098	0.033859	0.034098	-	-	-	0.023906	0.023639	0.026220
Nickel, Dissolved	Closure	Nov	6	0.034554	0.034138	0.034554	-	-	-	0.023726	0.023459	0.026033
Nickel, Dissolved	Closure	Dec	6	0.034270	0.033944	0.034270	-	-	-	0.023606	0.023337	0.025912
Nickel, Dissolved	Post-Closure	Jan	109	0.025075	0.025625	0.032187	0.017032	0.014097	0.018809	0.010077	0.011400	0.025818
Nickel, Dissolved	Post-Closure	Feb	109	0.025572	0.026067	0.030065	0.017021	0.014091	0.018795	0.010037	0.011355	0.025715
Nickel, Dissolved	Post-Closure	Mar	109	0.028279	0.028240	0.028660	0.016995	0.014079	0.018762	0.009911	0.011212	0.025391
Nickel, Dissolved	Post-Closure	Apr	109	0.029525	0.029197	0.029601	0.016967	0.014068	0.018725	0.009784	0.011067	0.025049
Nickel, Dissolved	Post-Closure	May	109	0.029283	0.029019	0.029350	0.016955	0.014070	0.018709	0.009742	0.011012	0.024850
Nickel, Dissolved	Post-Closure	Jun	109	0.029076	0.028906	0.029433	0.016980	0.014102	0.018731	0.009811	0.011069	0.024777
Nickel, Dissolved	Post-Closure	Jul	109	0.029092	0.028908	0.029331	0.017036	0.014164	0.018786	0.009973	0.011216	0.024769
Nickel, Dissolved	Post-Closure	Aug	109	0.029599	0.029291	0.029599	0.017093	0.014228	0.018842	0.010158	0.011387	0.024777
Nickel, Dissolved	Post-Closure	Sep	109	0.029401	0.029115	0.029401	0.017126	0.014270	0.018873	0.010241	0.011455	0.024688
Nickel, Dissolved	Post-Closure	Oct	109	0.029955	0.029487	0.029974	0.017123	0.014279	0.018865	0.010199	0.011398	0.024470
Nickel, Dissolved	Post-Closure	Nov	109	0.029187	0.028837	0.029554	0.017107	0.014272	0.018844	0.010142	0.011332	0.024303
Nickel, Dissolved	Post-Closure	Dec	109	0.026840	0.027064	0.028656	0.017097	0.014267	0.018832	0.010106	0.011292	0.024216
Nickel, Total	Construction	Jan	2	0.004616	0.004616	0.004792	-	-	-	-	-	-
Nickel, Total	Construction	Feb	2	0.004047	0.004047	0.004052	-	-	-	-	-	-
Nickel, Total	Construction	Mar	2	0.003148	0.003148	0.003201	-	-	-	0.000070	0.000070	0.000093
Nickel, Total	Construction	Apr	2	0.002766	0.002766	0.002772	-	-	-	0.000010	0.000010	0.000010
Nickel, Total	Construction	May	2	0.002509	0.002509	0.002556	-	-	-	0.000029	0.000029	0.000029
Nickel, Total	Construction	Jun	2	0.002903	0.002903	0.002977	-	-	-	0.000014	0.000014	0.000014
Nickel, Total	Construction	Jul	2	0.003351	0.003351	0.003373	-	-	-	0.000016	0.000016	0.000016
Nickel, Total	Construction	Aug	2	0.003391	0.003391	0.003404	-	-	-	0.001201	0.001201	0.001201
Nickel, Total	Construction	Sep	2	0.003262	0.003262	0.003540	-	-	-	0.010210	0.010210	0.020350
Nickel, Total	Construction	Oct	2	0.003851	0.003851	0.003951	-	-	-	0.012331	0.012331	0.012331
Nickel, Total	Construction	Nov	2	0.004162	0.004162	0.004235	-	-	-	0.010616	0.010616	0.010616
Nickel, Total	Construction	Dec	2	0.004325	0.004325	0.004399	-	-	-	0.010042	0.010042	0.010042
Nickel, Total	Operations	Jan	13	0.009046	0.009666	0.015143	-	-	-	0.012529	0.012159	0.015145
Nickel, Total	Operations	Feb	13	0.005352	0.006006	0.010985	-	-	-	0.011771	0.011663	0.014811
Nickel, Total	Operations	Mar	13	0.003099	0.003569	0.006829	-	-	-	0.010806	0.010665	0.014374

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Nickel, Total	Operations	Apr	13	0.005157	0.005609	0.008652	-	-	-	0.009584	0.009799	0.013687
Nickel, Total	Operations	May	13	0.006781	0.007310	0.011483	-	-	-	0.009116	0.009809	0.013195
Nickel, Total	Operations	Jun	13	0.005037	0.005196	0.008091	-	-	-	0.011738	0.011684	0.013751
Nickel, Total	Operations	Jul	13	0.005583	0.005614	0.008701	-	-	-	0.014440	0.014726	0.018691
Nickel, Total	Operations	Aug	13	0.005282	0.005442	0.008309	-	-	-	0.016281	0.016930	0.021080
Nickel, Total	Operations	Sep	13	0.005913	0.006263	0.009610	-	-	-	0.017056	0.016872	0.018705
Nickel, Total	Operations	Oct	13	0.007907	0.008678	0.014232	-	-	-	0.016343	0.015421	0.018136
Nickel, Total	Operations	Nov	13	0.009843	0.009023	0.013041	-	-	-	0.015170	0.014204	0.018101
Nickel, Total	Operations	Dec	13	0.010796	0.009837	0.014106	-	-	-	0.014131	0.013415	0.018031
Nickel, Total	Closure	Jan	6	0.036884	0.033992	0.037348	-	-	-	0.022299	0.021928	0.024968
Nickel, Total	Closure	Feb	6	0.036881	0.035257	0.037181	-	-	-	0.022165	0.021794	0.024840
Nickel, Total	Closure	Mar	6	0.036841	0.036612	0.037274	-	-	-	0.021747	0.021380	0.024436
Nickel, Total	Closure	Apr	6	0.037528	0.037374	0.037542	-	-	-	0.021333	0.020970	0.024026
Nickel, Total	Closure	May	6	0.037203	0.037190	0.037205	-	-	-	0.021248	0.020891	0.023918
Nickel, Total	Closure	Jun	6	0.036976	0.037112	0.037387	-	-	-	0.021654	0.021313	0.024267
Nickel, Total	Closure	Jul	6	0.037174	0.037268	0.037457	-	-	-	0.022503	0.022186	0.025019
Nickel, Total	Closure	Aug	6	0.037705	0.037624	0.037705	-	-	-	0.023452	0.023162	0.025861
Nickel, Total	Closure	Sep	6	0.037424	0.037388	0.037424	-	-	-	0.023966	0.023694	0.026307
Nickel, Total	Closure	Oct	6	0.037864	0.037625	0.037864	-	-	-	0.023918	0.023650	0.026234
Nickel, Total	Closure	Nov	6	0.038323	0.037907	0.038323	-	-	-	0.023738	0.023470	0.026047
Nickel, Total	Closure	Dec	6	0.038055	0.037729	0.038055	-	-	-	0.023618	0.023348	0.025926
Nickel, Total	Post-Closure	Jan	109	0.028979	0.029534	0.036017	0.018935	0.015648	0.020919	0.010096	0.011419	0.025831
Nickel, Total	Post-Closure	Feb	109	0.029487	0.029987	0.033958	0.018923	0.015642	0.020904	0.010056	0.011374	0.025729
Nickel, Total	Post-Closure	Mar	109	0.032223	0.032187	0.032605	0.018894	0.015629	0.020867	0.009930	0.011231	0.025405
Nickel, Total	Post-Closure	Apr	109	0.033471	0.033146	0.033549	0.018863	0.015617	0.020827	0.009803	0.011086	0.025063
Nickel, Total	Post-Closure	May	109	0.033154	0.032892	0.033222	0.018851	0.015619	0.020808	0.009761	0.011031	0.024864
Nickel, Total	Post-Closure	Jun	109	0.032928	0.032758	0.033284	0.018878	0.015655	0.020833	0.009830	0.011088	0.024791
Nickel, Total	Post-Closure	Jul	109	0.033008	0.032825	0.033248	0.018940	0.015724	0.020894	0.009992	0.011235	0.024783
Nickel, Total	Post-Closure	Aug	109	0.033532	0.033226	0.033532	0.019005	0.015795	0.020957	0.010178	0.011406	0.024792
Nickel, Total	Post-Closure	Sep	109	0.033273	0.032988	0.033273	0.019042	0.015842	0.020991	0.010261	0.011474	0.024702
Nickel, Total	Post-Closure	Oct	109	0.033795	0.033327	0.033814	0.019039	0.015852	0.020982	0.010218	0.011417	0.024484
Nickel, Total	Post-Closure	Nov	109	0.033045	0.032696	0.033413	0.019021	0.015844	0.020959	0.010161	0.011351	0.024317
Nickel, Total	Post-Closure	Dec	109	0.030732	0.030960	0.032563	0.019010	0.015838	0.020945	0.010125	0.011311	0.024230
Selenium, Total	Construction	Jan	2	0.000166	0.000166	0.000170	-	-	-	-	-	-
Selenium, Total	Construction	Feb	2	0.000152	0.000152	0.000155	-	-	-	-	-	-
Selenium, Total	Construction	Mar	2	0.000130	0.000130	0.000133	-	-	-	0.000003	0.000003	0.000003
Selenium, Total	Construction	Apr	2	0.000121	0.000121	0.000126	-	-	-	0.00	0.00	0.00
Selenium, Total	Construction	May	2	0.000116	0.000116	0.000119	-	-	-	0.000001	0.000001	0.000001
Selenium, Total	Construction	Jun	2	0.000124	0.000124	0.000128	-	-	-	0.000001	0.000001	0.000001
Selenium, Total	Construction	Jul	2	0.000131	0.000131	0.000136	-	-	-	0.000001	0.000001	0.000001
Selenium, Total	Construction	Aug	2	0.000131	0.000131	0.000137	-	-	-	0.000054	0.000054	0.000054
Selenium, Total	Construction	Sep	2	0.000127	0.000127	0.000143	-	-	-	0.000979	0.000979	0.001954
Selenium, Total	Construction	Oct	2	0.000142	0.000142	0.000152	-	-	-	0.001459	0.001459	0.001459
Selenium, Total	Construction	Nov	2	0.000149	0.000149	0.000159	-	-	-	0.001403	0.001403	0.001403
Selenium, Total	Construction	Dec	2	0.000152	0.000152	0.000163	-	-	-	0.001434	0.001434	0.001434
Selenium, Total	Operations	Jan	13	0.000231	0.000247	0.000372	-	-	-	0.005168	0.005439	0.009515
Selenium, Total	Operations	Feb	13	0.000164	0.000178	0.000274	-	-	-	0.005217	0.005747	0.010715
Selenium, Total	Operations	Mar	13	0.000123	0.000132	0.000195	-	-	-	0.005115	0.005032	0.006417
Selenium, Total	Operations	Apr	13	0.000159	0.000168	0.000238	-	-	-	0.004668	0.004351	0.004864
Selenium, Total	Operations	May	13	0.000187	0.000198	0.000293	-	-	-	0.004079	0.003935	0.004616
Selenium, Total	Operations	Jun	13	0.000159	0.000163	0.000229	-	-	-	0.004039	0.004041	0.004579
Selenium, Total	Operations	Jul	13	0.000170	0.000171	0.000242	-	-	-	0.004429	0.004452	0.004980
Selenium, Total	Operations	Aug	13	0.000165	0.000169	0.000234	-	-	-	0.004684	0.004836	0.006350
Selenium, Total	Operations	Sep	13	0.000174	0.000184	0.000261	-	-	-	0.004817	0.005037	0.007015
Selenium, Total	Operations	Oct	13	0.000212	0.000230	0.000355	-	-	-	0.004817	0.005033	0.006885
Selenium, Total	Operations	Nov	13	0.000252	0.000236	0.000331	-	-	-	0.004862	0.005228	0.007897
Selenium, Total	Operations	Dec	13	0.000271	0.000252	0.000353	-	-	-	0.004974	0.005656	0.009856
Selenium, Total	Closure	Jan	6	0.000823	0.000763	0.000834	-	-	-	0.003470	0.003533	0.004214
Selenium, Total	Closure	Feb	6	0.000823	0.000790	0.000830	-	-	-	0.003449	0.003511	0.004181
Selenium, Total	Closure	Mar	6	0.000822	0.000818	0.000833	-	-	-	0.003384	0.003442	0.004083
Selenium, Total	Closure	Apr	6	0.000839	0.000835	0.000839	-	-	-	0.003316	0.003370	0.003981
Selenium, Total	Closure	May	6	0.000831	0.000830	0.000831	-	-	-	0.003281	0.003333	0.003926
Selenium, Total	Closure	Jun	6	0.000825	0.000828	0.000834	-	-	-	0.003285	0.003337	0.003926
Selenium, Total	Closure	Jul	6	0.000827	0.000830	0.000834	-	-	-	0.003317	0.003369	0.003963
Selenium, Total	Closure	Aug	6	0.000840	0.000838	0.000840	-	-	-	0.003352	0.003405	0.004004
Selenium, Total	Closure	Sep	6	0.000834	0.000834	0.000834	-	-	-	0.003359	0.003412	0.004007
Selenium, Total	Closure	Oct	6	0.000846	0.000840	0.000846	-	-	-	0.003327	0.003377	0.003957
Selenium, Total	Closure	Nov	6	0.000857	0.000847	0.000857	-	-	-	0.003295	0.003343	0.003909
Selenium, Total	Closure	Dec	6	0.000851	0.000843	0.000851	-	-	-	0.003278	0.003325	0.003885
Selenium, Total	Post-Closure	Jan	109	0.000369	0.000381	0.000740	0.000380	0.000333	0.000434	0.000467	0.000669	0.002874
Selenium, Total	Post-Closure	Feb	109	0.000376	0.000386	0.000588	0.000380	0.000333	0.000434	0.000465	0.000666	0.002862
Selenium, Total	Post-Closure	Mar	109	0.000418	0.000419	0.000447	0.000379	0.000332	0.000433	0.000459	0.000658	0.002826
Selenium, Total	Post-Closure	Apr	109	0.000435	0.000432	0.000436	0.000378	0.000332	0.000432	0.000453	0.000649	0.002787
Selenium, Total	Post-Closure	May	109	0.000429	0.000427	0.000431	0.000378	0.000332	0.000432	0.000451	0.000645	0.002761
Selenium, Total	Post-Closure	Jun	109	0.000427	0.000425	0.000432	0.000378	0.000333	0.000433	0.000454	0.000647	0.002743
Selenium, Total	Post-Closure	Jul	109	0.000425	0.000423	0.000429	0.000379	0.000334	0.000434	0.000462	0.000652	0.002724
Selenium, Total	Post-Closure	Aug	109	0.000431	0.000428	0.000431	0.000380	0.000336	0.000435	0.000470	0.000658	0.002706
Selenium, Total	Post-Closure	Sep	109	0.000429	0.000426	0.000429	0.000381	0.000336	0.000436	0.000474	0.000660	0.002683
Selenium, Total	Post-Closure	Oct	109	0.000436	0.000430	0.000436	0.000381	0.000337	0.000436	0.000472	0.000655	0.002654
Selenium, Total	Post-Closure	Nov	109	0.000424	0.000421	0.000430	0.000380	0.000336	0.000435	0.000469	0.000651	0.002635
Selenium, Total	Post-Closure	Dec	109	0.000393	0.000397	0.000425	0.000380	0.000336	0.000435	0.000468	0.000649	0.002625
Silver, Total	Construction	Jan	2	0.000074	0.000074	0.000079	-	-	-	-	-	-
Silver, Total	Construction	Feb	2	0.000063	0.000063	0.000065	-	-	-	-	-	-
Silver, Total	Construction	Mar	2	0.000045	0.000045	0.000049	-	-	-	0.0000003	0.0000003	0.0000003
Silver, Total	Construction	Apr	2	0.000038	0.000038	0.000043	-	-	-	0.00000007	0.00000007	0.00000007
Silver, Total	Construction	May	2	0.000034	0.000034	0.000038	-	-	-	0.000000	0.000000	0.000000
Silver, Total	Construction	Jun	2	0.000040	0.000040	0.000044	-	-	-	0.000000	0.000000	0.000000
Silver, Total	Construction	Jul	2	0.000047	0.000047	0.000052	-	-	-	0.000000	0.000000	0.000000
Silver, Total	Construction	Aug	2	0.000047	0.000047	0.000053	-	-	-	0.000005	0.000005	0.000005
Silver, Total	Construction	Sep	2	0.000046	0.000046	0.000056	-	-	-	0.000016	0.000016	0.000031
Silver, Total	Construction	Oct	2	0.000055	0.000055	0.000064	-	-	-	0.000018	0.000018	0.000018
Silver, Total	Construction	Nov	2	0.000059	0.000059	0.000069	-	-	-	0.000015	0.000015	0.000015
Silver, Total	Construction	Dec	2	0.000061	0.000061	0.000071	-	-	-	0.000013	0.000013	0.000013
Silver, Total	Operations	Jan	13	0.000017	0.000022	0.000048	-	-	-	0.000015	0.000014	0.000018
Silver, Total	Operations	Feb	13	0.000012	0.000015	0.000039	-	-	-	0.000014	0.000013	0.000017
Silver, Total	Operations	Mar	13	0.000009	0.000011	0.000027	-	-	-	0.000012	0.000012	0.000016
Silver, Total	Operations	Apr	13	0.000012	0.000014	0.000029	-	-	-	0.000011	0.000011	0.000015

