Appendix K

Ecological Land

Appendix K

Ecological Land

Total Area and Percent Cover of Land Cover Classes within the Regional Study Area
(FEIS, AEM, 2014)

Regional Land Cover Class	Regional Land Cover Class Description	Total Area of RSA (ha)	Total percent of RSA
Heath			
Heath boulder	Occurs on rapidly to well-drained sites that contain a high proportion of boulder deposits in association with bedrock outcrop.	26,499	11
Heath lichen – hair lichen	Typically associated with eskers and the crests and upper slopes of small ridges with poorly developed, rapidly drained soils.	4,503	2
Heath lichen – *Cetraria*	Typically occurs on the lower slopes of ridges and eskers or as veneers over flat rocky plains characterized by frost boils.	1,733	1
Heath tundra	Occurs on well-drained soils.	109,826	45
	Heath vegetation subtotal	**142,562**	**58**
Wetlands / Riparian			
Low shrub	Associated with imperfectly to poorly drained soils characteristic of riparian areas and depressions.	3,478	1
Tussock-hummock	Typically found in flat to low-lying areas, where soils are poorly to very poorly drained.	25,699	10
	Wetlands / riparian subtotal	**29,177**	**12**
Miscellaneous			
Bare ground (rock outcrop)	Represents areas with limited to no vegetation cover and is typically associated with eskers, steep sandy slopes, and the tidal an inter-tidal beaches along Hudson's Bay.	5,263	2
Water	Associated with rivers and lakes, as well as portions of Hudson's Bay.	69,298	28
	Miscellaneous subtotal	**74,561**	**30**
	Total	**246,300**	**100**

Note: Some numbers are rounded for presentation purposes. Therefore, it may appear that the totals do not equal the sum of the individual values.

ha = hectares; RSA = Regional Study Area

530000
540000
550000
560000
6990000
6980000
6970000

N

LEGEND

- Local Study Area (LSA)
- Terrestrial Disturbances
- Watercourse
- Waterbody

Terrain Map Units

- Am - Alluvium and marine sediments, undifferentiated
- DL - Disturbed land
- Gh - Glaciofluvial and morainal deposits
- Gk - Ice-contact stratified sediments
- Mm - Nearshore sediments
- Mr - Littoral sediments
- Mt - Tidal flats sediments
- O - Organic Deposits
- R - Volcanic/sedimentary rocks
- R-Mr - Volcanic/sedimentary rocks - littoral sediments
- R-Tw - Volcanic/sedimentary rocks - marine washed till
- Tbv - Till blanket veneer
- Th - Hummocky till
- Tm - Till and marine sediments, undifferentiated
- Tx - Till, modified by glacial meltwater flow
- Water

400 0 400
METRES

REFERENCE

Base data obtained from Agnico Eagle Mines Limited (AEM).
Datum: NAD 83 Projection: UTM Zone 15

2500 0 2500
METRES

PROJECT

AGNICO EAGLE

AGNICO EAGLE MINES LIMITED
MELIADINE GOLD PROJECT
NUNAVUT

TITLE

TERRAIN MAP UNITS IN THE TERRESTRIAL LOCAL STUDY AREA

Golder Associates

PROJECT NO. 10-1373-0076			FILE No.	
DESIGN	DD	31 Jul. 2012	SCALE AS SHOWN	REV. 0
GIS	JW	19 Sep. 2012		
CHECK	DD	18 Jan. 2013		
REVIEW	DW	18 Jan. 2013		

FIGURE 6.4-1

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520000
540000
560000
7020000
7000000
6980000
6960000
N

LEGEND

- Regional Study Area (RSA)
- Proposed Project Infrastructure
- All-weather Access Road (AWAR)
- Road - New
- Road - Existing
- Watercourse
- Waterbody

REFERENCE

Base data obtained from Agnico Eagle Mines Limited (AEM).
Datum: NAD 83 Projection: UTM Zone 15

5000 0 5000
METRES

PROJECT

AGNICO EAGLE

AGNICO EAGLE MINES LIMITED
MELIADINE GOLD PROJECT
NUNAVUT

TITLE

REGIONAL STUDY AREA

Golder Associates

PROJECT NO. 10-1373-0076			FILE No.	
DESIGN	LY	09 Nov. 2012	SCALE AS SHOWN	REV. 0
GIS	CDB	09 Nov. 2012		
CHECK	DW	17 Jan. 2013		
REVIEW	DW	17 Jan. 2013		

FIGURE 6.1-2

N:\Bur-Graphics\Projects\2013\1428\13-1428-0007\GIS\Mapping\MXD\FEIS\Volume_6\Main_Volume\Figure_6.1-2_Regional_Study_Area_Terrestrial.mxd

Appendix L

Closure and Post Closure General Site Layout

NO. DESSIN
DRAWING NO.

FORMAT ANSI B–11x17

TEMPORARY OVERBURDEN STOCKPILE
CHANNEL2
INDUSTRIAL SITE PAD
FRESH WATER INTAKE CAUSEWAY
LANDFARM
WTP INTAKE CAUSEWAY
WATER TREATMENT PLANT
MELIADINE LAKE
BERM2
TAILINGS STORAGE FACILITY (TSF)
CP1
CHANNEL1
LANDFARM C
CULVERT1
CULVERT3
CP3
CP3 BERM
OP2
CULVERT2
LANDFILL
CULVERT4
CHANNEL3
OP2_ext
SALINE WATER STORAGE POND
EFFLUENT DIFFUSER
CHANNEL7
CHANNEL8
BERM1
CP6 BERM
CP6
EXPLORATION CAMP
CHANNEL9
CHANNEL4
WASTE ROCK & OVERBURDEN STORAGE FACILITY 1 (WRSF1)
LAYDOWN AREA
MELIADINE LAKE
CP2 BERM
WASTE ROCK & OVERBURDEN STORAGE FACILITY 3 (WRSF3)
CP2
CHANNEL10
CP4 BERM
CP4
CULVERT5
CHANNEL6
CP5 NORTH
CP5 SOUTH
CP5 JETTY
D-CP5
CULVERT6
CHANNEL5
BERM3
TIRIGANIAQ PIT 1
TIRIGANIAQ PIT 2

0 500 m
Scale: 1: 15 000

LEGEND

- CATCHMENT BOUNDARY
- SERVICE ROAD
- HAUL ROAD
- WATERBODY
- WATER COLLECTION POND
- DRAINED POND AREA
- OPEN PIT
- OVERBURDEN
- WASTE ROCK
- ORE
- TAILINGS
- INDUSTRIAL SITE PAD
- CONTACT WATER FLOW DIRECTION

AGNICO EAGLE

TETRA TECH

TITRE / TITLE | # DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	DATE
VÉRIFIÉ PAR CHECKED BY	
APPROUVÉ PAR APPROVED BY	
No. PROJET PROJECT NO.	6526
DATE	

TITRE / TITLE

AGNICO EAGLE – MELIADINE GOLD PROJECT
FIGURE 7.1 MINE SITE LAYOUT FOR WATER MANAGEMENT DURING CLOSURE

ÉCHELLE/ SCALE	FICHIER FILE	
1:15000	.DWG	
No. DESSIN/ DRAWING NO.	REVISION	FEUILLE/SHT
	0	1 / 1

AE–CART–ANSI B

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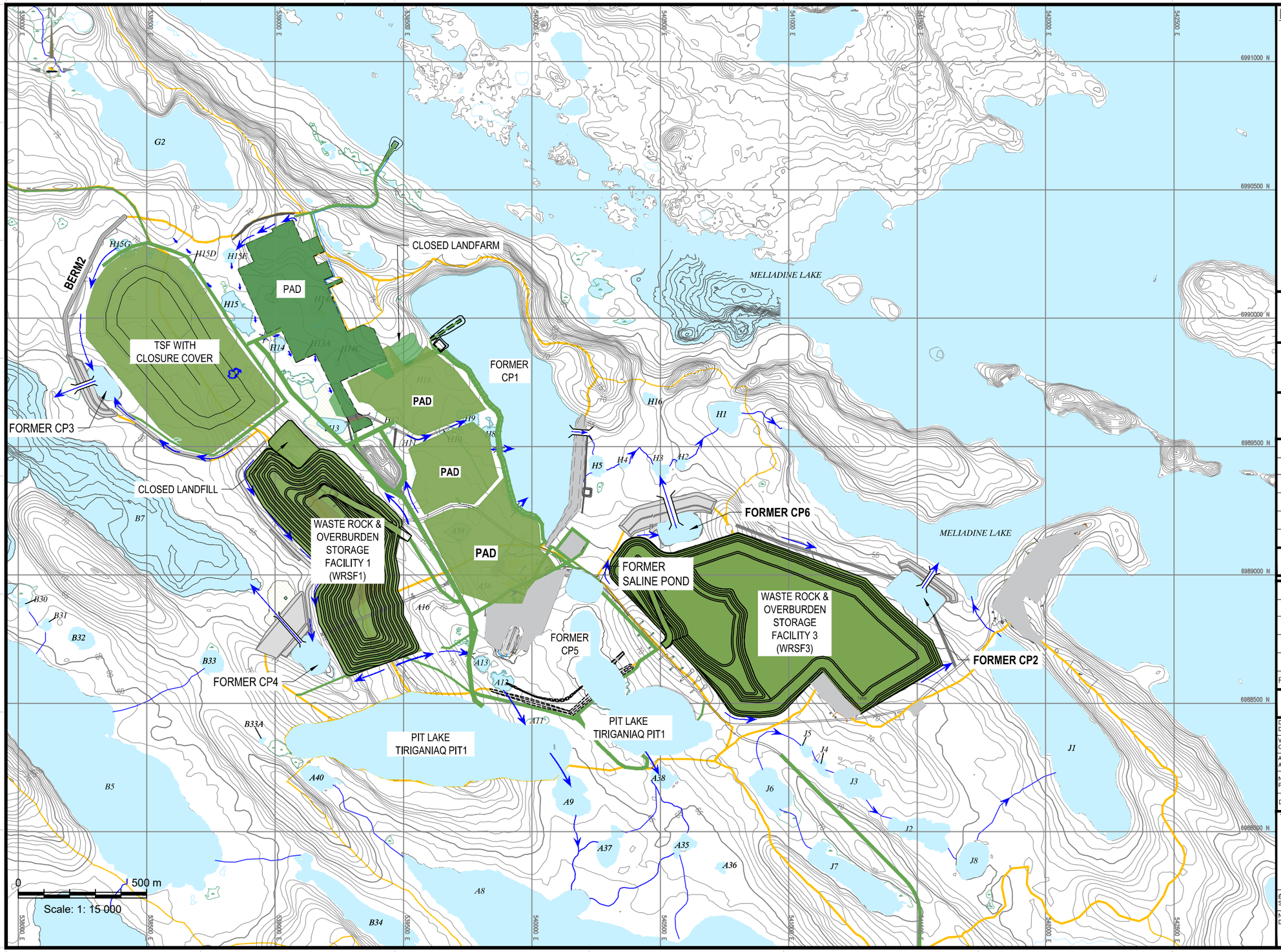
NO. DESSIN
DRAWING NO.

FORMAT ANSI B–11x17



LEGEND

- CATCHMENT BOUNDARY
- SERVICE ROAD
- HAUL ROAD
- WATERBODY
- WASTE ROCK
- WATER FLOW DIRECTION

AGNICO EAGLE

TETRA TECH

–	–
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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	DATE
VÉRIFIÉ PAR CHECKED BY	
APPROUVÉ PAR APPROVED BY	
No. PROJET PROJECT NO.	6526
DATE	

TITRE / TITLE

AGNICO EAGLE – MELIADINE GOLD PROJECT
FIGURE 7.2 MINE SITE LAYOUT AFTER CLOSURE

ÉCHELLE/ SCALE	1:15000	FICHIER FILE	.DWG
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Appendix M

Closure Integrated Schedule

Component	Description	Operation Stage (Progressive Reclamation)								Active Closure Stage			Post-Closure Stage						
		Y1 2020	Y2 2021	Y3 2022	Y4 2023	Y5 2024	Y6 2025	Y7 2026	Y8 2027	Y9 2028	Y10 2029	Y11 2030	Y12 2031	Y13 2032	Y14 2033	Y15 2034	Y16 2035	Y17 2036	Y18 2037
Machinery, Mobile Equipment and Containers (Sea Cans)	Decommission machinery and equipment and ship off-site (leaving only on-site equipment required for closure and post-closure activities).																		
	Mobilization of demolition shear that will be required for buildings and facilities demolition during active closure phase.																		
	Remove equipment used for closure activities (e.g., trucks, backhoes, etc.).																		
	Remove equipment used for long-term maintenance (e.g., backhoes).																		
	Containers (sea cans) off-site demobilization. [a]				Progressive demobilization														
Underground Mine Workings	Passive flooding (groundwater seepage).								Passive flooding										
	Decommission of surface openings as needed.																		
	Underground backfill.																		
Open Pits	Active flooding from Meliadine Lake.								Active flooding										
	Place warning signs around Open Pits perimeter and replace as needed, construct rock berm(s).																		
	Pump and piping decommissioning after open pits flooding.																		
TSF	Rockfill placement alon slope (erosion and thermal protection).	Progressive reclamation																	
	Cover placement (top surface, overburden and rockfill).																		
WRSF	Regrading and contouring of the borrow area in WRSF1																		
Mine Infrastructure and Support Buildings	Decommission buildings, facilities, pads and re-grade areas as needed.																		
	Decommission on site roads																		
Meliadine Lake Pumping System	Decommission pumping system.																		
Water Management Facilities	Breach dikes / berms and reclaim channel and pond areas.																		
	Decommission of treated groundwater waterline and diffuser																		
	Decomission water management facilities on site [b]																		
	Decommission WTP and Meliadine Lake effluent diffuser. [b]																		
Off-site Facilities	Decommission floating dock, tank farm and laydown pad at Rankin Inlet (Itivia Harbour).																		
AWAR and Quarries	Decommission AWAR and Bypass road.																		
	Quarries reclamation. [c]	Progressive reclamation																	
Long-term Care and Maintenance (assumed for 10 years after closure)																			
Monitoring [d]										Active Closure			Post-Closure						

[a] Assuming that on-site containers will gradually be shipped off-site during operations.

[b] Assuming that the required water management facilities, WTP and Meliadine Lake effluent diffuser will be maintained for 3 years as a contigency after the closure stage and that site water quality is acceptable for direct discharge to the environment.

[c] Assuming progressive reclamation of quarries during operation when no longer required, except quarries that have been kept for road maintenance.

[d] Assumed for 10 years after operation; however, closure schedule depends on monitoring results. Activities will occur until water quality satisfies water licence criteria for direct discharge and/or acess to the site is no longer required.

Appendix N

Financial Security Cost Estimate Methodology and Assumptions

Title of document: **Meliadine – ICRP Update 2020 – Financial Security Cost Estimate Methodology and Assumptions**

Client: **AGNICO EAGLE MINES LTD.**

Project: **Meliadine Interim Closure and Reclamation Plan - Update 2020**

Prepared by: Alain Lebel, Mining Environment Specialist

(for Alain Lebel)

Reviewed by: Erika Voyer, Eng., M. Sc.
#OIQ: 146740

Sandra Pouliot, Eng.
#OIQ:121003

Approved by: Erika Voyer, Eng., M. Sc.
#OIQ: 146740

LIST OF REVISIONS

Revision					Pages Revised	Remarks
#	Prep.	Rev.	App.	Date		
PA	AL	EV		2020-07-14	All	Issue for internal comments
PB	AL	EV/SP	EV	2020-07-16	All	Issue for client's comments
00	AL	EV/SP	EV	2020-07-30	All	Issue final

NOTICE TO READER

This document contains the expression of the professional opinion of SNC-Lavalin Inc. ("SNC-Lavalin") as to the matters set out herein, using its professional judgment and reasonable care. It is to be read in the context of the agreement dated May 29th, 2020 (the "Agreement") between SNC-Lavalin and Agnico Eagle Mines Ltd. (the "Client") and the methodology, procedures and techniques used, SNC-Lavalin's assumptions, and the circumstances and constraints under which its mandate was performed. This document is written solely for the purpose stated in the Agreement, and for the sole and exclusive benefit of the Client, whose remedies are limited to those set out in the Agreement. This document is meant to be read as a whole, and sections or parts thereof should thus not be read or relied upon out of context.

SNC-Lavalin has, in preparing estimates, as the case may be, followed accepted methodology and procedures, and exercised due care consistent with the intended level of accuracy, using its professional judgment and reasonable care, and is thus of the opinion that there is a high probability that actual values will be consistent with the estimate(s). Unless expressly stated otherwise, assumptions, data and information supplied by, or gathered from other sources (including the Client, other consultants, testing laboratories and equipment suppliers, etc.) upon which SNC-Lavalin's opinion as set out herein are based have not been verified by SNC-Lavalin; SNC-Lavalin makes no representation as to its accuracy and disclaims all liability with respect thereto.

To the extent permitted by law, SNC-Lavalin disclaims any liability to the Client and to third parties in respect of the publication, reference, quoting, or distribution of this report or any of its contents to and reliance thereon by any third party.

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1.0 Introduction

Agnico Eagle Mines Limited (Agnico Eagle) is operating the Meliadine Gold Project (the Project), located approximately 25 km north of Rankin Inlet, and 80 km southwest of Chesterfield Inlet in the Kivalliq Region of Nunavut. The mine plan includes open pit and underground mining methods for the development of the Tiriganiaq gold deposit, with two (2) open pits (Tiriganiaq Pit 1 and Tiriganiaq Pit 2) and one (1) underground mine.

Agnico Eagle is required to submit a detailed financial security cost estimate for the Meliadine Gold Project Interim Closure and Reclamation Plan (ICRP) to Indigenous and Northern Affairs Canada (INAC) and to the Kivalliq Inuit Association (KIA) to support land use and water licensing requirements. RECLAIM 7.0 workbook has been used for this estimate, as per Guidelines for Closure and Reclamation Cost Estimates for Mines, issued by Indigenous and Northern Affairs Canada, Mackenzie Valley Land and Water Board and the Government of the Northwest Territories (INAC, MVLWB, GNWT, 2017).

Only the activities covered under the Meliadine Type A Water License 2AM-MEA1631 are included in the updated Meliadine ICRP 2020 and in the herein financial security cost estimate methodology. The Meliadine ICRP – update 2020 (Meliadine ICRP 2020) presents the version 2 of the Interim Closure and Reclamation Plan for the development phase of the Meliadine Gold Project. Agnico Eagle will proceed, starting in August 2020, to the Amendment process of the Meliadine Water Licence 2AM-MEL1631. The general purpose of the Meliadine ICRP 2020 is to update the interim closure and reclamation plan produced for the development phase of the Project, including the activities part of the Meliadine Water Licence Amendment, which are included in the Meliadine FEIS and Meliadine Project Certificate n.006. The financial security cost estimate presented herein includes those additional activities, in addition to the elements included in the previous version of the cost estimate (SLI, 2019).

2.0 Closure Measures and Considerations

The cost estimate in this technical note covers the closure and reclamation of all facilities currently identified within the Meliadine Gold Project property including the following:

- Open pits (Tiriganiaq 1 and Tiriganiaq 2);
- Underground mine;
- Tailings Storage Facility (TSF);
- Waste Rock Storage Facilities (WRSF1 and WRSF3);
- Support facilities on the property including accommodations and services building, process plant (mill) and contractor facilities, power plant, water and wastewater treatment facilities, bulk fuel storage facilities, contractor facilities, warehouses and cold storage, assay lab, emulsion plant, paste plant, incinerators, laydown areas, including the P-Area laydown facilities, quarries and borrow areas and on-site roads;
- Roads to future operation area, included in the Meliadine FEIS;
- Rankin Inlet Site Facilities (Itivia Harbor);
- All Weather Access Road (AWAR);
- Bypass Road, from Itivia Harbor to the AWAR (bypassing Rankin Inlet).

The present updated Meliadine ICRP 2020 and cost estimate are based on the current Life of Mine (LOM) of Meliadine, including the mining and supporting activities planned, as well as the activities related to the ore processing and tailings deposition.

The cost estimate provides for the closure measures described in detail in the Meliadine ICRP 2020. Most closure activities will occur within the active closure period, from 2028 to 2030. The schedule of closure activities presented in Appendix O of the Meliadine ICRP 2020 outlines the major reclamation activities and their expected timeline.

For the purpose of this financial security cost estimate, progressive rehabilitation measures are not considered in the calculations. Only when completed, these will have to be considered in future versions of the ICRP.

3.0 Cost Estimate

3.1 Model

RECLAIM is a model developed in Microsoft Excel used to calculate the estimation of reclamation costs for mine sites in Northern Canada. It provides line items for each reclamation activity which might be required at a given site. For each, the model presents the “quantity” of work multiplied by the appropriate “Unit Cost” provided in the model or based in past or current Agnico Eagle experience (i.e. from Amaruq, Meliadine or Meadowbank projects).

RECLAIM version 7.0 consists of eleven (11) reclamation costing worksheets used to compute the overall closure cost estimate. These include direct costs associated with the following mine components:

- Open pit;
- Underground mine;
- Tailings Storage Facilities;
- Rock pile;
- Building and equipment (for the Meliadine site and Itivia Harbor, including transportation roads);
- Chemicals, hazardous materials and contaminated soils;
- Water treatment;
- Water management;
- Interim care and maintenance.

It also includes the following indirect costs:

- Closure and post-closure monitoring and maintenance;
- Mobilization and demobilization.

Additional cost factors such as engineering, project management, health and safety / QA-QC / Engagement, bonding/insurance and contingency are automatically calculated in the cost summary worksheet, based on applied percentages to the total direct cost.

3.2 Summary of Costs

The updated 2020 estimated closure and reclamation costs for the Meliadine Gold Project using RECLAIM Version 7.0 represents a total of $66,879,798. This total includes $39,999,695 of direct costs and $26,880,103 of indirect costs. The costs are summarized in Table 3-1 presented below.

Table 3-1: Summary of Financial Security Cost Estimate

Cost Items	Subtotal (Land and Water Liability)
Direct Costs	
Open Pit	$1,704,963
Tiriganiaq Pit 1	*$1,388,171*
Tiriganiaq Pit 2	*$316,792*
Underground Mine	$1,096,384
Control Access	*$612,004*
Remove Hazardous Materials	*$434,380*
Instrumentation	*$50,000*
Tailings Storage Facility	$4,831,700
Rock Piles	$277,350
WRSF1	*$247,350*
WRSF3	*$30,000*
Buildings and Equipment	$19,974,815
Meliadine site	*$18,467,437*
Itivia Harbor, AWAR and Bypass Road	*$1,507,378*
Chemicals and Contaminated Soil Management	$2,359,406
Surface and Groundwater Management	$4,460,458
Interim Care and Maintenance	$5,294,620
Subtotal Direct Costs	**$39,999,695**
Indirect Costs	
Mobilization / Demobilization	$6,942,680
Closure monitoring and Maintenance	$3,032,829
Post-Closure and Maintenance	$3,704,694
Engineering (5 %)	$1,999,985
Project Management (5 %)	$1,999,985
Health and Safety Plans / Monitoring / QA-QC and Engagement Costs (2 %)	$799,994
Bonding / Insurance (1 %)	$399,997
Contingency (20 %)	$7,999,939
Market Price Adjustment (0 %)	$0
Subtotal Indirect Costs	**$26,880,103**
GRAND TOTAL	**$66,879,798**

Refer to **Appendix A** for the RECLAIM spreadsheets, presenting the detailed breakdown of closure and reclamation costs by mine components.

The methodology and assumptions used for the calculations of the direct costs and the indirect cost calculations are explained in the sections below.

The key differences between this cost estimate and the cost estimate prepared for the 2019 ICRP (SLI, 2019) are presented in section 4.0.

3.3 Direct Cost Assumptions

The direct costs include the cost related to the physical work activities to be completed for the various project components, as well as the interim care and maintenance requirements.

In most cases, costs have been developed using unit rates provided by the RECLAIM 7.0 template applied to calculated quantities. Where an appropriate RECLAIM supplied rate was not available, an independent rate was used from operational data or from precedent data for similarly sized AEM projects located in comparable conditions. In this case, Meliadine, Meadowbank and Amaruq (SLI, 2019, SLI, 2020a and AEM, 2016) sites were mainly used as comparable projects. Unit rates used assume third party contractor pricing.

Specific assumptions and quantities used for the financial security cost estimate are provided for each closure component in sections 3.3.1 to 3.3.7. For the site general arrangement plan and road layouts, refer to **Appendix B.** As-builts and design drawings are available in Appendix Q of the Meliadine Interim Closure and Reclamation Plan – Update 2020.

3.3.1 Open Pits

The entrance (access ramp) and the perimeter of each pit will be blocked with non-acid generating (NPAG) berms to control access of wildlife and motorized vehicles in the open pits during flooding. Berms are assumed to be 1 m high and 1 m wide at crest, with 1.5 H:1V side slopes and made on NPAG rockfill.

Berms at ramp entrance and at the perimeter of Tiriganiaq Pit 1

- Berm around perimeter - 2523 m long x 1 m tall with 1.5 H:1V side slopes = 6308 m³;
- Rock barricade at ramp access – Assuming a 2 m thick rockfill barricade on a 20 m wide ramp access = 200 m³;
- Installation of one sign every 150 m around the pit for a total of 17 signs.

Berms at ramp entrance and at the perimeter of Tiriganiaq Pit 2

- Berm around perimeter - 1134 m long x 1 m tall with 1.5 H:1V side slopes = 2835 m³;
- Rock barricade at ramp access – Assuming a 2 m thick rockfill barricade on a 20 m wide ramp access = 200 m³;
- Installation of one sign every 150 m around the pit for a total of 8 signs.

Pit Flooding

Following the completion of mining, the open pits will be flooded with water for over a period of three (3) years. Flooding will be achieved primarily by active pumping from Meliadine Lake, with the planned pumping period during the open water season of each year. Preliminary annual flooding rates for each pit are approximately 3.07 Mm³/year and 0.75 Mm³/year for Tiriganiaq Pit 1 and Tiriganiaq Pit 2, respectively. The total water pumped from Meliadine Lake in Tiriganiaq Pit 1 is 9.2 Mm^3 and 2.25 Mm^3 in Tiriganiaq Pit 2.

Pumping Station

- Supply and install the pumping station required for pit flooding, based on similar operation at the Amaruq Project of Agnico Eagle (AEM, 2016) for 500,000 $;
- Installation and removal of 5 km of piping from the freshwater intake to the pits. It was assumed the pipes are already on site and will be re-used for pits flooding, hence new pipes would not require to be supplied on site.
- Removal of sump pumps from the pit (one for each pit) before the beginning of the flooding operations.

