Water Resources
Nunavut Regional Office
P.O. Box 100
Iqaluit, NU, X0A 0H0

AANDC reference
CIDM# 954703

NWB reference
#2AM-MEL----

October 9, 2015

Phyllis Beaulieu
Manager of Licencing
Nunavut Water Board
Gjoa Haven, NU, X0E 1J0

Re: Update # 2 to AANDC's Review of Agnico Eagle Mines Ltd.'s (AEM) Application for a New Type A Water Licence for its Proposed Meliadine Gold Mine. Licence No. 2AM-MEL----, ARCADIS Independent Closure Cost Estimate using Reclaim.

Dear Ms. Beaulieu,

AANDC would like to submit our consultant's (ARCADIS) independent Closure Cost Estimate using reclaim. We apologize in advance, as our consultant was unable to provide this review and report before the October 5, 2015 deadline.

AANDC would appreciate if the NWB would except this late submission and add it to the Public record as we would like to engage the applicant at the Technical meeting or at a later date that would be agreeable to all parties on the issue of the Closure Cost Estimate.

Please do not hesitate to contact me by telephone at 867-975-4282 or email at ian.parsons@aandc-aadnc.gc.ca for further comments or any questions.

Sincerely,

Ian Parsons, B.Sc
Regional Coordinator
Aboriginal Affairs and Northern Development Canada
P.O. Box 100
Iqaluit, NU, X0A 0H0

c.c.: Andrew Keim, A/Manager Water Resources, Nunavut Regional Office (NRO), AANDC
Erik Allain, Manager of Field Operations, NRO, AANDC

Memorandum

To: Phyllis Beaulieu, Nunavut Water Board

From: Ian Parsons, Regional Coordinator, Water Resources Division, AANDC

CC: Andrew Keim (AANDC)
Erik Allain (AANDC)
Amjad Tariq (AANDC)
Christine Wilson (AANDC)
Karen Costello (AANDC)

Date: October 9, 2015

Re: Update # 2 to AANDC's Review of Agnico Eagle Mines Ltd.'s (AEM) Application for a New Type A Water Licence for its Proposed Meliadine Gold Mine. Licence No. 2AM-MEL----, ARCADIS Independent Closure Cost Estimate using Reclaim.

Applicant:	Agnico Eagle Mine Ltd.
Project:	Meliadine Gold Project
Region:	Kivalliq

A. BACKGROUND

August 27, 2015 the Nunavut Water Board (NWB or Board) provided notification to interested parties that Agnico Eagle Mines Limited Partnership (Agnico Eagle or the applicant) had completed submission of an application for a Type "A" water licence # 2AM-MEL---- for development work related to the mining of the Meliadine Gold Project.

Interested parties were asked to review the water licence application and provide technical comments by October 5, 2015

B. RESULTS OF REVIEW

On behalf of Aboriginal Affairs and Northern Development Canada's (AANDC) Water Resources Division, comments and recommendations are provided in the attached appendix for the NWB's consideration. This appendix includes a memo prepared by ARCADIS on AANDC's behalf.

Encl.
ARCADIS memorandum

ARCADIS
Infrastructure · Water · Environment · Buildings

Imagine the result

Aboriginal Affairs and Northern Development Canada – Nunavut Region

RECLAIM Cost Model for the Meliadine Mine, Nunavut

Meliadine Gold Project Water Licence Application

October 8, 2015

Our Ref.:
702388-000

ARCADIS

Charles Gravelle, M.Sc.E., P.Eng.
Canadian Resource Manager for Engineering, Design and Construction

RECLAIM Cost Model for the Meliadine Mine, Nunavut

Prepared for:
Aboriginal Affairs and Northern Development Canada
P.O. Box 100 Building 918
Iqaluit, NU
X0A 0H0
Attention: Ian Parsons

Prepared by:
ARCADIS Canada Inc.
121 Granton Drive
Suite 12
Richmond Hill
Ontario L4B 3N4
Tel 905 882 5984
Fax 905 882 8962

Our Ref.:
702388-000

Date:
October 8, 2015

Figures

IN APPENDIX B

Appendices

AT REAR OF REPORT

Executive Summary

Agnico Eagle Mines Limited (AEM) has submitted to the Nunavut Water Board (NWB) a Type A Water Licence application for the development of the Meliadine Gold Mine Project. As part of this application the proponent must submit a quantum of security estimate to address the potential costs associated with the closure of the mine, which may be incurred by the Crown, should the proponent abandoned the site. The quantum of security is general completed using the latest version of the RECLAIM model. The results of the RECLAIM evaluation, as provided by AEM in their water licence application, has estimated the quantum of security for the mine development project to be on the order of $47.45 M with all liabilities assigned as a water based liability.

Pursuant to the request of Aboriginal Affairs and Northern Development Canada (AANDC), Arcadis Canada Inc. (ARCADIS) was retained by AANDC to review the existing water licence application, including the RECLAIM model, and attend a site visit to assist with the evaluation of the quantum of security as provided by AEM in their water licence application. The RECLAIM cost estimate for the Meliadine Mine, as presented herein, is based on a review of the Preliminary Closure and Reclamation Plan (PCRP) and water licence supporting documentation for the mine site, as prepared by AEM, and observations made by ARCADIS staff during a recent site visit, undertaken on 17 and 18 September 2015.

On the basis of the information collected during the recent site visit and our review of the AEM RECLAIM cost estimate, we have evaluated the quantum of security for this site should be on the order of $49.55 million to address the site closure requirements as outlined in the AEM Preliminary Closure and Reclamation Plan document.

In general the two RECLAIM estimates are consistent given the level of information available at this time. The main differences lie with how some individual cost items within the RECLAIM model were assigned between the respective mine operation areas and additional engineering costs have been added should the Crown have to complete the site reclamation and closure works. In most instances the unit rates used in the RECLAIM model were derived from AEM's experience at their Meadowbank operations which were deemed to be more reflective of local costs as compared to the RECLAIM rates. Of note, should the course of development or development assumptions change from the current plan then the RECLAIM estimate for this site should be updated to reflect these changes. This update may also take into account the results of any progressive reclamation work completed at the time the estimate is recalculated.

1. Introduction

Agnico Eagle Mine Limited (AEM) is developing the Meliadine Gold Project, located approximately 25 km north of Rankin Inlet in the Kivalliq Region of Nunavut (see Figure 1). The site has been in an advanced exploration phase since 2010 and plan is to start the development phase of the mine operations in 2016 pending receipt of the Type A Water Licence from the Nunavut Water Board (NWB). The original mine development plan was to include multiple mine holdings however during the course of the Environmental Impact Statement an evaluation was completed by AEM and the decision was made to phase the development of these mine holdings. The Phase 1 mine plan, as costed herein, is for the proposed open pit and underground mining methods for the development of the Tiriganiaq gold deposit with two open pits (Tiriganiaq Pit 1 and Tiriganiaq Pit 2) and an underground mine.

The proposed mine will produce approximately 12.1 million tonnes (Mt) of ore, 31.8 Mt of waste rock, 7.4 Mt of overburden waste, and 12.1 Mt of tailings. There are four phases to the development of Tiriganiaq: just over 4 years construction (Q4 Year -5 to Year -1), 8 years mine operation (Year 1 to Year 8), 3 years closure (Year 9 to Year 11), and post-closure (Year 11 forwards).

The Project will include the development of the following facilities (see Figures 2 and 3 for site layout) as discussed in the Preliminary Closure and Reclamation Plan (PCRP) which was submitted to the NWB as part of the water licence application:

- the proposed mine site including: Tiriganiaq Underground, Tiriganiaq Pit 1 and Tiriganiaq Pit 2, mineral processing facilities, water treatment plant (WTP), support infrastructures, three waste rock storage facilities (WRSFs), a tailings storage facility (TSF), transportation routes (including an All-weather Access Road (AWAR)), quarries and borrow pits; and

- Rankin Inlet facilities including: fuel storage facility, laydown and material storage area, and barge off-load structure.

The area that will be disturbed during construction and operation of the Project is approximately 414 hectares (ha), including the off-site facilities (Rankin Inlet). When mining at the Project is complete, 379 ha will be reclaimed. The area that will not be reclaimed is the flooded open pits.

The Project PCRP describes the plan to carry out the required closure activities and establish self-sustaining ecosystems with land uses similar to pre-development conditions (see Figure 4 for final site configuration post-closure). The PCRP will be

updated through the construction and operational phases of the Project as new information (such as monitoring results) become available.

The mining operation has been designed with final closure in mind. Environmental design features and mitigation, as well as current wildlife management practices used in other mining projects in Nunavut and the Northwest Territories (e.g., Meadowbank, Ekati, Diavik, and Snap Lake mine sites) for closure, will also be used at the Project as much as possible. Progressive closure activities will take place during mining as features or facilities area become available for closure.

There will be three main stages of closure at the Project:

- *Progressive Reclamation Stage* (Operating years 1 through 8), during which reclamation of the TSF will start with the initial placement of the cover material over the tailings surface. Reclamation of the open pits and underground mining will start in Year 8.
- *Closure Stage* (Closure years 1 through 3), during which the decommissioning of major facilities will occur and active flooding of the open pits will continue using water pumped from Meliadine Lake. Active care, maintenance, and monitoring will be required for the decommissioned and remaining facilities throughout this stage.
- *Post-Closure Stage* (Closure Year 4 and onwards), during which continued monitoring and maintenance will be carried out at a reduced frequency than during the Progressive Reclamation and Closure stages, depending on the results of the monitoring and measures of success selected for closure.

AEM currently have two water licences (2BE-MEP1318 and 2BB-MEL0914) associated with the existing mine operations. Reclamation works associated with these water licences are independent of the current mine plan as outlined herein. The quantum of security as presented in this document does not include for any reclamation or closure works associated with the mine exploration operations.

2. Summary of Reclamation Plans

The proposed AEM reclamation plan for the site is outlined presented in the document entitled *Preliminary Closure and Reclamation Plan April 2015 Version 1.0*. For the purposes of the RECLAIM estimate only a brief overview of the proposed closure and reclamation works are provided. Observations and any concerns with the assumptions related to the reclamation works are outlined in Sections 3 and 4. For the purposes of this assignment the sequence in which the permanent closure and reclamation works are presented in the PCRP has been used for ease of comparison.

