Myra Falls Tailings Storage Facilities
2014-Q3 Dam Safety Inspection Report

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Campbell River, BC

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Executive Summary

This document provides a Dam Safety Inspection (DSI) report up to the third quarter of 2014 for the tailings disposal facilities (TDFs) at Nyrstar Myra Falls (NMF). The TDFs at NMF comprise the original or 'Old' TDF and the Lynx TDF. This report also summarizes the 2014 activities related to the mine site's surface water management system.

This report has been prepared by AMEC Environment & Infrastructure (AMEC) in accordance with the requirements of the British Columbia Ministry of Energy and Mines (MEM), including MEM's "Guidelines for Annual Dam Safety Inspection Reports", dated August 2013 (MEM 2013). The following is a summary of the key findings of this report for the TDFs at NMF with respect to the MEM requirements.

a) Classification of the dam in terms of consequence of failure (ref. Canadian Dam Association (CDA), 2007 Dam Safety Guidelines)

The Old TDF and the Lynx TDF are both classified as "high" hazard dams based on the definition provided in Table 2-1 of the 2007 CDA guidelines. The "high" hazard dam is associated with environmental incremental losses defined as "significant loss or deterioration of important fish habitat" associated with a massive release of tailings.

These classifications were both deemed reasonable and prudent by Robertson GeoConsultants (RGC) in the 2013 Dam Safety Reviews (DSRs) for the Old TDF and Lynx TDF. However, the classifications will be re-evaluated upon the completion of the dam breach analyses currently underway.

b) Significant changes in instrumentation and/or visual monitoring records

Piezometer readings for the Old TDF were similar to previous years with some piezometers exceeding the Level I and II thresholds in response to wetter climatic conditions in the fall and winter. The Level III thresholds were not exceeded during 2014. The piezometer thresholds remained unchanged from the previous year.

As part of the 2014 Lynx TDF foundation investigation, an additional 15 vibrating wire piezometers were installed in the foundation and embankment of the Lynx TDF. Monitoring of these piezometers began in August 2014.

The survey monuments on the Old TDF were not monitored in 2014 as most of them were destroyed by construction activities in previous years. At the time of writing, installation of new survey monuments for the purposes of deformation monitoring was underway on both the Old TDF and Lynx TDF.

Visual inspections of both TDFs were carried out weekly by NMF personnel and monthly by AMEC personnel. Visual monitoring indicates that the Lynx TDF continues to perform satisfactorily. Deficiencies have been noted in the water management, surface erosion, and seepage conditions at the Old TDF and upgrades are necessary to meet current standards.

c) Significant changes to dam stability and/or surface water control

The Old TDF Seismic Upgrade project was completed in 2013. The Old TDF now satisfies the design intent with respect to seismic slope stability based on a Maximum Design Earthquake with a peak ground acceleration (PGA) of 0.30 g. The Old TDF is considered to have a minimum calculated post-seismic global factor of safety of 1.1 and a post-seismic factor of safety of 1.25 for failures passing through the Outer Drain. Correlation of limit equilibrium stability modeling to dynamic finite element modeling predicts an associated toe displacement of the Seismic Upgrade Berm of 3 m or less.

Stability analyses undertaken by AMEC in 2011 (NMF 2012) indicated that the post-seismic slope stability of the Amalgamated Paste Area (APA) Paste Berm did not meet the required factor of safety as set out in the design criteria. Reshaping of the APA Paste Berm in order to improve the factor of safety to design levels is proposed as part of the facility closure plan, which is approved in principle pending final design and stability checks, which are ongoing.

Drilling was undertaken in 2014 to assess foundation conditions of the Lynx TDF. 12 close-ended Becker Penetration Tests (BPT) were carried out to assess liquefaction potential in the foundation, with open ended BPT drilled adjacent to assess stratigraphy. 15 vibrating wire piezometers were also installed. Analysis of results is ongoing.

The recent DSR of the Lynx TDF identified a lack of documentation or analysis regarding the stability of the upslope waste dumps as a potential dam safety concern. AMEC is working with NMF to prepare a plan to assess the stability of the dumps. NMF is also formulating plans to use the waste material in construction of the Old TDF Closure Cover or future Lynx TDF Dam raises, thus reducing the volume of waste stored on the hillside.

Previous analysis by AMEC indicated that the Lower Lynx Diversion Ditch is not capable of routing an Inflow Design Flood (IDF) of the magnitude recommended in Table 6-1 of the CDA Guidelines. Interim upgrades, as required by MEM, are underway to improve the Cascade Reach debris basin and the Diversion Ditch up to station 0+225 such that they will be able to route the IDF. Works between station 0+225 and the end of the ditch at Myra Creek are proposed for 2015.

d) For major tailings impoundments, as described in Part 10.5.2 of the Health, Safety and Reclamation Code for Mines in British Columbia (Ministry of Energy, Mines and Petroleum Resources 2008) all operating dams shall have a current Operation, Maintenance and Surveillance (OMS) Manual. The annual report shall indicate the latest revision date of the OMS Manual

The OMS Manual was updated in November 2014.

e) For tailings dams classified as 'high' or 'very high' consequence, an Emergency Preparedness Plan (EPP) is required. The annual report shall indicate the latest revision date of the EPP document

The current EPP document was updated in November 2014. The EPP can be found in Section 6 of the OMS Manual.

f) Schedule date for formal Dam Safety Review (ref. Canadian Dam Association, 2007 Dam Safety Guidelines)

NMF retained RGC to conduct a formal dam safety review of the Old TDF and the Lynx TDF in 2013. While Table 5-1 of the CDA Guidelines suggest a frequency of dam safety reviews for a high consequence dam of every 7 years, the identification of deficiencies in the DSRs makes in prudent to schedule the next DSR for 2015 following implementation of remedial measures.

g) Summary of Past Year's Construction

No significant construction activities were undertaken on the Old TDF in 2014, with the exception of interim remedial measures to address areas of seepage and minor piping erosion on the Paste Berm.

Construction with respect to the Lynx TDF in 2014 consisted of:

- a 5.5 m raise of the Lynx TDF dam from El. 3398.8 m to El. 3404.3 m, and;
- partial construction of the Lynx Springs Drain, a French drain to convey water from the Lynx bedrock springs to outside the impoundment (ongoing at the time of this report).

h) Tailings storage/freeboard

The Old TDF reached its design capacity in 2011. Freeboard in the APA and Strip areas is managed by way of decant structures. The APA also has an emergency overflow spillway. No changes have been made to these areas and they continue to operate within permitted levels.

The majority of the paste tailings deposited into the Lynx TDF have been deposited on the northeast side of the pit, near where the paste line road ends against a steep bedrock slope. NMF deposited cyclone underflow tailings at an alternate discharge location on the paste line road about 120 m east of the normal location during August to October 2014, as the steel paste line had to be removed to accommodate Springs Drain construction. At the time of writing, construction of the dam raise for 2014 to EL. 3404.3 m was still in progress within the footprint of the Springs Drain. However, as of October 8, 2014, surveys indicated that temporary construction measures maintained sufficient freeboard for flood storage as per the facility terms of reference.

i) Plans for 2014 and 2015

Analysis and design tasks for the remainder of 2014 and 2015 tentatively include the following Items. The scheduling of these items will require prioritization to suit construction schedules and mine plans:

- General Engineering:
    - Porting the current piezometer database to an updated instrument data management software platform, restoring radio communications with all instrument huts, and feasibility review of establishing real-time remote access to the system.
- Hydrology/Water Management:
    - Review of the IDF hydrograph for various catchments above the tailings facilities, to bring the facilities in line with the 2007 CDA requirements.

- Detailed design and continued construction of the Lower Lynx Diversion Ditch system based on updated hydrology, as per the request by MEM.
- Completion of the Cascade Reach debris flow assessment
- Conceptual design of the closure debris flow stilling basin at the foot of Cascade Reach.

- Old TDF:
  - Assessment and design of remedial options to address periodic seepage at the Paste Berm East Abutment during periods of high groundwater levels.
  - Assessment and design of remedial options to address periodic seepage and rare instances of seepage erosion at the toe of the Paste Berm at the southeast corner of the APA.
  - Installation of new surface deformation monuments on the Paste Berm, Outer Embankment Berm, and crest of the Old TDF Seismic Upgrade Berm.
  - Evaluation of the need to replace vibrating wire instruments which ceased to function in previous years in the Old TDF. In the case that significant data gaps are identified, new instruments may be recommended.
  - Review of Paste Berm stability and recommendations for interim stabilization.
- Lynx TDF:
  - Installation of automating logging equipment for vibrating wire piezometers on the Lynx TDF.
  - Completion of Lynx bedrock springs drain to Stn 0+200 by the end of 2014, with the remaining portion to be completed in mid-2015.
  - Preliminary raise forecasting for Lynx TDF through to the ultimate dam crest height of El. 3430 m.
  - Installation of surface deformation survey monuments on the upstream and downstream crests of Lynx TDF.
  - Completion of a geotechnical data report on foundation conditions beneath the Lynx TDF using data from the 2014 drill program.
  - Update of the design of Lynx TDF to incorporate optimizations of the location of the east abutment and geometry of the east arm of the dam, the inclusion of the Springs Drain, and the expanded knowledge of foundation conditions in the ultimate dam footprint.
  - Analyses to confirm the stability of the waste rock dumps above the Lynx TDF.

j) Ongoing risk mitigation

NMF implements risk mitigation measures on a continuing basis, such as regular inspections as outlined in the OMS Manual.

A borehole investigation program was carried out in July and August 2014 to assess foundation conditions in the ultimate footprint of the Lynx TDF Dam. This consisted of closed Becker penetration testing (BPT), as well as open Becker hammer drilling for soil and water sampling, and installation of vibrating wire piezometers. Data from this investigation will guide the design of future dam raises, and be used in modeling both static and seismic stability of the facility.

On August 14, 2014 MEM requested that NMF provide a design for the upgrade of the Old TDF water management facilities to handle the IDF. The design was due by August 31, 2014, and

upgrades were to be implemented no later than December 31, 2014. Following discussions with MEM, it was agreed that an interim upgrade of the first 225 m of the diversion in 2014 was appropriate in light of the remaining weather window for construction and the time required to complete the hydraulic analysis and geotechnical engineering. Further upgrades to the remainder of the diversion ditch would then be made in 2015. .

AMEC is working with NMF to prepare a plan to assess the stability of the waste dumps above Lynx TDF. NMF is also formulating plans to use the waste material in construction of the Old TDF Closure Cover or future Lynx TDF Dam raises, thus reducing the volume of waste stored on the hillside.

TABLE OF CONTENTS

1.0 INTRODUCTION 1
1.1 Scope of Report 1
2.0 BACKGROUND AND FACILITY DESIGN 1
2.1 Site Coordinate System 1
2.2 Historical Development 2
2.3 Old TDF Design 2
2.4 Lynx TDF Design 5
3.0 CLIMATIC REVIEW 10
4.0 TAILINGS MANAGEMENT 13
4.1 General 13
4.2 2014 Tailings Production 14
4.3 Tailings Production Projected For 2015 14
4.4 Old TDF Tailings Management 15
4.5 Lynx Tailings Management 15
5.0 WATER MANAGEMENT 17
5.1 Non-Contact Water 18
5.2 Old TDF Contact Water 20
5.3 Lynx TDF Contact Water 23
5.4 Other Contact Water Management 26
5.5 Improvements to Water Management 26
5.6 Water Treatment 26
6.0 DAM INSPECTIONS 27
6.1 Inspections by AMEC 27
6.2 Inspections by NMF 28
7.0 INSTRUMENTATION MONITORING RESULTS 29
7.1 Lynx TDF Piezometers 30
7.2 Old TDF Piezometers 30
7.3 Surface Monuments 32
8.0 2014 CONSTRUCTION 32
8.1 Lynx TDF 33
9.0 STATUS OF MINISTRY ORDERS 33
10.0 SUMMARY OF RECOMMENDATIONS 38
10.1 Previous Recommendations 38
10.2 New Recommendations from 2014 41
11.0 REPORT CLOSURE 43
REFERENCES 44

LIST OF TABLES

Table 1 – Old TDF Design Criteria 4
Table 2 – Lynx TDF Dam Raise Summary 5
Table 3 – Lynx TDF Design Criteria 9
Table 4 – 2014 Monthly Precipitation 11
Table 5 – 2014 Monthly Temperatures 13
Table 6 – Lynx Overall Storage Dry Density Estimate 16
Table 7 – 2012 Updated Precipitation Intensity-Return Period Relationships 18
Table 8 – Ground Water Discharge Events at the Paste Berm East Abutment 22
Table 9 – Summary of Anomalous AMEC Dam Inspection Observations 27
Table 10 – Summary of Anomalous NMF Inspection Observations 28
Table 11 – Summary of Previous Recommendations 38
Table 12 – Summary of 2014 DSI Recommendations 41

LIST OF FIGURES

Figure 1 – Monthly Powerhouse Weather Station Data 11
Figure 2 – Annual Total Precipitation 1979-2014 12

LIST OF DRAWINGS

Drawing 010301	Site Location Plan
Drawing 010302	General Mine Arrangement
Drawing 010303	Old TDF Plan Overview
Drawing 010304	Old TDF Instrument Planes A & C Plan View Details 1 & 2
Drawing 010305	Old TDF Instrumentation Planes Sections A & C
Drawing 010306	Old TDF Instrumentation Proposed Surface Movement Monuments
Drawing 010307	Lynx TDF Instrumentation
Drawing 010308	Lynx TDF Instrumentation Proposed Surface Movement Monuments
Drawing 010309	Lynx TDF Plane E (0+350 m)
Drawing 010310	Drainage Area Map

GLOSSARY

Glossary of commonly used terms and abbreviations follows drawings

LIST OF APPENDICES

Appendix A	Selected 2013 Photographs	
Appendix B	AMEC Design Drawings	
Appendix C	Klohn Crippen Drawings	
Appendix D	2013 Instrumentation Summary	
Appendix E	2013 NMF Inspection Reports	(Included on CD)
Appendix F	Key Correspondence	(Included on CD)
Appendix G	AMEC Dam Inspections	(Included on CD)

1.0 INTRODUCTION

This document provides the 2014 Dam Safety Inspection (DSI) Report, which presents a summary of the operation, maintenance, and surveillance of the Tailings Disposal Facilities (TDFs) for Nyrstar Myra Falls (NMF). These facilities comprise the original or 'Old' TDF and the Lynx TDF. For details regarding the construction on the TDFs, refer to the 2013 Construction Report (AMEC 2014a). The location of NMF is shown on Drawing 010301.

AMEC was retained by NMF and its predecessors to provide tailings engineering services as of August 1, 2006. Klohn Crippen Berger (Klohn) had been retained to provide engineering and construction monitoring services between 1997 and 2006. Knight Piésold Ltd. provided tailings engineering prior to Klohn's involvement.

This report has been prepared in accordance with the requirements of the British Columbia Ministry of Energy and Mines (MEM), including MEM's "Guidelines for Annual Dam Safety Inspection Reports", dated August 2013 (MEM, 2013).

1.1 Scope of Report

This report has been prepared in accordance with the August 2014 MEM Chief Inspector's order that all permitted tailings facilities undergo a DSI and the DSI be reviewed by a third-party by December 1, 2014. In previous years, the scope of the NMF DSI report (previously referred to as the "Dam Status Report", or simply "Annual Report") was the calendar year. However, due to the timing requirements of the DSI, this report is based on instrumentation and climate data up to September 31, 2014. Commentaries on ongoing construction and occurrences from October 2014 are also included in this report.

Construction activities undertaken in 2014 for both the Old TDF and Lynx TDF will be documented under separate cover as an as-built report, as in previous years. This report is scheduled for issue by March 31, 2015.

2.0 BACKGROUND AND FACILITY DESIGN

2.1 Site Coordinate System

The mine maintains a local grid coordinate system. The grid is translated and rotated relative to UTM Zone 10, and elevations are adjusted so that all values remain positive. The origin of the mine coordinate system is at UTM 10 5494371.316N 308000.103E, -3047.170 elevation, and the coordinate grid is rotated 50.12° relative to the UTM grid (48° relative to true north). As an example, the 2014 Lynx TDF raise elevation reported as 3404.3 m in local coordinates would be equivalent to an elevation of 352.1 m geodetic. Recent survey work at the site by McElhanney Consulting Services Ltd. (McElhanney) has indicated that this coordinate transformation as given is sufficiently accurate for correlation between mine grid and a handheld GPS in central parts of the site; however, it is not sufficiently accurate for surveying tasks, and is highly inaccurate in more remote areas of the site.

All references to northing, easting, and elevation in this report are referenced to the local mine system, unless otherwise noted. Azimuth directions given in descriptions in the text are

generally with respect to true north, that is, with Myra Creek running roughly west to east, whereas it runs diagonally across the mine grid.

2.2 Historical Development

Prospecting began in the early 1900s, with the first industrial mine production in the 1960s with the development of the Lynx Open Pit. Most surface mining operations concluded around 1975, after which the underground development of the Lynx and H-W ore bodies commenced. During this period, the cyclone segregated sand fraction of the tailings was used as backfill in decommissioned underground workings, and the fine fraction of the tailings was deposited directly in the south end of Buttle Lake.

Due to concerns over water quality in Buttle Lake, the provincial government required the design and construction of the Old TDF and prohibited further tailings deposition to the lake.

The Lynx TDF was designed in the old Lynx Open Pit area as the Old TDF neared its ultimate design life. The Lynx TDF is currently the active tailings disposal facility on site.

2.3 Old TDF Design

2.3.1 Summary

The Old TDF was designed by Knight Piésold Ltd. as a modified-centerline (upstream) constructed tailings retention facility in the early 1980s. Conventional cyclone overflow tailings in the Old TDF were hydraulically placed from the till and waste rock outer embankment berm (OEB). The Old TDF included two primary deposition cells: Area I and Area II.

Further investigations and stability analysis in the mid 1990s by Knight Piésold Ltd. and Klohn determined that the tailings had a high susceptibility to liquefaction, and therefore the Old TDF had a high probability of failure during strong seismic ground motion. Klohn was retained to design a seismic upgrade of the Old TDF, which consisted of the following:

- Realignment and armouring of Myra Creek to increase the space available at the toe of the original OEB;
- Densification of foundation soils at the toe of the OEB to reduce the risk of liquefaction of the embankment foundation;
- Replacement of the old Outer Drain from Station 0+400 m to Pumphouse No. 4 by adding a new outer drain system;
- Construction of a stabilizing seismic toe berm to buttress the original embankment; and,
- Construction of two emergency overflow spillways. It should be noted that while the original design called for two spillways, the design was later revised to include only one spillway.

In the early 2000s it was determined that the Old TDF had reached its practical elevation limit with respect to overall post-seismic slope stability. Klohn designed a new berm constructed on the tailings surface at a setback from the OEB, and created two new cells for tailings deposition. The mine constructed a Paste Plant to produce thickened paste soon after the construction of the new cells. A berm raise, known as the Paste Berm, was constructed around the new cells combined paste area became known as the Amalgamated Paste Area (APA).

The Paste Berm was also designed by Klohn and is constructed primarily of well-graded waste rock, with some coarse tailings sand inclusion near the toe on the upstream side. The Paste Berm design criteria allowed for large post-seismic deformations, provided any mobile material was retained within the OEB (Klohn, 2001a).

A conceptual design upgrade of the Paste Berm to withstand the design seismic ground motions was prepared in 2011. It has been demonstrated conceptually that slight differential landforming around the Paste Berm will increase its factor of safety to achieve design requirements. In general, the landforming would consist of buttressing the downstream side to between 6H:1V and 8H:1V

Recent Ministry Orders with respect to the Old TDF include completion of an updated formal Dam Breach Inundation study, which is underway at the time of writing. The previous study was completed in 2003, prior to the APA paste tailings stack reaching its ultimate height, and prior to the completion of the seismic upgrade project.

The Old TDF underwent a formal DSR in 2013 by Robertson GeoConsultants Inc. (RGC). RGC concluded the following:

> *"We do not believe, however, that is [sic] would be correct to say that the Old TDF is "reasonably safe" or that it conforms to established dam safety management practices. As noted in this report, we believe that the closure works are needed to bring the Old TDF into a condition where it may be considered to be reasonably safe. Pending completion of closure works, there are risks that we do not consider it reasonable to tolerate."*

The primary rationale for this conclusion stems from the difference between the magnitude of the IDF used in the original design of the diversion ditch (1 in 200 year return period event) and spillway structure (1 in 1000 year return period event) and the magnitude of IDF recommended in Table 6-1 of the CDA Guidelines for a dam with a "HIGH" consequence of failure[1]. In the case of the hydrology at site, the recommended IDF is roughly about 1.6 times the 1 in 1000 year return period flood event. It should be noted that the diversion ditch and spillway designs predate the current CDA guidelines. For a full discussion of the rationale behind this conclusion, the reader is referred to the Old TDF Dam Safety Review report (RGC, 2014a).

In response to the findings of the DSR, MEM issued an order in August 2014 for upgrades to the diversion system be designed and carried out by December 31, 2014. As of writing, these upgrades are currently in progress, as detailed further in Section 5.5.

[1] Table 6-1 of the CDA Guidelines states that for a HIGH consequence dam the IDF should be taken as "1/3 between the 1/1000 and Probable Maximum Flood (PMF). The PMF is normally evaluated by deterministic methods and is defined as the most severe flood that may reasonably be expected to occur at a particular location. The PMF is generated by the Probable Maximum Precipitation which is assessed to be 635 mm of precipitation in 24 hours at NMF.

2.3.2 Key Design Criteria

Key design criteria for the Old TDF are summarized in Table 1 below:

Table 1 – Old TDF Design Criteria

Aspect	Criteria
Inflow Design Flood	At the time of spillway design, the IDF was taken to be a 1 in 1,000 year return period, 24-hour storm event, under the assumption that upslope diversions fail at the onset of such an event.
Flood storage and freeboard (during operations)	Sufficient storage capacity within the APA to store the 200-year return period, 24-hour duration storm inflow event, assuming the Lynx Diversion Ditch is not breached. If water levels exceed the design storage capacity, overflow is handled by a spillway near the centre of the tailings dam.
Flood storage and freeboard (closure)	Various closure scenarios have been examined. Currently favoured options eliminate the ponding or storage of water on the Old TDF surface. Under these scenarios, there is no flood storage or freeboard within the facility and the IDF is handled by diverting surface flow around the facility.
Dam stability (static loading conditions)	Defined as factor of safety (FoS) derived from 2-dimensional limit equilibrium stability analysis. Governing criteria are as follows: • Short term or temporary conditions: FoS ≥ 1.3 • Long term, steady state (closure) conditions: FoS ≥ 1.5
Dam stability (design earthquake loading conditions)	Design earthquake for both operations and closure phases is the Maximum Design Earthquake (MDE), which is equal to 50% the Maximum Credible Earthquake (MCE) peak horizontal ground acceleration (PGA) and the full moment magnitude. The MCE is estimated to have a Moment Magnitude of M 7.5 and a PGA of 0.60 g. The MDE therefore has a Moment Magnitude of M 7.5 and a PGA of 0.30 g. These parameters were derived during detailed seismic analyses completed for the 1999 Old TDF Seismic Upgrade Project report (Klohn, 1999). Design for post-seismic conditions incorporates liquefied shear strength for the portion of the tailings deemed liquefiable. The factor of safety thresholds were chosen based on the results of 2-dimensional deformation analysis. Post-seismic limit equilibrium factors of safety are as follows: • Slip surfaces affecting the toe drain: FoS ≥ 1.25 • Slip surfaces not affecting the toe drain: FoS ≥ 1.1

As noted above, the recommended IDF for the facility is larger than what the flood management structures are currently capable of conveying. Ongoing engineering tasks include detailed assessment of IDF routing and their implications to design, with appropriate measures to be added to the proposed facility closure plan.

Current engineering and construction work includes upgrade of the Lower Lynx Diversion Ditch to accommodate the IDF and route floodwaters away from the facility.

2.3.3 Instrumentation

Since the original construction in 1982, an array of instrumentation has been installed within and below the Old TDF to monitor the operational performance. These include:

- Various vibrating wire and pneumatic piezometers in the Old TDF, in the tailings, retaining embankment, and foundation soils. The piezometers are clustered in three

instrument planes. Plane A and C are situated at Stations 0+350 and 1+200 m of the Old TDF Seismic upgrade, respectively, and Plane B is located along the profile of the Paste Berm;
- Standpipes on either side of the outer drain to monitor seepage gradients into the drain from Myra Creek;
- Surface deformation monuments on the exterior embankment slope and the APA Paste Berm.

The locations of all operational monitoring instruments are shown on Drawings 010303 and 010304. The instrumentation data for 2014 are discussed in Section 7.0. Plans for late 2014 and 2015 include the installation of new surface deformation monuments on the exterior embankments of the Seismic Berm, Paste Berm, and APA. For a full discussion of Old TDF instrumentation, see Section 7.0.

2.3.4 Dam Classification

The Old TDF is classified as having a “HIGH” consequence rating relative to criteria outlined in the CDA Guidelines, based primarily on the significant environmental impacts that would result from a theoretical failure of the facility. During the 2013 DSR, RGC concluded that it was reasonable and prudent to maintain the “HIGH” hazard classification for the Old TDF (RGC 2014a). The consequence rating will be reassessed upon the completion of the dam breach inundation study, currently underway.

2.4 Lynx TDF Design

2.4.1 Summary

The Lynx TDF is retained by the Lynx TDF. The dam is designed as a centerline constructed rock fill tailings dam across the low side of the Lynx Open Pit. Construction of the tailings dam started in 2006. Table 2.2 outlines the construction history of the Lynx TDF dam.

Table 2 – Lynx TDF Dam Raise Summary

Year Completed	Dam Raise Event	Minimum Elevation (m)
2005	Lynx Open Pit Rim Prior to Dam Construction	~3373
2006	Starter Berm – Initial Construction	~3385
2011	Starter Berm – Completion	~3389
2011	Lynx TDF Dam – Raise 1	~3392
2012	Lynx TDF Dam – Raise 2	3396.1
2013	Lynx TDF Dam – Raise 3	3398.8
2014	Lynx TDF Dam – Raise 4	3404.3

Details of the Lynx TDF design can be found in the following documents:

- Lynx TDF design report (Klohn 2001b);
- Lynx TDF design report (AMEC 2008c);
- Revised Lynx TDF Under-Drain Design (AMEC 2010b);
- Lynx TDF French Drain Construction (AMEC 2010c);
- Groundwater Interception in Lynx TDF (AMEC 2010d);
- Lynx TDF - Foundation Drain Extension (AMEC 2011a) and;
- Lynx TDF Conceptual Design for Seepage Interceptor Drain (AMEC 2013d).

- Myra Falls Tailings Storage Facilities 2014 Lynx Springs Drain Design (AMEC 2014a)
- Myra Falls Tailings Storage Facilities 2014 Lynx TDF Dam Raise Design (AMEC 2014b)

Creation of the tailings facility in the old open pit introduced the potential that liquefied tailings could flow into the underlying mine workings through piping erosion or following a seismic event. The base of the pit intersects sand-filled stopes, and various man-ways, ore passes, and exposed adits. The primary concern is that a sudden flow of tailings into the mine flooded workings could displace water into active areas of the mine.

To mitigate this hazard, a cemented paste plug was placed on the pit bottom prior to commencement of paste deposition. As a further measure, cement was added to the paste from commissioning of the facility in February 2008 until October 2009 in order to improve the resistance of the tailings to liquefaction. In October 2009, a hydraulic bulkhead was installed at the Level 15 connection to the active mine to control the flow of water between Lynx mine and the active portions of the mine, and cement addition to the paste was ceased.

The drainage design of the Lynx TDF has evolved as the facility has been constructed. The original Klohn design for the facility included:

- A high-capacity rock drain through the base of the Lynx TDF. The drain included a water trap (a depression that remains saturated) intended to prevent the flow of air though the drain;
- A rock drain across the upstream toe of the dam, connected to the drainage system;
- A geosynthetic liner at the elevation of the base of the starter berm to prevent bleed water and infiltrated surface water from flowing down into the mine;
- A system of rock underdrains above the liner connected to the rock drain below the dam; and,
- A blanket drain across the north side of Lynx Pit connected to the rock drains.

Of these original features, only the high-capacity rock drain below the Lynx TDF was constructed. The rock drain across the upstream face and the blanket drain across the back of the pit were eliminated from the design around 2008. The geosynthetic liner was replaced with a layer of Zone J fill, which is thought to be at least one order of magnitude more permeable than paste, and filter compatible. The fill layer was connected to the rock drain by a filter sequence. The primary reason for elimination of the geosynthetic liner and rock drains was cost of construction in light of observation that the majority of surface water in the facility readily drained into the walls of the open pit, meaning that a liner would have little influence on the overall water balance or groundwater flow patterns.

In June 2010 it was noted that there was a significant system of distributed groundwater discharges on the northeast pit wall. The drain design was modified again to include a blanket drain over the groundwater discharge area and a rock drain to convey water into the drain below the starter berm. NMF elected to remove soil overburden from the area of the seeps in an attempt to intercept the groundwater above the elevation of the Lynx TDF. Ultimately a bedrock source was encountered above the starter berm elevation, but below the final elevation of the Lynx TDF. The groundwater was collected and channelled to the water treatment system in a surface ditch that passed above the east abutment of the dam. The design was subsequently altered once more to eliminate the rock drains and drainage blanket.

In 2013 AMEC provided recommendations and preliminary design for an encapsulated drain to capture bedrock seepage and convey it along the existing ditch alignment to the treatment system. Construction of this drain, known as the Lynx Springs Drain, is underway at the time of writing. The drain design consists of coarse drain rock surrounded by filter zones. Downstream of the Lynx TDF Dam core zone, the filter sequence is also includes an HDPE geomembrane liner to limit loss of water into the downstream shell and foundation of the dam.

The alignment and tie-in of the east abutment was reviewed in 2013. The original proposed design centreline for the dam extended east from the constructed portion of the south arm, before turning northeast into Waste Dump #1. Up to 2013, the east side of the facility was retained by a “temporary east-arm”, that was constructed following the same generally cross section and foundation requirements as the original design intent, but on an alignment that was shifted approximately 80 m west of the design alignment. The temporary east arm tied into undisturbed foundation materials below about elevation 3396 m in the Lower East Borrow Area.

During discussions with NMF it was concluded that future excavation to undisturbed material below Waste Dump #1 in order to establish the dam core along the original design alignment was not feasible. As an alternative, it was proposed that the dam continue to be raised on the alignment of the temporary east arm with the following constraints:

- The Zone J core and adjacent 10 m horizontal width of Zone A fill would be founded on natural ground and constructed as per the dam construction specifications up to the elevation of the springs drain.
- Above the springs drain, the Zone J core and adjacent 10 m horizontal width of Zone A fill would be extended to abut the waste dump, but placed and compacted in accordance with the dam construction specifications.
- To accommodate filling of tailings against the waste dump, the Zone J core will be extended along the top of the Springs Drain, to the northwest along the paste line access road alignment until it overlaps with undisturbed natural ground (the natural ground contact rises to the northwest through the LEB and along the pit wall). The width of Zone J will be a minimum 6 m horizontal, and it will be placed and compacted as per the dam construction specifications.
- The waste dump surface would be prepared in advance of placement of dam materials by trimming to a smooth slope. Where seepage is encountered at the toe of the dump, a thin, filter compatible drainage layer will be placed. Such drainage layers will daylight at the abutment. Any resulting runoff would be collected in a surface ditch (very little is anticipated: it will likely re-infiltrate into the dump as intercepted water flows to the southeast).
- Surface water flowing off the pit wall and waste dumps will be collected and either conveyed across the Zone J area and into the tailings pond or collected for conveyance to the water treatment plant. Measures will be field fit as required to protect the Zone J area from surface erosion.
- The area between the 10 m horizontal area of Zone A along the crest of the east arm and Waste Dump #1 will be filled with mine waste. The waste will be sloped towards Waste Dump #1 at no steeper than 4H:1V. The height of waste will not exceed the raise crest in elevation. Conceptually the waste will be spread in horizontal lifts and track packed. Excavation to undisturbed foundation materials is not required for stability as the area is buttressed by Waste Dump #1 and the overall slope gradient at 4H:1V is robust.

- The 4H:1V sloped area would extend beyond the envelope of the south arm. To accommodate this, the south-facing slope will be constructed by extending the south arm slope to the east, at 2H:1V. The 2H:1V portion will be founded on undisturbed foundation materials and compacted as per the dam construction specifications.

These changes were incorporated into the 2014 dam raise design and implemented during 2014 construction. One of the current Ministry Orders with respect to the facility is to formalize these dam design revisions and submit them in support of a permit amendment. This work is ongoing, with anticipated completion prior to the 2015 construction season.

The Lynx TDF was subject to a formal Dam Safety Review by RGC in 2013. RGC concluded (RGC, 2014b):

> *"Recent drilling and sampling near the Lynx TDF indicate that foundation conditions may vary from those assumed in the design. It is recommended that the new information be considered and embankment stability analyses updated. Pending confirmation of the fact that the embankment is stable for the recently characterized foundation conditions, it is not possible to make a conclusion as to whether or not the Lynx TDF is "reasonably safe," and conforms to established dam safety management practices."*

For a full discussion of the rationale behind this conclusion, the reader is referred to the Lynx TDF Dam Safety Review report (RGC, 2014b).

Investigation of the dam foundation is complete at the time of writing. Preliminary review of the results of the assessment indicated the materials in the current and future dam foundation areas are unlikely to be potentially liquefiable. Interpretation of results to date does not suggest there should be cause for concern with respect to the stability of the dam in its as-built condition. The investigation work did, however, indicate that some of the future foundation areas are underlain by potentially problematic depths of existing mine waste that is in a loose state and/or contains significant inclusions of wood debris. Upcoming work with respect to design amendment will include an assessment of these areas of deep mine waste and determine the most practical method of mitigating these areas.

Recent Ministry Orders with respect to the Lynx TDF include completion of a formal Dam Breach Inundation study, which is underway at the time of writing. The study is then to be used to assess the consequences of failure to a higher level of detail and confirm the dam classification. This is to be done for both the current and ultimate configurations of the dam.

2.4.2 Key Design Criteria

Key design criteria for the Lynx TDF are summarized in Table 3 below:

Table 3 – Lynx TDF Design Criteria

Aspect	Criteria
Inflow Design Flood	At the time of design, the IDF was taken as the 1 in 1000-year return period, 24-hour duration storm event peak, assuming the Upper Lynx Diversion Ditch is not breached and that it is capable of routing the flood water.
Flood storage and freeboard (during operations)	Sufficient storage capacity to store the IDF, as stated above. A total flood storage volume of 78,000 m^3 plus 0.5 m freeboard for potential wave action are required. During normal operations, the level of water in the pit is kept to a minimum to reduce seepage into the underground mine.
Flood storage and freeboard (closure)	Closure design for the facility is conceptual, and is to include a spillway consisting of open channel(s). The closure spillway configuration is to be designed to the Probable Maximum Flood. To date this design work has not been completed or scheduled.
Dam stability (static loading conditions)	Defined as factor of safety (FoS) derived from limit equilibrium stability analysis. Governing criteria are as follows: • Short term or temporary conditions: FoS ≥ 1.3 • Long term, steady state (closure) conditions: FoS ≥ 1.5
Dam stability (design earthquake loading conditions)	Design earthquake for both operations and closure phases is the MCE, estimated to have a Moment Magnitude of M 7.5 and a PGA of 0.6 g. These parameters were derived during detailed seismic analyses completed for the 1999 TDF Seismic Upgrade Project report (Klohn 1999) and are in excess of the 2010 NBC interpolated ground accelerations, which includes a PGA of 0.33 for a seismic event with a 2% chance of exceedance in 50 years. Design for post-seismic conditions is based on acceptable levels of deformation given the zoning of the dam and sensitivity of the embankment performance to the anticipated deformation: • Post-seismic design: FoS ≥ 1.3.

The IDF required by the 2007 CDA Guidelines is approximately 1.6 times larger than the flood flow in the facility design terms of reference. Current engineering work is examining the IDF flood routing and its implications to facility design and operation.

The upslope ditches are not engineered to a level of reliability or hydraulic design commensurate with a flood larger than a 1:1000 year return period event, therefore going forward AMEC recommends that these upslope ditches be assumed to fail during the IDF.

Proposed engineering tasks include a review of IDF routing and storage and its implications to design, with appropriate measures to be added to the proposed facility operation plan.

2.4.3 Instrumentation

Instrumentation installed in Lynx TDF prior to 2014 consisted of six vibrating wire piezometers in the tailings mass. During the foundation investigation program in July and August 2014 an additional 15 piezometers were installed in the dam fill and foundation, as well as in the foundation of the ultimate dam footprint. Piezometers are currently monitored on a weekly basis; a plan for automation of logging and data transmission of the Lynx piezometers is currently being developed. For a full discussion of Lynx TDF instrumentation, see Section 7.0.

The underground bulkhead in 15 Level is intended to monitor and control any sudden increase in water flow from the Lynx underground mine to the active portions of the mine, such as that which would be anticipated if the paste tailings liquefied and flowed into the mine workings. The bulkhead is instrumented to measure water pressures and flow rates, and automated to allow remote control of the valve system that regulates flow through the bulkhead. The instrumentation display and automation controls are located in the mill control room. The facility OMS manual includes procedures and protocols for operation of the bulkhead and criteria for mine evacuation.

2.4.4 Dam Classification

The Lynx TDF is classified as having a “HIGH” consequence rating relative to criteria outlined in the CDA Guidelines, based primarily on the significant environmental impacts that would result from a theoretical failure of the facility. During the 2013 DSR, RGC concluded that it was reasonable and prudent to maintain the “HIGH” hazard classification for the Lynx TDF (RGC 2014a). The consequence rating for the current and ultimate configurations will be reassessed upon the completion of the dam breach inundation study, currently underway.

3.0 CLIMATIC REVIEW

The climate in the Myra Falls area is classified as Marine West Coast, based on the Köppen Climate Classification System (Atlas of Canada 1957) and weather patterns are typical of the coastal regions of British Columbia. The climate at Myra Falls is characterized by cool, wet winters and hot, dry summers. Most winters are temperate in that they do not have prolonged periods of subzero temperatures. Most of the annual precipitation at the mine site falls in the winter as rain, with occasional snow. Snow is common in the winter at higher elevations, and so the hydrology of the surrounding natural streams typically includes a significant spring runoff component, usually peaking in late May to late June.

There are two weather stations at the NMF site. One is located at the power house between the mill and Lynx TDF, and the other is located near the Paste Plant. The power house station manually collects daily precipitation and temperature data. The Paste Plant station automatically collects hourly precipitation, humidity, temperature, and wind data.

Daily precipitation and temperature extremes are presented in Figure 1. Monthly variations in precipitation and temperature from the powerhouse station are given in Table 4 and Table 5. Yearly precipitation totals are summarized on Figure 2. Complete monthly precipitation records are found in Appendix D.

Figure 1 – Monthly Powerhouse Weather Station Data

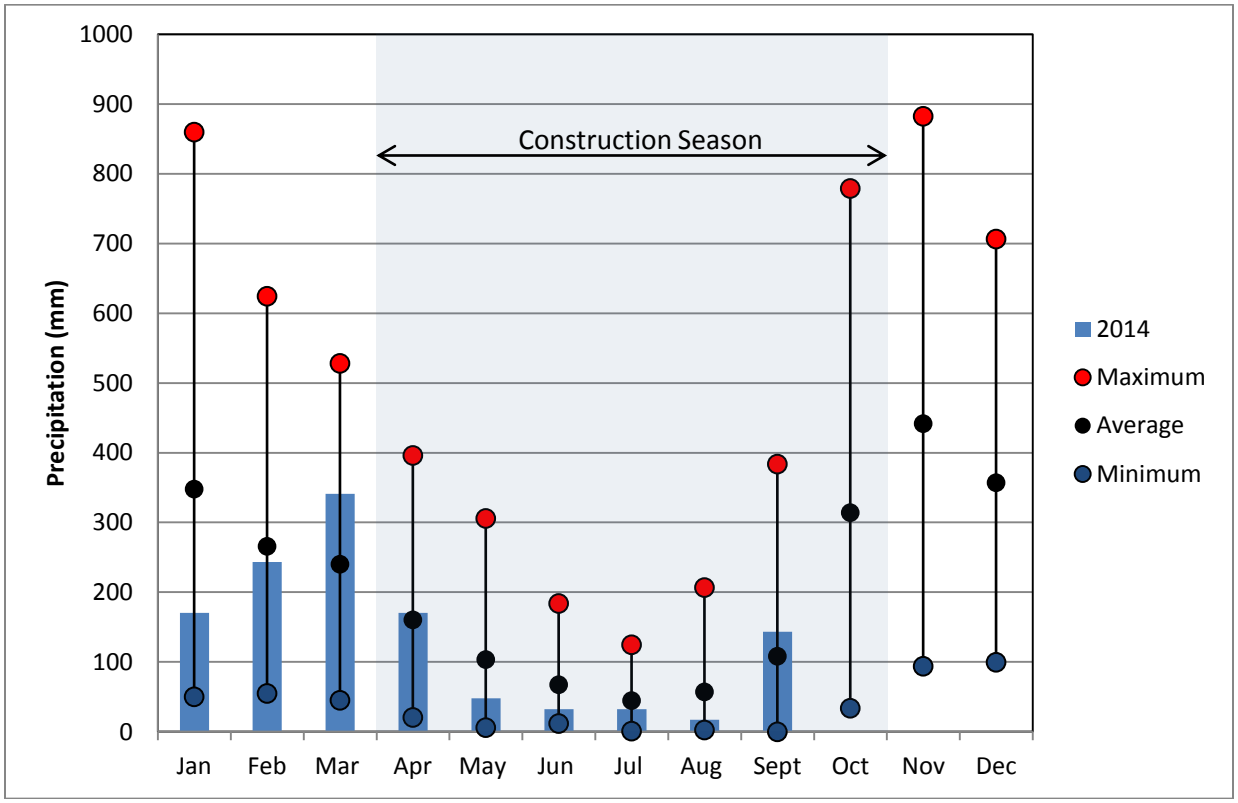
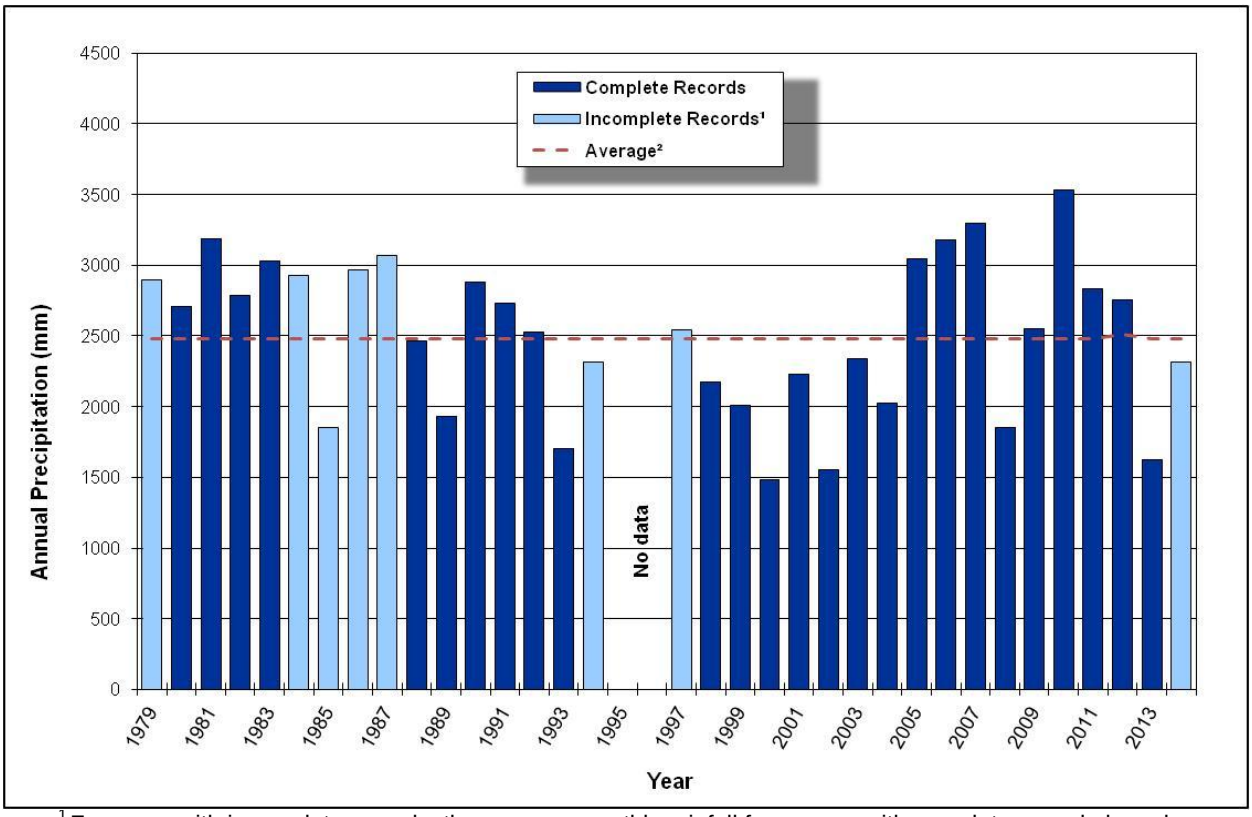


Table 4 – 2014 Monthly Precipitation

Month	Precipitation	
	Average[1]	2014
January	348	170
February	266	243
March	240	341
April	160	170
May	104	48
June	68	32
July	45	32
August	57	17
September	108	144
October	314	n/a
November	442	n/a
December	357	n/a
Total	**2509 (Jan-Sept: 1396)**	**1197**

[1] Precipitation data obtained from NMF for the period 1979 to 2014.

Figure 2 – Annual Total Precipitation 1979-2014



[1] For years with incomplete records, the average monthly rainfall from years with complete records have been used to fill gaps.
[2] Average annual precipitation is based only on years with complete records.

In general, January to September 2014 was a slightly drier than average year. In the winter of 2013/2014, lower than average precipitation was recorded, and recorded snowfall was significantly lower than average. Lower than average rainfall was recorded through the summer months.

Table 5 – 2014 Monthly Temperatures

Month	2014		Previous Period of Record[1]	
	Maximum	Minimum	Maximum	Minimum
January	10.0	-5.0	11.0	-12.0
February	9.0	-11.0	12.0	-12.0
March	14.0	-2.0	19.0	-8.3
April	23.5	-0.5	22.5	-4.0
May	28.0	4.0	31.0	-1.5
June	27.0	5.0	34.0	1.0
July	40.5	9.0	38.9	4.2
August	35.5	11.0	36.0	4.9
September	35.5	6.5	32.0	-1.0
October	N/A	N/A	23.5	-2.0
November	N/A	N/A	13.0	-11.0
December	N/A	N/A	8.0	-13.0

[1] Temperature data obtained from Myra Falls site from 2006 to 2013.

Temperatures in the winter and spring of 2014 were typical for the climate. However, July and August were significantly warmer than average, with the temperature on July 14 of 40.5°C being the hottest recorded temperature since records began at the station in 2006.

4.0 TAILINGS MANAGEMENT

4.1 General

The milling process produces tailings that consist of a well-graded slurry of sand, silt, and clay sized particles, referred to as “whole tails”. The whole tails are processed via a cyclone plant to produce cyclone underflow (coarser fraction), and cyclone overflow (finer fraction). Excess water from the cycloning process is re-routed back into the mill process or sent to Super Pond for treatment.

The cyclone underflow tailings include most of the sand sized fraction. The gradation is typically about 20% finer than 0.075 mm (i.e. 20% silt and clay sizes, 80% sand sizes). The cyclone underflow is pumped to the backfill plant for mixing with cement before being sent underground to fill decommissioned stopes. Excess water and cyclone underflow tailings from the backfill plant is pumped to the Reclaim Sands Area (RSA) located west of the Strip and APA, where water is decanted to Super Pond for treatment.

The RSA is operated as a settling and stockpile area. The coarse fraction tailings deposited in the RSA are referred to as “reclaim sand”. Reclaim sand can typically be obtained from the stockpile at suitable moisture content for compaction at drier times of the year and is used for construction where filtration needs are met by the particle size gradation. Reclaim sand is also hauled to the Lynx TDF area and blended with mine waste rock to produce Zone J dam core material for Lynx TDF construction. A portion of the reclaim sand is also utilized on the upstream side of the Lynx TDF dam to buttress the Zone J core.

The cyclone overflow tailings consists mostly of silt sized particles, with no more than about 2% sand (coarser than 0.075 mm) and up to about 20% clay sized particles (finer than 0.002 mm). The cyclone overflow is pumped as slurry to the paste plant where excess water is removed by gravity settling in a thickener tank. The thickener underflow is then vacuum filtered and the resulting paste tailings are then pumped to the Lynx TDF. During times when the paste plant is not operating (generally due to unforeseen mechanical issues or maintenance shutdowns), the thickener underflow is discharged directly to Lynx TDF.

Paste tailings have comprised the majority of surface tailings at the mine since 2006. Very little supernatant water bleeds from the paste due to its relatively low initial moisture content and inherently high final settled void ratio (AMEC 2012a). The paste deposition slope forms a cone centred on the discharge location, with a concave slope of approximately 6% at the top diminishing radially to around 3% for most of the paste surface. Distal areas near ponded water have very low gradients, less than 1%.

Occasional mechanical issues or planned shutdowns in the Paste Plant require discharge of thickener underflow to the Lynx TDF. During these periods, the thickener underflow discharge behaves more like conventional tailings, resulting in negligible surface slope and an increased supernatant pond.

4.2 2014 Tailings Production

Total tailings production by the end of September 2014 was 321,462 tonnes. This represents a projected yearly production decrease from 2013 of 5.8%. Of the total production, 39% was produced as paste and 61% was produced as coarse tailings.

During periods when the paste plant is not operating the fine tailings are deposited to Lynx TDF as thickener underflow. This condition was prevalent for much of 2014. Several mechanical breakdowns during this summer resulted in short periods of underflow deposition. Construction of the Springs Drain along the paste line access road precluded the use of steel line, as flexibility and mobility were required. As a result, the deposition has been entirely thickener underflow since approximately the end of August 2014.

Under normal operating conditions almost all coarse tailings are sent underground. Excess coarse tailings are deposited to the RSA or into Lynx TDF from spill points along the upstream face of the dam, forming a sand beach. The amount of coarse tails deposited in Lynx TDF was not available as of time of writing. The RSA received 41,325 tonnes of coarse tailings in 2014. Excavation of reclaim sand was undertaken for construction purposes, resulting in the removal of 47,235 tonnes from the RSA, for a net reduction in storage of 5,910 tonnes. 5,220 tonnes of the excavated sand was mixed with mine waste at the J-Zone Construction Stockpile for use in Lynx TDF dam construction, and the remaining 42,015 tonnes was used to widen the upstream crest of the dam in preparation for placement of the Zone-J core raise.

4.3 Tailings Production Projected For 2015

It is understood that the budgeted tailings production for 2014 is 454,000 tonnes, consistent with 2013 and the first 7 months of 2014. NMF indicated that the anticipated average specific gravity of the tailings solids continues to be 3.10. It is anticipated that Lynx TDF will receive approximately 15,000 tonnes per month on average, or a total of about 181,000 tonnes/year.

4.4 Old TDF Tailings Management

The tailings along the Paste Berm are at the maximum storage level of EL 3389.5 m. No additional tailings were placed in Old TDF during 2014. The Paste Berm crest elevation has not changed significantly from previous years. The Paste Berm is at its final elevation of approximately 3391.5 m and has not been raised since May 2006.

The sloping paste surface of the APA continues to be gradually eroded by surface runoff. As of the end of 2014, the incised erosion channels in the APA are up to 1.5 m deep and 3 m across. A rough estimate of the volume of the paste gullies using survey data collected in 2013 indicates that the volume lost to erosion at the time of survey was in excess of 14,000 m³. The eroded material ultimately collects along the Paste Berm, reducing flood storage of the facility, or is conveyed to the decant. Occasional ditching is required to maintain surface runoff along the Paste Berm towards the decant in the southwest corner of the APA. The decant does not function to create a sedimentation pond and therefore, sediment-laden runoff is being delivered into the treatment system. This results in extra sediment accumulation in the treatment ponds, which necessitates additional dredging and pumping into the Lynx TDF.

4.4.1 APA Storage Capacity

Tailings levels in the APA reached the design permit level of elevation 3389.5 m in most areas along the Paste Berm in 2011 and therefore there is no significant remaining tailings capacity in the APA. Management of the APA has transitioned into closure planning.

Consideration has been given to refilling the erosion gullies in paste surface; however, in practice it may be operationally difficult to confine deposition to the gullies without compromising the minimum flood storage volume requirement of the facility.

4.5 Lynx Tailings Management

Paste tailings are pumped approximately 1 km from the Paste Plant to the Lynx TDF through a 200 mm diameter steel pipeline. The primary paste discharge location is on the north pit-wall at an elevation of approximately 3400 m, as shown on Drawing 010307. Thickener underflow tailings were discharged in lieu of paste from August to October 2014. Several breakdowns of the paste plant also resulted in deposition of thickener underflow for limited periods.

In addition to paste tailings and thickener underflow, coarse tailings overflow from the backfill plant was also sent to Lynx Pit. The coarse tailings were deposited from the south arm of the dam and formed a tailings fan over approximately its west half. The tonnage report for the coarse tailings was not available at the time of writing. Past year's tonnages are reflected in Table 6.

Other contributions to filling the pit include:

- Sludge from treatment system settling ponds (variable volumes);
- General refuse from the mine site (~1,400 m³/year);
- Fines from sump cleanouts (~20 m³/year).

4.5.1 Lynx TDF Storage Capacity

As-Built Conditions:

Ongoing monitoring of in-situ paste density is carried out by comparing production tonnages with surveys of the paste surface over the same time period. Volume comparison is carried out using AutoCAD Civil3D. **Error! Reference source not found.** provides the paste tailings, eclaim sand, and sludge tonnage estimates, volume changes between surveys, and estimated total overall storage dry density from late 2012 through September 2014.

Table 6 – Lynx Overall Storage Dry Density Estimate

Date Range	Paste Tailings	Reclaim Sand	Sludge	Volume	Dry Density
Oct 2012-Jun 2013	148,300 t	4,800 t	5,500 t	118,900 m³	1.33 t/m³
Jun 2013-Oct 2013	65,300 t	26,200 t	3,500 t	82,800 m³	1.15 t/m³
Oct 2013-Feb 2014	51,000 t	1,200 t	1,600 t	41,600 m³	1.29 t/m³
Feb 2014 – Aug 2014	90,500 t	Not Available	Not Available	90,400 m³	1.00 t/m³
Aug 2014-Sept 2014	19,000 t	Not Available	Not Available	25,800 m³	0.74 t/m³
Overall Oct 2012-Sept 2014	**374,100 t**	**32,200 t**	**10,600 t**	**359,500 m³**	***1.16* t/m³**
Typical Paste Density as determined in the Paste Investigation Report (AMEC 2012a)					*1.23 t/m³*

Note apparent discrepancies in totals are due to rounding. Full precision was maintained through calculations.

Reasons for the reduction in density largely include intensified deposition of unthickened sludge materials unfiltered thickener underflow (included in the paste tonnage) and very fluid treatment pond dredge material, both of which have densities much lower than paste tailings.

Based on volume and tonnage values to-date, AMEC recommends using an overall average dry density of 1.16 t/m³ for current forward planning purposes. Values of reclaim sand and sludge input into the Lynx TDF were not available at the time of writing and are not included in the density. The recommended dry density planning values will increase if these values can be determined provided.

As of the survey of October 2014, there is an estimated 1,980,000 m³ of storage remaining within the ultimate design envelope of the facility. Using the current density projection of 1.16 t/m³ the available mass storage is 2,300,000 tonnes. Using the paste density of 1.23 t/m³ predicted by the 2011 AMEC study, the available mass storage is 2,440,000 tonnes.

Note that any reduction in overall storage density represents a corresponding reduction in overall waste storage capacity and therefore has an impact on the projected life of the facility. To improve the effective tailings density, AMEC recommends that NMF consider the following actions:

- Review operation and maintenance procedures in the Paste Plant with a view to reducing the frequency of upset conditions which require direct deposition of thickener underflow to Lynx TDF
- Consider options for rehabilitating the decant structures to improve sedimentation and reduce the required frequency of dredging.

- Investigate options for dewatering of dredge material prior to deposition in Lynx TDF (at the time of writing the system has been reconfigured to route dredging to the paste thickener).
- Investigate alternatives to deposition of backfill overflow directly into Lynx TDF. It may be more efficient to store excess coarse tailings in a dry-stack impoundment.
- Expedite cover of the APA tailings area to reduce the tailings volume reporting to the treatment system through erosion.

Raise Requirements:

The 2014 raise was designed to accommodate storage until December 31, 2015 using production rates a paste density of 1.20 t/m³, and did not account for upset conditions such as mill shutdowns or significant inputs of other materials. Using the current overall dry density of 1.15 t/m³, projected tailings production rate of just over 15,000 t/month, and paste survey of October 6, 2014, the capacity of the 2014 dam raise will be exhausted in early March 2016.

Preliminary estimates of future storage needs indicate that an additional 276,000 m³ of storage is necessary to extend life of the facility to December 2016. The associated recommended raise height to be constructed in 2015 is approximately 5 m, bringing the dam crest to approximately 3409 m elevation. This includes allowance for 78,000 m³ of flood storage with 0.5 m freeboard, as per the current facility design. Reassessment of the IDF may increase the required flood storage volume, or may necessitate the addition of an overflow spillway. This design work is proposed for early 2015.

As in previous years, AMEC recommends that complete paste surface surveys are completed approximately once every 3 months in order to track capacity estimates. If the resulting tailings surface survey is significantly higher than the anticipated result, the tailings capacity estimates should be repeated.

5.0 WATER MANAGEMENT

The mine's water management system has two main purposes:

- to divert non-contact water around the surface workings, waste dumps, and tailings facilities and convey the water directly into Myra Creek; and,
- to capture contact water including surface runoff and pumped water from mine-affected areas, and convey the water through a treatment system prior to release into Myra Creek.

The water management system consists of: a series of diversion ditches upslope of the mine area, various pumping systems, decant structures, and a series of treatment ponds. NMF monitors the treated water for water quality.

The following sections give a brief description on the configuration and performance of the pertinent aspects of the water management system. For a detailed account of water quality monitoring results and objectives, the reader is referred to the Annual Environmental Report 2013 (NMF, 2014). For a detailed account of site water balance under peak demand, see AMEC's previous water management report (AMEC 2008b).

Work is currently proposed to update the water balance model in light of 2012 revisions to the rainfall intensity-return period relationship for the site and to changes to the water management

systems since 2008. Table 7 compares the precipitation intensity return period relationships from 2008 and 2012.

Table 7 – 2012 Updated Precipitation Intensity-Return Period Relationships

Criteria	Design 24-hour Precipitation Magnitude (mm)	
	Previous Values (AMEC 2008b, 2008c)	2012 Design Storm Update (AMEC 2012c)
1:200 return period	229	220
1:200 plus snowmelt	246	237
1:1,000 return period	252	236
Probable Maximum Precipitation	550	635

The design requirement for the water treatment system is to manage a minimum of a 1:200 year return period precipitation event.

Table 6-1 of the 2007 CDA Guidelines indicates that a dam having a consequence rating of "High" (i.e. both the Old TDF and Lynx TDF) should be designed to accommodate a flood with a magnitude of one-third of the way between the flood generated by a 1:1000 year return period precipitation event and the Probable Maximum Precipitation. Assuming linear interpolation between the precipitation totals for these events, the IDF may be based on a 24 hour precipitation value of 369 mm, or about 1.6 times the 1:1000 event.

Past design of structures on the site was carried out under previous standards which considered lower flood thresholds. Since the late 1990s the design threshold has been the 1:1000 year event. Prior to the mid 1990s most structures were designed for 1:200 year runoff. Flood structures constructed early in the mine's history (i.e. the Upper Lynx Diversion Ditch) typically lack documentation of design criteria and may have simply been field fit to accommodate observed conditions.

Engineering work is currently underway to examine the capacity of existing diversion and flood handling structures around the tailings facilities, identify specific shortfalls with respect to the current IDF levels recommended by the CDA Guidelines, and design upgrades or additional works to bring the facilities up to current standards.

5.1 Non-Contact Water

Non-contact runoff from the three drainage areas upslope from the active mine site is collected and diverted around the mine site to Myra Creek by the diversion ditch system. Drainage areas for the mine are shown on Drawing 010310. The diversion system consists of the following ditches:

- Arnica Diversion Ditch, which flows east to west above Lynx TDF over a length of about 650 m and drains into Arnica Creek:
  - Upper Arnica Reach, the portion above and redundant to part of the Upper Lynx Diversion Ditch; and,
  - Lower Arnica Reach, the portion below and to the west of the head of the Upper Lynx Diversion Ditch;

- The Lynx Diversion Ditch System, which flows west to east above Lynx TDF and Old TDF over a total length of about 2000 m and drains into Myra Creek:
    - The Upper Lynx Diversion Ditch which originates near the midpoint of Arnica Diversion Ditch and flows east across the slope above Lynx TDF and the Paste Plant to Cascade Reach;
    - Cascade Reach, located just east of the Paste Plant and above the Old TDF, a steep natural stream channel which flows north to south, directly downhill over a series of waterfalls and rapids; and
    - The Lower Lynx Diversion Ditch which flows east from the base of Cascade Reach, along the upslope edge of Waste Dump 6 and Old TDF and into Myra Creek near the downstream end of the mine site; and,
- Alder Reach Ditch, a short tributary ditch to the Lower Lynx Diversion Ditch above the east end of the APA, constructed in 2010 and partially deactivated in 2012.

NMF carries out formal inspections of the diversion ditch system on a monthly basis, and more frequently during and immediately after significant storm events. Informal checks of the lower portions of the ditch are carried out more frequently. Inspection reports are included in Appendix E, included digitally on the CD ROM appended to this report. Maintenance included removal of fallen trees, and clearing of debris from the ditch. Minor improvements to shotcrete-lined areas were made. Some ditching maintenance repairs were carried out on the Upper Arnica Reach and Lower Reach of the Lynx Diversion below Cascade Reach. In general, the main system of diversion ditches has performed adequately in the past and no additional special maintenance is required.

5.1.1 Upper Arnica Reach

AMEC noted tension cracks in a portion of the access trail for the upper reach of the Arnica Diversion Ditch during routine inspection in 2011. The tension cracks appeared to be related to settlement and/or slope movement of a 4 to 5 m thick layer of inorganic fill supported by large logs placed against live trees. The tension cracks expanded and deformations continued even following partial deactivation and pullback of the fill in June 2013. NMF removed the remaining log-supported fill from the site in early 2014, and inspections during summer 2014 indicate the works have adequately addressed stability concerns.

5.1.2 Lower Lynx Diversion Ditch

NMF is in the process of performing upgrades to the Lower Lynx Diversion Ditch in order to meet the updated inflow design flood requirements. See Section 5.4 for details of these upgrades.

5.1.3 Alder Reach

The Alder Reach Ditch was constructed in 2010 and is located above the east end of the APA and the Strip. The purpose of the ditch was to intercept non-contact water that would otherwise infiltrate below the concrete lined Lower Diversion Ditch and seep into the Old TDF. The details of the Alder Reach Ditch are summarized in the 2011 Annual Report (AMEC 2012c). The ditch was constructed without an engineered design, using steep cut and fill slopes and was originally approximately 300 m long. Portions of the ditch were deactivated in 2012 in order to address immediate stability concerns. The remaining portion intercepts significant near-surface water

and has remained relatively stable despite the steep cuts and fills. Monitoring of the area is ongoing.

AMEC continues to recommend full deactivation of the Alder Reach Ditch. It is critical that the deactivation work be designed and supervised by a geotechnical engineer because of the potential for further slope instability due to the steep cross slope gradient and the amount of groundwater seepage intercepted in the ditch cut slope. Debris slides due to instability along the Alder Reach Ditch present a hazard to the main diversion system.

The deactivation work should be carried out prior to implementation of upgrades to the Lower Lynx Diversion Ditch within the adjacent area (described in Section 5.5). The remaining undeactivated portion of the Alder Reach Ditch is above approximately Stations 0+550 to 0+650 of the Lower Lynx Diversion Ditch. It is critical that the area be deactivated in accordance with an engineering design for stability reasons.

5.1.4 6:1 Buttress and Seismic Upgrade Berm

The design intent for water management of the 6:1 Buttress and Seismic Upgrade Berm areas is to have distributed runoff over their clean fill covers, directly into Myra Creek.

Following the completion of the Seismic Upgrade Berm there have been some observed areas of ponded water on the relatively flat surface of the main bench. Each of the ponded areas has an associated outlet point, where the accumulated surface runoff flows over the crest of the upgrade berm and down towards Myra Creek. To date the crest of the slope above Myra Creek has proved to be relatively “self-armouring” due to the gravel and cobble content of the fill used to complete the upgrade.

The Seismic Upgrade terms of reference assume that the buttress remains unsaturated. Ponding water on top of the buttress increases infiltration and could reduce stability conditions, and therefore represents a departure from the terms of reference. AMEC continues to recommend filling or regrading of the areas which pond water to promote surface runoff rather than infiltration. The well-graded glacial till material used to build the cover on the outside face is self-armouring and relatively resistant to small, distributed flows; therefore, regrading would also assist in reducing the potential for erosion of the outer face.

5.2 Old TDF Contact Water

The Old TDF receives water from the following sources:

- Release of porewater from within the tailings mass during long-term consolidation.
- Precipitation on the impoundment area.
- Groundwater flux into the facilities.

The release of water due to the long-term consolidation of the tailings in the APA and the Strip is considered to be negligible in the current surface water balance (as the consolidation of these areas is functionally complete with respect to measurable settlements). Precipitation is, therefore, the largest source of water to the Old TDF (i.e. ~1 million m^3 per year) and the influx of groundwater is an important secondary source (i.e. 5 to 10 L/s of additional flow to the sub-surface) (see RGC, 2014c). Shallow groundwater flows are significant with respect to the contaminant load balance for this area of the site and also affects surface water management

when it flows to the Strip Area at the east abutment of the Paste Berm (discussed in the following section).

Water leaves the Old TDF by the following means:

- Surface drainage into the APA, Strip, and RSA decants.
- Runoff from the 6:1 Buttress and Seismic Upgrade Berm directly into Myra Creek.
- Subsurface drainage through the Inner and Outer Drains, reporting to Pumphouse No. 4.
- Subsurface flow that bypasses the drains in the underlying aquifer.

Surface water flows from the Old TDF are not measured. Based on drainage area, flows to the decants are thought to represent the majority of surface flow from the Old TDF. These flows report to the Super Pond for treatment. Groundwater flows to the Inner and Outer Drains also report to the Super Pond for treatment (via Pumphouse #4). Further discussion of flows to groundwater (and the Old TDF under-drains) is provided in RGC (2014a) and was incorporated into the Interim Site-Wide Closure and Reclamation Plan that was submitted in July 2014 (see RGC, 2014d).

Key water management issues encountered in Old TDF in 2014 are discussed in the following sections.

5.2.1 Amalgamated Paste Area

- Flow of water across the sloping surface of the paste beach is gradually carving erosion ditches across the paste surface, resulting in a dendritic pattern of erosion. The erosional channels are particularly well developed where small runnels of water enter the facility from the access road along its north side and from Waste Dump #6. Some of these channels now exceed 1.5 m deep and 3 m wide. The eroded paste tailings are carried downslope to the Paste Berm.
- Lateral flow from east to west along the upstream side of the Paste Berm is impeded by the relatively low gradient and the gradual deposition of eroded paste tailings from the Old TDF upslope. Ditching is now required along the Paste Berm in order to maintain this lateral flow in an effort to promote lateral flow and regulate water levels below the design operational freeboard; however, it should be noted that even with ditching the requisite flood storage volume prior to water overtopping the spillway may not be assured. The lateral flow is typically laden with tailings sediment and is conveyed to the decant area.
- The ring surfaces of the APA decant are not effectively sealed and the decant is incapable of forming a sedimentation pond. Rockfill was added around the decant tower in recent years (possibly to filter the effluent or try to form a sedimentation pond). As the rockfill is not filter compatible with the paste tailings, the tailings-laden runoff flows through the rockfill without impediment. The water flow is now eroding downwards through the paste surface outside the rockfill area.
- The lack of a settling pond has resulted in sediment laden water being delivered to the treatment system. This results in additional treatment requirements, and leads to increased volumes of material being dredged from water treatment ponds into the Lynx TDF.
- The presence of the rockfill around the decant changes the effective ability of the inlet to take peak flows during a flood event. Assumptions in the flood routing studies regarding the decant discharge rate versus pond water level may be invalid and the situation could

potentially lead to discharge of water down the spillway during events smaller than those for which untreated discharge is permitted.

- A shallow pond is sometimes present near Instrument Plane C in the southeast corner of the APA with the exception of the driest times of the year. Some surface moisture or minor seepage discharge is occasionally noted at the base of the Paste Berm when the pond is present. The discharge area is within the catchment of the Strip. The area is monitored regularly by NMF personnel during weekly facility inspections. A discrete source of seepage was noted in this area on October 23, 2014. The discharge area included deposition of minor amounts of tailings sand, indicating internal piping erosion of the Paste Berm. Immediate measures were taken to address the piping erosion (see discussion Section 5.2.2 below).

An access road was constructed across the southeast corner of the APA in 2011 to provide access to drill hole locations. The area east of the access has been filled with a layer of rockfill to prevent accumulation of surface water behind the trail fill. The fill has prevented erosion of the paste surface in that area. AMEC suggests that covering of the paste surface with a layer of rockfill as soon as practicable is likely the most effective method of mitigating erosion of the APA tailings surface and the associated water management issues.

5.2.2 Strip Area

The Strip Area is by design intended to be drained by a decant at its west end. Performance of this decant degraded early in 2013 and it is now effectively defunct. NMF maintains a diesel pump at the decant in order to pump accumulated water over into the adjacent RSA; however it should be noted that the rated discharge capacity of the decant in the RSA is limited to about 0.5 m³/s (AMEC 2008b).

Groundwater discharges with significant flow rates have been observed adjacent to the east abutment of the Paste Berm. The area of discharge is normally dry; however, during periods of prolonged heavy precipitation, visual estimates of peak observed flows are on the order of about 0.3 m³/s. By comparison the maximum discharge rating for the Strip decant, which drains the area (when functional), is only 0.1 m³/s, and the decant capacity of the RSA is also limited (AMEC 2008b).

Known dates of groundwater discharge at the abutment are presented in Table 8:

Table 8 – Ground Water Discharge Events at the Paste Berm East Abutment

Date of Discharge Event	Cumulative Precipitation in the Days Leading up to the Event, mm			
	Day of	2 Days	7 Days	14 Days
November 15, 2006	176	216	363	590
November 15, 2009	151	163	255	478
January 11, 2010	111	122	194	251
September 27, 2011	72	96	306	325
January 4, 2012	131	173	245	364
October 22, 2014	34	122	285	418

The groundwater is thought to originate from the coarse rockfill under and adjacent to the dam abutment, rather than through the dam itself. Near the source of the discharge there is a small exposure of reclaim sand within the dam fill. The as-built geometry of the Paste Berm is complex and varies, so the full extent of the reclaim sand zone within this part of the Paste Berm is not known. A shallow channel has been eroded along the edge of the Paste Berm embankment from the source area to the toe.

Given that the adjacent portion of the APA does not impound water, the risk of a catastrophic loss of tailings containment through the Paste Berm at this location is low; however, repeated erosion damage to the abutment area may result in an ongoing requirement for significant maintenance. Of more concern is that these discharge events contribute significantly to the peak flood inflows to the Strip, and in one case on November 15, 2009 resulted in very high water levels. This is of particular concern in light of the recent deterioration of function of the decant.

It is considered unlikely that the seepage discharge can be simply contained and/or prevented given the current understanding of groundwater in and around the Old TDF. The facility closure plan will therefore require measures to accommodate the seepage discharge. The possibility that the discharge water is contact water from within the original waste dump present below and behind the Old TDF cannot be ruled out at this time, so some method of conveyance to treatment should be considered.

Current investigation plans include adding vibrating wire piezometers near the discharge location to better characterize the issue, and drilling to delineate soil units in the abutment. A flow detection and monitoring system would also assist in characterizing flows and assist in planning.

5.2.3 Reclaim Sands Area

The RSA is drained by a decant at its west end. Water levels in the area have been maintained below the operational freeboard limit throughout 2014. The area has historically had issues with tailings mass balance that have pushed levels to beyond permitted maximums. Monitoring of tailings and water elevations should be continued and excess materials removed as required.

The RSA has limited utility as an emergency flood storage overflow from the Strip. While this is not a declared function of the RSA, NMF has indicated intent to use it as such in cases where the Strip begins to accumulate water.

5.3 Lynx TDF Contact Water

The Lynx TDF does not have a detailed water balance that is kept current. However, because the facility is operated such that all excess water either infiltrates into the pit walls, or is pumped out as described above, detailed tracking of inputs and outputs is not required, provided sufficient storage is maintained for flooding events.

The Lynx TDF receives water from the following four sources:

- Release of water from tailings or waste materials deposited as slurries upon initial deposition;

- Additional release of porewater from within the tailings mass during long-term consolidation;
- Precipitation on the impoundment catchment area; and
- Groundwater flux into the facilities.

The volume of water released on deposition of slurry waste streams varies depending on the type of slurry deposited. Paste tailings contribute very little free water. Thickener underflow contributes significantly to the volume of water in the facility during periods of deposition. Dredging wastes are deposited at the highest water content of any of the slurry inputs. Settlement of these materials to a void ratio of approximately 2.0 is generally rapid.

The volume of water released through consolidation in Lynx is not insignificant, but is far less than inputs from precipitation and seepage. Tailings consolidation studies suggest that hard rock tailings materials with a higher initial void ratio consolidate to a lesser degree than materials with a lower initial void ratio (AMEC 2012a).

Precipitation is a significant source of water to the facility with an average of 2,500 mm of rainfall per year. Surface water inputs to the facility as a direct result of precipitation are limited to the immediate pit walls (in practical terms; flood routing does not rely on roadside ditches etc. and considers a much broader area).

Groundwater sources are significant within Lynx TDF. The bedrock springs captured by the Springs Drain are an example of one of the higher volume sources. These springs have been sequestered and diverted; however, there are a variety of other less significant springs around the pit walls and it is not practical to divert all of them.

Water management in the Lynx TDF is generally consistent with the design concept. The facility is operated with minimal water retained in the pond. Under normal operating circumstances, water either infiltrates into the pit walls or Lynx TDF, or is pumped from the facility and discharged into the treatment system. Pumping is typically handled by an electric pump with a capacity of 0.04 m^3/s (600 gpm). When this pumping capacity is insufficient, multiple additional diesel pumps with capacities varying from 0.07 to 0.16 m^3/s (1200 to 2600 gpm) are deployed.

As in previous years the small amount of water that does accumulate on the Lynx TDF paste surface typically ponds in the south end of the Lynx TDF, against the tailings dam and around the current refuse dump location. A gradual increase in the frequency and duration of periods of ponding has been noted over the past several years, suggesting that the permeability of the base of the pit is being progressively reduced by paste tailings or other fill.

Peak water accumulation events are accommodated by maintenance of sufficient freeboard to accommodate temporary retention of at least 78,000 m^3 of flood water, plus 0.5 m of additional freeboard for wave run-up. No significant accumulations of flood water were noted during 2014 and water levels generally remained at normal operational levels.

The following sections detail specific water management items addressed in Lynx TDF in 2014.

5.3.1 Lynx Springs Drain

A significant bedrock source of groundwater was uncovered in 2011 near elevation 3400 m in the Lower East Borrow (LEB).

If the paste surface were to rise above the spring outlets, natural piezometric pressure heads would develop that could result in higher pore water pressures within the paste that would inhibit consolidation of the paste and possibly cause piping erosion of the paste material. The diversion of the majority of the natural spring water is essential to the long-term stability of the Lynx TDF surface, particularly during closure conditions (AMEC, 2013d). Following a conceptual design phase, AMEC issued IFC drawings on May 23, 2014 for construction of the springs diversion drain, a French drain roughly following the previously existing seepage interceptor ditch. At the time of writing, construction of the drain from the bedrock springs to Stn 2+00 (just beyond the 2014 dam footprint) is ongoing.

5.3.2 Flow Monitoring in the Underground Lynx Mine

Pro-active monitoring of the flow volume and water quality in the 15 Level Phillips Reach sump is required as part of the facility operating procedures. Turbidity or sudden increases in water pressures at the 15335XN Bulkhead could indicate catastrophic erosion of the paste tailings and/or sand filled stopes under the Lynx TDF. NMF's operating procedures call for evacuation of the mine and assessment of the situation given an increase in flow, pressure, or turbidity at the 15335XN bulkhead. Automated warning systems are in place at the bulkhead. No warnings were triggered in 2014.

5.3.3 Depressions in the Tailings Surface

A depression with a diameter of approximately 10 m has repeatedly formed in the paste surface near the northeast corner of the Lynx TDF. The feature was initially observed in spring 2012. The depression is persistent, reforming from time to time after being covered with fresh paste. Formation of the depression is likely the result of internal erosion of the tailings by downwards groundwater flow, presumably into the underground workings. The depression was observed a few times throughout 2013 and 2014, but has not apparently changed in location or size. Monitoring of the depression continues when it is evident. The area is inspected weekly by NMF and monthly by AMEC.

The groundwater flow paths involved with any depression formation in Lynx TDF are likely complicated and could involve exposed stopes, intercepted drifts, manways, ore passes, mill holes, or natural joints and manmade fractures in the pit walls. Survey data and mine records indicate that the depression directly overlies 12J65 stope which is directly below the base of the Lynx TDF. NMF is currently initiating investigations to search for tailings deposition in or flow through the Lynx underground mine.

As noted in section 5.3.2, the 15335XN bulkhead is in place to prevent any catastrophic release of tailings into the underground from reaching manned areas of the underground. As such, the depression does not present an immediate risk to mine safety. The depression is well away from the tailings dam, therefore it presents a very low risk to the integrity of the dam embankment. However, internal erosion of the tailings presents a significant long-term issue relating to stability of the tailings surface and therefore any potential closure cover. Investigations into the nature and eventual discharge of the depression area are therefore necessary.

5.4 Other Contact Water Management

In other areas of the mine site where runoff, seepage, and other flows are potentially acid generating, these flows are directed to Super Pond for treatment. Around the tailings facilities, these areas include waste dumps, haul roads, and the dam shells. Flows are directed to Super Pond by a combination of ditching, pumping and decants.

5.5 Improvements to Water Management

In 2012, AMEC updated the probabilistic precipitation/return frequency model for the mine site for the 24-hour duration 1:200, 1:1000, and PMP events (AMEC 2012c). Ongoing work by AMEC includes updating the peak storm hydrographs for key catchment areas for these storm events, as well as determining an updated IDF magnitude for the two tailings facilities.

NMF is undertaking upgrades to the Lower Lynx Diversion Ditch in accordance with Ministry Orders which require that the facility flood management structures be upgraded such that they are capable of conveying the IDF as recommended by the CDA guidelines. Upgrades planned to accommodate the increased flood magnitude include:

- From Station 0+000 at the base of Cascade Reach and Station 0+225: the original shotcrete liner will be left intact and the ditch capacity will be increased by raising the downslope (facility) side to a minimum of 3.0 m above the current invert using riprap. This work is ongoing and completion is anticipated prior to the end of 2014. This section will likely be recontoured during facility closure and therefore the upgrade is an interim measure.
- From 0+225 to 0+550: the original shotcrete liner will be removed and a wider synthetic ditch liner installed. The flow velocities in this steep reach are too high for shotcrete to sustain during the IDF peak flows. Detailed design and implementation of upgrades to this section is proposed for 2015. This section will likely be recontoured during facility closure and therefore the upgrade is an interim measure.
- From 0+550 to the end of the ditch around 0+950: the original shotcrete liner will be removed and the ditch will be reconstructed at a flatter grade, higher on the hillside. The new ditch will be constructed using a geosynthetic liner protected by riprap. The segment will terminate in a plunge pool. This section will likely be part of the facility closure configuration and if so, would be permanent.

5.6 Water Treatment

The water treatment system is based on mitigation of high pH in order to reduce the solubility of dissolved metals. Lime is added at a number of locations on the mine site including along the Strip and in several mixing tanks at the inlet of Super Pond. Super Pond is the primary settling pond, after which the treated water flows through six additional polishing ponds to improve water clarity. The locations of Super Pond and the polishing ponds are shown on Drawing 010302. The various aspects of the water treatment system are inspected monthly by NMF personnel. The water management inspection reports are included in Appendix E for reference. The details of the operation and performance of the water treatment system are summarized in the Annual Environmental Report 2013 (NMF, 2014).

6.0 DAM INSPECTIONS

6.1 Inspections by AMEC

AMEC inspected Old TDF, Lynx TDF, and the diversion ditch systems on an approximately monthly basis in 2014 as part of the work done to satisfy the terms of the OMS. AMEC observed conditions in and around the facilities, with emphasis on water management, dam stability, and seepage conditions. AMEC personnel met with NMF staff during the inspections to discuss concerns relating to the facility operation. Dam inspection summaries are presented in Appendix G. Some of the key findings related to the 2014 inspections are briefly summarized below:

Table 9 – Summary of Anomalous AMEC Dam Inspection Observations

Date	2014 Dam Inspection Observations	Action Taken
Lynx TDF		
2014-01-31	Garbage had been placed on top of the Lynx west arm outside of the normal refuse area, and dumped down the upstream side of the dam at the west abutment.	Garbage was removed from top of dam, and in July pushed farther out into paste. Test pits were excavated into the sand buttress to confirm it was free of garbage.
2014-01-31	Piezometer cables left on surface were buried in the edge of loose Zone A fill placed on the dam crest.	Piezometer cables were exposed and checked for damage in March.
2014-09-06	Ponded water was present at the toe of the Lynx TDF in the Zone J stockpile area. Observations over the following days indicated it was due to water seeping from within the construction stockpile, not the dam.	Zone J in the vicinity was pulled back from the dam toe.
2014-09-26	Rilling of the upstream sand buttress was noted in several locations on the Lynx TDF. Rills are up to 1.5 m across and 0.3 m deep.	Areas are monitored for further erosion. No immediate action required.
2014-09-27	The tailings line crossing the Springs Drain construction area was broken, and an unknown amount of tailings flowed into the partially constructed drain.	Contaminated filter zones were removed, the coarse drain fill was flushed, and the filter zones were reconstructed.
2014-10-03	Survey indicated that due to the lower dam elevation in the area of Springs Drain construction, flood storage was approximately half of the 78,000 m^3 required for the IDF.	Construction was undertaken immediately to raise the Paste Line Road approximately 1.5 m with Zone J, increasing freeboard to adequate levels.
2014-10-08	A small area of apparent minor seepage was noted on the face of the 4:1 downstream shell of the east arm.	The area is monitored for changes.
Old TDF – APA and Paste Berm		
2014-08-22	Groundwater discharge was observed at the east abutment of the Paste Berm following 285 mm of rain in 7 days. Groundwater discharge has typically been observed in this area during prolonged periods with heavy rainfall since fall 2006. The discharge area has	Monitoring of the area during periods of heavy rainfall is ongoing. Preliminary plans for investigation and design of stabilization, filtration, and

Date	2014 Dam Inspection Observations	Action Taken
	apparently not been materially enlarged by erosion since 2008.	water management are in development.
2014-08-23	Discrete seepage and minor piping erosion was observed at the toe of the Paste Berm near the southeast corner of the facility. Approximately 0.1 m³ of tailings were discharged from the point of seepage, but at the time of inspection flow was clear. Details are provided in AMEC's letter of October 25, 2014, included in Appendix F.	The area was covered with geotextile and coarse drain rock in the interim, pending permanent stabilization in Q2 2015.
Old TDF – Reclaim Sands Area		
2014-02-28	Significant thickener underflow was being discharged to a location approximately 15 m away from the RSA decant structure and this dirty return water flowed directly into the decant. Decant rings were observed to be leaking.	Operational issue. No action taken.

6.2 Inspections by NMF

NMF staff prepared weekly inspection reports for the Old TDF and Lynx TDF as part of ongoing monitoring activities. The reports are included in Appendix E, and include two-page forms, typically with several pages of photographs appended. The reviews are based on visual inspection of the following:

- Lynx TDF for active areas of paste deposition, the location, extent, and clarity of ponded water, and the function of the sump pump;
- The APA and Strip areas for the extent and clarity of ponded water and the function of the decant in each area;
- Lynx TDF, Old TDF OEB, and Paste Berm for surface erosion, settlement, depressions, cracks, bulges, and signs of seepage; and
- The diversion ditch for flow rate, obstructions (slumps, fallen trees, etc.), and damage to shotcreted areas.
- Any other anomalies or changes for any of the above structures.

NMF completed 38 weekly inspections between January 3 and September 26, 2014. Significant inspection details are summarized in Table 10:

Table 10 – Summary of Anomalous NMF Inspection Observations

Date	2014 Dam Inspection Observations	Action Taken
Lynx TDF		
2014-03-18	Cracking of upstream side of the dam observed parallel to dam crest, approximately 1 m in from the edge.	This type of cracking is anticipated, and is due to settlement of the upstream face. The area is monitored on an ongoing basis.
2014-04-04 2014-05-02	Depression in the paste at the north end of the tailings surface observed in the normal location.	Continued observation and documentation, including periodic reflectorless survey.

Date	2014 Dam Inspection Observations	Action Taken
May-June, September	Ponded red ARD water observed at north end of Lynx TDF.	Continued observation and documentation.
2014-08-07	Significant amounts of water accumulation against the upstream side of dam, likely related to discharge of thickener underflow into Lynx TDF.	Pumps installed near the west abutment, water drained.
July-October	Depression in the paste at the north end of the tailings surface observed in the normal location. Submerged by ponded water, dredging, and thickener underflow tailings as of mid-October.	Continued observation and documentation, including periodic reflectorless survey.
Old TDF - APA and Paste Berm		
2014-03-14	Decant rings were noted to be fully submerged by ponded water.	Continued observation and documentation.
April-June	Seepage area at the toe of the APA near the southeast corner noted to be “soft and wet” until end of June.	Continued observation and documentation.
2014-04-17	Water ponded against the Paste Berm at the decant.	Continued observation and documentation.
2014-05-08	Small depression noted on paste surface near PAG waste rock cover.	Investigated by AMEC and determined to be a hand-dug test pit dating from 2011.
Old TDF – Strip and Reclaim Sands Area		
January-June	Ponded water noted on strip throughout spring. Pond dried up in June.	Continued observation and documentation.
2014-06-25	Reclaim sand being excavated and placed in Zone J stockpile for dam construction.	No action required.
Diversion Ditches		
2014-04-11	Minor rock debris noted in Alder Reach Ditch.	Continued observation and documentation.
2014-08-29	Tree and minor rock debris in Lower Lynx Diversion Ditch.	Tree and debris removed within 6 days
2014-09-12	Flow rate in Diversion Ditch noted to be very low.	Continued observation and documentation.

On April 24, 2014, a magnitude 6.5 earthquake occurred approximately 155 km due west of the Myra Falls site, off the west coast of Vancouver Island. In response, the normally scheduled NMF weekly Old TDF inspection was conducted that day. No anomalous observations were found on either tailings facility. The earthquake shaking did not exceed the seismic trigger threshold that would initiate increased frequency logging of the vibrating wire piezometer network.

NMF personnel were not able to carry out inspections from mid-February to mid-March in 2014 due to snow cover present on the tailings facilities and associated structures.

7.0 INSTRUMENTATION MONITORING RESULTS

The assessment of the performance of the Old TDF and Lynx TDF during 2014 included the automated and manual monitoring of pore water pressure data from the vibrating wire piezometers. The locations of these instruments are shown on Drawings 010303, 010304, and 010307. Cross sections of the Old TDF and Lynx TDF along the major instrumentation planes

are provided on Drawings 010305 and 010309. The instrumentation monitoring data is provided in Appendix D and includes piezometer plots of the measured elevation head versus time.

Crack extensometers were historically used to monitor the deformation of tension cracks at specific locations along the Old TDF, including on the OEB and the Paste Berm; however, deformation in these areas ceased years ago and the areas have now been covered by the 6:1 Buttress.

NMF did not survey the surface monument hubs on the Old TDF in 2014. Most hubs were destroyed during the completion of the 6:1 Buttress in 2013. AMEC has provided NMF with a proposed new survey monument layout, as reflected on Drawings 010306 and 010308, and installation is currently underway. The proposed monuments network will monitor the Paste Berm, OEB, Seismic Upgrade, and Lynx TDF for vertical and horizontal displacements, and are generally proposed at spacings of between 50 and 100 m.

7.1 Lynx TDF Piezometers

Six vibrating wire piezometers were operational within the paste in the Lynx TDF at the beginning of 2014. These were monitored manually by AMEC at monthly frequencies during the winter and spring, and weekly frequencies through construction season. These piezometers continued to show a gradual pore pressure rise in response to rising paste levels. All piezometers recorded a 3-4 m rise in pore pressures from June 2013 to June 2014, which is within expectations given the similar rise in paste levels in that same time period. From June to October 2014, all piezometers saw a reduction in head of 2-3 m. A similar reduction in porewater pressures was observed in 2012 and 2013. This is inferred to be due to a net negative water balance in the paste mass during the dry summer months.

Fifteen additional vibrating wire piezometers were added to the facility during the 2014 Lynx foundation investigation program. Of these, two were installed in the dam fills, six were installed shallow in the foundation (above the glacial till unit), and seven were installed deep in the foundation (below the glacial till unit). The foundation piezometers cover both the existing and future foundation footprint. No trends are available for these instruments due to the short period of record.

AMEC's current scope of work includes routing most of these piezometers to a central instrument logging system and installing single channel loggers on those instruments where routing is not practical. This work is scheduled to occur following the end of dam construction.

7.2 Old TDF Piezometers

The Old TDF vibrating wire network consists of three instrument planes, referred to as Planes A, B and C. The alignments of Planes A and C are oriented perpendicular to the Old TDF embankments at Stations 0+350 and 1+250 m, respectively. The alignment of Plane B is oriented through the Reclaim Sands Area and along the APA Paste Berm. The majority of the piezometers monitor porewater pressures within the tailings with the exception of two VWPs in Plane A that were installed in the underlying foundation soils. The facility instrumentation also includes a number of pneumatic piezometers, however these are no longer read due to an established lack of reliability.

The piezometer network includes a total of 55 active instruments. A total of 14 other instruments have ceased to function since their installation. Appendix D provides a summary table showing the status of all VWP instruments in 2014. Of the 55 functioning piezometers, 11 have malfunctioning thermistors. Temperature correction data for these 11 instruments is estimated from other instruments with historically similar temperature trends.

Piezometer readings are logged daily by an automated logging system. NMF manually downloads the data loggers and forwards the information to AMEC several times per year, typically at AMEC's request.

The following deficiencies were noted in the 2014 vibrating wire piezometer data set:

- Data was not collected from Plane A piezometers from June 29 to August 24, 2014.
- Data was not collected from Plane C piezometers from April 20 to May 18, 2014.
- Data was only collected from piezometer C-20E sporadically from January to June 2014.
- The atmospheric pressure and temperature baseline for Instrument Plane A has a malfunctioning temperature sensor. The atmospheric corrections for all instrument planes are based off readings from Plane C. Since this sensor is accessible, it should be replaced.

Porewater pressure readings from the vibrating wire piezometers were tabulated and compared with historical porewater pressure trends. The piezometer readings from 2014 were similar to previous years. All piezometers showed a lower than average seasonal rise during the winter of 2013/2014, in response to the lower precipitation (especially snowfall) incurred over the same period.

The pore pressures within the Old TDF are used to model the dam stability and these values have direct bearing on the design configuration of the dam. Appendix D summarizes the 2010-2014 piezometer monitoring records. Given the importance of the data to the dam engineering, monitoring should continue at the current frequency.

Piezometer levels are also compared to alert thresholds that were established during facility operation and active tailings deposition. The thresholds were established primarily to monitor porewater pressures during raising and placement of tailings. The comparisons are of little utility in monitoring current stability conditions but are included pending development of a more appropriate long-term stability performance framework. The historic thresholds are as follows:

- Level I: Generally set as an average of the historical maximum readings for a group of piezometers at similar elevation in each area (e.g. the tailings beach, the outer embankment berm, etc.) of each instrument plane. Given the limited amount of data for Instrument Plane B (located along the alignment of the Paste Berm) the Level I thresholds were set as historical maximums for Plane B and the 2007 updates for the Paste Berm. The design intent is that in the case that the Level I thresholds are exceeded, NMF is to initiate review of site conditions for possible triggers (i.e. wet weather, drainage system changes, etc.) and forward data to AMEC for review of overall stability issues.
- Level II: Generally set at historical maximum readings for individual piezometers. Should Level II thresholds be exceeded the summarized data should be forwarded to AMEC for review of overall stability issues. Exceedance of a

Level II condition is not entirely uncommon given that the period of record is relatively short for some instruments. Regardless of exceedance of this threshold, AMEC reviews all piezometer records annually to look for changes.

- Level III: Generally set at 1 m above historical maximum readings for individual piezometers. Should Level III thresholds be exceeded construction on or in the vicinity of the Old TDF should cease, the site conditions reviewed for possible mechanisms and the summarized data should be forwarded to AMEC for review of overall stability issues. Exceedance of Level III thresholds is uncommon.

One of the limitations of this system is that differing elevation of the piezometer tips in some groups results in a condition where certain piezometers are commonly (or always) above threshold Level I, while other instruments never trigger threshold Level I even in light of exceeding Levels II or III. Another consideration is that the +1 m difference between Levels II and III does not represent an equivalent reduction in stability across all piezometers – a change of 1 m will have much more effect in shallower areas than deeper areas. During 2015 AMEC intends to formulate a new rationale for threshold conditions based on estimated reductions in effective stress at each piezometer.

Some piezometers exceeded the Level I and II thresholds in response to wetter climatic conditions in the fall and winter. The Level III thresholds were not exceeded during 2014.

Current recommendations with respect to the VWP network in the Old TDF include installation of additional VWPs on Instrument Plane A that were deferred during the 2011 paste investigation. Other additional vibrating wire piezometers may be considered during the closure phase around the Paste Berm and near the crest of the 6H:1V berm.

Review of the piezometer network with respect to long-term stability management will be undertaken as part of the closure plan. AMEC may recommend replacement of inoperative piezometers if it is determined that their malfunction has created data gaps in areas critical to stability.

7.3 Surface Monuments

Surface monuments were historically used on the Old TDF to monitor movements of the OEB and the Paste Berm. These monuments have been buried by construction activities in recent years. No monument surveys were carried out in 2014. Previous years' records indicated no significant movement of these areas.

AMEC submitted a plan in October 2014 for installation of proposed new surface monuments at regular intervals along the downstream crests of the Seismic Upgrade Berm, the 6:1 Buttress, and the Paste Berm, and the upstream and downstream crests of Lynx TDF Dam. NMF is in the process of implementing this plan at the time of writing.

8.0 2014 CONSTRUCTION

Full details of the 2014 construction activities on the site, including material volumes, quality control data, and observations from construction review will be presented in the 2014 AMEC Construction Report, scheduled to be released by March 31, 2015. This section briefly highlights

the 2014 construction activities undertaken on the Lynx TDF. As of October 2014, no significant construction works have been carried out on the Old TDF in 2014.

8.1 Lynx TDF

Construction on Lynx TDF during the first three quarters of 2014 consisted of:

- Raising of the Lynx TDF west, south, and east arms to El. 3404.3 m, using reclaim sand in the upstream buttress, Zone J material in the core filter zone, and Zone A material on the downstream fill;
- Construction of the Lynx Springs Drain from the capture zone (where bedrock springs are intercepted) to Stn 2+00, beyond the limits of the 2014 dam raise; and,
- Raising of the Paste Line Road to provide interim freeboard capacity during Springs Drain construction.

The portion of the Springs Drain upstream of the Lynx TDF needed to be completed up to elevation 3402.3 m in order to be accessible for completion in 2015. This includes 1 m of freeboard above the projected paste elevation as of June 1 2015. The portion of the Springs Drain downstream of the dam raise envelope has been deferred to 2015. Construction of the 2014 portion of the Springs Drain began the first week of September, 2014, and was completed on November 15, 2014.

Construction of the 2014 Lynx TDF raise to 3404.3 m started mid-April, and was substantially complete across most of its length by mid-September. The only portion of the raise that remains to be built at the time of writing is at the east abutment, where Springs Drain construction needed to be complete prior to dam construction. An approximately 2 m raise of the Paste Line Road was carried out the first week of October 2014 to maintain freeboard and storage capacity in the Lynx TDF until the completion of the Springs Drain.

No significant cracking of the Zone J core or Zone A buttress fills was noted during 2014. Minor settlement cracking was noted along the upstream edge of the south arm after raise construction was completed, but was limited to the outermost 0.5 m. Minor movements and cracking along the upstream crest of the Lynx TDF should be anticipated as a result of the type of dam and height of annual raising; however, further movements of the magnitude observed in fall 2012 are not anticipated as the paste surface is now uniformly within about 6 m of the dam crest and the dam fill slopes are not oversteepened as they were at the time of deformation in 2012.

9.0 STATUS OF MINISTRY ORDERS

In response to the 2013 DSR and site inspections carried out throughout 2014, MEM issued a number of orders to NMF regarding the tailings facilities. These are summarized in the bold headings below, with commentary on the status of the completion of each order.

Letter of April 4, 2014:

> *"RGC recommend an operational freeboard of not less than 4 m be maintained at the Lynx TDF pending completion of the AMEC study."*

The primary recommendation of the letter by RGC (dated March 31, 2014) concerning continued operation of the Lynx Tailings facility was that a minimum of 4 m of freeboard should

be maintained until such a time that AMEC has completed its study of foundation conditions. This was intended as a measure to limit the potential for a breach of the facility if loose sands in the foundation were to liquefy and embankment deformation were to occur.

As of the time of writing, drilling and instrumentation installations are complete, and data analysis is ongoing. Preliminary drilling results do not indicate the presence of liquefiable materials in the current or ultimate dam foundation; however, loose or potentially unsuitable fill materials were identified within future foundation areas.

At the time of writing, freeboard between the South and West arm crests and the paste surface was over 4 m. The dam crest is lower at the east abutment, where construction of the Lynx Springs Drain is ongoing. Flood storage matching the facility design terms of reference (78,000 m³ plus 0.5 m freeboard) has been maintained. As stability conditions at the east abutment are known, and liquefiable materials are not present, the risk of excessive deformation lowering the dam crest considered low. AMEC is of the opinion that the requirement for at least 4 m of freeboard should be lifted at this time. Future raise designs will need to address the potentially loose or deleterious fill materials within their construction footprints.

Email of August 14, 2014 (MEM to Ivor McWilliams, excerpt forwarded to AMEC):

> *"Nyrstar shall complete the necessary upgrades to the existing flood control structures to ensure that the Old TDF can be maintained in a safe condition until such time as the final closure works are designed and constructed. A design shall be completed by the end of August 2014 with a copy submitted to the Ministry for review. The design shall be based on criteria specified by the CDA for a High consequence dam. Construction of the upgraded flood control structures shall be completed by the end of 2014. An as-built report shall be prepared with a copy submitted to the Ministry upon completion of the upgrade."*

Upgrades to the Lower Lynx Diversion Ditch to meet this order are outlined in Section 5.5, and are currently underway at the time of writing. Due to the constrained timeline imposed by the order, the seasonal weather constraints for construction at the site, and the magnitude of upgrade required, MEM has consented to a phased approach.

Chief Inspector's letter of October 20, 2014.

The chief inspector issued a letter on October 20, 2014. The letter referenced 11 orders by MEM's geotechnical inspector plus two more by the chief inspector. The orders stem from a review of documentation associated with the site, and a geotechnical inspection tour of the facility by MEM, NMF, and AMEC, which took place on September 30, 2014.

Order 1:

> *"The dam classification shall be re-assessed based on the results of a dam break inundation study to confirm the current dam classification and to determine the classification for the ultimate dam height. This order shall be completed in conjunction with the Chief Inspector's Orders of August 18, 2014."*

The dam breach study is currently in progress, with anticipated completion by November 21, 2014. The dam classification for the Old TDF and Lynx TDF are discussed in sections 2.3.4 and 2.4.4 respectively.

Order 2:

> *"The permittee shall submit an application for a permit amendment. The application shall include a revised design with plans and sections, a reassessment of static and seismic stability, and also details of foundation treatment or mitigation that may be required to ensure that the tailings storage facility can continue to be operated safely and meet environmental objectives. Construction of the next dam raise shall not proceed until authorized by the Ministry following a review of the permit amendment application."*

AMEC is in the process of determining the scope of analysis required to meet this order in light of the 2014 subsurface investigation results. An updated design for the facility is scheduled for completion by April 30, 2015. The design will need to include the following aspects:

- update of the groundwater hydrology model, which influences both stability and geochemistry;
- update of flood routing models to IDF levels;
- confirmation and/or update of the Earthquake Design Ground Motions;
- confirmation of static and seismic stability conditions;
- projected facility raise schedule; and,
- recommendations for mitigation of loose and/or deleterious fill materials in the future foundation footprint.

Order 3:

> *"A copy of the seepage assessment and seepage control plans shall be submitted to the Ministry when the field testing program is completed."*

AMEC understands that the seepage assessment is in the scope of services to be completed by RGC, and that testing and analysis are ongoing.

Order 4:

> *"An assessment of stability and performance of the waste rock dumps located above the Lynx TSF shall be undertaken as recommended by Robertson GeoConsultants in the 2013 Dam Safety Review report. The assessment shall be completed before the start of the next dam raise."*

AMEC provided a scope of work to address this issue in a letter to NMF dated March 31, 2014 (included in Appendix F). The first component of that scope recommended that NMF carry out detailed survey of the waste dumps, preferably using LiDAR. This survey is required before any detailed assessment of dump stability can be carried out. As of the time of writing, NMF is in the process of procuring LiDAR services.

It should be noted that some oversteepened areas of these dumps experience ongoing ravelling particularly during periods of freeze-thaw; however, apart from this rockfall issue AMEC is not aware of any history of slope movement or deformation of these dumps.

Order 5:

> ***"****An investigation of the sinkhole shall be carried out without delay. A report, including mitigation plans as required, shall be submitted to the Chief Inspector by December 1, 2014 to coincide with the Chief Inspector's Orders of August 18, 2014."*

A depression periodically forms on the Lynx TDF paste surface near the north-central area of the facility. It was first noted in April 2012 and has been filled by paste and reformed periodically ever since. A thorough discussion of its inferred causes and potential implications can be found in Section 5.3.3.

The bulkhead separating the Lynx Mine from active underground workings was designed and implemented in order to address the potential rapid inflow of tailings or water into active areas. Inspection of underground areas below Lynx TDF may be difficult and/or dangerous as the workings are old and partially abandoned: personnel access has not been maintained in all areas. Planning for this investigation is ongoing.

Order 6:

> *"Survey monuments shall be re-established along the dam crest [Lynx TDF] to monitor settlement and the remaining piezometers shall be installed in the paste tailings. These instruments shall be installed no later than December 31, 2014."*

AMEC provided NMF with a recommended layout for survey monuments on October 9, 2014 via email. The layout is reflected on Drawing 010308. Installation of the monuments is underway and completion by December 31, 2014 is anticipated.

Order 7:

> *"A copy of the updated OMS Manual, including the Emergency Preparedness Plan, shall be submitted to the Ministry by December 1, 2014 to coincide with the Chief Inspector's Orders of August 18, 2014."*

NMF is in the process of updating these documents.

Order 8:

> *"The design for interim upgrade of the Lynx Diversion Ditch and measures for debris control in Cascade Creek shall be submitted to the Ministry without delay. The design report shall include a risk assessment that clearly identifies the human and/or environmental risk if there is a delay in construction of diversion structures to meet the minimum flood control standards required by the CDA criteria."*

Preliminary designs were prepared by AMEC and delivered to NMF on August 29, 2014 for submission to MEM. The preliminary design relied on splitting the IDF peak flow (estimated to be not more than about 80 m^3/s) between the existing diversion structure and the existing operational spillway. The designs were subsequently retracted when detailed analysis determined that the two structures combined could not fully accommodate the required peak flow.

Subsequent discussion with MEM and NMF has produced a staged approach plan to address the shortcomings. Interim upgrade of the diversion will increase its capacity to that of the peak flow of the IDF. Construction of a portion of the upgrade is currently underway between Station 0+000 and 0+225, and will include measures to retain debris at the toe of Cascade Reach. Preliminary plans to upgrade of the remainder of the ditch to the IDF have been prepared in draft and are in the process of being finalized. Construction of the sections downstream of 0+225 is planned for 2015.

Documentation of the as-built portion completed in 2014 will be submitted to MEM once construction is complete and the document is available. The concept design of the remainder of the upgrade will also be completed and submitted to MEM. Both of these tasks are anticipated to be complete prior to December 31, 2014.

Order 9:

> *"The findings of the debris flow study shall be used to inform the design of the Cascade Creek Debris Catch Basin. A copy of the report shall be submitted to the Ministry."*

The field studies are complete and reporting is in progress. Report submission will be delayed until early in 2015 due to prioritization of engineering work.

Order 10:

> *"A design is required to control seepage and minimize erosion potential at the Old TDF abutment contact."*

Preliminary discussions with RGC and concept formation are in progress. The design to control groundwater discharge and mitigate erosion potential will need to be implemented in a manner compatible with any changes made to the Paste Berm and Strip area during closure. This will likely take the form of a filter sequence within the abutment and drainage collection area. Routing the potential floodwater remains a difficult subject to address given the location of the feature. AMEC is currently finalizing the scope of the geotechnical investigation required to address these issues. Further details on the designs with be provided in the Old TDF closure plan, which will be completed by RGC in collaboration with AMEC. NMF expects the closure plan to be completed by July 31, 2015 (as per the timelines outlined in RGC, 2014b).

Order 11

> ***"****Survey monuments shall be re-established at locations specified by the design consultant to monitor settlement [of the Old TDF]. The survey monuments shall be installed no later than December 31, 2014."*

AMEC provided NMF with a recommended layout for survey monuments on October 9, 2014 via email. The layout is reflected on Drawing 010306. Installation of the monuments is underway and completion by December 31, 2014 is anticipated.

Order 12

> *"Nyrstar is ordered to immediately confirm whether the Lynx tailings facility is being operated under the conditions noted in the March 31, 2014 [RGC] letter."*

NMF has provided the required information to MEM. See the discussion of the April 4, 2014 order, above, for additional information.

Order 13

> *"Nyrstar is ordered to undertake immediate remedial action to upgrade the surface water diversions in accordance with Section 15(4.1) of the Mines Act."*

Construction of temporary upgrades to the Lower Diversion Ditch are currently underway at the time of writing. Refer to the discussion of Order 8 and Section 5.5 of this report for details.

10.0 SUMMARY OF RECOMMENDATIONS

10.1 Previous Recommendations

Recommendations that were provided in the 2013 Dam Status Report and 2013 Construction Report are presented in Table 11. The recommendations from the Dam Safety Reviews completed for the Old TDF and Lynx TDF are also included. The table indicates what action has been taken with respect to the recommendations and the status of each recommendation in terms of priority from both dam safety and mine management/planning perspectives.

Table 11 – Summary of Previous Recommendations

Tracking Number	Previous Recommendation	Actions Taken in 2014	Status/Importance
2014 Dam Status Report			
2013-01	Use a revised tailings density of 1.26 t/m³ for short term planning.	Due to updated information at the time of design, AMEC used a revised value of 1.20 t/m³ in planning of the 2014 raise. raise.	Complete
2013-02	Review tailings and waste storage practices in Lynx TDF with respect to overall storage density and potentials for improvement.	AMEC is not aware of any action on this recommendation.	Incomplete Safety – Low Planning – High
2013-03	Complete surveys of the Lynx TDF paste surface approximately every 3 months. In addition, survey any areas of major earthworks upon completion of excavation or filling in order to keep an accurate record of storage density.	Regular paste surveys completed, Lynx TDF surveyed monthly to track construction changes. Comprehensive dam survey at completion.	Complete/Ongoing
2013-04	Revisit the IDF requirements for both the Old TDF and Lynx TDF in light of the 2007 CDA Guidelines	Hydrology updates by AMEC are in progress.	In progress Safety – Urgent Planning – Urgent
2013-05	Carry out investigation regarding groundwater and seepage conditions at the east abutment of the Paste Berm.	As discussed under MEM Order 10,investigation planning is in progress.	In planning Safety – High Planning – High

Tracking Number	Previous Recommendation	Actions Taken in 2014	Status/Importance
2013-06	Survey existing movement monuments and establish an updated network of movement hubs.	Establishment of new monuments in progress	In progress Safety – High Planning – Low
2013-07	Prioritize removal of J-Zone Construction Stockpile material and access ramps from the toe of Lynx TDF between Stations 2+60 to 5+40 to facilitate the future monitoring of seepage conditions along the toe.	Progress was made in 2014; however significant fill remains to be removed. Measures have been taken to communicate and reinforce that materials may not be dumped or stockpiled in the dam toe area.	In progress Safety – Moderate Planning – High
2013-08	Improve the decanting of clean water from the APA and RSA decants. Decants must be capable of passing design inlet flows and must not be impeded.	Conditions in the RSA have been improved but should be reviewed for additional improvement. Conditions in the APA have not improved, the decant is surrounded by waste rock. In addition, the Strip decant no longer functions as intended.	Incomplete Safety – High Planning – High
2013-09	Maximum tailings elevation in the RSA exceeded the allowable level of 3382.0 m.	Tailings were removed throughout 2013 and 2014 and the facility appears to be at a suitable operating elevation.	Completed
2013-10	Consider adding tracing dye to infiltration areas in the southeast corner of Lynx TDF to check that the seepage is not being discharged somewhere near the toe.	These infiltration and seepage erosion areas have not formed in recent months. Should they become active again, dye tracing should be considered.	Not currently applicable
2013-11	Additional grading should be undertaken on any remaining areas of the main bench of the Old TDF Seismic Upgrade Berm that continue to pond or redirect surface water.	Some limited ditching has been undertaken and flexible drain pipe has been installed on the face of the upgrade berm to limit erosion. AMEC still recommends fully regrading to outslope the areas as infiltration of ponded water is not consistent with the design assumptions.	Incomplete Safety – High Planning – Low
2013-12	The Alder Reach Diversion Ditch should be fully deactivated under the direction of a geotechnical engineer. See Section 5.1.3 for details.	NMF deactivated the upper and lower portions of the ditch in 2012. The remainder of the ditch (the main water-bearing section) remains to be deactivated.	Incomplete Safety – Moderate Planning – Moderate

Tracking Number	Previous Recommendation	Actions Taken in 2014	Status/Importance
2013 Construction Report			
2013-13	Vehicular traffic should be kept off of the Old TDF Seismic Upgrade Berm and 6:1 Buttress to prevent rutting of the clean fill cover.	NMF has communicated this to staff. Some delineation has also been added to further discourage driving in these areas.	Complete/ongoing Safety – Moderate Planning – Low
2013-14	All areas of the dam should be checked by AMEC prior to continuing construction of further raises.	Completed in April 2014	Completed
2013-15	Construction practices that led to success in 2013 should be continued (e.g. full time survey, full time geotechnical review)	Successful past practises were implemented in 2014 to good effect.	Completed/ongoing
2013-16	Cracking observed along the upstream face should be checked prior to raising. Actions were recommended in the event the zone of cracking expanded into the core zone.	Cracking was checked prior to raising and had not expanded into the dam core.	Completed
2013-17	Additional vibrating wire piezometers should be installed in the Lynx TDF.	15 additional piezometers installed in dam fill and foundation.	Completed
2013 Old TDF DSR (RGC, 2013a)			
2013-18	Update and simplify documents dealing with emergency preparedness and emergency management (also recommended in the Lynx TDF DSR).	NMF has undertaken update of the OMS and EPP and the revisions are in draft form as of the time of writing.	In progress Safety – High Planning – High
2013-19	Expedite closure planning and construction of approved closure works.	NMF has committed to submitting a finalized closure plan by July 31, 2015. Engineering related to the final plan is ongoing.	In Progress Safety – High Planning – Urgent
2013-20	Undertake annual Dam Safety Inspections (also recommended in the Lynx TDF DSR).	This report fulfils this recommendation.	Complete/ongoing
2013 Lynx TDF DSR (RGC, 2013b)			
2013-21	Reassess the static stability and seismic response of the Lynx TDF in the light of recent information about foundation conditions.	Foundation investigation drilling and instrumentation program completed in August 2014, preliminary results do not indicate immediate concerns. Confirmation of the design is planned for completion by April 30, 2015 (prior to construction of the next raise).	Partially complete Safety – High Planning – Urgent

Tracking Number	Previous Recommendation	Actions Taken in 2014	Status/Importance
2013-22	Asses the stability and performance of the waste rock dumps above the Lynx TDF.	NMF is in the process of procuring a LiDAR survey of the site. This information is required before action can be taken on this item.	In progress Safety – High Planning – Moderate
2013-23	Consider relocating the waste rock dumps [above Lynx TDF] as soon as is practical.	To date no physical action has been taken on relocation the dumps. The waste rock dumps are a potential borrow source for dam construction and/or tailings cover. Relocation of the dumps will be of importance to the site-wide closure plan.	Not completed Safety – Low Planning – Moderate

10.2 New Recommendations from 2014

The following section summarizes AMEC's recommendations with respect to the operations, maintenance, and surveillance of the tailings dams and associated structures based on engineering work carried out in 2014.

Table 12 – Summary of 2014 DSI Recommendations

ID	2014 DSI Recommendations	Importance
2014-01	Investigate Paste Berm stability and seepage conditions. Design remedial drainage and/or buttressing during 2015. The design must incorporate measures to address the groundwater discharge at the east abutment. See also recommendation 2013-05.	Safety – High Planning – Urgent
2014-02	Pump the pond that forms in the southeast corner of the APA to limit the potential for seepage erosion of the Paste Berm toe.	Safety – Urgent Planning – Low
2014-03	Measures should be taken to mitigate erosion of the paste stack in the APA. Implementation of a simple waste rock cover is likely the most practical option.	Safety – Moderate Planning – High
2014-04	Old TDF piezometer network should be reviewed for data gaps and additional and/or replacement sensors should be installed if necessary.	Safety – Moderate Planning – Low
2014-05	Alarm thresholds for piezometers on the Old TDF should be reviewed and adjusted as necessary to represent conditions which would actually present a concern.	Safety – Low Planning – Low
2014-07	An access into the north side of the pit wall should be established from the dam to facilitate placement of garbage away from the dam structure. Garbage must not be placed on the dam or on the upstream face.	Safety – High Planning – Low
2014-08	Review and improve operation and maintenance procedures in the Paste Plant to reduce the frequency of deposition of raw thickener underflow to Lynx TDF	Safety – Low Planning – High
2014-09	Investigate options for dewatering of dredge material prior to deposition in Lynx TDF. As of the time of writing, the dredge line had been relocated to the paste thickener tank.	Safety – Low Planning - High

ID	2014 DSI Recommendations	Importance
2014-10	Expedite clearance of waste from foundation areas between the current dam toe and Superpond. Develop a surface waste management strategy that focuses on keeping dam construction areas clear. See also recommendation 2013-07.	Safety – Moderate Planning – Urgent
2014-11	Connect all piezometers to an automated logging system. Implement real-time networking and internet access to the system to improve the timely availability and use of data.	Safety – High Planning – Low
2014-12	Manually read piezometers not less than weekly for those instruments not on data loggers.	Safety – High Planning – Low

11.0 REPORT CLOSURE

This report has been prepared for the exclusive use of Nyrstar Myra Falls for specific application to the area within this report. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibility of such third parties. AMEC accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report. It has been prepared in accordance with generally accepted geotechnical and tailings dam engineering practices. No other warranty, expressed or implied, is made.