Pumping System Maintenance

- Pumping system maintenance by two (2) skilled laborers over 3 years, 12 hours per day, during the four (4) months open water season. Accommodation is also considered for the two (2) laborers;
- Annual pump servicing by two (2) manufacturer consultants once a year for a seven (7) days trip, 12 hours per day. Accommodation is also considered for the two (2) consultants;
- Pumping costs to pump Meliadine Lake water into Tiriganiaq Pit 1 and Tiriganiaq Pit 2 based on Meadowbank pumping costs (SLI, 2020a) of $0,0265 per cubic meter of water.

Capital and annual costs for pits flooding have been divided between Tiriganiaq Pit 1 and Tiriganiaq Pit 2 in relation with water volume to be pumped into each pit (80 % of water will be pumped in Tiriganiaq Pit 1 and 20% in Tiriganiaq Pit 2).

3.3.2 Underground Mining

The underground mine workings will be flooded at closure by natural groundwater inflows. Openings and access to the underground mine works will be capped. The ground surface around the sealed surface opening will be contoured to minimize natural surface water accumulation to flow into the underground.

Control Access and Backfill

The main works for the closure of underground are:

- Removal of Portal #1 (TTOG STEEL) – 100 m long with a diameter of 6.3 m for 1980 m² of steel that will be cut and disposed in the landfill. Unit cost for salvaging steel buildings was used for the estimation of Portal #1 removal;
- Removal of Portal #2 (concrete) – 131 m long with a diameter of 8.0 m for 3,300 m² of concrete wall that will be disposed in the landfill. Unit cost for the breaking of concrete foundation of buildings was used for the estimation of Portal #2 removal;
- Backfill and contour of Portal #1 - for 12,600 m3;
- Backfill and contour of Portal #2 - for 26,100 m3;
- Capping of four (4) raises with concrete, two (2) used as underground exhaust and two (2) used for fresh air. Based on SNC-Lavalin experience in similar Northern projects, a lump sum of $20,000 per raise was assumed, for a total of 80,000 $.

Hazardous Materials Removal

The cost estimation for the hazardous materials removal includes:

- Removal of hazardous materials from underground – Assuming two (2) laborers will work 12 hours per day during a three (3) months period (2,160 hours) for a total of 367,200 $;
- Removal and decontamination of stationary and electric equipment – Nine (9) stationary equipment that will require 8 hours each to be decontaminated, for a total of 3,528 $;
- Removal and decontamination of underground mobile equipment – Decontamination of 156 mobile equipment, 8 hours per equipment, for a total of 61,152 $ (refer to **Appendix C** for complete list of equipment);

> Removal of miscellaneous and hazardous materials– It is assumed that 250 kg of such material will remain underground at the beginning of the closure operation at 10 $ per kg based on past SNC-Lavalin's experience, for a total of 2,500 $.

Instrumentation

In addition to the instrumentation placed during operation, it is assumed that additional instrumentation will be supplied and installed for monitoring of underground during closure and post-closure. A provision of 50,000 $ is accounted for additional instrumentation.

3.3.3 Tailings Storage Facility

The dry stack tailings produced in the mill will have a solids content of 85% and a water content of 17% by mass. The TSF will be located on the high ground west of the mill. The direct distance from the mill to the tailings pile ranges from 300 to 900 m.

Approximately 12.1 Mt of tailings will be produced during life of mine. Of this amount, about 9.7 Mt or 80% of the tailings will be deposited in the TSF with the remaining 2.4 Mt or 20% being used for the underground backfill.

Filtered tailings will be managed using a two-cell placement system and incorporating a progressive closure of waste rock cover as placement advances. The TSF cover has the objectives of controlling erosion and dust generation, in addition to enhancing the freeze-back capabilities of the facility. As presented in the Waste Management Plan (AEM, 2019), waste rock cover material over the slope of the facility will be placed progressively on the TSF slopes as the filtered tailings is brought up, mainly for stability and dust control.

For closure, it has been assumed that TSF slopes will be entirely covered during operation, leaving only the top surface of the cells to be covered. It is planned to cover the top surface of the TSF with 0.5 m of overburden overlaid with 2.5 m thick waste rock. It is assumed that the required overburden material source will be the planned temporary overburden stockpile and the waste rock will come from the WRSF1.

Tailings cover

Based on the detailed Deposition Plan of the Tailings Storage Facility (AEM, 2019a), the top surface of the TSF (2 cells) will have a final area of 15.4 ha, resulting in the placement of 77,000 m^3 of overburden and 385,000 m^3 of waste rock to complete the TSF reclamation.

Instrumentation

It was assumed that five (5) additional permanent instruments will be supplied and installed in the TSF for post-closure monitoring. Supply and installation of a single instrument has been considered to be 10,000 $, based on Meadowbank instrumentation installation.

3.3.4 Waste Rock and Overburden Storage Facilities

Waste rock from the open pits and underground mining that will not be used for site development purposes will be transported to the waste rock storage facilities (WRSFs) until the end of mining. Two (2) WRSFs are planned for the Project: WRSF1 and WRSF3. With the start of operations, additional surface laydown and storage space in a centralized location to the portals and open pits was required. The footprint of the former WRSF2 was chosen to provide this additional storage area and the WRSF3 footprint has been extended. Overburden material stripped as part of the mine development will either be co-disposed within the WRSFs or be stored within the temporary overburden stockpile facility for later use as TSF closure cover material. Non-potentially acid generating (NPAG) and non-metal leaching (NML) material will be used for TSF cover.

The cost estimate assumes that part of WRSF 1 will be used as potential borrow material for the TSF reclamation and for the construction of the perimeter berms around the open pits. WRSF 1 will hence require to be regraded and contoured to ensure long term stability.

Permanent instrument supply and installation were also considered in the estimate for the WRSFs.

Gradation and contouring of WRSF 1

> Grading of waste rock assuming a quantity equal to 1.0 m over the entire area of the last bench of WRSF 1 (ha assuming 50% of WRSF1 footprint, i.e. 41.4 ha

Instrumentation

> Three (3) additional permanent instruments will be supplied and installed in the WRSF 1 and WRSF 3 in closure: 3 x 10,000 $ = 30 000 $ for WRSF 1 and WRSF 3 respectively, based on Meadowbank instrumentation installation (SLI, 2020a).

3.3.5 Buildings and Equipment

The footprints of buildings, infrastructures and facilities for Meliadine and Itivia Harbor were reviewed and adjusted. All the dimensions are presented in Table 3-2. The changes were communicated by AEM in 2019 and in June 2020 for the new infrastructures. Refer to **Appendix B** for the general site arrangement and road layouts.

The area of each buildings has been scaled by the ratio of the total height over an average of 3 m height. Scaled footprints are also presented on Table 3-2.

Table 3-2: Buildings List and Dimensions

Buildings / Infrastructures	Footprint (m²)	Height (m)	Stories (3 m high)	Total Demolition Scaled for Height (m²)	Concrete Foundation (m²)
Accomodation Complex	10,610	4.5	1.5	15,915	
Multi Services Building (Mine Surface General)	3,995	16.1	5.4	21,454	3,995
Core Shack	1,750	9.8	3.3	5,705	1,750
Main Building Process Plant	12,420	35.8	11.9	148,212	12,420
Crusher and Conveyor	1,524	-	-	1,524	698
Sewage Water Treatment Plant	171	5.5	1.8	311	
Effluent Water Treatment Plant	392	9.0	3.0	1,182	392
Saline Water Treatment Plant	1,897	15.5	5.2	967	1,897
Potable Water Treatment Plant	59	2.7	0.9	54	
Emulsion Plant and Garage	439	5.8	1.9	851	189
Fuel Tanks on-site	807	14.0	4.7	3,768	
Power Plant	1,976	14.3	4.8	9,392	2,566
Paste Plant	660	16.5	5.5	3,630	660
Guard House	37	3.0	1.0	37	
Incinerator Building	190	8.4	2.8	533	190
Maintenance Shop	3,279	5.8	1.9	6,285	
Exploration Camp	4,257	3.0	1.0	4,257	

Buildings / Infrastructures	Footprint (m²)	Height (m)	Stories (3 m high)	Total Demolition Scaled for Height (m²)	Concrete Foundation (m²)
Raises Building	770	8.4	2.8	2,156	239
Communication Tower	12	61.0	20.3	247	6
Batch Plant	1,105	8.2	2.7	3,013	
Tire Shop	70	5.8	1.9	134	70
Wash Bay*	325	9	3	976	325
KCG Temporary*	557	9	3	1,673	557
KCG Permanent*	912	9	3	2,738	912
Fuel Tanks (Itivia)	4, 918	3.0	1.0	4,918	4,918
Saline Water Tank (Itivia)	23	3.0	1.0	23	

Source: AEM communication (2019, 2020)

Removal of buildings and scarification of foundations

- Building footprints are listed in Table 3-2 with demolition areas scaled for heights assuming 3 m stories. The low unit cost was selected since it was assumed that all demolition waste from buildings demolition will be disposed in the on-site landfill. High unit cost was selected for the main building of the process plant because of the more complex demolition expected due to the height, size and components of the building;
- Removal of concrete structures and foundations considered at 1 m below the final ground surface based on building concrete foundations listed on Table 3-2;
- Grading and contouring of building pads is included, using the building footprint with an additional 10 % contingency to consider for larger pads. A unit cost of 8.47 $ per m³ was selected based on Agnico Eagle cost in similar projects (AEM, 2015b, 2016 and SLI, 2019).

Landfill reclamation

- Based on the preliminary closure and reclamation plan (AEM, 2015a) and the Landfill and Waste Management Plan (AEM, 2019c), the landfill is expected to be covered with a 3.7 m thick waste rock layer. Assuming a surface of 7,750 m² that will require to be covered (Tetra Tech, 2017j), 28,675 m³ of waste rock will have to be placed for landfill reclamation.

Ore pad reclamation

- A total area of 15.9 ha (including the original ore pad of 10.3 ha and the extension of 5.6 ha) will require to be graded and contoured, considering 1m thick, at a unit cost of 8.47 $ per m³ for the ore pad reclamation. This unit cost was selected based on past Agnico Eagle experience (AEM 2015b. 2016 and SLI, 2019).

Pads and staging areas

- Laydown areas for containers (sea cans) which represents a total area of 51,562 m² will require to be graded and contoured at a unit cost of 8.47 $ per m³. This unit cost was selected based on past Agnico Eagle experience (AEM 2015b, 2016 and SLI, 2019).
- An approximate total area of 12.5 ha for additional pads and staging areas (within the P-area laydown) will require to be graded and contoured, considering 1m thick, at a unit cost of 8.47 $ per m³ for the ore

pad reclamation. This unit cost was selected based on past Agnico Eagle experience (AEM 2015b. 2016 and SLI, 2019).

Reclaim roads areas at Meliadine site and to future deposits

- Approximately 15 km of on-site roads (access and haul roads) will require to be scarified. Assuming that the average width of on-site road is 12 m, an area of 18 ha will be scarified;
- A total of 16 culverts were installed on Meliadine site (AEM, 2020d). A unit cost of 4,000 $ was considered for the removal of a culvert, based on the ICRP 2019 of Meadowbank site (SLI, 2020a);
- Approximately 15.8 km of road to Discovery pit will require to be scarified. Assuming that the average width of off-site road is 17 m, an area of 26.86 ha will be scarified. A total of four (4) water crossing including four (4) culverts each will be removed. A lump sum of $ 4000 per culvert removal is accounted for in the calculation, based on the ICRP 2019 of Meadowbank site (SLI, 2020a). A total of sixteen (16) culverts are considered to be removed for the Discovery road. A small pad will be scarified and a boat launch will be removed along the Discovery Road.
- Approximately 9.25 km road to the future operation areas (deposits) will require to be scarified. Assuming an average width of 17 m, an area of 15,73 ha will be scarified.

Itivia Harbor Area

- Footprints of the infrastructures located at Itivia Harbor are listed in Table 3-2. It was assumed that all infrastructures of Itivia Harbor are one-story buildings. Low unit cost was selected since it is assumed that all demolition waste from Itivia's buildings demolition will be disposed off-site;
- Removal and/or burial of concrete structures and foundations to 1 m below the final ground surface based on building concrete foundations listed on Table 3-2. It was assumed that the fuel tanks will have a concrete foundation to be removed;
- Grading and contouring of pads for infrastructures is included for the fuel tanks (1.63 ha) and the saline water tank (for trucked water), considering 1m thick. A unit cost of 8.47 $ per m^3 was selected based on past Agnico Eagle experience (AEM, 2015b and 2016, SLI, 2019);
- Laydown areas for containers (sea cans) disposal represents a total area of 66,800 m^2, considering 1m thick, will require to be graded and contoured at a unit cost of 8.47 $ per m^3. This unit cost was selected based on past Agnico Eagle experience (AEM, 2015b and 2016, SLI, 2019);
- A small laydown area at Itivia Harbor of 1 ha assumed for the treated groundwater waterline diffuser will be graded;
- Lump sum of 50,000 $ is assumed for the reclamation of the floating dock, including the demobilization of the portable crane located at Itivia Harbor.

Reclaim Quarries

- Quarry slopes setback to 1H:1V slope, assuming cut/fill with blasted rock from the upper slope used to form lower slope;
- The 2019 ICRP of Meadowbank (SLI, 2020a) estimated that a total volume of 14,319 m^3 of blasted rock would be required for the reclamation of 22 quarries. The same order of magnitude was assumed for Meliadine, with a similar number of quarries to be reclaimed, i.e. 18 quarries (15 quarries along the AWAR and 3 quarries on site) (AEM, 2018b).

AWAR and Bypass Road

- The AWAR road surface will have to become impassable for vehicles (i.e. cars and trucks) by ripping (scarification) of its 23.8 km long road bed (AEM, 2015a). Assuming a 6.5 m width, an area of 15.5 ha will be scarified;
- A lump sum of 4,000 $ per culvert removal and 25,000 $ per bridge removal (unit cost based on ICRP 2019 of Meadowbank (SL!, 2020a) is accounted for in the calculation. A total of eight (8) culverts and two (2) bridges (AEM, 2015a) are considered for the AWAR;
- The Bypass road was built around the south of the airstrip to Itivia Harbor. Its design and width are similar to the AWAR (AEM, 2015a): 6.2 km long x 6.5 m wide, for a total area of 4.0 ha that will require to be scarified;
- A lump sum of 4,000 $ per culvert removal (SNC-Lavalin, 2018) is assumed. A total of 19 culverts (AEM, 2015a) are considered for the Bypass road.

Decontamination of surface mobile equipment

A total of 189 surface mobile equipment is considered (based on equipment list provided by Agnico Eagle and shown in **Appendix C**), with an additional 15 % contingency to consider for additional surface equipment not yet on site. Eight (8) hours per equipment are considered for decontamination (1,739 hours total). As presented in section 3.3.2, decontamination of underground equipment is included in the underground group of components. Due to the limited capacity of the landfill, it was assumed that all decontaminated surface mobile equipment will be transported to Itivia Harbor and shipped off-site (Transportation cost of equipment is available in Mobilization / Demobilization section).

3.3.6 Chemicals and Soil Management

Chemicals and soil management were reviewed in accordance with the information available in the Landfarm Management Plan (AEM, 2019b), the Hazardous Materials Management Plan (AEM, 2018a) and the Meliadine Annual Report 2018 and 2019 (AEM, 2019e, 2020a).

Building Decontamination

- Building decontamination was considered for the maintenance shop, the power plant, the fuel storage, the emulsion plant and the garage area in the P laydown area (garage and wash bay area). A total cost of 42,788$ was estimated for decontamination including 50 man-days.

Hazardous Material

- The waste oil quantity remaining at the end of operation is estimated at 40,000 liters, corresponding to 5 % of the maximal storage capacity of 800,000 liters;
- Fuel dregs assumed to be 0.5% (235 919 liters) of bulk fuel storage capacity (47,182,200 million liters on site and at Itivia Harbor), for a total of 101,441 $;
- One (1) year accumulation of oil and glycol contaminated waste water is considered, for a total of 60,000 liters (Meliadine Annual Report 2018, AEM, 2019e);
- A lump sum of 3,000 $ is considered for battery disposal, based on Meadowbank ICRP 2019 (SLI, 2020a);
- Mill and water treatment reagents at closure assumed to be 5 % of annual consumption (5 % of 6,798 tons) (AEM, 2018a). The total amount for this item is 849,718 $;
- A total of 10,000 kg of assay lab and environmental reagents are assumed (AEM, 2018a), for $25,000;
- A total of 60,000 kg of glycol is considered based on the reported quantity on site (AEM, 2018a);
- Machine shop paints and solvents to be disposed of at closure assumed to be 7,500 litres, for a total of 11,250 $;

An allowance of 7,500 $ and 50,000 $ has been provided for Phase 1 and 2 for Hazmat removal audit is included.

Contaminated Soil and Soil Characterization

- A contingency of 5,000 m³ of hydrocarbon contaminated soil requiring on-site remediation at closure is considered for the operation landfarm, based on total capacity of the landfarm (AEM, 2019b);
- The total of contaminated soil to excavate, load and haul to the landfarm at closure is estimated at 700 m³, based on the closure and reclamation volume estimate (AEM, 2019b);
- A volume of contaminated soil representing 5% (250 m³) of the total volume of contaminated soil is considered for heavily contaminated soil not treatable on site and to be managed as hazmat material;
- For the planned landfarm extension area, it is assumed that the capacity of the new landfarm will be similar to the existing operation landfarm. Therefore, the same volume of hydrocarbon contaminated soil requiring on-site remediation at closure (5,000 m³) and the total volume of heavily contaminated soil not treatable (250 m³) are included in the estimation for the landfarm extension area.
- Lump sums of 25,000 $ and 100,000 $ was considered for Phase 1 and Phase 2 of contaminated soils investigation, respectively.

3.3.7 Water Management

According to the Water Management Plan (AEM, 2020d), the water management systems include the following component:

- Six (6) water containment ponds and their associated dikes or thermal berms;
- Four (4) surface saline ponds;
- Three (3) diversion berms;
- Ten (10) diversion channels;
- Reverse osmosis (RO) treatment plant (considered in Buildings and equipment section);
- Effluent water treatment plant (EWTP) (considered in Buildings and equipment section);
- Saline water treatment plant (SWTP) and saline effluent treatment plant (SETP) (considered in Buildings and equipment section);
- Sewage treatment plant (STP) (considered in Buildings and equipment section);
- Potable water treatment plant (WTP) (considered in Buildings and equipment section);
- Network of surface pumps, pipelines and culverts;
- Freshwater intake causeway;
- Effluent diffuser in Meliadine Lake;
- A waterline system and a diffuser for saline effluent discharge into marine environment.

The containment ponds, dikes and berms will remain in place to collect the surface runoff water and seepage from the Mine until the water quality meets discharge criteria. Once the water quality meets discharge criteria, dikes and berms will be breached to allow runoff to follow natural flow paths. Dike and berm breaching will involve the removal of a portion of the dikes to a minimum depth of 1 m below average water level or back to original ground levels. Excavated ponds will be backfilled.

Once monitoring results have indicated that contact water conveyed in channels and sumps meets acceptable water quality, the infrastructure will be graded, and surface treated according to site specific conditions to minimize wind-blown dust and erosion from surface runoff, if required.

The annual cost for operation of the water treatment plant is also calculated. However, the annual cost, considered for a period of 3 years, is included in the “Interim Care and Maintenance” portion of the cost estimate, and presented in Section 3.3.8.

Dike Breach and Berm Reclamation in Containment Ponds

There are three (3) containment dikes, D-CP1, D-CP5, and D-CP6, that will require to be breached 1 m below the average water level. It was assumed that each breach will have a 20 m width. Dimensions and expected average water levels of each dike are based on corresponding as-built reports, except for D-CP6 that was assumed to be similar to D-CP1 in terms of design (no available documentation for D-CP6. The berms (Berm-CP3, Berm-CP4 and Berm-CP2) will be removed. The excavated pond CP2 will be backfilled:

- D-CP1 (Tetra Tech, 2017h) – Crest elevation of 67 m and average water elevation at 66.2 m, therefore the breach must be 1.8 m deep x 20 m wide breach x 19,6 m wide dike at crest = 705.6 m³ excavation;
- D-CP5 (Tetra Tech, 2017i) - Crest elevation of 66.8 m and maximum operating water elevation before and after each spring freshet at 64.8 m, therefore the breach must be 3.0 m deep x 20 m wide breach x 16,6 m wide dike at crest = 996 m³ excavation;
- D-CP6 design is assumed identical to D-CP1, therefore a 705.6 m³ excavation will be required to breach D-CP6;
- CP2 pond (Tetra Tech, 2020) – The pond will be backfilled with material. Based on the prefeasibility level design, the volume is 188 400 m3;
- Berm-CP3 (Tetra Tech, 2017e) - Berm length of 330 m x area of 94 m² for a typical cross-section = volume of 31,020 m³ to be removed entirely;
- Berm-CP4 (Tetra Tech, 2017e) - Berm length of 260 m x area of 376 m² for a typical cross-section = volume of 97,760 m³ to be removed entirely.
- Berm-CP2 (Tetra Tech, 2020) – Based on the prefeasibility level design, the berm length of 283m with a volume of 18,600 m3 will required to be removed entirely.

Saline Ponds

Saline Ponds reclamation consists of berm excavation and complete removal of two (2) of the four (4) ponds (SP1 and SP3). Saline Ponds SP2 and SP4 are in the footprint of Tiriganiaq Pit 1 and 2. It was thus assumed that they will disappear during open pit exploitation and will not require to be reclaimed during closure.

- SP1 berm (Tetra Tech, 2017a) – Berm length of 195 m x area of 12 m² for a typical cross-section = volume of 2,340 m³ to be excavated;
- SP3 berm (AEM, 2019d) - Berm length of 246 m x area of 15 m² for a typical cross-section = volume of 3,690 m³ to be excavated.

Reclamation of Diversion Channels and Berms

- Diversion Berm 1 (Tetra Tech, 2017b) - Berm length of 485 m x area of 11 m² for a typical cross-section = volume of 5,335 m³ to be removed entirely;
- Diversion Berm 2 – Based on Water Management Plan (AEM, 2020d), diversion berm 2 will remain in place to prevent non-contact water from flowing into the TSF;
- Diversion Berm 3 (Tetra Tech, 2017k) – Based on the As-Built report, the volume of Diversion Berm 3 is 7,682 m³;
- Channel 1 (Tetra Tech, 2017c) – Based on As-Built report, Channel 1 will require 5,625 m³ for backfill and contour;
- Channel 2 (Tetra Tech, 2017f) - Based on As-Built report, Channel 2 will require 545 m³ for backfill and contour;
- Channel 3 (Tetra Tech, 2017e) - Channel length of 640 m with typical cross section area of 3.5 m² between stations 0+000 to 0+195 and of 9 m² between stations 0+195 to 0+640. A volume of 4,688 m³ is expected to be required for backfill and contouring (based on design report);
- Channel 4 (Tetra Tech, 2017e) - Channel length of 923 m with typical cross section area of 12 m² between stations 0+000 to 0+135 and of 14 m² between stations 0+135 to 0+923. A volume of 12,652 m³ is expected to be required for backfill and contouring (based on design report);

- Channel 5 (Tetra Tech, 2017d) - Based on As-Built report, Channel 5 will require 1,178 m³ for backfill and contour;
- Channel 6 – Assumed to be about 150 m long, 1.5 m deep with 2.5H:1V slope (no available documentation since its construction is tentative based on future water management strategies downstream of WRSF2). It would require 1,350 m³ to backfill and contour;
- Channel 7 (Tetra Tech, 2017g) – Based on design report, a volume of 652 m³ is expected to be required to backfill and contour Channel 7;
- Channel 8 (Tetra Tech, 2017g) - Based on design report, a volume of 91 m³ is expected to be required to backfill and contour Channel 8;
- Channel 9 (Tetra Tech, 2020) - Based on the prefeasibility level design, the length of Channel 9 is 660 m and it will require approximately 8,250 m³ of material to backfill and contour;
- Channel 10 (Tetra Tech, 2020) - Based on the prefeasibility level design, the length of Channel 10 is 220 m and it will require approximately 2,750 m³ to backfill and contour.

Containment Pond Pumps Decommissioning

- Pumps decommissioning for containment ponds. A lump sum of $80,000 per pump was considered based on SNC-Lavalin's experience for decommissioning of similar infrastructures. Four (4) pumping systems will be decommissioned in CP1, CP5, CP6 and CP2.
- Pipeline network on site of about 18.5 km length is assumed to be removed and disposed on-site in landfill.

Water Diffuser Reclamation at Meliadine Lake and Itivia

- Effluent diffuser reclamation at Meliadine Lake at 3,000 $, based on Meadowbank ICRP 2019 (SLI, 2020a). Additionally, the removal of 390 m long pipe is also included for 8,580 $;
- Saline water effluent diffuser for trucked groundwater at Itivia will be dismantled for 3,000 $, based on Meadowbank ICRP 2019 (SLI, 2020a). Based on the Groundwater Management Plan (AEM, 2020b), the removal of a 778 m long pipe is also included for an additional 17,116 $;
- Removal of the pump associated with the freshwater intake for 3,000 $, based on Meadowbank ICRP 2019 (SLI, 2020a).

Waterline for saline effluent discharge into marine environment

- Based on the FEIS Addendum for the treated groundwater effluent discharge (AEM, 2020c), a waterline (2 pipes) of approximately 41 km along the AWAR and the Bypass road will be removed. A diffuser will be removed from Melvin Bay, with an associated cost of 6,000$. The outfall pipe of 75 m for the diffuser will also be removed.

Temporary Water Treatment Plant Operation

- Temporary water treatment plant operation cost is estimated at 561,460$ annually, over a period of three (3) years, based on the following considerations: Operation of the temporary water treatment plant considered for treatment of reclaim water during 6 months per year (treatment required of 742,075 m³ per year, corresponding to CP1 maximum volume in normal condition). A unit cost of 0.75 $ per m³ is used (AEM communication, December 2019), considering the pumping cost and the required reagents for water treatment. This unit cost will have to be reviewed based on upcoming water quality forecast and expected treatment technology;
- For operation, one (1) skilled labor is considered for 12 hours/day during a period of six (6) months per year;
- Annual plant servicing provided by two (2) manufacturer consultants for a seven (7) days site visit each year (168 hours total) over three (3) years, with associated travel allowance costs.

3.3.8 Interim Care and Maintenance

Based on experience at abandoned sites in northern regions, it is assumed that a minimum period of time of 2 to 3 years is required to transfer ownership of the site to the authorities, finalize a Closure and Reclamation Plan, retain a water licence for closure, mobilize equipment to the site and conduct procurement activities to retain reclamation contractors (based on GNT, 2017). The Interim Care and Maintenance cost estimation is therefore based on a 3-year period and includes the annual surveillance and annual water treatment. Monitoring and surveillance costs (active closure) are presented in the Post Closure Monitoring and Maintenance section 3.4.2.

