# Baffinland Iron Mines Corporation

## PHASE 1 WASTE ROCK MANAGEMENT PLAN

## BAF-PH1-830-P16-0029

## Rev 0

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# 1 PURPOSE

A waste rock disposal area designed for storage of waste rock in perpetuity will be located north and west of the open pit.

A modification of the mining plan has resulted in a smaller tonnage of waste rock being produced in earlier years 1-4 of operations from 2015-2018 when ore will be mined and shipped through Milne Port at a rate of up to 3.5 Mtpa. During this Phase 1, it is estimated that about 2.5 Mt will be placed in the stockpile.

This is reflected in a smaller waste rock storage area footprint and a new run-off collection pond to be constructed. As additional geological, geotechnical and geochemical data is collected, the waste rock management plan will be updated based on the application of best management practices.

Following the planned construction of the rail line and Steensby Port, production of ore and waste rock will increase quickly with a Life of Mine total of about 600 Mt of waste rock and 30 Mt of overburden produced over the mine life of Deposit No. 1. The existing “Waste Rock Management Plan” document number H349000-1000-07-126-0009, approved under NIRB Project Certificate #005 remains in effect as the approved Life of Mine waste rock management plan.

# 2 SCOPE

This plan has been developed for Phase 1 of the waste rock stockpile (dump) development for Deposit 1 at the Mary River Mine Site and describes the geochemical characterization of the waste rock and how this influences the way waste rock is deposited and how the stockpile is constructed.

Closure considerations are included as well as environmental monitoring and reporting.

Updates to this plan will be developed as new information is available and is included in ongoing optimization of the waste rock storage area (dump) design.

## 2.1 Relationship with Standard Operating Procedures

This Phase 1 Waste Rock Management Plan should be reviewed with other Baffinland Standard Operating Procedures:

- BAF-PH1-340-PRO-0006 r0 - Haul Truck Operation Procedure
- BAF-PH1-340-PRO-0012 r0 - Dozer Operation Procedure.

# 3 RESPONSIBILITES

## 3.1 Mine Operations Supervisor Responsibilities

The Mine Operations supervisor is responsible for the following:

- The safety and health of all persons while managing and directing activities associated with the hauling and placement of waste rock. Nothing relieves the mine operations supervisor for ensuring a safe work place and compliance with federal and provincial regulations and those of Baffinland.
- Preparation and execution of the waste rock stockpile deposition plan.

## 3.2 Haul Truck Operator Responsibilities

Haul truck operators are responsible for the safe operation of their haul truck as follows:

- Carry out all pre-start up and shut down inspections as specified in the Baffinland regulations.
- Observe all speed limits and adjust driving for the conditions during bad weather.
- Follow closely all directional signs when proceeding loaded to the waste rock stockpile.
- When approaching, dumping and leaving the stockpile area follow closely the instructions of the spotter.

## 3.3 Dozer Operator and Spotter Responsibility

The dozer operator and spotter have the following responsibilities:

- Maintain safe conditions for haul truck dumping at the edges of the stockpile lift and at the dumping location.
- Give clear communication and signals to the haul truck operator.
- On bottom lift, avoid pushing large boulders down at the edge of the stockpile footprint to prevent damage to run off pond liner at the north end of the stockpile.

## 3.4 Safety

- PPE is essential and is required to be worn at all times.
- Appropriate speed limit and direction signs will be posted.
- A daily safety huddle and review of Job Safety Assessments will be made.

## 3.5 ENVIRONMENT

Haul truck, Dozer Operators and the Spotter must take every precaution to protect the environment and wildlife as follows:

- Haul truck, Dozer Operators and the Spotter must have completed WHMIS training.
- Haul truck, Dozer Operators and the Spotter must have completed training in oil spill reporting, containment and cleanup.
- Return all waste and empty containers to the Mary River Waste Management facility for appropriate disposal.

The Environmental Department will be responsible for:

- Regular inspections of the waste rock stockpile and run off pond and dam.
- Monitoring of the water quality of the run off pond before controlled release into the environment.
- All required reporting to the regulators.

# 4 REGULATORY REQUIREMENTS

All mining operations are carried out under the Mines Act and the requirements will be reflected in Baffinland procedures which must be followed.

The Mary River Operation is permitted under Nunavut Impact Review Board Project Certificate #005 and Nunavut Water Board Type A Water Licence, 2AM-MRY1325. The specific environmental requirement related to the waste rock stockpile is for run-off to be collected in a downstream pond with capacity sized to reduce suspended solids in the discharge to meet discharge requirements of <30 mg/L (Maximum concentration of any grab sample) and 15 mg/L maximum average concentration.

In addition, the discharge from the pond is established as a monitoring and discharge point under the Metal Mining Effluent Regulations (MMER) SOR/2002-222.

# 5 WASTE ROCK CHARACTERIZATION

## 5.1 DEPOSIT GEOLOGY

Deposit No.1 occurs at the nose of a syncline plunging steeply to the north-east (Aker Kvaerner, 2008). The iron formation occupies the nose and two limbs of this feature with a ~1,300 m long northern portion and a ~700 m long southern portion. The footwall to the iron formation mainly consists of gneiss with minor schist, psammitic gneiss (psammite) and amphibolite. The hanging wall is primarily composed of schist and volcanic tuff with lesser amphibolite and metasediment.

The hanging wall primarily encompasses chlorite–actinolite schist and garnetiferous amphibolites. Meta-volcanic tuff is also a significant lithology identified in the hanging wall. The footwall mainly consists of quartz-feldspar-mica gneiss with lesser meta-sediment (greywacke) and quartz-mica schist. Microcline and albite are the predominant feldspars within the gneiss and biotite is generally more abundant than muscovite.

The iron ore deposits at the Mary River project represent high-grade examples of Algoma-type iron formation and are composed of hematite, magnetite and mixed hematite-magnetite-specular hematite varieties of ore (Aker Kvaerner, 2008). The iron deposits consist of a number of lensoidal bodies that vary in their proportions of the main iron oxide minerals and impurity content of sulphur and silica in the ore. The massive hematite ore is the highest grade ore and also has the fewest impurities, which may indicate it was derived from relatively pure magnetite or that chert, quartzite and sulphides were leached and oxidized during alteration of the iron formation.

Intense deformation and lack of outcrop limit the ability to subdivide by lithology on the basis of future mined tonnages.

## 5.2 SUMMARY OF GEOTECHNICAL CONSIDERATIONS

The existence of the ridge north of Deposit No. 1 and outcrop appearing along the ridge support existing evidence from geotechnical drilling of the geotechnical stability of the area and make it a suitable location to start construction of the waste rock stockpile. Ongoing geotechnical drilling to complement existing data will be used to optimize the stockpile design.

## 5.3 SUMMARY OF GEOCHEMICAL SAMPLING AND TEST WORK

Metal leaching and acid rock drainage (ML/ARD) characterization studies in support of the Life of Mine pit waste rock are provided in the report entitled "Mine Rock ML/ARD Characterization Report Deposit 1, Mary River Project", March 2014 as appended to the Life-of-Mine Waste Rock Management Plan. A further analysis of the available ML/ARD results related to the five year pit is provided in Appendix A.

The waste rock was subdivided based on broad geo-structural categories about the iron ore zone, mainly by hanging wall and footwall zones. A total of 776 waste rock samples were selected as representing the waste rock categories and broad spatial coverage of non-ore mine rock in the vicinity of the Life of Mine open pit development. All 776 waste rock samples were analyzed for modified Sobek acid base accounting (ABA), NAG pH and elemental content. Subsets of drillcore samples were also analyzed for downhole variability, NAG leachate, short-term metal leaching, whole rock elemental content, detailed mineralogical analysis, and long-term kinetic testing.

Results of ABA testing determined that waste rock is generally characterized as having low neutralization potentials (NP) and low acid potentials (AP). Data suggests that the waste rock is dominated by non-carbonate sources of NP (e.g. silicates) with lesser NP derived from carbonate sources. Sulphide was the primary form of sulphur. Approximately 85% of waste rock samples had neutralization potential ratios (NPR) greater than 2 and are classified as non potentially acid generating (Non-PAG) and are unlikely to generate acidic drainage. Approximately 10% of the samples had NPR values of less than 1, and 5% of the samples were classified as having uncertain acid generating potential (1<NPR<2). Extrapolating these results to the project waste rock model, indicates that approximately 11% of the Life of Mine in-pit waste rock is expected to have NPR <2 and is considered potentially acid generating (PAG). Proximity to ore appears to correlate to increased PAG quantities (defined as NPR <2) with the hanging wall schist (HWS) and footwall schist (FWS) zones identified with the greatest proportion of PAG of the major waste units.

Analysis of a set of samples proximal to the proposed five year pit indicates a lower sulphur and sulphide content is likely to be encountered in the shallower HWS and FWS rock of early development than at depth during later production. This lower sulphide content is expected to result in a lower percentage of PAG rock being encountered during early operations than would be predicted by extrapolating the overall (including deeper) HWS and FWS waste rock data to near surface.

For planning related to the Phase 1 Waste Rock Management Plan, 10% PAG rock plus allowances for expansion due to field screening limitations and dilution has been assumed.

Ten waste rock samples were run in humidity cells for 53 weeks in 2008 and 2009. A further 17 waste rock samples were initiated in humidity cell tests in May 2011 for between 109 and 120 weeks of reported data. Nine of these samples were standard humidity cells and eight were NP depleted humidity cells designed to assess drainage quality in the absence of carbonate NP. The pH of most cells was in the range of 5.5 to 7 throughout testing. Of the 17 cells in operation since 2011, three cells exhibited slowly declining pH throughout testing reaching a minimum measured weakly acidic pH between 4.5 and 5 after approximately two (2) years of operation (under laboratory conditions). Metal release rates from humidity cells were generally low.

Kinetic testing results and cold climate conditions at site suggest the lag time to acid on-set in PAG rock with potentially increased metal release rates would be on the order of five years or longer.

Work is continuing to confirm the feasibility of developing field test pads at the site using selected waste rock material generated during early mine development. Operation and monitoring of such test piles (if feasible) would better inform the project about projected drainage quality and water quality modeling assumptions under site-specific cold climate conditions.

# 6 CONSTRUCTION OF THE WASTE ROCK STOCKPILE

## 6.1 DEPOSITION STRATEGY

Waste rock will be deposited in lifts using the guidelines presented in Section 6.4. The primary objective is safety of personnel and stability of the waste rock stockpile. However, these deposition methods will also enhance permafrost aggradations into the Waste Rock Stockpile

The design of the waste rock storage area is based on the conservative results from drilling and laboratory test work.

Phase 1 of the WRD will be built oriented along the ridge extending Northwards from the top of Deposit 1 as shown in Figure 6.1. Stockpile construction will start at the northern perimeter of the stockpile footprint. The stockpile will be bounded on the east and west by WRD roads which join to form the downstream wall of the run off pond. Berms constructed along the upstream edge of the WRD roads will divert run off towards the run off pond. A plan of the northern section of the WRD, the WRD roads and the run off pond is included in Appendix B.

It is important that the bottom layer of the waste rock is placed while the ground is frozen allowing the freezing level to rise in elevation by conduction. In addition, the first lift of material to be placed will be non-PAG material. It expected that a permanently frozen impermeable core will form in the waste rock storage area within the first few years after placement. A technical memorandum with recommendations on the development of permafrost in waste rock stockpiles has been completed by Thurber (refer to Appendix B, Life-of-Mine Waste Rock Management Plan) Temperature modeling of the waste rock regime including climate change included in the technical memorandum will be carried out as part of the ongoing waste rock characterization program.

It is expected that the interior of the waste rock stockpile material will become permanently frozen, and that only the outer layer of material will be subject to seasonal freezing and thawing. The frozen condition will increase both the physical and chemical stability of the structure. The final surficial “active” layer, which will be subject to seasonal freeze-thaw, will be constructed of non acid generating rock as the waste rock stockpile develops.

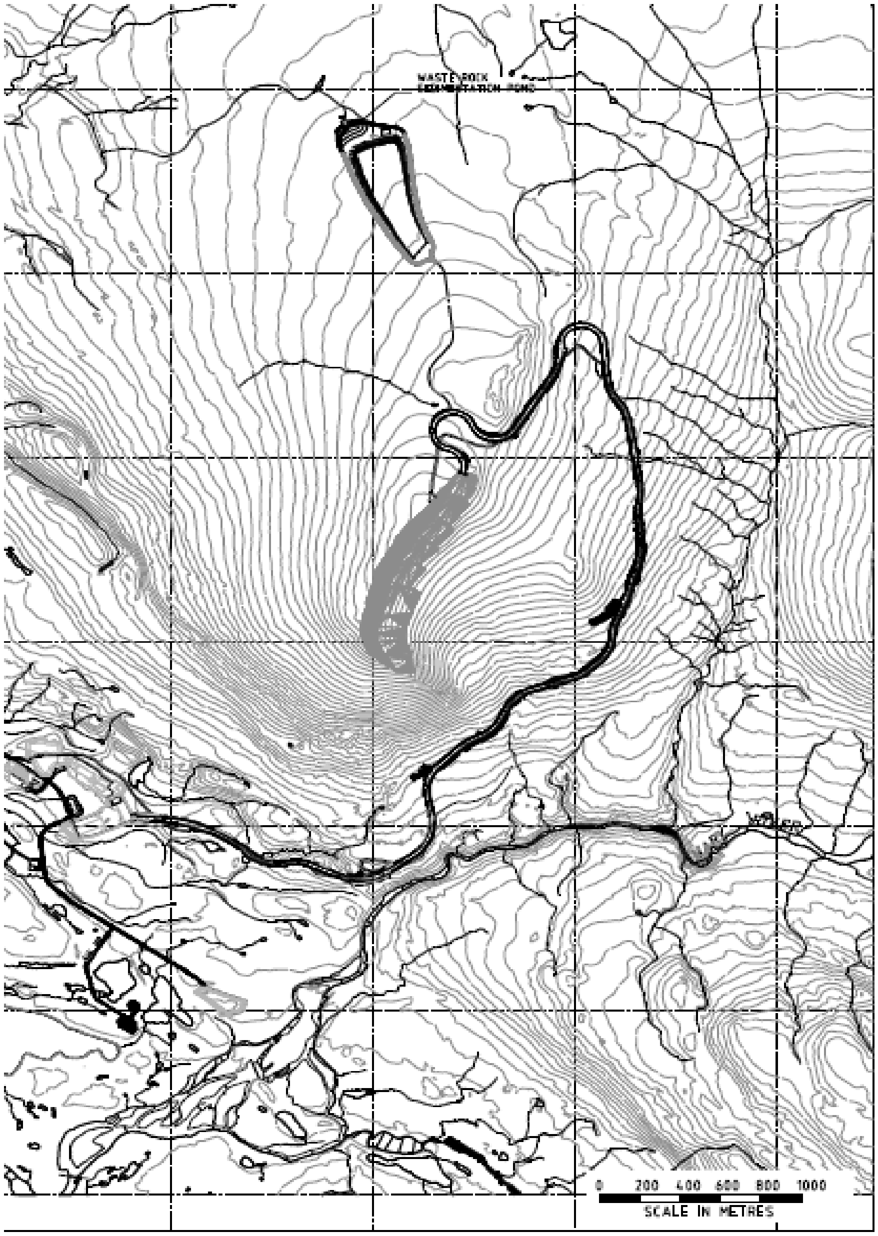


**FIGURE 6-1: PHASE 1 OF THE WASTE ROCK STOCKPILE AND RUN OFF POND**

## 6.2 PHASING OF WASTE ROCK DEPOSITION OVER TIME

A modification of the mining plan has resulted in a smaller tonnage of waste rock being produced in the earlier years of operation.

The initial, Phase 1, waste rock storage layout for the first five years of mining is illustrated in Figure 6-1. As additional geological, geotechnical and geochemical data is collected, the waste rock deposition plan will be updated based on the application of best management practices. A geotechnical investigation will be carried out in areas where there are potential instabilities. These results will be incorporated into the ongoing waste rock stockpile design. Specifically a stability analysis of the waste rock stockpile and the open pit will be carried out to show that the combined structures are stable.

Following the planned construction of the rail line and Steensby Port, production of ore and waste rock will increase quickly with a Life of Mine for Deposit 1 total of about 600 Mt of waste rock and 30 Mt of overburden produced over the mine life.

The volume of waste rock delivered to the waste rock storage area will be recorded and will be reported as required by the NWB Type A Water Licence, 2AM-MRY1325 and the Commercial Lease, Q13C301.

## 6.3 Management of Potentially Acid Generating (PAG) waste rock

The low percentage of PAG material identified in waste rock and an estimated lag time of more than five years support the management of PAG by encapsulation of the PAG material in the ultimately frozen core of the waste rock stockpile.

PAG waste rock will be identified by processing on-site analytical data from blast hole drill cuttings samples. Laboratory determination of PAG waste materials will be completed using total sulphur analysis by Leco sulphur analyser and guidance provided in Appendix A. Materials identified with a total sulphur content greater than 0.20% will be considered PAG rock or subjected to standard ABA testing for confirmation as either PAG or non-PAG rock. NAG pH testing may also be used as a screening tool for this purpose. The on-site processing of blast hole samples in the environmental laboratory will allow timely development of the waste rock deposition plan.

All material within a specified 3D radius from a sample determined to be PAG will be assigned as PAG and incorporated into the mine scheduling. When that material is loaded into the haul truck it will be directed according to the mine scheduling plan to a specific section of the waste stockpile where all the PAG rock will be encapsulated together within non-PAG waste rock.

The permanently frozen core of the stockpile will limit sulphide oxidation and prevent seepage of PAG drainage to the environment.

The outer “active” layer of the WRD which freezes and thaws seasonally will be constructed of non-PAG rock.

## 6.4 General Guidelines Used to Develop the Waste Rock Stockpile

The design of the waste rock storage area is based on the conservative results from laboratory test work. The design guidelines which follow will develop over time as the results of the ongoing studies and field piles become available:

- The stockpile will be constructed in lifts from the bottom up with lift and bench characteristics appropriate for the geotechnical conditions and waste handling equipment. These characteristics will be approved by the Mine Manager
- A 2-3 m thermal barrier of non-PAG waste rock will be placed during the winter months to protect the permafrost layer during the summer months and allow development of the permafrost through conduction.
- PAG waste rock should be segregated from non-PAG rock and encapsulated within the pile.
- At closure, the active layer of the waste rock stockpile should consist of non-PAG rock.
- PAG rock should all be placed in the section of the WRD which drains to the Mary River watershed.
- The perimeter of the WRD will be a minimum of 31 m from any water body.

# 7 WASTE ROCK RUNOFF MANAGEMENT

The first phase of runoff management for years 1-4 for the waste rock stockpile area will consist of channels formed by berms around the stockpile perimeter produced by two roads, one on each side of the waste rock stockpile. These will channel the run off downstream of the waste rock stockpile where a sedimentation pond is formed by construction of a berm about 3 m high. The watershed, including the waste rock stockpile, contributing to this pond has an area of 20ha. The sedimentation pond will be lined and is sized to contain the 1:10 year 24 hr storm event falling on the waste rock stockpile area. The sedimentation pond will have an overflow weir capable of passing the 1:200 year storm event. Clean, non contact water from upstream of the waste rock stockpile will be diverted around the waste rock stockpile by upstream diversion berms.

Further phased drainage management berms and ponds will be designed as mining progresses. All phases of the run off management system are designed such that the discharge from sedimentation ponds flows directly into existing water courses such that surface erosion is minimized and no additional impacts are created.

Figure 6-1 shows that the initial footprint of the waste rock storage area is partially in the western watershed of the two watersheds that drain the area to the north of the open pit and which drain into Camp Lake. In order to divert the discharge from the run off pond to the Mary River watershed a berm/channel will be constructed to convey the water to an existing water course draining into a tributary of Mary River. A drawing of the waste rock drainage diversion ditch plan and profile is included as Appendix C.

Snow will accumulate on the waste rock stockpile during the winter and during the summer the melted snow along with any rainfall will seep through the active zone and run off the sides of the stockpile or drain from the foot of the perimeter of the stockpile.

Stockpile drainage water quality is expected to meet MMER discharge limits. Specifically, the existing water quality model developed in support of the larger Life-of-Mine Waste Rock Management Plan predicts that after sedimentation, drainage water quality from the non-acidic mine rock exposed during operations will meet MMER discharge requirements. Kinetic testing results and cold climate conditions at site suggest the lag time to acid on-set in PAG rock would be on the order of five years or longer providing adequate time to isolate PAG materials within the waste rock stockpile. This supports the key modeling assumption of non-acidic drainage from PAG rock during waste rock stockpile construction.

## 7.1 ORE STORAGE

Ore mined in the pit will be dumped on a small run-of-mine (ROM) stockpile located near the mobile crusher in the Crushing and Screening area located on the South side of the pit east of the Site Services Pad.

Following crushing, the ore is loaded directly into ore transport trucks for transportation to Milne Port. Since ore will be stored in these locations only temporarily and the drainage during operations is controlled, there is no concern about long-term potential effects of PAG material stored at these locations.

## 7.2 Runoff Water Treatment Alternatives

As identified above, existing water quality modeling and kinetic testing data indicate that runoff water quality in the Phase 1 period is not expected to contain concentrations of metals in excess of discharge requirements based upon the Metal Mining Effluent Regulations. In addition, ammonia and nitrate in the runoff are not expected to cause receiving water impacts or regulatory exceedances.

However, in the event that ongoing investigations or field monitoring of the runoff pond shows a trend toward exceedance of discharge requirements, then water treatment facilities as described in the (Life of Mine) Waste Rock Management Plan will be constructed and operated for as long as required.

# 8 CLOSURE

At closure the principal objectives are the safety of the public and maintaining the physical and chemical stability of the permanent structures to ensure that there is no long-term safety or environmental impact.

Mine planning will ensure that at closure the exterior of the final stockpile consists of an active layer of non-PAG material up to 50 m thick so that the interior of the stockpile remains frozen year round in the long term. The thickness of this active layer will be determined after some years of mining experience and taking climate change into account. To minimize active layer thickness a stockpile of overburden will be retained to spread a layer of less porous material over the top of the waste rock stockpile.

When monitoring shows that runoff meets water quality objectives for closure the runoff ponds will be decommissioned and runoff will be discharged directly to the environment.

## 8.1 CLIMATE CHANGE CONSIDERATIONS

Studies of waste rock in permafrost demonstrate that permafrost forms an effective long-term barrier to water and oxygen, thereby preventing significant oxidation of sulphidic waste rock located below the surficial active zone. The surficial “active” zone, which will be subject to seasonal freeze-thaw, will not reach the 50 m thickness of non-PAG material in the long-term (within 200 years) under the influence of current climate change criteria (Intergovernmental Panel on Climate Change, 2007).

Therefore, over the long term, runoff water quality which is influenced by contact water that flows through the active layer in the waste rock stockpile will not be affected.

# 9 ENVIRONMENTAL PERFORMANCE INDICATORS AND THRESHOLDS

Runoff quality from the waste rock and ore storage runoff management ponds is the most relevant environmental performance indicator. Discharge from these ponds shall not exceed the effluent quality limits of Part F, Item 25 in Type A Water Licence 2AM-MRY1325 and site-specific indicators shown in Table 9-1.

**TABLE 9-1: DISCHARGE PERFORMANCE INDICATORS AND THRESHOLDS**

| Indicator | Units | Maximum Concentration of Any Grab Sample |
|---|---|---|
| pH | | 6.0 < pH < 9.5 |
| Ammonia | mg/L | Monitored but not regulated |
| Nitrate | mg/L | Monitored but not regulated |
| Sulphate | mg/L | To be established |
| Arsenic | mg/L | 0.5 |
| Copper | mg/L | 0.30 |
| Lead | mg/L | 0.20 |
| Nickel | mg/L | 0.50 |
| Zinc | mg/L | 0.5 |
| TSS | mg/L | 15 |
| Oil and Grease | | No visible sheen |
| Toxicity | | Non-Acutely Toxic |

In addition, Environmental Effects Monitoring or biological monitoring will be carried out as required by MMER.

Conductivity, pH and sulphate will be used as early-warning indicators to identify potential acid generation in the waste rock storage area. Ammonia and Nitrate will be monitored in run-off to ensure that no explosive material remaining on the blasted waste rock has been dissolved by water infiltrating the active layer.

Any contaminants of potential concern identified from on-going testing will be measured to provide temporal data on effluent quality that could potentially affect the receiving water quality.

The Aquatic Effects Monitoring Plan (AEMP) will be implemented to monitor environmental effects of effluent discharge from the SWM ponds at Mary River. Results of the AEMP can trigger additional adaptive management actions such as further treatment of pond effluent, if required.

# 10 MONITORING AND REPORTING REQUIREMENTS

All monitoring and reporting of runoff water quality will be carried out by the Environmental Department.

This includes the annual reporting to NIRB, NWB, QIA and others.

## 10.1 Ground Temperature Monitoring

Following consultation with experts from NRCan, the appropriate instrumentation will be installed in the waste rock stockpile to monitor ground temperatures and confirm the aggradation of permafrost within the waste rock stockpile and the thickness of the active layer.

Data from temperature sensors installed to monitor the ground temperatures will be collected on a regular basis and used to ensure that frozen conditions are maintained below the waste rock stockpile. In addition, the data will be used to calibrate the waste rock stockpile thermal model.

Baffinland will carry out thermal modeling of the waste rock stockpile when suitable data is available to demonstrate the robustness of the proposed waste rock stockpile deposition design and confirm that frozen conditions are maintained in the waste rock stockpile. This will take long-term climate change into account (200 years).

# 11 REFERENCES

NWT Mine Health and Safety Act and Regulations

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# Appendix A:
# AMEC ML/ARD Characterization for Five Year Pit

**TECHNICAL MEMORANDUM**

| | | | |
|---|---|---|---|
| To | **Jim Millard, Baffinland** | File no | **TC123908** |
| From | **Steve Walker, AMEC** | cc | **Steve Sibbick, AMEC** |
| Tel | **(905) 568-2929** | | |
| Date | **April 28, 2014** | | |

**Subject** **Mary River Deposit 1, 5-Year Pit ML/ARD Characterization**
**Rev. 1 – Issued for Phase 1, WRMP**

# 1.0 INTRODUCTION

AMEC was retained by Baffinland Iron Mines Corporation to investigate the metal leaching and acid rock drainage (ML/ARD) potential of mine rock from the Mary River project. The current Deposit 1 mine plan includes a reduced production schedule in the first five years of operation in comparison to that originally envisioned for the project. This memo provides an updated evaluation of the available geochemical characterization results related to this revised five year mine plan. The basis for this evaluation is the data-base and report developed for the Mary River life of mine plan (AMEC 2014). This evaluation also includes recommended guidance to assist in developing appropriate waste rock management planning for the proposed five year mine plan.

## 1.1 Background

ML/ARD characterization of Mary River Deposit 1 waste rock within the life of mine pit has been reported (AMEC 2014). In summary, the waste rock was subdivided based on broad geo-structural categories about the iron ore zone, mainly by hanging wall and footwall zones. A total of 776 waste rock samples were selected as representing the waste rock categories and broad spatial coverage of non-ore mine rock in the vicinity of the life of mine open pit development. All 776 waste rock samples were analyzed for modified Sobek acid base accounting (ABA), NAG pH and elemental content. Subsets of drillcore samples were also analyzed for downhole variability, NAG leachate, short-term metal leaching, whole rock elemental content, detailed mineralogical analysis, and long-term kinetic testing.

Results of ABA testing determined that waste rock is generally characterized as having low neutralization potentials (NP) and low acid potentials (AP). Data suggests that the waste rock is dominated by non-carbonate sources of NP (e.g. silicates) with lesser NP derived from carbonate sources. Sulphide was the primary form of sulphur. Approximately 85% of waste rock samples had neutralization potential ratios (NPR) greater than 2 and are classified as non potentially acid generating (Non-PAG) and are unlikely to generate acidic drainage. Approximately 10% of the samples had NPR values of less than 1, and 5% of the samples were classified as having uncertain acid generating potential (1<NPR<2). Extrapolating these results to the project waste rock model, indicates that approximately 11% of the life of mine in-pit waste rock is expected to have NPR <2 and is considered potentially acid generating (PAG). Proximity to ore appears to correlate to increased PAG quantities (defined as NPR <2) with the hanging wall schist (HWS) and footwall schist (FWS) zones identified with the greatest proportion of PAG of the major waste units.

The revised five year mine plan is projected to produce approximately 2.5 Mt of waste rock primarily from the HWS and FWS defined waste rock regions.

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### 1.2 Objective and Scope of Work

The objective of this analysis is to support development of the Phase 1 waste rock management plan for the project. The content of this analysis includes:

- reinterpretation of the available geochemical data to develop an understanding of early mine life waste rock in terms of ML/ARD, and
- identification of analytical options that will be effective for determination of PAG rock during mining to support the planned segregation of PAG rock during operations.

## 2.0 SAMPLE SELECTION RELATIVE TO FIVE YEAR PIT

Analysis of geochemical data across the life of mine pit provides reduced resolution of the much more localized waste rock units adjacent to ore within the five year pit (Figures 1 to 3). Therefore, to aid in planning for rock encountered during early mine development, a subgrouping of samples were selected from within and adjacent to the five year pit limit. Essentially only the HWS and FWS waste rock units are intersected within the volume of the five year pit. Small regions of FW material are identified along the upper-most regions on the west side of the five year pit; however, for the purposes of this analysis treating this limited region as FWS is reasonable and conservative (FWS contains proportionally more PAG rock than FW). Therefore, the subsample list was populated by extracting all HWS and FWS samples from within approximately 150m adjacent to and below the five year pit (Figures 4 and 5). The extension of the sample area laterally and below the pit was necessary due to the paucity of samples within the actual five year pit envelope which is located at high elevations above the majority of existing exploratory drilling.

## 3.0 COMPARISON OF FIVE YEAR AND LIFE OF MINE DATA SETS

The following sections describe the ABA and elemental content results of HWS and FWS samples within and just below the five year pit limit as described in Section 2 and compare these results to overall results for the life of mine data (AMEC 2014).

### 3.1 ABA

The subset of ABA data extracted from the life of mine data set in support of the five year pit development is provided in Appendix A, Tables A-1 and A-2. A statistical summary of this data in comparison to the life of mine data is provided in Table A-3 with selected parameters provided as side by side comparison in Table 1. Analysis and discussion of this comparative analysis for both the HWS and FWS zones is provided in the following sections.

#### 3.1.1 Hanging Wall Schist

ABA results for the HWS five year data set are generally comparable to the life of mine data with the exception of distinctly lower overall sulphide content leading to a lower proportion of PAG samples in the five year data. Results for the five year data are summarized as follows.

- Paste pH values for footwall schist samples were circum-neutral to alkaline with values that ranged from 7.4 to 9.7 and a median of 8.5.
- Total sulphur contents ranged from the minimum detection limit (MDL) of 0.005 to 1.2% with a median and average of 0.11 and 0.14% respectively.
- The majority of the sulphur is in the form of sulphide (Figure 6) with concentrations that ranged from the MDL of 0.01 to 0.97% with a median and average of 0.02 and 0.08% respectively.

- The sulphide content for the five year data is distinctly less than the life of mine data with a median sulphide content of 0.02% in comparison to 0.06% and a 90$^{th}$ percentile sulphide content of 0.15% in comparison to 0.72%.
- The NP ranged from 7.0 to 104 kg $CaCO_3$/t with median and mean values of 16 and 23 kg $CaCO_3$/t respectively.
- In general the carbonate NP (CarbNP) was lower than the NP (Figure 7) indicating a predominance of non-carbonate NP (silicates).
- One of 53 samples had CarbNP higher than the corresponding NP, which was interpreted to be due to the presence of iron or manganese carbonates that do not provide effective neutralization potential.
- NPR ranged from 0.41 to 268 with median and mean values of 26 and 9.5 respectively.
- Based on the NPR distribution where values less than 2 are considered PAG, one of 53 samples (2%) would be classified as PAG (Table 2; Figure 8).

### 3.1.2 Footwall Schist

ABA results for the FWS five year data set are generally comparable to the life of mine data with the exception of slightly lower sulphide content resulting in a lower proportion of PAG samples in the five year data. Results for the five year data are summarized as follows.

- Paste pH values for footwall schist samples were circum-neutral to alkaline with values that ranged from 6.4 to 10 and a median of 9.1.
- Total sulphur contents ranged from the MDL of 0.005 to 5.6% with a median and average of 0.01 and 0.32% respectively.
- The majority of the sulphur is in the form of sulphide (Figure 9) with concentrations that ranged from the MDL of 0.01 to 4.2% with a median and average of 0.01 and 0.23% respectively.
- At the 90$^{th}$ percentile, the sulphide content for the five year data is less than half that of the life of mine data (0.31% in comparison to 0.72%).
- The NP ranged from 5.3 to 59 kg $CaCO_3$/t with median and mean values of 13 and 17 kg $CaCO_3$/t respectively.
- The NP at the 90$^{th}$ percentile for the five year data was slightly higher than that of the life of mine data (29 kg $CaCO_3$/t in comparison to 26 kg $CaCO_3$/t).
- In general the CarbNP was lower than the NP (Figure 10) indicating a predominance of non-carbonate NP (silicates).
- Five of 40 samples had CarbNP higher than the corresponding NP, which was interpreted to be due to the presence of iron or manganese carbonates that do not provide effective neutralization potential.
- NPR ranged from 0.21 to 176 with median and mean values of 36 and 2.4 respectively.
- Based on the NPR distribution where values less than 2 are considered PAG, 5 of 40 samples (8%) would be classified as PAG (Table 2; Figure 11).

### 3.1.3 Analysis of Decreased PAG Proportion in Five Year Pit

From the analysis above it is observed that the proportion of PAG on the basis of NPR <2 is lower in the HWS and FWS units projected to surface in the vicinity of the five year pit than the overall life of mine pit. In order to further support this observation, the life of mine ABA data was evaluated in comparison to elevation.

Plots of total sulphur, sulphide, NP and NPR variation by elevation are provided in Figures 12 through 15. A distinct decrease in total sulphur and sulphide is observed in both the HWS and FWS sample sets above an elevation of 420 masl. The majority of HWS and FWS samples above the lowest elevation of the five year pit (~570 masl) are less than 0.5% total sulphur and less than 0.3% sulphide (Figures 12 and 13). The variation of NP with depth (Figure 14) is observed to decrease in the highest range and increase in lowest range with little change in average NP. The net result of the sulphide (and AP) and NP responses with decreasing depth are an overall shift toward higher NPR at shallower depths (Figure 15) and especially for those samples above the base of the five year pit.

## 3.2 Elemental Content

The subset of elemental content data extracted from the life of mine data set in support of the five year pit development is provided in Appendix A, Table A-4. A statistical summary of this data in comparison to the life of mine data is provided in Table 3. For screening purposes, elemental content of the mine rock samples were compared to 10 times average continental crust values (Price, 1997). The number of enriched samples are summarized in Table 4 and compared to results for the life of mine data set.

The list of elements exceeding the 10 times screening criteria are similar between the five year data set and the life of mine data set. Some infrequently observed enriched elements in the larger life of mine data set are not observed in the five year data set.

Concentrations of Bi exceeded the screening value of 0.25 µg/g for 14% of the samples (13 of 93 samples). Bi exceedances of the 10 times criteria for the various waste types on a percentage basis are lowest in the hanging wall schist.