Respectfully submitted,

AMEC Environment & Infrastructure,
a division of AMEC Americas Limited

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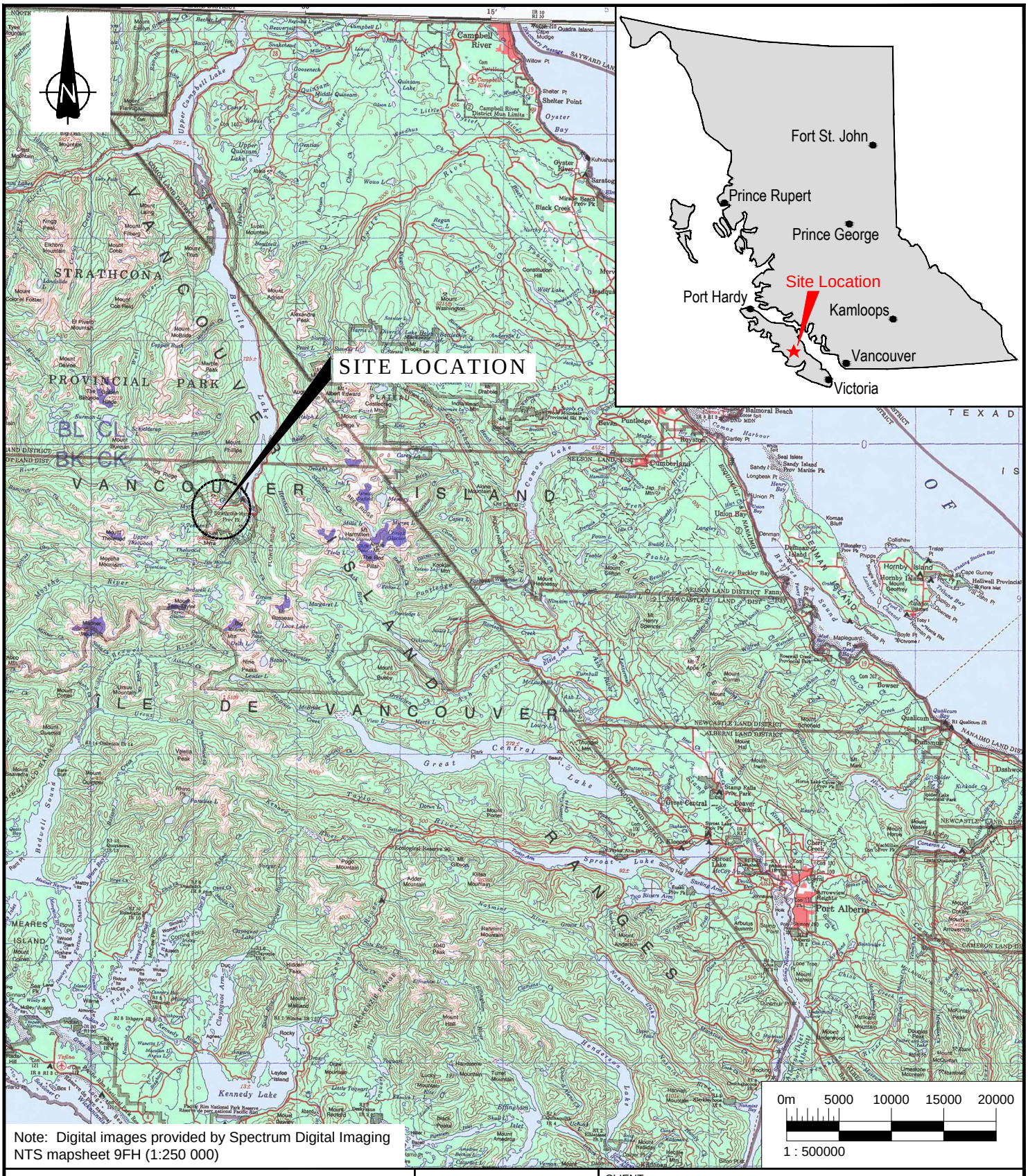
DRAWINGS



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PROJECT: MYRA FALLS TAILINGS STORAGE FACILITIES 2014-Q3 DAM SAFETY INSPECTION REPORT		
TITLE: SITE LOCATION PLAN		
DWN BY: I.Macleod	DATUM: -	DATE: NOVEMBER 2014
CHK'D BY: D.Hughes-Games	REV. NO.:	PROJECT NO: NX14001
PROJECTION: -	SCALE: 1:500000	DRAWING NO. 010301

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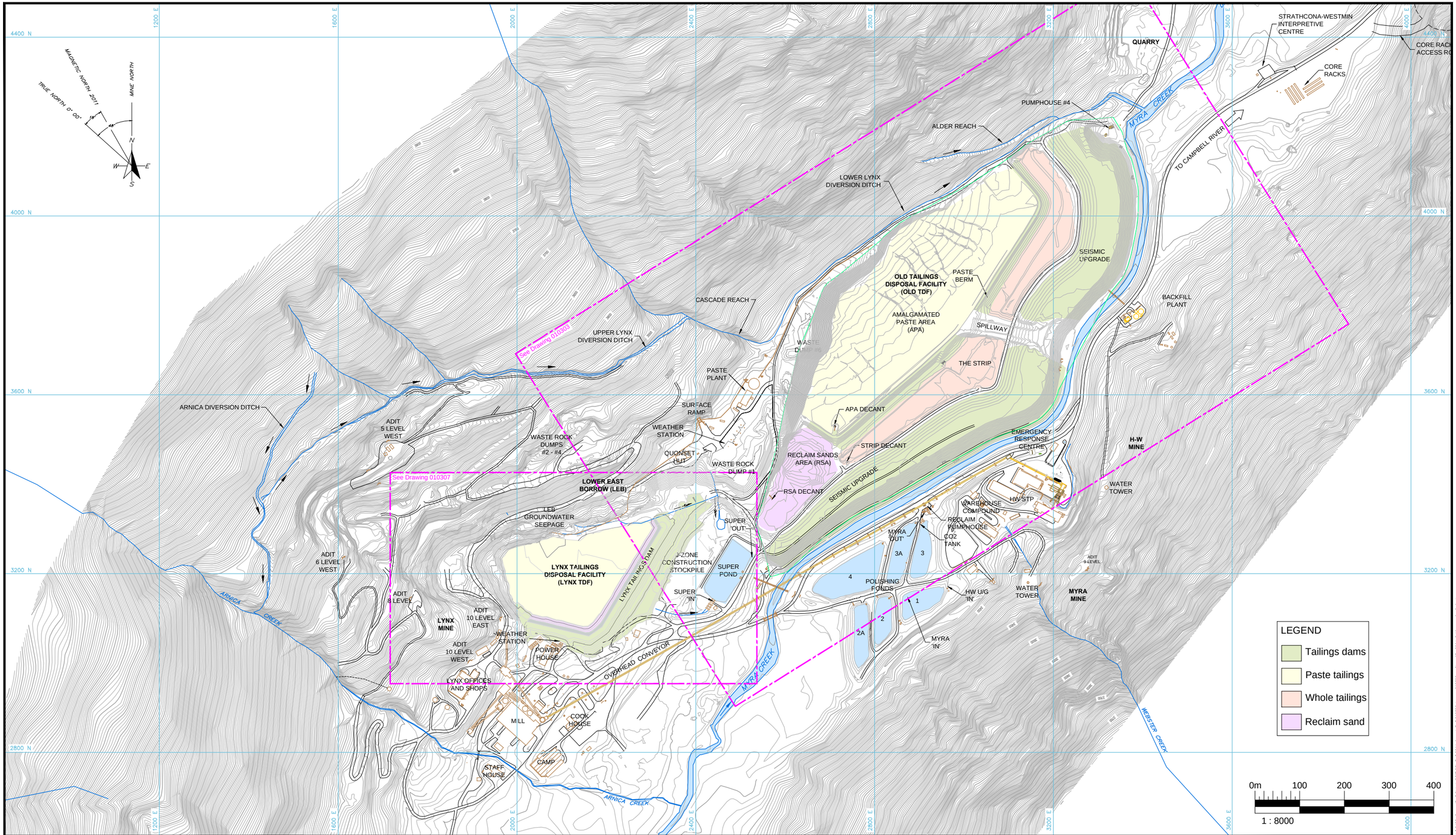

NOTES:
1. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC ENVIRONMENT & INFRASTRUCTURE REPORT No. NX14001-2014-11 "2014-Q3 DAM SAFETY INSPECTION REPORT" DATED NOVEMBER 2014.
2. SURVEY SURFACE TOPOGRAPHY SUPPLIED BY CLIENT
3. THIS SURVEY IS REFERENCED TO MINE DATUM (MASL + 3048 m).

REV	D	M	Y	ISSUE / REVISION DESCRIPTION	ENG.	APPR.
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Client: nyrstar

AMEC Environment & Infrastructure
4385 Boban Drive, Nanaimo, B.C., V9T 5V9
Tel. 250 758-1887 Fax 250 758-1899

DATUM:	MINE
PROJECTION:	MINE
DRAWN BY:	J.Ford
REVIEWED BY:	D.Hughes-Games
ORIGINAL SCALE:	1:8000

PROJECT: MYRA FALLS TAILINGS DISPOSAL FACILITIES
2014-Q3 DAM SAFETY INSPECTION REPORT

TITLE: GENERAL MINE ARRANGEMENT

PROJECT NO.:	NX14001
REVISION NO.	
DATE:	NOVEMBER 2014
DRAWING NO.:	010302
SHEET NO.:	1 of 1

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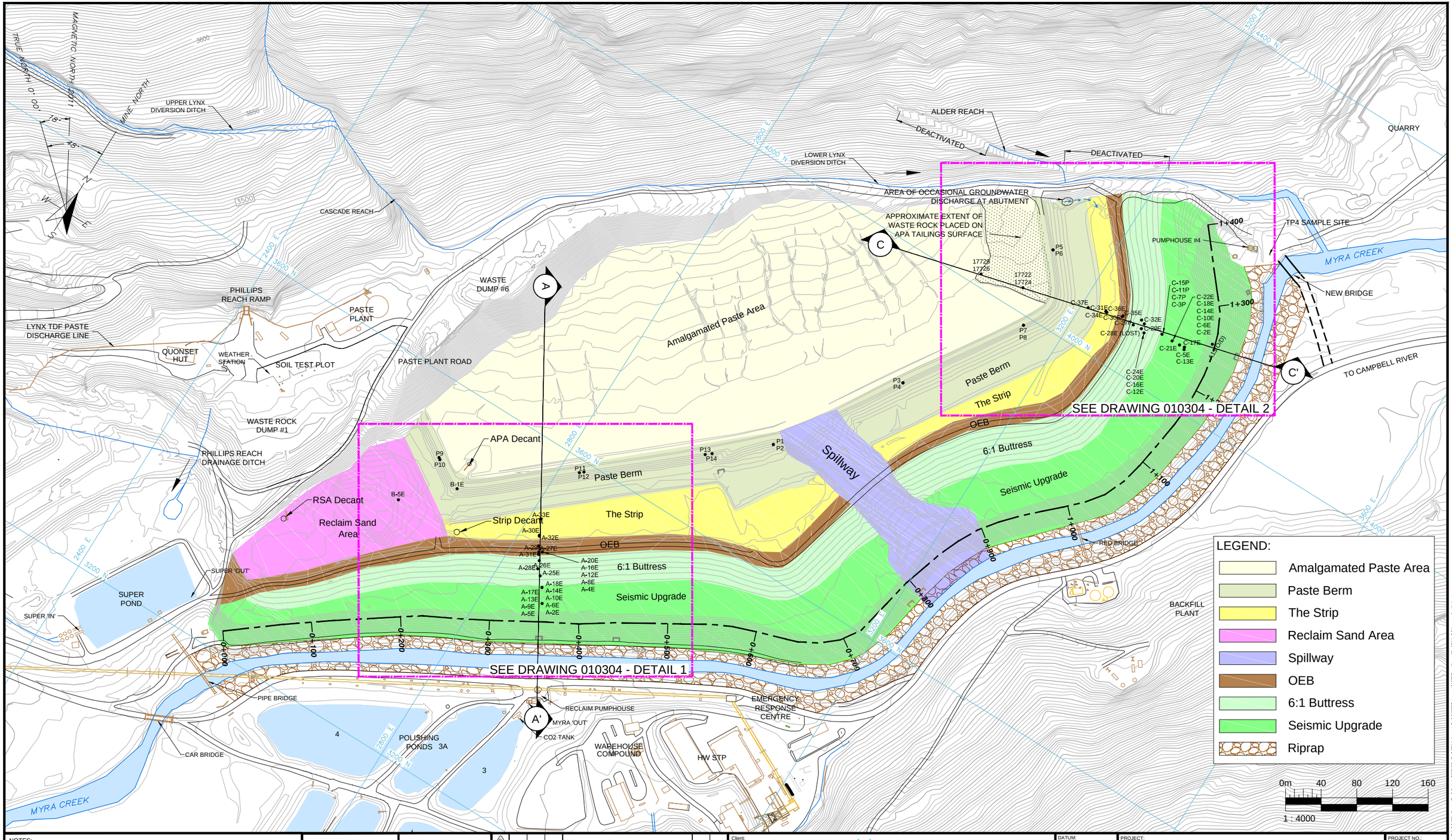

NOTES:
1. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC ENVIRONMENT & INFRASTRUCTURE REPORT No. NX14001-2014-11 "2014-Q3 DAM SAFETY INSPECTION REPORT" DATED NOVEMBER 2014.
2. SURVEY SURFACE TOPOGRAPHY SUPPLIED BY CLIENT
3. THIS SURVEY IS REFERENCED TO MINE DATUM (MASL + 3048 m).

REV	D	M	Y	ISSUE / REVISION DESCRIPTION	ENG.	APPR.
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Client: nyrstar

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4385 Boban Drive, Nanaimo, B.C., V9T 5V9
Tel. 250 758-1887 Fax 250 758-1899

DATUM:	MINE
PROJECTION:	MINE
DRAWN BY:	J. Ford
REVIEWED BY:	D.Hughes-Games
ORIGINAL SCALE:	1:4000

PROJECT: MYRA FALLS TAILINGS DISPOSAL FACILITIES
2014-Q3 DAM SAFETY INSPECTION REPORT

TITLE: OLD TDF
PLAN OVERVIEW

PROJECT NO.:	NX14001
REVISION NO.	
DATE:	NOVEMBER 2014
DRAWING NO.:	010303
SHEET NO.:	1 of 1

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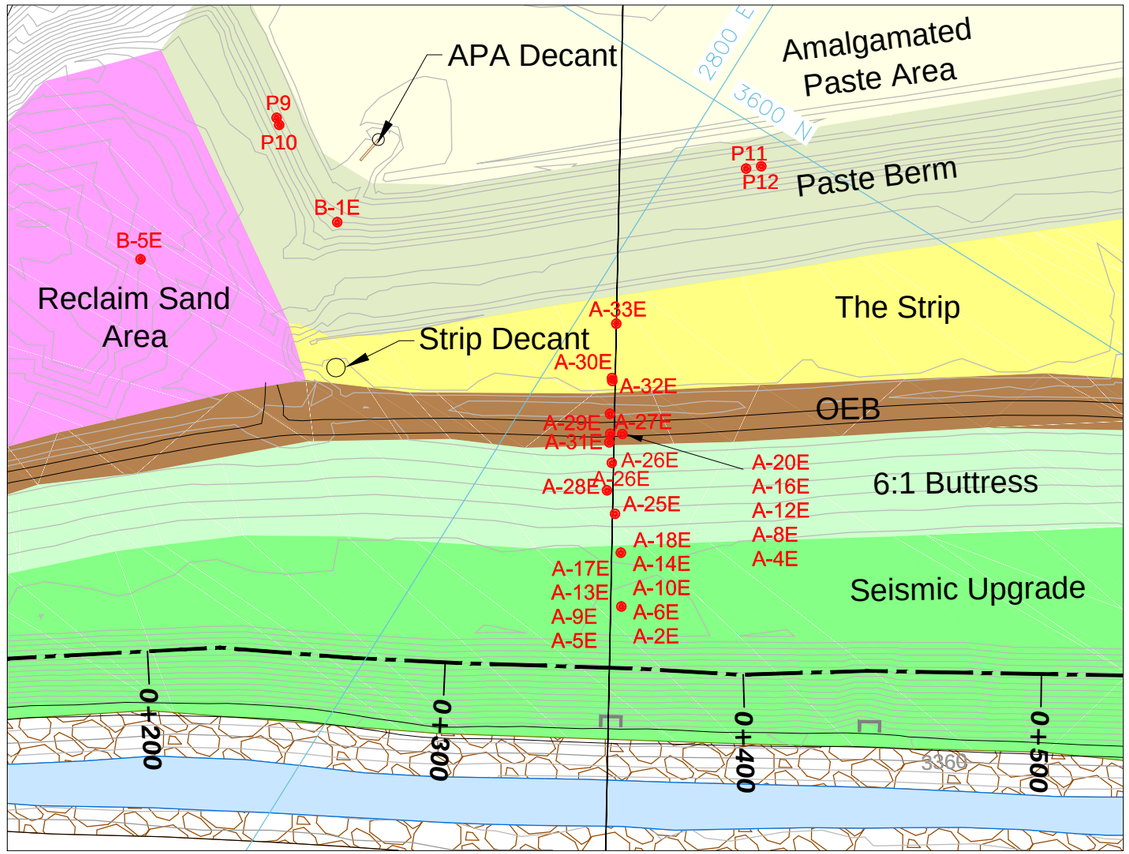
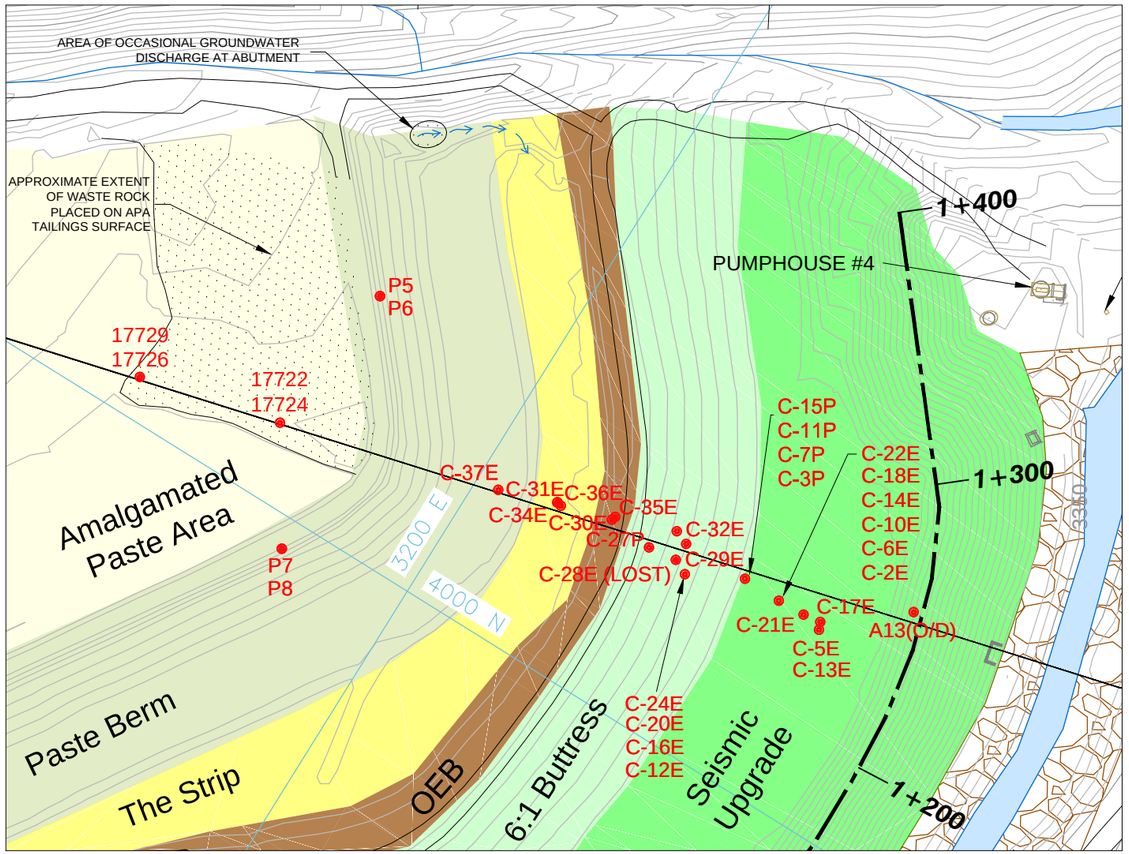


DETAIL 1
INSTRUMENT PLANE A



DETAIL 2
INSTRUMENT PLANE C

0m 20 40 60 80
1 : 2000

LEGEND:
- VIBRATING WIRE PIEZOMETER

NOTES:
1. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC ENVIRONMENT & INFRASTRUCTURE REPORT No. NX14001-2014-11 "2014-Q3 DAM SAFETY INSPECTION REPORT" DATED NOVEMBER 2014.
2. SURVEY SURFACE TOPOGRAPHY SUPPLIED BY CLIENT
3. THIS SURVEY IS REFERENCED TO MINE DATUM (MASL + 3048 m).

REV	D	M	Y	ISSUE / REVISION DESCRIPTION	ENG.	APPR.
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Client: nyrstar

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4385 Boban Drive, Nanaimo, B.C., V9T 5V9
Tel. 250 758-1887 Fax 250 758-1899

DATUM: MINE
PROJECTION: MINE
DRAWN BY: J. Ford
REVIEWED BY: D.Hughes-Games
ORIGINAL SCALE: 1:4000

PROJECT: MYRA FALLS TAILINGS DISPOSAL FACILITIES 2014-Q3 DAM SAFETY INSPECTION REPORT

TITLE: OLD TDF INSTRUMENT PLANE A & C PLAN VIEW DETAILS 1 & 2

PROJECT NO.: NX14001
REVISION NO.:
DATE: NOVEMBER 2014
DRAWING NO.: 010304
SHEET NO.: 1 of 1

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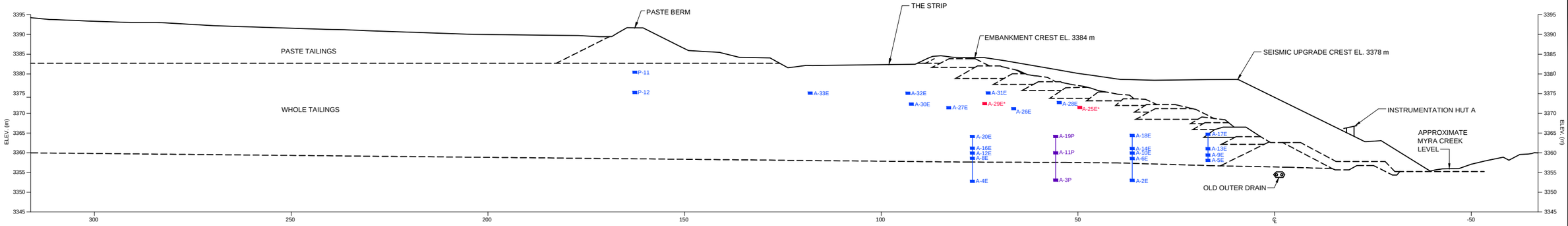

SECTION A 02-04 INSTRUMENTATION PLANE A

SECTION C 02-04 INSTRUMENTATION PLANE C

LEGEND

A-20E	VIBRATING WIRE PIEZOMETER
A-19P	PNEUMATIC PIEZOMETER
A-20E *	NO LONGER FUNCTIONING OR LOST

0m 10 20 30 40

1 : 1000

NOTE:

1. SECTION ADOPTED FROM KLOHN CRIPPEN BERGER, PROJECT No. M07632 A52, DRAWING No. D-52304, REV. B DATED MARCH 31, 2006. SECTION LOCATIONS AND ORIENTATIONS ARE APPROXIMATE.
2. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC ENVIRONMENT & INFRASTRUCTURE REPORT No. NX14001-2014-11 "2014-Q3 DAM SAFETY INSPECTION REPORT" DATED NOVEMBER 2014.

REV	D	M	Y	ISSUE/REVISION DESCRIPTION	ENG.	APPR.
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Client: nyrstar

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Tel. 250 758-1887 Fax 250 758-1899

DWN BY:	J. Ford
CHK'D BY:	D.Hughes-Games
DATUM:	MINE
PROJECTION:	MINE
SCALE:	1:1000

PROJECT: MYRA FALLS TAILINGS STORAGE FACILITIES
2014-Q3 DAM SAFETY INSPECTION REPORT

TITLE: OLD TDF
INSTRUMENTATION PLANES SECTIONS A & C

PROJECT NO.:	NX14001
REVISION NO.	
DATE:	NOVEMBER 2014
DRAWING NO.:	010305
SHEET NO.:	1 of 1

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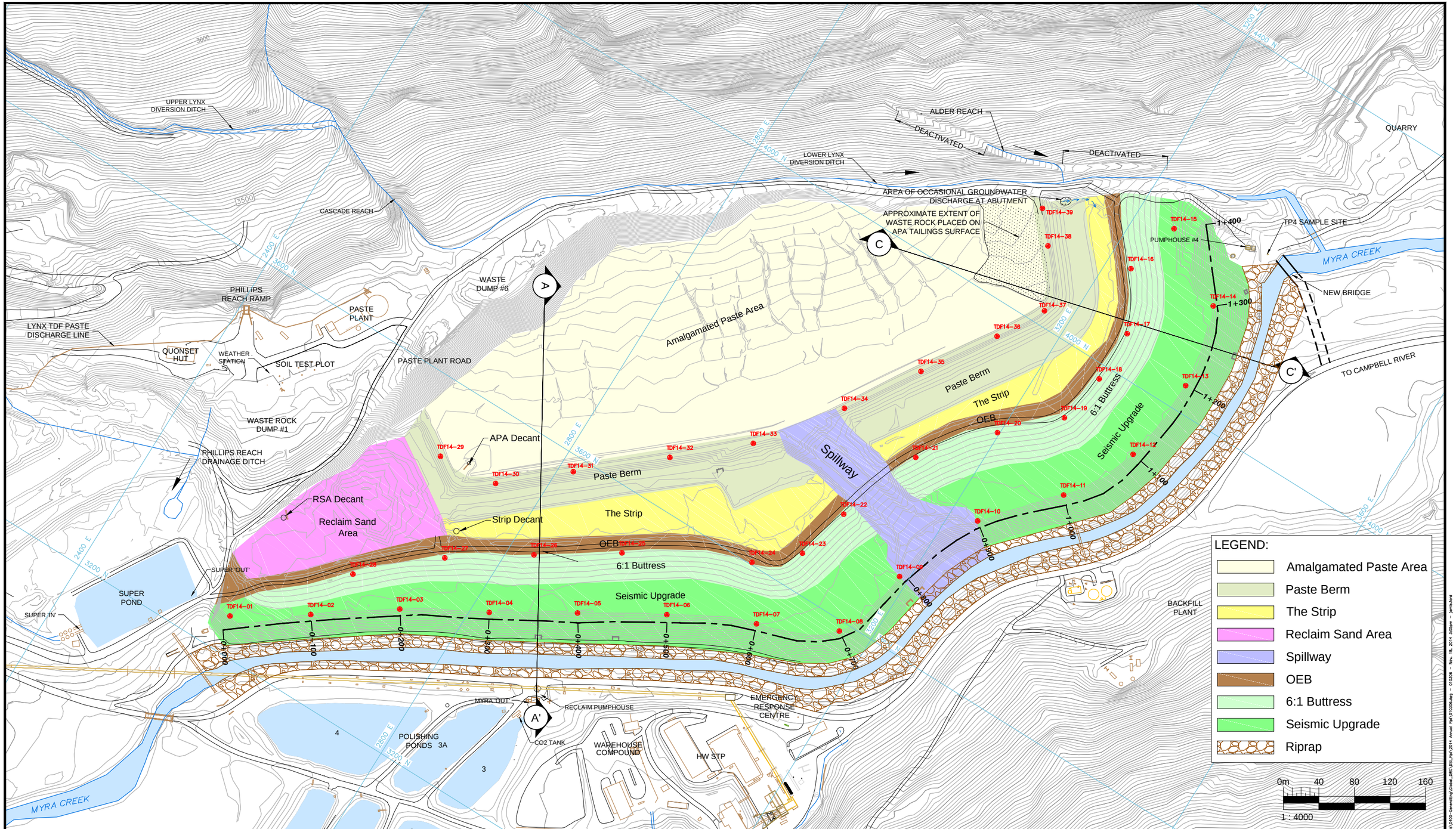

LEGEND:

PROPOSED SURFACE MOVEMENT MONUMENT

NOTES:
1. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC ENVIRONMENT & INFRASTRUCTURE REPORT No. NX14001-2014-11 "2014-Q3 DAM SAFETY INSPECTION REPORT" DATED NOVEMBER 2014.
2. SURVEY SURFACE TOPOGRAPHY SUPPLIED BY CLIENT
3. THIS SURVEY IS REFERENCED TO MINE DATUM (MASL + 3048 m).

REV	D	M	Y	ISSUE / REVISION DESCRIPTION	ENG.	APPR.
A5						
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Client: nyrstar

AMEC Environment & Infrastructure
4385 Boban Drive, Nanaimo, B.C., V9T 5V9
Tel. 250 758-1887 Fax 250 758-1899

DATUM:	MINE
PROJECTION:	MINE
DRAWN BY:	J. Ford
REVIEWED BY:	D.Hughes-Games
ORIGINAL SCALE:	1:4000

PROJECT: MYRA FALLS TAILINGS DISPOSAL FACILITIES
2014-Q3 DAM SAFETY INSPECTION REPORT

TITLE: OLD TDF INSTRUMENTATION
PROPOSED SURFACE MOVEMENT MONUMENTS

PROJECT NO.:	NX14001
REVISION NO.	
DATE:	NOVEMBER 2014
DRAWING NO.:	010306
SHEET NO.:	1 of 1

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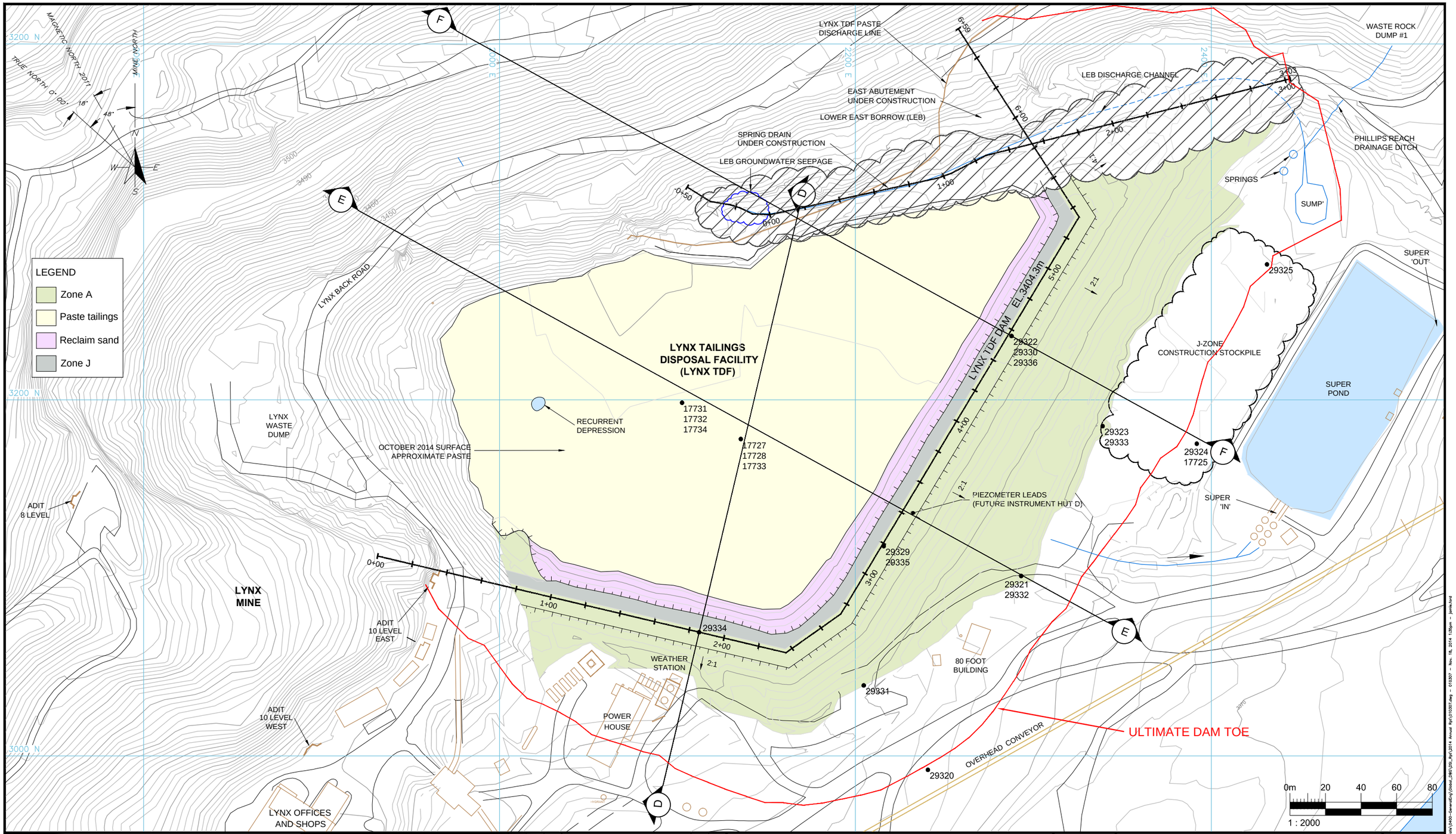

LEGEND:

29334 VIBRATING WIRE PIEZOMETER

NOTES:

1. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC ENVIRONMENT & INFRASTRUCTURE REPORT No. NX14001-2014-11 "2014-Q3 DAM SAFETY INSPECTION REPORT DATED NOVEMBER 2014.
2. SURVEY SURFACE TOPOGRAPHY SUPPLIED BY CLIENT
3. THIS SURVEY IS REFERENCED TO MINE DATUM (MASL + 3048 m).
4. INSTRUMENT SECTION E LABELED AS D IN EARLIER REPORTS

REV	D	M	Y	ISSUE / REVISION DESCRIPTION	ENG.	APPR.
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Client: nyrstar

AMEC Environment & Infrastructure
4385 Boban Drive, Nanaimo, B.C., V9T 5V9
Tel. 250 758-1887 Fax 250 758-1899

DATUM:	MINE
PROJECTION:	MINE
DRAWN BY:	J. Ford
REVIEWED BY:	D.Hughes-Games
SCALE:	1:2000

PROJECT: MYRA FALLS TAILINGS STORAGE FACILITIES
2014 ANNUAL DAM STATUS REPORT

TITLE: LYNX TDF INSTRUMENTATION

PROJECT NO.:	NX14001
REVISION NO.	
DATE:	OCTOBER 2014
DRAWING NO.:	010307
SHEET NO.:	1 of 1

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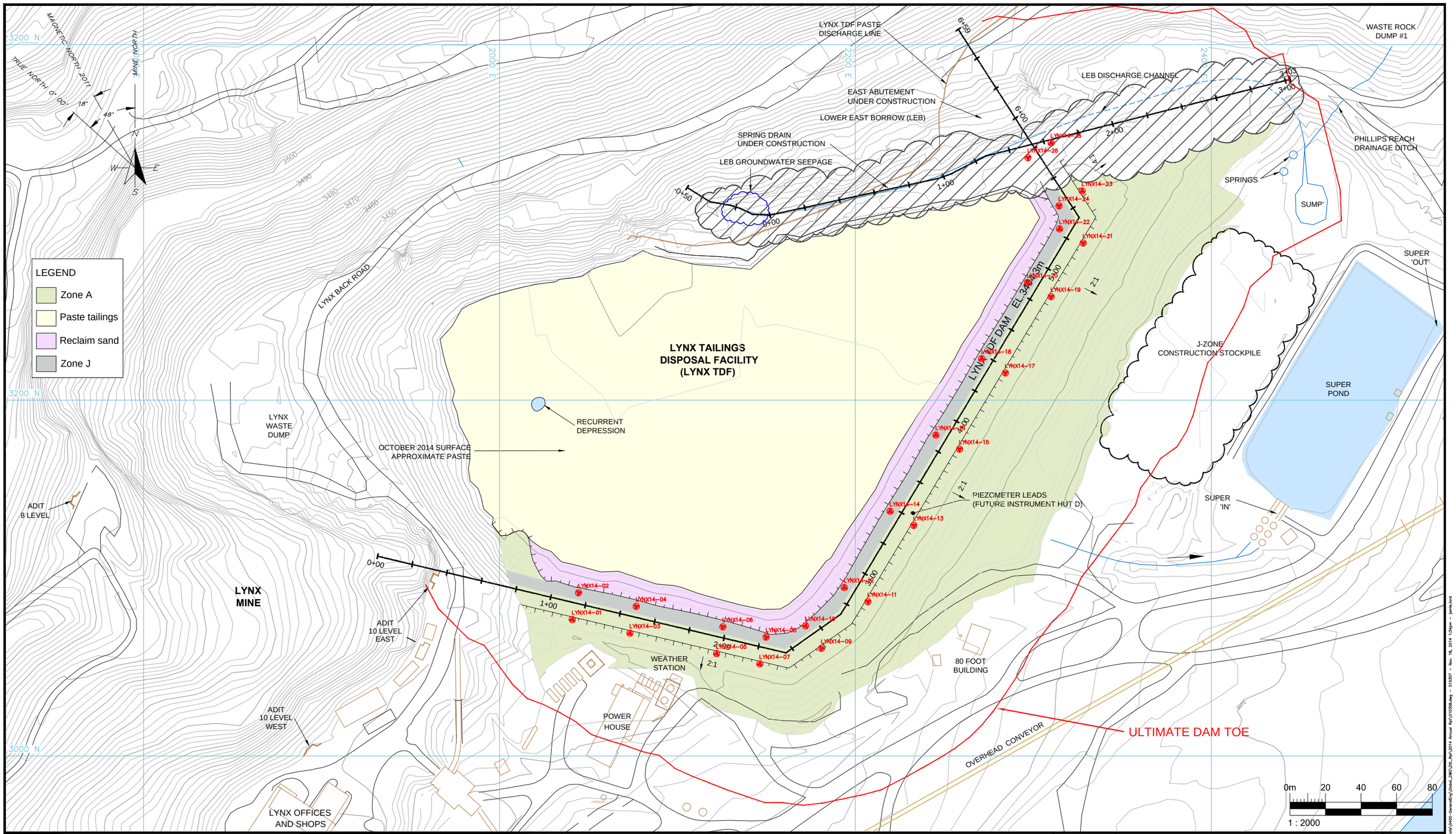

LEGEND:

PROPOSED SURFACE MOVEMENT MONUMENT

NOTES:
1. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC ENVIRONMENT & INFRASTRUCTURE REPORT No. NX14001-2014-11 "2014-Q3 DAM SAFETY INSPECTION REPORT DATED NOVEMBER 2014.
2. SURVEY SURFACE TOPOGRAPHY SUPPLIED BY CLIENT
3. THIS SURVEY IS REFERENCED TO MINE DATUM (MASL + 3048 m).
4. INSTRUMENT SECTION E LABELED AS D IN EARLIER REPORTS

REV	D	M	Y	ISSUE / REVISION DESCRIPTION	ENG.	APPR.
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Client: nyrstar

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4385 Boban Drive, Nanaimo, B.C., V9T 5V9
Tel. 250 758-1887 Fax 250 758-1899

DATUM:	MINE
PROJECTION:	MINE
DRAWN BY:	J. Ford
REVIEWED BY:	D.Hughes-Games
SCALE:	1:2000

PROJECT: MYRA FALLS TAILINGS STORAGE FACILITIES
2014 ANNUAL DAM STATUS REPORT

TITLE: LYNX TDF INSTRUMENTATION
PROPOSED SURFACE MOVEMENT MONUMENTS

PROJECT NO.:	NX14001
REVISION NO.	
DATE:	NOVEMBER 2014
DRAWING NO.:	010308
SHEET NO.:	1 of 1

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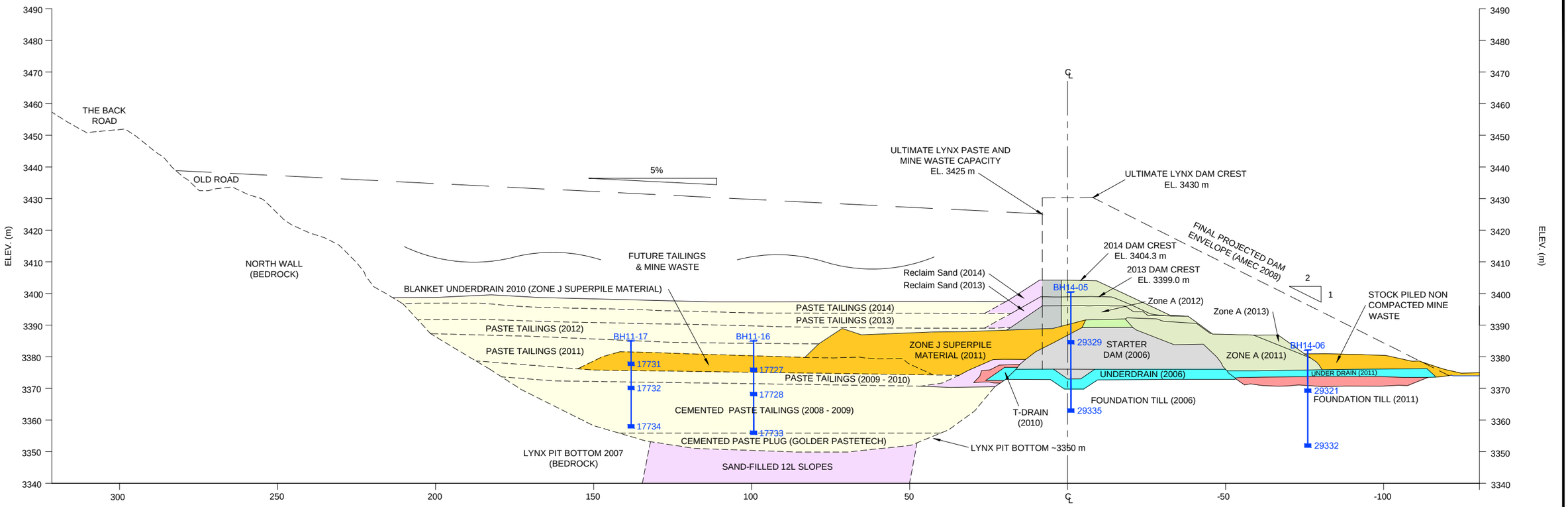

LEGEND:

- Compacted Rockfill (Zone A)
- Compacted Rockfill and Fines (Zone J)
- Compacted Rockfill (Gradation nor known)
- Uncompacted Rockfill and Tailings (Nominally Zone J)
- Cyclone Overflow (Fine) Tailings - Paste or Thickener Underflow
- Paste Tailings (Cemented)
- Permeable Rockfill (Zone C1-C4)
- Cyclone Underflow (Coarse) Tailings

17724 Vibrating Wire Piezometers

SCHEMATIC CROSS SECTION (INSTRUMENT PLANE E)

0m 10 20 30 40 50

1 : 1250

NOTE:

1. SECTION MODIFIED FROM NYRSTAR MYRA FALLS, LYNX PIT TAILINGS FACILITY, SECTION 3: 3+40 m, OCTOBER 2013.
2. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC ENVIRONMENT & INFRASTRUCTURE REPORT No. NX14001.2014.11 "2014-Q3 DAM SAFETY INSPECTION REPORT" DATED NOVEMBER 2014.
3. THIS SURVEY IS REFERENCED TO MINE DATUM (MASL + 3048 m).

REV	D	M	Y	ISSUE/REVISION DESCRIPTION	ENG.	APPR.
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Client: nyrstar

AMEC Environment & Infrastructure
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Tel. 250 758-1887 Fax 250 758-1899

DWN BY:	J. Ford
CHK'D BY:	D.Hughes-Games
DATUM:	MINE
PROJECTION:	MINE
SCALE:	1:1250

PROJECT: MYRA FALLS TAILINGS STORAGE FACILITIES
2014-Q3 DAM SAFETY INSPECTION REPORT

TITLE: LYNX TDF
PLANE E (0+350 m)

PROJECT NO.:	NX14001
REVISION NO.	
DATE:	NOVEMBER 2014
DRAWING NO.:	010309
SHEET NO.:	1 of 1

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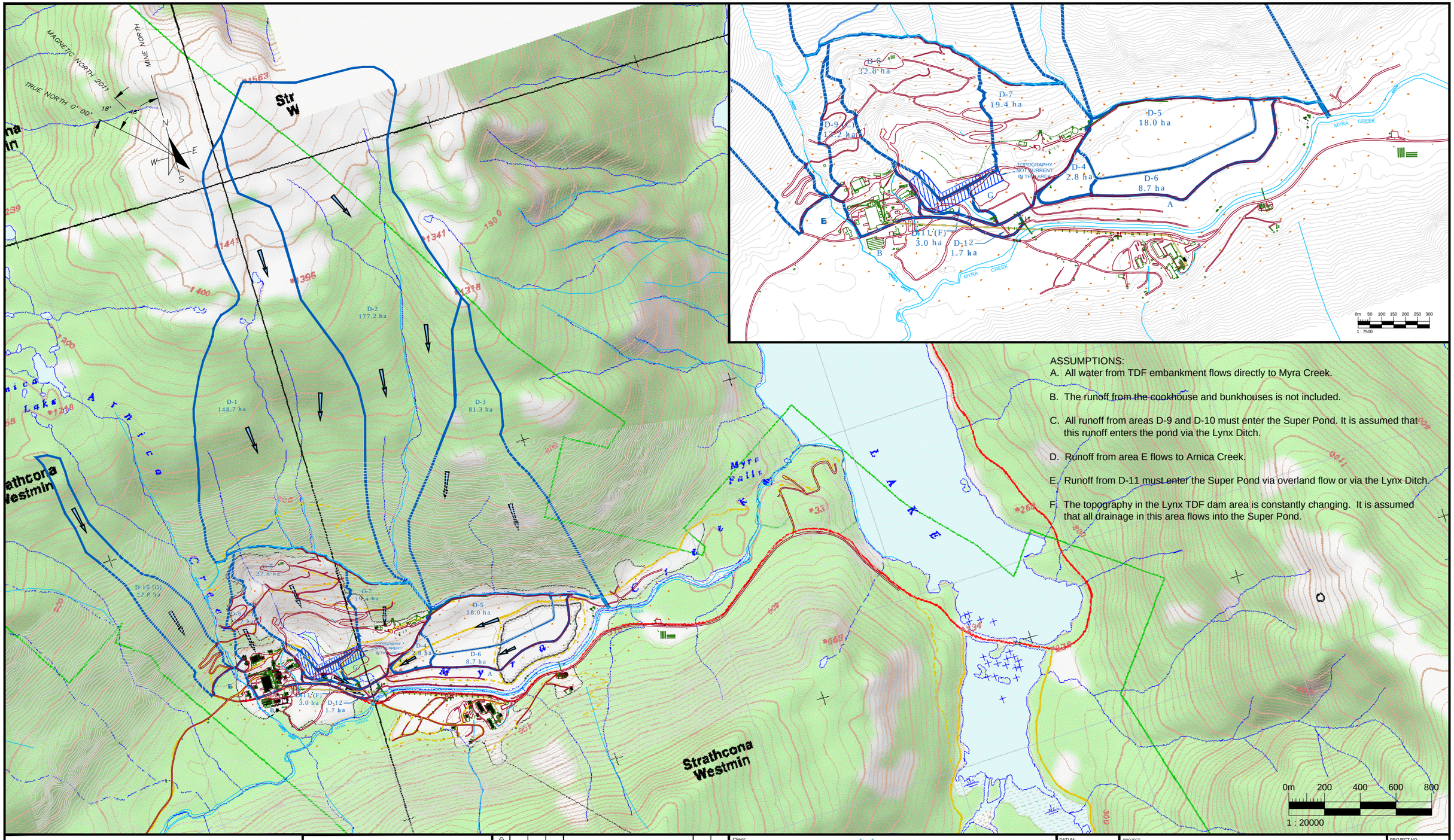

ASSUMPTIONS:

A. All water from TDF embankment flows directly to Myra Creek.

B. The runoff from the cookhouse and bunkhouses is not included.

C. All runoff from areas D-9 and D-10 must enter the Super Pond. It is assumed that this runoff enters the pond via the Lynx Ditch.

D. Runoff from area E flows to Arnica Creek.

E. Runoff from D-11 must enter the Super Pond via overland flow or via the Lynx Ditch.

F. The topography in the Lynx TDF dam area is constantly changing. It is assumed that all drainage in this area flows into the Super Pond.

NOTES:

1. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC ENVIRONMENT & INFRASTRUCTURE REPORT No. NX14001-2014-11 DATED NOVEMBER 2014

2. SURFACE TOPOGRAPHY BASED ON SEPTEMBER 2006 SURVEY DATA. THIS SURVEY WAS DONE ON MINE DATUM (MASL + 3048 m).

3. THE IMAGE PROVIDES CONTOUR INFORMATION OUTSIDE OF THE SURVEY DATA. THIS INFORMATION IS ON MASL DATUM. THE IMAGE WAS OBTAINED FROM SPECTRUM DIGITAL IMAGING LTD.

LEGEND

DRAINAGE BOUNDARY

FLOW DIRECTION

D-4 2.8 ha — DRAINAGE AREA ID, DRAINAGE AREA (in Hectares)

REV	D	M	Y	ISSUE / REVISION DESCRIPTION	ENG.	APPR.
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Client: nyrstar

AMEC Environment & Infrastructure
4385 Boban Drive, Nanaimo, B.C., V9T 5V9
Tel. 250 758-1887 Fax 250 758-1899

DATUM:	MINE
PROJECTION:	MINE
DRAWN BY:	J. Ford
REVIEWED BY:	D.Hughes-Games
ORIGINAL SCALE:	AS SHOWN

PROJECT: MYRA FALLS TAILINGS STORAGE FACILITIES
2014-Q3 DAM SAFETY INSPECTION REPORT

TITLE: DRAINAGE AREA MAP

PROJECT NO.:	NX14001
REVISION NO.	
DATE:	NOVEMBER 2014
DRAWING NO.:	010310
SHEET NO.:	1 OF 1

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APPENDIX A
SELECTED 2013 PHOTOGRAPHS

Photo 1: Amalgamated Paste Area (APA). Note erosion gullies on surface, and Reclaim Sands Area (RSA) to right of APA.

Photo 2: APA paste tailings surface. Note extensive erosion gullies

amec		2014-Q3 Dam Safety Inspection Report Appendix A - Photos		
Nyrstar Myra Falls Operations				
Drawn: N/A	Scale: N/A	Date: Nov 2014	Project:NX14001	Figure: 1

Photo 3: Portion of APA surface covered with waste rock cover. Note lack of erosion.

Photo 4: Paste Berm crest, looking east, and APA. Berm in APA is intended to increase flow path and sedimentation of solids prior to the decant.

Photo 5: APA Decant. Note waste rock piled around decant, and ponded water. Photo taken November 9, 2014.

Photo 6: Paste Berm toe and Strip, looking north towards Instrument Plane C and east abutment.

Photo 7: Paste Berm face and Strip, looking north.

Photo 8: Myra TDF Strip and 6:1 crest, looking east. Note lime piles on left for water neutralization, and decant in foreground.

Photo 9: Seismic Upgrade Berm crest and 6:1 slope.

Photo 10: Seismic Upgrade Berm face and toe, looking northwest. Note riprap armoring of toe along Myra Creek.

Photo 11: Seismic Upgrade Berm face and toe, looking northeast. Note riprap armoring of toe along Myra Creek.

Photo 12: TDF Spillway, looking south across Strip.

Photo 13: Reclaim Sands Area (RSA), looking west.

Photo 14: RSA decant. Note lack of sedimentation pond, and direct flow of dirty water into decant.

Photo 15: Seepage at east abutment of Paste Berm. (Photo taken October 22, 2014)

Photo 16: Seepage erosion noted at toe of Paste Berm. Note bootprints for scale. (Photo taken October 23, 2014)

Photo 17: Temporary remedial measures installed to repair seepage erosion at Paste Berm toe.
(Photo taken October 28, 2014)

Photo 18: Lynx TDF Overview. (Photo taken September 6, 2014)

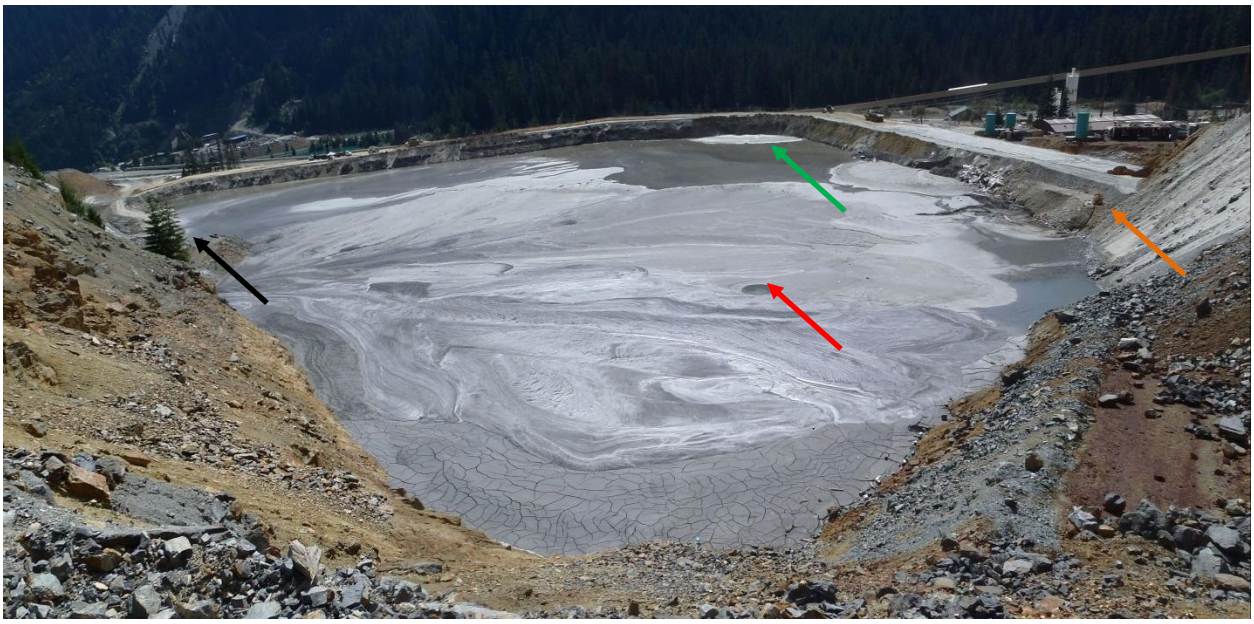

Photo 19: Lynx TDF, as viewed from the tailings line road looking south. Note tailings discharge (black arrow), depression on tailings surface (red arrow), reclaim sands deposition (green arrow), and pump to remove water (orange arrow). (Photo taken August 26, 2014)

Photo 20: Depression on paste surface in Lynx TDF. (Photo taken August 21, 2014)

Photo 21: Lynx TDF upstream slope. (Photo taken October 2, 2014)

Photo 22: Rilling of upstream reclaim sand buttress. The rill shown in this photo is approximately 1 m wide. (Photo taken September 26, 2014)

Photo 23: Lynx Dam crest, looking west along the south arm. Zone A is visible on the left, Zone J is visible on the right. A piezometer group is visible in the foreground. (Photo taken September 6, 2014)

Photo 24: Lynx TDF south arm downstream slope. (Photo taken September 9, 2014)

Photo 25: Lynx west arm downstream slope, looking north.

Photo 26: Lynx Dam south arm toe, looking west. Note Zone J construction stockpile on left. Bench visible in photo center is a portion of the dam overbuilt in 2012.

Photo 27: Water noted at toe of Lynx Dam during excavation of Zone J stockpile. Further investigation indicated water was seeping from the stockpile, not the dam itself. (Photo taken September 6, 2014)

Photo 28: Lynx Springs Drain under construction. Photo taken looking downstream along springs drain alignment at station 0+20, showing foundation, coarse filter, and drain rock zones. (Photo taken September 22, 2014)

Photo 29: Upper Arnica Diversion Ditch, looking downstream.

Photo 30: Lower Arnica Diversion Ditch, looking downstream.

Photo 31: Lower Arnica Diversion Ditch, looking upstream.

Photo 32: Alder Reach Diversion Ditch, looking upstream from Lower Diversion Ditch. Note steep cuts and fills, and seepage visibly flowing into ditch.

Photo 33: Cascade Reach debris basin, prior to upgrades currently underway.

Photo 34: Lower Lynx Diversion Ditch, looking downstream from Cascade Reach. Photo taken September 4, 2014, prior to upgrades currently underway.

Photo 35: Similar view as Photo 34, during current construction. This photo shows the subgrade cut, prior to lining with geotextile and riprap. Photo taken November 12, 2014.

Photo 36: Lower Diversion Ditch, looking downstream at man bridge to Alder Reach Diversion Ditch. Photo taken September 4, 2014, prior to upgrades currently underway.

APPENDIX B
AMEC DESIGN DRAWINGS

LYNX CONSTRUCTION DRAWING NOTES

GENERAL

1 CLIENT SHALL NOTIFY AMEC IMMEDIATELY OF DISCREPANCIES FOUND ON DRAWINGS OR ANY EXISTING CONDITIONS FOUND ON SITE WHICH CONFLICT WITH CONDITIONS AS SHOWN.
2 DRAWINGS ARE NOT ASSOCIATED WITH ANY OTHER REPORTS OR DOCUMENTS.
3 THE GEOTECHNICAL DRAWINGS ARE FOR THE COMPLETED PROJECT. AMEC CAN PROVIDE ADVICE WITH RESPECT TO STABILITY DURING THE WORK; HOWEVER, ULTIMATE RESPONSIBILITY FOR WORKER SAFETY DURING CONSTRUCTION REMAINS THE RESPONSIBILITY OF NYRSTAR.
4 NOTIFY AMEC A MINIMUM OF 48 HOURS PRIOR TO ANY REQUIRED SITE REVIEWS OR INSPECTIONS.

FOUNDATION AND GEOTECHNICAL NOTES FOR LYNX SPRING DRAIN

1 REROUTE SURFACE DRAINAGE CURRENTLY FLOWING DOWN THE DRAIN ALIGNMENT AWAY FROM THE CONSTRUCTION AREA. PERMANENTLY REROUTE THE CULVERT DISCHARGE AT THE TOP OF THE SLOPE ABOVE THE AREA.
2 REMOVE ALL LOOSE OR SATURATED MATERIAL AND GROUNDWATER FROM THE FOOTPRINT OF THE DRAIN PRIOR TO PLACING FILL MATERIALS.
3 PROTECT EXCAVATIONS AND PREPARED AREAS FROM RAIN, SNOW, FREEZING TEMPERATURES, STANDING WATER, LOSS OF MOISTURE AND DEGRADATION BY APPROVED METHODS.
4 SUBGRADE SURFACES TO BE INSPECTED BY AMEC PRIOR TO PLACING FILL MATERIALS. IMPROVE SUBGRADE AS DIRECTED IN WRITING.
5 FILL MATERIALS SHALL BE FREE OF ORGANIC MATTER AND DELETRIOUS INCLUSIONS AND CONFORM TO THE SPECIFATIONS DETAILED IN TABLE 1.
6 FILL MATERIALS SHALL BE SAMPLED OR INSPECTED PRIOR TO PLACEMENT AND AT AN INTERVAL OF NOT LESS THAN EVERY 500 m³ DURING CONSTRUCTION. TESTING REQUIREMENTS SHALL BE SPECIFIED BY THE GEOTECHNICAL ENGINEER.
7 FILL MATERIALS SHALL BE PLACED LOOSE WITHOUT DISTURBANCE, NO TRAFFIC IS ALLOWED ON THE FILL ZONES WITHOUT PRIOR APPROVAL, ALL WORK SHOULD BE CARRIED OUT ADJACENT TO THE FILL ZONES.
8 FILL MATERIAL LAYERS THICKER THAN 0.40 m SHOULD BE GRADED TO WITHIN A TOLERANCE OF ± 0.10 m; OTHERWISE LAYERS SHOULD BE GRADED TO WITHIN A TOLERANCE OF ± 0.05 m.
9 THE FINAL PROTECTIVE LAYER OF ZONE J MATERIAL SHOULD PROVIDE A MINIMUM OF 3 m OF COVER BETWEEN THE DRAIN AND OVERLYING MATERIAL, IT SHOULD BE PLACED AS LIFTS WITH THICKNESSES NOT TO EXCEED 0.50 m AND ONLY COMPACTED VIA STATIC SMOOTH DRUM ROLLER ONCE A MINIMUM COVER THICKNESS OF 1.5 m HAS BEEN ACHIEVED.
10 GEOMEMBRANE PLACED BETWEEN THE CLEAN FINE FILTER (TILL SCREENED ON 25 mm SIEVE) AND RECLAIM SAND LAYERS SHOULD HAVE WELDED SEAMS COMPLETED BY A QUALIFIED INSTALLER AND SHOULD BE PROTECTED AS PER THE MANUFACTURE'S RECOMMENDATIONS.
11 GEOMEMBRANE MEASURUREMENTS; PERIMETER 27.7 m, LENGTH 160 m, AREA 4,432 m².
12 GEOMEMBRANE SHOULD BE A HIGH DENSITY POLYETHYLENE PRODUCT WITH MINIMUM SPECIFICATIONS BASED ON "VERY HIGH SURVIVABILITY", TABLE 5.1, KOERNER, 1998 "DESIGNING WITH GEOSYNTHETICS" 4th Ed.:
- MINIMUM THICKNESS (ASTM D5199): 1.00 mm
- TENSILE STRENGTH (ASTM D6693): 13 kN/m
- TEAR RESISTANCE (ASTM D1004 DIE C): 90 N
- PUNCTURE RESISTANCE (ASTM D4833): 200 N

13 BETWEEN STA. 0+140 AND 0+160, THE DRAIN LAYERS AND GEOMEMBRANE SHAPE MAY ALTER SLIGHTLY TO BETTER FIT THE INTERSETION WITH THE EXISTING NORTHERN SLOPE AS SEEN IN THE CROSS SECTIONS. PADDING LAYERS SHOULD ALWAYS ACCOMPANY THE GEOMEMBRANE, AND BE OF ADEQUATE THICKNESS, TO PREVENT DAMAGE TO THE LINER. THE EXISTING GROUND SHOULD BE PREPARED WITH THE USE OF A SMOOTH-BUCKET EXCAVATOR AND APPROVED BY THE AMEC FIELD REPRESENTITIVE.

TABLE 1 – GRADATION SPECIFICATIONS FOR FILL MATERIALS

	CLEAN DRAIN ROCK	CLEAN COARSE FILTER	CLEAN FINE FILTER (ZONE E)	ZONE A	ZONE J	CLEAN LINER PADDING
MAXIMUM PARTICLE SIZE	300 mm	75 mm	300 mm	300 mm	300 mm	25 mm
MAXIMUM FRACTION >150 mm	50%	0%	40%	40%	40%	0%
SIEVE SIZE (mm)	GRADATION OF FRACTION SMALLER THAN 150 mm PERCENT PASSING BY DRY WEIGHT					
150	50 - 100		100	100	100	
75	0 - 60	100				
37.5	0 - 25		40 - 100	40 - 100	70 - 100	
25	0 - 2	45 - 100				100
9.5		0 - 40				
4.75		0 - 2	0 - 55	0 - 55	40 - 75	40 - 100
0.425			0 - 30	0 - 30	20 - 50	20 - 55
0.075			0 - 20	0 - 20	10 - 40	10 - 40

TABLE 1 NOTES

1 FRACTION OF MATERIALS GREATER THAN 150 mm WILL BE EVALUATED IN THE FIELD BASED VISUAL ESTIMATION.
2 RECLAIM SAND SHOULD BE FREE OF GRANULAR MATERIALS GREATER THAN 25 mm IN SIZE AND CONTAIN NO DELETRIOUS INCLUSIONS.

TABLE 2 – VOLUME ESTIMATES FOR FILL MATERIALS (m³)

AREA	CLEAN DRAIN ROCK	CLEAN COARSE FILTER	CLEAN FINE FILTER (ZONE E)	ZONE A	ZONE J	CLEAN LINER PADDING	RECLAIM SAND
CONVEYANCE	2,800	3,100	3,700	1,700	13,900	1,100	1,200
CAPTURE	2,600	400	800	300	3,600	-	-
TOTAL	5,400	3,500	4,500	2,000	17,500	1,100	1,200

DRAWING INDEX

DRAWING NAME	DRAWING NUMBER	DRAWING SHEET
LYNX SPRING DRAIN CONSTRUCTION NOTES	NX10011.602.001	1 OF 8
LYNX SPRING DRAIN PLAN OVERVIEW	NX10011.602.002	2 OF 8
LYNX SPRING DRAIN PLAN/ PROFILE	NX10011.602.003	3 OF 8
LYNX SPRING DRAIN TYPICAL SECTIONS	NX10011.602.004	4 OF 8
LYNX SPRING DRAIN SECTIONS STA. 0+000 to 0+080	NX10011.602.005	5 OF 8
LYNX SPRING DRAIN SECTIONS STA. 0+090 to 0+170	NX10011.602.006	6 OF 8
LYNX SPRING DRAIN SECTIONS STA. 0+180 to 0+260	NX10011.602.007	7 OF 8
LYNX SPRING DRAIN SECTIONS STA. 0+270 to 0+300	NX10011.602.008	8 OF 8

LEGEND:

NOTES:
1. 2013 SURVEY SURFACE TOPOGRAPHY SUPPLIED BY CLIENT
2. THIS SURVEY IS REFERENCED TO MINE DATUM (MASL + 3048 m).

REV	D	M	Y	ISSUE / REVISION DESCRIPTION	ENG.	APPR.
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A	23	05	2014	ISSUED FOR CONSTRUCTION	T.P.	D.H-G.

Client: nyrstar

AMEC Environment & Infrastructure
4385 Boban Drive, Nanaimo, B.C., V9T 5V9
Tel. 250 758-1887 Fax 250 758-1899

DATUM: MINE
PROJECTION: MINE
DRAWN BY: J.FORD
REVIEWED BY: T.PATTEN
SCALE: NTS

PROJECT: MYRA FALLS TAILINGS STORAGE FACILITIES

TITLE: LYNX SPRING DRAIN CONSTRUCTION NOTES

PROJECT NO.: NX10011
REVISION NO. A
DATE: MAY 2014
DRAWING NO.: NX10011.2014.602.001
SHEET NO.: 1 of 8

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SPRING DRAIN CONVEYANCE AREA

SPRING DRAIN CAPTURE AREA

LOWER EAST BORROW (LEB)

CULVERT FLOW NEEDS TO BE RE-DIRECTED

LEB DISCHARGE CHANNEL

WASTE ROCK DUMP #1

PHILLIPS REACH DRAINAGE DITCH

ULTIMATE DAM TOE

LEB GROUNDWATER SEEPAGE

LYNX TDF PASTE DISCHARGE LINE

LYNX BACK ROAD

LYNX TAILINGS DISPOSAL FACILITY (LYNX TDF)

LYNX TDF DAM

J-ZONE CONSTRUCTION STOCKPILE

SUPER 'OUT'

SUPER POND

SUPER 'IN'

PIEZOMETER LEADS

"80 FOOT" BUILDING

ULTIMATE DAM TOE

OVERHEAD CONVEYOR

POWER HOUSE

ADIT 8 LEVEL

ADIT 10 LEVEL EAST

ADIT 10 LEVEL WEST

10L RAMP

LYNX MINE

LYNX OFFICES AND SHOPS

MYRA TDF

HW MINE

LYNX TDF

LEGEND

- Paste tailings
- Zone A
- Cyclone sand
- Zone J

MAGNETIC NORTH 2011

TRUE NORTH 0° 00' 18'

MINE NORTH

0m 20 40 60 80

1 : 1000

LEGEND:

NOTES:
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Client: nyrstar

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4385 Boban Drive, Nanaimo, B.C., V9T 5V9
Tel. 250 758-1887 Fax 250 758-1899

DATUM: MINE
PROJECTION: MINE
DRAWN BY: J.FORD
REVIEWED BY: T.PATTEN
SCALE: 1:1000

PROJECT: MYRA FALLS TAILINGS STORAGE FACILITIES
2014 LYNX SPRING DRAIN DESIGN

TITLE: LYNX SPRING DRAIN PLAN OVERVIEW

PROJECT NO.: NX10011
REVISION NO.: A
DATE: MAY 2014
DRAWING NO.: NX10011.2014.602.002
SHEET NO.: 2 of 8

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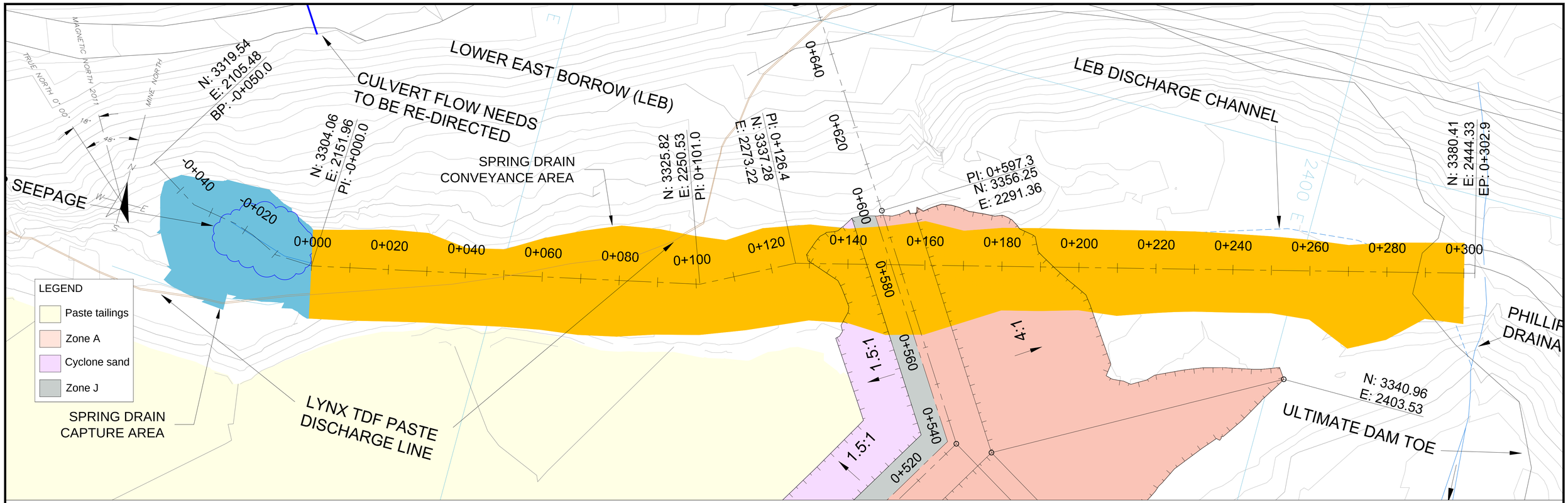
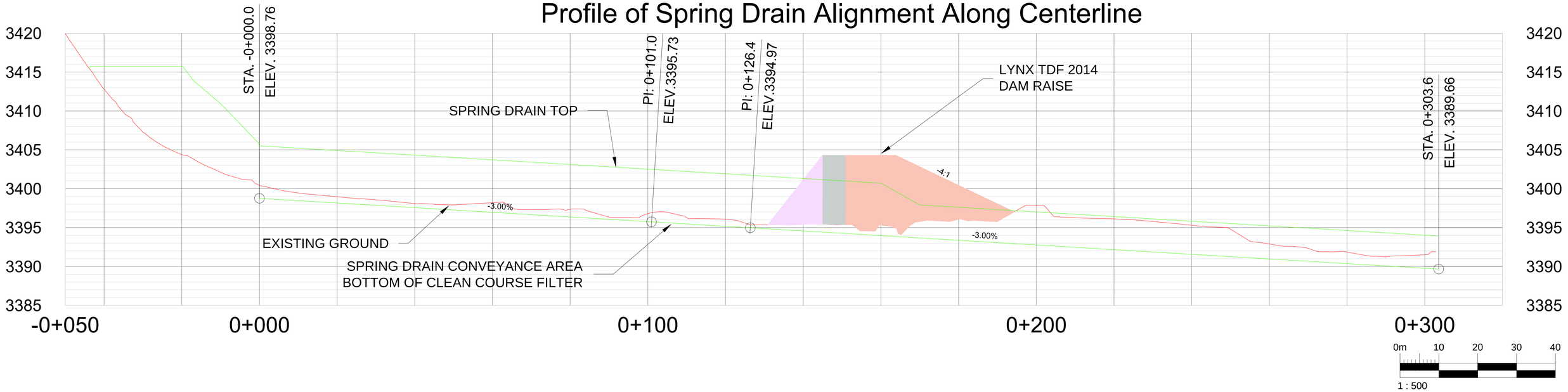


Profile of Spring Drain Alignment Along Centerline



0m 10 20 30 40

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LEGEND:

NOTES:
1. 2013 SURVEY SURFACE TOPOGRAPHY SUPPLIED BY CLIENT
2. THIS SURVEY IS REFERENCED TO MINE DATUM (MASL + 3048 m).

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DATUM: MINE
PROJECTION: MINE
DRAWN BY: J.FORD
REVIEWED BY: T.PATTEN
SCALE: 1:500

PROJECT: MYRA FALLS TAILINGS STORAGE FACILITIES
2014 LYNX SPRING DRAIN DESIGN

TITLE: LYNX SPRING DRAIN
PLAN & PROFILE

PROJECT NO.: NX10011
REVISION NO.: A
DATE: MAY 2014
DRAWING NO.: NX10011.2014.602.003
SHEET NO.: 3 of 8

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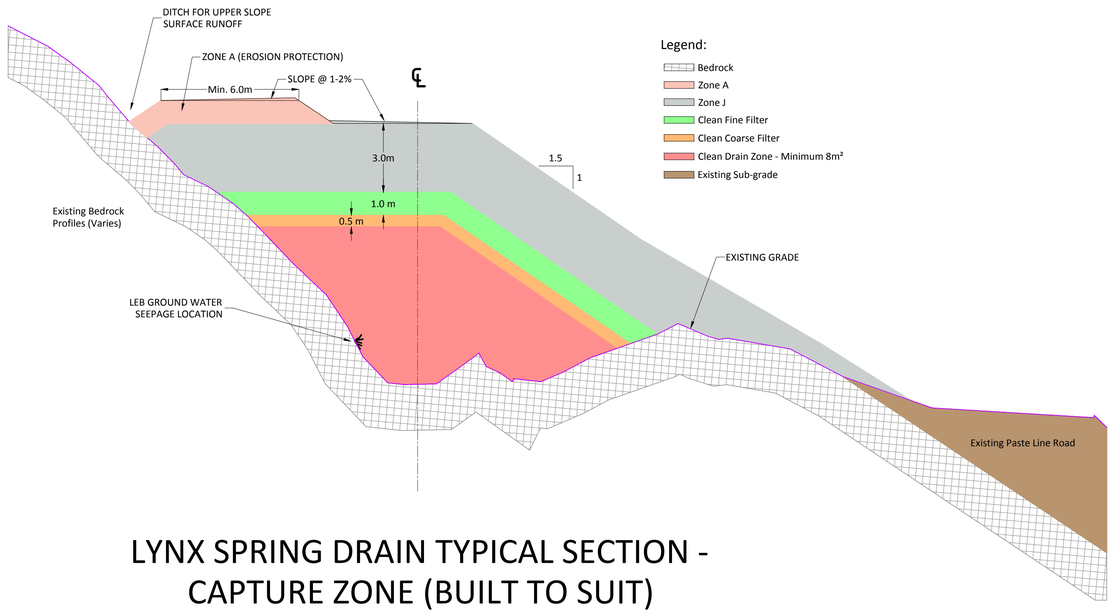
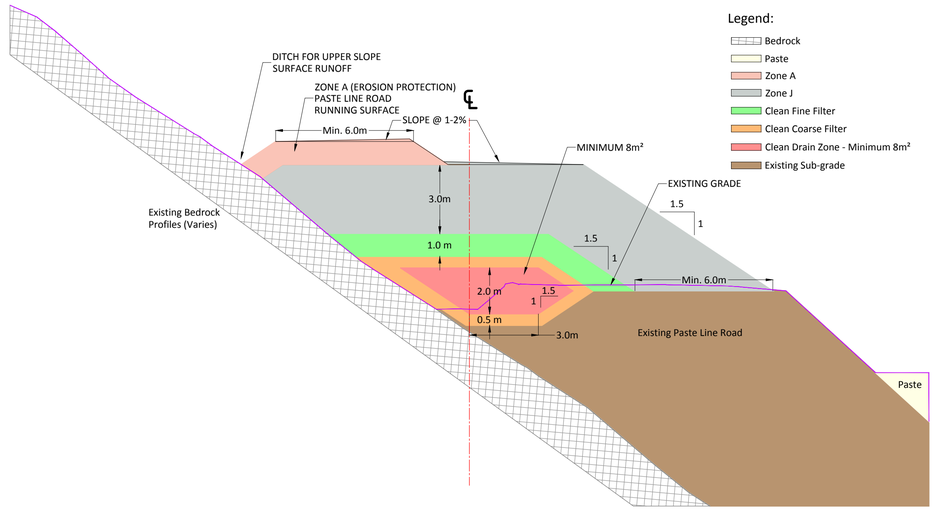


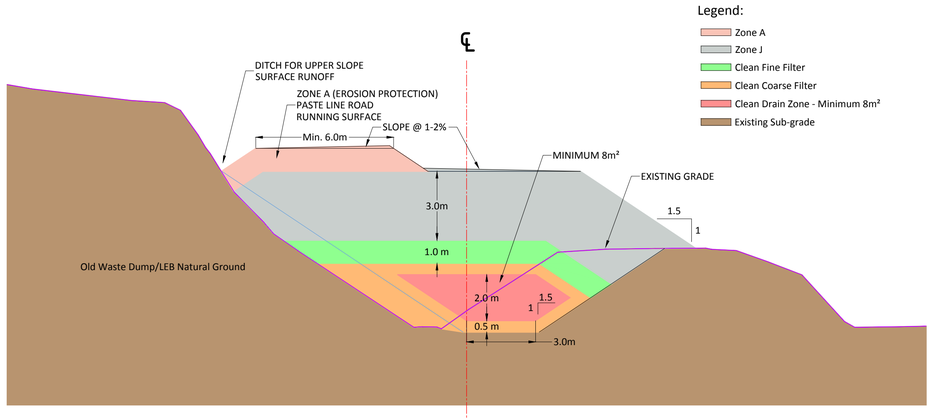
LYNX SPRING DRAIN TYPICAL SECTION - CAPTURE ZONE (BUILT TO SUIT)

STA. -0+043 TO 0+000
N.T.S.



LYNX SPRING DRAIN TYPICAL SECTION - CONVEYANCE ZONE ALONG BEDROCK

STA. 0+000 TO 0+110
N.T.S.



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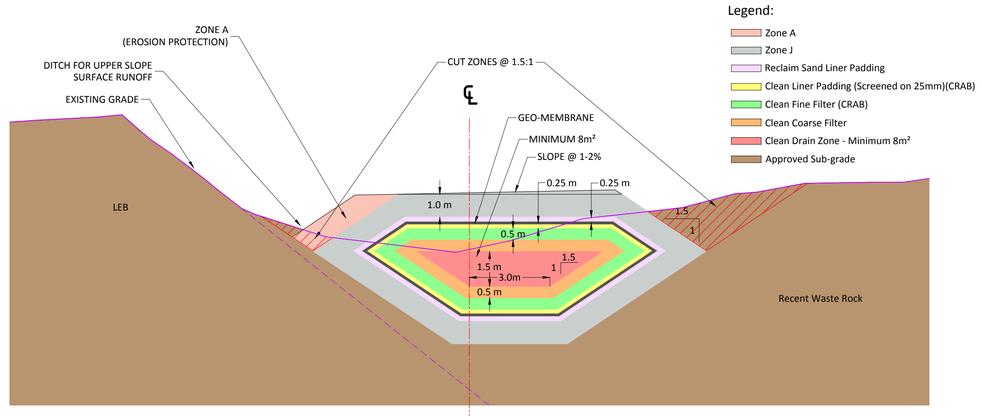

LYNX SPRING DRAIN TYPICAL SECTION - CONVEYANCE ZONE THROUGH MINE WASTE

STA. 0+140 TO 0+300
N.T.S.

LEGEND:

NOTES:
1. 2013 SURVEY SURFACE TOPOGRAPHY SUPPLIED BY CLIENT
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Client: nyrstar

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Tel. 250 758-1887 Fax 250 758-1899

DATUM: MINE
PROJECTION: MINE
DRAWN BY: J.FORD
REVIEWED BY: T.PATTEN
SCALE: NTS

PROJECT: MYRA FALLS TAILINGS STORAGE FACILITIES
2014 LYNX SPRING DRAIN DESIGN

TITLE: LYNX SPRING DRAIN TYPICAL SECTIONS

PROJECT NO.: NX10011
REVISION NO.: A
DATE: MAY 2014
DRAWING NO.: NX10011.2014.602.004
SHEET NO.: 4 of 8

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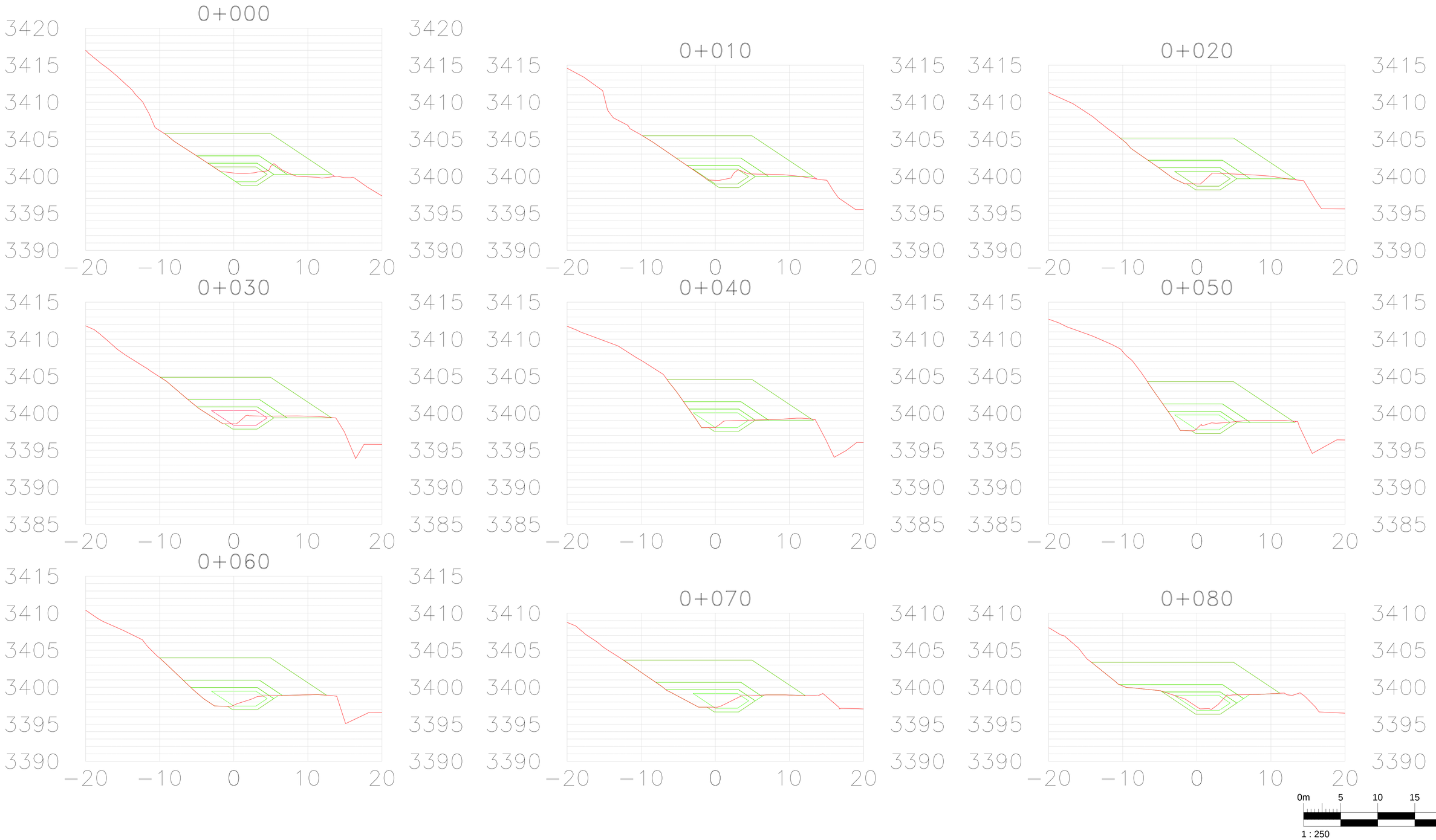

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LEGEND:

NOTES:
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2. THIS SURVEY IS REFERENCED TO MINE DATUM (MASL + 3048 m).

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Client: nyrstar

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REVIEWED BY: T.PATTEN
SCALE: 1:250

PROJECT: MYRA FALLS TAILINGS STORAGE FACILITIES
2014 LYNX SPRING DRAIN DESIGN

TITLE: LYNX SPRING DRAIN SECTIONS
STA. 0+000 to 0+080

PROJECT NO.: NX10011
REVISION NO.: A
DATE: MAY 2014
DRAWING NO.: NX10011.2014.602.005
SHEET NO.: 5 of 8

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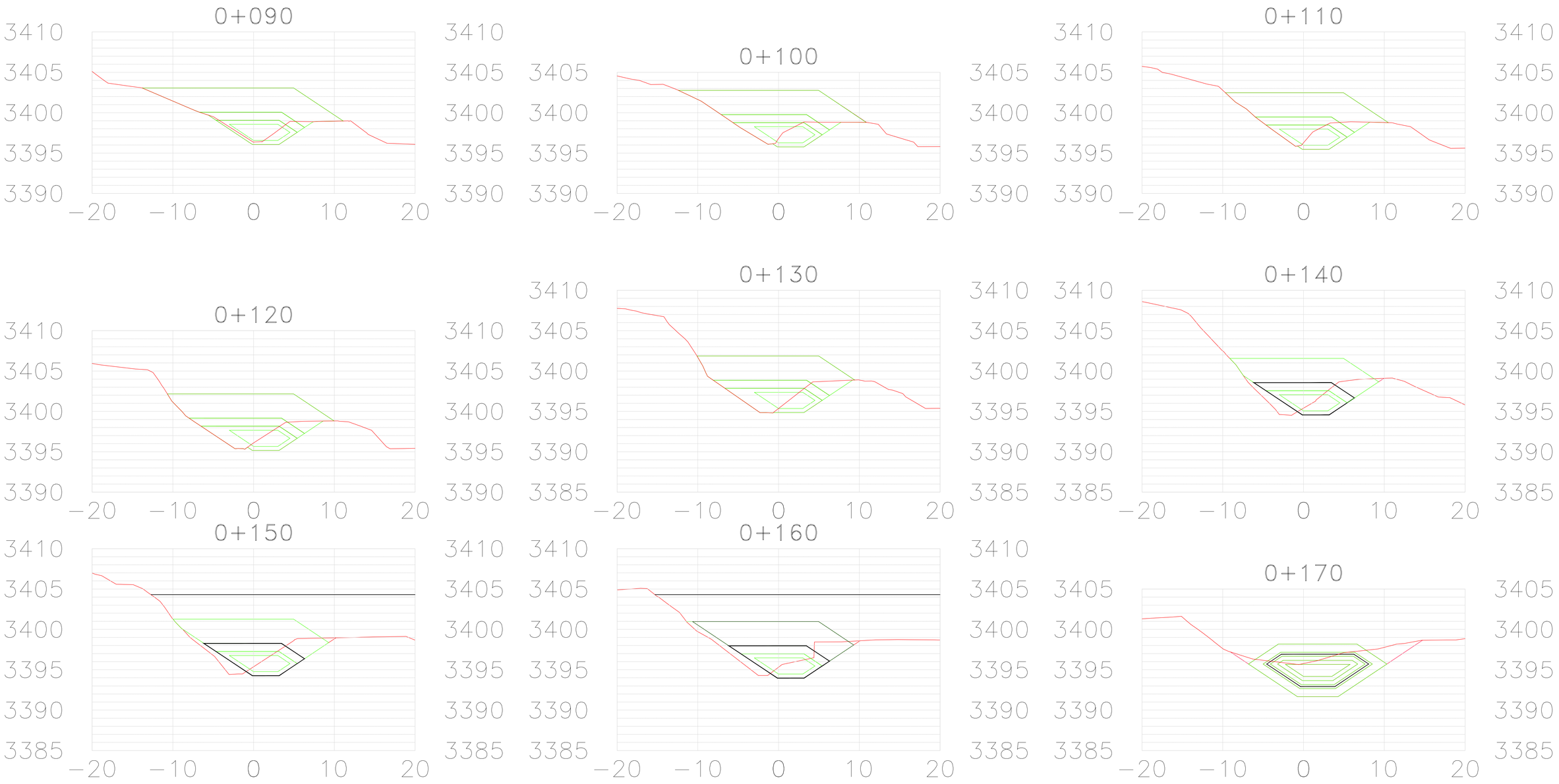

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LEGEND:

NOTES:
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REVIEWED BY: T.PATTEN
SCALE: 1:250

PROJECT: MYRA FALLS TAILINGS STORAGE FACILITIES
2014 LYNX SPRING DRAIN DESIGN

TITLE: LYNX SPRING DRAIN SECTIONS
STA. 0+090 to 0+170

PROJECT NO.: NX10011
REVISION NO.: A
DATE: MAY 2014
DRAWING NO.: NX10011.2014.602.006
SHEET NO.: 6 of 8

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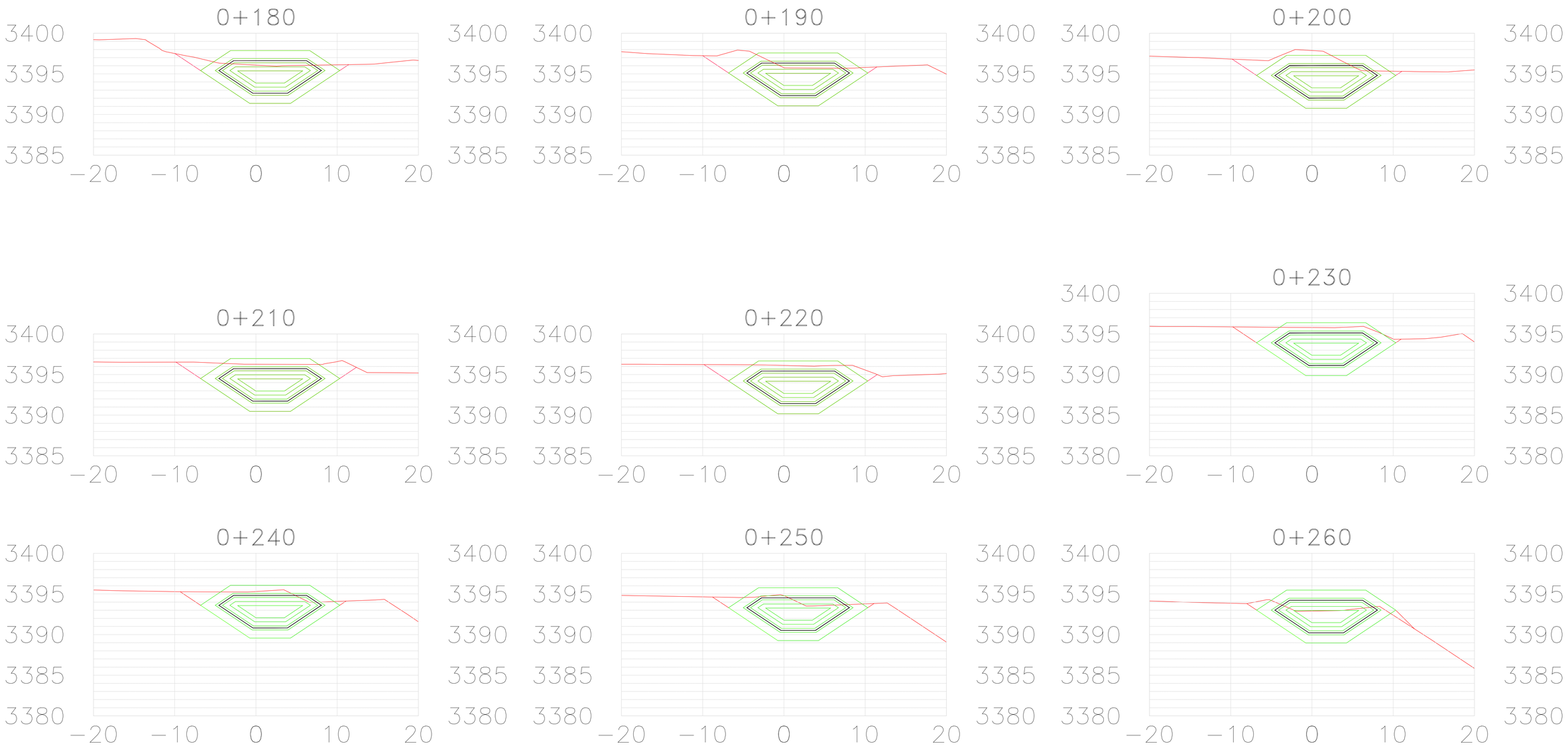

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LEGEND:

NOTES:
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DATUM: MINE
PROJECTION: MINE
DRAWN BY: J.FORD
REVIEWED BY: T.PATTEN
SCALE: 1:250

PROJECT: MYRA FALLS TAILINGS STORAGE FACILITIES
2014 LYNX SPRING DRAIN DESIGN

TITLE: LYNX SPRING DRAIN SECTIONS
STA. 0+180 to 0+260

PROJECT NO.: NX10011
REVISION NO.: A
DATE: MAY 2014
DRAWING NO.: NX10011.2014.602.007
SHEET NO.: 7 of 8

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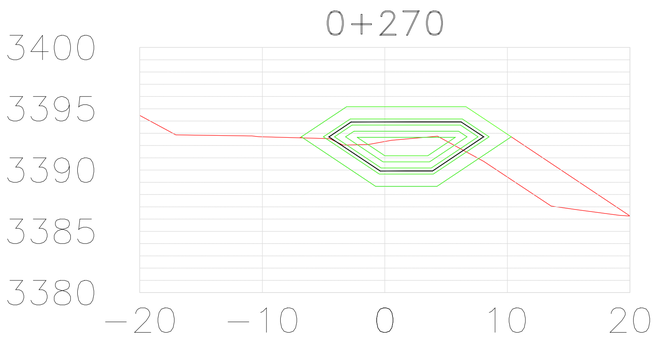

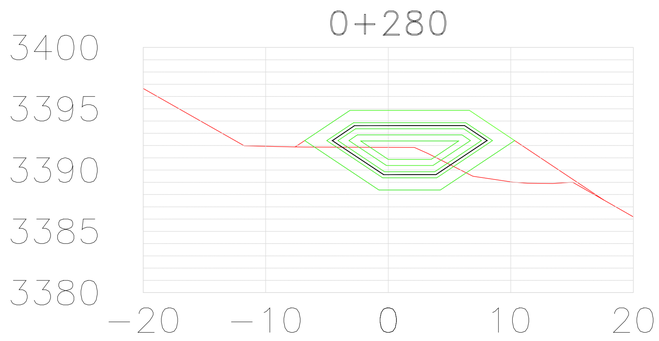

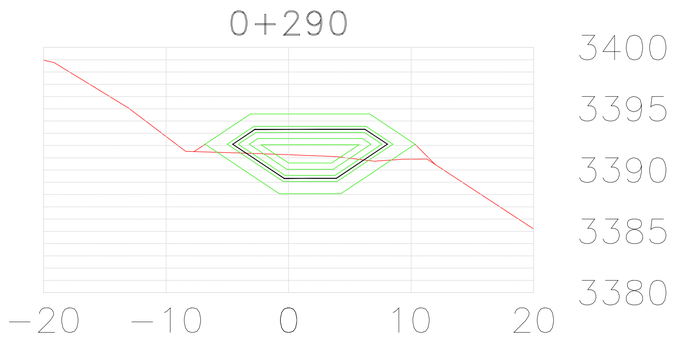

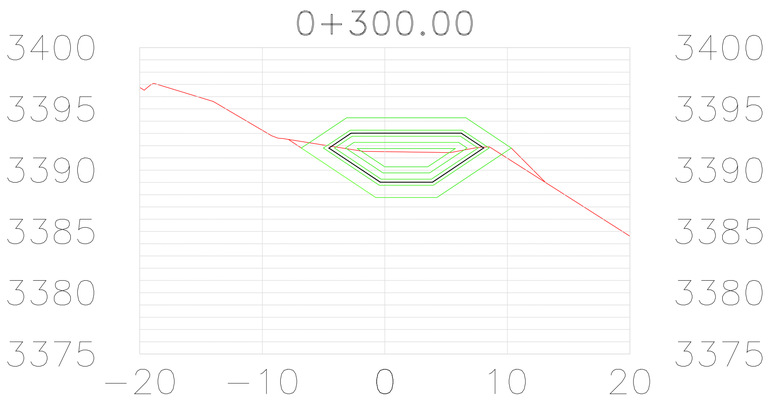

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LEGEND:

NOTES:
1. 2013 SURVEY SURFACE TOPOGRAPHY SUPPLIED BY CLIENT
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Client: nyrstar

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4385 Boban Drive, Nanaimo, B.C., V9T 5V9
Tel. 250 758-1887 Fax 250 758-1899

DATUM: MINE
PROJECTION: MINE
DRAWN BY: J.FORD
REVIEWED BY: T.PATTEN
SCALE: 1:250

PROJECT: MYRA FALLS TAILINGS STORAGE FACILITIES
2014 LYNX SPRING DRAIN DESIGN

TITLE: LYNX SPRING DRAIN SECTIONS
STA. 0+270 to 0+300

PROJECT NO.: NX10011
REVISION NO. A
DATE: MAY 2014
DRAWING NO.: NX10011.2014.602.008
SHEET NO.: 8 of 8

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LYNX CONSTRUCTION DRAWING NOTES

GENERAL

1 CLIENT SHALL NOTIFY AMEC IMMEDIATELY OF DISCREPANCIES FOUND ON DRAWINGS OR ANY EXISTING CONDITIONS FOUND ON SITE WHICH CONFLICT WITH CONDITIONS AS SHOWN.
2 DRAWINGS ARE NOT ASSOCIATED WITH ANY REPORTS OR DOCUMENTS.
3 THE GEOTECHNICAL DRAWINGS ARE FOR THE COMPLETED PROJECT. AMEC CAN PROVIDE ADVICE WITH RESPECT TO STABILITY DURING THE WORK; HOWEVER, ULTIMATE RESPONSIBILITY FOR WORKER SAFETY DURING CONSTRUCTION REMAINS THE RESPONSIBILITY OF NYRSTAR.
4 NOTIFY AMEC A MINIMUM OF 48 HOURS PRIOR TO ANY REQUIRED SITE REVIEWS OR INSPECTIONS.

FOUNDATION AND GEOTECHNICAL NOTES FOR LYNX TDF DAM – ACCORDING TO ZONE

ZONE A

1 SUBGRADE SURFACES TO BE INSPECTED BY AMEC PRIOR TO PLACING FILL MATERIALS. IMPROVE SUBGRADE AS DIRECTED IN WRITING.
2 GRADATION OF ZONE A SHALL BE AS DEFINED IN TABLE 1.
3 LIFTS OF FILL MATERIAL SHALL BE CONSTRUCTED HORIZONTALLY AND COVER THE LARGEST CONTIGUOUS AREA PRACTICABLE. ELEVATION DIFFERENCES BETWEEN ADJACENT AREAS SHOULD NOT EXCEED TWO LIFTS (0.9 m).
4 LIFTS SHALL ONLY BE CONSTRUCTED ABOVE A PREVIOUSLY COMPACTED LIFT; NO MATERIAL SHALL BE ALLOWED TO SPILL OVER THE EDGE OF A LIFT.
5 LIFT THICKNESS SHALL; NEVER EXCEED 450 mm, BE PLACED AND COMPACTED AT A SUITABLE MOISTURE CONTENT, AND COMPACTED BY ROLLING WITH TRUCKS OR VIBRATORY SMOOTH DRUM ROLLER.
6 COMPACTION VERIFICATION MUCT BE CONDUCTED FOR EVERY LIFT AND SHALL BE EXECUTED VIA PROOF-ROLLING WITH LOADED TRUCKS. PROOF ROLLING WILL BE OBSERVED BY AMEC. ACCEPTANCE WILL BE AT AMEC'S DISCRETION.
7 FOLLOWING ACCEPTANCE OF EVERY LIFT, SCARIFICATION SHALL BE CARRIED OUT PRIOR TO PLACEMENT OF ANY FURTHER FILL MATERIALS.
8 THE FINAL HORIZONTAL TOP SURFACE OF ZONE A SHOULD BE GRADED WITH A CROSSFALL TOWARDS THE UPSTREAM CREST AT 1-2%, AND SHOULD BE NO LESS THAN AT-GRADE ELEVATION.

UPSTREAM BUTTRESS

1 SHALL BE CONSTRUCTED OF RECLAIM SAND, NOT TO CONTAIN ANY WOOD, WOODY DEBRIS OR BOULDERS.
2 CONSTRUCTED HORIZONTALLY VIA DUMPING AND PUSHING FROM THE EXISTING UPSTREAM SIDE OF THE LYNX TDF DAM UNTIL SURVEY CONFIRMS THE TOE LOCATION HAS BEEN ACHIEVED.
3 THE UPSTREAM SIDE SHALL NOT BE STEEPER THAN 1.5H:1V, HOWEVER IF CRACKING AND EXCESSIVE SETTLEMENT OCCURS THIS SHALL BE FLATTENED TO 2H:1V.
4 UPON COMPLETION OF THE HORIZONTAL BENCH, THE SAND SHALL BE NOMINALLY COMPACTED VIA VIBRATORY ROLLER OR BY TRACKING WITH A DOZER.
5 THE BUTTRESS SHALL BE MAINTAINED HIGHER THAN THE ADJACENT NEW ZONE J FILL.
6 WHERE THE BUTTRESS IS LESS THAN 5 m WIDE IT CAN BE CONSTRUCTED OF ZONE J FILL AND RAISE CONCURRENTLY WITH THE ZONE J CORE ZONE.

ZONE J – CORE ZONE

1 GRADATION OF ZONE J SHALL BE AS DEFINED IN TABLE 1.
2 AT THE CONTACT OF THE ZONE A AND J MATERIAL, THE DIFFERENCE IN ELEVATION SHALL NEVER EXCEED 3 LIFTS.
3 THE UPSTREAM SIDE OF ZONE J SHALL BE RAISED BY RECLAIM SAND AS DESCRIBED ABOVE
4 THE SURFACE OF EVERY LIFT SHALL BE CLEANED OF ANY RECLAIM SAND OR ZONE A MATERIAL THEN SCARIFIED BEFORE THE PLACEMENT OF THE NEXT LIFT.
5 LIFT THICKNESS SHALL; NEVER EXCEED 450 mm, BE PLACED AND COMPACTED AT A SUITABLE MOISTURE CONTENT, AND COMPACTED BY ROLLING WITH VIBRATORY COMPACTION.
6 COMPACTION VERIFICATION MUCT BE CONDUCTED FOR EVERY LIFT AND SHALL BE EXECUTED VIA VISIUAL INSPECTION OF THE ROLLER PERFORMANCE. ZONE J WILL NOT BE PROOF ROLLED BY HAUL TRUCKS DUE TO THE POTENTIAL FOR RUTTING.
7 THE FINAL TOP SURFACE OF ZONE J SHOULD BE GRADED WITH A CROSSFALL TOWARDS THE UPSTREAM CREST AT 1-2%, AND SHOULD BE NO LESS THAN AT-GRADE ELEVATION.

PIEZOMETER WIRE RAISE ZONE

1 PIEZOMETER WIRES AND RAISE ZONE SHOULD ALWAYS REMAIN ABOVE THE SURROUNDING GRADE AND BE ADEQUATELY MARKED TO PREVENT DAMAGE.
2 PIEZOMETER WIRE ZONE SHOULD EXTEND RADIALLY A MINIMUM OF 1.0 m FROM THE WIRE LOCATION, THIS ZONE SHOULD CONSIST OF LOOSE CLEAN SAND WITH NO WOOD, METAL OR OTHER DELETRIOUS MATERIALS, AND BE COMPACTED IN LIFTS WITH A MAXIMUM THICKNESS 0.3 m USING A PLATE TAMPER OR EQUIVALENT MACHINERY TO AVOID DAMAGE TO THE WIRES.
3 PIEZOMETER WIRE RAISES ARE TO BE COMPLETED UNDER THE SUPERVISION OF AN AMEC REPRESENTITIVE.
4 INDIVIDUAL RAISES SHOULD BE KEPT TO A MAXIMUM HEIGHT OF 1.8 m, SHORTER RAISE HEIGHTS ARE DESIRED IF CONSTRUCTION ALLOWS FOR IT.

TABLE 1 – GRADATION SPECIFICATIONS FOR FILL MATERIALS

	ZONE A	ZONE J
MAXIMUM PARTICLE SIZE	300 mm	300 mm
MAXIMUM FRACTION >150 mm	40%	40%
SIEVE SIZE (mm)	GRADATION OF FRACTION SMALLER THAN 150 mm PERCENT PASSING BY DRY WEIGHT	
150	100	100
37.5	40 - 100	70 - 100
4.75	0 - 55	40 - 75
0.425	0 - 30	20 - 50
0.075	0 - 20	10 - 40

TABLE 1 NOTES

1 FRACTION OF MATERIALS GREATER THAN 150 mm WILL BE EVALUATED IN THE FIELD BASED VISUAL ESTIMATION.
2 RECLAIM SAND SHOULD BE FREE OF GRANULAR MATERIALS GREATER THAN 25 mm IN SIZE AND CONTAIN NO DELETRIOUS INCLUSIONS.

TABLE 2 – VOLUME ESTIMATION FOR FILL MATERIALS (m³)

AREA	ZONE A	ZONE J	RECLAIM SAND
LYNX TDF DAM RAISE TO ELEV. 3404.3 m	61,400	15,300	21,100

DRAWING INDEX

DRAWING NAME	DRAWING NUMBER	DRAWING SHEET
LYNX TDF CONSTRUCTION NOTES	NX10011.602.010	1 OF 6
LYNX TDF 2014 RAISE PLAN OVERVIEW	NX10011.602.011	2 OF 6
LYNX TDF 2014 RAISE PROFILE	NX10011.602.012	3 OF 6
LYNX TDF 2014 RAISE TYPICAL SECTIONS	NX10011.602.013	4 OF 6
LYNX TDF DAM 2014 RAISE SECTION STA. 0+100 to 0+320	NX10011.602.014	5 OF 6
LYNX TDF DAM 2014 RAISE SECTION STA. 0+340 to 0+593	NX10011.602.015	6 OF 6

LEGEND:

NOTES:
1. 2013 SURVEY SURFACE TOPOGRAPHY SUPPLIED BY CLIENT
2. THIS SURVEY IS REFERENCED TO MINE DATUM (MASL + 3048 m).

REV	D	M	Y	ISSUE / REVISION DESCRIPTION	ENG.	APPR.
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A	23	05	2014	ISSUED FOR CONSTRUCTION	T.P.	D.H-G.

Client: nyrstar

AMEC Environment & Infrastructure
4385 Boban Drive, Nanaimo, B.C., V9T 5V9
Tel. 250 758-1887 Fax 250 758-1899

DATUM: MINE
PROJECTION: MINE
DRAWN BY: J.FORD
REVIEWED BY: T.PATTEN
SCALE: NTS

PROJECT: MYRA FALLS TAILINGS STORAGE FACILITIES
2014 LYNX TDF DAM RAISE DESIGN

TITLE: LYNX TDF CONSTRUCTION NOTES

PROJECT NO.: NX10011
REVISION NO. A
DATE: MAY 2014
DRAWING NO.: NX10011.2014.602.010
SHEET NO.: 1 of 6

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SPRING DRAIN CONVEYANCE AREA

SPRING DRAIN CAPTURE AREA

LOWER EAST BORROW (LEB)

CULVERT FLOW NEEDS TO BE RE-DIRECTED

LEB DISCHARGE CHANNEL

WASTE ROCK DUMP #1

PHILLIPS REACH DRAINAGE DITCH

ULTIMATE DAM TOE

LEB GROUNDWATER SEEPAGE

LYNX TDF PASTE DISCHARGE LINE

LYNX BACK ROAD

LYNX TAILINGS DISPOSAL FACILITY (LYNX TDF)

LYNX TDF DAM

J-ZONE CONSTRUCTION STOCKPILE

SUPER 'OUT'

SUPER POND

SUPER 'IN'

PIEZOMETER LEADS (SEE INSET - FUTURE INSTRUMENT HUT D)

"80 FOOT" BUILDING

POWER HOUSE

OVERHEAD CONVEYOR

ADIT 8 LEVEL

ADIT 10 LEVEL EAST

ADIT 10 LEVEL WEST

10L RAMP

LYNX MINE

LYNX OFFICES AND SHOPS

MYRA TDF

HW MINE

LYNX TDF

LEGEND

- Paste tailings
- Zone A
- Cyclone sand
- Zone J

MAGNETIC NORTH 2011 18° 48'

TRUE NORTH 0° 00'

MINE NORTH

3200 N

2000 E

2200 E

2400 E

3500 3490 3480 3470 3460 3450

N: 3319.54 E: 2105.38 BP: 0+050.0

N: 3304.06 E: 2151.96 PI: 0+000.0

N: 3225.62 E: 2230.53 PI: 0+101.0

PI: 0+126.4 N: 3337.28 E: 2273.22

PI: 0+507.3 N: 3356.35 E: 2291.36

N: 3340.96 E: 2403.53

N: 3302.90 E: 2335.13

PI: 0+553.7 N: 3302.76 E: 2325.71

PI: 0+273.6 N: 3309.92 E: 2191.83

N: 3067.94 E: 2160.99 PI: 0+235.8

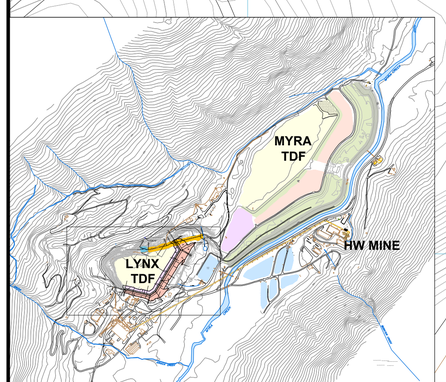
N: 3080.50 E: 2021.45 PI: 0+341.5

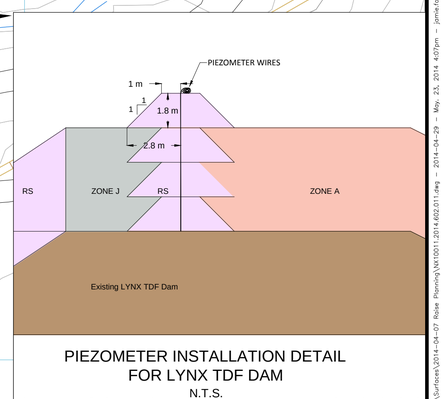
N: 3068.23 E: 2028.80 PI: 0+100.0

0+000 0+020 0+040 0+060 0+080 0+100 0+120 0+140 0+160 0+180 0+200 0+220 0+240 0+260 0+280 0+300

0+000 0+020 0+040 0+060 0+080 0+100 0+120 0+140 0+160 0+180 0+200 0+220 0+240 0+260 0+280 0+300 0+320 0+340 0+360 0+380 0+400 0+420 0+440 0+460 0+480 0+500 0+520 0+540 0+560 0+580 0+600 0+620 0+640 0+659

1.5:1 2:1





PIEZOMETER INSTALLATION DETAIL FOR LYNX TDF DAM

N.T.S.

0m 20 40 60 80

1 : 1000

NOTES:
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A	23	05	2014	ISSUED FOR CONSTRUCTION	T.P.	D.H-G.

Client: nyrstar

AMEC Environment & Infrastructure
4385 Boban Drive, Nanaimo, B.C., V9T 5V9
Tel. 250 758-1887 Fax 250 758-1899

DATUM:	MINE
PROJECTION:	MINE
DRAWN BY:	J.FORD
REVIEWED BY:	T.PATTEN
SCALE:	1:1000

PROJECT: MYRA FALLS TAILINGS STORAGE FACILITIES
2014 LYNX TDF DAM RAISE DESIGN

TITLE: LYNX TDF DAM 2014 RAISE PLAN OVERVIEW

PROJECT NO.:	NX10011
REVISION NO.	A
DATE:	MAY 2014
DRAWING NO.:	NX10011.2014.602.011
SHEET NO.:	2 of 6

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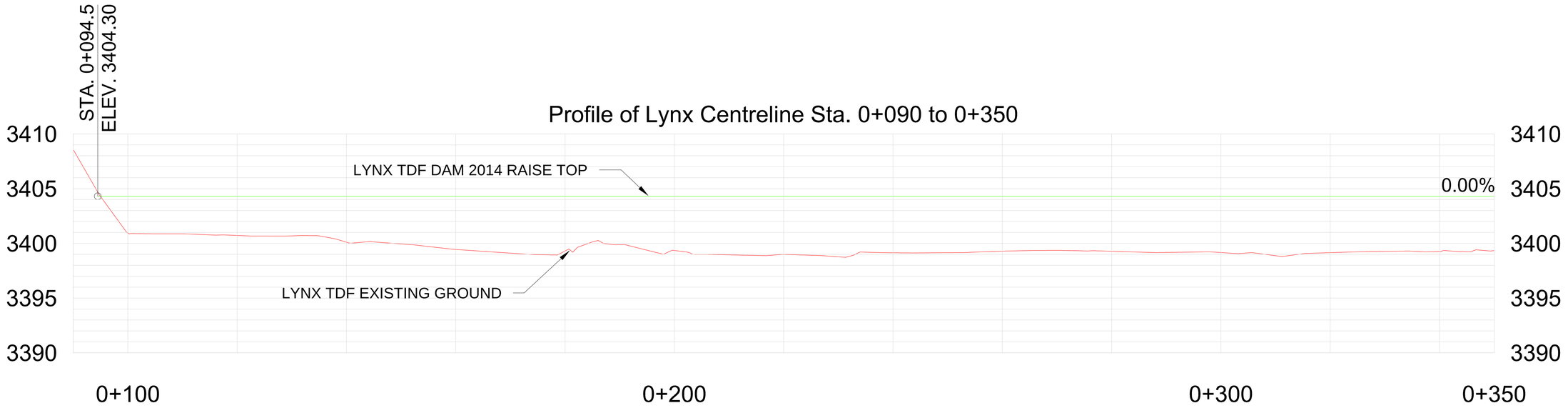

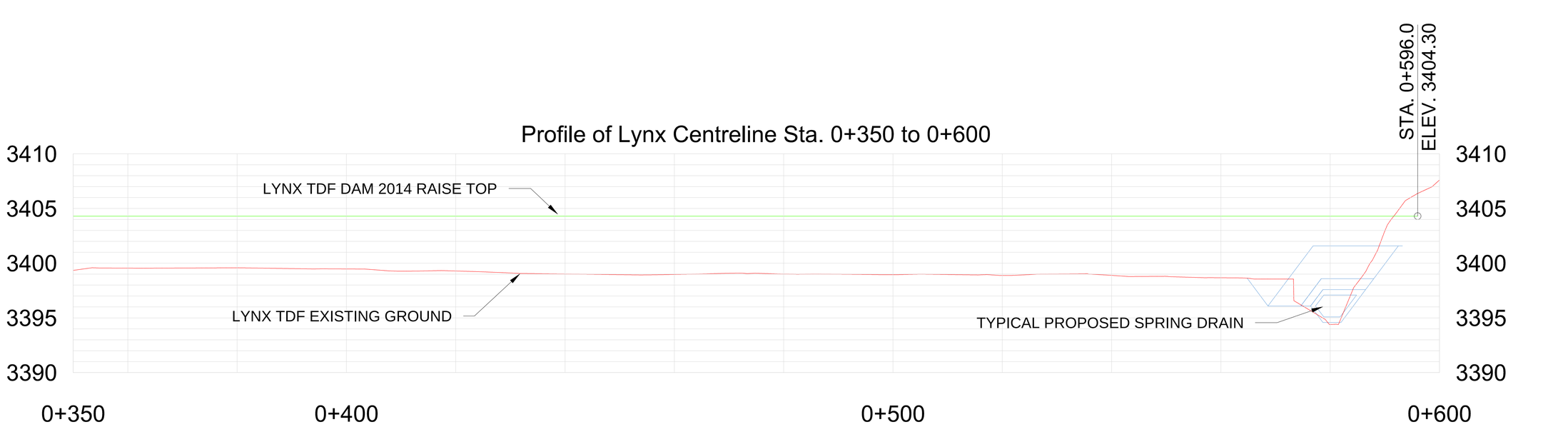

0 4 20m

1 : 400

LEGEND:

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Client: nyrstar

AMEC Environment & Infrastructure
4385 Boban Drive, Nanaimo, B.C., V9T 5V9
Tel. 250 758-1887 Fax 250 758-1899

DATUM: MINE
PROJECTION: MINE
DRAWN BY: J.FORD
REVIEWED BY: T.PATTEN
SCALE: 1:400

PROJECT: MYRA FALLS TAILINGS STORAGE FACILITIES
2014 LYNX TDF DAM RAISE DESIGN

TITLE: LYNX TDF DAM 2014 RAISE PROFILE

PROJECT NO.: NX10011
REVISION NO.: A
DATE: MAY 2014
DRAWING NO.: NX10011.2014.602.012
SHEET NO.: 3 of 6

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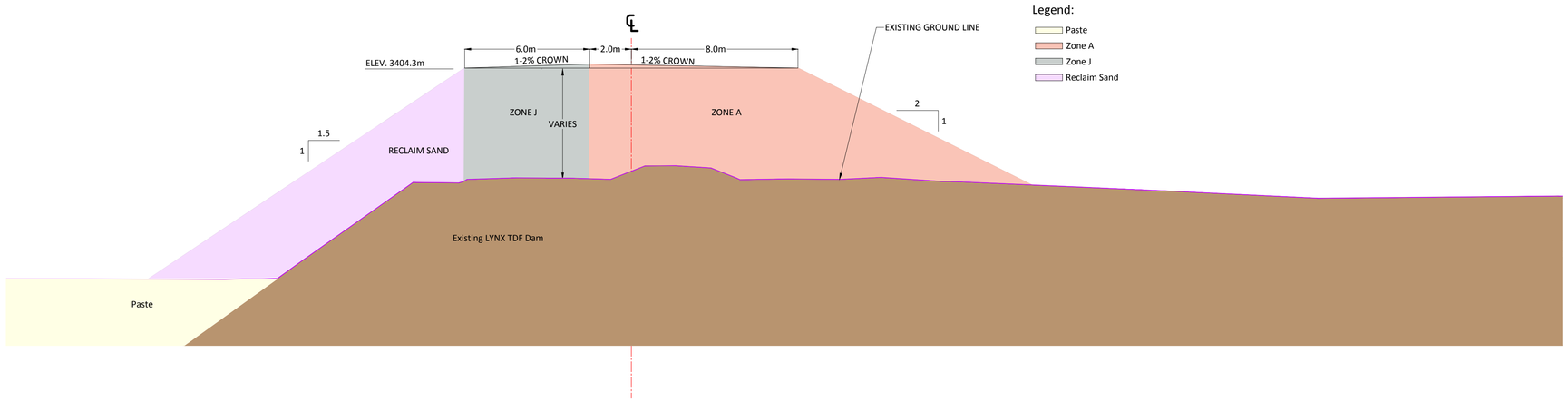
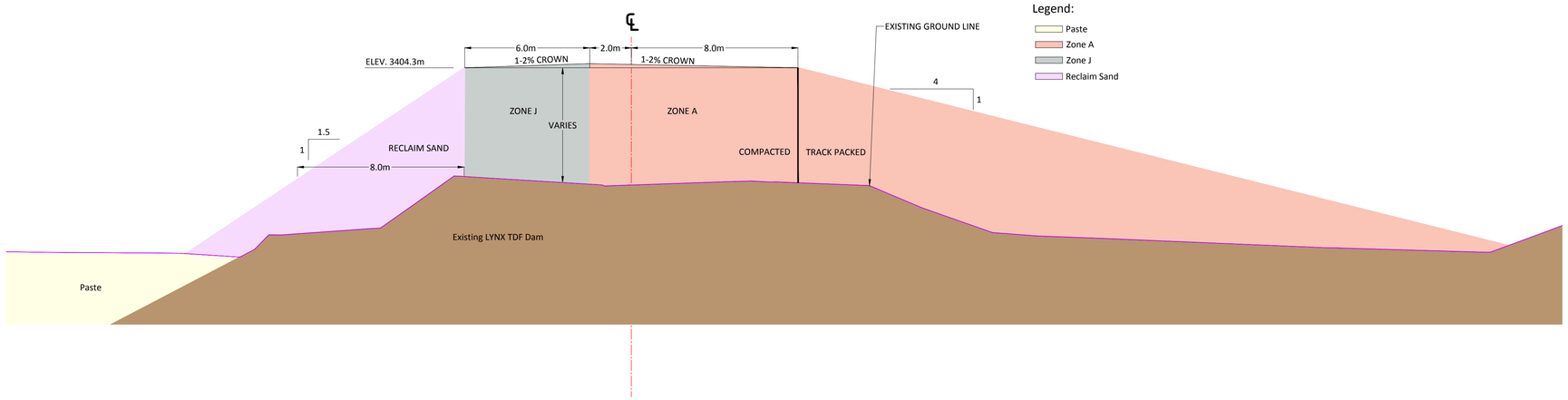


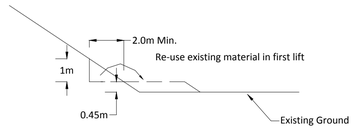
LYNX TDF TYPICAL SECTION
STA. 0+094.5 TO 0+533.7
N.T.S.