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Silver, Total	Operations	May	13	0.000015	0.000017	0.000031	-	-	-	0.000012	0.000012	0.000015
Silver, Total	Operations	Jun	13	0.000012	0.000013	0.000016	-	-	-	0.000015	0.000015	0.000021
Silver, Total	Operations	Jul	13	0.000012	0.000013	0.000016	-	-	-	0.000018	0.000020	0.000030
Silver, Total	Operations	Aug	13	0.000012	0.000013	0.000016	-	-	-	0.000022	0.000024	0.000035
Silver, Total	Operations	Sep	13	0.000013	0.000014	0.000017	-	-	-	0.000023	0.000023	0.000029
Silver, Total	Operations	Oct	13	0.000017	0.000017	0.000026	-	-	-	0.000021	0.000020	0.000023
Silver, Total	Operations	Nov	13	0.000016	0.000018	0.000029	-	-	-	0.000020	0.000018	0.000022
Silver, Total	Operations	Dec	13	0.000016	0.000019	0.000030	-	-	-	0.000018	0.000016	0.000022
Silver, Total	Closure	Jan	6	0.000025	0.000024	0.000025	-	-	-	0.000036	0.000035	0.000044
Silver, Total	Closure	Feb	6	0.000025	0.000024	0.000025	-	-	-	0.000036	0.000035	0.000044
Silver, Total	Closure	Mar	6	0.000025	0.000025	0.000025	-	-	-	0.000035	0.000034	0.000043
Silver, Total	Closure	Apr	6	0.000025	0.000025	0.000025	-	-	-	0.000034	0.000033	0.000043
Silver, Total	Closure	May	6	0.000025	0.000025	0.000025	-	-	-	0.000034	0.000033	0.000043
Silver, Total	Closure	Jun	6	0.000025	0.000025	0.000025	-	-	-	0.000035	0.000034	0.000043
Silver, Total	Closure	Jul	6	0.000025	0.000025	0.000025	-	-	-	0.000037	0.000036	0.000045
Silver, Total	Closure	Aug	6	0.000025	0.000025	0.000025	-	-	-	0.000039	0.000038	0.000047
Silver, Total	Closure	Sep	6	0.000025	0.000025	0.000025	-	-	-	0.000040	0.000039	0.000048
Silver, Total	Closure	Oct	6	0.000025	0.000025	0.000025	-	-	-	0.000040	0.000040	0.000048
Silver, Total	Closure	Nov	6	0.000025	0.000025	0.000025	-	-	-	0.000040	0.000039	0.000047
Silver, Total	Closure	Dec	6	0.000025	0.000025	0.000025	-	-	-	0.000040	0.000039	0.000047
Silver, Total	Post-Closure	Jan	109	0.000033	0.000033	0.000036	0.000024	0.000020	0.000026	0.000022	0.000024	0.000047
Silver, Total	Post-Closure	Feb	109	0.000033	0.000033	0.000036	0.000024	0.000020	0.000026	0.000022	0.000024	0.000047
Silver, Total	Post-Closure	Mar	109	0.000035	0.000035	0.000036	0.000024	0.000020	0.000026	0.000022	0.000024	0.000046
Silver, Total	Post-Closure	Apr	109	0.000036	0.000036	0.000036	0.000024	0.000020	0.000026	0.000021	0.000023	0.000046
Silver, Total	Post-Closure	May	109	0.000036	0.000036	0.000036	0.000024	0.000020	0.000026	0.000021	0.000023	0.000045
Silver, Total	Post-Closure	Jun	109	0.000036	0.000036	0.000036	0.000024	0.000020	0.000026	0.000021	0.000023	0.000045
Silver, Total	Post-Closure	Jul	109	0.000036	0.000036	0.000036	0.000024	0.000020	0.000026	0.000022	0.000024	0.000045
Silver, Total	Post-Closure	Aug	109	0.000036	0.000036	0.000036	0.000024	0.000020	0.000026	0.000022	0.000024	0.000045
Silver, Total	Post-Closure	Sep	109	0.000036	0.000036	0.000036	0.000024	0.000020	0.000026	0.000022	0.000024	0.000045
Silver, Total	Post-Closure	Oct	109	0.000036	0.000036	0.000037	0.000024	0.000020	0.000026	0.000022	0.000024	0.000045
Silver, Total	Post-Closure	Nov	109	0.000036	0.000036	0.000036	0.000024	0.000020	0.000026	0.000022	0.000024	0.000045
Silver, Total	Post-Closure	Dec	109	0.000034	0.000034	0.000036	0.000024	0.000020	0.000026	0.000022	0.000024	0.000045
Thallium, Total	Construction	Jan	2	0.000137	0.000137	0.000146	-	-	-	-	-	-
Thallium, Total	Construction	Feb	2	0.000119	0.000119	0.000124	-	-	-	-	-	-
Thallium, Total	Construction	Mar	2	0.000090	0.000090	0.000096	-	-	-	0.000002	0.000002	0.000003
Thallium, Total	Construction	Apr	2	0.000079	0.000079	0.000086	-	-	-	0.0000006	0.0000006	0.0000006
Thallium, Total	Construction	May	2	0.000072	0.000072	0.000078	-	-	-	0.000001	0.000001	0.000001
Thallium, Total	Construction	Jun	2	0.000083	0.000083	0.000090	-	-	-	0.000001	0.000001	0.000001
Thallium, Total	Construction	Jul	2	0.000091	0.000091	0.000100	-	-	-	0.000001	0.000001	0.000001
Thallium, Total	Construction	Aug	2	0.000089	0.000089	0.000099	-	-	-	0.000035	0.000035	0.000035
Thallium, Total	Construction	Sep	2	0.000087	0.000087	0.000105	-	-	-	0.000030	0.000030	0.000059
Thallium, Total	Construction	Oct	2	0.000102	0.000102	0.000117	-	-	-	0.000024	0.000024	0.000024
Thallium, Total	Construction	Nov	2	0.000109	0.000109	0.000125	-	-	-	0.000019	0.000019	0.000019
Thallium, Total	Construction	Dec	2	0.000113	0.000113	0.000129	-	-	-	0.000017	0.000017	0.000017
Thallium, Total	Operations	Jan	13	0.000053	0.000056	0.000093	-	-	-	0.000017	0.000017	0.000022
Thallium, Total	Operations	Feb	13	0.000040	0.000043	0.000079	-	-	-	0.000016	0.000016	0.000022
Thallium, Total	Operations	Mar	13	0.000033	0.000035	0.000059	-	-	-	0.000015	0.000015	0.000021
Thallium, Total	Operations	Apr	13	0.000040	0.000041	0.000064	-	-	-	0.000015	0.000016	0.000021
Thallium, Total	Operations	May	13	0.000046	0.000046	0.000066	-	-	-	0.000017	0.000018	0.000021
Thallium, Total	Operations	Jun	13	0.000039	0.000039	0.000042	-	-	-	0.000020	0.000020	0.000023
Thallium, Total	Operations	Jul	13	0.000038	0.000038	0.000041	-	-	-	0.000023	0.000023	0.000028
Thallium, Total	Operations	Aug	13	0.000038	0.000037	0.000040	-	-	-	0.000025	0.000026	0.000029
Thallium, Total	Operations	Sep	13	0.000041	0.000040	0.000043	-	-	-	0.000026	0.000025	0.000028
Thallium, Total	Operations	Oct	13	0.000047	0.000046	0.000056	-	-	-	0.000024	0.000023	0.000029
Thallium, Total	Operations	Nov	13	0.000047	0.000048	0.000062	-	-	-	0.000022	0.000021	0.000029
Thallium, Total	Operations	Dec	13	0.000050	0.000051	0.000064	-	-	-	0.000020	0.000019	0.000029
Thallium, Total	Closure	Jan	6	0.000081	0.000078	0.000082	-	-	-	0.000034	0.000033	0.000037
Thallium, Total	Closure	Feb	6	0.000082	0.000080	0.000082	-	-	-	0.000034	0.000033	0.000037
Thallium, Total	Closure	Mar	6	0.000082	0.000082	0.000083	-	-	-	0.000033	0.000033	0.000036
Thallium, Total	Closure	Apr	6	0.000083	0.000083	0.000083	-	-	-	0.000032	0.000032	0.000035
Thallium, Total	Closure	May	6	0.000083	0.000083	0.000083	-	-	-	0.000032	0.000032	0.000035
Thallium, Total	Closure	Jun	6	0.000083	0.000083	0.000084	-	-	-	0.000033	0.000032	0.000036
Thallium, Total	Closure	Jul	6	0.000080	0.000081	0.000081	-	-	-	0.000034	0.000034	0.000037
Thallium, Total	Closure	Aug	6	0.000080	0.000080	0.000080	-	-	-	0.000035	0.000035	0.000038
Thallium, Total	Closure	Sep	6	0.000080	0.000080	0.000080	-	-	-	0.000036	0.000035	0.000038
Thallium, Total	Closure	Oct	6	0.000081	0.000080	0.000081	-	-	-	0.000036	0.000035	0.000038
Thallium, Total	Closure	Nov	6	0.000082	0.000082	0.000082	-	-	-	0.000035	0.000035	0.000038
Thallium, Total	Closure	Dec	6	0.000083	0.000082	0.000083	-	-	-	0.000035	0.000035	0.000038
Thallium, Total	Post-Closure	Jan	109	0.000070	0.000073	0.000085	0.000051	0.000045	0.000053	0.000019	0.000020	0.000038
Thallium, Total	Post-Closure	Feb	109	0.000072	0.000075	0.000085	0.000051	0.000045	0.000053	0.000019	0.000020	0.000038
Thallium, Total	Post-Closure	Mar	109	0.000082	0.000083	0.000086	0.000051	0.000045	0.000053	0.000018	0.000020	0.000037
Thallium, Total	Post-Closure	Apr	109	0.000085	0.000085	0.000087	0.000051	0.000045	0.000053	0.000018	0.000020	0.000037
Thallium, Total	Post-Closure	May	109	0.000085	0.000086	0.000088	0.000051	0.000045	0.000053	0.000018	0.000020	0.000036
Thallium, Total	Post-Closure	Jun	109	0.000087	0.000087	0.000089	0.000051	0.000045	0.000053	0.000018	0.000020	0.000036
Thallium, Total	Post-Closure	Jul	109	0.000081	0.000081	0.000081	0.000051	0.000045	0.000053	0.000019	0.000020	0.000036
Thallium, Total	Post-Closure	Aug	109	0.000080	0.000080	0.000080	0.000051	0.000045	0.000054	0.000019	0.000020	0.000036
Thallium, Total	Post-Closure	Sep	109	0.000079	0.000079	0.000080	0.000051	0.000045	0.000054	0.000019	0.000020	0.000036
Thallium, Total	Post-Closure	Oct	109	0.000079	0.000079	0.000080	0.000051	0.000045	0.000054	0.000019	0.000020	0.000036
Thallium, Total	Post-Closure	Nov	109	0.000077	0.000078	0.000082	0.000051	0.000045	0.000054	0.000019	0.000020	0.000036
Thallium, Total	Post-Closure	Dec	109	0.000073	0.000075	0.000084	0.000051	0.000045	0.000053	0.000019	0.000020	0.000036
Uranium, Total	Construction	Jan	2	0.000245	0.000245	0.000281	-	-	-	-	-	-
Uranium, Total	Construction	Feb	2	0.000285	0.000285	0.000298	-	-	-	-	-	-
Uranium, Total	Construction	Mar	2	0.000334	0.000334	0.000344	-	-	-	0.000008	0.000008	0.000013
Uranium, Total	Construction	Apr	2	0.000359	0.000359	0.000372	-	-	-	0.0000006	0.0000006	0.0000006
Uranium, Total	Construction	May	2	0.000377	0.000377	0.000389	-	-	-	0.000004	0.000004	0.000004
Uranium, Total	Construction	Jun	2	0.000368	0.000368	0.000383	-	-	-	0.000001	0.000001	0.000001
Uranium, Total	Construction	Jul	2	0.000348	0.000348	0.000375	-	-	-	0.000002	0.000002	0.000002
Uranium, Total	Construction	Aug	2	0.000352	0.000352	0.000380	-	-	-	0.000130	0.000130	0.000130
Uranium, Total	Construction	Sep	2	0.000332	0.000332	0.000342	-	-	-	0.001198	0.001198	0.002389
Uranium, Total	Construction	Oct	2	0.000331	0.000331	0.000363	-	-	-	0.001509	0.001509	0.001509
Uranium, Total	Construction	Nov	2	0.000324	0.000324	0.000362	-	-	-	0.001411	0.001411	0.001411
Uranium, Total	Construction	Dec	2	0.000323	0.000323	0.000363	-	-	-	0.001420	0.001420	0.001420
Uranium, Total	Operations	Jan	13	0.001402	0.001423	0.002407	-	-	-	0.001752	0.001773	0.002090
Uranium, Total	Operations	Feb	13	0.000981	0.001023	0.001622	-	-	-	0.001715	0.001747	0.002065
Uranium, Total	Operations	Mar	13	0.000732	0.000765	0.001157	-	-	-	0.001636	0.001627	0.002032
Uranium, Total	Operations	Apr	13	0.000941	0.000975	0.001506	-	-	-	0.001511	0.001534	0.001968
Uranium, Total	Operations	May	13	0.001112	0.001160	0.001870	-	-	-	0.001438	0.001507	0.001909