A total of 8 of the 93 samples were greater than the MDL for selenium which also exceeded the screening value. It is noted that the MDL for selenium (0.7 µg/g) is greater than the 10 times crustal abundance value of 0.5 µg/g.

Three elements (arsenic, silver and molybdenum) had 3-8% of their concentrations above their respective screening values. Chromium, gold, iron, lithium, manganese and antimony had 1-2% of their samples concentrations above the applicable screening values.

# 4.0 GUIDANCE ON PAG ROCK MANAGEMENT

Total sulphur, sulphide and NAG pH can be interpreted as predictors of PAG materials on the basis of NPR <2 (Figures 16 through 18). Specifically, a total sulphur content of >0.2% and NAG pH of <4.5 are predictors of PAG material (NPR <2).

An analysis of the effectiveness and errors associated with the use of the above thresholds for categorization of PAG and Non-PAG samples in relation to the life of mine ABA data set is provided in Table 5 and Figures 19 through 21. Use of sulphur content in excess of 0.2% results in a small percent of PAG samples (0.1%) being incorrectly categorized as Non-PAG. A higher percentage (10%) of Non-PAG samples were incorrectly categorized as PAG. The use of NAG pH <4.5 resulted in 3% of PAG samples incorrectly categorized as Non-PAG and 2% of Non-PAG samples incorrectly categorized as PAG.

For the critical segregation factor which is to prevent PAG being identified as Non-PAG the sulphur cut-off of >0.2% is the most effective approach. PAG quantity estimates using the sulphur cut-off (>0.2%) in comparison to the original ABA data (NPR <2) are provided in Table 6. Using the sulphur cut-off results in an increase in the life of mine projected PAG quantity (without considering increased volumes due to dilution effects) from 63 Mt to 110 Mt.

Applying the sulphur cut-off followed by NAG pH check increased the reliability of PAG classification with the combined analyses resulting in a decrease in misclassification of Non-PAG as PAG from 10% to 1% (Table 5, Figure 21). However, there is a subset of 23 PAG samples (3%) that are misclassified as Non-PAG using NAG pH <4.5 . The reason for the misclassifications is presently unknown; however, it was noted that a high proportion of these samples (12) are iron formation samples. For comparison, the misclassified samples that aren't iron formation represent 1.6% of all non-iron formation samples.

## 5.0 SUMMARY AND CONCLUSIONS

Analysis of a set of samples proximal to the proposed five year pit has been completed that indicates a lower sulphur and sulphide content is likely to be encountered in the shallower rock of early development than at depth during later production. This lower sulphide content is expected to result in a lower percentage of PAG rock being encountered during early operations than would be predicted by extrapolating waste rock data in similar proximity to the ore to near surface. A comparison of the overall percentages and quantities of PAG materials for the HWS and FWS for the life of mine pit as well as the five year pit are provided in Table 7.

A sulphur content of >0.2% has been determined to be indicative of PAG material (NPR <2) and would be a suitable screening test to segregate PAG and Non-PAG using sulphur by Leco S analyser. The addition of the NAG pH test to those PAG samples identified by sulphur >0.2% can substantially reduce the potential for incorrect classification of Non-PAG samples as PAG. However, the data presently suggests use of the NAG pH test could result in a misclassification of PAG samples as Non-PAG in 1 to 3% of samples (for available data).

The NAG pH test should be explored further as a potential means of refining PAG and Non-PAG segregation through the Phase 1 development. The additional test if proven in the operational setting may provide a relatively efficient means to allow a significant reduction in the amount of Non-PAG material managed as PAG for the Life of Mine project.

It is noted that due to ore body geometry and availability of exploration drilling intersects there is an inherent limitation in sample coverage of the waste rock within the five year pit envelope. Therefore, for planning purposes and the Phase 1 waste rock management plan, AMEC recommends that a minimum of 10% PAG rock be assumed for HWS and FWS waste rock (Table 7). The above 10% PAG allowance excludes any increases due to field screening and dilution.

## 6.0 REFERENCES

AMEC, 2014. Mine Rock ML/ARD Characterization Report Deposit 1, Mary River Project, March 2014.

Price, W.A. 1997, DRAFT Guidelines and Recommended Method for Prediction of Metal Leaching and Acid Rock Drainage at Minesites in British Colombia. British Colombia Ministry of Employment and Investment, Energy and Minerals Division. Smithers, B.C.

TABLES

**Table 1: Summary and Comparison of ABA Results (Five Year and End of Mine Sample Sets)**

| | | Total Sulphur | | Sulphide* | | AP | | NP | | CarbNP | | NPR | | CarbNPR | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | % | | % | | kg $CaCO_3$/t | | kg $CaCO_3$/t | | kg $CaCO_3$/t | | | | | |
| | | 5 Year Pit | LOM Pit | 5 Year Pit | LOM Pit | 5 Year Pit | LOM Pit | 5 Year Pit | LOM Pit | 5 Year Pit | LOM Pit | 5 Year Pit | LOM Pit | 5 Year Pit | LOM Pit |
| Footwall Schist | Count | 40 | 143 | 40 | 143 | 40 | 143 | 40 | 143 | 40 | 143 | 40 | 143 | 40 | 143 |
| | Min | 0.0050 | 0.0050 | 0.010 | 0.010 | 0.31 | 0.31 | 5.3 | 4.6 | 0.083 | 0.083 | 0.21 | 0.21 | 0.019 | 0.0034 |
| | Max | 5.6 | 5.6 | 4.2 | 4.2 | 130 | 130 | 59 | 71 | 129 | 178 | 176 | 176 | 345 | 345 |
| | Median | 0.011 | 0.044 | 0.010 | 0.010 | 0.31 | 0.31 | 13 | 13 | 0.54 | 0.50 | 36 | 23 | 1.6 | 1.0 |
| | Average | 0.32 | 0.29 | 0.23 | 0.23 | 7.1 | 7.0 | 17 | 16 | 11 | 8.5 | 2.4 | 2.3 | 1.5 | 1.2 |
| | Standard Deviation | 1.00 | 0.70 | 0.74 | 0.58 | 23 | 18 | 12 | 11 | 30 | 27 | 35 | 27 | 55 | 30 |
| | 10th Percentile | 0.0050 | 0.0050 | 0.010 | 0.010 | 0.31 | 0.31 | 7.2 | 7.4 | 0.083 | 0.083 | 1.4 | 0.90 | 0.19 | 0.039 |
| | 90th Percentile | 0.53 | 0.74 | 0.31 | 0.72 | 9.5 | 22 | 29 | 26 | 17 | 14 | 78 | 62 | 17 | 6.8 |
| Hanging Wall Schist | Count | 53 | 270 | 53 | 270 | 53 | 270 | 53 | 270 | 53 | 270 | 53 | 270 | 53 | 270 |
| | Min | 0.0050 | 0.0050 | 0.010 | 0.010 | 0.31 | 0.31 | 7.0 | -6.5 | 0.083 | 0.083 | 0.41 | 0.000033 | 0.019 | 0.00035 |
| | Max | 1.2 | 22 | 0.97 | 22 | 30 | 693 | 104 | 487 | 79 | 514 | 268 | 621 | 232 | 571 |
| | Median | 0.11 | 0.12 | 0.019 | 0.057 | 0.59 | 1.8 | 16 | 18 | 1.0 | 0.62 | 26 | 13 | 1.3 | 0.37 |
| | Average | 0.14 | 0.60 | 0.076 | 0.48 | 2.4 | 15 | 23 | 26 | 8.0 | 17 | 9.5 | 1.7 | 3.4 | 1.1 |
| | Standard Deviation | 0.19 | 2.0 | 0.14 | 1.8 | 4.5 | 56 | 20 | 46 | 19 | 56 | 42 | 50 | 39 | 41 |
| | 10th Percentile | 0.0050 | 0.0080 | 0.010 | 0.010 | 0.31 | 0.31 | 11 | 7.7 | 0.090 | 0.083 | 4.1 | 0.41 | 0.069 | 0.0095 |
| | 90th Percentile | 0.26 | 0.91 | 0.15 | 0.72 | 4.7 | 22 | 31 | 33 | 18 | 21 | 55 | 73 | 20 | 19 |

*As total sulphur - sulphate

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**Table 2: Five Year Pit NPR Distribution**

| Waste Classification | Number of Samples | NPR Distribution | | | | |
|---|---|---|---|---|---|---|
| | | NPR < 1 | 1 < NPR < 2 | 2 < NPR < 3 | 3 < NPR < 4 | NPR > 4 |
| **All** | 93 | 3 | 3 | 3 | 2 | 82 |
| **Footwall Schist** | 40 | 2 | 3 | 0 | 1 | 34 |
| **Hanging Wall Schist** | 53 | 1 | 0 | 3 | 1 | 48 |
| **Waste Classification** | **Number of Samples** | **Carbonate NPR Distribution** | | | | |
| | | **NPR < 1** | **1 < NPR < 2** | **2 < NPR < 3** | **3 < NPR < 4** | **NPR > 4** |
| **All** | 93 | 42 | 12 | 7 | 7 | 25 |
| **Footwall Schist** | 40 | 16 | 8 | 4 | 4 | 8 |
| **Hanging Wall Schist** | 53 | 26 | 4 | 3 | 3 | 17 |

**Table 3: Summary of Elemental Content for the 5 Year Pit**

| | | Hg | Au | Ag | Al | As | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe | K | Li | Mg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g |
| Footwall Schist | Count | 40 | 13 | 13 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| | Min | 0.10 | 0.020 | 0.010 | 1,700 | 0.50 | 0.90 | 0.21 | 0.090 | 110 | 0.020 | 4.4 | 12 | 1.8 | 20,000 | 40 | 2.0 | 8,600 |
| | Max | 0.10 | 0.15 | 1.3 | 100,000 | 147 | 1,600 | 5.0 | 2.3 | 19,000 | 0.38 | 52 | 600 | 380 | 470,000 | 39,000 | 244 | 91,000 |
| | Median | 0.10 | 0.020 | 0.060 | 34,000 | 0.60 | 180 | 0.71 | 0.095 | 1,500 | 0.040 | 12 | 72 | 10 | 70,000 | 9,050 | 17 | 21,500 |
| | Average | 0.10 | 0.030 | 0.22 | 42,860 | 7.0 | 234 | 1.0 | 0.26 | 3,157 | 0.096 | 15 | 114 | 33 | 118,125 | 10,414 | 24 | 31,970 |
| | Standard Deviation | 4.2E-17 | 0.036 | 0.36 | 24,634 | 26 | 307 | 0.88 | 0.40 | 4,519 | 0.096 | 10 | 119 | 68 | 114,764 | 10,130 | 38 | 23,918 |
| | 10th Percentile | 0.10 | 0.020 | 0.014 | 17,700 | 0.50 | 3.1 | 0.37 | 0.090 | 368 | 0.020 | 6.3 | 27 | 3.1 | 29,000 | 177 | 3.8 | 10,840 |
| | 90th Percentile | 0.10 | 0.020 | 0.47 | 80,100 | 4.7 | 534 | 2.0 | 0.52 | 8,290 | 0.20 | 25 | 240 | 70 | 234,000 | 20,800 | 36 | 70,000 |
| Hanging Wall Schist | Count | 53 | 33 | 33 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 |
| | Min | 0.10 | 0.020 | 0.010 | 10 | 0.50 | 0.010 | 0.020 | 0.090 | 25 | 0.020 | 0.25 | 0.50 | 0.10 | 33 | 1.0 | 2.0 | 19 |
| | Max | 0.10 | 0.040 | 1.3 | 116,000 | 59 | 660 | 3.5 | 28 | 43,000 | 0.60 | 67 | 1,260 | 180 | 600,000 | 31,000 | 370 | 110,000 |
| | Median | 0.10 | 0.020 | 0.05 | 39,000 | 0.50 | 31 | 0.32 | 0.090 | 1,700 | 0.080 | 26 | 150 | 73 | 63,000 | 2,500 | 19 | 25,000 |
| | Average | 0.10 | 0.021 | 0.12 | 40,885 | 2.6 | 123 | 0.62 | 0.65 | 7,233 | 0.12 | 27 | 215 | 71 | 82,548 | 7,239 | 32 | 30,238 |
| | Standard Deviation | 5.6E-17 | 0.0035 | 0.29 | 22,623 | 8.4 | 185 | 0.78 | 3.8 | 9,994 | 0.11 | 15 | 213 | 53 | 89,986 | 8,500 | 51 | 21,715 |
| | 10th Percentile | 0.10 | 0.020 | 0.010 | 16,200 | 0.50 | 2.2 | 0.070 | 0.090 | 312 | 0.020 | 9.9 | 61 | 5.1 | 15,000 | 114 | 7.2 | 7,920 |
| | 90th Percentile | 0.10 | 0.020 | 0.12 | 71,000 | 3.5 | 472 | 1.6 | 0.22 | 24,000 | 0.20 | 48 | 500 | 140 | 159,000 | 20,000 | 56 | 54,800 |

| | | Mn | Mo | Na | Ni | P | Pb | S | Sb | Se | Sn | Sr | Ti | Tl | U | V | Y | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g |
| Footwall Schist | Count | 40 | 40 | 40 | 40 | 13 | 40 | 20 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 13 | 40 |
| | Min | 83 | 0.30 | 28 | 5.3 | 32 | 1.3 | 41 | 0.80 | 0.70 | 0.50 | 0.8 | 72 | 0.020 | 0.42 | 2.0 | 1.1 | 3.9 |
| | Max | 11,000 | 360 | 1,100 | 260 | 5,400 | 32 | 1,200 | 1.4 | 6.2 | 4.6 | 28 | 3,100 | 1.6 | 8.4 | 170 | 14 | 110 |
| | Median | 530 | 2.1 | 275 | 27 | 390 | 4.1 | 89 | 0.80 | 0.70 | 0.80 | 3.4 | 745 | 0.23 | 1.8 | 32 | 3.7 | 32 |
| | Average | 1,430 | 18 | 306 | 46 | 1,030 | 5.9 | 260 | 0.82 | 0.95 | 1.2 | 5.5 | 1,000 | 0.31 | 2.2 | 45 | 5.7 | 40 |
| | Standard Deviation | 2,770 | 62 | 248 | 51 | 1,587 | 5.8 | 362 | 0.09 | 0.95 | 1.02 | 5.3 | 803 | 0.34 | 1.7 | 41 | 4.3 | 26 |
| | 10th Percentile | 170 | 0.30 | 55 | 8.1 | 56 | 1.8 | 54 | 0.80 | 0.70 | 0.50 | 1.8 | 238 | 0.030 | 0.68 | 7.9 | 1.6 | 14 |
| | 90th Percentile | 2,210 | 13 | 570 | 101 | 2,960 | 13 | 911 | 0.80 | 0.76 | 2.9 | 12 | 2,310 | 0.64 | 4.1 | 101 | 12 | 77 |
| Hanging Wall Schist | Count | 53 | 53 | 53 | 53 | 33 | 53 | 0 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 33 | 53 |
| | Min | 2.3 | 0.30 | 9.0 | 0.10 | 7.0 | 0.40 | - | 0.80 | 0.70 | 0.50 | 0.22 | 0.10 | 0.020 | 0.0080 | 1.0 | 0.63 | 0.70 |
| | Max | 2,600 | 39 | 2,000 | 430 | 2,200 | 113 | - | 14 | 1.4 | 4.6 | 35 | 3,000 | 1.6 | 7.3 | 210 | 6.5 | 145 |
| | Median | 370 | 0.90 | 350 | 93 | 280 | 2.2 | - | 0.80 | 0.70 | 0.50 | 9.7 | 1,000 | 0.10 | 0.22 | 65 | 2.7 | 37 |
| | Average | 502 | 2.3 | 527 | 109 | 348 | 5.2 | - | 1.1 | 0.74 | 0.90 | 11 | 1,060 | 0.23 | 0.83 | 87 | 2.8 | 41 |
| | Standard Deviation | 440 | 5.7 | 522 | 93 | 402 | 15 | - | 1.8 | 0.14 | 0.79 | 7.5 | 789 | 0.33 | 1.3 | 58 | 1.4 | 29 |
| | 10th Percentile | 152 | 0.42 | 86 | 30 | 42 | 0.85 | - | 0.80 | 0.70 | 0.50 | 2.8 | 180 | 0.020 | 0.012 | 22 | 1.2 | 14 |
| | 90th Percentile | 850 | 3.0 | 1,378 | 200 | 612 | 6.0 | - | 0.80 | 0.70 | 1.7 | 21 | 2,000 | 0.49 | 1.8 | 170 | 4.5 | 71 |

### Table 4: Summary of Enriched Elements (> 10x Crustal Abundance)

| | Waste Classification | Au | Ag | As | Bi | Cd | Cr | Fe | Li | Mn | Mo | Ni | S | Sb | Se* | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 Year Pit | | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g |
| | **Number of Samples** | **46** | **46** | **93** | **93** | **93** | **93** | **93** | **93** | **93** | **93** | **93** | **93** | **93** | **93** | **93** |
| | **Avg Crustal** | **0.004** | **0.075** | **1.8** | **0.025** | **0.15** | **102** | **56300** | **20** | **950** | **1.2** | **84** | **350** | **0.2** | **0.05** | **70** |
| | **10x Avg Crustal** | **0.04** | **0.75** | **18** | **0.25** | **1.5** | **1020** | **563000** | **200** | **9500** | **12** | **840** | **3500** | **2** | **0.5** | **700** |
| | **All** | 1 | 3 | 3 | 13 | - | 1 | 1 | 2 | 2 | 7 | - | - | 1 | 8 | - |
| | **Footwall Schist** | 1 | 1 | 2 | 9 | - | - | - | 1 | 2 | 5 | - | - | - | 4 | - |
| | **Hanging Wall Schist** | - | 2 | 1 | 4 | - | 1 | 1 | 1 | - | 2 | - | - | 1 | 4 | - |

| | Waste Classification | Au | Ag | As | Bi | Cd | Cr | Fe | Li | Mn | Mo | Ni | S | Sb | Se* | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LOM Pit | | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g | µg/g |
| | **Number of Samples** | **261** | **261** | **413** | **413** | **413** | **413** | **413** | **413** | **413** | **413** | **413** | **413** | **413** | **413** | **413** |
| | **Avg Crustal** | **0.004** | **0.075** | **1.8** | **0.025** | **0.15** | **102** | **56300** | **20** | **950** | **1.2** | **84** | **350** | **0.2** | **0.05** | **70** |
| | **10x Avg Crustal** | **0.04** | **0.75** | **18** | **0.25** | **1.5** | **1020** | **563000** | **200** | **9500** | **12** | **840** | **3500** | **2** | **0.5** | **700** |
| | **All** | 11 | 4 | 28 | 81 | 2 | 5 | 18 | 3 | 9 | 32 | 3 | 10 | 3 | 62 | 1 |
| | **Footwall Schist** | 5 | 2 | 4 | 32 | 1 | - | 10 | 3 | 5 | 15 | 1 | 2 | 2 | 18 | 1 |
| | **Hanging Wall Schist** | 6 | 2 | 24 | 49 | 1 | 5 | 8 | - | 4 | 17 | 2 | 8 | 1 | 44 | - |

*Only values above detection are included

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**Table 5: Assessment of Sulphur and NAG pH to Define PAG Material**

| Description | | Correctly Categorized | | Incorrectly Categorized | |
|---|---|---|---|---|---|
| | | Non-PAG as Non-PAG | PAG as PAG | Non-PAG as PAG | PAG as Non-PAG |
| | | **776** | **776** | **776** | **776** |
| Sulphur >0.2% as PAG | Number of Samples | 584 | 114 | 77 | 1 |
| | Percent | 75% | 15% | 10% | 0.1% |
| NAG pH <4.5 as PAG | Number of Samples | 648 | 92 | 13 | 23** |
| | Percent | 84% | 12% | 2% | 3% |
| Sulphur >0.2% followed by NAG pH check* | Number of Samples | 652 | 92 | 9 | 23** |
| | Percent | 84% | 12% | 1% | 3% |

* NAG pH check on apparent PAG samples from sulphur >0.2%.

**Includes 12 iron formation samples which is proportionally high for the data set (see text).

## Table 6: Tonnage Distribution for Life of Mine Pit (Comparison of PAG by NPR <2 and S >0.2%)

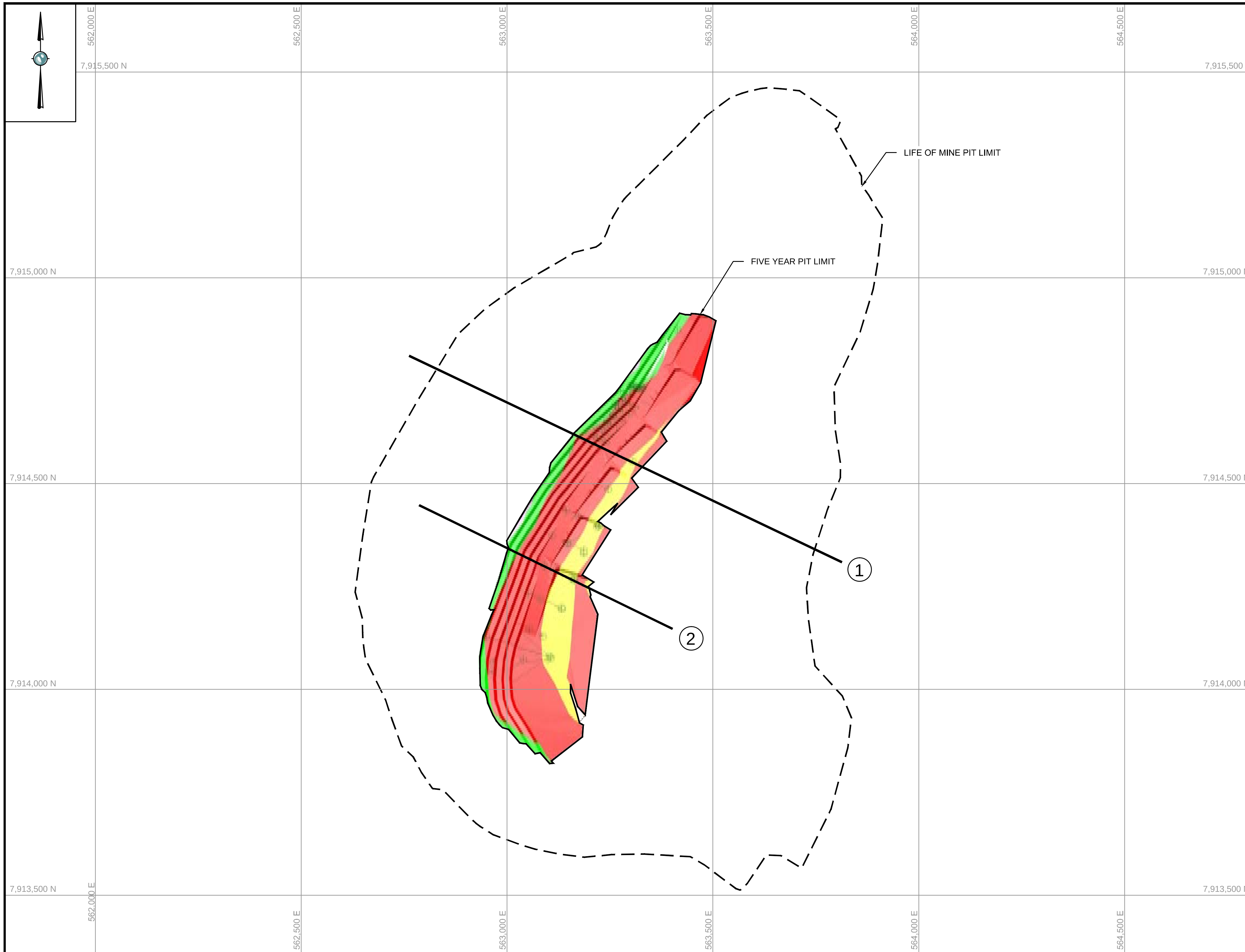
| Waste Rock Domain | Tonnage (Mt) | No. Samples | Mean Sulphur % | Mean NPR* | % Samples NPR <2 | PAG tonnage (Mt) | % Samples Sulphur >0.2% | PAG tonnage (Mt) |
|---|---|---|---|---|---|---|---|---|
| Footwall Schist | 74.1 | 143 | 0.29 | 2.3 | 20% | 15.0 | 28% | 20.7 |
| Footwall Waste | 263 | 271 | 0.070 | 12 | 4% | 9.7 | 8% | 21.4 |
| Hanging Wall Schist | 139.6 | 270 | 0.60 | 1.7 | 24% | 33.1 | 40% | 56.4 |
| Hanging Wall Waste | 77.5 | 62 | 0.074 | 20 | 0% | 0 | 5% | 3.8 |
| Internal Waste | 2.1 | 12 | 0.61 | 1.0 | 42% | 0.9 | 42% | 0.9 |
| Mineralized Waste | 9.7 | 18 | 0.81 | 1.7 | 41% | 4.0 | 67% | 6.5 |
| Total | 566 | 776 | | | | 62.7 | | 109.5 |

**Table 7: HWS and FWS PAG Tonnage Estimates**

| Waste Classification | Number of Samples | | Tonnage (Mt) | | % PAG* | | Tonnage (Mt) PAG* | | For Planning (5 year pit) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | LOM Pit | 5 Year Pit | LOM Pit | 5 Year Pit | LOM Pit | 5 Year Pit | LOM Pit | 5 Year Pit | % PAG | Tonnage (Mt) PAG |
| **Footwall Schist** | 143 | 40 | 74.1 | 0.81 | 20% | 8% | 14.8 | 0.07 | 10% | 0.08 |
| **Hanging Wall Schist** | 270 | 53 | 140 | 1.70 | 24% | 2% | 33.5 | 0.03 | 10% | 0.17 |

*Based on NPR<2

FIGURES




NOTES:

1. THE GRID COORDINATES SHOWN ON THIS DRAWING ARE IN METRES. THE COORDINATES ARE REFERENCED TO UTM NAD 83 ZONE 17N DATUM.
2. DRAWING PRODUCED FROM DIGITAL FILES PROVIDED BY BAFFINLAND IRON MINES CORPORATION.
3. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE ACCOMPANYING REPORT.

LEGEND:

- HIGH GRADE IRON ORE
- FOOTWALL SCHIST
- HANGING WALL SCHIST
- FOOTWALL WASTE
- CROSS SECTION

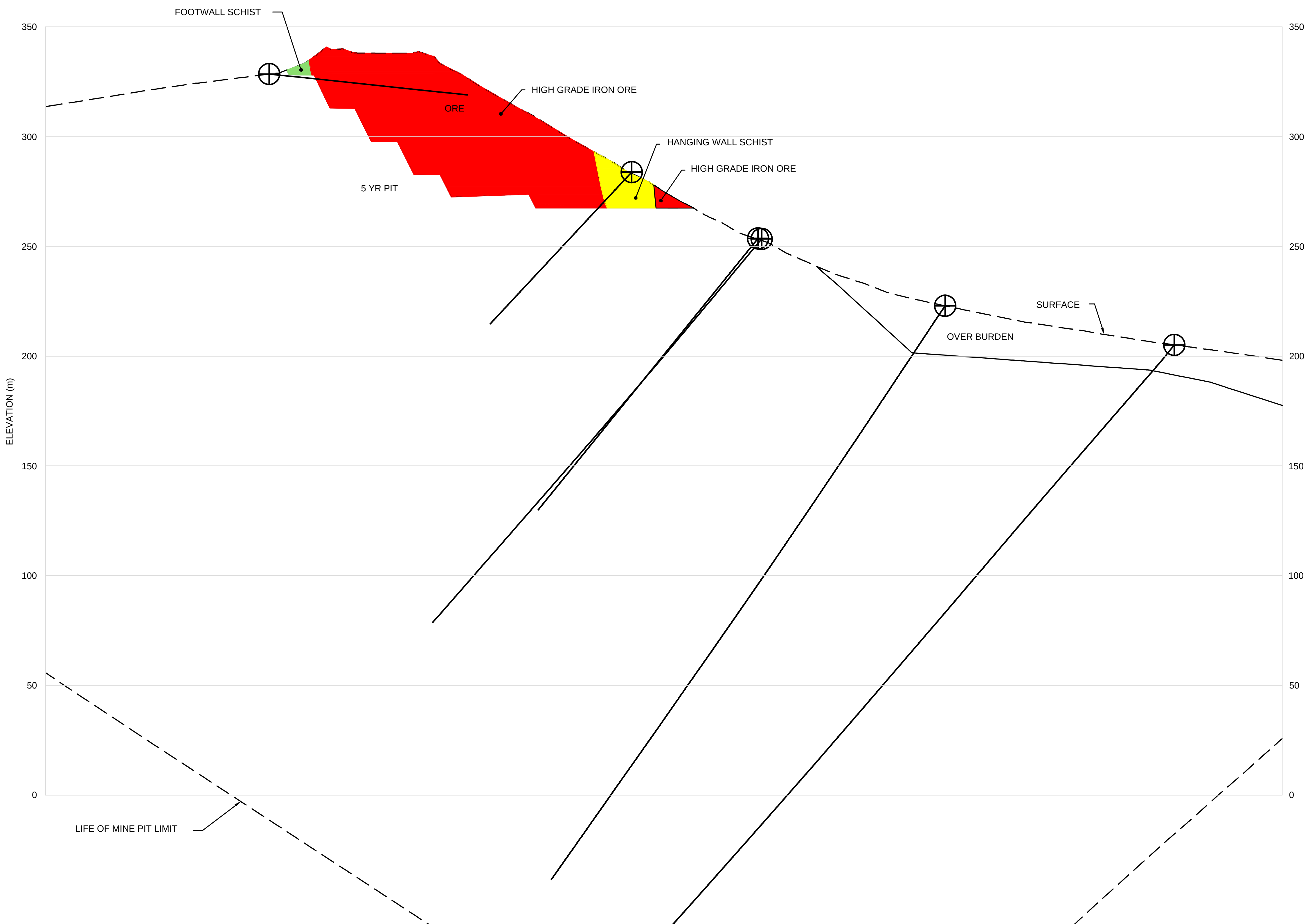
0 100 200 500m
1:10 000 SCALE

| | |
|---|---|
| CLIENT LOGO | Baffinland Iron Mines Corporation |
| CLIENT: | BAFFINLAND IRON MINES CORPORATION |
| | AMEC Environment & Infrastructure<br>160 Traders Boulevard East<br>Mississauga, Ontario, Canada L4Z 3K7 |
| DWN BY: | NR |
| CHK'D BY: | SW |
| DATUM: | NAD 83 |
| PROJECTION: | UTM ZONE 17N |
| SCALE: | AS SHOWN |
| PROJECT | MARY RIVER PROJECT<br>DEPOSIT 1 |
| TITLE | FIVE YEAR PIT LIMIT<br>PLAN VIEW |
| DATE: | APRIL 2014 |
| PROJECT NO: | TC123908 |
| REV. NO.: | A |
| FIGURE No. | 1 |

P:\Geo\1 - PROJECTS\2012\TC123908-Baffinland Iron Mines Corp\08. CAD\WRK\FIGURE 1a.DWG - 1 - Apr. 23, 2014 11:35am - nadine.rondon

NOTES:

1. DRAWING PRODUCED FROM DIGITAL FILES PROVIDED BY BAFFINLAND IRON MINES CORPORATION.
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE ACCOMPANYING REPORT.




LEGEND:

- HIGH GRADE IRON ORE
- FOOTWALL SCHIST
- HANGING WALL SCHIST
- FOOTWALL WASTE
- EXISTING BOREHOLE

0 50 100m

1:2000 SCALE

CLIENT LOGO: Baffinland Iron Mines Corporation

CLIENT: BAFFINLAND IRON MINES CORPORATION

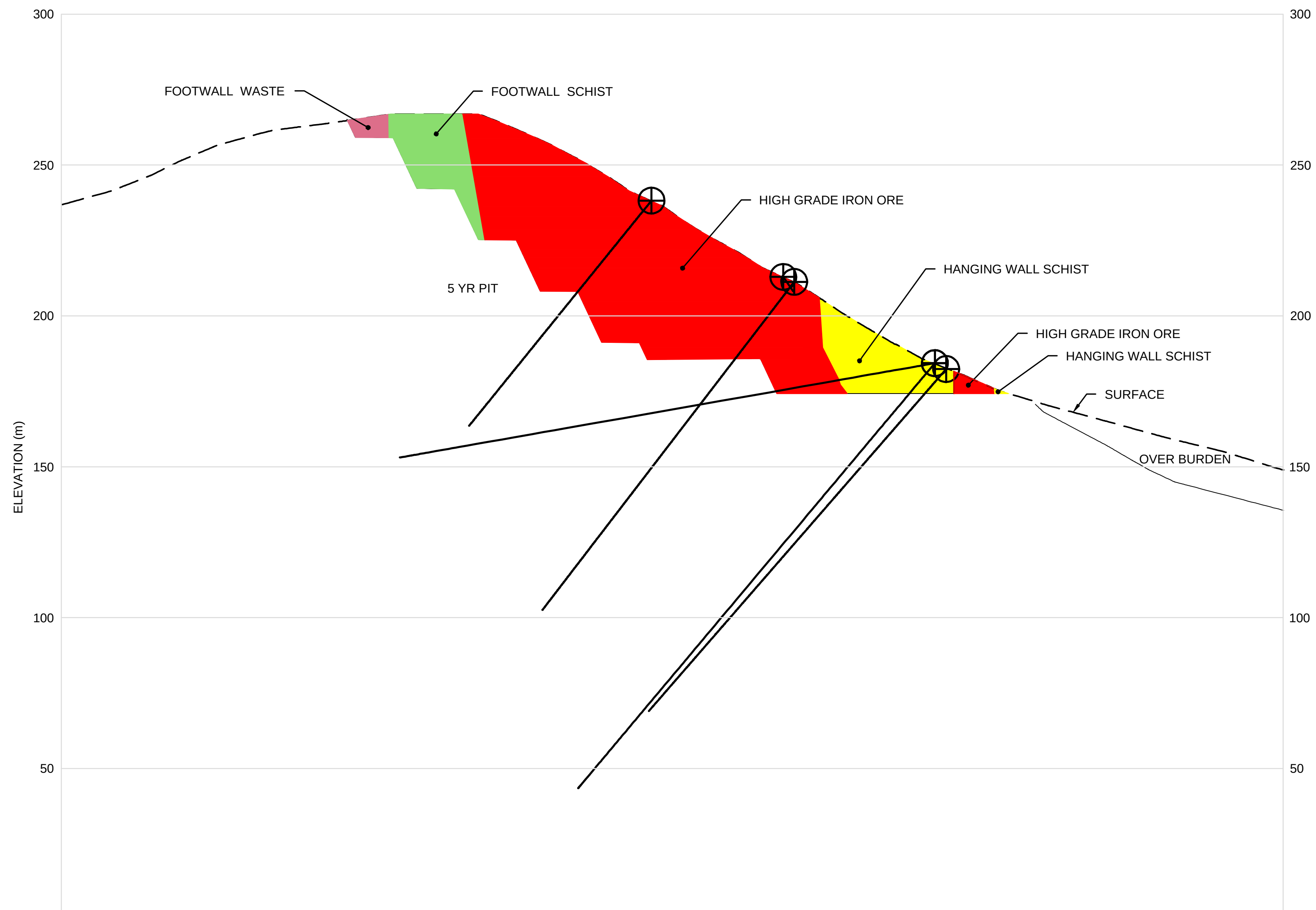
AMEC Environment & Infrastructure
160 Traders Boulevard East
Mississauga, Ontario, Canada L4Z 3K7

DWN BY: NR
CHK'D BY: SW
DATUM: NAD 83
PROJECTION: UTM ZONE 17N
SCALE: AS SHOWN

PROJECT: MARY RIVER PROJECT
DEPOSIT 1

TITLE: FIVE YEAR PIT
CROSS SECTION #1

DATE: APRIL 2014
PROJECT NO: TC123908
REV. NO.: A
FIGURE No. 2




NOTES:

1. DRAWING PRODUCED FROM DIGITAL FILES PROVIDED BY BAFFINLAND IRON MINES CORPORATION.
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE ACCOMPANYING REPORT.