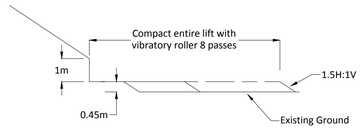
LYNX TDF TYPICAL SECTION
STA. 0+533.7 TO 0+596
N.T.S.

Tying into Existing Slopes

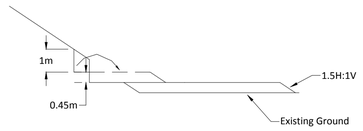
Step 1 - Cut into existing slope



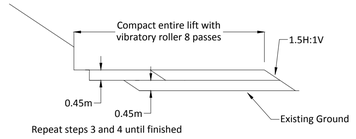
Step 2 - Complete first lift



Step 3 - Cut into slope for next lift

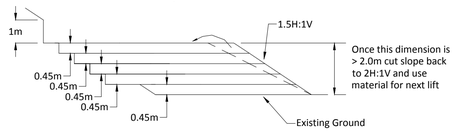


Step 4 - Complete lift



Repeat steps 3 and 4 until finished

Trim back slope to 2H:1V



LEGEND:

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Client: nyrstar

AMEC Environment & Infrastructure
4385 Boban Drive, Nanaimo, B.C., V9T 5V9
Tel. 250 758-1887 Fax 250 758-1899

DATUM:	MINE
PROJECTION:	MINE
DRAWN BY:	J.FORD
REVIEWED BY:	T.PATTEN
SCALE:	1:500

PROJECT: MYRA FALLS TAILINGS STORAGE FACILITIES
2014 LYNX TDF DAM RAISE DESIGN

TITLE: LYNX TDF DAM 2014 RAISE
TYPICAL SECTIONS

PROJECT NO.:	NX10011
REVISION NO.	A
DATE:	MAY 2014
DRAWING NO.:	NX10011.2014.602.013
SHEET NO.:	4 of 6

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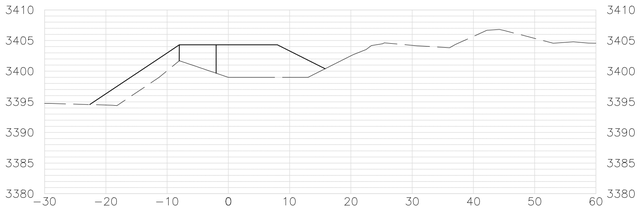

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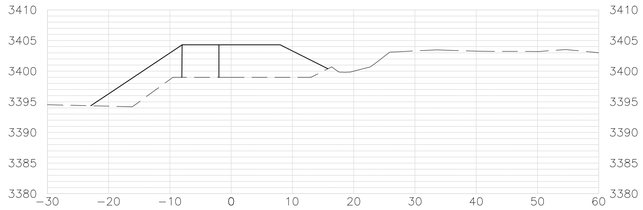

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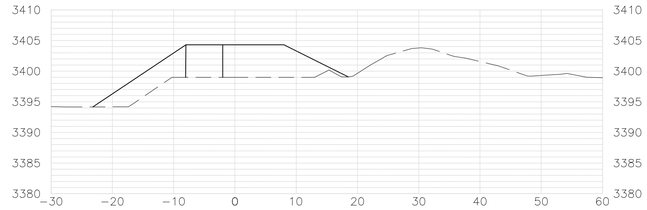

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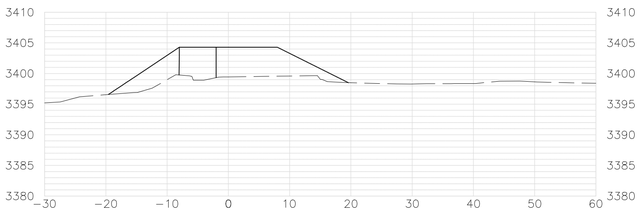

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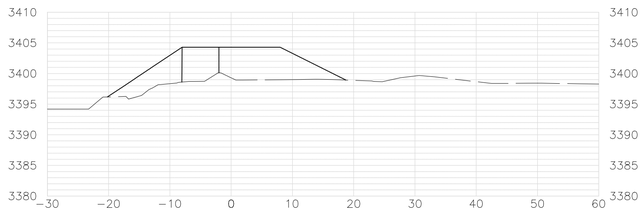

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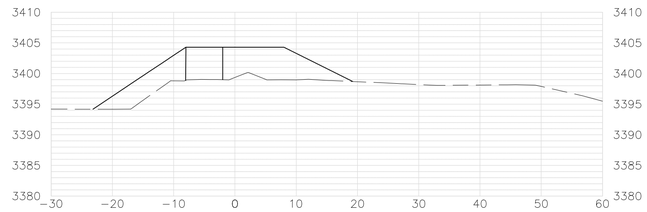

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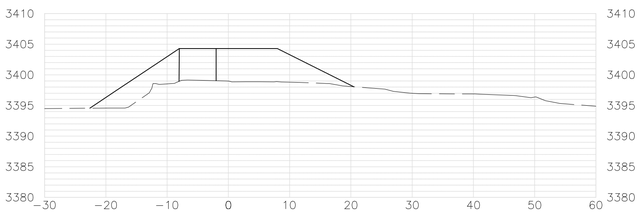

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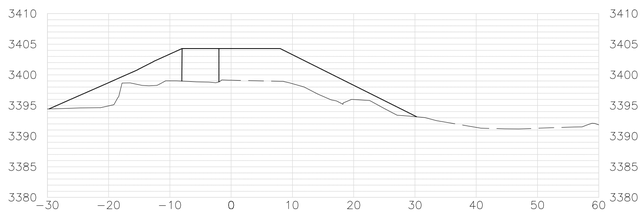

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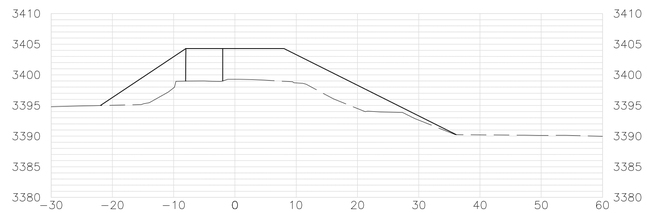

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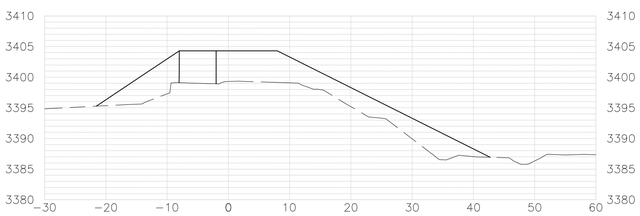

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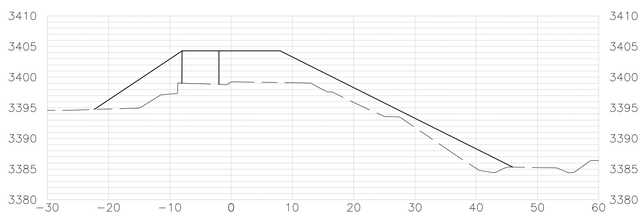

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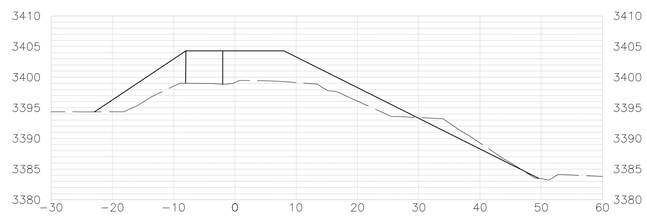

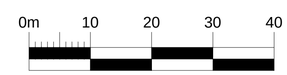

LEGEND:

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Client: nyrstar

AMEC Environment & Infrastructure
4385 Boban Drive, Nanaimo, B.C., V9T 5V9
Tel. 250 758-1887 Fax 250 758-1899

amec

DATUM: MINE
PROJECTION: MINE
DRAWN BY: J.FORD
REVIEWED BY: T.PATTEN
SCALE: 1:500

PROJECT: MYRA FALLS TAILINGS STORAGE FACILITIES
2014 LYNX TDF DAM RAISE DESIGN

TITLE: LYNX TDF DAM 2014 RAISE SECTIONS
STA. 0+100 to 0+320

PROJECT NO.: NX10011
REVISION NO. A
DATE: MAY 2014
DRAWING NO.: NX10011.2014.602.014
SHEET NO.: 5 of 6

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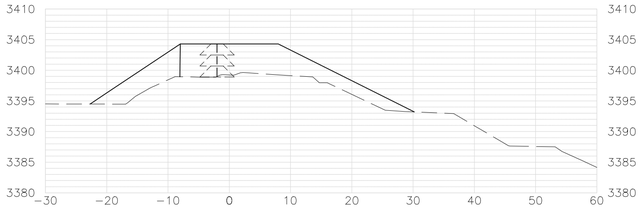
0+340



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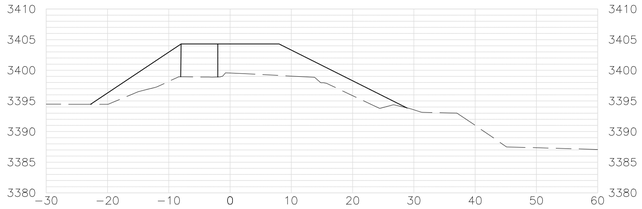

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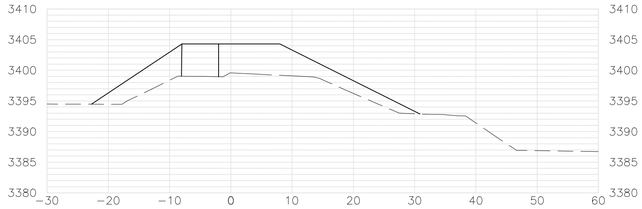

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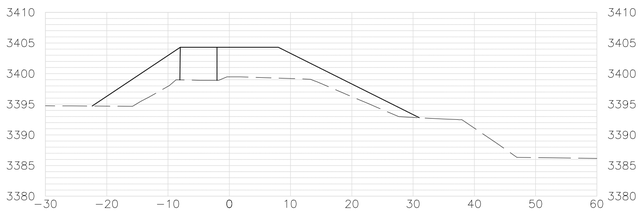

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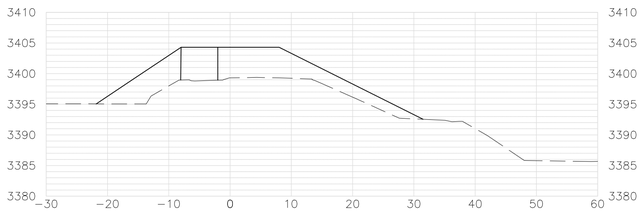

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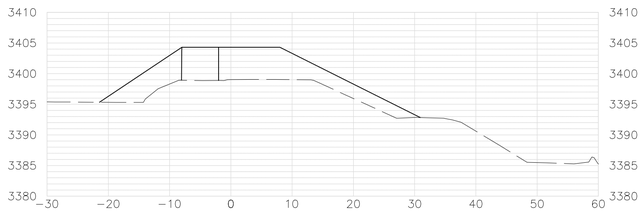

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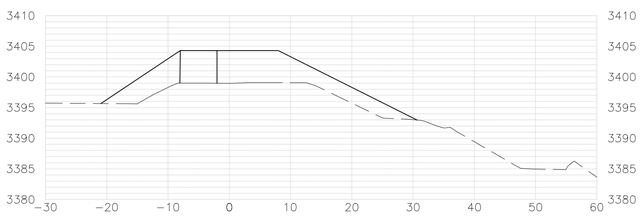

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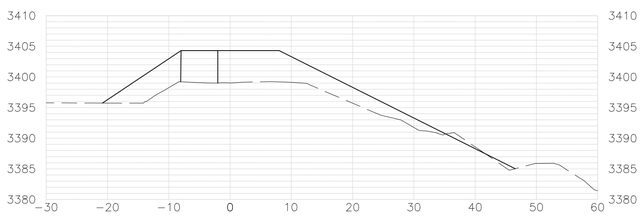

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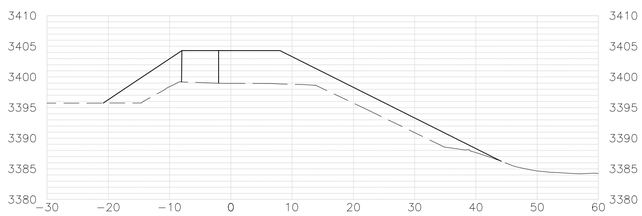

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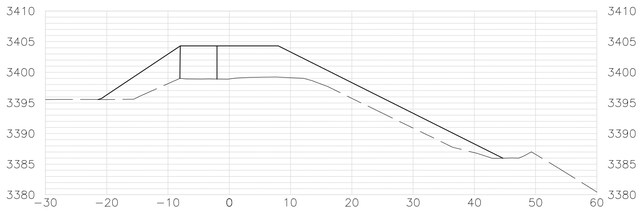

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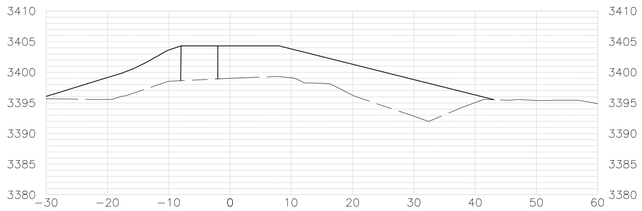

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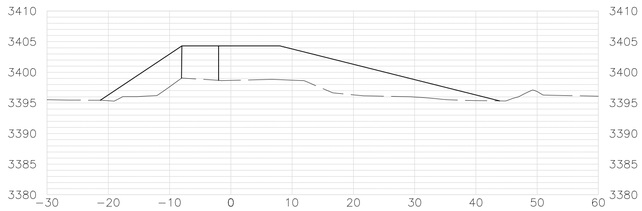

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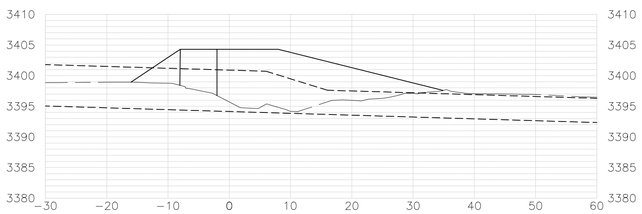

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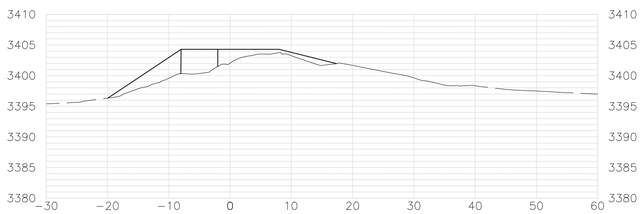
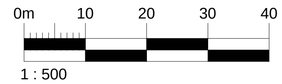




LEGEND:

NOTES:
1. 2013 SURVEY SURFACE TOPOGRAPHY SUPPLIED BY CLIENT
2. THIS SURVEY IS REFERENCED TO MINE DATUM (MASL + 3048 m).

REV	D	M	Y	ISSUE / REVISION DESCRIPTION	ENG.	APPR.
G						
F						
E						
D						
C						
B						
A	23	05	2014	ISSUED FOR CONSTRUCTION	T.P.	D.H-G.

Client: nyrstar

AMEC Environment & Infrastructure
4385 Boban Drive, Nanaimo, B.C., V9T 5V9
Tel. 250 758-1887 Fax 250 758-1899

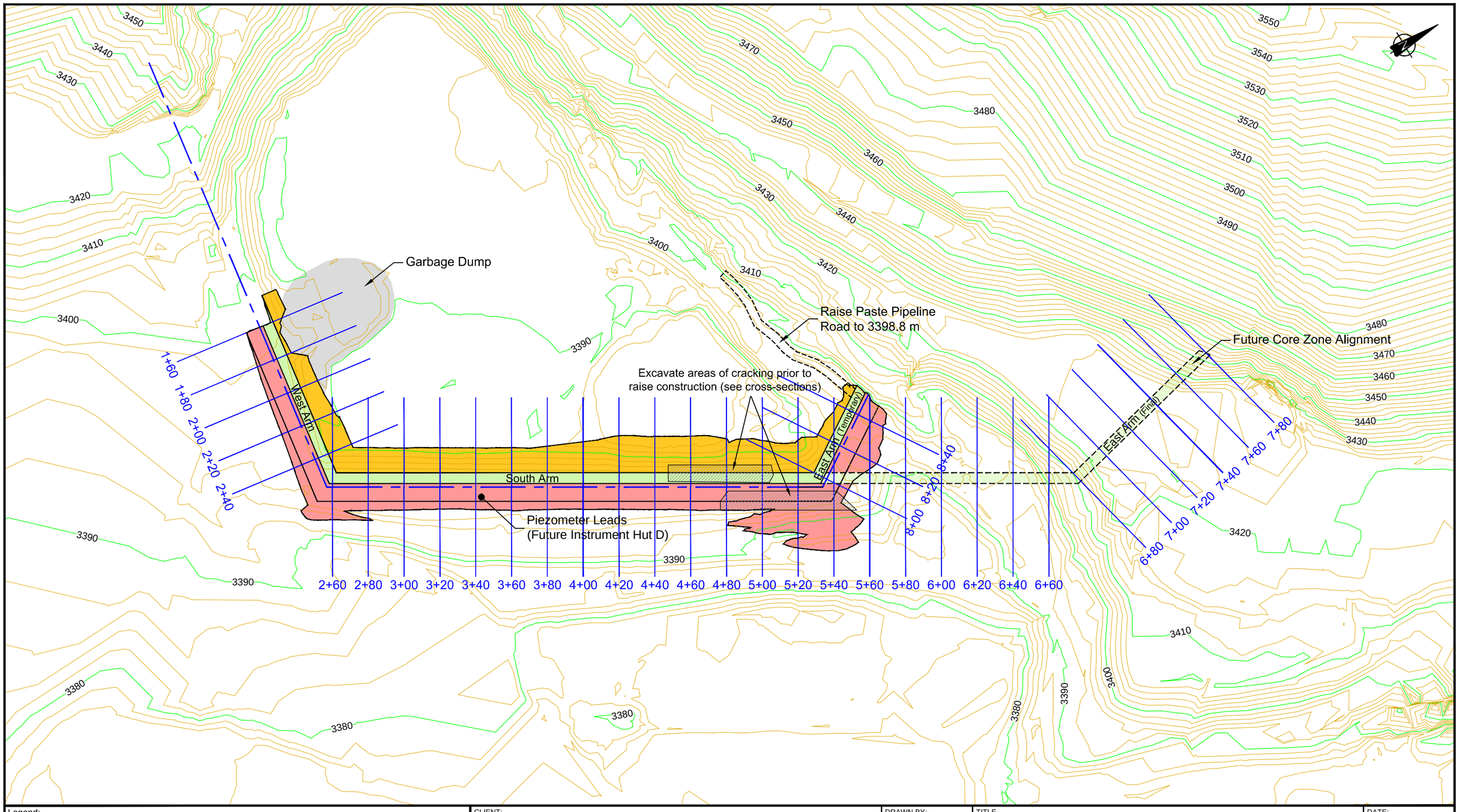
DATUM: MINE
PROJECTION: MINE
DRAWN BY: J.FORD
REVIEWED BY: T.PATTEN
SCALE: 1:500

PROJECT: MYRA FALLS TAILINGS STORAGE FACILITIES
2014 LYNX TDF DAM RAISE DESIGN

TITLE: LYNX TDF DAM 2014 RAISE SECTIONS
STA. 0+340 to 0+593

PROJECT NO.: NX10011
REVISION NO.: A
DATE: MAY 2014
DRAWING NO.: NX10011.2014.602.015
SHEET NO.: 6 of 6

S:\PROJECTS_NX10\NX10011 Myra Falls Tailings Facilities\Global Drawings\Surfaces\2014-04-07 Raise Planning\NX10011.2014.602.2014.015.dwg — 015 — May. 23, 2014 - 3:57pm — jpinkford



Legend:

- Zone A, Compacted
- Zone J, Compacted
- Zone A, Nominally Compacted

0m 20 40 60 80

1 : 2000

CLIENT: nyrstar

AMEC Environment & Infrastructure
4385 Boban Drive
Nanaimo, BC, Canada, V9T 5V9
Tel: (250) 758-1887
Fax: (250) 758-1899

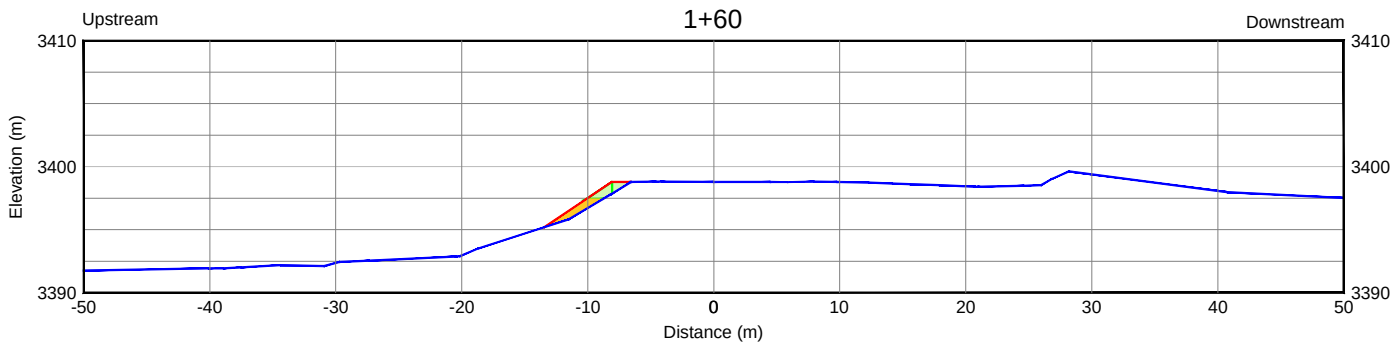
DRAWN BY:	I.Macleod
CHECKED BY:	D.Hughes-Games
DATUM:	NAD83
PROJECTION:	UTM Zone 10
SCALE:	1 : 2000

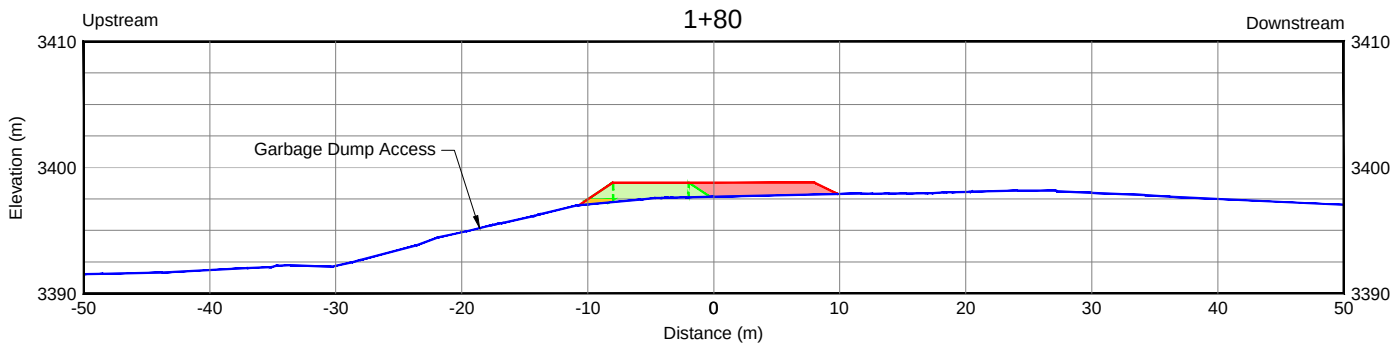
TITLE: SITE PLAN

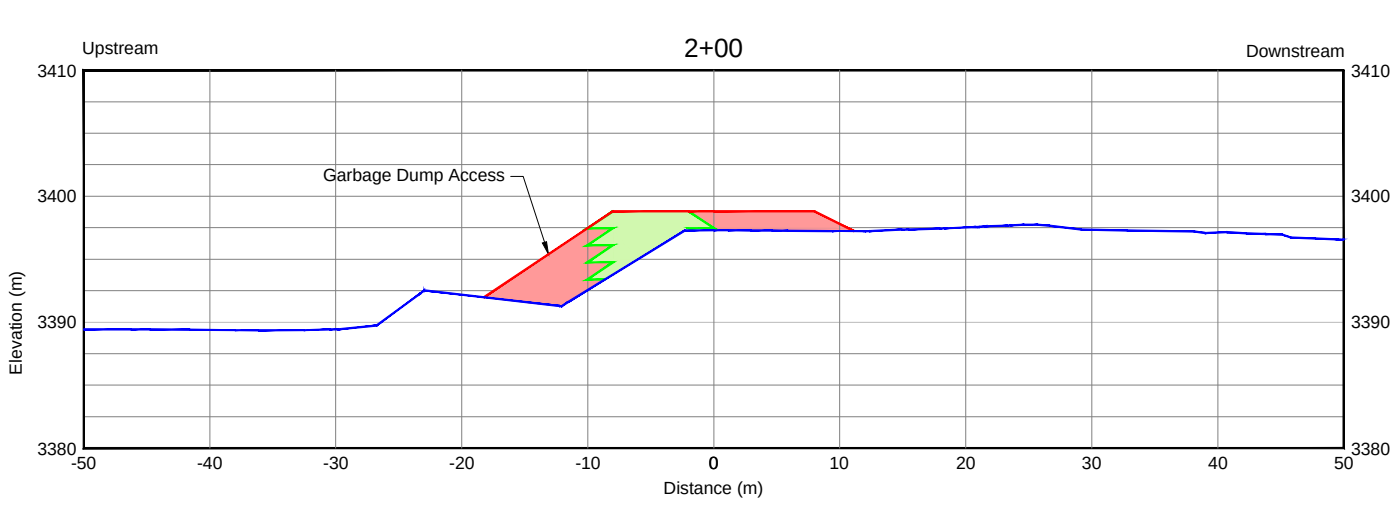
PROJECT: LYNX TDF
2013 RAISE DESIGN

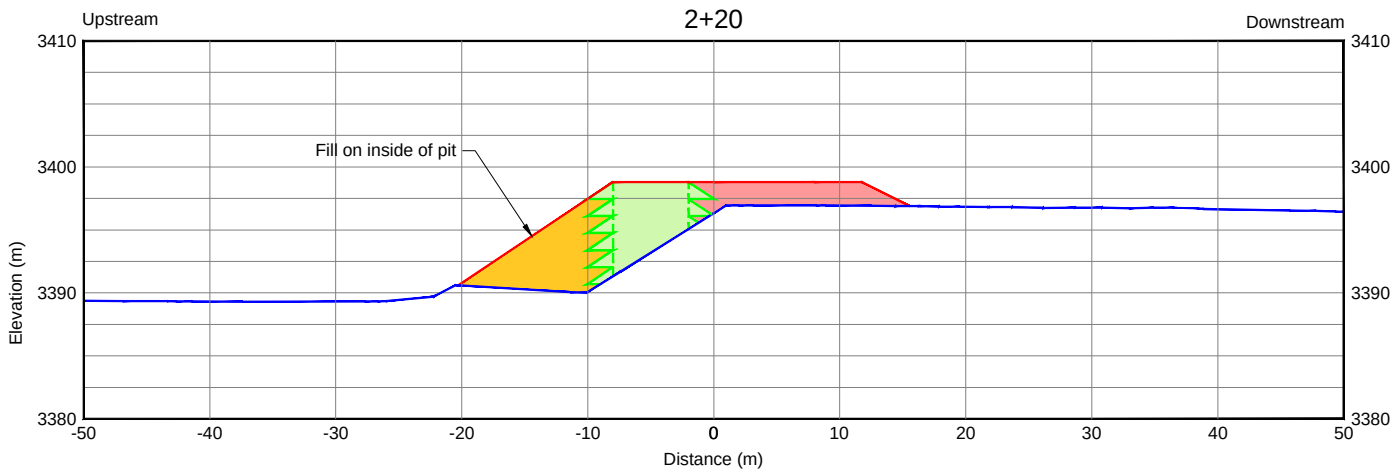
DATE:	MAY 2013
PROJECT No.:	NX10011.2010.6
REV. No.:	A
FIGURE No.:	FIGURE E-1

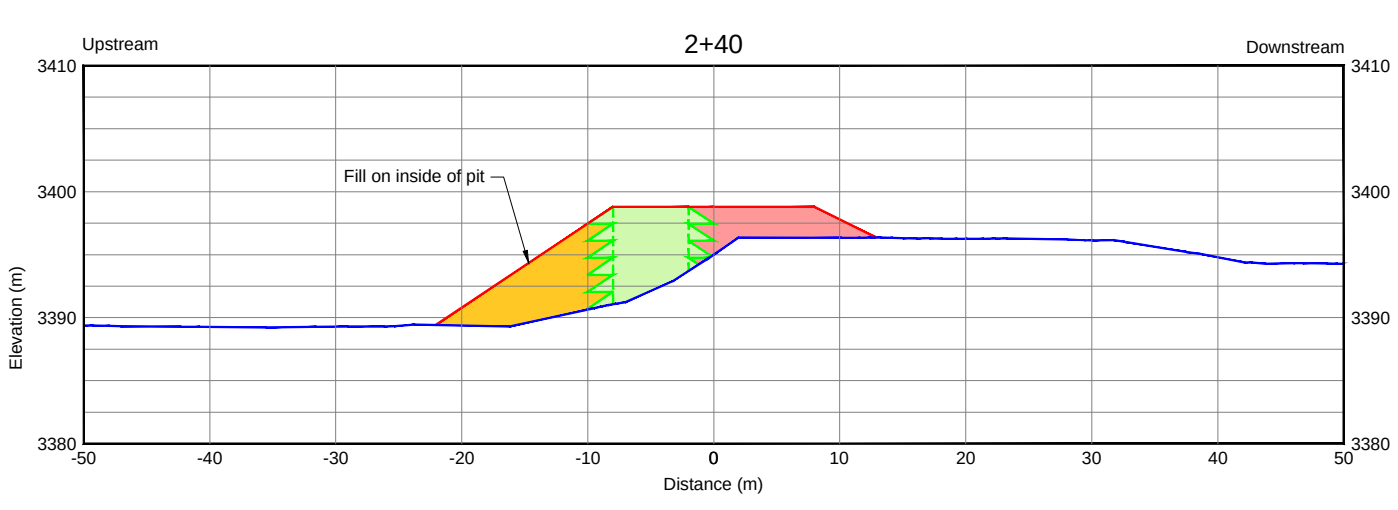
C:\Temp Drawing Files\NX10011.2010.6-Drafting\March 2013\NX10011.2010.6-Fig1-SITE-Final.dwg – Figure 1 – May. 01, 2013 4:57pm – ian.j.macleod











Legend:

Zone A, Compacted | Zone J, Compacted | Zone A, Nominally Compacted

CLIENT: nyrstar

AMEC Environment & Infrastructure
4385 Boban Drive
Nanaimo, BC, Canada, V9T 5V9
Tel: (250) 758-1887
Fax: (250) 758-1899

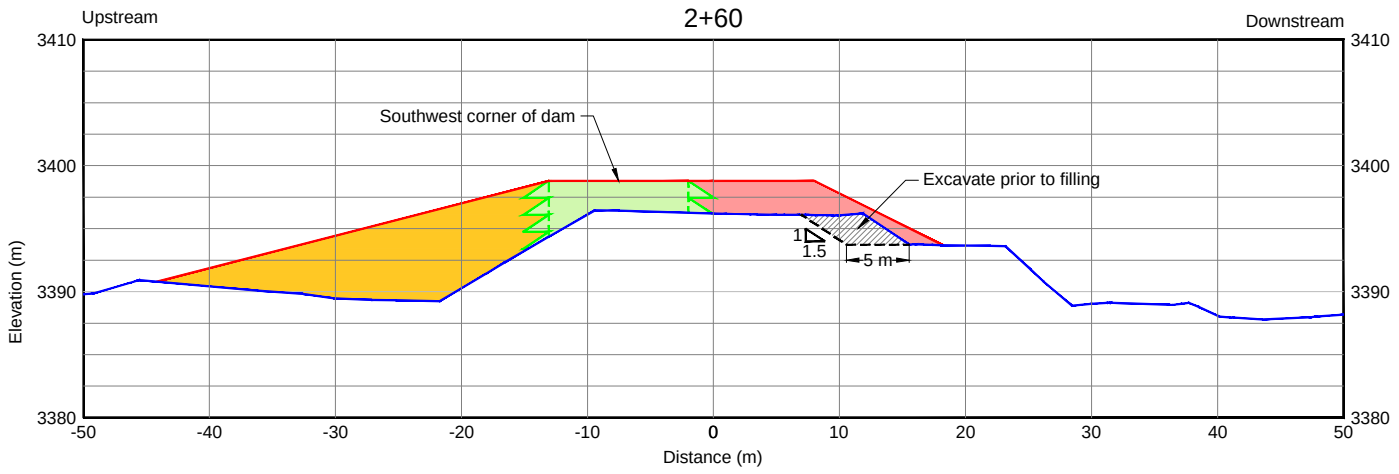
DRAWN BY: I.Macleod
CHECKED BY: D.Hughes-Games
DATUM: NAD83
PROJECTION: UTM Zone 10
SCALE: AS SHOWN

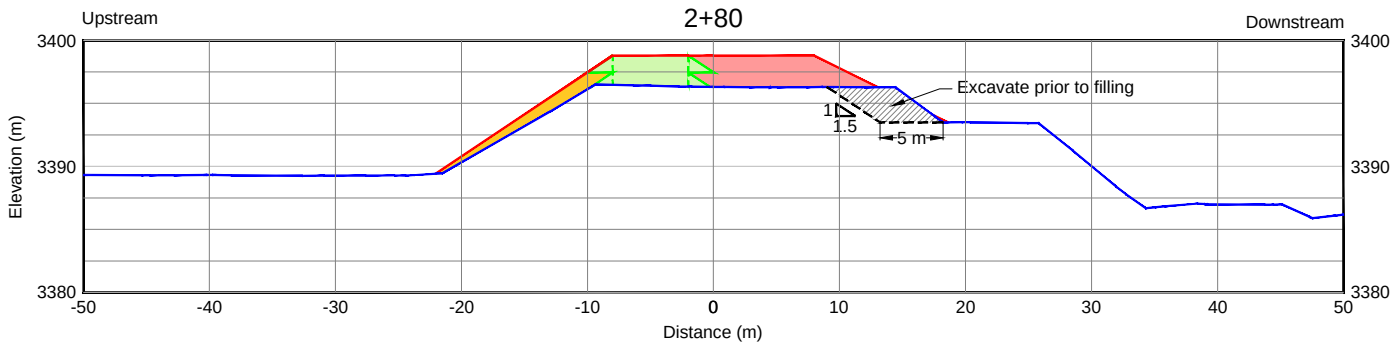
TITLE: CROSS-SECTIONS
WEST ARM
1+60 TO 2+40

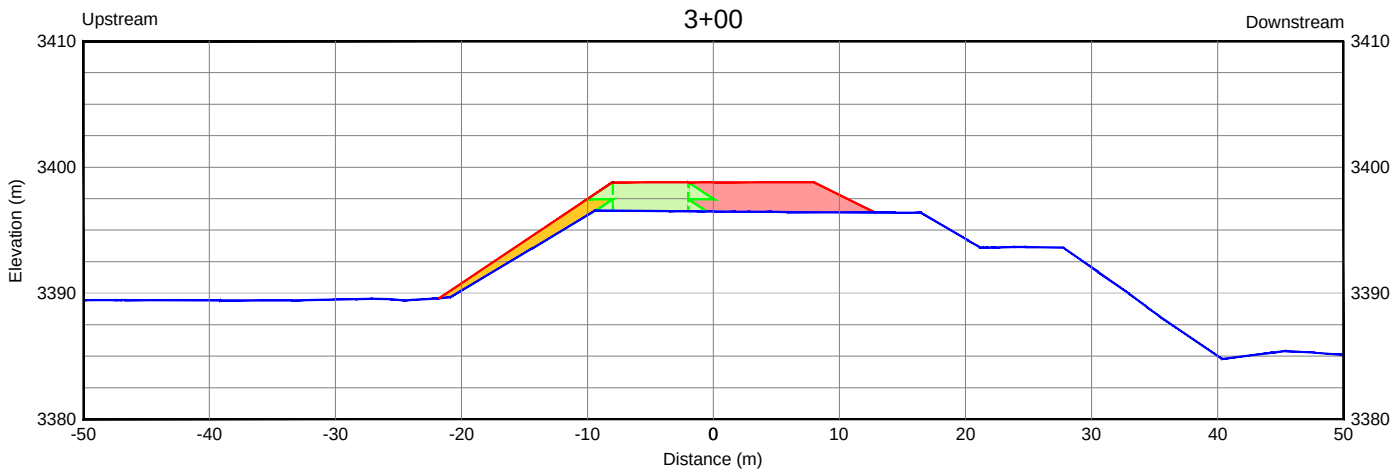
PROJECT: LYNX TDF
2013 RAISE DESIGN

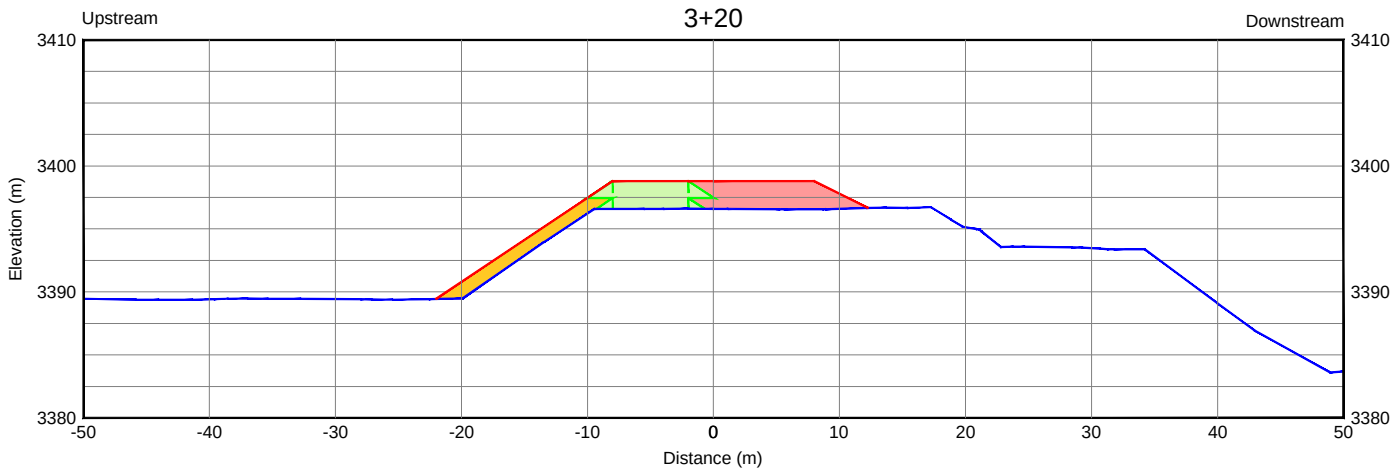
REV. No.: A
DATE: MAY 2013
PROJECT No.: NX10011.2010.6
FIGURE No.: FIGURE E-2

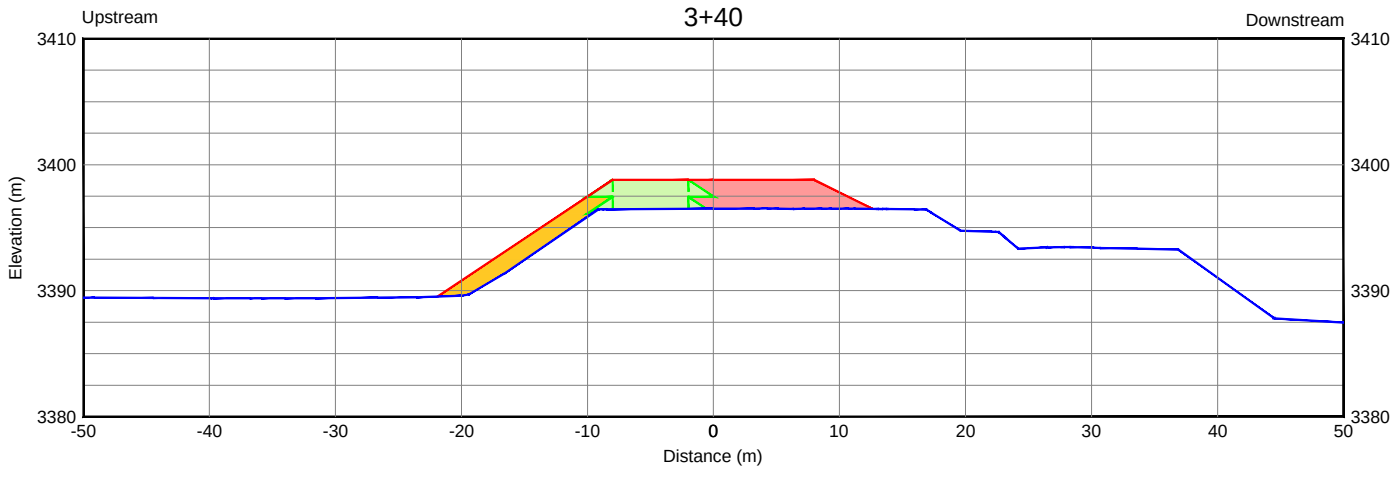
C:\Temp Drawing Files\NX10011.2010.6-Drafting\March 2013\NX10011.2010.6-Fig1-SITE-Final.dwg – Figure 2 – May. 02, 2013 10:16am – ian.j.macleod











Legend:

Zone A, Compacted | Zone J, Compacted | Zone A, Nominally Compacted

CLIENT: nyrstar

AMEC Environment & Infrastructure
4385 Boban Drive
Nanaimo, BC, Canada, V9T 5V9
Tel: (250) 758-1887
Fax: (250) 758-1899

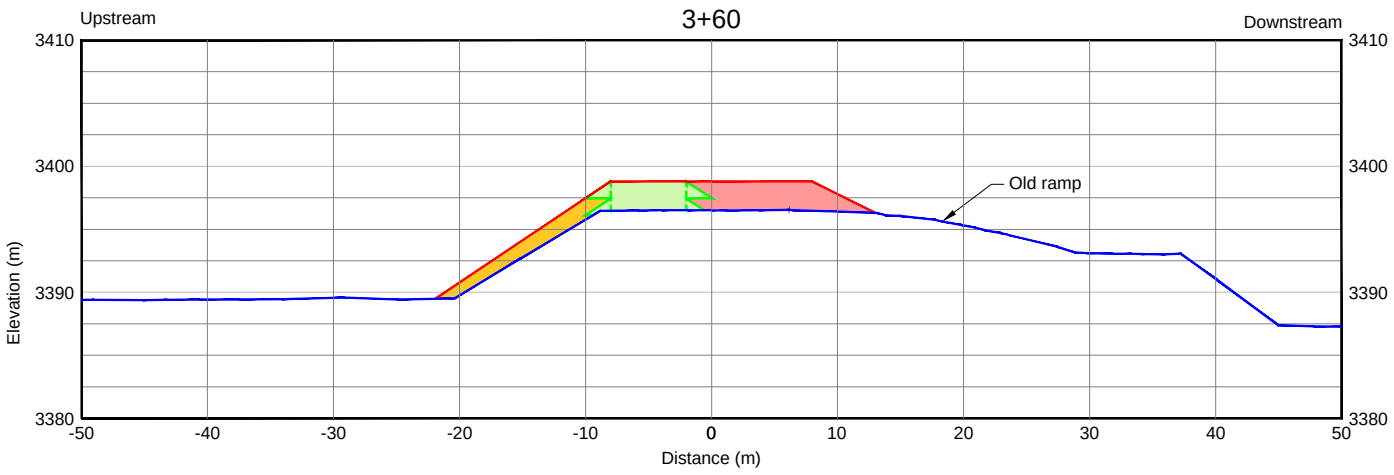
DRAWN BY: I.Macleod
CHECKED BY: D.Hughes-Games
DATUM: NAD83
PROJECTION: UTM Zone 10
SCALE: AS SHOWN

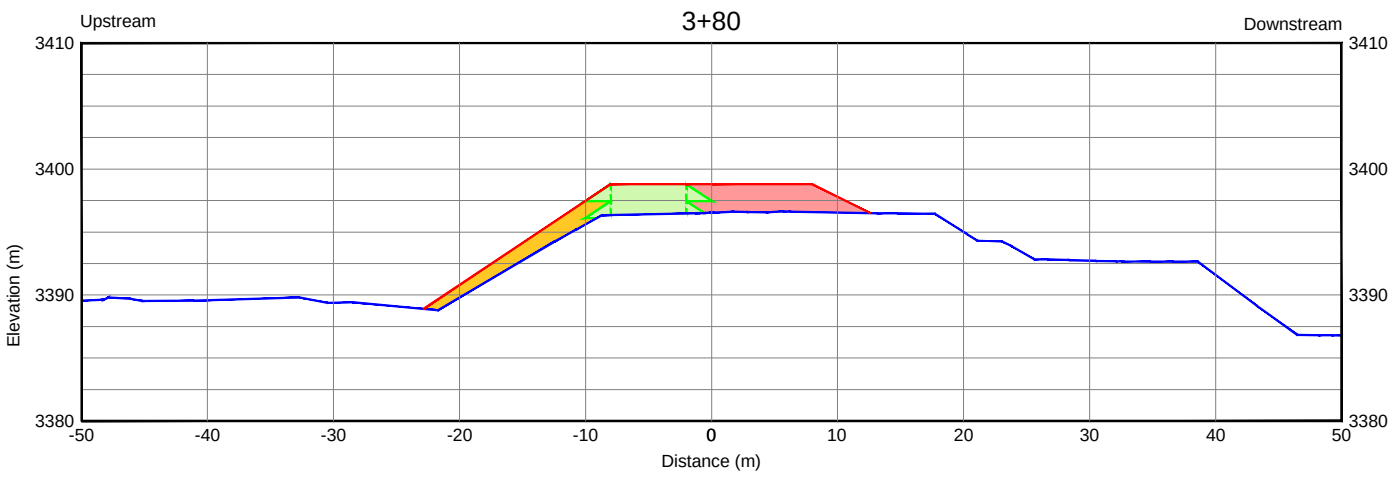
TITLE: CROSS-SECTIONS SOUTH ARM 2+60 TO 3+40

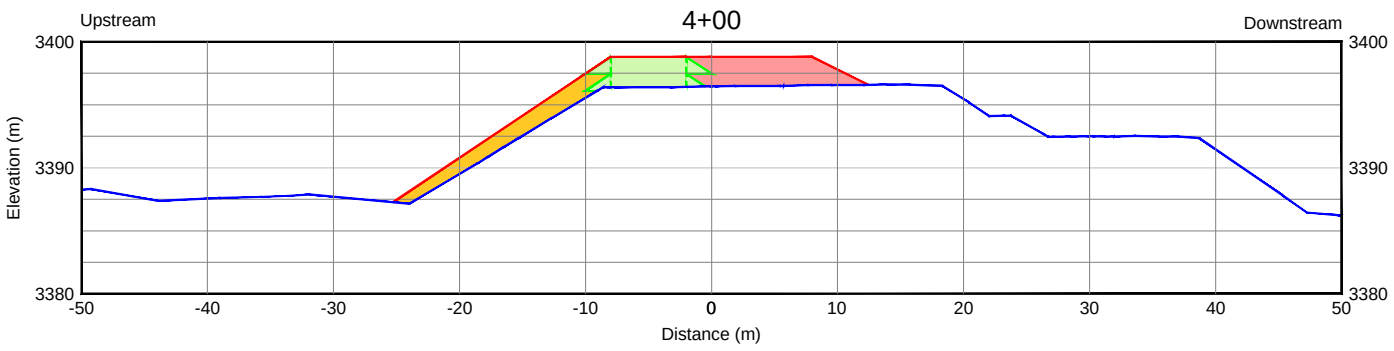
PROJECT: LYNX TDF 2013 RAISE DESIGN

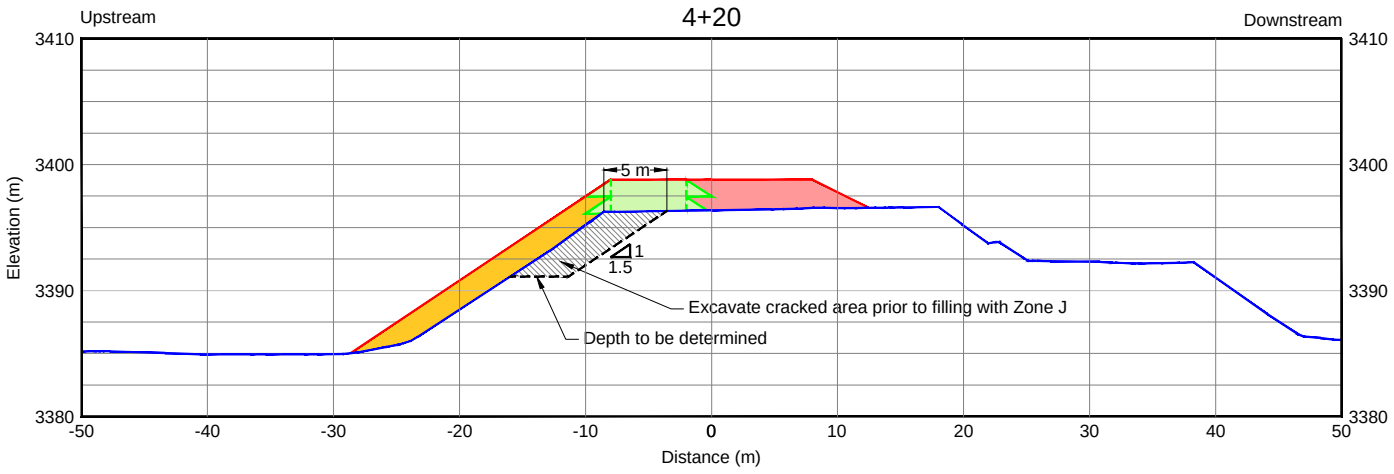
REV. No.: A
DATE: MAY 2013
PROJECT No.: NX10011.2010.6
FIGURE No.: FIGURE E-3

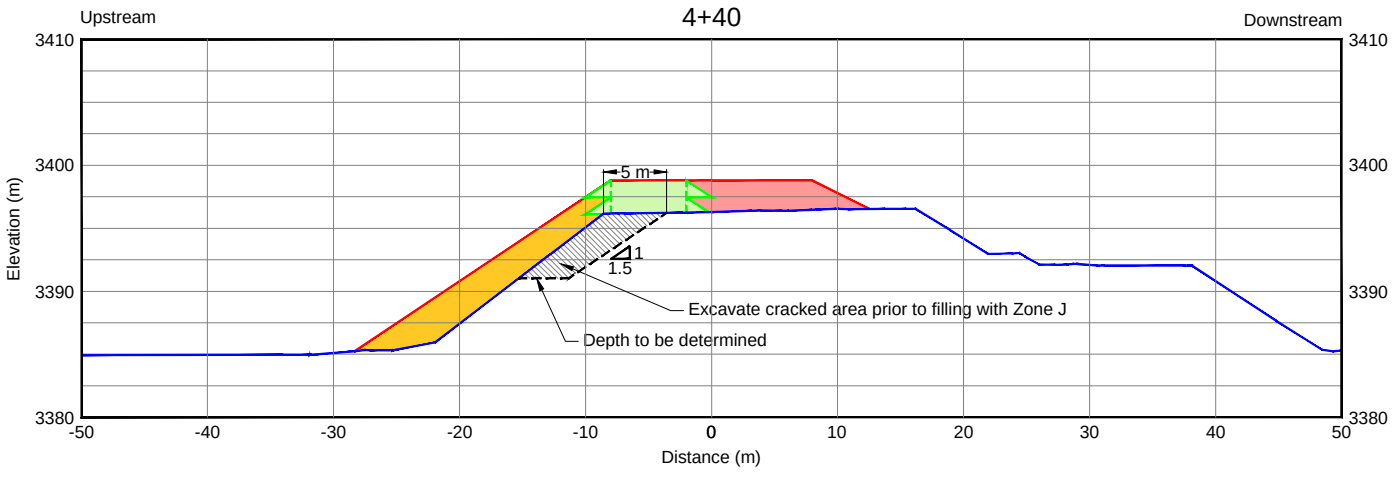
C:\Temp Drawing Files\NX10011.2010.6-Drafting\March 2013\NX10011.2010.6-Fig1-SITE-Final.dwg - Figure 3 - May. 02, 2013 10:16am - ian.j.macleod











Legend:

Zone A, Compacted | Zone J, Compacted | Zone A, Nominally Compacted

CLIENT: nyrstar

AMEC Environment & Infrastructure
4385 Boban Drive
Nanaimo, BC, Canada, V9T 5V9
Tel: (250) 758-1887
Fax: (250) 758-1899

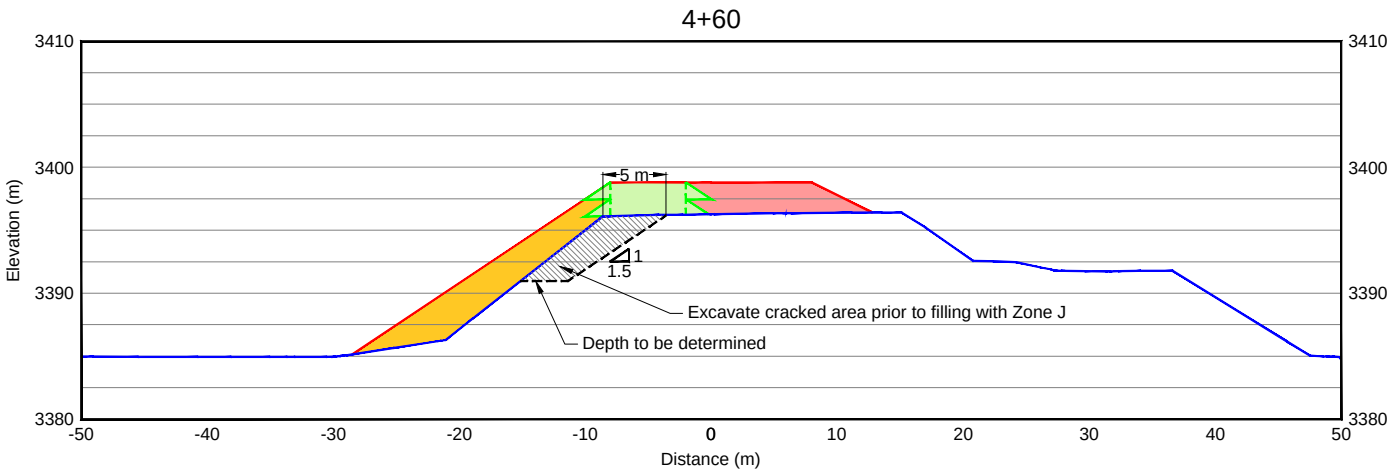
DRAWN BY: I.Macleod
CHECKED BY: D.Hughes-Games
DATUM: NAD83
PROJECTION: UTM Zone 10
SCALE: AS SHOWN

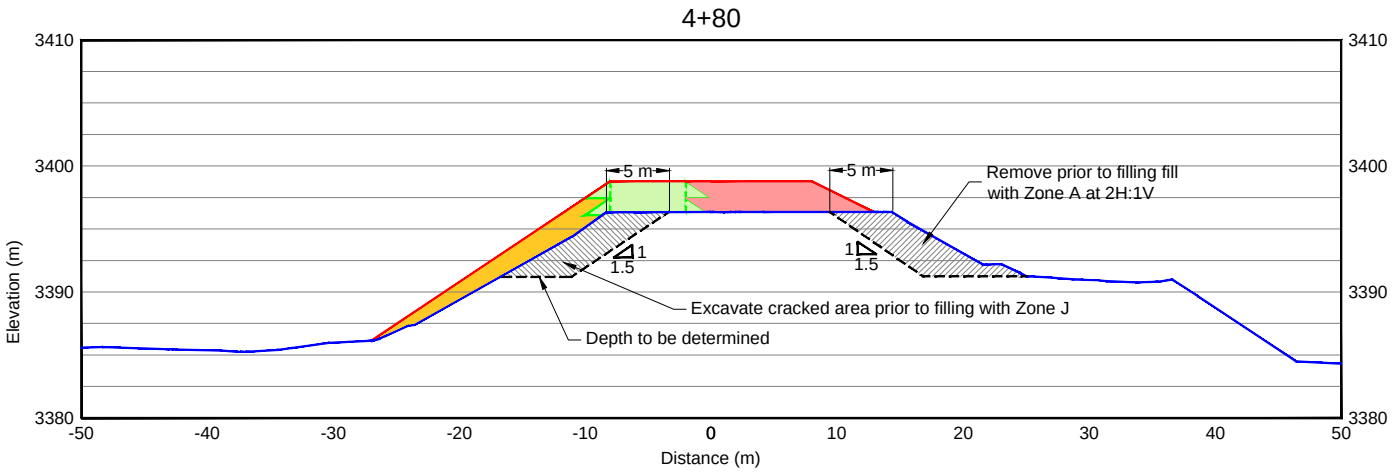
TITLE: CROSS-SECTIONS SOUTH ARM 3+60 TO 4+40

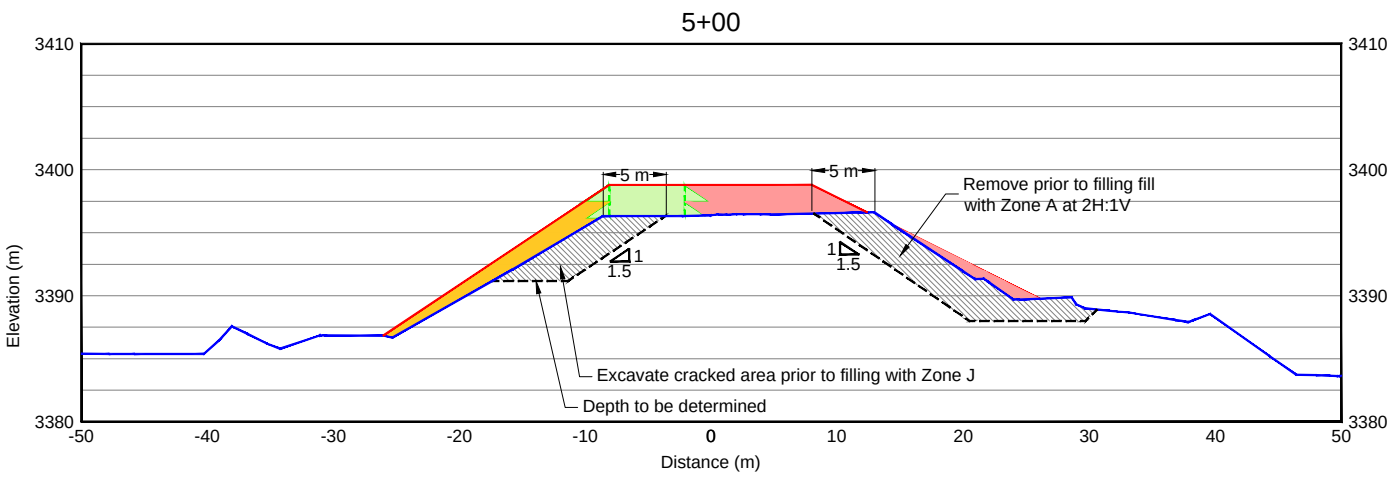
PROJECT: LYNX TDF 2013 RAISE DESIGN

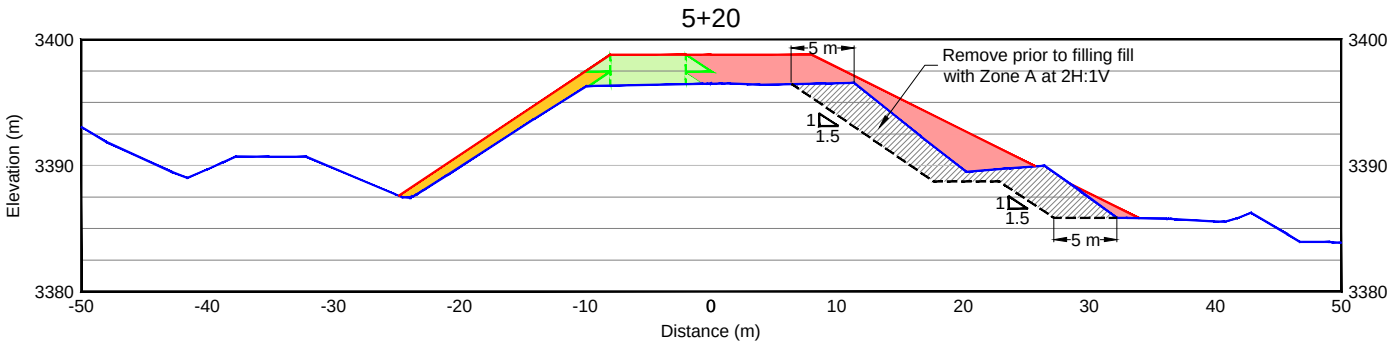
REV. No.: A
DATE: MAY 2013
PROJECT No.: NX10011.2010.6
FIGURE No.: FIGURE E-4

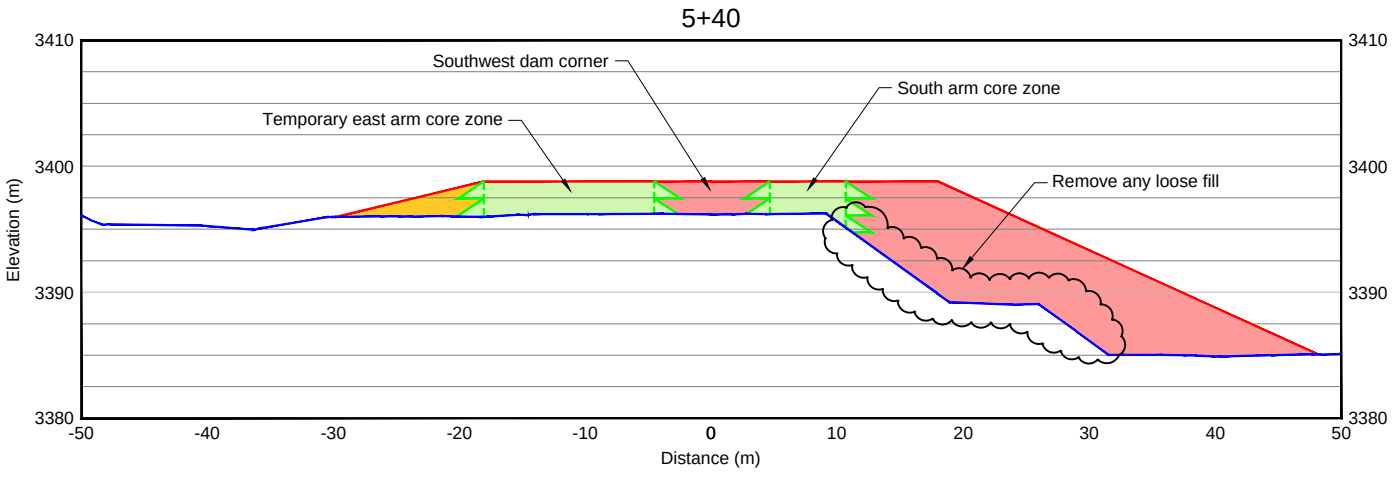
C:\Temp Drawing Files\NX10011.2010.6-Drafting\March 2013\NX10011.2010.6-Fig1-SITE-Final.dwg - Figure 4 - May. 02, 2013 10:16am - ian.j.macleod











Legend:

Zone A, Compacted | Zone J, Compacted | Zone A, Nominally Compacted

CLIENT

nyrstar

AMEC Environment & Infrastructure
4385 Boban Drive
Nanaimo, BC, Canada, V9T 5V9
Tel: (250) 758-1887
Fax: (250) 758-1899

amec

DRAWN BY: I.Macleod

CHECKED BY: D.Hughes-Games

DATUM: NAD83

PROJECTION: UTM Zone 10

SCALE: AS SHOWN

TITLE

CROSS-SECTIONS
SOUTH ARM
4+60 TO 5+40

PROJECT

LYNX TDF
2013 RAISE DESIGN

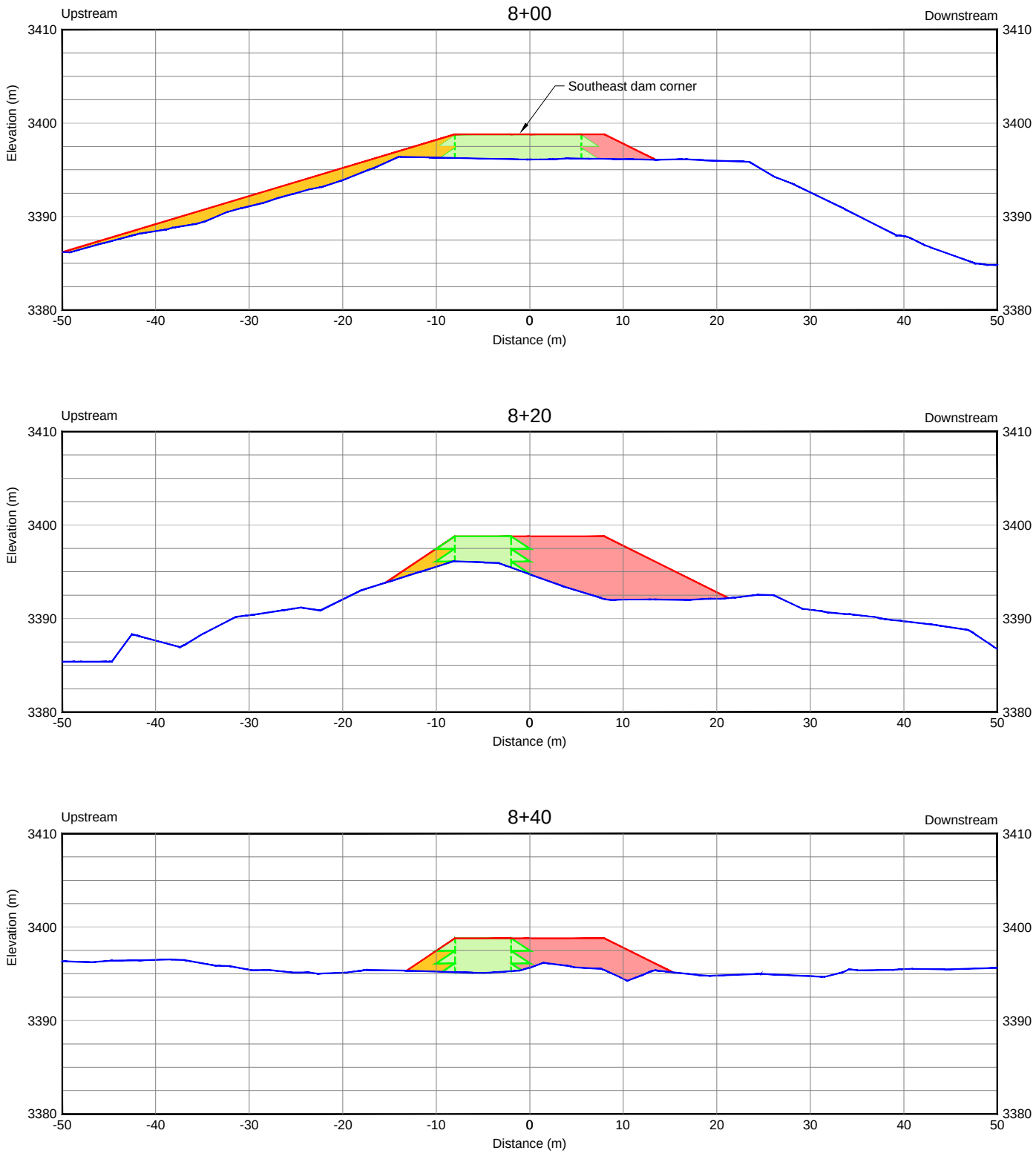
REV. No.: A

DATE: MAY 2013

PROJECT No.: NX10011.2010.6

FIGURE No.: FIGURE E-5

C:\Temp Drawing Files\NX10011.2010.6-Drafting\March 2013\NX10011.2010.6-Fig1-SITE-Final.dwg - Figure 5 - May. 02, 2013 10:17am - ian.j.macleod



Legend:

Zone A, Compacted | Zone J, Compacted | Zone A, Nominally Compacted

CLIENT: nyrstar

AMEC Environment & Infrastructure
4385 Boban Drive
Nanaimo, BC, Canada, V9T 5V9
Tel: (250) 758-1887
Fax: (250) 758-1899

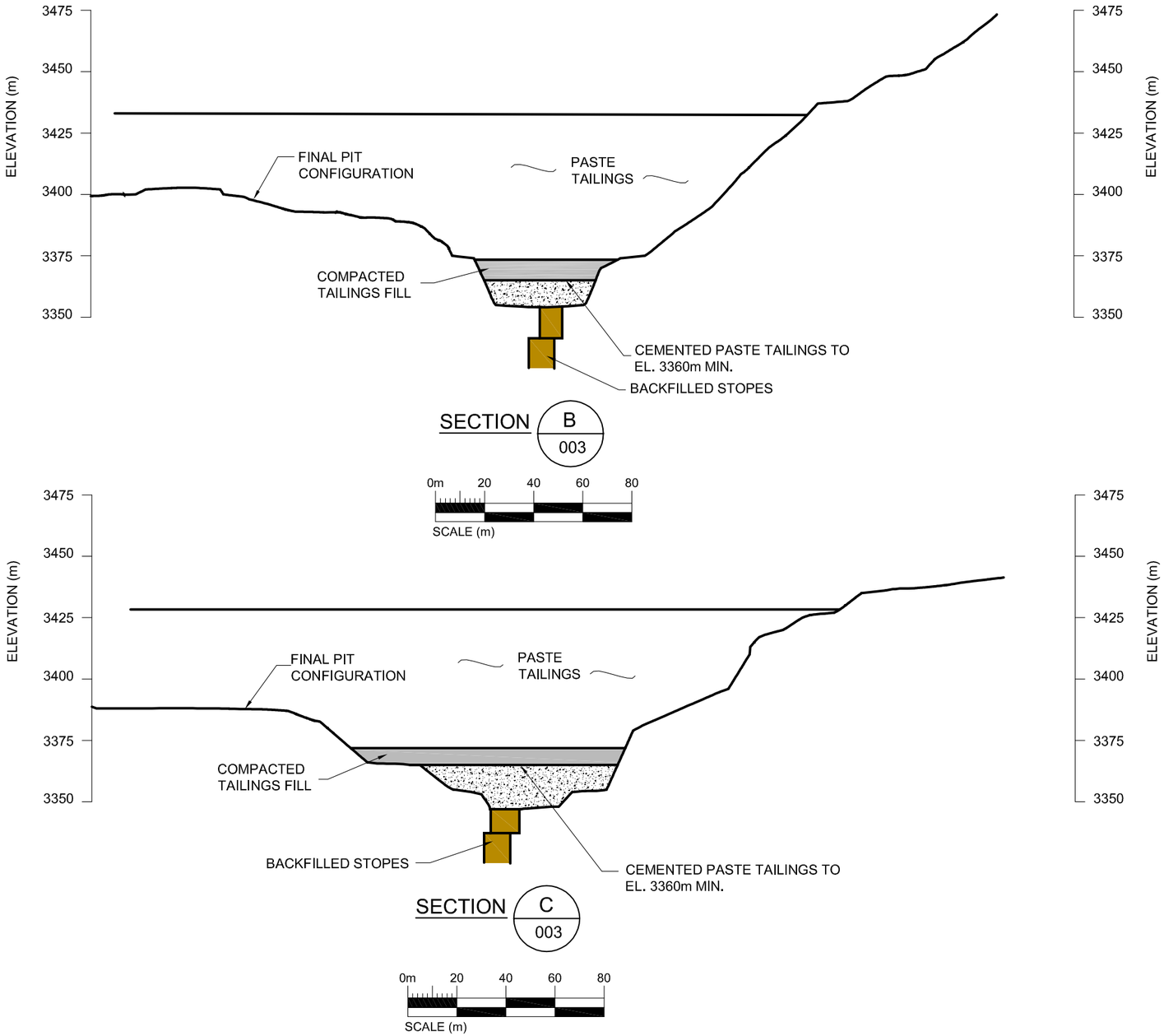
DRAWN BY: I.Macleod
CHECKED BY: D.Hughes-Games
DATUM: NAD83
PROJECTION: UTM Zone 10
SCALE: AS SHOWN

TITLE: CROSS-SECTIONS
TEMPORARY EAST ABUTMENT
8+00 TO 8+40

PROJECT: LYNX TDF
2013 RAISE DESIGN

REV. No.: A
DATE: MAY 2013
PROJECT No.: NX10011.2010.6
FIGURE No.: FIGURE E-6

C:\Temp Drawing Files\NX10011.2010.6-Drafting\March 2013\NX10011.2010.6-Fig1-SITE-Final.dwg – Figure 6 – May. 02, 2013 10:19am – ian.j.macleod



SECTION B / 003

SECTION C / 003

DRAFT

CLIENT: nvi MINING LTD.

AMEC Earth & Environmental
2227 Douglas Road, Burnaby, B.C., V5C 5A9
Tel. 604-294-3811 Fax 604-294-4664

DWN BY:	YC/SM
CHK'D BY:	JS
DATUM:	-
PROJECTION:	-
SCALE:	AS SHOWN

PROJECT: MYRA FALLS
LYNX TDF - DESIGN

TITLE: CROSS SECTIONS OF LYNX PIT, UNDERGROUND WORKINGS AND FOUNDATION PREPARATION

DATE:	FEB. 2008
PROJECT NO:	VM00442-2008-1
REV. NO.:	A
DRAWING No.	VM00442-08-005

POINT	NORTHING	EASTING
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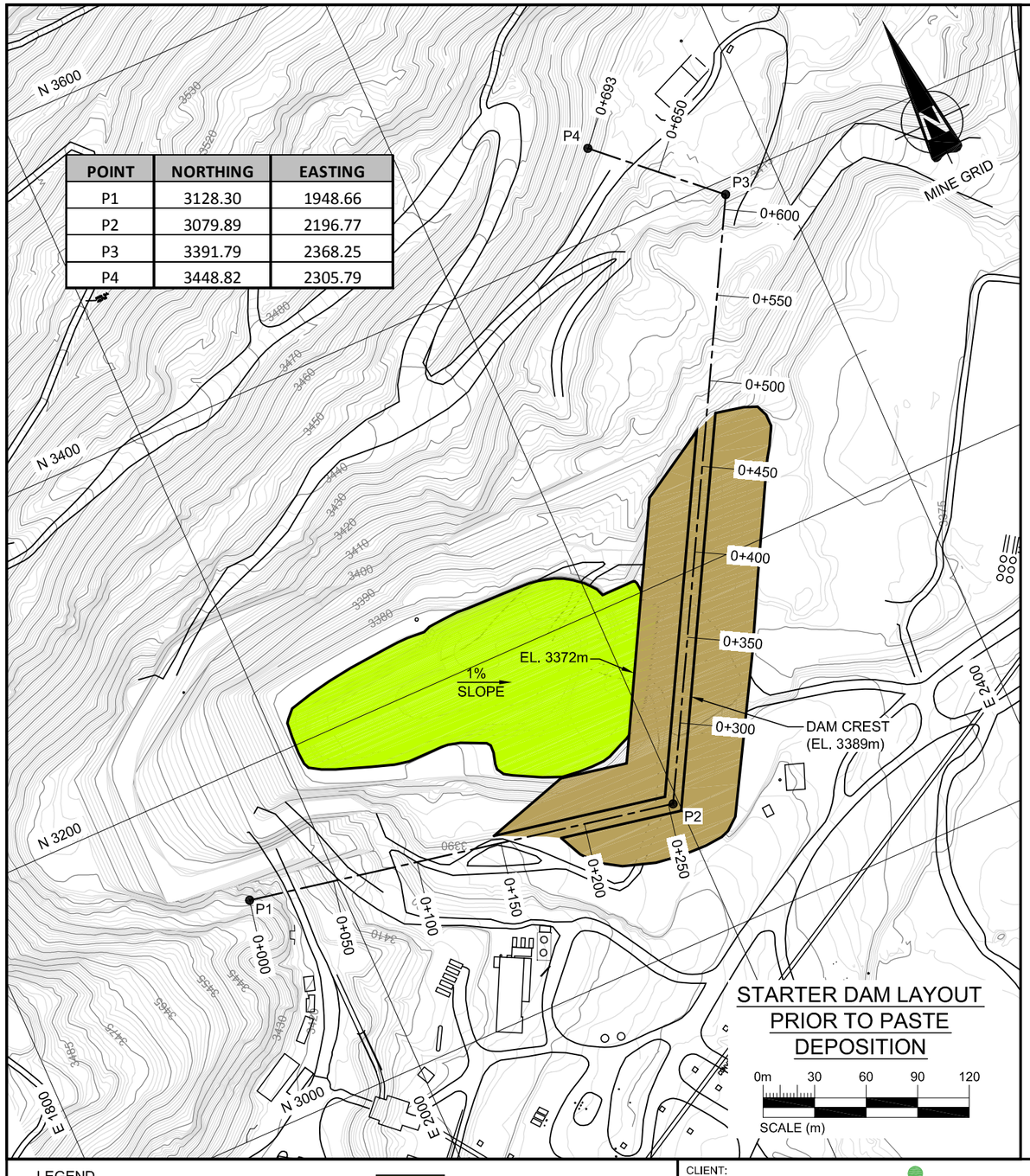
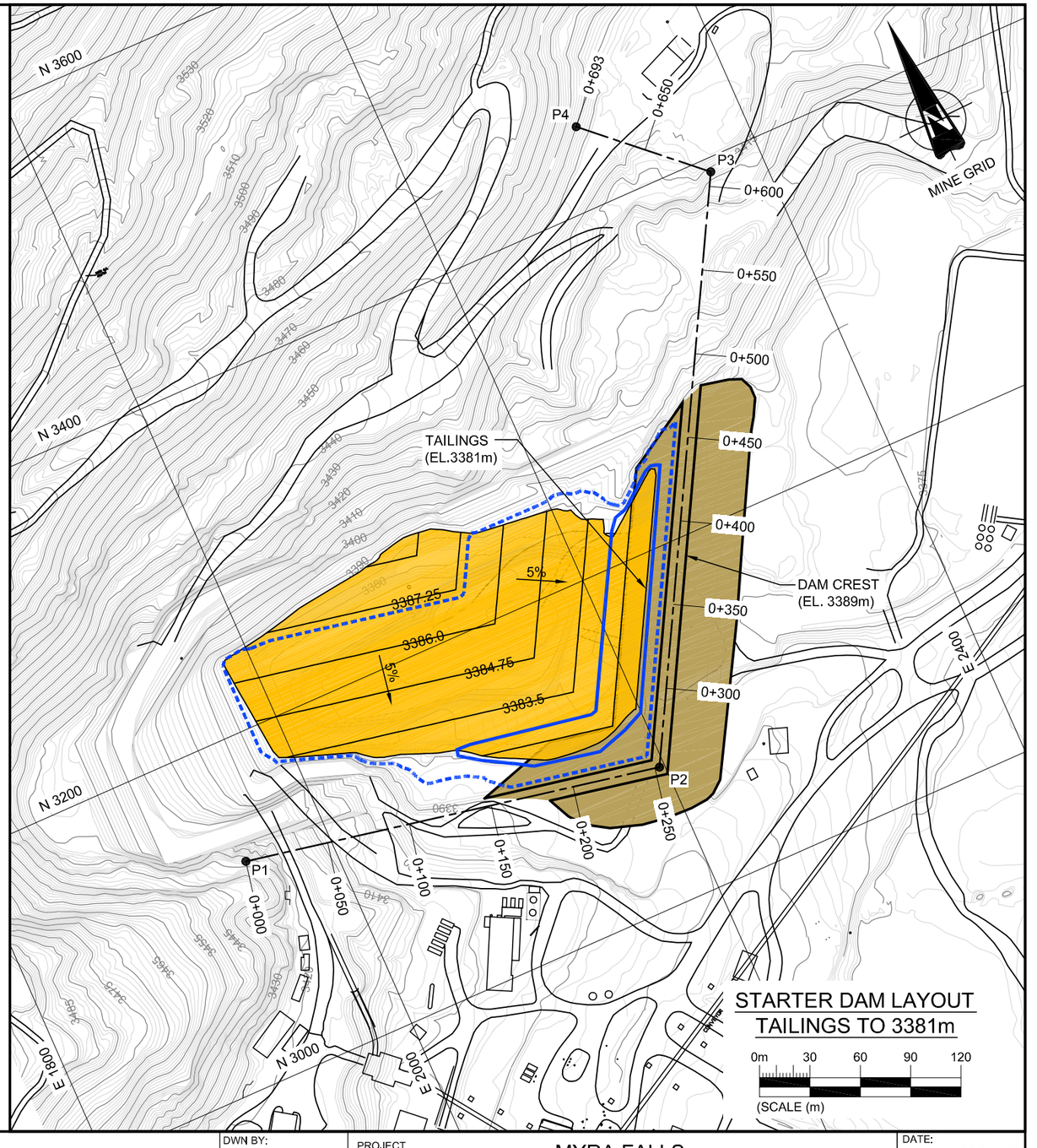
P2	3079.89	2196.77
P3	3391.79	2368.25
P4	3448.82	2305.79



STARTER DAM LAYOUT
PRIOR TO PASTE
DEPOSITION

0m 30 60 90 120
SCALE (m)



STARTER DAM LAYOUT
TAILINGS TO 3381m

0m 30 60 90 120
(SCALE (m)

LEGEND

- CENTRELINE ULTIMATE DAM
- ESTIMATED NOMINAL POND OUTLINE (140m3)
- ESTIMATED 1000 YR 24 HOUR POND OUTLINE
- COMPACTED FILL
- DAM FILL
- TAILINGS
- P1 ULTIMATE DAM (SURVEY POINT)

CLIENT: nvi MINING LTD.

AMEC Earth & Environmental
2227 Douglas Road, Burnaby, B.C., V5C 5A9
Tel. 604-294-3811 Fax 604-294-4664

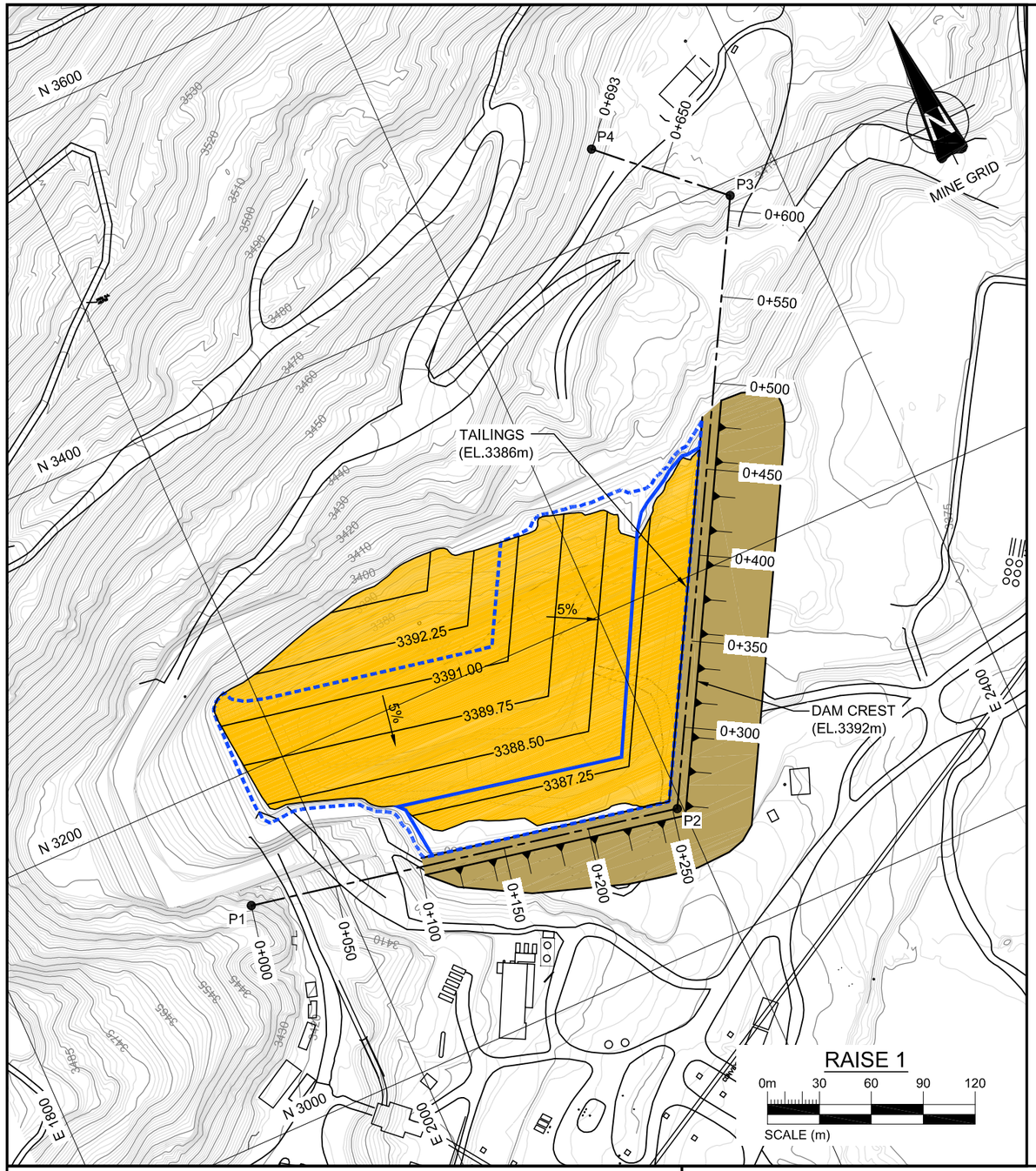
amec

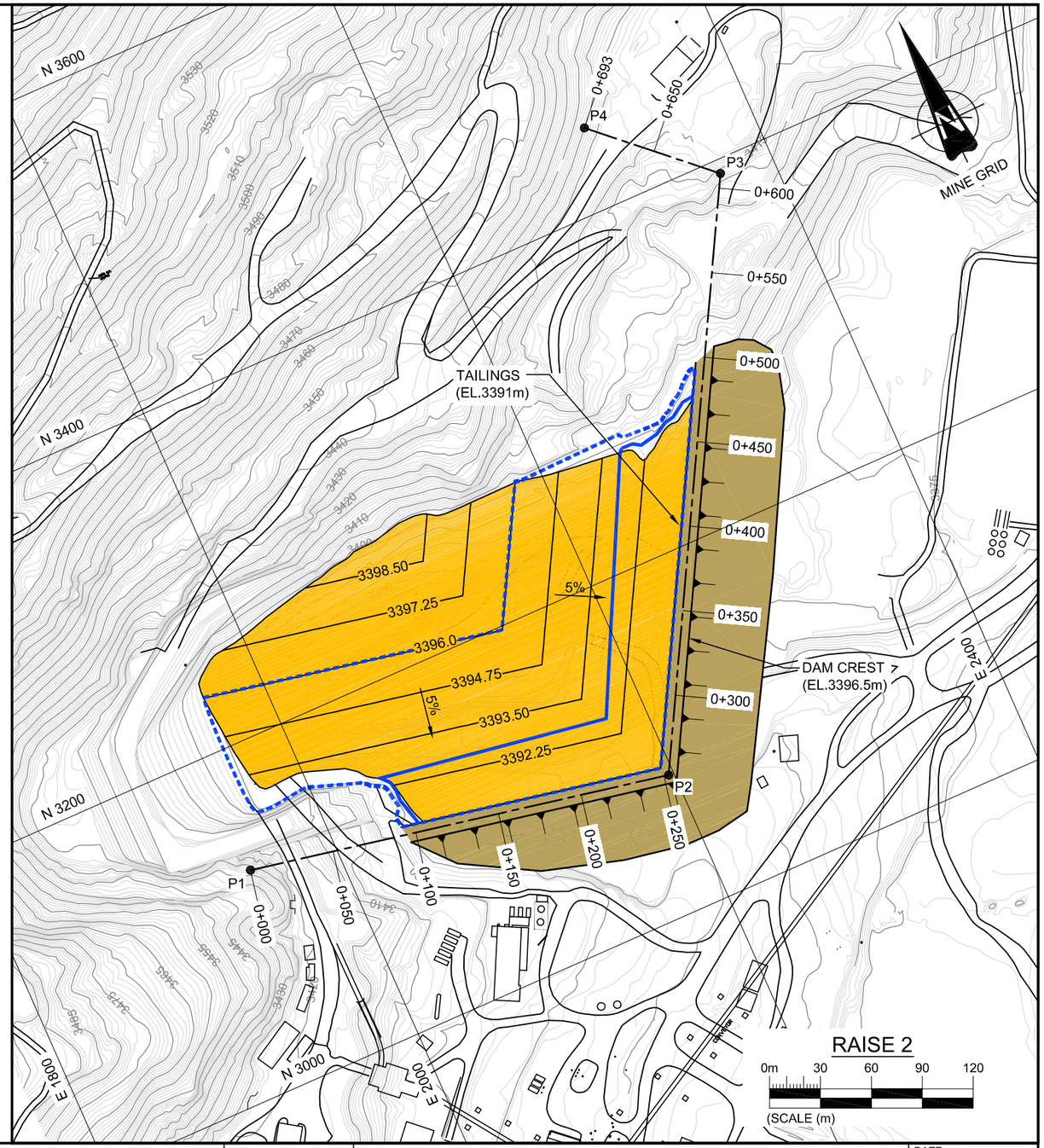
DWN BY:	SM
CHK'D BY:	JS
DATUM:	-
PROJECTION:	-
SCALE:	AS SHOWN

PROJECT
MYRA FALLS
LYNX TDF - DESIGN

TITLE
LYNX TDF PLAN: TAILINGS TO EL. 3381m

DATE:	FEB. 2008
PROJECT NO:	VM00442-2008-1
REV. NO.:	A
DRAWING No.	VM00442-08-006





LEGEND

- CENTRELINE ULTIMATE DAM
- ESTIMATED NOMINAL POND OUTLINE (140m3)
- ESTIMATED 1000 YR 24 HOUR POND OUTLINE
- DAM FILL
- TAILINGS
- P1 ULTIMATE DAM (SURVEY POINT)

CLIENT: nvi MINING LTD.

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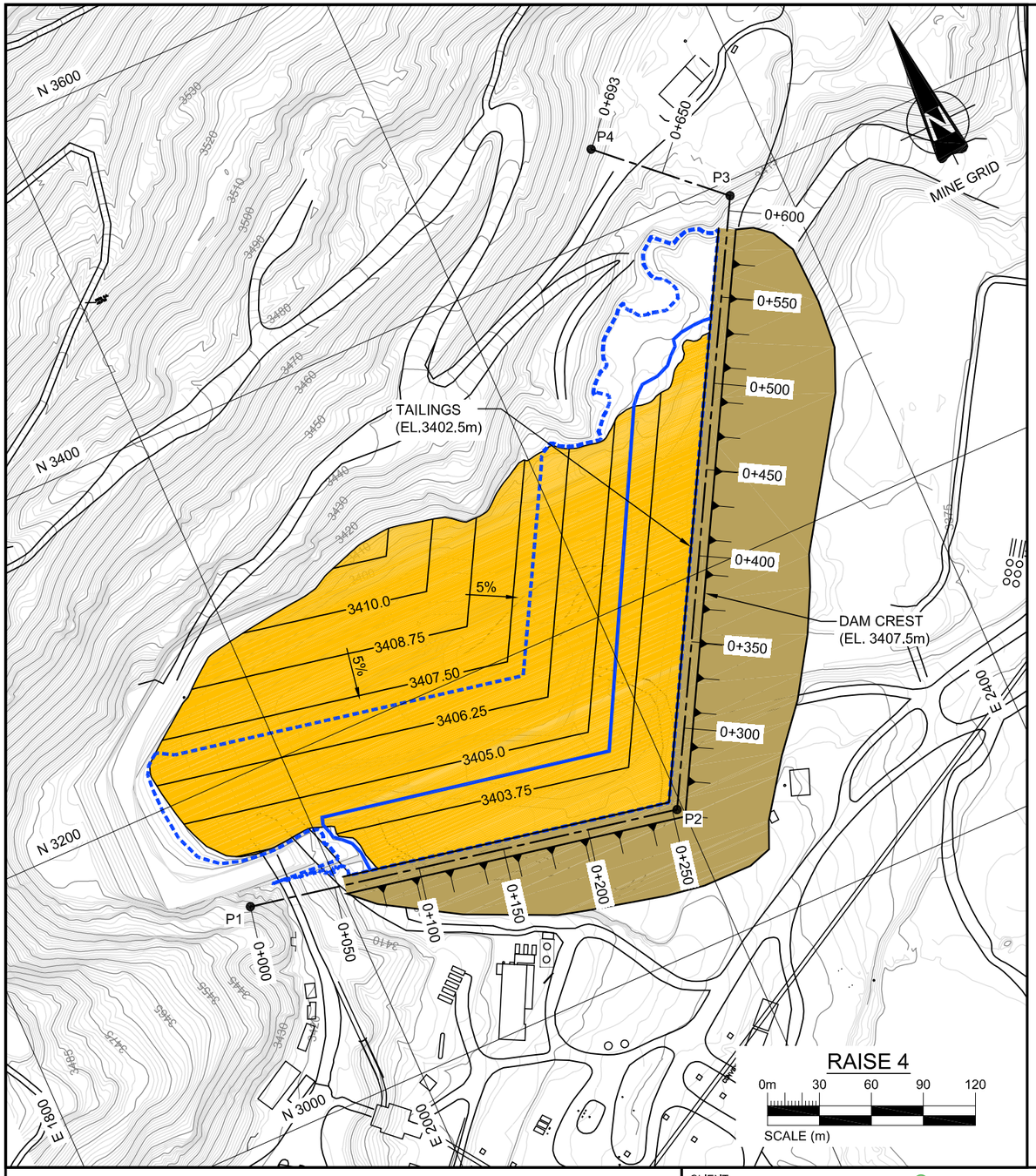
DATUM:	-
PROJECTION:	-
SCALE:	AS SHOWN

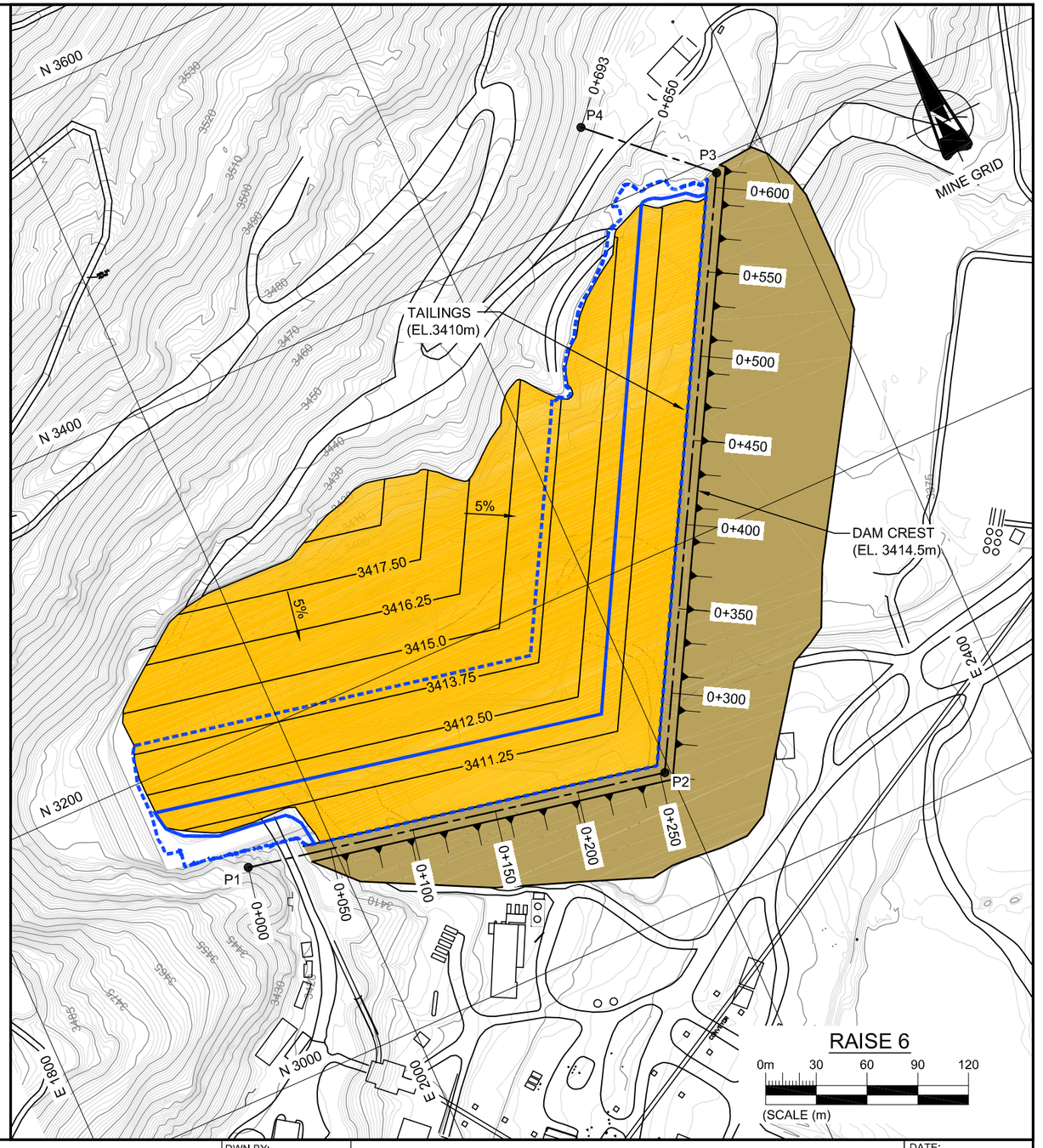
PROJECT: MYRA FALLS
LYNX TDF - DESIGN

TITLE: LYNX TDF PLAN: TAILINGS TO EL. 3391m

DATE:	FEB. 2008
PROJECT NO:	VM00442-2008-1
REV. NO.:	A
DRAWING No.	VM00442-08-007

C:\MDDSINC\CLIENTS\AMEC\YEAR 2008\MYRA FALLS\DRAWINGS FOR REPORT\VM00442-08-007.dwg – Layout1 – Mar. 12, 2008 12:48pm – steve milot





LEGEND

- CENTRELINE ULTIMATE DAM
- ESTIMATED NOMINAL POND OUTLINE (140m3)
- ESTIMATED 1000 YR 24 HOUR POND OUTLINE
- DAM FILL
- TAILINGS
- P1 ULTIMATE DAM (SURVEY POINT)

CLIENT: nvi MINING LTD.

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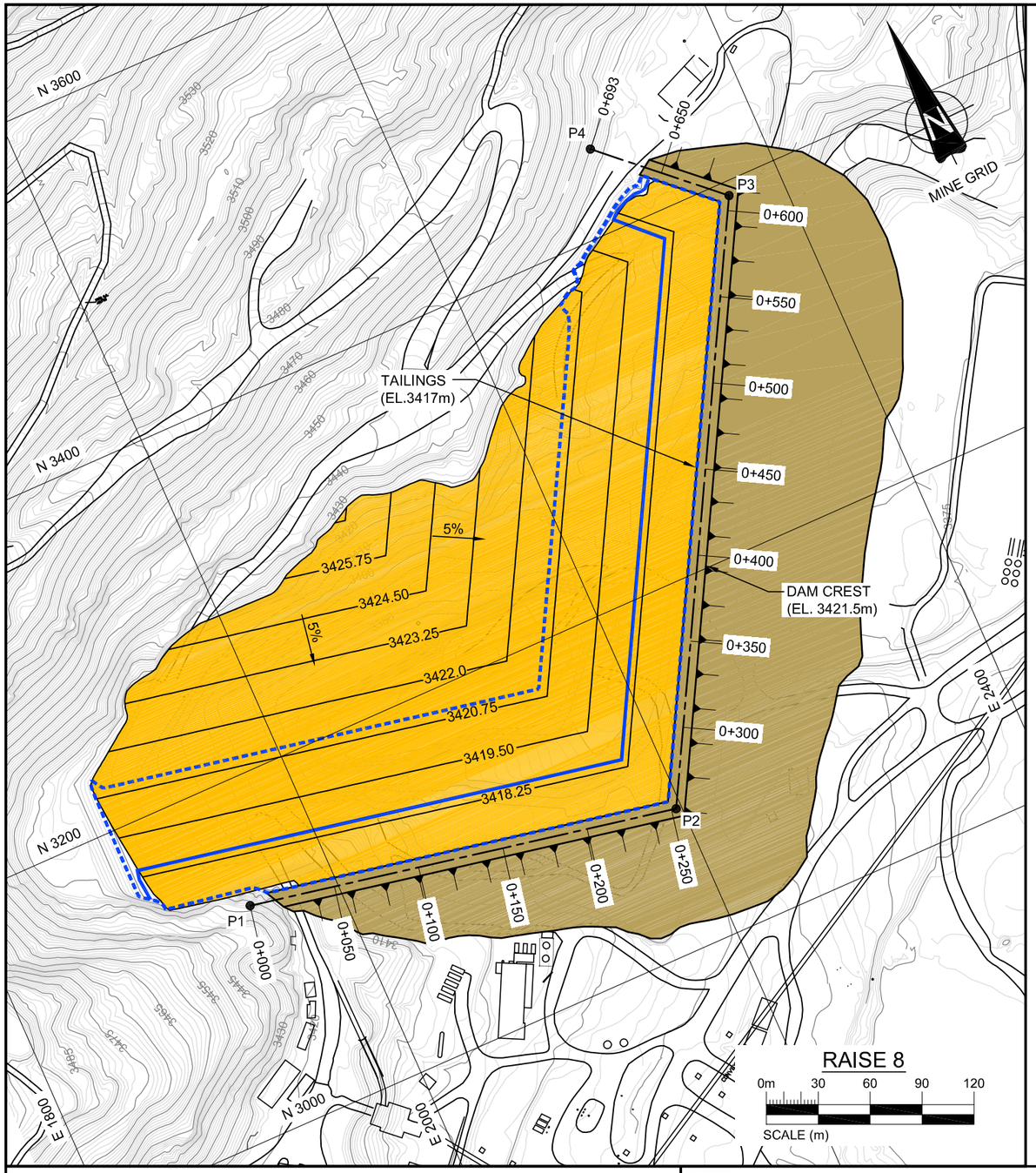
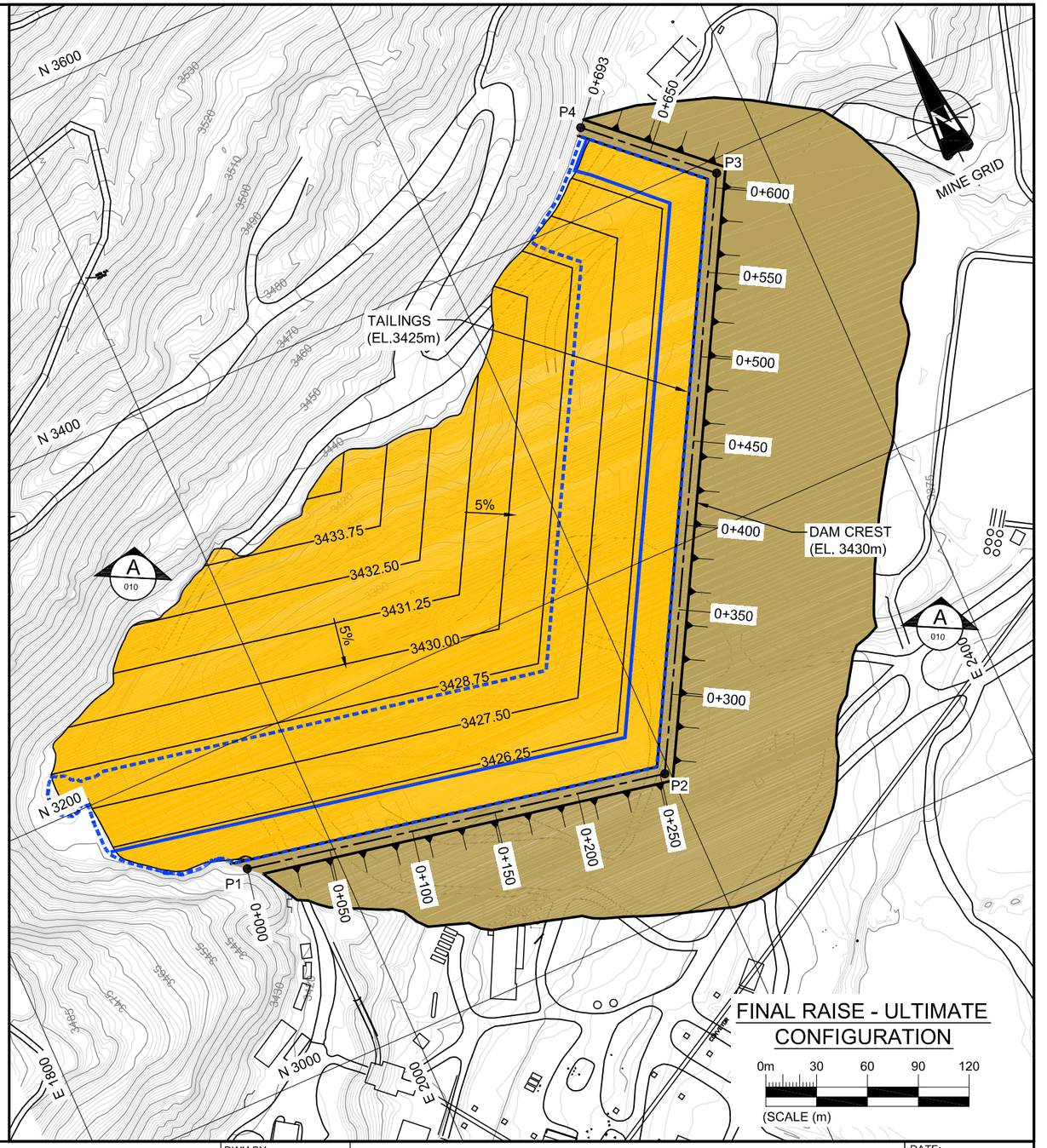
DWN BY:	SM
CHK'D BY:	JS
DATUM:	-
PROJECTION:	-
SCALE:	AS SHOWN

PROJECT
MYRA FALLS
LYNX TDF - DESIGN

TITLE
LYNX TDF PLAN: TAILINGS TO EL. 3410m

DATE:	FEB. 2008
PROJECT NO:	VM00442-2008-1
REV. NO.:	A
DRAWING No.	VM00442-08-008





LEGEND

- CENTRELINE ULTIMATE DAM
- ESTIMATED NOMINAL POND OUTLINE (140m3)
- ESTIMATED 1000 YR 24 HOUR POND OUTLINE
- DAM FILL
- TAILINGS
- P1 ULTIMATE DAM (SURVEY POINT)

CLIENT: nvi MINING LTD.

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Tel. 604-294-3811 Fax 604-294-4664

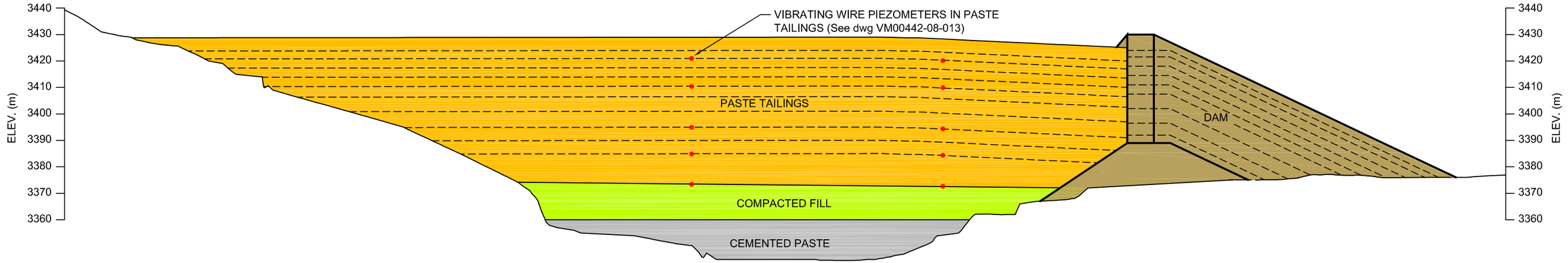
amec

DWN BY:	YC
CHK'D BY:	PCL
DATUM:	-
PROJECTION:	-
SCALE:	AS SHOWN

PROJECT
MYRA FALLS
LYNX TDF - DESIGN

TITLE
LYNX TDF PLAN: TAILINGS TO EL. 3425m

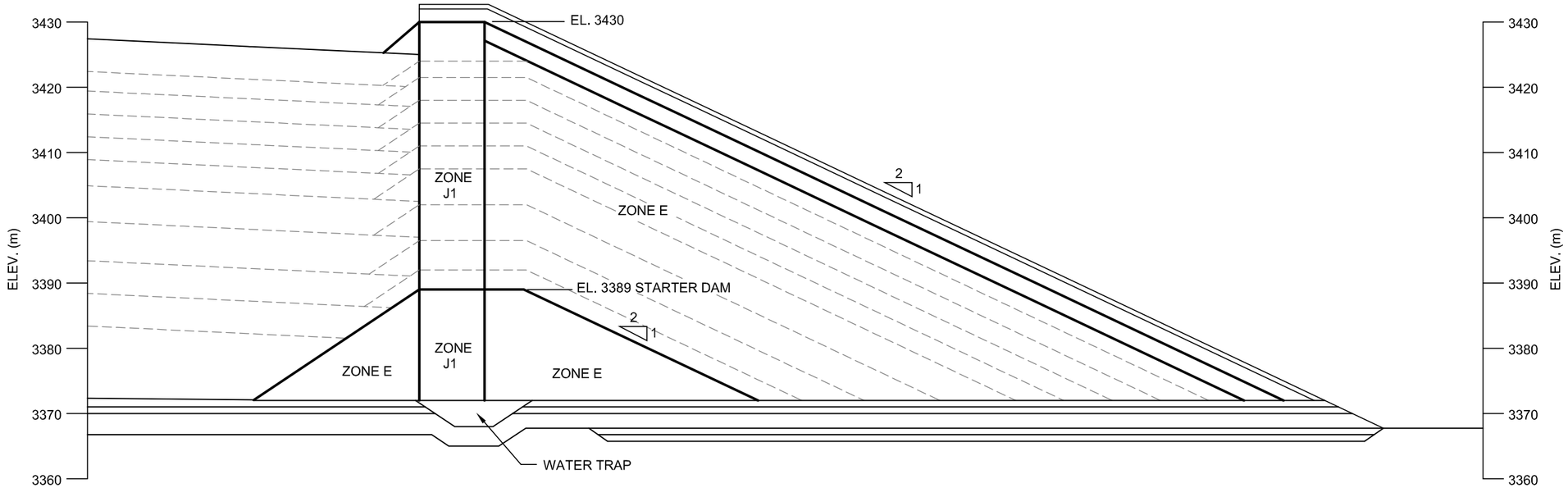
DATE:	FEB. 2008
PROJECT NO:	VM00442-2008-1
REV. NO.:	A
DRAWING No.	VM00442-08-009



0m 10 20 30 40

SCAEL (m)

SECTION AA 009



0m 5 10 15 20 25 30

SCALE (m)

DRAFT

LEGEND

- DAM FILL
- TAILINGS
- COMPACTED TAILINGS
- CEMENTED PASTE TAILINGS
- INTERMEDIATE STAGES

CLIENT: nvi MINING LTD.

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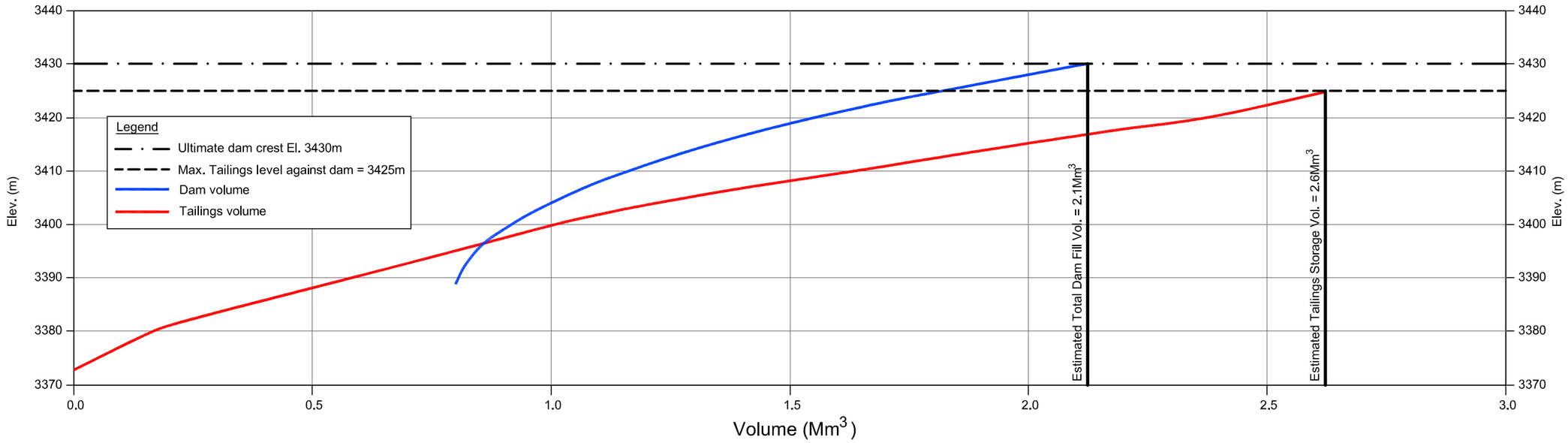
CHK'D BY:	JS
DATUM:	-
PROJECTION:	-
SCALE:	AS SHOWN

PROJECT: MYRA FALLS
LYNX TDF - DESIGN

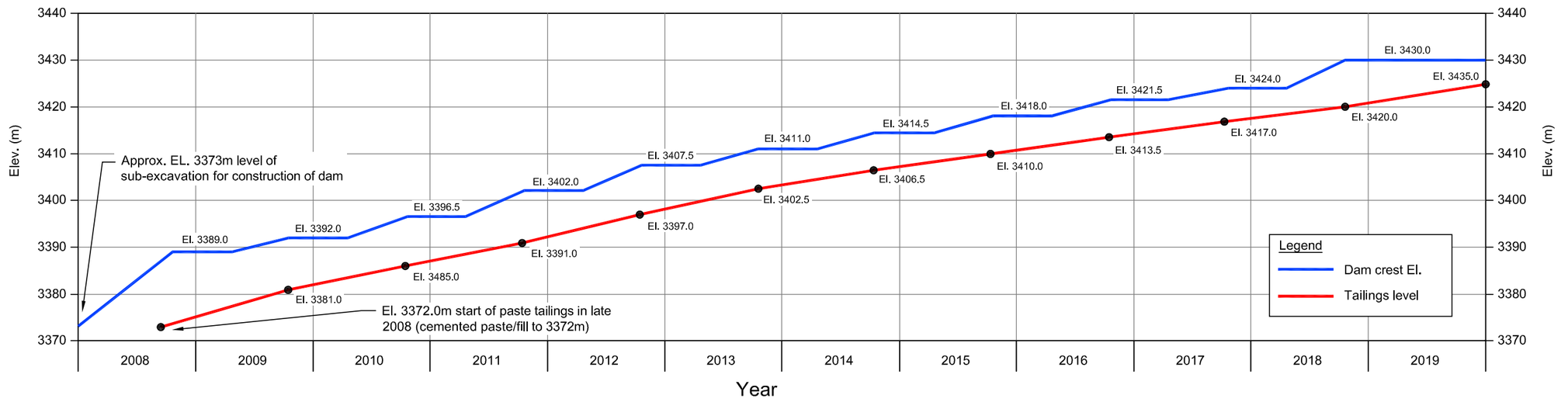
TITLE: PROJECTED ANNUAL RAISES DAM AND IMPOUNDMENT SECTION A-A

DATE:	FEB. 2008
PROJECT NO:	VM00442-2008-1
REV. NO.:	A
DRAWING No.	VM00442-08-010

VOLUME - ELEVATION CURVES



SCHEDULE OF TAILINGS DEPOSITION AND DAM CONSTRUCTION



NOTES:

1. Dam raised annually to provide tailings storage for the following year.
2. Dam crest maintained at a level sufficient to store required tailings and the inflow from a 1000-year 24-hour storm event.
3. Dam raise to be constructed between April and October of each year.
4. Tailings volume estimate assumes 5% slope for tailings surface and deposition surfaces shown in Drawings VM00442-08-006 through 009.
5. Dam volume estimate assumes foundation excavation to 3373 m. Actual volume will vary as field conditions dictate (e.g..field fitting abutment locations).