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Uranium, Total	Operations	Jun	13	0.000959	0.000976	0.001459	-	-	-	0.001584	0.001641	0.001950
Uranium, Total	Operations	Jul	13	0.001034	0.001035	0.001550	-	-	-	0.001850	0.001864	0.002077
Uranium, Total	Operations	Aug	13	0.001005	0.001019	0.001500	-	-	-	0.002035	0.002027	0.002208
Uranium, Total	Operations	Sep	13	0.001060	0.001115	0.001676	-	-	-	0.002064	0.002041	0.002294
Uranium, Total	Operations	Oct	13	0.001304	0.001400	0.002307	-	-	-	0.002015	0.001957	0.002322
Uranium, Total	Operations	Nov	13	0.001549	0.001423	0.002145	-	-	-	0.001938	0.001899	0.002319
Uranium, Total	Operations	Dec	13	0.001647	0.001513	0.002277	-	-	-	0.001881	0.001872	0.002315
Uranium, Total	Closure	Jan	6	0.005585	0.005164	0.005664	-	-	-	0.002117	0.002133	0.002305
Uranium, Total	Closure	Feb	6	0.005583	0.005347	0.005634	-	-	-	0.002104	0.002120	0.002287
Uranium, Total	Closure	Mar	6	0.005575	0.005544	0.005648	-	-	-	0.002065	0.002078	0.002233
Uranium, Total	Closure	Apr	6	0.005690	0.005665	0.005693	-	-	-	0.002024	0.002036	0.002178
Uranium, Total	Closure	May	6	0.005639	0.005637	0.005639	-	-	-	0.002006	0.002018	0.002154
Uranium, Total	Closure	Jun	6	0.005600	0.005623	0.005669	-	-	-	0.002020	0.002032	0.002170
Uranium, Total	Closure	Jul	6	0.005627	0.005643	0.005675	-	-	-	0.002058	0.002071	0.002216
Uranium, Total	Closure	Aug	6	0.005715	0.005701	0.005715	-	-	-	0.002101	0.002114	0.002269
Uranium, Total	Closure	Sep	6	0.005678	0.005671	0.005678	-	-	-	0.002119	0.002133	0.002290
Uranium, Total	Closure	Oct	6	0.005758	0.005717	0.005758	-	-	-	0.002104	0.002117	0.002268
Uranium, Total	Closure	Nov	6	0.005834	0.005764	0.005834	-	-	-	0.002085	0.002097	0.002243
Uranium, Total	Closure	Dec	6	0.005785	0.005730	0.005785	-	-	-	0.002074	0.002086	0.002229
Uranium, Total	Post-Closure	Jan	109	0.001771	0.001834	0.004835	0.001339	0.001124	0.001376	0.000492	0.000616	0.001968
Uranium, Total	Post-Closure	Feb	109	0.001806	0.001854	0.003484	0.001338	0.001124	0.001375	0.000490	0.000613	0.001960
Uranium, Total	Post-Closure	Mar	109	0.001997	0.001997	0.002240	0.001335	0.001122	0.001373	0.000484	0.000606	0.001935
Uranium, Total	Post-Closure	Apr	109	0.002084	0.002062	0.002090	0.001333	0.001121	0.001370	0.000477	0.000598	0.001909
Uranium, Total	Post-Closure	May	109	0.002067	0.002049	0.002072	0.001331	0.001121	0.001369	0.000475	0.000594	0.001892
Uranium, Total	Post-Closure	Jun	109	0.002053	0.002041	0.002078	0.001333	0.001124	0.001370	0.000479	0.000597	0.001882
Uranium, Total	Post-Closure	Jul	109	0.002050	0.002037	0.002066	0.001337	0.001128	0.001374	0.000487	0.000603	0.001874
Uranium, Total	Post-Closure	Aug	109	0.002084	0.002063	0.002084	0.001340	0.001133	0.001378	0.000496	0.000611	0.001866
Uranium, Total	Post-Closure	Sep	109	0.002073	0.002053	0.002073	0.001343	0.001136	0.001380	0.000500	0.000613	0.001854
Uranium, Total	Post-Closure	Oct	109	0.002113	0.002081	0.002115	0.001342	0.001137	0.001380	0.000497	0.000610	0.001835
Uranium, Total	Post-Closure	Nov	109	0.002060	0.002035	0.002085	0.001340	0.001136	0.001378	0.000495	0.000606	0.001822
Uranium, Total	Post-Closure	Dec	109	0.001895	0.001911	0.002024	0.001339	0.001136	0.001377	0.000493	0.000604	0.001816
Zinc, Dissolved	Construction	Jan	2	0.00144	0.00144	0.00160	-	-	-	-	-	-
Zinc, Dissolved	Construction	Feb	2	0.00183	0.00183	0.00183	-	-	-	-	-	-
Zinc, Dissolved	Construction	Mar	2	0.00233	0.00233	0.00233	-	-	-	0.00006	0.00006	0.00007
Zinc, Dissolved	Construction	Apr	2	0.00256	0.00256	0.00259	-	-	-	0.00002	0.00002	0.00002
Zinc, Dissolved	Construction	May	2	0.00268	0.00268	0.00270	-	-	-	0.00002	0.00002	0.00002
Zinc, Dissolved	Construction	Jun	2	0.00253	0.00253	0.00254	-	-	-	0.00002	0.00002	0.00002
Zinc, Dissolved	Construction	Jul	2	0.00219	0.00219	0.00226	-	-	-	0.00002	0.00002	0.00002
Zinc, Dissolved	Construction	Aug	2	0.00214	0.00214	0.00223	-	-	-	0.00073	0.00073	0.00073
Zinc, Dissolved	Construction	Sep	2	0.00204	0.00204	0.00204	-	-	-	0.00271	0.00271	0.00539
Zinc, Dissolved	Construction	Oct	2	0.00190	0.00190	0.00200	-	-	-	0.00300	0.00300	0.00300
Zinc, Dissolved	Construction	Nov	2	0.00177	0.00177	0.00189	-	-	-	0.00225	0.00225	0.00225
Zinc, Dissolved	Construction	Dec	2	0.00173	0.00173	0.00187	-	-	-	0.00188	0.00188	0.00188
Zinc, Dissolved	Operations	Jan	13	0.00277	0.00281	0.00346	-	-	-	0.00236	0.00209	0.00295
Zinc, Dissolved	Operations	Feb	13	0.00328	0.00319	0.00360	-	-	-	0.00201	0.00186	0.00281
Zinc, Dissolved	Operations	Mar	13	0.00340	0.00337	0.00356	-	-	-	0.00166	0.00162	0.00264
Zinc, Dissolved	Operations	Apr	13	0.00317	0.00309	0.00330	-	-	-	0.00163	0.00175	0.00252
Zinc, Dissolved	Operations	May	13	0.00295	0.00289	0.00315	-	-	-	0.00217	0.00214	0.00258
Zinc, Dissolved	Operations	Jun	13	0.00329	0.00325	0.00337	-	-	-	0.00260	0.00278	0.00390
Zinc, Dissolved	Operations	Jul	13	0.00324	0.00319	0.00329	-	-	-	0.00329	0.00365	0.00560
Zinc, Dissolved	Operations	Aug	13	0.00327	0.00321	0.00332	-	-	-	0.00383	0.00431	0.00638
Zinc, Dissolved	Operations	Sep	13	0.00322	0.00314	0.00327	-	-	-	0.00406	0.00415	0.00525
Zinc, Dissolved	Operations	Oct	13	0.00299	0.00292	0.00325	-	-	-	0.00377	0.00351	0.00413
Zinc, Dissolved	Operations	Nov	13	0.00301	0.00288	0.00324	-	-	-	0.00336	0.00295	0.00411
Zinc, Dissolved	Operations	Dec	13	0.00303	0.00289	0.00335	-	-	-	0.00298	0.00256	0.00407
Zinc, Dissolved	Closure	Jan	6	0.00232	0.00241	0.00294	-	-	-	0.00702	0.00677	0.00885
Zinc, Dissolved	Closure	Feb	6	0.00232	0.00237	0.00267	-	-	-	0.00698	0.00673	0.00880
Zinc, Dissolved	Closure	Mar	6	0.00232	0.00233	0.00241	-	-	-	0.00685	0.00660	0.00866
Zinc, Dissolved	Closure	Apr	6	0.00235	0.00235	0.00236	-	-	-	0.00672	0.00649	0.00852
Zinc, Dissolved	Closure	May	6	0.00231	0.00231	0.00231	-	-	-	0.00672	0.00649	0.00850
Zinc, Dissolved	Closure	Jun	6	0.00228	0.00229	0.00230	-	-	-	0.00692	0.00669	0.00866
Zinc, Dissolved	Closure	Jul	6	0.00221	0.00221	0.00222	-	-	-	0.00730	0.00708	0.00899
Zinc, Dissolved	Closure	Aug	6	0.00221	0.00221	0.00221	-	-	-	0.00772	0.00752	0.00937
Zinc, Dissolved	Closure	Sep	6	0.00226	0.00225	0.00226	-	-	-	0.00796	0.00777	0.00957
Zinc, Dissolved	Closure	Oct	6	0.00230	0.00229	0.00230	-	-	-	0.00797	0.00779	0.00957
Zinc, Dissolved	Closure	Nov	6	0.00235	0.00232	0.00235	-	-	-	0.00792	0.00774	0.00950
Zinc, Dissolved	Closure	Dec	6	0.00235	0.00233	0.00235	-	-	-	0.00788	0.00770	0.00946
Zinc, Dissolved	Post-Closure	Jan	109	0.01058	0.01076	0.01199	0.00752	0.00650	0.00832	0.00451	0.00492	0.00942
Zinc, Dissolved	Post-Closure	Feb	109	0.01080	0.01100	0.01195	0.00751	0.00649	0.00831	0.00449	0.00490	0.00939
Zinc, Dissolved	Post-Closure	Mar	109	0.01202	0.01202	0.01219	0.00750	0.00648	0.00830	0.00443	0.00484	0.00927
Zinc, Dissolved	Post-Closure	Apr	109	0.01254	0.01242	0.01258	0.00749	0.00647	0.00828	0.00438	0.00478	0.00915
Zinc, Dissolved	Post-Closure	May	109	0.01236	0.01228	0.01240	0.00749	0.00647	0.00827	0.00436	0.00476	0.00908
Zinc, Dissolved	Post-Closure	Jun	109	0.01227	0.01222	0.01242	0.00750	0.00649	0.00828	0.00439	0.00478	0.00907
Zinc, Dissolved	Post-Closure	Jul	109	0.01213	0.01206	0.01223	0.00752	0.00651	0.00831	0.00446	0.00485	0.00909
Zinc, Dissolved	Post-Closure	Aug	109	0.01230	0.01218	0.01230	0.00755	0.00654	0.00833	0.00454	0.00493	0.00911
Zinc, Dissolved	Post-Closure	Sep	109	0.01235	0.01225	0.01235	0.00756	0.00655	0.00835	0.00458	0.00496	0.00909
Zinc, Dissolved	Post-Closure	Oct	109	0.01261	0.01243	0.01262	0.00756	0.00655	0.00834	0.00456	0.00493	0.00902
Zinc, Dissolved	Post-Closure	Nov	109	0.01227	0.01216	0.01244	0.00755	0.00655	0.00833	0.00453	0.00491	0.00896
Zinc, Dissolved	Post-Closure	Dec	109	0.01131	0.01143	0.01222	0.00755	0.00655	0.00833	0.00452	0.00489	0.00893
Zinc, Total	Construction	Jan	2	0.01261	0.01261	0.01325	-	-	-	-	-	-
Zinc, Total	Construction	Feb	2	0.01112	0.01112	0.01154	-	-	-	-	-	-
Zinc, Total	Construction	Mar	2	0.00877	0.00877	0.00929	-	-	-	0.00007	0.00007	0.00009
Zinc, Total	Construction	Apr	2	0.00786	0.00786	0.00851	-	-	-	0.00002	0.00002	0.00002
Zinc, Total	Construction	May	2	0.00722	0.00722	0.00785	-	-	-	0.00002	0.00002	0.00002
Zinc, Total	Construction	Jun	2	0.00810	0.00810	0.00874	-	-	-	0.00003	0.00003	0.00003
Zinc, Total	Construction	Jul	2	0.00897	0.00897	0.00982	-	-	-	0.00003	0.00003	0.00003
Zinc, Total	Construction	Aug	2	0.00901	0.00901	0.00992	-	-	-	0.00154	0.00154	0.00154
Zinc, Total	Construction	Sep	2	0.00868	0.00868	0.01030	-	-	-	0.00340	0.00340	0.00671
Zinc, Total	Construction	Oct	2	0.00983	0.00983	0.01122	-	-	-	0.00380	0.00380	0.00380
Zinc, Total	Construction	Nov	2	0.01038	0.01038	0.01182	-	-	-	0.00302	0.00302	0.00302
Zinc, Total	Construction	Dec	2	0.01064	0.01064	0.01213	-	-	-	0.00267	0.00267	0.00267
Zinc, Total	Operations	Jan	13	0.00472	0.00516	0.00879	-	-	-	0.00318	0.00292	0.00371
Zinc, Total	Operations	Feb	13	0.00430	0.00460	0.00768	-	-	-	0.00284	0.00270	0.00358
Zinc, Total	Operations	Mar	13	0.00392	0.00415	0.00612	-	-	-	0.00245	0.00239	0.00338
Zinc, Total	Operations	Apr	13	0.00408	0.00435	0.00638	-	-	-	0.00232	0.00244	0.00323
Zinc, Total	Operations	May	13	0.00423	0.00453	0.00649	-	-	-	0.00278	0.00279	0.00325
Zinc, Total	Operations	Jun	13	0.00409	0.00422	0.00473	-	-	-	0.00329	0.00345	0.00458