LEGEND:

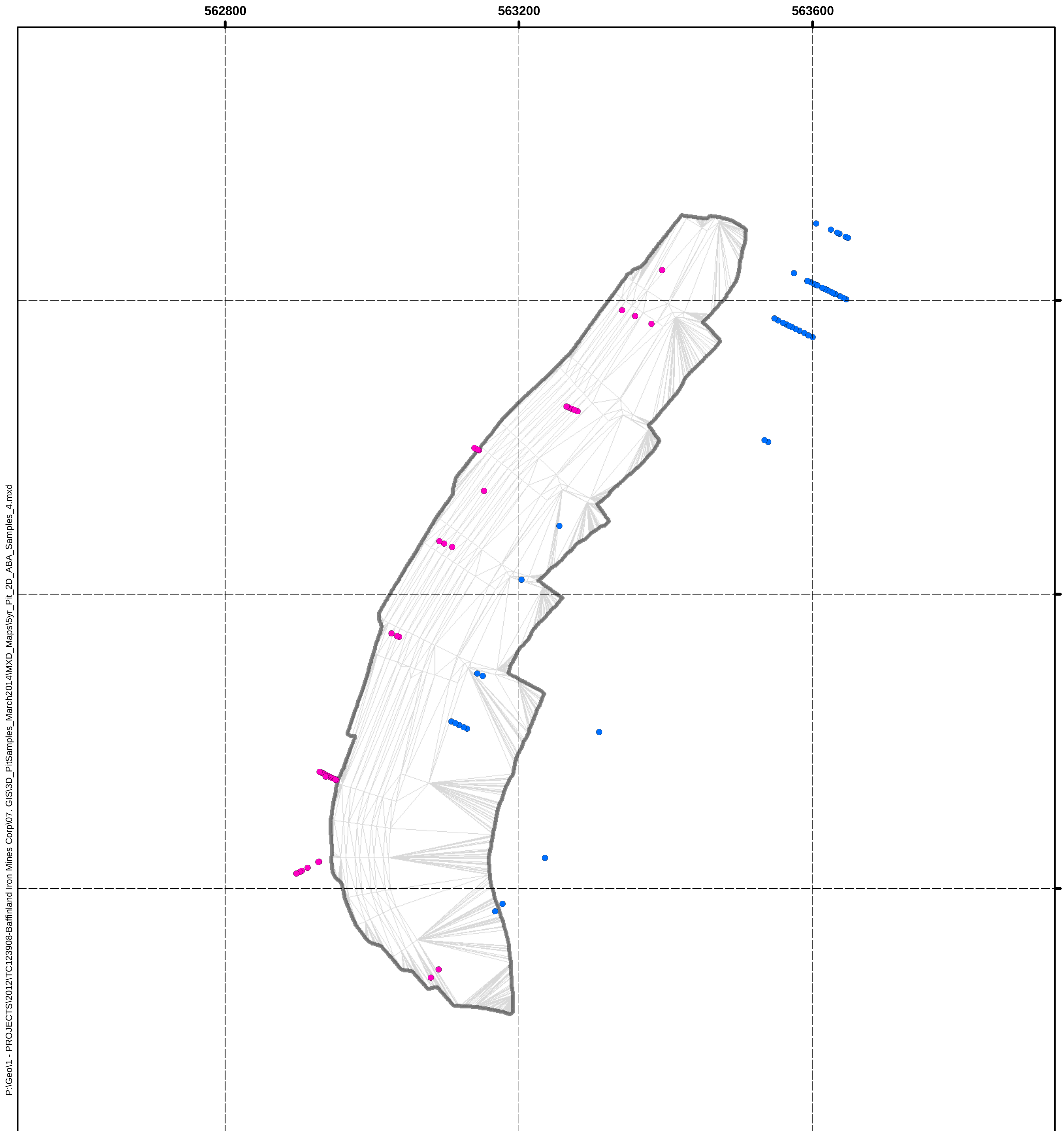
- HIGH GRADE IRON ORE
- FOOTWALL SCHIST
- HANGING WALL SCHIST
- FOOTWALL WASTE
- EXISTING BOREHOLE

0 50 100m

1:2000 SCALE

| | | | |
|---|---|---|---|
| CLIENT LOGO | CLIENT: BAFFINLAND IRON MINES CORPORATION | DWN BY: NR | PROJECT: MARY RIVER PROJECT DEPOSIT 1 |
| | AMEC Environment & Infrastructure<br>160 Traders Boulevard East<br>Mississauga, Ontario, Canada L4Z 3K7 | CHK'D BY: SW | DATE: APRIL 2014 |
| | | DATUM: NAD 83 | PROJECT NO: TC123908 |
| | | PROJECTION: UTM ZONE 17N | TITLE: FIVE YEAR PIT CROSS SECTION #2 |
| | | SCALE: AS SHOWN | REV. NO.: A |
| | | | FIGURE No. 3 |

P:\Geo\1 - PROJECTS\2012\TC123908-Baffinland Iron Mines Corp\08. CAD\WRK\FIGURE 1a.DWG - 3 - Apr. 23, 2014 11:56am - nadine.rondon




**LEGEND**

Proposed 5 Year Open Pit Boundary

Footwall Schist ARD Sample Locations

Hanging Wall Schist ARD Sample Locations

NOTES:
-

Datum: NAD83
Projection: UTM Zone 17N

0 75 150 300 450 600 Metres

N W E S

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**MARY RIVER PROJECT**

**Plan View of ARD Sample Distribution Adjacent to the 5 Year Deposit 1 Pit Shell**

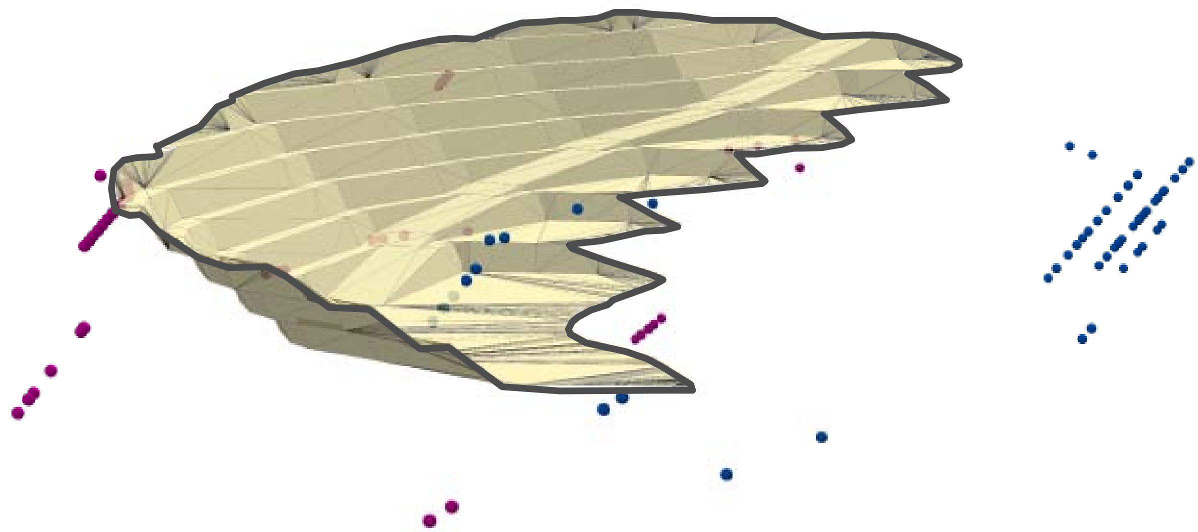
PROJECT N$^{o}$: TC123908

**FIGURE: 4**

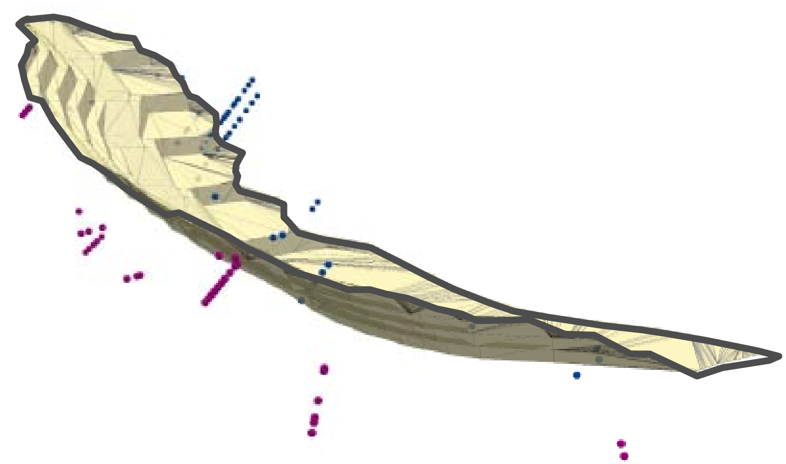
SCALE: 1:7,000

DATE: April 2014

## Three-Dimensional Looking North
## (linear scale varies in this perspective)



## Three-Dimensional Looking Northeast
## (linear scale varies in this perspective)



**LEGEND**

- **Proposed 5 Year Open Pit Boundary**
- **Footwall Schist ARD Sample Locations**
- **Hanging Wall Schist ARD Sample Locations**

NOTES:
-

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**MARY RIVER PROJECT**

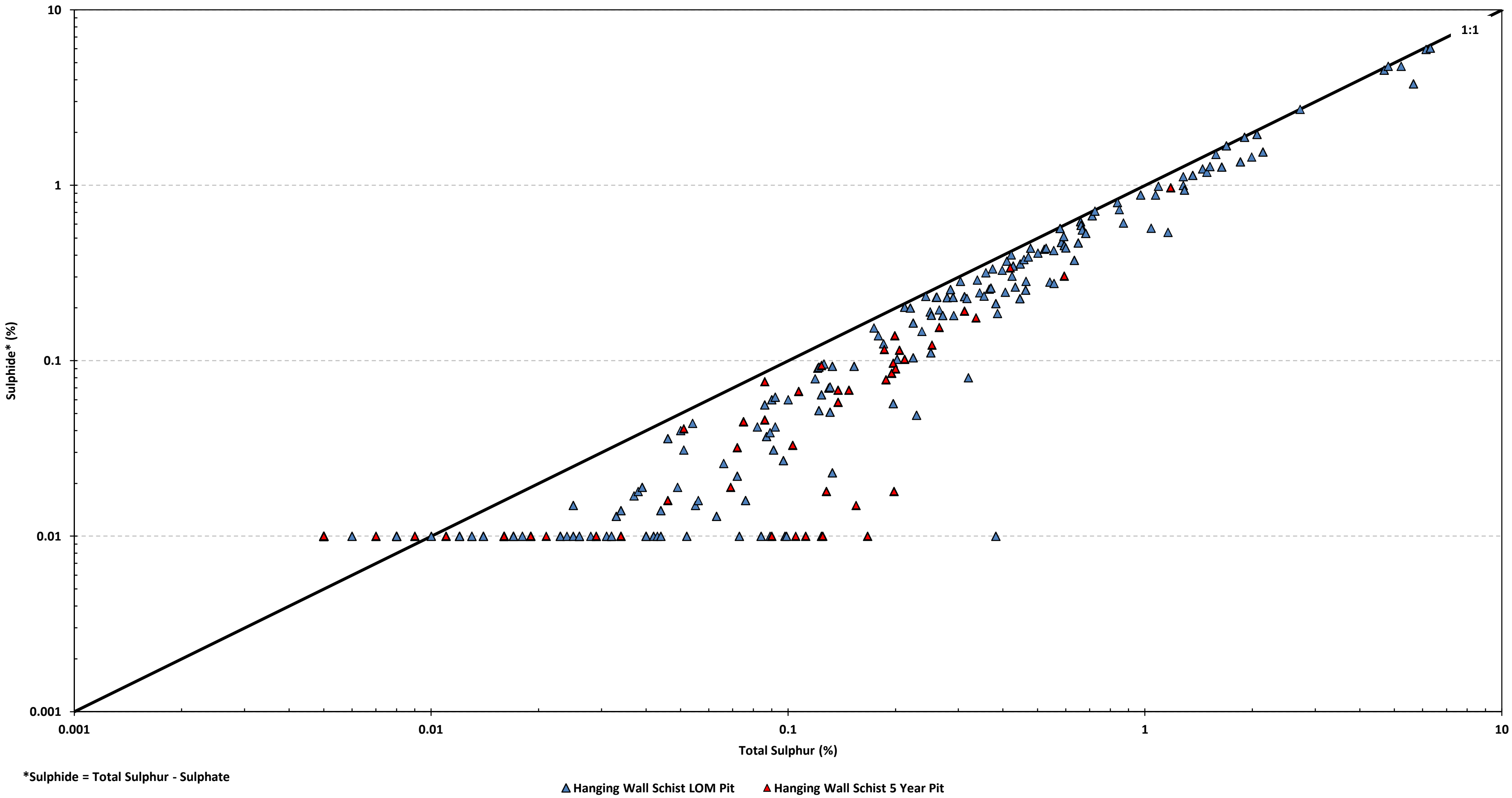
**Oblique View of ARD Sample Distribution Adjacent to the 5 Year Deposit 1 Pit Shell**

Datum: NAD83
Projection: UTM Zone 17N

N W E S

| | |
|---|---|
| PROJECT N$^{o}$: TC123908 | **FIGURE: 5** |
| SCALE: | DATE: April 2014 |

P:\Geo\1 - PROJECTS\2012\TC123908-Baffinland Iron Mines Corp\07. GIS\3D_PitSamples_March2014\MXD_Maps\5yr_Pit_3D_ABA_Samples_4.mxd

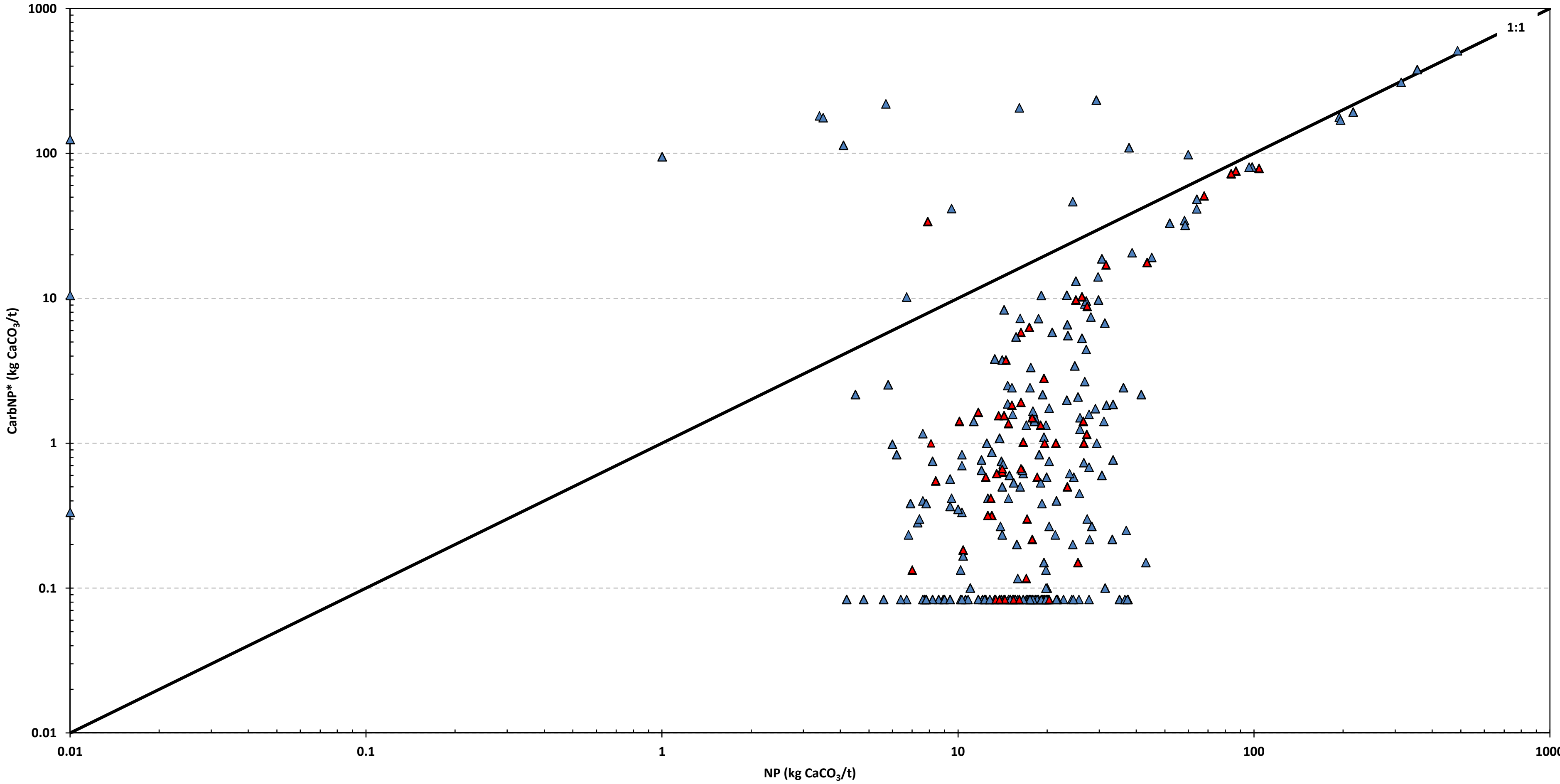



*Sulphide = Total Sulphur - Sulphate

Mary River Project

Total Sulphur vs Sulphide for Hanging Wall Schist

| Drawn by: LC | Checked by: SW | Date: April 2014 |
|---|---|---|
| Project: TC123908 | | FIGURE 6 |




*Samples from 2010 CarbNP calculated off total carbon, samples from 2011 onwards CarbNP calculated off carbonate carbon

Hanging Wall Schist LOM Pit | Hanging Wall Schist 5 Year Pit

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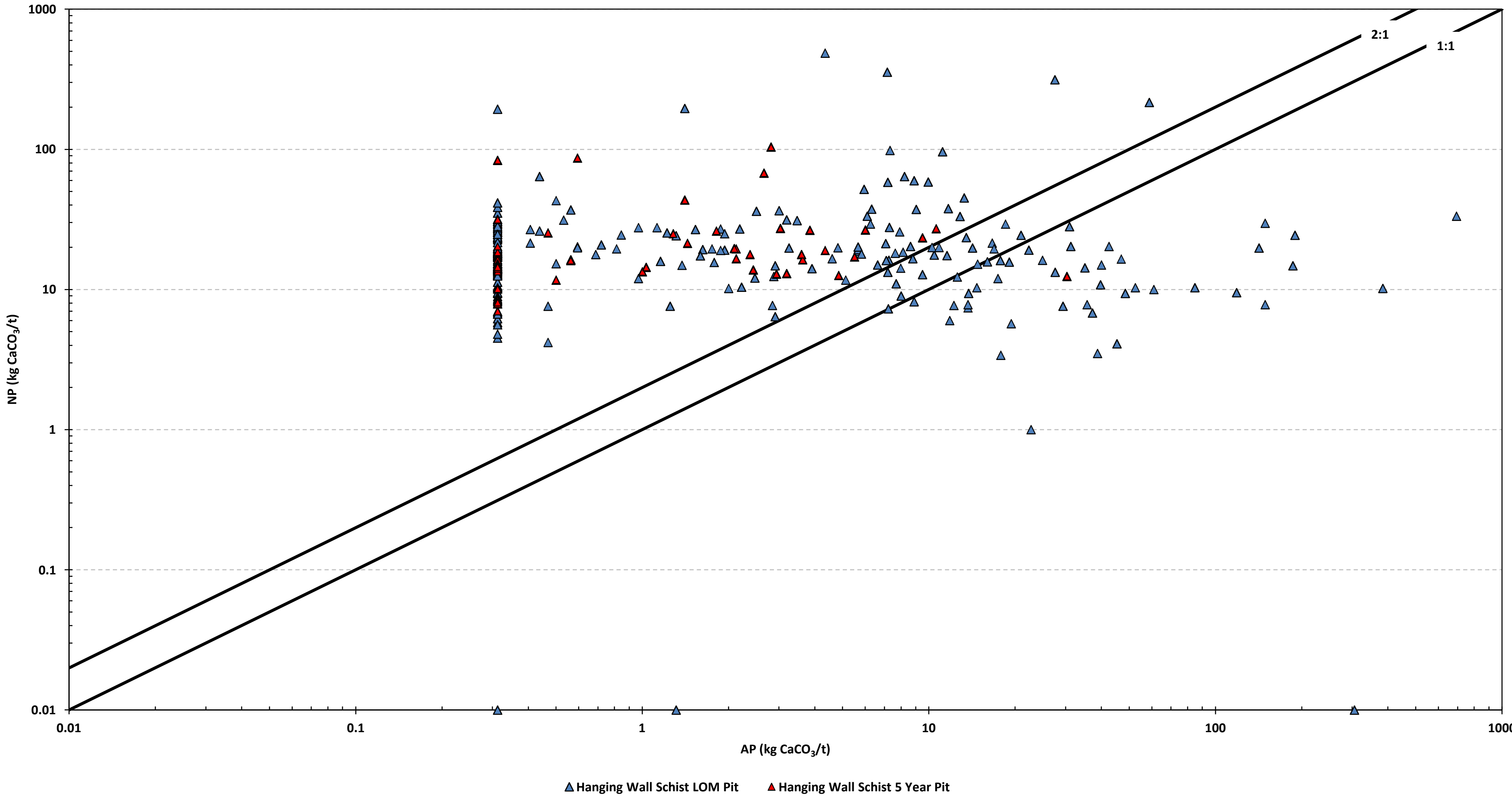
**Mary River Project**

NP vs. CarbNP for Hanging Wall Schist

| | | |
|---|---|---|
| Drawn by: LC | Checked by: SW | Date: April 2014 |
| Project: TC123908 | | FIGURE 7 |

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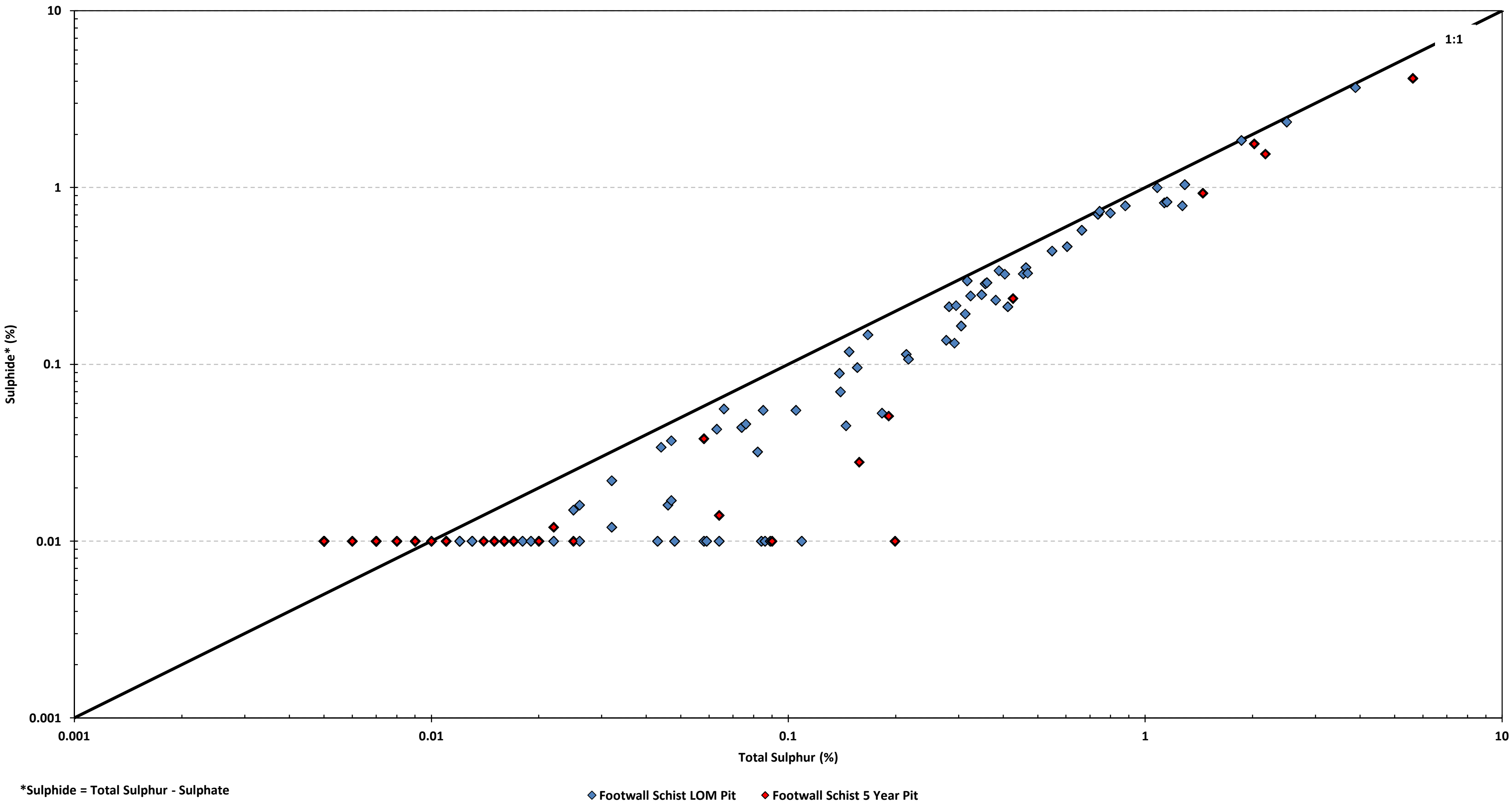
**Mary River Project**

NP vs. AP for Hanging Wall Schist

| Drawn by: LC | Checked by: SW | Date: April 2014 |
|---|---|---|
| Project: TC123908 | | FIGURE 8 |




*Sulphide = Total Sulphur - Sulphate

Baffinland Iron Mines Corporation

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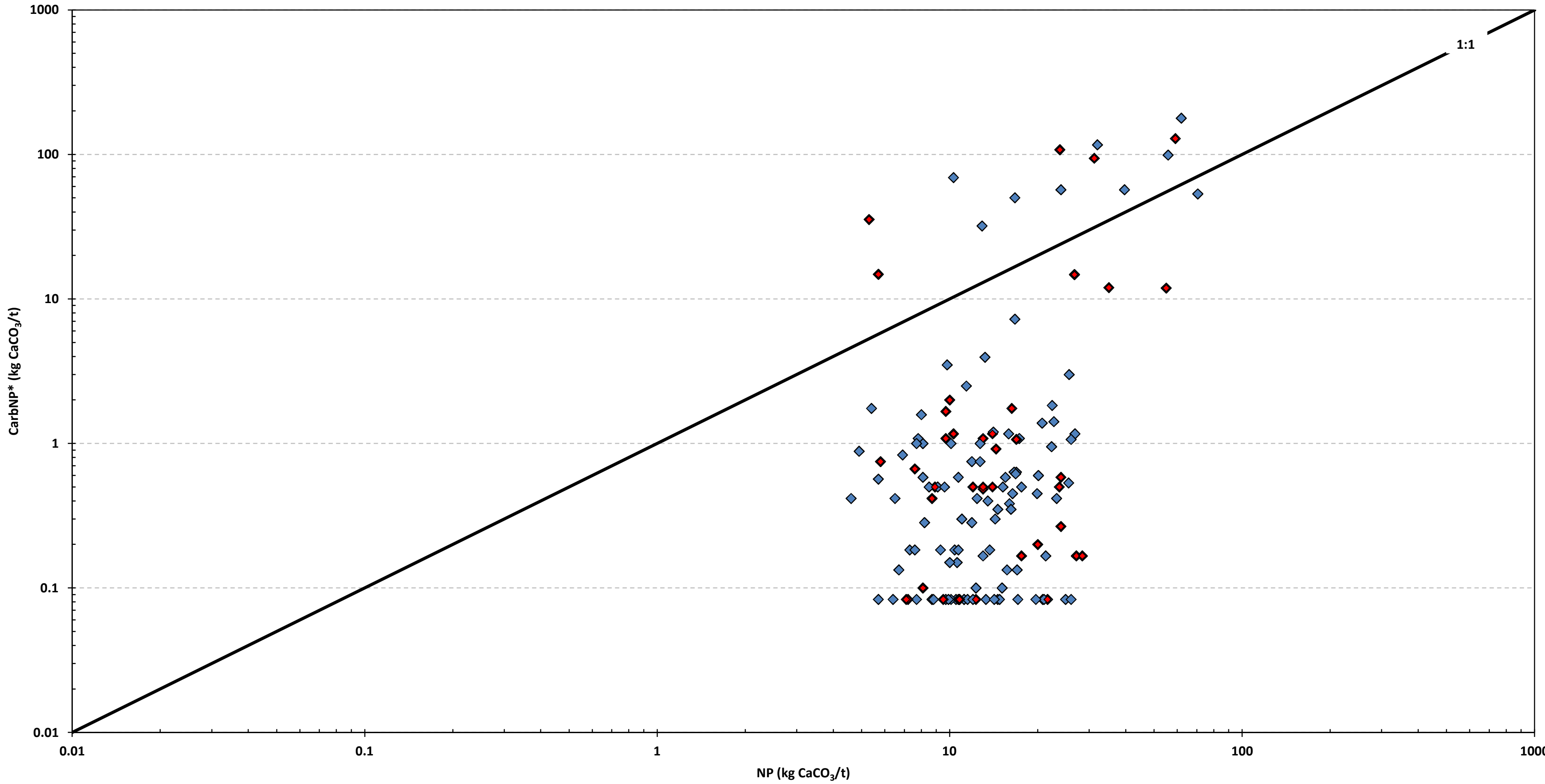
**Mary River Project**

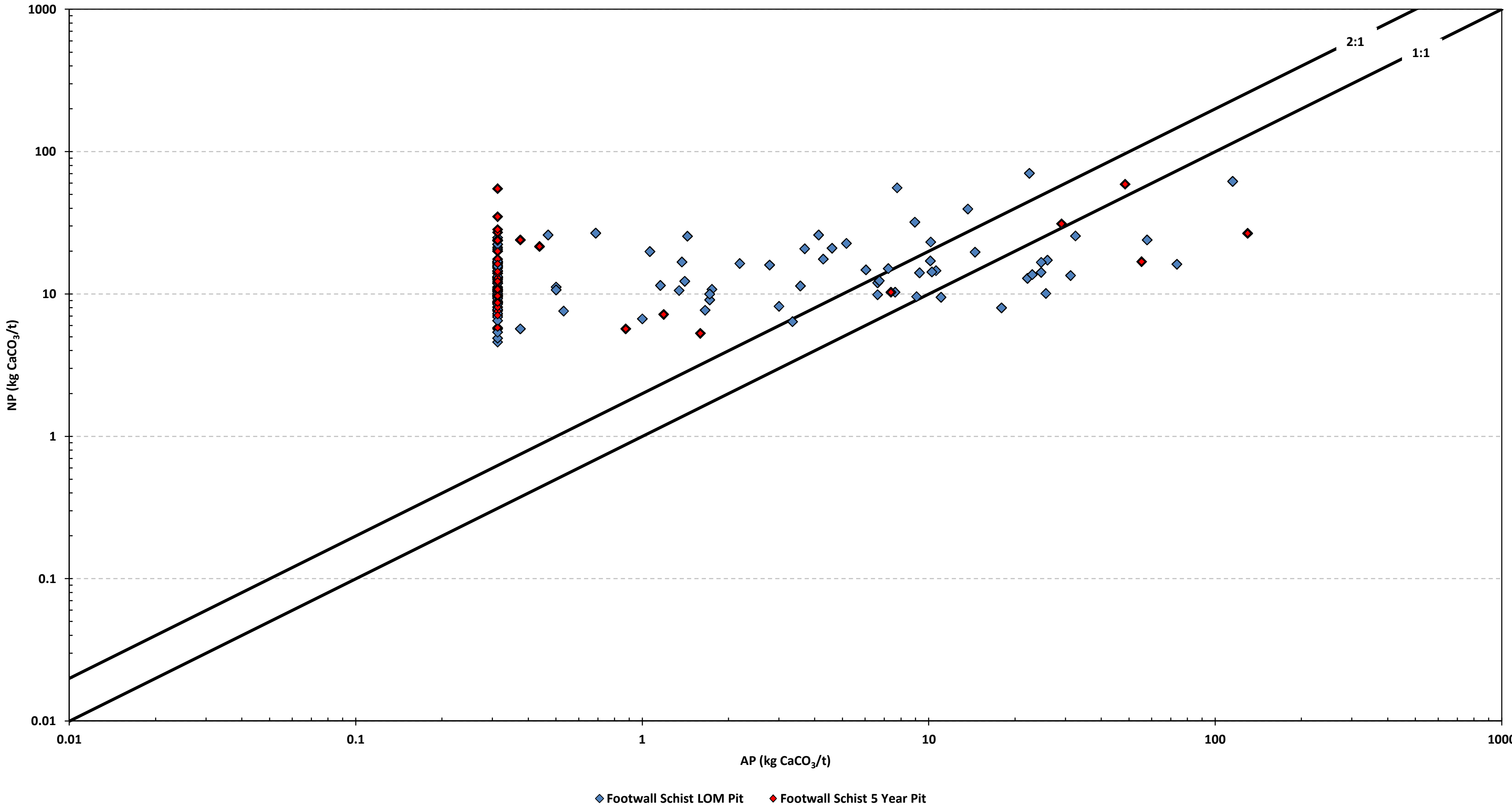
Total Sulphur vs Sulphide for Footwall Schist

| | | |
|---|---|---|
| Drawn by: LC | Checked by: SW | Date: April 2014 |
| Project: TC123908 | | FIGURE 9 |




*Samples from 2010 CarbNP calculated off total carbon, samples from 2011 onwards CarbNP calculated off carbonate carbon

| | |
|---|---|
| Baffinland Iron Mines Corporation | amec |
| Mary River Project | |
| NP vs. CarbNP for Footwall Schist | |
| Drawn by: LC / Checked by: SW | Date: April 2014 |
| Project: TC123908 | FIGURE 10 |