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DWN BY:	SM
CHK'D BY:	JS
DATUM:	-
PROJECTION:	-
SCALE:	AS SHOWN

PROJECT: MYRA FALLS
LYNX TDF - DESIGN

TITLE: TAILINGS STORAGE CURVES AND DEPOSITION SCHEDULE

DATE:	FEB. 2008
PROJECT NO:	VM00442-2008-1
REV. NO.:	A
DRAWING No.	VM00442-08-012

POINT	NORTHING	EASTING
P1	3128.30	1948.66
P2	3079.89	2196.77
P3	3391.79	2368.25
P4	3448.82	2305.79

N 3400

N 3200

N 3000

E 1800

E 2000

E 2200

E 2400

MINE GRID

SURGE POND

P1

P2

P3

P4

0+000

0+050

0+100

0+150

0+200

0+250

0+300

0+350

0+400

0+450

0+500

0+550

0+600

0+650

0+693

3490

3480

3470

3460

3450

3440

3430

3420

3410

3400

3390

3380

3485

3475

3465

3455

3445

3435

3425

3415

B 014.1

0m 20 40 60 80 100

SCALE (m)

LEGEND

- CENTRELINE ULTIMATE DAM
- FINAL TAILINGS FACILITY OUTLINE
- CEMENTED PASTE
- COMPACTED FILL
- UNDERDRAIN
- SHOTCRETE DITCH
- DIVERSION DITCH
- INTERCEPTOR DITCH
- PIPELINE/DITCH BERM
- EXPOSED SAND-FILLED STOPES
- P1 ULTIMATE DAM (SURVEY POINT)
- VIBRATING WIRE PIEZOMETER
- MONITORING WELL
- MOISTURE SENSOR INSTALLED IN HYDRAULIC SAND FILL

CLIENT: nvi MINING LTD.

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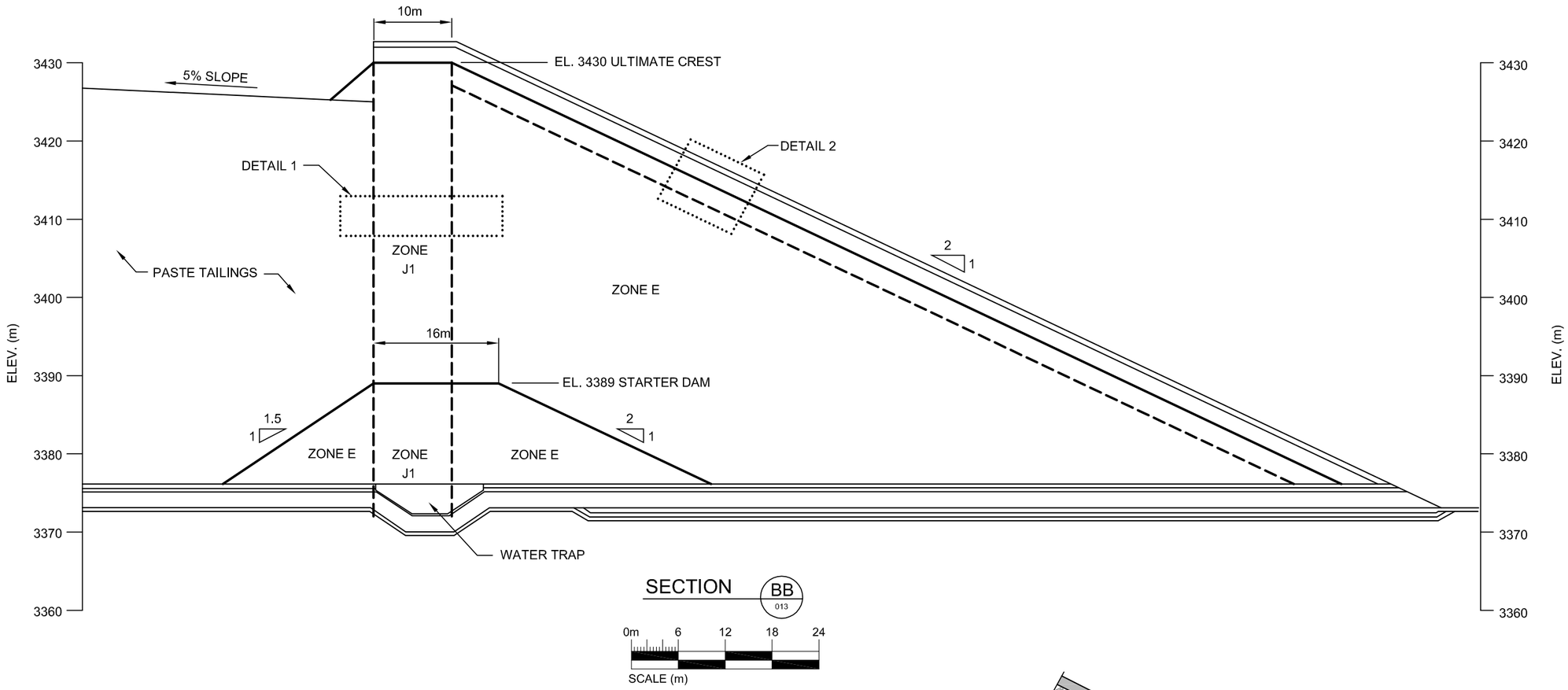
DWN BY: SM
CHK'D BY: JS
DATUM: -
PROJECTION: -
SCALE: AS SHOWN

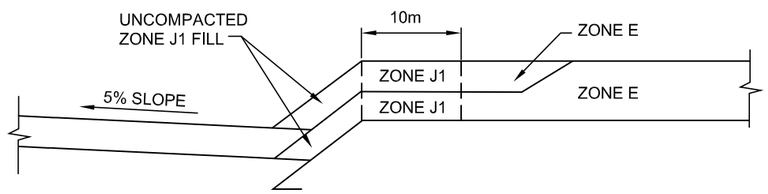
PROJECT: MYRA FALLS
LYNX TDF - DESIGN

TITLE: DAM DESIGN

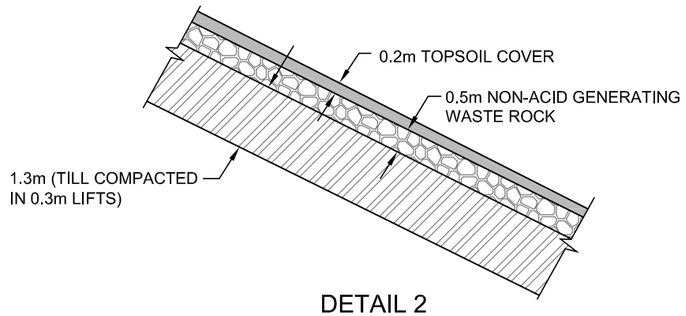
DATE: FEB. 2008
PROJECT NO: VM00442-2008-1
REV. NO.: A
DRAWING No. VM00442-08-013



SECTION BB (013)



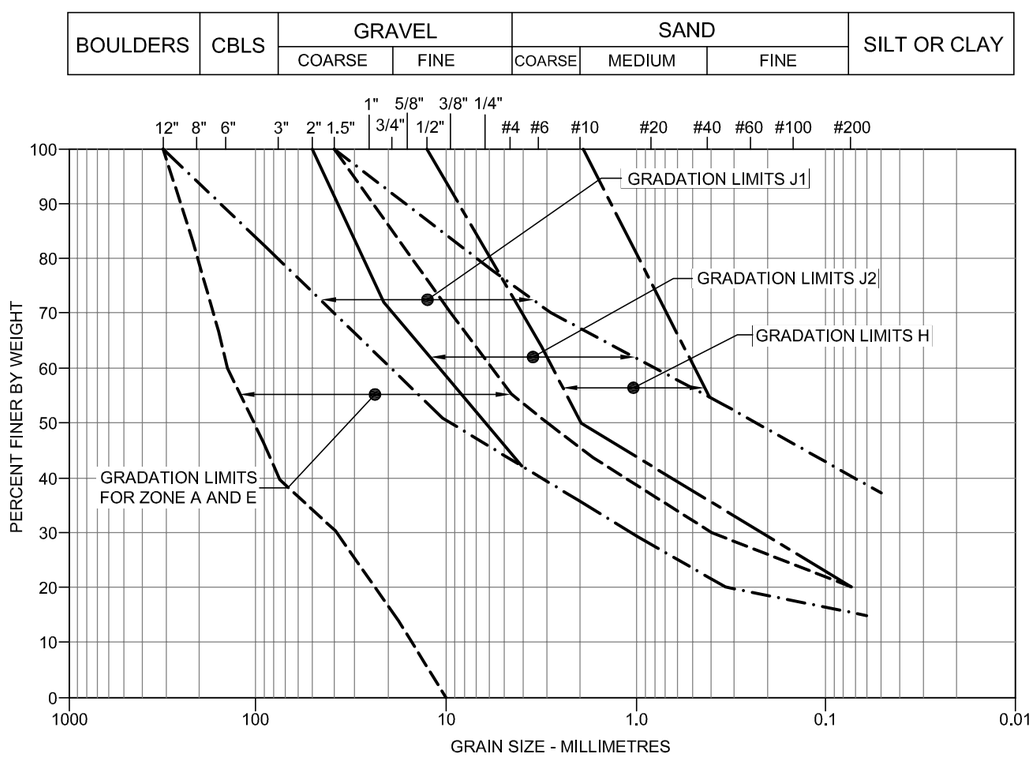
DETAIL 1
NTS

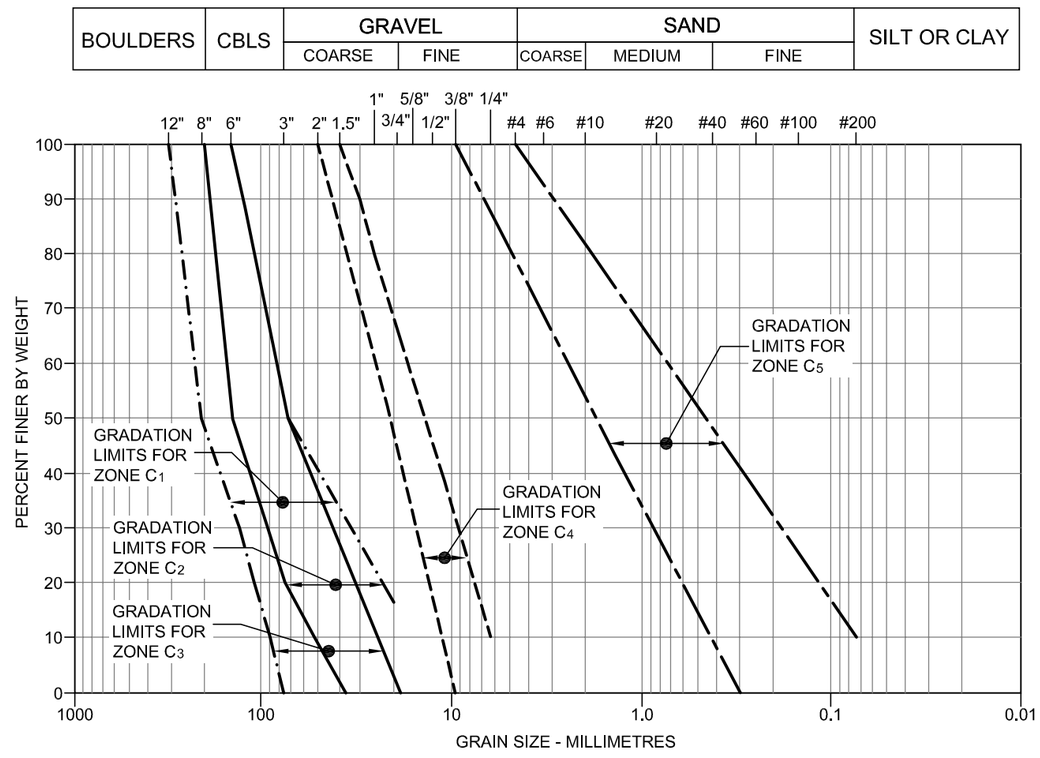


DETAIL 2
NTS

DRAFT

CLIENT: nvi MINING LTD.	DWN BY: SM	PROJECT: MYRA FALLS LYNX TDF - DESIGN	DATE: FEB. 2008
AMEC Earth & Environmental 2227 Douglas Road, Burnaby, B.C., V5C 5A9 Tel. 604-294-3811 Fax 604-294-4664	CHK'D BY: JS		PROJECT NO: VM00442-2008-1
amec	DATUM: -	TITLE: DAM DESIGN SECTION AND DETAILS	REV. NO.: A
	PROJECTION: -		DRAWING No. VM00442-08-014.2
	SCALE: AS SHOWN		





SUMMARY OF MATERIAL ZONES

MATERIAL ZONE	DESCRIPTION
A	RANDOM FILL
C_1	FILTER BEDDING (D_{100} = 150 -300mm)
C_2	FILTER BEDDING (D_{100} = 150 -200mm)
C_3	DRAIN ROCK
C_4	COARSE FILTER
C_5	FINE FILTER
D_1	RIPRAP (D_{50} = 1300mm)
D_2	RIPRAP (D_{50} = 985mm)
D_3	RIPRAP (D_{50} = 650mm)
D_4	RIPRAP (D_{50} = 390mm)
E	POTENTIAL ACID GENERATING WASTE ROCK
H	LOW PERMEABILITY SOIL LINER
J1	OXIDIZED WASTE ROCK
J2	COLLUVIUM OR TILL

SUMMARY OF GRADATION SPECIFICATION FOR MATERIAL ZONES

US STANDARD SIEVE SIZE	PERCENT PASSING BY WEIGHT									
(INCH)	(mm)	A and E	C_1	C_2	C_3	C_4	C_5	H	J1	J2
12"	304.8	100	100	-	100				100	
8"	203.2	80-100	50-100	100	50-100				95-100	
6"	152.4	60-100	35-100	50-100	35-100				89-100	
3"	46.2	40-100	0-50	20-50	0-50				80-100	
2"	50.8					100			73-100	100
1 1/2"	38.1	30-100	0-32	0-32	0-32	85-100			70-100	90-100
1"	25.4	20-90	0-22	0-22	0-10	60-80			63-95	75-95
3/4"	19.1	15-85	0-15	0-15	0	45-65			60-92	70-92
1/2"	12.7							100		
3/8"	9.5	0-70				0-28	100		50-85	57-85
1/4"	6.4					0-10	85-100		46-79	48-79
#4	4.8	0-55					80-100		43-75	45-75
#10	2	0-45					55-81		35-67	35-67
#40	0.42	0-30					0-49	50-100	20-55	20-55
#100	0.149	0-25					0-25	35-55	18-47	15-47
#200	0.074	0-20					0-10	20-40	15-40	10-40

SUMMARY OF RIP RAP GRADATION SPECIFICATIONS

PARTICLE SIZE	ZONE			
	D_1	D_2	D_3	D_4
D_{50} (kg)	3050	1280	370	80
D_{30} (mm)	1000	750	500	300
D_{50} (mm)	1300	975	650	390
D_{90} (mm)	1440	1090	725	430

DRAFT

CLIENT: nvi MINING LTD.

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Tel. 604-294-3811 Fax 604-294-4664

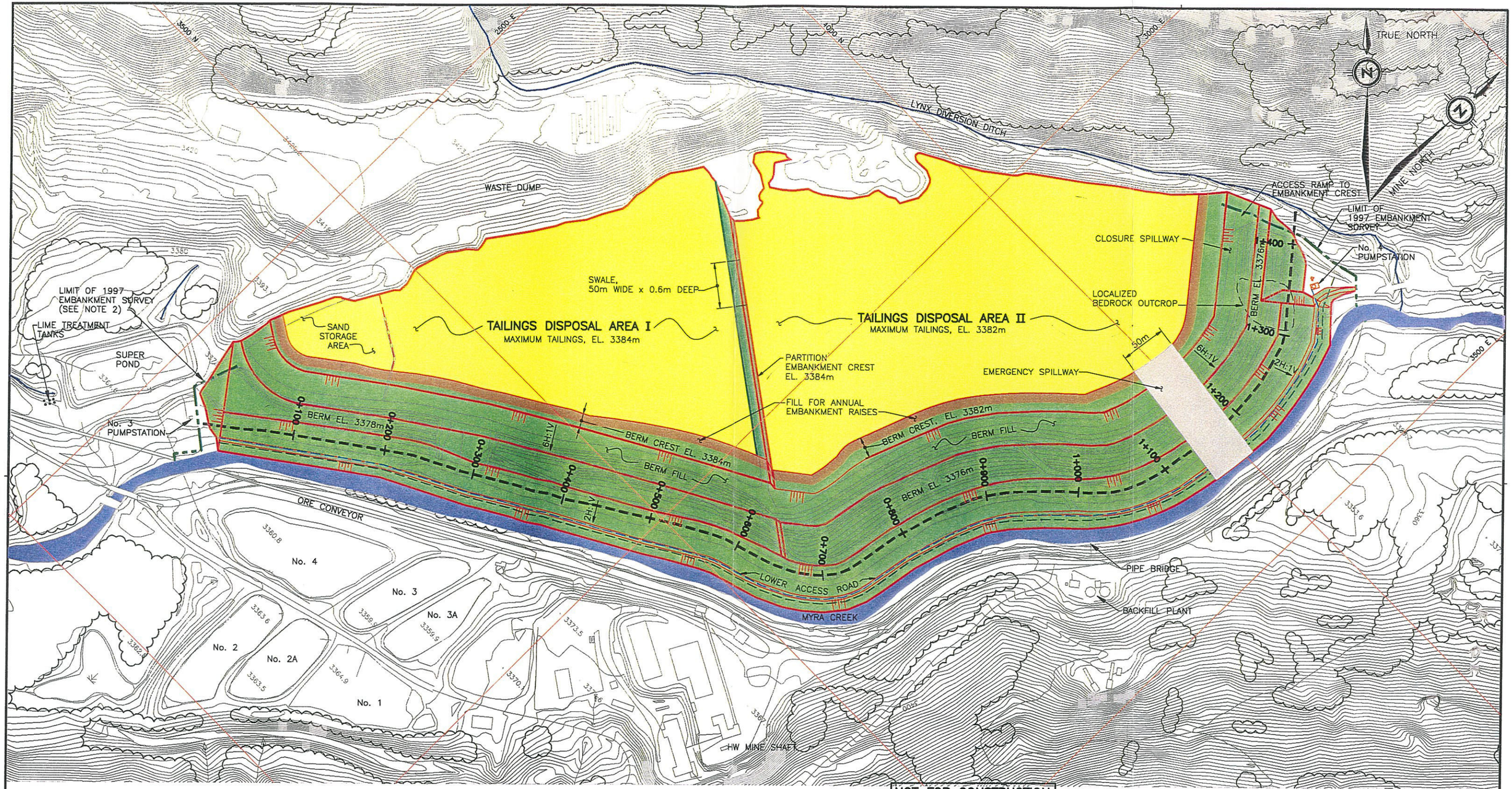
DWN BY: SM
CHK'D BY: JS
DATUM: -
PROJECTION: -
SCALE: AS SHOWN

PROJECT: MYRA FALLS
LYNX TDF - DESIGN

TITLE: CONSTRUCTION MATERIALS:
GRADATION SPECIFICATIONS

DATE: APRIL 2008
PROJECT NO: VM00442-2008-1
REV. NO.: A
DRAWING No. VM00442-08-015

APPENDIX C
KLOHN DESIGN DRAWINGS



LEGEND:

0+100 — CENTRELINE OF BERM

CENTRELINE OF CUTOFF WALL

CENTRELINE OF DRAINAGE WALL

NOTES:

1. ALL ELEVATIONS AND DIMENSIONS ARE IN METRES.
2. TOPOGRAPHY BASED ON AERIAL SURVEY FLOWN IN SEPT. 1992, EXCEPT EMBANKMENT FACE PLANIMETRY WHICH IS BASED ON 1996 AND 1997 LAND SURVEY BY PARALLEL GEO-SERVICES. INC.
3. APPROX. DEC. 1997, TAILINGS ELEVATION ADJUSTED FROM NOVEMBER 1997 SURVEY DATA.

NO.	DATE	ISSUE / REVISION	DRAWN	CHK'D	DESIGN	APP'D
B	APR 09, 1999	FINAL	PSK	DS	HP	
A		DRAFT	PSK		HP	

NOT FOR CONSTRUCTION

TO BE READ WITH KLOHN-CRIPPEN REPORT DATED APR 09, 1999

SCALE 0 100m

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CLIENT: BOLIDEN WESTMIN LTD.

KLOHN-CRIPPEN

PROJECT: MYRA FALLS OPERATION
SEISMIC UPGRADE OF TAILINGS DISPOSAL FACILITY

TITLE: GENERAL ARRANGEMENT OF BERM

PROJECT No. PM7632 17 | DWG. No. D-17504 | REV. B

CANCEL PRINTS BEARING PREVIOUS

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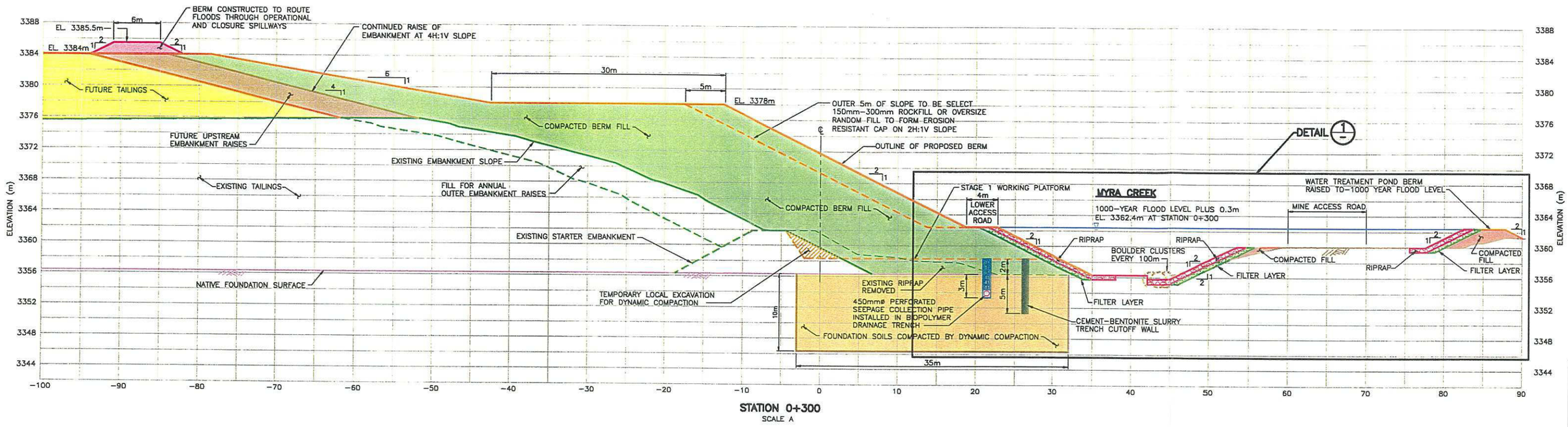

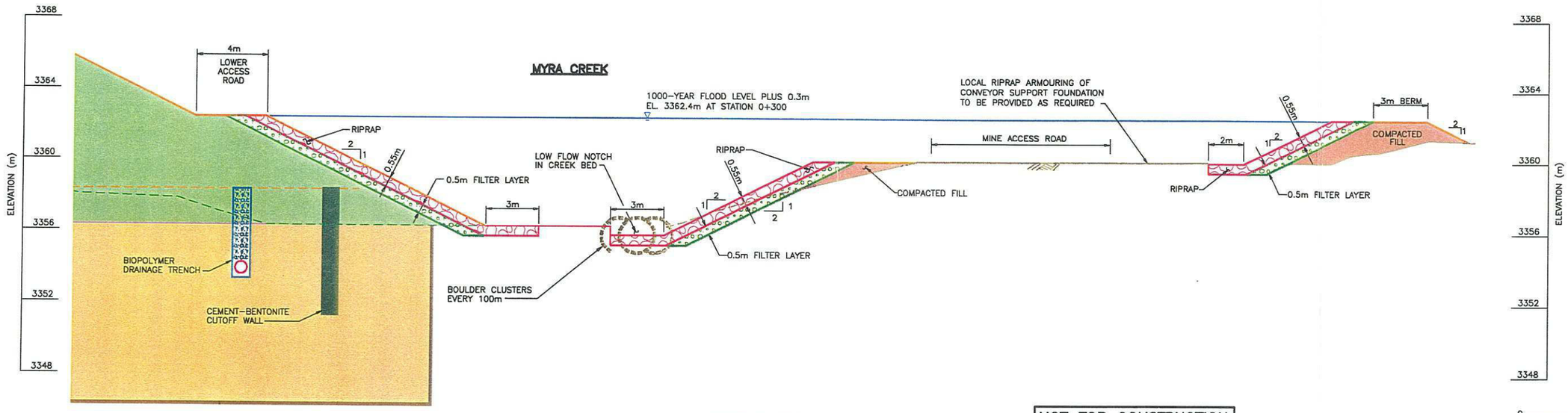

NOT FOR CONSTRUCTION

TO BE READ WITH KLOHN–CRIPPEN REPORT DATED APR 09, 1999

SCALE B 0 5m

SCALE A 0 10m

NO.	DATE	ISSUE / REVISION	DRAWN	CHK'D	DESIGN	APP'D
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A		DRAFT	PSK		HP	

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CLIENT: BOLIDEN WESTMIN LTD.

KLOHN-CRIPPEN

PROJECT: MYRA FALLS OPERATION
SEISMIC UPGRADE OF TAILINGS DISPOSAL FACILITY

TITLE: TYPICAL BERM SECTION AT STATION 0+300

PROJECT No. PM7632 17

DWG. No. D–17505

REV. B

CANCEL PRINTS BEARING PREVIOUS

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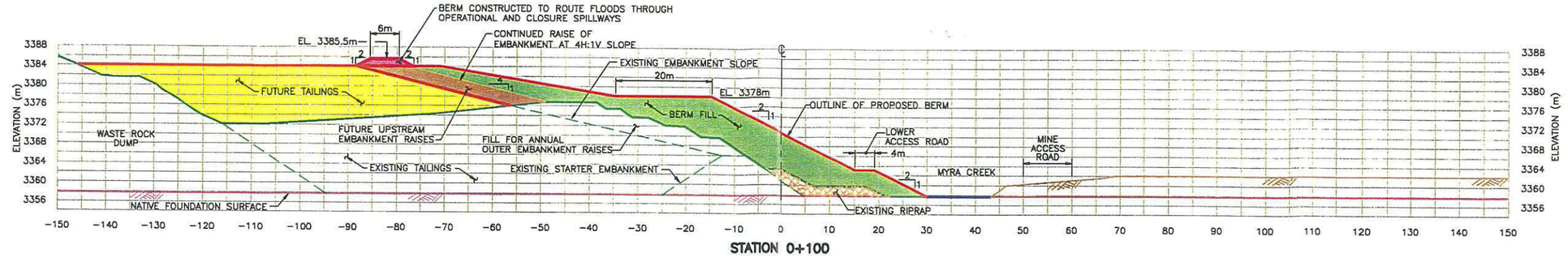
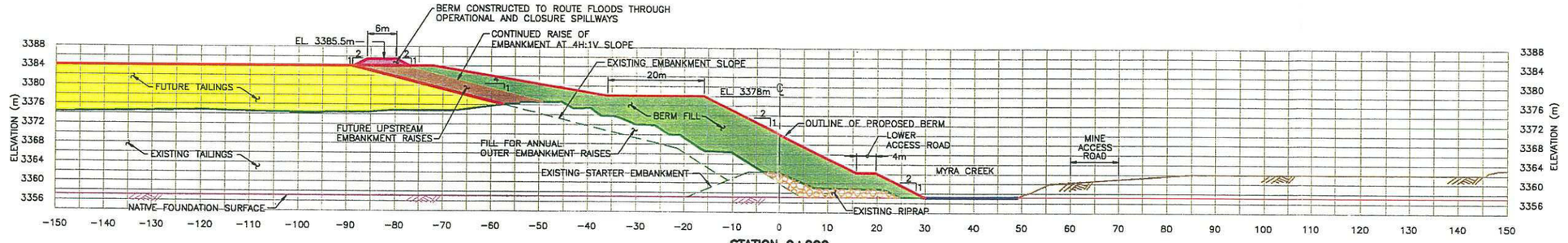
APR 07, 1999



STATION 0+100



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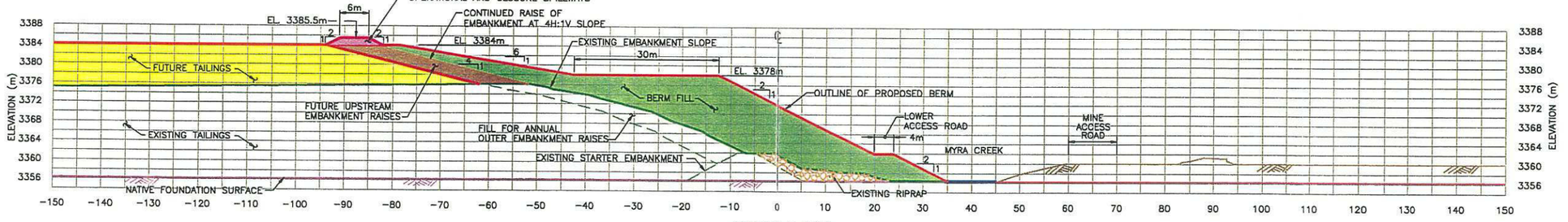

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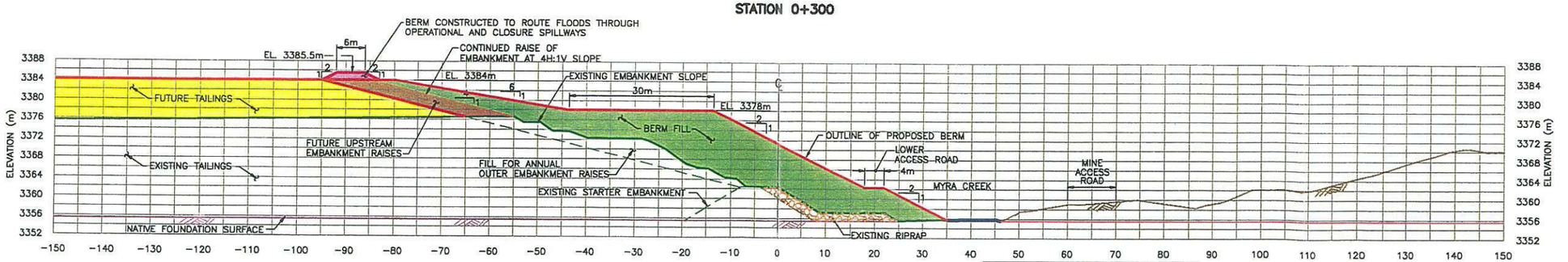

STATION 0+400

NOTES:

1. DETAILS OF RIPRAP ARMOURING, CUTOFF WALL AND DRAINAGE WALL OMITTED FOR CLARITY.

NOT FOR CONSTRUCTION

TO BE READ WITH KLOHN-CRIPPEN REPORT DATED APR 09, 1999

SCALE 0 25m

NO.	DATE	ISSUE / REVISION	DRAWN	CHK'D	DESIGN	APP'D
B	APR 09, 1999	FINAL	PSK	DS	HP	
A		DRAFT	PSK		HP	

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CLIENT: BOLIDEN WESTMIN LTD.

KLOHN-CRIPPEN

PROJECT: MYRA FALLS OPERATION
SEISMIC UPGRADE OF TAILINGS DISPOSAL FACILITY

TITLE: SECTIONS AT STATIONS 0+100, 0+200, 0+300 AND 0+400

PROJECT No. PM7632 17 | DWG. No. D-17506 | REV. B

CANCEL PRINTS BEARING PREVIOUS

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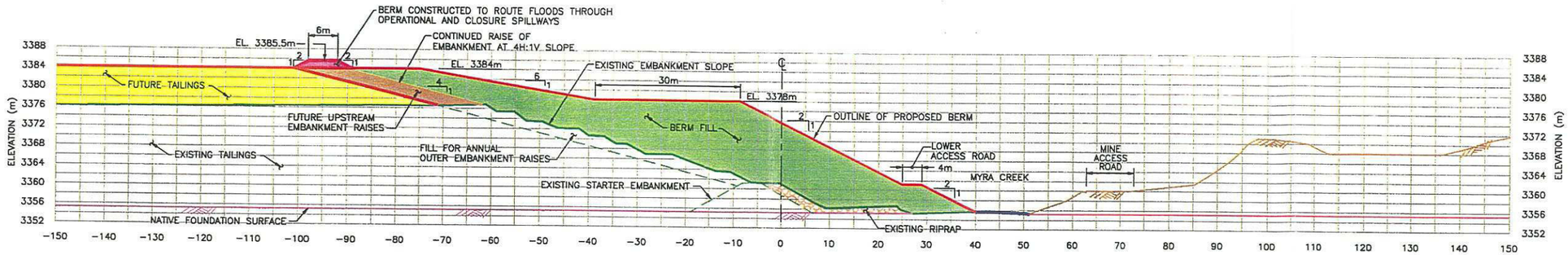
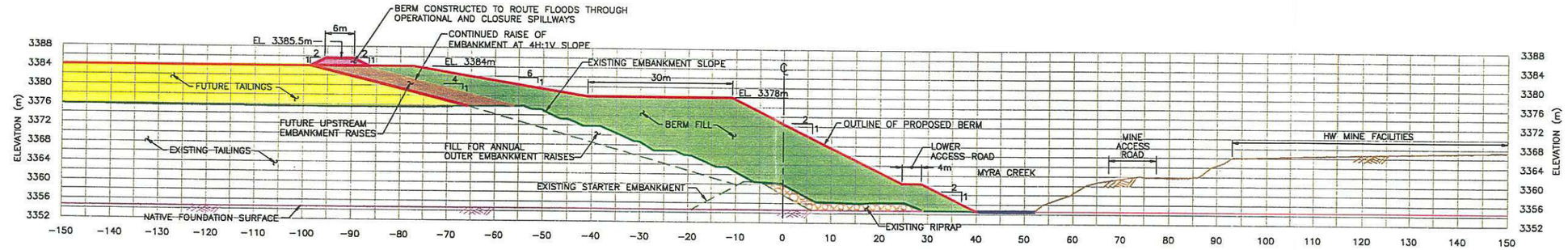


STATION 0+500



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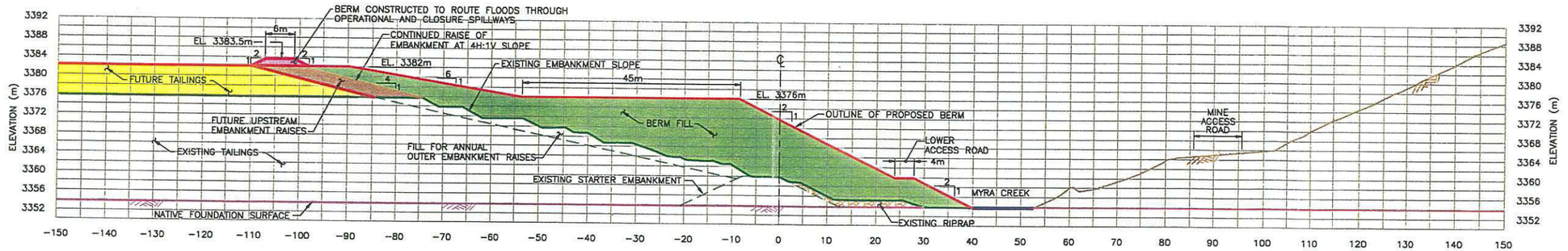

STATION 0+700

NOTES:

1. DETAILS OF RIPRAP ARMOURING, CUTOFF WALL AND DRAINAGE WALL OMITTED FOR CLARITY.

NOT FOR CONSTRUCTION

TO BE READ WITH KLOHN-CRIPPEN REPORT DATED APR 09, 1999

SCALE 0 25m

NO.	DATE	ISSUE / REVISION	DRAWN	CHK'D	DESIGN	APP'D
B	APR 09, 1999	FINAL	PSK	DS	HP	
A		DRAFT	PSK		HP	

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CLIENT: BOLIDEN WESTMIN LTD.

KLOHN-CRIPPEN

PROJECT: MYRA FALLS OPERATION
SEISMIC UPGRADE OF TAILINGS DISPOSAL FACILITY

TITLE: SECTIONS AT STATIONS 0+500, 0+600 AND 0+700

PROJECT No. PM7632 17 | DWG. No. D-17507 | REV. B

CANCEL PRINTS BEARING PREVIOUS

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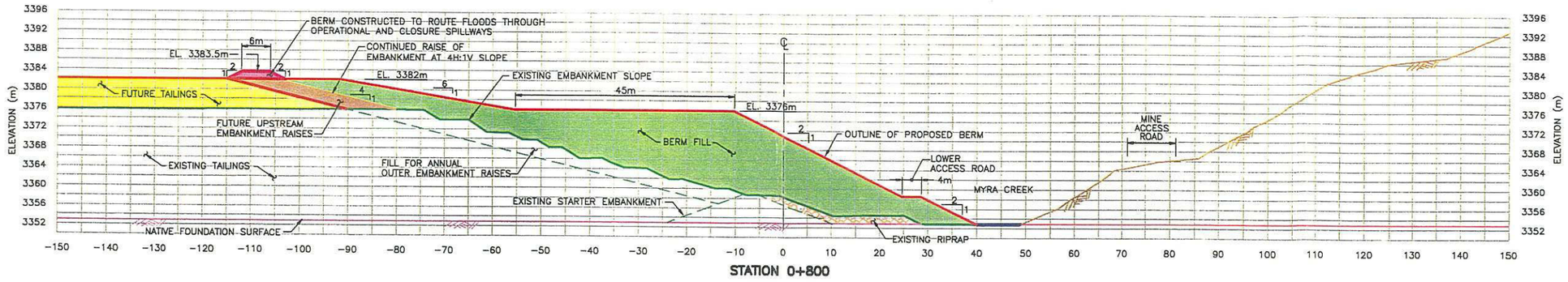
APR 08, 1999



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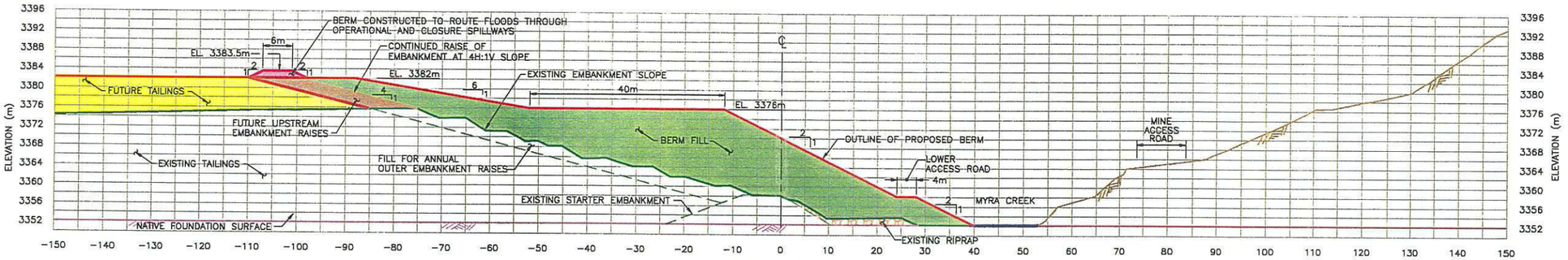

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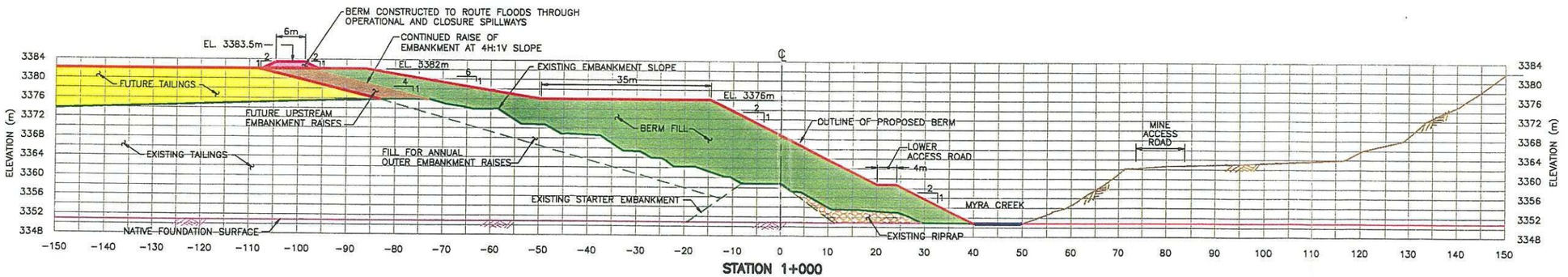

STATION 1+000

NOTES:

1. DETAILS OF RIPRAP ARMOURING, CUTOFF WALL AND DRAINAGE WALL OMITTED FOR CLARITY.

NOT FOR CONSTRUCTION

TO BE READ WITH KLOHN-CRIPPEN REPORT DATED APR 09, 1999

SCALE 0 25m

NO.	DATE	ISSUE / REVISION	DRAWN	CHK'D	DESIGN	APP'D
B	APR 09, 1999	FINAL	PSK	DS	HP	
A		DRAFT	PSK		HP	

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CLIENT: BOLIDEN WESTMIN LTD.

KLOHN-CRIPPEN

PROJECT: MYRA FALLS OPERATION
SEISMIC UPGRADE OF TAILINGS DISPOSAL FACILITY

TITLE: SECTIONS AT STATIONS 0+800, 0+900 AND 1+000

PROJECT No. PM7632 17

DWG. No. D-17508

REV. B

CANCEL PRINTS BEARING PREVIOUS

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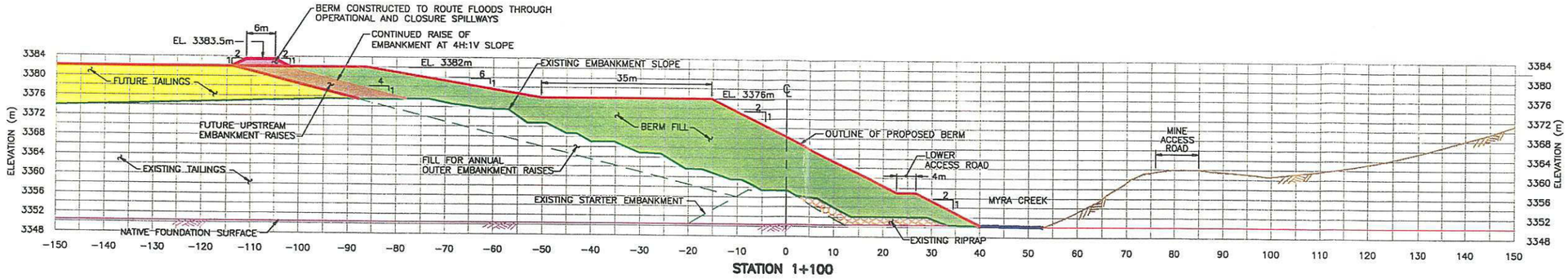
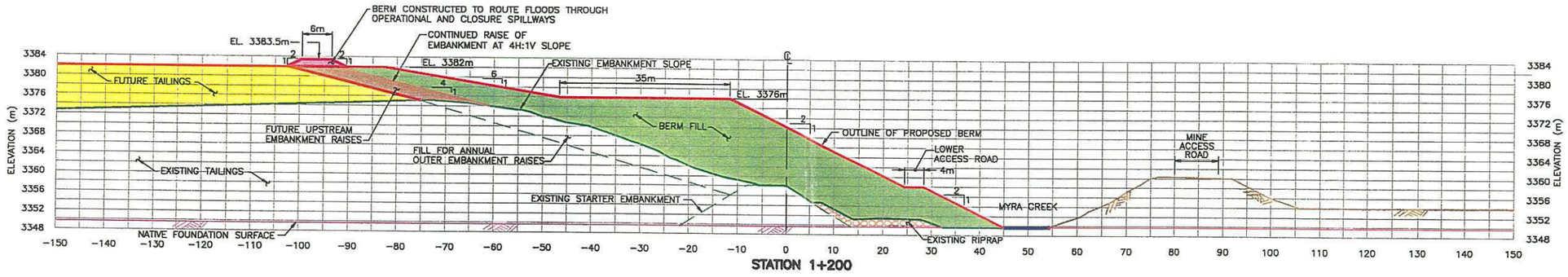
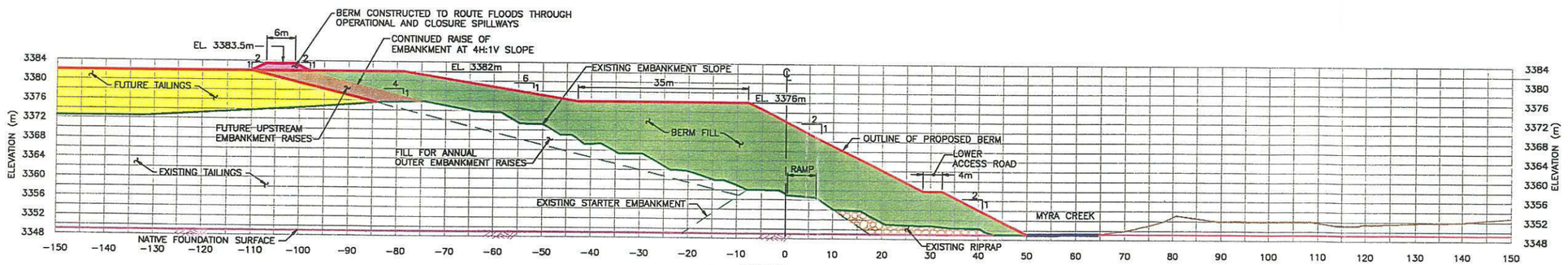
APR 08, 1999



STATION 1+100



STATION 1+200



STATION 1+300

NOTES:

1. DETAILS OF RIPRAP ARMOURING, CUTOFF WALL AND DRAINAGE WALL OMITTED FOR CLARITY.

NOT FOR CONSTRUCTION

TO BE READ WITH KLOHN-CRIPPEN REPORT DATED APR 09, 1999

SCALE 0 25m

NO.	DATE	ISSUE / REVISION	DRAWN	CHK'D	DESIGN	APP'D
B	APR 09, 1999	FINAL	PSK	DS	HP	
A		DRAFT	PSK		HP	

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CLIENT: BOLIDEN WESTMIN LTD.

KLOHN-CRIPPEN

PROJECT: MYRA FALLS OPERATION
SEISMIC UPGRADE OF TAILINGS DISPOSAL FACILITY

TITLE: SECTIONS AT STATIONS 1+100, 1+200 AND 1+300

PROJECT No. PM7632 17 | DWG. No. D-17509 | REV. B

CANCEL PRINTS BEARING PREVIOUS

17509F.DWG
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APPENDIX D
INSTRUMENTATION SUMMARY TABLES AND PLOTS

Nyrstar Myra Falls
2014 Q3 Dam Safety Inspection
November 2014

Monthly Precipitation Data by Year

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Cumulative Total	
YEAR	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Actual	Inferred
1978														
*1979						71	125	47	384	343	187	620		(2894)
1980	270	296	90	241	52	87	70	37	181	180	497	706	2706	
1981	346	428	118	278	114	125	78	63	310	450	466	412	3189	
1982	299	505	110	193	22	27	19	35	89	779	213	493	2783	
1983	530	624	375	84	42	130	95	60	60	218	619	193	3028	
*1984	399	520		263	193	32	9	40	95	576	340	220		(2926)
*1985	64	175	148	114	85	21	32	21	77					(1851)
*1986			418	88	239	89	41	4	54	590		390		(2969)
*1987		337	425	263	223	184	59	18	98	84	592	437		(3069)
1988	343	203	212	215	215	80	25	29	114	246	582	201	2467	
1989	329	102	224	198	63	72	42	42	18	339	250	253	1931	
1990	372	283	123	59	82	130	31	70	19	565	806	344	2883	
1991	353	543	86	126	80	28	33	207	8	60	596	610	2730	
1992	860	305	45	244	6	41	11	36	90	390	257	241	2527	
1993	57	55	289	207	148	64	77	92	1	180	141	393	1705	
*1994	258		203	149	79	137	6	47	74	219	380	499		(2317)
*1995	- no data -													
*1996	- no data -													
*1997		64	259	217	124	183	72	114	0	442	348	374		(2546)
1998	571	419	159	21	37	14	67	3	3	130	473	279	2175	
1999	219	295	174	96	50	16	1	114	55	138	667	183	2007	
2000	50	218	99	76	132	50	124	52	62	325	168	125	1479	
2001	333	123	144	107	132	38	38	163	67	200	519	367	2233	
2002	195	134	56	93	41	23	28	27	51	34	588	288	1557	
2003	471	61	412	177	50	51	44	30	45	558	94	348	2341	
2004	327	134	160	40	24	42	23	74	157	218	489	340	2026	
2005	433	70	223	396	306	58	100	54	98	515	268	522	3043	
2006	616	316	379	125	76	46	28	5	77	139	811	561	3176	
2007	538	288	438	208	75	129	71	69	167	410	491	416	3300	
2008	250	176	188	59	80	29	8	162	22	260	458	163	1854	
2009	140	139	291	91	171	44	35	17	165	321	882	258	2553	
2010	666	353	381	223	171	60	2	19	269	478	285	629	3535	
2011	284	327	528	166	80	12	82	42	340	295	478	200	2834	
2012	601	241	424	199	55	86	10	14	16	317	525	264	2752	
2013	96	267	168	112	125	66	3	125	277	57	227	100	1622	
*2014	170	243	341	170	48	32	32	17	144					(2312)
Num.	30	31	32	33	33	34	34	34	34	32	31	32	**26**	(30)
Avg.	348.0	265.9	240.3	160.5	103.6	67.6	44.8	57.3	108.3	314.2	441.8	357.1	**2478.2**	(2527)
St. Dev.	195	151	134	83	71	47	35	49	102	183	205	159	**581**	(552)
Max.	860	624	528	396	306	184	125	207	384	779	882	706	**3535**	(3535)
Min.	50	55	45	21	6	12	1	3	0	34	94	100	**1479**	(1479)

Notes: Compiled from daily observations recorded at the powerhouse weather station (Environment Canada)

Yellow shading - dry (value < monthly mean - standard deviation)

Blue shading - wet (value > monthly mean + standard deviation)

* = years with incomplete data sets

Operational Status of Myra TDF - Plane A Vibrating Wire Piezometers

Piezometer Number	Tip Elevation (m)	Thermistor Status	Transducer Status	Piezometer Status
ATM	-	-	OK	OK - used thermistor data from Plane C
A-0E	3356.19	-	-	Destroyed August 1999
A-1E	3352.76	-	-	Not functioning
A-2E	3352.90	OK	OK	OK, No Data July & August 2014
A-4E	3352.73	OK	OK	OK, No Data July & August 2014
A-5E	3357.91	OK	OK	OK, No Data July & August 2014
A-6E	3358.44	OK	OK	OK, No Data July & August 2014
A-8E	3358.52	OK	OK	OK, No Data July & August 2014
A-9E	3359.24	-	OK	Thermistor not functioning, No Data July & August 2014
A-10E	3359.82	OK	OK	OK, No Data July & August 2014
A-12E	3359.90	OK	OK	OK, No Data July & August 2014
A-13E	3360.90	OK	OK	OK, No Data July & August 2014
A-14E	3360.92	-	OK	Thermistor not functioning, No Data July & August 2014
A-16E	3361.11	OK	OK	OK, No Data July & August 2014
A-17E	3364.50	OK	OK	OK, No Data July & August 2014
A-18E	3364.26	OK	OK	OK, No Data July & August 2014
A-20E	3364.15	OK	OK	OK, No Data July & August 2014
A-25E	3371.40	OK	-	Not functioning
A-26E	3371.20	OK	OK	OK, No Data July & August 2014
A-27E	3371.40	OK	OK	OK, No Data July & August 2014
A-28E	3372.65	-	OK	Thermistor not functioning, No Data July & August 2014
A-29E	3372.43	-	-	Not functioning
A-30E	3372.33	OK	OK	OK, No Data July & August 2014
A-31E	3375.33	OK	OK	OK, No Data July & August 2014
A-32E	3375.18	OK	OK	OK, No Data July & August 2014
A-33E	3374.97	OK	OK	OK, No Data July & August 2014

Operational Status of Myra TDF - Plane B Vibrating Wire Piezometers

Piezometer Number	Tip Elevation (m)	Thermistor Status	Transducer Status	Piezometer Status
ATM	-	OK	-	No transducer installed
B-1E	3375.49	-	-	Not functioning after July 2009
B-5E	3365.13	-	-	Not functioning
P-1	3371.90	OK	OK	OK
P-2	3376.87	OK	OK	OK
P-3	3371.77	OK	OK	OK
P-4	3376.77	OK	OK	OK
P-5	3372.62	OK	OK	OK
P-6	3376.90	OK	OK	OK
P-7	3367.34	OK	OK	OK
P-8	3372.49	-	-	Not functioning after August 2011
P-9	3378.94	-	-	Not functioning
P-10	3374.05	OK	OK	OK
P-11	3380.14	OK	OK	OK
P-12	3374.05	OK	OK	OK
P-13	3379.68	OK	OK	OK
P-14	3374.20	OK	OK	OK

Operational Status of Myra TDF - Plane C Vibrating Wire Piezometers

Piezometer Number	Tip Elevation (m)	Thermistor Status	Transducer Status	Piezometer Status
ATM	-	OK	OK	OK
C-2E	3348.00	OK	-	Not functioning
C-4E	3348.08	OK	-	Not functioning
C-5E	3357.59	-	OK	Thermistor not functioning, No Data April 21 to May 17 and May 19 to June 1, 2014
C-6E	3351.23	-	OK	Thermistor not functioning, No Data April 21 to May 17 and May 19 to June 1, 2014
C-8E	3350.02	-	-	Not functioning
C-10E	3354.78	-	OK	Thermistor not functioning, No Data April 21 to May 17 and May 19 to June 1, 2014
C-12E	3353.02	-	OK	Thermistor not functioning, No Data April 21 to May 17 and May 19 to June 1, 2014
C-13E	3356.41	OK	OK	OK, No Data April 21 to May 17 and May 19 to June 1, 2014
C-14E	3356.26	-	OK	Thermistor not functioning, No Data April 21 to May 17 and May 19 to June 1, 2014
C-16E	3356.20	-	OK	Thermistor not functioning, No Data April 21 to May 17 and May 19 to June 1, 2014
C-17E	3350.66	OK	OK	OK, No Data April 21 to May 17 and May 19 to June 1, 2014
C-18E	3362.00	OK	OK	OK, No Data April 21 to May 17 and May 19 to June 1, 2014
C-20E	3362.00	OK	OK	Intermittent Data, No Data June 16 to end of October 2014
C-21E	3363.12	OK	OK	OK, No Data April 21 to May 17 and May 19 to June 1, 2014
C-22E	3362.93	OK	OK	OK, No Data April 21 to May 17 and May 19 to June 1, 2014
C-24E	3362.71	-	OK	Thermistor not functioning, No Data April 21 to May 17 and May 19 to June 1, 2014
C-29E	3369.80	OK	OK	OK, No Data April 21 to May 17 and May 19 to June 1, 2014
C-30E	3369.53	OK	-	Not functioning
C-31E	3369.50	-	OK	Thermistor not functioning, No Data April 21 to May 17 and May 19 to June 1, 2014
C-32E	3372.30	-	-	Not functioning
C-34E	3372.17	-	-	Not functioning
C-35E	3374.20	OK	OK	OK, No Data April 21 to May 17 and May 19 to June 1, 2014
C-36E	3374.10	OK	OK	OK, No Data April 21 to May 17 and May 19 to June 1, 2014
C-37E	3374.10	OK	OK	OK, No Data April 21 to May 17 and May 19 to June 1, 2014
17722	3382.9	OK	OK	OK
17724	3373.7	OK	OK	OK
17726	3373.8	OK	OK	OK
17729	3383.0	OK	OK	OK

Operational Status of Lynx TDF - Plane D Vibrating Wire Piezometers

Piezometer Number	Tip Elevation (m)	Thermistor Status	Transducer Status	Piezometer Status
29334	3375.9	OK	OK	OK, Installed 24 August 2014

Operational Status of Lynx TDF - Plane E Vibrating Wire Piezometers

Piezometer Number	Tip Elevation (m)	Thermistor Status	Transducer Status	Piezometer Status
17727	3375.9	OK	OK	OK
17728	3368.2	OK	OK	OK
17731	3377.8	OK	OK	OK
17732	3370.2	-	OK	Thermistor not functioning, no transducer data Sept 18, 2012 thru June 12, 2013
17733	3356.0	-	OK	Thermistor not functioning
17734	3358.0	OK	OK	OK
29321	3369.9	OK	OK	OK, Installed 12 August 2014
29329	3384.4	OK	OK	OK, Installed 26 July 2014
29332	3352.7	OK	OK	OK, Installed 12 August 2014
29335	3363.4	OK	OK	OK, Installed 26 July 2014

Operational Status of Lynx TDF - Plane F Vibrating Wire Piezometers

Piezometer Number	Tip Elevation (m)	Thermistor Status	Transducer Status	Piezometer Status
17725	3325.8	OK	OK	OK, Installed 30 August 2014
29322	3384.8	OK	OK	OK, Installed 26 August 2014
29323	3373.6	OK	OK	OK, Installed 14 August 2014
29324	3359.1	OK	OK	OK, Installed 30 August 2014
29330	3375.9	OK	OK	OK, Installed 26 August 2014
29333	3344.2	OK	OK	OK, Installed 14 August 2014
29336	3358.6	OK	OK	OK, Installed 26 August 2014

Operational Status of Lynx TDF - Other Vibrating Wire Piezometers

Piezometer Number	Tip Elevation (m)	Thermistor Status	Transducer Status	Piezometer Status
29320	3371.0	OK	OK	OK, Installed 22 July 2014
29325	3351.8	OK	OK	OK, Installed 23 August 2014
29331	3353.8	OK	OK	OK, Installed 20 July 2014

2014 Vibrating Wire Piezometer Threshold Levels

Instrument Plane A

PIEZOMETER	LOCATION [1,2,3]	TIP ELEVATION (m)	THRESHOLD LEVEL I [5,6,9]	THRESHOLD LEVEL II [5,7,9]	THRESHOLD LEVEL III [5,8,9]
A-2E	Foundation	3352.90	3360.0	3360.2	3361.2
A-4E	Foundation	3352.73	3360.0	3359.8	3360.8
A-5E	OES	3357.91	3362.5	3361.3	3362.3
A-6E	OES	3358.44	3362.5	3361.4	3362.4
A-8E	OES	3358.52	3362.5	3361.3	3362.3
A-9E	OES	3359.24	3362.5	3361.8	3362.8
A-10E	OES	3359.82	3362.5	3362.7	3363.7
A-12E	OES	3359.90	3362.5	3361.0	3362.0
A-13E	OES	3360.90	3362.5	3364.1	3365.1
A-14E	OES	3360.92	3362.5	3363.3	3364.3
A-16E	OES	3361.11	3362.5	3365.0	3366.0
A-17E	OES	3364.50	3366.8	3366.5	3367.5
A-18E	OES	3364.26	3366.8	3367.2	3368.2
A-20E	OES	3364.15	3366.8	3366.7	3367.7
A-26E	OES	3371.20	3377.9	3377.5	3378.5
A-27E	OES	3371.40	3377.9	3379.0	3380.0
A-28E	OES	3372.65	3377.9	3375.9	3376.9
A-30E	LTB	3372.33	3377.9	3377.3	3378.3
A-31E	OES	3375.33	3377.9	3378.0	3379.0
A-32E	LTB	3375.18	3377.9	3378.5	3379.5
A-33E	UTB	3374.97	3377.9	3379.4	3380.4

Notes:
1) OES - below outer embankment slope
2) LTB - lower 1/3 of upstream tailing beach deposits
3) UTB - upper 2/3 of upstream tailings beach deposits
4) PBF - below paste berm foundation
5) Meters of total head
6) Generally, set as average of historical maximum readings within the representative section of the stability model.
7) Set as individual historical maximum reading
8) Set as 1.0 m above historical maximum reading
9) 2014 threshold values are a continuation of 2013 threshold values and are presented for historical purposes

2014 Vibrating Wire Piezometer Threshold Levels

Instrument Plane C

PIEZOMETER	LOCATION [1,2,3]	TIP ELEVATION (m)	THRESHOLD LEVEL I [5,6,9]	THRESHOLD LEVEL II [5,7,9]	THRESHOLD LEVEL III [5,8,9]
C-2E[10]	OES	3348.00	3352.6	3352.6	3353.6
C-5E	OES	3357.59	3358.8	3359.5	3360.5
C-6E	OES	3351.23	3358.8	3357.6	3358.6
C-10E	OES	3354.78	3358.8	3357.5	3358.5
C-12E	OES	3353.02	3358.8	3358.9	3359.9
C-13E	OES	3356.41	3358.8	3357.2	3358.2
C-14E	OES	3356.26	3358.8	3358.8	3359.8
C-16E	OES	3356.20	3358.8	3361.8	3362.8
C-17E	OES	3350.66	3354.8	3354.8	3355.8
C-18E	OES	3362.00	3364.4	3364.6	3365.6
C-20E[11]	OES	3362.00	3364.4	3365.8	3366.8
C-21E	OES	3363.12	3364.4	3363.7	3364.7
C-22E	OES	3362.93	3364.4	3363.8	3364.8
C-24E	OES	3362.71	3364.4	3363.9	3364.9
C-29E	OES	3369.80	3377.3	3375.5	3376.5
C-30E[10]	OES	3369.53	3377.3	3378.8	3379.8
C-31E	LTB	3369.50	3377.3	3380.1	3381.1
C-32E[10]	OES	3372.30	3377.3	3374.9	3375.9
C-34E[10]	LTB	3374.17	3381.1	3380.8	3381.1
C-35E	OES	3374.20	3381.1	3379.9	3380.9
C-36E	LTB	3374.10	3381.1	3380.2	3381.2
C-37E	UTB	3374.10	3381.1	3383.6	3384.6

Notes:
1) OES - below outer embankment slope
2) LTB - lower 1/3 of upstream tailing beach deposits
3) UTB - upper 2/3 of upstream tailings beach deposits
4) PBF - below paste berm foundation
5) Meters of total head
6) Generally, set as average of historical maximum readings within the representative section of the stability model.
7) Set as individual historical maximum reading
8) Set as 1.0 m above historical maximum reading
9) 2014 threshold values are a continuation of 2013 threshold values and are presented for historical purposes
10) Instruments not operational in 2013
11) Instruments not operational after July 14, 2013

2014 Vibrating Wire Piezometer Threshold Levels

Instrument Plane B and Paste Berm

PIEZOMETER	LOCATION [1,3,4]	TIP ELEVATION (m)	THRESHOLD LEVEL I [5,6,9]	THRESHOLD LEVEL II [5,7,9]	THRESHOLD LEVEL III [5,8,9]
B-1E[10]	PBF Area 1	3375.49	3385.6	3385.6	3388.1
B-5E[10]	OES	3365.13	3373.8	3373.8	3378.1
P-1	PBF Area 2	3371.90	3376.8	3371.7	3372.7
P-2	PBF Area 2	3376.90	3376.8	3378.4	3379.4
P-3	PBF Area 2	3371.80	3376.8	3372.2	3373.2
P-4	PBF Area 2	3376.80	3376.8	3379.1	3380.1
P-5	PBF Area 2	3372.60	3376.8	3379.0	3380.0
P-6	PBF Area 2	3376.90	3376.8	3382.8	3383.8
P-7	PBF Area 2	3367.30	3376.8	3372.3	3373.3
P-8[10]	PBF Area 2	3372.50	3376.8	3379.1	3380.1
P-9[10]	PBF Area 1	3378.94	3380.7	3382.0	3383.0
P-10	PBF Area 1	3374.37	3380.7	3377.9	3378.9
P-11	PBF Area 1	3380.14	3380.7	3385.5	3386.5
P-12	PBF Area 1	3374.05	3380.7	3381.6	3382.6
P-13	PBF Area 1	3379.68	3380.7	3382.4	3383.4
P-14	PBF Area 1	3374.20	3380.7	3376.3	3377.3

Notes:
1) OES - below outer embankment slope
2) LTB - lower 1/3 of upstream tailing beach deposits
3) UTB - upper 2/3 of upstream tailings beach deposits
4) PBF - below paste berm foundation
5) Meters of total head
6) Generally, set as average of historical maximum readings within the representative section of the stability model.
7) Set as individual historical maximum reading.
8) Set as 1.0 m above historical maximum reading.
9) 2014 threshold values are a continuation of 2013 threshold values and are presented for historical purposes
10) Instruments not operational in 2013

Instrument Plane A - Weekly Maximum Vibrating Wire Piezometer Readings - 2010 - 2014 Q3

Location	Outer Embankment Slope - 1				Outer Embankment Slope - 2					Outer Embankment Slope - 3					Upper Tailings Beach						
ID	A-5E	A-9E	A-13E	A-17E	A-2E	A-6E	A-10E	A-14E	A-18E	A-4E	A-8E	A-12E	A-16E	A-20E	A-26E	A-27E	A-28E	A-30E	A-31E	A-32E	A-33E
Tip Elev (m)	3357.91	3359.24	3360.90	3364.50	3352.90	3358.44	3359.82	3360.92	3364.26	3352.73	3358.52	3359.82	3361.11	3364.15	3371.20	3371.40	3372.65	3372.33	3375.33	3375.18	3374.97
Threshold 1	3362.5	3362.5	3362.5	3366.8	3360.0	3362.5	3362.5	3362.5	3366.8	3360.0	3362.5	3362.5	3362.5	3366.8	3377.9	3377.9	3377.9	3377.9	3377.9	3377.9	3377.9
Threshold 2	3361.3	3361.8	3364.1	3366.5	3360.2	3361.4	3362.7	3363.3	3367.2	3359.8	3361.3	3361.0	3365.0	3366.7	3377.5	3379.0	3375.9	3377.3	3378.0	3378.5	3379.4
Threshold 3	3362.3	3362.8	3365.1	3367.5	3361.2	3362.4	3363.7	3364.3	3368.2	3360.8	3362.3	3362.0	3366.0	3367.7	3378.5	3380.0	3376.9	3378.3	3379.0	3379.5	3380.4
2010-01-03	3359.85	3360.98	3363.14	3364.61	3357.64	3359.81	3361.07	3362.24	3365.73	3356.87	3359.77	3358.11	3363.19	3364.85	3375.54	3375.86	3373.98	3374.02	3376.25	3376.38	3376.72
2010-01-10	3360.41	3361.44	3363.50	3364.61	3359.03	3360.65	3361.78	3362.89	3366.20	3358.53	3360.24	3359.01	3363.98	3365.00	3375.89	3376.31	3374.28	3374.34	3376.31	3376.57	3376.93
2010-01-17	3360.17	3361.28	3363.45	3364.63	3358.40	3360.51	3361.69	3362.85	3366.07	3357.84	3360.10	3358.98	3364.02	3365.01	3375.77	3376.25	3374.02	3374.29	3376.31	3376.56	3376.90
2010-01-24	3360.10	3361.26	3363.36	3364.61	3357.79	3360.11	3361.34	3362.53	3365.93	3357.08	3359.77	3358.25	3363.41	3364.80	3375.73	3376.15	3374.17	3374.23	3376.29	3376.53	3376.87
2010-01-31	3359.89	3361.09	3363.26	3364.62	3357.44	3359.98	3361.27	3362.41	3365.78	3356.77	3359.78	3358.16	3363.30	3364.80	3375.59	3376.06	3373.88	3374.16	3376.28	3376.49	3376.83
2010-02-07	3359.91	3361.08	3363.22	3364.62	3357.54	3359.88	3361.12	3362.31	3365.80	3356.81	3359.77	3358.12	3363.22	3364.80	3375.65	3376.04	3374.14	3374.13	3376.28	3376.48	3376.80
2010-02-14	3360.19	3361.35	3363.38	3364.60	3358.03	3360.20	3361.41	3362.59	3365.97	3357.40	3359.76	3358.33	3363.40	3364.79	3375.75	3376.15	3374.26	3374.24	3376.29	3376.53	3376.86
2010-02-21	3359.85	3361.08	3363.26	3364.62	3357.41	3359.96	3361.23	3362.40	3365.74	3356.73	3359.78	3358.15	3363.29	3364.78	3375.56	3376.02	3373.86	3374.10	3376.28	3376.45	3376.74
2010-02-28	3359.84	3361.07	3363.23	3364.62	3357.32	3359.88	3361.11	3362.30	3365.74	3356.63	3359.78	3358.11	3363.20	3364.78	3375.58	3376.02	3373.95	3374.13	3376.27	3376.47	3376.78
2010-03-07	3359.73	3360.98	3363.17	3364.62	3357.20	3359.80	3361.12	3362.24	3365.65	3356.53	3359.78	3358.09	3363.20	3364.79	3375.54	3375.94	3373.67	3374.09	3376.27	3376.43	3376.77
2010-03-14	3360.08	3361.29	3363.36	3364.61	3357.67	3360.05	3361.29	3362.49	3365.92	3356.95	3359.77	3358.19	3363.31	3364.78	3375.77	3376.13	3374.30	3374.21	3376.30	3376.52	3376.85
2010-03-21	3359.98	3361.19	3363.32	3364.62	3357.54	3359.99	3361.23	3362.43	3365.83	3356.81	3359.78	3358.15	3363.27	3364.78	3375.65	3376.09	3374.04	3374.20	3376.29	3376.51	3376.83
2010-03-28	3359.92	3361.12	3363.24	3364.64	3357.48	3359.91	3361.12	3362.29	3365.73	3356.82	3359.81	3358.07	3363.19	3364.80	3375.60	3375.99	3374.02	3374.11	3376.30	3376.46	3376.74
2010-04-04	3360.01	3361.23	3363.35	3364.62	3357.50	3360.00	3361.24	3362.43	3365.83	3357.30	3359.79	3358.15	3363.23	3364.78	3375.67	3376.08	3374.13	3374.17	3376.29	3376.50	3376.80
2010-04-11	3359.90	3361.15	3363.32	3364.62	3357.33	3359.96	3361.21	3362.39	3365.76	3356.64	3359.79	3358.13	3363.24	3364.76	3375.60	3376.02	3373.84	3374.12	3376.28	3376.46	3376.74
2010-04-18	3359.47	3360.66	3362.93	3364.62	3357.31	3359.70	3361.03	3362.13	3365.50	3356.62	3359.79	3358.03	3363.15	3364.76	3375.51	3375.74	3373.62	3373.79	3376.26	3376.28	3376.51
2010-04-25	3359.12	3360.30	3362.63	3364.62	3357.29	3359.57	3360.87	3361.97	3365.44	3356.60	3360.50	3358.00	3363.11	3364.76	3375.50	3375.79	3373.67	3373.95	3376.26	3376.35	3376.64
2010-05-02	3359.18	3360.39	3362.68	3364.61	3357.31	3359.59	3360.84	3362.02	3365.50	3356.61	3359.78	3358.94	3363.15	3364.74	3375.49	3375.80	3373.66	3373.96	3376.25	3376.34	3376.64
2010-05-09	3359.06	3360.30	3362.64	3364.61	3357.80	3359.55	3360.82	3361.98	3365.46	3356.54	3359.79	3358.00	3363.12	3364.75	3375.49	3375.69	3373.60	3373.74	3376.25	3376.25	3376.46
2010-05-16	3358.93	3360.20	3362.55	3364.61	3357.98	3359.48	3360.75	3361.92	3365.39	3356.75	3359.79	3357.95	3363.06	3364.75	3375.48	3375.60	3373.69	3373.64	3376.24	3376.20	3376.38
2010-05-23	3359.34	3360.54	3362.73	3364.61	3357.48	3359.65	3360.85	3362.03	3365.52	3356.79	3359.79	3357.99	3363.07	3364.75	3375.48	3375.80	3373.65	3373.97	3376.24	3376.36	3376.66
2010-05-30	3359.36	3360.59	3362.81	3364.62	3357.49	3359.69	3360.91	3362.08	3365.51	3356.81	3359.80	3358.01	3363.11	3364.76	3375.48	3375.79	3373.61	3373.98	3376.25	3376.36	3376.68
2010-06-06	3359.28	3360.49	3362.76	3364.61	3357.47	3359.69	3360.91	3362.07	3365.51	3356.76	3359.77	3358.01	3363.12	3364.75	3375.47	3375.75	3373.60	3373.89	3376.24	3376.32	3376.58
2010-06-13	3359.15	3360.32	3362.65	3364.60	3357.49	3359.65	3360.87	3362.00	3365.41	3356.79	3359.77	3358.02	3363.13	3364.75	3375.46	3375.65	3373.58	3373.71	3376.22	3376.22	3376.42
2010-06-20	3358.93	3361.76	3362.54	3364.60	3357.37	3359.54	3360.75	3361.92	3365.36	3356.67	3359.77	3357.93	3363.04	3364.76	3375.45	3375.43	3373.58	3373.38	3376.22	3376.03	3376.06
2010-06-27	3358.82	3360.07	3362.43	3364.60	3357.26	3359.45	3360.70	3361.88	3365.20	3356.55	3359.77	3357.89	3363.05	3364.78	3375.45	3375.23	3373.58	3373.12	3376.22	3375.90	3375.76
2010-07-04	3358.73	3359.95	3362.30	3364.59	3357.25	3359.37	3361.40	3361.79	3365.09	3356.55	3359.76	3358.75	3362.93	3364.79	3375.42	3375.02	3373.57	3372.87	3376.20	3375.77	3375.61
2010-07-11	3359.35	3359.79	3362.16	3364.59	3357.24	3359.30	3360.56	3361.71	3364.98	3357.17	3360.49	3357.80	3362.89	3364.80	3375.41	3374.82	3373.57	3372.60	3376.20	3375.63	3375.41
2010-07-18	3358.47	3359.60	3362.01	3364.59	3357.13	3361.12	3361.27	3361.62	3364.84	3356.45	3359.76	3357.80	3362.85	3364.80	3375.17	3374.65	3373.56	3372.44	3376.19	3375.62	3375.34
2010-07-25	3358.38	3359.43	3361.88	3364.59	3357.05	3359.89	3360.33	3361.50	3364.70	3356.30	3359.75	3357.78	3362.78	3364.81	3374.98	3374.57	3373.56	3372.25	3376.17	3375.59	3375.22
2010-08-01	3358.29	3359.33	3361.81	3364.59	3356.99	3359.01	3360.24	3361.35	3364.50	3356.24	3359.75	3357.72	3362.71	3364.81	3374.85	3374.49	3373.55	3372.04	3376.16	3375.57	3375.13
2010-08-08	3358.16	3360.05	3361.65	3364.59	3356.90	3358.87	3360.21	3361.22	3364.22	3356.15	3359.75	3357.64	3362.65	3364.81	3374.71	3374.46	3373.55	3371.89	3376.15	3375.57	3375.08
2010-08-15	3358.10	3359.12	3361.67	3364.58	3356.85	3358.83	3360.22	3361.14	3364.06	3356.10	3359.75	3357.57	3362.62	3364.80	3374.64	3374.43	3373.53	3371.78	3376.13	3375.57	3374.99
2010-08-22	3358.10	3359.10	3361.71	3364.58	3356.86	3358.82	3360.23	3361.09	3363.94	3356.11	3359.74	3357.57	3362.63	3364.80	3374.57	3374.43	3373.52	3371.68	3376.12	3375.57	3374.98
2010-08-29	3357.97	3358.97	3361.71	3364.58	3356.75	3358.73	3360.24	3361.00	3363.72	3356.00	3360.48	3357.53	3362.61	3364.80	3374.49	3374.42	3373.51	3371.52	3376.12	3375.57	3374.92
2010-09-05	3357.93	3358.91	3361.70	3364.58	3356.69	3358.72	3360.25	3360.97	3363.64	3355.96	3359.75	3357.52	3362.58	3364.79	3374.47	3374.42	3373.49	3371.44	3376.11	3375.57	3374.86
2010-09-12	3357.88	3358.85	3361.75	3364.57	3357.41	3358.67	3360.27	3360.91	3363.51	3355.97	3359.74	3357.50	3362.56	3364.78	3374.43	3374.41	3373.46	3371.41	3376.10	3375.58	3375.10
2010-09-19	3357.84	3358.76	3361.78	3364.57	3357.15	3358.66	3360.28	3360.89	3363.69	3356.51	3359.75	3357.48	3362.56	3364.78	3374.44	3374.41	3373.44	3371.78	3376.11	3375.58	3375.53
2010-09-26	3358.05	3359.09	3361.81	3364.56	3357.40	3358.98	3360.29	3361.47	3365.06	3356.72	3360.45	3357.78	3362.74	3364.77	3375.32	3375.00	3373.41	3373.12	3376.09	3375.89	3376.25
2010-10-03	3358.35	3359.48	3361.89	3364.56	3357.10	3359.13	3360.35	3361.63	3365.14	3356.43	3359.73	3357.81	3362.86	3364.76	3375.41	3375.24	3373.43	3373.28	3376.10	3375.98	3376.31
2010-10-10	3359.21	3360.54	3362.74	3364.58	3357.42	3359.58	3360.82	3361.98	3365.53	3356.74	3359.73	3357.93	3363.03	3364.75	3375.44	3375.71	3373.91	3373.85	3376.12	3376.31	3376.63
2010-10-17	3359.22	3360.55	3362.77	3364.59	3357.24	3359.58	3360.84	3361.99	3365.50	3356.54	3359.73	3357.93	3363.05	3364.76	3375.46	3375.73	3373.79	3373.89	3376.14	3376.32	3376.64
2010-10-24	3359.67	3360.86	3363.06	3364.60	3357.68	3359.87	3361.07	3362.24	3365.73	3356.95	3359.75	3357.98	3363.10	3364.77	3375.54	3375.92	3374.06	3374.07	3376.16	3376.44	3376.77
2010-10-31	3360.08	3361.25	3363.40	3364.61	3358.42	3360.32	3361.48	3362.61	3366.16	3357.79	3359.76	3358.26	3363.39	3364.76	3375.74	3376.10	3374.33	3374.25	3376.25	3376.54	3376.93
2010-11-07	3359.80	3361.02	3363.27	3364.60	3357.63	3360.00	3361.20	3362.42	3365.85	3356.88	3359.76	3358.12	3363.28	3364.75	3375.63	3376.07	3374.05	3374.21	3376.21	3376.52	3376.89
2010-11-14	3359.77	3361.01	3363.25	3364.59	3357.40	3359.93	3361.20	3362.38	3365.81	3356.69	3359.74	3358.10	3363.25	3364.75	3375.62	3376.04	3373.96	3374.16	3376.19	3376.50	3376.83
2010-11-21	3359.63	3360.82	3363.07	3364.59	3357.13	3359.73	3361.05	3362.18	3365.68	3356.43	3359.74	3357.99	3363.13	3364.75	3375.54	3375.96	3373.83	3374.09	3376.19	3376.46	3376.77
2010-11-28	3359.79	3360.96	3363.15	3364.58	3357.29	3359.80	3361.06	3362.25	3365.71	3356.60	3359.74	3358.04	3363.16	3364.75	3375.56	3375.94	3373.95	3374.04	3376.18	3376.42	3376.73
2010-12-05	3360.04	3361.16	3363.30	3364.60	3357.85	3360.05	3361.23	3362.42	3365.81	3357.15	3359.74	3358.12	3363.22	3364.78	3375.65	3376.00	3374.12	3374.06	3376.22	3376.44	3376.71
2010-12-12	3360.05	3361.16	3363.33	3364.61	3358.02	3360.09	3361.27	3362.45	3365.82	3357.34	3359.75	3358.13	3363.26	3364.80	3375.68	3376.06	3374.13	3374.14	3376.23	3376.50	3376.82
2010-12-19	3359.80	3360.96	3363.18	3364.60	3357.30	3359.88	3361.17	3362.26	3365.62	3356.60	3359.73	3357.98	3363.17	3364.80	3375.56	3375.96	3373.78	3374.09	3376.21	3376.46	3376.78
2010-12-26	3360.19	3361.23	3363.40	3364.61	3358.40	3360.26	3361.44	3362.62	3365.90	3357.82	3359.77	3358.42	3363.51	3364.82	3375.71	3376.12	3374.15	3374.21	3376.24	3376.53	3376.89

Instrument Plane A - Weekly Maximum Vibrating Wire Piezometer Readings - 2010 - 2014 Q3

Location	Outer Embankment Slope - 1				Outer Embankment Slope - 2					Outer Embankment Slope - 3					Upper Tailings Beach						
ID	A-5E	A-9E	A-13E	A-17E	A-2E	A-6E	A-10E	A-14E	A-18E	A-4E	A-8E	A-12E	A-16E	A-20E	A-26E	A-27E	A-28E	A-30E	A-31E	A-32E	A-33E
Tip Elev (m)	3357.91	3359.24	3360.90	3364.50	3352.90	3358.44	3359.82	3360.92	3364.26	3352.73	3358.52	3359.82	3361.11	3364.15	3371.20	3371.40	3372.65	3372.33	3375.33	3375.18	3374.97
Threshold 1	3362.5	3362.5	3362.5	3366.8	3360.0	3362.5	3362.5	3362.5	3366.8	3360.0	3362.5	3362.5	3362.5	3366.8	3377.9	3377.9	3377.9	3377.9	3377.9	3377.9	3377.9
Threshold 2	3361.3	3361.8	3364.1	3366.5	3360.2	3361.4	3362.7	3363.3	3367.2	3359.8	3361.3	3361.0	3365.0	3366.7	3377.5	3379.0	3375.9	3377.3	3378.0	3378.5	3379.4
Threshold 3	3362.3	3362.8	3365.1	3367.5	3361.2	3362.4	3363.7	3364.3	3368.2	3360.8	3362.3	3362.0	3366.0	3367.7	3378.5	3380.0	3376.9	3378.3	3379.0	3379.5	3380.4
2011-01-02	3359.74	3360.84	3363.08	3364.59	3357.44	3359.80	3361.09	3362.20	3365.61	3356.74	3359.74	3358.05	3363.21	3364.78	3375.53	3375.85	3373.83	3374.03	3376.20	3376.40	3376.71
2011-01-09	3359.94	3361.02	3363.23	3364.59	3357.65	3359.90	3361.15	3362.29	3365.73	3356.87	3359.74	3358.07	3363.21	3364.79	3375.61	3376.02	3374.00	3374.10	3376.21	3376.47	3376.79
2011-01-16	3360.17	3361.27	3363.38	3364.60	3358.03	3360.19	3361.37	3362.53	3365.89	3357.38	3359.74	3358.18	3363.34	3364.79	3375.71	3376.11	3374.16	3374.20	3376.23	3376.52	3376.87
2011-01-23	3359.97	3361.15	3363.33	3364.59	3357.55	3360.02	3361.24	3362.44	3365.78	3356.80	3359.74	3358.13	3363.29	3364.78	3375.62	3376.06	3373.95	3374.15	3376.22	3376.49	3376.84
2011-01-30	3360.10	3361.19	3363.34	3364.59	3357.85	3360.07	3361.26	3362.46	3365.85	3357.08	3359.73	3358.14	3363.29	3364.78	3375.73	3376.08	3374.20	3374.16	3376.25	3376.50	3376.84
2011-02-06	3360.12	3361.30	3363.40	3364.59	3357.77	3360.14	3361.37	3362.52	3365.89	3357.02	3359.74	3358.15	3363.32	3364.78	3375.75	3376.12	3374.17	3374.19	3376.24	3376.51	3376.85
2011-02-13	3360.05	3361.14	3363.33	3364.61	3357.76	3360.01	3361.24	3362.38	3365.78	3356.99	3359.76	3358.07	3363.22	3364.80	3375.64	3376.01	3374.14	3374.09	3376.24	3376.45	3376.74
2011-02-20	3359.86	3361.07	3363.28	3364.59	3357.41	3359.96	3361.19	3362.34	3365.67	3356.71	3359.75	3358.04	3363.20	3364.78	3375.55	3375.92	3373.78	3374.04	3376.22	3376.42	3376.71
2011-02-27	3359.35	3360.63	3362.91	3364.61	3356.94	3359.60	3361.05	3362.07	3365.41	3356.19	3359.76	3357.93	3363.13	3364.79	3375.49	3375.67	3373.50	3373.82	3376.19	3376.31	3376.59
2011-03-06	3359.02	3360.29	3362.63	3364.60	3356.93	3359.50	3360.80	3361.95	3365.39	3356.19	3359.76	3357.94	3363.06	3364.78	3375.45	3375.71	3373.74	3373.86	3376.19	3376.32	3376.62
2011-03-13	3359.98	3361.08	3363.28	3364.60	3358.07	3360.06	3361.23	3362.43	3365.80	3357.46	3359.76	3358.17	3363.30	3364.78	3375.66	3376.00	3374.15	3374.07	3376.24	3376.44	3376.75
2011-03-20	3359.75	3360.96	3363.18	3364.61	3357.48	3359.93	3361.11	3362.30	3365.66	3356.82	3359.77	3358.07	3363.25	3364.77	3375.56	3375.95	3373.96	3374.07	3376.23	3376.43	3376.72
2011-03-27	3359.86	3361.05	3363.22	3364.60	3357.31	3359.86	3361.09	3362.27	3365.72	3356.60	3359.75	3357.99	3363.14	3365.39	3375.63	3375.95	3374.17	3374.06	3376.23	3376.42	3376.71
2011-04-03	3359.91	3361.10	3363.29	3364.60	3357.38	3359.90	3361.14	3362.31	3365.75	3356.68	3359.76	3358.02	3363.17	3364.75	3375.64	3375.99	3374.12	3374.08	3376.23	3376.44	3376.71
2011-04-10	3359.97	3361.17	3363.31	3364.59	3357.35	3359.91	3361.14	3362.31	3365.74	3356.64	3359.76	3358.01	3363.16	3364.73	3375.62	3375.94	3374.11	3374.06	3376.23	3376.42	3376.70
2011-04-17	3359.81	3361.02	3363.24	3364.60	3357.21	3359.85	3361.13	3362.25	3365.65	3356.52	3359.76	3357.99	3363.16	3364.73	3375.53	3375.86	3373.95	3373.99	3376.22	3376.38	3376.63
2011-04-24	3359.66	3360.89	3363.11	3364.60	3357.13	3359.72	3361.05	3362.15	3365.55	3356.43	3359.77	3357.96	3363.11	3364.72	3375.46	3375.67	3373.66	3373.74	3376.18	3376.25	3376.49
2011-05-01	3359.62	3360.81	3363.05	3364.60	3357.83	3359.72	3361.00	3362.14	3365.54	3356.46	3359.76	3357.98	3363.14	3364.71	3375.43	3375.68	3373.65	3373.74	3376.17	3376.25	3376.47
2011-05-08	3359.01	3360.27	3362.61	3364.59	3357.22	3359.48	3360.81	3361.91	3365.29	3356.53	3359.76	3357.87	3363.02	3364.70	3375.41	3375.49	3373.41	3373.48	3376.16	3376.10	3376.25
2011-05-15	3358.85	3360.07	3362.48	3364.60	3357.38	3361.32	3360.73	3361.87	3365.21	3356.70	3359.77	3357.86	3362.99	3366.27	3375.40	3375.47	3373.42	3373.56	3376.16	3376.15	3376.39
2011-05-22	3358.84	3360.05	3362.43	3364.59	3357.39	3359.47	3360.67	3361.86	3365.19	3356.71	3359.76	3357.86	3362.99	3364.70	3375.39	3375.42	3373.43	3373.45	3376.15	3376.07	3376.26
2011-05-29	3358.77	3359.93	3362.33	3364.59	3357.50	3359.44	3360.63	3361.81	3365.11	3356.80	3359.75	3357.84	3362.95	3365.96	3375.38	3375.25	3373.43	3373.25	3376.14	3375.98	3376.09
2011-06-05	3358.74	3359.82	3362.24	3364.58	3357.70	3359.45	3360.62	3361.80	3365.09	3356.96	3359.74	3357.83	3362.95	3364.68	3375.37	3375.19	3373.44	3373.14	3376.14	3375.92	3375.94
2011-06-12	3358.67	3359.66	3362.10	3364.58	3357.60	3359.39	3360.58	3361.74	3365.02	3356.83	3359.74	3357.81	3362.93	3364.68	3375.36	3374.96	3373.45	3372.79	3376.13	3375.73	3375.55
2011-06-19	3358.57	3359.55	3362.00	3364.58	3357.53	3359.33	3360.53	3361.66	3364.93	3356.81	3359.75	3357.80	3362.89	3364.68	3375.35	3374.76	3373.46	3372.50	3376.12	3375.60	3375.35
2011-06-26	3358.48	3359.48	3361.94	3364.59	3357.43	3359.25	3360.51	3361.61	3364.84	3356.74	3360.47	3357.77	3362.88	3364.68	3375.13	3374.52	3373.47	3372.31	3376.12	3375.58	3375.16
2011-07-03	3358.44	3359.42	3361.90	3364.57	3357.41	3359.20	3361.19	3361.54	3364.77	3356.70	3359.73	3357.73	3362.85	3364.68	3374.99	3374.36	3373.47	3372.13	3376.11	3375.54	3375.05
2011-07-10	3358.37	3359.35	3361.85	3364.58	3357.28	3359.15	3360.31	3361.46	3364.69	3356.56	3359.74	3358.59	3362.85	3364.69	3374.79	3374.14	3373.47	3371.92	3376.11	3375.52	3374.92
2011-07-17	3358.32	3359.30	3361.78	3364.57	3357.27	3359.10	3360.21	3361.36	3364.57	3356.56	3359.73	3357.63	3362.84	3364.69	3374.67	3374.00	3373.47	3371.82	3376.10	3375.52	3375.03
2011-07-24	3358.27	3359.25	3361.81	3364.57	3357.23	3359.06	3360.19	3361.33	3364.53	3356.53	3359.73	3357.56	3362.83	3364.69	3374.59	3373.95	3373.46	3371.65	3376.09	3375.52	3374.83
2011-07-31	3359.02	3359.20	3361.83	3364.56	3357.20	3359.00	3360.15	3361.29	3364.47	3356.51	3359.72	3357.54	3362.82	3364.69	3374.49	3373.92	3373.45	3371.52	3376.08	3375.52	3374.75
2011-08-07	3358.13	3359.13	3361.83	3364.56	3357.10	3358.90	3360.14	3361.23	3364.38	3356.40	3359.71	3357.54	3362.81	3364.68	3374.41	3373.87	3373.43	3371.37	3376.07	3375.51	3374.68
2011-08-14	3358.07	3359.09	3361.83	3364.56	3357.01	3358.86	3360.16	3361.17	3364.31	3356.25	3359.71	3357.52	3362.81	3364.68	3374.34	3373.84	3373.41	3371.27	3376.06	3375.51	3374.64
2011-08-21	3358.03	3359.01	3361.86	3364.57	3357.13	3358.80	3360.17	3361.12	3364.23	3356.46	3359.71	3357.48	3362.82	3364.69	3374.27	3373.84	3373.39	3371.29	3376.05	3375.52	3374.96
2011-08-28	3357.99	3359.00	3361.87	3364.56	3356.91	3358.79	3360.17	3361.08	3364.16	3356.15	3359.70	3357.49	3362.81	3364.67	3374.25	3373.85	3373.36	3371.27	3376.03	3375.51	3374.91
2011-09-04	3357.96	3359.81	3361.93	3364.56	3356.87	3358.77	3360.19	3361.06	3364.07	3356.12	3360.43	3357.48	3362.81	3364.67	3374.22	3373.85	3373.33	3371.10	3376.02	3375.51	3374.66
2011-09-11	3357.91	3358.91	3361.97	3364.56	3356.82	3358.74	3360.20	3361.01	3363.96	3356.07	3359.70	3357.44	3362.81	3364.67	3374.20	3373.86	3373.30	3371.01	3376.01	3375.51	3374.57
2011-09-18	3357.99	3358.90	3362.02	3364.56	3357.36	3358.78	3360.22	3361.00	3364.04	3356.69	3359.71	3357.43	3362.79	3364.67	3374.25	3373.87	3373.27	3371.39	3376.00	3375.51	3375.23
2011-09-25	3358.35	3359.14	3362.04	3364.56	3357.85	3359.15	3360.27	3361.52	3365.10	3357.12	3359.71	3357.71	3362.79	3364.68	3375.24	3374.87	3373.44	3372.86	3376.00	3375.77	3376.11
2011-10-02	3359.07	3360.27	3362.47	3364.57	3357.57	3359.53	3360.66	3361.88	3365.39	3356.83	3359.70	3357.80	3362.87	3364.67	3375.29	3375.30	3373.83	3373.37	3376.03	3376.05	3376.39
2011-10-09	3359.42	3360.67	3362.91	3364.58	3357.76	3359.74	3360.95	3362.08	3365.55	3356.96	3359.70	3357.87	3363.00	3364.66	3375.35	3375.62	3374.03	3373.73	3376.08	3376.26	3376.59
2011-10-16	3359.42	3360.68	3362.95	3364.57	3357.42	3359.72	3360.96	3362.10	3365.56	3356.72	3359.68	3357.90	3363.05	3364.65	3375.35	3375.67	3373.91	3373.80	3376.08	3376.29	3376.63
2011-10-23	3359.34	3360.62	3362.89	3364.57	3357.25	3359.64	3360.92	3362.05	3365.51	3356.53	3359.69	3357.90	3363.07	3364.64	3375.35	3375.67	3373.84	3373.83	3376.09	3376.31	3376.64
2011-10-30	3359.35	3360.61	3362.87	3364.57	3357.14	3359.62	3360.92	3362.03	3365.51	3356.44	3359.68	3357.91	3363.09	3364.65	3375.35	3375.69	3373.82	3373.88	3376.10	3376.33	3376.65
2011-11-06	3359.40	3360.57	3362.78	3364.58	3357.40	3359.59	3360.87	3361.97	3365.43	3356.71	3359.69	3357.86	3363.04	3364.66	3375.36	3375.67	3373.82	3373.78	3376.11	3376.32	3376.58
2011-11-13	3359.53	3360.72	3362.98	3364.58	3357.23	3359.67	3360.95	3362.07	3365.51	3356.53	3359.68	3357.88	3363.05	3364.66	3375.39	3375.74	3373.85	3373.95	3376.11	3376.37	3376.66
2011-11-20	3359.79	3360.94	3363.06	3364.58	3357.51	3359.80	3361.02	3362.13	3365.63	3356.79	3359.69	3357.90	3363.03	3364.66	3375.51	3375.81	3374.10	3374.02	3376.16	3376.41	3376.74
2011-11-27	3360.23	3361.30	3363.39	3364.59	3358.69	3360.33	3361.45	3362.60	3365.93	3358.01	3359.70	3358.27	3363.42	3364.75	3375.77	3376.08	3374.31	3374.17	3376.25	3376.51	3376.85
2011-12-04	3359.96	3361.15	3363.34	3364.57	3357.72	3360.06	3361.28	3362.47	3365.81	3356.95	3359.68	3358.12	3363.34	3364.72	3375.67	3376.05	3374.09	3374.12	3376.20	3376.48	3376.80
2011-12-11	3359.54	3360.71	3363.03	3364.56	3357.15	3359.70	3361.05	3362.12	3365.52	3356.45	3359.68	3357.94	3363.19	3364.67	3375.38	3375.66	3373.64	3373.67	3376.11	3376.22	3376.38
2011-12-18	3359.23	3360.37	3362.70	3364.55	3357.11	3359.55	3360.91	3361.96	3365.42	3356.39	3359.68	3357.90	3363.08	3364.69	3375.32	3375.54	3373.52	3373.58	3376.10	3376.17	3376.38
2011-12-25	3359.75	3360.75	3362.93	3364.58	3357.69	3359.77	3360.96	3362.10	3365.61	3356.96	3359.68	3357.89	3363.07	3364.71	3375.45	3375.73	3373.98	3373.83	3376.13	3376.32	3376.58

Nyrstar Myra Falls
2014 Q3 Dam Safety Inspection
November 2014

Instrument Plane A - Weekly Maximum Vibrating Wire Piezometer Readings - 2010 - 2014 Q3

Location	Outer Embankment Slope - 1				Outer Embankment Slope - 2					Outer Embankment Slope - 3					Upper Tailings Beach						
ID	A-5E	A-9E	A-13E	A-17E	A-2E	A-6E	A-10E	A-14E	A-18E	A-4E	A-8E	A-12E	A-16E	A-20E	A-26E	A-27E	A-28E	A-30E	A-31E	A-32E	A-33E
Tip Elev (m)	3357.91	3359.24	3360.90	3364.50	3352.90	3358.44	3359.82	3360.92	3364.26	3352.73	3358.52	3359.82	3361.11	3364.15	3371.20	3371.40	3372.65	3372.33	3375.33	3375.18	3374.97
Threshold 1	3362.5	3362.5	3362.5	3366.8	3360.0	3362.5	3362.5	3362.5	3366.8	3360.0	3362.5	3362.5	3362.5	3366.8	3377.9	3377.9	3377.9	3377.9	3377.9	3377.9	3377.9
Threshold 2	3361.3	3361.8	3364.1	3366.5	3360.2	3361.4	3362.7	3363.3	3367.2	3359.8	3361.3	3361.0	3365.0	3366.7	3377.5	3379.0	3375.9	3377.3	3378.0	3378.5	3379.4
Threshold 3	3362.3	3362.8	3365.1	3367.5	3361.2	3362.4	3363.7	3364.3	3368.2	3360.8	3362.3	3362.0	3366.0	3367.7	3378.5	3380.0	3376.9	3378.3	3379.0	3379.5	3380.4
2012-01-01	3360.20	3361.28	3363.40	3364.59	3358.59	3360.38	3361.46	3362.64	3365.94	3357.98	3359.79	3358.38	3363.49	3364.77	3375.73	3376.03	3374.28	3374.09	3376.24	3376.46	3376.81
2012-01-08	3360.11	3361.27	3363.40	3364.58	3358.23	3360.27	3361.43	3362.60	3365.95	3357.58	3359.68	3358.30	3363.49	3364.77	3375.76	3376.08	3374.26	3374.13	3376.24	3376.49	3376.78
2012-01-15	3359.70	3360.88	3363.14	3364.59	3357.35	3359.85	3361.10	3362.23	3365.58	3356.62	3359.69	3357.96	3363.24	3364.71	3375.44	3375.75	3373.77	3373.75	3376.14	3376.30	3376.44
2012-01-22	3359.81	3360.96	3363.15	3364.58	3357.51	3359.83	3361.05	3362.18	3365.63	3356.78	3359.66	3357.95	3363.12	3364.68	3375.41	3375.62	3373.94	3373.62	3376.12	3376.20	3376.38
2012-01-29	3359.92	3361.05	3363.24	3364.58	3357.64	3359.93	3361.13	3362.28	3365.70	3356.87	3359.67	3357.99	3363.16	3364.69	3375.50	3375.80	3374.03	3373.92	3376.15	3376.36	3376.61
2012-02-05	3359.80	3360.98	3363.19	3364.57	3357.41	3359.87	3361.09	3362.23	3365.65	3356.71	3359.67	3357.96	3363.17	3364.69	3375.48	3375.81	3373.94	3373.94	3376.14	3376.36	3376.63
2012-02-12	3359.80	3360.97	3363.16	3364.58	3357.42	3359.83	3361.07	3362.20	3365.63	3356.74	3359.68	3357.95	3363.15	3364.69	3375.51	3375.84	3373.97	3373.97	3376.15	3376.38	3376.63
2012-02-19	3359.77	3360.97	3363.16	3364.58	3357.33	3359.77	3361.05	3362.18	3365.63	3356.60	3359.68	3357.93	3363.13	3364.70	3375.53	3375.82	3374.03	3373.96	3376.17	3376.38	3376.61
2012-02-26	3359.91	3361.13	3363.27	3364.59	3357.41	3359.91	3361.12	3362.28	3365.70	3356.71	3359.68	3357.96	3363.15	3364.70	3375.59	3375.85	3374.11	3373.96	3376.18	3376.38	3376.62
2012-03-04	3359.74	3360.97	3363.15	3364.58	3357.25	3359.77	3361.04	3362.17	3365.61	3356.54	3359.68	3357.93	3363.13	3364.69	3375.46	3375.74	3373.97	3373.82	3376.15	3376.32	3376.54
2012-03-11	3359.72	3360.91	3363.04	3364.60	3357.15	3359.68	3361.02	3362.08	3365.52	3356.46	3359.70	3357.85	3363.11	3364.71	3375.42	3375.68	3373.96	3373.74	3376.18	3376.29	3376.51
2012-03-18	3359.75	3360.98	3363.12	3364.59	3357.20	3359.73	3361.00	3362.12	3365.56	3356.51	3359.68	3357.88	3363.07	3364.69	3375.43	3375.72	3373.94	3373.81	3376.16	3376.32	3376.55
2012-03-25	3359.79	3361.03	3363.15	3364.59	3357.30	3359.78	3361.03	3362.14	3365.57	3356.60	3359.69	3358.77	3363.07	3364.69	3375.45	3375.69	3374.03	3373.73	3376.17	3376.28	3376.49
2012-04-01	3360.03	3361.23	3363.37	3364.58	3357.80	3360.05	3361.25	3362.42	3365.79	3357.08	3359.68	3358.01	3363.21	3364.67	3375.60	3375.86	3374.18	3373.94	3376.18	3376.37	3376.59
2012-04-08	3359.93	3361.19	3363.36	3364.59	3357.48	3360.00	3361.23	3362.38	3365.76	3356.79	3359.68	3358.01	3363.21	3364.67	3375.57	3375.83	3374.08	3373.91	3376.17	3376.35	3376.56
2012-04-15	3359.85	3361.08	3363.27	3364.58	3357.34	3359.87	3361.09	3362.22	3365.64	3356.62	3359.67	3357.90	3363.12	3364.65	3375.38	3375.66	3373.81	3373.71	3376.14	3376.25	3376.47
2012-04-22	3359.53	3360.73	3363.03	3364.58	3357.54	3359.74	3361.02	3362.10	3365.51	3356.80	3359.69	3357.87	3363.12	3364.65	3375.34	3375.62	3373.81	3373.66	3376.13	3376.22	3376.45
2012-04-29	3359.59	3360.74	3362.99	3364.58	3357.50	3359.78	3360.98	3362.11	3365.51	3356.81	3359.67	3357.90	3363.11	3364.64	3375.35	3375.62	3373.79	3373.65	3376.14	3376.22	3376.41
2012-05-06	3359.34	3360.56	3362.84	3364.57	3357.41	3359.69	3360.92	3362.05	3365.46	3356.70	3359.66	3357.89	3363.10	3364.62	3375.31	3375.54	3373.58	3373.57	3376.12	3376.17	3376.35
2012-05-13	3358.99	3360.27	3362.63	3364.57	3357.46		3360.82	3361.92	3365.32	3356.76	3359.67	3357.85	3363.10	3364.94	3375.29	3375.34	3373.57	3373.27	3376.11	3376.00	3376.00
2012-05-20	3358.85	3360.11	3362.49	3364.58	3358.03	3359.47	3360.72	3361.86	3365.18	3356.74	3359.67	3357.80	3363.09	3364.62	3375.24	3375.12	3373.59	3372.91	3376.12	3375.85	3375.72
2012-05-27	3358.78	3359.98	3362.34	3364.57	3357.46	3359.43	3360.62	3361.79	3365.11	3356.75	3359.66	3357.80	3363.06	3364.62	3375.22	3375.05	3373.61	3372.89	3376.11	3375.83	3375.65
2012-06-03	3358.71	3359.88	3362.27	3364.57	3357.41	3359.40	3360.60	3361.75	3365.05	3356.70	3359.67	3357.79	3363.06	3364.62	3375.22	3374.95	3373.62	3372.75	3376.11	3375.74	3375.55
2012-06-10	3358.64	3359.78	3362.16	3364.57	3357.51	3359.34	3360.53	3361.69	3365.02	3356.79	3359.65	3357.78	3363.03	3364.61	3375.20	3374.86	3373.63	3372.62	3376.10	3375.66	3375.46
2012-06-17	3358.60	3359.66	3362.08	3364.57	3357.54	3359.35	3360.51	3361.66	3364.93	3356.81	3359.66	3357.75	3363.03	3364.62	3375.19	3374.66	3373.64	3372.41	3376.10	3375.61	3375.35
2012-06-24	3358.53	3359.60	3362.00	3364.57	3357.46	3359.25	3360.43	3361.59	3364.86	3356.75	3359.65	3357.69	3363.01	3364.62	3375.18	3374.51	3373.64	3372.33	3376.10	3375.60	3375.37
2012-07-01	3358.47	3359.54	3361.96	3364.56	3357.35	3359.20	3360.38	3361.55	3364.83	3356.62	3359.65	3357.67	3362.99	3364.61	3375.16	3374.44	3373.65	3372.24	3376.09	3375.59	3375.25
2012-07-08	3358.48	3360.32	3361.95	3364.55	3357.39	3359.21	3360.36	3361.54	3364.81	3356.67	3359.64	3358.55	3362.97	3364.62	3374.96	3374.31	3373.64	3372.02	3376.08	3375.56	3375.03
2012-07-15	3358.43	3359.45	3361.90	3364.56	3357.35	3359.17	3360.33	3361.47	3364.73	3356.62	3359.64	3357.56	3362.96	3364.62	3374.82	3374.09	3373.65	3371.84	3376.07	3375.55	3374.84
2012-07-22	3358.40	3359.43	3361.89	3364.55	3357.23	3360.09	3360.28	3361.44	3364.70	3356.52	3359.64	3357.55	3362.93	3364.62	3374.73	3373.98	3373.65	3371.67	3376.07	3375.54	3374.72
2012-07-29	3358.36	3359.40	3361.86	3364.55	3357.16	3359.09	3360.24	3361.38	3364.66	3356.46	3359.63	3357.54	3362.92	3364.61	3374.63	3373.85	3373.64	3371.53	3376.06	3375.53	3374.62
2012-08-05	3358.31	3359.36	3361.83	3364.54	3357.10	3359.04	3361.05	3361.34	3364.59	3356.37	3359.62	3357.54	3362.91	3364.61	3374.48	3373.68	3373.62	3371.34	3376.04	3375.53	3374.51
2012-08-12	3358.24	3359.31	3361.82	3364.55	3356.96	3358.99	3360.18	3361.31	3364.54	3356.20	3359.62	3357.51	3362.91	3364.62	3374.41	3373.57	3373.61	3371.23	3376.04	3375.53	3374.45
2012-08-19	3358.20	3359.27	3361.85	3364.55	3356.91	3358.92	3360.13	3361.26	3364.50	3356.16	3359.62	3357.48	3362.91	3364.61	3374.32	3373.48	3373.60	3371.09	3376.03	3375.52	3374.40
2012-08-26	3358.20	3359.28	3361.94	3364.63	3356.88	3358.96	3360.17	3361.29	3364.49	3356.09	3359.69	3357.52	3362.97	3364.69	3374.30	3373.50	3373.66	3371.00	3376.10	3375.60	3374.41
2012-09-02	3358.18	3359.24	3361.86	3364.54	3356.83	3359.90	3360.09	3361.23	3365.85	3356.05	3359.61	3357.46	3362.88	3364.61	3374.21	3373.42	3373.57	3370.92	3376.01	3375.51	3374.34
2012-09-09	3358.20	3359.25	3361.87	3364.55	3356.85	3358.93	3360.10	3361.22	3364.41	3356.07	3360.32	3357.47	3362.88	3364.61	3374.15	3373.39	3373.56	3370.86	3376.01	3375.52	3374.36
2012-09-16	3358.14	3359.20	3361.88	3364.54	3356.76	3358.88	3360.10	3361.19	3364.34	3355.99	3359.60	3359.23	3362.86	3364.61	3374.17	3373.37	3373.52	3370.81	3375.99	3375.51	3374.30
2012-09-23	3358.08	3359.15	3361.90	3364.54	3357.37	3358.85	3360.11	3361.15	3364.32	3355.96	3359.60	3357.41	3362.85	3364.93	3374.08	3373.37	3373.50	3370.73	3375.99	3375.51	3374.24
2012-09-30	3358.13	3359.17	3361.93	3364.53	3356.79	3359.89	3360.12	3361.15	3364.28	3356.03	3359.59	3357.43	3362.84	3364.60	3374.06	3373.37	3373.47	3370.72	3375.98	3375.50	3374.26
2012-10-07	3358.02	3359.09	3361.99	3364.54	3356.64	3358.82	3360.13	3361.11	3364.20	3355.89	3359.60	3357.41	3362.84	3364.61	3374.04	3373.39	3373.45	3370.65	3375.99	3375.50	3374.18
2012-10-14	3358.08	3359.10	3362.02	3364.54	3357.32	3358.82	3360.16	3361.12	3364.36	3356.67	3359.60	3357.39	3362.84	3364.61	3374.19	3373.56	3373.42	3371.51	3375.99	3375.51	3375.21
2012-10-21	3358.13	3359.21	3362.05	3364.54	3356.96	3358.96	3360.17	3361.32	3364.68	3356.21	3359.60	3357.47	3362.82	3364.61	3374.59	3374.24	3373.35	3372.20	3375.98	3375.52	3375.66
2012-10-28	3358.22	3359.32	3362.08	3364.55	3357.15	3359.04	3360.19	3361.39	3364.86	3356.47	3359.59	3357.52	3362.82	3364.60	3374.95	3374.73	3373.29	3372.72	3375.99	3375.68	3376.03
2012-11-04	3358.40	3359.62	3362.10	3364.54	3357.31	3359.15	3360.38	3361.62	3365.12	3356.59	3359.58	3357.68	3362.80	3364.59	3375.06	3375.15	3373.42	3373.14	3376.00	3375.94	3376.30
2012-11-11	3358.61	3359.98	3362.33	3364.56	3357.11	3359.30	3360.52	3361.75	3365.24	3356.40	3359.60	3357.77	3362.86	3364.61	3375.13	3375.28	3373.61	3373.26	3376.03	3376.02	3376.34
2012-11-18	3359.42	3360.65	3362.87	3364.58	3357.64	3359.73	3360.92	3362.05	3365.58	3356.87	3359.59	3357.82	3362.94	3364.61	3375.35	3375.58	3373.97	3373.63	3376.09	3376.21	3376.50
2012-11-25	3359.60	3360.73	3363.00	3364.59	3357.95	3359.80	3360.99	3362.12	3365.61	3357.26	3359.60	3357.85	3363.04	3364.61	3375.39	3375.61	3374.00	3373.66	3376.11	3376.23	3376.54
2012-12-02	3359.81	3361.03	3363.24	3364.59	3358.13	3360.08	3361.19	3362.36	3365.77	3357.50	3359.61	3358.03	3363.22	3364.61	3375.55	3375.78	3374.11	3373.87	3376.15	3376.34	3376.63
2012-12-09	3359.75	3361.01	3363.24	3364.58	3357.73	3359.99	3361.15	3362.34	3365.74	3356.96	3359.59	3357.97	3363.20	3364.60	3375.55	3375.78	3374.06	3373.88	3376.16	3376.35	3376.63
2012-12-16	3359.19	3360.48	3362.77	3364.56	3356.93	3359.49	3360.89	3361.93	3365.37	3356.16	3359.58	3357.76	3363.04	3364.61	3375.25	3375.59	3373.60	3373.65	3376.10	3376.23	3376.45
2012-12-23	3359.16	3360.40	3362.69	3364.56	3356.92	3359.50	3360.79	3361.92	3365.40	3356.15	3359.58	3357.79	3363.02	3364.60	3375.23	3375.55	3373.62	3373.63	3376.09	3376.22	3376.49
2012-12-30	3359.19	3360.44	3362.72	3364.55	3356.92	3359.54	3360.80	3361.96	3365.45	3356.16	3359.56	3357.85	3363.03	3364.63	3375.25	3375.59	3373.63	3373.67	3376.09	3376.24	3376.52

Instrument Plane A - Weekly Maximum Vibrating Wire Piezometer Readings - 2010 - 2014 Q3