2.1 Underground Mine Works

The permanent closure activities for the underground mine workings will include:

- Sealing the mine openings (including vent raises and portals);
- Flooding of the underground workings by natural groundwater infiltration;
- All equipment or infrastructure left underground will be cleaned, drained of fluid and hazardous materials removed to eliminate the risk of liquids or battery acids leaking into the flooded underground workings;
- Hazardous materials will be recovered and containerized for off-site disposal;
- Un-used explosives will be recovered and containerized for off-site disposal;
- Contour surface openings to match surrounding grades; and
- Contaminated materials will be consolidated and managed on site (eg hydrocarbon impacted waste rock will be landfarmed) or shipped off-site for disposal.

Monitoring of the reclamation work during the closure and post-closure phases of the program will be implemented as per the PCRP.

2.2 Open Pit Mine Workings

All pit access ramps will be secured by rock berm barricades, and berms will be constructed around the perimeter of each pit at a given setback in accordance with applicable mine regulations and rock mechanics studies conducted for pit stability. The open pits are designed to have stable slopes during the mine life and into post-closure. The slopes will be monitored as part of mine operations and will be progressively modified as required to maintain stability during operations.

Following completion of mining, the open pits will be flooded with water for over a period of three years, starting in Year 8 as progressive reclamation. The engineering

works associated with the progressive closure activities for the open pits are described in Section 6.2.2 of the PCRP. Flooding will be achieved primarily by active pumping from Meliadine Lake, with the planned pumping period running during the open water season from mid-June to end of September of each year. Water will be pumped at controlled rates from Meliadine Lake using the existing fresh water system. In addition, the natural runoff from the catchment area of each pit will accumulate in the pit during the filling period.

A summary of the pit volume and expected water elevations at the completion of flooding activities in each pit is provided in Table 13 of the PCRP. Preliminary annual flooding rates for each pit are approximately 3.1 M-m^3/year and 0.8 M-m^3/year for Tiriganiaq Pit 1 and Tiriganiaq Pit 2, respectively. Pump sizing for pit flooding and a more accurate estimate for the duration of flooding will be established during the detailed design phase of the Project to optimize pumping costs and reduce potential impacts to Meliadine Lake. Agnico Eagle will follow the DFO Water Withdrawal Protocol when withdrawing water from Meliadine Lake.

2.3 Waste Rock and Overburden Storage Facilities

The WRSFs will be designed for long-term stability. Thus no additional re-grading or construction is required. The WRSFs will be allowed to naturally re-vegetate. It is anticipated that the native lichen community will naturally re-vegetate the surface over time. Geochemical testing indicates that the waste rock and overburden from the Project is non-PAG and non-ML. Kinetic tests completed on all waste rock types and at various scales show that drainage water quality is expected to meet MMER monthly mean effluent limits, including results for arsenic. Therefore, a closure cover system is not proposed for the WRSFs.

Dust from the WRSFs is anticipated to be a minor issue during closure. Waste rock produced at the site will generally be large in size, and not susceptible to wind erosion. The overburden materials are relatively high in moisture content and are expected to be completely frozen at the time of closure. The need for additional dust control measures will be evaluated and implemented during operations and closure, as required.

The contact water management system for the WRSFs will be maintained during the closure period and pumped to CP1 for further treatment in the WTP until water quality monitoring demonstrates that water flowing from these facilities is acceptable for direct release to the environment. Once water quality is acceptable for direct release based on criteria established through the water licensing process, the WRSFs

contact water management system will be decommissioned (see Section 5.2.9 of the PCRP for decommissioning details).

2.4 Tailings Storage Facility

Closure and reclamation of the TSF will take place progressively during operations. Progressive closure will start in Cell 1 once the tailings in Cell 1 reach the design elevation, and will progressively move to Cell 2 and finally Cell 3. The remaining closure and remediation requirements of the TSF will be completed after operations cease. Details of the closure activities are provided in the PCRP.

An engineered cover will be progressively placed on the surface of the tailings as the tailings deposit reaches the ultimate elevation. The proposed closure cover includes a layer of 0.5 m thick of overburden followed by a layer of 2.5 m thick waste rock on the top of the facility, and 3.7 to 4.2 m thick layer of waste rock only on the TSF sideslopes. The intent of the overburden layer will be to limit infiltration of water to the tailings surface. The placement of the engineered cover will also help prevent dust production. It is anticipated that the native lichen community will naturally re-vegetate the TSF cover over time. Cover design will be finalized during the detailed design phase of the Project and will consider operational experience at other northern mine sites, and available design guidelines including MEND Report 1.61.5c – Cold Regions Cover System Design Technical Guidance Document (MEND 2012).

The contact water management system for the TSF will be maintained during the closure period, and any water collected will be pumped to CP1 for further treatment in the WTP until water quality monitoring demonstrates that water reporting from the TSF is acceptable for direct release to the environment. Once water quality is acceptable for direct release based on criteria established through the water licensing process, the TSF contact water management system will be decommissioned (see Section 5.2.9 of the PCRP).

2.5 Buildings and Equipment

All buildings and equipment will be decontaminated and decommissioned prior to dismantling and disposal off-site or within the local landfill. Details on the building and equipment decommissioning and removal are provided in the PCRP.

2.6 Mine Infrastructure

The relevant engineering works associated with the permanent closure activities for the mine infrastructure are discussed below.

- An assessment will be carried out to identify areas where soils may be contaminated by hydrocarbons. Contaminated soils will be excavated and hauled to the landfarm area for on-site remediation.
- Salvageable buildings and surface structures will be dismantled and demobilized from the site.
- Non-salvageable buildings and structures will be dismantled or demolished and inert non-hazardous materials disposed of in the landfill area in WRSF1.
- Hazardous wastes will be removed for disposal by a licensed handler.
- Concrete structures and foundations will be cut in pieces and buried, or removed, to a point about 1 m below the final ground surface or the final re-graded surface.
- All disturbed site areas will be re-graded to suit the surrounding topography. In areas where the original ground surface was lowered for site grading or structural requirements, the slopes will be stabilized and contoured. Cover materials may be required for erosion and dust control. It is anticipated that a succession of indigenous plant species will naturally re-vegetate the surface over time.
- Fuel not required during the closure and reclamation activities will be sold, returned to suppliers, disposed by a licensed handler, or incinerated.

2.7 Transportation Routes

The relevant engineering works associated with the permanent closure activities for the transportation routes are discussed below.

- The roads not required for post-closure monitoring will be decommissioned and the terrain restored. Decommissioning of the road will start from the site and progress south towards Rankin Inlet.
- Decommissioning will occur by loosening compacted surfaces and flattening side slopes.
- The road surface will be scarified, allowing the native plant community to naturally establish itself on the former road surface.
- Slopes will be stabilized against erosion potential.
- If necessary, wildlife access will be provided at suitable intervals by re-grading the embankment shoulders to provide flatter slopes.

- All bridges and culverts will be removed and original drainage patterns restored (not including the Char River bridge as this would become the property of the Hamlet of Rankin Inlet).
- Stream crossings will be rehabilitated as they are encountered during the progression of the road decommissioning work.
- Cross-drain structures (cross-ditches) will also be installed where necessary between culvert sites. Where armouring rock (rip-rap) is required, this rock will be non-acid generating and non-metal leaching for the protection of aquatic life. Where affected watercourses are fish bearing, the timing of work will be restricted to within the designated DFO fisheries work window.
- Should potentially acid generating bedrock be exposed along the roadway, these areas will be covered with a minimum 2 m thick layer of non-potentially acid generating and non-metal leaching soil or rock to direct water away from the surface.
- The loosening of compacted surfaces will be accomplished by ripping the road bed using a dozer with a “ripper” attachment on the back. Successive passes with the dozer longitudinally along the road bed will eliminate the level road surface and make travel difficult. It is anticipated that, in this way, the abandoned roads will not be useable by wheeled vehicles (i.e., cars, trucks, and pick-up trucks). The road bed would still be useable by all-terrain vehicle or snowmobile after final reclamation.

2.8 Landfill and Other Waste Disposal Areas

The relevant engineering works associated with the permanent closure activities for the waste management facilities are discussed below.

- The leachate from the landfill is anticipated to be of very low ionic strength (dilute) due to controls on materials to be placed in the landfill. Moreover, drainage from the landfill is largely expected to freeze within WRSF1, with little to none reporting to the water collection infrastructure (FEIS Volume 2; Agnico Eagle 2014). The design, operation, and/or closure of the landfill do not rely on total freezing; however, as an added control strategy, a minimum of 3.7 m thick non-potentially acid generating and non-metal leaching waste rock cover will be placed over the landfill. The cover thickness of 3.7 m is considered sufficient for planning purposes and is based on maintaining the active layer within the waste rock so that the materials landfilled will remain frozen. The 3.7 m cover will be placed at closure. The cover is designed to account for potential climate warming and would be modified if required. When finalizing the design for the cover, the need for thermistors to be

installed will be evaluated. The surface will be left irregular so as to capture snow, windblown sediment, and plant seeds.