MacLellan Site Contact Water Quality for the Expected Case

Parameter	Project Phase	Month	Number of Occurrences	Node Collection Pond Predicted Water Quality			Node Open Pit Predicted Water Quality			Node TMF Predicted Water Quality		
				Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)	Median (mg/L)	Mean (mg/L)	Maximum (mg/L)
Zinc, Total	Operations	Jul	13	0.00413	0.00426	0.00489	-	-	-	0.00396	0.00438	0.00638
Zinc, Total	Operations	Aug	13	0.00411	0.00424	0.00482	-	-	-	0.00471	0.00507	0.00722
Zinc, Total	Operations	Sep	13	0.00412	0.00427	0.00494	-	-	-	0.00475	0.00492	0.00604
Zinc, Total	Operations	Oct	13	0.00432	0.00451	0.00592	-	-	-	0.00450	0.00426	0.00480
Zinc, Total	Operations	Nov	13	0.00438	0.00461	0.00627	-	-	-	0.00411	0.00371	0.00474
Zinc, Total	Operations	Dec	13	0.00456	0.00475	0.00641	-	-	-	0.00376	0.00335	0.00470
Zinc, Total	Closure	Jan	6	0.00422	0.00423	0.00439	-	-	-	0.00750	0.00726	0.00924
Zinc, Total	Closure	Feb	6	0.00422	0.00423	0.00433	-	-	-	0.00746	0.00722	0.00920
Zinc, Total	Closure	Mar	6	0.00423	0.00424	0.00427	-	-	-	0.00732	0.00709	0.00905
Zinc, Total	Closure	Apr	6	0.00427	0.00426	0.00427	-	-	-	0.00719	0.00696	0.00890
Zinc, Total	Closure	May	6	0.00424	0.00424	0.00424	-	-	-	0.00718	0.00696	0.00887
Zinc, Total	Closure	Jun	6	0.00423	0.00423	0.00425	-	-	-	0.00737	0.00716	0.00904
Zinc, Total	Closure	Jul	6	0.00426	0.00427	0.00428	-	-	-	0.00775	0.00755	0.00937
Zinc, Total	Closure	Aug	6	0.00430	0.00430	0.00430	-	-	-	0.00818	0.00799	0.00975
Zinc, Total	Closure	Sep	6	0.00419	0.00419	0.00419	-	-	-	0.00842	0.00824	0.00995
Zinc, Total	Closure	Oct	6	0.00417	0.00416	0.00417	-	-	-	0.00843	0.00825	0.00994
Zinc, Total	Closure	Nov	6	0.00422	0.00419	0.00422	-	-	-	0.00837	0.00820	0.00988
Zinc, Total	Closure	Dec	6	0.00424	0.00422	0.00424	-	-	-	0.00833	0.00815	0.00983
Zinc, Total	Post-Closure	Jan	109	0.01316	0.01335	0.01465	0.00889	0.00763	0.00985	0.00461	0.00505	0.00980
Zinc, Total	Post-Closure	Feb	109	0.01339	0.01360	0.01463	0.00889	0.00762	0.00984	0.00459	0.00503	0.00976
Zinc, Total	Post-Closure	Mar	109	0.01467	0.01468	0.01484	0.00887	0.00761	0.00982	0.00454	0.00497	0.00964
Zinc, Total	Post-Closure	Apr	109	0.01519	0.01508	0.01524	0.00886	0.00760	0.00980	0.00448	0.00490	0.00951
Zinc, Total	Post-Closure	May	109	0.01505	0.01497	0.01509	0.00885	0.00760	0.00979	0.00446	0.00488	0.00944
Zinc, Total	Post-Closure	Jun	109	0.01499	0.01494	0.01514	0.00887	0.00762	0.00981	0.00449	0.00491	0.00942
Zinc, Total	Post-Closure	Jul	109	0.01510	0.01504	0.01520	0.00889	0.00765	0.00983	0.00456	0.00497	0.00944
Zinc, Total	Post-Closure	Aug	109	0.01532	0.01521	0.01532	0.00892	0.00768	0.00986	0.00465	0.00505	0.00946
Zinc, Total	Post-Closure	Sep	109	0.01504	0.01494	0.01504	0.00894	0.00770	0.00988	0.00468	0.00508	0.00944
Zinc, Total	Post-Closure	Oct	109	0.01516	0.01499	0.01518	0.00894	0.00770	0.00987	0.00466	0.00506	0.00937
Zinc, Total	Post-Closure	Nov	109	0.01483	0.01472	0.01500	0.00893	0.00770	0.00986	0.00464	0.00503	0.00930
Zinc, Total	Post-Closure	Dec	109	0.01388	0.01402	0.01486	0.00893	0.00770	0.00986	0.00462	0.00501	0.00927

Appendix E UPDATED WATER QUALITY MODEL PREDICTION GRAPHS

Table 1 List of Figures in Appendix E

Figure C	Description	Parameter of Potential Concern
E1	Time series (Year 1 to Year 128) in KEE3-B1	Aluminum
E2	Time series (Year 1 to Year 128) in QM06	
E3	Monthly mean concentrations by phase	
E4	Time series (Year 1 to Year 128) in KEE3-B1	Arsenic
E5	Monthly mean concentrations by phase	
E6	Time series (Year 1 to Year 128) in KEE3-B1	Total Cadmium
E7	Time series (Year 1 to Year 128) in Minton Lake	
E8	Monthly mean concentrations by phase	
E9	Time series (Year 1 to Year 128) in KEE3-B1	Total Copper
E10	Monthly mean concentrations by phase	
E11	Time series (Year 1 to Year 128) in KEE3-B1	Fluoride
E12	Monthly mean concentrations by phase	
E13	Time series (Year 1 to Year 128) in KEE3-B1	Phosphorus
E14	Monthly mean concentrations by phase	

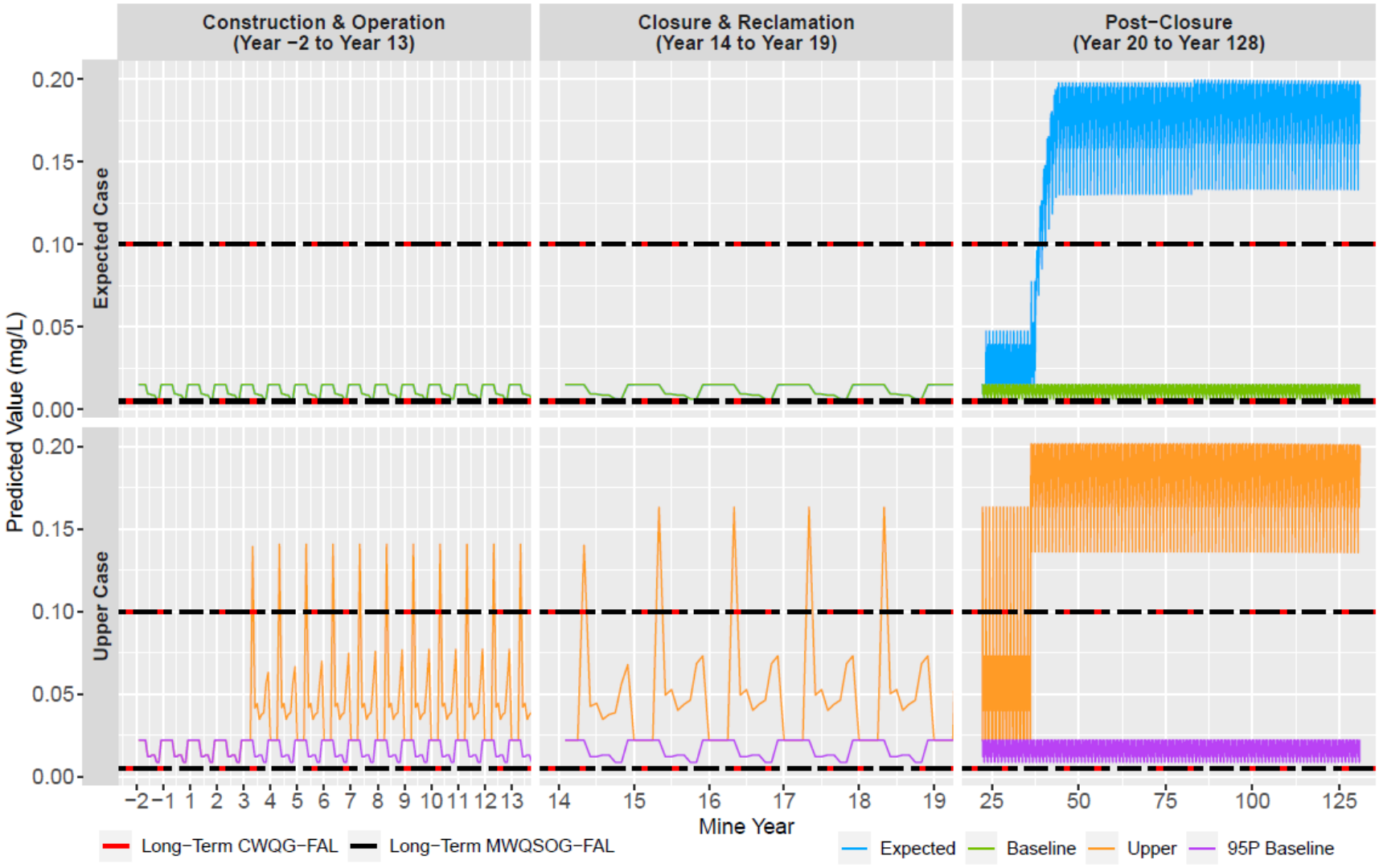


Figure E1 **Predicted Project vs. Baseline Concentrations of Total Aluminum at Node KEE3-B1 in the Expected Case and Upper Case**