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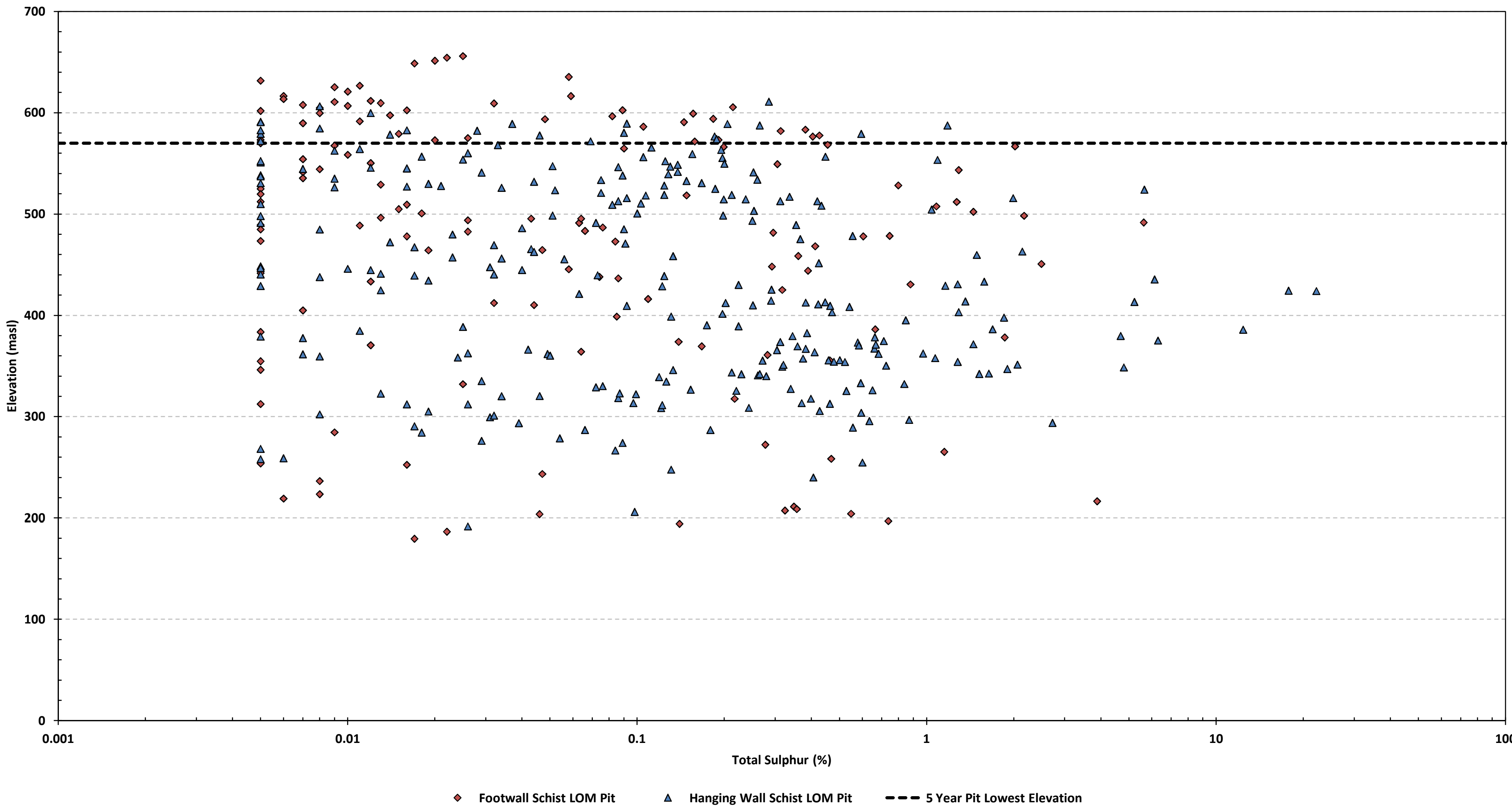
**Mary River Project**

NP vs. AP for Footwall Schist

| | | |
|---|---|---|
| Drawn by: LC | Checked by: SW | Date: April 2014 |
| Project: TC123908 | | FIGURE 11 |

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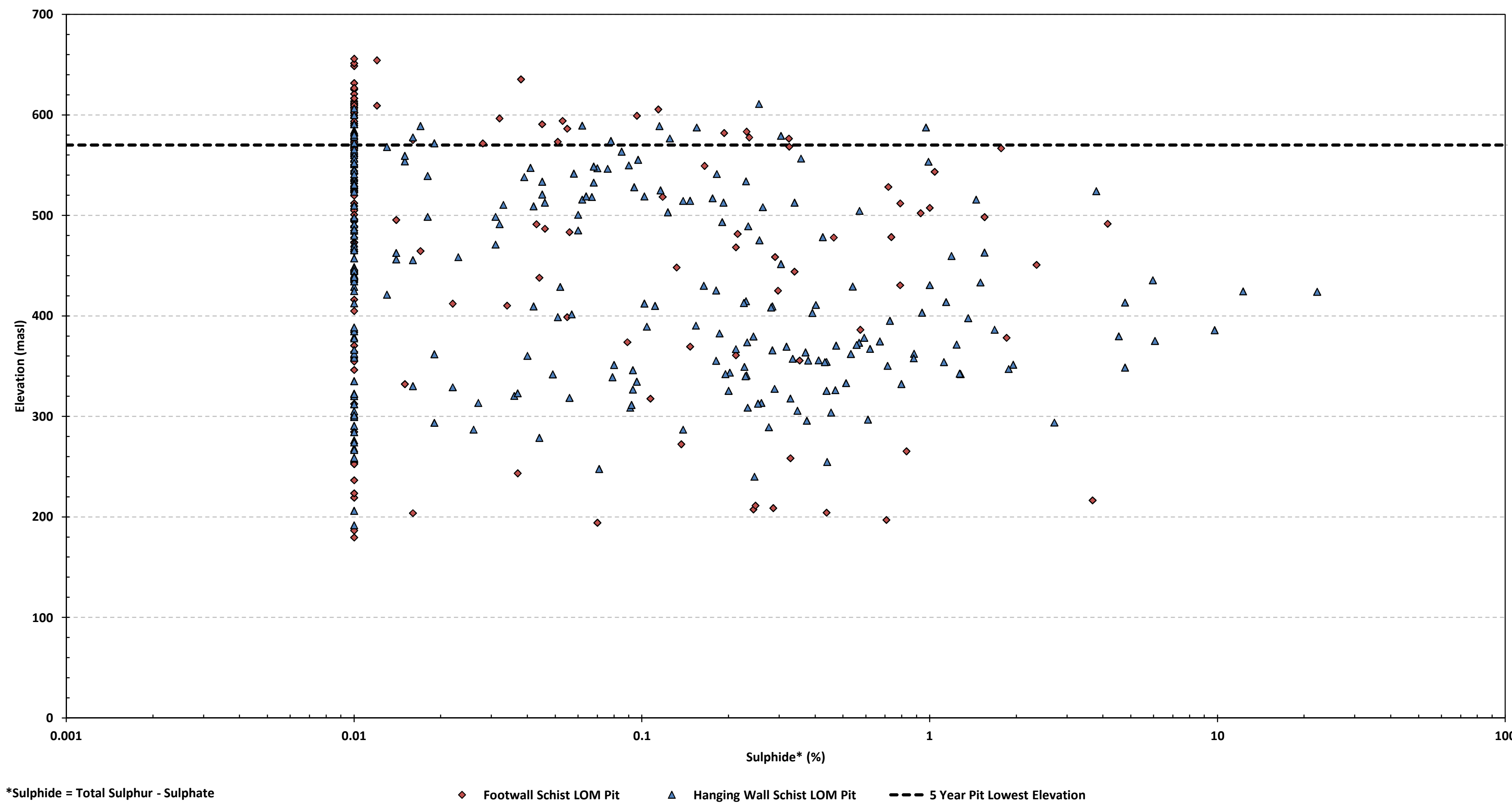
**Mary River Project**

Total Sulphur vs. Elevation for Footwall Schist and Hanging Wall Schist

| Drawn by: LC | Checked by: SW | Date: April 2014 |
|---|---|---|
| Project: TC123908 | | FIGURE 12 |

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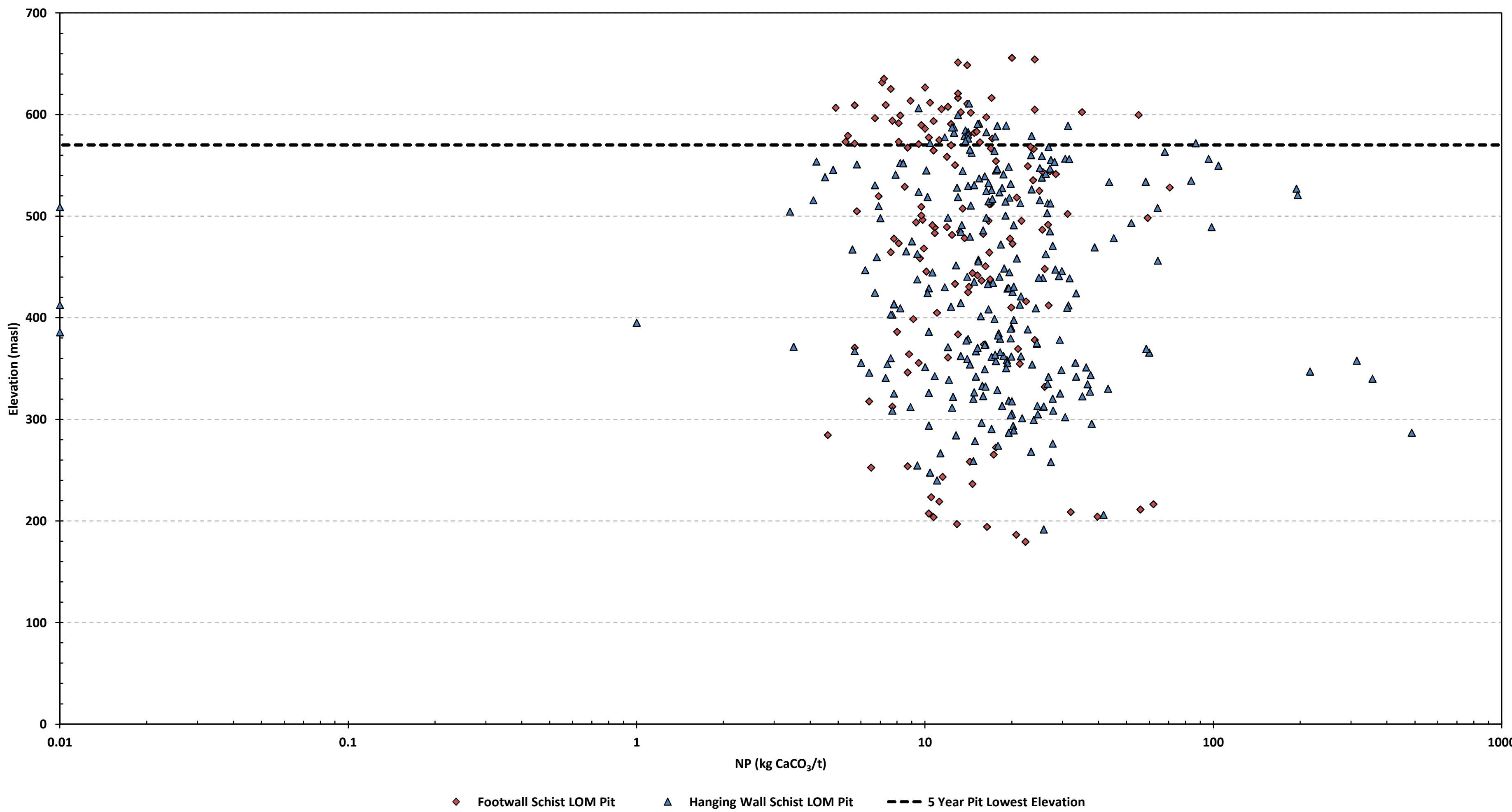
**Mary River Project**

Sulphide vs. Elevation for Footwall Schist and Hanging Wall Schist

| Drawn by: LC | Checked by: SW | Date: April 2014 |
|---|---|---|
| Project: TC123908 | | FIGURE 13 |

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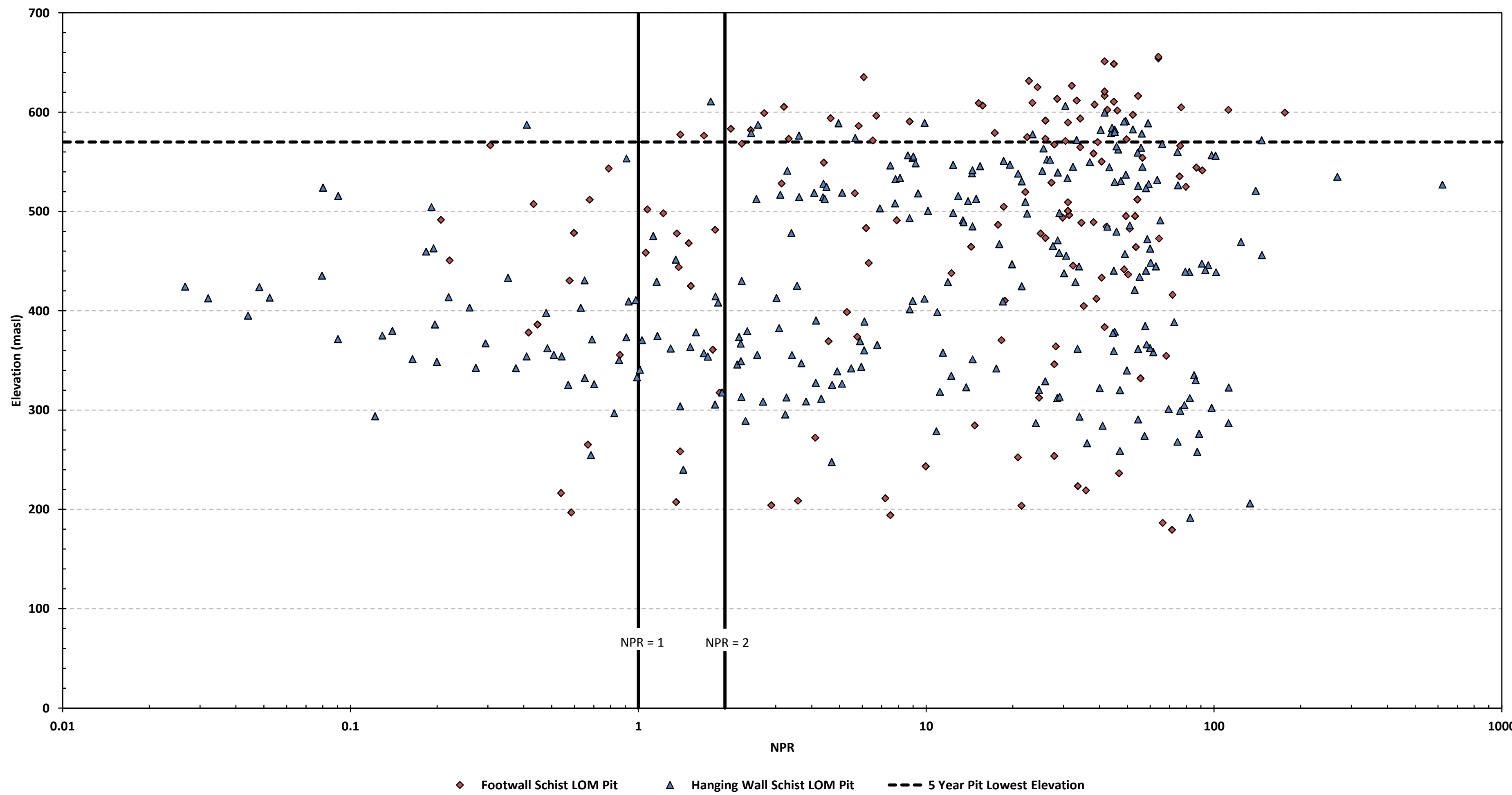
**Mary River Project**

NP vs. Elevation for Footwall Schist and Hanging Wall Schist

| Drawn by: LC | Checked by: SW | Date: April 2014 |
|---|---|---|
| Project: TC123908 | | FIGURE 14 |

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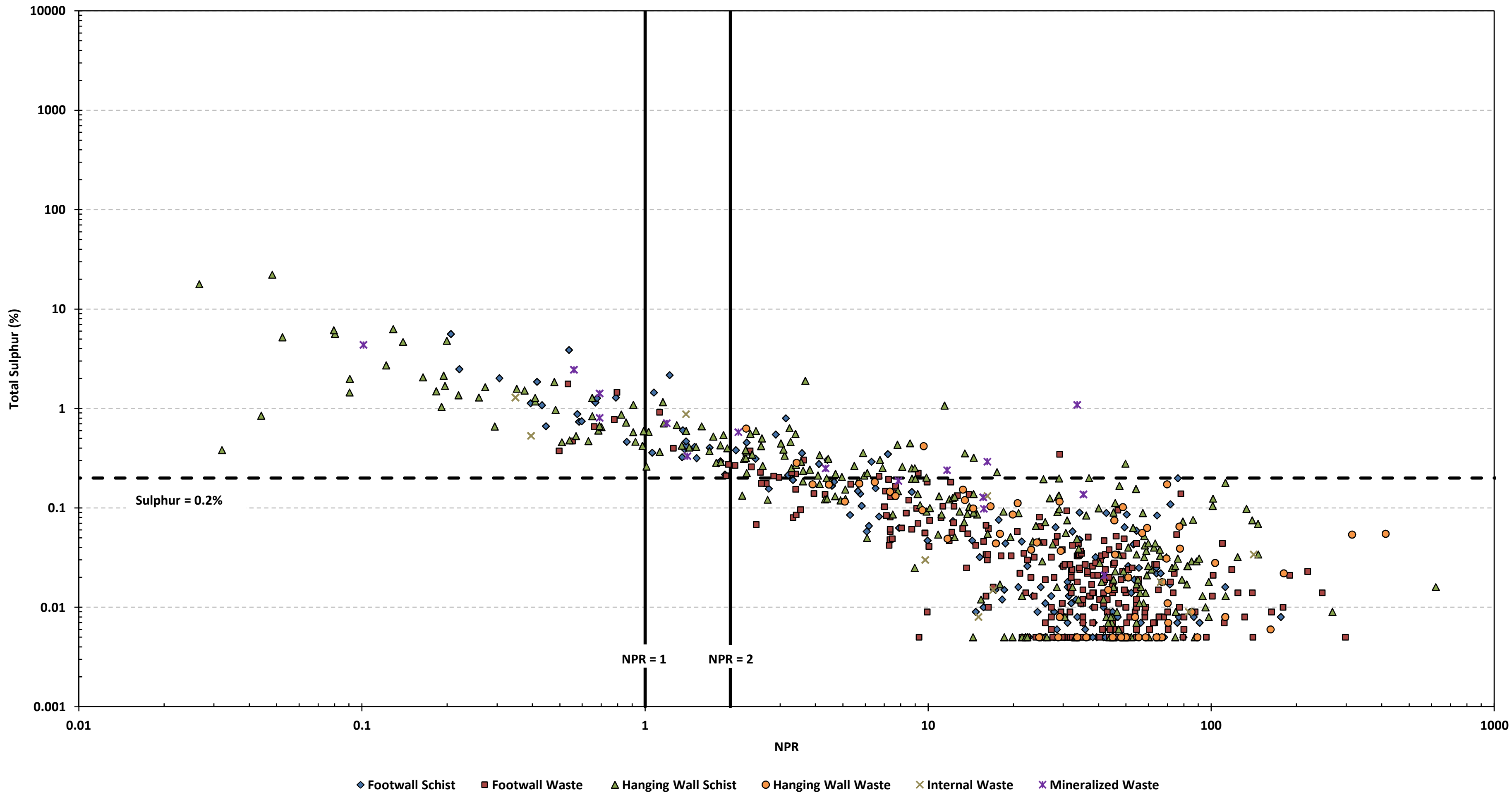
**Mary River Project**

NPR vs. Elevation for Footwall Schist and Hanging Wall Schist

| | | |
|---|---|---|
| Drawn by: LC | Checked by: SW | Date: April 2014 |
| Project: TC123908 | | FIGURE 15 |

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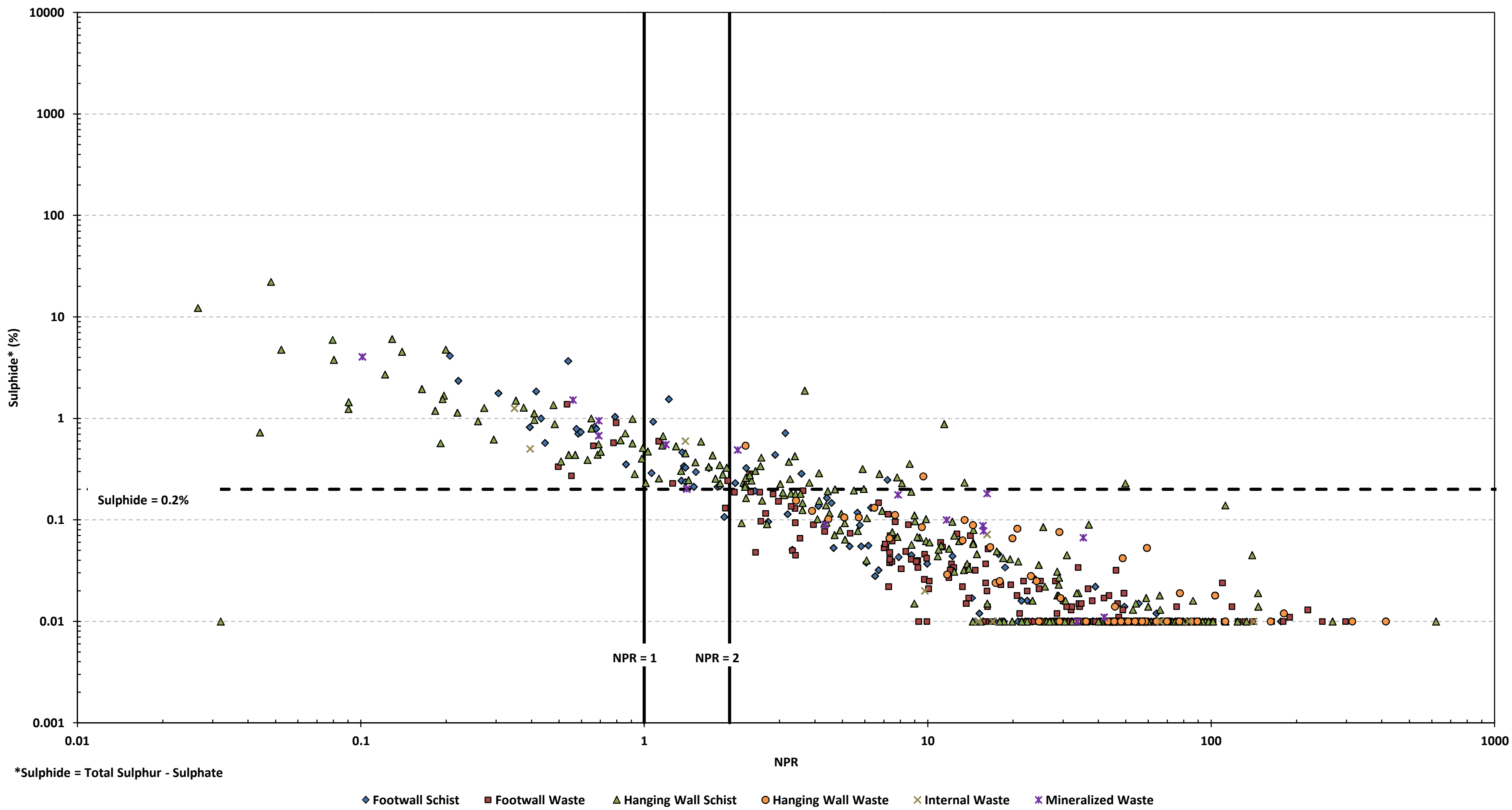
**Mary River Project**

Total Sulphur vs. NPR for the LOM Pit

| Drawn by: LC | Checked by: SW | Date: April 2014 |
|---|---|---|
| Project: TC123908 | | FIGURE 16 |

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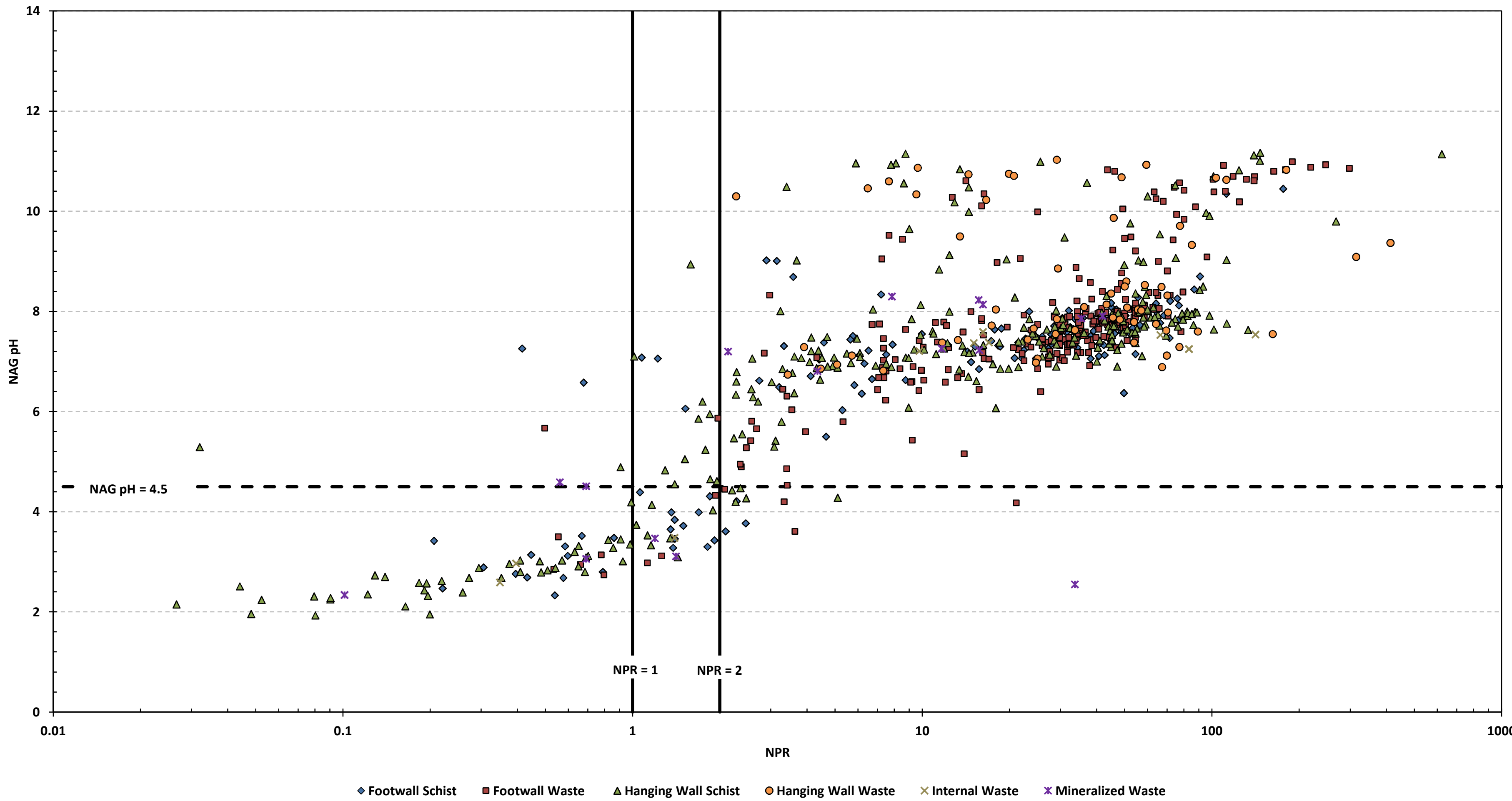
Mary River Project

Sulphide vs. NPR for the LOM Pit

| Drawn by: LC | Checked by: SW | Date: April 2014 |
|---|---|---|
| Project: TC123908 | | FIGURE 17 |

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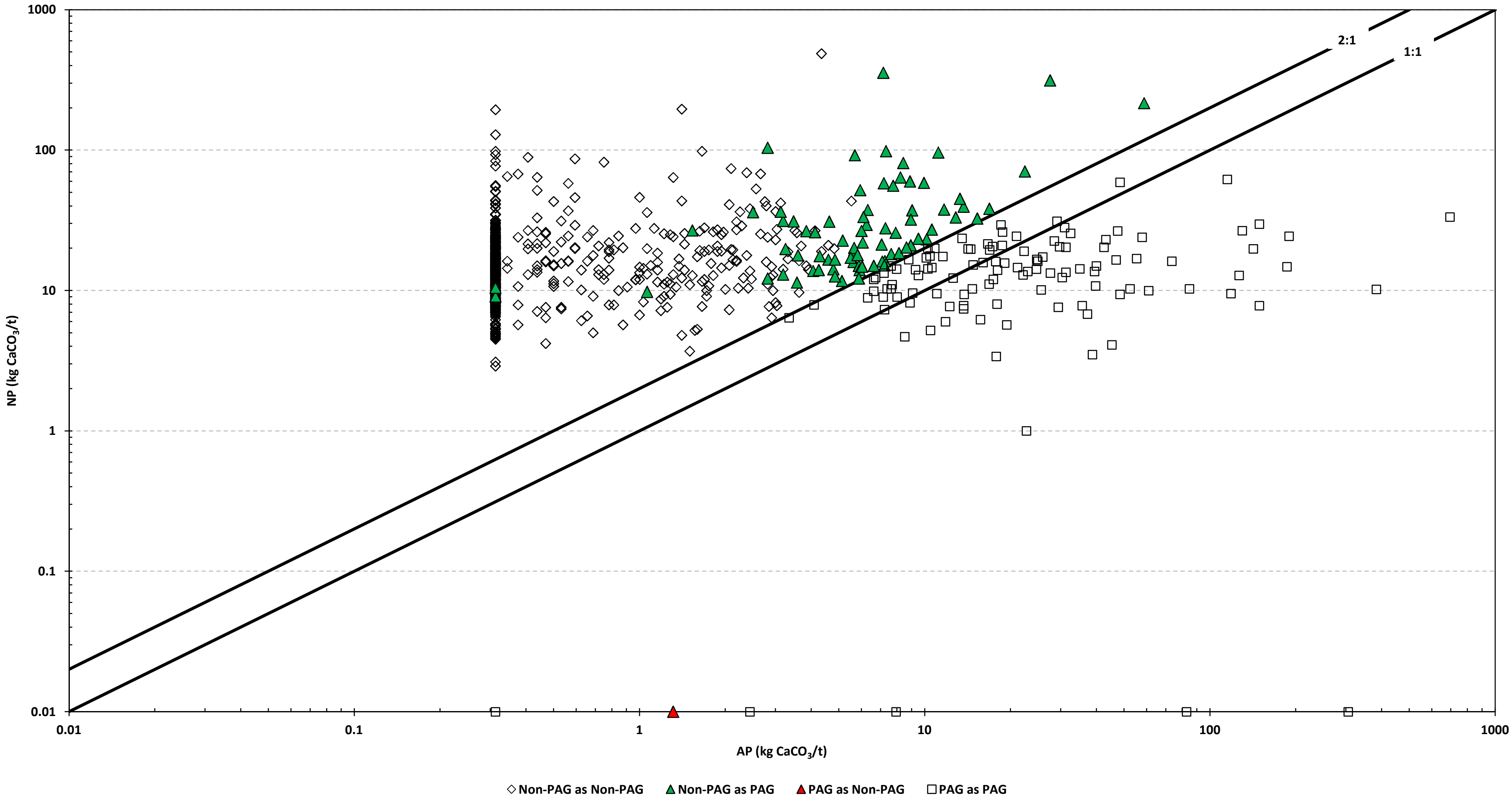
**Mary River Project**

NAG pH vs. NPR for the LOM Pit

| Drawn by: LC | Checked by: SW | Date: April 2014 |
|---|---|---|
| Project: TC123908 | | FIGURE 18 |

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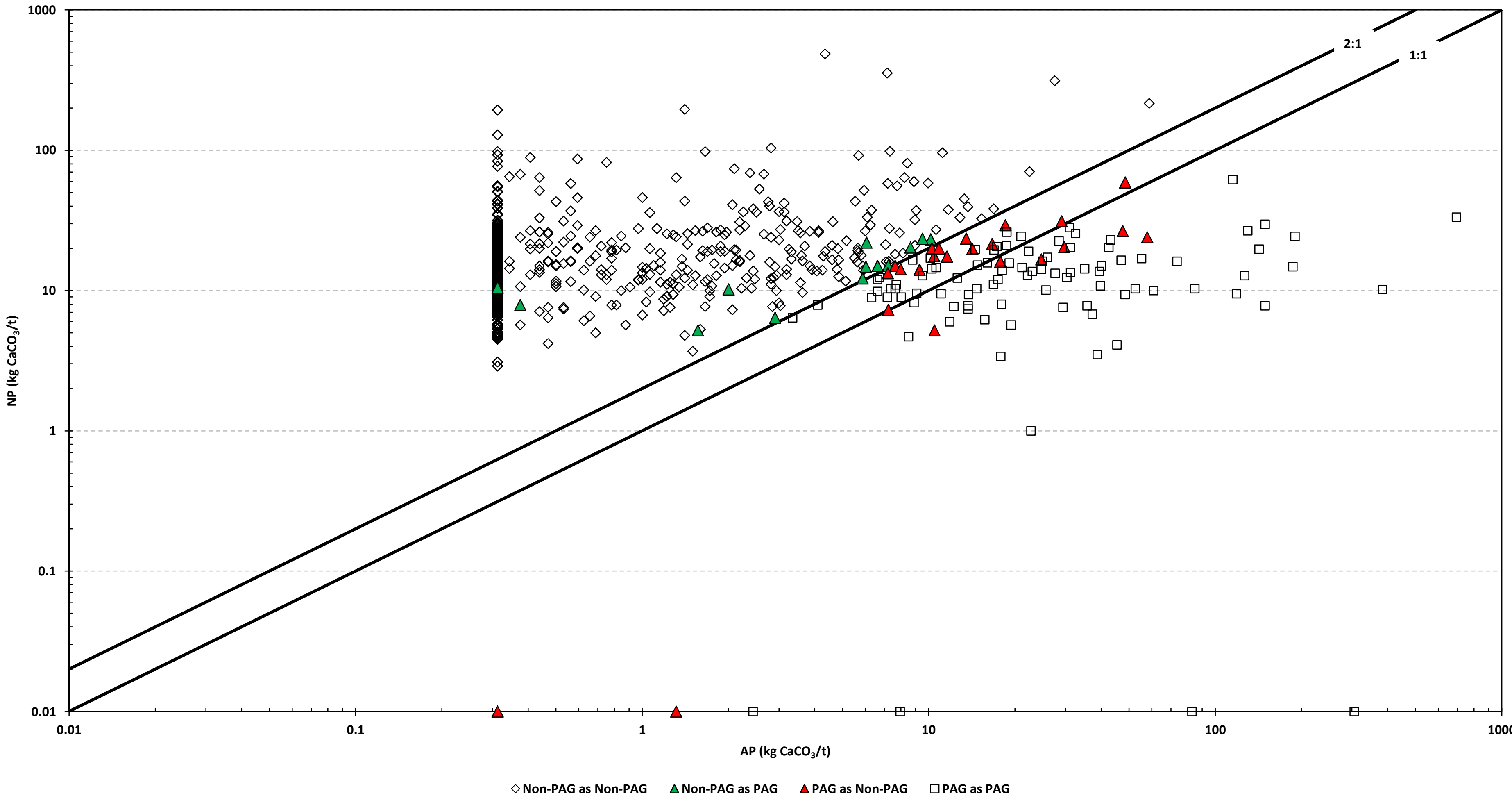
**Mary River Project**

Misclassification Using a Total Sulphur Content >0.2% to Determine PAG

| | | |
|---|---|---|
| Drawn by: LC | Checked by: SW | Date: April 2014 |
| Project: TC123908 | | FIGURE 19 |

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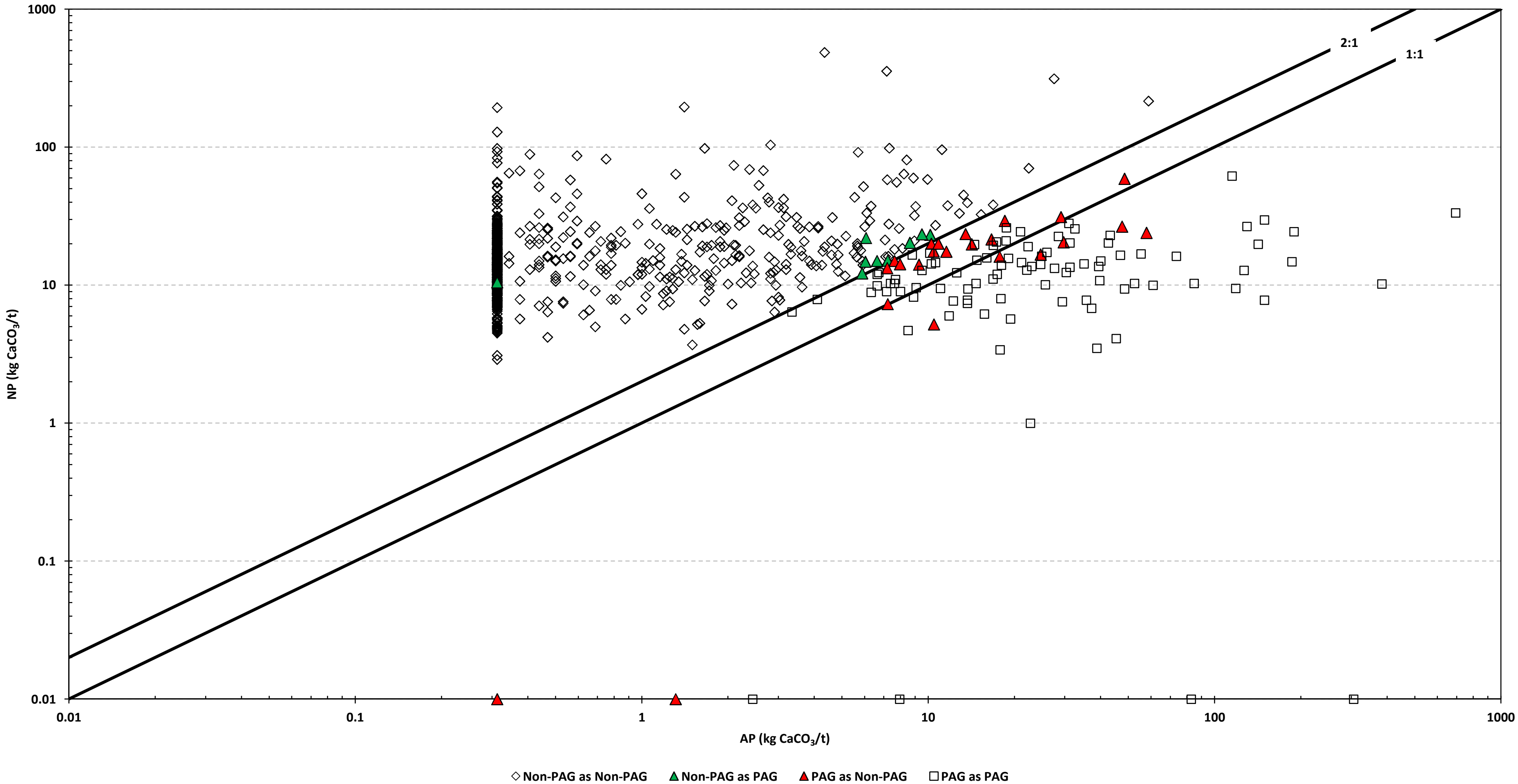
**Mary River Project**

Misclassification Using a NAG pH < 4.5 to Determine PAG

| Drawn by: LC | Checked by: SW | Date: April 2014 |
|---|---|---|
| Project: TC123908 | | FIGURE 20 |




Note: NAGpH test applied to samples identified as PAG by sulphur >0.2%.