- The annual operational cost for the interim water treatment is estimated at 692,676 $ (see Temporary Water Treatment Plant Operation of section 3.3.7);
- The annual cost related to surveillance, monitoring and inspection of the active closure period represents 1,072,197 $, which corresponds to the annual monitoring and maintenance cost during the active closure period;
- The total cost for three (3) years of care and maintenance is evaluated at 5,294,619 $.

3.4 Indirect Costs

The indirect costs include the cost related to post-closure monitoring and maintenance, mobilization and demobilization, as well as some cost factors such as contingency, engineering, project management, health and safety / QA-QC / engagement costs and bonding / insurance.

Specific assumptions used for the financial security cost estimate are provided for each closure component in sections 3.4.1 to 3.4.3.

3.4.1 Mobilization / Demobilization

During the active closure, mobilization costs have been accounted for by allowing costs for mobilization and demobilization of equipment from site to Itivia Harbor (Rankin Inlet), the mobilization of workers to perform closure work, in addition to barge trips into and out of Itivia Harbor exclusively for Meliadine closure.

- Mobilization and demobilization of heavy equipment (surface and underground) is based on a distance of 30 km along the AWAR and the Bypass Road from Meliadine to Itivia Harbor (Rankin Inlet). A contingency of 15% has been added to the number of mobile equipment to be demobilized to account for the additional equipment for surface mining not yet on site. Due to the limited capacity of the landfill, it was assumed that all mobile equipment will be demobilized off-site;
- Lump sum of 1,000,000 $ for one (1) demolition shear for buildings and infrastructures demolition;
- Seasonal work for of 26 workers over three (3) years period (2028 to 2030), considering a six (6) months per year demolition / reclamation seasons, with associated accommodation and transportation costs;
- Demobilization of 3,000 seacans from Meliadine to Itivia Harbor (Rankin Inlet). It was estimated there is approximately 6,000 seacans on site and that 50 % of them will still be on site at the beginning of the active closure;
- Three (3) barge round trips are considered for seacans demobilization, demolition and hazardous material sent south (1 trip) and for equipment demobilization (2 trips), for a total cost of 3,000,000 $.

3.4.2 Post-Closure

The post-closure costs are separated in two (2) main categories, the monitoring / inspection program and the site maintenance / surveillance. The closure period will extend over a three (3) years period. The post-closure activities will extent on a 10-year period. The cost related to site monitoring / inspection and maintenance / surveillance are presented below.

The annual operation cost of the interim water treatment plan is not included in the post-closure costs as it is already accounted for in “Interim care and maintenance“ for a period of three (3) years.

Monitoring and Inspections

- One (1) annual geotechnical inspection is planned per year for 16,000 $ – including one (1) week visit by one (1) specialized engineer, seven (7) days, twelve (12) hours per day at $150/hour, plus 3,000 $ of reporting work and associated travel and accommodation fees;
- An estimated annual cost of 42,927 $ for the surface water quality monitoring (in closure and post-closure), based on Meliadine water sampling program costs, as presented in **Appendix C**;
- For active closure (2028 to 2030), an estimated annual cost of 955,000 $ for general monitoring programs (i.e. aquatic, wildlife, air quality, noise monitoring program, vegetation study), based on Meliadine monitoring program costs (communication by AEM on November 9th, 2019);
- For post-closure (2031 to 2037), an estimated annual cost of 477,500 $ for general monitoring programs, corresponding to 50 % of the active closure monitoring programs cost.

Maintenance and Surveillance

- For closure and post-closure, two (2) site caretakers provided with biweekly overnight visits, twelve (12) hours per day, 5 months of the year, along with annual allowances for a site vehicle and equipment (20,000 $), accommodation and site maintenance (7,000 $).

3.4.3 Other Indirect Costs

Other indirect costs are calculated based on a percentage of the direct costs total:

- Project management and engineering fees are assumed at 5 % each of the direct closure costs;
- Health and safety plans / monitoring, QA & QC and engagement costs (communication with stakeholders from the community) are assumed as 2 % of the direct closure costs;
- Bonding / insurance fees are assumed as 1 % of the direct closure costs;
- Finally, due to the current level of engineering and uncertainties, a contingency of 20 % of the direct closure costs has been provided for.

4.0 Comparison with 2019 Estimates

Table 4-1 lists the key differences between this cost estimate and the cost estimate prepared for the 2019 ICRP (SLI, 2019).

Table 4-1: Comparison between Meliadine 2019 and 2020 ICRP cost estimates

Component Group	ICRP 2019 - Cost Estimate ($)	ICRP 2020 - Cost Estimate ($)	Differences between 2019 and 2020 estimates ($)	Main Difference Explanations between 2020 and 2019 estimates
Open pit	$1,704,963	$1,704,963	$0,00	
Tiriganiaq Pit 1	*$1,388,171*	*$1,388,171*	*$0,00*	No change
Tiriganiaq Pit 2	*$316,792*	*$316,792*	*$0,00*	No change
Underground Mine	$1,096,384	$1,096,384	$0,00	
Control Access	*$612,004*	*$612,004*	*$0,00*	No change
Remove Hazardous Materials	*$434,380*	*$434,380*	*$0,00*	No change
Tailings Storage Facility	$4,831,700	$4,831,700	$0,00	No change
Rock Pile	$307,350	$277,350	$(30,000)	In 2020 estimate: No instrumentation planned in WRSF2
Buildings and Equipment	$17,915,956	$19,974,815	$2,058,859	
Meliadine	*$16,412,878*	*$18,467,437*	$2,054,559	In 2020 estimate: Addition of new buildings, infrastructures and facilities within the P-area laydown to be dismantled. Extension of the ore pad to be graded. Dismantling of roads to Discovery and other future deposits included.
Itivia Harbor, AWAR & Bypass Road	*$1,503,078*	*$1,507,378*	*$4,300*	In 2020 estimate: Addition of a small laydown area at Itivia Harbor for the treated saline effluent waterline diffuser to be graded.
Chemicals and Contaminated Soil Management	$1,864,355	$ 2,359,406	$495,051	In 2020 estimate: Includes volume of contaminated soil to be treated and heavily contaminated soil to transport for the new landfarm extension. Additional time for decontamination of the garage area in the P-area laydown is included.

Component Group	ICRP 2019 - Cost Estimate ($)	ICRP 2020 - Cost Estimate ($)	Differences between 2019 and 2020 estimates ($)	Main Difference Explanations between 2020 and 2019 estimates
Surface and Groundwater Management	$1,446,713	$4,460,458	$3,013,745	In 2020 estimate: Includes the closure requirement for the water management infrastructures related to the extension of the WRSF3: CP2 pond, 2 channels and CP2 diversion berm. Includes the dismantling of the saline effluent discharge into marine environment: waterline (41km), the outfall pipe and the diffuser.
Interim Care and Maintenance	$5,294,620	$5,294,620	$0,00	No change
Subtotal Direct Costs	**$34,462,041**	**$39,999,695**	**$5,537,654**	
Mobilization / Demobilization	$6,942,680	$6,942,680	$0,00	No change
Closure and Post-Closure Monitoring and Maintenance	$6,737,523	$6,737,523	$0,00	No change
Engineering (5%)	$1,723,102	$1,999,985	$276,883	Adjusted with direct costs in 2020
Project Management (5%)	$1,723,102	$1,999,985	$276,883	Adjusted with direct costs in 2020
Health and Safety Plans / Monitoring and QA/QC and Engagement Costs (2%)	$689,241	$799,994	$110,753	Adjusted with direct costs in 2020
Bonding / Insurance (1%)	$344,620	$399,997	$55,377	Adjusted with direct costs in 2020
Contingency (20%)	$6,892,408	$7,999,939	$1,107,531	Adjusted with direct costs in 2020
Market Price Factor Adjustment (0%)	- $	- $	- $	No change

Component Group	ICRP 2019 - Cost Estimate ($)	ICRP 2020 - Cost Estimate ($)	Differences between 2019 and 2020 estimates ($)	Main Difference Explanations between 2020 and 2019 estimates
Subtotal Indirect Costs	$25,052,677	$26,880,103	$1,827,426	
GRAND TOTAL	$59,514,717	$66,879,798	$7,365,081	

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Appendix A

RECLAIM 7.0

SUMMARY OF COSTS

CAPITAL COSTS	COMPONENT NAME	COST	LAND LIABILITY	WATER LIABILITY
OPEN PIT	Tiriganiaq Pit 1	$1 388 171	$694 085	$694 085
	Tiriganiaq Pit 2	$316 792	$158 396	$158 396
UNDERGROUND MINE	Tiriganiaq	$1 096 384	$523 192	$573 192
TAILINGS FACILITY	Tailings Storage Facility	$4 831 700	$2 415 850	$2 415 850
ROCK PILE	WRSF 1	$247 350	$123 675	$123 675
	WRSF 2 (removed from planning)	$0	$0	$0
	WRSF 3	$30 000	$15 000	$15 000
BUILDINGS AND EQUIPMENT	Meliadine	$18 467 437	$9 233 718	$9 233 718
	ITIVIA + Road	$1 507 378	$728 689	$778 689
CHEMICALS AND CONTAMINATED SOIL MANAGEMENT		$2 359 406	$1 179 703	$1 179 703
SURFACE AND GROUNDWATER MANAGEMENT		$4 460 458	-	$4 460 458
INTERIM CARE AND MAINTENANCE		$5 294 620	-	$5 294 620
	SUBTOTAL: Capital Costs	**$39 999 695**	**$15 072 309**	**$24 927 386**
	PERCENT OF SUBTOTAL		**38%**	**62%**

INDIRECT COSTS		COST	LAND LIABILITY	WATER LIABILITY
MOBILIZATION/DEMOBILIZATION		$6 942 680	$2 616 075	$4 326 605
CLOSURE MONITORING AND MAINTENANCE		$3 032 829	$1 142 802	$1 890 027
POST CLOSURE MONITORING AND MAINTENANCE		$3 704 694	$1 395 968	$2 308 726
ENGINEERING	5%	1 999 985 $	$753 615	$1 246 369
PROJECT MANAGEMENT	5%	$1 999 985	$753 615	$1 246 369
HEALTH AND SAFETY PLANS/MONITORING & QA/QC	2%	$799 994	$301 446	$498 548
BONDING/INSURANCE	1%	$399 997	150 723,09 $	$249 274
CONTINGENCY	20%	$7 999 939	$3 014 462	$4 985 477
MARKET PRICE FACTOR ADJUSTMENT	0%	$0	$0	$0
	SUBTOTAL: Indirect Costs	**$26 880 103**	**$10 128 707**	**$16 751 395**

TOTAL COSTS	**$66 879 798**	**$25 201 016**	**$41 678 781**

2 **Open Pit Name:** **Tiriganiaq Pit 1** **Pit # *1***

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
CONTROL ACCESS									
Fence		m		#N/A	$0,00	$0	50%	$0	$0
Signs	One sign every 150 m	each	17	SH	$37,08	$630	50%	$315	$315
Berm at crest	Perimeter = 2523 m x 2.5 m² (1m high berm with 1,5H:1V slope and 1 m width on	m3	6308	DRH	$2,40	$15 139	50%	$7 570	$7 570
Rock Barricade at ramp	Assuming 20 m width ramp and barricade length of 5 m (2m thick)	m3	200	DRH	$2,40	$480	50%	$240	$240
Other				#N/A	$0,00	$0	50%	$0	$0
STABILITY STUDY									
Conduct stability and setback study		allow		#N/A	$0,00	$0	50%	$0	$0
STABILIZE SLOPES									
Off-load crest, soil A		m3		#N/A	$0,00	$0	50%	$0	$0
Off-load crest, soil B		m3		#N/A	$0,00	$0	50%	$0	$0
Doze/trim overburden at crest		m3		#N/A	$0,00	$0	50%	$0	$0
Drill & blast pit crest		m3		#N/A	$0,00	$0	50%	$0	$0
Buttress slope		m3		#N/A	$0,00	$0	50%	$0	$0
Other				#N/A	$0,00	$0	50%	$0	$0
COVER/CONTOUR SLOPES									
Place fill, soil A		m3		#N/A	$0,00	$0	50%	$0	$0
Place fill, soil B		m3		#N/A	$0,00	$0	50%	$0	$0
Rip rap		m3		#N/A	$0,00	$0	50%	$0	$0
Vegetate slopes		ha		#N/A	$0,00	$0	50%	$0	$0
Vegetate pit floor		ha		#N/A	$0,00	$0	50%	$0	$0
Other				#N/A	$0,00	$0	50%	$0	$0
CONSTRUCT DIVERSION DITCHES									
Excavate ditches -soil		m3		#N/A	$0,00	$0		$0	$0
Excavate ditches -rock		m3		#N/A	$0,00	$0		$0	$0
Rip rap in channel base		m3		#N/A	$0,00	$0		$0	$0
CONSTRUCT SPILLWAY									
Excavate channel		m3		#N/A	$0,00	$0		$0	$0
Concrete		m3		#N/A	$0,00	$0		$0	$0
Rip rap		m3		#N/A	$0,00	$0		$0	$0
Other				#N/A	$0,00	$0		$0	$0
RECLAIM QUARRIES									
Contour slopes		m3		#N/A	$0,00	$0		$0	$0
Place overburden		m3		#N/A	$0,00	$0		$0	$0
Vegetate		m3		#N/A	$0,00	$0		$0	$0
FLOOD PIT-Captital									
Remove stationary equipment (sump pumps)		each	1	PRH	$6 742,00	$6 742	50%	$3 371	$3 371
Remove dewatering pipeline		m		#N/A	$0,00	$0		$0	$0
Remove power lines		each		#N/A	$0,00	$0		$0	$0
Construct diversion ditches		m3		#N/A	$0,00	$0		$0	$0
-Ditch, mat'l A		m3		#N/A	$0,00	$0		$0	$0
-Ditch, mat'l B		m3		#N/A	$0,00	$0		$0	$0
Construct embankment/dam		m3		#N/A	$0,00	$0		$0	$0
Supply/install pump station and piping system	From ICRP Amaruq 2016, assuming 80% of the cost if for Pit 1	each	1	AEM	$400 000,00	$400 000	50%	$200 000	$200 000
Piping installation	5 km of pipes from freshwater intake to pits	m	5000	PLIL	$50,00	$250 000	50%	$125 000	$125 000
Supply/install pump		each		#N/A	$0,00	$0		$0	$0
Remove pump post-closure		each		#N/A	$0,00	$0		$0	$0
Remove piping post-closure		m		#N/A	$0,00	$0		$0	$0
FLOOD PIT-Annual Cost									
Operate pumps (power)		each		#N/A	$0,00	$0		$0	$0
Maintain pump/piping	2 skilled laborers x 12hrs days, 4 month/yr	anhours	2304	MBK	$49,60	$114 278	50%	$57 139	$57 139
Annual Pump Servicing	2x Manufacturer Consultants x 12 hours day x 7 days/yr	$/h	134,4	MBK	$120,00	$16 128	50%	$8 064	$8 064
Pump Servicing Travel Allowance	Round Trip Fligth/person	visits	1,6	MBK	$4 000,00	$6 400	50%	$3 200	$3 200
Accommodations	120 days x 2 skilled labourers + 7 days x 2 Consultants	ıandays	203,2	ACCML	$100,00	$20 320	50%	$10 160	$10 160
Passive/biological additives		$/ha		#N/A	$0,00	$0		$0	$0
Passive additives purchase and shipping		tonne		#N/A	$0,00	$0		$0	$0
Water from Meliadine Lake	9.2Mm³/3 years	m3	3066666,7	MBK	$0,03	$81 267		$0	$81 267
					Annual pumping costs	$238 393			
Number of years of pump flooding		years	3						
					Total pumping costs	$715 179	50%	$357 590	$357 590
					Total	$1 388 171		$694 085	$694 085
					% of Total			50%	50%

Open Pit Name: **Tiriganiaq Pit 2** **Pit # *2***

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
CONTROL ACCESS									
Fence		m		#N/A	$0,00	$0	50%	$0	$0
Signs	every 150 m	each	8	SH	$37,08	$297	50%	$148	$148
Berm at crest	Perimeter = 1134 m x 2.5 m² (1m high berm w	m3	2835	DRH	$2,40	$6 804	50%	$3 402	$3 402
Rock Barricade at ramp	Assuming 20 m width ramp and barricade len	m3	200	DRH	$2,40	$480	50%	$240	$240
Other				#N/A	$0,00	$0		$0	$0
STABILITY STUDY									
Conduct stability and setback study		allow		#N/A	$0,00	$0		$0	$0
STABILIZE SLOPES									
Off-load crest, soil A		m3		#N/A	$0,00	$0		$0	$0
Off-load crest, soil B		m3		#N/A	$0,00	$0		$0	$0
Doze/trim overburden at crest		m3		#N/A	$0,00	$0		$0	$0
Drill & blast pit crest		m3		#N/A	$0,00	$0		$0	$0
Buttress slope		m3		#N/A	$0,00	$0		$0	$0
Other				#N/A	$0,00	$0		$0	$0
COVER/CONTOUR SLOPES									
Place fill, soil A		m3		#N/A	$0,00	$0		$0	$0
Place fill, soil B		m3		#N/A	$0,00	$0		$0	$0
Rip rap		m3		#N/A	$0,00	$0		$0	$0
Vegetate slopes		ha		#N/A	$0,00	$0		$0	$0
Vegetate pit floor		ha		#N/A	$0,00	$0		$0	$0
Other				#N/A	$0,00	$0		$0	$0
CONSTRUCT DIVERSION DITCHES									
Excavate ditches -soil		m3		#N/A	$0,00	$0		$0	$0
Excavate ditches -rock		m3		#N/A	$0,00	$0		$0	$0
Rip rap in channel base		m3		#N/A	$0,00	$0		$0	$0
CONSTRUCT SPILLWAY									
Excavate channel		m3		#N/A	$0,00	$0		$0	$0
Concrete		m3		#N/A	$0,00	$0		$0	$0
Rip rap		m3		#N/A	$0,00	$0		$0	$0
Other				#N/A	$0,00	$0		$0	$0
RECLAIM QUARRIES									
Contour slopes		m3		#N/A	$0,00	$0		$0	$0
Place overburden		m3		#N/A	$0,00	$0		$0	$0
Vegetate		m3		#N/A	$0,00	$0		$0	$0
FLOOD PIT-Captital									
Remove stationary equipment (sump pumps)		each	1	PRH	$6 742,00	$6 742	50%	$3 371	$3 371
Remove dewatering pipeline		m		#N/A	$0,00	$0		$0	$0
Remove power lines		each		#N/A	$0,00	$0		$0	$0
Construct diversion ditches		m3		#N/A	$0,00	$0		$0	$0
-Ditch, mat'l A		m3		#N/A	$0,00	$0		$0	$0
-Ditch, mat'l B		m3		#N/A	$0,00	$0		$0	$0
Construct embankment/dam		m3		#N/A	$0,00	$0		$0	$0
Supply/install pump station and piping system	From ICRP Amaruq 2016, assuming 20% of t	each	1	AEM	$100 000,00	$100 000	50%	$50 000	$50 000
Piping installation	500 m additonal	m	500	PLIL	$50,00	$25 000	50%	$12 500	$12 500
Supply/install piping system		each	0	#N/A	$0,00	$0		$0	$0
Remove pump post-closure		each		#N/A	$0,00	$0		$0	$0
Remove pipeline post-closure		m		#N/A	$0,00	$0		$0	$0
FLOOD PIT-Annual Cost									
Operate pumps (power)		each		#N/A	$0,00	$0		$0	$0
Maintain pump/piping	2 skilled labourers x 12hrs days, 4 month/yr	anhours	576	MBK	$49,60	$28 570	50%	$14 285	$14 285
Annual Pump Servicing	2x Manufacturer Consultants x 12 hours day x	$/h	33,6	MBK	$120,00	$4 032	50%	$2 016	$2 016
Pump Servicing Travel Allowance	Round Trip Fligth/person	visits	0,4	MBK	$4 000,00	$1 600	50%	$800	$800
Accomodations	120 days x 2 skilled labourers + 7 days x 2 Co	andays	50,8	ACCML	$100,00	$5 080	50%	$2 540	$2 540
Passive/biological additives		$/ha		#N/A	$0,00	$0		$0	$0
Passive additives purchase and shipping		tonne		#N/A	$0,00	$0		$0	$0
Water from Meliadine Lake	2.25Mm³/3 years	m3	750000	MBK	$0,03	$19 875	50%	$9 938	$9 938
					Annual pumping costs	$59 157	50%	$29 578	$29 578
Number of years of pump flooding		years	3						
					Total pumping costs	177 469,80 $	50%	$88 735	$88 735
					Total	$316 792		$158 396	$158 396
					% of Total			50%	50%

1 **Tailings Impoundment Name:** **Tailings Storage Facility** **Pond # *1***

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	% Cost Land	Land Cost	Water Cost
CONTROL ACCESS								
Fence		m		#N/A	$0,00	$0	$0	$0
Signs		each		#N/A	$0,00	$0	$0	$0
Berm		m3		#N/A	$0,00	$0	$0	$0
Block roads		m3		#N/A	$0,00	$0	$0	$0
Other				#N/A	$0,00	$0	$0	$0
STABILIZE EMBANKMENT(S)								
Toe buttress, drainage layer		m3		#N/A	$0,00	$0	$0	$0
Toe buttress, bulk fill		m3		#N/A	$0,00	$0	$0	$0
Rip rap		m3		#N/A	$0,00	$0	$0	$0
Vegetate		ha		#N/A	$0,00	$0	$0	$0
Raise crest		m3		#N/A	$0,00	$0	$0	$0
Flatten slopes		m3		#N/A	$0,00	$0	$0	$0
Other				#N/A	$0,00	$0	$0	$0
COVER TAILINGS								
Grade/shape tailings surface		m3		#N/A	$0,00	$0	$0	$0
Liner bedding		m3		#N/A	$0,00	$0	$0	$0
Subgrade preparation - compact		m2		#N/A	$0,00	$0	$0	$0
Supply geotextile/geosynthetic		m2		#N/A	$0,00	$0	$0	$0
Install geotextile/geosynthetic		m2		#N/A	$0,00	$0	$0	$0
Soil cover	Area top of TSF = 15 400 m² x 0.5 m thick C	m3	77000	SB3L	$5,10	$392 700 50%	$196 350	$196 350
Rock cover	Area top of TSF = 15 400 m² x 2.5 m thick V	m3	385000	RB1L	$11,40	$4 389 000 50%	$2 194 500	$2 194 500
Vegetate		m2		#N/A	$0,00	$0	$0	$0
Other				#N/A	$0,00	$0	$0	$0
BURY PAG ROCK								
Relocate PAG rock		m3		#N/A	$0,00	$0	$0	$0
Place cover over PAG rock		m3		#N/A	$0,00	$0	$0	$0
Raise crest of dam		m3		#N/A	$0,00	$0	$0	$0
Other				#N/A	$0,00	$0	$0	$0
STABILIZE DECANT SYSTEM								
Excavate and replace		m3		#N/A	$0,00	$0	$0	$0
Plug/backfill with concrete or clay		m3		#N/A	$0,00	$0	$0	$0
Other				#N/A	$0,00	$0	$0	$0
REMOVE TAILINGS DISCHARGE								
Cyclones		m3		#N/A	$0,00	$0	$0	$0
Pipe		m3		#N/A	$0,00	$0	$0	$0
Remove reclaim barge		allow		#N/A	$0,00	$0	$0	$0
CONSTRUCT DIVERSION DITCHES								
Excavate ditches -soil		m3		#N/A	$0,00	$0	$0	$0
Excavate ditches -rock		m3		#N/A	$0,00	$0	$0	$0
Rip rap in channel base		m3		#N/A	$0,00	$0	$0	$0
FLOOD TAILINGS								
Doze tailings to final contour		m3		#N/A	$0,00	$0	$0	$0
Raise crest of dam		m3		#N/A	$0,00	$0	$0	$0
Other				#N/A	$0,00	$0	$0	$0
UPGRADE SPILLWAY								
Excavate channel, rock		m3		#N/A	$0,00	$0	$0	$0
Excavate channel, soil		m3		#N/A	$0,00	$0	$0	$0
Concrete		m3		#N/A	$0,00	$0	$0	$0
Rip rap		m3		#N/A	$0,00	$0	$0	$0
Other				#N/A	$0,00	$0	$0	$0
CONSTRUCT SEEPAGE COLLECTION POND								
Excavate seepage collection pond		m3		#N/A	$0,00	$0	$0	$0
Doze & spread excavated material		m3		#N/A	$0,00	$0	$0	$0
Vegetate spread material		ha		#N/A	$0,00	$0	$0	$0
Bedding layer		m3		#N/A	$0,00	$0	$0	$0
Supply geomembrane		m2		#N/A	$0,00	$0	$0	$0
Install geomembrane		m2		#N/A	$0,00	$0	$0	$0
Erosion protection layer		m3		#N/A	$0,00	$0	$0	$0
INSTALL GROUNDWATER COLLECTION SYSTEM								
Excavate/install sumps		m3		#N/A	$0,00	$0	$0	$0
Install pumping wells		m3		#N/A	$0,00	$0	$0	$0
Install pumps/pipelines/power supply		LS		#N/A	$0,00	$0	$0	$0
SPECIALIZED ITEMS								
Install permanent instrumentation, supply & au moins 5 ou un peu plus		each	5	MBK	$10 000,00	$50 000 50%	$25 000	$25 000
Install permanent instrumentation, drilling		each		#N/A	$0,00	$0		$0
TREAT SEEPAGE - see "Water Management" and "Water Treatment"								
TREAT SUPERNATANT								
Pump water		m3		#N/A	$0,00	$0	$0	$0
Equipment maintenance and parts		allow		#N/A	$0,00	$0	$0	$0
Supply reagents		tonne		#N/A	$0,00	$0	$0	$0
					Annual treatment costs	$0		
Number of years of treatment		years						
					Total treatment costs	$0		$0
					Total	$4 831 700	$2 415 850	$2 415 850
					% of Total		50%	50%

* for construction of passive treatment system refer to "Water Management"