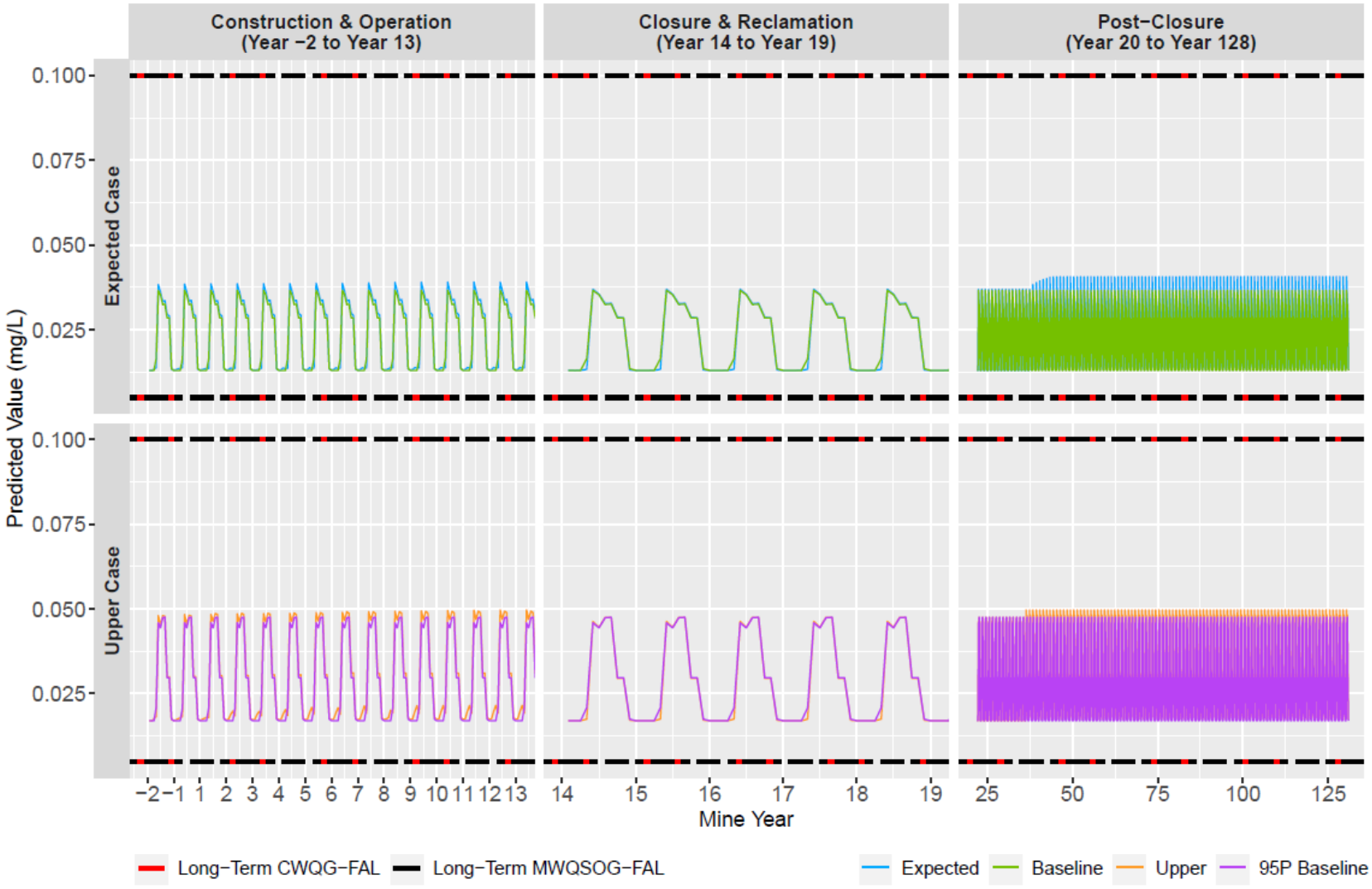


Figure E2 **Predicted Project vs. Baseline Concentrations of Total Aluminum at Node QM06 in the Expected Case and Upper Case**

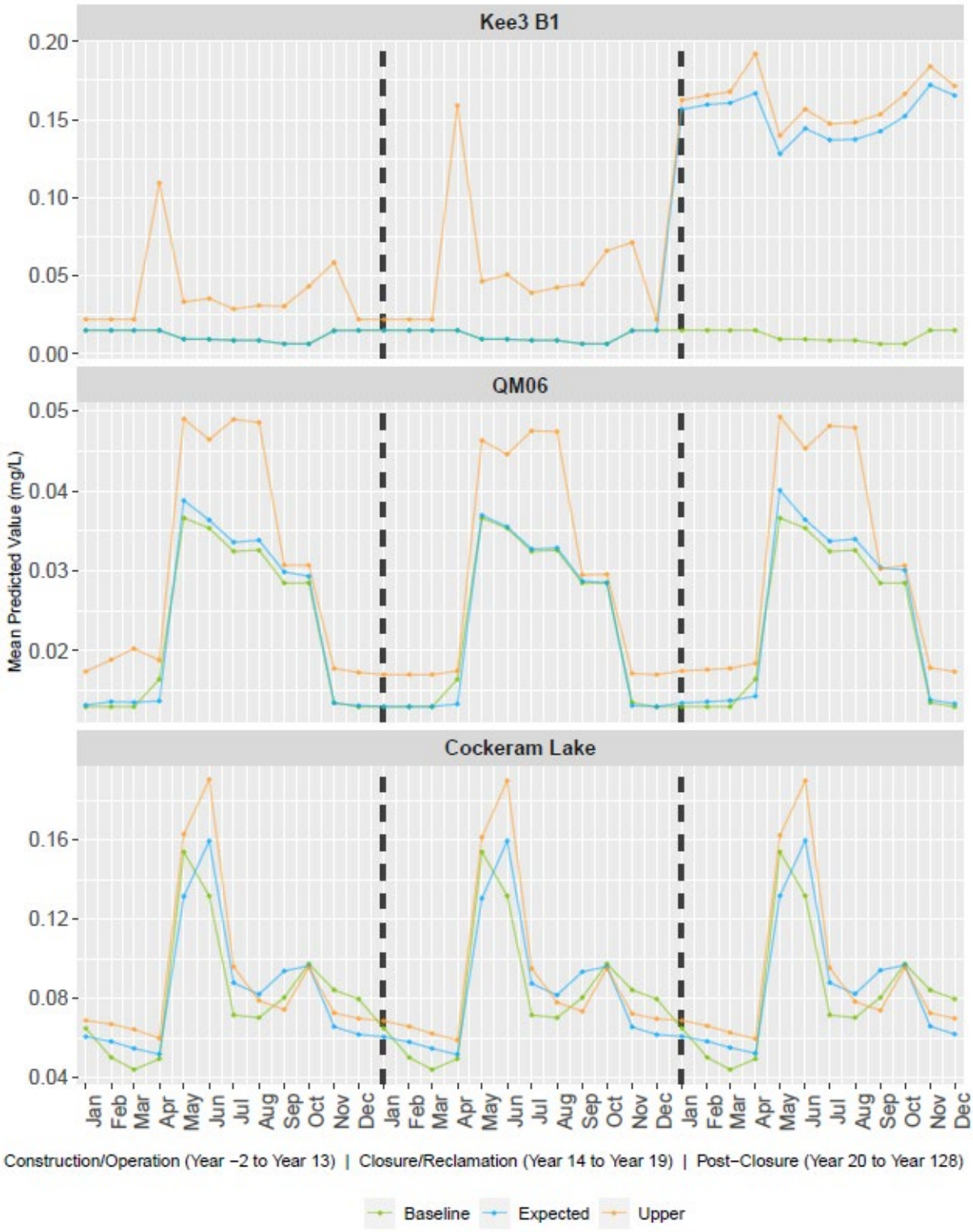


Figure E3 Predicted Monthly Mean Aluminum Concentrations at KEE3-B1, QM06, and Cockeram Lake in Operation, Closure, and Post-Closure

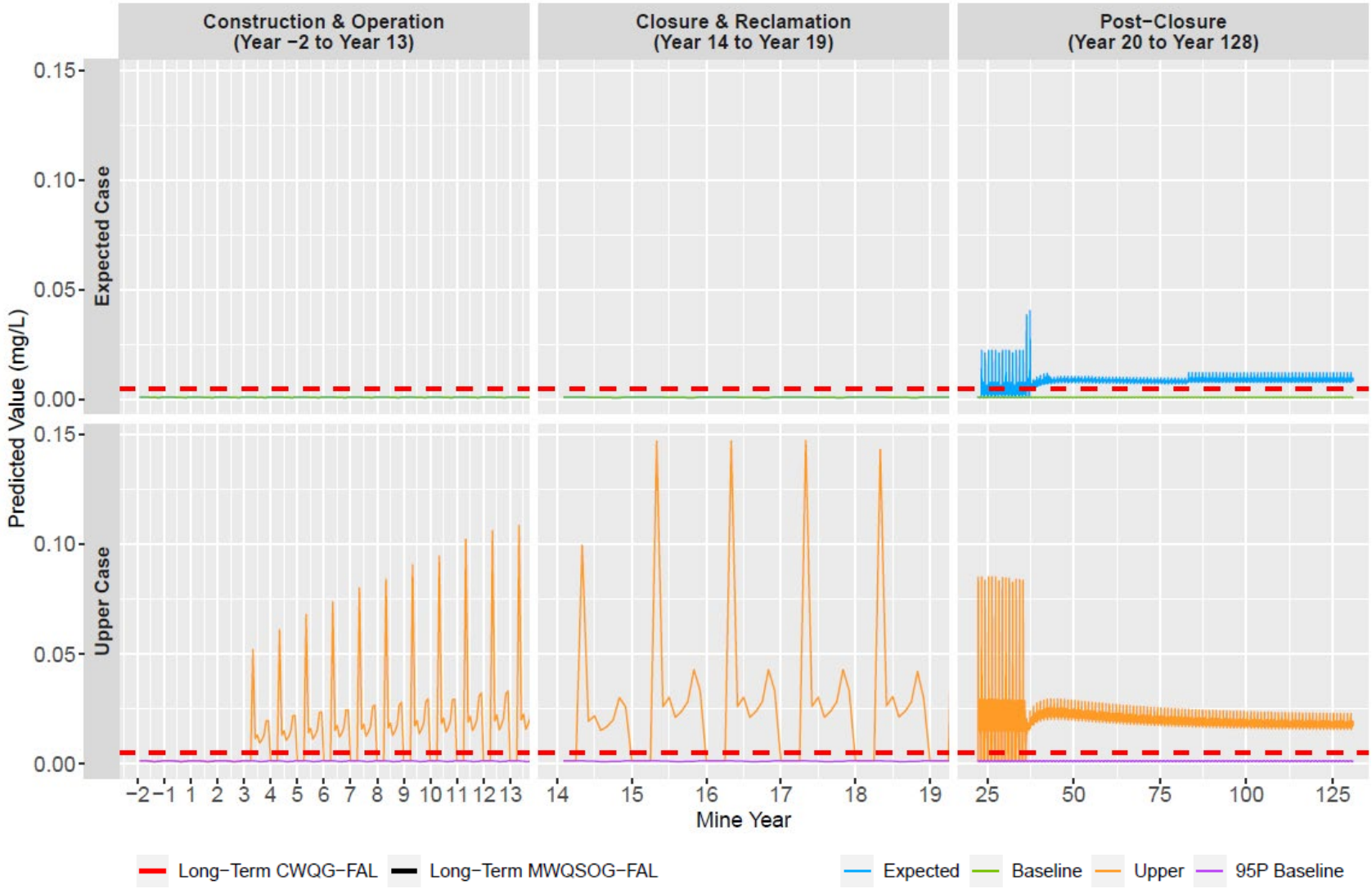


Figure E4 **Predicted Project vs. Baseline Concentrations of Total Arsenic at Node KEE3-B1 in the Expected Case and Upper Case**