Location	Outer Embankment Slope - 1				Outer Embankment Slope - 2					Outer Embankment Slope - 3					Upper Tailings Beach						
ID	A-5E	A-9E	A-13E	A-17E	A-2E	A-6E	A-10E	A-14E	A-18E	A-4E	A-8E	A-12E	A-16E	A-20E	A-26E	A-27E	A-28E	A-30E	A-31E	A-32E	A-33E
Tip Elev (m)	3357.91	3359.24	3360.90	3364.50	3352.90	3358.44	3359.82	3360.92	3364.26	3352.73	3358.52	3359.82	3361.11	3364.15	3371.20	3371.40	3372.65	3372.33	3375.33	3375.18	3374.97
Threshold 1	3362.5	3362.5	3362.5	3366.8	3360.0	3362.5	3362.5	3362.5	3366.8	3360.0	3362.5	3362.5	3362.5	3366.8	3377.9	3377.9	3377.9	3377.9	3377.9	3377.9	3377.9
Threshold 2	3361.3	3361.8	3364.1	3366.5	3360.2	3361.4	3362.7	3363.3	3367.2	3359.8	3361.3	3361.0	3365.0	3366.7	3377.5	3379.0	3375.9	3377.3	3378.0	3378.5	3379.4
Threshold 3	3362.3	3362.8	3365.1	3367.5	3361.2	3362.4	3363.7	3364.3	3368.2	3360.8	3362.3	3362.0	3366.0	3367.7	3378.5	3380.0	3376.9	3378.3	3379.0	3379.5	3380.4
2013-01-06	3359.22	3360.45	3362.70	3364.55	3357.02	3359.52	3360.78	3361.94	3365.48	3356.25	3359.56	3357.82	3363.04	3364.65	3375.31	3375.62	3373.75	3373.68	3376.10	3376.26	3376.52
2013-01-13	3359.36	3360.62	3362.90	3364.55	3357.07	3359.64	3360.92	3362.07	3365.55	3356.32	3359.55	3357.91	3363.11	3364.65	3375.35	3375.67	3373.77	3373.75	3376.10	3376.29	3376.58
2013-01-20	3359.22	3360.50	3362.78	3364.54	3356.88	3359.57	3360.88	3361.98	3365.45	3356.11	3359.56	3357.86	3363.08	3364.67	3375.26	3375.60	3373.59	3373.66	3376.10	3376.24	3376.48
2013-01-27	3358.91	3360.18	3362.55	3364.54	3356.92	3359.44	3360.69	3361.88	3365.33	3356.17	3359.55	3357.81	3363.05	3364.66	3375.16	3375.51	3373.47	3373.59	3376.09	3376.19	3376.45
2013-02-03	3359.00	3360.24	3362.56	3364.55	3357.26	3359.47	3360.69	3361.90	3365.43	3356.57	3359.56	3357.81	3363.06	3364.67	3375.31	3375.61	3373.78	3373.67	3376.11	3376.25	3376.51
2013-02-10	3359.29	3360.55	3362.82	3364.55	3357.28	3359.62	3360.88	3362.03	3365.53	3356.57	3359.54	3357.89	3363.10	3364.66	3375.39	3375.69	3373.86	3373.78	3376.12	3376.30	3376.57
2013-02-17	3359.20	3360.49	3362.76	3364.56	3357.10	3359.56	3360.82	3361.98	3365.48	3356.39	3359.56	3357.84	3363.09	3364.68	3375.38	3375.69	3373.81	3373.75	3376.14	3376.30	3376.54
2013-02-24	3359.84	3361.00	3363.17	3364.57	3357.75	3359.90	3361.07	3362.21	3365.75	3356.97	3359.54	3357.91	3363.10	3364.66	3375.60	3375.77	3374.21	3373.84	3376.20	3376.33	3376.58
2013-03-03	3359.89	3361.11	3363.30	3364.57	3357.79	3359.99	3361.16	3362.35	3365.80	3357.01	3359.56	3357.96	3363.17	3364.67	3375.65	3375.82	3374.22	3373.88	3376.21	3376.35	3376.58
2013-03-10	3359.87	3361.06	3363.27	3364.57	3357.54	3359.92	3361.11	3362.25	3365.71	3356.81	3359.55	3357.91	3363.13	3364.66	3375.51	3375.75	3374.05	3373.80	3376.15	3376.32	3376.53
2013-03-17	3359.83	3361.05	3363.25	3364.57	3357.51	3359.90	3361.10	3362.25	3365.71	3356.81	3359.57	3357.89	3363.13	3364.67	3375.51	3375.74	3374.00	3373.76	3376.15	3376.31	3376.48
2013-03-24	3359.76	3361.01	3363.23	3364.56	3357.33	3359.85	3361.08	3362.22	3365.66	3356.60	3359.54	3357.89	3363.11	3364.65	3375.42	3375.68	3373.91	3373.69	3376.12	3376.26	3376.41
2013-03-31	3359.47	3360.70	3362.99	3364.55	3357.22	3359.69	3360.98	3362.09	3365.49	3356.52	3360.97	3357.84	3363.11	3364.64	3375.26	3375.54	3373.61	3373.50	3376.12	3376.16	3376.27
2013-04-07	3359.15	3361.16	3362.66	3364.55	3357.37	3359.55	3360.82	3361.91	3365.38	3356.65	3359.55	3357.80	3363.10	3364.64	3375.17	3375.43	3373.62	3373.40	3376.10	3376.09	3376.26
2013-04-14	3359.15	3360.36	3362.69	3364.54	3357.24	3359.55	3360.78	3361.94	3365.41	3356.52	3359.55	3357.82	3363.09	3364.63	3375.17	3375.48	3373.63	3373.47	3376.11	3376.13	3376.29
2013-04-21	3359.11	3360.30	3362.65	3364.54	3357.27	3359.54	3360.77	3361.93	3365.39	3356.53	3359.54	3357.82	3363.08	3364.61	3375.16	3375.46	3373.66	3373.42	3376.10	3376.08	3376.22
2013-04-28	3358.97	3360.23	3362.59	3364.54	3357.26	3359.50	3360.73	3361.89	3365.33	3356.54	3360.23	3357.81	3363.08	3364.61	3375.13	3375.31	3373.69	3373.27	3376.10	3376.01	3376.12
2013-05-05	3358.93	3360.97	3362.54	3364.55	3357.48	3359.50	3360.71	3361.87	3365.23	3356.76	3359.54	3357.79	3363.07	3364.61	3375.12	3375.25	3373.71	3373.17	3376.11	3375.97	3375.93
2013-05-12	3358.98	3360.12	3362.47	3364.54	3357.86	3359.56	3360.69	3361.87	3365.28	3357.06	3359.55	3357.79	3363.06	3364.60	3375.12	3375.32	3373.74	3373.30	3376.10	3376.03	3376.15
2013-05-19	3358.92	3360.16	3362.54	3364.55	3357.47	3359.52	3360.69	3361.88	3365.32	3356.75	3359.55	3357.79	3363.07	3364.61	3375.14	3375.37	3373.77	3373.35	3376.11	3376.06	3376.19
2013-05-26	3358.86	3360.10	3362.47	3364.55	3357.28	3359.43	3360.64	3361.86	3365.28	3356.54	3359.55	3357.78	3363.06	3364.60	3375.12	3375.31	3373.79	3373.30	3376.11	3376.04	3376.15
2013-06-02	3358.83	3360.10	3362.46	3364.54	3357.29	3359.44	3360.66	3361.88	3365.31	3356.55	3359.54	3357.79	3363.04	3364.60	3375.25	3375.42	3373.81	3373.28	3376.11	3376.02	3376.10
2013-06-09	3358.81	3360.07	3362.42	3364.54	3357.21	3359.42	3360.65	3361.89	3365.46	3356.50	3359.54	3357.80	3363.05	3364.62	3375.18	3375.26	3373.85	3373.11	3376.11	3375.94	3375.77
2013-06-16	3358.74	3359.98	3362.36	3364.54	3357.17	3359.37	3361.41	3361.81	3365.21	3356.46	3359.54	3357.79	3363.05	3364.63	3375.11	3375.12	3373.87	3372.87	3376.10	3375.83	3375.51
2013-06-23	3358.70	3359.88	3362.27	3364.55	3357.23	3359.31	3360.57	3361.74	3365.10	3356.52	3359.54	3357.72	3363.04	3364.64	3375.08	3374.96	3373.90	3372.68	3376.11	3375.73	3375.55
2013-06-30	3358.64	3359.83	3362.20	3364.54	3357.18	3360.18	3360.53	3361.70	3365.05	3356.47	3359.53	3358.60	3363.02	3364.63	3375.02	3374.93	3373.93	3372.81	3376.09	3375.77	3375.71
2013-07-07	3358.52	3359.71	3362.11	3364.54	3357.05	3360.16	3360.47	3361.63	3364.96	3356.25	3359.53	3357.67	3363.01	3364.63	3375.01	3374.85	3373.95	3372.64	3376.09	3375.69	3375.47
2013-07-14	3358.47	3359.63	3362.04	3364.53	3356.95	3359.16	3360.39	3361.58	3364.89	3356.18	3359.53	3357.65	3362.99	3364.62	3375.00	3374.62	3373.95	3372.37	3376.08	3375.62	3375.21
2013-07-21	3358.38	3359.45	3362.03	3364.53	3356.88	3360.05	3360.31	3361.47	3364.77	3356.10	3359.52	3357.55	3362.98	3364.62	3374.98	3374.41	3373.95	3372.13	3376.07	3375.60	3375.02
2013-07-28	3358.32	3359.36	3362.04	3364.53	3356.84	3359.03	3360.24	3361.39	3364.67	3356.05	3359.52	3357.54	3362.95	3364.62	3374.96	3374.22	3373.94	3371.93	3376.06	3375.57	3374.86
2013-08-04	3358.26	3359.30	3362.02	3364.53	3356.82	3358.96	3360.17	3361.31	3364.57	3356.02	3359.52	3357.52	3362.94	3364.62	3374.97	3374.04	3373.94	3371.77	3376.06	3375.55	3374.72
2013-08-11	3358.15	3359.18	3362.02	3364.53	3356.84	3358.86	3360.09	3361.19	3364.32	3356.05	3359.51	3357.47	3362.93	3364.61	3374.58	3373.90	3373.91	3371.57	3376.06	3375.55	3374.73
2013-08-18	3358.11	3359.11	3362.05	3364.53	3356.80	3358.81	3360.08	3361.11	3364.12	3356.02	3359.51	3357.46	3362.92	3364.61	3374.48	3373.82	3373.88	3371.60	3376.05	3375.56	3374.95
2013-08-25	3358.04	3358.99	3362.08	3364.53	3357.10	3358.76	3360.09	3361.02	3363.94	3356.41	3359.50	3357.42	3362.91	3365.25	3374.38	3373.68	3373.86	3371.51	3376.04	3375.56	3375.06
2013-09-01	3357.97	3358.94	3362.09	3364.52	3356.87	3358.74	3360.10	3360.99	3363.84	3356.74	3359.50	3357.42	3362.89	3364.60	3374.32	3373.89	3373.83	3371.91	3376.04	3375.56	3375.37
2013-09-08	3357.93	3358.91	3362.10	3364.51	3356.72	3358.72	3360.10	3360.98	3363.74	3355.95	3359.49	3357.42	3362.87	3364.59	3374.31	3373.88	3373.78	3371.91	3376.02	3375.56	3375.32
2013-09-15	3357.87	3358.84	3362.14	3364.52	3356.70	3359.65	3361.00	3360.90	3363.56	3355.94	3359.50	3357.36	3362.86	3364.59	3374.23	3373.71	3373.76	3371.69	3376.03	3375.57	3375.05
2013-09-22	3357.90	3359.60	3362.17	3364.53	3357.04	3358.65	3360.15	3360.88	3363.49	3356.30	3359.50	3357.37	3362.86	3364.59	3374.18	3373.79	3373.73	3371.91	3376.03	3375.59	3375.49
2013-09-29	3358.18	3359.00	3362.16	3364.52	3357.65	3358.93	3360.14	3361.12	3363.90	3356.87	3359.50	3357.47	3362.84	3364.58	3374.22	3374.28	3373.69	3372.53	3376.02	3375.63	3375.96
2013-10-06	3358.09	3359.03	3362.17	3364.51	3357.55	3358.90	3360.15	3361.21	3364.32	3356.81	3359.48	3357.50	3362.81	3364.56	3374.35	3374.72	3373.64	3372.92	3376.01	3375.86	3376.14
2013-10-13	3358.10	3359.13	3362.17	3364.49	3357.21	3358.97	3360.16	3361.31	3364.56	3356.50	3359.46	3357.62	3362.79	3364.55	3374.60	3374.96	3373.59	3373.09	3376.00	3375.95	3376.18
2013-10-20	3358.02	3359.14	3362.19	3364.49	3356.97	3358.92	3360.17	3361.31	3364.61	3356.20	3359.46	3357.61	3362.80	3364.54	3374.61	3374.99	3373.57	3373.08	3376.01	3375.95	3376.05
2013-10-27	3357.95	3359.09	3362.22	3364.50	3356.80	3358.89	3360.19	3361.30	3364.57	3356.02	3359.46	3357.60	3362.81	3364.55	3374.63	3374.97	3373.56	3372.95	3376.02	3375.90	3375.82
2013-11-03	3357.96	3359.08	3362.23	3364.51	3356.95	3358.86	3360.20	3361.26	3364.57	3356.20	3359.46	3357.53	3362.81	3364.55	3374.64	3374.98	3373.55	3373.07	3376.02	3375.94	3376.10
2013-11-10	3358.20	3359.14	3362.26	3364.51	3357.53	3359.09	3360.22	3361.39	3364.70	3356.79	3359.47	3357.68	3362.81	3364.55	3374.66	3375.19	3373.54	3373.27	3376.04	3376.05	3376.26
2013-11-17	3358.20	3359.32	3362.26	3364.51	3357.22	3359.11	3360.30	3361.58	3364.98	3356.51	3359.46	3357.76	3362.87	3364.55	3374.90	3375.40	3373.53	3373.50	3376.07	3376.15	3376.35
2013-11-24	3358.09	3359.30	3362.27	3364.52	3357.03	3359.07	3360.29	3361.56	3365.03	3356.24	3359.44	3357.74	3362.88	3364.54	3374.99	3375.39	3373.54	3373.38	3376.08	3376.10	3376.16
2013-12-01	3358.19	3359.39	3362.27	3364.52	3357.04	3359.11	3360.32	3361.61	3365.10	3356.24	3359.45	3357.74	3362.88	3364.56	3375.01	3375.38	3373.55	3373.36	3376.09	3376.08	3376.21
2013-12-08	3358.27	3359.54	3362.29	3364.53	3356.88	3359.17	3360.44	3361.69	3365.18	3356.11	3359.43	3357.78	3362.91	3364.59	3375.08	3375.39	3373.56	3373.26	3376.09	3376.01	3375.98
2013-12-15	3358.44	3359.80	3362.31	3364.53	3356.93	3359.20	3360.48	3361.71	3365.17	3356.18	3359.43	3357.76	3362.91	3364.61	3375.01	3375.27	3373.57	3373.15	3376.09	3375.97	3376.02
2013-12-22	3358.61	3360.04	3362.42	3364.53	3357.08	3359.34	3360.57	3361.81	3365.22	3356.33	3359.42	3357.79	3362.92	3364.62	3375.00	3375.31	3373.57	3373.26	3376.09	3376.00	3376.16
2013-12-29	3358.74	3360.12	3362.49	3364.53	3357.12	3359.39	3360.61	3361.84	3365.26	3356.40	3359.42	3357.79	3362.92	3364.63	3375.04	3375.40	3373.59	3373.40	3376.10	3376.08	3376.29

Nyrstar Myra Falls
2014 Q3 Dam Safety Inspection
November 2014

Instrument Plane A - Weekly Maximum Vibrating Wire Piezometer Readings - 2010 - 2014 Q3

Location	Outer Embankment Slope - 1				Outer Embankment Slope - 2					Outer Embankment Slope - 3					Upper Tailings Beach						
ID	A-5E	A-9E	A-13E	A-17E	A-2E	A-6E	A-10E	A-14E	A-18E	A-4E	A-8E	A-12E	A-16E	A-20E	A-26E	A-27E	A-28E	A-30E	A-31E	A-32E	A-33E
Tip Elev (m)	3357.91	3359.24	3360.90	3364.50	3352.90	3358.44	3359.82	3360.92	3364.26	3352.73	3358.52	3359.82	3361.11	3364.15	3371.20	3371.40	3372.65	3372.33	3375.33	3375.18	3374.97
Threshold 1	3362.5	3362.5	3362.5	3366.8	3360.0	3362.5	3362.5	3362.5	3366.8	3360.0	3362.5	3362.5	3362.5	3366.8	3377.9	3377.9	3377.9	3377.9	3377.9	3377.9	3377.9
Threshold 2	3361.3	3361.8	3364.1	3366.5	3360.2	3361.4	3362.7	3363.3	3367.2	3359.8	3361.3	3361.0	3365.0	3366.7	3377.5	3379.0	3375.9	3377.3	3378.0	3378.5	3379.4
Threshold 3	3362.3	3362.8	3365.1	3367.5	3361.2	3362.4	3363.7	3364.3	3368.2	3360.8	3362.3	3362.0	3366.0	3367.7	3378.5	3380.0	3376.9	3378.3	3379.0	3379.5	3380.4
2014-01-05	3358.78	3360.20	3362.57	3364.54	3357.12	3359.43	3360.66	3361.87	3365.30	3356.39	3359.43	3357.80	3362.96	3364.65	3375.10	3375.43	3373.62	3373.44	3376.12	3376.11	3376.29
2014-01-12	3358.99	3360.32	3362.64	3364.53	3357.66	3359.59	3360.78	3361.94	3365.40	3356.87	3359.42	3357.81	3363.01	3364.64	3375.19	3375.53	3373.63	3373.53	3376.11	3376.17	3376.32
2014-01-19	3358.92	3360.32	3362.63	3364.53	3357.25	3359.52	3360.74	3361.92	3365.38	3356.53	3359.42	3357.79	3363.01	3364.63	3375.21	3375.55	3373.65	3373.57	3376.11	3376.18	3376.34
2014-01-26	3358.88	3360.28	3362.63	3364.53	3357.07	3359.47	3360.73	3361.90	3365.32	3356.29	3359.42	3357.79	3363.03	3364.64	3375.17	3375.49	3373.68	3373.43	3376.12	3376.12	3376.17
2014-02-02	3358.81	3360.17	3362.55	3364.53	3356.91	3359.40	3360.66	3361.86	3365.28	3356.13	3359.41	3357.78	3363.01	3364.63	3375.02	3375.31	3373.70	3373.20	3376.11	3375.98	3376.01
2014-02-09	3358.70	3360.05	3362.45	3364.53	3356.85	3359.28	3360.59	3361.77	3365.17	3356.07	3359.42	3357.70	3363.00	3364.63	3374.94	3375.17	3373.74	3372.97	3376.12	3375.90	3375.75
2014-02-16	3358.72	3360.04	3362.42	3364.53	3357.09	3359.32	3360.55	3361.76	3365.14	3356.33	3359.42	3357.69	3362.99	3364.63	3374.83	3374.97	3373.76	3372.73	3376.12	3375.74	3375.56
2014-02-23	3358.68	3360.00	3362.41	3364.52	3356.92	3359.29	3360.55	3361.74	3365.12	3356.15	3359.42	3357.68	3362.96	3364.61	3374.82	3374.95	3373.79	3372.73	3376.12	3375.73	3375.58
2014-03-02	3358.55	3359.83	3362.38	3364.52	3357.15	3359.19	3360.52	3361.64	3365.00	3356.46	3359.42	3357.61	3362.96	3364.61	3374.77	3374.85	3373.81	3372.68	3376.11	3375.70	3375.71
2014-03-09	3358.91	3360.09	3362.47	3364.52	3357.88	3359.54	3360.66	3361.86	3365.17	3357.16	3359.41	3357.78	3362.93	3364.59	3374.80	3375.05	3373.80	3372.92	3376.10	3375.86	3376.00
2014-03-16	3358.88	3360.16	3362.53	3364.52	3357.66	3359.52	3360.67	3361.86	3365.21	3356.87	3359.40	3357.78	3362.93	3364.58	3375.01	3375.38	3373.80	3373.31	3376.11	3376.04	3376.21
2014-03-23	3358.87	3360.16	3362.54	3364.53	3357.33	3359.47	3360.68	3361.86	3365.21	3356.59	3359.41	3357.77	3362.96	3364.59	3375.07	3375.42	3373.84	3373.38	3376.14	3376.10	3376.26
2014-03-30	3359.05	3361.10	3362.65	3364.54	3357.36	3359.51	3360.71	3361.89	3365.34	3356.62	3359.41	3357.75	3362.94	3364.58	3375.20	3375.52	3373.84	3373.49	3376.13	3376.17	3376.31
2014-04-06	3359.15	3361.23	3362.71	3364.54	3357.32	3359.57	3360.78	3361.94	3365.40	3356.57	3359.40	3357.78	3362.96	3364.57	3375.23	3375.54	3373.83	3373.53	3376.12	3376.17	3376.32
2014-04-13	3359.11	3360.41	3362.70	3364.53	3357.23	3359.55	3360.77	3361.93	3365.39	3356.50	3359.40	3357.77	3362.97	3364.57	3375.19	3375.51	3373.86	3373.50	3376.13	3376.15	3376.29
2014-04-20	3358.98	3360.30	3362.63	3364.54	3357.22	3359.48	3360.72	3361.88	3365.29	3356.51	3359.41	3357.76	3362.97	3364.57	3375.03	3375.39	3373.87	3373.38	3376.13	3376.09	3376.25
2014-04-27	3359.21	3360.48	3362.76	3364.54	3357.44	3359.63	3360.84	3361.96	3365.44	3356.72	3359.40	3357.79	3363.00	3365.21	3375.21	3375.53	3373.89	3373.54	3376.13	3376.17	3376.36
2014-05-04	3359.12	3360.36	3362.69	3364.54	3357.32	3359.56	3360.78	3361.92	3365.32	3356.57	3359.40	3357.77	3363.00	3364.57	3375.09	3375.42	3373.91	3373.39	3376.13	3376.10	3376.21
2014-05-11	3359.05	3360.27	3362.64	3364.52	3357.37	3359.54	3360.74	3361.90	3365.32	3356.62	3359.40	3357.76	3362.97	3364.54	3375.03	3375.30	3373.92	3373.22	3376.12	3375.99	3376.00
2014-05-18	3358.88	3360.13	3362.50	3364.51	3357.43	3360.41	3360.69	3361.83	3365.18	3356.69	3359.39	3357.74	3362.97	3364.54	3374.88	3375.15	3373.94	3372.94	3376.12	3375.88	3375.66
2014-05-25	3358.81	3360.09	3362.45	3364.51	3357.24	3359.41	3360.64	3361.80	3365.13	3356.51	3359.39	3357.72	3362.96	3364.54	3374.83	3375.02	3373.94	3372.84	3376.12	3375.81	3375.58
2014-06-01	3358.52	3359.66	3362.26	3364.50	3357.11	3359.17	3360.48	3361.60	3364.89	3356.39	3359.39	3357.63	3362.94	3364.52	3374.72	3374.76	3373.95	3372.44	3376.10	3375.73	3375.23
2014-06-08	3358.44	3359.56	3362.26	3364.51	3357.04	3359.14	3360.41	3361.52	3364.79	3356.25	3359.39	3357.54	3362.94	3364.53	3374.72	3374.57	3373.96	3372.30	3376.10	3375.70	3375.07
2014-06-15	3358.36	3359.43	3362.21	3364.51	3357.08	3359.05	3360.29	3361.40	3364.68	3356.34	3359.39	3357.51	3362.93	3364.53	3374.72	3374.39	3373.95	3372.10	3376.10	3375.69	3374.94
2014-06-22	3358.18	3359.20	3362.19	3364.51	3356.92	3358.84	3360.17	3361.22	3364.40	3356.15	3359.38	3357.43	3362.93	3364.54	3374.57	3374.06	3373.93	3371.82	3376.10	3375.68	3374.77
2014-06-29	3358.23	3359.24	3362.18	3364.50	3356.99	3358.88	3360.15	3361.20	3364.42	3356.20	3359.38	3357.44	3362.91	3364.53	3374.55	3374.05	3373.91	3371.81	3376.08	3375.68	3374.80
2014-07-06																					
2014-07-13																					
2014-07-20																					
2014-07-27																					
2014-08-03																					
2014-08-10																					
2014-08-17																					
2014-08-24	3357.67	3358.66	3362.25	3364.47	3356.59	3358.56	3360.16	3360.78	3363.69	3355.81	3359.36	3357.20	3362.77	3364.49	3373.91	3373.35	3373.56	3370.68	3376.00	3375.69	3374.05
2014-08-31	3357.71	3358.72	3362.25	3364.47	3356.63	3358.59	3360.16	3360.82	3363.80	3355.86	3359.36	3357.21	3362.76	3364.50	3373.91	3373.35	3373.54	3370.66	3376.00	3375.69	3374.06
2014-09-07	3357.65	3358.66	3362.23	3364.47	3356.59	3358.56	3360.17	3360.80	3363.83	3355.81	3359.35	3357.16	3362.74	3364.49	3373.86	3373.35	3373.49	3370.53	3376.00	3375.68	3374.00
2014-09-14	3357.62	3358.64	3362.23	3364.47	3356.55	3358.56	3360.18	3360.81	3363.87	3355.78	3359.35	3357.12	3362.73	3364.49	3373.84	3373.37	3373.41	3370.40	3375.99	3375.69	3374.06
2014-09-21	3357.69	3358.70	3362.24	3364.48	3356.91	3358.61	3360.18	3360.86	3363.93	3356.15	3359.36	3357.17	3362.71	3364.49	3373.84	3373.39	3373.34	3370.75	3375.98	3375.69	3374.64
2014-09-28	3357.69	3358.74	3362.23	3364.47	3356.81	3358.66	3360.18	3360.92	3364.02	3356.02	3359.35	3357.29	3362.70	3364.48	3373.86	3373.41	3373.28	3371.31	3375.98	3375.68	3375.15

Nyrstar Myra Falls
2014 Q3 Dam Safety Inspection
November 2014

Instrument Plane B and Paste Berm - Weekly Maximum Vibrating Wire Piezometer Readings - 2010 - 2014 Q3

Location	Plane B	Paste Berm Area I					Paste Berm Area II							
Piezometer	B-1E	P-10	P-11	P-12	P-13	P-14	P-1	P-2	P-3	P-4	P-5	P-6	P-7	P-8
Tip Elevation	3375.50	3374.37	3380.14	3374.05	3379.68	3374.20	3371.90	3376.90	3371.80	3376.80	3372.60	3376.90	3367.30	3372.50
Threshold 1	3385.6	3380.7	3380.7	3380.7	3380.7	3380.7	3376.8	3376.8	3376.8	3376.8	3376.8	3376.8	3376.8	3376.8
Threshold 2	3402.1	3377.9	3385.5	3381.6	3382.4	3376.3	3371.7	3378.4	3372.2	3379.1	3379.0	3382.8	3372.3	3379.1
Threshold 3	3403.1	3378.9	3386.5	3382.6	3383.4	3377.3	3372.7	3379.4	3373.2	3380.1	3380.0	3383.8	3373.3	3380.1
2010-01-01														
2010-01-08														
2010-01-15														
2010-01-22														
2010-01-29														
2010-02-05														
2010-02-12														
2010-02-19														
2010-02-26														
2010-03-05														
2010-03-12														
2010-03-19														
2010-03-26														
2010-04-02														
2010-04-09														
2010-04-16														
2010-04-23														
2010-04-30														
2010-05-07														
2010-05-14														
2010-05-21														
2010-05-28														
2010-06-04														
2010-06-11		3377.18	3383.36	3376.93	3381.04	3373.88	3371.09	3377.04	3372.15	3378.32	3376.10	3379.67	3371.14	3375.74
2010-06-18		3377.11	3383.26	3376.84	3380.94	3373.77	3371.09	3376.97	3372.13	3378.31	3376.03	3379.60	3371.07	3375.67
2010-06-25		3376.99	3383.05	3376.66	3380.76	3373.65	3371.08	3376.84	3372.06	3378.29	3375.87	3379.41	3370.89	3375.48
2010-07-02		3376.96	3382.90	3376.58	3380.68	3373.66	3371.05	3376.79	3372.01	3378.26	3375.78	3379.30	3370.77	3375.35
2010-07-09		3376.87	3382.74	3376.46	3380.53	3373.63	3371.04	3376.65	3371.97	3378.26	3375.60	3379.10	3370.59	3375.14
2010-07-16		3376.82	3382.67	3376.40	3380.48	3373.62	3371.02	3376.60	3371.97	3378.25	3375.51	3378.98	3370.48	3375.02
2010-07-23		3376.80	3382.57	3376.28	3380.37	3373.58	3371.00	3376.50	3371.99	3378.25	3375.34	3378.80	3370.31	3374.83
2010-07-30		3376.73	3382.47	3376.23	3380.32	3373.57	3370.97	3376.45	3372.02	3378.25	3375.21	3378.64	3370.17	3374.66
2010-08-06		3376.61	3382.35	3376.14	3380.22	3373.55	3370.95	3376.35	3372.03	3378.25	3375.07	3378.47	3370.03	3374.48
2010-08-13		3376.59	3382.28	3376.08	3380.16	3373.54	3370.92	3376.26	3372.07	3378.24	3374.95	3378.33	3369.90	3374.35
2010-08-20		3376.62	3382.26	3376.10	3380.18	3373.64	3370.85	3376.21	3372.10	3378.24	3375.01	3378.37	3369.88	3374.32
2010-08-27		3376.46	3382.09	3375.98	3380.04	3373.58	3370.80	3375.99	3372.12	3378.24	3375.08	3378.42	3369.74	3374.18
2010-09-03		3376.39	3382.05	3375.95	3379.98	3373.55	3370.77	3375.92	3372.15	3378.23	3375.07	3378.40	3369.70	3374.13
2010-09-10		3376.33	3381.97	3375.90	3379.90	3373.54	3370.69	3375.76	3372.19	3378.22	3375.10	3378.42	3369.66	3374.09
2010-09-17														
2010-09-24														
2010-10-01														
2010-10-08														
2010-10-15														
2010-10-22														
2010-10-29														
2010-11-05														
2010-11-12														
2010-11-19														
2010-11-26														
2010-12-03														
2010-12-10														
2010-12-17														
2010-12-24														
2010-12-31														

Instrument Plane B and Paste Berm - Weekly Maximum Vibrating Wire Piezometer Readings - 2010 - 2014 Q3

Location	Plane B	Paste Berm Area I					Paste Berm Area II							
Piezometer	B-1E	P-10	P-11	P-12	P-13	P-14	P-1	P-2	P-3	P-4	P-5	P-6	P-7	P-8
Tip Elevation	3375.50	3374.37	3380.14	3374.05	3379.68	3374.20	3371.90	3376.90	3371.80	3376.80	3372.60	3376.90	3367.30	3372.50
Threshold 1	3385.6	3380.7	3380.7	3380.7	3380.7	3380.7	3376.8	3376.8	3376.8	3376.8	3376.8	3376.8	3376.8	3376.8
Threshold 2	3402.1	3377.9	3385.5	3381.6	3382.4	3376.3	3371.7	3378.4	3372.2	3379.1	3379.0	3382.8	3372.3	3379.1
Threshold 3	3403.1	3378.9	3386.5	3382.6	3383.4	3377.3	3372.7	3379.4	3373.2	3380.1	3380.0	3383.8	3373.3	3380.1
2011-01-07														
2011-01-14														
2011-01-21														
2011-01-28		3378.27	3384.90	3377.89	3382.11	3374.84	3371.20	3377.75	3372.57	3378.85	3377.40	3380.98	3372.02	3376.92
2011-02-04		3378.33	3384.72	3377.75	3381.97	3374.78	3371.22	3377.74	3372.58	3378.86	3377.65	3381.06	3372.06	3376.91
2011-02-11		3378.00	3384.36	3377.51	3381.85	3374.65	3371.10	3377.62	3372.61	3378.67	3377.52	3380.86	3371.92	3376.73
2011-02-18		3377.83	3384.18	3377.41	3381.58	3374.47	3371.13	3377.54	3372.59	3378.60	3377.17	3380.67	3371.82	3376.58
2011-02-25		3377.49	3383.83	3377.23	3381.40	3374.19	3371.10	3377.34	3372.61	3378.39	3376.59	3380.20	3371.52	3376.21
2011-03-04		3377.65	3384.30	3377.28	3381.68	3374.35	3371.09	3377.42	3372.60	3378.42	3376.86	3380.68	3371.63	3376.64
2011-03-11		3378.29	3384.82	3377.70	3382.23	3375.69	3371.25	3378.14	3372.61	3379.12	3378.16	3381.59	3372.16	3377.33
2011-03-18		3378.11	3384.61	3377.65	3381.77	3374.79	3371.16	3377.78	3372.60	3378.96	3377.79	3381.19	3372.11	3377.04
2011-03-25		3378.14	3384.63	3377.63	3381.83	3374.96	3371.21	3377.75	3372.60	3378.94	3377.32	3381.02	3371.99	3377.03
2011-04-01		3378.18	3384.43	3377.56	3381.77	3374.94	3371.25	3377.76	3372.59	3378.93	3377.35	3380.97	3372.02	3376.94
2011-04-08		3378.05	3384.21	3377.41	3381.74	3374.78	3371.23	3377.67	3372.58	3378.76	3377.04	3380.74	3371.89	3376.78
2011-04-15		3377.85	3384.09	3377.28	3381.56	3374.57	3371.23	3377.56	3372.58	3378.65	3376.93	3380.58	3371.77	3376.59
2011-04-22		3377.41	3383.69	3377.05	3381.37	3374.30	3371.23	3377.37	3372.58	3378.40	3376.51	3380.17	3371.49	3376.23
2011-04-29		3377.37	3383.63	3377.00	3381.34	3374.28	3371.22	3377.37	3372.57	3378.30	3376.48	3380.12	3371.47	3376.18
2011-05-06		3377.21	3383.53	3376.84	3381.16	3374.07	3371.09	3377.16	3372.57	3378.13	3376.25	3379.85	3371.25	3375.91
2011-05-13		3377.36	3383.70	3376.93	3381.08	3373.86	3371.04	3377.07	3372.57	3378.03	3376.21	3379.80	3371.19	3375.86
2011-05-20		3377.24	3383.58	3376.87	3381.01	3373.81	3371.01	3377.02	3372.57	3377.99	3376.14	3379.71	3371.12	3375.76
2011-05-27		3377.00	3383.20	3376.61	3380.88	3373.71	3370.94	3376.90	3372.57	3377.89	3376.00	3379.53	3370.99	3375.60
2011-06-03		3376.91	3383.03	3376.50	3380.82	3373.70	3370.90	3376.84	3372.57	3377.81	3375.95	3379.45	3370.96	3375.51
2011-06-10		3376.87	3382.84	3376.46	3380.72	3373.72	3370.88	3376.79	3372.57	3377.75	3375.90	3379.36	3370.91	3375.42
2011-06-17		3376.76	3382.70	3376.30	3380.60	3373.63	3370.79	3376.68	3372.57	3377.70	3375.72	3379.18	3370.74	3375.25
2011-06-24		3376.69	3382.59	3376.17	3380.51	3373.64	3370.75	3376.59	3372.58	3377.65	3375.60	3379.04	3370.61	3375.10
2011-07-01		3376.67	3382.48	3376.11	3380.45	3373.64	3370.73	3376.54	3372.58	3377.61	3375.48	3378.92	3370.48	3374.97
2011-07-08		3376.54	3382.36	3376.01	3380.33	3373.57	3370.61	3376.44	3372.60	3377.61	3375.31	3378.73	3370.30	3374.76
2011-07-15		3376.99	3382.45	3376.01	3380.27	3373.58	3370.56	3376.36	3372.60	3377.60	3375.18	3378.57	3370.15	3374.59
2011-07-22		3377.01	3382.55	3376.03	3380.22	3373.61	3370.54	3376.30	3372.61	3377.60	3375.05	3378.43	3370.02	3374.45
2011-07-29		3377.00	3382.57	3376.05	3380.17	3373.58	3370.49	3376.22	3372.61	3377.59	3374.93	3378.30	3369.90	3374.31
2011-08-05		3376.93	3382.47	3375.99	3380.09	3373.55	3370.42	3376.08	3372.62	3377.59	3374.77	3378.13	3369.76	3374.16
2011-08-12		3377.14	3382.34	3375.91	3380.00	3373.58	3370.37	3375.95	3372.63	3377.58	3374.63	3377.97	3369.64	3374.02
2011-08-19		3377.20	3382.55	3376.02	3379.92	3373.53	3370.29	3375.80	3372.64	3377.57	3375.09	3378.22	3369.54	
2011-08-26		3377.17	3382.57	3376.12	3379.91	3373.57	3370.24	3375.66	3372.64	3377.56	3374.98	3378.17	3369.47	
2011-09-02		3377.16	3382.46	3376.08	3379.83	3373.56	3370.17	3375.48	3372.65	3377.55	3375.13	3378.26	3369.38	
2011-09-09		3377.12	3382.38	3376.03	3379.75	3373.52	3370.10	3375.34	3372.67	3377.53	3374.92	3378.05	3369.33	
2011-09-16		3377.17	3383.27	3376.27	3380.39	3373.54	3370.07	3375.40	3372.69	3377.51	3374.99	3378.17	3369.30	
2011-09-23		3377.80	3384.21	3377.07	3381.38	3374.00	3370.40	3376.52	3372.70	3377.52	3376.94	3380.34	3370.64	
2011-09-30		3377.91	3384.14	3377.21	3381.45	3374.29	3370.47	3376.85	3372.71	3377.67	3377.24	3380.71	3371.19	
2011-10-07		3377.99	3384.17	3377.25	3381.58	3374.52	3370.55	3377.07	3372.72	3378.01	3377.26	3380.84	3371.46	
2011-10-14		3377.91	3384.08	3377.26	3381.51	3374.64	3370.65	3377.15	3372.73	3378.07	3377.18	3380.69	3371.52	
2011-10-21		3377.75	3383.90	3377.15	3381.46	3374.58	3370.69	3377.17	3372.75	3378.07	3376.82	3380.40	3371.42	
2011-10-28		3377.66	3383.72	3377.08	3381.44	3374.51	3370.72	3377.17	3372.76	3378.10	3376.75	3380.35	3371.41	
2011-11-04		3377.49	3383.74	3376.95	3381.38	3374.33	3370.62	3377.11	3372.78	3378.08	3376.77	3380.43	3371.33	
2011-11-11		3377.66	3383.69	3377.03	3381.41	3374.42	3370.65	3377.19	3372.78	3378.18	3376.96	3380.57	3371.50	
2011-11-18		3377.88	3384.22	3377.26	3381.74	3374.62	3370.69	3377.27	3372.80	3378.31	3377.33	3380.93	3371.65	
2011-11-25		3378.28	3384.43	3377.56	3382.16	3376.12	3370.94	3377.83	3372.78	3378.79	3378.70	3382.52	3372.15	
2011-12-02		3378.02	3384.25	3377.45	3381.76	3375.05	3370.90	3377.54	3372.79	3378.64	3377.69	3381.05	3371.95	
2011-12-09		3377.54	3383.73	3377.07	3381.43	3374.48	3370.77	3377.26	3372.80	3378.26	3376.75	3380.28	3371.48	
2011-12-16		3377.45	3383.52	3376.92	3381.30	3374.24	3370.79	3377.13	3372.79	3378.08	3376.45	3380.02	3371.26	
2011-12-23														
2011-12-30														

Nyrstar Myra Falls
2014 Q3 Dam Safety Inspection
November 2014

Instrument Plane B and Paste Berm - Weekly Maximum Vibrating Wire Piezometer Readings - 2010 - 2014 Q3

Location	Plane B	Paste Berm Area I					Paste Berm Area II							
Piezometer	B-1E	P-10	P-11	P-12	P-13	P-14	P-1	P-2	P-3	P-4	P-5	P-6	P-7	P-8
Tip Elevation	3375.50	3374.37	3380.14	3374.05	3379.68	3374.20	3371.90	3376.90	3371.80	3376.80	3372.60	3376.90	3367.30	3372.50
Threshold 1	3385.6	3380.7	3380.7	3380.7	3380.7	3380.7	3376.8	3376.8	3376.8	3376.8	3376.8	3376.8	3376.8	3376.8
Threshold 2	3402.1	3377.9	3385.5	3381.6	3382.4	3376.3	3371.7	3378.4	3372.2	3379.1	3379.0	3382.8	3372.3	3379.1
Threshold 3	3403.1	3378.9	3386.5	3382.6	3383.4	3377.3	3372.7	3379.4	3373.2	3380.1	3380.0	3383.8	3373.3	3380.1
2012-01-01														
2012-01-08		3377.95	3384.18	3377.33	3381.73	3374.93	3370.92	3377.55	3372.81	3378.68	3377.76	3381.08	3371.96	
2012-01-15		3377.68	3383.95	3377.20	3381.53	3374.67	3370.82	3377.41	3372.82	3378.49	3377.24	3380.68	3371.78	
2012-01-22		3377.92	3384.55	3377.32	3381.91	3374.60	3370.93	3377.36	3372.81	3378.37	3377.12	3380.77	3371.59	
2012-01-29		3378.16	3384.76	3377.64	3382.10	3374.95	3370.98	3377.62	3372.80	3378.74	3377.57	3381.18	3371.95	
2012-02-05		3377.99	3384.51	3377.53	3381.93	3374.95	3370.96	3377.60	3372.79	3378.72	3377.36	3380.97	3371.91	
2012-02-12		3377.90	3384.29	3377.34	3381.73	3374.83	3370.96	3377.53	3372.78	3378.65	3377.30	3380.94	3371.89	
2012-02-19		3377.81	3384.20	3377.30	3381.71	3374.77	3370.99	3377.52	3372.77	3378.63	3377.24	3380.94	3371.86	
2012-02-26		3377.86	3384.30	3377.31	3381.70	3374.88	3370.98	3377.52	3372.77	3378.65	3377.37	3381.01	3371.89	
2012-03-04		3377.70	3384.09	3377.23	3381.56	3374.57	3371.01	3377.46	3372.75	3378.50	3377.03	3380.74	3371.75	
2012-03-11		3377.63	3384.29	3377.18	3381.66	3374.62	3370.81	3377.33	3372.76	3378.45	3377.04	3380.76	3371.65	
2012-03-18		3377.72	3384.27	3377.27	3381.62	3374.64	3370.98	3377.42	3372.73	3378.51	3377.09	3380.79	3371.75	
2012-03-25		3377.64	3384.20	3377.16	3381.64	3374.71	3370.94	3377.40	3372.71	3378.52	3377.19	3380.87	3371.70	
2012-04-01		3377.96	3384.37	3377.36	3381.80	3375.00	3371.09	3377.58	3372.69	3378.71	3377.51	3381.10	3371.93	
2012-04-08		3377.86	3384.21	3377.28	3381.68	3374.91	3371.07	3377.55	3372.68	3378.69	3377.30	3380.96	3371.89	
2012-04-15		3377.48	3383.82	3377.04	3381.42	3374.60	3371.03	3377.41	3372.65	3378.39	3376.76	3380.39	3371.61	
2012-04-22		3377.30	3383.59	3376.90	3381.32	3374.34	3371.02	3377.28	3372.64	3378.25	3376.69	3380.35	3371.49	
2012-04-29		3377.27	3383.54	3376.81	3381.30	3374.35	3371.06	3377.28	3372.63	3378.24	3376.67	3380.31	3371.46	
2012-05-06		3377.26	3383.37	3376.75	3381.27	3374.33	3371.07	3377.26	3372.60	3378.16	3376.50	3380.12	3371.42	
2012-05-13		3377.07	3383.13	3376.55	3381.04	3374.04	3370.99	3377.10	3372.59	3378.00	3376.24	3379.83	3371.21	
2012-05-20		3376.87	3382.89	3376.32	3380.81	3373.69	3370.88	3376.91	3372.59	3377.81	3376.07	3379.60	3371.02	
2012-05-27		3376.84	3382.75	3376.23	3380.72	3373.69	3370.87	3376.86	3372.58	3377.65	3375.96	3379.48	3370.91	
2012-06-03		3376.73	3382.62	3376.10	3380.63	3373.64	3370.79	3376.76	3372.57	3377.50	3375.82	3379.33	3370.79	
2012-06-10		3376.76	3382.56	3376.08	3380.60	3373.67	3370.81	3376.76	3372.56	3377.41	3375.81	3379.30	3370.76	
2012-06-17		3376.62	3382.41	3375.93	3380.46	3373.60	3370.70	3376.62	3372.56	3377.26	3375.65	3379.12	3370.60	
2012-06-24		3376.54	3382.33	3375.87	3380.40	3373.57	3370.61	3376.55	3372.56	3377.14	3375.58	3379.03	3370.51	
2012-07-01		3376.52	3382.24	3375.79	3380.32	3373.61	3370.58	3376.49	3372.56	3377.05	3375.51	3378.95	3370.43	
2012-07-08		3376.50	3382.16	3375.71	3380.24	3373.61	3370.56	3376.46	3372.55	3376.96	3375.43	3378.86	3370.33	
2012-07-15		3376.41	3381.99	3375.57	3380.07	3373.59	3370.49	3376.36	3372.56	3376.79	3375.27	3378.68	3370.17	
2012-07-22		3376.38	3381.92	3375.53	3379.95	3373.59	3370.48	3376.33	3372.56	3376.67	3375.20	3378.58	3370.06	
2012-07-29		3376.33	3381.83	3375.44	3379.82	3373.59	3370.44	3376.24	3372.56	3376.53	3375.08	3378.46	3369.93	
2012-08-05		3376.28	3381.69	3375.35	3379.65	3373.59	3370.38	3376.10	3372.56	3376.33	3374.90	3378.27	3369.76	
2012-08-12		3376.20	3381.61	3375.28	3379.55	3373.53	3370.31	3375.98	3372.57	3376.08	3374.78	3378.14	3369.64	
2012-08-19		3376.15	3381.49	3375.22	3379.43	3373.55	3370.24	3375.85	3372.58	3375.70	3374.65	3378.00	3369.52	
2012-08-26		3376.08	3381.40	3375.16	3379.35	3373.55	3370.19	3375.66	3372.67	3375.32	3374.53	3377.86	3369.41	
2012-09-02		3376.04	3381.33	3375.11	3379.29	3373.53	3370.14	3375.51	3372.59	3375.09	3374.47	3377.79	3369.33	
2012-09-09		3375.99	3381.25	3375.08	3379.23	3373.56	3370.08	3375.31	3372.59	3374.74	3374.37	3377.65	3369.23	
2012-09-16		3375.89	3381.15	3374.98	3379.13	3373.52	3370.00	3375.16	3372.60	3374.60	3374.27	3377.53	3369.14	
2012-09-23		3375.78	3381.03	3374.91	3379.02	3373.48	3369.90	3374.97	3372.61	3374.45	3374.12	3377.32	3369.00	
2012-09-30		3375.79	3380.99	3374.91	3379.00	3373.55	3369.90	3374.87	3372.60	3374.41	3374.06	3377.16	3368.96	
2012-10-07		3375.60	3380.80	3374.76	3378.82	3373.44	3369.79	3374.68	3372.63	3374.42	3373.87	3376.87	3368.78	
2012-10-14		3376.10	3382.87	3375.69	3378.91	3373.58	3370.02	3375.94	3372.64	3375.69	3374.67	3378.09	3369.23	
2012-10-21		3376.89	3383.44	3376.41	3379.33	3373.75	3370.26	3376.34	3372.64	3376.19	3375.28	3378.76	3369.75	
2012-10-28		3377.41	3384.43	3376.95	3380.38	3373.72	3370.22	3376.44	3372.66	3376.63	3375.77	3379.45	3370.27	
2012-11-04		3377.65	3384.57	3377.16	3381.16	3373.87	3370.34	3376.68	3372.66	3377.21	3376.28	3380.06	3370.78	
2012-11-11		3377.60	3384.14	3377.02	3381.29	3373.99	3370.39	3376.80	3372.69	3377.49	3376.38	3380.15	3370.94	
2012-11-18		3378.02	3384.25	3377.12	3381.55	3374.56	3370.47	3377.03	3372.70	3377.91	3377.24	3380.90	3371.40	
2012-11-25		3378.03	3384.23	3377.12	3381.59	3374.72	3370.51	3377.07	3372.71	3378.00	3377.70	3381.88	3371.44	
2012-12-02		3378.10	3384.29	3377.21	3381.77	3375.06	3370.58	3377.29	3372.71	3378.33	3378.46	3381.95	3371.76	
2012-12-09		3378.04	3384.20	3377.19	3381.70	3375.05	3370.67	3377.31	3372.72	3378.34	3377.62	3381.05	3371.75	
2012-12-16		3377.52	3383.80	3376.88	3381.39	3374.64	3370.48	3377.09	3372.72	3378.11	3376.74	3380.35	3371.39	
2012-12-23		3377.46	3383.83	3376.90	3381.39	3374.46	3370.57	3377.06	3372.72	3378.02	3376.62	3380.26	3371.34	
2012-12-30		3377.46	3383.88	3376.97	3381.46	3374.37	3370.69	3377.10	3372.70	3378.07	3376.53	3380.20	3371.33	

Instrument Plane B and Paste Berm - Weekly Maximum Vibrating Wire Piezometer Readings - 2010 - 2014 Q3

Location	Plane B	Paste Berm Area I					Paste Berm Area II							
Piezometer	B-1E	P-10	P-11	P-12	P-13	P-14	P-1	P-2	P-3	P-4	P-5	P-6	P-7	P-8
Tip Elevation	3375.50	3374.37	3380.14	3374.05	3379.68	3374.20	3371.90	3376.90	3371.80	3376.80	3372.60	3376.90	3367.30	3372.50
Threshold 1	3385.6	3380.7	3380.7	3380.7	3380.7	3380.7	3376.8	3376.8	3376.8	3376.8	3376.8	3376.8	3376.8	3376.8
Threshold 2	3402.1	3377.9	3385.5	3381.6	3382.4	3376.3	3371.7	3378.4	3372.2	3379.1	3379.0	3382.8	3372.3	3379.1
Threshold 3	3403.1	3378.9	3386.5	3382.6	3383.4	3377.3	3372.7	3379.4	3373.2	3380.1	3380.0	3383.8	3373.3	3380.1
2013-01-06		3377.56	3384.34	3377.15	3381.61	3374.49	3370.68	3377.16	3372.72	3378.18	3376.75	3380.53	3371.44	
2013-01-13		3377.65	3384.36	3377.25	3381.70	3374.70	3370.79	3377.28	3372.70	3378.31	3376.84	3380.57	3371.54	
2013-01-20		3377.42	3383.98	3377.05	3381.56	3374.61	3370.73	3377.21	3372.71	3378.23	3376.60	3380.29	3371.40	
2013-01-27		3377.31	3384.33	3377.09	3381.55	3374.32	3370.72	3377.13	3372.70	3378.14	3376.53	3380.25	3371.30	
2013-02-03		3377.71	3384.57	3377.33	3381.76	3374.91	3370.75	3377.35	3372.71	3378.39	3377.13	3380.87	3371.59	
2013-02-10		3377.78	3384.71	3377.40	3381.85	3374.90	3370.83	3377.43	3372.68	3378.50	3377.14	3380.87	3371.68	
2013-02-17		3377.73	3384.56	3377.35	3381.79	3374.84	3370.77	3377.38	3372.69	3378.49	3377.01	3380.79	3371.64	
2013-02-24		3377.93	3384.34	3377.18	3381.86	3375.25	3370.80	3377.45	3372.67	3378.57	3377.27	3381.03	3371.71	
2013-03-03		3378.03	3384.31	3377.21	3381.89	3375.41	3370.84	3377.52	3372.66	3378.63	3377.41	3381.10	3371.79	
2013-03-10		3377.71	3383.98	3377.06	3381.64	3375.01	3370.88	3377.44	3372.64	3378.51	3377.01	3380.76	3371.70	
2013-03-17		3377.66	3383.78	3376.91	3381.54	3374.89	3370.84	3377.36	3372.65	3378.46	3377.03	3380.76	3371.66	
2013-03-24		3377.53	3383.65	3376.79	3381.47	3374.70	3370.83	3377.32	3372.61	3378.36	3376.85	3380.55	3371.55	
2013-03-31		3377.22	3383.38	3376.58	3381.31	3374.42	3370.78	3377.14	3372.59	3378.12	3376.43	3380.08	3371.28	
2013-04-07		3377.10	3383.17	3376.47	3381.14	3374.12	3370.78	3377.04	3372.58	3377.98	3376.34	3380.00	3371.19	
2013-04-14		3377.22	3383.08	3376.44	3381.16	3374.22	3370.83	3377.10	3372.56	3378.01	3376.36	3380.01	3371.23	
2013-04-21		3377.18	3383.01	3376.39	3381.10	3374.17	3370.86	3377.10	3372.52	3377.97	3376.27	3379.91	3371.19	
2013-04-28		3377.02	3382.86	3376.27	3380.98	3373.90	3370.85	3377.00	3372.51	3377.86	3376.15	3379.76	3371.07	
2013-05-05		3376.83	3382.73	3376.07	3380.82	3373.73	3370.75	3376.87	3372.49	3377.77	3375.96	3379.55	3370.89	
2013-05-12		3376.92	3382.80	3376.15	3380.91	3373.77	3370.74	3376.93	3372.47	3377.81	3376.17	3379.79	3371.04	
2013-05-19		3377.02	3382.81	3376.20	3380.97	3374.05	3370.80	3376.99	3372.45	3377.86	3376.23	3379.86	3371.11	
2013-05-26		3376.99	3382.67	3376.10	3380.88	3374.08	3370.78	3376.95	3372.44	3377.82	3376.07	3379.71	3371.04	
2013-06-02		3376.92	3382.62	3376.02	3380.81	3373.95	3370.75	3376.90	3372.41	3377.80	3375.99	3379.62	3370.95	
2013-06-09		3376.81	3382.50	3375.89	3380.68	3373.74	3370.72	3376.84	3372.40	3377.69	3375.87	3379.48	3370.85	
2013-06-16		3376.68	3382.35	3375.76	3380.55	3373.64	3370.66	3376.76	3372.38	3377.52	3375.74	3379.31	3370.70	
2013-06-23		3376.59	3382.18	3375.64	3380.42	3373.60	3370.62	3376.66	3372.38	3377.32	3375.60	3379.12	3370.53	
2013-06-30		3376.54	3382.17	3375.64	3380.41	3373.59	3370.58	3376.61	3372.36	3377.23	3375.55	3379.09	3370.50	
2013-07-07		3376.44	3382.04	3375.54	3380.31	3373.60	3370.56	3376.57	3372.35	3377.17	3375.49	3379.01	3370.44	
2013-07-14		3376.37	3381.95	3375.43	3380.23	3373.61	3370.54	3376.52	3372.34	3377.08	3375.41	3378.91	3370.33	
2013-07-21		3376.25	3381.78	3375.29	3380.07	3373.58	3370.47	3376.43	3372.33	3376.92	3375.26	3378.73	3370.18	
2013-07-28		3376.19	3381.66	3375.19	3379.93	3373.58	3370.44	3376.36	3372.33	3376.78	3375.13	3378.58	3370.03	
2013-08-04		3376.12	3381.54	3375.09	3379.82	3373.56	3370.41	3376.30	3372.33	3376.64	3375.02	3378.45	3369.90	
2013-08-11		3376.02	3381.37	3375.00	3379.67	3373.56	3370.36	3376.20	3372.33	3376.46	3374.86	3378.28	3369.76	
2013-08-18		3375.97	3381.25	3374.97	3379.59	3373.58	3370.33	3376.11	3372.33	3376.27	3374.76	3378.17	3369.67	
2013-08-25		3375.83	3381.08	3374.93	3379.45	3373.54	3370.24	3375.94	3372.34	3375.92	3374.71	3378.06	3369.58	
2013-09-01		3375.90	3381.09	3374.99	3379.46	3373.55	3370.23	3375.95	3372.34	3376.21	3374.91	3378.21	3369.75	
2013-09-08		3375.90	3381.07	3374.98	3379.45	3373.55	3370.23	3375.95	3372.35	3376.06	3374.91	3378.22	3369.75	
2013-09-15		3375.76	3380.92	3374.83	3379.30	3373.52	3370.13	3375.78	3372.36	3375.55	3374.85	3378.16	3369.67	
2013-09-22		3375.99	3381.14	3375.02	3379.41	3373.55	3370.17	3376.05	3372.38	3376.46	3375.13	3378.55	3369.88	
2013-09-29		3377.21	3382.01	3375.55	3380.37	3373.79	3370.40	3376.64	3372.37	3377.55	3376.74	3380.37	3370.91	
2013-10-06		3377.25	3382.30	3375.76	3380.65	3373.93	3370.45	3376.90	3372.38	3377.93	3376.56	3380.32	3371.14	
2013-10-13		3377.28	3382.42	3375.84	3380.74	3374.31	3370.54	3376.98	3372.38	3377.99	3376.53	3380.25	3371.18	
2013-10-20		3377.03	3382.41	3375.81	3380.72	3374.31	3370.53	3376.93	3372.39	3377.94	3376.25	3379.95	3371.06	
2013-10-27		3376.84	3382.36	3375.73	3380.63	3374.19	3370.46	3376.85	3372.41	3377.84	3376.03	3379.70	3370.89	
2013-11-03		3377.04	3382.49	3375.87	3380.74	3374.03	3370.49	3376.87	3372.42	3377.88	3376.20	3379.95	3370.99	
2013-11-10		3377.50	3382.77	3376.06	3381.08	3374.42	3370.56	3377.04	3372.44	3378.11	3376.79	3380.51	3371.23	
2013-11-17		3377.56	3382.94	3376.22	3381.21	3374.66	3370.73	3377.18	3372.44	3378.18	3376.76	3380.42	3371.39	
2013-11-24		3377.38	3382.85	3376.14	3381.12	3374.49	3370.60	3377.09	3372.44	3378.12	3376.44	3380.11	3371.21	
2013-12-01		3377.29	3382.87	3376.17	3381.08	3374.29	3370.61	3377.03	3372.45	3378.02	3376.31	3380.01	3371.15	
2013-12-08		3377.29	3382.81	3376.14	3381.06	3374.28	3370.68	3377.05	3372.45	3378.02	3376.27	3379.94	3371.13	
2013-12-15		3377.14	3382.73	3376.04	3380.89	3374.05	3370.62	3376.96	3372.46	3377.91	3376.12	3379.76	3370.98	
2013-12-22		3377.19	3382.83	3376.16	3380.95	3374.11	3370.67	3377.03	3372.45	3377.99	3376.24	3379.94	3371.09	
2013-12-29		3377.33	3382.96	3376.25	3381.14	3374.39	3370.69	3377.11	3372.46	3378.11	3376.50	3380.24	3371.24	

Instrument Plane B and Paste Berm - Weekly Maximum Vibrating Wire Piezometer Readings - 2010 - 2014 Q3

Location	Plane B	Paste Berm Area I					Paste Berm Area II							
Piezometer	B-1E	P-10	P-11	P-12	P-13	P-14	P-1	P-2	P-3	P-4	P-5	P-6	P-7	P-8
Tip Elevation	3375.50	3374.37	3380.14	3374.05	3379.68	3374.20	3371.90	3376.90	3371.80	3376.80	3372.60	3376.90	3367.30	3372.50
Threshold 1	3385.6	3380.7	3380.7	3380.7	3380.7	3380.7	3376.8	3376.8	3376.8	3376.8	3376.8	3376.8	3376.8	3376.8
Threshold 2	3402.1	3377.9	3385.5	3381.6	3382.4	3376.3	3371.7	3378.4	3372.2	3379.1	3379.0	3382.8	3372.3	3379.1
Threshold 3	3403.1	3378.9	3386.5	3382.6	3383.4	3377.3	3372.7	3379.4	3373.2	3380.1	3380.0	3383.8	3373.3	3380.1
2014-01-05		3377.38	3382.97	3376.26	3381.16	3374.42	3370.72	3377.14	3372.49	3378.14	3376.54	3380.27	3371.26	
2014-01-12		3377.66	3383.25	3376.40	3381.36	3374.68	3370.77	3377.24	3372.46	3378.30	3376.99	3380.70	3371.42	
2014-01-19		3377.49	3383.22	3376.44	3381.32	3374.62	3370.76	3377.20	3372.45	3378.27	3376.73	3380.41	3371.39	
2014-01-26		3377.30	3383.11	3376.32	3381.20	3374.41	3370.69	3377.10	3372.46	3378.13	3376.37	3380.03	3371.20	
2014-02-02		3377.15	3382.90	3376.19	3381.00	3374.12	3370.69	3377.00	3372.46	3377.95	3376.15	3379.79	3371.04	
2014-02-09		3376.95	3382.70	3376.02	3380.79	3373.83	3370.55	3376.87	3372.46	3377.81	3375.98	3379.59	3370.89	
2014-02-16		3377.27	3382.64	3375.97	3380.71	3373.79	3370.61	3376.90	3372.46	3377.62	3376.06	3379.62	3370.79	
2014-02-23		3377.18	3382.61	3375.95	3380.67	3373.75	3370.59	3376.89	3372.44	3377.65	3376.01	3379.59	3370.80	
2014-03-02		3377.23	3383.53	3376.27	3380.92	3373.80	3370.56	3376.88	3372.44	3377.68	3376.07	3379.65	3370.84	
2014-03-09		3377.83	3384.15	3376.85	3381.64	3374.65	3370.75	3377.18	3372.42	3378.28	3377.47	3380.91	3371.43	
2014-03-16		3377.96	3384.19	3376.96	3381.75	3375.12	3370.83	3377.43	3372.41	3378.55	3377.35	3381.03	3371.67	
2014-03-23		3377.81	3383.98	3376.88	3381.64	3375.13	3370.83	3377.43	3372.42	3378.52	3377.05	3380.75	3371.62	
2014-03-30		3377.66	3383.83	3376.74	3381.57	3375.09	3370.74	3377.31	3372.40	3378.42	3376.99	3380.73	3371.53	
2014-04-06		3377.52	3383.62	3376.68	3381.43	3374.85	3370.80	3377.30	3372.38	3378.34	3376.78	3380.47	3371.50	
2014-04-13		3377.28	3383.39	3376.54	3381.35	3374.61	3370.80	3377.21	3372.37	3378.20	3376.50	3380.17	3371.34	
2014-04-20		3377.12	3383.38	3376.46	3381.31	3374.56	3370.74	3377.13	3372.36	3378.22	3376.64	3380.41	3371.35	
2014-04-27		3377.45	3383.38	3376.56	3381.41	3374.79	3370.87	3377.32	3372.35	3378.36	3376.85	3380.58	3371.54	
2014-05-04		3377.11	3383.18	3376.37	3381.21	3374.50	3370.74	3377.13	3372.34	3378.15	3376.44	3380.10	3371.29	
2014-05-11		3377.03	3383.05	3376.27	3381.13	3374.32	3370.82	3377.08	3372.31	3378.00	3376.27	3379.90	3371.16	
2014-05-18		3376.77	3382.78	3376.04	3380.83	3373.87	3370.72	3376.89	3372.31	3377.82	3375.99	3379.60	3370.95	
2014-05-25		3376.67	3382.66	3375.92	3380.74	3373.71	3370.71	3376.84	3372.30	3377.70	3375.87	3379.46	3370.83	
2014-06-01		3376.56	3382.50	3375.77	3380.63	3373.64	3370.68	3376.77	3372.28	3377.55	3375.75	3379.32	3370.70	
2014-06-08		3376.51	3382.37	3375.65	3380.53	3373.63	3370.68	3376.75	3372.27	3377.42	3375.66	3379.21	3370.60	
2014-06-15		3376.32	3382.15	3375.45	3380.34	3373.57	3370.58	3376.61	3372.27	3377.21	3375.47	3378.99	3370.40	
2014-06-22		3376.28	3382.05	3375.38	3380.28	3373.57	3370.57	3376.57	3372.26	3377.10	3375.39	3378.90	3370.30	
2014-06-29		3376.20	3381.90	3375.28	3380.16	3373.60	3370.55	3376.50	3372.25	3376.94	3375.29	3378.77	3370.21	
2014-07-06		3376.17	3381.77	3375.20	3380.04	3373.59	3370.52	3376.45	3372.24	3376.82	3375.18	3378.63	3370.07	
2014-07-13		3376.08	3381.61	3375.05	3379.89	3373.56	3370.45	3376.33	3372.24	3376.65	3375.01	3378.44	3369.92	
2014-07-20		3375.89	3381.43	3374.91	3379.72	3373.57	3370.38	3376.20	3372.24	3376.46	3374.86	3378.27	3369.75	
2014-07-27		3375.85	3381.34	3374.86	3379.67	3373.58	3370.38	3376.15	3372.22	3376.27	3374.78	3378.19	3369.67	
2014-08-03		3375.69	3381.14	3374.72	3379.50	3373.54	3370.28	3375.98	3372.22	3375.94	3374.60	3378.00	3369.51	
2014-08-10		3375.70	3381.03	3374.65	3379.40	3373.55	3370.24	3375.87	3372.22	3375.91	3374.48	3377.86	3369.41	
2014-08-17		3375.65	3380.88	3374.55	3379.25	3373.53	3370.16	3375.70	3372.22	3375.98	3374.34	3377.71	3369.28	
2014-08-24		3375.45	3380.70	3374.42	3379.06	3373.49	3370.05	3375.46	3372.21	3376.05	3374.16	3377.52	3369.14	
2014-08-31		3375.39	3380.58	3374.36	3378.94	3373.52	3369.97	3375.29	3372.22	3376.11	3374.04	3377.36	3369.05	
2014-09-07		3375.36	3380.46	3374.30	3378.84	3373.54	3369.87	3375.03	3372.21	3376.15	3373.85	3377.07	3368.93	
2014-09-14		3375.18	3380.31	3374.17	3378.68	3373.45	3369.74	3374.76	3372.22	3376.18	3373.66	3376.73	3368.78	
2014-09-21		3375.25	3380.20	3374.27	3378.74	3373.43	3369.78	3375.04	3372.22	3376.21	3373.90	3377.01	3368.92	
2014-09-28		3375.40	3380.22	3374.39	3378.72	3373.52	3370.11	3375.98	3372.22	3376.23	3374.70	3377.99	3369.31	

Nyrstar Myra Falls
2014 Q3 Dam Safety Inspection
November 2014

Instrument Plane C: Weekly Maximum Vibrating Wire Piezometer Readings - 2010 - 2014 Q3

Location	Outer Embankment Slope - 1				Outer Embankment Slope - 2					Outer Embankment Slope - 3				Upper Tailings Beach				
ID	C-5E	C-13E	C-17E	C-21E	C-6E	C-10E	C-14E	C-18E	C-22E	C-12E	C-16E	C-20E	C-24E	C-29E	C-31E	C-35E	C-36E	C-37E
Tip Elev (m)	**3357.59**	**3356.41**	**3350.66**	**3363.21**	**3351.23**	**3354.78**	**3356.41**	**3362.00**	**3362.93**	**3353.02**	**3356.20**	**3362.00**	**3362.71**	**3369.80**	**3369.50**	**3374.20**	**3374.10**	**3374.10**
Threshold 1	3358.8	3358.8	3354.8	3364.4	3358.8	3358.8	3358.8	3364.4	3364.4	3358.8	3358.8	3364.4	3364.4	3377.3	3377.3	3381.1	3381.1	3381.1
Threshold 2	3359.5	3357.2	3354.8	3363.7	3357.6	3357.5	3358.8	3364.6	3363.8	3358.9	3361.8	3365.8	3363.9	3375.5	3380.1	3379.9	3380.2	3383.6
Threshold 3	3360.5	3358.2	3355.8	3364.7	3358.6	3358.5	3359.8	3365.6	3364.8	3359.9	3362.8	3366.8	3364.9	3376.5	3381.1	3380.9	3381.2	3384.6
2010-01-03	3357.58	3356.27	3352.83	3362.90	3355.43	3354.85	3357.02	3360.84	3362.98	3355.68	3357.21	3363.30	3363.03	3374.43	3377.49	3376.07	3377.25	3378.80
2010-01-10	3358.54	3356.73	3354.18	3363.04	3356.99	3356.42	3358.26	3361.56	3363.05	3357.42	3359.04	3364.36	3363.13	3375.17	3378.68	3376.68	3378.04	3380.16
2010-01-17	3358.54	3356.81	3353.84	3362.98	3356.86	3356.38	3358.31	3361.50	3363.04	3357.22	3358.88	3364.25	3363.13	3374.94	3378.63	3376.50	3377.85	3380.02
2010-01-24	3358.25	3356.60	3353.46	3362.97	3356.38	3355.88	3357.83	3361.29	3363.01	3356.59	3358.17	3363.92	3363.09	3374.82	3378.21	3376.42	3377.68	3379.51
2010-01-31	3358.07	3356.50	3353.21	3362.93	3356.14	3355.66	3357.69	3361.11	3363.00	3356.39	3357.96	3363.71	3363.07	3374.63	3377.96	3376.22	3377.45	3379.28
2010-02-07	3357.86	3356.15	3353.24	3362.92	3355.88	3355.42	3357.29	3360.94	3363.00	3356.18	3357.74	3363.57	3363.06	3374.65	3377.80	3376.25	3377.44	3379.14
2010-02-14	3358.28	3356.52	3353.59	3363.03	3356.44	3355.90	3357.83	3361.33	3363.01	3356.70	3358.27	3363.99	3363.08	3374.96	3378.18	3376.45	3377.69	3379.52
2010-02-21	3358.06	3356.48	3353.15	3362.92	3356.08	3355.61	3357.64	3361.09	3362.99	3356.33	3357.93	3363.69	3363.06	3374.62	3377.94	3376.17	3377.44	3379.22
2010-02-28	3357.85	3356.15	3353.00	3362.92	3355.83	3355.41	3357.27	3360.90	3362.99	3356.10	3357.69	3363.52	3363.05	3374.58	3377.82	3376.18	3377.42	3379.05
2010-03-07	3357.80	3356.15	3352.87	3362.91	3355.80	3355.37	3357.29	3360.87	3362.98	3356.01	3357.63	3363.42	3363.05	3374.46	3377.73	3376.09	3377.36	3379.00
2010-03-14	3358.03	3356.19	3353.35	3363.03	3356.10	3355.63	3357.55	3361.18	3363.01	3356.41	3357.85	3363.78	3363.07	3374.90	3377.91	3376.46	3377.52	3379.32
2010-03-21	3358.07	3356.27	3353.33	3363.01	3356.12	3355.63	3357.61	3361.17	3363.01	3356.41	3357.95	3363.81	3363.07	3374.77	3377.95	3376.31	3377.48	3379.31
2010-03-28	3358.01	3356.27	3353.27	3362.92	3356.02	3355.60	3357.43	3361.04	3363.02	3356.34	3357.86	3363.71	3363.08	3374.73	3377.87	3376.23	3377.45	3379.17
2010-04-04	3358.12	3356.44	3353.32	3362.97	3356.16	3355.71	3357.67	3361.15	3363.01	3356.40	3357.93	3363.76	3363.07	3374.75	3377.95	3376.31	3377.47	3379.31
2010-04-11	3358.05	3356.44	3353.19	3362.92	3356.10	3355.65	3357.65	3361.10	3363.00	3356.35	3357.84	3363.69	3363.07	3374.61	3377.84	3376.18	3377.43	3379.07
2010-04-18	3357.72	3356.18	3352.88	3362.86	3355.79	3355.24	3357.26	3360.75	3362.97	3355.94	3357.59	3363.30	3363.05	3374.27	3377.52	3375.93	3377.02	3378.71
2010-04-25	3357.41	3356.20	3352.69	3362.87	3355.59	3354.92	3357.04	3360.54	3362.96	3355.78	3357.50	3363.14	3363.03	3374.11	3377.48	3375.90	3376.97	3378.67
2010-05-02	3357.40	3356.22	3352.56	3362.87	3355.41	3354.78	3356.87	3360.57	3362.96	3355.70	3357.38	3363.15	3363.03	3374.14	3377.48	3375.92	3376.99	3378.68
2010-05-09	3357.36	3356.25	3352.56	3362.88	3355.34	3354.67	3356.81	3360.57	3362.96	3355.62	3357.13	3363.03	3363.02	3374.03	3377.30	3375.81	3376.83	3378.55
2010-05-16	3357.32	3356.28	3352.55	3362.87	3355.35	3354.64	3356.82	3360.55	3362.95	3355.67	3357.38	3362.94	3363.03	3373.97	3377.27	3375.76	3376.77	3378.52
2010-05-23	3357.34	3356.28	3352.59	3362.87	3355.34	3354.61	3356.82	3360.48	3362.96	3355.69	3357.38	3363.14	3363.03	3374.15	3377.46	3375.89	3376.95	3378.64
2010-05-30	3357.32	3356.31	3352.60	3362.88	3355.38	3354.64	3356.83	3360.51	3362.96	3355.73	3357.44	3363.14	3363.04	3374.12	3377.51	3375.88	3376.95	3378.66
2010-06-06	3357.39	3356.30	3352.53	3362.88	3355.35	3354.64	3356.84	3360.52	3362.96	3355.69	3357.38	3363.11	3363.03	3374.11	3377.47	3375.87	3376.92	3378.64
2010-06-13	3357.33	3356.29	3352.36	3362.86	3355.19	3354.57	3356.72	3360.50	3362.94	3355.48	3357.10	3362.89	3363.01	3373.89	3377.20	3375.64	3376.65	3378.45
2010-06-20	3357.34	3356.28	3352.29	3362.84	3355.13	3354.54	3356.59	3360.44	3362.94	3355.43	3357.11	3362.84	3363.00	3373.86	3377.17	3375.59	3376.64	3378.41
2010-06-27	3357.31	3356.29	3352.23	3362.84	3355.11	3354.45	3356.58	3360.30	3362.93	3355.38	3357.06	3362.75	3363.00	3373.80	3377.04	3375.41	3376.49	3378.23
2010-07-04	3357.36	3356.29	3352.18	3362.67	3355.03	3354.34	3356.75	3360.18	3362.92	3355.26	3357.06	3362.67	3362.99	3373.62	3376.94	3375.27	3376.37	3378.08
2010-07-11	3357.32	3356.32	3352.14	3362.56	3354.98	3354.20	3356.83	3360.02	3362.91	3355.17	3356.97	3362.55	3362.99	3373.43	3376.77	3375.06	3376.19	3377.94
2010-07-18	3357.33	3356.33	3352.02	3362.58	3354.88	3354.16	3356.77	3359.95	3362.90	3355.04	3356.90	3362.43	3362.98	3373.30	3376.64	3374.90	3376.04	3377.79
2010-07-25	3357.30	3356.34	3351.90	3362.57	3354.77	3354.07	3356.89	3359.68	3362.89	3354.91	3356.88	3362.27	3362.96	3373.07	3376.44	3374.67	3375.85	3377.57
2010-08-01	3357.33	3356.34	3351.81	3362.58	3354.67	3353.99	3356.96	3359.30	3362.88	3354.82	3356.84	3362.11	3362.96	3372.95	3376.30	3374.44	3375.64	3377.40
2010-08-08	3357.31	3356.33	3351.71	3362.57	3354.56	3353.93	3356.98	3359.00	3362.88	3354.76	3356.72	3361.95	3362.95	3372.76	3376.13	3374.19	3375.36	3377.19
2010-08-15	3357.31	3356.32	3351.63	3362.58	3354.51	3353.90	3357.03	3358.75	3362.87	3354.66	3356.76	3361.84	3362.93	3372.65	3376.11	3374.25	3375.78	3377.35
2010-08-22	3357.40	3356.31	3351.53	3362.59	3354.42	3353.94	3357.04	3358.46	3362.87	3354.62	3356.59	3361.78	3362.93	3372.62	3376.24	3374.42	3375.97	3377.53
2010-08-29	3357.32	3356.32	3351.45	3362.63	3354.30	3353.98	3357.05	3358.56	3362.87	3354.51	3356.25		3362.93	3372.48	3376.26	3374.45	3376.02	3377.58
2010-09-05	3357.32	3356.31	3351.43	3362.65	3354.26	3354.02	3357.02	3358.67	3362.86	3354.48	3356.17		3362.93	3372.43	3376.24	3374.46	3376.01	3377.56
2010-09-12	3357.33	3356.31	3351.40	3362.69	3354.18	3354.07	3357.01	3358.76	3362.86	3354.41	3356.14		3362.93	3372.34	3376.26	3374.48	3376.04	3377.59
2010-09-19	3357.27	3356.31	3351.64	3362.70	3354.25	3354.10	3357.02	3358.83	3362.86	3354.51	3356.10		3362.94	3372.51	3376.37	3374.74	3376.19	3377.71
2010-09-26	3357.34	3356.35	3351.90	3362.84	3354.42	3354.17	3357.02	3359.36	3362.91	3354.72	3356.29	3362.34	3362.98	3373.82	3377.13	3375.84	3376.85	3378.36
2010-10-03	3357.43	3356.37	3351.59	3362.89	3354.24	3354.22	3357.05	3359.95	3362.93	3354.65	3356.34	3362.47	3362.98	3373.98	3377.20	3375.89	3376.94	3378.50
2010-10-10	3357.41	3356.37	3351.81	3362.93	3354.50	3354.28	3357.06	3360.46	3362.96	3354.84	3356.61	3362.95	3363.00	3374.34	3377.51	3376.16	3377.36	3378.80
2010-10-17	3357.36	3356.39	3351.84	3362.97	3354.45	3354.36	3357.09	3360.45	3362.97	3354.81	3356.61	3362.94	3363.01	3374.34	3377.49	3376.12	3377.32	3378.81
2010-10-24	3357.24	3356.40	3352.34	3362.78	3354.78	3354.38	3357.10	3360.54	3362.99	3355.33	3356.81	3363.17	3363.04	3374.72	3377.84	3376.33	3377.46	3379.19
2010-10-31	3357.34	3356.33	3353.10	3363.02	3355.50	3354.56	3357.07	3361.07	3363.02	3356.14	3356.96	3363.78	3363.08	3375.07	3378.21	3376.69	3377.83	3379.82
2010-11-07	3357.87	3356.30	3353.03	3362.97	3355.73	3355.18	3357.11	3361.00	3363.01	3356.03	3357.32	3363.66	3363.07	3374.74	3378.16	3376.43	3377.70	3379.53
2010-11-14	3357.85	3356.29	3352.91	3362.94	3355.70	3355.14	3357.11	3360.96	3362.99	3355.88	3357.22	3363.51	3363.05	3374.66	3377.90	3376.32	3377.49	3379.29
2010-11-21	3357.71	3356.29	3352.80	3362.82	3355.54	3355.04	3357.09	3360.76	3362.98	3355.75	3357.29	3363.34	3363.05	3374.54	3377.73	3376.18	3377.43	3379.01
2010-11-28	3357.61	3356.28	3352.82	3362.82	3355.59	3355.02	3357.10	3360.71	3362.97	3355.81	3357.40	3363.32	3363.04	3374.61	3377.73	3376.23	3377.43	3379.03
2010-12-05	3357.85	3356.32	3353.31	3362.85	3355.90	3355.43	3357.26	3360.97	3363.00	3356.34	3357.85	3363.65	3363.07	3374.84	3378.04	3376.39	3377.65	3379.59
2010-12-12	3358.06	3356.32	3353.46	3362.90	3356.08	3355.59	3357.45	3361.15	3363.02	3356.46	3358.07	3363.81	3363.09	3374.89	3378.21	3376.43	3377.72	3379.55
2010-12-19	3357.99	3356.30	3353.07	3362.82	3355.86	3355.47	3357.30	3360.99	3363.01	3356.13	3357.72	3363.58	3363.08	3374.54	3377.95	3376.18	3377.47	3379.32
2010-12-26	3358.29	3356.48	3353.59	3362.96	3356.40	3355.84	3357.74	3361.31	3363.04	3356.69	3358.25	3364.00	3363.10	3374.99	3378.36	3376.52	3377.79	3379.89

Nyrstar Myra Falls
2014 Q3 Dam Safety Inspection
November 2014

Instrument Plane C: Weekly Maximum Vibrating Wire Piezometer Readings - 2010 - 2014 Q3

Location	Outer Embankment Slope - 1				Outer Embankment Slope - 2					Outer Embankment Slope - 3				Upper Tailings Beach				
ID	C-5E	C-13E	C-17E	C-21E	C-6E	C-10E	C-14E	C-18E	C-22E	C-12E	C-16E	C-20E	C-24E	C-29E	C-31E	C-35E	C-36E	C-37E
Tip Elev (m)	**3357.59**	**3356.41**	**3350.66**	**3363.21**	**3351.23**	**3354.78**	**3356.41**	**3362.00**	**3362.93**	**3353.02**	**3356.20**	**3362.00**	**3362.71**	**3369.80**	**3369.50**	**3374.20**	**3374.10**	**3374.10**
Threshold 1	3358.8	3358.8	3354.8	3364.4	3358.8	3358.8	3358.8	3364.4	3364.4	3358.8	3358.8	3364.4	3364.4	3377.3	3377.3	3381.1	3381.1	3381.1
Threshold 2	3359.5	3357.2	3354.8	3363.7	3357.6	3357.5	3358.8	3364.6	3363.8	3358.9	3361.8	3365.8	3363.9	3375.5	3380.1	3379.9	3380.2	3383.6
Threshold 3	3360.5	3358.2	3355.8	3364.7	3358.6	3358.5	3359.8	3365.6	3364.8	3359.9	3362.8	3366.8	3364.9	3376.5	3381.1	3380.9	3381.2	3384.6
2011-01-02	3357.78	3356.27	3353.00	3362.83	3355.78	3355.29	3357.24	3360.73	3362.97	3355.89	3357.45	3363.28	3363.05	3374.39	3377.75	3376.18	3377.44	3379.20
2011-01-09	3357.81	3356.26	3353.15	3362.84	3355.81	3355.38	3357.28	3360.78	3362.98	3356.05	3357.64	3363.39	3363.06	3374.65	3377.89	3376.31	3377.50	3379.35
2011-01-16	3358.08	3356.37	3353.54	3362.95	3356.33	3355.74	3357.70	3361.14	3363.00	3356.65	3358.25	3363.82	3363.08	3374.99	3378.37	3376.58	3377.84	3379.88
2011-01-23	3358.03	3356.35	3353.18	3362.93	3356.03	3355.58	3357.53	3361.06	3362.99	3356.30	3357.89	3363.68	3363.07	3374.74	3378.19	3376.37	3377.74	3379.66
2011-01-30	3358.00	3356.29	3353.44	3362.92	3356.18	3355.56	3357.41	3360.97	3362.98	3356.43	3357.98	3363.64	3363.06	3374.82	3378.07	3376.49	3377.70	3379.58
2011-02-06	3358.17	3356.42	3353.40	3362.94	3356.28	3355.73	3357.70	3361.10	3362.99	3356.51	3358.13	3363.78	3363.07	3374.89	3378.20	3376.51	3377.75	3379.63
2011-02-13	3358.03	3356.38	3353.40	3362.92	3356.12	3355.62	3357.56	3360.97	3363.01	3356.43	3358.00	3363.66	3363.09	3374.76	3378.09	3376.33	3377.51	3379.46
2011-02-20	3358.01	3356.33	3353.11	3362.89	3356.01	3355.58	3357.48	3360.95	3362.99	3356.27	3357.84	3363.57	3363.07	3374.62	3377.99	3376.19	3377.46	3379.36
2011-02-27	3357.47	3356.30	3352.56	3362.90	3355.55	3354.97	3357.11	3360.56	3362.97	3355.69	3357.23	3363.07	3363.05	3374.18	3377.53	3375.90	3377.04	3378.82
2011-03-06	3357.31	3356.32	3352.36	3362.84	3355.21	3354.63	3356.83	3360.32	3362.95	3355.43	3357.05	3362.87	3363.03	3374.18	3377.53	3376.03	3377.35	3379.04
2011-03-13	3358.02	3356.34	3353.36	3362.86	3356.00	3355.55	3357.31	3361.16	3363.02	3356.48	3358.00	3363.84	3363.09	3375.01	3378.16	3376.44	3377.73	3379.70
2011-03-20	3358.03	3356.30	3353.08	3362.86	3355.95	3355.55	3357.33	3361.03	3363.01	3356.30	3357.87	3363.68	3363.08	3374.72	3378.12	3376.29	3377.58	3379.62
2011-03-27	3358.02	3356.27	3353.16	3362.85	3355.96	3355.57	3357.33	3360.95	3363.00	3356.21	3357.70	3363.58	3363.06	3374.80	3377.90	3376.33	3377.50	3379.47
2011-04-03	3358.05	3356.31	3353.18	3362.86	3356.01	3355.62	3357.51	3361.03	3363.00	3356.26	3357.78	3363.66	3363.07	3374.81	3377.95	3376.32	3377.51	3379.48
2011-04-10	3358.02	3356.28	3353.15	3362.85	3355.98	3355.59	3357.42	3360.92	3362.98	3356.22	3357.72	3363.53	3363.06	3374.71	3377.88	3376.25	3377.44	3379.33
2011-04-17	3357.97	3356.27	3352.99	3362.86	3355.86	3355.49	3357.28	3360.84	3362.98	3356.10	3357.62	3363.45	3363.05	3374.56	3377.81	3376.17	3377.43	3379.19
2011-04-24	3357.66	3356.28	3352.62	3362.86	3355.57	3355.07	3357.15	3360.68	3362.96	3355.72	3357.26	3363.15	3363.04	3374.27	3377.49	3375.96	3377.06	3378.78
2011-05-01	3357.48	3356.35	3352.59	3362.86	3355.46	3354.91	3357.01	3360.51	3362.95	3355.67	3357.23	3363.06	3363.02	3374.20	3377.47	3375.93	3377.01	3378.73
2011-05-08	3357.33	3356.36	3352.52	3362.84	3355.32	3354.68	3356.85	3360.45	3362.94	3355.57	3357.19	3362.90	3363.02	3374.02	3377.28	3375.77	3376.78	3378.55
2011-05-15	3357.33	3356.38	3352.48	3362.83	3355.28	3354.60	3356.78	3360.34	3362.94	3355.54	3357.16	3362.80	3363.02	3373.93	3377.28	3375.72	3376.75	3378.54
2011-05-22	3357.31	3356.38	3352.47	3362.82	3355.27	3354.58	3356.77	3360.30	3362.93	3355.55	3357.20	3362.79	3363.02	3373.90	3377.24	3375.66	3376.67	3378.49
2011-05-29	3357.31	3356.37	3352.38	3362.80	3355.19	3354.49	3356.57	3360.19	3362.93	3355.49	3357.19	3362.72	3363.01	3373.78	3377.18	3375.48	3376.56	3378.36
2011-06-05																		
2011-06-12																		
2011-06-19																		
2011-06-26																		
2011-07-03																		
2011-07-10																		
2011-07-17																		
2011-07-24																		
2011-07-31																		
2011-08-07																		
2011-08-14																		
2011-08-21																		
2011-08-28																		
2011-09-04																		
2011-09-11	3357.30	3356.27	3351.21	3362.64	3354.09	3354.13	3357.01	3358.90	3362.84	3354.22	3356.06		3362.90	3372.07	3375.29	3373.13	3374.37	3376.12
2011-09-18	3357.33	3356.28	3351.50	3362.67	3354.16	3354.28	3357.07	3358.94	3362.84	3354.36	3356.06		3362.92	3372.33	3375.46	3373.59	3374.89	3376.70
2011-09-25	3357.39	3356.29	3352.03	3362.67	3354.49	3354.53	3357.08	3359.00	3362.87	3354.83	3356.22	3361.93	3362.99	3373.87	3377.13	3375.75	3376.69	3378.50
2011-10-02	3357.33	3356.31	3351.97	3362.71	3354.49	3354.46	3357.06	3359.52	3362.90	3354.88	3356.63	3362.18	3363.01	3374.34	3377.64	3376.14	3377.38	3379.03
2011-10-09	3357.33	3356.30	3352.26	3362.81	3354.68	3354.53	3357.05	3360.22	3362.96	3355.23	3356.84	3362.92	3363.03	3374.64	3377.86	3376.32	3377.47	3379.27
2011-10-16	3357.42	3356.27	3352.31	3362.86	3354.85	3354.54	3357.03	3360.42	3362.97	3355.38	3356.88	3363.13	3363.03	3374.65	3377.90	3376.28	3377.47	3379.29
2011-10-23	3357.43	3356.25	3352.30	3362.86	3354.93	3354.53	3357.00	3360.42	3362.96	3355.39	3356.91	3363.05	3363.02	3374.43	3377.72	3376.18	3377.43	3379.01
2011-10-30	3357.44	3356.25	3352.32	3362.87	3355.01	3354.54	3356.99	3360.42	3362.96	3355.40	3356.90	3363.02	3363.02	3374.41	3377.66	3376.16	3377.41	3379.01
2011-11-06	3357.33	3356.27	3352.53	3362.86	3355.12	3354.55	3357.03	3360.40	3362.96	3355.49	3356.85	3362.98	3363.04	3374.34	3377.55	3376.13	3377.34	3378.92
2011-11-13	3357.35	3356.25	3352.51	3362.82	3355.18	3354.61	3357.01	3360.56	3362.97	3355.56	3356.95	3363.16	3363.04	3374.53	3377.80	3376.25	3377.44	3379.18
2011-11-20	3357.31	3356.25	3352.95	3362.85	3355.55	3354.90	3357.00	3360.68	3362.99	3355.93	3357.15	3363.35	3363.06	3374.79	3377.94	3376.39	3377.55	3379.38
2011-11-27	3358.28	3356.23	3353.65	3363.08	3356.21	3355.63	3357.44	3361.28	3363.03	3356.65	3358.16	3364.02	3363.09	3375.19	3378.55	3376.74	3378.01	3379.92
2011-12-04	3358.22	3356.26	3353.23	3363.00	3356.00	3355.56	3357.34	3361.11	3362.99	3356.34	3357.96	3363.76	3363.07	3374.83	3378.32	3376.52	3377.76	3379.67
2011-12-11	3357.74	3356.27	3352.74	3362.86	3355.64	3355.10	3357.13	3360.65	3362.96	3355.77	3357.38	3363.22	3363.04	3374.40	3377.72	3376.07	3377.33	3378.95
2011-12-18	3357.48	3356.30	3352.60	3362.83	3355.33	3354.78	3356.96	3360.42	3362.94	3355.56	3357.15	3362.97	3363.02	3374.19	3377.47	3375.96	3377.06	3378.68
2011-12-25	3357.37	3356.35	3352.96	3362.84	3355.52	3354.80	3356.97	3360.48	3362.96	3355.94	3357.60	3363.32	3363.05	3374.75	3377.89	3376.34	3377.46	3379.28

Nyrstar Myra Falls
2014 Q3 Dam Safety Inspection
November 2014

Instrument Plane C: Weekly Maximum Vibrating Wire Piezometer Readings - 2010 - 2014 Q3

Location	Outer Embankment Slope - 1				Outer Embankment Slope - 2					Outer Embankment Slope - 3				Upper Tailings Beach				
ID	C-5E	C-13E	C-17E	C-21E	C-6E	C-10E	C-14E	C-18E	C-22E	C-12E	C-16E	C-20E	C-24E	C-29E	C-31E	C-35E	C-36E	C-37E
Tip Elev (m)	**3357.59**	**3356.41**	**3350.66**	**3363.21**	**3351.23**	**3354.78**	**3356.41**	**3362.00**	**3362.93**	**3353.02**	**3356.20**	**3362.00**	**3362.71**	**3369.80**	**3369.50**	**3374.20**	**3374.10**	**3374.10**
Threshold 1	3358.8	3358.8	3354.8	3364.4	3358.8	3358.8	3358.8	3364.4	3364.4	3358.8	3358.8	3364.4	3364.4	3377.3	3377.3	3381.1	3381.1	3381.1
Threshold 2	3359.5	3357.2	3354.8	3363.7	3357.6	3357.5	3358.8	3364.6	3363.8	3358.9	3361.8	3365.8	3363.9	3375.5	3380.1	3379.9	3380.2	3383.6
Threshold 3	3360.5	3358.2	3355.8	3364.7	3358.6	3358.5	3359.8	3365.6	3364.8	3359.9	3362.8	3366.8	3364.9	3376.5	3381.1	3380.9	3381.2	3384.6
2012-01-01	3358.21	3356.34	3353.68	3363.02	3356.35	3355.70	3357.59	3361.32	3363.03	3356.76	3358.36	3364.00	3363.09	3375.18	3378.43	3376.69	3377.85	3379.98
2012-01-08	3358.33	3356.47	3353.63	3363.05	3356.41	3355.85	3357.77	3361.27	3363.01	3356.72	3358.35	3364.00	3363.09	3375.06	3378.56	3376.67	3377.85	3379.83
2012-01-15	3358.00	3356.41	3353.00	3362.86	3355.89	3355.51	3357.34	3360.88	3362.98	3356.16	3357.80	3363.54	3363.07	3374.62	3378.03	3376.22	3377.47	3379.37
2012-01-22	3357.55	3356.26	3352.77	3362.84	3355.61	3355.05	3357.10	3360.63	3362.96	3355.80	3357.37	3363.19	3363.04	3374.60	3377.73	3376.19	3377.43	3379.17
2012-01-29	3357.95	3356.32	3353.16	3362.87	3355.90	3355.51	3357.27	3360.82	3362.98	3356.23	3357.77	3363.50	3363.06	3374.81	3378.03	3376.44	3377.67	3379.57
2012-02-05	3357.96	3356.29	3353.01	3362.90	3355.84	3355.47	3357.30	3360.81	3362.98	3356.15	3357.71	3363.49	3363.06	3374.73	3377.99	3376.31	3377.53	3379.49
2012-02-12	3357.90	3356.31	3353.03	3362.88	3355.83	3355.45	3357.29	3360.77	3362.98	3356.13	3357.71	3363.48	3363.06	3374.75	3377.98	3376.32	3377.51	3379.45
2012-02-19	3357.81	3356.31	3352.99	3362.78	3355.79	3355.38	3357.29	3360.72	3362.98	3356.00	3357.58	3363.37	3363.06	3374.75	3377.91	3376.34	3377.50	3379.42
2012-02-26	3357.96	3356.33	3353.14	3362.83	3355.89	3355.53	3357.31	3360.86	3363.00	3356.20	3357.69	3363.50	3363.07	3374.84	3377.95	3376.36	3377.51	3379.45
2012-03-04	3357.81	3356.28	3352.84	3362.82	3355.75	3355.31	3357.25	3360.73	3362.97	3355.86	3357.45	3363.29	3363.05	3374.67	3377.85	3376.26	3377.44	3379.29
2012-03-11	3357.68	3356.33	3352.90	3362.84	3355.66	3355.21	3357.11	3360.56	3362.98	3355.83	3357.35	3363.22	3363.06	3374.64	3377.71	3376.19	3377.42	3379.17
2012-03-18	3357.83	3356.30	3352.89	3362.81	3355.76	3355.36	3357.24	3360.72	3362.99	3355.95	3357.50	3363.33	3363.06	3374.67	3377.86	3376.18	3377.44	3379.30
2012-03-25	3357.74	3356.28	3353.00	3362.82	3355.77	3355.34	3357.16	3360.71	3363.01	3356.01	3357.46	3363.36	3363.07	3374.79	3377.73	3376.20	3377.43	3379.20
2012-04-01	3358.19	3356.33	3353.30	3362.80	3356.08	3355.67	3357.64	3361.09	3363.01	3356.39	3357.96	3363.75	3363.07	3374.94	3378.06	3376.36	3377.52	3379.49
2012-04-08	3358.18	3356.36	3353.15	3362.89	3356.04	3355.63	3357.61	3361.05	3362.99	3356.29	3357.84	3363.67	3363.07	3374.79	3377.99	3376.31	3377.48	3379.43
2012-04-15	3357.86	3356.23	3352.96	3362.83	3355.81	3355.39	3357.27	3360.70	3362.96	3356.01	3357.58	3363.31	3363.05	3374.44	3377.73	3376.05	3377.28	3379.04
2012-04-22	3357.49	3356.28	3352.79	3362.83	3355.59	3354.97	3357.07	3360.54	3362.95	3355.82	3357.56	3363.04	3363.04	3374.27	3377.66	3376.05	3377.17	3378.86
2012-04-29	3357.43	3356.30	3352.72	3362.82	3355.57	3354.88	3357.02	3360.43	3362.95	3355.79	3357.48	3363.02	3363.04	3374.29	3377.65	3376.04	3377.13	3378.85
2012-05-06	3357.43	3356.32	3352.58	3362.82	3355.39	3354.80	3356.91	3360.45	3362.94	3355.68	3357.32	3363.00	3363.02	3374.28	3377.57	3375.97	3377.03	3378.74
2012-05-13	3357.32	3356.33	3352.57	3362.82	3355.35	3354.66	3356.84	3360.44	3362.93	3355.66	3357.27	3362.86	3363.02	3374.06	3377.33	3375.81	3376.78	3378.54
2012-05-20	3357.24	3356.32	3352.41	3362.79	3355.21	3354.58	3356.73	3360.23	3362.93	3355.50	3357.11	3362.75	3363.02	3373.84	3377.21	3375.60	3376.60	3378.39
2012-05-27	3357.32	3356.30	3352.34	3362.78	3355.13	3354.47	3356.47	3360.09	3362.92	3355.43	3357.07	3362.62	3363.01	3373.77	3377.13	3375.45	3376.48	3378.26
2012-06-03	3357.30	3356.30	3352.21	3362.71	3355.05	3354.31	3356.44	3359.97	3362.92	3355.31	3357.05	3362.48	3363.01	3373.61	3377.00	3375.29	3376.32	3378.03
2012-06-10	3357.34	3356.29	3352.16	3362.56	3354.98	3354.26	3356.38	3359.87	3362.90	3355.18	3357.03	3362.41	3363.00	3373.53	3376.94	3375.23	3376.27	3377.99
2012-06-17	3357.30	3356.31	3352.20	3362.56	3354.97	3354.14	3356.36	3359.76	3362.90	3355.16	3356.98	3362.31	3363.00	3373.36	3376.79	3375.09	3376.13	3377.86
2012-06-24	3357.26	3356.30	3352.07	3362.57	3354.86	3354.06	3356.37	3359.59	3362.89	3355.02	3356.89	3362.21	3362.99	3373.24	3376.69	3374.98	3376.03	3377.77
2012-07-01	3357.31	3356.29	3351.97	3362.55	3354.76	3354.01	3356.38	3359.36	3362.88	3354.91	3356.87	3362.10	3362.98	3373.17	3376.60	3374.87	3375.94	3377.66
2012-07-08	3357.30	3356.29	3351.98	3362.56	3354.73	3353.99	3356.40	3359.18	3362.87	3354.89	3356.81	3362.02	3362.97	3373.07	3376.46	3374.71	3375.79	3377.53
2012-07-15	3357.29	3356.29	3351.88	3362.54	3354.66	3353.94	3356.41	3358.96	3362.87	3354.83	3356.69	3361.87	3362.96	3372.95	3376.32	3374.50	3375.51	3377.35
2012-07-22	3357.32	3356.27	3351.73	3362.54	3354.58	3353.92	3356.45	3358.75	3362.87	3354.78	3356.79	3361.82	3362.96	3372.88	3376.21	3374.34	3375.36	3377.22
2012-07-29	3357.34	3356.26	3351.64	3362.55	3354.50	3353.92	3356.48	3358.52	3362.86	3354.66	3356.76		3362.94	3372.72	3376.06	3374.13	3375.23	3377.08
2012-08-05	3357.33	3356.25	3351.58	3362.54	3354.38	3353.96	3356.50	3358.38	3362.85	3354.59	3356.41		3362.93	3372.57	3375.88	3373.86	3375.06	3376.84
2012-08-12	3357.27	3356.25	3351.43	3362.56	3354.26	3353.98	3356.50	3358.49	3362.85	3354.49	3356.19		3362.92	3372.47	3375.73	3373.64	3374.89	3376.69
2012-08-19	3357.33	3356.24	3351.33	3362.55	3354.16	3354.41	3356.52	3358.55	3362.85	3354.37	3356.16		3362.92	3372.34	3375.56	3373.50	3374.69	3376.51
2012-08-26	3357.31	3356.30	3351.28	3362.64	3354.15	3354.41	3356.60	3358.70	3362.92	3354.25	3356.13		3362.99	3372.27	3375.38	3373.39	3374.45	3376.32
2012-09-02	3357.34	3356.22	3351.23	3362.58	3354.09	3354.44	3356.52	3358.72	3362.84	3354.19	3356.17		3362.90	3372.21	3375.30	3373.31	3374.35	3376.11
2012-09-09	3357.39	3356.23	3351.23	3362.60	3354.07	3354.51	3356.52	3358.77	3362.84	3354.15	3356.07		3362.90	3372.19	3375.19	3373.11	3374.22	3375.86
2012-09-16	3357.33	3356.23	3351.14	3362.61	3353.99	3354.46	3356.71	3358.84	3362.83	3354.09	3355.98		3362.89	3372.10	3375.08	3373.06	3374.09	3375.70
2012-09-23	3357.33	3356.23	3351.12	3362.62	3353.93	3354.43	3356.71	3358.86	3362.83	3354.02	3355.95		3362.90	3372.06	3374.94	3372.90	3373.90	3375.61
2012-09-30	3357.40	3356.23	3351.12	3362.62	3353.92	3354.52	3356.71	3358.93	3362.82	3354.03	3355.99		3362.89	3372.22	3374.98	3373.07	3373.89	3375.60
2012-10-07	3357.29	3356.26	3351.00	3362.65	3353.81	3354.38	3356.75	3358.96	3362.82	3353.98	3355.69		3362.90	3372.12	3374.90	3372.96	3373.82	3375.42
2012-10-14	3357.33	3356.26	3351.28	3362.65	3353.96	3354.46	3356.74	3358.99	3362.82	3354.15	3355.97		3362.92	3372.08	3375.43	3373.30	3374.85	3376.78
2012-10-21	3357.38	3356.25	3351.15	3362.68	3353.86	3354.49	3356.75	3359.01	3362.82	3354.10	3356.01		3362.93	3372.35	3375.98	3373.90	3375.35	3377.33
2012-10-28	3357.24	3356.24	3351.34	3362.69	3353.94	3354.32	3356.75	3359.04	3362.82	3354.20	3355.93		3362.94	3372.17	3376.30	3374.26	3376.00	3377.81
2012-11-04	3357.39	3356.22	3351.50	3362.68	3354.08	3354.51	3356.77	3359.04	3362.85	3354.40	3356.05		3362.94	3372.28	3376.69	3374.74	3376.43	3378.42
2012-11-11	3357.35	3356.25	3351.25	3362.69	3353.97	3354.46	3356.78	3359.09	3362.88	3354.27	3356.06		3362.96	3372.38	3376.83	3374.93	3376.58	3378.52
2012-11-18	3357.33	3356.25	3351.69	3362.73	3354.15	3354.46	3356.78	3359.62	3362.89	3354.63	3356.30		3362.98	3372.95	3377.39	3375.68	3377.18	3379.06
2012-11-25	3357.37	3356.24	3352.06	3362.78	3354.24	3354.51	3356.79	3359.91	3362.95	3354.80	3356.37	3362.37	3363.02	3373.47	3377.46	3375.87	3377.27	3379.15
2012-12-02	3357.32	3356.23	3352.46	3362.81	3354.76	3354.53	3356.77	3360.41	3362.97	3355.45	3356.86	3363.07	3363.05	3374.63	3378.12	3376.35	3377.66	3379.59
2012-12-09	3357.37	3356.14	3352.56	3362.84	3354.90	3354.57	3356.75	3360.51	3362.98	3355.52	3356.89	3363.16	3363.05	3374.66	3378.12	3376.35	3377.63	3379.57
2012-12-16	3357.19	3356.13	3352.36	3362.78	3354.89	3354.31	3356.75	3360.27	3362.97	3355.22	3356.73	3362.83	3363.04	3374.32	3377.63	3376.00	3377.31	3378.99
2012-12-23	3357.28	3356.10	3352.20	3362.69	3354.88	3354.36	3356.69	3360.23	3362.96	3355.14	3356.81	3362.76	3363.03	3374.23	3377.55	3375.97	3377.24	3378.91
2012-12-30	3357.35	3356.12	3352.17	3362.74	3354.92	3354.48	3356.67	3360.22	3362.94	3355.15	3356.83	3362.72	3363.01	3374.18	3377.45	3375.96	3377.10	3378.78

Nyrstar Myra Falls
2014 Q3 Dam Safety Inspection
November 2014

Instrument Plane C: Weekly Maximum Vibrating Wire Piezometer Readings - 2010 - 2014 Q3

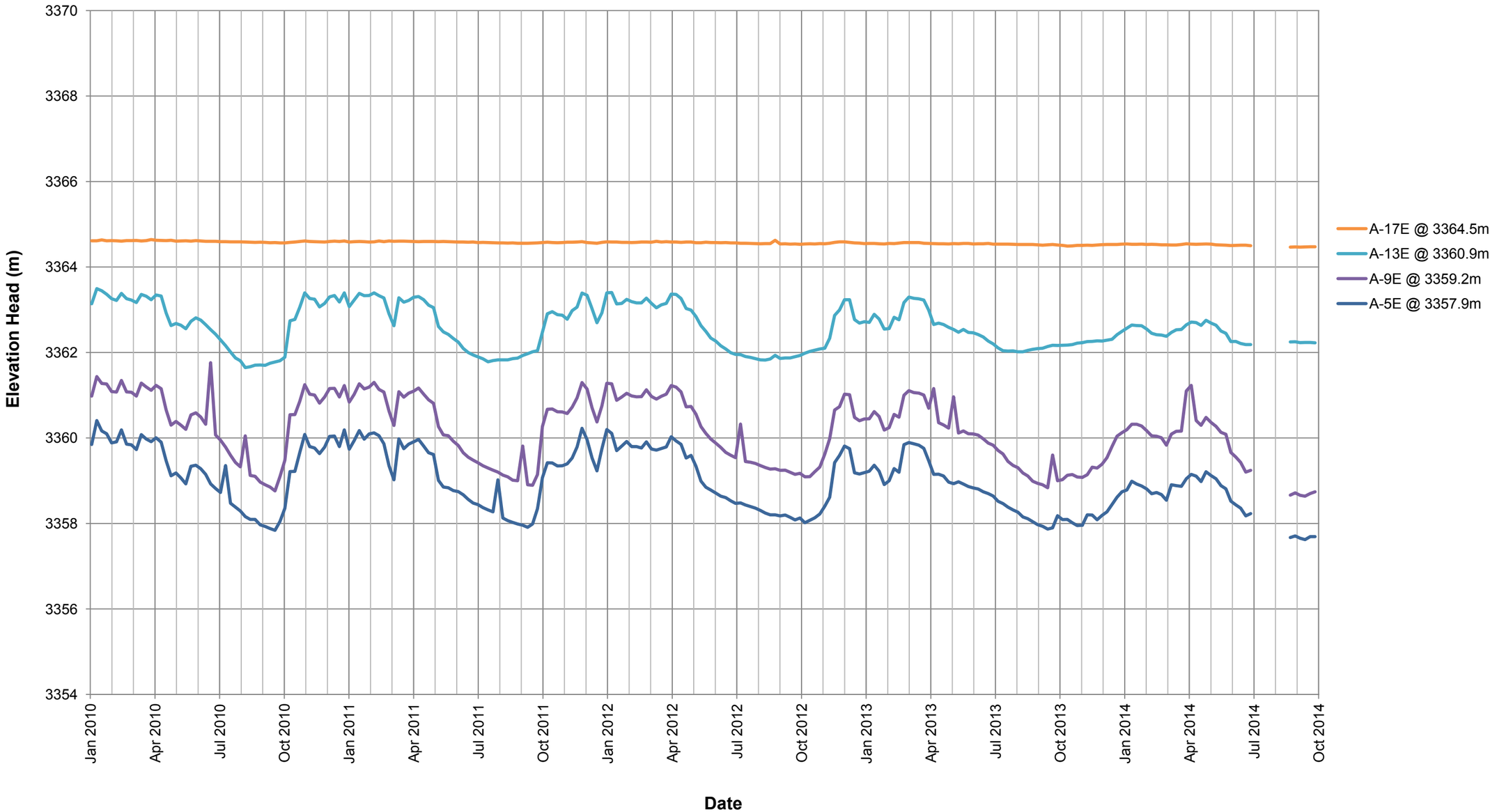
Location	Outer Embankment Slope - 1				Outer Embankment Slope - 2					Outer Embankment Slope - 3				Upper Tailings Beach				
ID	C-5E	C-13E	C-17E	C-21E	C-6E	C-10E	C-14E	C-18E	C-22E	C-12E	C-16E	C-20E	C-24E	C-29E	C-31E	C-35E	C-36E	C-37E
Tip Elev (m)	**3357.59**	**3356.41**	**3350.66**	**3363.21**	**3351.23**	**3354.78**	**3356.41**	**3362.00**	**3362.93**	**3353.02**	**3356.20**	**3362.00**	**3362.71**	**3369.80**	**3369.50**	**3374.20**	**3374.10**	**3374.10**
Threshold 1	3358.8	3358.8	3354.8	3364.4	3358.8	3358.8	3358.8	3364.4	3364.4	3358.8	3358.8	3364.4	3364.4	3377.3	3377.3	3381.1	3381.1	3381.1
Threshold 2	3359.5	3357.2	3354.8	3363.7	3357.6	3357.5	3358.8	3364.6	3363.8	3358.9	3361.8	3365.8	3363.9	3375.5	3380.1	3379.9	3380.2	3383.6
Threshold 3	3360.5	3358.2	3355.8	3364.7	3358.6	3358.5	3359.8	3365.6	3364.8	3359.9	3362.8	3366.8	3364.9	3376.5	3381.1	3380.9	3381.2	3384.6
2013-01-06	3357.38	3356.16	3352.14	3362.74	3354.87	3354.44	3356.71	3360.12	3362.94	3355.07	3356.79	3362.64	3363.01	3374.05	3377.45	3375.95	3377.24	3378.99
2013-01-13	3357.49	3356.17	3352.18	3362.81	3354.95	3354.48	3356.73	3360.25	3362.94	3355.18	3356.87	3362.74	3363.00	3374.13	3377.56	3376.01	3377.36	3379.04
2013-01-20	3357.38	3356.20	3352.07	3362.77	3354.84	3354.44	3356.74	3360.19	3362.94	3355.05	3356.76	3362.66	3363.00	3374.06	3377.44	3375.94	3377.09	3378.83
2013-01-27	3357.39	3356.20	3352.08	3362.74	3354.80	3354.41	3356.75	3360.10	3362.93	3354.98	3356.81	3362.54	3363.00	3373.95	3377.33	3375.87	3376.98	3378.71
2013-02-03	3357.33	3356.23	3352.20	3362.74	3354.89	3354.42	3356.78	3360.16	3362.93	3355.21	3356.88	3362.62	3363.01	3374.05	3377.56	3376.01	3377.37	3379.16
2013-02-10	3357.43	3356.23	3352.20	3362.80	3354.91	3354.43	3356.77	3360.27	3362.95	3355.24	3356.93	3362.82	3363.01	3374.25	3377.72	3376.15	3377.43	3379.26
2013-02-17	3357.32	3356.26	3352.11	3362.77	3354.83	3354.44	3356.79	3360.30	3362.96	3355.15	3356.85	3362.77	3363.03	3374.24	3377.64	3376.12	3377.41	3379.20
2013-02-24	3357.32	3356.24	3353.00	3362.79	3355.41	3354.61	3356.78	3360.50	3362.97	3355.82	3356.90	3363.09	3363.04	3374.45	3377.80	3376.25	3377.44	3379.32
2013-03-03	3357.37	3356.25	3353.05	3362.83	3355.59	3354.92	3356.97	3360.66	3362.98	3356.03	3357.21	3363.26	3363.06	3374.63	3377.92	3376.33	3377.47	3379.39
2013-03-10	3357.67	3356.21	3353.17	3362.86	3355.78	3355.16	3357.09	3360.63	3362.97	3356.05	3357.26	3363.22	3363.05	3374.66	3377.88	3376.26	3377.43	3379.31
2013-03-17	3357.77	3356.24	3353.11	3362.83	3355.78	3355.23	3357.12	3360.64	3362.98	3356.08	3357.49	3363.25	3363.07	3374.52	3377.87	3376.19	3377.43	3379.24
2013-03-24	3357.75	3356.22	3352.88	3362.84	3355.68	3355.18	3357.11	3360.59	3362.96	3355.86	3357.45	3363.22	3363.04	3374.47	3377.76	3376.16	3377.38	3379.09
2013-03-31	3357.54	3356.24	3352.73	3362.77	3355.44	3354.92	3357.00	3360.52	3362.95	3355.69	3357.25	3362.98	3363.04	3374.30	3377.47	3375.97	3376.98	3378.68
2013-04-07	3357.34	3356.25	3352.64	3362.71	3355.31	3354.68	3356.85	3360.37	3362.94	3355.58	3357.20	3362.82	3363.03	3374.11	3377.40	3375.84	3376.85	3378.58
2013-04-14	3357.35	3356.26	3352.41	3362.75	3355.16	3354.59	3356.77	3360.33	3362.93	3355.46	3357.06	3362.72	3363.02	3374.07	3377.39	3375.85	3376.87	3378.60
2013-04-21	3357.43	3356.28	3352.42	3362.77	3355.16	3354.57	3356.74	3360.34	3362.93	3355.43	3357.06	3362.71	3363.01	3374.05	3377.33	3375.81	3376.80	3378.54
2013-04-28	3357.44	3356.29	3352.43	3362.74	3355.15	3354.52	3356.60	3360.19	3362.92	3355.44	3357.04	3362.62	3363.01	3373.94	3377.23	3375.72	3376.66	3378.49
2013-05-05	3357.34	3356.31	3352.49	3362.72	3355.16	3354.41	3356.68	3360.13	3362.92	3355.54	3357.16	3362.76	3363.04	3373.96	3377.21	3375.73	3376.55	3378.31
2013-05-12	3357.33	3356.29	3352.56	3362.65	3355.19	3354.40	3356.72	3360.00	3362.91	3355.53	3357.15	3362.62	3363.03	3373.81	3377.23	3375.55	3376.65	3378.50
2013-05-19	3357.37	3356.30	3352.30	3362.62	3355.04	3354.34	3356.75	3359.99	3362.92	3355.33	3357.05	3362.53	3363.01	3373.77	3377.28	3375.62	3376.71	3378.52
2013-05-26	3357.35	3356.28	3352.11	3362.61	3354.86	3354.20	3356.77	3359.98	3362.92	3355.09	3356.97	3362.41	3363.01	3373.60	3377.13	3375.44	3376.56	3378.42
2013-06-02	3357.32	3356.27	3352.11	3362.60	3354.86	3354.20	3356.81	3359.95	3362.91	3355.06	3356.95	3362.39	3363.00	3373.54	3377.05	3375.39	3376.50	3378.33
2013-06-09	3357.31	3356.27	3352.04	3362.58	3354.83	3354.17	3356.79	3359.88	3362.90	3355.02	3356.94	3362.33	3363.00	3373.45	3376.95	3375.27	3376.36	3378.16
2013-06-16	3357.31	3356.26	3351.98	3362.57	3354.72	3354.11	3356.78	3359.76	3362.90	3354.91	3356.77	3362.21	3362.99	3373.32	3376.80	3375.15	3376.25	3377.97
2013-06-23	3357.32	3356.27	3352.00	3362.57	3354.72	3354.08	3356.78	3359.67	3362.89	3354.91	3356.70	3362.12	3362.99	3373.16	3376.68	3375.02	3376.07	3377.85
2013-06-30	3357.31	3356.24	3351.93	3362.56	3354.69	3354.10	3356.78	3359.54	3362.88	3354.86	3356.70	3362.06	3362.98	3373.08	3376.64	3374.96	3376.04	3377.79
2013-07-07	3357.29	3356.24	3351.72	3362.55	3354.53	3354.11	3356.79	3359.17	3362.87	3354.75	3356.59	3361.89	3362.97	3372.98	3376.50	3374.80	3375.95	3377.68
2013-07-14	3357.31	3356.23	3351.63	3362.55	3354.46	3354.13	3356.78	3358.91	3362.87	3354.65	3356.44		3362.96	3372.92	3376.40	3374.65	3375.79	3377.56
2013-07-21	3357.31	3356.23	3351.57	3362.54	3354.35	3354.14	3356.79	3358.66	3362.86	3354.59	3356.24		3362.95	3372.75	3376.22	3374.45	3375.50	3377.37
2013-07-28	3357.29	3356.22	3351.47	3362.59	3354.24	3354.36	3356.81	3358.36	3362.86	3354.51	3356.29		3362.94	3372.65	3376.11	3374.26	3375.33	3377.18
2013-08-04	3357.26	3356.22	3351.38	3362.58	3354.17	3354.35	3356.82	3358.44	3362.86	3354.43	3356.23		3362.93	3372.53	3375.96	3374.05	3375.19	3377.04
2013-08-11	3357.28	3356.22	3351.35	3362.55	3354.14	3354.34	3356.82	3358.54	3362.85	3354.35	3356.14		3362.92	3372.40	3375.82	3373.81	3375.03	3376.85
2013-08-18	3357.29	3356.22	3351.35	3362.61	3354.12	3354.41	3356.83	3358.59	3362.84	3354.31	3356.35		3362.92	3372.33	3375.74	3373.65	3374.90	3376.74
2013-08-25	3357.29	3356.21	3351.55	3362.56	3354.17	3354.36	3356.85	3358.67	3362.84	3354.43	3356.11		3362.92	3372.23	3375.55	3373.49	3374.82	3376.73
2013-09-01	3357.29	3356.21	3351.32	3362.60	3354.11	3354.35	3356.83	3358.70	3362.84	3354.26	3356.02		3362.92	3372.19	3375.80	3373.59	3375.14	3377.05
2013-09-08	3357.28	3356.20	3351.19	3362.59	3354.00	3354.36	3356.84	3358.77	3362.83	3354.14	3355.89		3362.91	3372.15	3375.81	3373.58	3375.13	3377.03
2013-09-15	3357.25	3356.21	3351.11	3362.59	3353.87	3354.32	3356.84	3358.79	3362.83	3354.03	3355.76		3362.91	3372.06	3375.65	3373.44	3374.88	3376.83
2013-09-22	3357.29	3356.20	3351.52	3362.63	3354.05	3354.37	3356.84	3358.81	3362.83	3354.21	3356.07		3362.93	3372.02	3375.92	3373.67	3375.36	3377.29
2013-09-29	3357.37	3356.19	3351.72	3362.58	3354.20	3354.50	3356.81	3358.83	3362.82	3354.60	3356.37		3362.94	3372.32	3376.91	3374.94	3376.60	3378.53
2013-10-06	3357.32	3356.20	3351.52	3362.61	3354.16	3354.38	3356.82	3358.89	3362.82	3354.49	3356.21		3362.95	3372.49	3377.08	3375.20	3376.79	3378.64
2013-10-13	3357.39	3356.19	3351.42	3362.65	3354.12	3354.51	3356.83	3358.90	3362.81	3354.43	3356.18		3362.95	3372.61	3377.13	3375.35	3376.83	3378.67
2013-10-20	3357.35	3356.21	3351.24	3362.67	3354.00	3354.48	3356.84	3358.94	3362.81	3354.23	3356.05		3362.95	3372.68	3377.01	3375.33	3376.66	3378.53
2013-10-27	3357.31	3356.23	3351.07	3362.67	3353.90	3354.39	3356.68	3358.98	3362.81	3354.11	3355.95		3362.95	3372.66	3376.83	3375.26	3376.52	3378.38
2013-11-03	3357.33	3356.23	3351.19	3362.67	3353.89	3354.45	3356.83	3358.98	3362.81	3354.14	3356.02		3362.95	3372.70	3376.93	3375.34	3376.64	3378.50
2013-11-10	3357.37	3356.24	3351.62	3362.70	3354.13	3354.49	3356.70	3359.01	3362.81	3354.54	3356.32		3362.98	3372.87	3377.17	3375.61	3376.91	3378.74
2013-11-17	3357.47	3356.23	3351.36	3362.72	3354.11	3354.55	3356.69	3359.01	3362.80	3354.48	3356.22		3362.97	3373.15	3377.41	3375.82	3377.08	3378.94
2013-11-24	3357.33	3356.21	3351.26	3362.73	3353.99	3354.46	3356.69	3359.02	3362.81	3354.27	3356.12		3362.96	3373.15	3377.21	3375.75	3376.88	3378.64
2013-12-01	3357.36	3356.23	3351.25	3362.74	3353.96	3354.49	3356.70	3359.04	3362.82	3354.27	3356.12		3362.96	3373.25	3377.17	3375.73	3376.83	3378.58
2013-12-08	3357.42	3356.23	3351.23	3362.73	3353.95	3354.53	3356.70	3359.07	3362.83	3354.25	3356.09		3362.96	3373.29	3377.16	3375.75	3376.79	3378.56
2013-12-15	3357.39	3356.24	3351.21	3362.76	3353.95	3354.50	3356.70	3359.08	3362.84	3354.25	3356.10		3362.96	3373.27	3377.03	3375.61	3376.65	3378.48
2013-12-22	3357.44	3356.23	3351.35	3362.76	3353.99	3354.54	3356.69	3359.08	3362.84	3354.35	3356.15		3362.96	3373.28	3377.09	3375.58	3376.71	3378.53
2013-12-29	3357.39	3356.25	3351.37	3362.74	3354.03	3354.51	3356.70	3359.09	3362.85	3354.40	3356.18		3362.97	3373.27	3377.18	3375.66	3376.86	3378.65

Nyrstar Myra Falls
2014 Q3 Dam Safety Inspection
November 2014

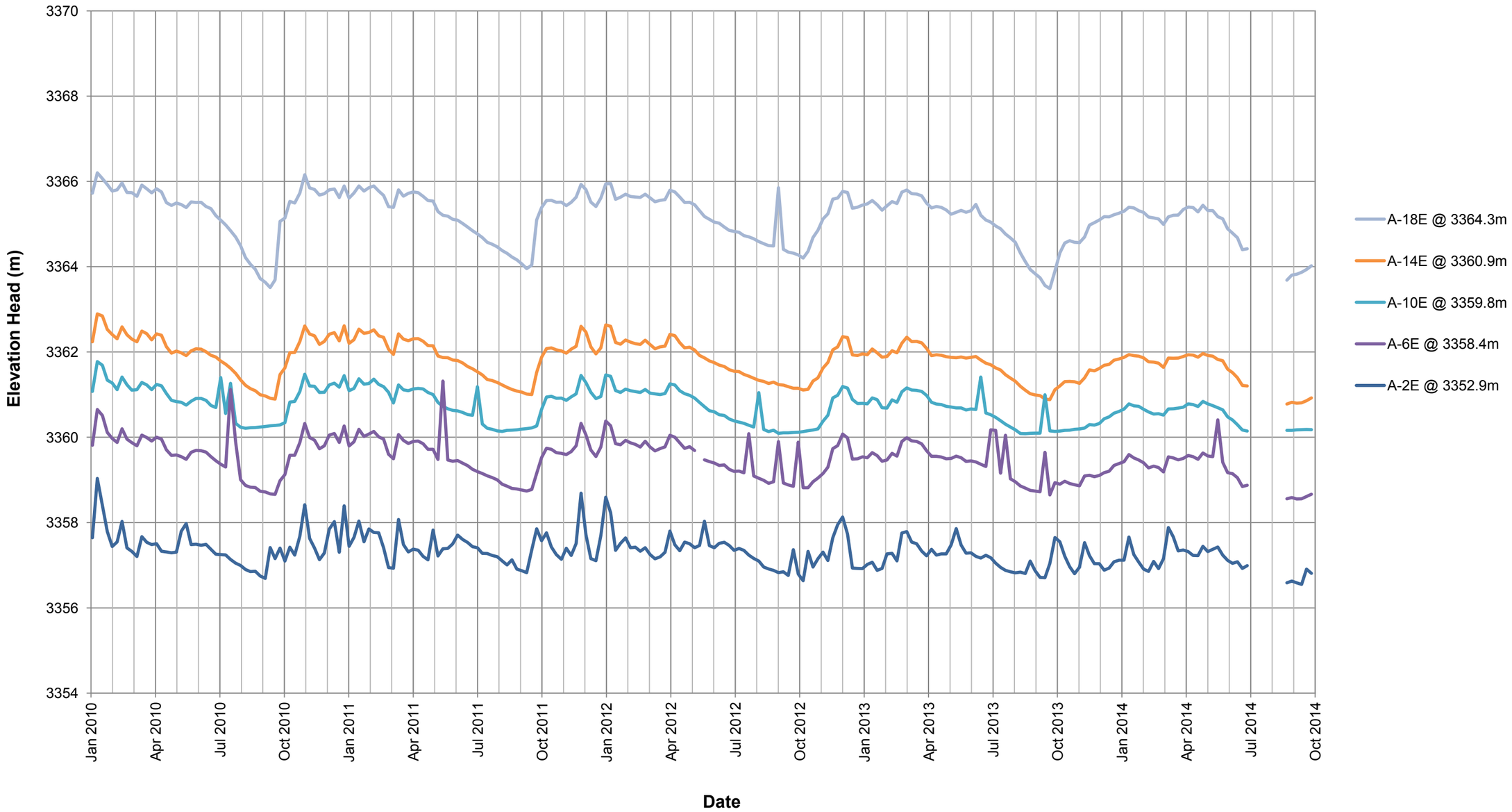
Instrument Plane C: Weekly Maximum Vibrating Wire Piezometer Readings - 2010 - 2014 Q3