1 **Underground Mine Name** **Tiriganiaq** **UG Mine # *1***

ACTIVITY/MATERIAL	Notes	Unit	Qty	Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
CONTROL ACCESS									
Fence		m		#N/A	$0,00	$0		$0	$0
Signs	One sign per portal	each	2	SH	$37,08	$74	50%	$37	$37
Block roads		m3		#N/A	$0,00	$0		$0	$0
Berm		m3		RB1H	$17,05	$0	100%	$0	$0
Remove the portal (TTOG STEEL)	cut, remove and dispose in landfill	m2	1980	BRS1L	$45,00	$89 100	50%	$44 550	$44 550
Remove the portal (concrete)	break, remove and dispose in landfill	m2	3300	BRCH	$65,00	$214 500	50%	$107 250	$107 250
Backfill portal #1 + Contour portal area	105m length with slope x 8m deep x 30m wi	m3	12 600	SB1H	$5,90	$74 340	50%	$37 170	$37 170
Backfill portal #2 + Contour portal area	116m length with slope x 15m deep x 30m w	m3	26 100	SB1H	$5,90	$153 990	50%	$76 995	$76 995
Cap bulkhead , pit portal		each		#N/A	$0,00	$0		$0	$0
Plug portal #2		m3		#N/A	$0,00	$0		$0	$0
Raises (Cap and building demolition)	4 raises total - Concrete	m2	4	SNC	$20 000,00	$80 000	50%	$40 000	$40 000
Cap shaft #2		m3		#N/A	$0,00	$0		$0	$0
Backfill adits		m3		#N/A	$0,00	$0		$0	$0
Backfill open stope		m3		#N/A	$0,00	$0		$0	$0
Concrete cap over open stope		m3		#N/A	$0,00	$0		$0	$0
Contour portal area		m3		#N/A	$0,00	$0		$0	$0
REMOVE HAZARDOUS MATERIALS									
Remove hazardous materials, U/G labor	2 laborers, 12hr/day, 3 months	hour	2 160	scoopl	$170,00	$367 200	50%	$183 600	$183 600
Remove/decontam. stationary & elect. equip		hour	72	mechl	$49,00	$3 528	50%	$1 764	$1 764
Remove/decontam. mobile equipment	off site * Barge	hour	1 248	mechl	$49,00	$61 152	50%	$30 576	$30 576
Remove misc. haz. mat & explosives		kg	250	SNC	$10,00	$2 500	50%	$1 250	$1 250
Other		total		SNC	$0,00	$0	50%	$0	$0
INSTALL BULKHEADS									
Bulkheads to control water flow		each		#N/A	$0,00	$0		$0	$0
Grout bulkhead		m3		#N/A	$0,00	$0		$0	$0
FLOOD MINE									
Supply/install pump		each		#N/A	$0,00	$0		$0	$0
Supply/install piping system		each		#N/A	$0,00	$0		$0	$0
Operate pumps to flood workings		m3		#N/A	$0,00	$0		$0	$0
Other				#N/A	$0,00	$0		$0	$0
INSTALL GROUNDWATER COLLECTION SYSTEM									
Excavate/install sumps		m2		#N/A	$0,00	$0		$0	$0
Install pumping wells		m3		#N/A	$0,00	$0		$0	$0
Install pumps/pipelines/power supply		LS		#N/A	$0,00	$0		$0	$0
SPECIALIZED ITEMS									
Install water quality monitoring pipes		each		#N/A	$0,00	$0		$0	$0
Install permanent pumping system		each		#N/A	$0,00	$0		$0	$0
Install permanent instrumentation		each	5	MBK	$10 000,00	$50 000		$0	$50 000
					Total	$1 096 384		$523 192	$573 192
					% of Total			48%	52%

3

Rock Pile Name: WRSF 1

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
STABILIZE SLOPES									
Flatten slopes with dozer		m3		#N/A	$0,00	$0		$0	$0
Flatten "bubble dump" areas		m3		#N/A	$0,00	$0		$0	$0
Divert runon, ditch mat'l A		m3		#N/A	$0,00	$0		$0	$0
Divert runon, ditch mat'l B		m3		#N/A	$0,00	$0		$0	$0
Toe buttress, drain mat'l		m3		#N/A	$0,00	$0		$0	$0
Toe buttress, fill mat'l A		m3		#N/A	$0,00	$0		$0	$0
Toe buttress, fill mat'l B		m3		#N/A	$0,00	$0		$0	$0
Grade WRSF 1	1.0 m over 50 % of WRSF 1 footprint (41,4	m3	207000	DRL	$1,05	$217 350	50%	$108 675	$108 675
COVER ROCK PILE									
Subgrade preparation - doze surface		m3		#N/A	$0,00	$0		$0	$0
Soil cover - excavate,haul,spread&compact		m3		#N/A	$0,00	$0		$0	$0
Rock cover - excavate,haul & spread		m3		#N/A	$0,00	$0		$0	$0
Excavate downslope drainage channel & chute		m3		#N/A	$0,00	$0		$0	$0
Rip rap drainage channel and chute		m3		#N/A	$0,00	$0		$0	$0
Vegetate		ha		#N/A	$0,00	$0		$0	$0
Other				#N/A	$0,00	$0		$0	$0
VERY LOW PERMEABILITY COVER (in addition to above)									
Liner subgrade preparation - compact		m2		#N/A	$0,00	$0		$0	$0
Supply geomembrane		m2		#N/A	$0,00	$0		$0	$0
Install geomembrane		m2		#N/A	$0,00	$0		$0	$0
Protective cover - excavate,haul,spread&compact		m3		#N/A	$0,00	$0		$0	$0
Vegetate		ha		#N/A	$0,00	$0		$0	$0
Install infiltration/seepage instrumentation		allow		#N/A	$0,00	$0		$0	$0
CONSTRUCT DIVERSION DITCHES									
Excavate ditches -soil		m3		#N/A	$0,00	$0		$0	$0
Excavate ditches -rock		m3		#N/A	$0,00	$0		$0	$0
Rip rap in channel base		m3		#N/A	$0,00	$0		$0	$0
CONSTRUCT SEEPAGE COLLECTION POND									
Excavate seepage collection pond		m3		#N/A	$0,00	$0		$0	$0
Doze & spread excavated material		m3		#N/A	$0,00	$0		$0	$0
Vegetate spread material		ha		#N/A	$0,00	$0		$0	$0
Bedding layer		m3		#N/A	$0,00	$0		$0	$0
Supply geomembrane		m2		#N/A	$0,00	$0		$0	$0
Install geomembrane		m2		#N/A	$0,00	$0		$0	$0
Erosion protection layer		m3		#N/A	$0,00	$0		$0	$0
INSTALL GROUNDWATER COLLECTION SYSTEM									
Excavate/install sumps		m3		#N/A	$0,00	$0		$0	$0
Install pumping wells		m3		#N/A	$0,00	$0		$0	$0
Install pumps/pipelines/power supply		allow		#N/A	$0,00	$0		$0	$0
RELOCATE DUMPS									
Load, haul, dump or doze		m3		#N/A	$0,00	$0		$0	$0
Add lime		tonne		#N/A	$0,00	$0		$0	$0
Contour reclaimed area		ha		#N/A	$0,00	$0		$0	$0
Other				#N/A	$0,00	$0		$0	$0
SPECIALIZED ITEMS									
Install permanent instrumentation		each	3	MBK	$10 000,00	$30 000	50%	$15 000	$15 000
Install permanent instrumentation, drilling		each		#N/A	$0,00	$0		$0	$0
TREAT ROCK PILE SEEPAGE - see "Water Treatment"									
HEAP LEACH SEEPAGE TREATMENT - Cyanide Detox									
Cyanide destruction water treatment pumping		m3		#N/A	$0,00	$0		$0	$0
Reagents		tonnes		#N/A	$0,00	$0		$0	$0
Electrician/mechanic to maintain treatment plant		allow		#N/A	$0,00	$0		$0	$0
Equipment maintenance and parts		allow		#N/A	$0,00	$0		$0	$0
				Annual treatment costs		$0			
Number of years of treatment		years							
				Total treatment costs		$0			$0
HEAP LEACH SEEPAGE TREATMENT - ARD/ML**									
Upgrade/modify pumping system - report to WTP		allow		#N/A	$0,00	$0		$0	$0
				Total		$247 350		$123 675	$123 675
				% of Total				50%	50%

* For construction of passive treatment system refer to "Water Management". ARD/ML seepage treatment becomes post-closure water treatment cost

Rock Pile Name: WRSF 2 (removed from planning)

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
STABILIZE SLOPES									
Flatten slopes with dozer		m3		#N/A	$0,00	$0		$0	$0
Flatten "bubble dump" areas		m3		#N/A	$0,00	$0		$0	$0
Divert runon, ditch mat'l A		m3		#N/A	$0,00	$0		$0	$0
Divert runon, ditch mat'l B		m3		#N/A	$0,00	$0		$0	$0
Toe buttress, drain mat'l		m3		#N/A	$0,00	$0		$0	$0
Toe buttress, fill mat'l A		m3		#N/A	$0,00	$0		$0	$0
Toe buttress, fill mat'l B		m3		#N/A	$0,00	$0		$0	$0
Other				#N/A	$0,00	$0		$0	$0
COVER ROCK PILE									
Subgrade preparation - doze surface		m3		#N/A	$0,00	$0		$0	$0
Soil cover - excavate,haul,spread&compact		m3		#N/A	$0,00	$0		$0	$0
Rock cover - excavate,haul & spread		m3		#N/A	$0,00	$0		$0	$0
Excavate downslope drainage channel & chute		m3		#N/A	$0,00	$0		$0	$0
Rip rap drainage channel and chute		m3		#N/A	$0,00	$0		$0	$0
Vegetate		ha		#N/A	$0,00	$0		$0	$0
Other				#N/A	$0,00	$0		$0	$0
VERY LOW PERMEABILITY COVER (in addition to above)									
Liner subgrade preparation - compact		m2		#N/A	$0,00	$0		$0	$0
Supply geomembrane		m2		#N/A	$0,00	$0		$0	$0
Install geomembrane		m2		#N/A	$0,00	$0		$0	$0
Protective cover - excavate,haul,spread&compact		m3		#N/A	$0,00	$0		$0	$0
Vegetate		ha		#N/A	$0,00	$0		$0	$0
Install infiltration/seepage instrumentation		allow		#N/A	$0,00	$0		$0	$0
CONSTRUCT DIVERSION DITCHES									
Excavate ditches -soil		m3		#N/A	$0,00	$0		$0	$0
Excavate ditches -rock		m3		#N/A	$0,00	$0		$0	$0
Rip rap in channel base		m3		#N/A	$0,00	$0		$0	$0
CONSTRUCT SEEPAGE COLLECTION POND									
Excavate seepage collection pond		m3		#N/A	$0,00	$0		$0	$0
Doze & spread excavated material		m3		#N/A	$0,00	$0		$0	$0
Vegetate spread material		ha		#N/A	$0,00	$0		$0	$0
Bedding layer		m3		#N/A	$0,00	$0		$0	$0
Supply geomembrane		m2		#N/A	$0,00	$0		$0	$0
Install geomembrane		m2		#N/A	$0,00	$0		$0	$0
Erosion protection layer		m3		#N/A	$0,00	$0		$0	$0
INSTALL GROUNDWATER COLLECTION SYSTEM									
Excavate/install sumps		m3		#N/A	$0,00	$0		$0	$0
Install pumping wells		m3		#N/A	$0,00	$0		$0	$0
Install pumps/pipelines/power supply		allow		#N/A	$0,00	$0		$0	$0
RELOCATE DUMPS									
Load, haul, dump or doze		m3		#N/A	$0,00	$0		$0	$0
Add lime		tonne		#N/A	$0,00	$0		$0	$0
Contour reclaimed area		ha		#N/A	$0,00	$0		$0	$0
Other				#N/A	$0,00	$0		$0	$0
SPECIALIZED ITEMS									
Install permanent instrumentation		each		MBK	$0,00	$0	50%	$0	$0
Install permanent instrumentation, drilling		each		#N/A	$0,00	$0		$0	$0
TREAT ROCK PILE SEEPAGE - see "Water Treatment"									
HEAP LEACH SEEPAGE TREATMENT - Cyanide Detox									
Cyanide destruction water treatment pumping		m3		#N/A	$0,00	$0		$0	$0
Reagents		tonnes		#N/A	$0,00	$0		$0	$0
Electrician/mechanic to maintain treatment plant		allow		#N/A	$0,00	$0		$0	$0
Equipment maintenance and parts		allow		#N/A	$0,00	$0		$0	$0
				Annual treatment costs		$0			
Number of years of treatment		years							
				Total treatment costs		$0			$0
HEAP LEACH SEEPAGE TREATMENT - ARD/ML**									
Upgrade/modify pumping system - report to WTP		allow		#N/A	$0,00	$0		$0	$0
				Total		$0		$0	$0
				% of Total				0%	0%

* For construction of passive treatment system refer to "Water Management". ARD/ML seepage treatment becomes post-closure water treatment cost

Rock Pile Name: WRSF 3

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
STABILIZE SLOPES									
Flatten slopes with dozer		m3		#N/A	$0,00	$0		$0	$0
Flatten "bubble dump" areas		m3		#N/A	$0,00	$0		$0	$0
Divert runon, ditch mat'l A		m3		#N/A	$0,00	$0		$0	$0
Divert runon, ditch mat'l B		m3		#N/A	$0,00	$0		$0	$0
Toe buttress, drain mat'l		m3		#N/A	$0,00	$0		$0	$0
Toe buttress, fill mat'l A		m3		#N/A	$0,00	$0		$0	$0
Toe buttress, fill mat'l B		m3		#N/A	$0,00	$0		$0	$0
Other				#N/A	$0,00	$0		$0	$0
COVER ROCK PILE									
Subgrade preparation - doze surface		m3		#N/A	$0,00	$0		$0	$0
Soil cover - excavate,haul,spread&compact		m3		#N/A	$0,00	$0		$0	$0
Rock cover - excavate,haul & spread		m3		#N/A	$0,00	$0		$0	$0
Excavate downslope drainage channel & chute		m3		#N/A	$0,00	$0		$0	$0
Rip rap drainage channel and chute		m3		#N/A	$0,00	$0		$0	$0
Vegetate		ha		#N/A	$0,00	$0		$0	$0
Other				#N/A	$0,00	$0		$0	$0
VERY LOW PERMEABILITY COVER (in addition to above)									
Liner subgrade preparation - compact		m2		#N/A	$0,00	$0		$0	$0
Supply geomembrane		m2		#N/A	$0,00	$0		$0	$0
Install geomembrane		m2		#N/A	$0,00	$0		$0	$0
Protective cover - excavate,haul,spread&compact		m3		#N/A	$0,00	$0		$0	$0
Vegetate		ha		#N/A	$0,00	$0		$0	$0
Install infiltration/seepage instrumentation		allow		#N/A	$0,00	$0		$0	$0
CONSTRUCT DIVERSION DITCHES									
Excavate ditches -soil		m3		#N/A	$0,00	$0		$0	$0
Excavate ditches -rock		m3		#N/A	$0,00	$0		$0	$0
Rip rap in channel base		m3		#N/A	$0,00	$0		$0	$0
CONSTRUCT SEEPAGE COLLECTION POND									
Excavate seepage collection pond		m3		#N/A	$0,00	$0		$0	$0
Doze & spread excavated material		m3		#N/A	$0,00	$0		$0	$0
Vegetate spread material		ha		#N/A	$0,00	$0		$0	$0
Bedding layer		m3		#N/A	$0,00	$0		$0	$0
Supply geomembrane		m2		#N/A	$0,00	$0		$0	$0
Install geomembrane		m2		#N/A	$0,00	$0		$0	$0
Erosion protection layer		m3		#N/A	$0,00	$0		$0	$0
INSTALL GROUNDWATER COLLECTION SYSTEM									
Excavate/install sumps		m3		#N/A	$0,00	$0		$0	$0
Install pumping wells		m3		#N/A	$0,00	$0		$0	$0
Install pumps/pipelines/power supply		allow		#N/A	$0,00	$0		$0	$0
RELOCATE DUMPS									
Load, haul, dump or doze		m3		#N/A	$0,00	$0		$0	$0
Add lime		tonne		#N/A	$0,00	$0		$0	$0
Contour reclaimed area		ha		#N/A	$0,00	$0		$0	$0
Other				#N/A	$0,00	$0		$0	$0
SPECIALIZED ITEMS									
Install permanent instrumentation		each	3	MBK	$10 000,00	$30 000	50%	$15 000	$15 000
Install permanent instrumentation, drilling		each		#N/A	$0,00	$0		$0	$0
TREAT ROCK PILE SEEPAGE - see "Water Treatment"									
HEAP LEACH SEEPAGE TREATMENT - Cyanide Detox									
Cyanide destruction water treatment pumping		m3		#N/A	$0,00	$0		$0	$0
Reagents		tonnes		#N/A	$0,00	$0		$0	$0
Electrician/mechanic to maintain treatment plant		allow		#N/A	$0,00	$0		$0	$0
Equipment maintenance and parts		allow		#N/A	$0,00	$0		$0	$0
				Annual treatment costs		$0			
Number of years of treatment		years							
				Total treatment costs		$0			$0
HEAP LEACH SEEPAGE TREATMENT - ARD/ML**									
Upgrade/modify pumping system - report to WTP		allow		#N/A	$0,00	$0		$0	$0
				Total		$30 000		$15 000	$15 000
				% of Total				50%	50%

* For construction of passive treatment system refer to "Water Management". ARD/ML seepage treatment becomes post-closure water treatment cost

1 **Chemicals/Soil Area Name:**

Note: The procedures, equipment and packaging for clean up and removal of chemicals or contaminated soils are highly dependent on the nature of the chemicals and their existing state of containment. Government guidelines should be consulted on an individual chemical basis. Any estimate made here should be considered very rough unless specific evaluations have been conducted.

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
HAZARDOUS MATERIALS AUDIT									
Hazardous materials audit		mandays		#N/A	$0,00	$0		$0	$0
Phase 1 audit		each	1	MBK	$7 500,00	$7 500	50%	$3 750	$3 750
Phase 2 audit		each	1	MBK	$50 000,00	$50 000	50%	$25 000	$25 000
BUILDING DECONTAMINATION & CONSOLIDATION OF HAZARDOUS MATERIALS									
Environmental technician/coordinator		mandays		#N/A	$0,00	$0		$0	$0
Decontaminate: oil, fuel and glycol systems		mandays		#N/A	$0,00	$0		$0	$0
Decontaminate maintenance shop		h	140	journeyh	$71,79	$10 051	50%	$5 025	$5 025
Decontaminate power plant		h	140	journeyh	$71,79	$10 051	50%	$5 025	$5 025
Decontaminate bulk fuel storage		h	140	journeyh	$71,79	$10 051	50%	$5 025	$5 025
Decontaminate emulsion plant		h	36	journeyh	$71,79	$2 584	50%	$1 292	$1 292
Decontaminate garage in P-area Laydown		h	140	journeyh	$71,79	$10 051	50%	$5 025	$5 025
Decontaminate offices/warehouse/accom		mandays		#N/A	$0,00	$0		$0	$0
Removal of asbestos siding on buildings		m2		#N/A	$0,00	$0		$0	$0
Removal of friable asbestos on equipment		m2		#N/A	$0,00	$0		$0	$0
HAZARDOUS MATERIALS REMOVAL									
Waste oils		litre	40000	ORL	$0,43	$17 200	50%	$8 600	$8 600
Waste fuel	Type 1, e.g. diesel dregs	litre	235910	ORL	$0,43	$101 441	50%	$50 721	$50 721
Waste batteries		each	1	MBK	$3 000,00	$3 000	50%	$1 500	$1 500
Mill and water treatment reagents		kg	339887	PCRH	$2,50	$849 718	50%	$424 859	$424 859
Assay & environmental lab reagents		kg	10000	pcrh	$2,50	$25 000	50%	$12 500	$12 500
Machine shop paints, solvents etc		litre	7500	EXPLO	$1,50	$11 250	50%	$5 625	$5 625
Glycol		kg	60000	PCRH	$2,50	$150 000	50%	$75 000	$75 000
Process reagents		kg		#N/A	$0,00	$0		$0	$0
Nuclear sources		allow		#N/A	$0,00	$0		$0	$0
Other hazardous materials		allow		#N/A	$0,00	$0		$0	$0
HAZARDOUS MATERIALS									
Transportation to disposal facility		allow		#N/A	$0,00	$0		$0	$0
Disposal fees		allow		#N/A	$0,00	$0		$0	$0
Other				#N/A	$0,00	$0		$0	$0
CONTAMINATED SOILS									
Contam. soil investigation - Phase 1		each	1	MEL	$25 000,00	$25 000	50%	$12 500	$12 500
Contam. soil investigation - Phase 2		each	1	MEL	$100 000,00	$100 000	50%	$50 000	$50 000
CONTAMINATED SOIL REMOVAL									
Excavate, load, haul to biopile or: Excavate and transport to	landfarm	m3	700	SC4L	$9,30	$6 510	50%	$3 255	$3 255
Remediate on-site at biopile or: Manage hydrocarbon reme	landfarm	m3	5000	CSRL	$47,00	$235 000	50%	$117 500	$117 500
Remediate on-site at biopile or: Manage hydrocarbon remediation at facility (new landfarm area)	landfarm	m3	5000	CSRL	$47,00	$235 000	50%	$117 500	$117 500
Reagents/stabilizing agent		m2		#N/A	$0,00	$0	50%	$0	$0
Excavate and transport to offsite facility		m3	250		$1 000,00	$250 000	50%	$125 000	$125 000
Excavate and transport to offsite facility (new landfarm area)		m3	250		$1 000,00	$250 000	50%	$125 000	$125 000
Contour decontaminated area		m3		#N/A	$0,00	$0		$0	$0
CONTAMINATED SOIL VERY LOW PERMEABILITY COVER									
Supply geomembrame, HDPE, ES3, GCL		m2		#N/A	$0,00	$0		$0	$0
Upper and lower bedding layers		m3		#N/A	$0,00	$0		$0	$0
Install geomembrane, HDPE, ES3, GCL		m2		#N/A	$0,00	$0		$0	$0
Erosion protection layer		m3		#N/A	$0,00	$0		$0	$0
Vegetate		m2		#N/A	$0,00	$0		$0	$0
Install infiltration/seepage instrumentation		allow		#N/A	$0,00	$0		$0	$0
Other				#N/A	$0,00	$0		$0	$0
OTHER									
				#N/A	$0,00	$0		$0	$0
					Total	$2 359 406		$1 179 703	$1 179 703
					% of Total			50%	50%