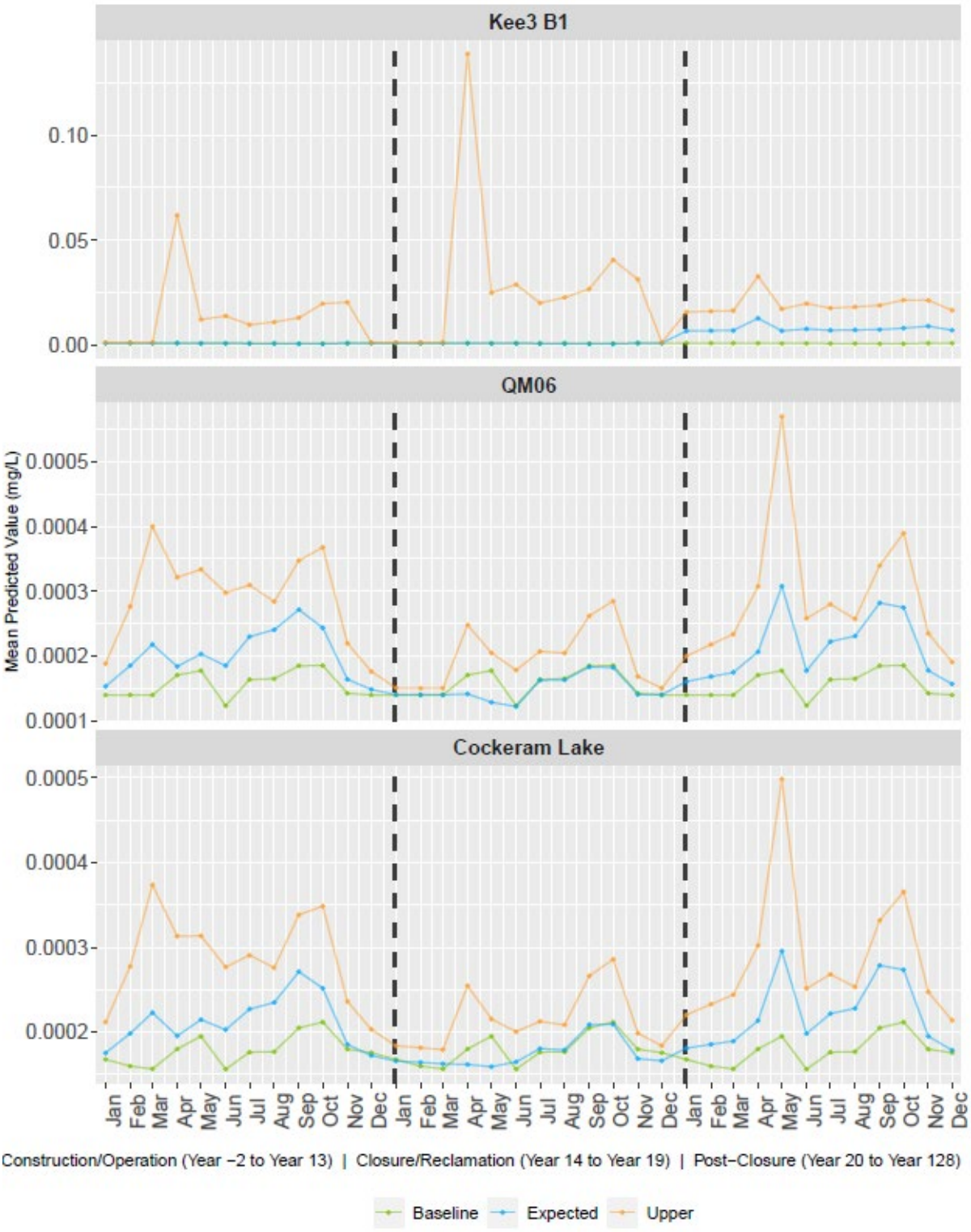


Figure E5 Predicted Monthly Mean Arsenic Concentrations at KEE3-B1, QM06, and Cockeram Lake in Operation, Closure, and Post-Closure Phases

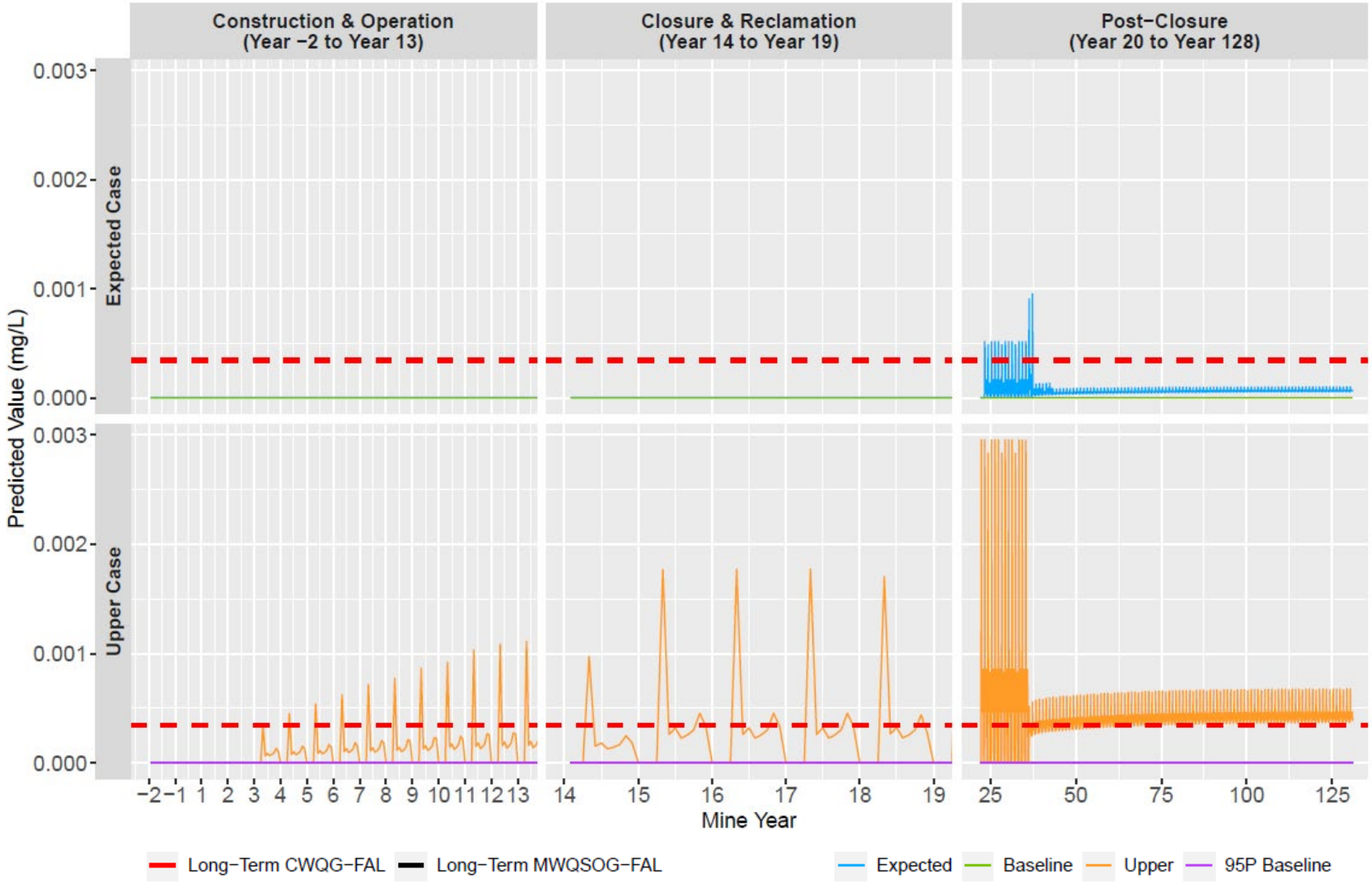


Figure E6 **Predicted Project vs. Baseline Concentrations of Total Cadmium at Node KEE3-B1 in the Expected Case and Upper Case**

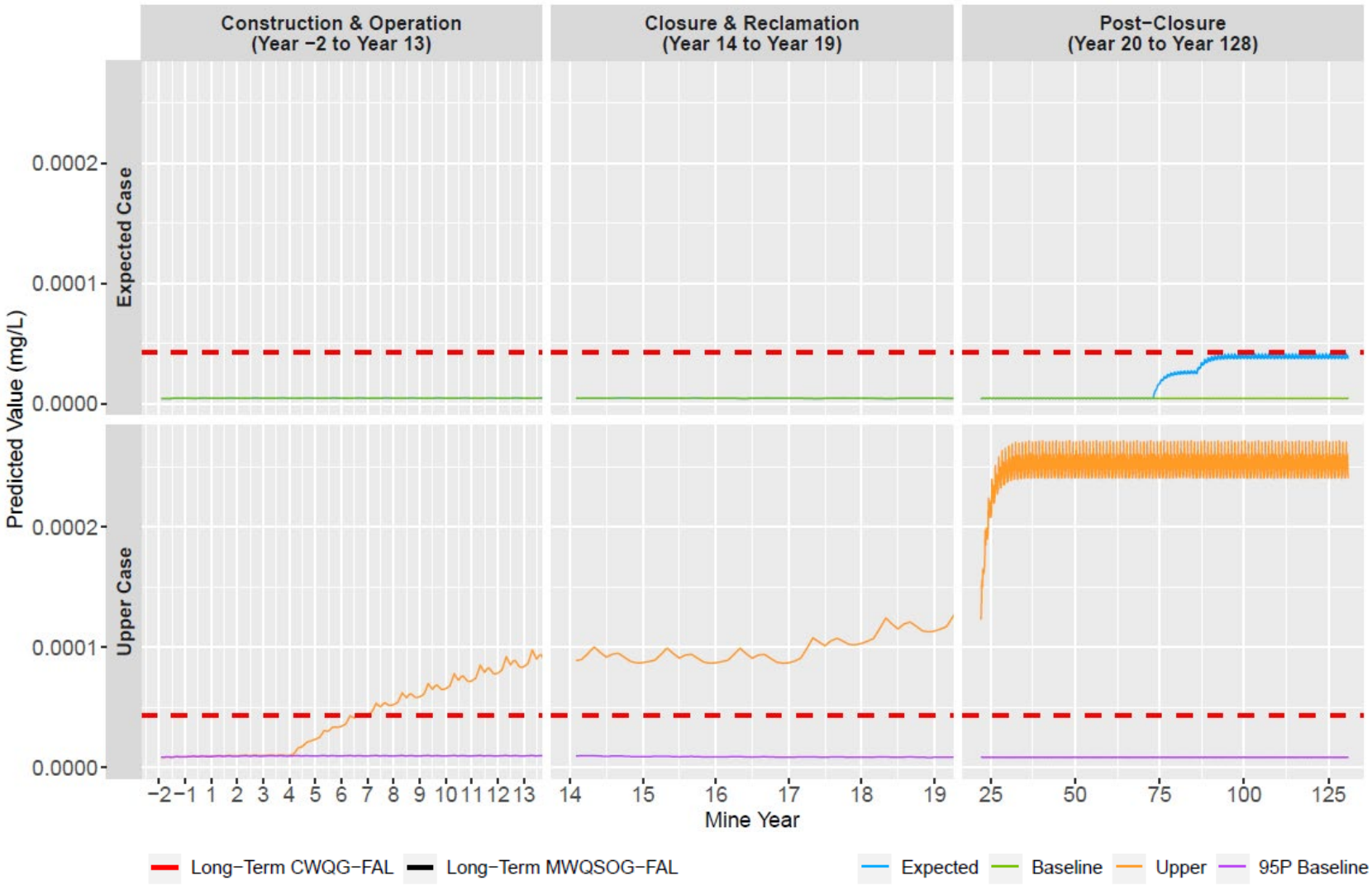


Figure E7 **Predicted Project vs. Baseline Concentrations of Total Cadmium at Minton Lake in the Expected Case and Upper Case**