- The hazardous waste and contaminated soil (soil not treated through the proposed landfarm, i.e., soil contaminated with heavy hydrocarbons or other contaminants not suitable for remediation in the landfarm) will be managed continually during operations and closure by sending the soil to a licensed off-site treatment facility. Therefore, there will be little to no accumulation of such wastes during mine operations or closure at the mine site, subject to seasonal shipping considerations.
- The landfarm will be managed as long as it is efficient for the overall Project closure activities and closure schedule, the contaminated soils excavated during the closure activities could be disposed off-site at an approved disposal if necessary. The remediated material from the landfarm will be excavated and the excavated material will be placed in the WRSF1 landfill area below the final cover. After removal of all remediated material and prior to closure and reclamation of the landfarm, the berm and base will be sampled to determine if these soils are free from Petroleum Hydrocarbons (PHC) contamination. If the soils meet the required criteria, the landfarm area would then be re-graded to confirm positive surface drainage. If they do not meet the required criteria, the landfarm will be covered with 2 m of waste rock or other material used for reclamation. The surrounding berm will be breached to avoid water accumulation on the landfarm.
- Inert, non-combustible wastes will be disposed in the underground mine workings and/or WRSF1 landfill.
- Domestic waste will be burned in the incinerator during operation and closure as part of camp maintenance.
- Waste oils, solvents, and other hydrocarbons on-site will be burned in the incinerator if approved (chlorinated substances will not be burned).
- Any above-ground infrastructure will be demolished and the non-hazardous debris will be disposed in the WRSF1 landfill.
- Concrete structures and foundations will be cut in pieces and buried, or removed, to a point about 1 m below the final ground surface or the final re-graded surface.
- All disturbed site areas will be re-graded to suit the surrounding topography. In areas where the original ground surface was lowered for site grading or structural requirements, the slopes will be stabilized and contoured. Cover materials may be required for erosion and dust control. It is anticipated that a succession of indigenous plant species will naturally re-vegetate the surface over time.

2.9 Water Management Facilities

The reclamation and closure work associated with the Water Management Facilities is focused primarily on the water treatment plant (WTP) and effluent diffuser as well as the dykes and berms used to control the overland flow of surface water across the mine site. It is the intent of AEM to operate the WTP for three treatment seasons (three years) during the post-closure phase. Upon completion of the treatment phase the facility would be decommissioned and disposed of within the site landfill with any hazardous materials transferred off-site for disposal. The diffuser structure and associated piping would also be decommissioned and transferred to the site landfill for disposal.

Upon completion of the water treatment phase of the work and confirmation that any seepage from the WRSF or TSF does not require treatment the dykes and berms used to control surface water flow across the site would be breached as outlined in the PCRP.

2.10 Quarries and Granular Borrow Sites

The reclamation of the quarries and borrow sources will generally include the following:

- Removal of all equipment;
- Stabilization and grading of existing side slopes within borrow and quarry areas to promote positive drainage; and
- Loose rock will be scaled along any rock quarry walls and entrances blocked with large boulders.

As a contingency, AEM has also included in their evaluation the potential for potential acid generating (PAG) rock or overburden to be exposed. Should this situation arise AEM would undertake to cover the PAG material with a 2 m thick layer of non-PAG rock or overburden.

2.11 Post-Closure Monitoring

The PCRP states that surface water monitoring within the water bodies surrounding the main site operations and groundwater monitoring within the footprint of the mine operations would be required along with annual geotechnical monitoring. Details of the proposed monitoring work are outlined in the Type A Water Licence

documentation. Water monitoring locations and sampling frequency will be provided in the Water Licence.

The monitoring of soil conditions would not be required as the treatment of any petroleum hydrocarbon impacted soils would need to be completed as part of the reclamation program.

3. Summary of Site Conditions

At this phase of the mine development the construction of the site infrastructure has yet to be undertaken and as such the observations made during the recent site visit were limited to understanding the site in the pre-development phase of the works. The existing site conditions, as reviewed by ARCADIS staff, have minimal impact on the preparation of the RECLAIM cost estimate herein.

4. Basis of RECLAIM Cost Estimate

This version of the Meliadine mine site RECLAIM cost estimate is based on information collected during the recent site inspection works in September 2015 by ARCADIS staff and information included in the documentation provided by AANDC:

- AEM Preliminary Closure and Reclamation Plan (April 2015);
- AEM RECLAIM cost estimate (April 2015);
- AEM Type A Water Licence Application including all related plans (May 2015);
- Mine Site Reclamation Policy for Nunavut (INAC, 2002); and
- Mine Site Reclamation Guidelines for the NWT (INAC, 2007).

For ease of review we have included the same section headings used in the RECLAIM model. For the purposes of this evaluation the RECLAIM Version 7.0 model was used. As previously stated in our evaluation of the AEM RECLAIM cost estimate, we have used some of their quoted unit rates in lieu of the RECLAIM rates as they are based on recent local experience at the Meadowbank mine site.

4.1 Open Pit

There are two open pits proposed as part of the Meliadine mine operations namely Tiriganaiq Pit 1 and Tiriganaiq Pit 2. The amount of reclamation work required for the

respective open pits differs on the basis of size. For the purposes of this estimate the RECLAIM costs for each open pit have been derived independently.

Tiriganaiq Pit 1

The reclamation work within this pit will comprise the preparation of access controls and flooding of the pit. The balance of the costing items included in the RECLAIM estimate represent work that would be completed on an on-going basis as part of progressive reclamation work.

Access Control

In order to control access to the pit, post-closure, a 1 m high berm would be constructed around the perimeter of the pit; the entrance to the access ramp would be blocked with a waste rock berm and signage would be erected around the perimeter of the pit as a warning that an open pit exists. The volume of waste rock to be relocated to construct the perimeter berm and access ramp berm has been estimated by AEM to be 5,590 and 410.4 m^3. On the basis of our review of the mine plan the volumes are consistent with the PCRP. A total of 15 signs would be placed around the perimeter of the open pit which represents a sign every 150 m.

The unit rates used for this reclamation work were derived using the high range RECLAIM rates provided and as such are considered sufficiently conservative.

Flood Pit

There are two components to this work – Capital Costs and Annual Costs. The work items under Capital Costs include:

- Removal of sump pumps from the pit.
- Supply and installation of a pump station at Meliadine Lake
- Supply and install pump into the pump station
- Supply and installation of up to 5 km of associated piping

The Annual Costs, which will be applied for a period of three years, include:

- Operation of the pumping system during the open water season.
- Purchase of water as part of the Inuit Compensation Program. The quantity of water estimated assumes that precipitation and freshet runoff will contribute to the volume of water entering the pit between and during the pit flooding periods and includes the entire volume required for both Pits 1 and 2. For the purposes of the ARCADIS RECLAIM estimate the volume of water

has been split between the two pits on the basis of the ratio of size (i.e. 2,971,200 m^3 for Pit 1 and 742,800 m^3 for Pit 2.

The unit rates used in the AEM RECLAIM estimate were primarily based on information collected at the Meadowbank mine and as such are considered representative of the costs to complete this work in part of Canada.
The split of the liabilities between Land and Water are based on whether the reclamation work is being done to mitigate land or water concerns. The reclamation work as outlined herein would be considered a Land Liability as it pertains solely to site access. Details are provided in the worksheet (see Appendix A).

Tiriganaiq Pit 2

The same reclamation plan is proposed for this open pit however the material quantities are less given the proposed size of development. The quantities included in the AEM RECLAIM estimate are:

- Signage – 5 signs
- Perimeter Berm – 2376 m^3 of waste rock
- Access Ramp Berm – 410.4 m^3 of waste rock

The quantities provided by AEM are representative of the future work that would be required to close this pit and as such the quantities have been used in the ARCADIS estimate. Note that it has been assumed that the two pits will be filled concurrently and as such some economies of scale may be realized.

The split of the liabilities between Land and Water are based on whether the reclamation work is being done to mitigate land or water concerns. The reclamation work as outlined herein would be considered a Land Liability as it pertains solely to site access. Details are provided in the worksheet (see Appendix A).

4.2 Underground Mine

Reclamation work under this task will include:

- Closure of two portals including two portal plugs, the placement of backfill within the upper reaches of the portal entrance and the placement of waste rock over the entire portal entrance to form a mine seal consistent with the surrounding surface grades
- Construction of caps on four raises

- Removal of hazardous materials from the underground prior to flooding

In general terms the volumes and rates used in the AEM RECLAIM estimate are based on AEM's experience with the Meadowbank site and are considered reasonable for this stage of the mine development. Similarly the rates used by AEM for the capping of vent raises and construction of the portal caps are also sufficiently conservative. The rates used for the movement of waste rock as part of the portal and vent raise seals were derived from the high range rates provided in the RECLAIM model and are considered reasonable for this work.

The unit rate for the management of hazardous materials from the underground, as presented in the AEM RECLAIM estimate, was based on using a cost representative of the work required to be completed. Though the scoop tram rate from the RECLAIM estimate was applied it is understood through dialogue with AEM and their consultant that the cost is reflective of the labour and equipment that will be required to manage the hazardous materials that may be present in the underground at the time of closure.

The split of the liabilities between Land and Water are based on whether the reclamation work is being done to mitigate land or water concerns. The reclamation work as outlined herein would be considered a Land Liability as it pertains solely to site access. Details are provided in the worksheet (see Appendix A).

4.3 Tailings Impoundment

The impoundment of tailings for the Meliadine mine will entail the dry stacking of tailings within a three cell Tailings Storage Facility. For the purposes of AEM RECLAIM estimate it was assumed that the dry tailings would be placed into the TSF and the final cover constructed over the majority of the TSF (Cell 1 and 2 entirely and part of Cell 3) as part of the progressive reclamation of the site and as such only the cost to place the final waste rock and overburden cover over an area approximately 5 ha in size, as well as some nominal amount of seepage management, was included in their estimate. The approach taken by AEM would be considered reasonable however the design does not include for the capping of the TSF embankments which we would consider a prudent control measure for surface water infiltration into the TSF. For the purposes of this estimate we have assumed the majority of this work would be completed as part of the progressive reclamation program.

The volume of waste rock and overburden assumed in the AEM RECLAIM estimate was 143,135 and 28,627 m^3 respectively. For the purposes of the ARCADIS RECLAIM estimate we have assumed that the overburden cap would need to extend

down the side slopes of the TSF embankment and as such the volume of overburden used in the capping of the TSF would increase to 60,000 m^3 to address potential surface water infiltration concerns.

The assumption on the treatment of supernatant resulting from discharge or seepage from the TSF is effectively a provisional amount included in the AEM estimate. The estimated cost only includes for the supply and operation of a pump to move any supernatant from the TSF to the water treatment facility which would still be in operation during the post closure period. In the absence of any evidence that the TSF would generate any significant quantities of supernatant the same set of assumptions have been used in the ARCADIS RECLAIM estimate.