2 **Building / Equip Name:** **Meliadine** **Bldg / Equip #:1**

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost	
DISPOSE MOBILE EQUIPMENT (surfa)										
Dispose and ship off-site		allow		#N/A	$0,00	$0		$0	$0	
Dispose on-site		allow		#N/A	$0,00	$0		$0	$0	
Decontaminate on-site	surface equipment only	hours	1739	mechl	$49,00	$85 211	50%	$42 606	$42 606	189 x 8 hours (15 % more for pit euip) =1512+ 227
REMOVE BUILDINGS - see note below										
Accomodation Complex	dorms, corridors, kitchen, laundry, dry, rec hall, ERT	m2	15915	BRS1L	$45,00	$716 175	50%	$358 088	$358 088	RECLAIM 2015
Main Building process plant	Assuming 5000 TPD plant	m2	148212	BRS1H	$65,00	$9 633 780	50%	$4 816 890	$4 816 890	RECLAIM 2015
Crusher and conveyor		m2	1524	BRS1L	$45,00	$68 564	50%	$34 282	$34 282	
Tire Shop		m2	134	BRS1L	$45,00	$6 038	50%	$3 019	$3 019	
Offices, Repair, Lab, Warehouse (MSB)	workers dry Offices, Multi Services Building	m2	21454	BRS1L	$45,00	$965 435	50%	$482 718	$482 718	
Storage Facilites		m2		BRS1L	$45,00	$0	50%	$0	$0	
Sewage water Treatment Facilities		m2	311	BRS1L	$45,00	$14 004	50%	$7 002	$7 002	6515-583-163-Fig-001-ACAD-Figure1.dwg
Effluent water treatment facilities		m2	1182	BRS1L	$45,00	$53 171	50%	$26 586	$26 586	
Saline water treatment facilities		m2	9767	BRS1L	$45,00	$439 514	50%	$219 757	$219 757	
Potable water treatment facilities		m2	54	BRS1L	$45,00	$2 435	50%	$1 217	$1 217	
Water and Wastewater Treatment Facilities - P	RO treatment plant, EWTP, SWTP, STP, WTP	each	5	SNC	$80 000,00	$400 000	50%	$200 000	$200 000	Based on pump removal Eleonore
U/G Heating Plant		m2		BRS1L	$45,00	$0	50%	$0	$0	
Emulsion Plant and garage		m2	851	BRS1L	$45,00	$38 301	50%	$19 151	$19 151	RECLAIM 2015
AN Storage Facility		m2		BRS1L	$45,00	$0	50%	$0	$0	
Storage Facility at Laydown/Airstrip		m2		BRS1L	$45,00	$0	50%	$0	$0	
Fuel tanks on-site		m2	3768	BRS1L	$45,00	$169 552	50%	$84 776	$84 776	RECLAIM 2015
Wash bay		m2	976	BRS1L	$45,00	$43 905	50%	$21 952	$21 952	
KCG Temp.		m2	1673	BRS1L	$45,00	$75 263	50%	$37 631	$37 631	
KCG Perm.		m2	2738	BRS1L	$45,00	$123 188	50%	$61 594	$61 594	
Break foundation slabs	ICRP 2019 +new buildings 2020 (25072+1795,22)	m2	26867	BRCS	$6,00	$161 203	50%	$80 602	$80 602	
Batch Plant		m2	3013	BRS1L	$45,00	$135 584	50%	$67 792	$67 792	
Power Plant		m2	9392	BRS1L	$45,00	$422 647	50%	$211 324	$211 324	RECLAIM 2015
Consolidate & dump boneyard debris		m3		BRS1L	$45,00	$0	50%	$0	$0	
Paste Plant		m2	3630	BRS1L	$45,00	$163 350	50%	$81 675	$81 675	RECLAIM 2015
Guard House	Gate Trailer House	m2	37	BRS1L	$45,00	$1 652	50%	$826	$826	RECLAIM 2015
Itivia Harbour - Saline Water Tank		m2		BRS1L	$45,00	$0	50%	$0	$0	
Itivia Floating Dock + Portable Crane		m2		BRS1L	$45,00	$0	50%	$0	$0	
Incinerator Building		m2	533	BRS1L	$45,00	$23 997	50%	$11 999	$11 999	RECLAIM 2015
Mine Surface General	existing and future office, megadome, explos. plant	m2		BRS1L	$45,00	$0	50%	$0	$0	RECLAIM 2015
Maintenance Shop	Mechanical shops and Megadome	m2	6285	BRS1L	$45,00	$282 814	50%	$141 407	$141 407	RECLAIM 2015 but set to High since it includes Oil Separation Treatment S
Exploration Camp	Existing does not include fuel storage area	m2	4257	BRS1L	$45,00	$191 565	50%	$95 783	$95 783	RECLAIM 2015
Assay Lab/Core shack		m2	5705	BRS1L	$45,00	$256 725	50%	$128 363	$128 363	
Raises Building/		m2	2156	BRS1L	$45,00	$97 033	50%	$48 516	$48 516	Surface_Master_updated 2019-09-08.dwg
Saline effluent Itivia		m		#N/A	$0,00	$0	50%	$0	$0	
Communication Tower		m2	247	BRS1L	$45,00	$11 136	50%	$5 568	$5 568	ICRP 2016 Amaruq
LANDFILL and landfarm										
Place rock cover/li	landfill 7750 m² (as-built), covered with 3.7 m WR	m3	28675	RR3L	$7,00	$200 725	50%	$100 363	$100 363	
Place rock cover landfarm		m3		#N/A	$0,00	$0		$0	$0	
Base, sides and cover of closure landfill		m3		RR3L	$7,00	$0		$0	$0	
GRADE AND CONTOUR PADS										
Accomodation Complex		m3	11671,00	AEM	$8,47	$98 853	50%	$49 427	$49 427	Building area with 10% contigency for pad larger than structure
Exploration Camp		m3	4682,70	AEM	$8,47	$39 662	50%	$19 831	$19 831	Building area with 10% contigency for pad larger than structure
Process Facilities		m3		AEM	$8,47	$0	50%	$0	$0	Building area with 10% contigency for pad larger than structure
Offices, Repair, Lab, Warehouse (MSB)		m3	4394,698	AEM	$8,47	$37 223	50%	$18 612	$18 612	Building area with 10% contigency for pad larger than structure
Water and Wastewater Treatment Facilities		m3	2771,32	AEM	$8,47	$23 473	50%	$11 737	$11 737	Building area with 10% contigency for pad larger than structure
U/G Heating Plant		m3		AEM	$8,47	$0	50%	$0	$0	
Emulsion Plant and Garage		m3	482,60	AEM	$8,47	$4 088	50%	$2 044	$2 044	Building area with 10% contigency for pad larger than structure
Main Building process plant		m3	13662,00	AEM	$8,47	$115 717	50%	$57 859	$57 859	Building area with 10% contigency for pad larger than structure
Wash bay		m3	357,74	AEM	$8,47	$3 030	50%	$1 515	$1 515	Building area with 10% contigency for pad larger than structure
KCG Temp. (foldway)		m3	613,25	AEM	$8,47	$5 194	50%	$2 597	$2 597	Building area with 10% contigency for pad larger than structure
KCG Perm.(Honco type)		m3	1003,75	AEM	$8,47	$8 502	50%	$4 251	$4 251	Building area with 10% contigency for pad larger than structure
Guard House		m3	40,392	AEM	$8,47	$342	50%	$171	$171	Building area with 10% contigency for pad larger than structure
Fuel tanks on-site		m3	888,13	AEM	$8,47	$7 522	50%	$3 761	$3 761	Building area with 10% contigency for pad larger than structure
Fuel Tanks Itivia		m3		AEM	$8,47	$0	50%	$0	$0	
Incinerator Building		m3	209,00	AEM	$8,47	$1 770	50%	$885	$885	Building area with 10% contigency for pad larger than structure
Paste Plant		m3	726,00	AEM	$8,47	$6 149	50%	$3 075	$3 075	Building area with 10% contigency for pad larger than structure
Power Plant		m3	2173,50	AEM	$8,47	$18 410	50%	$9 205	$9 205	Building area with 10% contigency for pad larger than structure
Assay Lab		m3		AEM	$8,47	$0	50%	$0	$0	Building area with 10% contigency for pad larger than structure
Maintenance Shop		m3	3606,90	AEM	$8,47	$30 550	50%	$15 275	$15 275	Building area with 10% contigency for pad larger than structure
Mine Surface General		m3		AEM	$8,47	$0	50%	$0	$0	Building area with 10% contigency for pad larger than structure
Communication Tower		m3	13,38	AEM	$8,47	$113	50%	$57	$57	Building area with 10% contigency for pad larger than structure
Core shack		m3	1925,00	AEM	$8,47	$16 305	50%	$8 152	$8 152	Building area with 10% contigency for pad larger than structure
Crusher and conveyor		m3	1676,02	AEM	$8,47	$14 196	50%	$7 098	$7 098	Building area with 10% contigency for pad larger than structure
Raises Building/		m3	847,11	AEM	$8,47	$7 175	50%	$3 588	$3 588	Building area with 10% contigency for pad larger than structure
Batch Plant		m3	1215,50	AEM	$8,47	$10 295	50%	$5 148	$5 148	Building area with 10% contigency for pad larger than structure
Tire Shop		m3	77,00	AEM	$8,47	$652	50%	$326	$326	Building area with 10% contigency for pad larger than structure
Ore Pad +extension	Ore pad footprint based on GA (2019+extension) 10.3 ha +5.6 ha	m3	159000,00	AEM	$8,47	$1 346 730	50%	$673 365	$673 365	
Storage Facilites	Containers area	m3	51562	AEM	$8,47	$436 730	50%	$218 365	$218 365	6515-583-163-Fig-001-ACAD-Figure1.dwg
Pad Container 1	11631 m2	m3	11631,00	AEM	$8,47	$98 515	50%	$49 257	$49 257	
Pad Container 2	10236 m2	m3	10236,00	AEM	$8,47	$86 699	50%	$43 349	$43 349	
Warehouse pad	28866 m2	m3	28866,00	AEM	$8,47	$244 495	50%	$122 248	$122 248	
Garage Area	22955 m2	m3	22955,00	AEM	$8,47	$194 429	50%	$97 214	$97 214	
Mobil crusher staging area	26514 m2	m3	26514,00	AEM	$8,47	$224 574	50%	$112 287	$112 287	
Waste staging area	12180 m2	m3	12180,00	AEM	$8,47	$103 165	50%	$51 582	$51 582	
Ore staging area	12640 m2	m3	12640,00	AEM	$8,47	$107 061	50%	$53 530	$53 530	
PUNCTURE LINED SUMPS										
Puncture liner and place soil cover		m3		#N/A	$0,00	$0		$0	$0	
RECLAIM ROADS										
Remove culverts	16 based on Water Management Plan	each	16	MBK	$4 000,00	$64 000	50%	$32 000	$32 000	Unit cost from ICRP 2018 MBK
Remove bridges		each		#N/A	$0,00	$0	50%	$0	$0	
Scarify and install water breaks	About 15 km road on site, mean width about 12 m	ha	18	SCFYL	$4 300,00	$77 400	50%	$38 700	$38 700	Surface_Master_updated 2019-09-08.dwg
Scarify airstrip		ha		#N/A	$0,00	$0		$0	$0	
Scarify laydown areas		ha		#N/A	$0,00	$0		$0	$0	
Vegetate		ha		#N/A	$0,00	$0		$0	$0	
Scarify road to Discovery	15.8 km, width about 17 m	ha	26,86	SCFYL	$4 300,00	$115 498	50%	$57 749	$57 749	LOM_V12_wsf3_extension_V4-TIRI PC Plan.dwg/201-00413-01_Meliadine_6534-100-210-200.pdf
Scarify pad	Discovery pad	ha	1	SCFYL	$4 300,00	$4 300	50%	$2 150	$2 150	
Remove culverts road to Discovery	4 crossing water* 4 culverts	each	16	MBK	$4 000,00	$64 000	50%	$32 000	$32 000	
Scarify road to NORMEG	1,503 km width about 17 m	ha	2,5551	SCFYL	$4 300,00	$10 987	50%	$5 493	$5 493	
Scarify road to WESTMEG 01	386 m width about 17 m	ha	0,6562	SCFYL	$4 300,00	$2 822	50%	$1 411	$1 411	
Scarify road to PUMP01	4,042 km width about 17 m	ha	6,8714	SCFYL	$4 300,00	$29 547	50%	$14 774	$14 774	
Scarify road to FZONE01	1,892 km width about 17 m	ha	3,2164	SCFYL	$4 300,00	$13 831	50%	$6 915	$6 915	
Scarify road from FZONE01 toDiscovery road	1.432 km width about 17 m	ha	2,4344	SCFYL	$4 300,00	$10 468	50%	$5 234	$5 234	
Boat launch	along the Discovery road	each	1	AEM	$2 000,00	$2 000	50%	$1,000	$1,000	
Other				#N/A	$0,00	$0		$0	$0	
SPECIALIZED ITEMS										
Dispose of misc. debris and laydown area refuse				#N/A	$0,00	$0		$0	$0	
					Total	$18 467 437		$9 233 718	$9 233 718	
					% of Total			50%	50%	

Note: Unit costs are based on 3m high, single storey building. Scale larger building areas accordingly. E.g. (H m /3) * Foot print m2

Building / Equip Name: **ITIVIA + Road** **Bldg / Equip #:AWAR / ITIVIA**

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
DISPOSE MOBILE EQUIPMENT									
Dispose and ship off-site		allow		#N/A	$0,00	$0		$0	$0
Dispose on-site		allow		#N/A	$0,00	$0		$0	$0
Decontaminate on-site		manhours		#N/A	$0,00	$0		$0	$0
REMOVE BUILDINGS - see note below									
Accomodation Complex	dorms, corridors, kitchen, laundry, dry, rec hall, ERT	m2		BRS1H	$65,00	$0		$0	$0
Process Facilities		m2		BRS1H	$65,00	$0		$0	$0
Offices, Repair, Lab, Warehouse		m2		BRS1H	$65,00	$0		$0	$0
Storage Facilites		m2		BRS1H	$65,00	$0		$0	$0
Water and Wastewater Treatment Facilities	RO treatment plant, EWTP, SWTP, STP, WTP	m2		BRS1H	$65,00	$0		$0	$0
Water and Wastewater Treatment Facilities - Pumping systems		m3		#N/A	$0,00	$0		$0	$0
U/G Heating Plant		m2		BRS1H	$65,00	$0		$0	$0
Emulsion Plant		m2		BRS1H	$65,00	$0		$0	$0
AN Storage Facility		m2		BRS1H	$65,00	$0		$0	$0
Warehouse, Shops and Other		m2		BRS1H	$65,00	$0		$0	$0
Storage Facility at Laydown/Airstrip		m2		BRS1H	$65,00	$0		$0	$0
Fuel tanks on-site		m2		BRS1H	$65,00	$0		$0	$0
Fuel Tanks Itivia	3 tanks - 20ML and 13.5ML and 4ML	m2	4918	BRS1L	$45,00	$221 310	50%	$110 655	$110 655
Reclaim pumps		m2		BRS1H	$65,00	$0		$0	$0
Outfall & Diffuser		m2		BRS1H	$65,00	$0		$0	$0
Airstrip lighting, navigation, electrician		mandays		BRS1H	$65,00	$0		$0	$0
Airstrip lighting, navigation, mechanical		mandays		BRS1H	$65,00	$0		$0	$0
Break foundation slabs	about 1m below ground surface	m2	4918	BRCS	$6,00	$29 508	50%	$14 754	$14 754
Power Plant		m2		BRS1H	$65,00	$0		$0	$0
Guard House	Gate Trailer House	m2		BRS1H	$65,00	$0		$0	$0
Itivia Harbour - Saline Water Tank	salt water tank 15ML	m2	23,4	BRS1L	$45,00	$1 053	50%	$527	$527
Itivia Floating Dock + Portable Crane	Lump sum for reclamation	each	1	SNC	$50 000,00	$50 000		$0	$50 000
Incinerator Building		m2		BRS1H	$65,00	$0		$0	$0
Mine Surface General	existing and future office, megadome, explos. plant	m2		BRS1H	$65,00	$0		$0	$0
Maintenance Shop	Including Oil Separation Treatment System	m2		BRS1H	$65,00	$0		$0	$0
Exploration Camp	Existing does not include fuel storage area	m2		BRS1H	$65,00	$0		$0	$0
Assay Lab		m2		BRS1H	$65,00	$0		$0	$0
Raises Building		m2		BRS1H	$65,00	$0		$0	$0
Communication tower				#N/A	$0,00	$0		$0	$0
LANDFILL FOR DEMOLITION WASTE									
Place rock cover	WR over operation landfill	m3		#N/A	$0,00	$0		$0	$0
Place soil cover	Soil Cap - Landfill and Septic Field	m3		#N/A	$0,00	$0		$0	$0
Base, sides and cover of closure landfill		ha		#N/A	$0,00	$0		$0	$0
GRADE AND CONTOUR PADS									
Accomodation Complex		ha		#N/A	$0,00	$0		$0	$0
Exploration Camp									
Process Facilities		ha		#N/A	$0,00	$0		$0	$0
Offices, Repair, Lab, Warehouse		ha		#N/A	$0,00	$0		$0	$0
Storage Facilites	Laydown areas and material storage area	m3	66800	AEM	$8,47	$565 796	50%	$282 898	$282 898
Water and Wastewater Treatment Facilities		ha		#N/A	$0,00	$0		$0	$0
U/G Heating Plant		ha		#N/A	$0,00	$0		$0	$0
Emulsion Plant		ha		#N/A	$0,00	$0		$0	$0
Main Building process plant		ha		#N/A	$0,00	$0		$0	$0
Place rock cover		ha		#N/A	$0,00	$0		$0	$0
Vegetate		ha		#N/A	$0,00	$0		$0	$0
Itivia Harbour - Saline Water Tank		m2	23,4	AEM	$8,47	$198	50%	$99	$99
Guard House		ha		#N/A	$0,00	$0		$0	$0
Fuel tanks on-site		ha		#N/A	$0,00	$0		$0	$0
Fuel Tanks Itivia	Tank farm	m³	16350,00	AEM	$8,47	$138 485	50%	$69 242	$69 242
Laydown area - Itivia Diffuser	Waterline Diffuser	ha	1	SCFYL	$4 300,00	$4 300	50%	$2 150	$2 150
Paste Plant		ha		#N/A	$0,00	$0		$0	$0
Power Plant		ha		#N/A	$0,00	$0		$0	$0
Assay Lab		ha		#N/A	$0,00	$0		$0	$0
Maintenance Shop		ha		#N/A	$0,00	$0		$0	$0
Mine Surface General		ha		#N/A	$0,00	$0		$0	$0
PUNCTURE LINED SUMPS									
Puncture liner and place soil cover		m3		#N/A	$0,00	$0		$0	$0
RECLAIM QUARRIES									
Drill and blast slopes to 1:1	18 quarries and borrow pits, including 3 from site	m3	14319	RB3H	$17,80	$254 878	50%	$127 439	$127 439
RECLAIM ROADS									
Remove culverts	8 x AWAR, 19 x Bypass	each	27	MBK	$4 000,00	$108 000	50%	$54 000	$54 000
Remove bridges	Meliadine river bridge and M5 bridge	each	2	MBK	$25 000,00	$50 000	50%	$25 000	$25 000
Scarify and install water breaks	23.8 km AWAR, 6.2 km Bypass, 6.5m width	ha	19,5	SCFYL	$4 300,00	$83 850	50%	$41 925	$41 925
Scarify airstrip		ha		#N/A	$0,00	$0		$0	$0
Scarify laydown areas		ha		#N/A	$0,00	$0		$0	$0
Vegetate		ha		#N/A	$0,00	$0		$0	$0
Other				#N/A	$0,00	$0		$0	$0
Dispose of misc. debris and laydown area refuse				#N/A	$0,00	$0		$0	$0
					Total	$1 507 378		$728 689	$778 689
					% of Total			48%	52%

1 **Capital Expenditures and Short Term Water Treatment identified in 'Instructions' worksheet**

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	Cost
BREACH DYKE EMBANKMENT						
Excavate breaches	D-CP1, D-CP5, D-CP6,	m3	2407,2	SB1H	$5,90	$14 202
Backfill pond	CP7 - backfill	M3	188400	SB3L	$5,10	$960 840
Contour water intake area		m3		#N/A	$0,00	$0
STABILIZE SEDIMENT PONDS/WATER MANAGEMENT PONDS						
Place soil cover		m3		#N/A	$0,00	$0
Doze & spread excavated material		m3		#N/A	$0,00	$0
Vegetate spread material		ha		#N/A	$0,00	$0
Rip rap in channel base		each		#N/A	$0,00	$0
Saline Ponds	berm of SP1 and berm of SP3	m3	6030	SB1L	$4,30	$25 929
P-area	Water Licence B			#N/A	$0,00	$0
REDIRECT RUNOFF/CONSTRUCT DIVERSION DITCHES						
Excavate ditches -soil		m3		#N/A	$0,00	$0
Excavate ditches -rock		m3		#N/A	$0,00	$0
Stabilize side slopes		m3		#N/A	$0,00	$0
Rip rap in channel base		m3		#N/A	$0,00	$0
BREACH DITCHES						
Excavate Diversion Berms	Remove completely Berm 1 and 3	m3	13017	SB1L	$4,30	$55 973
Removal berms of containment pond	Berm-CP3, Berm-CP4 and Berm CP7	m3	147380	SB1L	$4,30	$633 734
Backfill & contour channels	8 Diversion Channels, 2 Channels WRSF-3 (T-Channel 1 and 2)	m3	37781	SB3L	$5,10	$192 683
Install flow dissipation		m3		#N/A	$0,00	$0
Vegetate remainder of ditch		m2		#N/A	$0,00	$0
DECOMISSION FRESH WATER SUPPLY						
Breach embankment		m		#N/A	$0,00	$0
Remove pump	Infras CP1-CP5-CP6-CP7	each	4	SNC	$80 000,00	$320 000
Remove pipeline - Diffuser Meliadine Lake		m	390	PLRL	$22,00	$8 580
Effluent diffuser Meliadine Lake		each	1	MBK	$3 000,00	$3 000
Freshwater intake	remove pump	each	1	MBK	$3 000,00	$3 000
Remove pipeline - Saline effluent		m	778	PLRL	$22,00	$17 116
Saline water effluent (Itivia)		each	1	MBK	$3 000,00	$3 000
WATER CONTROL IN RECLAMATION QUARRY						
Install pumping system		LS		#N/A	$0,00	$0
Remove pumping system		LS		#N/A	$0,00	$0
REMOVE PIPELINES						
Remove piping on site	18,5 km length	m	18500	PLRL	$22,00	$407 000
Concrete plug deep pipes		m3		#N/A	$0,00	$0
Remove saline pipeline	(34 km+7km) *2	m	82000	PLRL	$22,00	$1 804 000
Diffuser						
New diffuser	25 M	each	1	MBK	$6 000,00	$6 000
Diffuser pipe	Outfall pipe	m	75	PLRH	$72,00	$5 400
GROUNDWATER COLLECTION SYSTEM						
Excavate/install sumps		m3		#N/A	$0,00	$0
Install pumping wells		m3		#N/A	$0,00	$0
Install pumps/pipelines/power supply		LS		#N/A	$0,00	$0
CONSTRUCT CONTAMINATED WATER STORAGE POND						
Excavate pond		m3		#N/A	$0,00	$0
Doze & spread excavated material		m3		#N/A	$0,00	$0
Vegetate spread material		ha		#N/A	$0,00	$0
Bedding layer		m3		#N/A	$0,00	$0
Supply geomembrane		m2		#N/A	$0,00	$0
Install geomembrane		m2		#N/A	$0,00	$0
Erosion protection layer		m3		#N/A	$0,00	$0
CONSTRUCT PASSIVE TREATMENT SYSTEM (e.g. Constructed Wetland)						
Construct access roads		km		#N/A	$0,00	$0
Install HDPE piping system from collection pond		m		#N/A	$0,00	$0
Inter-cell flow structures		allow		#N/A	$0,00	$0
Install liners		m2		#N/A	$0,00	$0
Install growth media		m3		#N/A	$0,00	$0
Wetland vegetation		ha		#N/A	$0,00	$0
CONSTRUCT WATER TREATMENT PLANT						
Build treatment plant		LS		#N/A	$0,00	$0
Build sludge containment facility		LS		#N/A	$0,00	$0
SHORT TERM WATER TREATMENT*						
Annual water treatment cost, from "Water Treatment"						$0
					Total	$4 460 458

*Note: include water treatment cost from "Water Treatment" worksheet if treatment is considered short term and is not included in a particular component worksheet.

1 **Long-Term / Post-Closure Water Treatment**

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	Cost
ADDITION OF REAGENTS						
H2O2		kg		#N/A	$0,00	$0
lime		kg		#N/A	$0,00	$0
ferric sulphate		kg		#N/A	$0,00	$0
ferrous sulphate		kg		#N/A	$0,00	$0
flocculents		kg		#N/A	$0,00	$0
Other				#N/A	$0,00	$0
LABOUR AND SUPPLIES						
Annual fuel		litres		#N/A	$0,00	$0
Annual power		kW-h		#N/A	$0,00	$0
Electrician/mechanic to maintain treatment plant		allow		#N/A	$0,00	$0
Equipment maintenance and parts		allow		#N/A	$0,00	$0
Misc. supplies, hoses, tools		allow		#N/A	$0,00	$0
Communications		allow		#N/A	$0,00	$0
Other				#N/A	$0,00	$0
WATER MANAGEMENT						
Water Treatment (reagents, equip.)	CP1 volume at max water elev (normal condition)	m3	742075	AEM	$0,75	$556 556
Skilled laborer	1 labor x 12hr/day x 6 months/yr	manhou	2160	OPER-WT	$41,00	$88 560
Annual Treatment Plant Servicing	2 consultants x 7days/year	manhou	168	MBK	$120,00	$20 160
Treatment Plant Servicing Travel Allowance	Round trip flight/person	visits	2	MBK	$4 000,00	$8 000
Camps Accomodations	30 days x 6 months + 7 days x 2 consultants	days	194	ACCML	$100,00	$19 400
WATER SAMPLING AND ANALYSES						
Sampling equipment		allow		#N/A	$0,00	$0
Analyses		allow		#N/A	$0,00	$0
Shipping to laboratory		allow		#N/A	$0,00	$0
Reporting		allow		#N/A	$0,00	$0
Other				#N/A	$0,00	$0
SITE ACCESS						
Road maintenance (incl. snow removal)		allow		#N/A	$0,00	$0
Winter road tariff		allow		#N/A	$0,00	$0
Truck rental		allow		#N/A	$0,00	$0
Air support		allow		#N/A	$0,00	$0
					Annual water treatment costs	$692 676
Number of years of water treatment		years	3			
					Total	$2 078 029

Note: Short term water treattment is intended to be included in "Water Management", whereas long term, or post-closure, water treatment is included in "Post-Closure Monitoring and Maintenance"

1 **Closure Monitoring & Maintenance:**

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	Cost
MONITORING & INSPECTIONS Active Closure						
Annual geotechnical inspection	1 eng, trans, rep, 5 days $150 h, accom	each	1	AEM	$16 000,00	$16 000
Annual Surface water sampling	Estimated cost from AEM	each	1	WSH	$42 997,00	$42 997
Groundwater sampling	AEM sampling cost list	each		WSH	$0,00	$0
Receiving/downstream water sampling		each		WSH	$0,00	$0
Monitoring program (Meliadine and AWAR)	AEM sampling cost list	each	1	AEM	$955 000,00	$955 000
Underground water		each	1	SNC	$0,00	$0
Regulatory costs*		each		#N/A	$0,00	$0
Site water monitoring (AEMP and SNP)		each		#N/A	$0,00	$0
- Active closure and flooding		each		#N/A	$0,00	$0
- Post pit flooding		each		#N/A	$0,00	$0
Air Quality Monitoring Program (AQMP)		each		#N/A	$0,00	$0
Wildlife Effects Monitoring Program (WEMP)		each		#N/A	$0,00	$0
Vegetation Monitoring		each	1	#N/A	$0,00	$0
Other				#N/A	$0,00	$0
COVER MAINTENANCE						
Repair erosion - infill gullies		allow		#N/A	$0,00	$0
Repair erosion - upgrade diversion ditches		allow		#N/A	$0,00	$0
Remove problem vegetation		allow		#N/A	$0,00	$0
Repair animal damage		allow		#N/A	$0,00	$0
Repair/upgrade access controls		allow		#N/A	$0,00	$0
Other				#N/A	$0,00	$0
SPILLWAY MAINTENANCE						
Repair erosion		m3		#N/A	$0,00	$0
Clear spillway		each		#N/A	$0,00	$0
CWTS MAINTENANCE						
Maintain flow, restore vegetation		allow		#N/A	$0,00	$0
MAINTENANCE AND SURVEILLANCE						
Site care-taker	bi-weekly visits, 2 care-takers, 12hr/day, 5 months per year	ınhours	480	OPERH	$65,00	$31 200
Site vehicule and equipment		allow	1	AEM	$20 000,00	$20 000
Accomodation and site maintenance		mandays/ALLOWS	40	ACCMh	$175,00	$7 000
Subtotal, Annual post-closure costs						$1 072 197
Discount rate for calculation of net present value of post-closure cost, %				3,00%		
Number of years of post-closure activity				3	years	
Present Value of payment stream						$3 032 829

*Regulatory costs - annual reporting, management plans, progress reports etc.
Include water treatment cost from "Water Treatment" worksheet if treatment is considered long term, such as ARD/ML.

POST Closure Monitoring & Maintenance:

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost	Unit Cost	Cost
MONITORING & INSPECTIONS						
Annual geotechnical inspection	1 eng, trans, rep, 5 days $150 h, accom	each	1	AEM	$16 000,00	$16 000
Annual Surface water sampling	Estimated cost from AEM	each	1	WSH	$42 927,00	$42 927
Groundwater sampling	AEM sampling cost list	each		WSH	$0,00	$0
Receiving/downstream water sampling		each		WSH	$0,00	$0
Monitoring program (Meliadine and AWAR)	AEM sampling cost list	each	1	AEM	$477 500,00	$477 500
Survey inspection		each		#N/A	$0,00	$0
Regulatory costs*		each		#N/A	$0,00	$0
Site water monitoring (AEMP and SNP)		each		#N/A	$0,00	$0
- Active closure and flooding		each		#N/A	$0,00	$0
- Post pit flooding		each		#N/A	$0,00	$0
Air Quality Monitoring Program (AQMP)		each		#N/A	$0,00	$0
Wildlife Effects Monitoring Program (WEMP)		each		#N/A	$0,00	$0
Vegetation Monitoring		each		#N/A	$0,00	$0
Other				#N/A	$0,00	$0
COVER MAINTENANCE						
Repair erosion - infill gullies		allow		#N/A	$0,00	$0
Repair erosion - upgrade diversion ditches		allow		#N/A	$0,00	$0
Remove problem vegetation		allow		#N/A	$0,00	$0
Repair animal damage		allow		#N/A	$0,00	$0
Repair/upgrade access controls		allow		#N/A	$0,00	$0
Other				#N/A	$0,00	$0
SPILLWAY MAINTENANCE						
Repair erosion		m3		#N/A	$0,00	$0
Clear spillway		each		#N/A	$0,00	$0
CWTS MAINTENANCE						
Maintain flow, restore vegetation		allow		#N/A	$0,00	$0
MAINTENANCE AND SURVEILLANCE						
Site care-taker	bi-weekly visits, 2 care-takers, 12hr/day, 5 months per year	ınhours	480	OPERH	$65,00	$31 200
Site vehicule and equipment		allow	1	AEM	$20 000,00	$20 000
Accomodation and site maintenance		mandays/ALLOWS	40	ACCMh	$175,00	$7 000
Subtotal, Annual post-closure costs						$594 627
Discount rate for calculation of net present value of post-closure cost, %				3,00%		
Number of years of post-closure activity				7	years	
Present Value of payment stream						$3 704 694
Total closure and post closure				10	years	$6 737 523

*Regulatory costs - annual reporting, management plans, progress reports etc.
Include water treatment cost from "Water Treatment" worksheet if treatment is considered long term, such as ARD/ML.