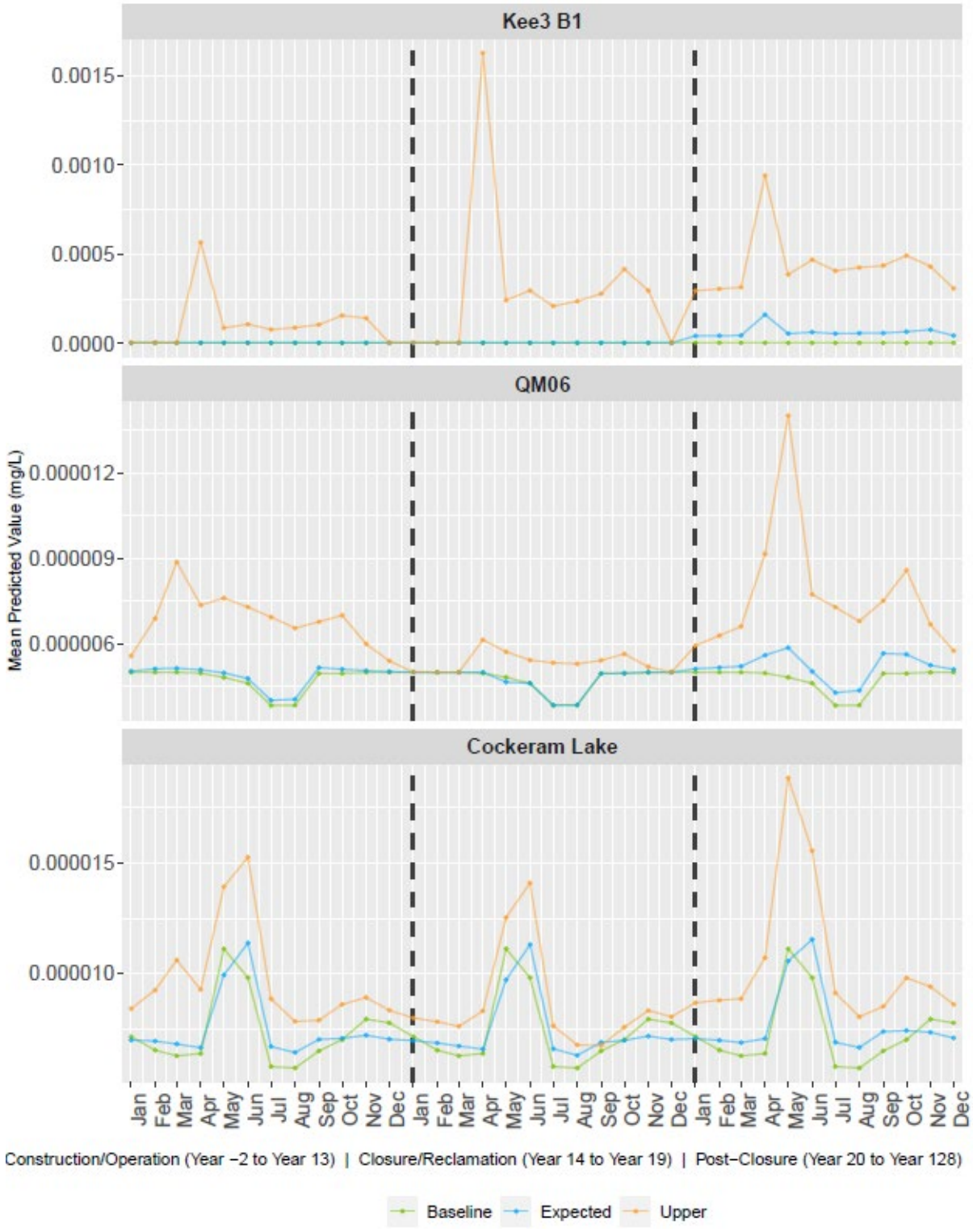


Figure E8 **Monthly Mean Concentrations of Total Cadmium at KEE3-B1, QM06, and Cockeram Lake in the Operation, Closure, and Post-Closure Phases**

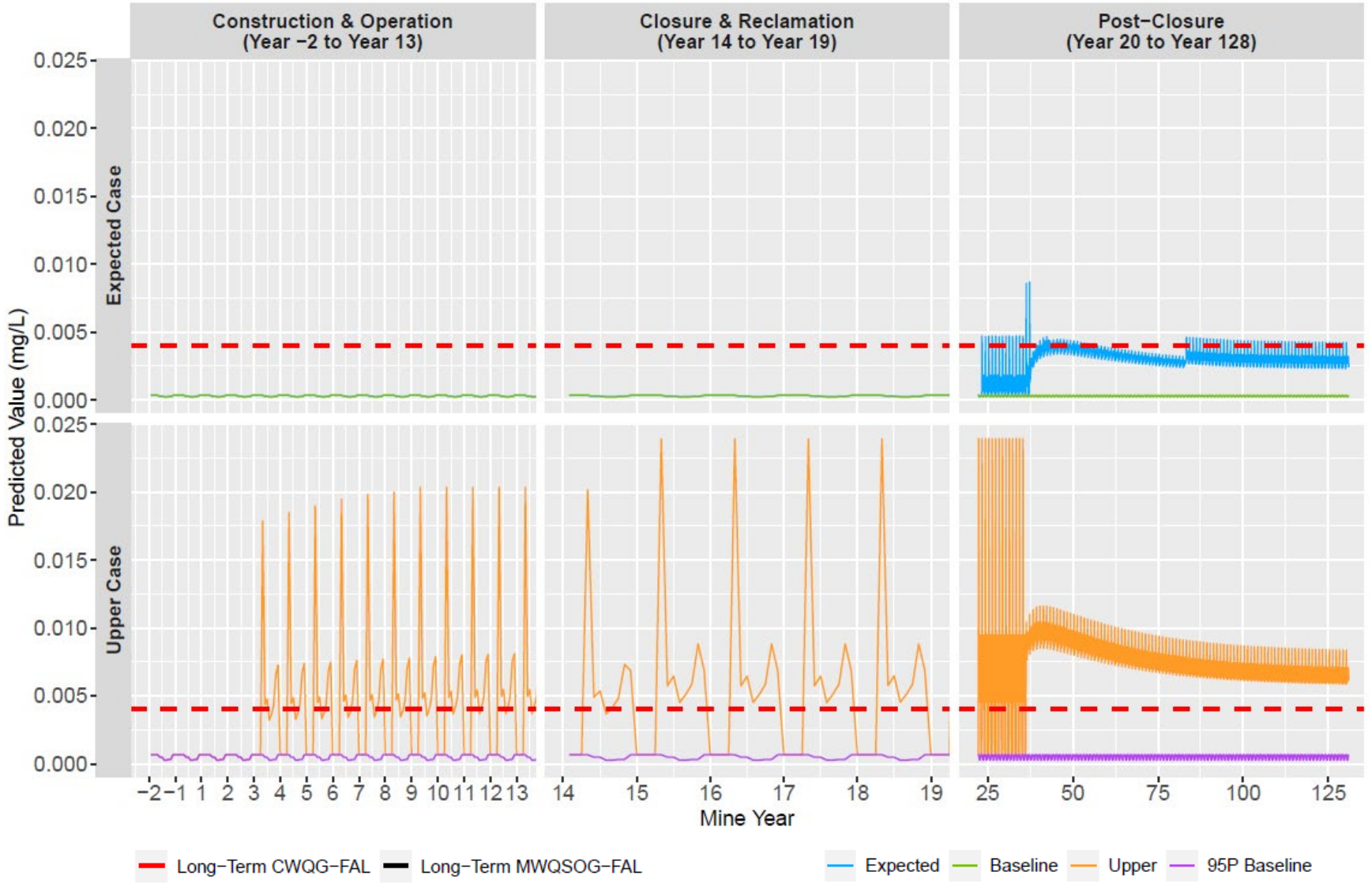


Figure E9 Predicted Project vs. Baseline Concentrations of Total Copper at Node KEE3-B1 in the Expected Case

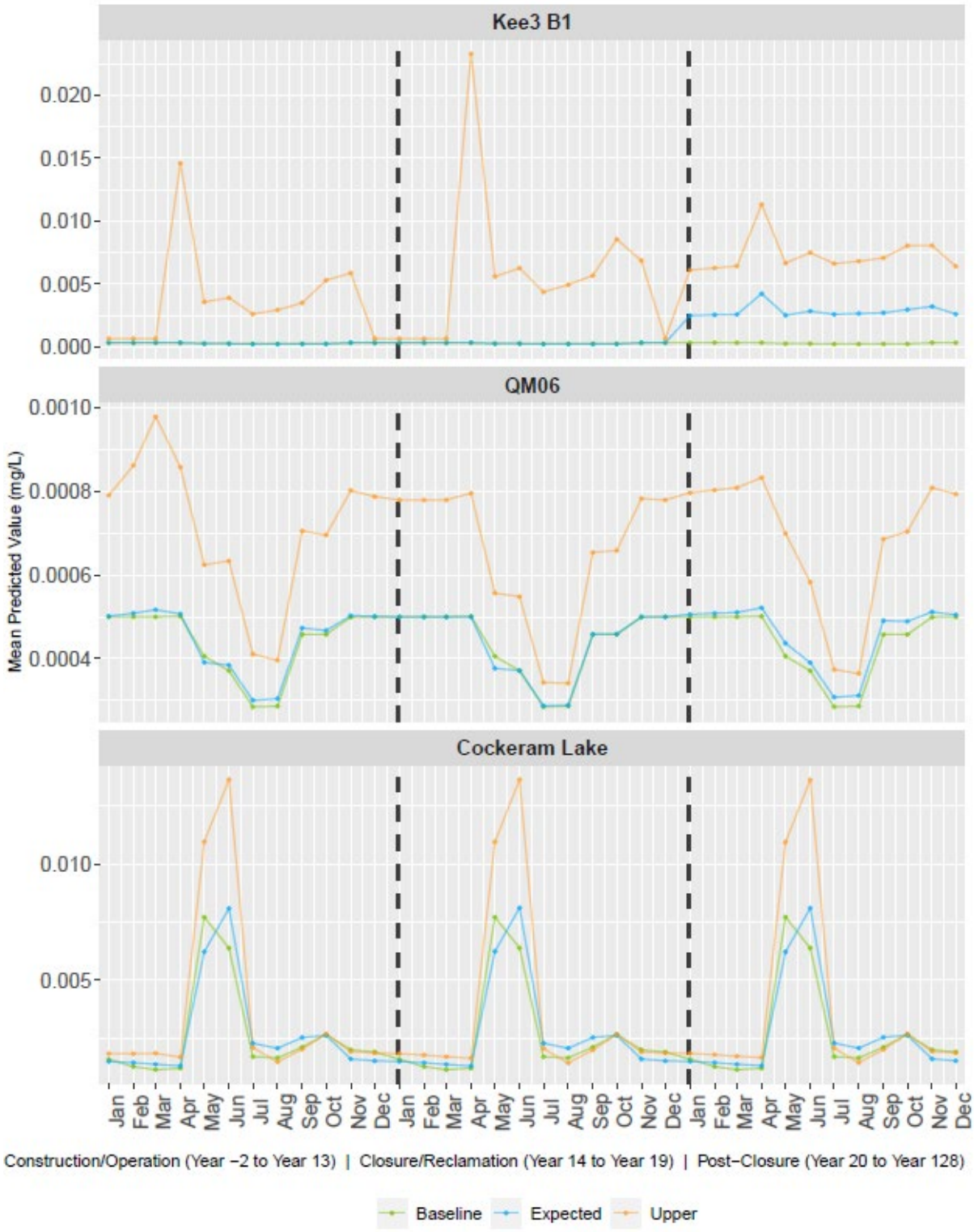


Figure E10 Monthly Mean Concentrations of Total Copper at KEE3-B1, QM06, and Cockeram Lake in Operation, Closure, and Post-Closure Phases

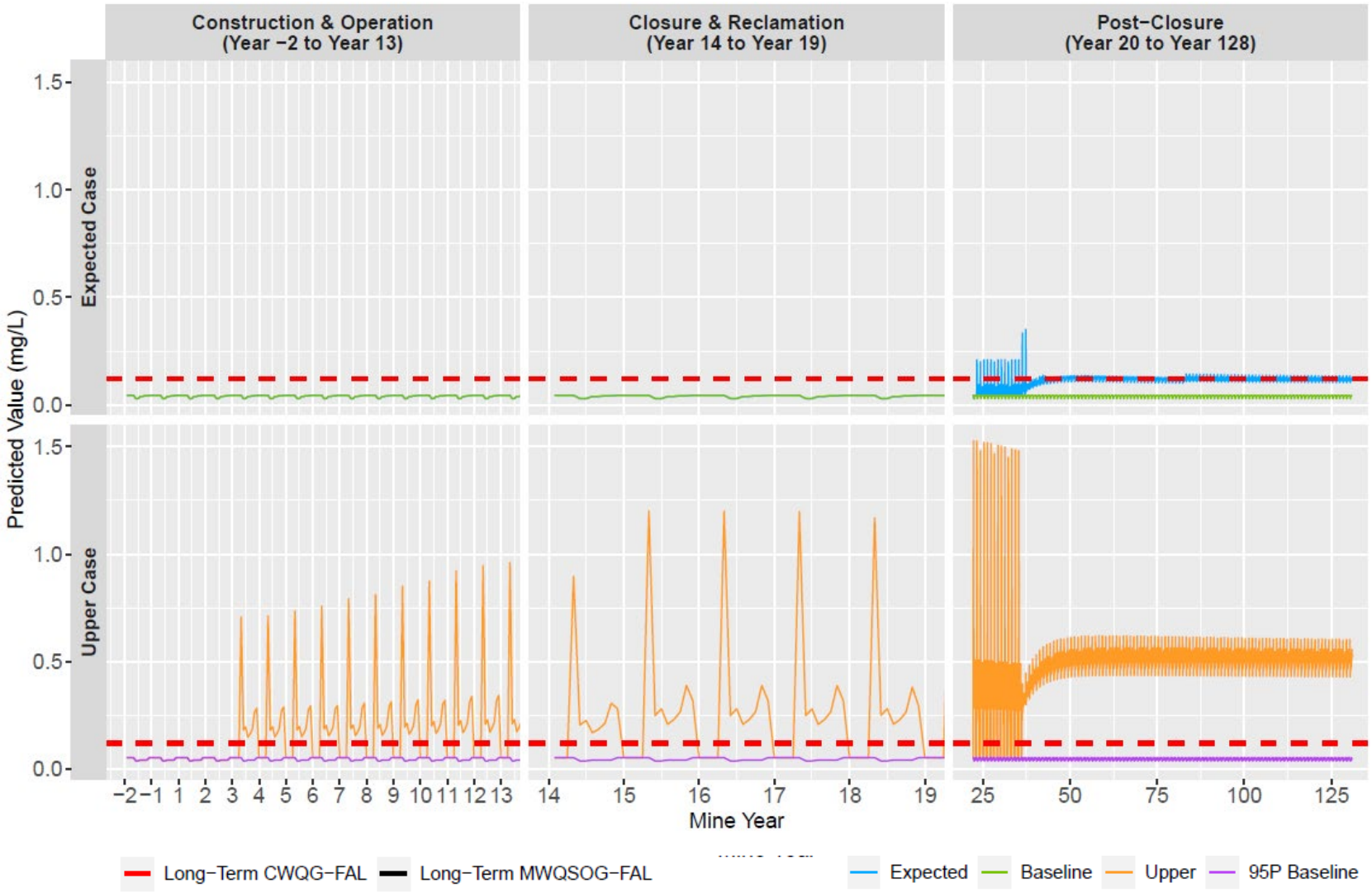


Figure E11 Predicted Project vs. Baseline Concentrations of Fluoride at Node KEE3-B1 in the Expected Case and Upper Case