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**Mary River Project**

Misclassification Using a Total Sulphur Content >0.2% and NAG pH < 4.5

| Drawn by: LC | Checked by: SW | Date: April 2014 |
|---|---|---|
| Project: TC123908 | | FIGURE 21 |

# APPENDIX A

**Table A-1: ABA Results for the 5 Year Pit**

| Easting | Northing | Elevation | Hole ID | Sample ID | Program | From | To | Waste Classification | Lithology | Paste pH | Fizz Rate | Total Sulphur | Sulphate | Sulphide* | Total Carbon | Carbonate | AP** | NP | CarbNP | NPR | CarbNPR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | % | | | | | kg $CaCO_3$/t | | | | |
| 7914597.909 | 563141.566 | 651.436 | MR1-12-224 | 15482 | Baff2012 | 27.5 | 29.5 | Footwall Schist | Gniess | 9.16 | 1 | 0.02 | 0.01 | 0.01 | 0.027 | 0.029 | 0.3 | 13 | 0.5 | 41.6 | 1.5 |
| 7914599.171 | 563139.381 | 648.73 | MR1-12-224 | 15484 | Baff2012 | 31.3 | 33.1 | Footwall Schist | Gniess | 10 | 1 | 0.017 | 0.01 | 0.01 | 0.019 | 0.07 | 0.3 | 14 | 1.2 | 44.8 | 3.7 |
| 7914147.995 | 562951.331 | 626.809 | MR1-12-225 | 15702 | Baff2012 | 14 | 16 | Footwall Schist | Gniess | 9.09 | 1 | 0.011 | 0.01 | 0.01 | 0.063 | 0.12 | 0.3 | 10 | 2.0 | 32.0 | 6.4 |
| 7914148.592 | 562950.105 | 625.346 | MR1-12-225 | 15703 | Baff2012 | 16 | 18 | Footwall Schist | Gniess | 9.46 | 1 | 0.009 | 0.01 | 0.01 | 0.024 | 0.04 | 0.3 | 7.6 | 0.7 | 24.3 | 2.1 |
| 7914150.386 | 562946.428 | 620.958 | MR1-12-225 | 15706 | Baff2012 | 22 | 24 | Footwall Schist | Gniess | 9.15 | 1 | 0.01 | 0.01 | 0.01 | 0.018 | 0.065 | 0.3 | 13 | 1.1 | 41.6 | 3.5 |
| 7914152.18 | 562942.75 | 616.57 | MR1-12-225 | 15709 | Baff2012 | 28 | 30 | Footwall Schist | Gniess | 9.46 | 1 | 0.006 | 0.01 | 0.01 | 0.013 | 0.03 | 0.3 | 13 | 0.5 | 41.6 | 1.6 |
| 7914153.376 | 562940.298 | 613.644 | MR1-12-225 | 15711 | Baff2012 | 32 | 34 | Footwall Schist | Gniess | 9.51 | 1 | 0.006 | 0.01 | 0.01 | 0.013 | 0.03 | 0.3 | 8.9 | 0.5 | 28.5 | 1.6 |
| 7914154.572 | 562937.846 | 610.719 | MR1-12-225 | 15713 | Baff2012 | 36 | 38 | Footwall Schist | Gniess | 9.57 | 1 | 0.009 | 0.01 | 0.01 | 0.013 | 0.03 | 0.3 | 14 | 0.5 | 44.8 | 1.6 |
| 7914155.768 | 562935.394 | 607.793 | MR1-12-225 | 15715 | Baff2012 | 40 | 42 | Footwall Schist | Gniess | 9.78 | 1 | 0.007 | 0.01 | 0.01 | 0.016 | 0.03 | 0.3 | 12 | 0.5 | 38.4 | 1.6 |
| 7914156.919 | 562933.034 | 604.978 | MR1-12-225 | 15717 | Baff2012 | 44 | 45.7 | Footwall Schist | Gniess | 9.37 | 1 | 0.008 | 0.01 | 0.01 | 0.019 | 0.035 | 0.3 | 24 | 0.6 | 76.8 | 1.9 |
| 7914464.386 | 563109.225 | 573.328 | MR1-08-145 | 16310 | Baff2011 | 132.5 | 133.65 | Footwall Schist | Gniess | 8.53 | 1 | 0.005 | 0.01 | 0.01 | 0.023 | 0.006 | 0.3 | 8.1 | 0.1 | 25.9 | 0.3 |
| 7914469.619 | 563098.002 | 571.144 | MR1-08-145 | 16312 | Baff2011 | 145.2 | 146.1 | Footwall Schist | Gniess | 8.63 | 1 | 0.005 | 0.01 | 0.01 | 0.034 | 0.005 | 0.3 | 9.5 | 0.1 | 30.4 | 0.3 |
| 7914472.537 | 563091.745 | 569.927 | MR1-08-145 | 16314 | Baff2011 | 152.16 | 153.16 | Footwall Schist | Gniess | 9.3 | 1 | 0.005 | 0.01 | 0.01 | 0.016 | 0.005 | 0.3 | 12.3 | 0.1 | 39.4 | 0.3 |
| 7914152.497 | 562936.858 | 635.446 | MR1-07-118 | 16518 | Baff2011 | 14.61 | 15.56 | Footwall Schist | Gniess | 9.15 | 1 | 0.058 | 0.02 | 0.038 | 0.024 | 0.005 | 1.2 | 7.2 | 0.1 | 6.1 | 0.1 |
| 7914148.235 | 562949.976 | 631.75 | MR1-07-118 | 16520 | Baff2011 | 28.9 | 29.83 | Footwall Schist | Gniess | 9.39 | 1 | 0.005 | 0.01 | 0.01 | 0.012 | 0.005 | 0.3 | 7.1 | 0.1 | 22.7 | 0.3 |
| 7914347.059 | 563026.427 | 564.832 | MR1-06-90 | 16726 | Baff2011 | 153.4 | 154.38 | Footwall Schist | Gniess | 9.05 | 1 | 0.09 | 0.09 | 0.01 | 0.015 | 0.005 | 0.3 | 10.7 | 0.1 | 34.2 | 0.3 |
| 7913890.018 | 563090.826 | 509.355 | MR1-09-179 | MRARD10 004 | AMEC_2010 | 160 | 161 | Footwall Schist | Gniess | 9.5 | 1 | 0.016 | 0.02 | 0.01 | 0.013 | 0.026 | 0.3 | 9.7 | 1.1 | 31.0 | 3.5 |
| 7913878.955 | 563080.142 | 504.945 | MR1-09-179 | MRARD10 005 | AMEC_2010 | 176 | 177 | Footwall Schist | Gniess | 9.4 | 1 | 0.015 | 0.02 | 0.01 | 0.009 | 0.011 | 0.3 | 5.8 | 0.8 | 18.6 | 2.4 |
| 7914840.815 | 563394.858 | 577.665 | MR1-08-161 | MRARD10 057 | AMEC_2010 | 160 | 161 | Footwall Schist | Gniess | 9.49 | 1 | 0.426 | 0.19 | 0.236 | 0.014 | 0.042 | 7.4 | 10.3 | 1.2 | 1.4 | 0.2 |
| 7914540.881 | 563152.285 | 567.574 | MR1-08-140 | MRARD10 104 | AMEC_2010 | 165 | 166 | Footwall Schist | Gniess | 8.41 | 1 | 0.009 | 0.01 | 0.01 | 0.005 | 0.005 | 0.3 | 8.7 | 0.4 | 27.8 | 1.3 |
| 7914654.151 | 563267.972 | 491.753 | MR1-06-105 | 16076 | Baff2011 | 182.01 | 182.96 | Footwall Schist | High Grade Iron Formation | 7.66 | 1 | 5.62 | 1.47 | 4.15 | 1.25 | 0.885 | 129.7 | 26.7 | 14.8 | 0.2 | 0.1 |
| 7914649.263 | 563279.902 | 502.306 | MR1-06-105 | 16070 | Baff2011 | 165.6 | 166.05 | Footwall Schist | High Grade Iron Formation | 7.2 | 1 | 1.45 | 0.52 | 0.93 | 3.29 | 5.65 | 29.1 | 31.2 | 94.2 | 1.1 | 3.2 |
| 7914651.088 | 563275.469 | 498.382 | MR1-06-105 | 16072 | Baff2011 | 171.52 | 172.52 | Footwall Schist | High Grade Iron Formation | 7.92 | 2 | 2.17 | 0.62 | 1.55 | 3.34 | 7.73 | 48.4 | 59.1 | 128.9 | 1.2 | 2.7 |
| 7914595.8 | 563145.219 | 655.96 | MR1-12-224 | 15479 | Baff2012 | 21.23 | 23.4 | Footwall Schist | Schist | 8.06 | 4 | 0.025 | 0.02 | 0.01 | 0.026 | 0.012 | 0.3 | 20 | 0.2 | 64.0 | 0.6 |
| 7914596.528 | 563143.958 | 654.398 | MR1-12-224 | 15480 | Baff2012 | 23.4 | 25.5 | Footwall Schist | Schist | 8.34 | 1 | 0.022 | 0.01 | 0.012 | 0.021 | 0.016 | 0.4 | 24 | 0.3 | 64.0 | 0.7 |
| 7914037.25 | 562928.144 | 573.304 | MR1-12-226 | 15631 | Baff2012 | 75.27 | 77.37 | Footwall Schist | Schist | 6.44 | 1 | 0.191 | 0.14 | 0.051 | 0.427 | 2.13 | 1.6 | 5.3 | 35.5 | 3.3 | 22.3 |
| 7914036.549 | 562926.826 | 571.702 | MR1-12-226 | 15632 | Baff2012 | 77.37 | 79.65 | Footwall Schist | Schist | 6.4 | 1 | 0.158 | 0.13 | 0.028 | 0.202 | 0.889 | 0.9 | 5.7 | 14.8 | 6.5 | 16.9 |
| 7914028.919 | 562912.476 | 554.274 | MR1-12-226 | 15644 | Baff2012 | 101.34 | 103.34 | Footwall Schist | Schist | 8.21 | 1 | 0.007 | 0.01 | 0.01 | 0.027 | 0.01 | 0.3 | 17.6 | 0.2 | 56.3 | 0.5 |
| 7914024.568 | 562904.293 | 544.335 | MR1-12-226 | 15651 | Baff2012 | 114.93 | 116.93 | Footwall Schist | Schist | 8.4 | 1 | 0.008 | 0.01 | 0.01 | 0.022 | 0.01 | 0.3 | 27.1 | 0.2 | 86.7 | 0.5 |
| 7914023.321 | 562901.947 | 541.487 | MR1-12-226 | 15653 | Baff2012 | 118.93 | 120.72 | Footwall Schist | Schist | 8.64 | 1 | 0.007 | 0.01 | 0.01 | 0.02 | 0.01 | 0.3 | 28.4 | 0.2 | 90.9 | 0.5 |
| 7914157.935 | 562930.95 | 602.491 | MR1-12-225 | 15719 | Baff2012 | 47.4 | 49.1 | Footwall Schist | Schist | 9.66 | 1 | 0.016 | 0.01 | 0.01 | 0.194 | 0.719 | 0.3 | 35 | 12.0 | 112.0 | 38.4 |
| 7914159.056 | 562928.651 | 599.749 | MR1-12-225 | 15721 | Baff2012 | 51 | 53 | Footwall Schist | Schist | 9.9 | 4 | 0.008 | 0.01 | 0.01 | 0.222 | 0.714 | 0.3 | 55 | 11.9 | 176.0 | 38.1 |
| 7914020.687 | 562896.994 | 535.471 | MR1-12-226 | 15658 | Baff2012 | 127.05 | 129.05 | Footwall Schist | Schist | 9.62 | 1 | 0.007 | 0.01 | 0.01 | 0.022 | 0.03 | 0.3 | 23.7 | 0.5 | 75.8 | 1.6 |
| 7914655.524 | 563264.597 | 488.761 | MR1-06-105 | 16078 | Baff2011 | 186.7 | 187.7 | Footwall Schist | Schist | 9.05 | 1 | 0.011 | 0.01 | 0.01 | 0.009 | 0.005 | 0.3 | 10.8 | 0.1 | 34.6 | 0.3 |
| 7914342.277 | 563036.682 | 566.827 | MR1-06-90 | 16722 | Baff2011 | 141.9 | 142.9 | Footwall Schist | Schist | 7.62 | 1 | 2.02 | 0.25 | 1.77 | 0.014 | 0.064 | 55.3 | 16.9 | 1.1 | 0.3 | 0.02 |
| 7914343.44 | 563034.188 | 566.342 | MR1-06-90 | 16724 | Baff2011 | 144.7 | 145.69 | Footwall Schist | Schist | 8.07 | 1 | 0.199 | 0.2 | 0.01 | 1.45 | 6.47 | 0.3 | 23.8 | 107.9 | 76.2 | 345.3 |
| 7914786.719 | 563340.21 | 594.098 | MR1-08-163 | MRARD10 035 | AMEC_2010 | 155 | 156 | Footwall Schist | Schist | 7.89 | 1 | 0.007 | 0.01 | 0.01 | 0.02 | 0.207 | 0.3 | 9.7 | 1.7 | 31.0 | 5.3 |
| 7914767.99 | 563380.374 | 601.912 | MR1-08-163 | MRARD10 047 | AMEC_2010 | 110 | 111 | Footwall Schist | Schist | 8.5 | 1 | 0.005 | 0.01 | 0.01 | 0.011 | 0.005 | 0.3 | 14.4 | 0.9 | 46.1 | 2.9 |
| 7914778.395 | 563358.061 | 597.571 | MR1-08-163 | MRARD10 049 | AMEC_2010 | 135 | 136 | Footwall Schist | Schist | 8.15 | 1 | 0.014 | 0.01 | 0.01 | 0.021 | 0.005 | 0.3 | 16.3 | 1.8 | 52.2 | 5.6 |
| 7914652.408 | 563272.251 | 495.535 | MR1-06-105 | 16074 | Baff2011 | 176 | 177.03 | Footwall Schist | Ultramafic | 8.31 | 1 | 0.064 | 0.05 | 0.014 | 0.028 | 0.005 | 0.4 | 21.6 | 0.1 | 49.4 | 0.2 |
| 7914607.255 | 563539.17 | 498.078 | MR1-05-72 | 16022 | Baff2011 | 92.7 | 93.65 | Hanging Wall Schist | Amphibolite | 7.77 | 1 | 0.005 | 0.01 | 0.01 | 0.014 | 0.008 | 0.3 | 7 | 0.1 | 22.4 | 0.4 |
| 7914609.72 | 563534.114 | 491.375 | MR1-05-72 | 16024 | Baff2011 | 101.4 | 102.45 | Hanging Wall Schist | Amphibolite | 8.16 | 1 | 0.072 | 0.04 | 0.032 | 0.008 | 0.005 | 1.0 | 13.4 | 0.1 | 13.4 | 0.1 |
| 7914755.246 | 563588.198 | 564.313 | MR1-05-77 | 16590 | Baff2011 | 41.13 | 42.1 | Hanging Wall Schist | Amphibolite | 9.27 | 2 | 0.011 | 0.01 | 0.01 | 0.114 | 0.378 | 0.3 | 17.4 | 6.3 | 55.7 | 20.2 |
| 7914758.512 | 563581.502 | 555.435 | MR1-05-77 | 16592 | Baff2011 | 52.71 | 53.7 | Hanging Wall Schist | Amphibolite | 9.45 | 2 | 0.197 | 0.1 | 0.097 | 0.158 | 0.529 | 3.0 | 27.3 | 8.8 | 9.0 | 2.9 |
| 7914760.988 | 563576.426 | 548.705 | MR1-05-77 | 16594 | Baff2011 | 61.5 | 62.48 | Hanging Wall Schist | Amphibolite | 9.26 | 1 | 0.138 | 0.07 | 0.068 | 0.07 | 0.168 | 2.1 | 19.5 | 2.8 | 9.2 | 1.3 |
| 7914763.569 | 563571.134 | 541.688 | MR1-05-77 | 16596 | Baff2011 | 70.65 | 71.65 | Hanging Wall Schist | Amphibolite | 9.2 | 2 | 0.138 | 0.08 | 0.058 | 0.184 | 0.616 | 1.8 | 26.2 | 10.3 | 14.5 | 5.7 |
| 7914772.622 | 563552.572 | 517.075 | MR1-05-77 | 16604 | Baff2011 | 102.8 | 103.76 | Hanging Wall Schist | Amphibolite | 8.86 | 1 | 0.336 | 0.16 | 0.176 | 0.018 | 0.018 | 5.5 | 17.1 | 0.3 | 3.1 | 0.1 |
| 7914775.024 | 563547.646 | 510.544 | MR1-05-77 | 16606 | Baff2011 | 111.32 | 112.29 | Hanging Wall Schist | Amphibolite | 8.84 | 1 | 0.103 | 0.07 | 0.033 | 0.023 | 0.005 | 1.0 | 14.4 | 0.1 | 14.0 | 0.1 |
| 7914766.867 | 563564.372 | 532.721 | MR1-05-77 | 16600 | Baff2011 | 82.35 | 83.36 | Hanging Wall Schist | Gniess | 9.01 | 1 | 0.148 | 0.08 | 0.068 | 0.031 | 0.061 | 2.1 | 16.6 | 1.0 | 7.8 | 0.5 |
| 7914769.349 | 563559.282 | 525.973 | MR1-05-77 | 16602 | Baff2011 | 91.15 | 92.18 | Hanging Wall Schist | Gniess | 9.65 | 1 | 0.034 | 0.03 | 0.01 | 0.013 | 0.007 | 0.3 | 17 | 0.1 | 54.4 | 0.4 |
| 7914749.753 | 563599.461 | 579.247 | MR1-05-77 | 16586 | Baff2011 | 21.62 | 22.62 | Hanging Wall Schist | Metasediment | 9.22 | 1 | 0.005 | 0.01 | 0.01 | 0.061 | 0.093 | 0.3 | 13.7 | 1.6 | 43.8 | 5.0 |
| 7914752.385 | 563594.064 | 572.092 | MR1-05-77 | 16588 | Baff2011 | 30.96 | 31.96 | Hanging Wall Schist | Metasediment | 9.16 | 1 | 0.005 | 0.01 | 0.01 | 0.018 | 0.011 | 0.3 | 10.4 | 0.2 | 33.3 | 0.6 |
| 7914801.516 | 563645.605 | 582.739 | MR1-08-156 | 16694 | Baff2011 | 8.73 | 9.79 | Hanging Wall Schist | Metasediment | 8.93 | 2 | 0.005 | 0.01 | 0.01 | 0.107 | 0.35 | 0.3 | 16.3 | 5.8 | 52.2 | 18.7 |
| 7914803.299 | 563641.781 | 577.71 | MR1-08-156 | 16696 | Baff2011 | 15.34 | 16.31 | Hanging Wall Schist | Metasediment | 9.46 | 1 | 0.046 | 0.03 | 0.016 | 0.035 | 0.098 | 0.5 | 11.7 | 1.6 | 23.4 | 3.3 |
| 7914765.211 | 563567.766 | 537.222 | MR1-05-77 | 16598 | Baff2011 | 76.5 | 77.46 | Hanging Wall Schist | Schist | 9.33 | 1 | 0.005 | 0.01 | 0.01 | 0.015 | 0.005 | 0.3 | 15.4 | 0.1 | 49.3 | 0.3 |
| 7914821.987 | 563601.703 | 525.01 | MR1-08-156 | 16712 | Baff2011 | 84.07 | 85.17 | Hanging Wall Schist | Schist | 8.64 | 1 | 0.186 | 0.07 | 0.116 | 0.013 | 0.04 | 3.6 | 16.3 | 0.7 | 4.5 | 0.2 |
| 7914824.14 | 563597.087 | 518.939 | MR1-08-156 | 16714 | Baff2011 | 92.03 | 93.06 | Hanging Wall Schist | Schist | 7.96 | 1 | 0.212 | 0.11 | 0.102 | 0.015 | 0.019 | 3.2 | 13 | 0.3 | 4.1 | 0.1 |
| 7914826.342 | 563592.365 | 512.731 | MR1-08-156 | 16716 | Baff2011 | 100.18 | 101.12 | Hanging Wall Schist | Schist | 8.29 | 1 | 0.419 | 0.08 | 0.339 | 0.022 | 0.069 | 10.6 | 27.2 | 1.2 | 2.6 | 0.1 |
| 7914217.513 | 563129.414 | 580.306 | MR1-06-84 | 16740 | Baff2011 | 16.55 | 17.63 | Hanging Wall Schist | Schist | 8.42 | 1 | 0.09 | 0.09 | 0.01 | 0.023 | 0.038 | 0.3 | 14.1 | 0.6 | 45.1 | 2.0 |
| 7914219.703 | 563124.716 | 574.128 | MR1-06-84 | 16742 | Baff2011 | 24.68 | 25.63 | Hanging Wall Schist | Schist | 8.38 | 1 | 0.188 | 0.11 | 0.078 | 0.019 | 0.005 | 2.4 | 13.8 | 0.1 | 5.7 | 0.03 |
| 7914222.7 | 563118.29 | 565.679 | MR1-06-84 | 16744 | Baff2011 | 35.7 | 36.67 | Hanging Wall Schist | Schist | 8.25 | 1 | 0.112 | 0.11 | 0.01 | 0.027 | 0.093 | 0.3 | 14.3 | 1.6 | 45.8 | 5.0 |
| 7914227.474 | 563108.051 | 552.215 | MR1-06-84 | 16748 | Baff2011 | 53.21 | 54.31 | Hanging Wall Schist | Schist | 7.83 | 1 | 0.125 | 0.13 | 0.01 | 0.02 | 0.033 | 0.3 | 8.4 | 0.6 | 26.9 | 1.8 |
| 7913979.772 | 563177.5 | 545.133 | MR1-09-179 | MRARD10 002 | AMEC_2010 | 30.2 | 31.2 | Hanging Wall Schist | Schist | 8.37 | 1 | 0.016 | 0.02 | 0.01 | 0.017 | 0.037 | 0.3 | 10.1 | 1.4 | 32.3 | 4.5 |
| 7913969.538 | 563167.617 | 541.054 | MR1-09-179 | MRARD10 003 | AMEC_2010 | 45 | 46 | Hanging Wall Schist | Schist | 7.74 | 1 | 0.029 | 0.03 | 0.01 | 0.407 | 1.57 | 0.3 | 7.9 | 33.9 | 25.3 | 108.5 |
| 7914042.297 | 563235.419 | 498.607 | MR1-09-177 | MRARD10 007 | AMEC_2010 | 55 | 56 | Hanging Wall Schist | Schist | 8.5 | 1 | 0.198 | 0.18 | 0.018 | 0.023 | 0.053 | 0.6 | 16.3 | 1.9 | 29.0 | 3.4 |
| 7914493.018 | 563254.927 | 587.544 | MR1-08-140 | MRARD10 068 | AMEC_2010 | 50 | 51 | Hanging Wall Schist | Schist | 7.58 | 1 | 1.18 | 0.21 | 0.97 | 0.007 | 0.144 | 30.3 | 12.4 | 0.6 | 0.4 | 0.0 |
| 7914820.868 | 563604.104 | 528.166 | MR1-08-153 | MRARD10 078 | AMEC_2010 | 80 | 81 | Hanging Wall Schist | Schist | 8.33 | 1 | 0.124 | 0.03 | 0.094 | 0.005 | 0.005 | 2.9 | 12.9 | 0.4 | 4.4 | 0.1 |
| 7914890.585 | 563636.278 | 518.342 | MR1-08-147 | MRARD10 086 | AMEC_2010 | 90 | 91 | Hanging Wall Schist | Schist | 8.43 | 1 | 0.107 | 0.04 | 0.067 | 0.012 | 0.005 | 2.1 | 19.6 | 1.0 | 9.4 | 0.5 |
| 7914904.285 | 563604.232 | 579.229 | MR1-08-142 | MRARD10 092 | AMEC_2010 | 30 | 31 | Hanging Wall Schist | Schist | 7.67 | 1 | 0.594 | 0.29 | 0.304 | 0.006 | 0.005 | 9.5 | 23.4 | 0.5 | 2.5 | 0.1 |
| 7914895.95 | 563624.772 | 503.213 | MR1-08-147 | MRARD10 094 | AMEC_2010 | 110 | 110.5 | Hanging Wall Schist | Schist | 8.17 | 1 | 0.253 | 0.13 | 0.123 | 0.017 | 0.012 | 3.8 | 26.5 | 1.4 | 6.9 | 0.4 |
| 7914826.301 | 563592.452 | 512.846 | MR1-08-153 | MRARD10 101 | AMEC_2010 | 100 | 101 | Hanging Wall Schist | Schist | 8.16 | 1 | 0.086 | 0.04 | 0.046 | 0.012 | 0.005 | 1.4 | 21.4 | 1.0 | 14.9 | 0.7 |
| 7914815.435 | 563615.755 | 543.487 | MR1-08-156 | MRARD10 117 | AMEC_2010 | 60 | 61 | Hanging Wall Schist | Schist | 8.86 | 1 | 0.086 | 0.01 | 0.076 | 0.018 | 0.033 | 2.4 | 17.8 | 1.5 | 7.5 | 0.6 |
| 7914820.977 | 563603.871 | 527.86 | MR1-08-156 | MRARD10 119 | AMEC_2010 | 80.8 | 81 | Hanging Wall Schist | Schist | 8.04 | 1 | 0.021 | 0.02 | 0.01 | 0.007 | 0.005 | 0.3 | 18.5 | 0.6 | 59.2 | 1.9 |
| 7914826.301 | 563592.452 | 512.846 | MR1-08-156 | MRARD10 122 | AMEC_2010 | 100 | 101 | Hanging Wall Schist | Schist | 8.46 | 1 | 0.312 | 0.12 | 0.192 | 0.012 | 0.005 | 6.0 | 26.6 | 1.0 | 4.4 | 0.2 |
| 7914420.445 | 563203.455 | 591.661 | MR1-08-145 | MRARD10 126 | AMEC_2010 | 27 | 28 | Hanging Wall Schist | Schist | 7.44 | 1 | 0.011 | 0.01 | 0.01 | 0.012 | 0.005 | 0.3 | 8.1 | 1.0 | 25.9 | 3.2 |
| 7914836.569 | 563574.057 | 590.725 | MR1-08-143 | MRARD10 127 | AMEC_2010 | 20 | 21 | Hanging Wall Schist | Schist | 8.1 | 1 | 0.005 | 0.01 | 0.01 | 0.022 | 0.005 | 0.3 | 15.2 | 1.8 | 48.6 | 5.9 |
| 7914814.05 | 563618.726 | 547.394 | MR1-08-153 | MRARD10 130 | AMEC_2010 | 54.9 | 55.9 | Hanging Wall Schist | Schist | 8.74 | 1 | 0.051 | 0.01 | 0.041 | 0.117 | 0.381 | 1.3 | 25 | 9.8 | 19.5 | 7.6 |
| 7914212.854 | 563309.016 | 491.231 | MR1-05-46 | 16470 | Baff2011 | 55.72 | 56.72 | Hanging Wall Schist | Volcanic Tuff | 8.32 | 1 | 0.005 | 0.01 | 0.01 | 0.043 | 0.005 | 0.3 | 20.3 | 0.1 | 65.0 | 0.3 |
| 7914805.377 | 563637.324 | 571.85 | MR1-08-156 | 16698 | Baff2011 | 23 | 23.95 | Hanging Wall Schist | Volcanic Tuff | 9.25 | 3 | 0.069 | 0.05 | 0.019 | 0.998 | 4.54 | 0.6 | 86.8 | 75.7 | 146.2 | 127.5 |
| 7914808.323 | 563631.006 | 563.542 | MR1-08-156 | 16700 | Baff2011 | 33.82 | 34.82 | Hanging Wall Schist | Volcanic Tuff | 9.17 | 3 | 0.195 | 0.11 | 0.085 | 0.724 | 3.06 | 2.7 | 67.8 | 51.0 | 25.5 | 19.2 |
| 7914810.885 | 563625.513 | 556.319 | MR1-08-156 | 16702 | Baff2011 | 43.25 | 44.25 | Hanging Wall Schist | Volcanic Tuff | 9.48 | 3 | 0.105 | 0.1 | 0.01 | 0.223 | 1.02 | 0.3 | 31.6 | 17.0 | 101.1 | 54.4 |
| 7914813.19 | 563620.57 | 549.819 | MR1-08-156 | 16704 | Baff2011 | 51.73 | 52.74 | Hanging Wall Schist | Volcanic Tuff | 8.96 | 3 | 0.2 | 0.11 | 0.09 | 1.09 | 4.74 | 2.8 | 104 | 79.1 | 37.0 | 28.1 |
| 7914815.036 | 563616.611 | 544.613 | MR1-08-156 | 16706 | Baff2011 | 58.53 | 59.53 | Hanging Wall Schist | Volcanic Tuff | 9.64 | 1 | 0.007 | 0.01 | 0.01 | 0.014 | 0.037 | 0.3 | 13.5 | 0.6 | 43.2 | 2.0 |
| 7914816.895 | 563612.624 | 539.37 | MR1-08-156 | 16708 | Baff2011 | 65.37 | 66.38 | Hanging Wall Schist | Volcanic Tuff | 9.49 | 1 | 0.128 | 0.11 | 0.018 | 0.023 | 0.005 | 0.6 | 16.1 | 0.1 | 28.6 | 0.1 |
| 7914819.97 | 563606.029 | 530.698 | MR1-08-156 | 16710 | Baff2011 | 76.7 | 77.69 | Hanging Wall Schist | Volcanic Tuff | 8.48 | 1 | 0.167 | 0.17 | 0.01 | 0.025 | 0.082 | 0.3 | 14.8 | 1.4 | 47.4 | 4.4 |
| 7914289.124 | 563150.669 | 589.004 | MR1-06-90 | 16718 | Baff2011 | 14.21 | 15.17 | Hanging Wall Schist | Volcanic Tuff | 8.41 | 1 | 0.205 | 0.09 | 0.115 | 0.017 | 0.013 | 3.6 | 17.8 | 0.2 | 5.0 | 0.1 |
| 7914292.595 | 563143.225 | 587.556 | MR1-06-90 | 16720 | Baff2011 | 22.5 | 23.56 | Hanging Wall Schist | Volcanic Tuff | 8.31 | 1 | 0.265 | 0.11 | 0.155 | 0.013 | 0.019 | 4.8 | 12.6 | 0.3 | 2.6 | 0.1 |
| 7914224.949 | 563113.466 | 559.336 | MR1-06-84 | 16746 | Baff2011 | 44 | 44.93 | Hanging Wall Schist | Volcanic Tuff | 8.32 | 1 | 0.155 | 0.14 | 0.015 | 0.021 | 0.009 | 0.5 | 25.4 | 0.2 | 54.2 | 0.3 |
| 7914891.943 | 563633.365 | 514.512 | MR1-08-150 | MRARD10 066 | AMEC_2010 | 95 | 96 | Hanging Wall Schist | Volcanic Tuff | 8.31 | 1 | 0.199 | 0.06 | 0.139 | 0.016 | 0.026 | 4.3 | 19 | 1.3 | 4.4 | 0.3 |
| 7914886.496 | 563645.046 | 529.871 | MR1-08-150 | MRARD10 067 | AMEC_2010 | 75 | 75.9 | Hanging Wall Schist | Volcanic Tuff | 8.63 | 1 | 0.019 | 0.02 | 0.01 | 0.008 | 0.181 | 0.3 | 14.1 | 0.7 | 45.1 | 2.1 |
| 7914885.152 | 563647.929 | 533.663 | MR1-08-147 | MRARD10 089 | AMEC_2010 | 70 | 71 | Hanging Wall Schist | Volcanic Tuff | 8.72 | 1 | 0.075 | 0.03 | 0.045 | 0.212 | 0.78 | 1.4 | 43.5 | 17.7 | 30.9 | 12.6 |
| 7914808.644 | 563630.319 | 562.638 | MR1-08-153 | MRARD10 098 | AMEC_2010 | 35 | 36 | Hanging Wall Schist | Volcanic Tuff | 9.53 | 1 | 0.009 | 0.01 | 0.01 | 0.045 | 0.086 | 0.3 | 14.5 | 3.8 | 46.4 | 12.0 |
| 7914810.083 | 563627.231 | 558.578 | MR1-08-156 | MRARD10 112 | AMEC_2010 | 40.3 | 41.3 | Hanging Wall Schist | Volcanic Tuff | 9.02 | 3 | 0.009 | 0.01 | 0.01 | 0.871 | 4.03 | 0.3 | 83.7 | 72.6 | 267.8 | 232.3 |