For the purposes of this estimate the costs related to reclamation of the tailings impoundment area have been split 50/50 between Land and Water Liabilities. Future monitoring of the TSF will be required to confirm the TSF is performing as designed (geotechnical inspections) and not impacting the surrounding lands, and that any discharge from the TSF is not impacting the local waterbodies. Details are provided in the worksheet (see Appendix A).

4.4 Rock Pile

The AEM RECLAIM estimate assumes that the construction and final contouring of the waste rock storage facilities would be completed as part of the progressive reclamation of the mine site. For the purposes of the ARCADIS RECLAIM estimate it has been assumed that minimal regrading of the stockpiles that would be used as potential borrow material for the capping of the Tailings Storage Facility and construction of perimeter berms at Tiriganaiq Pits 1 and 2, the sealing of the portals and other mine openings as well as the landfill.

The unit rate used for this work is the low end of the RECLAIM unit rates for the grading of waste rock as defined by item DR low and assumes a quantity equal to 500 mm over the entire area of the waste rock storage facility WRSF 1.

4.5 Building and Equipment

At this point of the mine development none of the plant infrastructure has been constructed and as such the volumes and tonnages provided by AEM are deemed to reflect the current mine plan and future mine closure and reclamation program.

The unit rates used in the AEM RECLAIM estimate are based on a mix of rates derived from AEM's experience at other mine sites including the Meadowbank mine and RECLAIM rates as provided in the Version 7.0 model.

For the purposes of this estimate the material quantities and unit rates remain unchanged. The majority of the work under this module will be done to address concerns related to land liabilities however a portion of the work will ensure water quality liabilities are address. The evaluation of land and water liabilities is provided on the work sheet in Appendix A.

4.6 Chemicals, Hazardous Materials and Contaminated Soils

The quantities of materials, as outlined in the AEM RECLAIM estimate, are based on AEM's experience with their Meadowbank operations and the type of process operations as detailed in the mine plan. The unit rates used in this module are a mix of rates provided from AEM experience at Meadowbank operations and RECLAIM Version 7.0 rates. It is understood that the rates provided by AEM include for both the consolidation of hazardous material and their disposal off-site.

Given the phase of mine development the quantities and rate provided are reasonable and sufficiently conservative with the exception of the estimate for the Phase I and II ESA work. In the event that the site goes into receivership then cost to complete a Phase I/II ESA to the CSA standards would require significantly more money then what has been estimated even when using local workers to assist with the field program. For the purposes of the ARCADIS RECLAIM estimate we have assumed rates we have recently used for Arctic projects of similar size (see Appendix A for the costs).

In addition it has been requested by AANDC a separate line item for the management of cyanide based waste has been added to the ARCADIS RECLAIM estimate. In general the work under this module relates to land based liabilities however a portion of the liability has been assign to water.

4.7 Water Management and Treatment

The work under this task, as presented in the AEM estimate, only includes for the breaching of the dykes and water control berms constructed around the WRSF and TSF. The costs related to the treatment of any supernatant from the TSF were included in the Tailings Management costs. The unit rate for this work was derived from AEM's experience at other site and is considered conservative for the level of

effort required to breach the respective water diversion structures. In general the work within this module relates to liabilities associated with water as outlined in the work sheet provided in Appendix A.

4.8 Post-Closure Water Treatment

The work under this model includes for the operations of the water treatment facility including all equipment and labour. The assumption used by AEM was that a three year post closure period would be required to mitigate any potential water management issues related to seepage from the respective WRSF and TSF. This time period is considered reasonable for this project given the commitment to progressive reclamation on the part of AEM.

The unit rate and three year time period for this work was derived from AEM's experience at other sites and is considered conservative for the level of effort required to breach the respective water diversion structures. In general the work within this module relates to liabilities associated with water as outlined in the work sheet provided in Appendix A.

4.9 Interim Care and Maintenance

The work under this model includes for the operations of the water treatment facility including all equipment and labour for an interim period of up to three years. The assumption used by AEM of three years is based on a corporate philosophy regarding interim care and maintenance (ICM) of their mineral claims and as such we have not considered any other time period in our evaluation of the ICM costs.

The unit rate and three year time period for this work was derived from AEM's experience at other sites and is considered conservative for the level of effort required to breach the respective water diversion structures. In general the work within this module relates to liabilities associated with water as outlined in the work sheet provided in Appendix A.

4.10 Post-Closure Monitoring and Maintenance

As outlined in Section 9 of the Mine Closure and Reclamation Plan the post-closure monitoring and maintenance for this site will build upon the information collected during the pre-development, construction and operation phases of the mine development and address the concerns identified in the Aquatic Effects Monitoring

Program and Terrestrial Environmental Management and Monitoring Plan. The work to be undertaken under this module would include:

- Surface and groundwater sampling as per the prescribed sampling plan.
- Receiving or downstream water sampling as per the prescribed sampling plan.
- Annual Geotechnical inspections of the site.

The unit rates for this work have been taken from the high scale rates in the RECLAIM Version 7.0 model except for the geotechnical inspection rate which seems low relative to the work that must be completed. For the purposes of this estimate we have used the water sampling rate for the geotechnical inspection. In general the work within this module relates to liabilities associated with water as outlined in the work sheet provided in Appendix A.

4.11 Mobilization and Demobilization

The AEM RECLAIM estimate assumed that the reclamation of the entire Meliadine site and supporting infrastructure (including the Itivia dock area) would be completed over a period of three years. Labour, equipment, materials and supplies for the reclamation works would be mobilized through the community of Rankin Inlet. In general the equipment necessary to complete the work would be derived from the fleet of mine equipment save for a set of demolition shears which would need to be mobilized to site to assist with the dismantling of the plant infrastructure.

The level of effort assumed in the AEM RECLAIM estimate to complete the reclamation work and costs associated with the lodging of staff are all reflective of the reclamation and closure works outlined in the ICRP.

For the purposes of this estimate the unit rates are based the rates provided by AEM and updated RECLAIM Version 7 rates. Details on the costing for this module are presented in Appendix A. The liability costs have been split as a function of the direct cost ratio between land and water liabilities as compared to the overall direct costs.

4.12 Other Considerations

The following assumptions have been made with respect to Indirect Costs:

- Project Management costs would be 5% of Direct Costs

- Engineering Costs would be 10% of Direct Costs (the increased rate is to cover the additional engineering costs that would be incurred by the Crown should they need to take-over the management of the reclamation and closure works.)
- Health and Safety would be 1% of Direct Costs
- Bonding and Insurance would be 1% of Direct Costs
- Contingency Factor would be 20%
- Market Price Factor Adjustment has been set to 0%.

The percentage split of Indirect Costs associated with Land vs Water liabilities has been set by the ratio of Direct Costs for these liabilities at a ratio of 55% to 45%. The percentage of liability has been set on the basis of how the reclamation work will impact the land, surrounding water bodies or a split between the two. Work items such as demolition works have been assigned solely to land as the decommissioning and dismantling of structures would not typically impact the local water bodies unless material was disposed of on site in a manner that would create a leachate condition which could impact the surrounding area. Conversely work items such as water treatment are solely assigned to a water liability as the discharge of any water from the treatment process will directly impact the local water bodies. More details on the ratio splits are provided in the attached worksheets in Appendix A.

5. Summary of Costs

The final breakdown of costs by module is provided below. Detailed work sheets for each module are presented in Appendix A.

CAPITAL COSTS	COMPONENT NAME	COST	LAND LIABILITY	WATER LIABILITY
OPEN PIT	Pit 1 and Pit 2	$2,441,707	$864,041	$1,577,666
UNDERGROUND MINE		$969,540	$785,940	$183,600
TAILINGS FACILITY		$1,755,313	$860,277	$895,037
ROCK PILE	WRSF 1 to 3	$105,000	$105,000	$0
BUILDINGS AND EQUIPMENT		$18,736,095	$11,827,412	$6,908,684
CHEMICALS AND CONTAMINATED SOIL MANAGEMENT		$2,623,772	$1,311,886	$1,311,886
SURFACE AND GROUNDWATER MANAGEMENT		$127,050	-	$127,050
INTERIM CARE AND MAINTENANCE		$1,684,380	-	$1,684,380
SUBTOTAL: Capital Costs		**$28,442,858**	**$15,754,555**	**$12,688,303**
PERCENT OF SUBTOTAL			**55%**	**45%**
INDIRECT COSTS		**COST**	**LAND LIABILITY**	**WATER LIABILITY**
MOBILIZATION/DEMOBILIZATION		$9,687,952	$5,366,176	$4,321,776
POST-CLOSURE MONITORING AND MAINTENANCE		$900,000	$498,512	$401,488
ENGINEERING	10%	$2,844,286	$1,575,456	$1,268,830
PROJECT MANAGEMENT	5%	$1,422,143	$787,728	$634,415
HEALTH AND SAFETY PLANS/MONITORING & QA/QC	1%	$284,429	$157,546	$126,883
BONDING/INSURANCE	1%	$284,429	$157,546	$126,883
CONTINGENCY	20%	$5,688,572	$3,150,911	$2,537,661
MARKET PRICE FACTOR ADJUSTMENT	0%	$0	$0	$0
SUBTOTAL: Indirect Costs		**$21,111,809**	**$11,693,873**	**$9,417,937**
TOTAL COSTS		**$49,554,667**	**$27,448,428**	**$22,106,239**

Appendix A

RECLAIM Version 7 Model Worksheet Tables

SUMMARY OF COSTS

CAPITAL COSTS	COMPONENT NAME	COST	LAND LIABILITY	WATER LIABILITY
OPEN PIT	Pit 1 and Pit 2	$2,441,707	$864,041	$1,577,666
UNDERGROUND MINE		$969,540	$785,940	$183,600
TAILINGS FACILITY		$1,755,313	$860,277	$895,037
ROCK PILE	WRSF 1 to 3	$105,000	$105,000	$0
BUILDINGS AND EQUIPMENT		$18,736,095	$11,827,412	$6,908,684
CHEMICALS AND CONTAMINATED SOIL MANAGEMEI		$2,623,772	$1,311,886	$1,311,886
SURFACE AND GROUNDWATER MANAGEMENT		$127,050	-	$127,050
INTERIM CARE AND MAINTENANCE		$1,684,380	-	$1,684,380
	SUBTOTAL: Capital Costs	**$28,442,858**	**$15,754,555**	**$12,688,303**
	PERCENT OF SUBTOTAL		**55%**	**45%**