1 **Interim Care and Maintenance**

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	Cost
INTERIM CARE & MAINTENANCE						
on-site caretaker		manmonths		#N/A	0	$0
extra personnel		manmonths		#N/A	0	$0
-electrician		manmonths		#N/A	0	$0
-mechanic		manmonths		#N/A	0	$0
annual fuel		litre		#N/A	0	$0
misc. supplies		allow		#N/A	0	$0
pick-up truck		each		#N/A	0	$0
small dozer		allow		#N/A	0	$0
small excavator		allow		#N/A	0	$0
snow machine		allow		#N/A	0	$0
communications		allow		#N/A	0	$0
SNP/AEMP water sampling & reporting		each		#N/A	0	$0
geotechnical assessment		each		#N/A	0	$0
interim water treatment				#N/A		$692 676
Maintenance, surveillance, monitoring and inspection-Active closure		each	1	#N/A		$1 072 197
				Annual	Interim C&M Cost	$1 764 873
Number of years of ICM		years	3		**Total**	5 294 619,75 $

1 **Mobilization/Demobilization:**

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	Cost
MOBILIZE HEAVY EQUIPMENT						
Excavators		each		#N/A	0	$0
Barge to/from Rankin Inlet		each	3	AEM	1000000	$3 000 000
Dump trucks		each		#N/A	0	$0
Dozers		each		#N/A	0	$0
Demolition shears		each	1	#N/A	1000000	$1 000 000
Crane		each		#N/A	0	$0
Loader		each		#N/A	0	$0
Compactor		each		#N/A	0	$0
Light duty vehicles		each		#N/A	0	$0
MOBILIZE MISC. EQUIPMENT						
Pump shipping		each		#N/A	0	$0
Pipe shipping		m		#N/A	0	$0
Minor tools and equipment		allow		#N/A	0	$0
Truck tires		allow		#N/A	0	$0
Other				#N/A	0	$0
MOBILIZE CAMP						
Reclamation activities		allow		#N/A	0	$0
Long term reclamation activities (eg pump flooding)		allow		#N/A	0	$0
MOBILIZE WORKERS						
Reclamation activities - transport	26 workers, 4 trips/yr, 3 yr	each	312	AEM	1386	$432 432
Reclamation activities - travel time	26 workers, 4 trips/yr, 6h/trip, 3 yr	hour	1872	lab-usl	31	$58 032
Long term reclamation activities (eg pump flooding) - transport		each		#N/A	0	$0
Long term reclamation activities (eg pump flooding) - travel time		each		#N/A	0	$0
Monitoring Airfare		each		#N/A	0	$0
Rotations over reclamation period		manhours		#N/A	0	$0
Crew Rotations		each		#N/A	0	$0
WORKER ACCOMODATIONS						
Reclamation activities	Maintain camp for 26 workers, 180 days/yr, 3yr	andays	14040	ACCML	100	$1 404 000
Long term reclamation activities (eg pump flooding)		manmonths		#N/A	0	$0
MOBILIZE FUEL						
Fuel freight - reclamation activities		litre		#N/A	0	$0
Fuel freight - long term reclamation activities		litre		#N/A	0	$0
Fuel freight accomodations		litre		#N/A	0	$0
WINTER ROAD						
Construction and operation		km		#N/A	0	$0
Limited winter use		km		#N/A	0	$0
Winter road tarriff		km		#N/A	0	$0
DEMOBILIZE HEAVY EQUIPMENT						
Excavators		km		#N/A	0	$0
Mobile equipment		km	12235	MHERH	10,25	$125 409
Dump trucks		km		#N/A	0	$0
Seacans	Estimated 6000 to be the maximal capacity on site, 50 % of which remains at the site for closure	km	90000	MHERH	10,25	$922 500
Dozers		km		#N/A	0	$0
Demolition shears		km	30	MHERH	10,25	$308
Crane		km		#N/A	0	$0
Loader		km		#N/A	0	$0
Compactor		each		#N/A	0	$0
Light duty vehicles		km		#N/A	0	$0
Other		km		#N/A	0	$0
DEMOBILIZE CAMP						
		allow		#N/A	0	$0
DEMOBILIZE WORKERS						
crew travel time		mandays		#N/A	0	$0
crew transportation		each		#N/A	0	$0
WINTER ROAD						
Construction and operation		km		#N/A	0	$0
Limited winter use		km		#N/A	0	$0
Winter road tarriff		km		#N/A	0	$0
					Total	**$6 942 680**

Unit Cost Table (for refining unit costs see "Estimator" worksheet)

Filter by unit

ITEM	Detail	COST CODE	UNITS	LOW $	HIGH $	SPECIFIED $	COMMENTS
Accomodation							
		ACCM	manday	100,00	175,00		
Buildings - Decontaminate							
	Asbestos	BDA	m2	25,60	51,20		Low: removal of asbestos siding & flooring; High: removal of insulated pipes, friable asbestos
Buildings - Remove							Unit costs are based on 3m high, single storey building. Scale areas accordingly.
	Wood	BRW	m2	27,50	41,00		
	Concrete	BRC	m2	40,00	65,00	6,00	Specified: puncture concrete foundation slabs
	Steel - teardown	BRS1	m2	45,00	65,00		demolition steel
	Steel - for salvage	BRS2	m2	67,00	100,00		steel for the south
Concrete work							
	Small pour	CSF	m3	426,50	639,75		Low: YK; High=1.5xLow
	Large pour	CLF	m3	353,50	530,25	2 130,00	Specified: concrete crown pillar
Contaminated Soils							
	ESA Phase 1	CS1	each	7500,00			Low: small, "clean" site
	ESA Phase 1	CS2	each	50000,00			Low: small, "clean" site
	Remediate on site	CSR	m3	47,00	146,00		
Dozing							
	doze rock piles	DR	m3	1,05	2,40		Low cost: doze crest off dump
	doze overburden/soil piles	DS	m3	0,95	3,80		High cost: push up to 300 m
Excavate Rock; Low Spec's and QA/QC							
	drill/blast/load/short haul	RB1	m3	11,40	17,05		Low:quarry operations for bulk fill
	drill/blast/load/long haul	RB2	m3	12,05	17,80		
	RB1 + spread and compact	RB3	m3	12,05	17,80		
	RB2 + spread and compact	RB4	m3	12,50	30,75		
	Specified activity	RBS	m3				
Excavate Rock; High Spec's and QA/QC							(e.g. ditch/spillway excavation)
	drill/blast/load/short haul	RC1	m3	12,05	17,80		Low:foundation excavation;High:spillway excavation
	drill/blast/load/long haul	RC2	m3	12,70	18,40		
	RC1 + spread and compact	RC3	m3	12,70	18,40		e,g, cover construction
	RC2 + spread and compact	RC4	m3	13,50	19,20		e,g, cover construction
	Specified activity	RCS	m3			175,00	Specified-drift excavation
Excavate Rip Rap							
	drill/blast/load/short haul/place	RR1	m3	13,50	17,75		High: quarry & place rip rap in channel
	drill/blast/load/long haul/place	RR2	m3	14,20	20,65		
	source is waste dump/short haul	RR3	m3	7,00			cost includes sorting
	source is waste dump/long haul	RR4	m3	7,60			
	Specified activity	RRS	m3				
Excavate Soil; Low Spec's and QA/QC							
	clear & grub	SBC	m2	3,40	5,00		
	excavate/load/short haul	SB1	m3	4,30	5,90		
	excavate/load/long haul	SB2	m3	4,60	7,30		
	SB1 + spread and compact	SB3	m3	5,10	8,90		Low: non-engineered; High:engineered
	SB2 + spread and compact	SB4	m3	5,50	11,00		Low: non-engineered; High:engineered
	Specified activity	SBS	m3	3,20	6,30		Low: rehandle waste rock dump by dozing; High:rehandle waste rock by hauling
	Tailings	SBT	m3	1,35	3,70	15,50	High:contour surface - wet or frozen; Specified:haul/place wet infill
Excavate Soil, High Spec's and QA/QC							
	excavate/load/short haul	SC1	m3	6,80	9,30		
	excavate/load/long haul	SC2	m3	7,10	11,75		
	SC1 + spread and compact	SC3	m3	8,90	14,20		Low: non-engineered; High:engineered
	SC2 + spread and compact	SC4	m3	9,30	23,20		Low: non-engineered; High:engineered (e.g. complex covers, low volume dam construction)
	Specified activity	SCS	m3			18,80	Backfill adit with waste rock
Fence							
		FNC	m	13,55	203,00		
Fuel and Electricity							
	Fuel cost - gas	FCG	litre	1,05	1,40		
	Fuel cost - diesel	FCD	litre	0,99	1,39		
	Fuel mobilization	FCM	litre	0,22	0,42		High: winter road usage
	Electricity	FCE	kW-h	0,17	0,19	0,49	Low and High:Yellowknife; Specified:diesel generator
Geo-Synthetics							
	geotextile	GST	m2	3,44			Supply and install
	geogrid	GSG	m2	5,75			
	liner, HDPE	GSHDPE	m2	7,95			Supply and install; large quantity
	liner, ES3	GSES3	m2	20,20			FOB Yellowknife
	geosynthetic installation	GSI	m2	3,16	14,00		Low:geotextile; High:ES3 or HDPE
	bentonite soil ammendment	GSBA	tonne	308,30	348,50		FOB Edmonton, add shipping & mixing
Grouting (/m3 of rock grouted)							
		grout	m3	236,55	286,75		High: cement, FOB Yellowknife
Labour & Equipment Rates							
	Site manager	sman	$/hr	125,00	152,00		
	Supervisor	super	$/hr	52,00	91,84		
	Registered engineer	eng	$/hr	95,00	220,00		
	Environmental coordinator	envco	$/hr	74,16	130,00		
	Evironmental technologist	envtech	$/hr	36,00			
	Electrician	elec	$/hr	74,00	95,00		
	Journeyman - various	journey	$/hr	44,00	71,79		
	Labour - skilled	lab-s	$/hr	41,00	49,60		
	Labour - unskilled	lab-us	$/hr	31,00	43,98		
	Equipment operator	oper	$/hr	41,00	65,00		
	Heavy duty mechanic	mech	$/hr	49,00	72,85		
	Water treatment plant operator	oper-wt	$/hr	41,00	59,86		
	Security / first aid	safety	$/hr	36,00	66,97		
	Administative staff	admin	$/hr	38,00	57,89		
	Equipment rates include operator and fuel						
	Loader - 4 cu.yd (3.06m3)	load-s	$/hr	175,00			

Unit Cost Table (for refining unit costs see "Estimator" worksheet)

	Filter by unit					
Loader - 7 cu.yd (5.35m3)	load-l	$/hr	315,00			
Excavator - 26.76-30.84 tonnes	exc-s	$/hr	190,00			
Excavator - 68.95+tonnes	exc-l	$/hr	420,00			
Grader	grad	$/hr	190,00			
Dump truck off hwy 30-50 tonnes	truck-s	$/hr	225,00			
Dump truck off hwy 55-75 tonnes	truck-l	$/hr	300,00			
dozer, small	dozers	$/hr	205,00	260,00		
dozer, large	dozerl	$/hr	490,00	565,00		
smooth drum compactor	comp	$/hr	155,00			
scooptram, 6 yd3 bucket	scoop	$/hr	170,00			
flat bed truck with hiab	hiab	$/hr	155,00			
fuel truck	ftruck	$/hr	150,00			
water truck	wtruck	$/hr	58,00	150,00		
Mobilize Heavy Equipment						
Road access	MHER	kmtonne	3,40	10,25		
Air access	MHEA	kmtonne	12,00			cargo rate>500lb
Mobilize Camp						
Road access	MCR	each	50000,00			refurbish existing camp
Mobilize Workers						
flight	MW	each	4500,00	9100,00		Low:e.g. 8 passenger; High: Dash 7
Oil Removal						
oil removal	OR	litre	0,43	1,20		Low:waste oil heater; High: ship offsite
PCB Removal						
Remove from site	PCBR	litre	40,20	46,90		Low: shipping, handling & disposal from Yellowknife
Pipes, small (<6in dia.)						
remove/dispose on site	PSR	m	1,00	24,00		Low: remove/dispose on site; High: remove/re-use
supply	PSS	m	6,10	11,10		Low:supply; High:supply and ship
install	PSI	m	25,00			
Pipes, large (>6in dia.)						
remove/dispose on site	PLR	m	22,00	72,00		Low: remove/dispose on site; High: remove/re-use
supply	PLS	m	129,00	143,00		Low:supply; High:supply and ship
install	PLI	m	50,00			
Power Lines						
remove/dispose on site	POWR	m	25,50			
Process Chemicals						
Remove from site	PCR	kg	0,45	2,50		Low: shipping, handling & disposal from Yellowknife
Pumps						
Pump capital cost	PC	each	195000,00			
Pump shipping	PS	each	2500,00			
Pump operating cost	POC	m3	0,12			pump operating costs should be calculated based on pump capacity, fuel costs, etc.
Pump maintenance	PM	allow	25000,00			
Pump sand BackFill						
	PBF	m3	85,00	300,00		
Scarify - road/mine site						
	SCFY	ha	4300	6030	2150	
Shaft, Raise & Portal Closures						
Shaft & Raises	SR	m2	645,00	2132,00		Low:pre-cast concrete slabs, little site prep. Area=shaft+>1m all around
Portals	POR	m3	18,80	250,00	1200,00	Low:unit cost code SCS;High:excavate & backfill collapsed portal;Spec: installed pressure plug
Site Inspection Report						
	RPT	each	10000,00	20000,00		
SpillWay - Clear						
	SW	each	3000,00	7000,00		
Survey/Instrumentation						
	SI	each	1800,00	3600,00		2 person crew
Treatment Plant - Construct						
Small (< 1000 m3/d)	TPS	lump sum	9000000	15000000		
Large (> 1000 m3/d)	TPL	lump sum	15000000	46000000		
Constructed Wetland	CWTS	ha	200000	300000		
Treatment Plant - Operate						
	TPO	m3	0,35	2,00		
Treatment Chemicals						
ferric sulphate	ferric	kg	1,19			
ferrous sulphate	ferrous	kg	1,32			
lime	lime	kg	0,56			
hydrogen peroxide, 35%	hperox	kg	1,50			
Sodium Metabisulfate	Nametab	kg	1,18			
Caustic soda, 50%	caustic	kg	0,74			
Sulfuric acid, 93%	sulfuric	kg	0,31			
flocculant	flocc	kg	6,00			
copper sulphate	copper	kg				
shipping	shipping	kg	0,20			
Vegetation						
Hydroseed, Flat	VHF	ha	4000,00			
Hydroseed, Sloped	VHS	ha	4500,00			
Veg. blanket/erosion mat	VB	ha	13000,00			
Tree planting	VT	ha	2600,00	6000,00		
Wetland species	VW	ha			47,72	Specified= /m3, Wetland Growth Media Substrate mixed and installed (sand, biochar and fertilizer, woodchips)
Water Sampling/Analysis/Reporting						
	WS	each	7000,00	10000,00		
Winter Road						
Construction	WRC	km	2000,00	11500,00		
Usage	WRU	kmtonne	0,29			

Appendix B

Site Layout

NO. DESSIN
DRAWING NO.

FORMAT ANSI B–11x17

TEMPORARY OVERBURDEN STOCKPILE
CHANNEL2
INDUSTRIAL SITE PAD
FRESH WATER INTAKE CAUSEWAY
LANDFARM
WTP INTAKE CAUSEWAY
WATER TREATMENT PLANT
MELIADINE LAKE
BERM2
TAILINGS STORAGE FACILITY (TSF)
CP1
CHANNEL1
LANDFARM C
CULVERT1
CULVERT3
CP3
CP3 BERM
OP2
CULVERT2
LANDFILL
CULVERT4
CHANNEL3
OP2_ext
SALINE WATER STORAGE POND
EFFLUENT DIFFUSER
CHANNEL7
CHANNEL8
BERM1
CP6 BERM
CP6
EXPLORATION CAMP
CHANNEL4
WASTE ROCK & OVERBURDEN STORAGE FACILITY 1 (WRSF1)
LAYDOWN AREA
CHANNEL9
MELIADINE LAKE
CP2 BERM
WASTE ROCK & OVERBURDEN STORAGE FACILITY 3 (WRSF3)
CP2
CHANNEL10
CP4 BERM
CULVERT5
CHANNEL6
CP5 NORTH
CP4
CP5 SOUTH
CP5 JETTY
CULVERT6
D-CP5
CHANNEL5
TIRIGANIAQ PIT 2 (TIRI_1000_02)
BERM3
TIRIGANIAQ PIT 1 (TIRI_1000_01)
TEMPORARY WASTE ROCK STOCKPILE (SP4 CONSTRUCTION)

0 500 m
Scale: 1: 15 000

LEGEND

- CATCHMENT BOUNDARY
- SERVICE ROAD
- HAUL ROAD
- WATERBODY
- WATER COLLECTION POND
- DRAINED POND AREA
- OPEN PIT
- OVERBURDEN
- WASTE ROCK
- ORE
- TAILINGS
- INDUSTRIAL SITE PAD
- CONTACT WATER FLOW DIRECTION

AGNICO EAGLE

TETRA TECH

TITRE / TITLE | # DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY

REVISIONS

DESSINÉ PAR DRAWN BY	DATE
VÉRIFIÉ PAR CHECKED BY	
APPROUVÉ PAR APPROVED BY	
No. PROJET PROJECT NO.	6526
DATE	

TITRE / TITLE

AGNICO EAGLE – MELIADINE GOLD PROJECT
JULY 2020 WATER LICENCE AMENDMENT
FIGURE 2 GENERAL SITE LAYOUT PLANVIEW

ÉCHELLE/ SCALE	FICHIER FILE	REVISION	FEUILLE/SHT
1:15000	.DWG	0	1 / 1

No. DESSIN/ DRAWING NO.

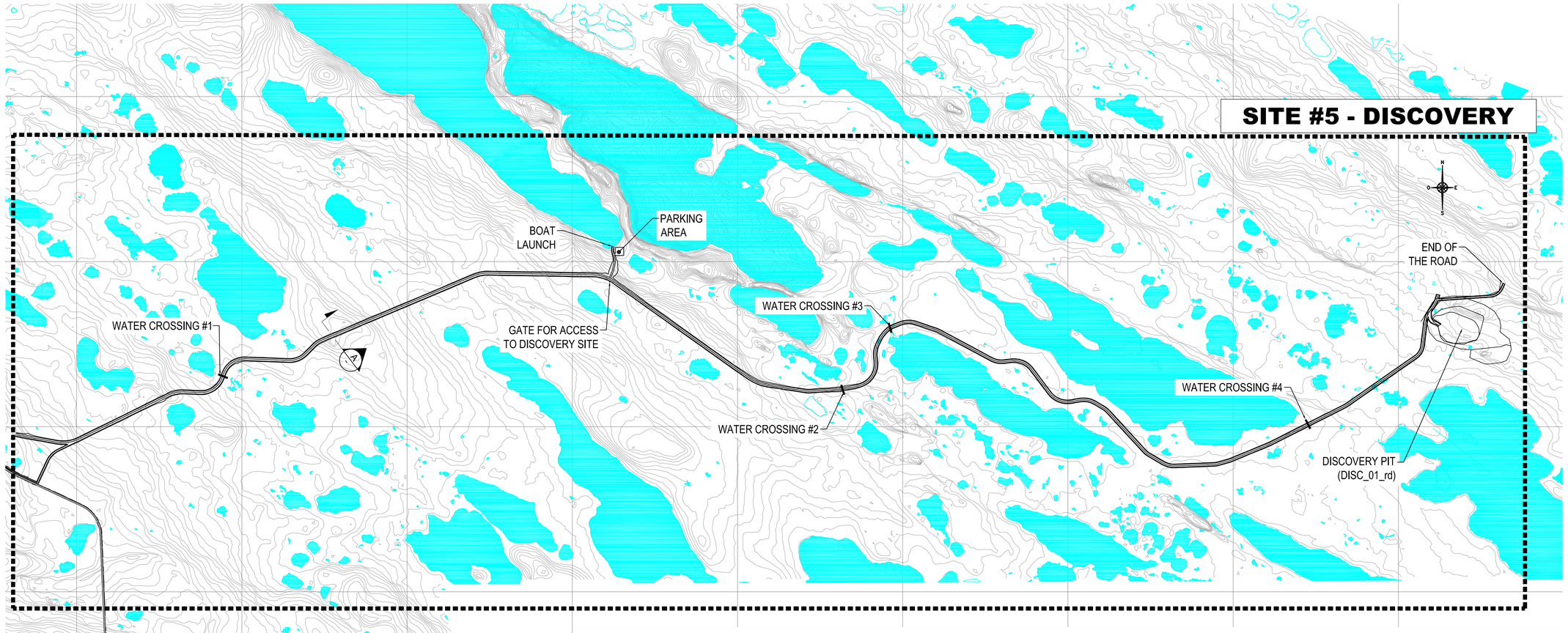
AE–CART–ANSI B

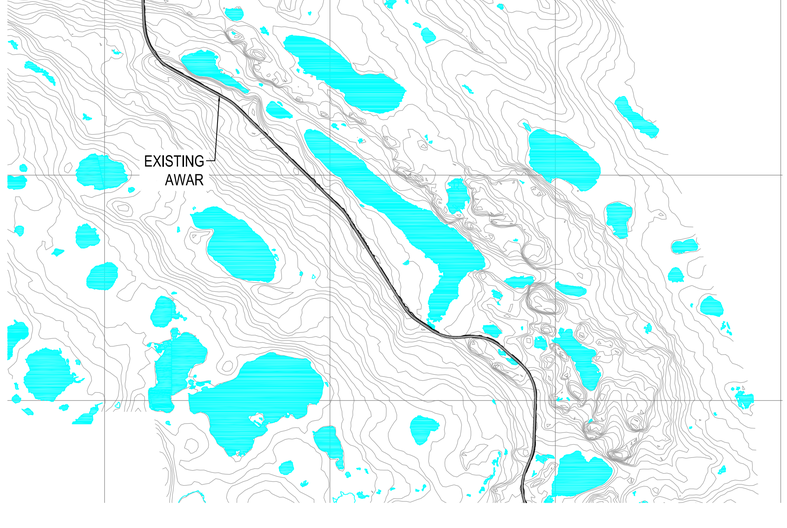
C:\Users\hongwei.xia\Desktop\Meliadine Expansion 2020\WRSFs\Production Drawings\Figure 4 IFU.dwg

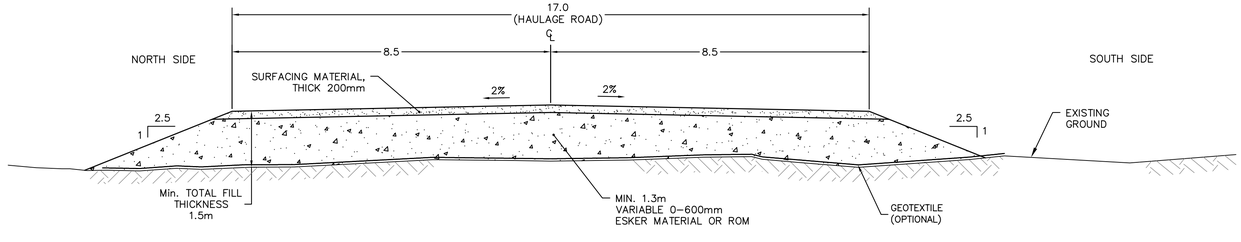
NO. DESSIN
DRAWING NO. 6534-100-210-200

FORMAT ARCHD

SITE #5 - DISCOVERY







CROSS SECTION "A" ~ AWAR - WITH EMBANKMENT - <= 3.0m (DISCOVERY ROAD JUNCTION TO DICOVERY SITE)

Éch.: 1: 75

PLAN CLÉ
KEY PLAN

1075, 3e AVENUE EST
VAL-D'OR (QUÉBEC) CANADA J9P 0J7
TÉL. : 1-819-825-4274 | TÉLÉC. : 1-819-825-4715 | WWW.WSP.COM

Ref. 171-07024-00

NOTES GÉNÉRALES / GENERAL NOTES

NE PAS UTILISER POUR CONSTRUCTION
(NOT FOR CONSTRUCTION)

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG

AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
A	2020-06-30	FOR COMMENTS	J.C.	S.D.	