**Table A-2: NAG pH Results for the 5 Year Pit**

| Easting | Northing | Elevation | Hole ID | Sample ID | Program | From | To | Waste Classification | Lithology | NAG pH after Reaction | Volume of 0.1 N NaOH (mL) | | NAG (kg $H_2SO_4$/tonne) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | to pH 4.5 | to pH 7 | to pH 4.5 | to pH 7 |
| 7914597.909 | 563141.566 | 651.436 | MR1-12-224 | 15482 | Baff2012 | 27.5 | 29.5 | Footwall Schist | Gniess | 7.89 | 0 | 0 | 0 | 0 |
| 7914599.171 | 563139.381 | 648.73 | MR1-12-224 | 15484 | Baff2012 | 31.3 | 33.1 | Footwall Schist | Gniess | 8.17 | 0 | 0 | 0 | 0 |
| 7914147.995 | 562951.331 | 626.809 | MR1-12-225 | 15702 | Baff2012 | 14 | 16 | Footwall Schist | Gniess | 8.02 | 0 | 0 | 0 | 0 |
| 7914148.592 | 562950.105 | 625.346 | MR1-12-225 | 15703 | Baff2012 | 16 | 18 | Footwall Schist | Gniess | 7.67 | 0 | 0 | 0 | 0 |
| 7914150.386 | 562946.428 | 620.958 | MR1-12-225 | 15706 | Baff2012 | 22 | 24 | Footwall Schist | Gniess | 7.97 | 0 | 0 | 0 | 0 |
| 7914152.18 | 562942.75 | 616.57 | MR1-12-225 | 15709 | Baff2012 | 28 | 30 | Footwall Schist | Gniess | 7.83 | 0 | 0 | 0 | 0 |
| 7914153.376 | 562940.298 | 613.644 | MR1-12-225 | 15711 | Baff2012 | 32 | 34 | Footwall Schist | Gniess | 7.71 | 0 | 0 | 0 | 0 |
| 7914154.572 | 562937.846 | 610.719 | MR1-12-225 | 15713 | Baff2012 | 36 | 38 | Footwall Schist | Gniess | 8.09 | 0 | 0 | 0 | 0 |
| 7914155.768 | 562935.394 | 607.793 | MR1-12-225 | 15715 | Baff2012 | 40 | 42 | Footwall Schist | Gniess | 7.9 | 0 | 0 | 0 | 0 |
| 7914156.919 | 562933.034 | 604.978 | MR1-12-225 | 15717 | Baff2012 | 44 | 45.7 | Footwall Schist | Gniess | 8.12 | 0 | 0 | 0 | 0 |
| 7914464.386 | 563109.225 | 573.328 | MR1-08-145 | 16310 | Baff2011 | 132.5 | 133.65 | Footwall Schist | Gniess | 7.49 | 0 | 0 | 0 | 0 |
| 7914469.619 | 563098.002 | 571.144 | MR1-08-145 | 16312 | Baff2011 | 145.2 | 146.1 | Footwall Schist | Gniess | 7.87 | 0 | 0 | 0 | 0 |
| 7914472.537 | 563091.745 | 569.927 | MR1-08-145 | 16314 | Baff2011 | 152.16 | 153.16 | Footwall Schist | Gniess | 7.75 | 0 | 0 | 0 | 0 |
| 7914152.497 | 562936.858 | 635.446 | MR1-07-118 | 16518 | Baff2011 | 14.61 | 15.56 | Footwall Schist | Gniess | 7.13 | 0 | 0 | 0 | 0 |
| 7914148.235 | 562949.976 | 631.75 | MR1-07-118 | 16520 | Baff2011 | 28.9 | 29.83 | Footwall Schist | Gniess | 7.46 | 0 | 0 | 0 | 0 |
| 7914347.059 | 563026.427 | 564.832 | MR1-06-90 | 16726 | Baff2011 | 153.4 | 154.38 | Footwall Schist | Gniess | 7.46 | 0 | 0 | 0 | 0 |
| 7913890.018 | 563090.826 | 509.355 | MR1-09-179 | MRARD10 004 | AMEC_2010 | 160 | 161 | Footwall Schist | Gniess | 7.72 | 0 | 0 | 0 | 0 |
| 7913878.955 | 563080.142 | 504.945 | MR1-09-179 | MRARD10 005 | AMEC_2010 | 176 | 177 | Footwall Schist | Gniess | 7.3 | 0 | 0 | 0 | 0 |
| 7914840.815 | 563394.858 | 577.665 | MR1-08-161 | MRARD10 057 | AMEC_2010 | 160 | 161 | Footwall Schist | Gniess | 3.46 | 0.7 | 1.6 | 2.3 | 5.2 |
| 7914540.881 | 563152.285 | 567.574 | MR1-08-140 | MRARD10 104 | AMEC_2010 | 165 | 166 | Footwall Schist | Gniess | 7.35 | 0 | 0 | 0 | 0 |
| 7914654.151 | 563267.972 | 491.753 | MR1-06-105 | 16076 | Baff2011 | 182.01 | 182.96 | Footwall Schist | High Grade Iron Formation | 3.42 | 1.24 | 10.76 | 4 | 35 |
| 7914649.263 | 563279.902 | 502.306 | MR1-06-105 | 16070 | Baff2011 | 165.6 | 166.05 | Footwall Schist | High Grade Iron Formation | 7.08 | 0 | 0 | 0 | 0 |
| 7914651.088 | 563275.469 | 498.382 | MR1-06-105 | 16072 | Baff2011 | 171.52 | 172.52 | Footwall Schist | High Grade Iron Formation | 7.06 | 0 | 0 | 0 | 0 |
| 7914595.8 | 563145.219 | 655.96 | MR1-12-224 | 15479 | Baff2012 | 21.23 | 23.4 | Footwall Schist | Schist | 7.88 | 0 | 0 | 0 | 0 |
| 7914596.528 | 563143.958 | 654.398 | MR1-12-224 | 15480 | Baff2012 | 23.4 | 25.5 | Footwall Schist | Schist | 8.16 | 0 | 0 | 0 | 0 |
| 7914037.25 | 562928.144 | 573.304 | MR1-12-226 | 15631 | Baff2012 | 75.27 | 77.37 | Footwall Schist | Schist | 7.31 | 0 | 0 | 0 | 0 |
| 7914036.549 | 562926.826 | 571.702 | MR1-12-226 | 15632 | Baff2012 | 77.37 | 79.65 | Footwall Schist | Schist | 7.22 | 0 | 0 | 0 | 0 |
| 7914028.919 | 562912.476 | 554.274 | MR1-12-226 | 15644 | Baff2012 | 101.34 | 103.34 | Footwall Schist | Schist | 7.73 | 0 | 0 | 0 | 0 |
| 7914024.568 | 562904.293 | 544.335 | MR1-12-226 | 15651 | Baff2012 | 114.93 | 116.93 | Footwall Schist | Schist | 8.44 | 0 | 0 | 0 | 0 |
| 7914023.321 | 562901.947 | 541.487 | MR1-12-226 | 15653 | Baff2012 | 118.93 | 120.72 | Footwall Schist | Schist | 8.7 | 0 | 0 | 0 | 0 |
| 7914157.935 | 562930.95 | 602.491 | MR1-12-225 | 15719 | Baff2012 | 47.4 | 49.1 | Footwall Schist | Schist | 10.35 | 0 | 0 | 0 | 0 |
| 7914159.056 | 562928.651 | 599.749 | MR1-12-225 | 15721 | Baff2012 | 51 | 53 | Footwall Schist | Schist | 10.45 | 0 | 0 | 0 | 0 |
| 7914020.687 | 562896.994 | 535.471 | MR1-12-226 | 15658 | Baff2012 | 127.05 | 129.05 | Footwall Schist | Schist | 8.26 | 0 | 0 | 0 | 0 |
| 7914655.524 | 563264.597 | 488.761 | MR1-06-105 | 16078 | Baff2011 | 186.7 | 187.7 | Footwall Schist | Schist | 7.62 | 0 | 0 | 0 | 0 |
| 7914342.277 | 563036.682 | 566.827 | MR1-06-90 | 16722 | Baff2011 | 141.9 | 142.9 | Footwall Schist | Schist | 2.89 | 5.21 | 9.28 | 17.1 | 30 |
| 7914343.44 | 563034.188 | 566.342 | MR1-06-90 | 16724 | Baff2011 | 144.7 | 145.69 | Footwall Schist | Schist | 7.82 | 0 | 0 | 0 | 0 |
| 7914786.719 | 563340.21 | 594.098 | MR1-08-163 | MRARD10 035 | AMEC_2010 | 155 | 156 | Footwall Schist | Schist | 7.64 | 0 | 0 | 0 | 0 |
| 7914767.99 | 563380.374 | 601.912 | MR1-08-163 | MRARD10 047 | AMEC_2010 | 110 | 111 | Footwall Schist | Schist | 7.56 | 0 | 0 | 0 | 0 |
| 7914778.395 | 563358.061 | 597.571 | MR1-08-163 | MRARD10 049 | AMEC_2010 | 135 | 136 | Footwall Schist | Schist | 7.55 | 0 | 0 | 0 | 0 |
| 7914652.408 | 563272.251 | 495.535 | MR1-06-105 | 16074 | Baff2011 | 176 | 177.03 | Footwall Schist | Ultramafic | 7.58 | 0 | 0 | 0 | 0 |
| 7914607.255 | 563539.17 | 498.078 | MR1-05-72 | 16022 | Baff2011 | 92.7 | 93.65 | Hanging Wall Schist | Amphibolite | 7.68 | 0 | 0 | 0 | 0 |
| 7914609.72 | 563534.114 | 491.375 | MR1-05-72 | 16024 | Baff2011 | 101.4 | 102.45 | Hanging Wall Schist | Amphibolite | 6.84 | 0 | 0.05 | 0 | 0.2 |
| 7914755.246 | 563588.198 | 564.313 | MR1-05-77 | 16590 | Baff2011 | 41.13 | 42.1 | Hanging Wall Schist | Amphibolite | 9.02 | 0 | 0 | 0 | 0 |
| 7914758.512 | 563581.502 | 555.435 | MR1-05-77 | 16592 | Baff2011 | 52.71 | 53.7 | Hanging Wall Schist | Amphibolite | 9.65 | 0 | 0 | 0 | 0 |
| 7914760.988 | 563576.426 | 548.705 | MR1-05-77 | 16594 | Baff2011 | 61.5 | 62.48 | Hanging Wall Schist | Amphibolite | 7.85 | 0 | 0 | 0 | 0 |
| 7914763.569 | 563571.134 | 541.688 | MR1-05-77 | 16596 | Baff2011 | 70.65 | 71.65 | Hanging Wall Schist | Amphibolite | 9.99 | 0 | 0 | 0 | 0 |
| 7914772.622 | 563552.572 | 517.075 | MR1-05-77 | 16604 | Baff2011 | 102.8 | 103.76 | Hanging Wall Schist | Amphibolite | 5.42 | 0 | 0.36 | 0 | 1.2 |
| 7914775.024 | 563547.646 | 510.544 | MR1-05-77 | 16606 | Baff2011 | 111.32 | 112.29 | Hanging Wall Schist | Amphibolite | 7.19 | 0 | 0 | 0 | 0 |
| 7914766.867 | 563564.372 | 532.721 | MR1-05-77 | 16600 | Baff2011 | 82.35 | 83.36 | Hanging Wall Schist | Gniess | 6.89 | 0 | 0.6 | 0 | 1.9 |
| 7914769.349 | 563559.282 | 525.973 | MR1-05-77 | 16602 | Baff2011 | 91.15 | 92.18 | Hanging Wall Schist | Gniess | 7.56 | 0 | 0 | 0 | 0 |
| 7914749.753 | 563599.461 | 579.247 | MR1-05-77 | 16586 | Baff2011 | 21.62 | 22.62 | Hanging Wall Schist | Metasediment | 7.7 | 0 | 0 | 0 | 0 |
| 7914752.385 | 563594.064 | 572.092 | MR1-05-77 | 16588 | Baff2011 | 30.96 | 31.96 | Hanging Wall Schist | Metasediment | 7.65 | 0 | 0 | 0 | 0 |
| 7914801.516 | 563645.605 | 582.739 | MR1-08-156 | 16694 | Baff2011 | 8.73 | 9.79 | Hanging Wall Schist | Metasediment | 9.76 | 0 | 0 | 0 | 0 |
| 7914803.299 | 563641.781 | 577.71 | MR1-08-156 | 16696 | Baff2011 | 15.34 | 16.31 | Hanging Wall Schist | Metasediment | 7.85 | 0 | 0 | 0 | 0 |
| 7914765.211 | 563567.766 | 537.222 | MR1-05-77 | 16598 | Baff2011 | 76.5 | 77.46 | Hanging Wall Schist | Schist | 7.58 | 0 | 0 | 0 | 0 |
| 7914821.987 | 563601.703 | 525.01 | MR1-08-156 | 16712 | Baff2011 | 84.07 | 85.17 | Hanging Wall Schist | Schist | 7.07 | 0 | 0 | 0 | 0 |
| 7914824.14 | 563597.087 | 518.939 | MR1-08-156 | 16714 | Baff2011 | 92.03 | 93.06 | Hanging Wall Schist | Schist | 6.99 | 0 | 0.07 | 0 | 0.2 |
| 7914826.342 | 563592.365 | 512.731 | MR1-08-156 | 16716 | Baff2011 | 100.18 | 101.12 | Hanging Wall Schist | Schist | 6.45 | 0 | 0.11 | 0 | 0.4 |
| 7914217.513 | 563129.414 | 580.306 | MR1-06-84 | 16740 | Baff2011 | 16.55 | 17.63 | Hanging Wall Schist | Schist | 7.42 | 0 | 0 | 0 | 0 |
| 7914219.703 | 563124.716 | 574.128 | MR1-06-84 | 16742 | Baff2011 | 24.68 | 25.63 | Hanging Wall Schist | Schist | 6.97 | 0 | 0.05 | 0 | 0.2 |
| 7914222.7 | 563118.29 | 565.679 | MR1-06-84 | 16744 | Baff2011 | 35.7 | 36.67 | Hanging Wall Schist | Schist | 7.71 | 0 | 0 | 0 | 0 |
| 7914227.474 | 563108.051 | 552.215 | MR1-06-84 | 16748 | Baff2011 | 53.21 | 54.31 | Hanging Wall Schist | Schist | 7.64 | 0 | 0 | 0 | 0 |
| 7913979.772 | 563177.5 | 545.133 | MR1-09-179 | MRARD10 002 | AMEC_2010 | 30.2 | 31.2 | Hanging Wall Schist | Schist | 7.67 | 0 | 0 | 0 | 0 |
| 7913969.538 | 563167.617 | 541.054 | MR1-09-179 | MRARD10 003 | AMEC_2010 | 45 | 46 | Hanging Wall Schist | Schist | 7.4 | 0 | 0 | 0 | 0 |
| 7914042.297 | 563235.419 | 498.607 | MR1-09-177 | MRARD10 007 | AMEC_2010 | 55 | 56 | Hanging Wall Schist | Schist | 6.9 | 0 | 0.1 | 0 | 0.3 |
| 7914493.018 | 563254.927 | 587.544 | MR1-08-140 | MRARD10 068 | AMEC_2010 | 50 | 51 | Hanging Wall Schist | Schist | 2.8 | 4.5 | 7.3 | 15 | 24 |
| 7914820.868 | 563604.104 | 528.166 | MR1-08-153 | MRARD10 078 | AMEC_2010 | 80 | 81 | Hanging Wall Schist | Schist | 6.86 | 0 | 0.1 | 0 | 0.3 |
| 7914890.585 | 563636.278 | 518.342 | MR1-08-147 | MRARD10 086 | AMEC_2010 | 90 | 91 | Hanging Wall Schist | Schist | 7.24 | 0 | 0 | 0 | 0 |
| 7914904.285 | 563604.232 | 579.229 | MR1-08-142 | MRARD10 092 | AMEC_2010 | 30 | 31 | Hanging Wall Schist | Schist | 4.27 | 0.1 | 1 | 0.3 | 3.3 |
| 7914895.95 | 563624.772 | 503.213 | MR1-08-147 | MRARD10 094 | AMEC_2010 | 110 | 110.5 | Hanging Wall Schist | Schist | 6.92 | 0 | 0.1 | 0 | 0.3 |
| 7914826.301 | 563592.452 | 512.846 | MR1-08-153 | MRARD10 101 | AMEC_2010 | 100 | 101 | Hanging Wall Schist | Schist | 7.18 | 0 | 0 | 0 | 0 |
| 7914815.435 | 563615.755 | 543.487 | MR1-08-156 | MRARD10 117 | AMEC_2010 | 60 | 61 | Hanging Wall Schist | Schist | 6.96 | 0 | 0.1 | 0 | 0.3 |
| 7914820.977 | 563603.871 | 527.86 | MR1-08-156 | MRARD10 119 | AMEC_2010 | 80.8 | 81 | Hanging Wall Schist | Schist | 8.33 | 0 | 0 | 0 | 0 |
| 7914826.301 | 563592.452 | 512.846 | MR1-08-156 | MRARD10 122 | AMEC_2010 | 100 | 101 | Hanging Wall Schist | Schist | 6.64 | 0 | 0.4 | 0 | 1.3 |
| 7914420.445 | 563203.455 | 591.661 | MR1-08-145 | MRARD10 126 | AMEC_2010 | 27 | 28 | Hanging Wall Schist | Schist | 7.5 | 0 | 0 | 0 | 0 |
| 7914836.569 | 563574.057 | 590.725 | MR1-08-143 | MRARD10 127 | AMEC_2010 | 20 | 21 | Hanging Wall Schist | Schist | 7.36 | 0 | 0 | 0 | 0 |
| 7914814.05 | 563618.726 | 547.394 | MR1-08-153 | MRARD10 130 | AMEC_2010 | 54.9 | 55.9 | Hanging Wall Schist | Schist | 9.04 | 0 | 0 | 0 | 0 |
| 7914212.854 | 563309.016 | 491.231 | MR1-05-46 | 16470 | Baff2011 | 55.72 | 56.72 | Hanging Wall Schist | Volcanic Tuff | 7.93 | 0 | 0 | 0 | 0 |
| 7914805.377 | 563637.324 | 571.85 | MR1-08-156 | 16698 | Baff2011 | 23 | 23.95 | Hanging Wall Schist | Volcanic Tuff | 11.01 | 0 | 0 | 0 | 0 |
| 7914808.323 | 563631.006 | 563.542 | MR1-08-156 | 16700 | Baff2011 | 33.82 | 34.82 | Hanging Wall Schist | Volcanic Tuff | 10.99 | 0 | 0 | 0 | 0 |
| 7914810.885 | 563625.513 | 556.319 | MR1-08-156 | 16702 | Baff2011 | 43.25 | 44.25 | Hanging Wall Schist | Volcanic Tuff | 10.7 | 0 | 0 | 0 | 0 |
| 7914813.19 | 563620.57 | 549.819 | MR1-08-156 | 16704 | Baff2011 | 51.73 | 52.74 | Hanging Wall Schist | Volcanic Tuff | 10.57 | 0 | 0 | 0 | 0 |
| 7914815.036 | 563616.611 | 544.613 | MR1-08-156 | 16706 | Baff2011 | 58.53 | 59.53 | Hanging Wall Schist | Volcanic Tuff | 8.31 | 0 | 0 | 0 | 0 |
| 7914816.895 | 563612.624 | 539.37 | MR1-08-156 | 16708 | Baff2011 | 65.37 | 66.38 | Hanging Wall Schist | Volcanic Tuff | 7.7 | 0 | 0 | 0 | 0 |
| 7914819.97 | 563606.029 | 530.698 | MR1-08-156 | 16710 | Baff2011 | 76.7 | 77.69 | Hanging Wall Schist | Volcanic Tuff | 7.97 | 0 | 0 | 0 | 0 |
| 7914289.124 | 563150.669 | 589.004 | MR1-06-90 | 16718 | Baff2011 | 14.21 | 15.17 | Hanging Wall Schist | Volcanic Tuff | 7.08 | 0 | 0 | 0 | 0 |
| 7914292.595 | 563143.225 | 587.556 | MR1-06-90 | 16720 | Baff2011 | 22.5 | 23.56 | Hanging Wall Schist | Volcanic Tuff | 6.29 | 0 | 0.13 | 0 | 0.4 |
| 7914224.949 | 563113.466 | 559.336 | MR1-06-84 | 16746 | Baff2011 | 44 | 44.93 | Hanging Wall Schist | Volcanic Tuff | 7.59 | 0 | 0 | 0 | 0 |
| 7914891.943 | 563633.365 | 514.512 | MR1-08-150 | MRARD10 066 | AMEC_2010 | 95 | 96 | Hanging Wall Schist | Volcanic Tuff | 7.22 | 0 | 0 | 0 | 0 |
| 7914886.496 | 563645.046 | 529.871 | MR1-08-150 | MRARD10 067 | AMEC_2010 | 75 | 75.9 | Hanging Wall Schist | Volcanic Tuff | 7.71 | 0 | 0 | 0 | 0 |
| 7914885.152 | 563647.929 | 533.663 | MR1-08-147 | MRARD10 089 | AMEC_2010 | 70 | 71 | Hanging Wall Schist | Volcanic Tuff | 9.48 | 0 | 0 | 0 | 0 |
| 7914808.644 | 563630.319 | 562.638 | MR1-08-153 | MRARD10 098 | AMEC_2010 | 35 | 36 | Hanging Wall Schist | Volcanic Tuff | 7.7 | 0 | 0 | 0 | 0 |
| 7914810.083 | 563627.231 | 558.578 | MR1-08-156 | MRARD10 112 | AMEC_2010 | 40.3 | 41.3 | Hanging Wall Schist | Volcanic Tuff | 9.8 | 0 | 0 | 0 | 0 |

**Table A-3: Summary of ABA Results**

| | | Paste pH | Total Sulphur | Sulphate | Sulphide* | Total Carbon | Carbonate | AP | NP | CarbNP | NPR | CarbNPR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | % | | | | | kg CaCO3/t | | | | |
| Footwall Schist (5 Year Pit) | Count | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| | Min | 6.4 | 0.005 | 0.010 | 0.010 | 0.0050 | 0.0050 | 0.31 | 5.3 | 0.083 | 0.21 | 0.019 |
| | Max | 10 | 5.6 | 1.5 | 4.2 | 3.3 | 7.7 | 130 | 59 | 129 | 176 | 345 |
| | Median | 9.1 | 0.011 | 0.010 | 0.010 | 0.021 | 0.030 | 0.31 | 13 | 0.54 | 36 | 1.6 |
| | Average | | 0.32 | 0.100 | 0.23 | 0.28 | 0.65 | 7.1 | 17 | 11.0 | 2.4 | 1.5 |
| | Standard Deviation | 0.89 | 1.0 | 0.26 | 0.74 | 0.77 | 1.8 | 23 | 12.0 | 30 | 35 | 55 |
| | 10th Percentile | 7.7 | 0.005 | 0.010 | 0.010 | 0.012 | 0.0050 | 0.31 | 7.2 | 0.083 | 1.4 | 0.19 |
| | 90th Percentile | 9.6 | 0.53 | 0.21 | 0.31 | 0.51 | 1.01 | 9.5 | 29 | 17 | 78 | 17 |
| Footwall Schist (LOM Pit) | Count | 143 | 143 | 143 | 143 | 143 | 143 | 143 | 143 | 143 | 143 | 143 |
| | Min | 4.8 | 0.005 | 0.010 | 0.010 | 0.005 | 0.0050 | 0.3125 | 4.6000 | 0.08 | 0.2 | 0.003 |
| | Max | 10 | 5.6 | 1.5 | 4.15 | 3.3 | 10.7 | 129.7 | 70.5 | 178 | 176 | 345 |
| | Median | 8.9 | 0.044 | 0.020 | 0.010 | 0.015 | 0.011 | 0.313 | 13.000 | 0.50 | 23 | 0.99 |
| | Average | | 0.29 | 0.07 | 0.225 | 0.20 | 0.50 | 7.04 | 15.94 | 8.5 | 2 | 1.2 |
| | Standard Deviation | 0.86 | 0.70 | 0.15 | 0.58 | 0.62 | 1.61 | 18.0 | 10.86 | 27 | 27 | 30 |
| | 10th Percentile | 7.7 | 0.005 | 0.010 | 0.010 | 0.006 | 0.005 | 0.313 | 7.3600 | 0.08 | 1 | 0.04 |
| | 90th Percentile | 10 | 0.74 | 0.14 | 0.716 | 0.218 | 0.85 | 22.4 | 25.92 | 14.2 | 62 | 7 |
| Hanging Wall Schist (5 Year Pit) | Count | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 |
| | Min | 7.4 | 0.005 | 0.010 | 0.010 | 0.0050 | 0.0050 | 0.31 | 7.0 | 0.083 | 0.41 | 0.019 |
| | Max | 9.7 | 1.2 | 0.29 | 0.97 | 1.1 | 4.7 | 30 | 104 | 79 | 268 | 232 |
| | Median | 8.5 | 0.11 | 0.060 | 0.019 | 0.021 | 0.037 | 0.59 | 16 | 1.0 | 26 | 1.3 |
| | Average | | 0.14 | 0.070 | 0.076 | 0.11 | 0.44 | 2.4 | 23 | 8.0 | 9.5 | 3.4 |
| | Standard Deviation | 0.58 | 0.19 | 0.061 | 0.14 | 0.25 | 1.1 | 4.5 | 20 | 19 | 42 | 39 |
| | 10th Percentile | 7.9 | 0.005 | 0.010 | 0.010 | 0.0088 | 0.0050 | 0.31 | 11 | 0.090 | 4.1 | 0.069 |
| | 90th Percentile | 9.5 | 0.26 | 0.14 | 0.15 | 0.22 | 0.97 | 4.7 | 31 | 18 | 55 | 20 |
| Hanging Wall Schist (LOM Pit) | Count | 270 | 270 | 270 | 270 | 270 | 270 | 270 | 270 | 270 | 270 | 270 |
| | Min | 4.3 | 0.005 | 0.010 | 0.010 | 0.005 | 0.0050 | 0.3125 | -6.5000 | 0.08 | 0.0 | 0.000 |
| | Max | 9.8 | 22.2 | 5.5 | 22.19 | 6.69 | 30.8 | 693.4 | 487.00 | 514 | 621 | 571 |
| | Median | 8.4 | 0.12 | 0.04 | 0.057 | 0.022 | 0.022 | 1.766 | 17.5500 | 0.62 | 13 | 0.4 |
| | Average | | 0.60 | 0.12 | 0.485 | 0.259 | 0.97 | 15.14 | 26.450 | 16.7 | 2 | 1.1 |
| | Standard Deviation | 0.68 | 2.04 | 0.39 | 1.807 | 0.83 | 3.35 | 56.5 | 45.84 | 56.1 | 50 | 41 |
| | 10th Percentile | 7.7 | 0.008 | 0.010 | 0.010 | 0.010 | 0.0050 | 0.3125 | 7.7000 | 0.08 | 0 | 0.009 |
| | 90th Percentile | 9.6 | 0.90 | 0.18 | 0.72 | 0.37 | 1.26 | 22.43 | 33.40 | 21.0 | 73 | 19 |