Location	Outer Embankment Slope - 1				Outer Embankment Slope - 2					Outer Embankment Slope - 3				Upper Tailings Beach				
ID	C-5E	C-13E	C-17E	C-21E	C-6E	C-10E	C-14E	C-18E	C-22E	C-12E	C-16E	C-20E	C-24E	C-29E	C-31E	C-35E	C-36E	C-37E
Tip Elev (m)	**3357.59**	**3356.41**	**3350.66**	**3363.21**	**3351.23**	**3354.78**	**3356.41**	**3362.00**	**3362.93**	**3353.02**	**3356.20**	**3362.00**	**3362.71**	**3369.80**	**3369.50**	**3374.20**	**3374.10**	**3374.10**
Threshold 1	3358.8	3358.8	3354.8	3364.4	3358.8	3358.8	3358.8	3364.4	3364.4	3358.8	3358.8	3364.4	3364.4	3377.3	3377.3	3381.1	3381.1	3381.1
Threshold 2	3359.5	3357.2	3354.8	3363.7	3357.6	3357.5	3358.8	3364.6	3363.8	3358.9	3361.8	3365.8	3363.9	3375.5	3380.1	3379.9	3380.2	3383.6
Threshold 3	3360.5	3358.2	3355.8	3364.7	3358.6	3358.5	3359.8	3365.6	3364.8	3359.9	3362.8	3366.8	3364.9	3376.5	3381.1	3380.9	3381.2	3384.6
2014-01-05	3357.43	3356.27	3351.33	3362.77	3354.04	3354.53	3356.71	3359.11	3362.86	3354.41	3356.18		3362.98	3373.31	3377.22	3375.72	3376.88	3378.67
2014-01-12	3357.46	3356.24	3351.77	3362.71	3354.27	3354.54	3356.70	3359.06	3362.85	3354.73	3356.56		3362.98	3373.46	3377.51	3375.93	3377.24	3379.00
2014-01-19	3357.41	3356.24	3351.46	3362.71	3354.13	3354.52	3356.69	3359.11	3362.86	3354.58	3356.34	3361.75	3362.98	3373.60	3377.47	3375.91	3377.08	3378.92
2014-01-26	3357.34	3356.26	3351.32	3362.70	3354.09	3354.41	3356.73	3359.18	3362.87	3354.50	3356.22		3362.98	3373.56	3377.26	3375.82	3376.85	3378.60
2014-02-02	3357.37	3356.24	3351.23	3362.69	3354.01	3354.50	3356.71	3359.37	3362.88	3354.39	3356.13		3362.97	3373.54	3377.12	3375.70	3376.66	3378.50
2014-02-09	3357.26	3356.23	3351.21	3362.69	3353.92	3354.33	3356.71	3359.31	3362.89	3354.24	3356.07		3362.98	3373.43	3376.92	3375.48	3376.48	3378.32
2014-02-16	3357.32	3356.21	3351.35	3362.66	3354.08	3354.44	3356.85	3359.29	3362.89	3354.47	3356.20		3362.98	3373.34	3376.93	3375.37	3376.37	3378.22
2014-02-23	3357.31	3356.22	3351.27	3362.68	3354.03	3354.39	3356.81	3359.28	3362.88	3354.39	3356.15		3362.97	3373.28	3376.88	3375.30	3376.36	3378.22
2014-03-02	3357.30	3356.20	3351.39	3362.66	3354.08	3354.38	3356.80	3359.20	3362.88	3354.40	3356.16		3362.97	3373.09	3376.82	3375.15	3376.37	3378.25
2014-03-09	3357.43	3356.19	3351.92	3362.63	3354.40	3354.53	3356.76	3359.15	3362.87	3354.83	3356.79		3362.98	3373.37	3377.38	3375.52	3376.91	3378.97
2014-03-16	3357.33	3356.20	3351.80	3362.66	3354.39	3354.49	3356.75	3358.98	3362.87	3354.79	3356.68	3361.83	3362.99	3373.81	3377.59	3375.89	3377.27	3379.24
2014-03-23	3357.33	3356.22	3351.58	3362.66	3354.27	3354.46	3356.77	3359.00	3362.88	3354.73	3356.48		3363.00	3373.82	3377.58	3375.89	3377.25	3379.15
2014-03-30	3357.19	3356.19	3351.66	3362.63	3354.24	3354.28	3356.69	3359.24	3362.90	3354.74	3356.53	3361.85	3363.01	3374.08	3377.56	3375.96	3377.16	3378.99
2014-04-06	3357.32	3356.19	3351.76	3362.63	3354.36	3354.43	3356.63	3359.64	3362.90	3354.79	3356.61	3361.98	3363.00	3374.14	3377.58	3375.98	3377.15	3379.02
2014-04-13	3357.31	3356.21	3351.66	3362.64	3354.35	3354.47	3356.62	3359.72	3362.90	3354.78	3356.57	3361.99	3363.00	3374.12	3377.46	3375.91	3376.93	3378.72
2014-04-20	3357.31	3356.20	3351.68	3362.67	3354.31	3354.40	3356.57	3359.66	3362.91	3354.77	3356.52	3362.14	3363.01	3374.00	3377.37	3375.84	3376.93	3378.76
2014-04-27																		
2014-05-04																		
2014-05-11																		
2014-05-18	3357.30	3356.18	3352.04	3362.70	3354.65	3354.38	3356.49	3359.79	3362.92	3354.96	3356.81	3362.36	3363.01	3373.90	3377.16	3375.61	3376.55	3378.37
2014-05-25																		
2014-06-01	3357.29	3356.18	3351.82	3362.68	3354.57	3354.37	3356.46	3359.64	3362.91	3354.86	3356.57	3362.19	3362.99	3373.69	3376.91	3375.34	3376.29	3378.00
2014-06-08	3357.30	3356.19	3351.81	3362.66	3354.56	3354.38	3356.46	3359.55	3362.90	3354.84	3356.53	3362.11	3362.98	3373.55	3376.80	3375.20	3376.23	3377.94
2014-06-15	3357.29	3356.18	3351.66	3362.63	3354.41	3354.36	3356.45	3359.57	3362.89	3354.72	3356.36	3361.96	3362.98	3373.33	3376.60	3375.03	3376.01	3377.73
2014-06-22	3357.26	3356.18	3351.60	3362.63	3354.37	3354.34	3356.44	3359.49	3362.88	3354.65	3356.30		3362.97	3373.23	3376.53	3374.94	3375.94	3377.63
2014-06-29	3357.32	3356.17	3351.54	3362.59	3354.35	3354.40	3356.42	3359.08	3362.87	3354.64	3356.25		3362.96	3373.06	3376.42	3374.77	3375.79	3377.48
2014-07-06	3357.31	3356.17	3351.52	3362.57	3354.28	3354.37	3356.42	3358.78	3362.86	3354.60	3356.21		3362.95	3372.98	3376.27	3374.55	3375.50	3377.33
2014-07-13	3357.27	3356.15	3351.50	3362.56	3354.19	3354.34	3356.42	3358.56	3362.86	3354.53	3356.15		3362.94	3372.82	3376.10	3374.31	3375.29	3377.14
2014-07-20	3357.30	3356.16	3351.29	3362.55	3354.11	3354.37	3356.42	3358.61	3362.86	3354.35	3356.04		3362.93	3372.63	3375.94	3374.09	3375.15	3376.93
2014-07-27	3357.31	3356.15	3351.26	3362.54	3354.08	3354.38	3356.42	3358.66	3362.85	3354.28	3355.98		3362.92	3372.57	3375.82	3373.90	3375.04	3376.83
2014-08-03	3357.28	3356.14	3351.19	3362.54	3353.97	3354.36	3356.43	3358.68	3362.84	3354.15	3355.85		3362.91	3372.42	3375.57	3373.62	3374.84	3376.61
2014-08-10	3357.28	3356.15	3351.16	3362.54	3353.97	3354.36	3356.44	3358.72	3362.84	3354.14	3355.83		3362.90	3372.35	3375.49	3373.50	3374.59	3376.43
2014-08-17	3357.27	3356.14	3351.12	3362.55	3353.91	3354.36	3356.44	3358.77	3362.83	3354.08	3355.76		3362.90	3372.26	3375.34	3373.40	3374.41	3376.22
2014-08-24	3357.23	3356.14	3351.05	3362.53	3353.81	3354.31	3356.46	3358.78	3362.83	3354.01	3355.67		3362.89	3372.14	3375.18	3373.23	3374.22	3375.87
2014-08-31	3357.31	3356.14	3351.03	3362.54	3353.78	3354.39	3356.46	3358.81	3362.83	3353.96	3355.64		3362.89	3372.07	3375.08	3373.11	3374.06	3375.66
2014-09-07	3357.32	3356.15	3350.98	3362.56	3353.75	3354.45	3356.48	3358.83	3362.82	3353.94	3355.84		3362.88	3372.01	3374.94	3372.99	3373.87	3375.52
2014-09-14	3357.26	3356.15	3350.92	3362.56	3353.59	3354.36	3356.49	3358.85	3362.81	3353.85	3355.65		3362.88	3371.85	3374.82	3372.80	3373.77	3375.38
2014-09-21	3357.29	3356.15	3351.19	3362.59	3353.78	3354.36	3356.50	3358.87	3362.81	3353.98	3355.73		3362.89	3371.79	3375.09	3372.90	3374.27	3376.33
2014-09-28	3357.31	3356.14	3351.06	3362.58	3353.77	3354.41	3356.49	3358.86	3362.80	3353.96	3355.68		3362.89	3371.82	3375.49	3373.10	3374.84	3376.85

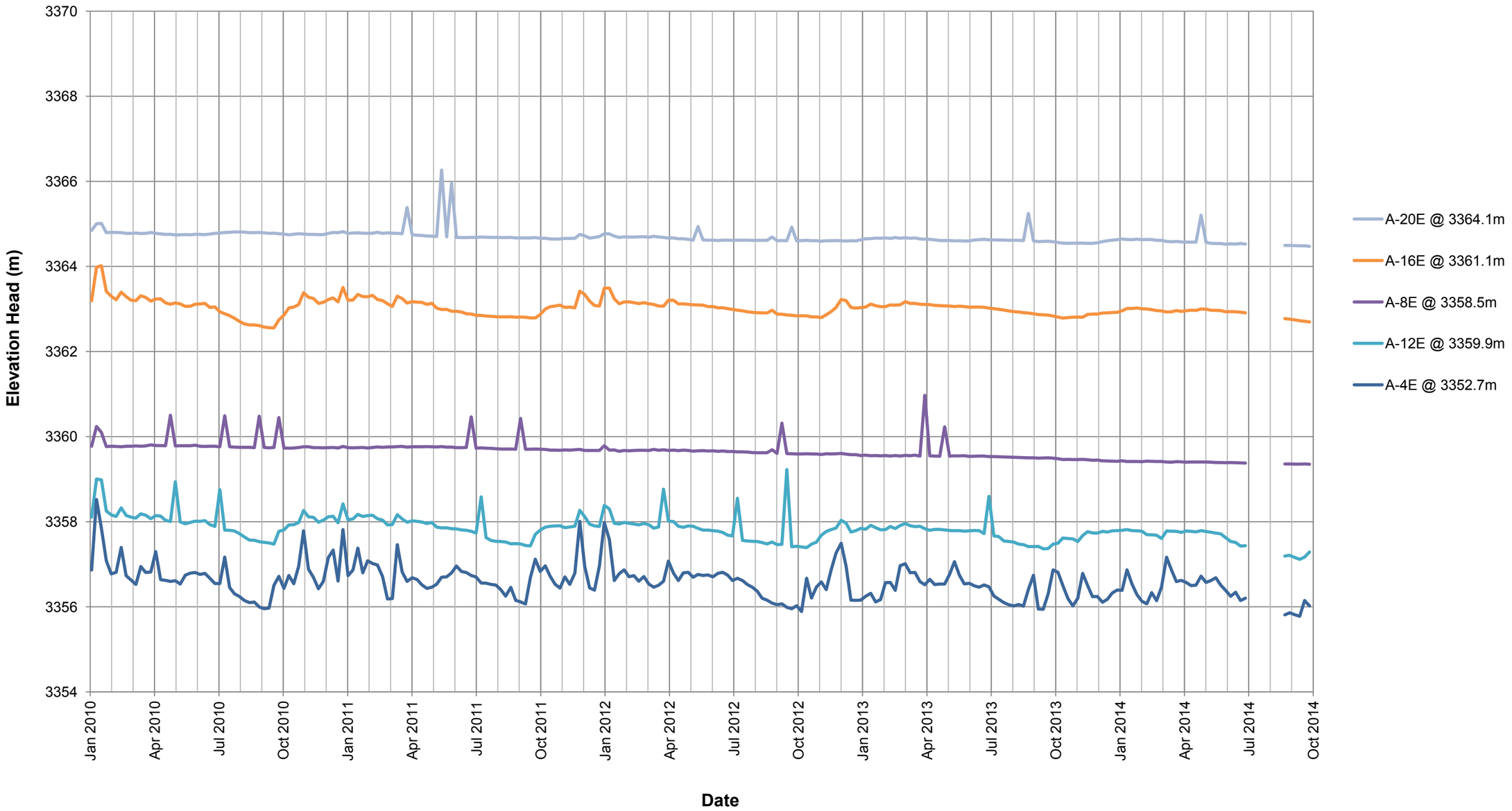
TDF Piezometric Data: 2010-2014 Q3 - Plane A
Outer Embankment Slope, Location 1
A-5E, A-9E, A-13E, A-17E



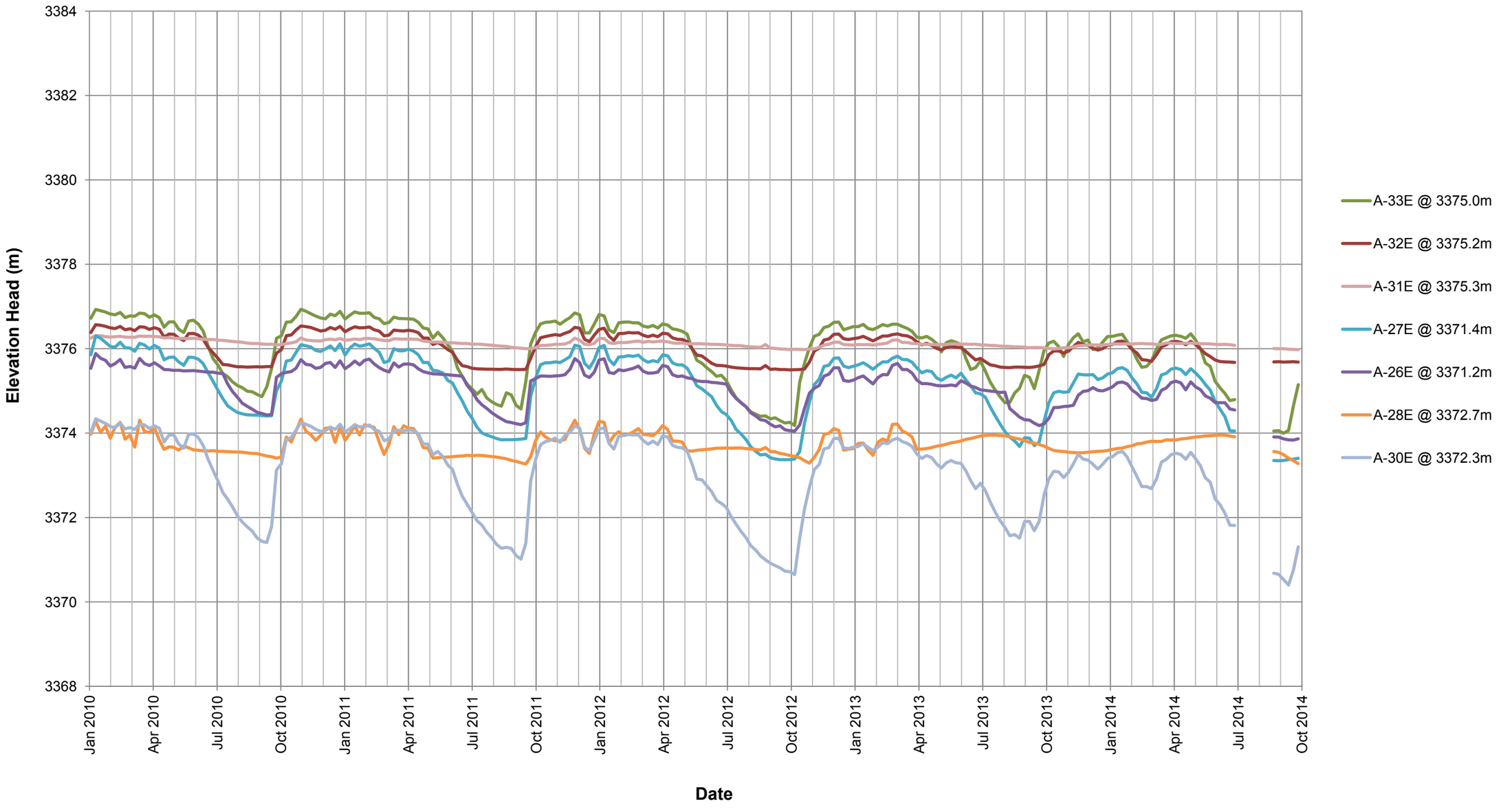
TDF Piezometric Records: 2010-2014 Q3 - Plane A
Outer Embankment Slope, Location 2
A-2E, A-6E, A-10E, A-14E, A-18E



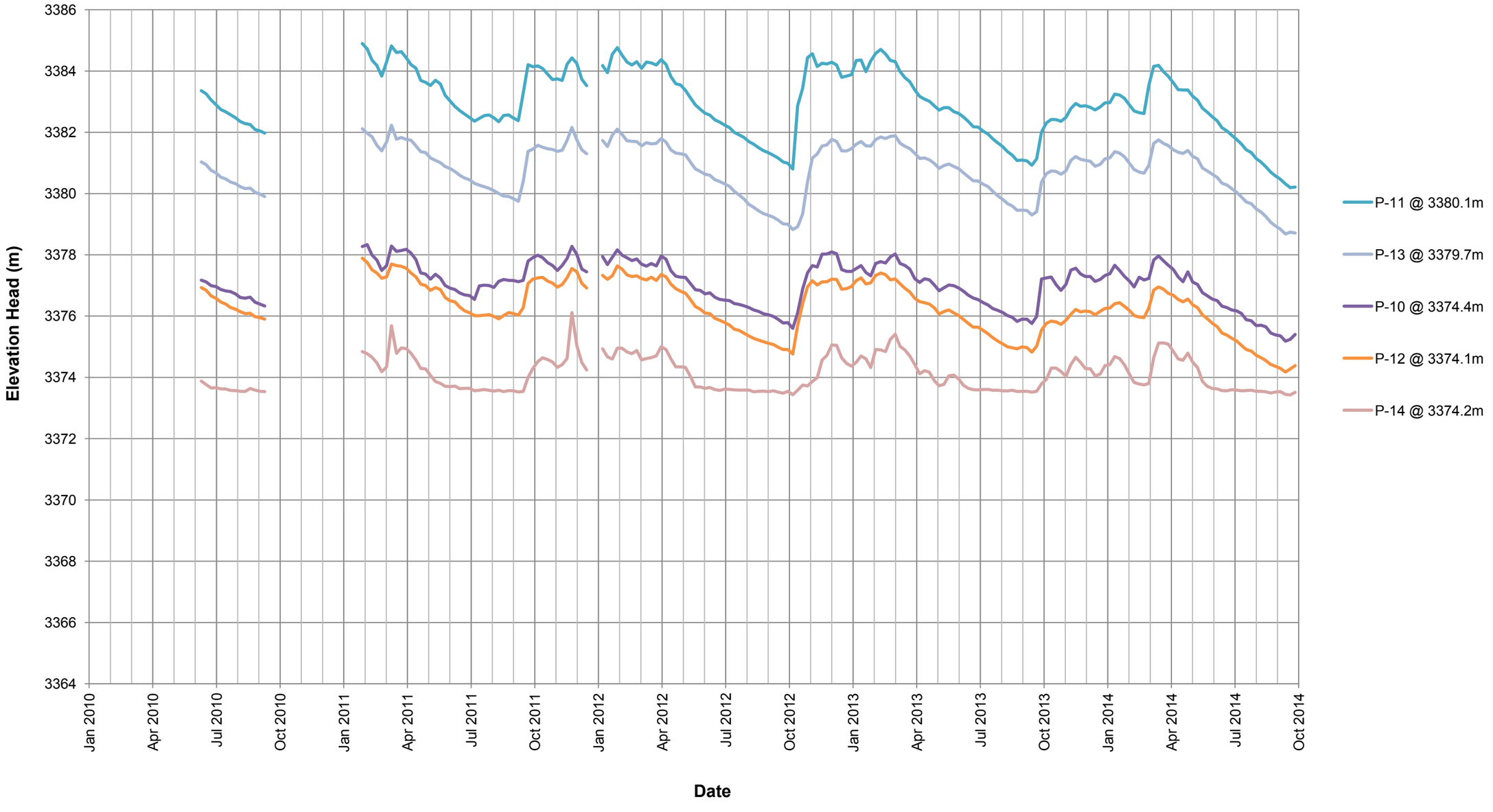
TDF Piezometric Records: 2010-2014 Q3 - Plane A
Outer Embankment Slope, Location 3
A-4E, A-8E, A-12E, A-16E, A-20E



TDF Piezometric Records: 2010-2014 Q3 - Plane A
Upper Tailings Beach
A-25E, A-26E, A-27E, A-28E, A-30E, A-31E, A-32E, A-33E

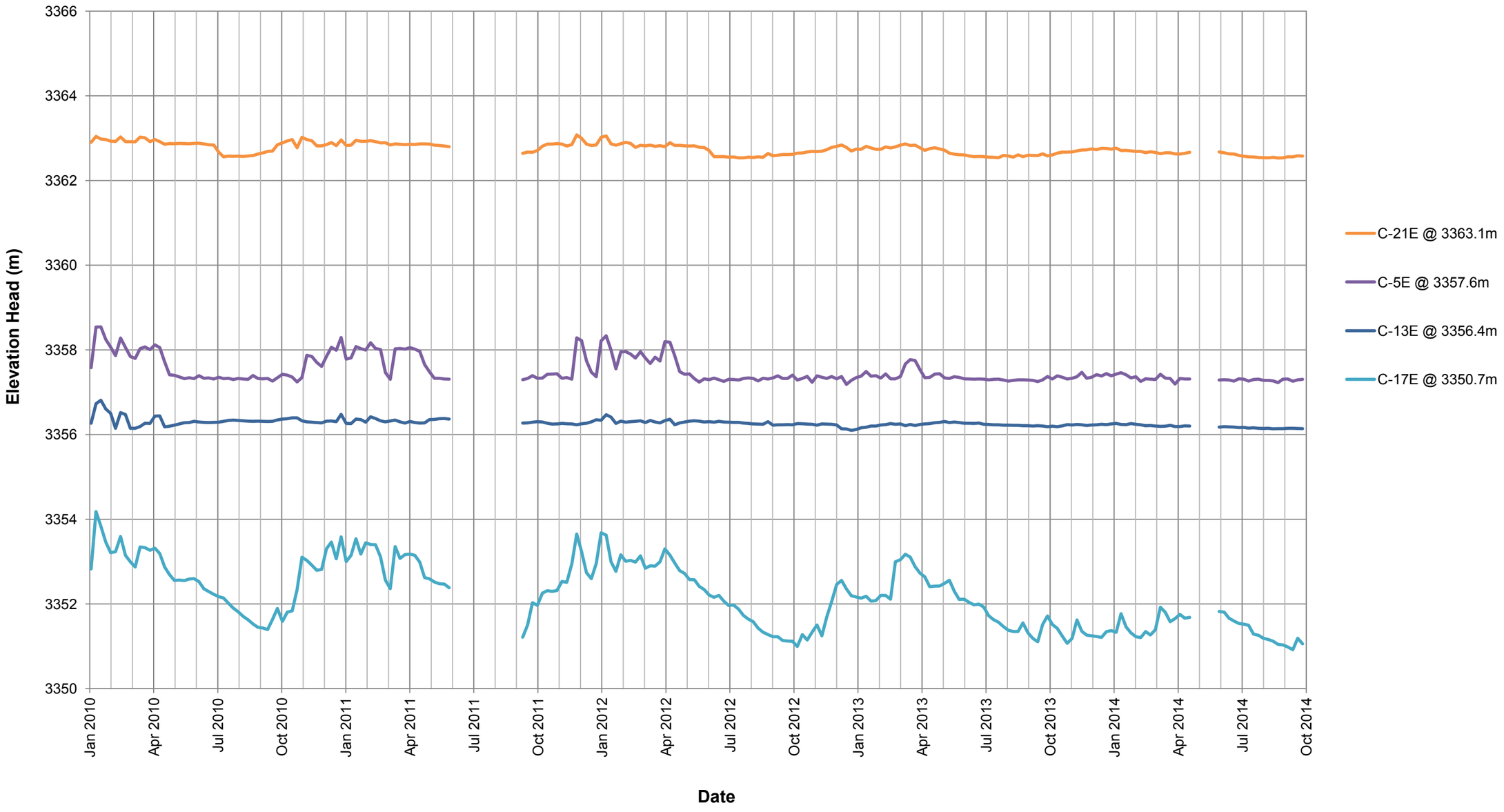


TDF Piezometer Records : 2010-2014 Q3 - Paste Berm
Area I
B-1E, P-9, P-10, P-11, P-12, P-13, P-14

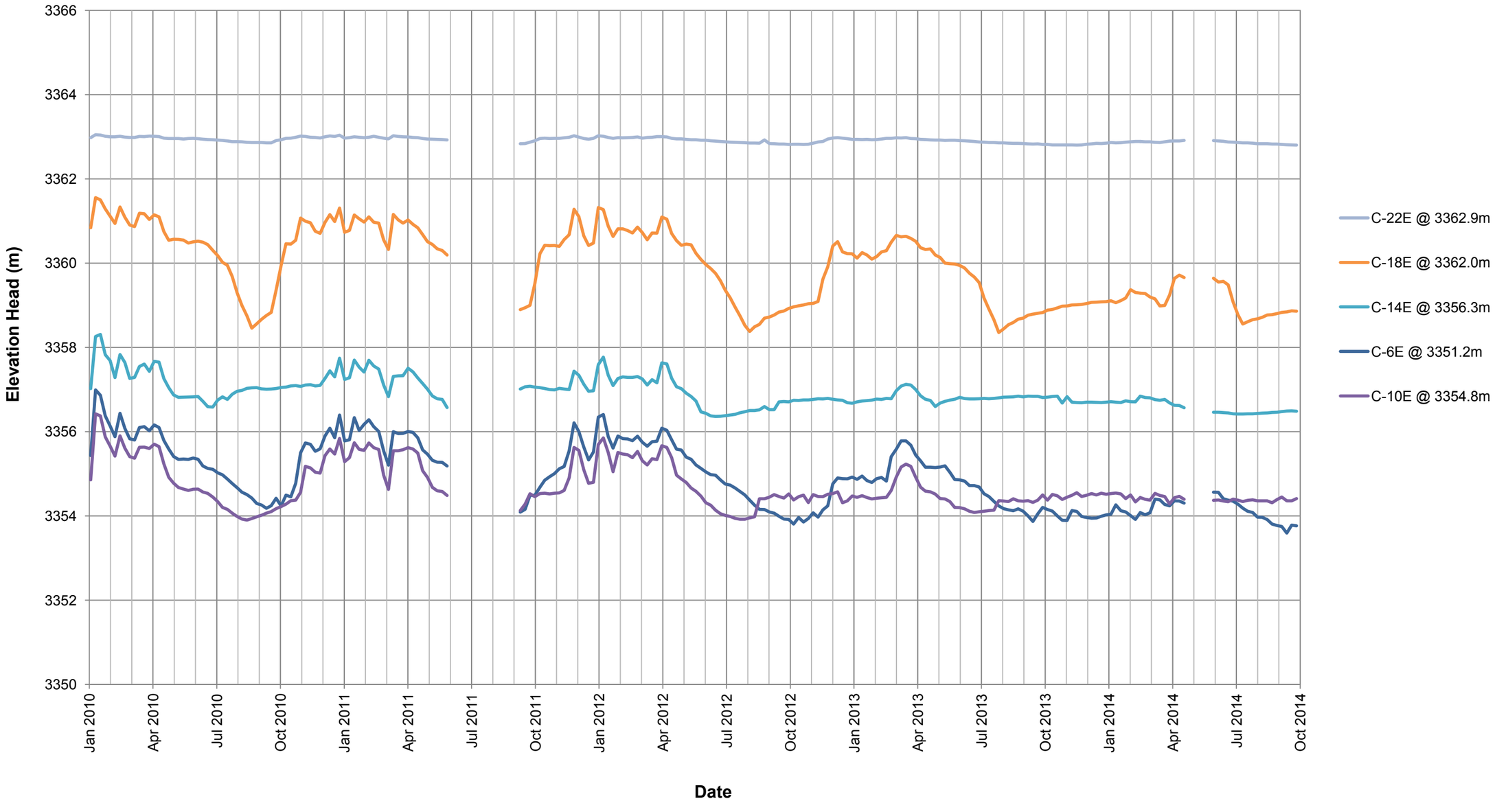


TDF Piezometer Records: 2010-2014 Q3 - Paste Berm
Area II
P-1, P-2, P-3, P-4, P-5, P-6, P-7, P-8

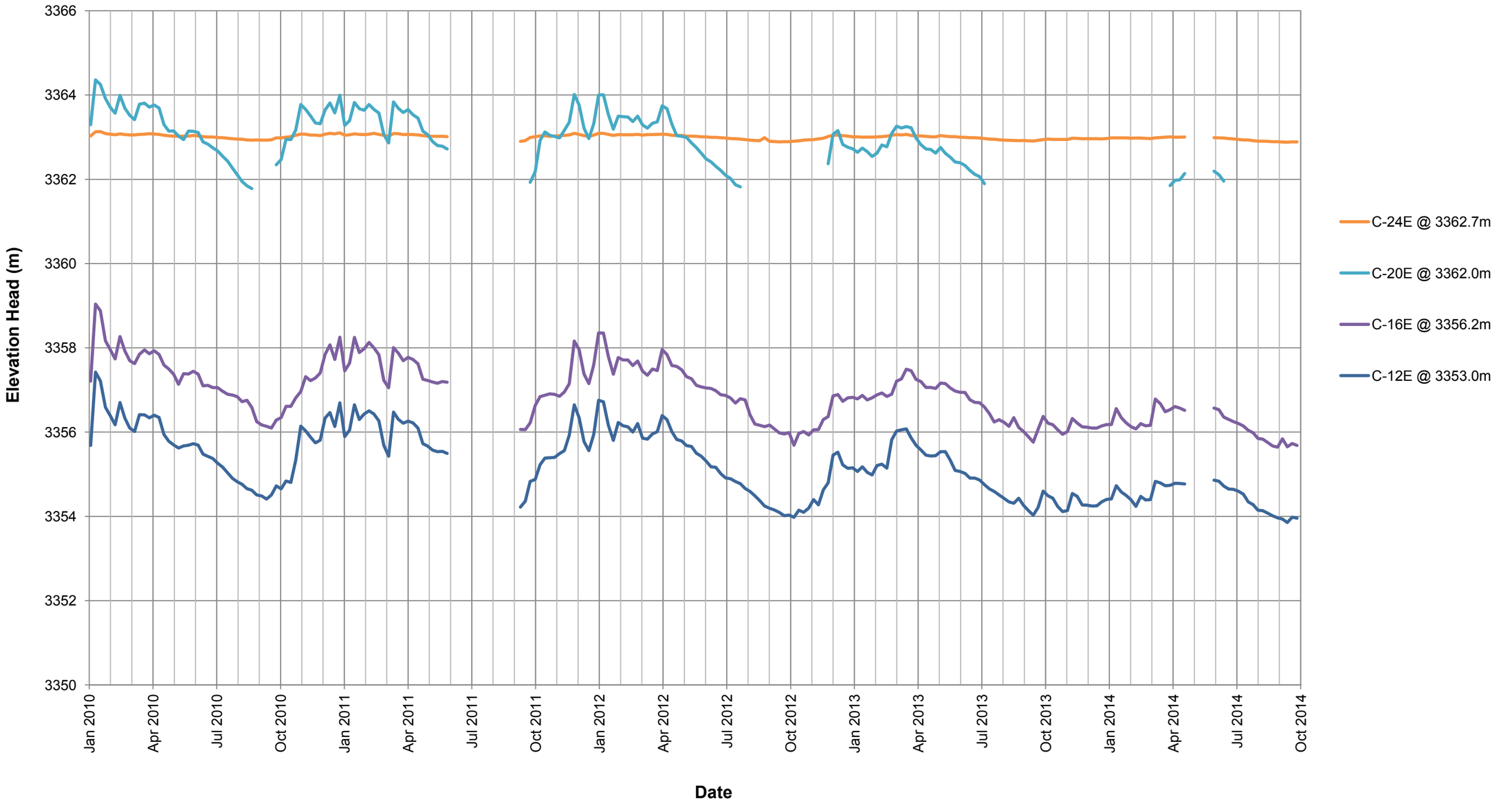
TDF Piezometer Records: 2010-2014 Q3 - Plane C
Outer Embankment Slope, Location 1
C-5E, C-13E, C-17E, C-21E



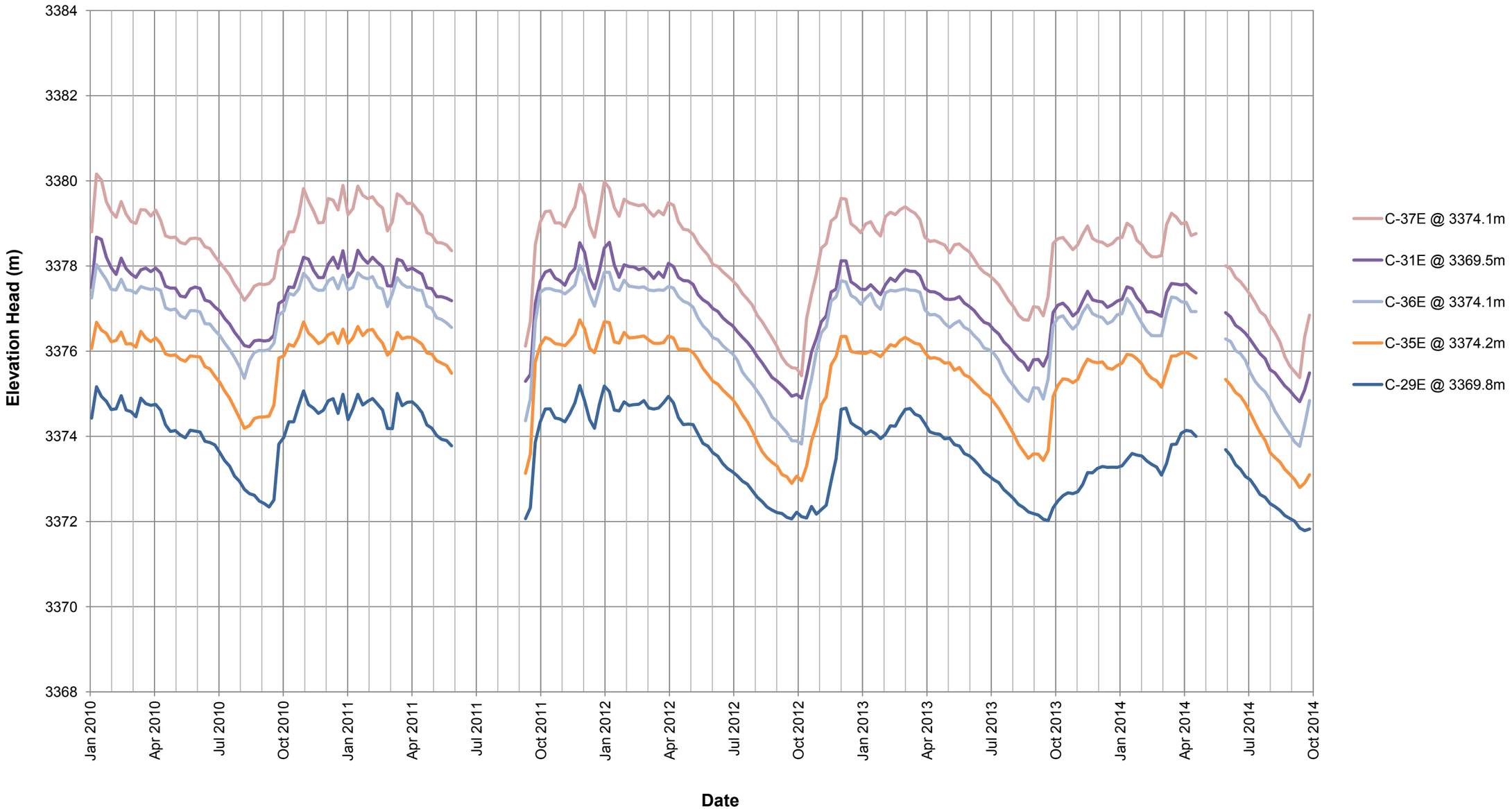
TDF Piezometer Records: 2010-2014 Q3 - Plane C
Outer Embankment Slope, Location 2
C-6E, C-10E, C-14E, C-18E, C-22E

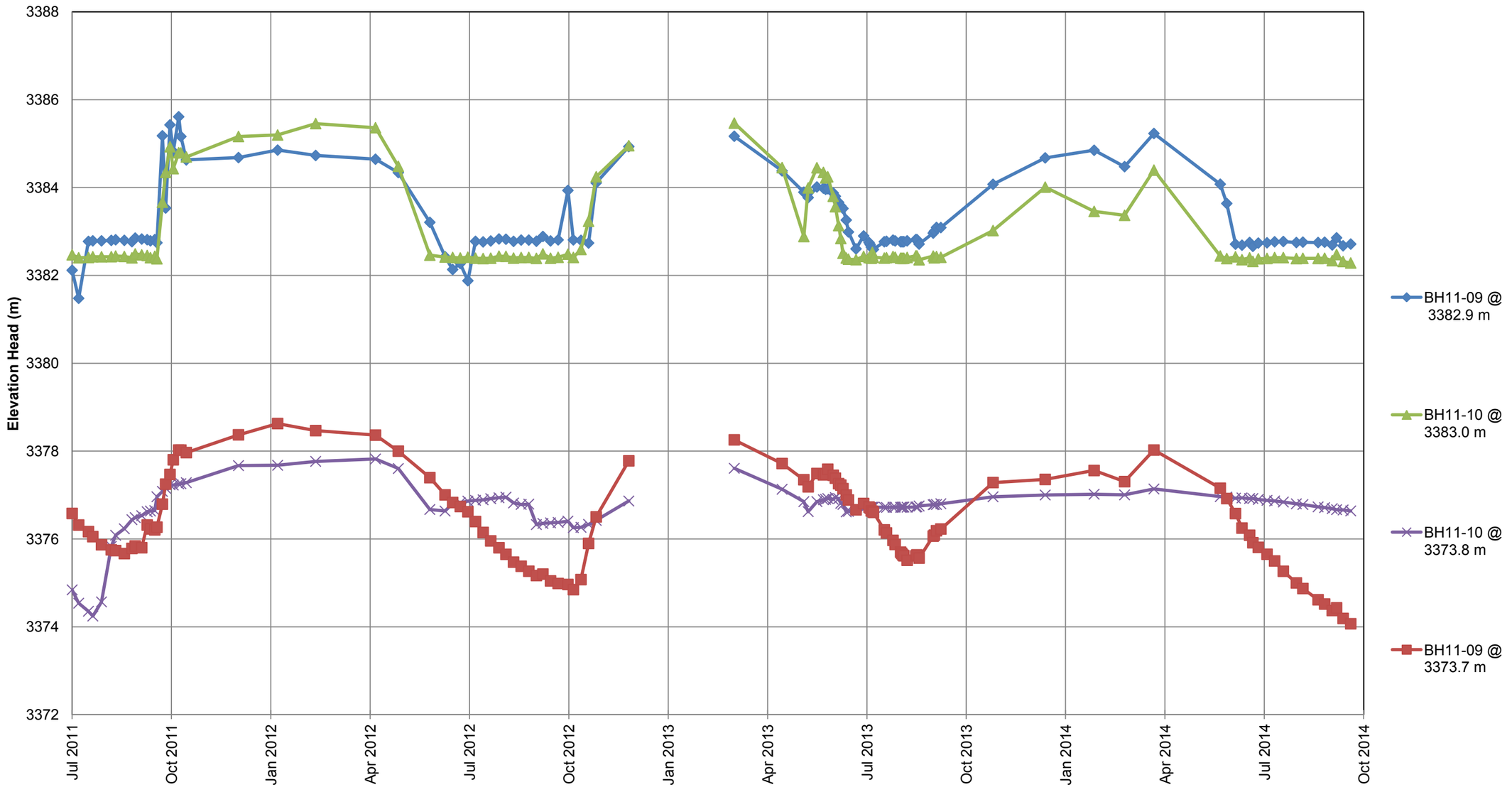


TDF Piezometer Records: 2010-2014 Q3 - Plane C
Outer Embankment Slope, Location 3
C-12E, C-16E, C-20E, C-24E

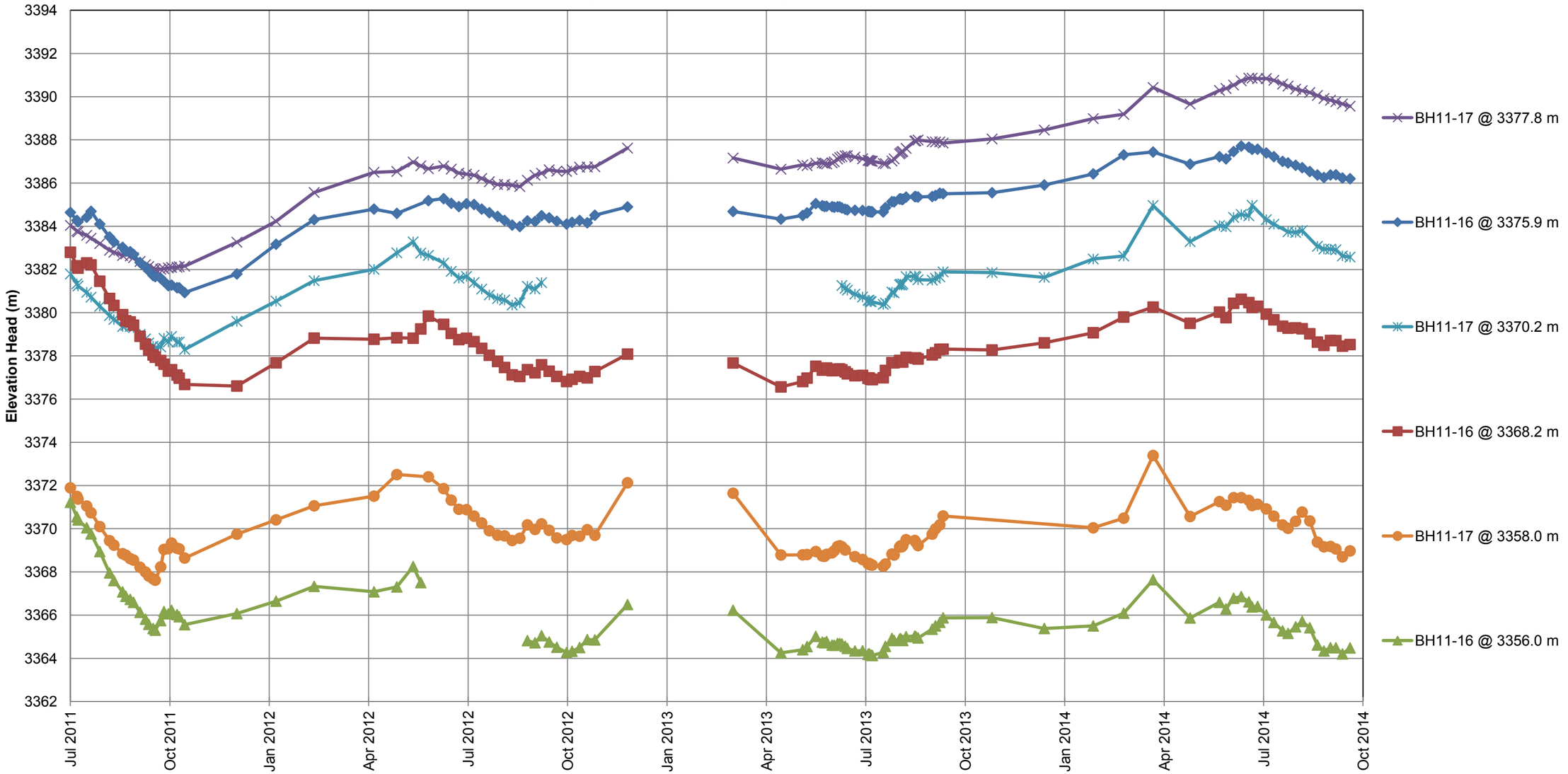


TDF Piezometer Records: 2010-2014 Q3 - Plane C
Upper Tailings Beach
C29E, C-31E, C-32E, C-35E, C-36E, C-37E

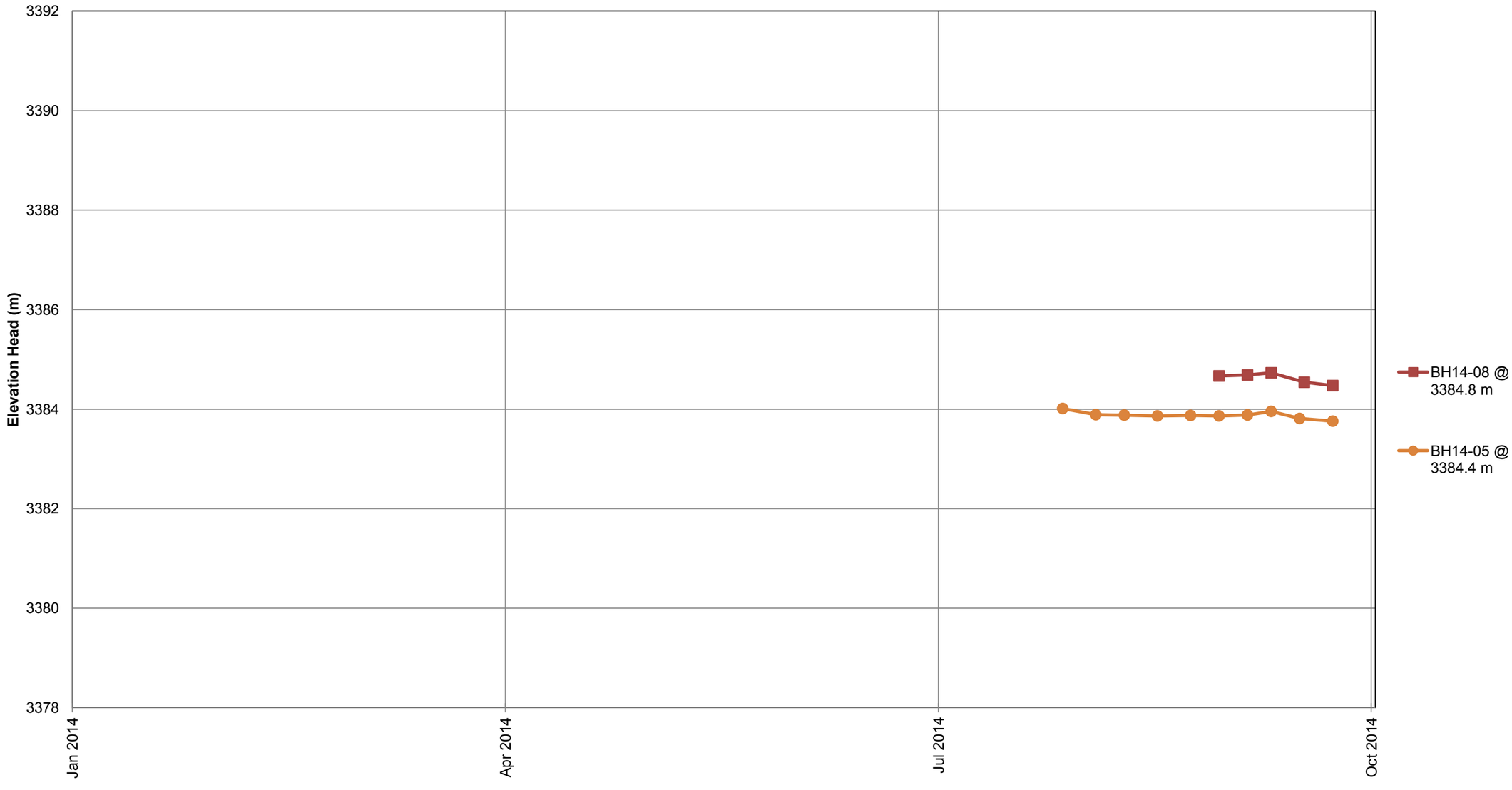



2014 Q3 Dam Safety Inspection - APA VWP Data
Elevation
3388
3386
3384
3382
3380
3378
3376
3374
3372
Jul 2011
Oct 2011
Jan 2012
Apr 2012
Jul 2012
Oct 2012
Jan 2013
Apr 2013
Jul 2013
Oct 2013
Jan 2014
Apr 2014
Jul 2014
Oct 2014
Date
BH11-09 @ 3382.9 m
BH11-10 @ 3383.0 m
BH11-10 @ 3373.8 m
BH11-09 @ 3373.7 m

2014 Q3 Dam Safety Inspection - Lynx TDF Paste VWP Data

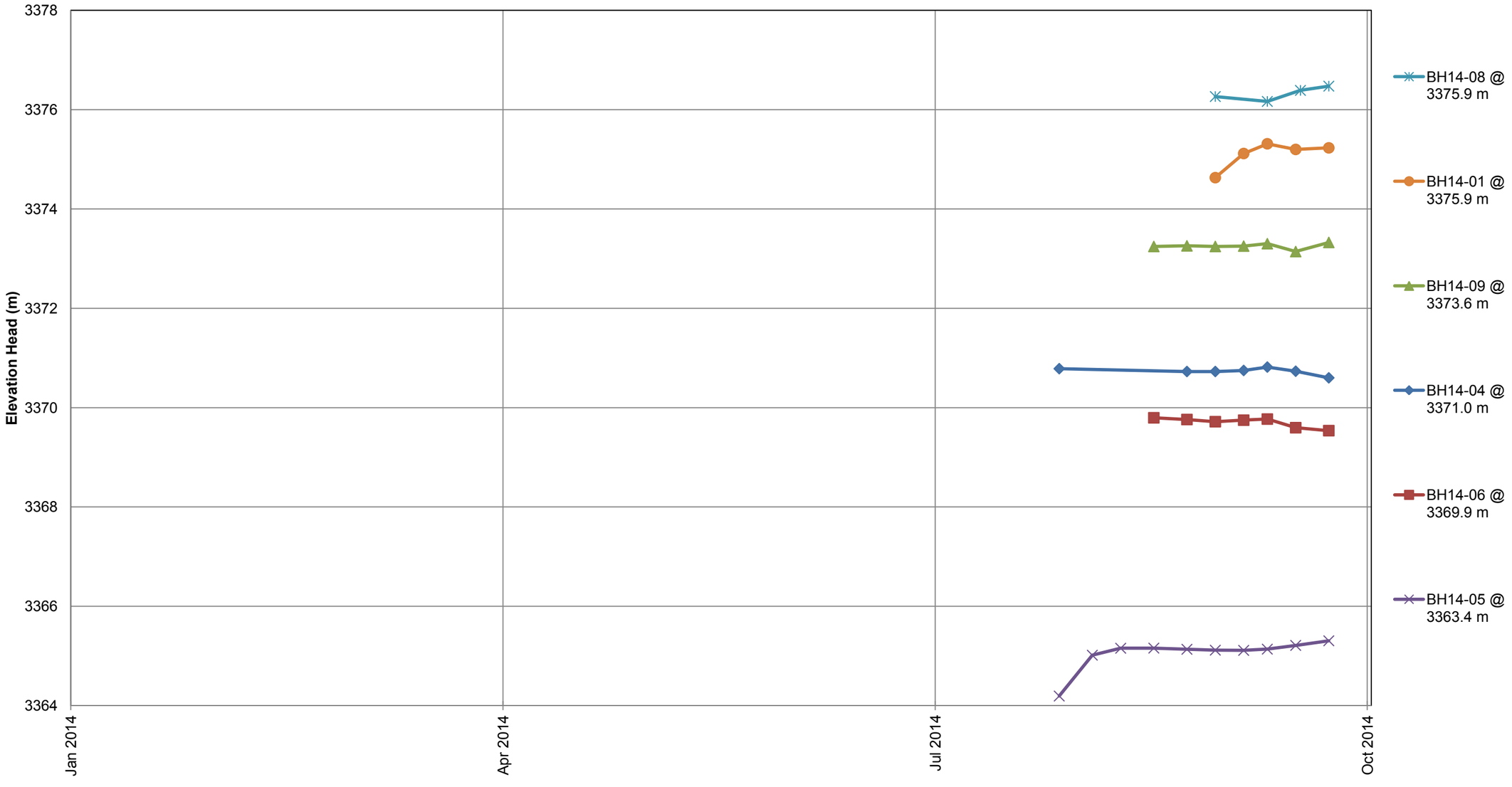


2014 Q3 Dam Safety Inspection - Lynx TDF Dam Fill VWP Data



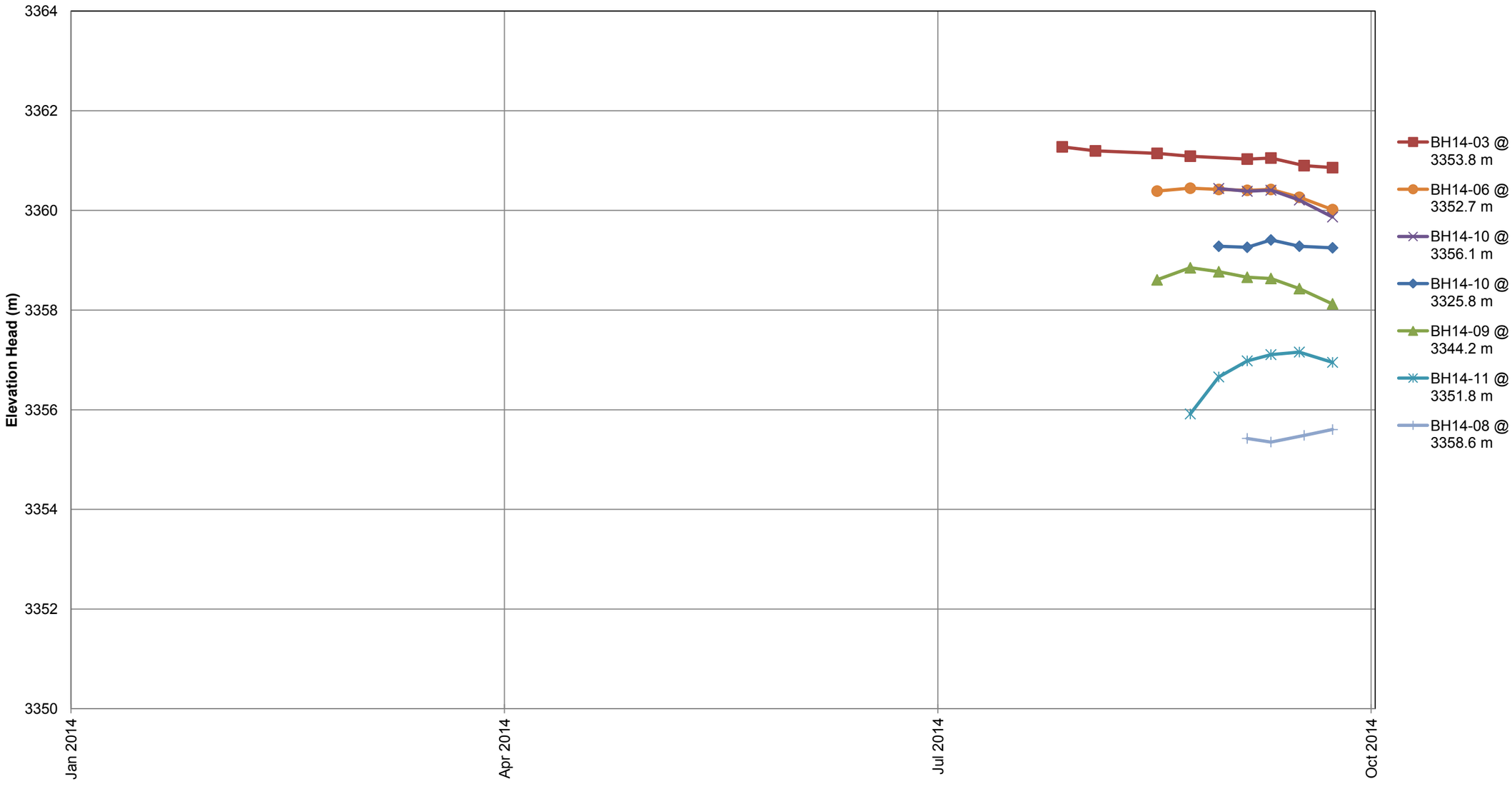
Nyrstar Myra Falls
2014 Q3 Dam Safety Inspection
Myra Falls, BC
November 2014

2014 Q3 Dam Safety Inspection - Lynx Shallow Foundation Layer VWP Data



AMEC File No.: NX14001

2014 Q3 Dam Safety Inspection - Lynx Deep Foundation Layer VWP Data



APPENDIX E – INCLUDED ON ATTACHED CD
NMF INSPECTION REPORTS

MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: Scott Skagford

Inspector Position: Environmental Technician

Inspection Date/Time: January 15:00 (3rd) 2014

Weather Conditions: cloudy, ~ -2°C

Reason for Inspection:

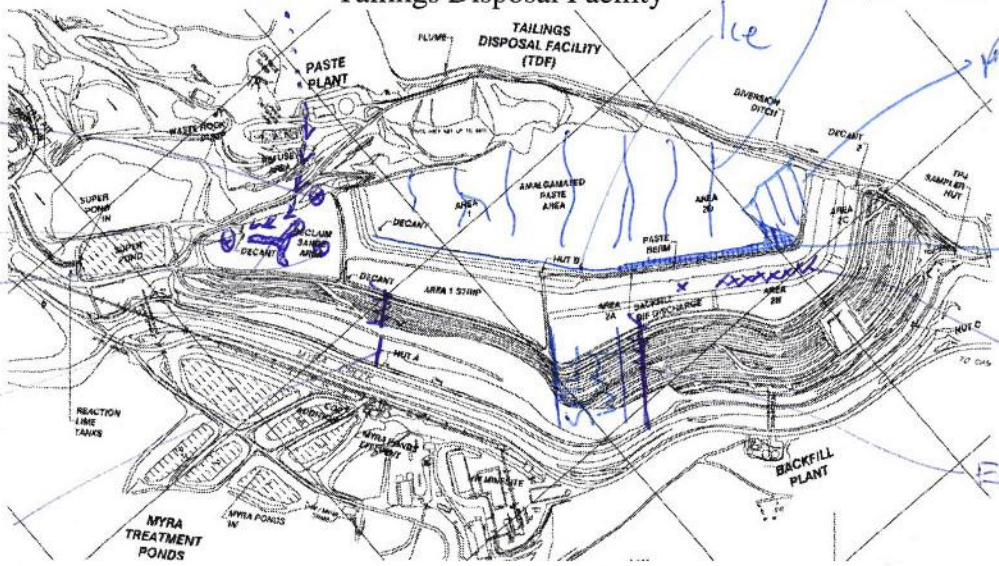
Routine ☑ Broken pipe on N Lynx Pit side w flow (see pic)

Special Condition ☐

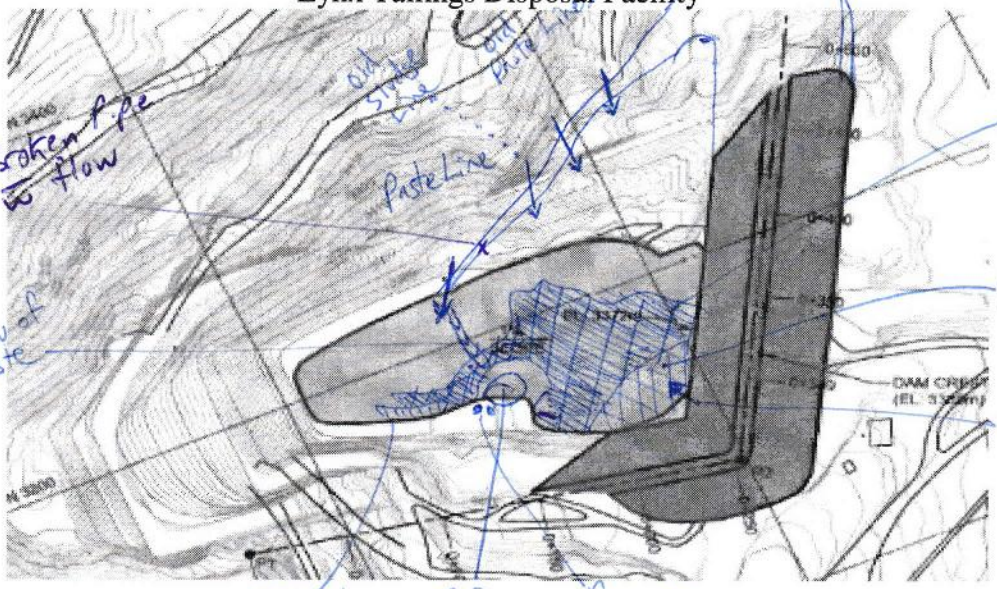
ADDITIONAL COMMENTS

- Paste discharge to Lynx
- Old paste line (submerged Dec 20/13) cut (see pic)

Tailings Disposal Facility



Lynx Tailings Disposal Facility



MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: Scott Stayford **DATE:** January 3/14

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	/						
Surface Cracks - Longitudinal	/						
Settlement / Depressions	/						
Erosion or Gully Channels	/						
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	/						
Riprap coverage adequate?	/						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	/						
Surface Settlement / Depressions	/						
Sinkholes	/						
Cracks / Slope Movement/Bulging	/						
Seepage / Wet Areas	/						Frozen
Other Unusual Conditions	/						
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map	/						
Pond Water Elevation (Top of decant is 3390.3)	/						
Depth of water at decant inlet and clarity	/						
Inlet opening clear?	/						
Sand Storage Area–Pond to Crest Distance > 10 m?	/						
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	/						
Decant inlet opening clear?	/						
Depth of water at decant inlet and clarity?	/						
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?	/						
Any Ditch Damage?	/						
Signs of Ditch Overtopping?	/						
Flow Conditions in Ditch (m^3/s)	/						
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	/						
Surface Cracks - Longitudinal	/						
Settlement / Depressions	/						
Erosion or Gully Channels	/						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?	/						
Sump pump currently pumping?	/						
Ponded water evident on paste tails? if yes, how deep?		/					
Is water flowing into the pit? If yes, show on map		/					
Evidence of slope failure into the Lynx TDF?	/						
Active Tailings Placement? if yes, show on map	/						

*** RATING LEGEND (see next page)**

S = Satisfactory (Meets the intended purpose)

F = Fair (Meets intended purpose, but some maintenance needed)

P = Poor (May not meet intended purpose, repair or modify)

U = Unsatisfactory (Will not meet intended purpose, repair or modify)

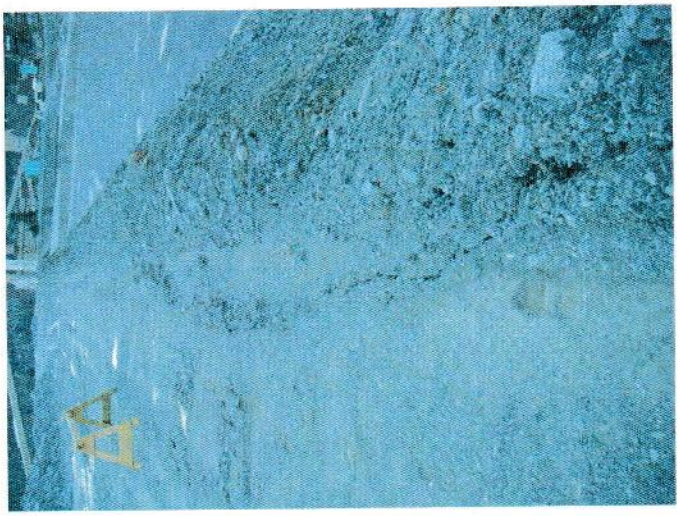
N = Not inspected

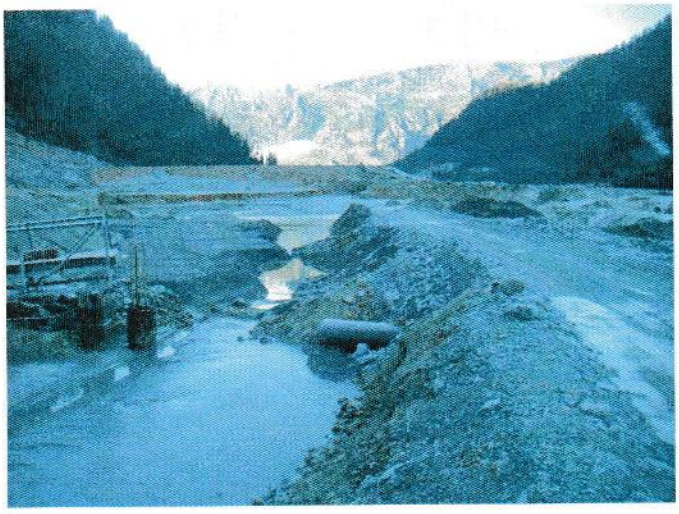
NA = Not applicable

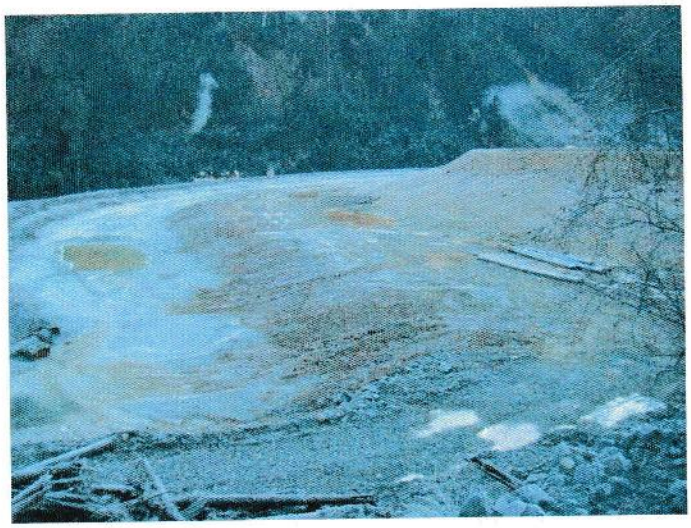
Additional Comments:

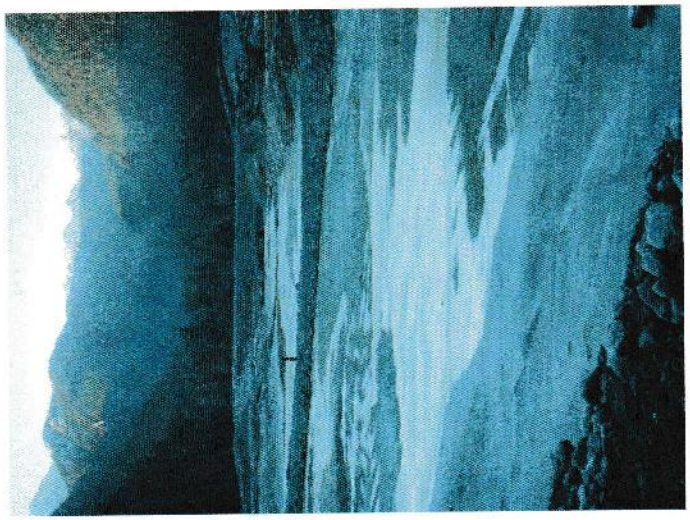
Broken pipe flows into N side bench near paste Line. Does not flow directly into pit. Corey Rouse notified Jan 3/14.

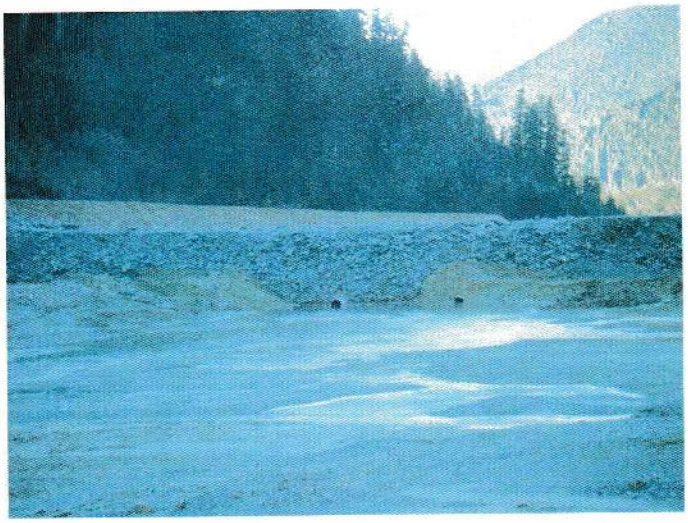
TDF INSPECTION JANUARY 3RD, 2013

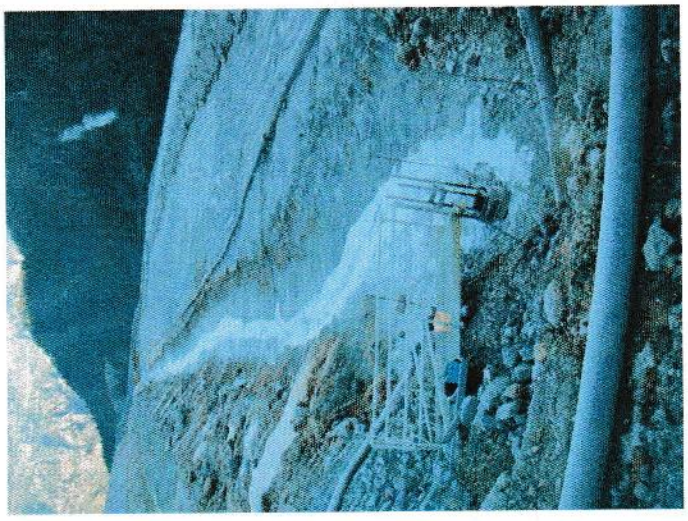


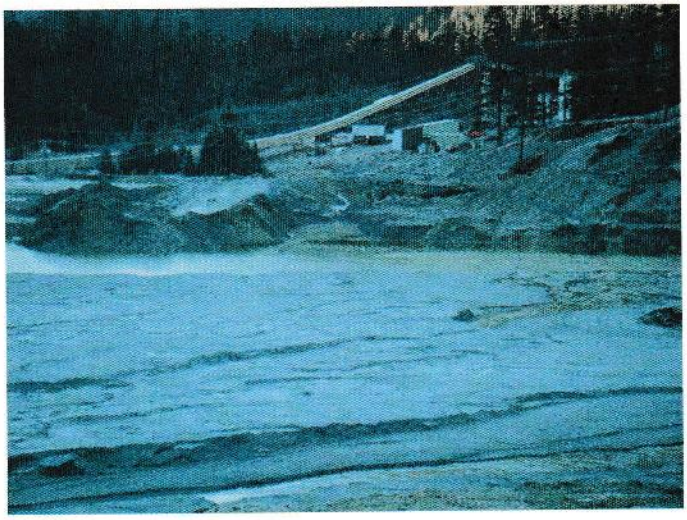












MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: Scott Skagford

Inspector Position: Environmental Technician

Inspection Date/Time: Feb. 6 / 14

Weather Conditions: ~-8°C, clear sky, sunny, breezy, dry.

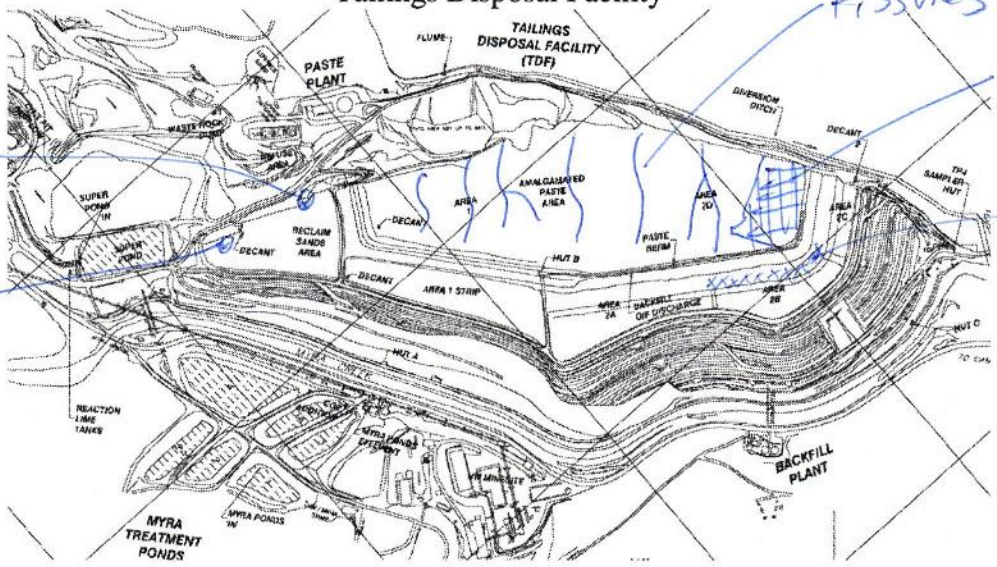
Reason for Inspection:

Routine ☑

Special Condition ☐

ADDITIONAL COMMENTS

Tailings Disposal Facility



Fissures

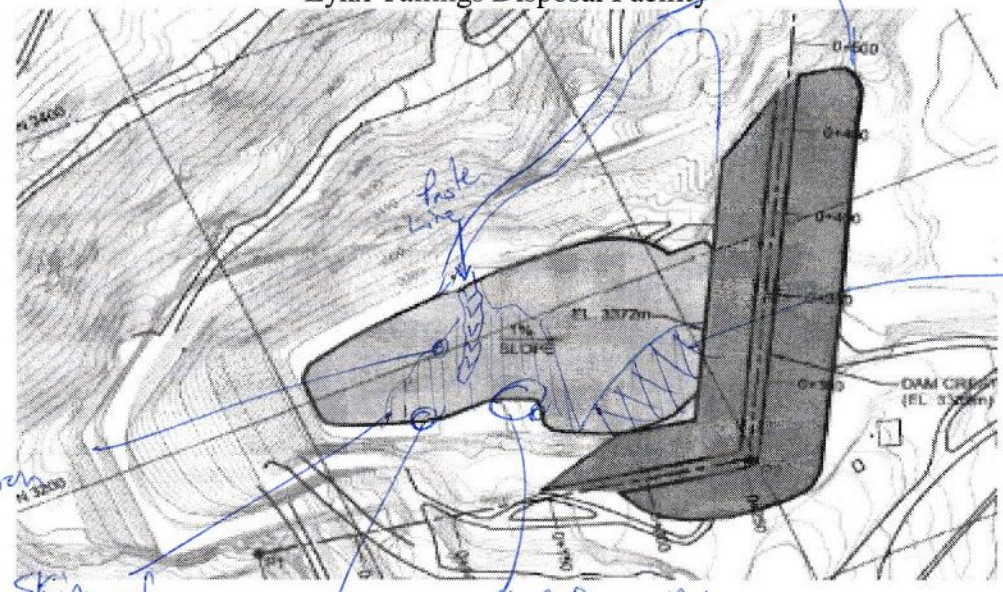
PAG Covers

Reclaim Sand Line

Seepage Zone

Backfill O/F Line

Lynx Tailings Disposal Facility



Paste Line

Sand Beach

Small Depression

Skim of Ice

Old Refuse Pit

Refuse

MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: _____ **DATE:** _____

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse		/					
Surface Cracks - Longitudinal		/					
Settlement / Depressions		/					
Erosion or Gully Channels		/					
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	/						
Riprap coverage adequate?		/					
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion		/					
Surface Settlement / Depressions		/					
Sinkholes		/					
Cracks / Slope Movement/Bulging		/					
Seepage / Wet Areas		/	/				
Other Unusual Conditions		/					
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map						/	
Pond Water Elevation (Top of decant is 3390.3)	/						
Depth of water at decant inlet and clarity	/						
Inlet opening clear?	/						
Sand Storage Area–Pond to Crest Distance > 10 m?	/						
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	/						
Decant inlet opening clear?	/						
Depth of water at decant inlet and clarity?	/						
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?		/	/				Slightly Murky Flow
Any Ditch Damage?	/						
Signs of Ditch Overtopping?	/						
Flow Conditions in Ditch (m^3/s)	/						
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	/						
Surface Cracks - Longitudinal	/						
Settlement / Depressions	/						
Erosion or Gully Channels	/						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?		/	/				
Sump pump currently pumping?	/						
Ponded water evident on paste tails? if yes, how deep?	/						
Is water flowing into the pit? If yes, show on map	/						
Evidence of slope failure into the Lynx TDF?		/					
Active Tailings Placement? if yes, show on map	/						

*** RATING LEGEND (see next page)**

S = Satisfactory (Meets the intended purpose)

F = Fair (Meets intended purpose, but some maintenance needed)

P = Poor (May not meet intended purpose, repair or modify)

U = Unsatisfactory (Will not meet intended purpose, repair or modify)

N = Not inspected

NA = Not applicable

Additional Comments:

_____

_____

_____

_____

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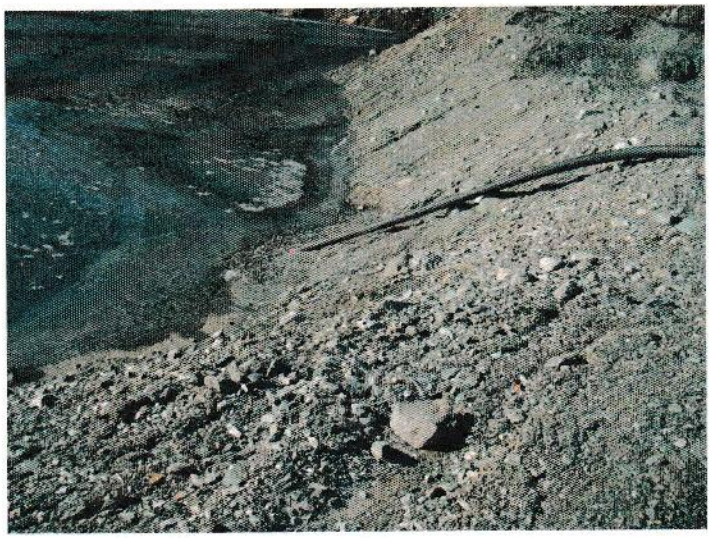
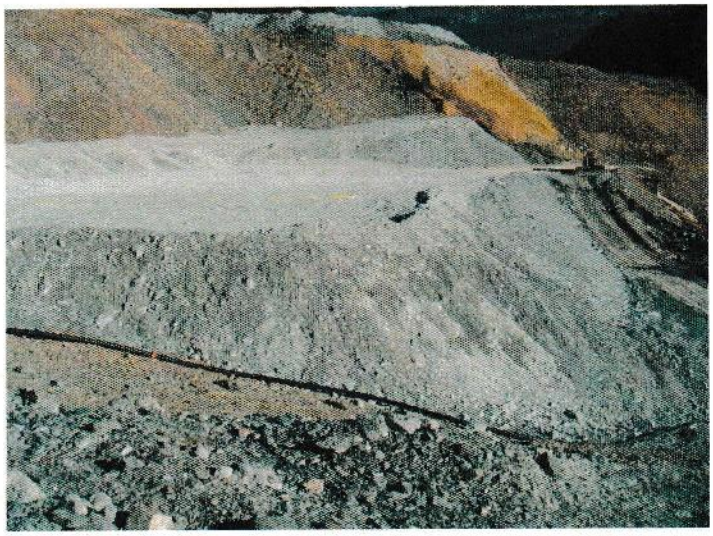
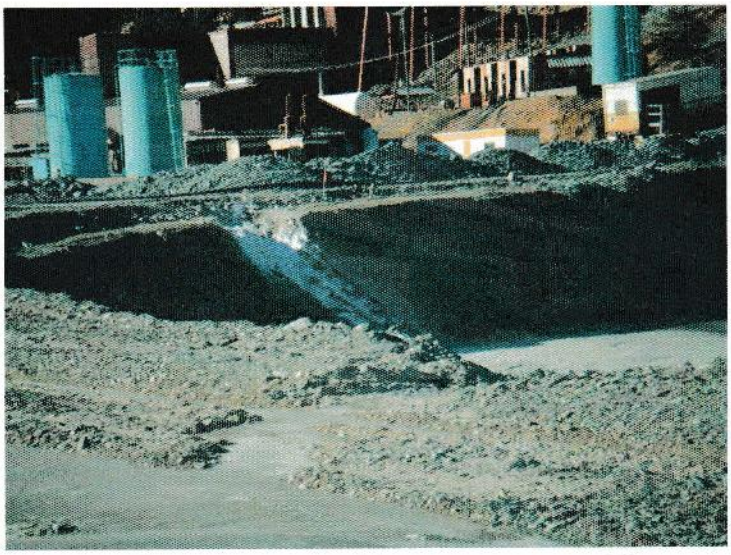
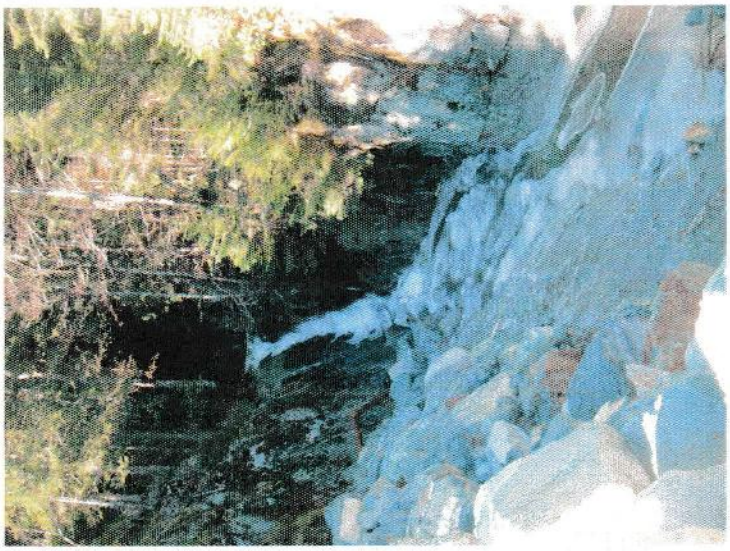
_____

TDF INSPECTION FEBRUARY 06. 2014









MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: Scott Skaaford

Inspector Position: Environmental Technician

Inspection Date/Time: February 13th, 2014

Weather Conditions:

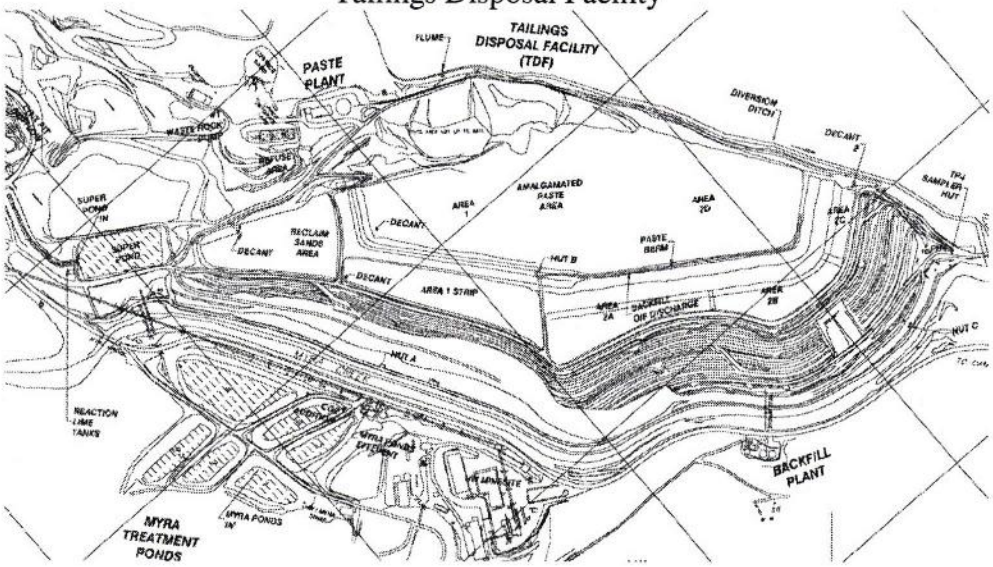
Reason for Inspection:

Routine ☑ SNOW COVERED

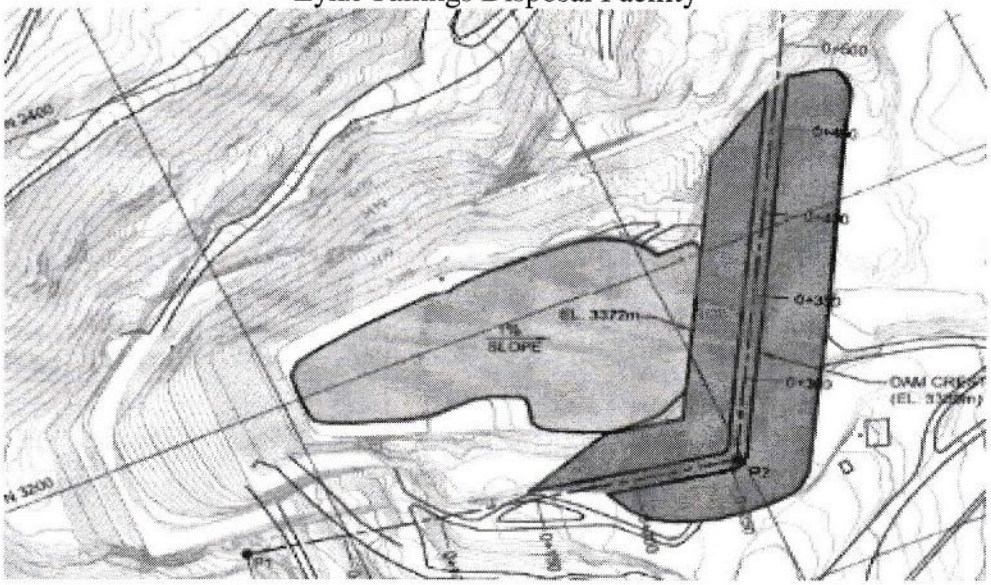
Special Condition ☐

ADDITIONAL COMMENTS

Tailings Disposal Facility



Lynx Tailings Disposal Facility



MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

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INSPECTION DETAILS

Inspector Name: Scott Skayford

Inspector Position: Enviro Tech

Inspection Date/Time: February. 20. 2014

Weather Conditions:

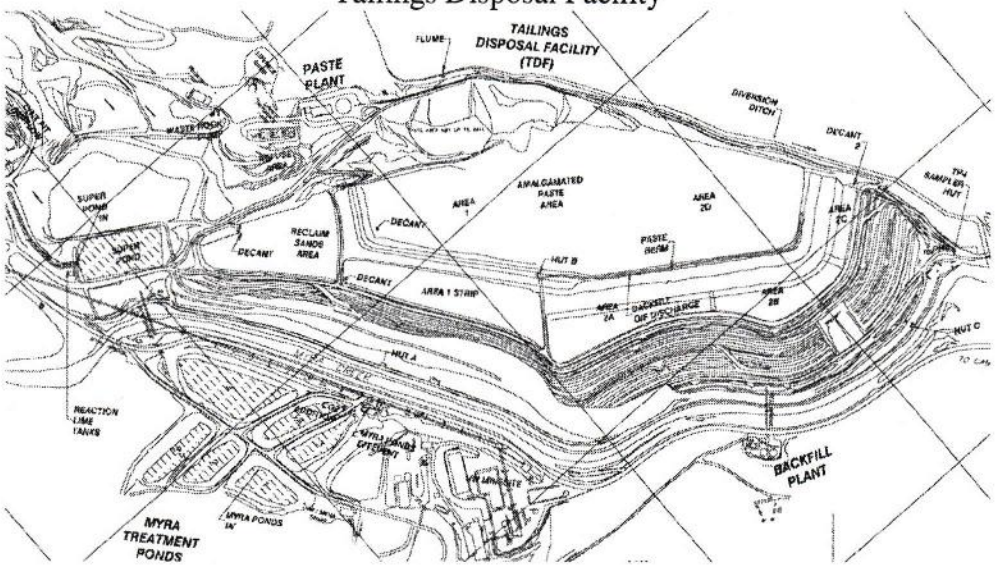
Reason for Inspection:

Routine [X] SNOW COVERED

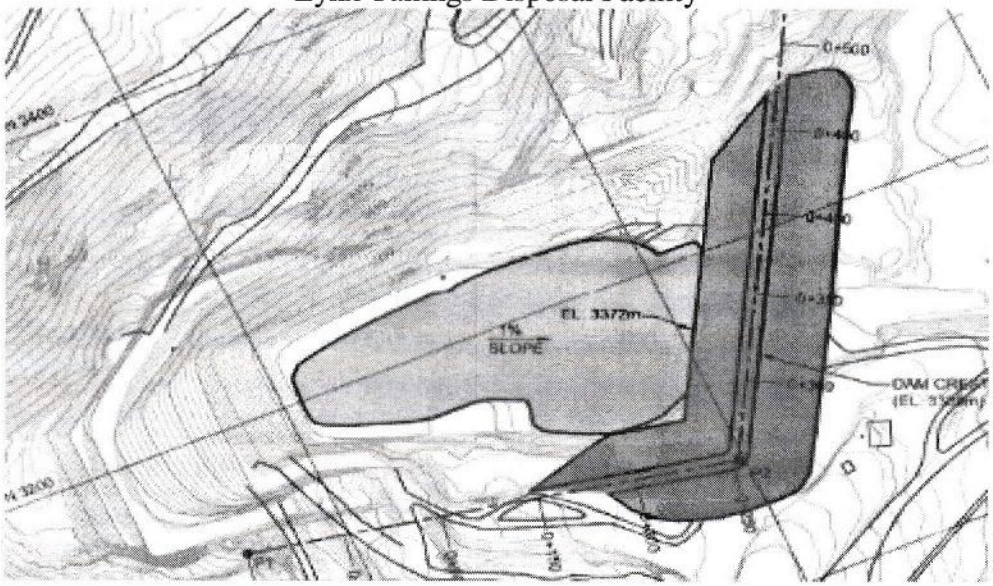
Special Condition [ ]

ADDITIONAL COMMENTS

Tailings Disposal Facility



Lynx Tailings Disposal Facility



MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: Scott Skagford

Inspector Position: Enviro Tech

Inspection Date/Time: March 06, 2014

Weather Conditions:

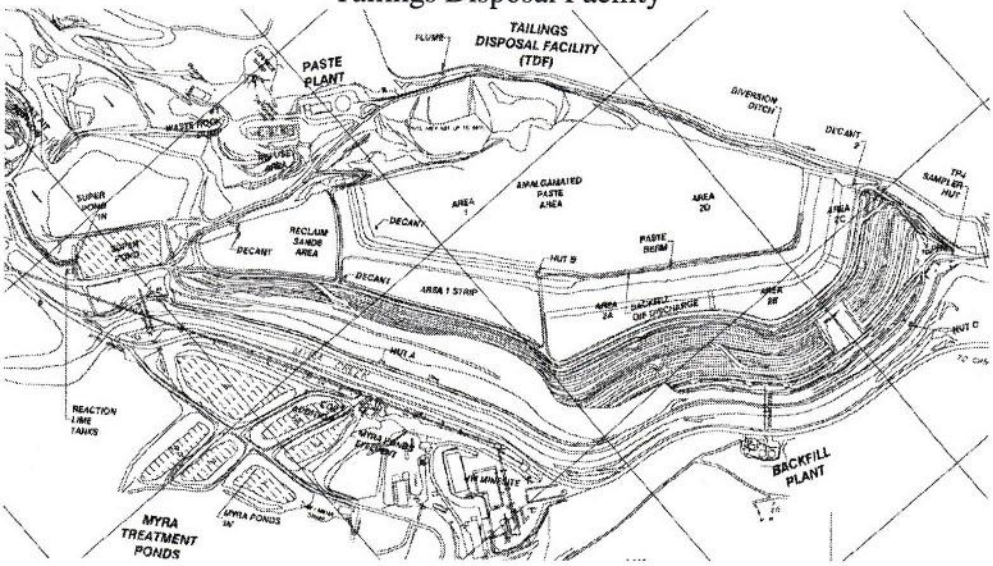
Reason for Inspection:

Routine ☐ SNOW COVERED

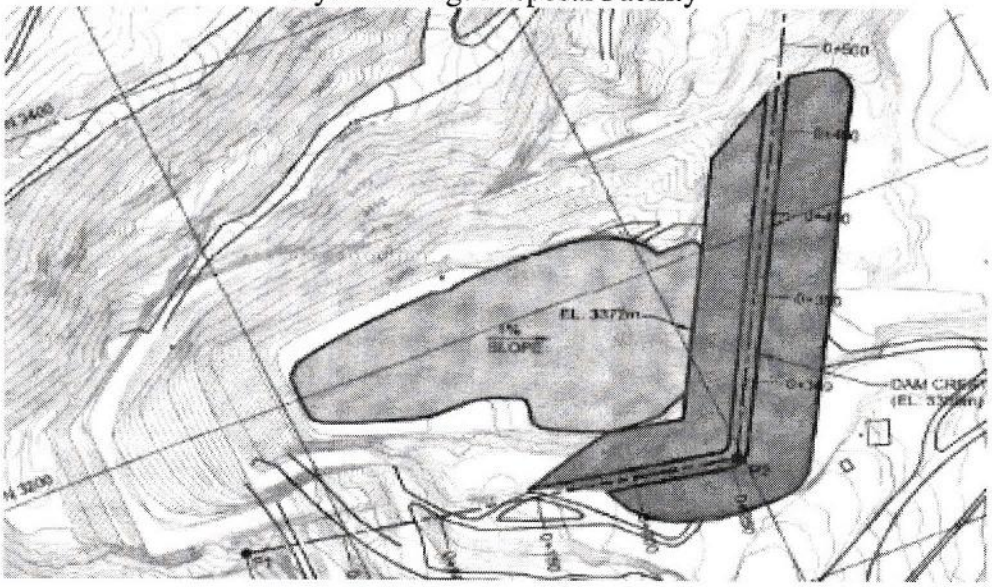
Special Condition ☐

ADDITIONAL COMMENTS

Tailings Disposal Facility



Lynx Tailings Disposal Facility



MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: Scott Skagford

Inspector Position: Environmental Technician

Inspection Date/Time: March 14, 2014 13:40

Weather Conditions: Sunny, cloud dispersing, was raining ~ 1 hr ago ~ 3C no wind.

Reason for Inspection:

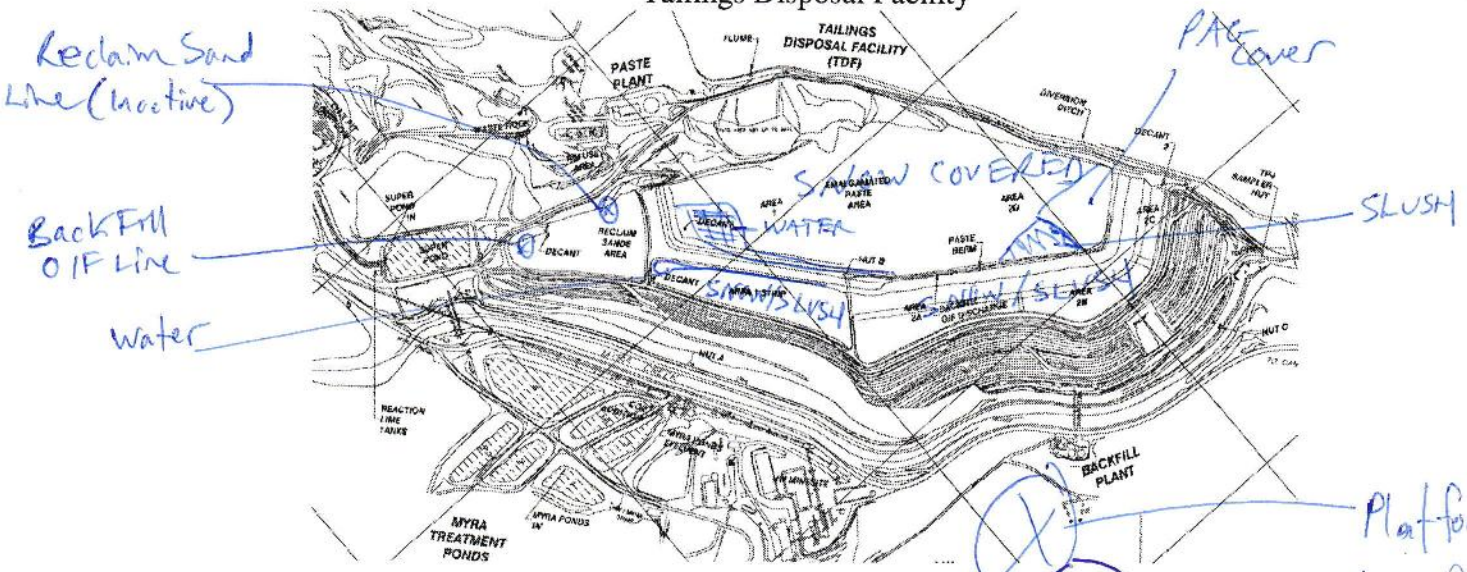
Routine ☑ Excavating Reclaim Sand to Super Pole

Special Condition ☐ Reclaim Sand Discharge to Lynx Pit

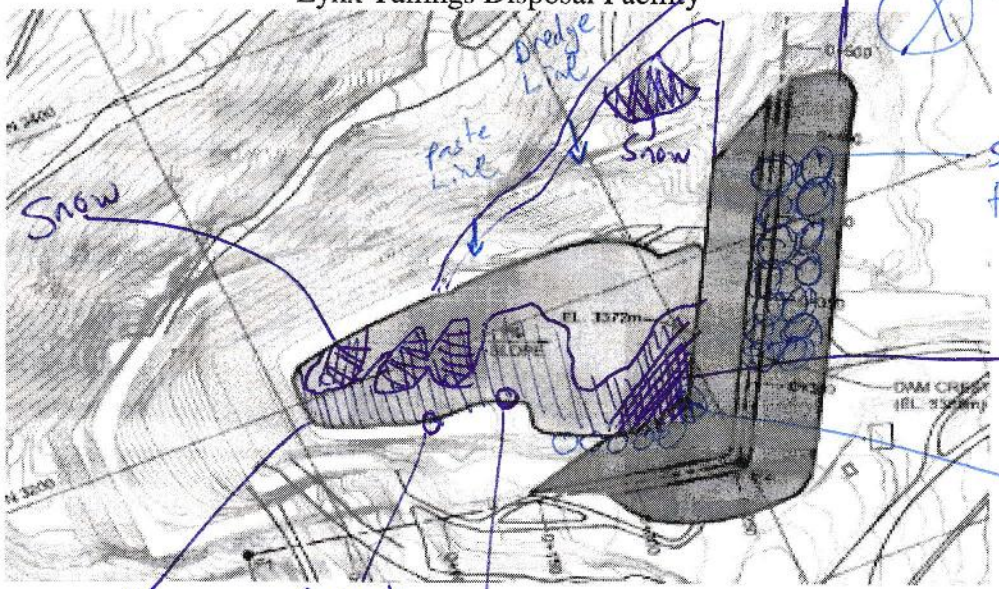
ADDITIONAL COMMENTS

No paste discharge @ time of insp. / Nil dredge to pit.

Tailings Disposal Facility



Lynx Tailings Disposal Facility



MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: _____ **DATE:** _____

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	S	F	P	U	N	NA	
Surface Cracks - Transverse							
Surface Cracks - Longitudinal							SNOW COVERED
Settlement / Depressions							
Erosion or Gully Channels							
Spillway Inspection	S	F	P	U	N	NA	
Invert opening clear?	✓						
Riprap coverage adequate?	✓						
Tailings Dam Slope and Toe	S	F	P	U	N	NA	
Surface Erosion							
Surface Settlement / Depressions							SNOW / NOT INSPECTED
Sinkholes							
Cracks / Slope Movement/Bulging							
Seepage / Wet Areas							
Other Unusual Conditions							
Amalgamated Paste Area	S	F	P	U	N	NA	
Active Tailings Placement? If yes, show on map						✓	
Pond Water Elevation (Top of decant is 3390.3)	✓						
Depth of water at decant inlet and clarity	✓						
Inlet opening clear?	✓						
Sand Storage Area–Pond to Crest Distance > 10 m?	✓						
TDF Strip	S	F	P	U	N	NA	
Distance between water and outer embankment > 20m?	✓						
Decant inlet opening clear?		✓					
Depth of water at decant inlet and clarity?		✓					RINGS SUBMERGED
Lynx Diversion Ditch	S	F	P	U	N	NA	
Ditch Clear? No infill material?	✓						
Any Ditch Damage?	✓						
Signs of Ditch Overtopping?	✓						
Flow Conditions in Ditch (m^3/s)	✓						
Paste Berm Crest	S	F	P	U	N	NA	
Surface Cracks - Transverse							
Surface Cracks - Longitudinal							NOT INSPECTED / SNOW COVERED
Settlement / Depressions							
Erosion or Gully Channels							
Lynx TDF	S	F	P	U	N	NA	
Sink holes or depressions evident in the tailings?	✓						
Sump pump currently pumping?	✓						
Ponded water evident on paste tails? if yes, how deep?	✓						
Is water flowing into the pit? If yes, show on map	✓						
Evidence of slope failure into the Lynx TDF?	✓						
Active Tailings Placement? if yes, show on map	✓						NOT ACTIVE DURING INSP

* **RATING LEGEND (see next page)**

S = Satisfactory (Meets the intended purpose)

F = Fair (Meets intended purpose, but some maintenance needed)

P = Poor (May not meet intended purpose, repair or modify)

U = Unsatisfactory (Will not meet intended purpose, repair or modify)

N = Not inspected

NA = Not applicable

Additional Comments:

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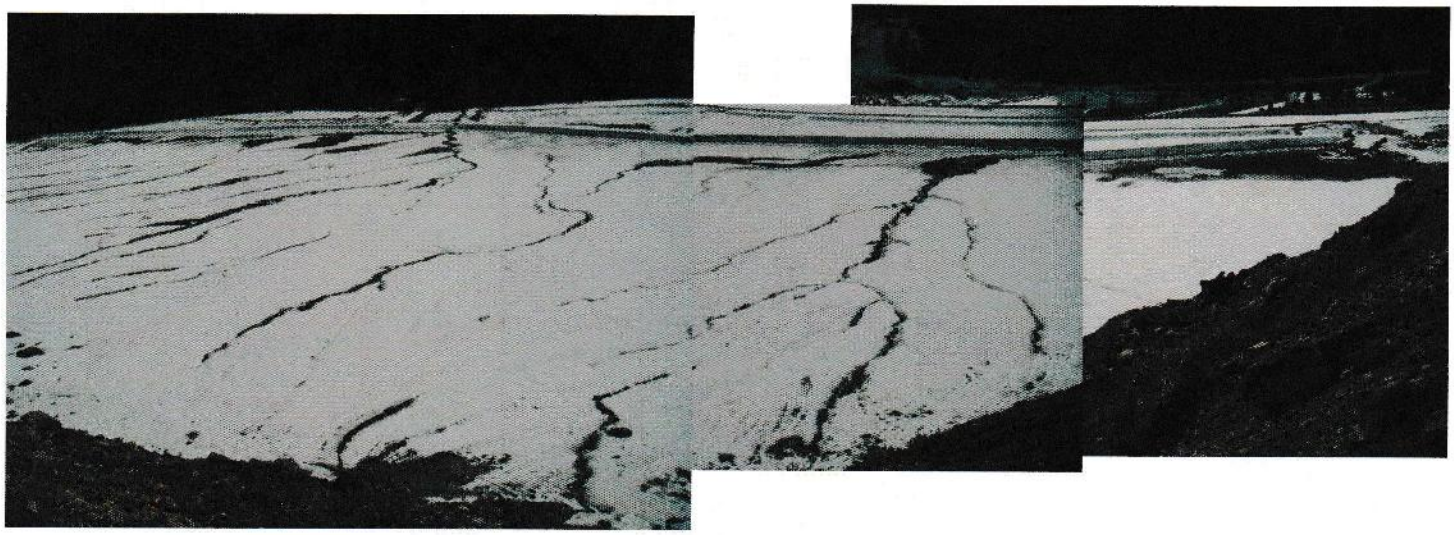
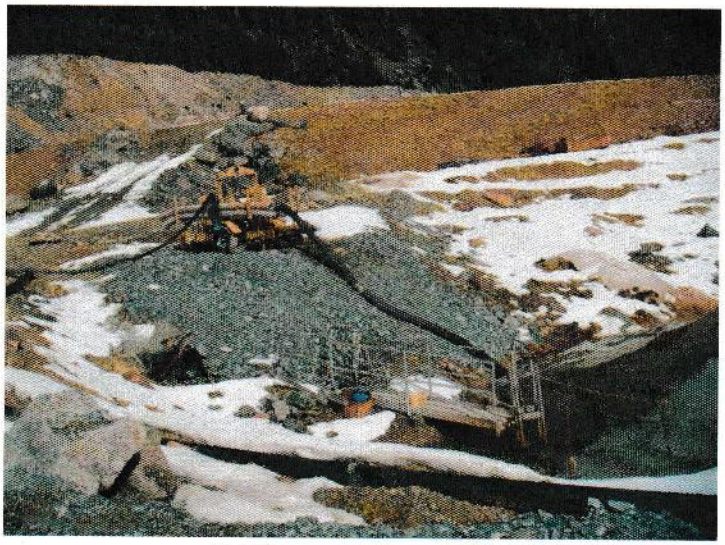
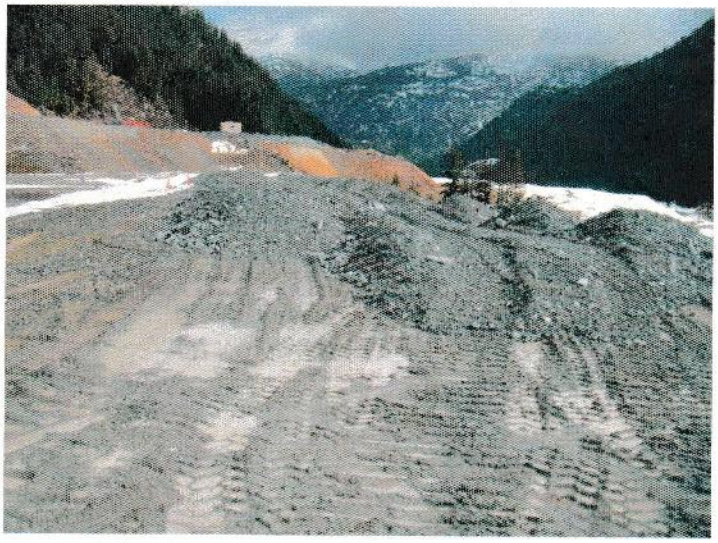
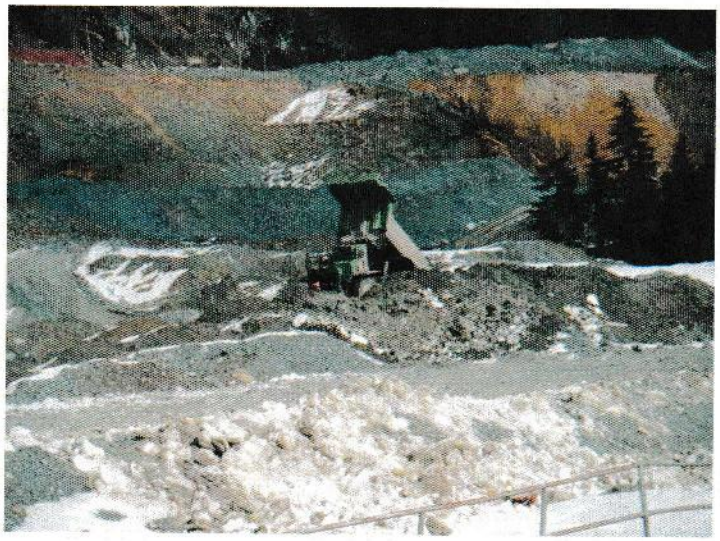
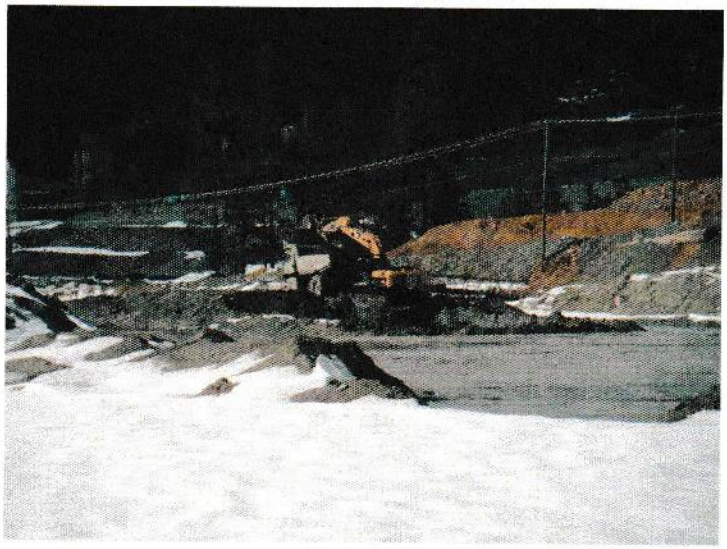




TDF INSPECTION
MARCH 14, 2014







MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: SCOTT SKAGFORD

Inspector Position: ENVIRONMENTAL TECH

Inspection Date/Time: March 21, 2014 11:30

Weather Conditions: Sunny, calm, ~0°C, ~5-10% cloud cover, dry

Reason for Inspection:

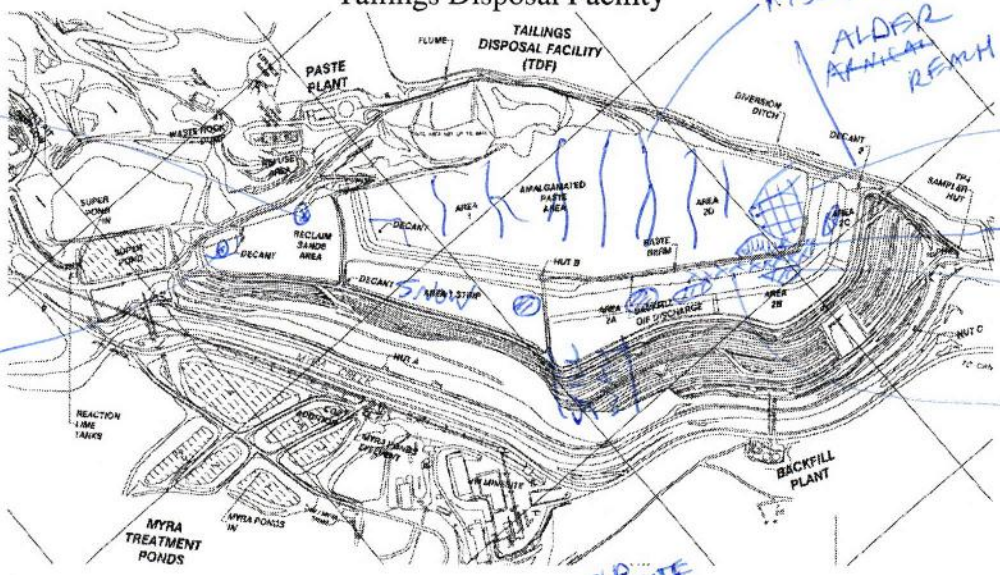
Routine [X] EXCAVATING RECLAIM SAND TO J-STOCK PILE (SUPER PILE)

Special Condition [ ] Reclaim Sand discharge to Lynx Pit

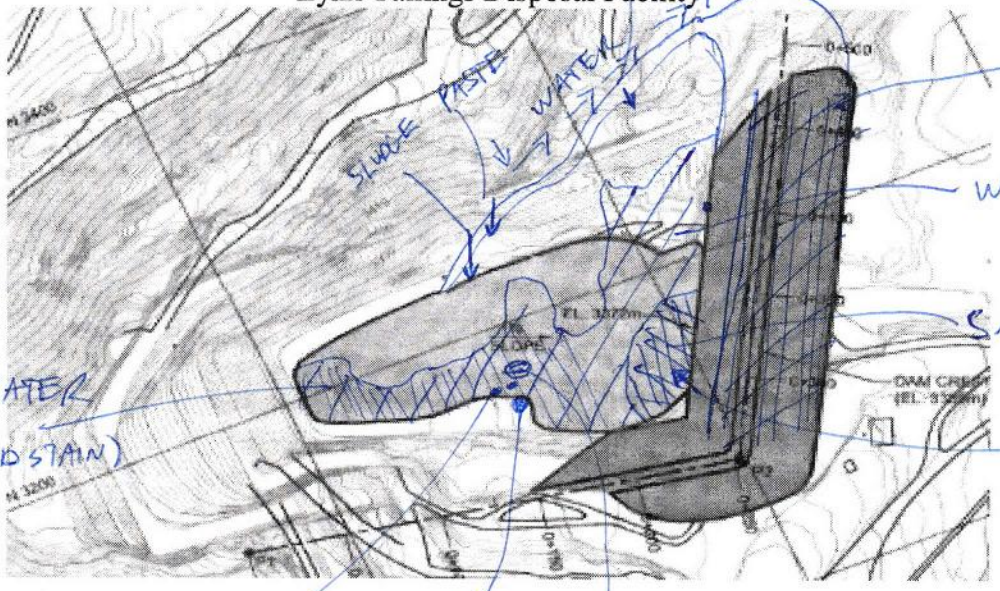
ADDITIONAL COMMENTS

ACTIVE SLURRY & PASTE DISCHARGE TO LYNX

Tailings Disposal Facility



Lynx Tailings Disposal Facility



MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: _____ **DATE:** _____

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse		/					
Surface Cracks - Longitudinal		/					
Settlement / Depressions		/					
Erosion or Gully Channels		/					
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	/						
Riprap coverage adequate?	/						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	/						
Surface Settlement / Depressions	/						
Sinkholes	/						
Cracks / Slope Movement/Bulging	/						
Seepage / Wet Areas		/					
Other Unusual Conditions	/						
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map						/	
Pond Water Elevation (Top of decant is 3390.3)	/						
Depth of water at decant inlet and clarity	/						
Inlet opening clear?	/						
Sand Storage Area–Pond to Crest Distance > 10 m?	/						
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	/						
Decant inlet opening clear?	/						
Depth of water at decant inlet and clarity?	/						
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?	/						
Any Ditch Damage?	/						
Signs of Ditch Overtopping?	/						
Flow Conditions in Ditch (m^3/s)	/						
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	/						
Surface Cracks - Longitudinal	/						
Settlement / Depressions	/						
Erosion or Gully Channels	/						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?	/						
Sump pump currently pumping?	/						2 in place - not pumping
Ponded water evident on paste tails? if yes, how deep?		/					
Is water flowing into the pit? If yes, show on map	/						
Evidence of slope failure into the Lynx TDF?	/						
Active Tailings Placement? if yes, show on map	/						Yes

*** RATING LEGEND (see next page)**

S = Satisfactory (Meets the intended purpose)

F = Fair (Meets intended purpose, but some maintenance needed)

P = Poor (May not meet intended purpose, repair or modify)

U = Unsatisfactory (Will not meet intended purpose, repair or modify)

N = Not inspected

NA = Not applicable

Additional Comments:

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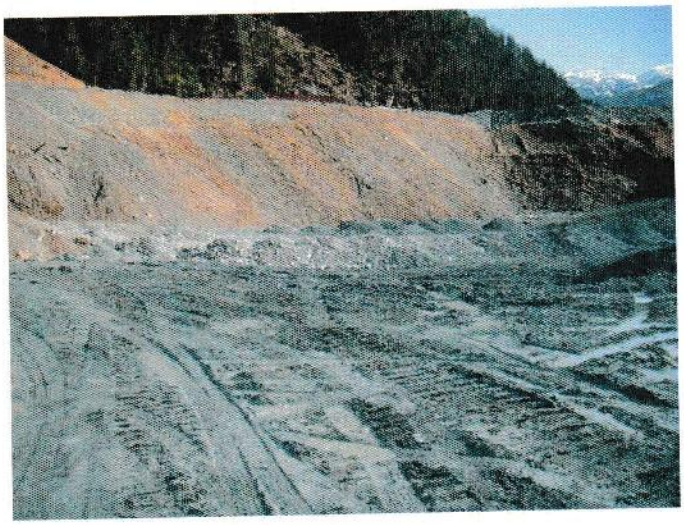
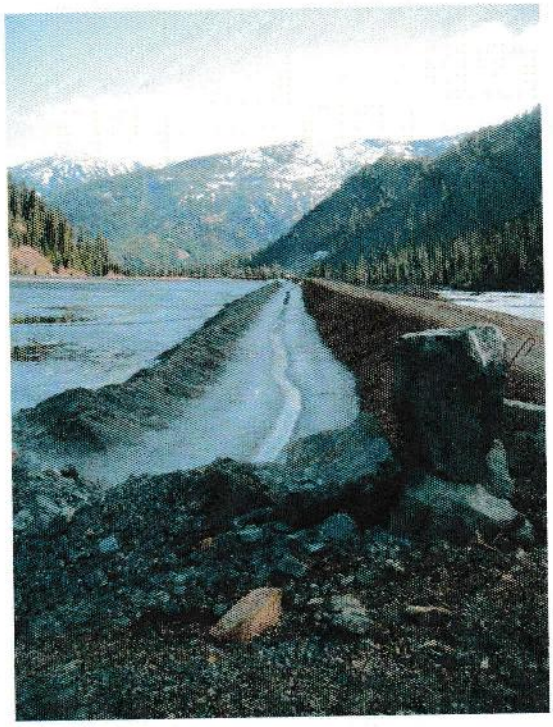
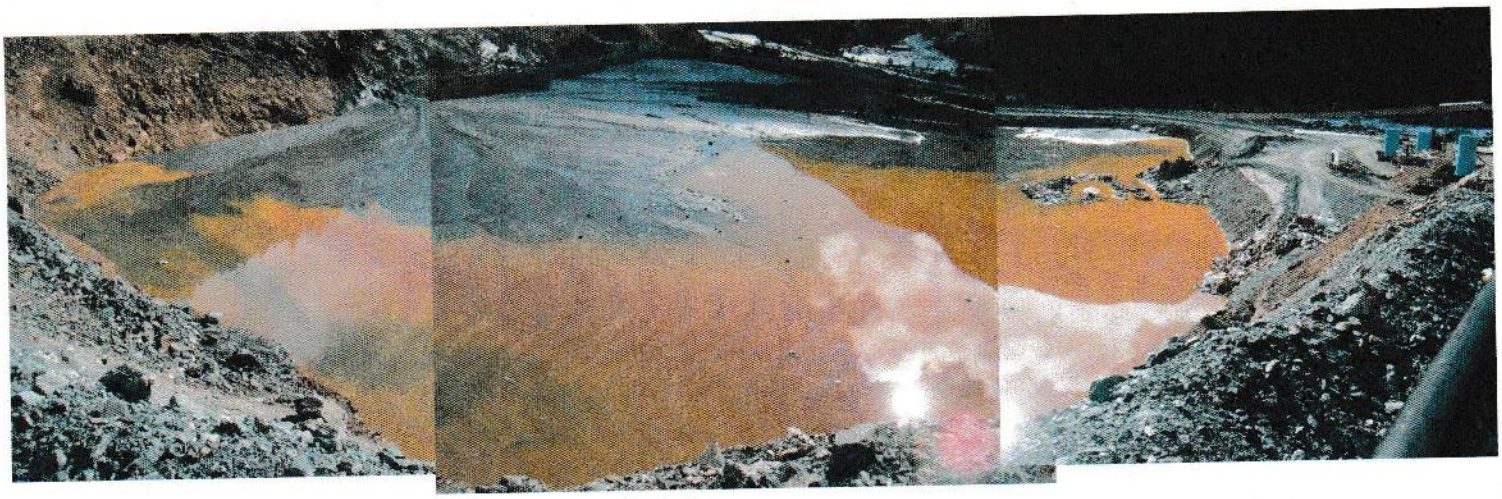
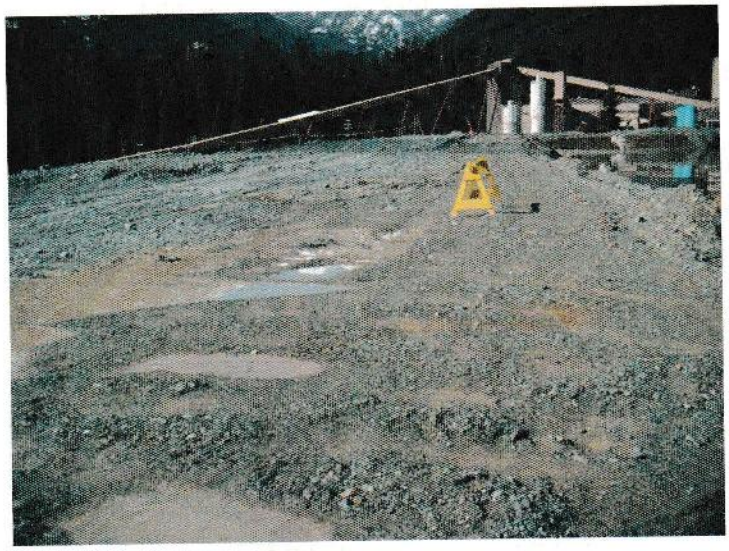
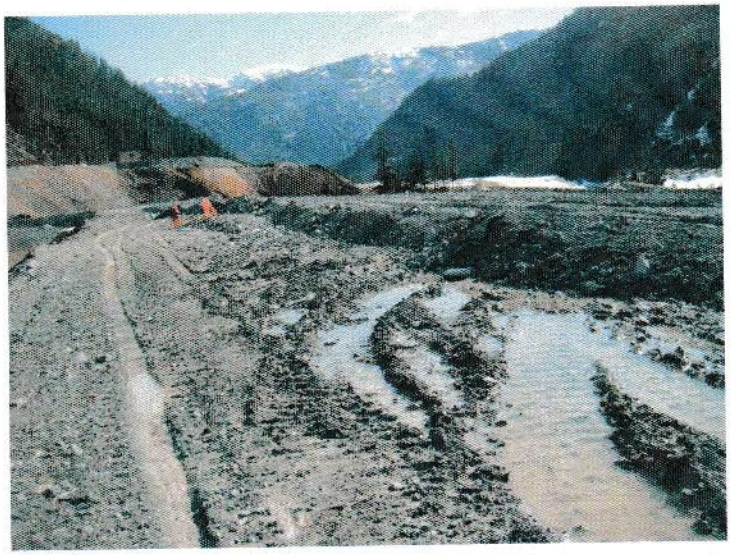


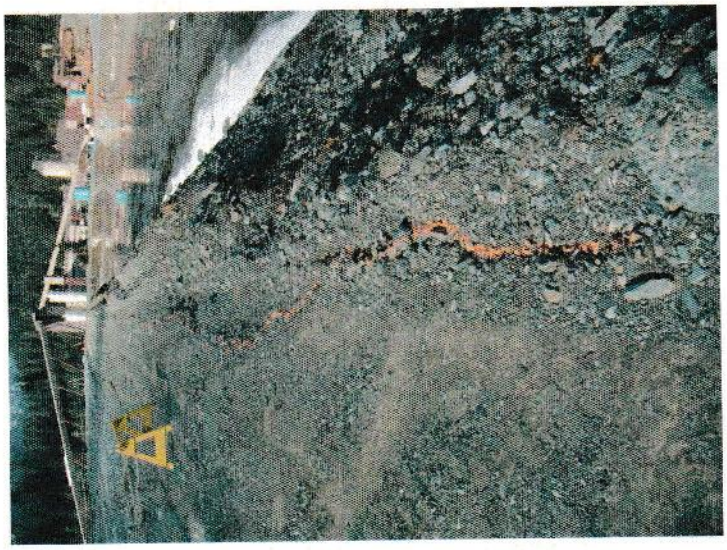


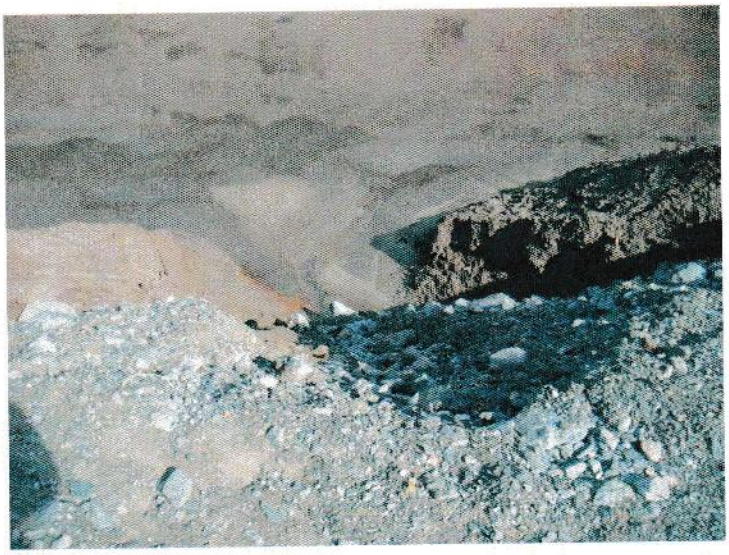
TDF INSPECTION
MARCH 21, 2014











MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: Scott Skayford

Inspector Position: Enviro Tech.