REVISIONS

TITRE / TITLE
AGNICO EAGLE - MELIADINE PROJECT
100 - GENERAL
230 - GENERAL EARTH WORKS
FEASABILITY STUDY PHASE 2
DISCOVERY - OVERALL SITE
PLAN VIEW

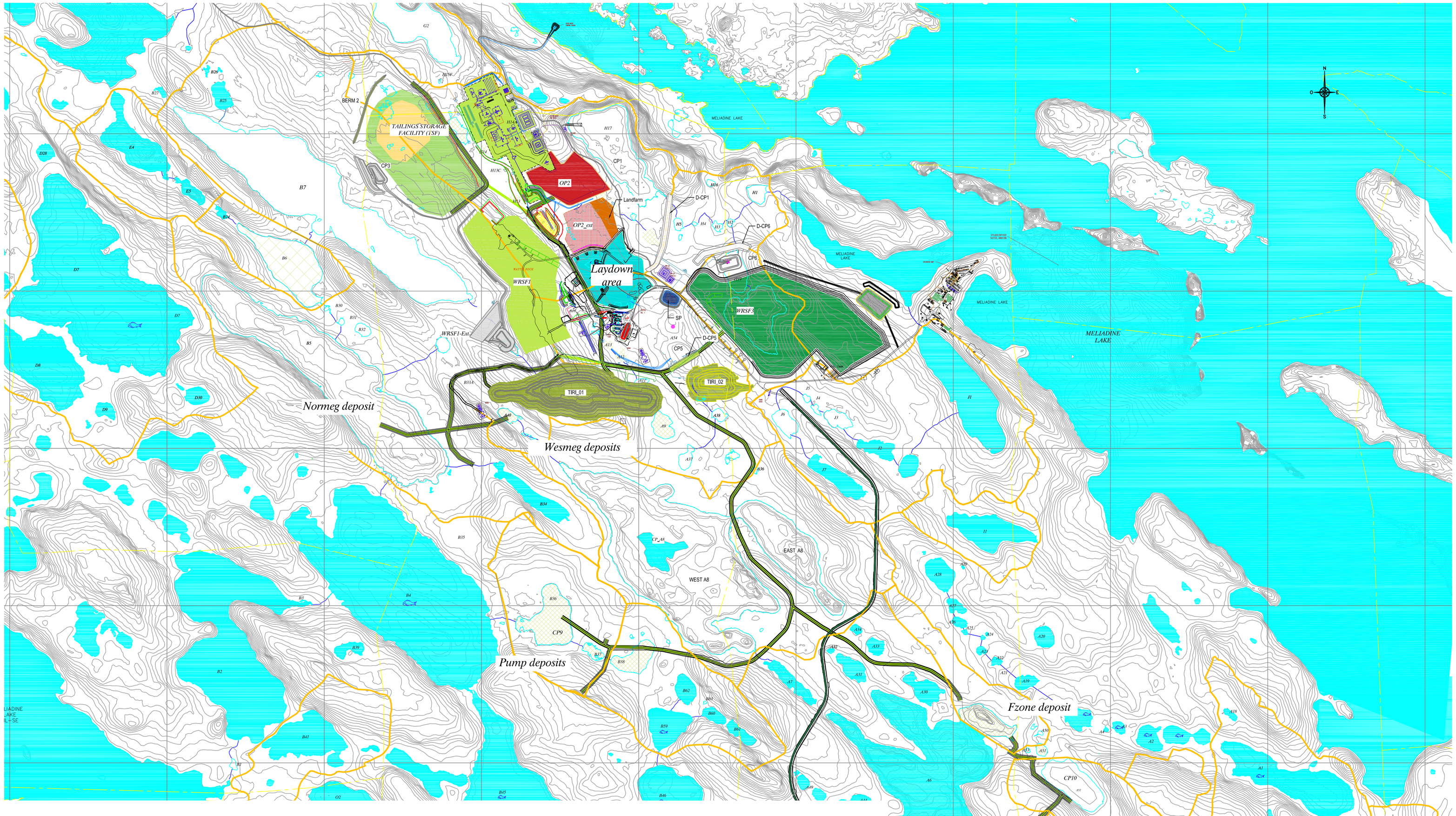
DESSINÉ PAR / DRAWN BY	JULIE CROTEAU, tech.	DATE 2020-06-30
VERIFIÉ PAR / CHECKED BY	STEPHAN DUPUIS, ing.	2020-06-30
APPROUVÉ PAR / APPROVED BY	STEPHAN DUPUIS, ing.	-
ÉCHELLE / SCALE	1: 12500	DATE 2020-06-22
NO. DESSIN / DRAWING NO.	6534-100-210-200	
NO. PROJET / PROJECT NO.	6534	REVISION A / FEUILLE / SHT 1 / 1

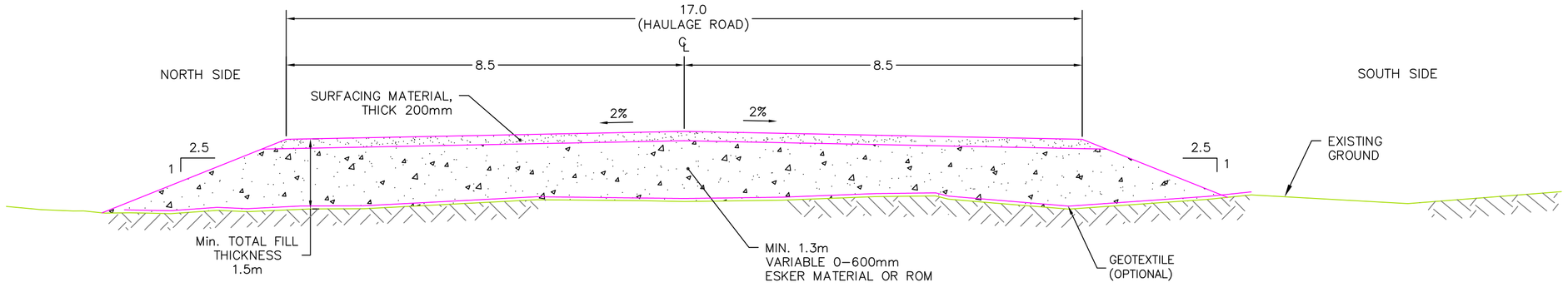
AE-CART-ARCH D

FILE NO. 6534-100-210-200.dwg

NO. DESSIN
DRAWING NO.

FORMAT ARCHD





TYPICAL CROSS SECTION ~ AWAR - WITH EMBANKMENT - <= 3.0m (FZONE, PUMP ZONE, WESTMEG AND NORMEG)

Éch.: 1: 75

PLAN CLÉ
KEY PLAN

wsp
1075, 3e AVENUE EST
VAL-D'OR (QUÉBEC) CANADA J9P 0J7
TÉL. : 1-819-825-4274 | TÉLÉC. : 1-819-825-4151 | WWW.WSP.COM

Ref. 171-07024-00

NOTES GÉNÉRALES / GENERAL NOTES

NE PAS UTILISER POUR CONSTRUCTION
(NOT FOR CONSTRUCTION)

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG

AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
A	2022-06-30	FOR COMMENTS	J.C.	S.D.	

REVISIONS

TITRE / TITLE

AGNICO EAGLE – MELIADINE PROJECT
000 – GENERAL
230 – GENERAL EARTH WORKS
FEASIBILITY STUDY PHASE 2
MELIADINE – OVERALL SITE
PLAN VIEW

DESSINÉ PAR / DRAWN BY	DATE
VERIFIÉ PAR / CHECKED BY	
APPROUVÉ PAR / APPROVED BY	–
ÉCHELLE / SCALE 1: 12500	DATE
NO. DESSIN / DRAWING NO.	
NO. PROJET / PROJECT NO.	REVISION: A; FEUILLE / SHT: 1 / 1

AE-CART-ARCH D

FILE NO. MELIADINE EXPANSION_ROADS_RA_V2.dwg

Appendix C

Equipment list and sampling list

Table A-1 : List of Mobile Equipment

Unit Number	Description	Equipment Group
65ATV01	HONDA ATV #01	Surface
65ATV02	HONDA ATV #02	Surface
65ATV03	HONDA ATV #03	Surface
65ATV04	HONDA ATV #04	Surface
65ATV05	HONDA ATV #05	Surface
65ATV06	HONDA ATV #06	Surface
65ATV07	CANAM ATV #07	Surface
65ATV08	HONDA ATV 420 4X4	Surface
65ATV09	CAN AM ATV	Surface
65ATV10	ENVIRONMENT ATV KUBOTA	Surface
65ATV11	ENVIRONMENT 4X4 ATV	Surface
65ATV12	TUNDRA BUGGY BV26	Surface
65BAC01	BACKOE CATERPILLAR 420E IT	Surface
65BAC02	BACKOE KUBOTA BX25	Surface
65BAC03	MINI EXCAVATOR 303.5 CAT	Underground
65BAC04	MINI EXCAVATOR 430 CAT	Surface
65BAC05	BACKOE CATERPILLAR 330F	Surface
65BOL03	MEM-946 SCISSOR BOLTER	Underground
65BOL04	MEM-946 SCISSOR BOLTER	Underground
65BOL06	BOLTER MACLEAN MEM-975	Underground
65BOL07	BOLTER MACLEAN MEM-975	Underground
65BOL08	BOLTER MACLEAN MEM-975	Underground
65BOL09	BOLTER MACLEAN MEM-975	Underground
65BOL10	BOLTER MACLEAN MEM-975	Underground
65BOL11	BOLTER MACLEAN MEM-975	Underground
65BOL12	BOLTER MACLEAN MEM-975	Underground
65BOL13	BOLTER MACLEAN MEM-975	Underground
65BUS01	BUS E450 SD FORD	Surface
65BUS02	BLUE BIRD BUS VISION SL	Surface
65BUS04	BLUE BIRD BUS VISION SL	Surface
65BUS05	BUS EXPRESS 4500 CHEVY	Surface
65CLD01	CONTAINER HANDLER HYSTER RS46	Surface
65CLD02	CONTAINER HANDLER HYSTER RS46	Surface
65COM01	KAESER M50 COMPRESSOR	Underground
65COM02	ATLAS COPCO XATS 400	Underground
65COM03	ATLAS COPCO XATS 375 JD6	Underground

Unit Number	Description	Equipment Group
65COM04	ATLAS COPCO XATS 375	Underground
65COM05	PORTABLE ELECTRIC COMPRESSOR	Underground
65COM06	PORTABLE ELECTRIC COMPRESSOR	Underground
65COM07	DOOSAN DIESEL COMPRESSOR	Underground
65COM08	DIESEL COMPRESSOR 1600 CFM	Underground
65COM09	MOBILE COMPRESSOR 915 CFM	Underground
65COM10	MOBILE COMPRESSOR 915 CFM	Underground
65COM11	MOBILE COMPRESSOR 425 CFM	Underground
65CPT01	CATERPILLAR CS56B COMPACTOR	Surface
65CPT02	COMPACTOR CS56B	Surface
65DOZ01	DOZER D6K LGP CATERPILLAR	Surface
65DOZ02	DOZER D6K LGP CATERPILLAR	Surface
65DRL02	CABLE DRILL DS422I	Underground
65DRL03	ITH DRILL DU411	Underground
65DRL04	TOP HAMMER DRILL	Underground
65DRL05	TOP HAMMER DRILL	Underground
65DRL06	RAISE BORER RHINO 100	Underground
65DRL07	BLOCK HOLER DRILL BH3	Underground
65DRL08	CABLE DRILL DS422I	Underground
65DRL09	TOP HAMMER DRILL	Underground
65DRL10	ITH DRILL	Underground
65DRL11	TOP HAMMER DRILL	Underground
65EQH01	PIPE HANDLER	Underground
65EQH02	PIPE HANDLER	Underground
65EQH03	FUEL-LUBE CASSETTE MEM-CS3	Underground
65EQH04	BOOM TRUCK CASSETTE MEM-CS3	Underground
65EQH05	PIPE HANDLER DA201	Underground
65EQM01	V30 HEAD	Underground
65EQM02	HIGH PRESSURE SUPPRESSOR	Underground
65EQM03	MENCARRIER CASSETTE CS3	Underground
65EQM04	MENCARRIER CASSETTE CS3	Underground
65EQM05	FUEL CASSETTE CS3	Underground
65EQM06	PROD. EMULSION CASSETTE CS3	Underground
65EQM07	PROD. EMULSION CASSETTE CS3	Underground
65EQM09	MENCARRIER CASSETTE CS3	Underground
65EQM10	MENCARRIER CASSETTE CS3	Underground
65FKL01	FORKLIFT MANITOU 625	Surface
65FKL02	FORKLIFT MANITOU 625	Surface
65FKL03	FORKLIFT YALE	Surface
65FKL04	YALE ELECTRIC FORKLIFT	Surface

Unit Number	Description	Equipment Group
65FKL05	ELECTRIC WALKIE PALLET	Surface
65FKL07	FORKLIFT HELI CPCD30	Surface
65FKL08	CAT 2ET4000 FORK LIFT	Surface
65FKL09	CAT FORKLIFT DP25N5	Surface
65FKL10	CAT FORKLIFT EP4000	Surface
65GRA01	GRADER 12M2 CAT	Underground
65GRA02	CATERPILLAR GRADER 140M	Surface
65GRA03	GRADER UG20M CAT	Underground
65HEA03	FROST FIGHTER IDF500	Surface
65HEA04	FROST FIGHTER IDF500	Surface
65HEA05	FROST FIGHTER NPV400	Surface
65HEA06	FROST FIGHTER IDF500	Surface
65HEA07	FROST FIGHTER IDF500	Surface
65HEA08	FROST FIGHTER IDF500	Surface
65HEA09	FROST FIGHTER IDF500	Surface
65HEA10	FROST FIGHTER IDF500	Surface
65HEA11	FROST FIGHTER IDF500	Surface
65HEA12	FROST FIGHTER IDF500	Surface
65HEA13	FROST FIGHTER IDF500	Surface
65HEA14	FROST FIGHTER IDF500	Surface
65HEA15	FROST FIGHTER IDF500	Surface
65HEA16	FROST FIGHTER IDF500	Surface
65HEA17	FROST FIGHTER IDF500	Surface
65HEA18	FROST FIGHTER IDF500	Surface
65HEA19	ALLMAND HEATER TRAILER (CONST)	Surface
65HEA20	ALLMAND HEATER TRAILER (CONST)	Surface
65HEA21	ALLMAND HEATER TRAILER (CONST)	Surface
65HEA22	ALLMAND HEATER TRAILER	Surface
65HEA23	ICE FIGHTER HEATER	Surface
65HEA24	ALLMAND HEATER TRAILER	Surface
65HTR04	AD30 MF CAT U/G TRUCK	Underground
65HTR06	U/G TRUCK CAT AD30	Underground
65HTR08	U/G TRUCK CAT AD30	Underground
65HTR09	U/G TRUCK CAT AD30	Underground
65HTR10	TRUCK VOLVO A40G	Surface
65HTR11	TRUCK VOLVO A40G	Surface
65HTR12	U/G 50 TONS TRUCK	Underground

Unit Number	Description	Equipment Group
65HTR13	U/G 50 TONS TRUCK	Underground
65HTR14	U/G 50 TONS TRUCK	Underground
65HTR15	U/G 50 TONS TRUCK	Underground
65HTR16	U/G 50 TONS TRUCK	Underground
65HTR17	U/G 50 TONS TRUCK	Underground
65HTR18	A40G HAUL TRAUCKS	Surface
65HTR19	A40G HAUL TRAUCKS	Surface
65HTR20	A40G HAUL TRAUCKS	Surface
65HTR21	U/G 50 TONS TRUCK	Underground
65HTR22	U/G 50 TONS TRUCK	Underground
65HTR23	U/G 50 TONS TRUCK	Underground
65HTR24	U/G 50 TONS TRUCK	Underground
65HTR25	U/G 50 TONS TRUCK	Underground
65JUM03	LONGTOM	Underground
65JUM05	JUMBO DRILL DD421	Underground
65JUM06	JUMBO DRILL DD4221-60C	Underground
65JUM07	JUMBO DRILL DD4221-60C	Underground
65JUM08	JUMBO DRILL DD422I	Underground
65LGT01	TOWER LIGHT	Surface
65LGT02	TOWER LIGHT	Surface
65LGT03	TOWER LIGHT	Surface
65LGT04	TOWER LIGHT	Surface
65LGT05	TOWER LIGHT	Surface
65LGT06	TOWER LIGHT	Surface
65LGT07	TOWER LIGHT	Surface
65LGT08	TOWER LIGHT	Surface
65LGT09	TOWER LIGHT	Surface
65LGT10	TOWER LIGHT	Surface
65LHM01	PLH LONG HOLE	Underground
65LOA01	LOADER CATERPILLAR IT 62H	Surface
65LOA02	LOADER WA500 KOMATSU	Surface
65LOA03	LOADER WA500 KOMATSU	Surface
65LOA04	DYNO - CAT 962H LOADER	Surface
65LOA05	WHEEL LOADER CAT 908M	Underground
65LOA06	WHEEL LOADER 980M CAT	Surface
65LOA07	WHEEL LOADER 914M CAT	Surface
65LOA08	WHEEL LOADER 988K CAT	Surface
65LOA09	WHEEL LOADER 988K CAT	Surface
65LOA10	WHEEL LOADER 988K CAT	Surface
65LOA11	WHEEL LOADER 988K CAT	Surface

Unit Number	Description	Equipment Group
65LOA12	WHEEL LOADER 914M CAT	Underground
65LOA13	FOUNTAIN TIRE LOADER	Surface
65LOM01	DYNO - CAT 297D SKID STEER	Surface
65LOM02	BOBCAT S770	Underground
65LOM03	BOBCAT S650	Surface
65MCR01	CRANE FREIGHTLINER	Surface
65MCR02	BRODERSON MOBILE CRANE 18T	Surface
65MCR03	BRODERSON MOBILE CRANE	Surface
65MCR04	MOBILE CRANE MANITOWOC 220T	Surface
65MCR05	MOBILE CRANE GROVE 130T	Surface
65PCK01	PICK UP SUBERBAN	Surface
65PCK02	PICK UP F550 (MECHANIC)	Surface
65PCK03	PICK UP F250 (IT)	Surface
65PCK04	PICK UP F250 (GEOLOGY)	Surface
65PCK05	PICK UP F350 (MINE)	Surface
65PCK06	PICK UP F250 (SITE SERVICES)	Surface
65PCK07	PICK UP CUTAWAY (AMBULANCE)	Surface
65PCK11	PICK UP F250 (MECHANIC)	Surface
65PCK12	PICK UP F250 (ELECTRICIAN)	Surface
65PCK13	PICK UP F250 (CARPENTER)	Surface
65PCK14	PICK UP F250 (CONSTRUCTION)	Surface
65PCK15	PICK UP F250 2011 (LOG/ROAD)	Surface
65PCK16	PICK UP F250 (CONSTRUCTION)	Surface
65PCK17	PICK UP F250 (CONSTRUCTION)	Surface
65PCK18	DYNO - FORD F250 PICKUP	Surface
65PCK19	PICK UP F250 (WAREHOUSE GF)	Surface
65PCK20	PICK UP F250 (CONSTRUCTION)	Surface
65PCK21	PICK UP F250 (MOBILE GF)	Surface
65PCK22	PICK UP F250 (WAREHOUSE)	Surface
65PCK23	PICK UP F250 (MANAGEMENT)	Surface
65PCK24	PICK UP F250 (LONNY/GUILLAUME)	Surface
65PCK25	PICKUP F-250 (OPERATION)	Surface
65PCK26	PICKUP F-250 (MOBILE SUPER)	Surface
65PCK27	PICKUP FORD F250 (JACK DUTIL)	Surface
65PCK28	PICKUP FORD F250 (JACK DUTIL)	Surface
65PCK29	PICKUP FORD F250 (JACK DUTIL)	Surface
65PCK30	PICKUP FORD F250 (JACK DUTIL)	Surface
65PCK31	PICKUP F250 FORD (JACK)	Surface
65PCK32	PICKUP F250 (KITCHEN AND CAMP)	Surface
65PCK33	PICKUP F250 (ENVIRONMENT)	Surface

Unit Number	Description	Equipment Group
65PCK34	PICKUP F250 (H&S)	Surface
65PCK35	PICKUP F250 (MANAGEMENT)	Surface
65PCK36	PICKUP F250 (E&I)	Surface
65PCK37	PICKUP F250 (E&I)	Surface
65PCK38	PICKUP F250 (TRAINING)	Surface
65PCK39	PICKUP F250 (UNDERGROUND)	Surface
65PCK40	PICKUP F250 (WAREHOUSE)	Surface
65PCK41	PICKUP F350 UG MOBILE MNTCE	Underground
65PCK42	CONSTRUCTION PICK UP	Surface
65PCK43	CONSTRUCTION PICK UP	Surface
65PCK44	CONSTRUCTION PICK UP	Surface
65PCK45	TANGMAARVIK PICK UP	Surface
65PCK46	DYNO PICK UP	Surface
65PCK49	F250 PICKUP TRUCK	Surface
65PCK50	F250 PICK-UP TRUCK	Surface
65PCK51	F250 PICK-UP TRUCK	Surface
65PCO01	GROUT PUMP #1	Underground
65PCO02	GROUT PUMP #2	Underground
65PCO03	GROUT PUMP #3	Underground
65PCO04	GROUT PUMP #4	Underground
65PCO05	GROUT PUMP #5	Underground
65PCO06	GROUT PUMP #6	Surface
65POD01	DIESEL FUEL PUMP KOHLER	Surface
65POD02	DIESEL FUEL PUMP KOHLER	Surface
65POD03	DIESEL FUEL PUMP KOHLER	Surface
65PWA01	WATER PUMP	Surface
65PWA02	WATER PUMP	Surface
65PWA03	WATER PUMP	Surface
65PWA04	WATER PUMP	Surface
65PWA05	WATER PUMP	Surface
65PWA06	WATER PUMP	Surface
65PWA07	WATER PUMP	Surface
65PWA08	WATER PUMP	Surface
65RBR01	MOBILE ROCK BREAKER RB3	Underground
65SBL01	SNOWBLOWER T85	Surface
65SCI02	GENIE LIFT S60	Surface
65SCI03	SCISSOR LIFT MACLEAN	Underground
65SCI05	SL3 SCISSOR LIFT	Underground
65SCI06	SL3 SCISSOR LIFT	Underground
65SCI07	SCISSOR LIFT MACLEAN SL3	Underground

Unit Number	Description	Equipment Group
65SCI08	SCISSOR LIFT MACLEAN SL3	Underground
65SCI09	MAN LIFT GENIE Z-45/25	Surface
65SCI10	MAN LIFT GENIE Z-45/25	Surface
65SCI11	MAN LIFT GENIE Z-45/25	Surface
65SCI12	MAN LIFT GENIE SX125	Surface
65SCI13	SL3 SCISSOR LIFT	Underground
65SCI14	SCISSOR LIFT MACLEAN SL3	Underground
65SCI15	SCISSOR LIFT MACLEAN SL3	Underground
65SCI16	ELECTRICAL SCISSOR LIFT	Underground
65SCO04	SCOOP LH514	Underground
65SCO05	SCOOP LH514	Underground
65SCO06	SCOOP LH514	Underground
65SCO07	SCOOP LH514	Underground
65SCO08	SANDVIK EJC-210	Underground
65SCO09	SCOOP R1300G CAT	Underground
65SCO10	SCOOP LH517	Underground
65SCO11	SCOOP LH517	Underground
65SCO12	SCOOP LH517	Underground
65SCO13	SCOOP LH517	Underground
65SCO14	SCOOP LH517	Underground
65SCO15	SCOOP R1300G CAT	Underground
65SKD01	SKID STEER 226D CATERPILLAR	Surface
65SKD02	SKID STEER 262D CATERPILLAR	Surface
65SKD03	SKID STEER 262D CATERPILLAR	Surface
65SNO02	SNOWMOBILE PRINOTH SNOWCAT	Surface
65SNO03	BEARCAT SNOWMOBILE	Surface
65SNO04	BEARCAT SNOWMOBILE	Surface
65SNO05	BEARCAT SNOWMOBILE	Surface
65SNO06	BEARCAT SNOWMOBILE	Surface
65TOO01	KIDNEY LOOP	Surface
65TOO04	WIRELESS JACK SET	Surface
65TOO05	A/C MACHINE	Surface
65TPA01	CAT PALLET HANDLER EJE120	Underground
65TPA02	CAT PALLET HANDLER EJE120	Surface
65TRA03	KUBOTA M5-111CAB	Underground
65TRA04	KUBOTA M5-111CAB	Underground
65TRA05	TRACTOR KUBOTA M8540DT	Underground
65TRA06	TRACTOR KUBOTA M9540DT	Underground
65TRA07	TRACTOR KUBOTA M9540DT	Underground
65TRA08	TRACTOR KUBOTA M9540DT	Underground

Unit Number	Description	Equipment Group
65TRA09	KUBOTA M8540DT	Underground
65TRA10	TRACTOR M5-111CAB	Underground
65TRA11	TRACTOR M5-111CAB	Underground
65TRA12	TRACTOR M5-111CAB	Underground
65TRA13	TRACTOR M5-111CAB	Underground
65TRA14	TRACTOR M5-111CAB	Underground
65TRA15	TRACTOR M5-111HDC	Underground
65TRA16	TRACTOR KUBOTA M9960D	Underground
65TRA17	TRACTOR M5-111CAB (SUPERVISOR)	Underground
65TRA18	TRACTOR M5-111CAB (SUPERVISOR)	Underground
65TRA19	TRACTOR M5-111CAB (SUPERVISOR)	Underground
65TRA20	TRACTOR M5-111CAB (MECHANIC)	Underground
65TRA21	TRACTOR M5-111CAB (SERVICE +)	Underground
65TRA22	TRACTOR M5-111CAB (SERVICE +)	Underground
65TRA23	TRACTOR M5-111CAB (SERVICE)	Underground
65TRA24	TRACTOR M5-111CAB (SERVICE)	Underground
65TRA25	TRACTOR M5-111CAB (SERVICE)	Underground
65TRA26	TRACTOR 6110M JOHN DEERE	Underground
65TRA27	TRACTOR 6110M JOHN DEERE	Underground
65TRA28	TRACTOR M5-111CAB	Underground
65TRA29	TRACTOR M5-111CAB	Underground
65TRA30	TRACTOR M5-111CAB	Underground
65TRA31	TRACTOR M5-111CAB	Underground
65TRA32	TRACTOR M5-111CAB	Underground
65TRA33	TRACTOR M5-111CAB	Underground
65TRK01	FUEL TRUCK	Surface
65TRK02	HIAB SERVICE TRUCK	Surface
65TRK03	WATER SERVICE TRUCK	Surface
65TRK04	VACUUM TRUCK	Surface
65TRK08	BOOM TRUCK MACLEAN BT3	Underground
65TRK09	CASSETTE CARRIER MACLEAN CS3	Underground
65TRK11	ROLL OFF KENWORTH TRUCK	Surface
65TRK12	FUEL TRUCK T800	Surface
65TRK13	WATER TRUCK	Surface
65TRK14	TRUCK T800	Surface
65TRK15	CASSETTE CARRIER MACLEAN CS3	Underground
65TRK16	CASSETTE CARRIER MACLEAN CS3	Underground

Unit Number	Description	Equipment Group
65TRK17	CASSETTE CARRIER MACLEAN CS3	Underground
65TRK19	CONCRETE TRUCK AG3	Underground
65TRK20	BOOM TRUCK MACLEAN BT3	Underground
65TRK21	FIRE TRUCK	Surface
65TRK22	CASSETTE CARRIER MACLEAN CS3	Underground
65TRK23	CASSETTE CARRIER MACLEAN CS3	Underground
65TRK24	DYNO EMULSION TRUCK	Surface
65TRK25	CASSETTE CARRIER MACLEAN CS3	Underground
65VSE01	KUBOTA MULE RTV1140	Underground
65VSE04	KAWASKI MULE	Surface
65VSE05	KAWASKI MULE	Surface
65VSE06	KUBOTA MULE RTV1100	Underground
65VSE08	ZOOM BOOM GRADALL 544D	Underground
65VSE09	TELEHANDLER GENIE 1056	Surface
65VSE10	ZOOM BOOM GENIE 1056	Surface
65VSE13	EMULSION CHARGER MACLEAN EC3	Underground
65VSE14	LANDCRUISER HZJ79 AMBULANCE	Underground
65VSE15	LANDCRUISER HZJ79 MENCARRIER	Underground
65VSE16	TELEHANDLER TL1055D CAT	Underground
65VSE17	LANDCRUISER HZJ79 MENCARRIER	Underground
65VSE18	LANDCRUISER HZJ79 MENCARRIER	Underground
65VSE19	TRANSIT 12 PASSENGERS (JACK D)	Surface
65VSE20	TRANSIT 12 PASSENGERS (JACK D)	Surface
65VSE21	TELEHANDLER TL943D CAT (E&I)	Surface
65VSE22	TELEHANDLER TL943D CAT WAREH.	Surface
65VSE23	EMERGENCY RESPONSE VEHICLE	Surface
65VSE24	SHOTCRETE ALIVA MODEL 246	Underground
65VSE25	TELEHANDLER GENIE 1056	Surface
65VSE26	TELEHANDLER GENIE 1056	Surface
65VSE27	SHOTCRETE SPRAYER SS3	Underground
65VSE28	DEV. EMULSION CHARGER EC3	Underground
65VSE29	DEV. EMULSION CHARGER EC3	Underground
65VSE30	LANDCRUISER HZJ79 MENCARRIER	Underground
65VSE31	LANDCRUISER HZJ79 MENCARRIER	Underground
65VSE32	LANDCRUISER HZJ79 MENCARRIER	Underground
65VSE33	LANDCRUISER HZJ79 MENCARRIER	Underground
65VSE34	LANDCRUISER HZJ79 MENCARRIER	Underground
65VSE35	TELEHANDLER TL1055D CAT	Underground
65VSE36	ZOOM BOOM MANITOU MLT625	Underground