*As total sulphur - sulphate

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amec

**Table A-4: Elemental Content Results for the 5 Year Pit**

| Easting | Northing | Elevation | Hole ID | Sample ID | Program | From | To | Waste Classification | Lithology | Hg | Au | Ag | Al | As | Ba | Be | Bi | Ca | Cd | Co | Cr | Cu | Fe | K | Li | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Se | Sn | Sr | Ti | Tl | U | V | Y | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g | μg/g |
| | | | | | | | | | Avg Crustal | 0.085 | 0.004 | 0.075 | 82300 | 1.8 | 425 | 3 | 0.025 | 41500 | 0.15 | 25 | 102 | 60 | 56300 | 20850 | 20 | 23300 | 950 | 1.2 | 23550 | 84 | 1050 | 14 | 350 | 0.2 | 0.05 | 2.3 | 370 | 5650 | 0.85 | 2.7 | 120 | 33 | 70 |
| | | | | | | | | | 10x Avg Crustal | 0.85 | 0.04 | 0.75 | 823000 | 18 | 4250 | 30 | 0.25 | 415000 | 1.5 | 250 | 1020 | 600 | 563000 | 208500 | 200 | 233000 | 9500 | 12 | 235500 | 840 | 10500 | 140 | 3500 | 2 | 0.5 | 23 | 3700 | 56500 | 8.5 | 27 | 1200 | 330 | 700 |
| 7914597.909 | 563141.566 | 651.436 | MR1-12-224 | 15482 | Baff2012 | 27.5 | 29.5 | Footwall Schist | Gniess | 0.1 | | | 33000 | 0.7 | 530 | 0.63 | 0.16 | 250 | 0.03 | 16 | 210 | 33 | 52000 | 19000 | 20 | 16000 | 240 | 8.2 | 440 | 68 | | 10 | 170 | 0.8 | 0.7 | 1.3 | 2.6 | 1200 | 0.55 | 4.9 | 23 | | 26 |
| 7914599.171 | 563139.381 | 648.73 | MR1-12-224 | 15484 | Baff2012 | 31.3 | 33.1 | Footwall Schist | Gniess | 0.1 | | | 30000 | 0.5 | 300 | 0.37 | 0.09 | 500 | 0.02 | 6.7 | 100 | 12 | 42000 | 20000 | 11 | 14000 | 120 | 6.6 | 550 | 14 | | 5.1 | 160 | 0.8 | 0.7 | 1.2 | 2.6 | 980 | 0.39 | 6.8 | 12 | | 3.9 |
| 7914147.995 | 562951.331 | 626.809 | MR1-12-225 | 15702 | Baff2012 | 14 | 16 | Footwall Schist | Gniess | 0.1 | | | 25000 | 4 | 200 | 0.78 | 0.13 | 1700 | 0.04 | 23 | 73 | 25 | 44000 | 7900 | 32 | 14000 | 320 | 0.5 | 240 | 29 | | 3.2 | 69 | 0.8 | 0.7 | 0.5 | 3.8 | 670 | 0.25 | 2.4 | 8 | | 27 |
| 7914148.592 | 562950.105 | 625.346 | MR1-12-225 | 15703 | Baff2012 | 16 | 18 | Footwall Schist | Gniess | 0.1 | | | 18000 | 1.8 | 190 | 0.46 | 0.09 | 1200 | 0.05 | 9.5 | 71 | 17 | 29000 | 6100 | 11 | 9100 | 220 | 0.4 | 300 | 11 | | 4.8 | 60 | 0.8 | 0.7 | 0.5 | 3.3 | 520 | 0.18 | 1.3 | 7 | | 22 |
| 7914150.386 | 562946.428 | 620.958 | MR1-12-225 | 15706 | Baff2012 | 22 | 24 | Footwall Schist | Gniess | 0.1 | | | 33000 | 0.5 | 210 | 0.56 | 0.09 | 1600 | 0.04 | 11 | 190 | 2.8 | 42000 | 11000 | 19 | 21000 | 530 | 0.3 | 310 | 48 | | 2.9 | 61 | 0.8 | 0.7 | 0.5 | 3.2 | 810 | 0.29 | 1.5 | 26 | | 38 |
| 7914152.18 | 562942.75 | 616.57 | MR1-12-225 | 15709 | Baff2012 | 28 | 30 | Footwall Schist | Gniess | 0.1 | | | 36000 | 0.5 | 320 | 0.69 | 0.09 | 1100 | 0.02 | 7.2 | 72 | 4.5 | 43000 | 17000 | 19 | 20000 | 550 | 0.3 | 390 | 8.1 | | 3.3 | 52 | 0.8 | 0.7 | 0.5 | 2.6 | 1100 | 0.45 | 1.8 | 10 | | 26 |
| 7914153.376 | 562940.298 | 613.644 | MR1-12-225 | 15711 | Baff2012 | 32 | 34 | Footwall Schist | Gniess | 0.1 | | | 18000 | 0.5 | 200 | 0.38 | 0.09 | 370 | 0.02 | 6.4 | 110 | 4.5 | 20000 | 9200 | 9 | 8700 | 200 | 0.3 | 350 | 19 | | 2.1 | 41 | 0.8 | 0.7 | 0.5 | 3 | 490 | 0.22 | 1.6 | 10 | | 14 |
| 7914154.572 | 562937.846 | 610.719 | MR1-12-225 | 15713 | Baff2012 | 36 | 38 | Footwall Schist | Gniess | 0.1 | | | 32000 | 0.5 | 190 | 0.52 | 0.09 | 1400 | 0.02 | 12 | 59 | 2.8 | 48000 | 15000 | 16 | 18000 | 530 | 0.3 | 400 | 25 | | 2.1 | 61 | 0.8 | 0.7 | 0.5 | 2.6 | 1200 | 0.49 | 1.3 | 34 | | 18 |
| 7914155.768 | 562935.394 | 607.793 | MR1-12-225 | 15715 | Baff2012 | 40 | 42 | Footwall Schist | Gniess | 0.1 | | | 24000 | 0.8 | 250 | 0.59 | 0.09 | 870 | 0.02 | 4.9 | 62 | 4.1 | 32000 | 13000 | 13 | 12000 | 370 | 0.3 | 370 | 5.9 | | 2.2 | 54 | 0.8 | 0.7 | 0.5 | 2.8 | 860 | 0.37 | 1.9 | 6 | | 23 |
| 7914156.919 | 562933.034 | 604.978 | MR1-12-225 | 15717 | Baff2012 | 44 | 45.7 | Footwall Schist | Gniess | 0.1 | | | 34000 | 0.5 | 390 | 0.64 | 0.38 | 6500 | 0.27 | 5.2 | 63 | 17 | 41000 | 18000 | 42 | 27000 | 1100 | 0.3 | 320 | 5.4 | | 4.8 | 160 | 0.8 | 0.7 | 1.6 | 9.8 | 1500 | 0.51 | 2.5 | 12 | | 74 |
| 7914464.386 | 563109.225 | 573.328 | MR1-08-145 | 16310 | Baff2011 | 132.5 | 133.65 | Footwall Schist | Gniess | 0.1 | 0.02 | 0.03 | 20000 | 0.7 | 85 | 0.76 | 0.09 | 1400 | 0.02 | 7.1 | 110 | 3.7 | 35000 | 6900 | 12 | 11000 | 170 | 2.2 | 140 | 9 | 570 | 1.7 | | 0.8 | 0.7 | 0.5 | 4 | 640 | 0.13 | 2.1 | 14 | 5.4 | 12 |
| 7914469.619 | 563098.002 | 571.144 | MR1-08-145 | 16312 | Baff2011 | 145.2 | 146.1 | Footwall Schist | Gniess | 0.1 | 0.02 | 0.07 | 29000 | 0.6 | 86 | 0.69 | 0.09 | 860 | 0.02 | 13 | 88 | 8.7 | 49000 | 11000 | 19 | 19000 | 560 | 1.7 | 240 | 34 | 210 | 1.6 | | 0.8 | 0.7 | 0.5 | 3.9 | 550 | 0.23 | 2 | 20 | 2.2 | 27 |
| 7914472.537 | 563091.745 | 569.927 | MR1-08-145 | 16314 | Baff2011 | 152.16 | 153.16 | Footwall Schist | Gniess | 0.1 | 0.02 | 0.06 | 26000 | 0.5 | 260 | 0.42 | 0.21 | 3000 | 0.03 | 12 | 130 | 32 | 41000 | 18000 | 22 | 17000 | 580 | 1.7 | 470 | 30 | 1200 | 1.9 | | 0.8 | 0.7 | 0.6 | 5.4 | 2400 | 0.33 | 2.6 | 31 | 12 | 47 |
| 7914152.497 | 562936.858 | 635.446 | MR1-07-118 | 16518 | Baff2011 | 14.61 | 15.56 | Footwall Schist | Gniess | 0.1 | 0.02 | 0.03 | 19000 | 1.4 | 140 | 0.31 | 0.09 | 1000 | 0.03 | 4.4 | 120 | 31 | 38000 | 8900 | 13 | 8600 | 230 | 2.8 | 220 | 5.3 | 320 | 4.3 | | 0.8 | 0.7 | 0.5 | 1.7 | 1000 | 0.28 | 1.5 | 2 | 2.3 | 36 |
| 7914148.235 | 562949.976 | 631.75 | MR1-07-118 | 16520 | Baff2011 | 28.9 | 29.83 | Footwall Schist | Gniess | 0.1 | 0.02 | 0.04 | 15000 | 1.2 | 180 | 0.29 | 0.09 | 1200 | 0.03 | 7.9 | 76 | 4.5 | 24000 | 4200 | 8 | 9400 | 180 | 0.8 | 240 | 17 | 530 | 2.8 | | 0.8 | 0.7 | 0.5 | 2.8 | 370 | 0.09 | 1.8 | 7 | 3.4 | 23 |
| 7914347.059 | 563026.427 | 564.832 | MR1-06-90 | 16726 | Baff2011 | 153.4 | 154.38 | Footwall Schist | Gniess | 0.1 | 0.02 | 0.01 | 34000 | 0.5 | 360 | 1.2 | 0.1 | 830 | 0.02 | 10 | 91 | 28 | 46000 | 17000 | 20 | 22000 | 170 | 3.8 | 430 | 12 | 390 | 3.5 | | 0.8 | 0.7 | 1.4 | 5.7 | 2300 | 0.33 | 2.2 | 32 | 3.7 | 26 |
| 7913890.018 | 563090.826 | 509.355 | MR1-09-179 | MRARD10 004 | AMEC_2010 | 160 | 161 | Footwall Schist | Gniess | 0.1 | | | 83000 | 0.6 | 230 | 2.5 | 0.09 | 1800 | 0.2 | 18 | 28 | 1.8 | 130000 | 10000 | 36 | 82000 | 310 | 15 | 280 | 85 | | 2.3 | | 0.8 | 0.7 | 3.3 | 6.3 | 1100 | 0.21 | 1.8 | 46 | | 22 |
| 7913878.955 | 563080.142 | 504.945 | MR1-09-179 | MRARD10 005 | AMEC_2010 | 176 | 177 | Footwall Schist | Gniess | 0.1 | | | 77000 | 0.6 | 39 | 2.8 | 0.09 | 1700 | 0.2 | 14 | 91 | 15 | 130000 | 4800 | 38 | 70000 | 1800 | 8 | 160 | 55 | | 4.6 | | 0.8 | 0.7 | 4.6 | 6.8 | 420 | 0.12 | 1.3 | 53 | | 53 |
| 7914840.815 | 563394.858 | 577.665 | MR1-08-161 | MRARD10 057 | AMEC_2010 | 160 | 161 | Footwall Schist | Gniess | 0.1 | | | 59000 | 0.5 | 0.9 | 2.2 | 0.19 | 4900 | 0.2 | 24 | 390 | 6.4 | 150000 | 180 | 29 | 59000 | 490 | 0.3 | 97 | 140 | | 4 | | 1.4 | 0.7 | 2.9 | 6.4 | 650 | 0.05 | 3.4 | 78 | | 36 |
| 7914540.881 | 563152.285 | 567.574 | MR1-08-140 | MRARD10 104 | AMEC_2010 | 165 | 166 | Footwall Schist | Gniess | 0.1 | | | 47000 | 0.5 | 960 | 0.35 | 0.11 | 1900 | 0.2 | 18 | 59 | 70 | 63000 | 29000 | 5 | 21000 | 170 | 1 | 750 | 17 | | 32 | | 0.8 | 0.7 | 3 | 8.4 | 2600 | 0.71 | 1.4 | 140 | | 9.3 |
| 7914654.151 | 563267.972 | 491.753 | MR1-06-105 | 16076 | Baff2011 | 182.01 | 182.96 | Footwall Schist | High Grade Iron Formation | 0.1 | 0.15 | 1.3 | 11000 | 0.5 | 0.98 | 0.79 | 0.93 | 15000 | 0.1 | 19 | 36 | 380 | 400000 | 41 | 2 | 15000 | 9300 | 3.2 | 28 | 56 | 5400 | 4.7 | | 0.8 | 2.6 | 0.5 | 16 | 300 | 0.02 | 0.69 | 42 | 14 | 18 |
| 7914649.263 | 563279.902 | 502.306 | MR1-06-105 | 16070 | Baff2011 | 165.6 | 166.05 | Footwall Schist | High Grade Iron Formation | 0.1 | 0.02 | 0.36 | 3700 | 2.2 | 3.1 | 0.21 | 0.25 | 3600 | 0.38 | 17 | 21 | 31 | 470000 | 150 | 2 | 17000 | 11000 | 13 | 31 | 43 | 32 | 8.8 | | 0.8 | 0.7 | 1 | 0.82 | 220 | 0.02 | 0.42 | 22 | 3 | 33 |
| 7914651.088 | 563275.469 | 498.382 | MR1-06-105 | 16072 | Baff2011 | 171.52 | 172.52 | Footwall Schist | High Grade Iron Formation | 0.1 | 0.02 | 0.41 | 1700 | 14 | 1.4 | 0.43 | 0.24 | 10000 | 0.14 | 23 | 29 | 72 | 470000 | 40 | 2 | 13000 | 11000 | 2.7 | 56 | 40 | 99 | 4.6 | | 0.8 | 1.3 | 0.7 | 2.6 | 72 | 0.07 | 0.66 | 15 | 6.1 | 21 |
| 7914595.8 | 563145.219 | 655.96 | MR1-12-224 | 15479 | Baff2012 | 21.23 | 23.4 | Footwall Schist | Schist | 0.1 | | | 67000 | 1 | 45 | 2 | 0.97 | 350 | 0.06 | 31 | 64 | 16 | 220000 | 1100 | 244 | 39000 | 1600 | 8.9 | 110 | 100 | | 2.5 | 140 | 0.8 | 0.7 | 0.6 | 3 | 380 | 0.03 | 5.8 | 62 | | 110 |
| 7914596.528 | 563143.958 | 654.398 | MR1-12-224 | 15480 | Baff2012 | 23.4 | 25.5 | Footwall Schist | Schist | 0.1 | | | 68000 | 0.5 | 570 | 1.3 | 0.32 | 1100 | 0.04 | 24 | 230 | 5.1 | 160000 | 20000 | 32 | 43000 | 660 | 3 | 360 | 97 | | 8.8 | 180 | 0.8 | 0.7 | 1.4 | 3.6 | 1800 | 0.63 | 4 | 70 | | 41 |
| 7914037.25 | 562928.144 | 573.304 | MR1-12-226 | 15631 | Baff2012 | 75.27 | 77.37 | Footwall Schist | Schist | 0.1 | | | 45000 | 77 | 34 | 0.81 | 2.3 | 130 | 0.17 | 12 | 100 | 180 | 230000 | 340 | 5 | 27000 | 1300 | 158 | 56 | 34 | | 6 | 1100 | 0.8 | 6.2 | 2.1 | 1.2 | 210 | 0.04 | 0.84 | 110 | | 100 |
| 7914036.549 | 562926.826 | 571.702 | MR1-12-226 | 15632 | Baff2012 | 77.37 | 79.65 | Footwall Schist | Schist | 0.1 | | | 48000 | 147 | 9.5 | 0.64 | 0.84 | 110 | 0.13 | 11 | 150 | 170 | 170000 | 180 | 7 | 29000 | 1300 | 89 | 71 | 44 | | 7.2 | 1200 | 0.8 | 2.6 | 0.8 | 1.8 | 190 | 0.03 | 0.89 | 130 | | 78 |
| 7914028.919 | 562912.476 | 554.274 | MR1-12-226 | 15644 | Baff2012 | 101.34 | 103.34 | Footwall Schist | Schist | 0.1 | | | 80000 | 2.2 | 2.9 | 0.93 | 0.09 | 801 | 0.02 | 40 | 600 | 7.9 | 180000 | 130 | 2 | 68000 | 360 | 3 | 50 | 260 | | 1.8 | 79 | 0.8 | 0.7 | 0.6 | 1.3 | 270 | 0.02 | 1.2 | 100 | | 71 |
| 7914024.568 | 562904.293 | 544.335 | MR1-12-226 | 15651 | Baff2012 | 114.93 | 116.93 | Footwall Schist | Schist | 0.1 | | | 81000 | 0.6 | 140 | 0.84 | 0.1 | 2100 | 0.04 | 13 | 22 | 6.5 | 130000 | 4200 | 9 | 66000 | 420 | 2.7 | 120 | 15 | | 2.7 | 79 | 0.8 | 0.7 | 0.7 | 6.5 | 680 | 0.11 | 3 | 48 | | 81 |
| 7914023.321 | 562901.947 | 541.487 | MR1-12-226 | 15653 | Baff2012 | 118.93 | 120.72 | Footwall Schist | Schist | 0.1 | | | 84000 | 0.6 | 290 | 1.2 | 0.09 | 2700 | 0.03 | 18 | 16 | 6.6 | 110000 | 11000 | 23 | 70000 | 560 | 0.3 | 270 | 17 | | 4.1 | 70 | 0.8 | 0.7 | 1.8 | 8.2 | 960 | 0.23 | 3.4 | 48 | | 71 |
| 7914157.935 | 562930.95 | 602.491 | MR1-12-225 | 15719 | Baff2012 | 47.4 | 49.1 | Footwall Schist | Schist | 0.1 | | | 28000 | 0.5 | 160 | 0.71 | 0.36 | 17000 | 0.07 | 6.6 | 51 | 9.6 | 29000 | 14000 | 28 | 19000 | 1200 | 1.4 | 520 | 13 | | 7.9 | 890 | 0.8 | 0.7 | 0.8 | 16 | 1400 | 0.45 | 1.7 | 23 | | 41 |
| 7914159.056 | 562928.651 | 599.749 | MR1-12-225 | 15721 | Baff2012 | 51 | 53 | Footwall Schist | Schist | 0.1 | | | 29000 | 0.5 | 180 | 0.72 | 0.09 | 19000 | 0.05 | 5.5 | 56 | 7.1 | 29000 | 15000 | 24 | 14000 | 1000 | 0.9 | 820 | 7.8 | | 6.6 | 470 | 0.8 | 0.7 | 0.7 | 28 | 1500 | 0.43 | 2.2 | 16 | | 31 |
| 7914020.687 | 562896.994 | 535.471 | MR1-12-226 | 15658 | Baff2012 | 127.05 | 129.05 | Footwall Schist | Schist | 0.1 | | | 63000 | 0.5 | 1600 | 1.1 | 0.12 | 2700 | 0.02 | 12 | 68 | 6.2 | 91000 | 39000 | 35 | 36000 | 83 | 1 | 1100 | 20 | | 13 | 99 | 0.8 | 0.7 | 3.8 | 12 | 3100 | 1.1 | 2.1 | 59 | | 13 |
| 7914655.524 | 563264.597 | 488.761 | MR1-06-105 | 16078 | Baff2011 | 186.7 | 187.7 | Footwall Schist | Schist | 0.1 | 0.02 | 0.03 | 50000 | 0.5 | 700 | 0.91 | 0.09 | 2100 | 0.04 | 11 | 12 | 15 | 92000 | 28000 | 19 | 23000 | 630 | 1.4 | 430 | 17 | 950 | 15 | | 0.8 | 0.7 | 1.3 | 3.1 | 2900 | 1.1 | 8.4 | 40 | 9 | 18 |
| 7914342.277 | 563036.682 | 566.827 | MR1-06-90 | 16722 | Baff2011 | 141.9 | 142.9 | Footwall Schist | Schist | 0.1 | 0.02 | 0.48 | 71000 | 0.8 | 6.3 | 1.5 | 0.48 | 390 | 0.33 | 52 | 35 | 13 | 180000 | 880 | 66 | 91000 | 410 | 360 | 360 | 140 | 45 | 16 | | 0.8 | 0.7 | 1.3 | 1.9 | 380 | 0.08 | 0.68 | 60 | 1.1 | 77 |
| 7914343.44 | 563034.188 | 566.342 | MR1-06-90 | 16724 | Baff2011 | 144.7 | 145.69 | Footwall Schist | Schist | 0.1 | 0.02 | 0.08 | 31000 | 2 | 3.1 | 0.41 | 0.39 | 1400 | 0.03 | 7 | 63 | 6.2 | 270000 | 330 | 7 | 28000 | 540 | 7.7 | 86 | 19 | 250 | 1.3 | | 0.8 | 0.7 | 0.9 | 1.8 | 270 | 0.06 | 0.49 | 14 | 1.4 | 55 |
| 7914786.719 | 563340.21 | 594.098 | MR1-08-163 | MRARD10 035 | AMEC_2010 | 155 | 156 | Footwall Schist | Schist | 0.1 | | | 61000 | 11 | 28 | 0.69 | 0.09 | 2700 | 0.2 | 29 | 350 | 33 | 130000 | 350 | 9 | 47000 | 580 | 2 | 93 | 110 | | 3.7 | | 0.8 | 0.7 | 1.2 | 7.8 | 240 | 0.03 | 0.5 | 170 | | 51 |
| 7914767.99 | 563380.374 | 601.912 | MR1-08-163 | MRARD10 047 | AMEC_2010 | 110 | 111 | Footwall Schist | Schist | 0.1 | | | 59000 | 0.5 | 450 | 0.71 | 0.09 | 1000 | 0.2 | 8.6 | 55 | 11 | 77000 | 34000 | 17 | 25000 | 320 | 4.4 | 860 | 18 | | 16 | | 0.8 | 0.7 | 1.1 | 2.9 | 2100 | 1.6 | 2.5 | 21 | | 15 |
| 7914778.395 | 563358.061 | 597.571 | MR1-08-163 | MRARD10 049 | AMEC_2010 | 135 | 136 | Footwall Schist | Schist | 0.1 | | | 100000 | 0.7 | 15 | 5 | 0.09 | 1900 | 0.2 | 15 | 68 | 1.9 | 130000 | 1200 | 13 | 89000 | 5900 | 2.5 | 110 | 49 | | 1.7 | | 0.8 | 0.7 | 2.5 | 3.4 | 1400 | 0.04 | 1.5 | 77 | | 72 |
| 7914652.408 | 563272.251 | 495.535 | MR1-06-105 | 16074 | Baff2011 | 176 | 177.03 | Footwall Schist | Ultramafic | 0.1 | 0.02 | 0.01 | 41000 | 0.5 | 15 | 1 | 0.1 | 8100 | 0.11 | 17 | 330 | 3.1 | 58000 | 450 | 4 | 41000 | 200 | 1.7 | 31 | 95 | 3400 | 2.7 | | 0.8 | 0.7 | 0.5 | 12 | 250 | 0.03 | 2.7 | 92 | 10 | 49 |
| 7914607.255 | 563539.17 | 498.078 | MR1-05-72 | 16022 | Baff2011 | 92.7 | 93.65 | Hanging Wall Schist | Amphibolite | 0.1 | 0.02 | 0.01 | 44000 | 0.5 | 320 | 1.2 | 0.09 | 410 | 0.03 | 26 | 110 | 34 | 60000 | 20000 | 98 | 21000 | 230 | 0.6 | 350 | 100 | 34 | 6.1 | | 0.8 | 0.7 | 1.3 | 9.7 | 1800 | 0.78 | 1.2 | 110 | 2.2 | 14 |
| 7914609.72 | 563534.114 | 491.375 | MR1-05-72 | 16024 | Baff2011 | 101.4 | 102.45 | Hanging Wall Schist | Amphibolite | 0.1 | 0.02 | 0.03 | 47000 | 0.5 | 180 | 0.39 | 0.09 | 310 | 0.02 | 27 | 160 | 82 | 82000 | 14000 | 40 | 30000 | 300 | 0.4 | 230 | 120 | 7 | 2.3 | | 0.8 | 0.7 | 0.5 | 5.1 | 1400 | 0.41 | 0.066 | 150 | 0.9244 | |
| 7914755.246 | 563588.198 | 564.313 | MR1-05-77 | 16590 | Baff2011 | 41.13 | 42.1 | Hanging Wall Schist | Amphibolite | 0.1 | 0.02 | 0.07 | 21000 | 0.5 | 15 | 0.07 | 0.09 | 17000 | 0.06 | 11 | 59 | 110 | 19000 | 1700 | 15 | 11000 | 310 | 0.5 | 1100 | 30 | 220 | 1.4 | | 0.8 | 0.7 | 0.5 | 13 | 930 | 0.02 | 0.02 | 41 | 3.5 | 32 |
| 7914758.512 | 563581.502 | 555.435 | MR1-05-77 | 16592 | Baff2011 | 52.71 | 53.7 | Hanging Wall Schist | Amphibolite | 0.1 | 0.02 | 0.06 | 26000 | 0.5 | 53 | 0.06 | 0.09 | 22000 | 0.03 | 27 | 130 | 130 | 22000 | 5800 | 22 | 10000 | 300 | 0.5 | 1900 | 110 | 300 | 1.8 | | 0.8 | 0.7 | 0.5 | 23 | 2200 | 0.21 | 0.021 | 91 | 3.832 | |
| 7914760.988 | 563576.426 | 548.705 | MR1-05-77 | 16594 | Baff2011 | 61.5 | 62.48 | Hanging Wall Schist | Amphibolite | 0.1 | 0.02 | 0.04 | 31000 | 0.5 | 31 | 0.08 | 0.09 | 24000 | 0.05 | 25 | 89 | 92 | 25000 | 2300 | 23 | 12000 | 430 | 0.4 | 1400 | 84 | 440 | 2.2 | | 0.8 | 0.7 | 0.5 | 25 | 1300 | 0.08 | 0.043 | 72 | 5.3 | 38 |
| 7914763.569 | 563571.134 | 541.688 | MR1-05-77 | 16596 | Baff2011 | 70.65 | 71.65 | Hanging Wall Schist | Amphibolite | 0.1 | 0.02 | 0.09 | 23000 | 0.5 | 33 | 0.07 | 0.09 | 25000 | 0.08 | 19 | 65 | 110 | 21000 | 2400 | 10 | 7900 | 550 | 0.5 | 1400 | 69 | 240 | 2 | | 0.8 | 0.7 | 0.5 | 18 | 1400 | 0.07 | 0.024 | 52 | 3.6 | 38 |
| 7914772.622 | 563552.572 | 517.075 | MR1-05-77 | 16604 | Baff2011 | 102.8 | 103.76 | Hanging Wall Schist | Amphibolite | 0.1 | 0.02 | 0.08 | 42000 | 1.3 | 260 | 0.16 | 0.09 | 1200 | 0.05 | 41 | 210 | 150 | 58000 | 17000 | 28 | 27000 | 230 | 0.5 | 460 | 110 | 440 | 3.3 | | 0.8 | 0.7 | 0.5 | 8.4 | 2000 | 0.27 | 0.012 | 180 | 1.1 | 46 |
| 7914775.024 | 563547.646 | 510.544 | MR1-05-77 | 16606 | Baff2011 | 111.32 | 112.29 | Hanging Wall Schist | Amphibolite | 0.1 | 0.02 | 0.12 | 50000 | 1.1 | 640 | 0.12 | 0.09 | 320 | 0.22 | 50 | 250 | 120 | 69000 | 25000 | 56 | 32000 | 330 | 1.5 | 650 | 140 | 43 | 18 | | 0.8 | 0.7 | 0.5 | 10 | 2800 | 0.26 | 0.012 | 170 | 0.63 | 59 |
| 7914766.867 | 563564.372 | 532.721 | MR1-05-77 | 16600 | Baff2011 | 82.35 | 83.36 | Hanging Wall Schist | Gniess | 0.1 | 0.02 | 0.03 | 43000 | 0.5 | 200 | 0.02 | 0.09 | 1200 | 0.02 | 45 | 150 | 120 | 63000 | 13000 | 19 | 29000 | 260 | 0.8 | 570 | 100 | 280 | 0.84 | | 0.8 | 0.7 | 0.5 | 6 | 2000 | 0.2 | 0.01 | 190 | 1.4 | 52 |
| 7914769.349 | 563559.282 | 525.973 | MR1-05-77 | 16602 | Baff2011 | 91.15 | 92.18 | Hanging Wall Schist | Gniess | 0.1 | 0.02 | 0.03 | 38000 | 0.5 | 240 | 0.24 | 0.09 | 2600 | 0.02 | 45 | 150 | 73 | 54000 | 21000 | 9 | 21000 | 390 | 1.5 | 640 | 120 | 1100 | 1.3 | | 0.8 | 0.7 | 0.7 | 18 | 2900 | 0.44 | 0.018 | 190 | 2.7 | 42 |
| 7914749.753 | 563599.461 | 579.247 | MR1-05-77 | 16586 | Baff2011 | 21.62 | 22.62 | Hanging Wall Schist | Metasediment | 0.1 | 0.02 | 0.05 | 18000 | 0.5 | 17 | 0.07 | 0.09 | 14000 | 0.04 | 11 | 78 | 110 | 11000 | 1500 | 16 | 7000 | 190 | 0.6 | 1700 | 31 | 300 | 0.64 | | 0.8 | 0.7 | 0.5 | 18 | 980 | 0.03 | 0.06 | 49 | 2.6 | 16 |
| 7914752.385 | 563594.064 | 572.092 | MR1-05-77 | 16588 | Baff2011 | 30.96 | 31.96 | Hanging Wall Schist | Metasediment | 0.1 | 0.02 | 0.05 | 23000 | 0.5 | 16 | 0.07 | 0.09 | 11000 | 0.06 | 13 | 80 | 110 | 20000 | 1300 | 22 | 13000 | 190 | 0.3 | 1200 | 36 | 160 | 1.4 | | 0.8 | 0.7 | 0.5 | 12 | 620 | 0.02 | 0.016 | 67 | 2.1 | 36 |
| 7914801.516 | 563645.605 | 582.739 | MR1-08-156 | 16694 | Baff2011 | 8.73 | 9.79 | Hanging Wall Schist | Metasediment | 0.1 | 0.02 | 0.07 | 20000 | 0.5 | 34 | 0.07 | 0.09 | 13000 | 0.02 | 25 | 170 | 100 | 13000 | 3300 | 39 | 11000 | 240 | 0.7 | 2000 | 68 | 340 | 0.62 | | 0.8 | 0.7 | 0.5 | 21 | 1420 | 0.06 | 0.022 | 120 | 2.7 | 31 |
| 7914803.299 | 563641.781 | 577.71 | MR1-08-156 | 16696 | Baff2011 | 15.34 | 16.31 | Hanging Wall Schist | Metasediment | 0.1 | 0.02 | 0.08 | 14000 | 0.5 | 10 | 0.07 | 0.09 | 10000 | 0.04 | 12 | 77 | 94 | 13000 | 1700 | 24 | 7600 | 240 | 0.6 | 1600 | 38 | 280 | 2.2 | | 0.8 | 0.7 | 0.5 | 15 | 1050 | 0.04 | 0.038 | 43 | 2.4 | 20 |
| 7914765.211 | 563567.766 | 537.222 | MR1-05-77 | 16598 | Baff2011 | 76.5 | 77.46 | Hanging Wall Schist | Schist | 0.1 | 0.02 | 0.03 | 26000 | 0.5 | 17 | 0.07 | 0.09 | 24000 | 0.06 | 13 | 60 | 72 | 14000 | 1700 | 8 | 6400 | 370 | 0.5 | 950 | 37 | 290 | 0.93 | | 0.8 | 0.7 | 0.5 | 21 | 1300 | 0.03 | 0.02 | 55 | 3.2 | 23 |
| 7914821.987 | 563601.703 | 525.01 | MR1-08-156 | 16712 | Baff2011 | 84.07 | 85.17 | Hanging Wall Schist | Schist | 0.1 | 0.02 | 0.01 | 58000 | 0.5 | 600 | 0.44 | 0.09 | 1000 | 0.02 | 48 | 240 | 91 | 88000 | 26000 | 48 | 40000 | 330 | 1.4 | 510 | 150 | 240 | 4.5 | | 0.8 | 1.3 | 0.5 | 7.9 | 2260 | 0.32 | 0.011 | 170 | 2.2 | 40 |
| 7914824.14 | 563597.087 | 518.939 | MR1-08-156 | 16714 | Baff2011 | 92.03 | 93.06 | Hanging Wall Schist | Schist | 0.1 | 0.02 | 0.01 | 53000 | 0.5 | 190 | 0.54 | 0.09 | 1100 | 0.02 | 53 | 230 | 60 | 98000 | 16000 | 55 | 37000 | 390 | 0.9 | 280 | 140 | 320 | 3.1 | | 0.8 | 0.7 | 0.5 | 5.6 | 1430 | 0.17 | 0.008 | 160 | 2.8 | 25 |
| 7914826.342 | 563592.365 | 512.731 | MR1-08-156 | 16716 | Baff2011 | 100.18 | 101.12 | Hanging Wall Schist | Schist | 0.1 | 0.04 | 0.03 | 46000 | 0.5 | 2.1 | 0.38 | 0.09 | 5000 | 0.07 | 28 | 290 | 50 | 86000 | 160 | 9 | 54000 | 550 | 1 | 76 | 78 | 2200 | 2.2 | | 0.8 | 0.7 | 0.5 | 10 | 410 | 0.02 | 1.6 | 60 | 2.8 | 47 |
| 7914217.513 | 563129.414 | 580.306 | MR1-06-84 | 16740 | Baff2011 | 16.55 | 17.63 | Hanging Wall Schist | Schist | 0.1 | 0.02 | 0.01 | 39000 | 2.1 | 2.6 | 0.23 | 0.09 | 710 | 0.14 | 12 | 230 | 9.2 | 82000 | 130 | 12 | 31000 | 150 | 2.6 | 86 | 110 | 340 | 5.3 | | 0.8 | 0.7 | 0.5 | 7.2 | 180 | 0.02 | 1 | 35 | 2.8 | 145 |
| 7914219.703 | 563124.716 | 574.128 | MR1-06-84 | 16742 | Baff2011 | 24.68 | 25.63 | Hanging Wall Schist | Schist | 0.1 | 0.02 | 0.04 | 35000 | 1.5 | 13 | 0.12 | 0.09 | 110 | 0.12 | 13 | 250 | 22 | 68000 | 200 | 8 | 25000 | 77 | 1.9 | 86 | 110 | 58 | 4.5 | | 0.8 | 0.7 | 0.5 | 0.85 | 310 | 0.02 | 1.4 | 40 | 2.1 | 42 |
| 7914222.7 | 563118.29 | 565.679 | MR1-06-84 | 16744 | Baff2011 | 35.7 | 36.67 | Hanging Wall Schist | Schist | 0.1 | 0.02 | 0.01 | 58000 | 0.6 | 1 | 0.3 | 0.09 | 250 | 0.02 | 29 | 640 | 6.2 | 120000 | 82 | 10 | 55000 | 750 | 1.6 | 97 | 290 | 57 | 0.63 | | 0.8 | 0.7 | 0.7 | 1.2 | 200 | 0.02 | 0.77 | 57 | 1.8 | 46 |
| 7914227.474 | 563108.051 | 552.215 | MR1-06-84 | 16748 | Baff2011 | 53.21 | 54.31 | Hanging Wall Schist | Schist | 0.1 | 0.02 | 0.02 | 37000 | 3.8 | 6.1 | 0.91 | 0.09 | 140 | 0.04 | 49 | 380 | 11 | 140000 | 2400 | 14 | 31000 | 160 | 1.9 | 120 | 390 | 53 | 0.93 | | 0.8 | 0.7 | 0.5 | 1.5 | 250 | 0.02 | 1 | 64 | 1.5 | 65 |
| 7913979.772 | 563177.5 | 545.133 | MR1-09-179 | MRARD10 002 | AMEC_2010 | 30.2 | 31.2 | Hanging Wall Schist | Schist | 0.1 | | | 34000 | 0.6 | 520 | 0.32 | 0.09 | 1700 | 0.2 | 7.7 | 100 | 9.3 | 53000 | 18000 | 8 | 17000 | 130 | 4.4 | 430 | 14 | | 3.7 | | 0.8 | 0.7 | 3.7 | 7.5 | 2000 | 0.6 | 1.5 | 32 | | 5.7 |
| 7913969.538 | 563167.617 | 541.054 | MR1-09-179 | MRARD10 003 | AMEC_2010 | 45 | 46 | Hanging Wall Schist | Schist | 0.1 | | | 17000 | 0.7 | 99 | 0.62 | 0.09 | 480 | 0.2 | 5.3 | 120 | 79 | 23000 | 8600 | 7 | 8300 | 100 | 2.4 | 240 | 8.4 | | 4.9 | | 0.8 | 0.7 | 0.6 | 3.2 | 440 | 0.36 | 7.3 | 5 | | 7.5 |
| 7914042.297 | 563235.419 | 498.607 | MR1-09-177 | MRARD10 007 | AMEC_2010 | 55 | 56 | Hanging Wall Schist | Schist | 0.1 | | | 7900 | 16 | 3 | 0.58 | 0.09 | 1600 | 0.2 | 6.8 | 19 | 3.9 | 600000 | 130 | 3 | 8000 | 2600 | 1.7 | 120 | 18 | | 1.9 | | 0.8 | 0.7 | 0.7 | 3 | 180 | 0.02 | 0.35 | 11 | | 7 |
| 7914493.018 | 563254.927 | 587.544 | MR1-08-140 | MRARD10 068 | AMEC_2010 | 50 | 51 | Hanging Wall Schist | Schist | 0.1 | | | 60000 | 1.1 | 160 | 2.5 | 28 | 1700 | 0.2 | 48 | 150 | 169 | 160000 | 11000 | 36 | 33000 | 530 | 1.9 | 270 | 92 | | 113 | | 1.2 | 0.7 | 1.2 | 2.8 | 930 | 0.89 | 0.88 | 130 | | 26 |
| 7914820.868 | 563604.104 | 528.166 | MR1-08-153 | MRARD10 078 | AMEC_2010 | 80 | 81 | Hanging Wall Schist | Schist | 0.1 | | | 28000 | 0.5 | 160 | 1.2 | 0.09 | 640 | 0.2 | 9.9 | 74 | 1.6 | 35000 | 11000 | 11 | 15000 | 320 | 2 | 300 | 14 | | 2.8 | | 0.8 | 0.7 | 0.8 | 3.7 | 700 | 0.42 | 1.7 | 21 | | 22 |
| 7914890.585 | 563636.278 | 518.342 | MR1-08-147 | MRARD10 086 | AMEC_2010 | 90 | 91 | Hanging Wall Schist | Schist | 0.1 | | | 71000 | 0.5 | 0.01 | 2.4 | 0.09 | 1400 | 0.2 | 37 | 1260 | 15 | 170000 | 82 | 47 | 82000 | 1500 | 1 | 150 | 430 | | 1.4 | | 0.8 | 0.7 | 1.3 | 4.7 | 68 | 0.02 | 1.8 | 64 | | 50 |
| 7914904.285 | 563604.232 | 579.229 | MR1-08-142 | MRARD10 092 | AMEC_2010 | 30 | 31 | Hanging Wall Schist | Schist | 0.1 | | | 87000 | 0.7 | 2.9 | 0.69 | 0.11 | 6500 | 0.2 | 25 | 530 | 4.8 | 135000 | 47 | 6 | 58000 | 570 | 0.3 | 71 | 93 | | 2.4 | | 0.8 | 0.7 | 0.5 | 15 | 200 | 0.08 | 1.2 | 140 | | 37 |
| 7914895.95 | 563624.772 | 503.213 | MR1-08-147 | MRARD10 094 | AMEC_2010 | 110 | 110.5 | Hanging Wall Schist | Schist | 0.1 | | | 78000 | 0.5 | 5.8 | 1.2 | 0.24 | 1500 | 0.2 | 31 | 170 | 7.4 | 150000 | 490 | 39 | 63000 | 310 | 3.8 | 87 | 130 | | 2.1 | | 0.8 | 0.7 | 1.4 | 15 | 76 | 1.5 | 1 | 62 | | 99 |
| 7914826.301 | 563592.452 | 512.846 | MR1-08-153 | MRARD10 101 | AMEC_2010 | 100 | 101 | Hanging Wall Schist | Schist | 0.1 | | | 18000 | 0.5 | 25 | 0.06 | 0.12 | 10000 | 0.4 | 27 | 110 | 92 | 31000 | 1600 | 13 | 8800 | 960 | 0.9 | 1290 | 88 | | 3.3 | | 0.8 | 0.7 | 1 | 11 | 870 | 0.27 | 0.29 | 79 | | 80 |
| 7914815.435 | 563615.755 | 543.487 | MR1-08-156 | MRARD10 117 | AMEC_2010 | 60 | 61 | Hanging Wall Schist | Schist | 0.1 | | | 73000 | 0.5 | 510 | 1.1 | 0.19 | 12000 | 0.2 | 55 | 74 | 33 | 155000 | 31000 | 17 | 19000 | 140 | 18 | 550 | 70 | | 15 | | 0.8 | 0.7 | 1.9 | 35 | 1700 | 1.6 | 2.6 | 28 | | 26 |
| 7914820.977 | 563603.871 | 527.86 | MR1-08-156 | MRARD10 119 | AMEC_2010 | 80.8 | 81 | Hanging Wall Schist | Schist | 0.1 | | | 10 | 1.7 | 0.51 | 0.08 | 0.13 | 25 | 0.2 | 0.25 | 0.5 | 0.1 | 33 | 1 | 2 | 19 | 2.3 | 0.5 | 9 | 0.1 | | 0.4 | | 0.8 | 0.7 | 0.5 | 0.22 | 0.1 | 0.27 | 0.22 | 1 | | 0.7 |
| 7914826.301 | 563592.452 | 512.846 | MR1-08-156 | MRARD10 122 | AMEC_2010 | 100 | 101 | Hanging Wall Schist | Schist | 0.1 | | | 45000 | 0.5 | 100 | 0.12 | 0.09 | 1200 | 0.2 | 40 | 230 | 141 | 56000 | 15000 | 35 | 25000 | 220 | 0.6 | 390 | 120 | | 0.91 | | 0.8 | 0.7 | 0.7 | 11 | 1200 | 0.2 | 0.047 | 210 | | 23 |
| 7914420.445 | 563203.455 | 591.661 | MR1-08-145 | MRARD10 126 | AMEC_2010 | 27 | 28 | Hanging Wall Schist | Schist | 0.1 | | | 84000 | 6.9 | 31 | 3.5 | 0.17 | 810 | 0.2 | 44 | 130 | 29 | 216000 | 600 | 370 | 46000 | 630 | 0.8 | 170 | 200 | | 5.7 | | 0.8 | 0.7 | 1.5 | 7.9 | 750 | 0.04 | 3.9 | 55 | | 143 |
| 7914836.569 | 563574.057 | 590.725 | MR1-08-143 | MRARD10 127 | AMEC_2010 | 20 | 21 | Hanging Wall Schist | Schist | 0.1 | | | 116000 | 0.5 | 560 | 1.3 | 0.09 | 2500 | 0.2 | 67 | 580 | 94 | 145000 | 10000 | 32 | 110000 | 850 | 0.8 | 350 | 310 | | 3.6 | | 0.8 | 0.7 | 1 | 3.6 | 1000 | 0.19 | 0.89 | 150 | | 73 |
| 7914814.05 | 563618.726 | 547.394 | MR1-08-153 | MRARD10 130 | AMEC_2010 | 54.9 | 55.9 | Hanging Wall Schist | Schist | 0.1 | | | 25000 | 1.2 | 56 | 0.12 | 0.09 | 7400 | 0.2 | 21 | 120 | 165 | 33000 | 5000 | 39 | 24000 | 590 | 1.7 | 250 | 59 | | 1 | | 0.8 | 0.7 | 2 | 12 | 1200 | 0.09 | 0.031 | 140 | | 16 |
| 7914212.854 | 563309.016 | 491.231 | MR1-05-46 | 16470 | Baff2011 | 55.72 | 56.72 | Hanging Wall Schist | Volcanic Tuff | 0.1 | 0.02 | 1.3 | 48000 | 0.6 | 7.5 | 2.7 | 0.09 | 750 | 0.08 | 6.9 | 170 | 3.9 | 78000 | 3800 | 20 | 69000 | 1100 | 0.6 | 190 | 48 | 42 | 2.1 | | 0.8 | 0.7 | 2.1 | 9.4 | 350 | 0.1 | 3.4 | 1 | 6.4 | 46 |
| 7914805.377 | 563637.324 | 571.85 | MR1-08-156 | 16698 | Baff2011 | 23 | 23.95 | Hanging Wall Schist | Volcanic Tuff | 0.1 | 0.02 | 0.08 | 13000 | 0.5 | 6.1 | 0.05 | 0.09 | 43000 | 0.06 | 10 | 51 | 130 | 12000 | 2000 | 16 | 7600 | 600 | 2.7 | 1200 | 38 | 280 | 1.4 | | 0.8 | 0.7 | 0.5 | 27 | 1030 | 0.05 | 0.013 | 31 | 4.3 | 15 |
| 7914808.323 | 563631.006 | 563.542 | MR1-08-156 | 16700 | Baff2011 | 33.82 | 34.82 | Hanging Wall Schist | Volcanic Tuff | 0.1 | 0.02 | 0.07 | 16000 | 0.5 | 21 | 0.08 | 0.09 | 33000 | 0.16 | 13 | 68 | 42 | 23000 | 2500 | 24 | 12000 | 730 | 0.7 | 1000 | 35 | 280 | 6.5 | | 0.8 | 0.7 | 0.5 | 20 | 1070 | 0.03 | 0.024 | 57 | 4.5 | 45 |
| 7914810.885 | 563625.513 | 556.319 | MR1-08-156 | 16702 | Baff2011 | 43.25 | 44.25 | Hanging Wall Schist | Volcanic Tuff | 0.1 | 0.02 | 0.11 | 25000 | 0.5 | 45 | 0.07 | 0.09 | 27000 | 0.09 | 18 | 73 | 140 | 22000 | 4100 | 35 | 14000 | 770 | 0.5 | 390 | 47 | 330 | 0.84 | | 0.8 | 0.7 | 0.5 | 17 | 1640 | 0.06 | 0.019 | 71 | 3.7 | 40 |
| 7914813.19 | 563620.57 | 549.819 | MR1-08-156 | 16704 | Baff2011 | 51.73 | 52.74 | Hanging Wall Schist | Volcanic Tuff | 0.1 | 0.02 | 0.06 | 21000 | 0.5 | 64 | 0.08 | 0.09 | 25000 | 0.02 | 18 | 80 | 120 | 30000 | 3100 | 61 | 40000 | 1600 | 0.4 | 270 | 52 | 240 | 1.6 | | 0.8 | 0.7 | 0.5 | 17 | 870 | 0.03 | 0.014 | 78 | 6.5 | 17 |
| 7914815.036 | 563616.611 | 544.613 | MR1-08-156 | 16706 | Baff2011 | 58.53 | 59.53 | Hanging Wall Schist | Volcanic Tuff | 0.1 | 0.02 | 1.2 | 41000 | 0.5 | 240 | 0.17 | 0.09 | 1100 | 0.02 | 39 | 210 | 180 | 54000 | 25000 | 17 | 25000 | 420 | 1.2 | 520 | 120 | 370 | 1.2 | | 0.8 | 0.9 | 0.7 | 15 | 3000 | 0.22 | 0.011 | 170 | 1.4 | 17 |
| 7914816.895 | 563612.624 | 539.37 | MR1-08-156 | 16708 | Baff2011 | 65.37 | 66.38 | Hanging Wall Schist | Volcanic Tuff | 0.1 | 0.02 | 0.17 | 37000 | 0.5 | 140 | 0.17 | 0.09 | 790 | 0.03 | 35 | 370 | 140 | 54000 | 15000 | 17 | 24000 | 250 | 2.2 | 380 | 190 | 240 | 0.9 | | 0.8 | 0.7 | 0.5 | 6.4 | 1840 | 0.17 | 0.041 | 160 | 1.2 | 30 |
| 7914819.97 | 563606.029 | 530.698 | MR1-08-156 | 16710 | Baff2011 | 76.7 | 77.69 | Hanging Wall Schist | Volcanic Tuff | 0.1 | 0.02 | 0.01 | 51000 | 0.5 | 660 | 0.37 | 0.09 | 2200 | 0.03 | 47 | 260 | 93 | 68000 | 20000 | 70 | 31000 | 360 | 0.8 | 390 | 150 | 740 | 1.9 | | 0.8 | 1.1 | 0.6 | 14 | 1550 | 0.24 | 0.012 | 170 | 2.9 | 35 |
| 7914289.124 | 563150.669 | 589.004 | MR1-06-90 | 16718 | Baff2011 | 14.21 | 15.17 | Hanging Wall Schist | Volcanic Tuff | 0.1 | 0.02 | 0.03 | 50000 | 12 | 2.9 | 0.33 | 0.23 | 1500 | 0.02 | 30 | 630 | 14 | 95000 | 160 | 10 | 44000 | 220 | 1 | 90 | 320 | 630 | 3.3 | | 0.8 | 0.7 | 0.5 | 4.3 | 200 | 0.02 | 0.58 | 65 | 1.7 | 49 |
| 7914292.595 | 563143.225 | 587.556 | MR1-06-90 | 16720 | Baff2011 | 22.5 | 23.56 | Hanging Wall Schist | Volcanic Tuff | 0.1 | 0.02 | 0.05 | 37000 | 2.5 | 120 | 1.7 | 0.37 | 1200 | 0.06 | 13 | 150 | 27 | 61000 | 8600 | 15 | 27000 | 850 | 3.1 | 260 | 51 | 540 | 10 | | 0.8 | 0.7 | 0.7 | 5.3 | 1560 | 0.27 | 1.6 | 45 | 3.9 | 31 |
| 7914224.949 | 563113.466 | 559.336 | MR1-06-84 | 16746 | Baff2011 | 44 | 44.93 | Hanging Wall Schist | Volcanic Tuff | 0.1 | 0.02 | 0.06 | 40000 | 7.4 | 1.6 | 0.68 | 0.09 | 200 | 0.02 | 22 | 570 | 54 | 96000 | 110 | 20 | 43000 | 540 | 1.7 | 87 | 200 | 42 | 1.2 | | 0.8 | 0.7 | 0.5 | 1.1 | 190 | 0.02 | 0.89 | 36 | 2.7 | 25 |
| 7914891.943 | 563633.365 | 514.512 | MR1-08-150 | MRARD10 066 | AMEC_2010 | 95 | 96 | Hanging Wall Schist | Volcanic Tuff | 0.1 | | | 62000 | 0.5 | 4.1 | 0.78 | 0.09 | 3100 | 0.2 | 27 | 320 | 54 | 71000 | 450 | 15 | 52000 | 710 | 0.3 | 120 | 94 | | 2.7 | | 0.8 | 0.7 | 1.2 | 3.5 | 110 | 0.02 | 1.8 | 98 | | 53 |
| 7914886.496 | 563645.046 | 529.871 | MR1-08-150 | MRARD10 067 | AMEC_2010 | 75 | 75.9 | Hanging Wall Schist | Volcanic Tuff | 0.1 | | | 13000 | 59 | 2.8 | 0.48 | 0.49 | 3400 | 0.2 | 12 | 19 | 8.8 | 210000 | 410 | 6 | 24000 | 170 | 39 | 160 | 46 | | 3.3 | | 0.9 | 0.7 | 1.1 | 8.4 | 53 | 0.15 | 0.63 | 13 | | 12 |
| 7914885.152 | 563647.929 | 533.663 | MR1-08-147 | MRARD10 089 | AMEC_2010 | 70 | 71 | Hanging Wall Schist | Volcanic Tuff | 0.1 | | | 56000 | 0.5 | 73 | 1.1 | 0.09 | 7800 | 0.6 | 31 | 190 | 70 | 85000 | 8900 | 54 | 51000 | 800 | 0.6 | 420 | 110 | | 5.2 | | 0.8 | 0.7 | 0.5 | 7.2 | 1500 | 0.13 | 0.099 | 150 | | 88 |
| 7914808.644 | 563630.319 | 562.638 | MR1-08-153 | MRARD10 098 | AMEC_2010 | 35 | 36 | Hanging Wall Schist | Volcanic Tuff | 0.1 | | | 71000 | 0.5 | 3.7 | 1.8 | 0.09 | 4500 | 0.2 | 30 | 280 | 1.5 | 160000 | 270 | 67 | 54000 | 550 | 0.5 | 300 | 120 | | 2.6 | | 0.8 | 0.7 | 1.8 | 11 | 490 | 0.02 | 1.6 | 92 | | 58 |
| 7914810.083 | 563627.231 | 558.578 | MR1-08-156 | MRARD10 112 | AMEC_2010 | 40.3 | 41.3 | Hanging Wall Schist | Volcanic Tuff | 0.1 | | | 50000 | 0.6 | 0.64 | 0.57 | 0.57 | 5000 | 0.2 | 25 | 200 | 80 | 68000 | 65 | 5 | 49000 | 540 | 4.5 | 70 | 55 | | 2.5 | | 14 | 1.4 | 4.6 | 12 | 270 | 0.5 | 2.2 | 58 | | 44 |