INDIRECT COSTS		COST	LAND LIABILITY	WATER LIABILITY
MOBILIZATION/DEMOBILIZATION		$9,687,952	$5,366,176	$4,321,776
POST-CLOSURE MONITORING AND MAINTENANCE		$900,000	$498,512	$401,488
ENGINEERING	10%	$2,844,286	$1,575,456	$1,268,830
PROJECT MANAGEMENT	5%	$1,422,143	$787,728	$634,415
HEALTH AND SAFETY PLANS/MONITORING & QA/QC	1%	$284,429	$157,546	$126,883
BONDING/INSURANCE	1%	$284,429	$157,546	$126,883
CONTINGENCY	20%	$5,688,572	$3,150,911	$2,537,661
MARKET PRICE FACTOR ADJUSTMENT	0%	$0	$0	$0
	SUBTOTAL: Indirect Costs	**$21,111,809**	**$11,693,873**	**$9,417,937**

TOTAL COSTS		**$49,554,667**	**$27,448,428**	**$22,106,239**

1 **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		$0	$0
Signs		each	15	SH	$37.08	$556	100%	$556	$0
Berm at crest		m3	5590	RB1H	$17.05	$95,310	100%	$95,310	$0
Block roads		m3	410.4	RB1H	$17.05	$6,997	100%	$6,997	$0
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
	5%			#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
	20%	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	100%	$6,742	$0
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 & piping		each	1	AEM	$350,000.00	$350,000	100%	$350,000	$0
Supply/install piping system		m		#N/A	$0.00	$0		$0	$0
Suuply/Install Pump to Flood		each	1	AEM	$350,000.00	$350,000	100%	$350,000	$0
Remove pipeline post-closure		m		#N/A	$0.00	$0		$0	$0
FLOOD PIT-Annual Cost									
Operate pumps (power)		m3		#N/A	$0.00	$0		$0	$0
Operate pump to flood pit		each	1	MBK	$447,152.00	$447,152	100%	$447,152	$0
Maintain pump/pipeline		allow		#N/A	$0.00	$0		$0	$0
Labour:fuel management, comissioning/decom		$/h		#N/A	$0.00	$0		$0	$0
Chemical addition, _____ kg/m3 of water		tonne		#N/A	$0.00	$0		$0	$0
Chemicals, purchase and shipping		tonne		#N/A	$0.00	$0		$0	$0
Passive/biological additives		$/ha		#N/A	$0.00	$0		$0	$0
Passive additives purchase and shipping		tonne		#N/A	$0.00	$0		$0	$0
Other - Water Purchased to Flood		m3	2971200	MBK	$0.03	$78,737	100%	$78,737	$0
				Annual pumping costs		$525,889			
Number of years of pump flooding		years	3						
				Total pumping costs		$1,577,666		$0	$1,577,666
				Total		$2,387,271		$809,605	$1,577,666
				% of Total				34%	66%

1 **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		$0	$0
Signs		each	5	SH	$37.08	$185	100%	$185	$0
Berm at crest		m3	2376	RB1H	$17.05	$40,511	100%	$40,511	$0
Block roads		m3	410.4	RB1H	$17.05	$6,997	100%	$6,997	$0
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
	5%			#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
	20%	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	#N/A	$6,742.00	$6,742	100%	$6,742	$0
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		each		#N/A	$0.00	$0		$0	$0
Supply/install piping system		m		#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	1	#N/A	$111,788.32	$111,788	100%	$111,788	$0
Maintain pump/pipeline		allow		#N/A	$0.00	$0		$0	$0
Labour:fuel management, comissioning/decom		$/h		#N/A	$0.00	$0		$0	$0
Chemical addition, _____ kg/m3 of water		tonne		#N/A	$0.00	$0		$0	$0
Chemicals, purchase and shipping		tonne		#N/A	$0.00	$0		$0	$0
Passive/biological additives		$/ha		#N/A	$0.00	$0		$0	$0
Passive additives purchase and shipping		tonne		#N/A	$0.00	$0		$0	$0
Other - Water purchase to flood		m3	742800	#N/A	$0.03	$19,684	100%	$19,684	$0
					Annual pumping costs	$131,473			
Number of years of pump flooding		years							
					Total pumping costs	$0		$0	$0
					Total	$54,436		$54,436	$0
					% of Total			100%	0%

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

ACTIVITY/MATERIAL	Notes	Unit	Qty	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
CONTROL ACCESS									
access portal (ice plug removal)		LS		#N/A	$0.00	$0		$0	$0
Signs		each	2	#N/A	$37.08	$74	100%	$74	$0
Block roads		m3		#N/A	$0.00	$0		$0	$0
Berm		m3	2,565	RB1H	$17.05	$43,733	100%	$43,733	$0
Concrete wall in portals		m3		#N/A	$0.00	$0		$0	$0
Backfill portal #1		m3		#N/A	$0.00	$0		$0	$0
Backfill portal #2		m3		#N/A	$0.00	$0		$0	$0
Cap bulkhead, pit portal		each	2	MBK	$79,590.60	$159,181	100%	$159,181	$0
Cap raises/stopes		each	4	MBK	$79,590.60	$318,362	100%	$318,362	$0
Cap shaft #1		m3		#N/A	$0.00	$0		$0	$0
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
	5%	m3	13,727	SB1H	$5.90	$80,989	100%	$80,989	$0
Other				#N/A	$0.00	$0		$0	$0
REMOVE HAZARDOUS MATERIALS									
Remove hazardous materials, U/G labor		hrs	2,160	SCOOPL	$170.00	$367,200	50%	$183,600	$183,600
	20%	mandays		#N/A	$0.00	$0		$0	$0
Remove/decontam. mobile equipment		each		#N/A	$0.00	$0		$0	$0
Remove misc. haz. mat & explosives		kg		#N/A	$0.00	$0		$0	$0
Other				#N/A	$0.00	$0		$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									
Engineering Design and Inspection		each		#N/A	$0.00	$0	100%	$0	$0
Install permanent pumping system		each		#N/A	$0.00	$0		$0	$0
Other				#N/A	$0.00	$0		$0	$0
					Total	$969,540		$785,940	$183,600
					% of Total			81%	19%

1 **Tailings Impoundment Name:** **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
	5%								
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
	20%	m2		#N/A	$0.00	$0		$0	$0
Install geotextile/geosynthetic		m2		#N/A	$0.00	$0		$0	$0
Soil cover		m3	60000	AEM	$8.47	$508,200	50%	$254,100	$254,100
Rock cover		m3	143135	AEM	$8.47	$1,212,353	50%	$606,177	$606,177
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 & technican		each		#N/A	$0.00	$0		$0	$0
Install permanent instrumentation, drilling		each		#N/A	$0.00	$0			$0
TREAT SEEPAGE - see "Water Management" and "Water Treatment"									
TREAT SUPERNATANT									
Pump water (to pit, U/G)		ea	1	AEM	######	$34,760		$0	$34,760
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		$34,760			
Number of years of treatment		years	1						
				Total treatment costs		$34,760			$34,760
					Total	$1,755,313		$860,277	$895,037
					% of Total			49%	51%

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

1 **Rock Pile Name: For Waste Rock Storage Facilities 1 to 3**

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
STABILIZE SLOPES									
grade WRSF 1	assumes Waste Stockpile will need regrading post closure of TSF and landfill	m3	100000	DRL	$1.05	$105,000	100%	$105,000	$0
grade camp pad slopes		m3		#N/A	$0.00	$0		$0	$0
grade waste rock pad		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
5%		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)									
20%		m2		#N/A	$0.00	$0		$0	$0
Supply geomembrame		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 ore to underground		m3		#N/A	$0.00	$0		$0	$0
Load, haul, dump PAG rock into the underground		m3		#N/A	$0.00	$0		$0	$0
Resident Engineering during underground placement		days		#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									
Waste Rock Testing		each		#N/A	$0.00	$0		$0	$0
Allowance for Water Treatment		each		#N/A	$0.00	$0	0%	$0	$0
TREAT ROCK PILE SEEPAGE - see "Water Management"									
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
					Total	$105,000		$105,000	$0
					% of Total			100%	0%

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

**Heap leach 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		LS	1	#N/A	$25,000.00	$25,000	50%	$12,500	$12,500
BUILDING DECONTAMINATION & CONSOLIDATION OF HAZARDOUS MATERIALS									
Environmental technician/coordinator		mandays		#N/A	$0.00	$0		$0	$0
Decontaminate: oil, fuel	includes glycol system	andays	120	AEM	$1,000.00	$120,000	50%	$60,000	$60,000
Decontaminate maintenance shop		mandays		#N/A	$0.00	$0		$0	$0
Decontaminate power plant		mandays	60	AEM	$1,000.00	$60,000	50%	$30,000	$30,000
Decontaminate bulk fuel storage		mandays		#N/A	$0.00	$0		$0	$0
Decontaminate ANFO plant		mandays		#N/A	$0.00	$0		$0	$0
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
Other				#N/A	$0.00	$0		$0	$0
5%									
Waste oils		litre	325161	ORL	$0.43	$139,819	50%	$69,910	$69,910
Waste fuel		litre	280000	ORL	$0.43	$120,400	50%	$60,200	$60,200
Waste batteries		kg	16	AEM	$75.00	$1,200	50%	$600	$600
20%		kg	285614	PCRH	$2.50	$714,035	50%	$357,018	$357,018
Assay & environmental lab reagents		pallet	10	AEM	$2,606.83	$26,068	50%	$13,034	$13,034
Glycol		litre	15848	PCRH	$2.50	$39,620	50%	$19,810	$19,810
Machine shop paints , solvents, etc.		litre	7500	PCRH	$2.50	$18,750	50%	$9,375	$9,375
Nuclear sources		allow		#N/A	$0.00	$0		$0	$0
Other hazardous materials	Cyanide Management	allow	1	#N/A	$25,000.00	$25,000	50%	$12,500	$12,500
HAZARDOUS MATERIALS									
Transportation to disposal facility		allow		#N/A	$0.00	$0		$0	$0
Disposal fees		kg		#N/A	$0.00	$0		$0	$0
Supervision of abatement work		allow		#N/A	$0.00	$0		$0	$0
CONTAMINATED SOILS									
Contam. soil investigation - Phase 1		each	1	#N/A	$25,000.00	$25,000	50%	$12,500	$12,500
Contam. soil investigation - Phase 2		each	1	#N/A	$500,000.00	$500,000	50%	$250,000	$250,000
CONTAMINATED SOIL REMOVAL									
Excavate and transport to onsite facility	On site biotreatment	m3	14367.3	SC4L	$9.30	$133,616	50%	$66,808	$66,808
Manage hydrocarbon remediation at facility		m3	14367.3	CSRL	$47.00	$675,263	50%	$337,632	$337,632
Reagents/stabilizing agent		m2		#N/A	$0.00	$0		$0	$0
Excavate and transport to offsite facility		m3		#N/A	$0.00	$0		$0	$0
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	$2,623,772		$1,311,886	$1,311,886
					% of Total			50%	50%