Inspection Date/Time: March 27, 2014

Weather Conditions:

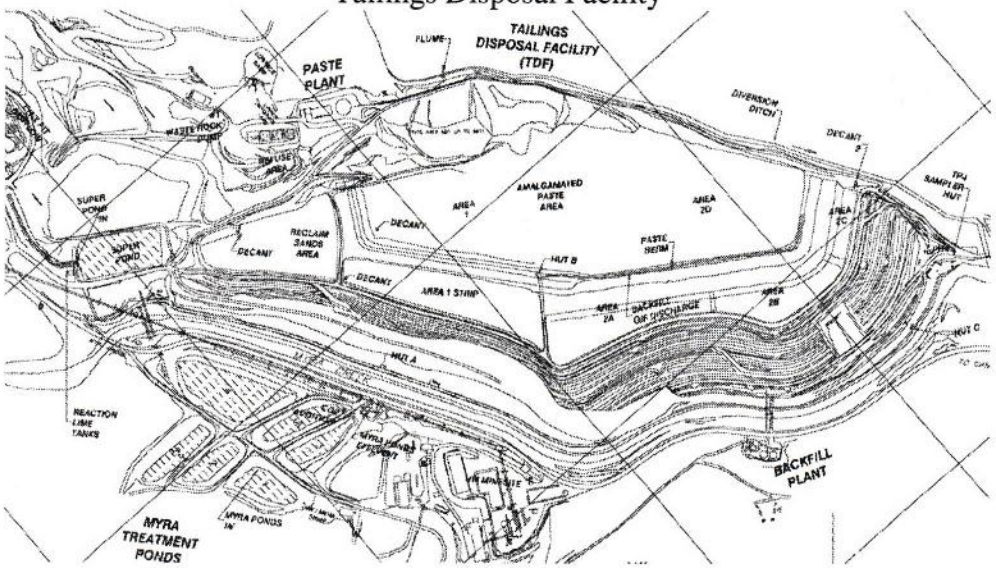
Reason for Inspection:

Routine ☐ SNOW COVERED

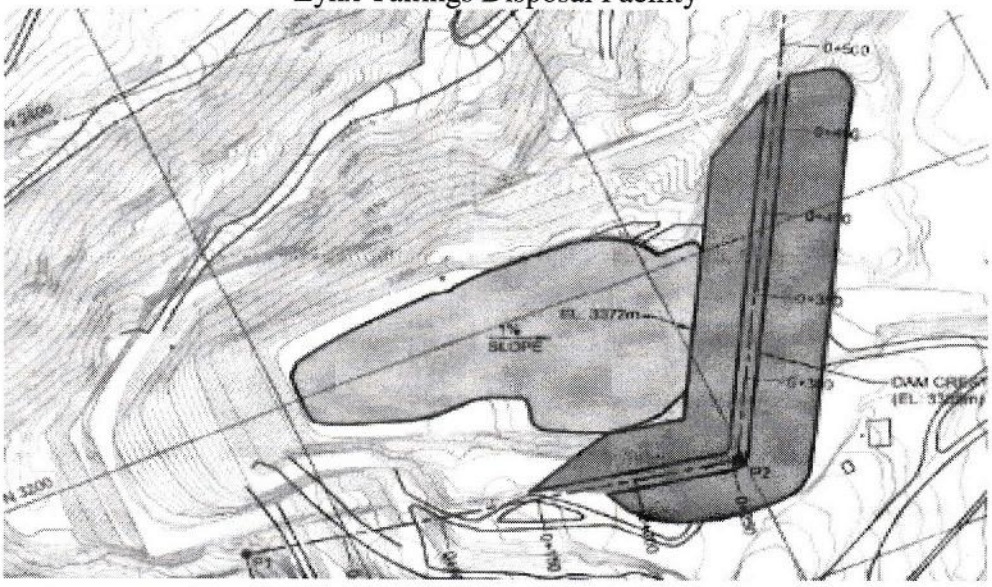
Special Condition ☐

ADDITIONAL COMMENTS

Tailings Disposal Facility



Lynx Tailings Disposal Facility



MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: Scott Skagford

Inspector Position: Environmental Technician

Inspection Date/Time: March 28, 2014

Weather Conditions: ~4°C, Rainy all day.

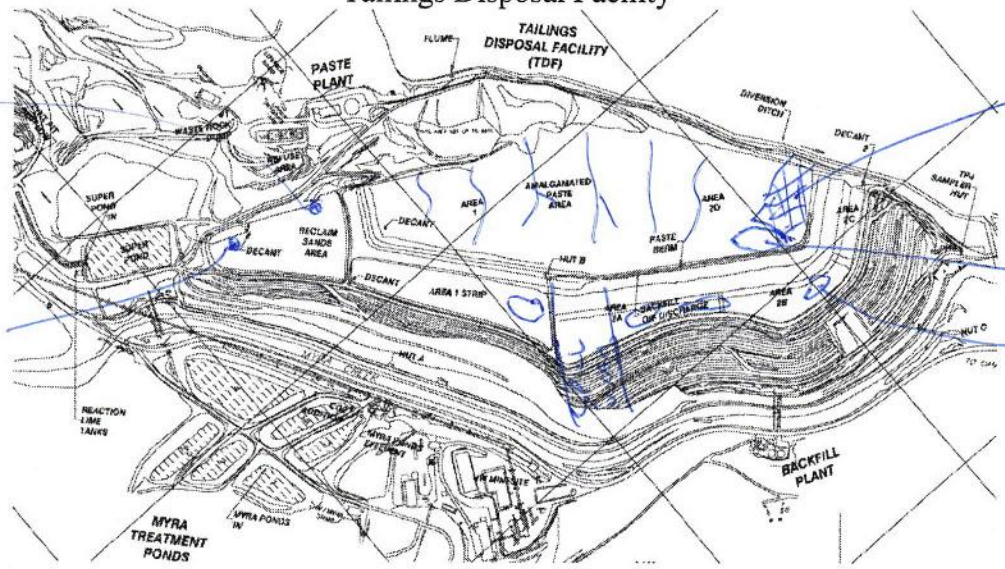
Reason for Inspection:

Routine [X]

Special Condition [ ]

ADDITIONAL COMMENTS

Tailings Disposal Facility



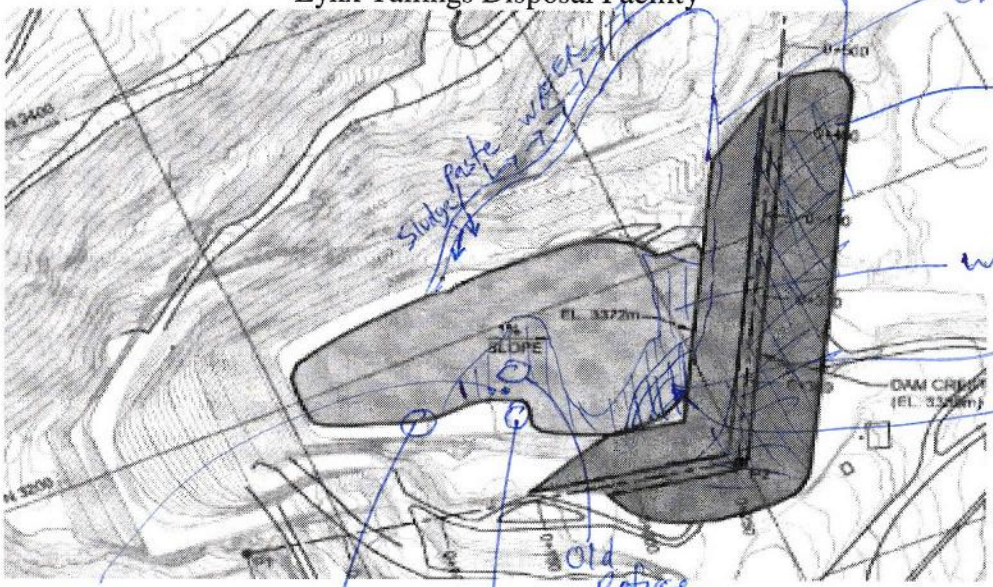
Old Reclaim Sand

PAG Covers

Ponded Water

Backfill O/F

Lynx Tailings Disposal Facility



Cracking

Lift

Water

Sand Beach

Reclaim Sand Line

Pumps

New Refuse Pit

Wood Pile

Old Refuse Pit

MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: Scott Skayford **DATE:** March 28, 2014

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	/						
Surface Cracks - Longitudinal	/						
Settlement / Depressions	/						
Erosion or Gully Channels	/						
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	/						
Riprap coverage adequate?	/						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	/						
Surface Settlement / Depressions	/						
Sinkholes	/						
Cracks / Slope Movement/Bulging	/						
Seepage / Wet Areas		/					Seepage Area Not Inspected
Other Unusual Conditions	/						
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map						/	
Pond Water Elevation (Top of decant is 3390.3)	/						
Depth of water at decant inlet and clarity	/						
Inlet opening clear?	/						
Sand Storage Area–Pond to Crest Distance > 10 m?	/						
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	/						
Decant inlet opening clear?	/						
Depth of water at decant inlet and clarity?	/						
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?	/						
Any Ditch Damage?	/						
Signs of Ditch Overtopping?	/						
Flow Conditions in Ditch (m^3/s)	/						
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	/						
Surface Cracks - Longitudinal	/						
Settlement / Depressions	/						
Erosion or Gully Channels	/						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?	/						
Sump pump currently pumping?	/						
Ponded water evident on paste tails? if yes, how deep?	/						
Is water flowing into the pit? If yes, show on map	/						
Evidence of slope failure into the Lynx TDF?		/					Cracking along U/S Berm
Active Tailings Placement? if yes, show on map	/						

*** RATING LEGEND (see next page)**

S = Satisfactory (Meets the intended purpose)

F = Fair (Meets intended purpose, but some maintenance needed)

P = Poor (May not meet intended purpose, repair or modify)

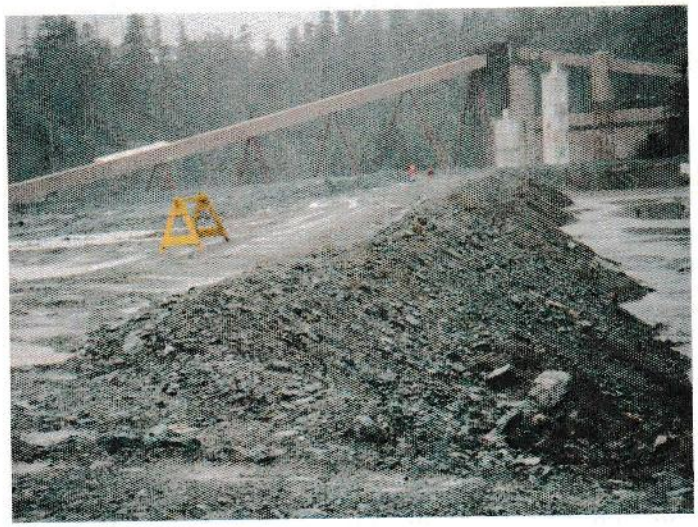
U = Unsatisfactory (Will not meet intended purpose, repair or modify)

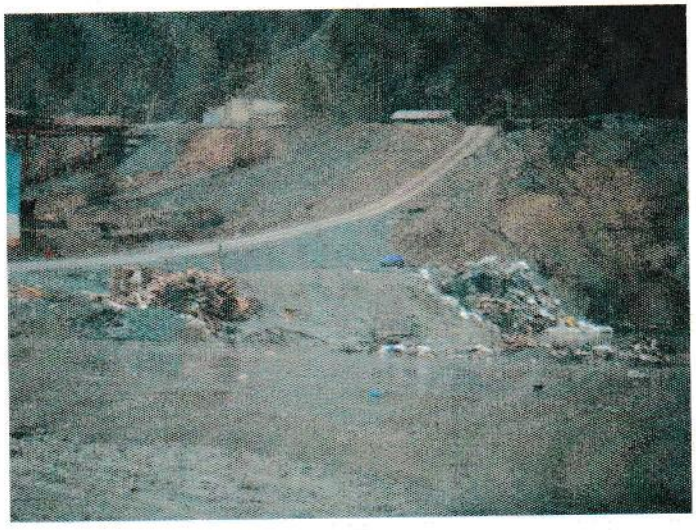
N = Not inspected

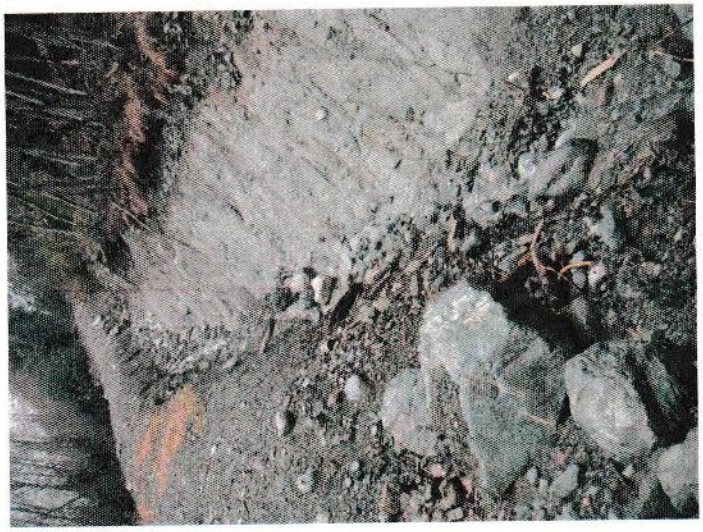
NA = Not applicable

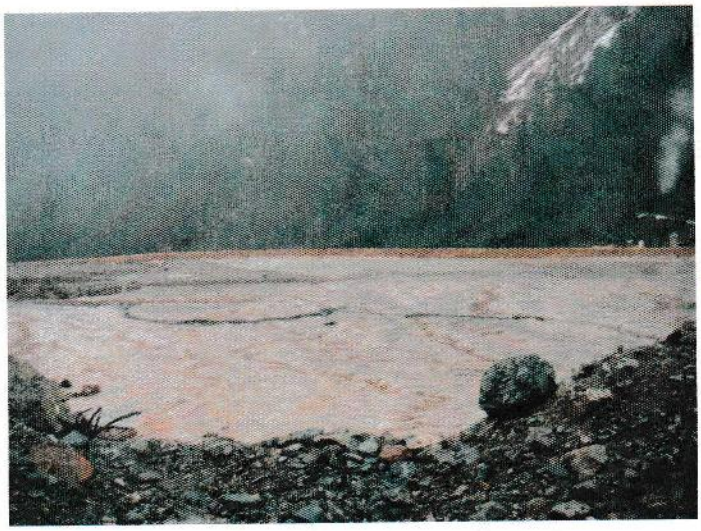
Additional Comments:

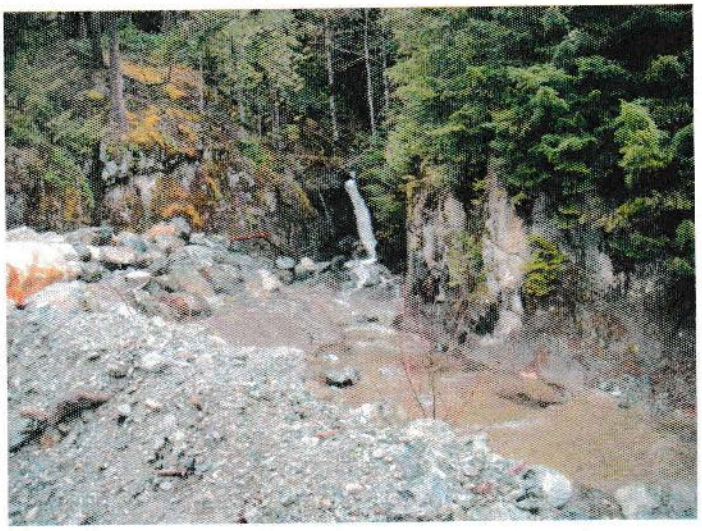
TDF INPSECTION MARCH 28, 2014











MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: Scott Skayford

Inspector Position: Environmental Technician

Inspection Date/Time: April 04, 2014

Weather Conditions: Moderate wind NE, Rain-on/off

Reason for Inspection:

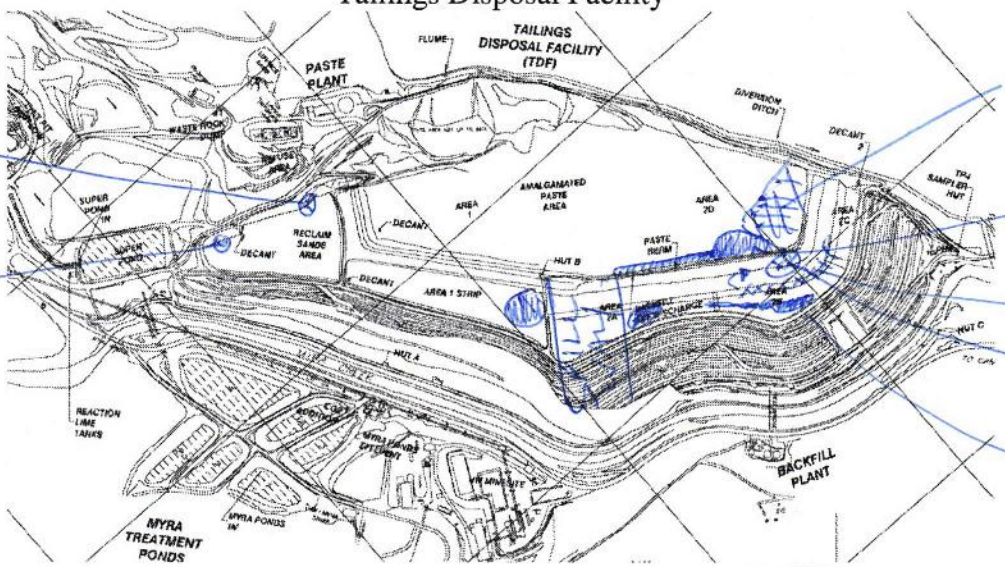
- **Routine** ☑
- **Special Condition** ☐

ADDITIONAL COMMENTS

Very soft and wet around 'seepage zone'

Water ponding on AFA and AFA east end ditch.

Tailings Disposal Facility



old Reclaim Sand Line

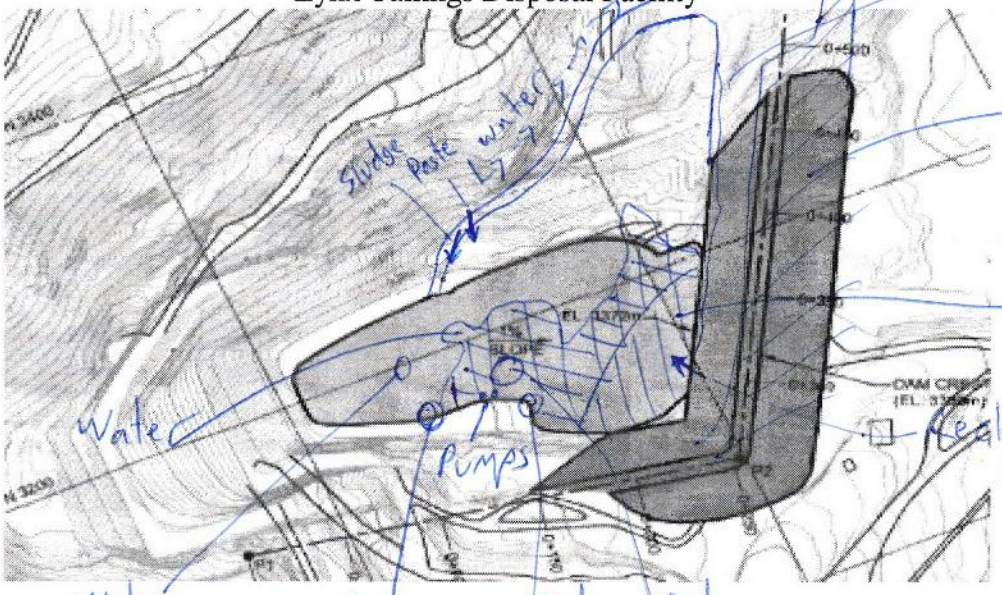
Backfill OIF Line

PAG Cover

Ponded Water

Seepage Zone Extremely Soft/Damp Ponded Water

Lynx Tailings Disposal Facility



Cracking

J-material

Water

Water Indicating Sink hole

New Refuse Pit

Wood pile

Old Refuse Pit

MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: Scott Shayford **DATE:** April 04, 2014

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	✓						
Riprap coverage adequate?	✓						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	✓						
Surface Settlement / Depressions	✓						
Sinkholes	✓						
Cracks / Slope Movement/Bulging	✓						
Seepage / Wet Areas		✓					Very wet/soft (see pics)
Other Unusual Conditions	✓						
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map						✓	
Pond Water Elevation (Top of decant is 3390.3)	✓						
Depth of water at decant inlet and clarity	✓						
Inlet opening clear?	✓						
Sand Storage Area–Pond to Crest Distance > 10 m?	✓						
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	✓						
Decant inlet opening clear?	✓						
Depth of water at decant inlet and clarity?	✓						
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?	✓						
Any Ditch Damage?	✓						
Signs of Ditch Overtopping?	✓						
Flow Conditions in Ditch (m^3/s)	✓						
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?		✓					One apparent sink hole ~3m diameter
Sump pump currently pumping?	✓						2 in place
Ponded water evident on paste tails? if yes, how deep?	✓						
Is water flowing into the pit? If yes, show on map	✓						
Evidence of slope failure into the Lynx TDF?	✓	✓					cracking (see map / photo)
Active Tailings Placement? if yes, show on map	✓						

* **RATING LEGEND (see next page)**

S = Satisfactory (Meets the intended purpose)

F = Fair (Meets intended purpose, but some maintenance needed)

P = Poor (May not meet intended purpose, repair or modify)

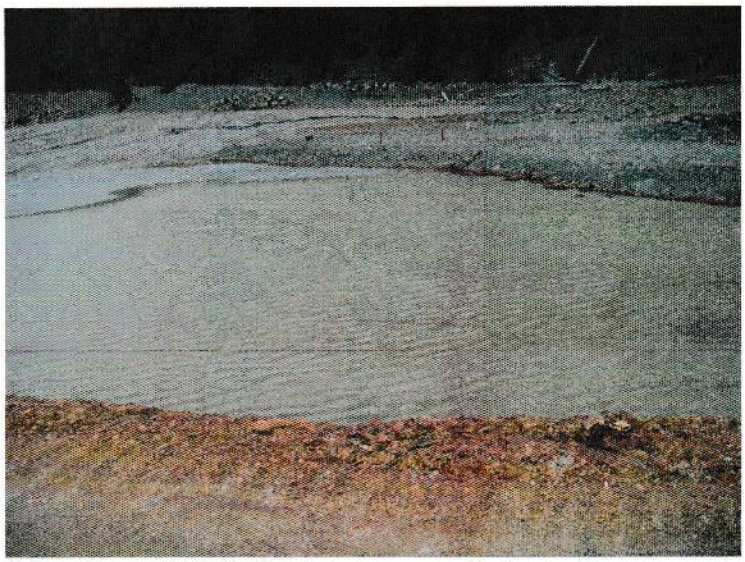
U = Unsatisfactory (Will not meet intended purpose, repair or modify)

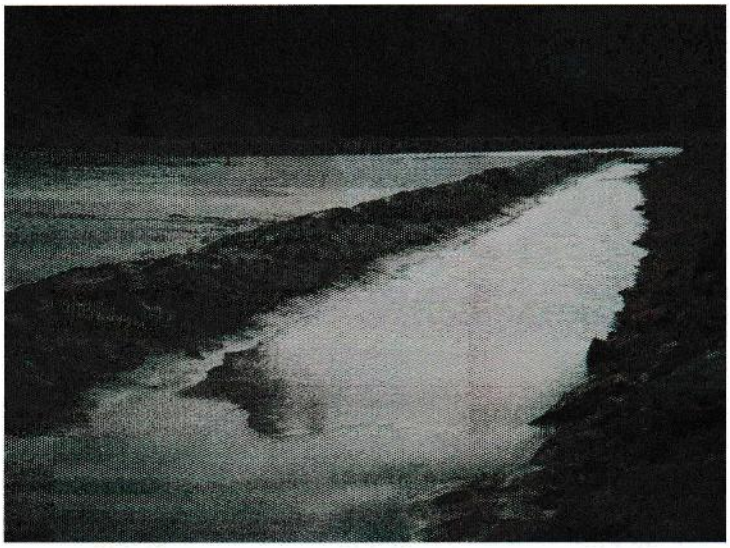
N = Not inspected

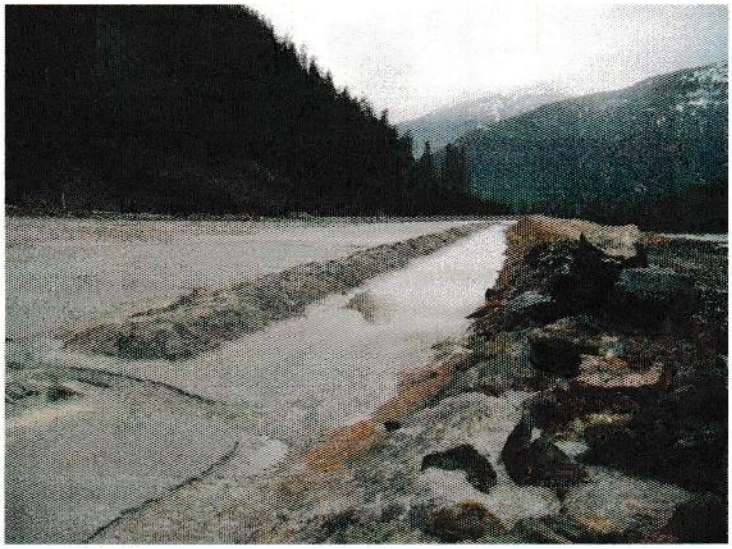
NA = Not applicable

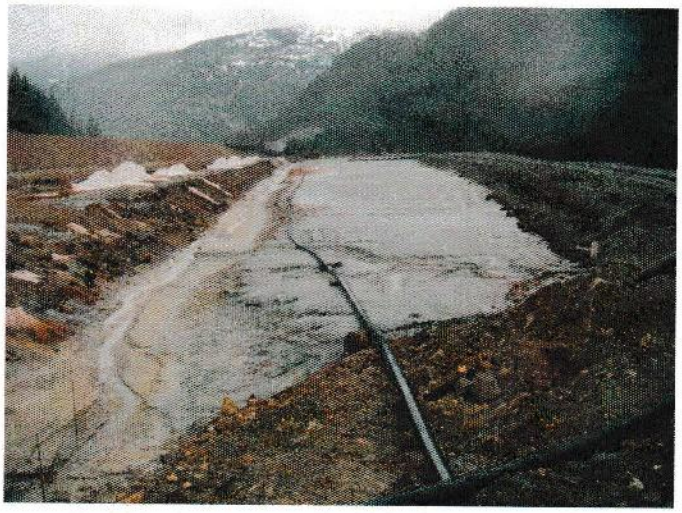
Additional Comments:

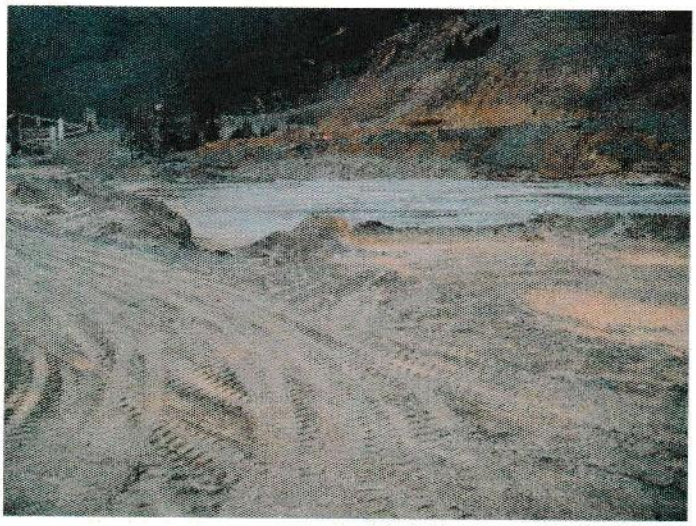
TDF INSPECTION April 04, 2014











MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: IVOR McWILLIAMS

Inspector Position: ENVIRONMENTAL MANAGER

Inspection Date/Time: FRIDAY APRIL 11, 2014 1-2PM

Weather Conditions: SUNNY, DRY ~ 10°C.

Reason for Inspection:

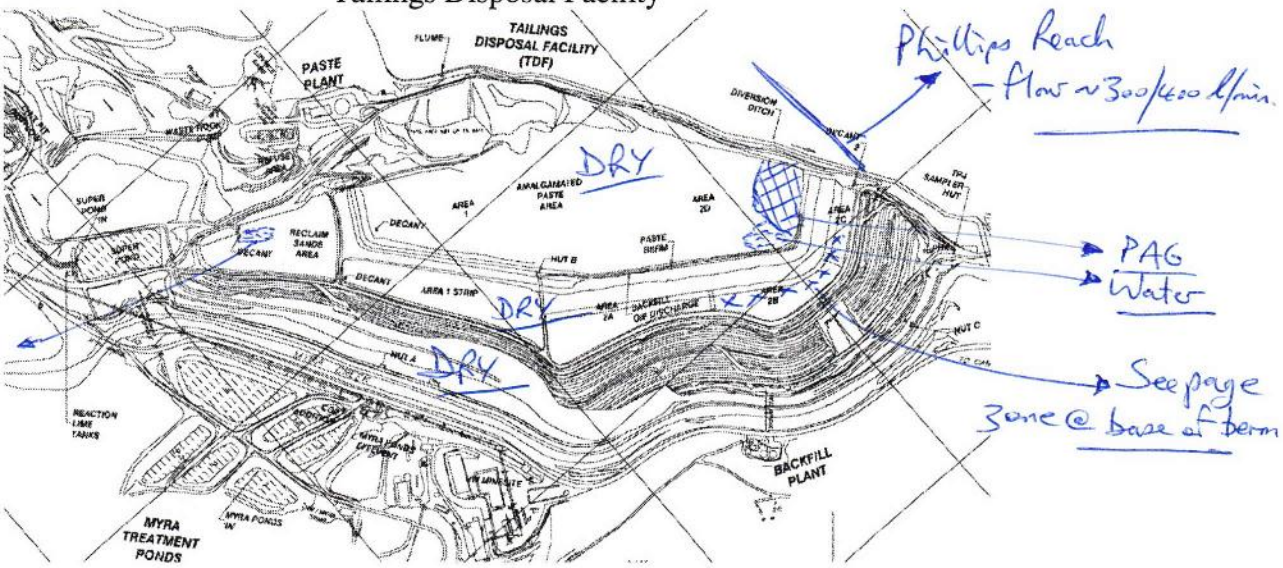
Routine ☑

Special Condition ☐

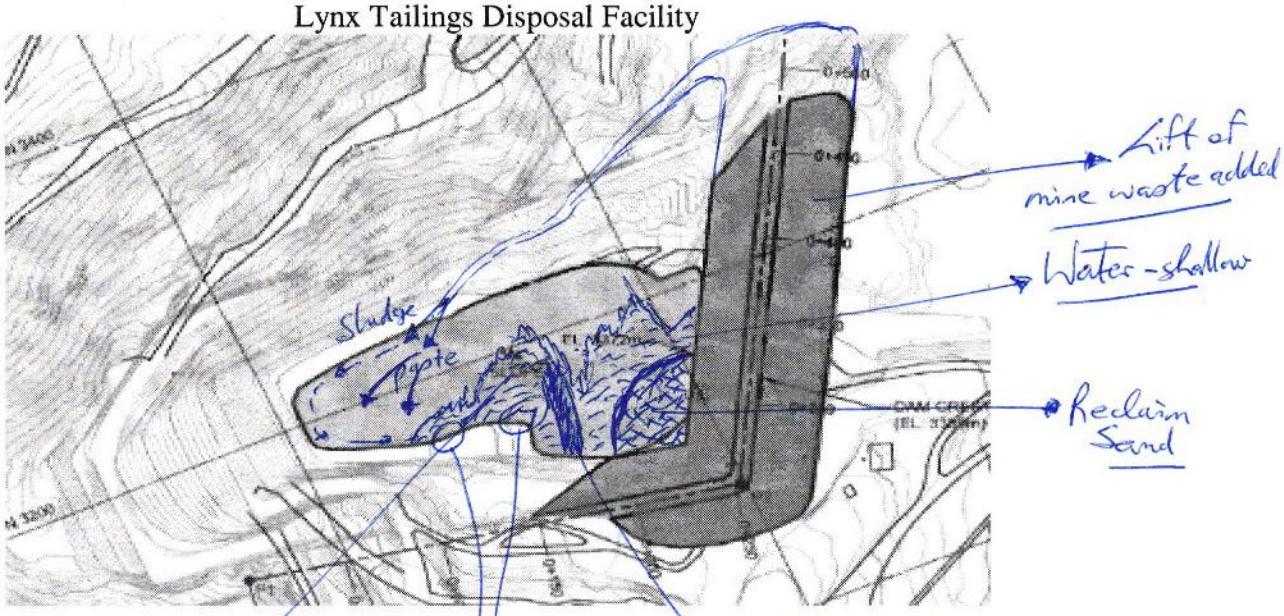
ADDITIONAL COMMENTS

Mill running.

Tailings Disposal Facility



Lynx Tailings Disposal Facility



MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: IMcW **DATE:** April 11/14

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	✓						
Riprap coverage adequate?	✓						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	✓						
Surface Settlement / Depressions	✓						
Sinkholes	✓						
Cracks / Slope Movement/Bulging	✓						
Seepage / Wet Areas		✓					Seepage zone @ base of paste berm
Other Unusual Conditions	✓						
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map						✓	
Pond Water Elevation (Top of decant is 3390.3)	✓						
Depth of water at decant inlet and clarity	✓						
Inlet opening clear?	✓						DRY
Sand Storage Area–Pond to Crest Distance > 10 m?	✓						Good
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	✓						
Decant inlet opening clear?	✓						
Depth of water at decant inlet and clarity?	✓						DRY
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?		✓					Minor rock debris
Any Ditch Damage?	✓						
Signs of Ditch Overtopping?	✓						
Flow Conditions in Ditch (m^3/s)		✓					
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?	✓						
Sump pump currently pumping?	✓						Pump in place
Ponded water evident on paste tails? if yes, how deep?		✓					Shallow
Is water flowing into the pit? If yes, show on map	✓						
Evidence of slope failure into the Lynx TDF?		✓					
Active Tailings Placement? if yes, show on map	✓						

*** RATING LEGEND (see next page)**

S = Satisfactory (Meets the intended purpose)

F = Fair (Meets intended purpose, but some maintenance needed)

P = Poor (May not meet intended purpose, repair or modify)

U = Unsatisfactory (Will not meet intended purpose, repair or modify)

N = Not inspected

NA = Not applicable

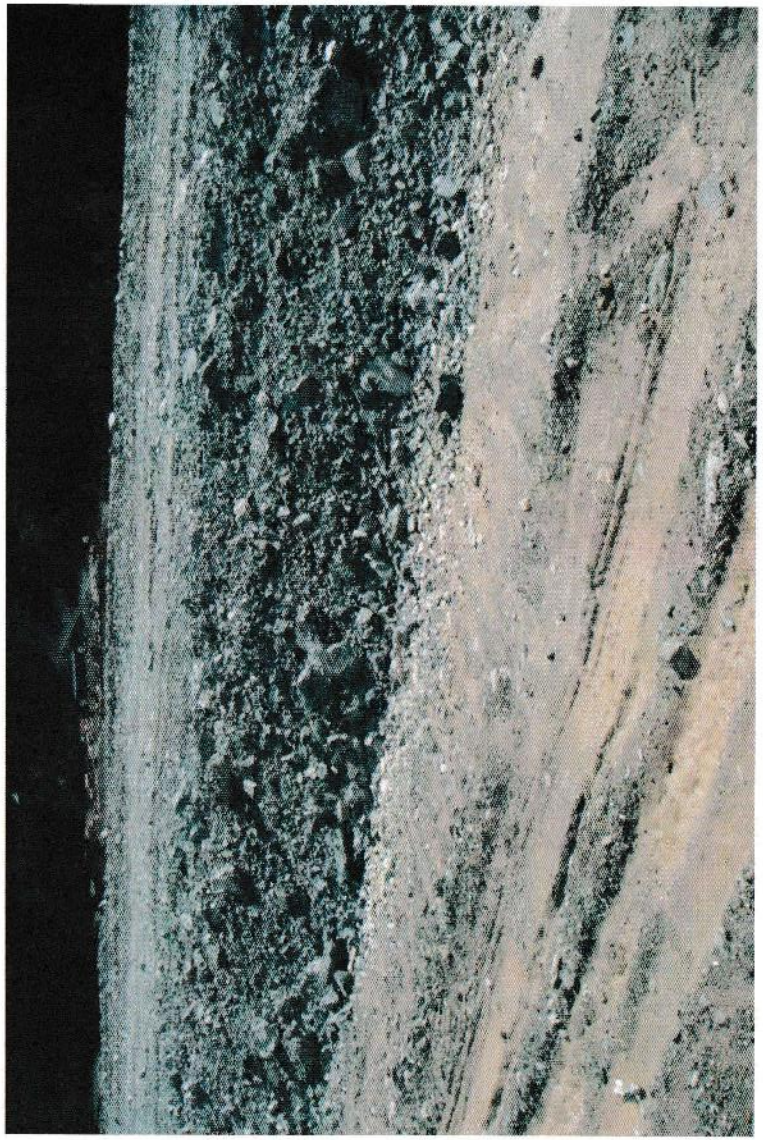
Version 5 – Nov 2008

Additional Comments:

Pumping sludge via dredge from Super Pond to Lynx TDF.

Lynx TDF

- HW waste placed on berm



SAND RECLAIM AREA

TDF

MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: IVOR Mc WILLIAMS

Inspector Position: ENVIRONMENTAL MANAGER

Inspection Date/Time: Thursday April 17, 2014 ~ 11:30 AM

Weather Conditions: Overcast, raining.

Reason for Inspection:

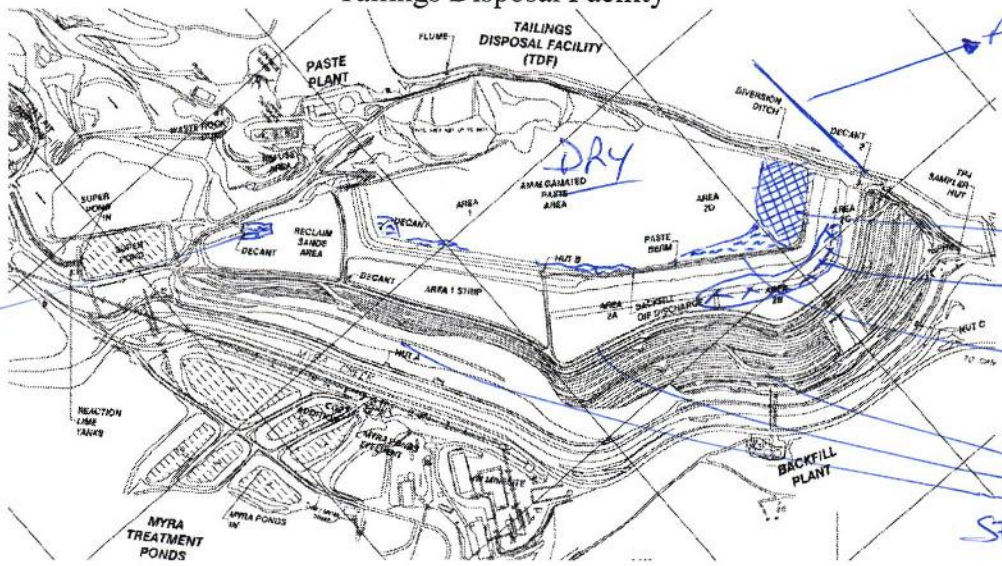
Routine ✓

Special Condition

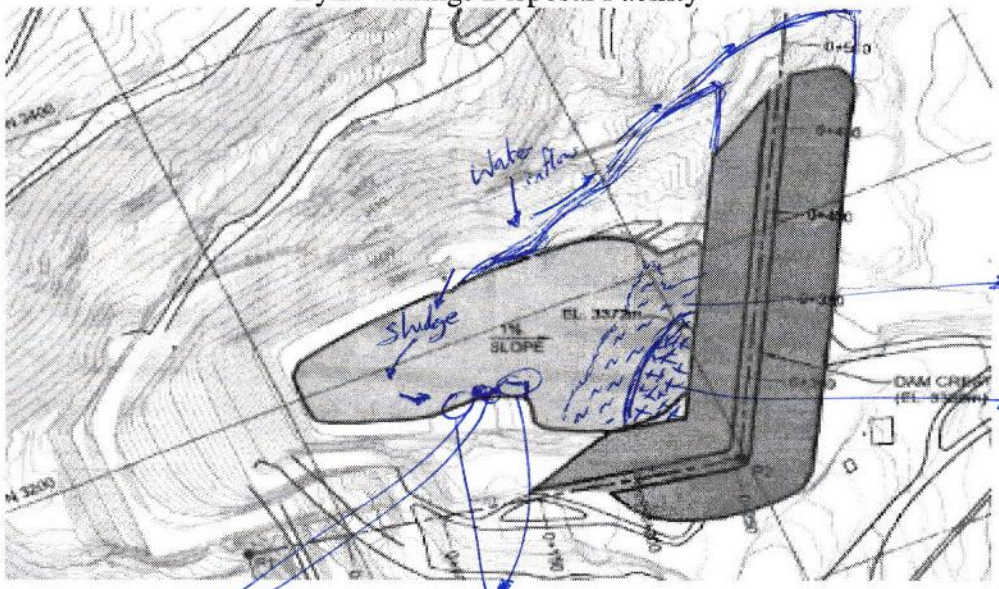
ADDITIONAL COMMENTS

- Mill down - 36 hr. maintenance schedule.
- Paste plant down

Tailings Disposal Facility



Lynx Tailings Disposal Facility



MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: I McW **DATE:** April 17, 2014

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	✓						
Riprap coverage adequate?	✓						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	✓						
Surface Settlement / Depressions	✓						
Sinkholes	✓						
Cracks / Slope Movement/Bulging	✓						
Seepage / Wet Areas		✓					As per normal - wet
Other Unusual Conditions	✓						
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map						✓	
Pond Water Elevation (Top of decant is 3390.3)	✓						
Depth of water at decant inlet and clarity		✓					Shallow @ decant + against berm
Inlet opening clear?		✓					~ 300 L/min Flow
Sand Storage Area–Pond to Crest Distance > 10 m?	✓						No change from last inspection
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	✓						
Decant inlet opening clear?	✓						
Depth of water at decant inlet and clarity?		✓					Flows ~ 100 L/min
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?		✓					Minor rock debris
Any Ditch Damage?	✓						
Signs of Ditch Overtopping?	✓						
Flow Conditions in Ditch (m^3/s)	✓						
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?	✓						
Sump pump currently pumping?	✓						Active
Ponded water evident on paste tails? if yes, how deep?	✓						Shallow
Is water flowing into the pit? If yes, show on map	✓						
Evidence of slope failure into the Lynx TDF?		✓					
Active Tailings Placement? if yes, show on map						✓	Mill + paste plant down

*** RATING LEGEND (see next page)**

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N = Not inspected

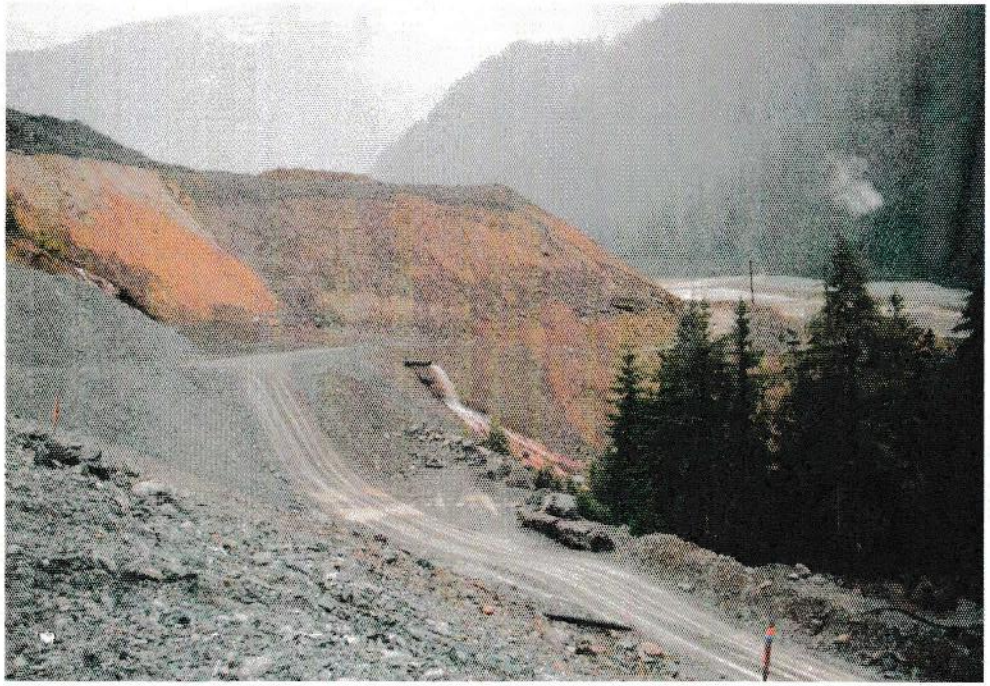
NA = Not applicable

Additional Comments:

~ 25 mms over last 24 hrs + still raining.

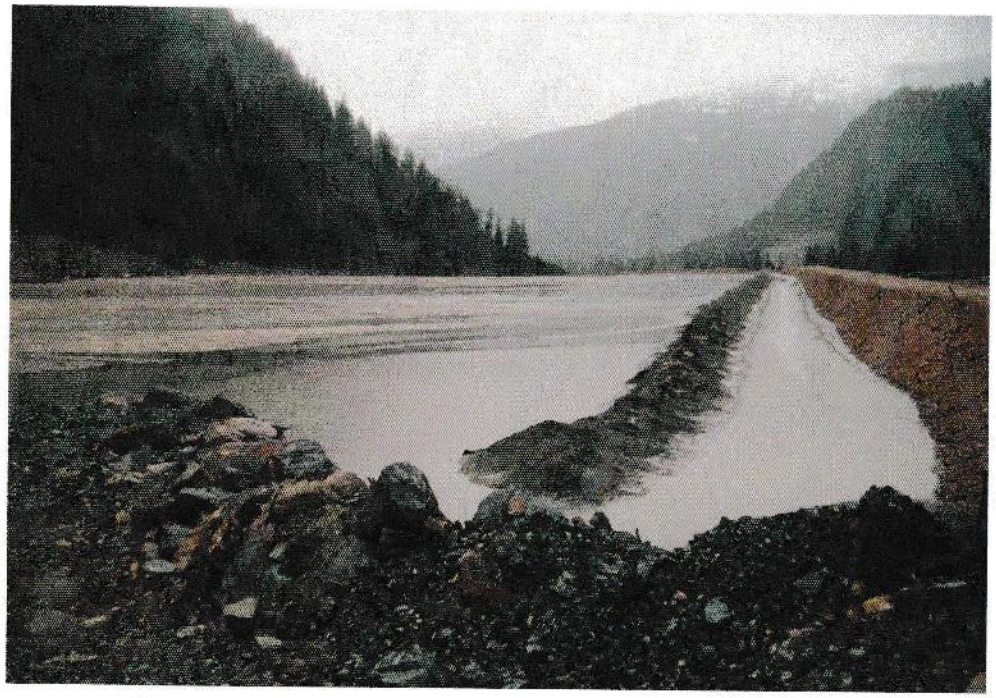
LYNX TDF

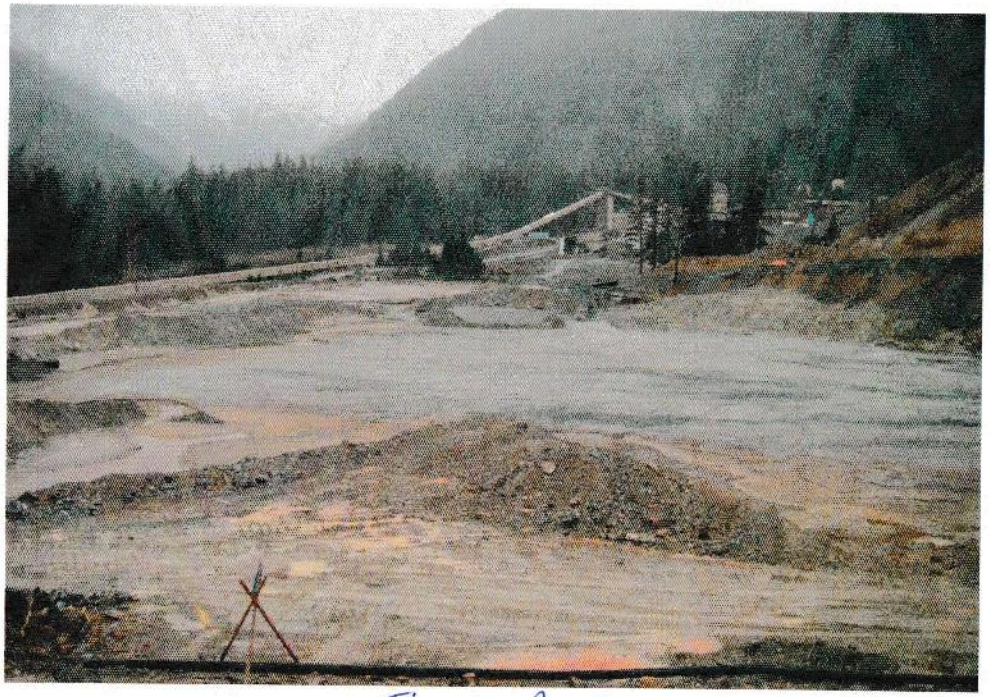
Lynx TDF



Sludge line

TDF





Sand Reclaim Area

MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: Scott Skagford

Inspector Position: Environmental Technician

Inspection Date/Time: April 24th, 2014 09:15

Weather Conditions: Overcast, Raining (moderate), ~ 6°C

Reason for Inspection:

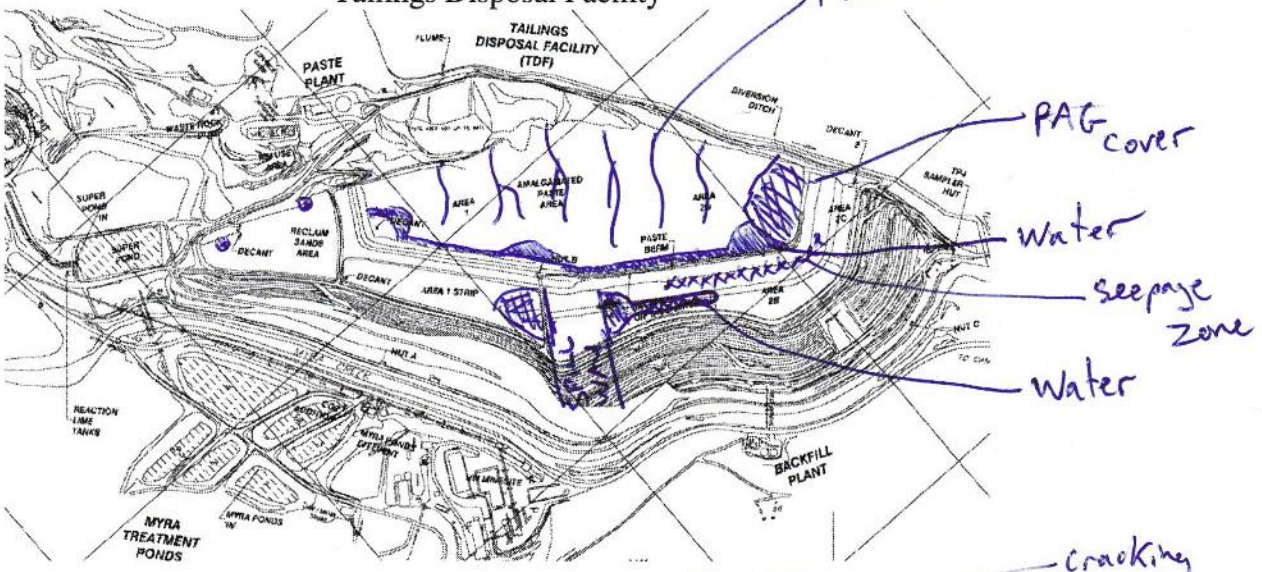
Routine ☐

Special Condition ☒ Moved ahead 1 day due to Earthquake on April 23, 2014 @ 20:10 ~40km SW of Port Alice.

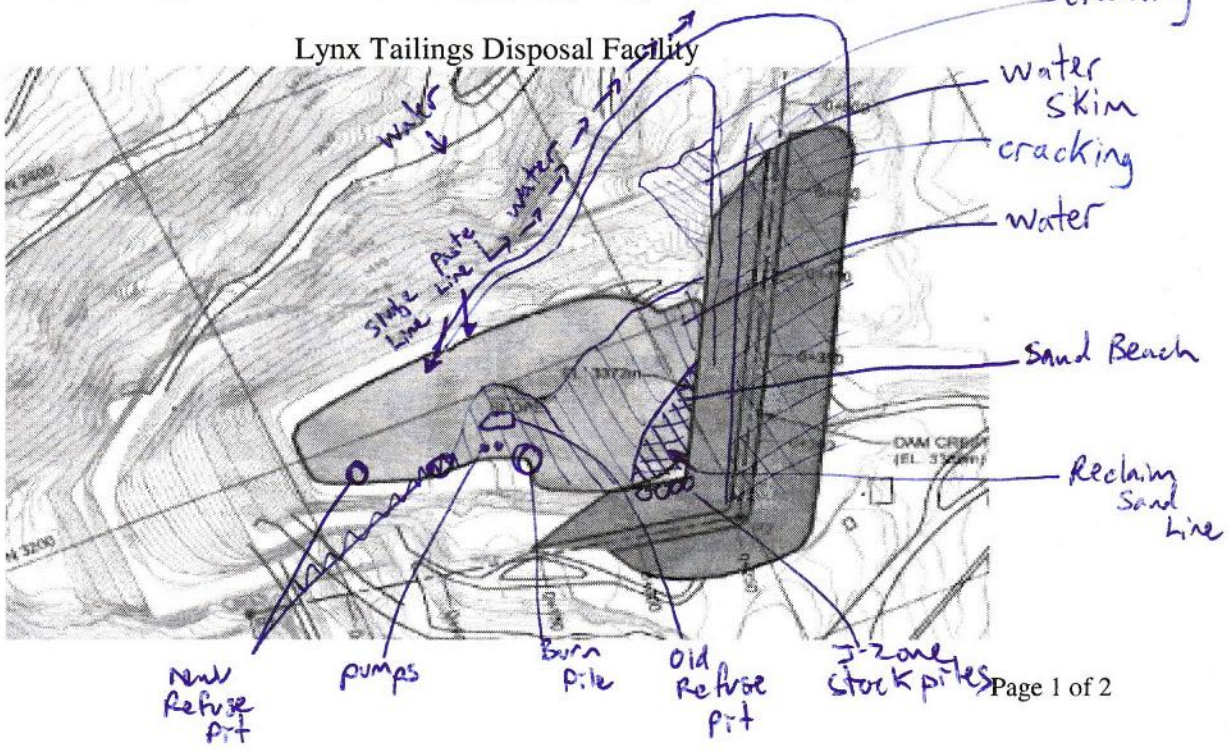
ADDITIONAL COMMENTS

Earthquake 6.6 magnitude ~40 km SW of Port Alice.

Tailings Disposal Facility



Lynx Tailings Disposal Facility



MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: Scott Skayford **DATE:** April 24, 2014

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	/						
Surface Cracks - Longitudinal	/						
Settlement / Depressions	/						
Erosion or Gully Channels	/						
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	/						
Riprap coverage adequate?	/						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	/						
Surface Settlement / Depressions	/						
Sinkholes	/						
Cracks / Slope Movement/Bulging		/					
Seepage / Wet Areas		/					Seepage zone Relatively Firm
Other Unusual Conditions	/						
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map	/						
Pond Water Elevation (Top of decant is 3390.3)	/						
Depth of water at decant inlet and clarity	/						
Inlet opening clear?	/						
Sand Storage Area–Pond to Crest Distance > 10 m?	/						
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	/						
Decant inlet opening clear?	/						
Depth of water at decant inlet and clarity?	/						
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?	/						
Any Ditch Damage?	/						
Signs of Ditch Overtopping?	/						
Flow Conditions in Ditch (m^3/s)	/						
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	/						
Surface Cracks - Longitudinal	/						
Settlement / Depressions	/						
Erosion or Gully Channels	/						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?	/						Sink hole may be covered by water - see past reports
Sump pump currently pumping?	/						
Ponded water evident on paste tails? if yes, how deep?	/						-2 pumps in place
Is water flowing into the pit? If yes, show on map	/						
Evidence of slope failure into the Lynx TDF?	/						
Active Tailings Placement? if yes, show on map	/						

*** RATING LEGEND (see next page)**

S = Satisfactory (Meets the intended purpose)

F = Fair (Meets intended purpose, but some maintenance needed)

P = Poor (May not meet intended purpose, repair or modify)

U = Unsatisfactory (Will not meet intended purpose, repair or modify)

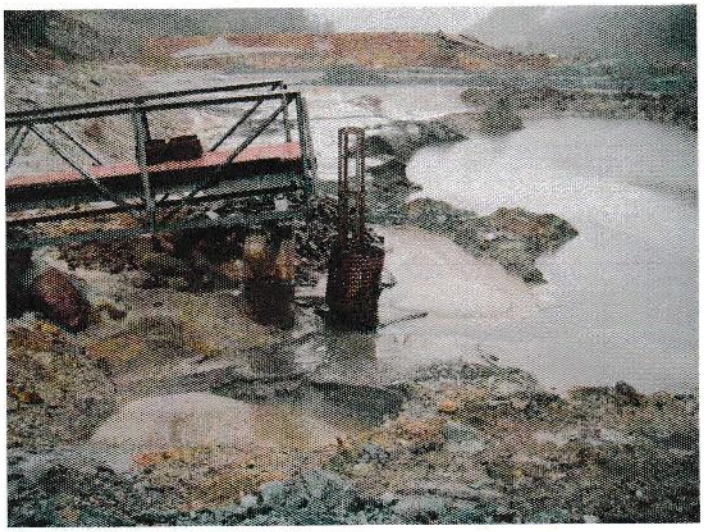
N = Not inspected

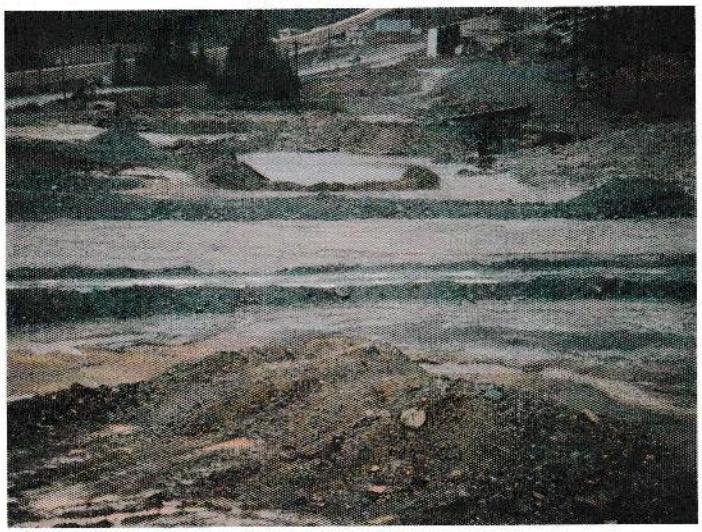
NA = Not applicable

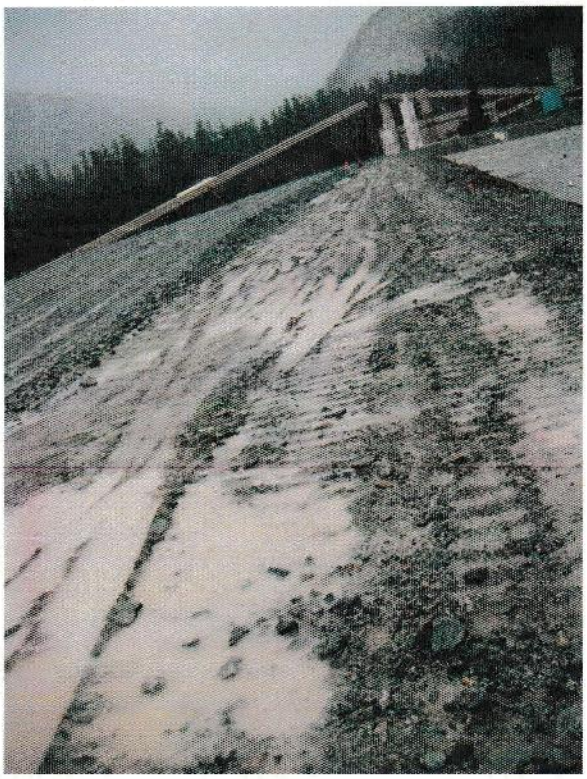
Additional Comments:

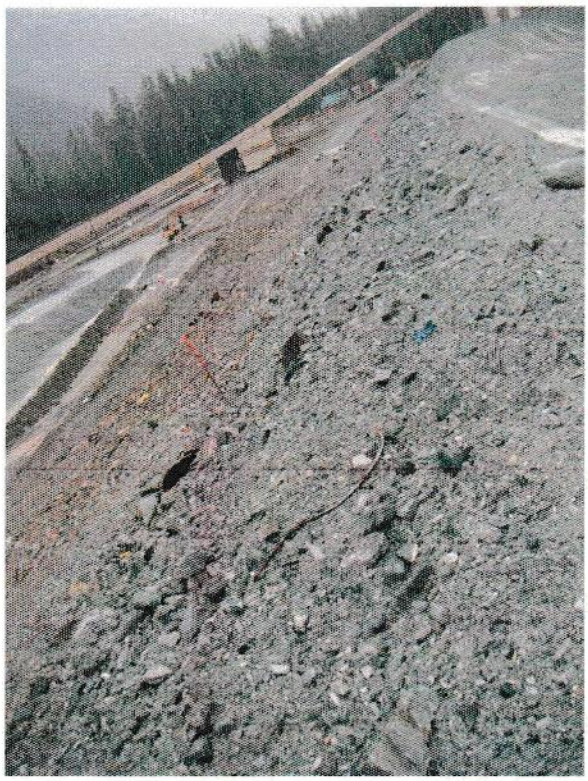
No unusual observations following earthquake.

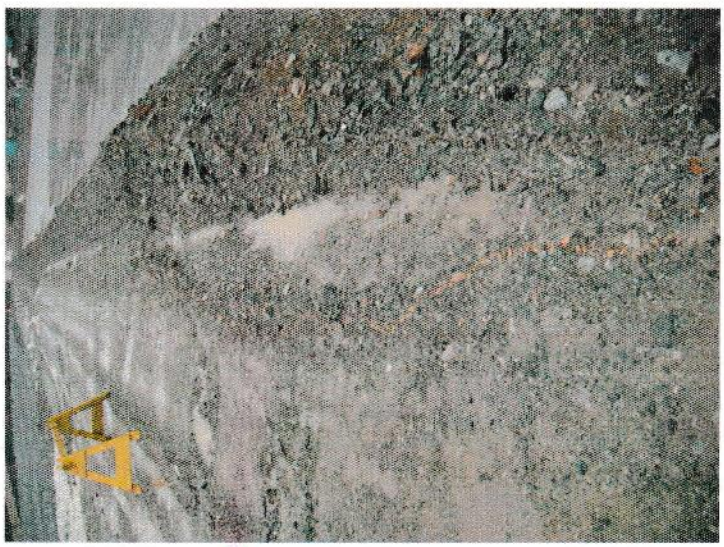
TDF INSPECTION APRIL 24, 2014











MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: Scott Skagford

Inspector Position: Environmental Technician

Inspection Date/Time: May 02, 2014

Weather Conditions: Dry, Part cloud/Sunny ~ 13°C

Reason for Inspection:

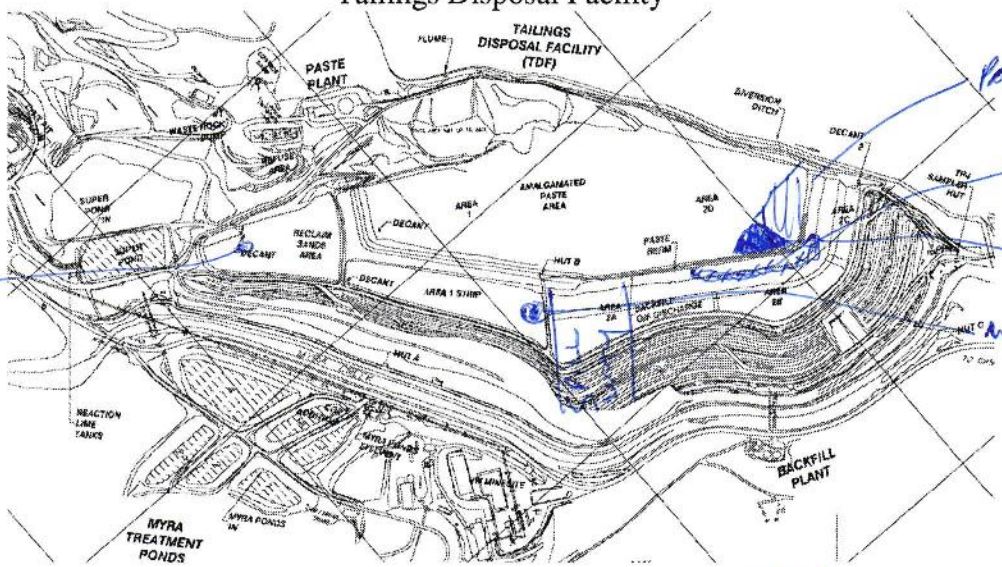
Routine [X]

Special Condition [ ]

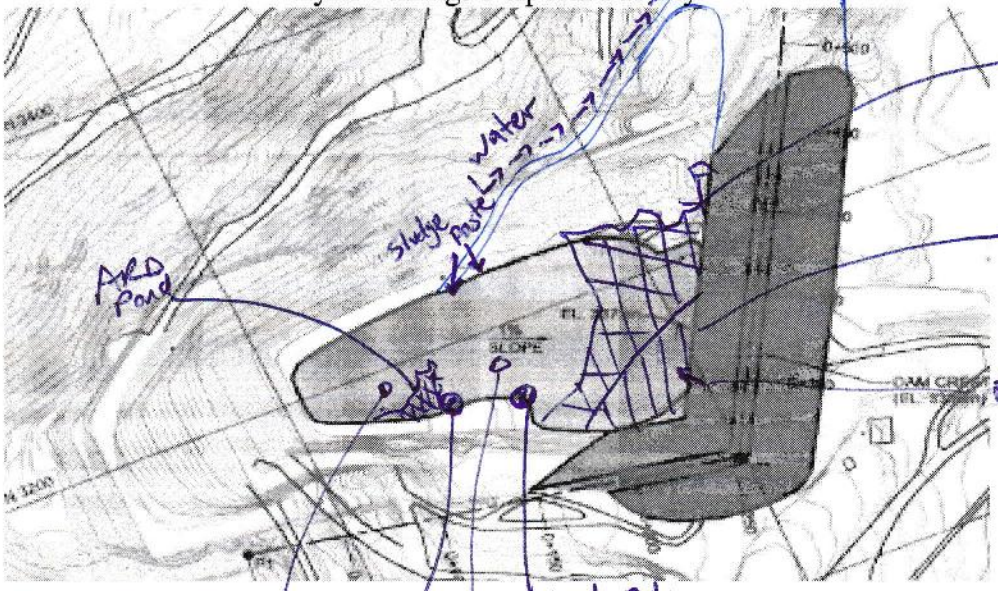
ADDITIONAL COMMENTS

No Photos (dead Battery)

Tailings Disposal Facility



Lynx Tailings Disposal Facility



MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: _____ **DATE:** _____

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	/						
Surface Cracks - Longitudinal	/						
Settlement / Depressions	/						
Erosion or Gully Channels	/						
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	/						
Riprap coverage adequate?	/						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	/						
Surface Settlement / Depressions	/						
Sinkholes	/						
Cracks / Slope Movement/Bulging	/						
Seepage / Wet Areas		/					NOT INSPECTED (Seepage Zone)
Other Unusual Conditions	/						
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map						/	
Pond Water Elevation (Top of decant is 3390.3)	/						
Depth of water at decant inlet and clarity	/						
Inlet opening clear?	/						
Sand Storage Area–Pond to Crest Distance > 10 m?	/						
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	/						
Decant inlet opening clear?	/						
Depth of water at decant inlet and clarity?	/						
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?	/						
Any Ditch Damage?	/						
Signs of Ditch Overtopping?	/						
Flow Conditions in Ditch (m^3/s)	/						
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	/						
Surface Cracks - Longitudinal	/						
Settlement / Depressions	/						
Erosion or Gully Channels	/						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?		/					
Sump pump currently pumping?	/						Pumps Removed
Ponded water evident on paste tails? if yes, how deep?	/						
Is water flowing into the pit? If yes, show on map	/						
Evidence of slope failure into the Lynx TDF?	/						
Active Tailings Placement? if yes, show on map	/						Active.

* **RATING LEGEND (see next page)**

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N = Not inspected

NA = Not applicable

Additional Comments:

Lynx Berm and drainage ditch NOT inspected.

MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: Scott Skagford

Inspector Position: Environmental Technician

Inspection Date/Time: May 08/14 @ 14:30

Weather Conditions: Overcast, Raining. ~ 9°C

Reason for Inspection:

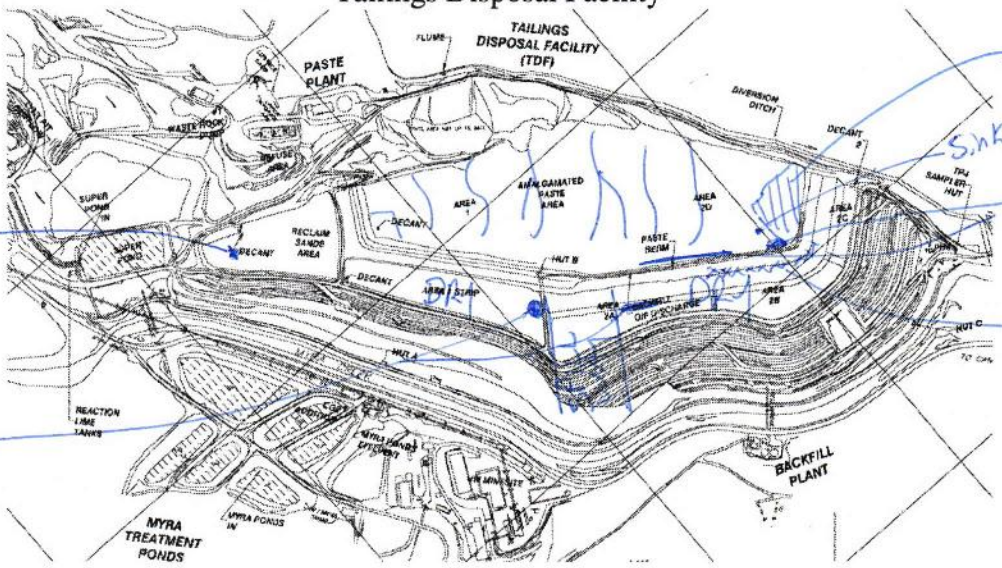
Routine [X]

Special Condition [ ]

ADDITIONAL COMMENTS

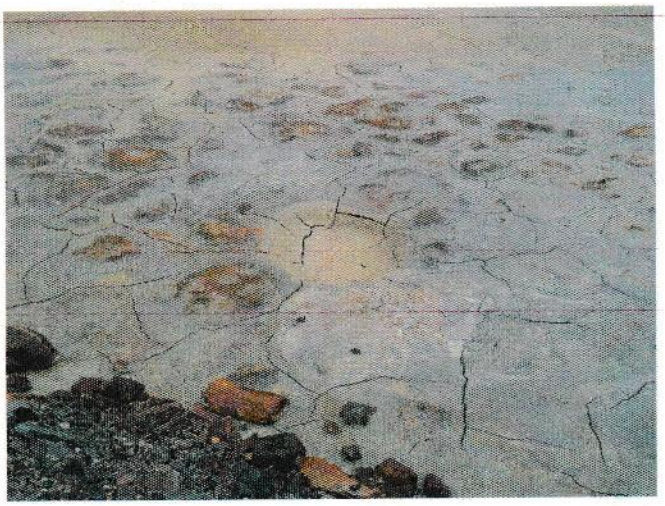
No paste or sludge to Pit.

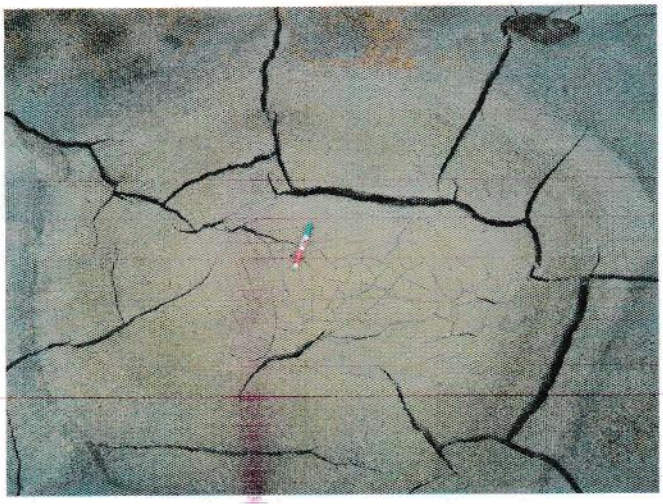
Tailings Disposal Facility

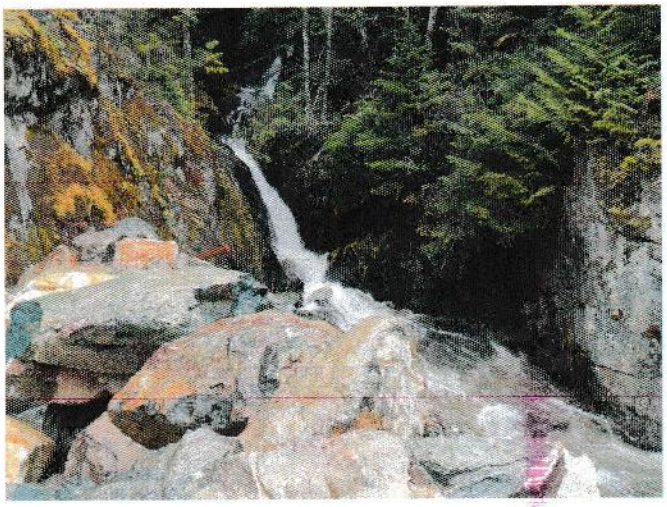


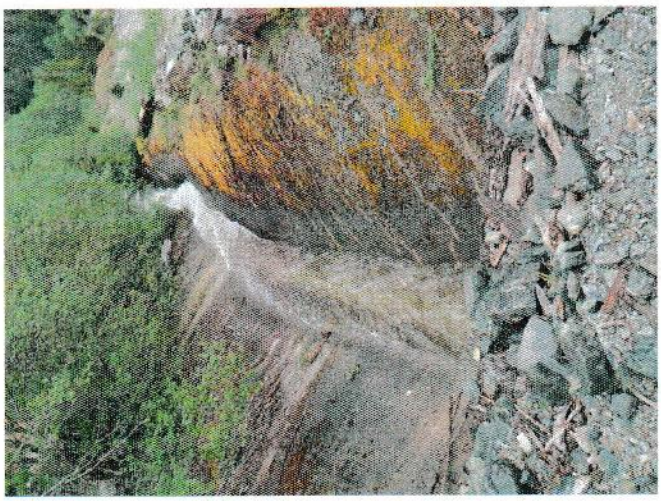
Lynx Tailings Disposal Facility

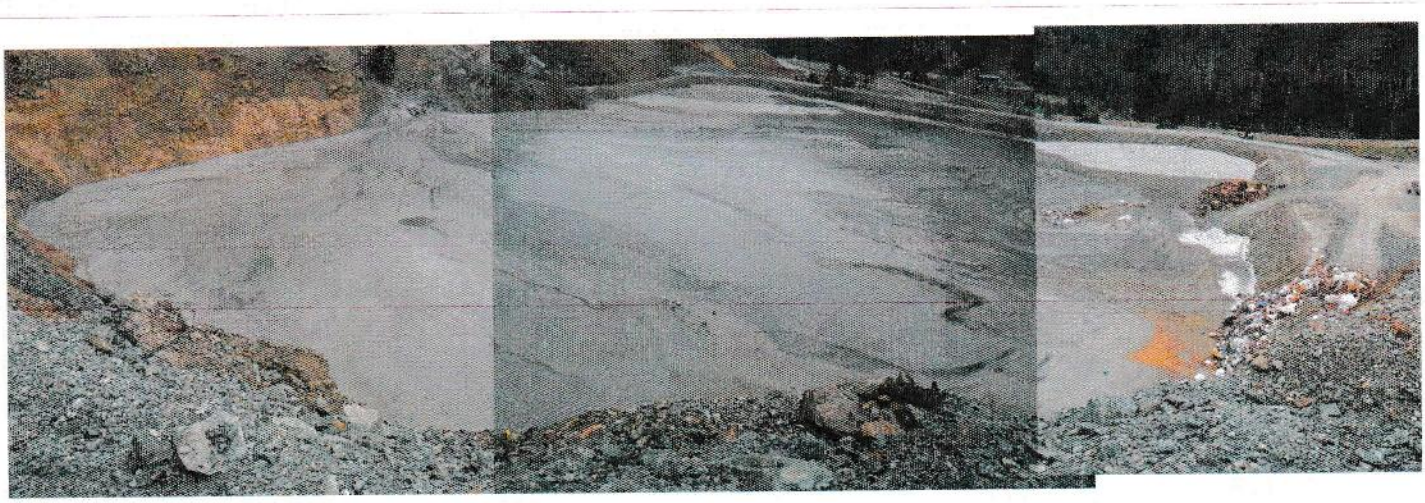
TDF INSPECTION MAY 08. 2014

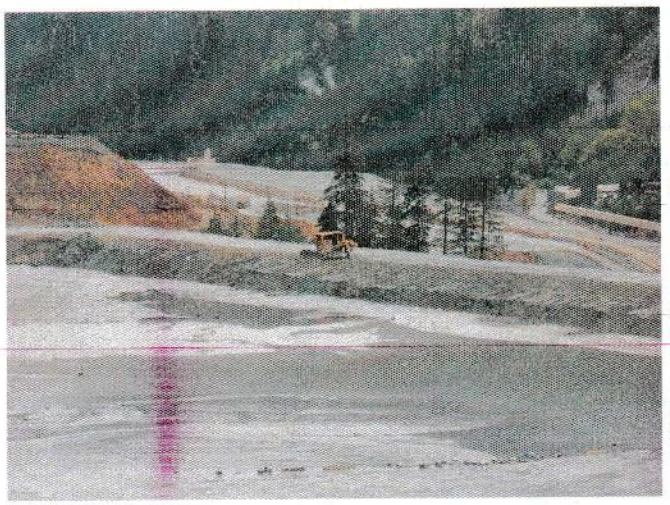


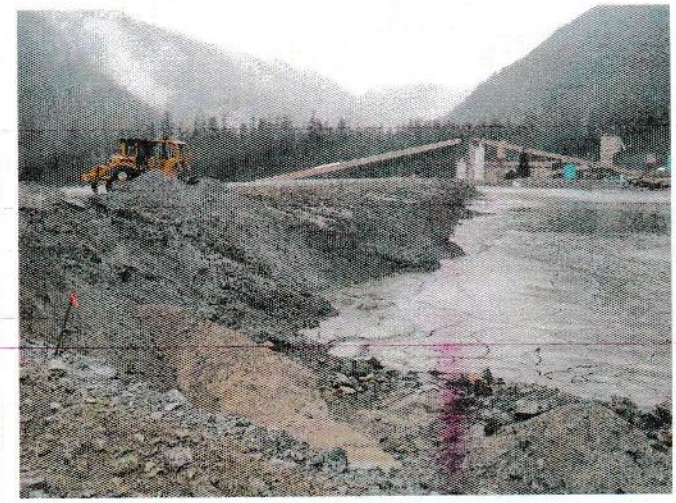












MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: IVOR McWILLIAMS

Inspector Position: ENVIRONMENTAL MANAGER

Inspection Date/Time: FRIDAY, MAY 16 2014 ~ NOON

Weather Conditions: DRY, SUNNY

Reason for Inspection:

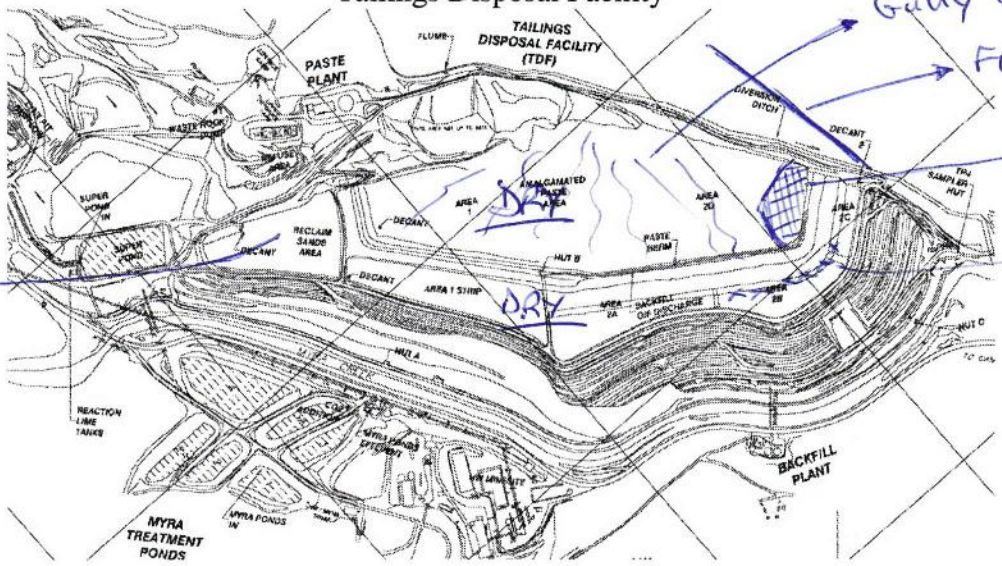
Routine ☑ Hauling reclaim sand to West Arm of Lynx Berm.

Special Condition ☐

ADDITIONAL COMMENTS

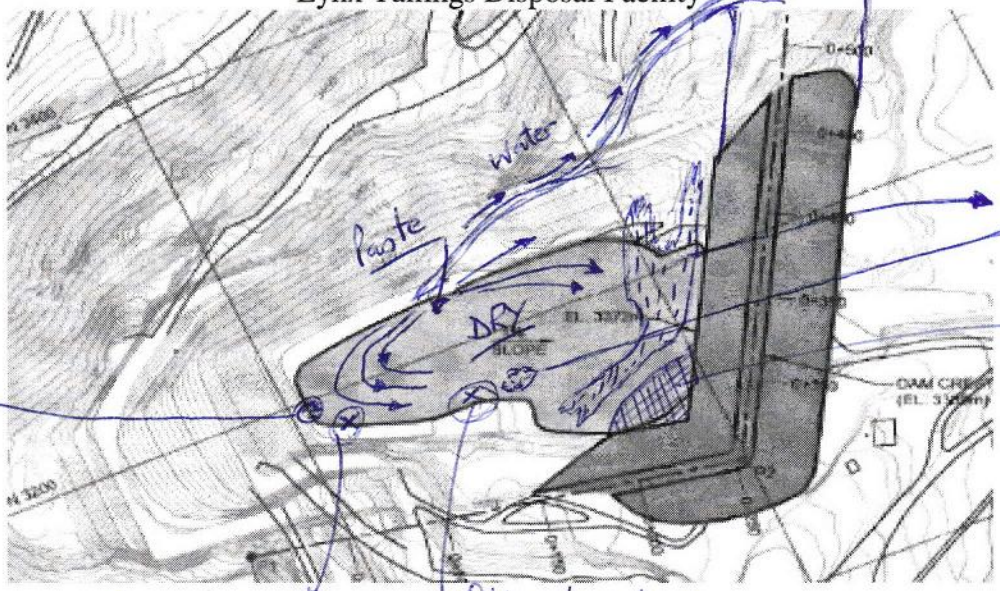
Mill running
No precipitation during last 7 days.

Tailings Disposal Facility



Gully erosion
Flow ~250 L/min
PAG cover
Seepage Zone.
Hauling reclaim sand to Lynx Berm

Lynx Tailings Disposal Facility



Shallow water
Reclaim Sand
Red ARD water
New garbage dump
Old garbage dump - 90% encapsulated.

MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: IMcW **DATE:** May 16/14

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	✓						
Riprap coverage adequate?	✓						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	✓						
Surface Settlement / Depressions	✓						
Sinkholes	✓						
Cracks / Slope Movement/Bulging	✓						
Seepage / Wet Areas		✓					Historic seepage zone
Other Unusual Conditions	✓						
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map	✓						
Pond Water Elevation (Top of decant is 3390.3)	✓						
Depth of water at decant inlet and clarity	✓						DRY
Inlet opening clear?	✓						
Sand Storage Area–Pond to Crest Distance > 10 m?	✓						Hauling sand to Lynx berm
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	✓						
Decant inlet opening clear?	✓						
Depth of water at decant inlet and clarity?	✓						DRY
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?	✓						
Any Ditch Damage?	✓						
Signs of Ditch Overtopping?	✓						
Flow Conditions in Ditch (m^3/s)	✓						
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?	✓						
Sump pump currently pumping?						✓	
Ponded water evident on paste tails? if yes, how deep?	✓						Shallow – see map.
Is water flowing into the pit? If yes, show on map	✓						
Evidence of slope failure into the Lynx TDF?	✓						
Active Tailings Placement? if yes, show on map	✓						

*** RATING LEGEND (see next page)**

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U = Unsatisfactory (Will not meet intended purpose, repair or modify)

N = Not inspected

NA = Not applicable

Additional Comments:

MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: IVOR McWILLIAMS

Inspector Position: ENVIRONMENTAL MANAGER

Inspection Date/Time: FRIDAY MAY 23 2014 ~2:30PM

Weather Conditions: DRY, PARTIAL CLOUD

Reason for Inspection:

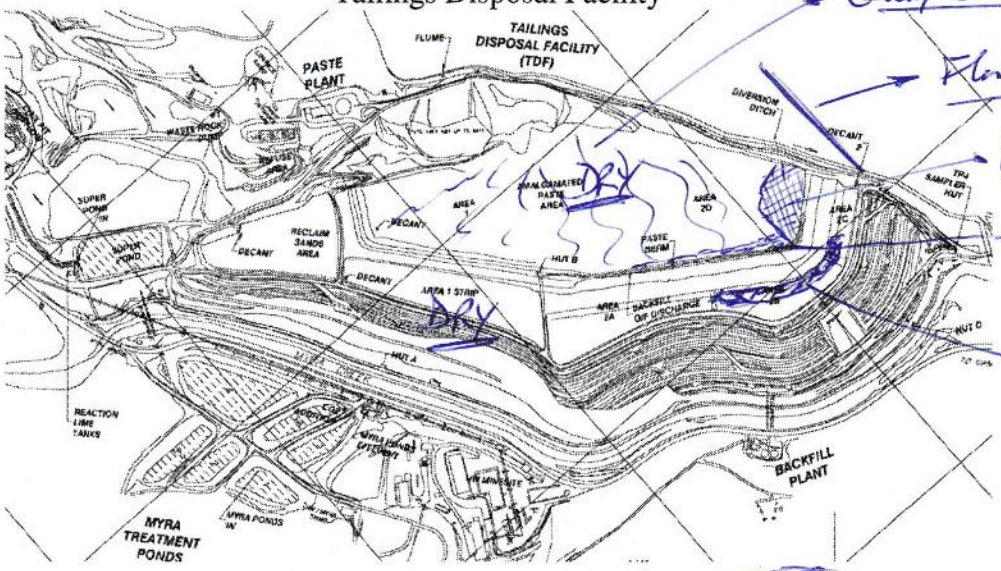
Routine ☑ Paste plant not running - Mill started ~ 10 AM

Special Condition ☐

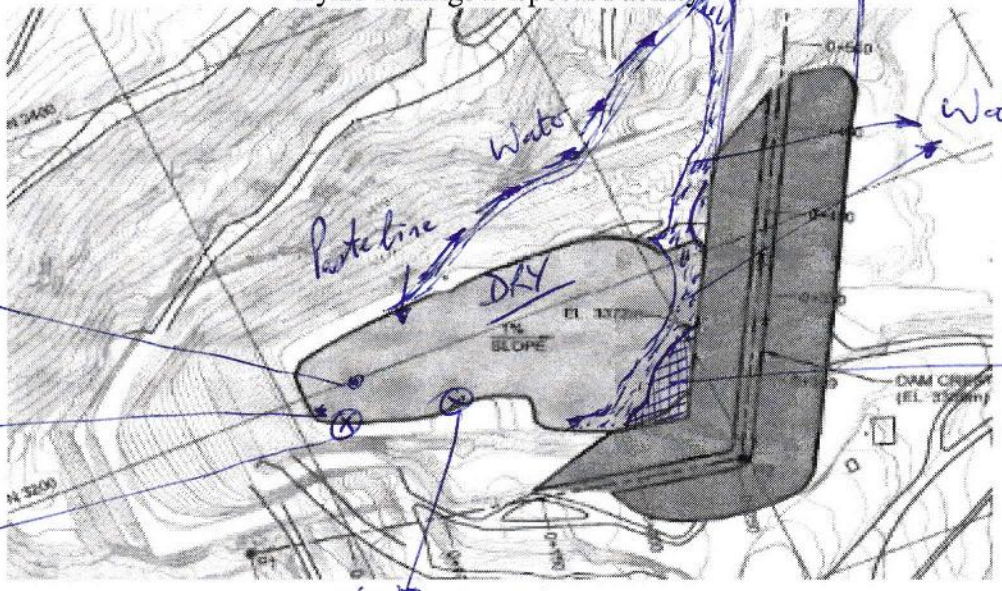
ADDITIONAL COMMENTS

20mm precip on May 22nd

Tailings Disposal Facility



Lynx Tailings Disposal Facility



MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: IMcW **DATE:** May 23/14

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	✓						
Riprap coverage adequate?	✓						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	✓						
Surface Settlement / Depressions	✓						
Sinkholes	✓						
Cracks / Slope Movement/Bulging	✓						
Seepage / Wet Areas		✓					As usual - "Soft"
Other Unusual Conditions	✓						
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map	✓						
Pond Water Elevation (Top of decant is 3390.3)	✓						
Depth of water at decant inlet and clarity	✓						Dry
Inlet opening clear?	✓						
Sand Storage Area–Pond to Crest Distance > 10 m?	✓						
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	✓						
Decant inlet opening clear?	✓						
Depth of water at decant inlet and clarity?	✓						Dry
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?	✓						
Any Ditch Damage?	✓						
Signs of Ditch Overtopping?	✓						
Flow Conditions in Ditch (m^3/s)	✓						
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?	✓						1 Minor ~ 4M dia (as before)
Sump pump currently pumping?						✓	
Ponded water evident on paste tails? if yes, how deep?		✓					Shallow, against berm
Is water flowing into the pit? If yes, show on map	✓						
Evidence of slope failure into the Lynx TDF?	✓						
Active Tailings Placement? if yes, show on map	✓						No active placement by 2pm.

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NA = Not applicable

Additional Comments:

Overnight rain quickly drained off Tailings Surfaces.

MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: Scott Skagford

Inspector Position: Environmental Technician

Inspection Date/Time: May 29, 2014 ~ 12:10

Weather Conditions: ~9°C, overcast, calm, dry

Reason for Inspection:

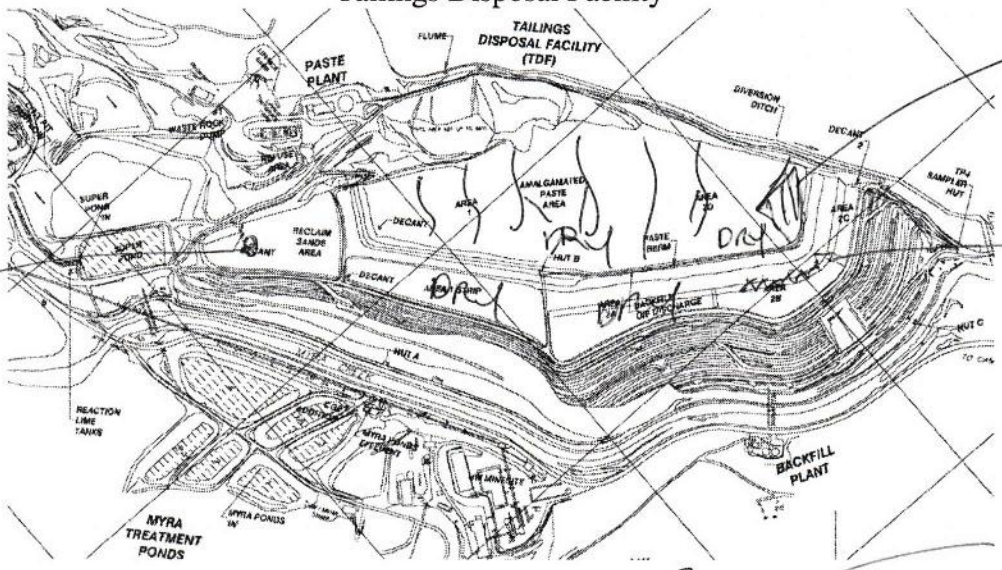
Routine ☑ Lynx Construction Raise in Progress

Special Condition ☐

ADDITIONAL COMMENTS

Paste active to Lynx Pit

Tailings Disposal Facility



PAG cover

Seepage Zone

Backfill off line

Water

Lynx Tailings Disposal Facility

Infill from construction (Water/Paste level)

Sand Beach

Construction (Raise)

Water (Sink hole)

Refuse

Old Refuse

MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: _____ **DATE:** _____

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	✓						
Riprap coverage adequate?	✓						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	✓						
Surface Settlement / Depressions	✓						
Sinkholes	✓						
Cracks / Slope Movement/Bulging	✓						
Seepage / Wet Areas	✓						Not Inspected
Other Unusual Conditions	✓						
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map						✓	
Pond Water Elevation (Top of decant is 3390.3)	✓						
Depth of water at decant inlet and clarity	✓						
Inlet opening clear?	✓						
Sand Storage Area–Pond to Crest Distance > 10 m?	✓						
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	✓						
Decant inlet opening clear?	✓						
Depth of water at decant inlet and clarity?	✓						
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?	✓						
Any Ditch Damage?	✓						
Signs of Ditch Overtopping?	✓						
Flow Conditions in Ditch (m^3/s)	✓						
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?	✓						
Sump pump currently pumping?						✓	Not in Place
Ponded water evident on paste tails? if yes, how deep?		✓					
Is water flowing into the pit? If yes, show on map	✓						
Evidence of slope failure into the Lynx TDF?	✓						
Active Tailings Placement? if yes, show on map	✓						

*** RATING LEGEND (see next page)**

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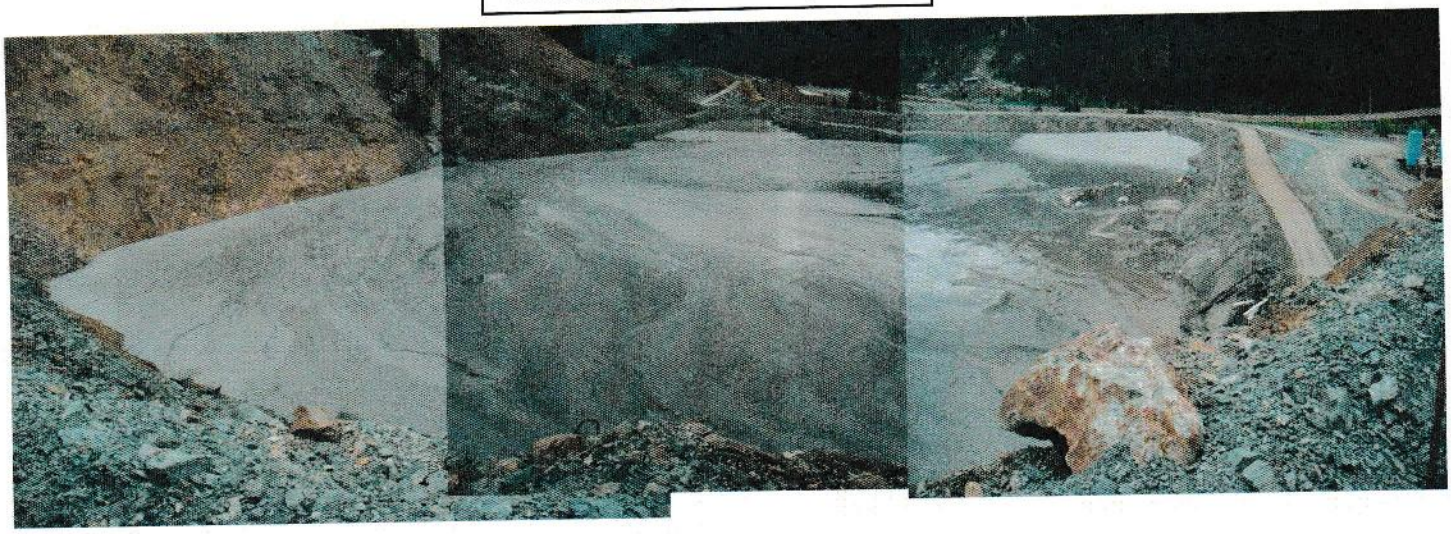
N = Not inspected

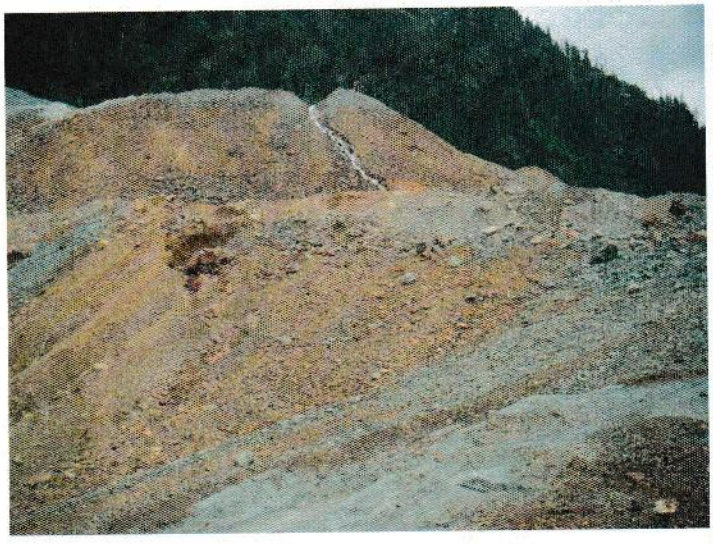
NA = Not applicable

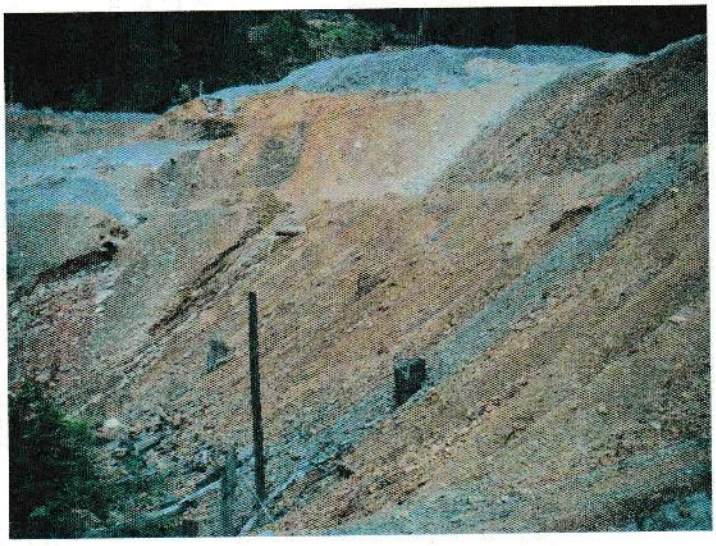
Additional Comments:

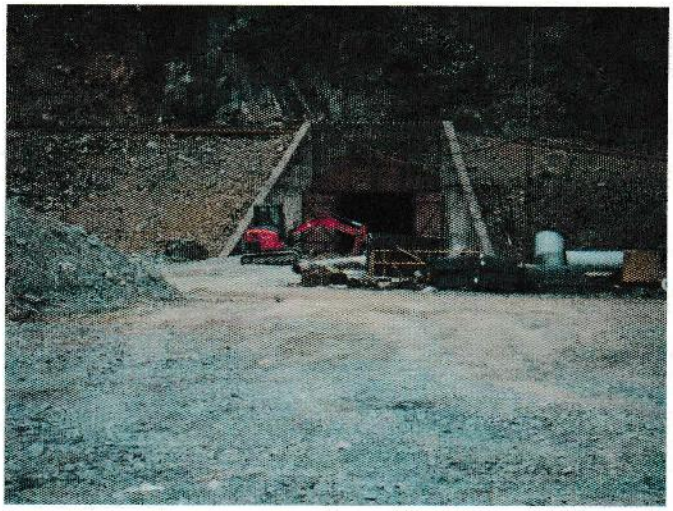
Work being done to re-route surface and adit flows from PHILLIPS RIDGE

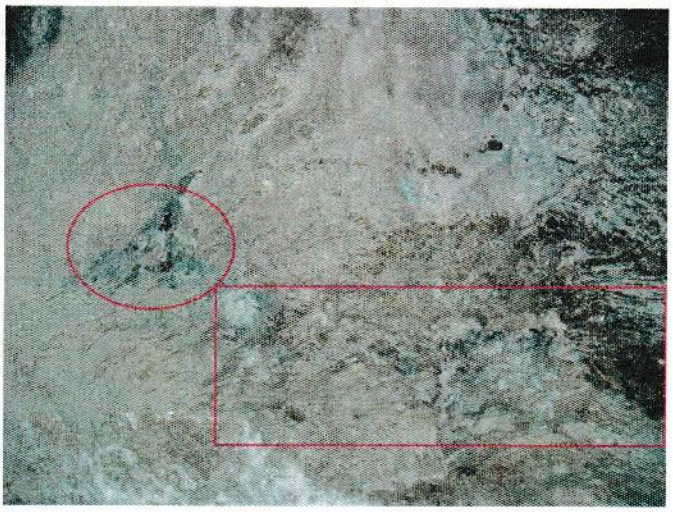
TDF INSPECTION MAY 29, 2014

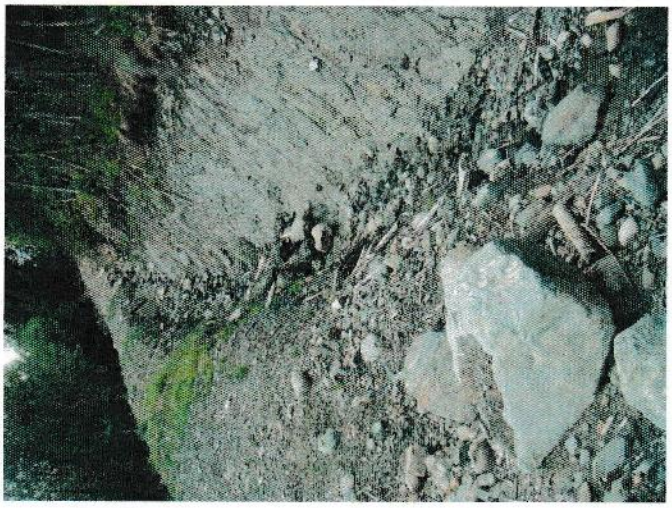


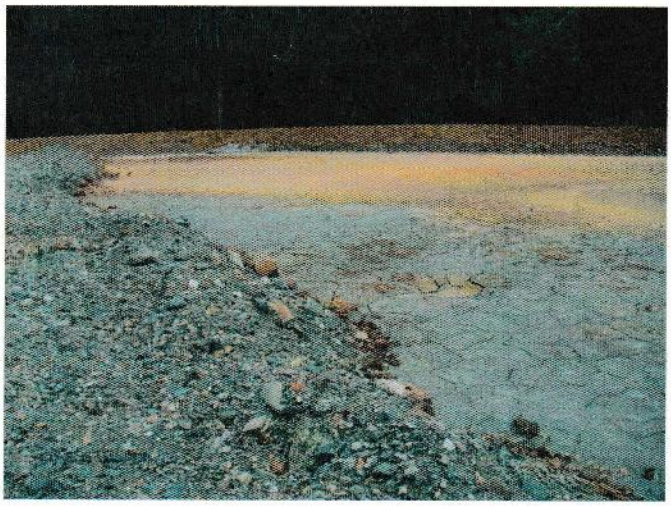












MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: IVOR McWILLIAMS

Inspector Position: ENVIRONMENTAL MANAGER

Inspection Date/Time: FRIDAY JUNE 6, 2014 ~ NOON

Weather Conditions: DRY, SUNNY BREAKS

Reason for Inspection:

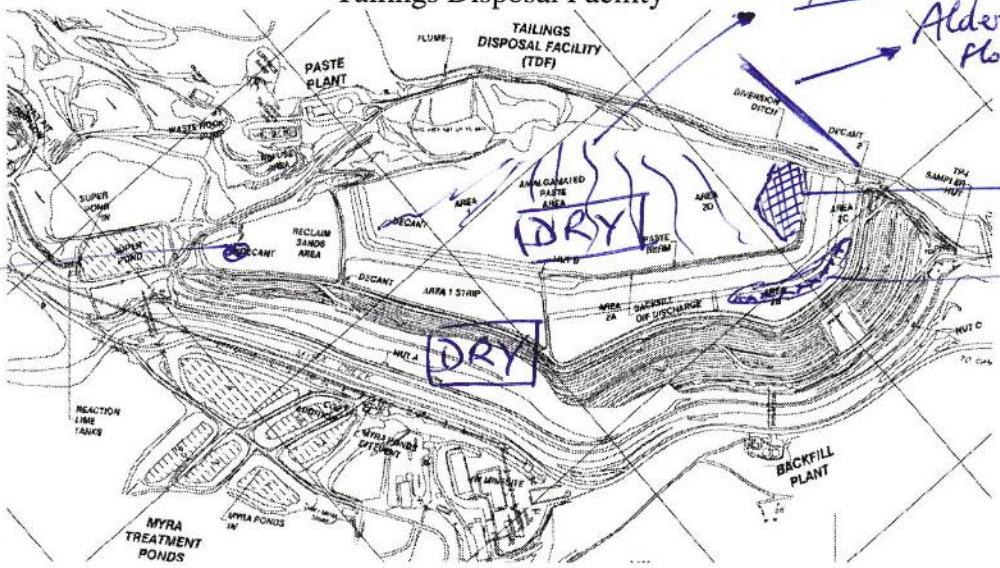
Routine ☑ Building lift on Lynx TDF berm - excavating by Soft building

Special Condition ☐

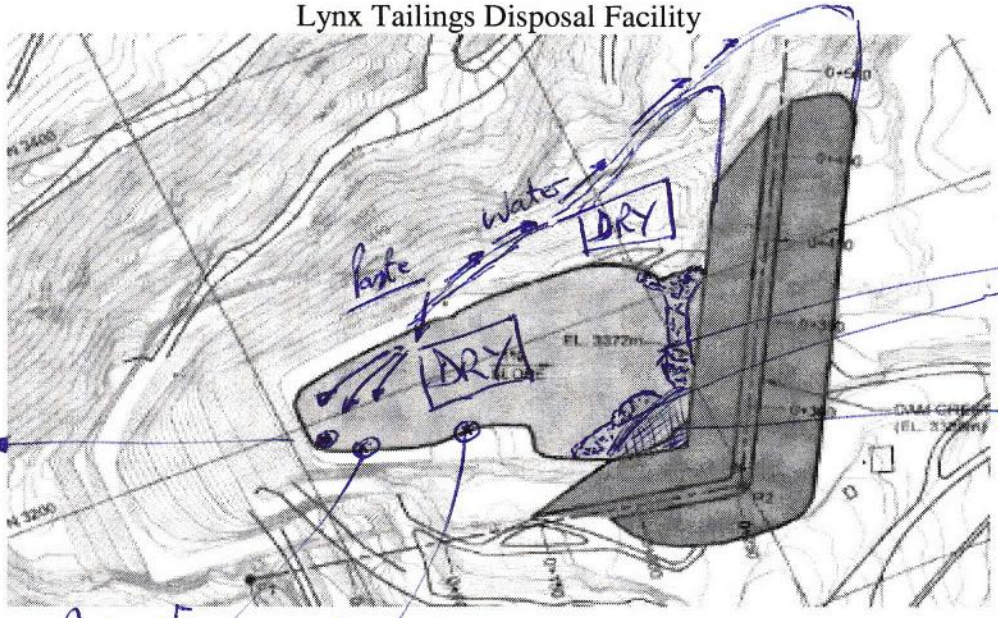
ADDITIONAL COMMENTS

No rain since May 28th

Tailings Disposal Facility



Lynx Tailings Disposal Facility



MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: IMcW **DATE:** JUNE 6/14

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	✓						
Riprap coverage adequate?	✓						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	✓						
Surface Settlement / Depressions	✓						
Sinkholes	✓						
Cracks / Slope Movement/Bulging	✓						
Seepage / Wet Areas		✓					As per usual
Other Unusual Conditions	✓						
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map	✓						
Pond Water Elevation (Top of decant is 3390.3)	✓						
Depth of water at decant inlet and clarity	✓						Dry
Inlet opening clear?	✓						
Sand Storage Area–Pond to Crest Distance > 10 m?	✓						
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	✓						
Decant inlet opening clear?	✓						Dry
Depth of water at decant inlet and clarity?	✓						
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?	✓						
Any Ditch Damage?	✓						
Signs of Ditch Overtopping?	✓						
Flow Conditions in Ditch (m^3/s)	✓						
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?	✓						
Sump pump currently pumping?						✓	
Ponded water evident on paste tails? if yes, how deep?		✓					Shallow, close to berm
Is water flowing into the pit? If yes, show on map	✓						
Evidence of slope failure into the Lynx TDF?	✓						
Active Tailings Placement? if yes, show on map	✓						

*** RATING LEGEND (see next page)**

S = Satisfactory (Meets the intended purpose)

F = Fair (Meets intended purpose, but some maintenance needed)

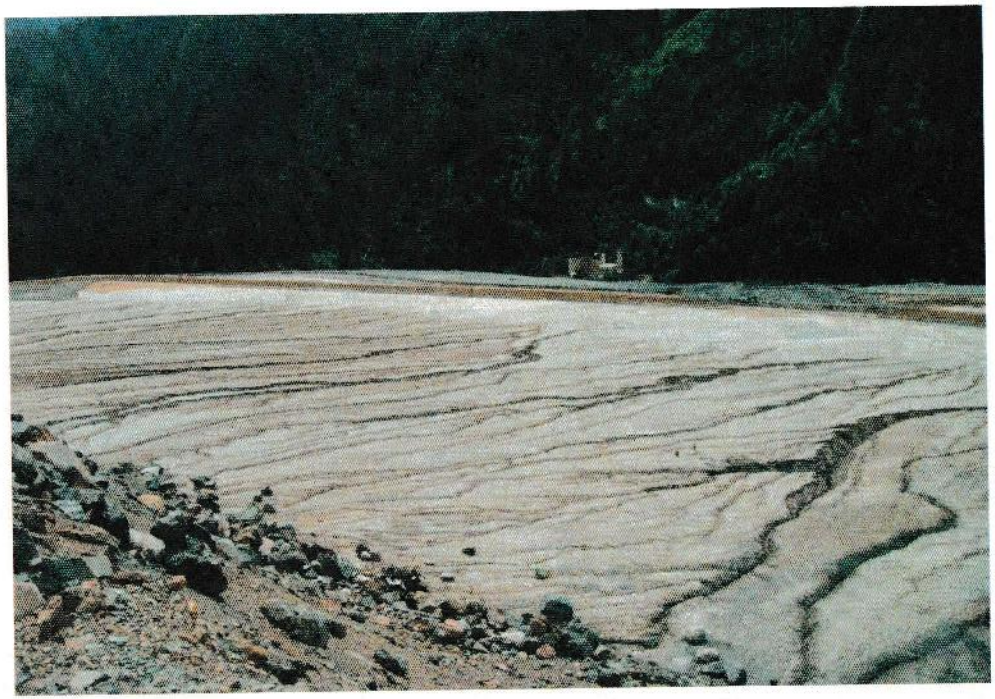
P = Poor (May not meet intended purpose, repair or modify)

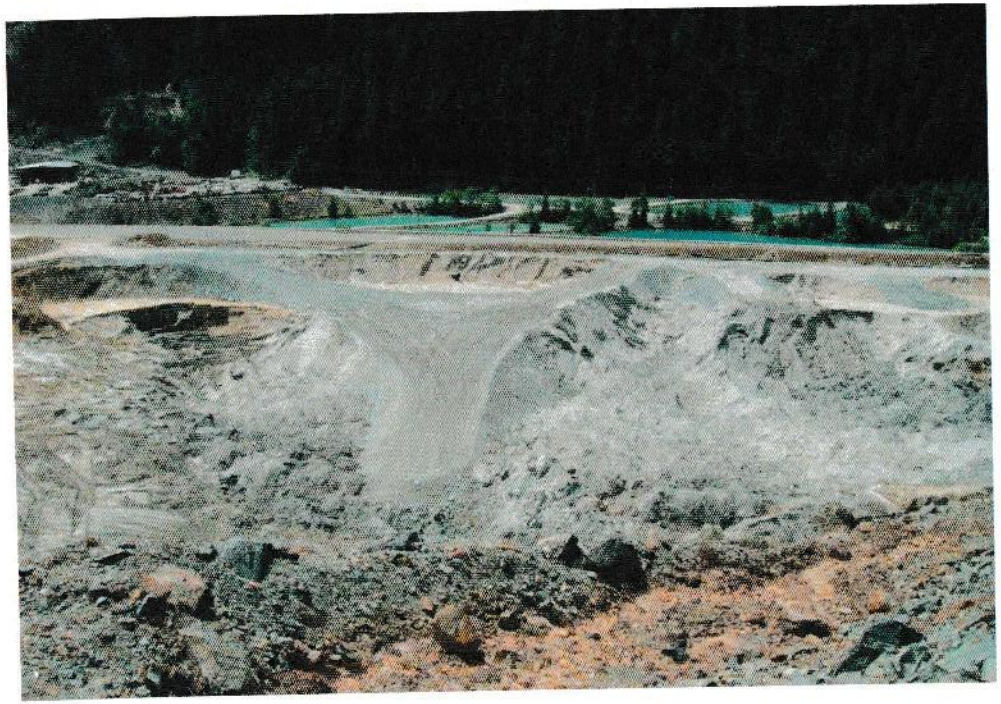
U = Unsatisfactory (Will not meet intended purpose, repair or modify)

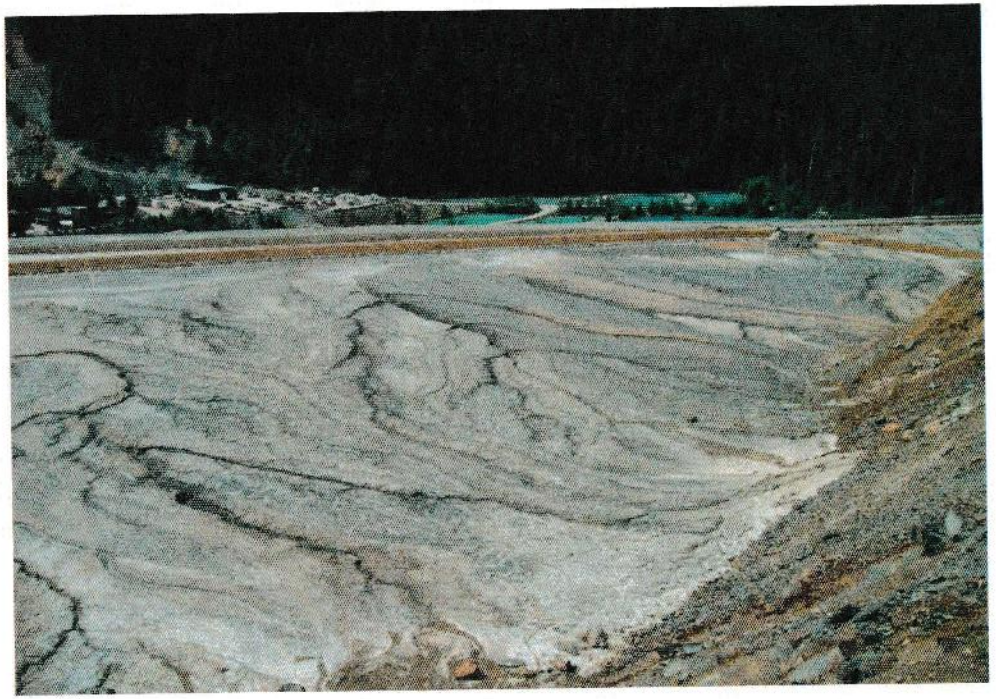
N = Not inspected

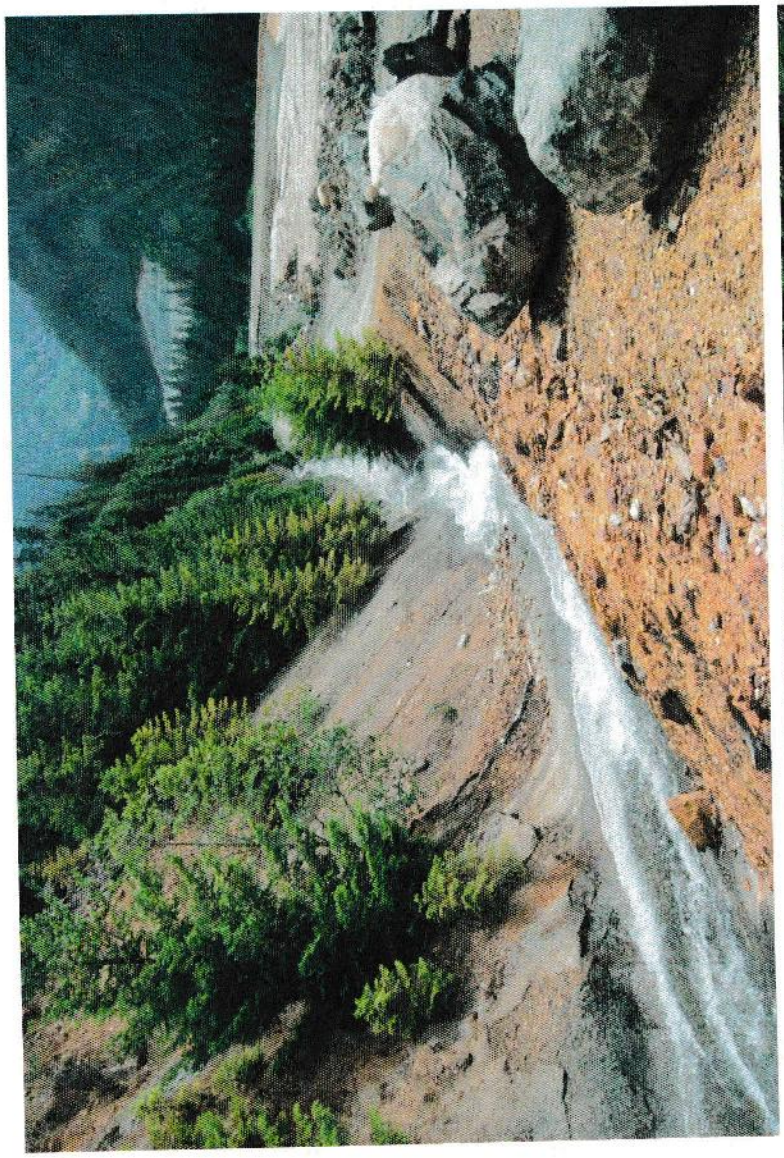
NA = Not applicable

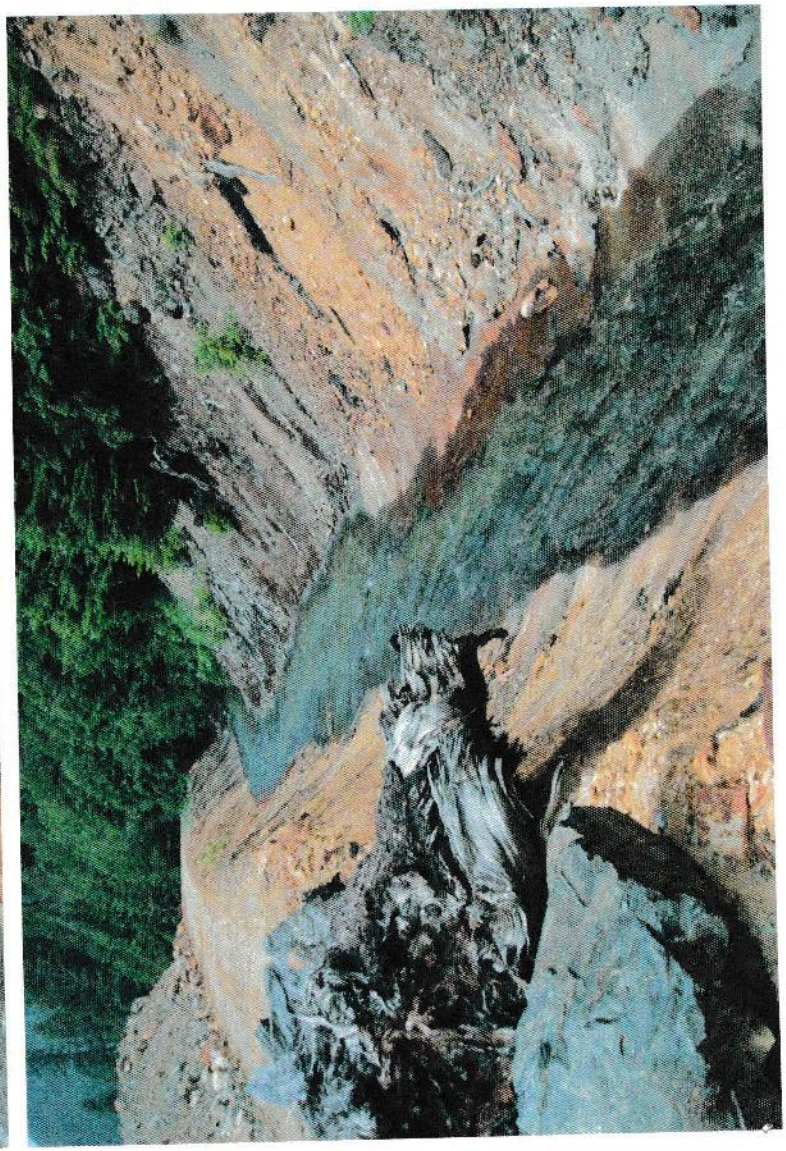
Additional Comments:











MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

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INSPECTION DETAILS

Inspector Name: IVOR Mc WILLIAMS

Inspector Position: ENVIRONMENTAL MANAGER

Inspection Date/Time: FRIDAY JUNE 13 2014 ~ 1600

Weather Conditions:

Reason for Inspection:

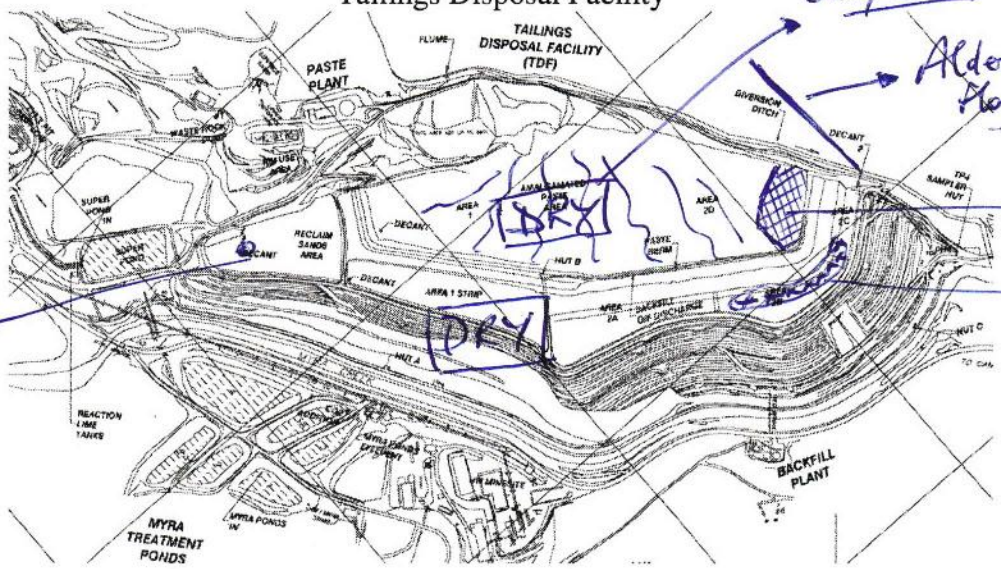
Routine ☑ Building Lifts on Lynx TDF berm in 80ft excavation area.