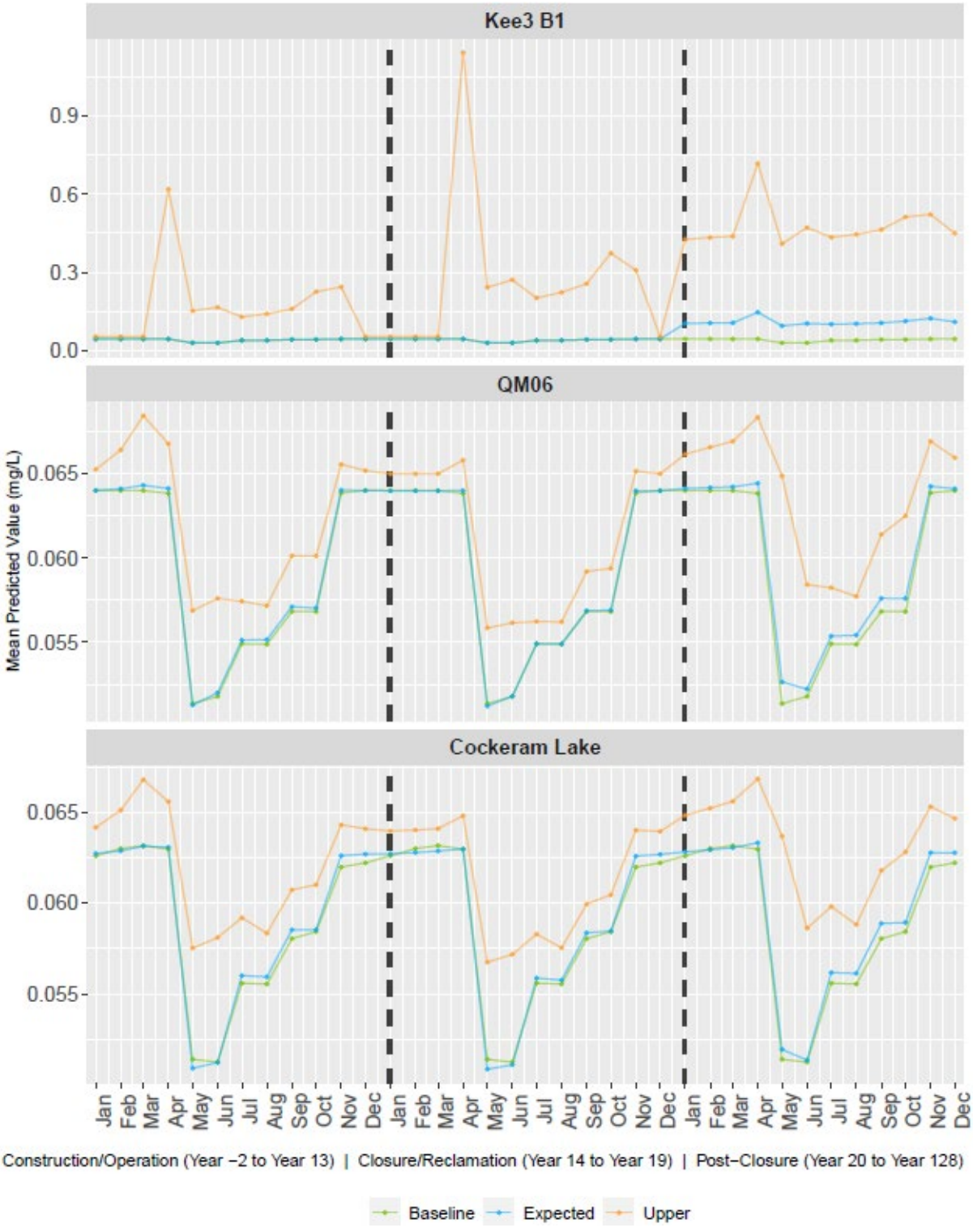


Figure E12 Monthly Mean Concentrations of Fluoride at KEE3-B1, QM06, and Cockeram Lake in Operation, Closure, and Post-Closure Phases

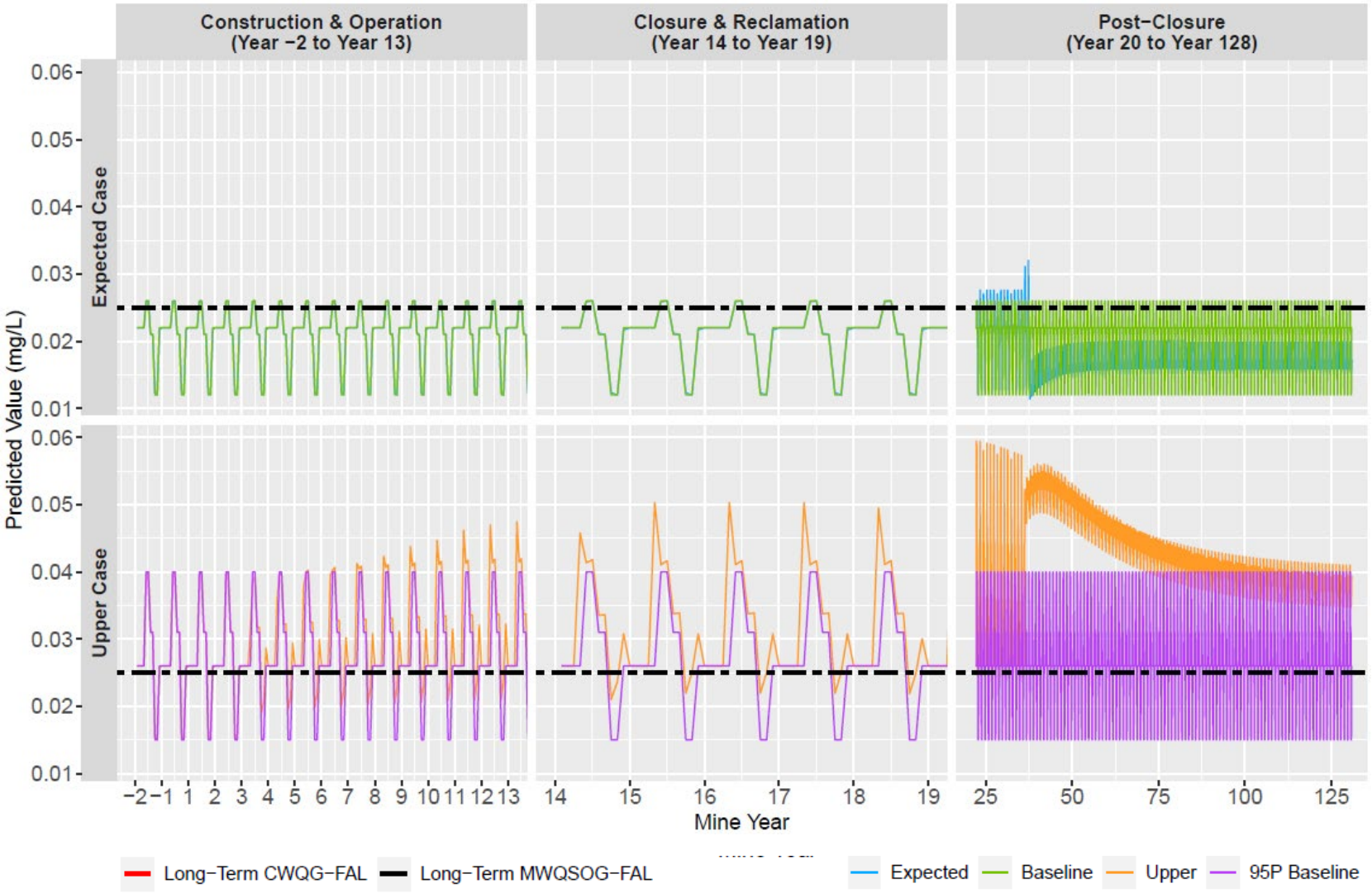


Figure E13 Predicted Project vs. Baseline Concentrations of Phosphorus at Node KEE3-B1 in the Expected Case and Upper Case

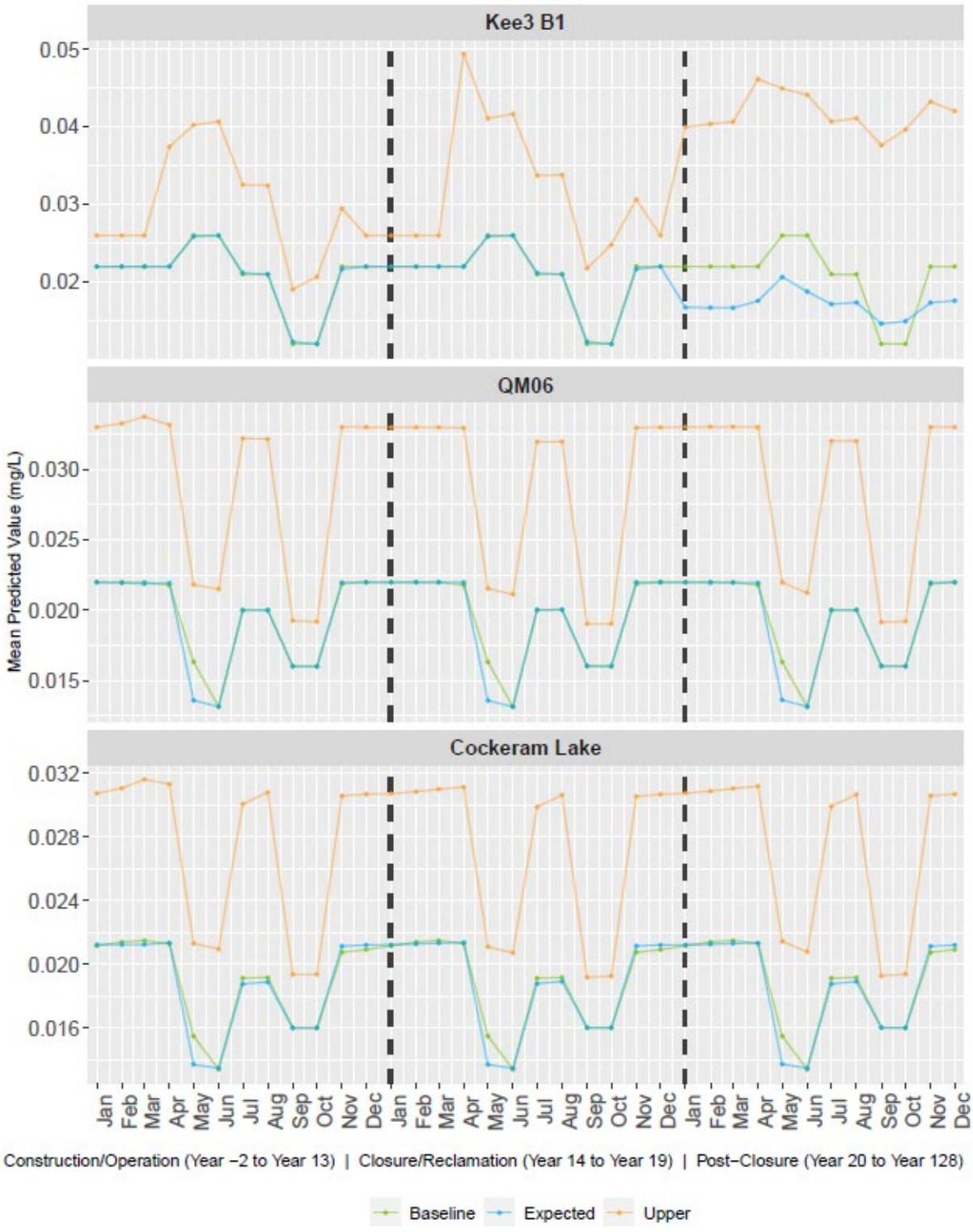


Figure E14 Monthly Mean Concentrations of Phosphorus at KEE3-B1, QM06, and Cockeram Lake in Operation, Closure, and Post-Closure Phase