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

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
DISPOSE MOBILE EQUIPMENT									
Decontaminate and ship off-site		tonne	27500	AEM	$383.12	$10,535,800	50%	$5,267,900	$5,267,900
Decontaminate and dispose on-site		allow	27500	AEM	$5.00	$137,500	50%	$68,750	$68,750
Demobilization of mine equipment on site		allow		#N/A	$0.00	$0		$0	$0
REMOVE BUILDINGS - see note below									
Accomodation Complex		m2	18783.8	BRS1L	$45.00	$845,271	100%	$845,271	$0
Exploration camp		m2	2883	BRS1L	$45.00	$129,735	100%	$129,735	$0
Process Facilities		m2	44363	BRS1H	$65.00	$2,883,595	100%	$2,883,595	$0
Assay Lab		m2	1248.3	BRS1L	$45.00	$56,174	100%	$56,174	$0
Maintenance Shop		m2	4966.7	BRS1L	$45.00	$223,502	100%	$223,502	$0
Mine surface general		m2	1921.8	BRS1L	$45.00	$86,481	100%	$86,481	$0
Offices, Repair, Lab, Warehouse		m2		#N/A	$0.00	$0		$0	$0
Storage Facilites		m2		#N/A	$0.00	$0		$0	$0
Water and Wastewater Treatment Facilities		m2	840.1	BRS1L	$45.00	$37,805	100%	$37,805	$0
5%		m2	3620.7	BRS1H	$65.00	$235,346	100%	$235,346	$0
Emulsion Plant		m2		#N/A	$0.00	$0	100%	$0	$0
AN Storage Facility		m2	595	BRS1H	$65.00	$38,675	100%	$38,675	$0
Warehouse, Shops and Other		m2		#N/A	$0.00	$0	100%	$0	$0
20%		m2	1930.5	BRS1L	$45.00	$86,873	100%	$86,873	$0
Storage Facility at Laydown/Airstrip		m2	1299.9	BRS1L	$45.00	$58,496	100%	$58,496	$0
Incinerator Building		m2		#N/A	$0.00	$0	100%	$0	$0
Fuel tanks on -site		m2	130.3	BRS1L	$45.00	$5,864	100%	$5,864	$0
Fuel Tanks - Itivia harbour		m2	912	BRS1H	$65.00	$59,280	100%	$59,280	$0
Freshwater intake		m2	2619	BRS1H	$65.00	$170,235	100%	$170,235	$0
Reclaim pumps		m2		#N/A	$0.00	$0		$0	$0
Outfall & Diffuser		m2		#N/A	$0.00	$0		$0	$0
Airstrip lighting, navigation, electrician		m2		#N/A	$0.00	$0		$0	$0
Airstrip lighting, navigation, mechanical		m2		#N/A	$0.00	$0		$0	$0
Break foundation slabs		m2		#N/A	$0.00	$0		$0	$0
Consolidate & dump boneyard debris		m2		#N/A	$0.00	$0		$0	$0
Guard House		m2	31.1	BRS1L	$45.00	$1,400	100%	$1,400	$0
				#N/A	$0.00	$0		$0	$0
LANDFILL FOR DEMOLITION WASTE									
Place rock cover		m3	10500	AEM	$8.47	$88,935	50%	$44,468	$44,468
Place soil cover		m3		#N/A	$0.00	$0		$0	$0
Base, sides and cover of clsoure landfill		m3	58924	AEM	$29.41	$1,732,955	50%	$866,477	$866,477
Vegetate		ha		#N/A	$0.00	$0		$0	$0
GRADE AND CONTOUR PADS									
Accomodation Complex		m3	12291	AEM	$8.47	$104,105	50%	$52,052	$52,052
Exploration camp		m3	2883	AEM	$8.47	$24,419	50%	$12,210	$12,210
Process Facilities		m3	11263	AEM	$8.47	$95,398	50%	$47,699	$47,699
Assay Lab		m3	1248.3	AEM	$8.47	$10,573	50%	$5,287	$5,287
Maintenance Shop		m3	4966.7	AEM	$8.47	$42,068	50%	$21,034	$21,034
Mine surface general		m3	1921.8	AEM	$8.47	$16,278	50%	$8,139	$8,139
Offices, Repair, Lab, Warehouse		m3		#N/A	$0.00	$0		$0	$0
Storage Facilites		m3		#N/A	$0.00	$0		$0	$0
Water and Wastewater Treatment Facilities		m3	840	AEM	$8.47	$7,115	50%	$3,557	$3,557
Power Plant		m3	3621	AEM	$8.47	$30,670	50%	$15,335	$15,335
U/G Heating Plant		m3		#N/A	$0.00	$0		$0	$0
Emulsion Plant		m3	595	AEM	$8.47	$5,040	50%	$2,520	$2,520
Warehouse, Shops and Other		m3	1931	AEM	$8.47	$16,356	50%	$8,178	$8,178
Paste Plant		m3	433	AEM	$8.47	$3,668	50%	$1,834	$1,834
Storage Facility at Laydown/Airstrip		m3	66800	MBK	$5.31	$354,708	50%	$177,354	$177,354
Incinerator Building		m3	130	AEM	$8.47	$1,101	50%	$551	$551
Fuel tanks on -site		m3	912	AEM	$8.47	$7,725	50%	$3,862	$3,862
Fuel Tanks - Itivia harbour		m3	2619	AEM	$8.47	$22,183	50%	$11,091	$11,091
Guard House		m3	31.1	AEM	$8.47	$263	50%	$132	$132
Place rock cover		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
PUNCTURE LINED SUMPS									
Puncture liner and place soil cover		m3		#N/A	$0.00	$0		$0	$0
RECLAIM ROADS									
Remove culverts		each	12	MBK	$10,000.00	$120,000	50%	$60,000	$60,000
Remove bridges		each	2	AEM	$50,000.00	$100,000	50%	$50,000	$50,000
Scarify and install water breaks		ha	17	SCFYH	$6,030.00	$102,510	50%	$51,255	$51,255
Scarify airstriip		ha	60	SCFYL	$4,300.00	$258,000	50%	$129,000	$129,000
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
SPECIALIZED ITEMS									
Dispose of misc. debris and laydown area refuse				#N/A	$0.00	$0		$0	$0
					Total	$18,736,095		$11,827,412	$6,908,684
					% of Total			63%	37%

Note: Unit costs are based on 3m high, single storey building. Scale larger building areas accordingly. E.g. 10m high building multiply area by 3.3 (10/3)

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						
Remove fill	Excavate breaches in dykes	m3	15000	AEM	$8.47	$127,050
Contour water intake area		m3		#N/A	$0.00	$0
STABILIZE SEDIMENT PONDS/WATER MANAGEMENT PONDS						
Decommissioing Mine Sump		LS		#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
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						
5%		m3		#N/A	$0.00	$0
Backfill/recontour		m3		#N/A	$0.00	$0
Install flow dissipation		m3		#N/A	$0.00	$0
Vegetate remainder of ditch		m2		#N/A	$0.00	$0
20%						
Breach embankment		m		#N/A	$0.00	$0
Remove System		LS		#N/A	$0.00	$0
Remove pipeline		m		#N/A	$0.00	$0
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 pipes		m		#N/A	$0.00	$0
Concrete plug deep pipes		m3		#N/A	$0.00	$0
Disposal of piping				#N/A	$0.00	$0
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
					Total	$127,050

For cost of long-term/post-closure water treatment see "WATER TREATMENT" Worksheet"

1 **Post Closure Water Treatment - Identified as long term/post-closure in 'Instructions' worksheet**

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	Cost
ADDITION OF REAGENTS TO WTP						
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
5%				#N/A	$0.00	$0
WATER MANAGEMENT						
Water Treatment (reagents,equipment, Labour)		m3	720886	AEM	$0.62	$446,949
Water pumping from sumps and ponds to WTP		allow	1	AEM	######	$114,511
20%						
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	$561,460
Number of years of water treatment	years	3		
			Total	$1,684,380

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
5%				#N/A		$561,460
other		each		#N/A	0	$0
			Annual	Interim C&M Cost		$561,460
Number of years of ICM		years	$3		**Total**	$1,684,380
20%						

1 Post-Closure Monitoring & Maintenance:

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	Cost
MONITORING & INSPECTIONS						
Annual geotechnical inspection		each	1	WSH	$10,000.00	$10,000
Surface Water Sampling		each	1	WSH	$10,000.00	$10,000
Groundwater Sampling		each	1	WSH	$10,000.00	$10,000
Receiving/downstream water sampling		each	1	WSH	$10,000.00	$10,000
Monitoring Program		each	1	AEM	$50,000.00	$50,000
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
5%				#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
20%		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
POST-CLOSURE WATER TREATMENT						

Subtotal, Annual post-closure costs			$90,000
Discount rate for calculation of net present value of post-closure cost, %	0.00%		
Number of years of post-closure activity	10	years	
Present Value of payment stream			$900,000

*Regulatory costs - annual reporting, management plans, progress reports etc.