Unit Number	Description	Equipment Group
65VSE37	SWATCRETE	Underground
65VSE38	LANDCRUISER HZJ79 MENCARRIER	Underground
65WMC01	PORTABLE WELDER	Surface
65WMC02	PORTABLE WELDER	Surface
65WMC03	PORTABLE WELDER	Surface
65WMC04	U/G WELDING MACHINE	Underground
65WMC05	MILLER WELDING MACHINE	Underground

AEM - Meliadine - Sampling Program

Sample Group Name	Analysis	Sampling frequency	Sampling Stations for Reference	Estimated number of samples (nb/year)	Bureau Veritas			AGAT			H2Lab			SGS		
					Unit Rate	Total Group Cost per sample	Total Group cost x Annual Samples	Unit Rate	Total Group Cost per sample	Total Group cost x Annual Samples	Unit Rate	Total Group Cost per sample	Total Group cost x Annual Samples	Unit Rate	Total Group Cost per sample	Total Group cost x Annual Samples
Potable water	Atypical colonies	Weekly	DW Produced, DW-Kitchen, DW-Kitchen 2, DW-WTP, DW-Wings	208	included with total	31.50 $	6 552.00 $	included with total	26.00 $	5 408.00 $	12.00 $	44.00 $	9 152.00 $	2.00 $	56.00 $	11 648.00 $
	Total coliforms				9.00 $			14.00 $						35.00 $		
	Fecal coliforms				13.50 $			12.00 $			12.00 $			19.00 $		
	E.coli and AAHB				9.00 $			included			20.00 $			included		
Wastewater	Atypical colonies	Weekly	MEL-7, STP-IN, STP-FINAL, STP- LIQUOR MIXED	208	included with total	170.60 $	35 483.76 $	included with total	179.00 $	37 232.00 $	included with total	189.50 $	39 416.00 $	2.00 $	208.00 $	43 264.00 $
	Total coliforms				9.00 $			10.00 $			12.00 $			19.00 $		
	Fecal coliforms				13.50 $			10.00 $			12.00 $			19.00 $		
	E.coli and AAHB				13.50 $			12.00 $			20.00 $			40.00 $		
	pH				4.50 $			7.00 $			5.00 $			5.00 $		
	BOD5				18.23 $			12.00 $			15.00 $			14.00 $		
	COD				18.23 $			11.00 $			12.00 $			15.00 $		
	Ammonia				12.78 $			15.00 $			12.00 $			10.00 $		
	Ammonia nitrogen										12.00 $					
	Nitrite				7.88 $			15.00 $			12.00 $			15.00 $		
	Nitrate				7.88 $			15.00 $			12.00 $			included		
	Kjedhal Nitrogen				12.78 $			16.00 $			18.00 $			10.00 $		
	Total Phosphorus				13.23 $			16.00 $			15.00 $			10.00 $		
	Total Oil and Grease				28.76 $			30.00 $			25.00 $			40.00 $		
	TSS				10.35 $			10.00 $			7.50 $			9.00 $		
Group 1	pH	Monthly during open water	Mel SR-1-14, MEL-12, MEL-19, MEL-20, MEL-21, MEL-22, MEL-23, MEL-24	84	4.50 $	226.89 $	19 058.76 $	7.00 $	222.00 $	18 648.00 $	5.00 $	239.30 $	20 101.20 $	15.00 $	150.00 $	12 600.00 $
	Turbidity				9.32 $			12.00 $			8.00 $			15.00 $		
	Hardness				0.00 $			18.00 $			15.00 $			included with metals		
	Alkalinity				8.37 $			15.00 $			7.00 $			included with ph		
	Chloride				12.78 $			35.00 $			16.00 $			20.00 $		
	Fluoride				12.78 $			included			20.00 $			10.00 $		
	Sulphate				12.78 $			included			13.50 $			included		
	TDS				10.35 $			15.00 $			11.30 $			12.00 $		
	TSS				10.35 $			10.00 $			7.50 $			9.00 $		
	Total Cyanide				23.99 $			18.00 $			15.00 $			12.00 $		
	Ammonia nitrogen				12.78 $			15.00 $			12.00 $			9.00 $		
	Nitrate				7.88 $			included			12.00 $			included		
	Nitrite				7.88 $			included			12.00 $			included		
	Total Phosphorus				13.23 $			16.00 $			15.00 $			included with metals		
	Orthophosphate				12.78 $			18.00 $			15.00 $			10.00 $		
	Total Metals - 16 (Aluminum, Arsenic, Barium, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Thallium, Zinc)				51.39 $			43.00 $			35.00 $			38.00 $		
	Mercury (cold vapor)				15.75 $			included			20.00 $			included		
Group 2	pH	Bi-Annually	MEL-15, MEL-16, MEL-17, MEL-18, RO-In and Out (Weekly during discharge, approx 3 months)	32	4.50 $	427.05 $	13 665.60 $	7.00 $	469.00 $	15 008.00 $	5.00 $	459.80 $	14 713.60 $	15.00 $	256.00 $	8 192.00 $
	Turbidity				9.32 $			12.00 $			8.00 $			15.00 $		
	Conductivity				9.32 $			12.00 $			5.00 $			included		
	Hardness				0.00 $			18.00 $			15.00 $			included		
	Bicarbonate Alkalinity				0.00 $			15.00 $			15.00 $			included		
	Carbonate Alkalinity				0.00 $			included			15.00 $			included		
	Total Alkalinity				8.37 $			15.00 $			7.00 $			included		
	Chloride				12.78 $			35.00 $			16.00 $			20.00 $		
	Sulphate				12.78 $			included			13.50 $			included		
	TDS				10.35 $			15.00 $			11.30 $			12.00 $		
	TSS				10.35 $			10.00 $			7.50 $			9.00 $		
	Total Cyanide				23.99 $			18.00 $			15.00 $			12.00 $		
	Free Cyanide				23.99 $			19.00 $			15.00 $			15.00 $		
	Cyanide WAD				23.99 $			30.00 $			15.00 $			15.00 $		
	Ammonia nitrogen				12.78 $			15.00 $			12.00 $			9.00 $		
	Total Kjeldahl Nitrogen				12.78 $			16.00 $			18.00 $			10.00 $		
	Nitrate				7.88 $			included			12.00 $			included		
	Nitrite				7.88 $			included			12.00 $			included		
	Total Phosphorus				13.23 $			16.00 $			15.00 $			included		
	Orthophosphate				12.78 $			18.00 $			15.00 $			10.00 $		
	Total Organic Carbon (TOC)				19.17 $			25.00 $			24.00 $			10.00 $		
	Dissolved Organic Carbon (DOC)				18.23 $			27.00 $			24.00 $			10.00 $		
	Reactive Silica				38.34 $			40.00 $			30.00 $			18.00 $		
	Total Metals - (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Copper, Iron, Lead, Lithium, Manganese, Molybdenum, Nickel, Selenium, Silver, Strontium, Thallium, Tin, Titanium, Uranium, Vanadium, Zinc) Ca, K, Mg, Na				51.39 $			53.00 $			45.00 $			38.00 $		
	Mercury (cold vapor)				15.75 $			included			20.00 $			included		

	Dissolved Metals - (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Copper, Iron, Lead, Lithium, Manganese, Molybdenum, Nickel, Selenium, Silver, Strontium, Thallium, Tin, Titanium, Uranium, Vanadium, Zinc)				51.39 $			53.00 $			47.00 $			38.00 $		
	Dissolved Mercury (cold vapor)				15.75 $			included			22.50 $			included		
Group 3	pH	Monthly	Calculate in the MDMER sections	12	4.50 $	580.22 $	6 962.58 $	7.00 $	586.00 $	7 032.00 $	5.00 $	726.00 $	8 712.00 $	5.00 $	960.00 $	11 520.00 $
	Turbidity				9.32 $			12.00 $			8.00 $			15.00 $		
	EEM parameters				-						-					
	Total Metals (As, Cu, Pb, Ni, Zn) + (Al, Cd, Fe, Mo, Se, Cr, Co, Tl, U, Mn)				45.00 $						35.00 $					
	Mercury (cold vapor)				15.75 $						20.00 $					
	Alkalinity				8.37 $						7.00 $					
	Hardness				included						15.00 $					
	Total CN				23.99 $						15.00 $					
	Total Phosphorous				13.23 $						15.00 $					
	TSS				10.35 $						7.50 $					
	Radium 226				103.50 $						75.00 $					
	Sulphate				12.78 $						13.50 $					
	NNH3 (as N)				12.78 $						12.00 $					
	Nitrate				7.88 $						12.00 $					
	Chloride				12.78 $						16.00 $					
	Acute Toxicity to Rainbow Trout and Daphnia Magna				300.00 $			425.00 $			470.00 $			730.00 $		
Group 4	Total Metals (Arsenic, Copper, Lead, Nickel)	2 or 3	MEL-25 (when needed)	3	31.50 $	178.97 $	536.90 $	25.00 $	122.00 $	366.00 $	28.00 $	152.50 $	457.50 $	30.00 $	178.00 $	534.00 $
	TSS				10.35 $			10.00 $			7.50 $			9.00 $		
	Ammonia				12.78 $			15.00 $			12.00 $			9.00 $		
	Benzene				119.84 $			30.00 $			100.00 $			125.00 $		
	Toluene															
	Ethylbenzene															
	Xylene															
	Total Petroleum Hydrocarbons (TPH)							35.00 $								
	pH				4.50 $			7.00 $			5.00 $			5.00 $		
Full Suite	pH	Monthly during open water	MEL-11, (year round) MEL-13 (monthly during open water), MEL-14 (weekly during open water), Culvert 2, 3, 4 (2x/month during open water) and channel 1, 2 and 5 (2x/month during open water), Nipissar Lake and Little Meliadine Lake (Annually), P1 and P3 (monthly during open water)	90	4.50 $	472.05 $	42 484.50 $	7.00 $	504.00 $	45 360.00 $	5.00 $	511.80 $	46 062.00 $	15.00 $	381.00 $	34 290.00 $
	Turbidity				9.32 $			12.00 $			8.00 $			15.00 $		
	Conductivity				9.32 $			12.00 $			5.00 $			included		
	Hardness				0.00 $			18.00 $			15.00 $			included		
	Bicarbonate Alkalinity				0.00 $			15.00 $			15.00 $			included		
	Carbonate Alkalinity				0.00 $			included			15.00 $			included		
	Total Alkalinity				8.37 $			15.00 $			7.00 $			included		
	Chloride				12.78 $			35.00 $			16.00 $			20.00 $		
	Calcium				0.00 $			included			0.00 $			included with metals		
	Potassium				0.00 $			included			0.00 $					
	Magnesium				0.00 $			included			0.00 $					
	Sodium				0.00 $			included			0.00 $					
	Sulphate				12.78 $			included			13.50 $			included		
	TDS				10.35 $			15.00 $			11.30 $			12.00 $		
	TSS				10.35 $			10.00 $			7.50 $			9.00 $		
	Total Cyanide				23.99 $			18.00 $			15.00 $			12.00 $		
	Free Cyanide				23.99 $			19.00 $			15.00 $			15.00 $		
	Cyanide WAD				23.99 $			30.00 $			15.00 $			15.00 $		
	Ammonia nitrogen				12.78 $			15.00 $			12.00 $			9.00 $		
	Total Kjeldahl Nitrogen				12.78 $			16.00 $			15.00 $			10.00 $		
	Nitrate				7.88 $			included			12.00 $			included		
	Nitrite				7.88 $			included			12.00 $			included		
	Phosphorus				13.23 $			16.00 $			15.00 $			included with metals		
	Orthophosphate				12.78 $			18.00 $			15.00 $			10.00 $		
	Total Organic Carbon				19.17 $			25.00 $			24.00 $			10.00 $		
	Dissolved Organic Carbon				18.23 $			27.00 $			24.00 $			10.00 $		
	Reactive Silica				38.34 $			40.00 $			30.00 $			18.00 $		
	Total Petroleum Hydrocarbons (TPH)				45.00 $			35.00 $			55.00 $			125.00 $		
	Total Metals (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Copper, Iron, Lead, Lithium, Manganese, Molybdenum, Nickel, Selenium, Silver, Strontium, Thallium, Tin, Titanium, Uranium, Vanadium, Zinc)				51.39 $			53.00 $			45.00 $			38.00 $		
	Mercury (cold vapor)				15.75 $			included			20.00 $			included		
	Dissolved Metals (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Copper, Iron, Lead, Lithium, Manganese, Molybdenum, Nickel, Selenium, Silver, Strontium, Thallium, Tin, Titanium, Uranium, Vanadium, Zinc)				51.39 $			53.00 $			47.00 $			38.00 $		
	Dissolved Mercury (cold vapor)				15.75 $			included			22.50 $			included		
	pH				4.50 $			7.00 $			5.00 $			15.00 $		
	Bicarbonate Alkalinity				0.00 $			15.00 $			15.00 $			included		

Underground Water	Carbonate Alkalinity	Monthly	DDH, Level 50, 75, 125	24	0.00 $	743.36 $	17 840.52 $	included	714.00 $	17 136.00 $	15.00 $	644.80 $	15 475.20 $	included	556.00 $	13 344.00 $
	Total Alkalinity				8.37 $			15.00 $			7.00 $			included		
	Chloride				12.78 $			35.00 $			16.00 $			20.00 $		
	Conductivity				9.32 $			12.00 $			5.00 $			included		
	Hardness				0.00 $			18.00 $			15.00 $					
	Calcium				0.00 $			included			0.00 $					
	Potassium				0.00 $			included			0.00 $			included with metals		
	Magnesium				0.00 $			included			0.00 $					
	Sodium				0.00 $			included			0.00 $					
	Sulphate				12.78 $			included			13.50 $			included		
	TDS				10.35 $			15.00 $			11.30 $			12.00 $		
	TSS				10.35 $			10.00 $			7.50 $			9.00 $		
	Turbidity				9.32 $			12.00 $			8.00 $			15.00 $		
	Ammonia nitrogen				12.78 $			15.00 $			12.00 $			9.00 $		
	Total Kjeldahl Nitrogen				12.78 $			16.00 $			18.00 $			10.00 $		
	Nitrate				7.88 $			included			12.00 $			included		
	Nitrite				7.88 $			included			12.00 $			included		
	Orthophosphate				12.78 $			18.00 $			15.00 $			10.00 $		
	Total Phosphorus				13.23 $			16.00 $			15.00 $			included with metals		
	TOC				19.17 $			25.00 $			24.00 $			10.00 $		
	DOC				18.23 $			27.00 $			24.00 $			10.00 $		
	Reactive Silica				38.34 $			40.00 $			30.00 $			18.00 $		
	Radium 226				191.70 $			180.00 $			75.00 $			150.00 $		
	TPH - included with BTEX costs below if 0,00$)				0.00 $			35.00 $			55.00 $			125.00 $		
	Oil and Grease				28.76 $			30.00 $			25.00 $			40.00 $		
	BTEX				119.84 $			30.00 $			45.00 $			included in TPH		
	Total Cyanide				23.99 $			18.00 $			15.00 $			12.00 $		
	Free Cyanide				23.99 $			19.00 $			15.00 $			15.00 $		
	Total Metals (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Copper, Iron, Lead, Lithium, Manganese, Molybdenum, Nickel, Selenium, Silver, Strontium, Thallium, Tin, Titanium, Uranium, Vanadium, Zinc)				51.39 $			53.00 $			45.00 $			38.00 $		
	Mercury (cold vapor)				15.75 $			included			20.00 $			included		
	Dissolved Metals (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Copper, Iron, Lead, Lithium, Manganese, Molybdenum, Nickel, Selenium, Silver, Strontium, Thallium, Tin, Titanium, Uranium, Vanadium, Zinc)				51.39 $			53.00 $			47.00 $			38.00 $		
	Dissolved Mercury (cold vapor)				15.75 $			included			22.50 $			included		
MDMER - Effluent Monitoring	pH	Weekly during periods of discharge (approx 3months)	MEL-14, MEL-26	24	4.50 $	274.82 $	6 595.56 $	7.00 $	255.00 $	6 120.00 $	5.00 $	142.00 $	3 408.00 $	5.00 $	215.00 $	5 160.00 $
	TSS				10.35 $			10.00 $			7.00 $			9.00 $		
	Radium 226				191.70 $			180.00 $			75.00 $			150.00 $		
	Total Cyanide				23.99 $			18.00 $			15.00 $			12.00 $		
	Total Ammonia (as N)				12.78 $			15.00 $			12.00 $			9.00 $		
	Metals ICPMS (As, Cu, Ni, Pb, Zn)				31.50 $			25.00 $			28.00 $			30.00 $		
MDMER - EEM - Mixing Zone	pH	Monthly during periods of discharge (approx 3 months)	MEL-13, MEL-26-EEM	6	4.50 $	158.13 $	948.78 $	7.00 $	161.00 $	966.00 $	5.00 $	135.50 $	813.00 $	15.00 $	82.00 $	492.00 $
	Alkalinity				8.37 $			15.00 $			7.00 $			included with pH		
	Chloride				12.78 $			35.00 $			16.00 $			20.00 $		
	Conductivity				9.32 $			12.00 $			5.00 $			included with pH		
	Hardness				0.00 $			18.00 $			15.00 $			include with metals		
	Nitrate				7.88 $			included			12.00 $			included		
	Sulphate				12.78 $			included			13.50 $			included		
	Ammonia (expressed as N)				12.78 $			15.00 $			12.00 $			9.00 $		
	Total Phosphorus				13.23 $			16.00 $			15.00 $			included with metals		
	Metals - **Trace** (Al, **Cd**, Co, **Cr**, Fe, Hg, Mn, Mo, **Se**, Tl, U)				76.50 $			43.00 $			35.00 $			38.00 $		
	pH				4.50 $			7.00 $			5.00 $			15.00 $		
	Dissolved Oxygen				19.80 $			12.00 $			16.00 $			10.00 $		
	Carbonate Alkalinity				0.00 $			15.00 $			15.00 $					
	Bicarbonate Alkalinity				0.00 $			included			15.00 $			included		
	Total Alkalinity				8.37 $			15.00 $			7.00 $					
	TDS				10.35 $			15.00 $			11.30 $			12.00 $		
	TSS				10.35 $			10.00 $			7.50 $			9.00 $		
	Chloride				12.78 $			35.00 $			16.00 $			20.00 $		
	Conductivity				9.32 $			12.00 $			5.00 $			included		
	Turbidity				9.32 $			12.00 $			8.00 $			15.00 $		
	TPH				45.00 $			35.00 $			55.00 $			125.00 $		
	Hardness				0.00 $			18.00 $			15.00 $					
	Calcium				0.00 $			included			0.00 $					
	Potassium				0.00 $			included			0.00 $			included with metals		
	Magnesium				0.00 $			included			0.00 $					
	Sodium				0.00 $			included			0.00 $					
	Sulphate				12.78 $			included			13.50 $			included		

MDMER - EEM - Receiving Environment	Ammonia	3 / year	MEL-03-01, MEL-26 Reference	6	12.78 $	702.27 $	4 213.62 $	-	696.00 $	4 176.00 $	12.00 $	575.30 $	3 451.80 $	9.00 $	541.00 $	3 246.00 $
	Ammonia nitrogen				-			15.00 $			12.00 $					
	Total Kjeldahl Nitrogen				12.78 $			16.00 $			18.00 $			10.00 $		
	Nitrate				7.88 $			included			12.00 $			included		
	Nitrite				7.88 $			included			12.00 $			included		
	Orthophosphate				12.78 $			18.00 $			15.00 $			10.00 $		
	Total Phosphorus				13.23 $			16.00 $			15.00 $			included with metals		
	TOC				19.17 $			25.00 $			24.00 $			10.00 $		
	DOC				18.23 $			27.00 $			24.00 $			10.00 $		
	Reactive Silica				38.34 $			40.00 $			30.00 $			18.00 $		
	Radium 226				191.70 $			180.00 $			75.00 $			150.00 $		
	Total Cyanide				23.99 $			18.00 $			15.00 $			12.00 $		
	Free Cyanide				23.99 $			19.00 $			15.00 $			15.00 $		
	Cyanide WAD				23.99 $			30.00 $			15.00 $			15.00 $		
	Total Metals - **Trace** (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Copper, Iron, Lead, Lithium, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Strontium, Thallium, Tin, Titanium, Uranium, Vanadium, Zinc)				76.50 $			53.00 $			45.00 $			38.00 $		
	Dissolved Metals - **Trace** (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Copper, Iron, Lead, Lithium, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Strontium, Thallium, Tin, Titanium, Uranium, Vanadium, Zinc)				76.50 $			53.00 $			47.00 $			38.00 $		
Acute Lethality	Acute Toxicity to Rainbow Trout	5 / year	MEL-14, MEL-26	10	200.00 $	300.00 $	3 000.00 $	425.00 $	425.00 $	4 250.00 $	350.00 $	470.00 $	4 700.00 $	440.00 $	730.00 $	7 300.00 $
	Acute Toxicity to Daphnia Magna				100.00 $						120.00 $			290.00 $		
Sublethal Toxicity	Fathead minnow; 7 day survival and growth	2 / year	MEL-14, MEL-26	4	1 728.00 $	5 013.00 $	20 052.00 $	1 100.00 $	3 750.00 $	15 000.00 $	1 250.00 $	4 450.00 $	17 800.00 $	1 440.00 $	4 815.00 $	19 260.00 $
	Ceriodaphnia dubia; 7-day survival and reproduction				1 620.00 $			1 000.00 $			1 400.00 $			1 305.00 $		
	Lemna minor; 7-day growth inhibition				1 125.00 $			1 150.00 $			1 250.00 $			1 200.00 $		
	Pseudokirchneriella subcapitata				540.00 $			500.00 $			550.00 $			870.00 $		
Oil	Metals (Cd, Cr, Pb)		W-Oil	4	208.80 $	614.93 $	2 459.70 $	45.00 $	299.00 $	1 196.00 $	650.00 $	650.00 $	2 600.00 $	50.00 $	1 365.00 $	5 460.00 $
	PCB				118.13 $			72.50 $						40.00 $		
	Total Organic Halogens (as Cl)				175.50 $			116.50 $						1 075.00 $		
	Flash Point				112.50 $			65.00 $						200.00 $		
Ash	Leachate: metals in mg/L (Ag, As, Ba, Cd, Cr, Pb, Se, Zn)	Monthly	I-Ash	12	27.00 $	42.75 $	513.00 $	88.00 $	88.00 $	1 056.00 $	35.00 $	55.50 $	666.00 $	115.00 $	115.00 $	1 380.00 $
	Mercury in leachate				15.75 $						20.50 $					
Hydrocarbon Spill	PHC F1-F4 BTEX (water and soil)	as needed		1	119.84 $	119.84 $	119.84 $	125.00 $	125.00 $	125.00 $	45.00 $	45.00 $	45.00 $	125.00 $	125.00 $	125.00 $
Air Passive	SO2	Monthly	DF-5, DF-7	24	54.90 $	109.80 $	2 635.20 $	55.00 $	110.00 $	2 640.00 $	180.00 $	180.00 $	4 320.00 $	100.10 $	200.20 $	4 804.80 $
	NO2				54.90 $			55.00 $						100.10 $		
Air Active	PM2.5	Every 6 days	2 partisol stations	122	54.90 $	164.70 $	20 038.50 $	16.50 $	16.50 $	2 007.50 $	270.00 $	270.00 $	32 850.00 $	27.30 $	81.90 $	9 964.50 $
	PM10				54.90 $									27.30 $		
	TSP				54.90 $									27.30 $		
Dust fall	Dustfall Total	Monthly	5 site, 3 AWAR, 13 Rankin Inlet, more stations to be added	240	120.60 $	194.40 $	46 656.00 $	106.00 $	156.00 $	37 440.00 $	180.00 $	245.00 $	58 800.00 $	45.00 $	115.00 $	27 600.00 $
	Dustfall Fixed															
	Dustfall Metals				73.80 $			50.00 $			65.00 $			70.00 $		
Snowpack	Total Metals	Annually	4 site dustfall stations	4	45.00 $	45.00 $	180.00 $	40.00 $	40.00 $	160.00 $	220.00 $	220.00 $	880.00 $	35.00 $	35.00 $	140.00 $
Tailings-solid	ABA	Weekly	tailings-solid	52		0.00 $	0.00 $	48.00 $	62.00 $	3 224.00 $	130.00 $	208.00 $	10 816.00 $	100.00 $	155.00 $	8 060.00 $
	Bulk Metals							14.00 $			78.00 $			55.00 $		
	Sample preparation and disposal							-			-			-		
Waste Rock	ABA	Monthly	10 waste rock	120	339.75 $	339.75 $	40 770.00 $	48.00 $	137.00 $	16 440.00 $	130.00 $	463.00 $	55 560.00 $	100.00 $	330.00 $	39 600.00 $
	Bulk Metals							14.00 $			78.00 $			55.00 $		
	WRA							25.00 $			50.00 $			35.00 $		
	Shake Flask							50.00 $			180.00 $			140.00 $		
	Sample preparation and disposal							-			25.00 $			-		
SUBTOTAL							**249 996.81 $**			**221 326.50 $**			**284 423.30 $**			**220 324.30 $**
	Environmental Disposal			1118	5.00 $	5.00 $	5 588.33 $	5.00 $	5.00 $	5 588.33 $	0.00 $	0.00 $			5.00 $	5 588.33 $
TOTAL							**255 585.14 $**			**226 914.83 $**			**284 423.30 $**			**225 912.63 $**

*** Tailings and waste rock analysis was removed from the total for easier comparison**

* Aquatox pricing