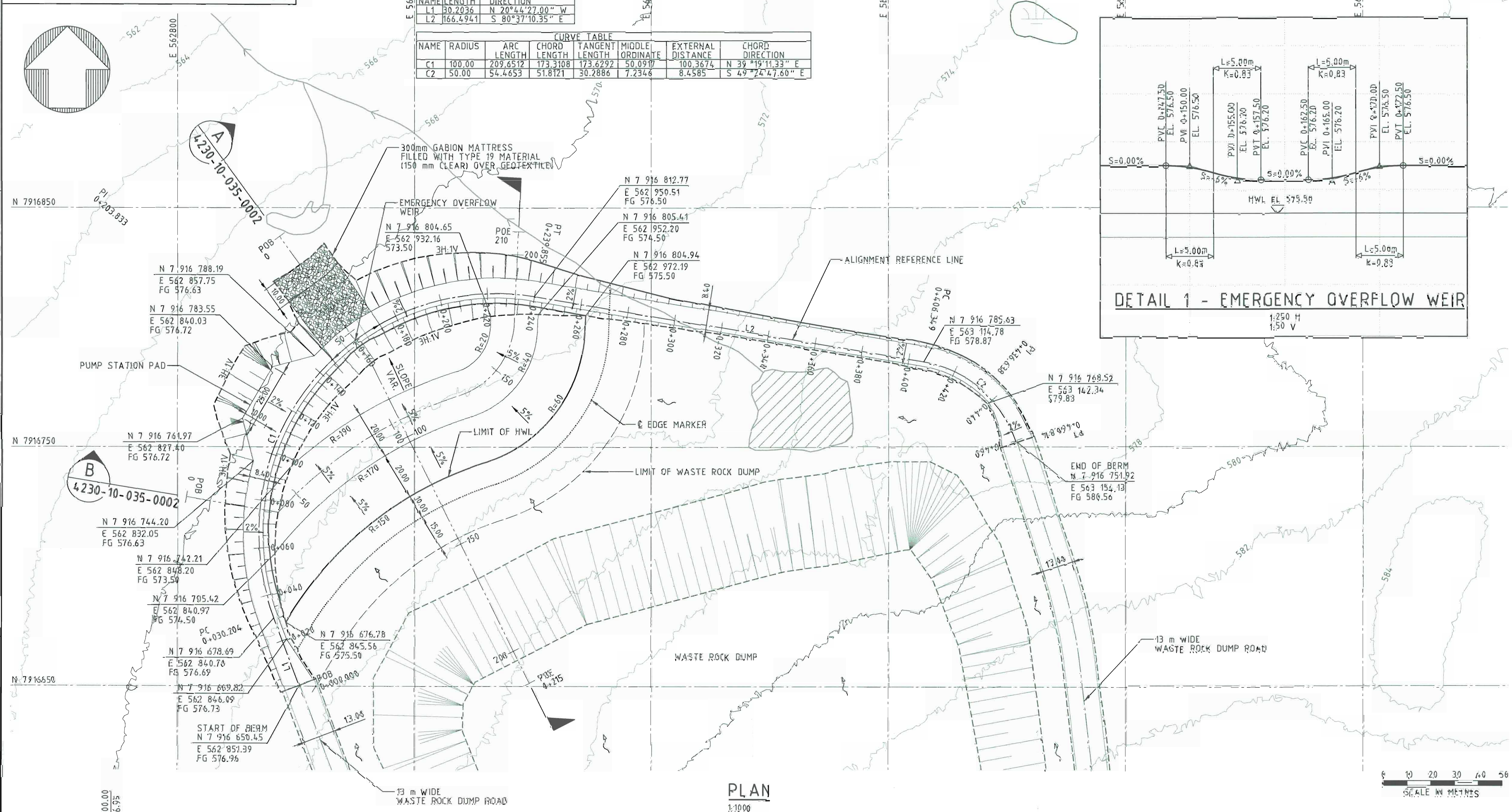
# Appendix B:
# Mine Site Waste Rock Sedimentation Pond Earthworks & Drainage Plan

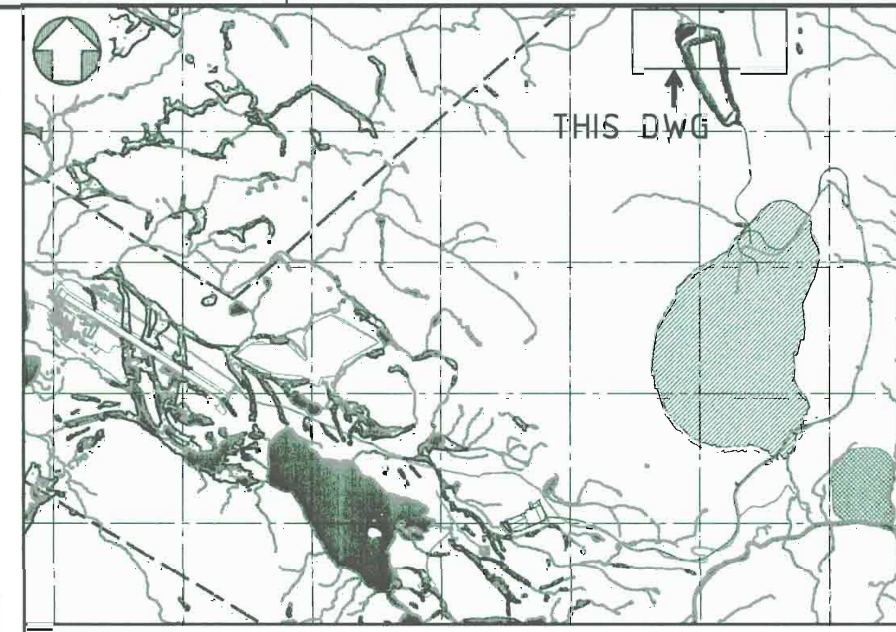
H349000-4230-10-035-0001

DWG. NO.

| LINE TABLE | | |
|---|---|---|
| NAME | LENGTH | DIRECTION |
| L1 | 30.2036 | N 20°44'27.00" W |
| L2 | 166.4941 | S 80°37'10.35" E |

| CURVE TABLE | | | | | | | |
|---|---|---|---|---|---|---|---|
| NAME | RADIUS | ARC LENGTH | CHORD LENGTH | TANGENT LENGTH | MIDDLE ORDINATE | EXTERNAL DISTANCE | CHORD DIRECTION |
| C1 | 100.00 | 209.6512 | 173.3108 | 173.6292 | 50.0917 | 100.3674 | N 39°19'11.33" E |
| C2 | 50.00 | 54.4653 | 51.8121 | 30.2886 | 7.2346 | 8.4585 | S 49°24'47.60" E |



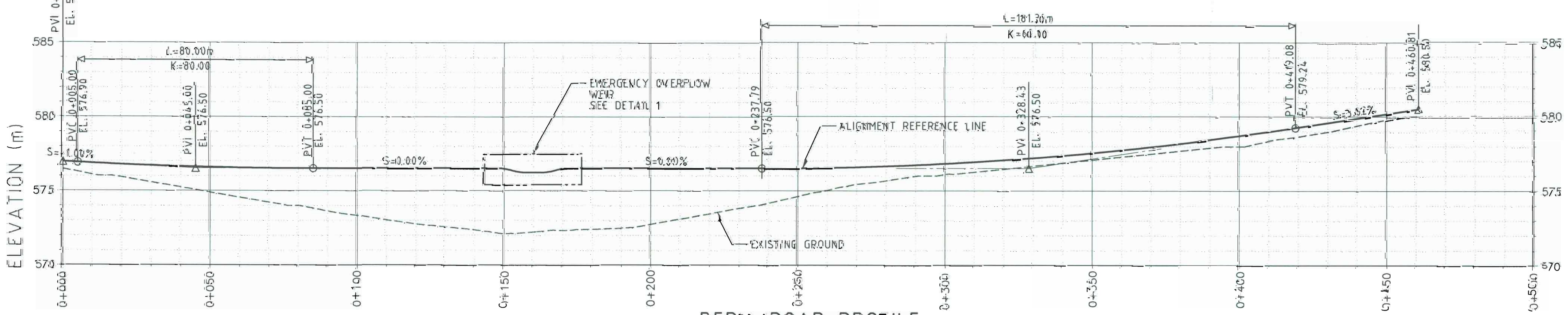

KEY PLAN

LEGEND:

| | |
|---|---|
| | EXISTING WATER BODY |
| | EXISTING DEPRESSION |
| 186.5 | EXISTING GROUND CONTOUR |
| | FILL SLOPE |
| | TOE OF SLOPE |
| % | GRADING SLOPE |
| | FLOW DIRECTION |
| | RIP RAP |
| | CROSS SECTION DISTANCE |
| PT | POINT OF TANGENT |
| PC | POINT OF CURVE |
| PI | POINT OF INTERSECTION |
| POB | POINT OF BEGINNING |
| POE | POINT OF END |
| PVC | POINT OF VERTICAL CURVE |
| PVI | POINT OF VERTICAL INTERSECTION |
| PVT | POINT OF VERTICAL TANGENT |
| K | RATE OF VERTICAL CURVATURE |
| HWL | HIGH WATER LEVEL |
| FB | FREEBOARD |

NOTES:

1. TOPOGRAPHY PROVIDED BY TERRAPOINT CANADA INC.
2. COORDINATE GRID IS SHOWN IN UTM (NAD83) ZONE 17 AND IS IN METRES.
3. CONTOUR INTERVAL IS 2.0 METRES.
4. ALL DIMENSIONS AND ELEVATIONS SHOWN ARE IN METRES UNLESS NOTED OTHERWISE.
5. EXISTING MARSH WITHIN THE EARTHWORKS LIMIT SHALL BE DEWATERED AND CLEANED FROM VEGETATION AND UNSUITABLE MATERIAL PRIOR TO BACKFILLING AND LINER INSTALLATION.
6. TO BE READ IN CONJUCTION WITH DOCUMENT No. H349000-4230-10-144-0001 "WASTE ROCK SEDIMENTATION POND BERM STAKEOUT REPORT".
7. EXISTING DEPRESSION TO BE DEWATERED AND BACKFILLED.




BERM/ROAD PROFILE

1:1000 H
1:200 V

FOR CONSTRUCTION

| | |
|---|---|
| H349000-4230-00-041-0001 | MINE SITE - SITE LAYOUT |
| DRAWING NO. | DRAWING TITLE |

REFERENCE DRAWINGS

PERMIT TO PRACTICE
HATCH LTD.
Signature
Date 30 Aug 13
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

REVISIONS

| NO. | DESCRIPTION | BY | CHK'D | APP'D | DATE |
|---|---|---|---|---|---|

REGISTERED PROFESSIONAL ENGINEER
M.M.S. HASSAN
LICENSEE
30 Aug 13
NT/NU

| REV. | ISSUE FOR | AUTH. | BY | DATE |
|---|---|---|---|---|
| 0 | CONSTRUCTION | SH | RM | 2013-08-30 |

ISSUE AUTHORIZATION

HATCH

| | |
|---|---|
| DESIGNED BY R. MANOOCHEHRI DATE 2013-08-26 | DRAWN BY R. MANOOCHEHRI DATE 2013-08-26 |
| CHECKED BY A. SAHELI DATE 2013-08-30 | DISCIP. ENGR. S. HASSAN DATE 2013-08-30 |
| PROJ. DES. COORD. T. THERTELL DATE 2013-08-30 | PROJ. ENGR. J. CLELAND DATE 2013-08-30 |
| PROJ. MGR. S. PERRY DATE 2013-08-30 | |

Baffinland

MARY RIVER PROJECT

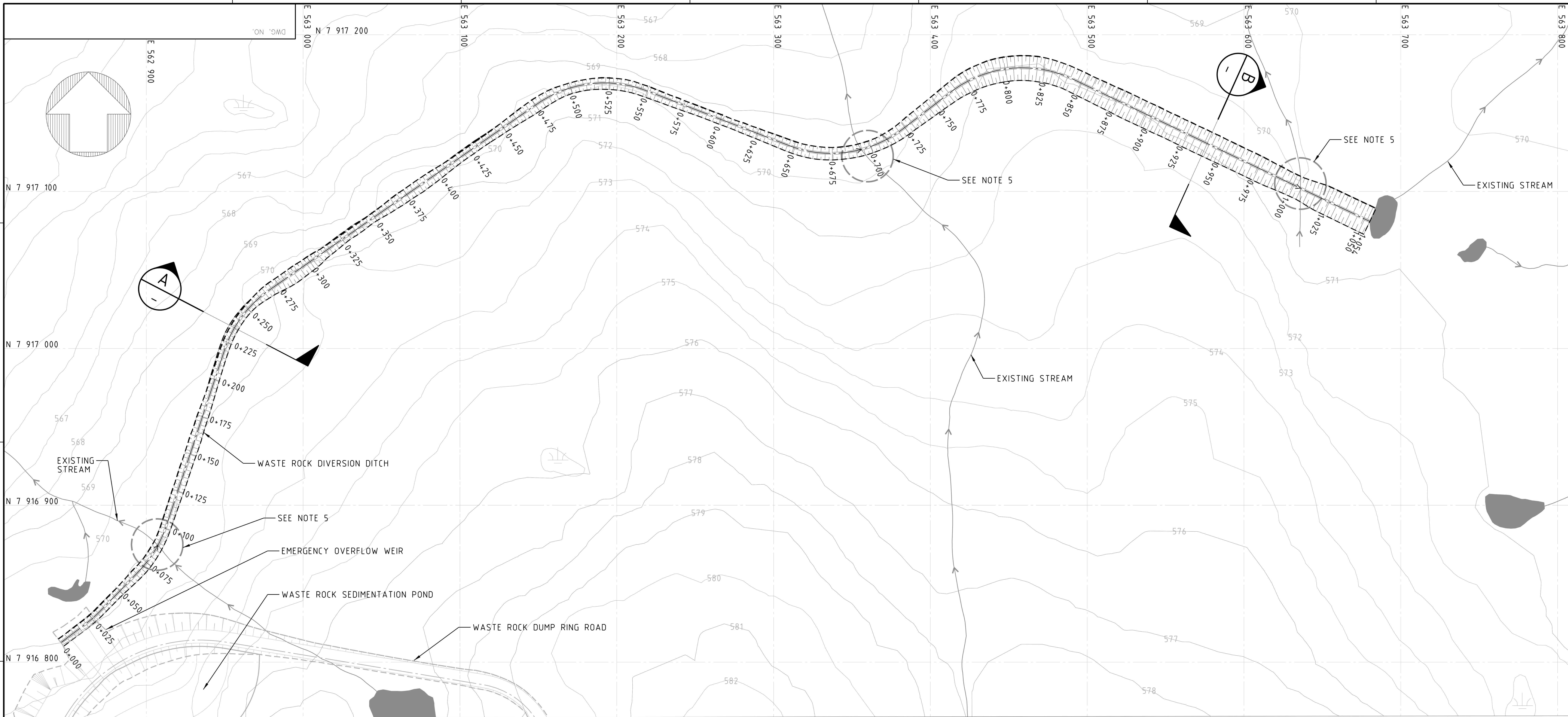
MINE SITE
WASTE ROCK SEDIMENTATION POND
EARTHWORKS & DRAINAGE - PLAN

| SCALE | DWG. NO. | REV. |
|---|---|---|
| 1:1000 OR AS NOTED | H349000-4230-10-035-0001 | 0 |

ORIGINAL SHEET SIZE: ISO A1 (841 x 594)

30/08/2013 5:42:00 PM
c:\prj\projectwise\mcdo64322\dms74793\H349000-4230-10-035-0001.dgn

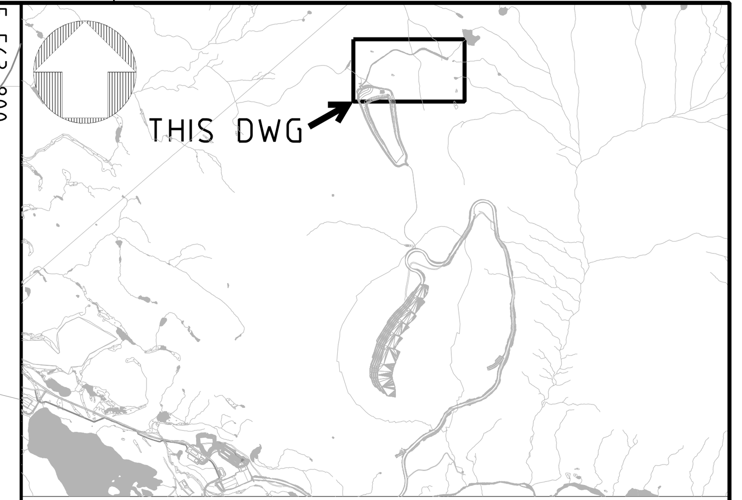
# Appendix C:
# Mine Site Waste Rock Drainage - Diversion Ditch Plan and Profile




## DIVERSION DITCH-PLAN

1:1500 H

0 15 30 45 60 75
SCALE IN METRES




KEY PLAN

LEGEND:

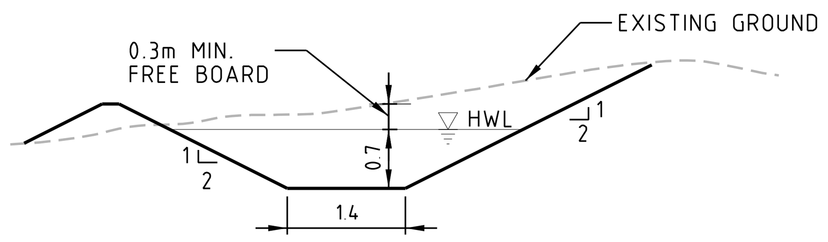
- CENTERLINE OF DITCH
- EXISTING WATER BODIES
- EXISTING GROUND CONTOURS
- EXISTING STREAM
- OVERLAND FLOW PATH
- FILL SLOPE
- CUT SLOPE

NOTES:

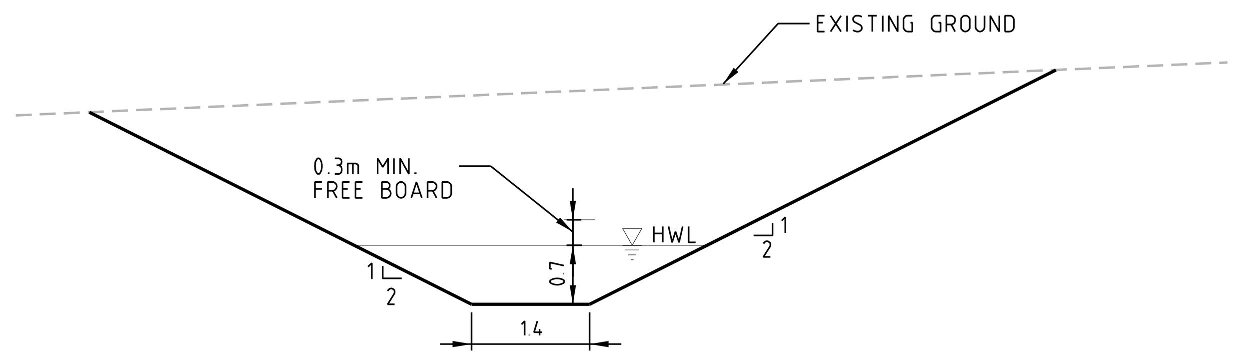
1. TOPOGRAPHY PROVIDED BY TERRAPOINT CANADA INC.
2. COORDINATE GRID IS SHOWN IN UTM (NAD83) ZONE 17 AND IS IN METRES.
3. CONTOURS ARE IN METRES. CONTOUR INTERVAL IS 1 METRE.
4. ALL DIMENSIONS AND ELEVATIONS ARE IN METRES UNLESS NOTED OTHERWISE.
5. THE DIVERSION DITCH HAS BEEN DESIGNED TO INTERCEPT AND CONVEY DISCHARGE FROM THE EXISTING STREAMS SOUTH OF THE DITCH.

NOT FOR CONSTRUCTION

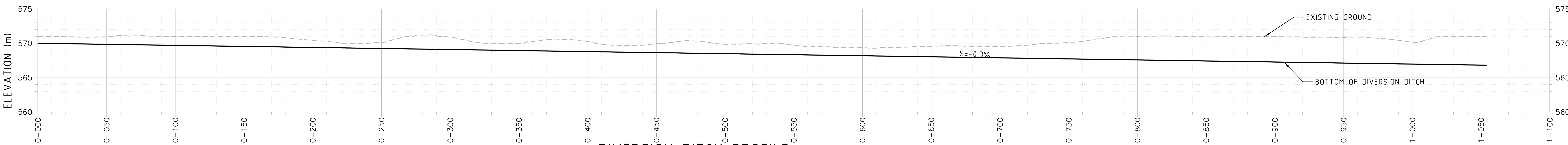
PRELIMINARY




TYPICAL DITCH CROSS-SECTION A




TYPICAL DITCH CROSS-SECTION B




## DIVERSION DITCH-PROFILE

1:1500 H
1:300 V

| DRAWING NO. | DRAWING TITLE |
|---|---|
| H349000-4230-10-035-0002 | WASTE ROCK SEDIMENTATION POND-EARTHWORKS & DRAINAGE PLAN |

REFERENCE DRAWINGS

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND IRON CORPORATION ("CLIENT") AND IS ISSUED PURSUANT TO THE AGREEMENT BETWEEN CLIENT AND HATCH LTD. ("HATCH"). UNLESS OTHERWISE AGREED IN WRITING WITH CLIENT OR SPECIFIED ON THIS DRAWING: (A) HATCH DOES NOT ACCEPT AND DISCLAIMS ANY AND ALL LIABILITY OR RESPONSIBILITY ARISING FROM ANY USE OF OR RELIANCE ON THIS DRAWING BY ANY THIRD PARTY OR ANY MODIFICATION OR MISUSE OF THIS DRAWING BY CLIENT, AND (B) THIS DRAWING IS CONFIDENTIAL AND ALL INTELLECTUAL PROPERTY RIGHTS EMBODIED OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.

| NO. | DESCRIPTION | BY | CHK'D | APP'D | DATE |
|---|---|---|---|---|---|

REVISIONS

| REV. | ISSUE FOR | AUTH. BY | DATE |
|---|---|---|---|
| A | INTERNAL/CLIENT REVIEW | SH | GJ | 2014-03-19 |

ISSUE AUTHORIZATION

HATCH

| | |
|---|---|
| DESIGNED BY G. JUBINVILLE DATE 2014-03-19 | DRAWN BY G. JUBINVILLE DATE 2014-03-19 |
| CHECKED BY A. MOHEBKHANI DATE 2014-03-19 | DISCIP. ENGR. S. HASSAN DATE 2014-03-19 |
| PROJ. DES. COORD. T. THERTELL DATE 2014-03-19 | PROJ. ENGR. J. CLELAND DATE 2014-03-19 |
| PROJ. MGR. S. PERRY DATE 2014-03-19 | |

Baffinland

MARY RIVER PROJECT

MINE SITE
WASTE ROCK DRAINAGE – DIVERSION DITCH
PLAN AND PROFILE

| SCALE | DWG. NO. | REV. |
|---|---|---|
| 1:1500 OR AS NOTED | H349000-4230-10-035-0003 | A |

ORIGINAL SHEET SIZE: ISO A1 (841 x 594)