1 Mobilization/Demobilization:

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	Cost
MOBILIZE HEAVY EQUIPMENT						
Excavators		each		#N/A	0	$0
Dump trucks		each		#N/A	0	$0
Dozers		each		#N/A	0	$0
Demolition shears		each	1	AEM	1000000	$1,000,000
barrel crusher		each		#N/A	0	$0
Loader		each		#N/A	0	$0
Scoop Tram		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
5%				#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
20%						
Reclamation activities - transport		each	312	AEM	1386	$432,432
Reclamation activities - rotations over reclamation period		manhours	105120	AEM	75	$7,884,000
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
WORKER ACCOMODATIONS						
Reclamation activities		manmonths	144	accm	2580	$371,520
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	1000 tonnes 345 km twice	km		#N/A	0	$0
DEMOBILIZE HEAVY EQUIPMENT						
Excavators		km		#N/A	0	$0
Dump trucks		km		#N/A	0	$0
Dozers		km		#N/A	0	$0
Demolition shears		km		#N/A	0	$0
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	**$9,687,952**

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,
Buildings - Remove							Unit costs are based on 3m high, single storey building. Scale areas accordi
	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		
	Steel - for salvage	BRS2	m2	67.00	100.00		
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 hauli
	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 dar
	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

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

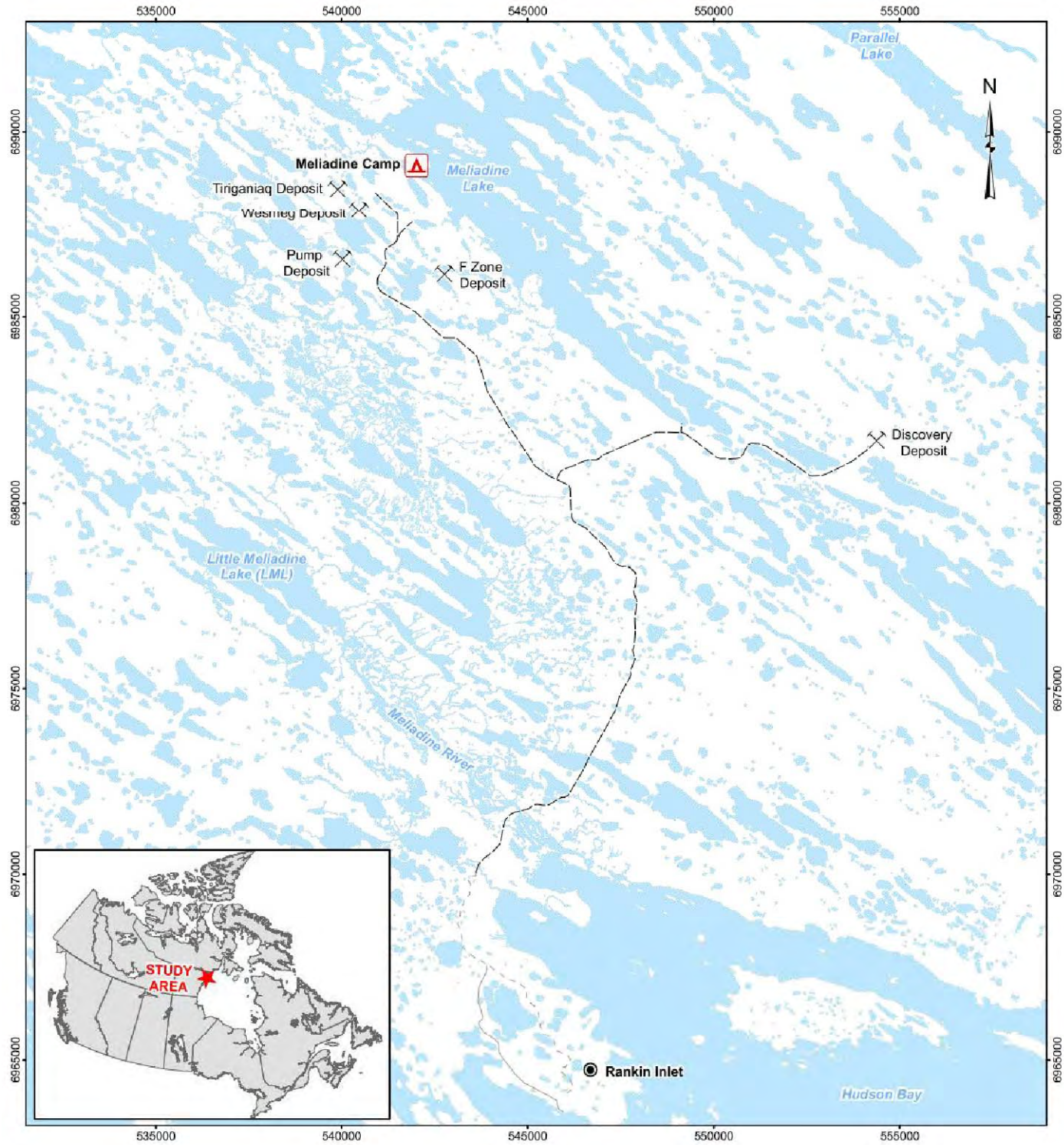
	Filter by unit				
liner, ES3	GSES3	m2	20.20		FOB Yellowknife
geosynthetic installation	GSI	m2	3.16	14.00	Low:geotextile; High:ES3 or HDPE
bentonite soil ammendment	GSBA	tonne	308.30	348.50	FOB Edmonton, add shipping & mixing
Grouting (/m3 of rock grouted)					
	grout	m3	236.55	286.75	High: cement, FOB 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		
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 cos
Pump maintenance	PM	allow	25000.00		
Pump sand BackFill					

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

	Filter by unit					
	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: insta
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,
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

Figures



LEGEND

- Camp
- Proposed Mine Site
- All-weather Access Road (AWAR)
- Road - New
- Road - Existing
- Watercourse
- Waterbody

ARCADIS

AANDC

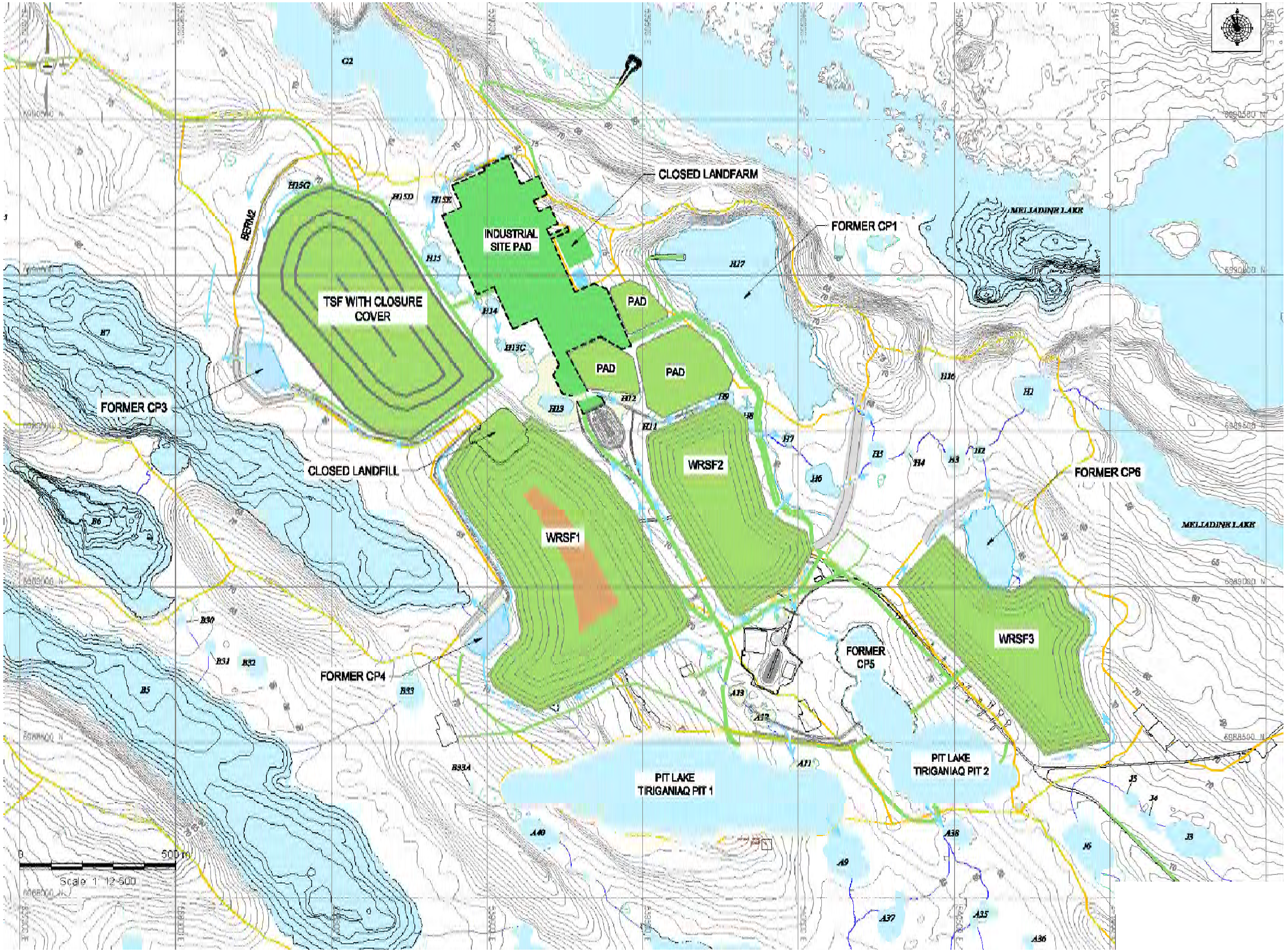
2015 RECLAIM ESTIMATE

MELIADINE MINE SITE

KEY PLAN

Drawn By:	P.A.F.	Approved By:	C.F.G.	Project No:	702388
Date:	OCTOBER 2015	Scale:	N.T.S.	Drawing No:	Figure 1

Z:\702000 Series\702388 AANDC\702388 Water Management Plans-1.dwg LAYOUT: LAYOUT1 SAVED: 10/6/2015 1:39 PM PLOTTED: 10/7/2015 8:59 AM BY: PAUL FLEMING



LEGEND

- CATCHMENT BOUNDARY
- SERVICE ROAD
- HAUL ROAD
- STREAM
- WATERBODY
- DRAINED POND AREA
- WASTE ROCK
- WATER FLOW DIRECTION

NOTES:

1.

REVISIONS:

No.	Date:	By:	Revisions

REFERENCE:

1.

0 10 20 metres

SCALE 1:500

ARCADIS

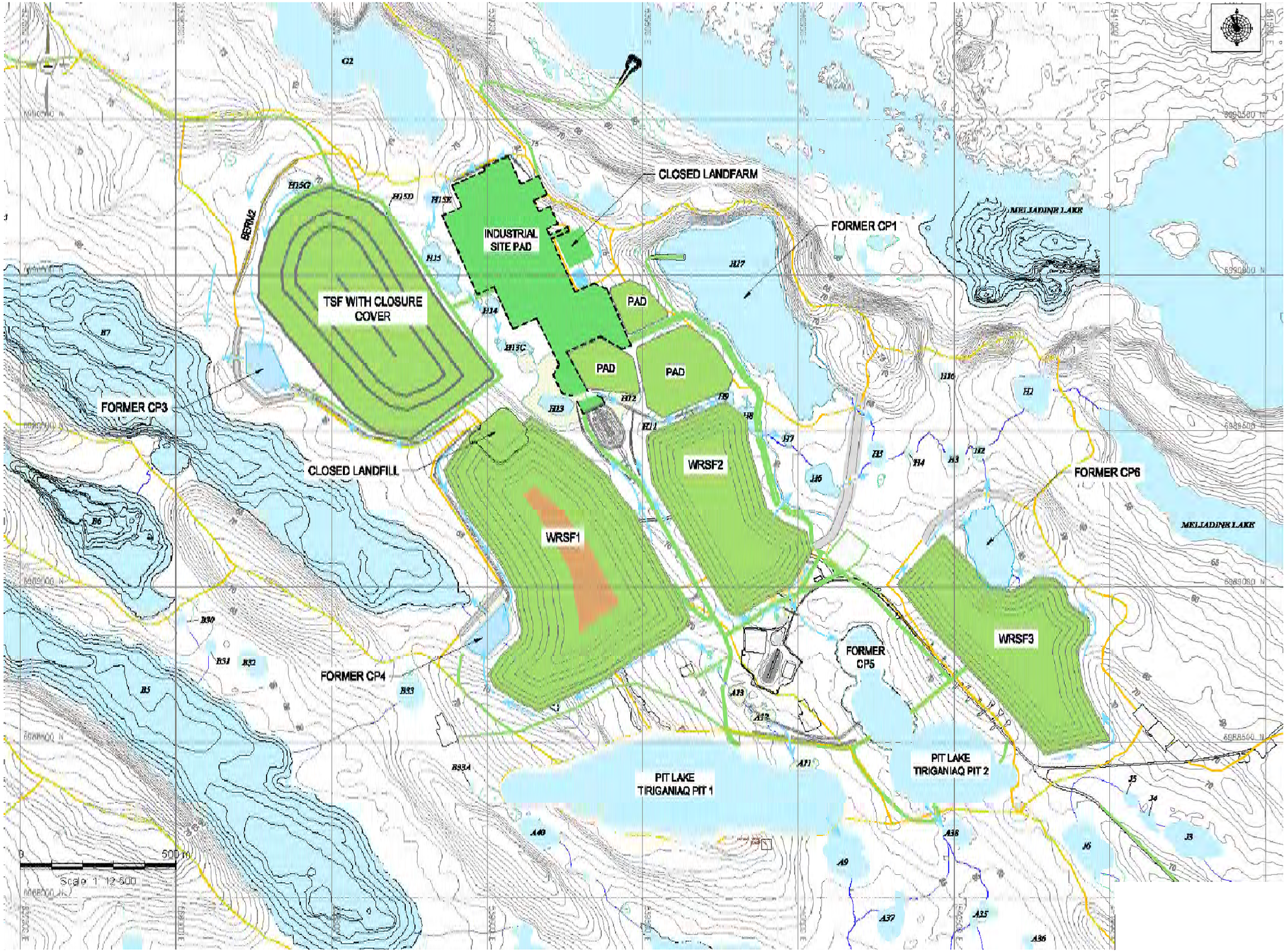
AANDC

2015 RECLAIM ESTIMATE

MELIADINE MINE SITE

MELIADINE SITE PLAN - CLOSURE PHASE

Drawn By: P.A.F.	Approved By: C.F.G.	Project No: 702388
Date: OCTOBER 2015	Scale: N.T.S.	Drawing No: Figure 4



LEGEND

- CATCHMENT BOUNDARY
- SERVICE ROAD
- HAUL ROAD
- STREAM
- WATERBODY
- DRAINED POND AREA
- WASTE ROCK
- WATER FLOW DIRECTION

NOTES:

1.

REVISIONS:

No.	Date:	By:	Revisions

REFERENCE:

1.

0 10 20 metres

SCALE 1:500

ARCADIS

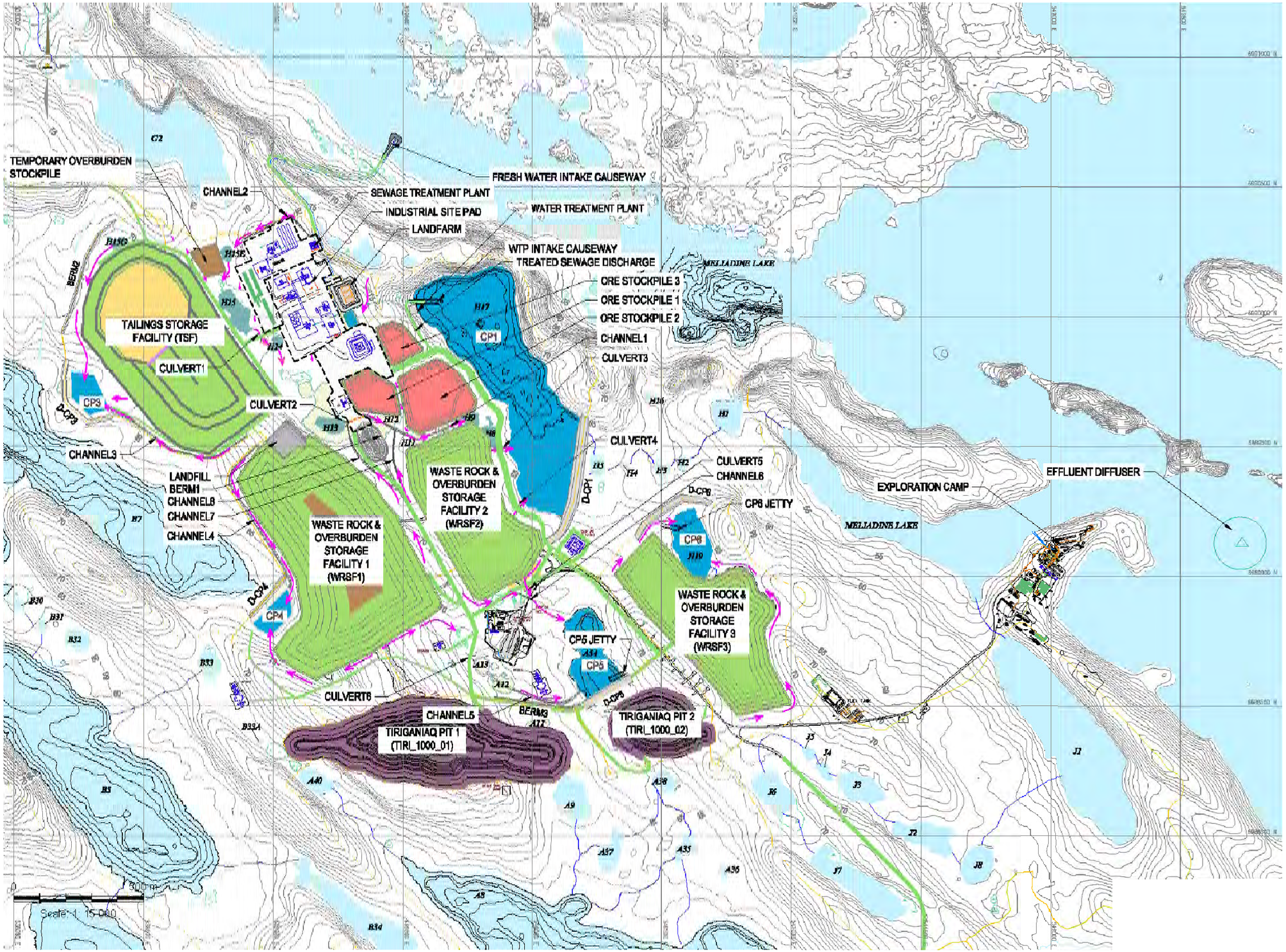
AANDC

2015 RECLAIM ESTIMATE

MELIADINE MINE SITE

MELIADINE SITE PLAN - OPERATIONAL PHASE (YEAR 5)

Drawn By: P.A.F.	Approved By: C.F.G.	Project No: 702388
Date: OCTOBER 2015	Scale: N.T.S.	Drawing No: Figure 3



LEGEND

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

NOTES:

1.

REVISIONS:

No.	Date:	By:	Revisions

REFERENCE:

1.

0 10 20 metres

SCALE 1:500

ARCADIS

AANDC

2015 RECLAIM ESTIMATE

MELIADINE MINE SITE

MELIADINE SITE LAYOUT PLAN

Drawn By: P.A.F.	Approved By: C.F.G.	Project No: 702388	
Date: OCTOBER 2015	Scale: N.T.S.	Drawing No: Figure 2	