Special Condition ☐

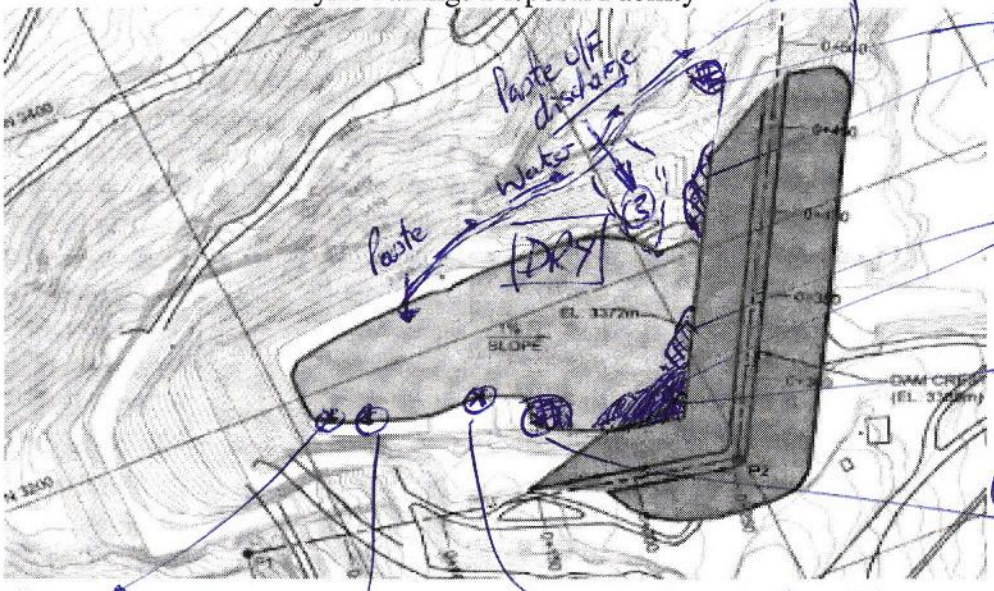
ADDITIONAL COMMENTS

Confirming very dry conditions - 1mm precip on June 12.

Tailings Disposal Facility



Lynx Tailings Disposal Facility



MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: IMcW **DATE:** JUNE 13/14

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	✓						
Riprap coverage adequate?	✓						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	✓						
Surface Settlement / Depressions	✓						
Sinkholes	✓						
Cracks / Slope Movement/Bulging	✓						
Seepage / Wet Areas		✓					As per usual - drying out
Other Unusual Conditions	✓						
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map	✓						
Pond Water Elevation (Top of decant is 3390.3)	✓						
Depth of water at decant inlet and clarity	✓						Dry
Inlet opening clear?	✓						
Sand Storage Area–Pond to Crest Distance > 10 m?	✓						
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	✓						
Decant inlet opening clear?	✓						Dry
Depth of water at decant inlet and clarity?	✓						
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?	✓						Minor rock debris
Any Ditch Damage?	✓						
Signs of Ditch Overtopping?	✓						
Flow Conditions in Ditch (m^3/s)	✓						
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?	✓						
Sump pump currently pumping?						✓	
Ponded water evident on paste tails? if yes, how deep?		✓					Shallow ponding close to berm
Is water flowing into the pit? If yes, show on map	✓						
Evidence of slope failure into the Lynx TDF?	✓						
Active Tailings Placement? if yes, show on map					✓		Mill down

*** RATING LEGEND (see next page)**

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NA = Not applicable

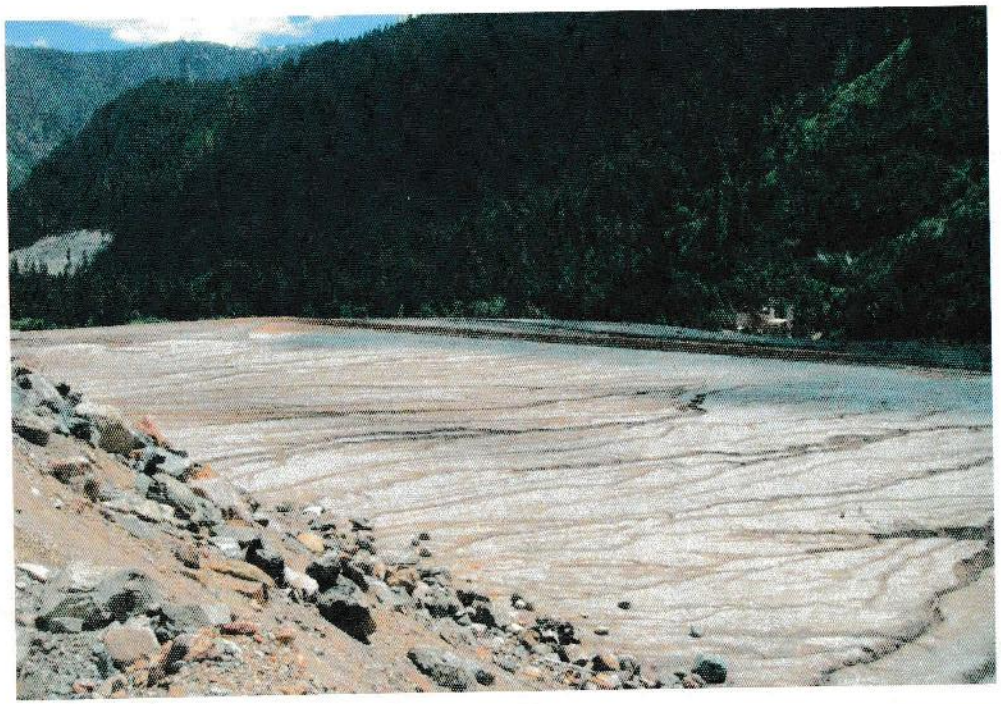
Version 5 – Nov 2008

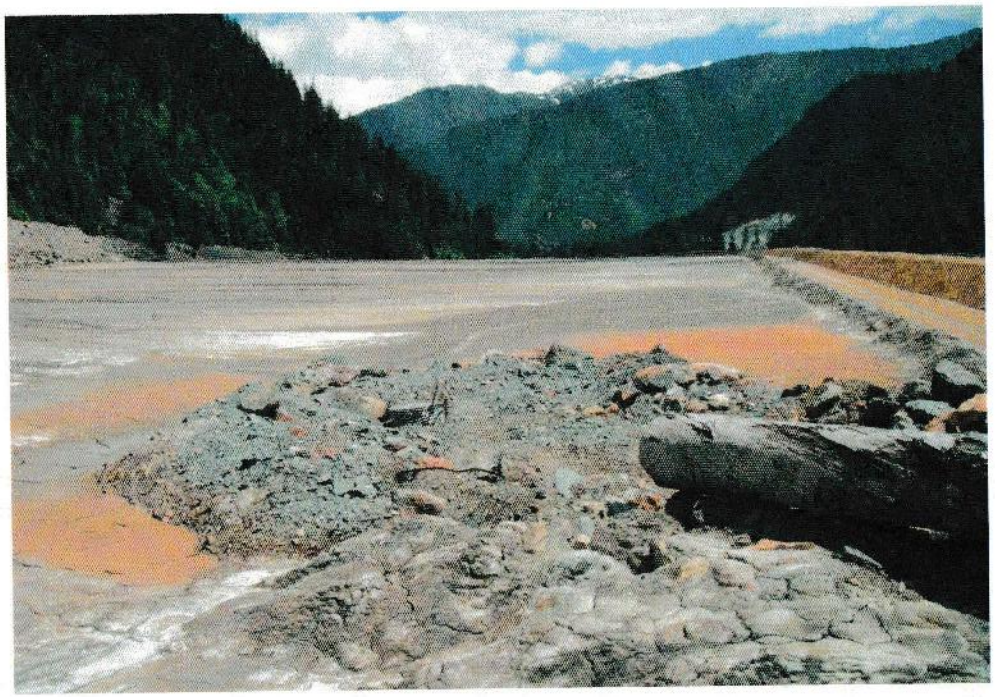
Additional Comments:

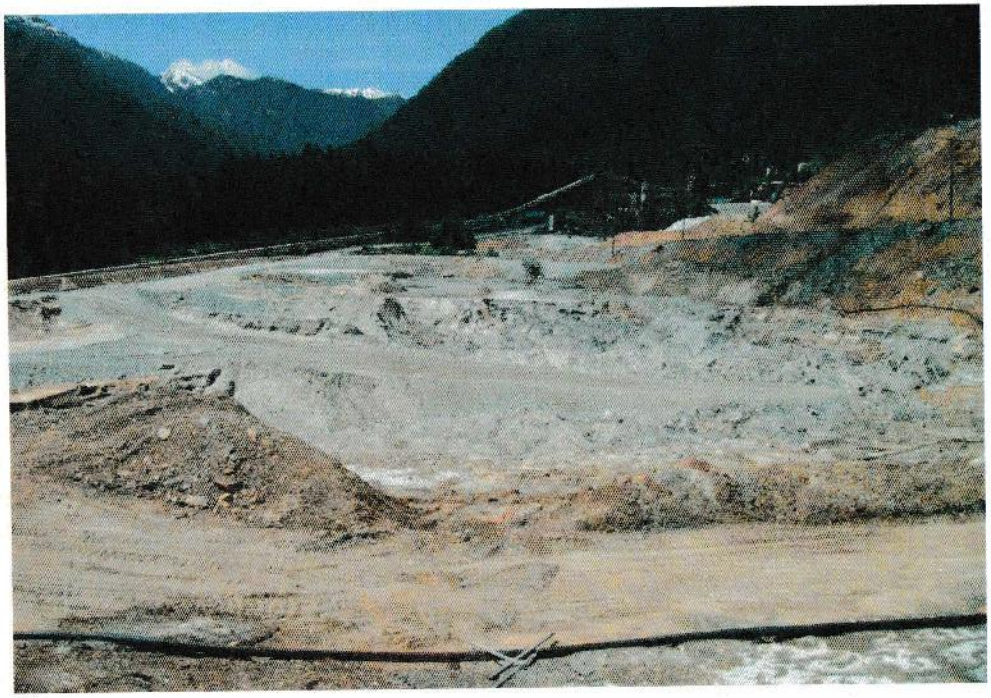
(1) * New - backfill + sand reclaim line

(2) * Water ponding in SE end of Lynx TDF - no longer draining, must be sealed against berm.

(3) Recent paste T/F discharge







MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: IVOR McWILLIAMS

Inspector Position: ENVIRONMENTAL MANAGER

Inspection Date/Time: FRIDAY JUNE 20, 2014 ~ NOON

Weather Conditions: Cloudy, overcast, dry

Reason for Inspection:

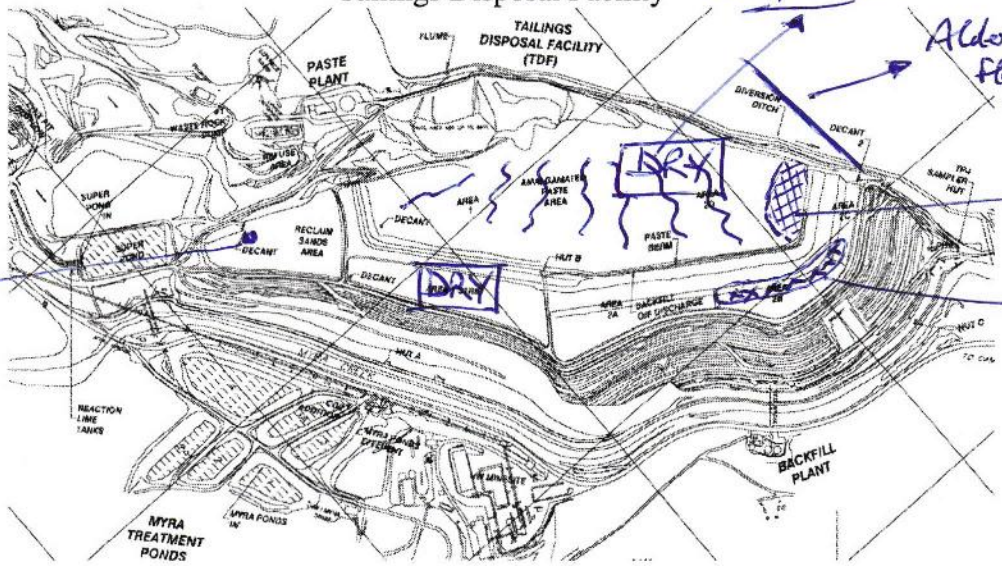
Routine ☑ Building Lifts on Lynx TDF Dam

Special Condition ☐

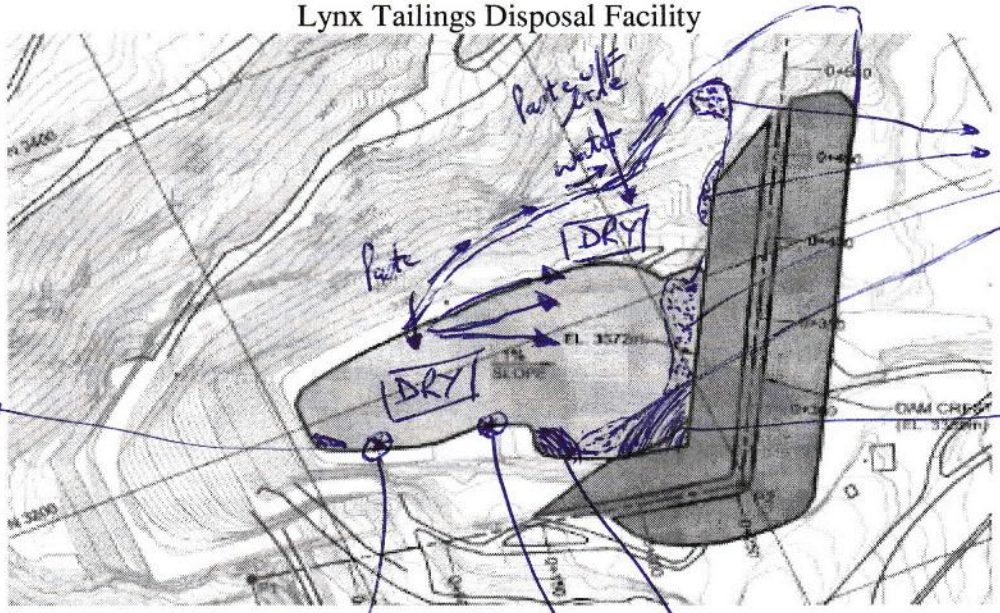
ADDITIONAL COMMENTS

17 mms rainfall yesterday

Tailings Disposal Facility



Lynx Tailings Disposal Facility



MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: IMcW **DATE:** JUNE 20/14

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	✓						
Riprap coverage adequate?	✓						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	✓						
Surface Settlement / Depressions	✓						
Sinkholes	✓						
Cracks / Slope Movement/Bulging	✓						
Seepage / Wet Areas	✓						As per usual
Other Unusual Conditions	✓						
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map	✓						
Pond Water Elevation (Top of decant is 3390.3)	✓						
Depth of water at decant inlet and clarity	✓						No flow
Inlet opening clear?	✓						
Sand Storage Area–Pond to Crest Distance > 10 m?	✓						
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	✓						
Decant inlet opening clear?	✓						No flow
Depth of water at decant inlet and clarity?	✓						
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?	✓						Minor rock debris
Any Ditch Damage?	✓						
Signs of Ditch Overtopping?	✓						
Flow Conditions in Ditch (m^3/s)	✓						
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?	✓						
Sump pump currently pumping?						✓	
Ponded water evident on paste tails? if yes, how deep?		✓					Shallow ponding close to berm
Is water flowing into the pit? If yes, show on map	✓						
Evidence of slope failure into the Lynx TDF?	✓						
Active Tailings Placement? if yes, show on map	✓						

*** RATING LEGEND (see next page)**

S = Satisfactory (Meets the intended purpose)

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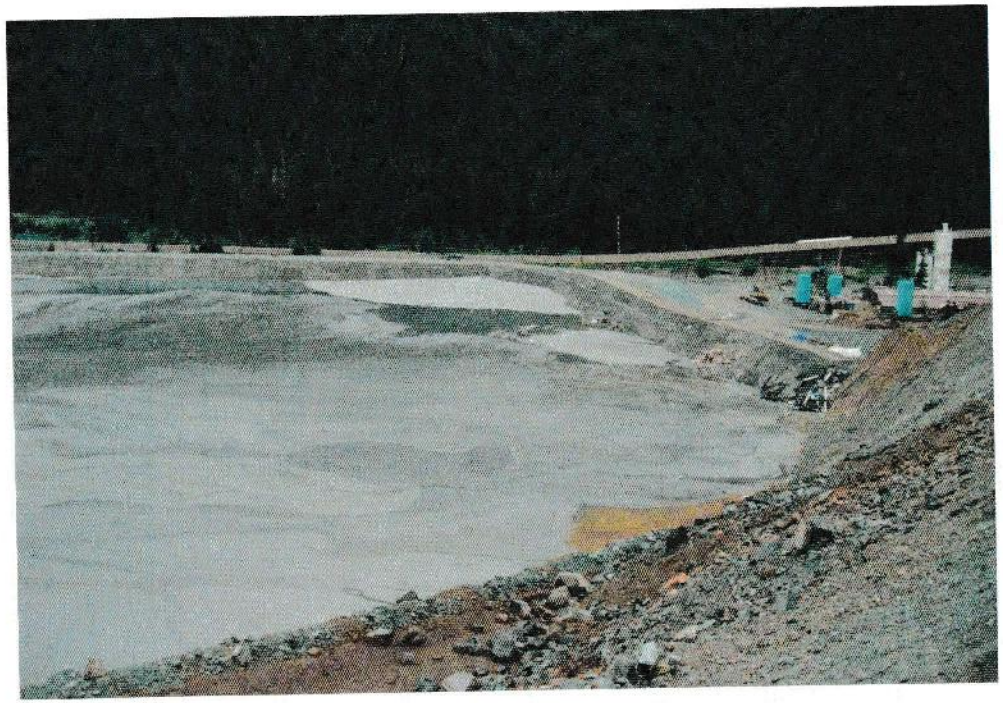
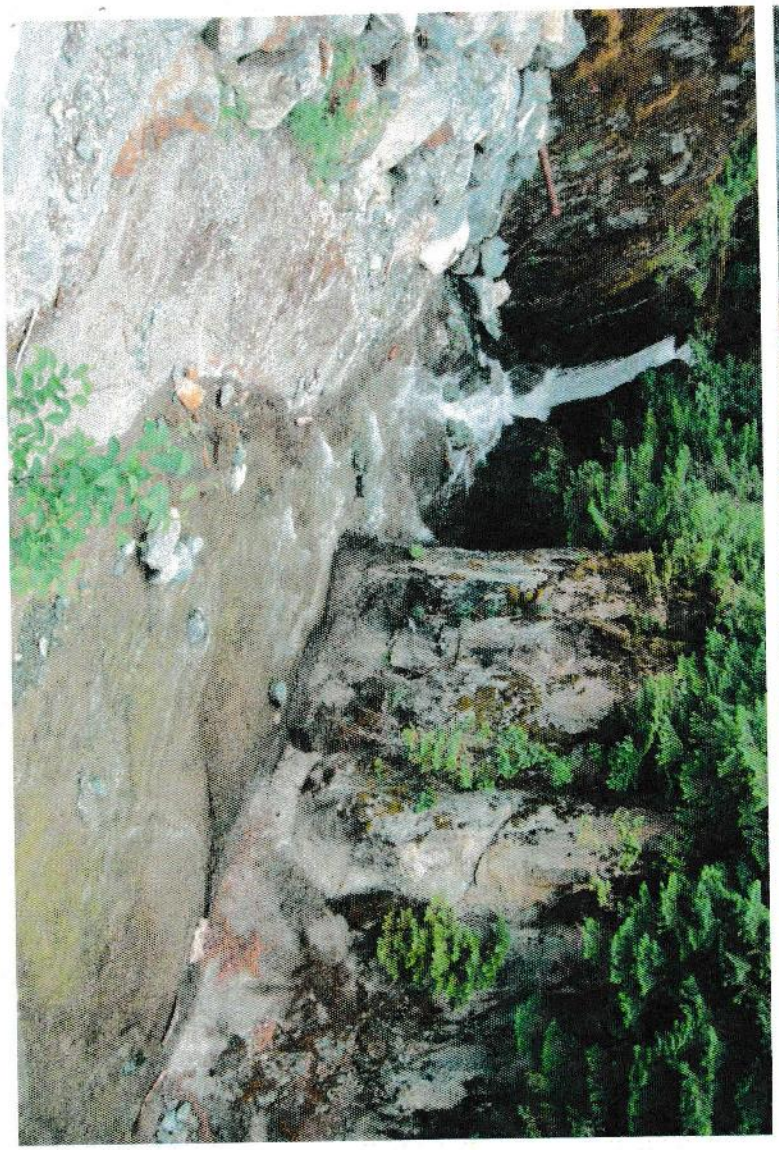
NA = Not applicable

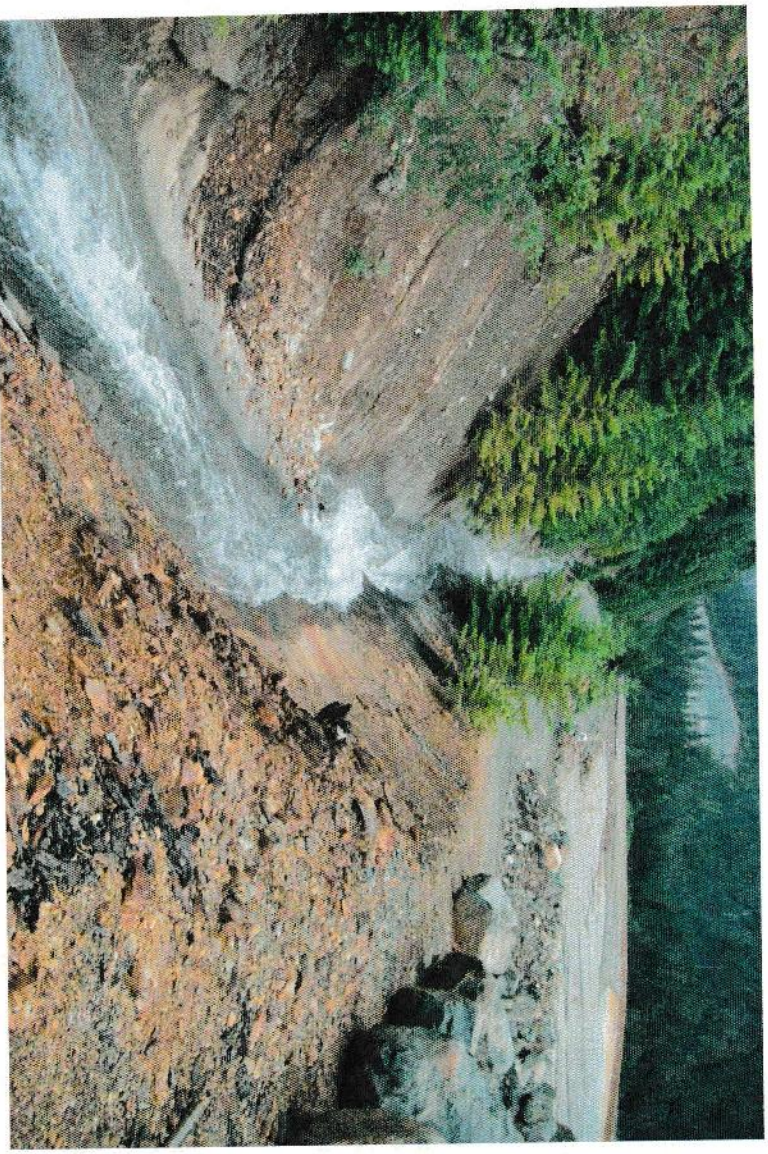
Version 5 – Nov 2008

Additional Comments:

Only very minor ponding of shallow water on TDF Strip and on TDF Seismic Berm surfaces







MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: Scott Skayford

Inspector Position: Environmental Technician

Inspection Date/Time: June 26, 2014 ~ 12:15

Weather Conditions: Partly cloudy, ~ 14°C, breezy, Dry

Reason for Inspection:

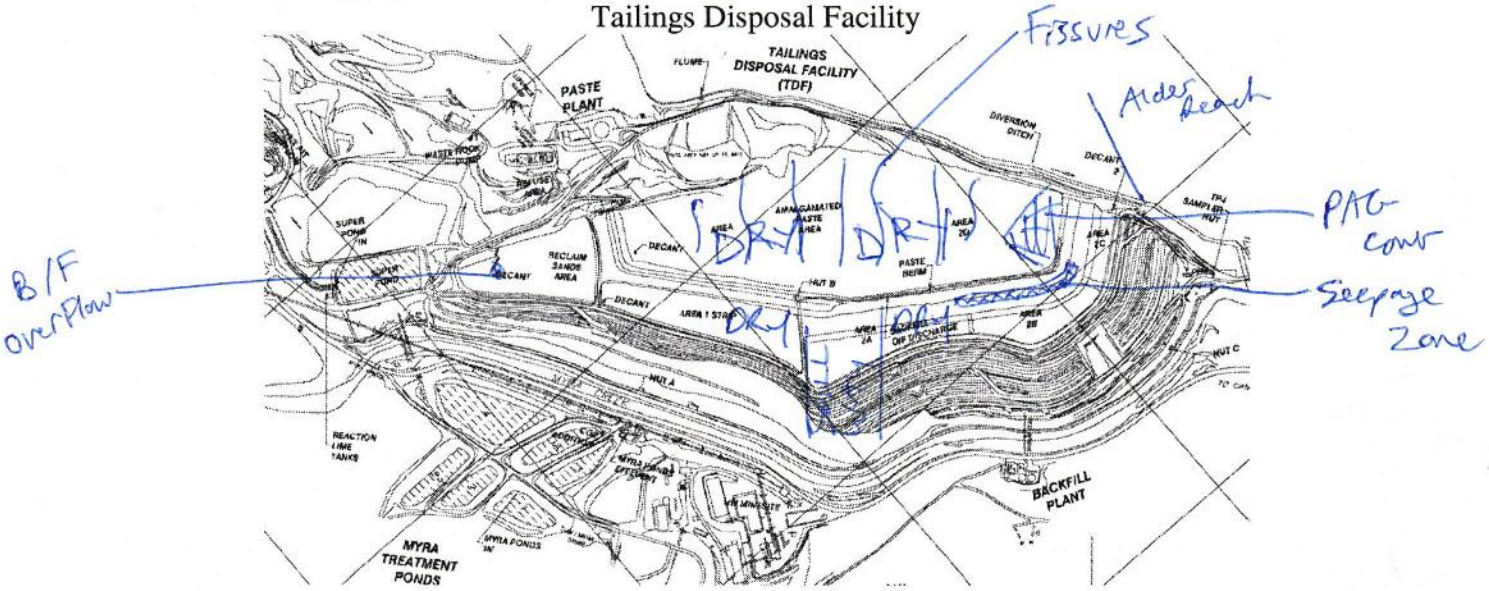
Routine [X] Lynx construction

Special Condition [ ]

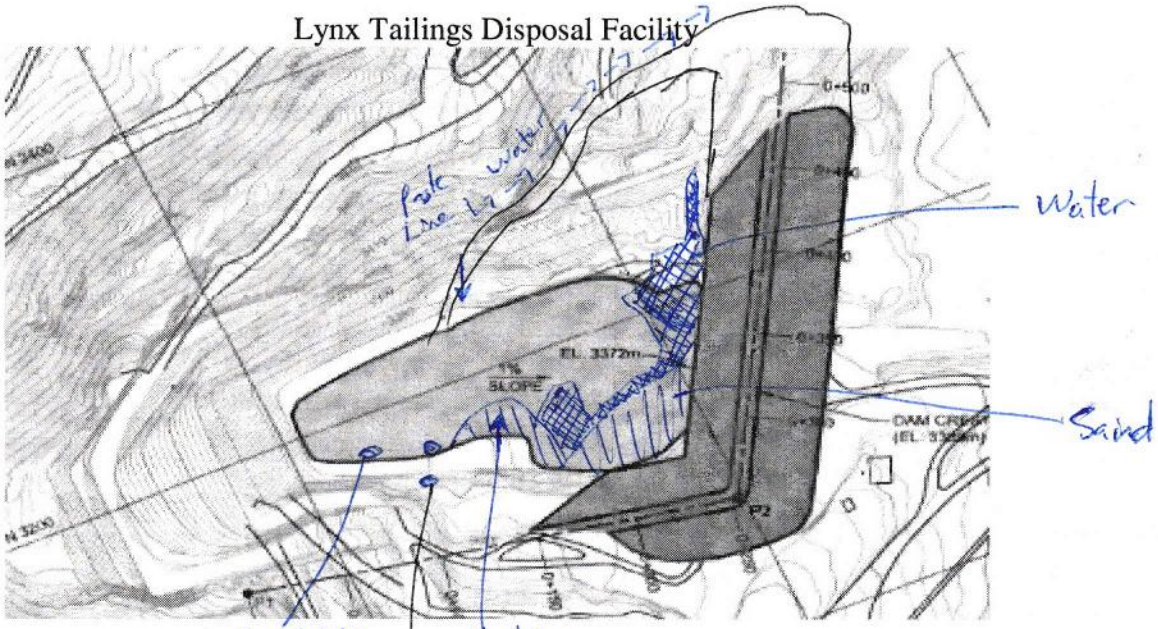
ADDITIONAL COMMENTS

Active Paste to Lynx Pit

Tailings Disposal Facility



Lynx Tailings Disposal Facility



MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: _____ **DATE:** _____

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	✓						
Riprap coverage adequate?	✓						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	✓						
Surface Settlement / Depressions	✓						
Sinkholes	✓						
Cracks / Slope Movement/Bulging	✓						
Seepage / Wet Areas		✓					Parts Soft/Moist
Other Unusual Conditions	✓						
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map	✓						
Pond Water Elevation (Top of decant is 3390.3)	✓						
Depth of water at decant inlet and clarity	✓						
Inlet opening clear?	✓						
Sand Storage Area–Pond to Crest Distance > 10 m?	✓						Back Fill Line No/Little Decanting.
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	✓						
Decant inlet opening clear?	✓						
Depth of water at decant inlet and clarity?	✓						
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?	✓						
Any Ditch Damage?	✓						
Signs of Ditch Overtopping?	✓						
Flow Conditions in Ditch (m^3/s)	✓						
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?	✓						
Sump pump currently pumping?						✓	
Ponded water evident on paste tails? if yes, how deep?		✓					
Is water flowing into the pit? If yes, show on map	✓						
Evidence of slope failure into the Lynx TDF?	✓						
Active Tailings Placement? if yes, show on map	✓						

*** RATING LEGEND (see next page)**

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P = Poor (May not meet intended purpose, repair or modify)

U = Unsatisfactory (Will not meet intended purpose, repair or modify)

N = Not inspected

NA = Not applicable

Additional Comments:

_____

_____

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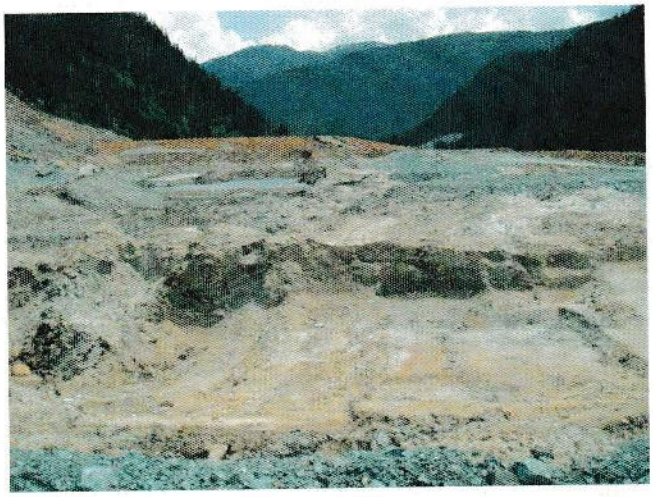
TDF INSPECTION June 26, 2014



MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

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INSPECTION DETAILS

Inspector Name: Scott Skayford

Inspector Position: Environmental Technician

Inspection Date/Time: July 03, 2014 @ 14:30

Weather Conditions: Sunny, ~~Moderate Wind~~ Dry, ~30% cloud. Relatively Strong Winds

Reason for Inspection:

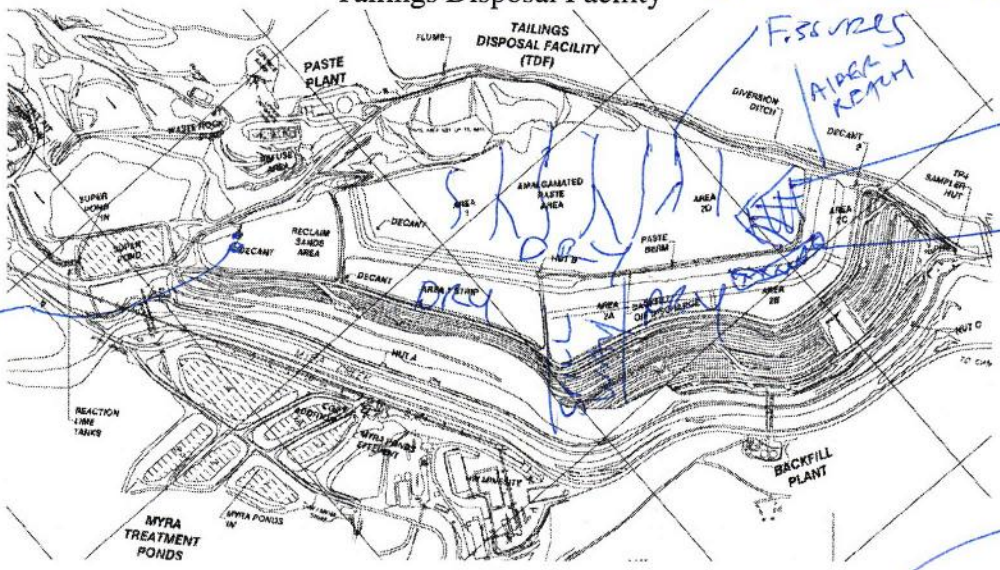
Routine [X] Hauling from WRD #1

Special Condition [ ] New Berm of ~~Material~~ (Reclaim Sand) near Lynx 10E Portal to bury twin tails line.

ADDITIONAL COMMENTS

Paste to Lynx Pit No Pumps in Pit.

Tailings Disposal Facility



Lynx Tailings Disposal Facility

MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: _____ **DATE:** _____

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	✓						
Riprap coverage adequate?	✓						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	✓						
Surface Settlement / Depressions	✓						
Sinkholes	✓						
Cracks / Slope Movement/Bulging	✓						
Seepage / Wet Areas		✓					Soft / Minimal Moisture detected
Other Unusual Conditions	✓						
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map	✓						
Pond Water Elevation (Top of decant is 3390.3)	✓						
Depth of water at decant inlet and clarity	✓						
Inlet opening clear?	✓						
Sand Storage Area–Pond to Crest Distance > 10 m?							
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	✓						
Decant inlet opening clear?	✓						
Depth of water at decant inlet and clarity?	✓						
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?	✓						
Any Ditch Damage?	✓						
Signs of Ditch Overtopping?	✓						
Flow Conditions in Ditch (m^3/s)	✓						
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?	✓						
Sump pump currently pumping?		✓				✓	
Ponded water evident on paste tails? if yes, how deep?	✓						
Is water flowing into the pit? If yes, show on map	✓						
Evidence of slope failure into the Lynx TDF?	✓						
Active Tailings Placement? if yes, show on map	✓						

*** RATING LEGEND (see next page)**

S = Satisfactory (Meets the intended purpose)

F = Fair (Meets intended purpose, but some maintenance needed)

P = Poor (May not meet intended purpose, repair or modify)

U = Unsatisfactory (Will not meet intended purpose, repair or modify)

N = Not inspected

NA = Not applicable

Additional Comments:

_____

_____

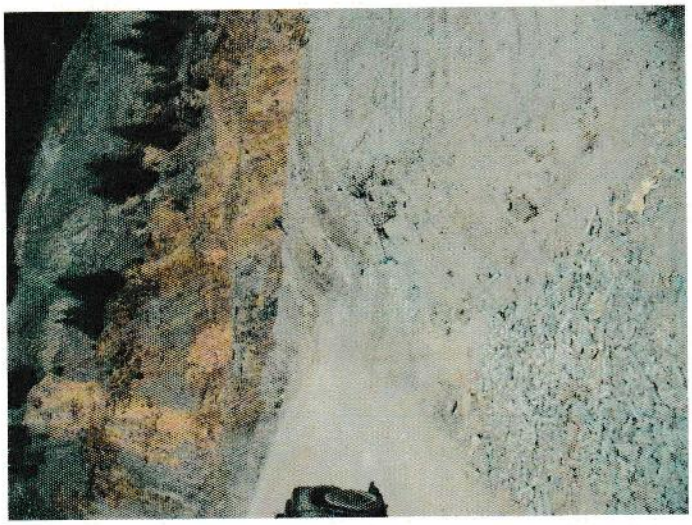
_____

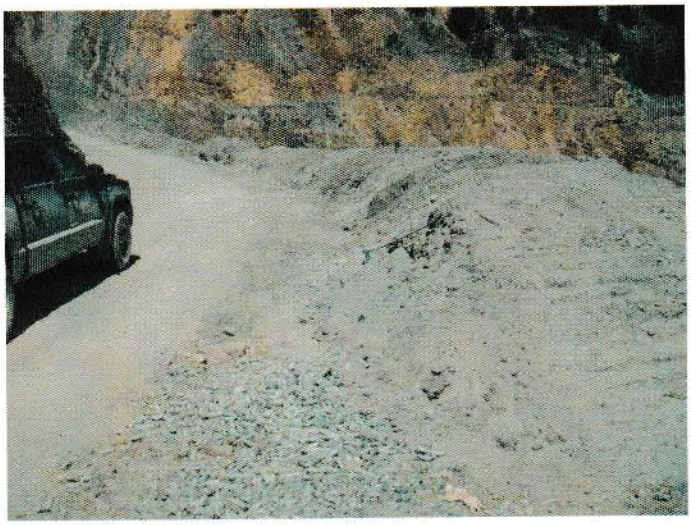
_____

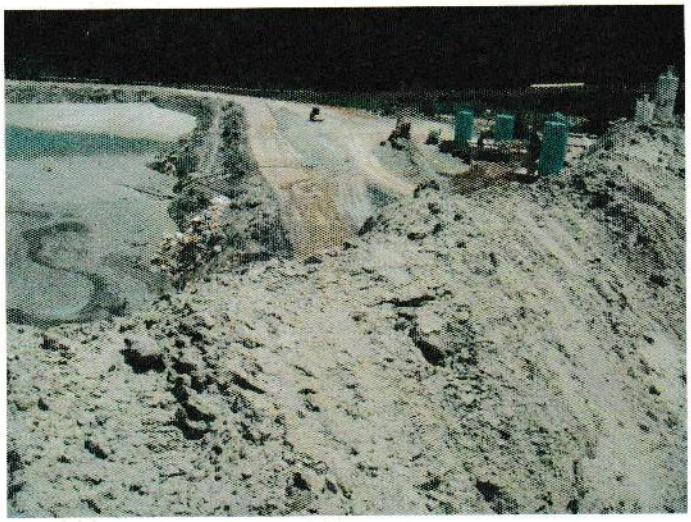
_____

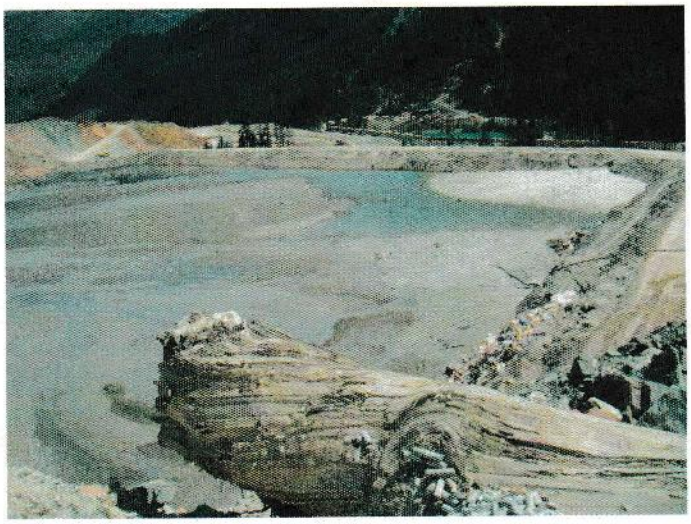
_____

TDF Inspection July 03, 2014









MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: Scott Skagford

Inspector Position: Environmental Tech

Inspection Date/Time: July 11, 2014 ~ 12:00

Weather Conditions: Sunny, Dry, ~25°C, Clear, light breeze

Reason for Inspection:

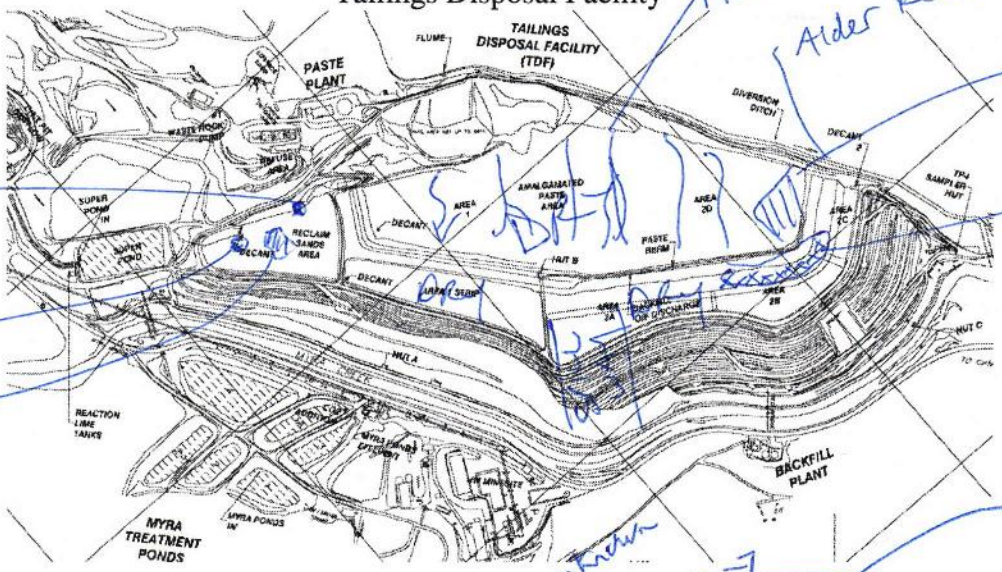
Routine [X] Unknown line to Lynx Pit

Special Condition [ ]

ADDITIONAL COMMENTS

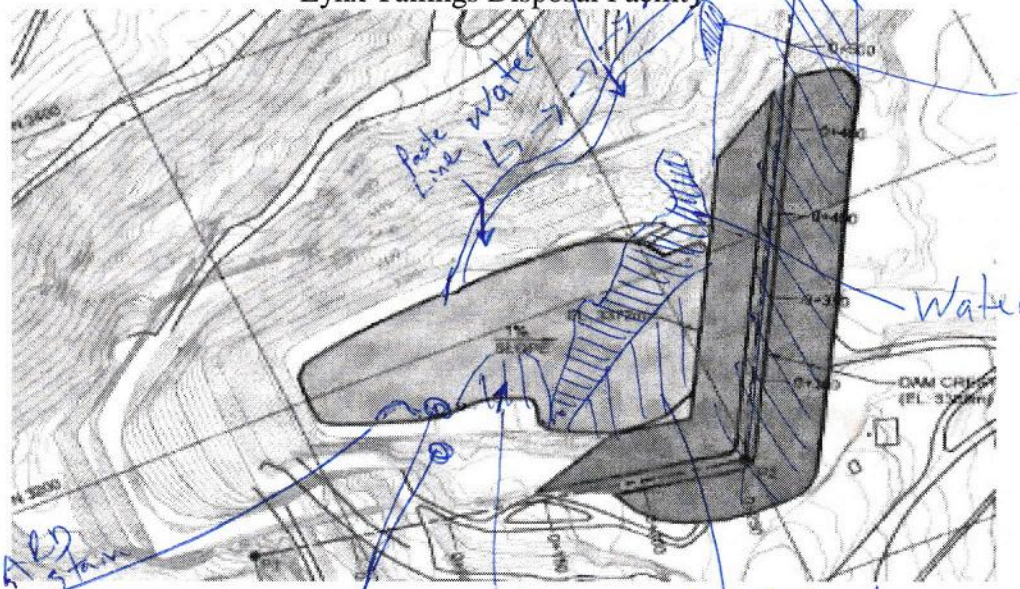
Mill Down.

Tailings Disposal Facility



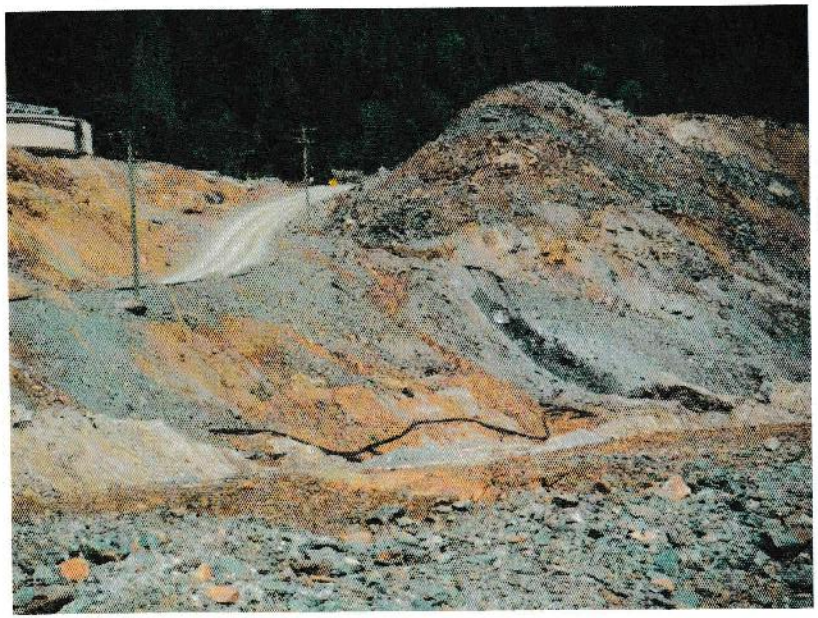
Fissures
Alder Reach
PAG covers
Paste Plant U/F
Seepage zone
Backfill U/F
Water
Construction (Sloping)
Unknown

Lynx Tailings Disposal Facility



Water
Paste Line
Water
Water
Refuse Pit
Reclaim Sand Line
Sand Beach

TDF Inspection July 11, 2014



MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: _____ **DATE:** _____

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	✓						
Riprap coverage adequate?	✓						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	✓						
Surface Settlement / Depressions	✓						
Sinkholes	✓						
Cracks / Slope Movement/Bulging	✓						
Seepage / Wet Areas	✓						NOT INSPECTED (SEEPAGE ZONE)
Other Unusual Conditions							
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map						✓	
Pond Water Elevation (Top of decant is 3390.3)	✓						
Depth of water at decant inlet and clarity	✓						
Inlet opening clear?	✓						
Sand Storage Area–Pond to Crest Distance > 10 m?	✓						
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	✓						
Decant inlet opening clear?	✓						
Depth of water at decant inlet and clarity?	✓						
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?	✓						
Any Ditch Damage?	✓						
Signs of Ditch Overtopping?	✓						
Flow Conditions in Ditch (m^3/s)	✓						
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?	✓						
Sump pump currently pumping?						✓	
Ponded water evident on paste tails? if yes, how deep?	✓						
Is water flowing into the pit? If yes, show on map	✓						
Evidence of slope failure into the Lynx TDF?	✓						
Active Tailings Placement? if yes, show on map							NO.

*** RATING LEGEND (see next page)**

S = Satisfactory (Meets the intended purpose)

F = Fair (Meets intended purpose, but some maintenance needed)

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U = Unsatisfactory (Will not meet intended purpose, repair or modify)

N = Not inspected

NA = Not applicable

Version 5 – Nov 2008

Additional Comments:

Mill discharge in that black flow to 80' → past 80' ditch and into SP input ditch. See Ponds Inspection from July 11, 2014 for photos.

MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: IVOR McWILLIAMS

Inspector Position: ENVIRONMENTAL MANAGER

Inspection Date/Time: FRIDAY, JULY 18/14 ~ 1PM

Weather Conditions: OVERCAST, DRY

Reason for Inspection:

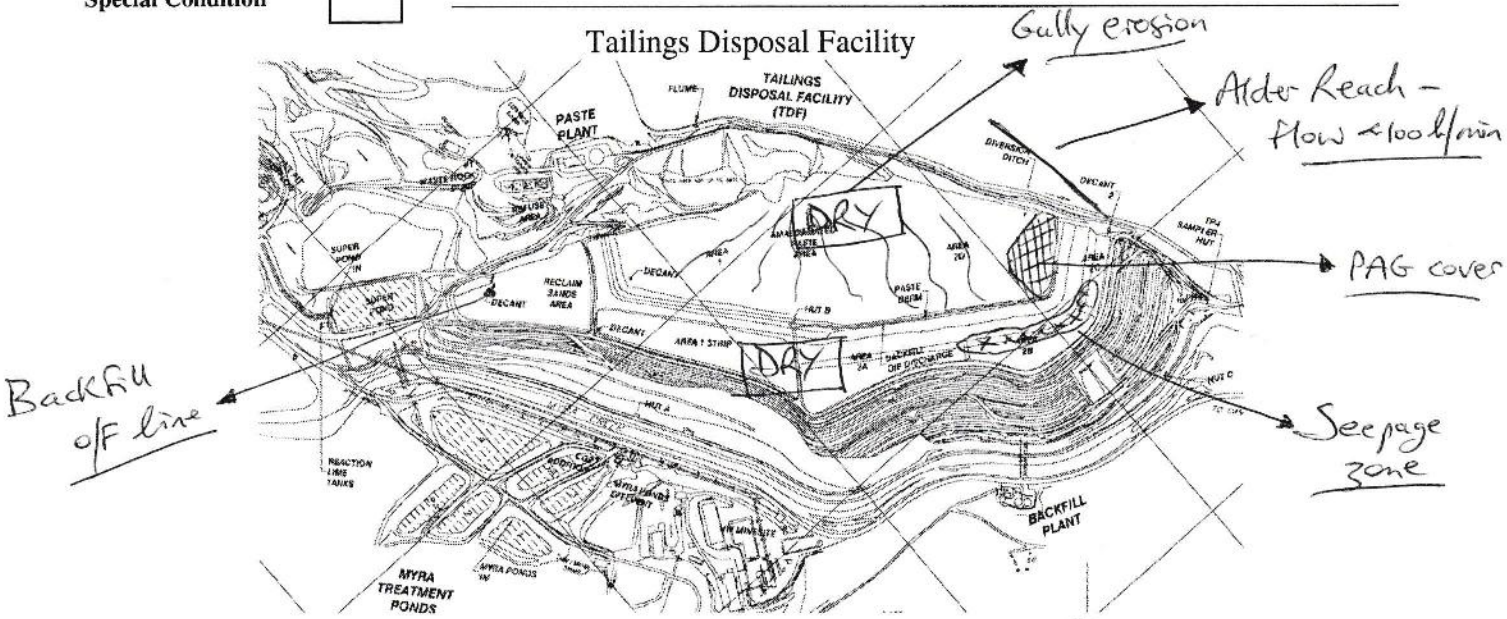
Routine ☑

Special Condition ☐

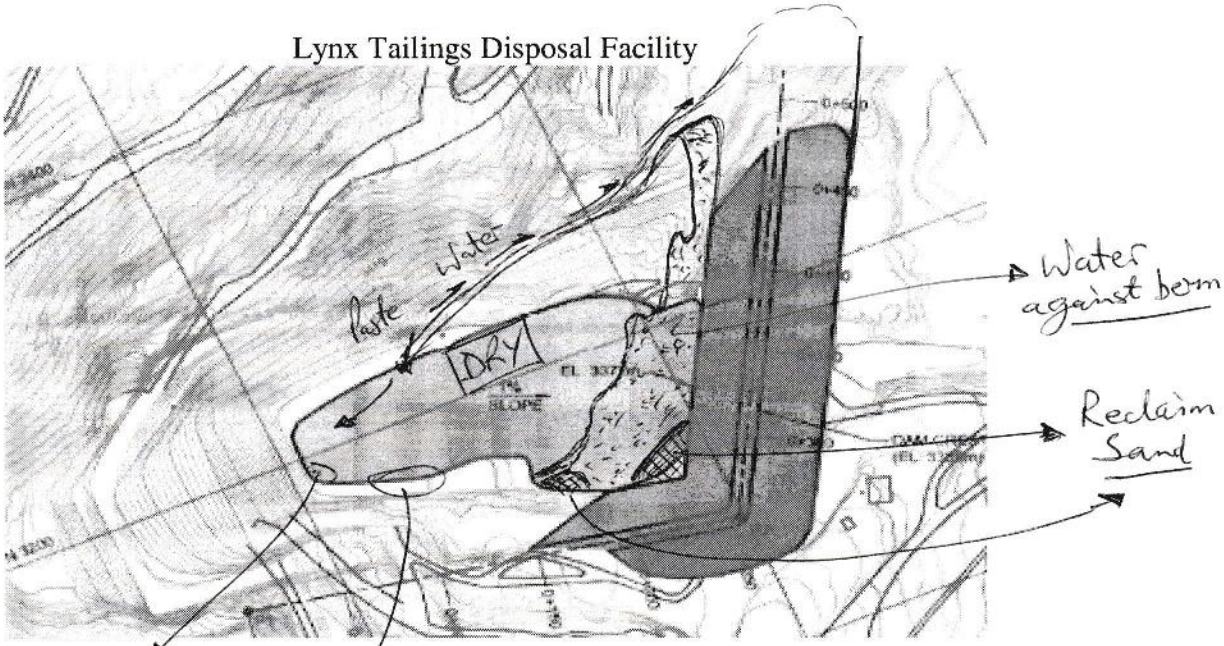
ADDITIONAL COMMENTS

MILL DOWN DUE TO POWER ISSUES

Tailings Disposal Facility



Lynx Tailings Disposal Facility



MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: IMcW **DATE:** JULY 18/14

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	✓						
Riprap coverage adequate?	✓						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	✓						
Surface Settlement / Depressions	✓						
Sinkholes	✓						
Cracks / Slope Movement/Bulging	✓						
Seepage / Wet Areas	✓						As per usual
Other Unusual Conditions	✓						
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map	✓						
Pond Water Elevation (Top of decant is 3390.3)	✓						
Depth of water at decant inlet and clarity	✓						No flow
Inlet opening clear?	✓						
Sand Storage Area–Pond to Crest Distance > 10 m?	✓						Recent deposition of bypass
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	✓						
Decant inlet opening clear?	✓						No flow
Depth of water at decant inlet and clarity?	✓						
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?	✓						Minor rock debris
Any Ditch Damage?	✓						
Signs of Ditch Overtopping?	✓						
Flow Conditions in Ditch (m^3/s)	✓						
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?	✓						
Sump pump currently pumping?						✓	
Ponded water evident on paste tails? if yes, how deep?		✓					
Is water flowing into the pit? If yes, show on map	✓						
Evidence of slope failure into the Lynx TDF?	✓						
Active Tailings Placement? if yes, show on map							No - mill to start ~ 2pm.

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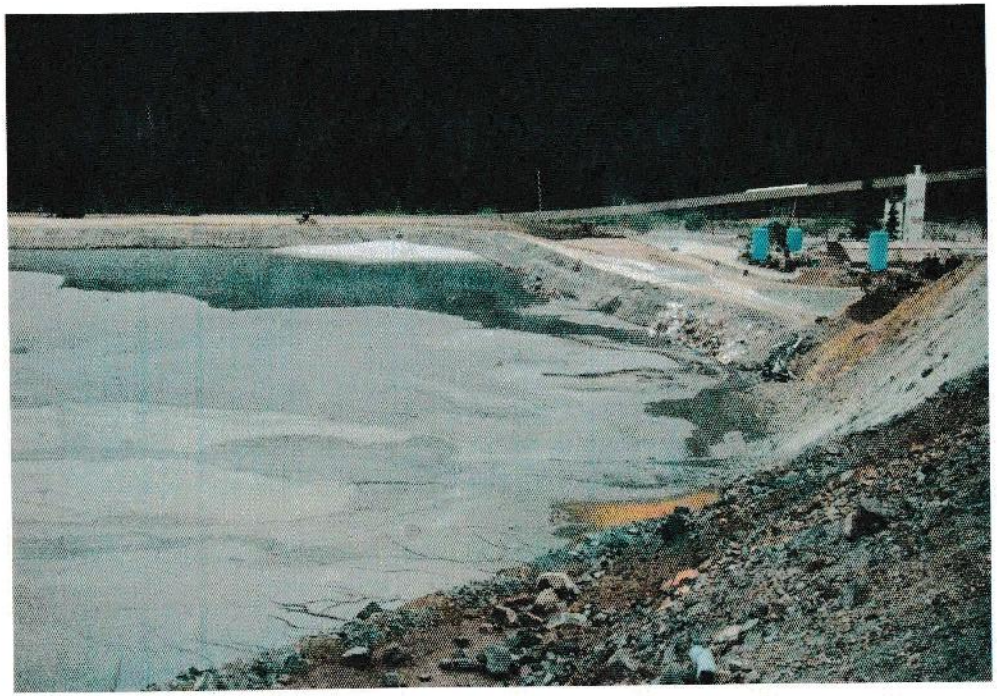
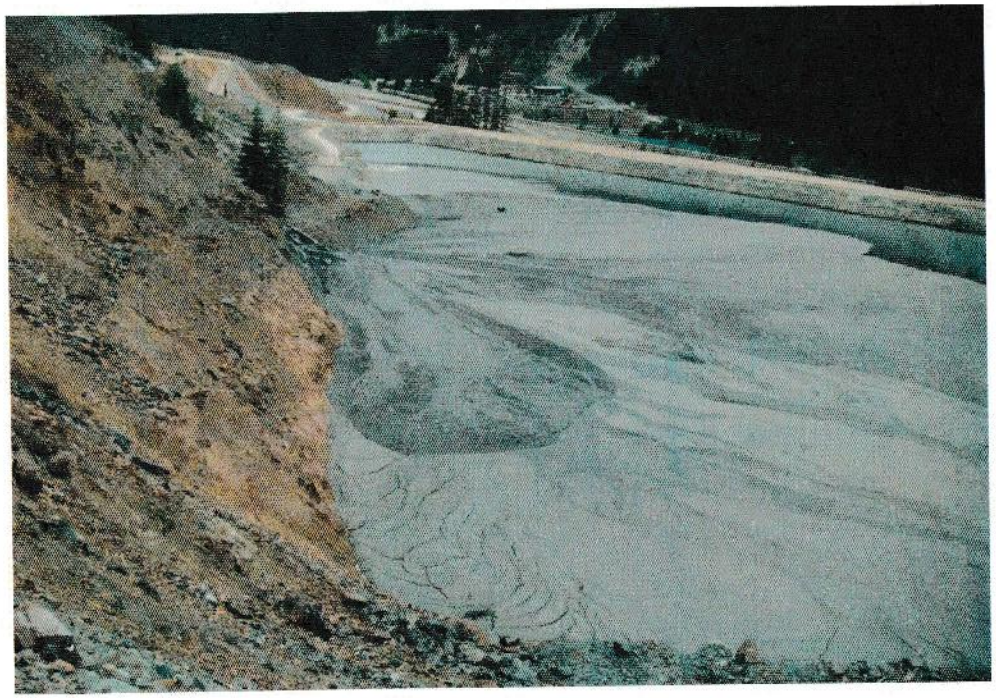
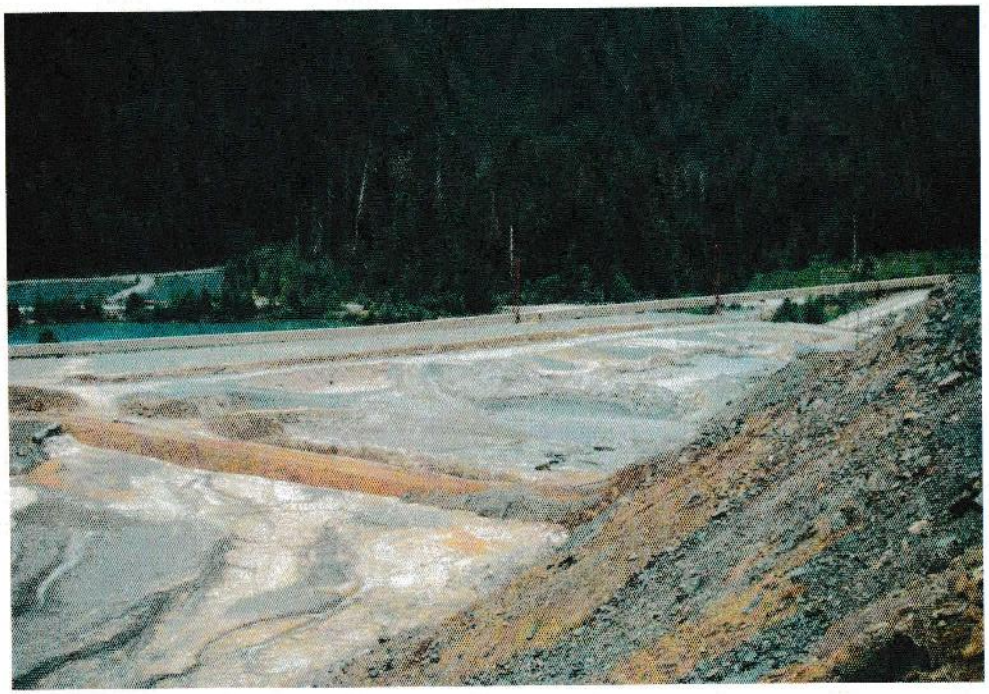
NA = Not applicable

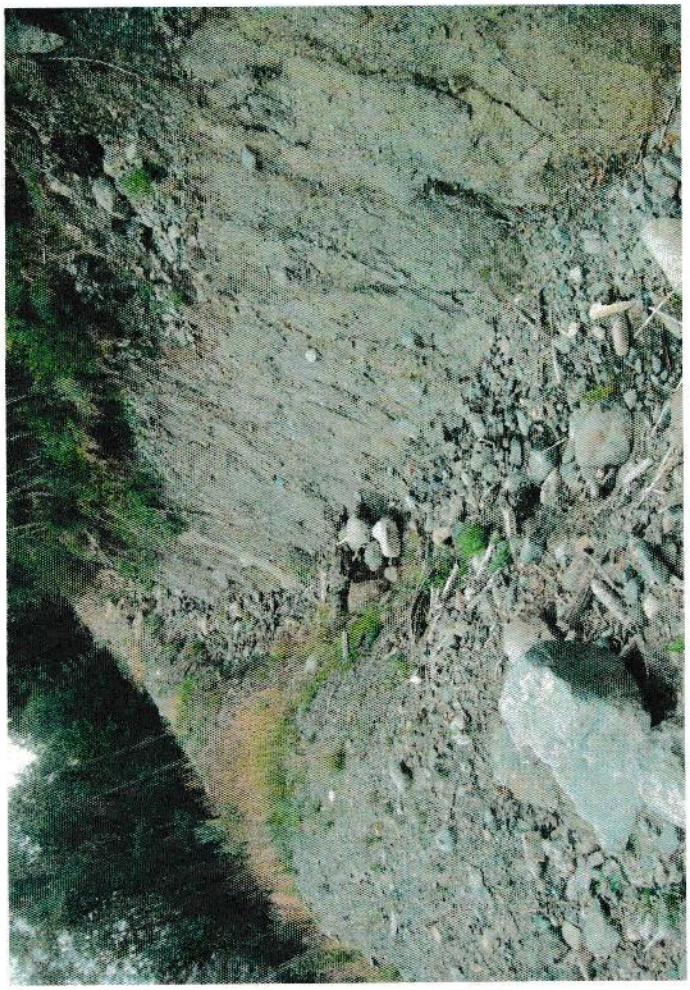
Additional Comments:

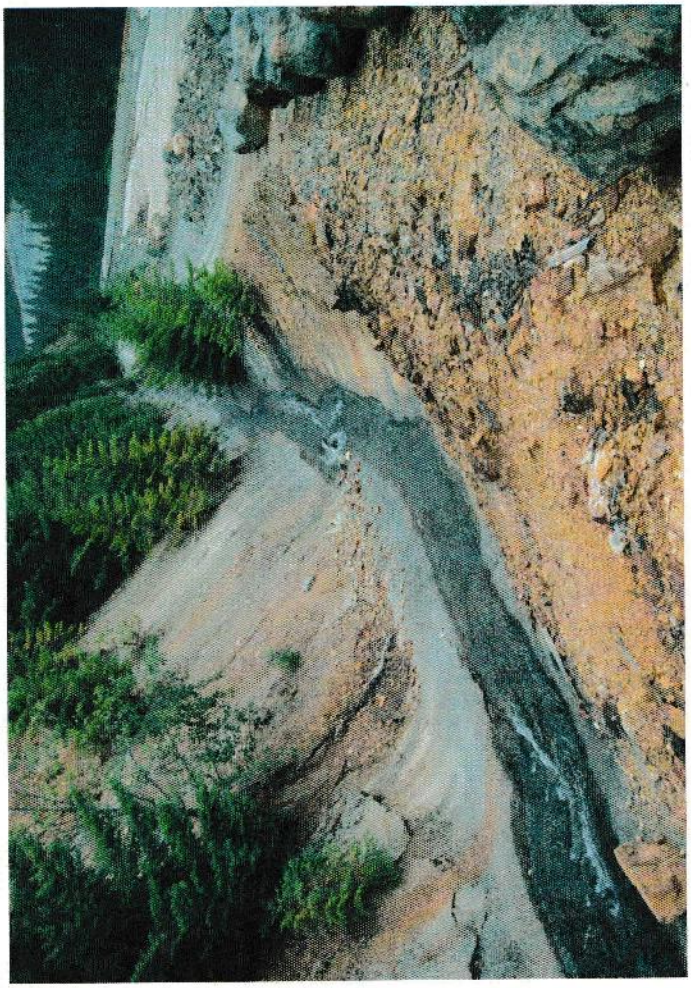
TDF surface dried out + obvious surface precipitates.

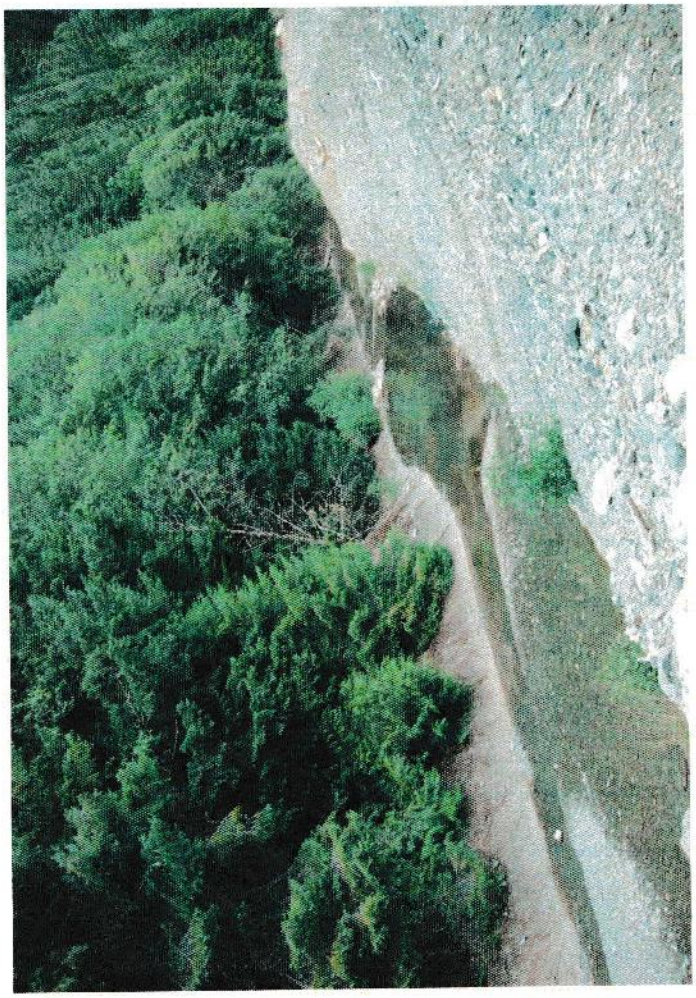


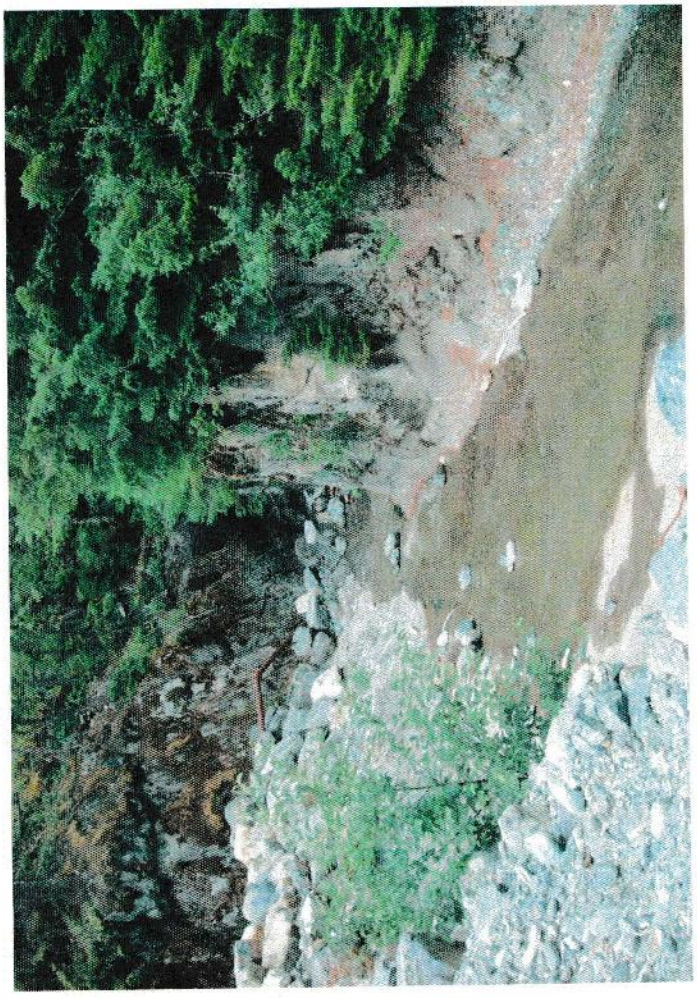












MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: IVOR Mc WILLIAMS

Inspector Position: ENVIRONMENTAL MANAGER

Inspection Date/Time: FRIDAY JULY 25/14 ~ 11AM

Weather Conditions: DRY, OVERCAST ~ 18°C

Reason for Inspection:

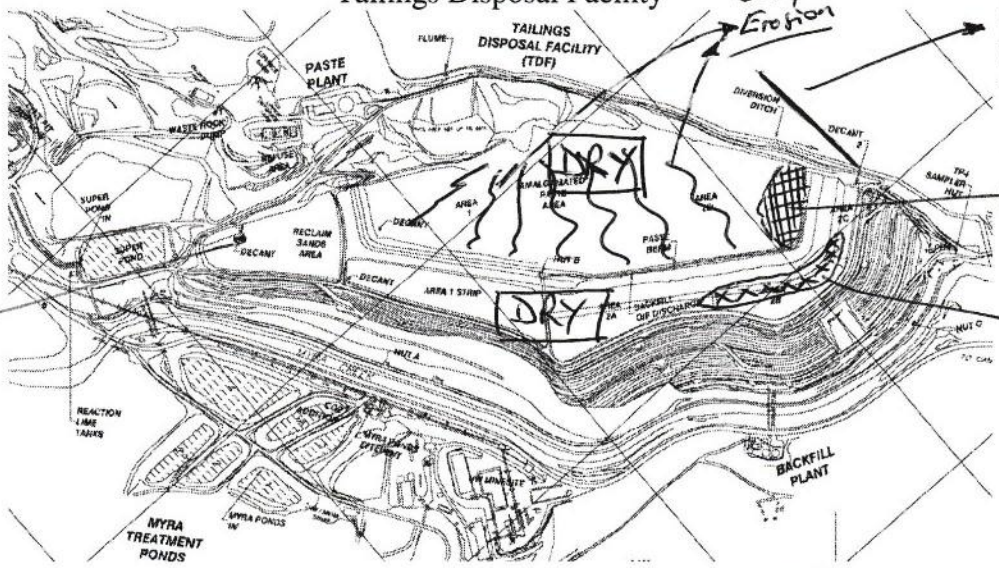
Routine ☑

Special Condition ☐

ADDITIONAL COMMENTS

Some rain showers → light rain over previous 7 days – 11.7mm total precip.

Tailings Disposal Facility



Gully Erosion

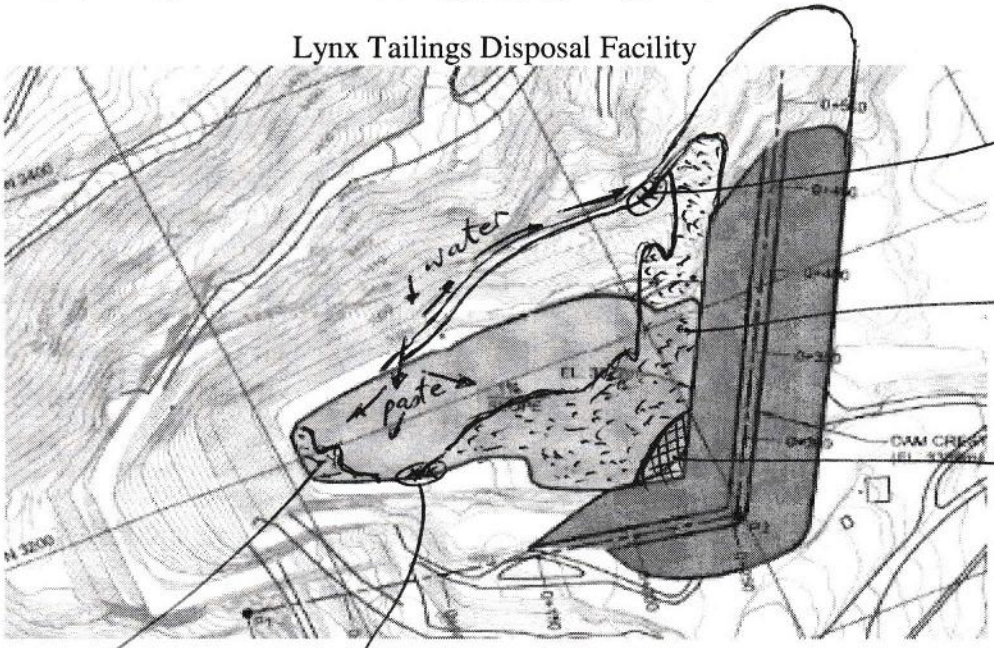
Alder Reach – flow ~ 50 l/min

PAG cover

Seepage Zone

Backfill off line

Lynx Tailings Disposal Facility



New location for garbage disposal

Shallow water

Reclaim Sand

Shallow water

Garbage

MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: I. McW **DATE:** July 25/14

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	✓						
Riprap coverage adequate?	✓						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	✓						
Surface Settlement / Depressions	✓						
Sinkholes	✓						
Cracks / Slope Movement/Bulging	✓						
Seepage / Wet Areas	✓						As per usual - drying out
Other Unusual Conditions	✓						
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map	✓						
Pond Water Elevation (Top of decant is 3390.3)	✓						
Depth of water at decant inlet and clarity	✓						No flow
Inlet opening clear?	✓						
Sand Storage Area–Pond to Crest Distance > 10 m?	✓						350 truck loads removed during last 7 days.
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	✓						
Decant inlet opening clear?	✓						No flow
Depth of water at decant inlet and clarity?	✓						
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?	✓						Minor debris
Any Ditch Damage?	✓						
Signs of Ditch Overtopping?	✓						
Flow Conditions in Ditch (m^3/s)	✓						
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?	✓						
Sump pump currently pumping?						✓	
Ponded water evident on paste tails? if yes, how deep?		✓					
Is water flowing into the pit? If yes, show on map	✓						
Evidence of slope failure into the Lynx TDF?	✓						
Active Tailings Placement? if yes, show on map	✓						

*** RATING LEGEND (see next page)**

S = Satisfactory (Meets the intended purpose)

F = Fair (Meets intended purpose, but some maintenance needed)

P = Poor (May not meet intended purpose, repair or modify)

U = Unsatisfactory (Will not meet intended purpose, repair or modify)

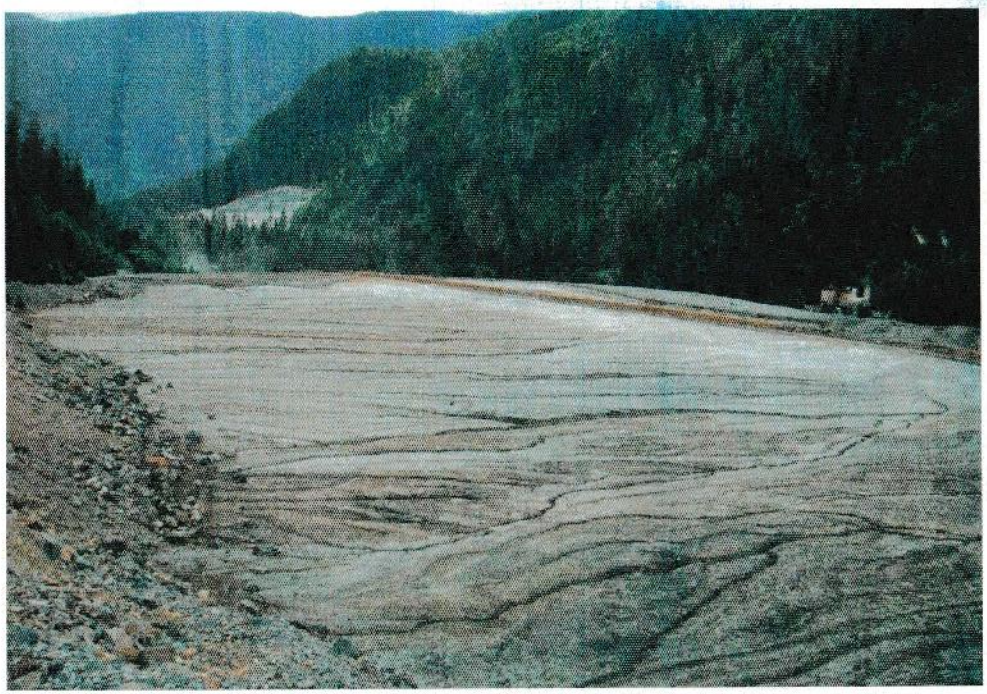
N = Not inspected

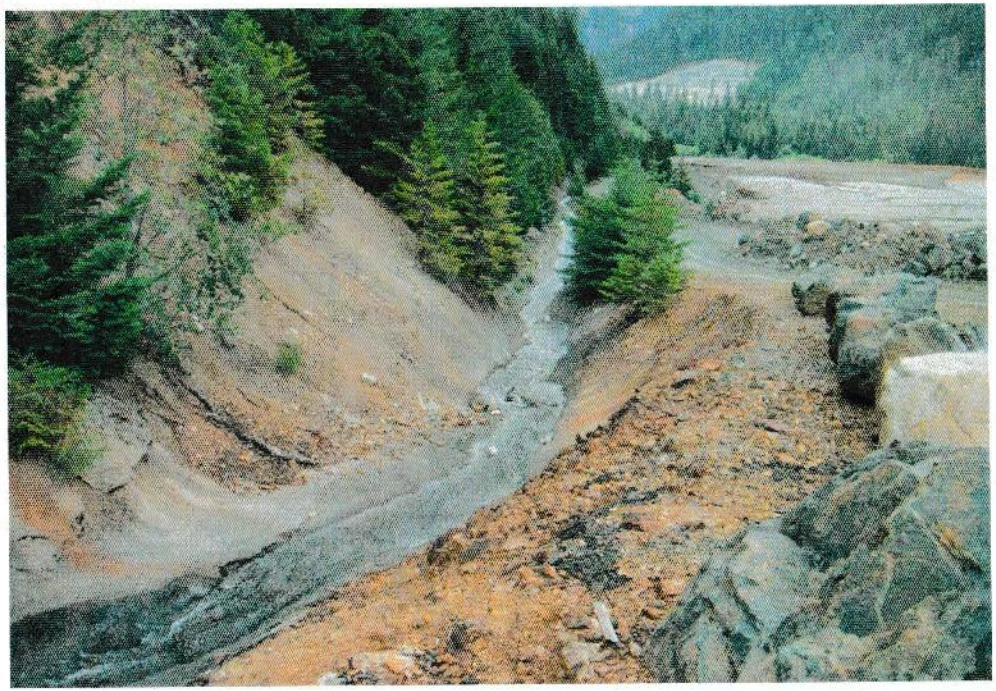
NA = Not applicable

Additional Comments:

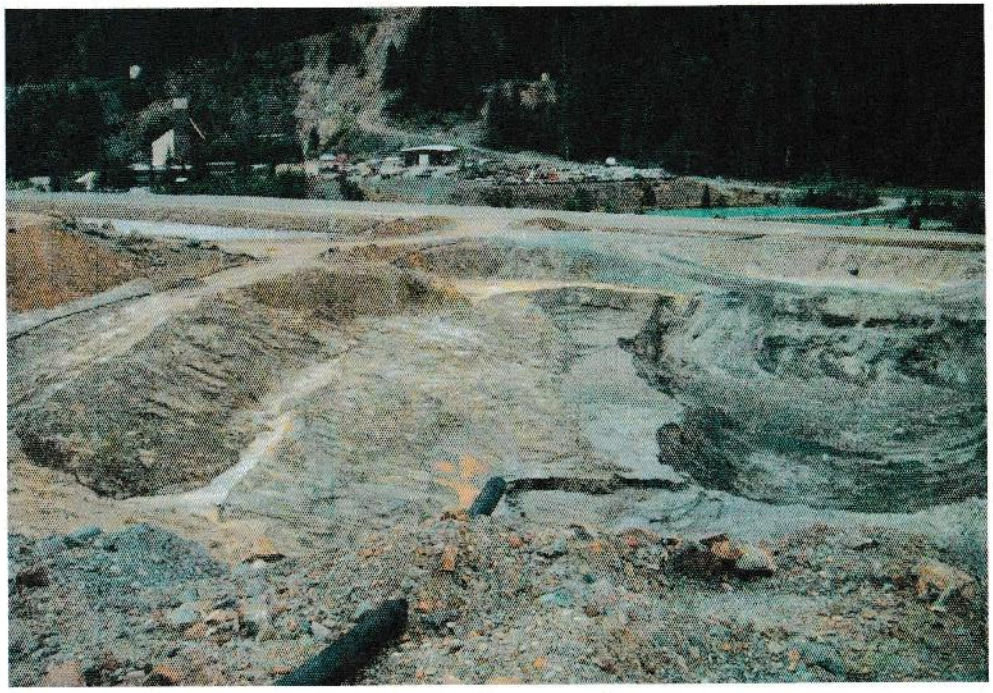
LYNX TDF

Lynx Diversion Ditch + TDF





SAND RECLAIM AREA



MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: IVOR McWILLIAMS

Inspector Position: ENVIRONMENTAL MANAGER

Inspection Date/Time: FRIDAY AUGUST 1/14 ~ 1PM

Weather Conditions: SUNNY, WARM ~ 30°C

Reason for Inspection:

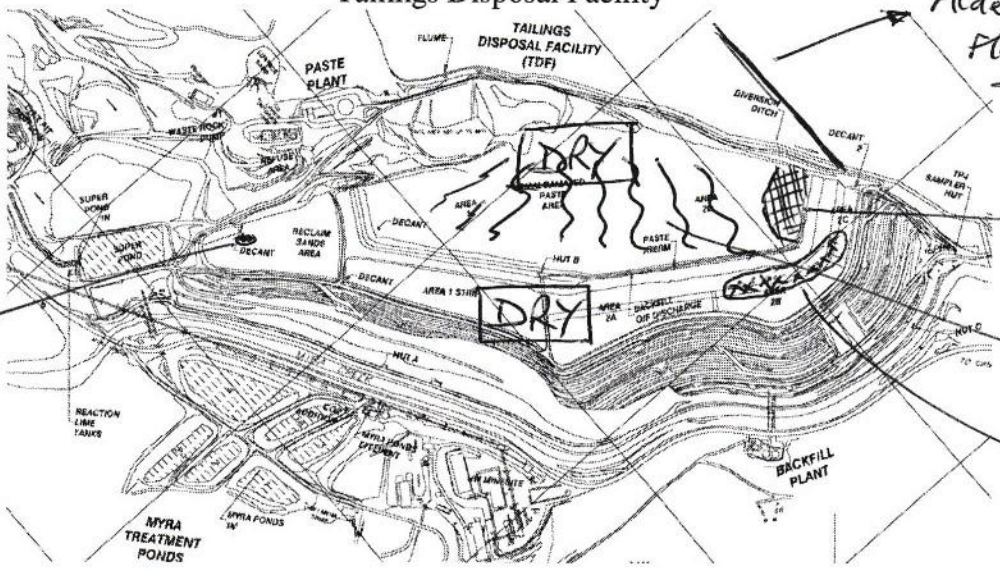
Routine ☑ Mill on start up (after losing Tennent power yesterday evening).

Special Condition ☐

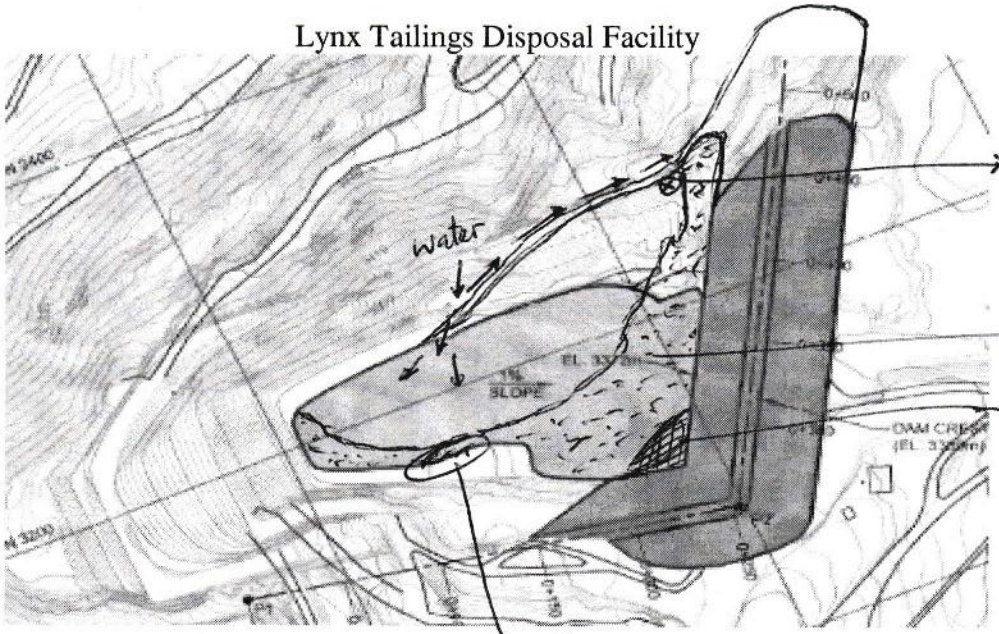
ADDITIONAL COMMENTS

- No precip. since July 23rd
- No photos taken.

Tailings Disposal Facility



Lynx Tailings Disposal Facility



MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: INcW **DATE:** August 1/14

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	✓						
Riprap coverage adequate?	✓						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	✓						
Surface Settlement / Depressions	✓						
Sinkholes	✓						
Cracks / Slope Movement/Bulging	✓						
Seepage / Wet Areas	✓						Drying out
Other Unusual Conditions	✓						
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map	✓						
Pond Water Elevation (Top of decant is 3390.3)	✓						
Depth of water at decant inlet and clarity	✓						No Flow
Inlet opening clear?	✓						
Sand Storage Area–Pond to Crest Distance > 10 m?	✓						
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	✓						
Decant inlet opening clear?	✓						No Flow
Depth of water at decant inlet and clarity?	✓						
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?	✓						Minor debris
Any Ditch Damage?	✓						
Signs of Ditch Overtopping?	✓						
Flow Conditions in Ditch (m^3/s)	✓						
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?	✓						
Sump pump currently pumping?						✓	
Ponded water evident on paste tails? if yes, how deep?		✓					
Is water flowing into the pit? If yes, show on map	✓						
Evidence of slope failure into the Lynx TDF?	✓						
Active Tailings Placement? if yes, show on map							Mill on start up.

*** RATING LEGEND (see next page)**

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U = Unsatisfactory (Will not meet intended purpose, repair or modify)

N = Not inspected

NA = Not applicable

Additional Comments:

Construction activity on Lynx berm - building "J" zone.

MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: Scott Skagford

Inspector Position: Environmental Tech

Inspection Date/Time: Aug 07/14 @ 15:00

Weather Conditions: Breezy, Dry, ~24°C

Reason for Inspection:

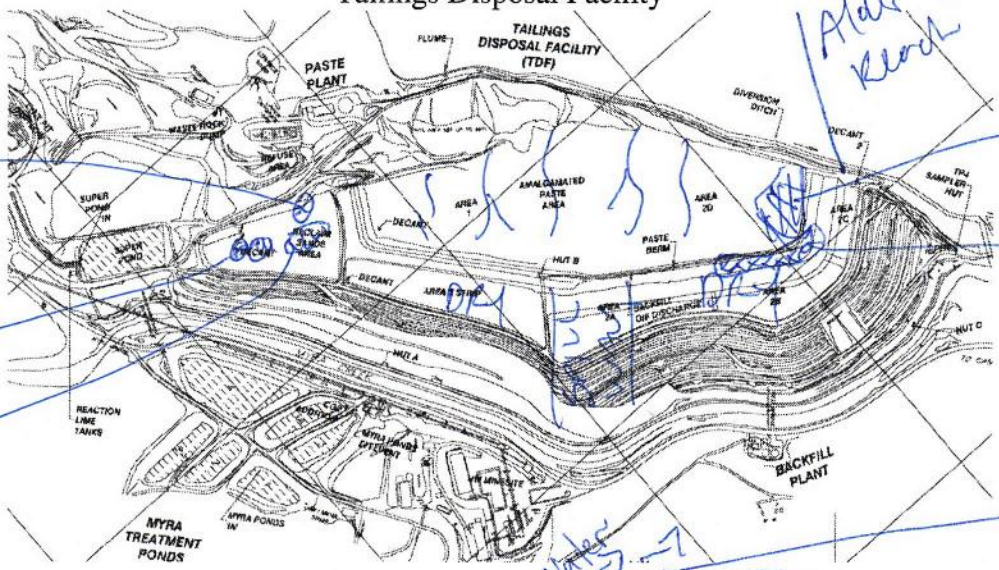
Routine [X] Dredge in SP and running. Discharge to Lynx Pit. BP U/F line to Reclaim Sand new. (same discharge location)

Special Condition [ ]

ADDITIONAL COMMENTS

No PHOTOS

Tailings Disposal Facility



Paste Plant U/F

Backfill U/F

Water Pond

Alex Block

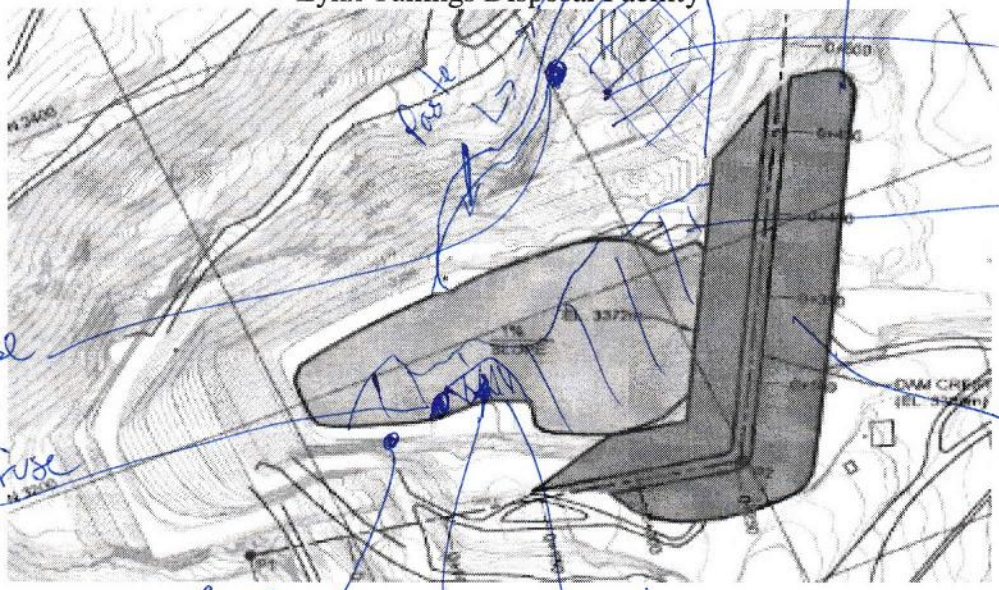
PAG Cove

Seepage Zone

Dredge Line

Water

Lynx Tailings Disposal Facility



Water Skim

Water Ponding

Refuse

Refuse

Lift in Progress

Pump (not hooked up)

RIS land

Sand

MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: _____ **DATE:** _____

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	✓						
Riprap coverage adequate?	✓						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	✓						
Surface Settlement / Depressions	✓						
Sinkholes	✓						
Cracks / Slope Movement/Bulging	✓						
Seepage / Wet Areas		✓					
Other Unusual Conditions	✓						
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map						✓	
Pond Water Elevation (Top of decant is 3390.3)	✓						
Depth of water at decant inlet and clarity	✓						
Inlet opening clear?	✓						
Sand Storage Area–Pond to Crest Distance > 10 m?	✓						
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	✓						
Decant inlet opening clear?	✓						
Depth of water at decant inlet and clarity?	✓						
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?	✓						
Any Ditch Damage?	✓						
Signs of Ditch Overtopping?	✓						
Flow Conditions in Ditch (m^3/s)	✓						
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?	✓						
Sump pump currently pumping?		✓					Ponded Water Needs to be pumped
Ponded water evident on paste tails? if yes, how deep?	✓	✓					
Is water flowing into the pit? If yes, show on map	✓						
Evidence of slope failure into the Lynx TDF?	✓						
Active Tailings Placement? if yes, show on map	✓						No Discharge during Inspection

*** RATING LEGEND (see next page)**

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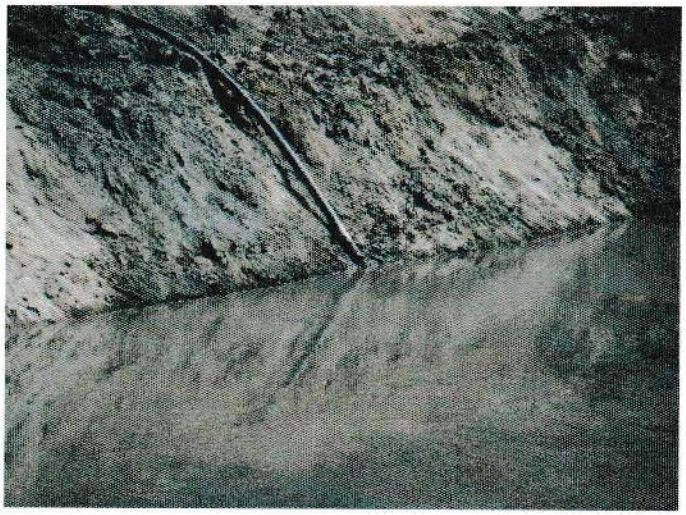
NA = Not applicable

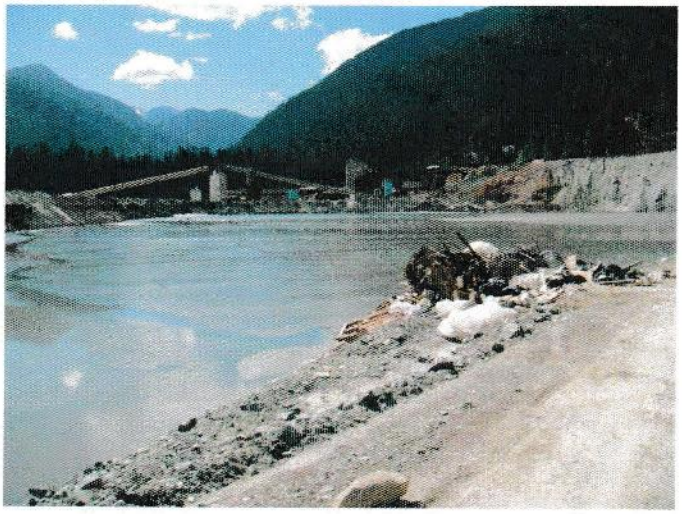
Version 5 – Nov 2008

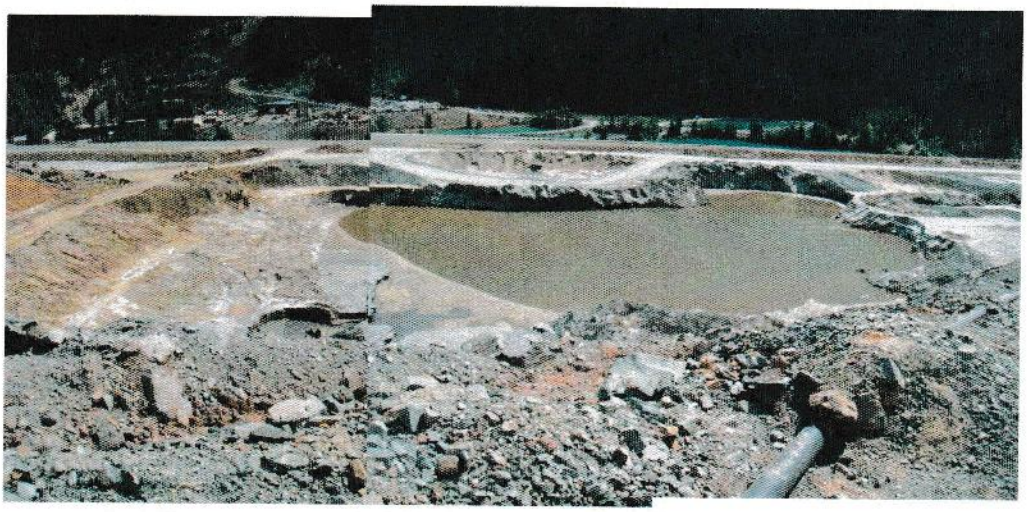
Additional Comments:

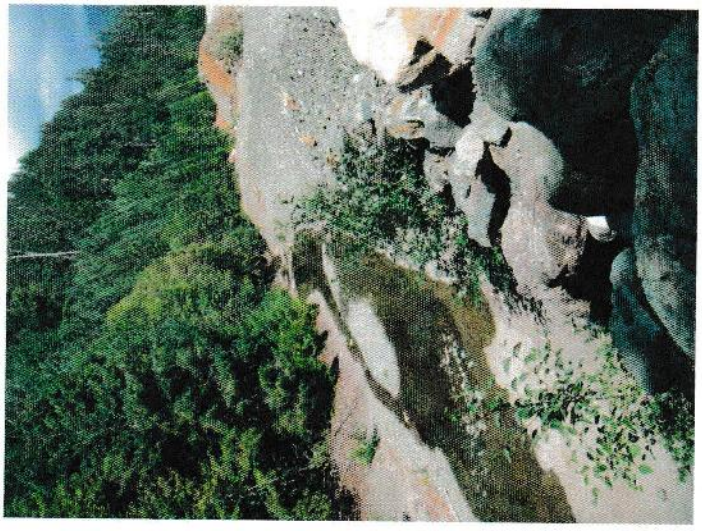
Seepage Zone Soft with signs of moisture ~ 1-2 in. under surface.

TDF Inspection August 07, 2014









MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: Scott Skingford

Inspector Position: Environmental Tech

Inspection Date/Time: Aug 21, 2014 @ 15:07

Weather Conditions: Sunny ~ 20C, calm (started raining heavily @ ~ 15:15) intermittent - light rain by 15:18)

Reason for Inspection:

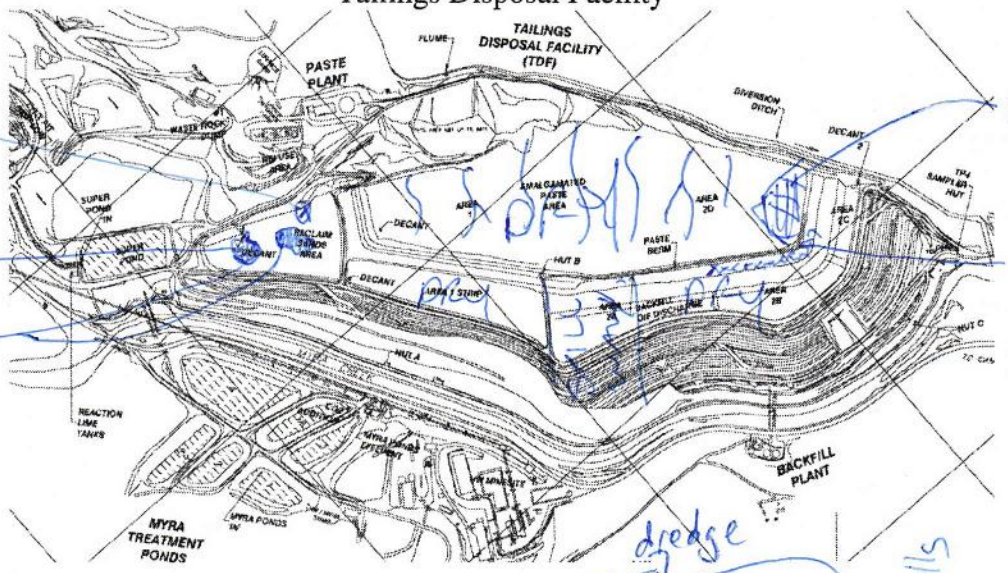
Routine [X]

Special Condition [ ]

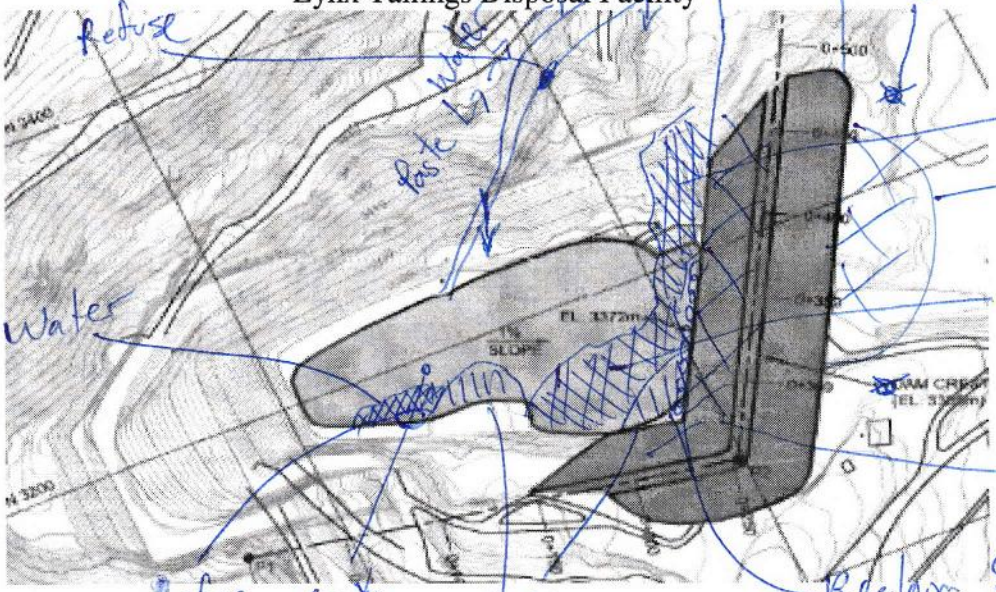
ADDITIONAL COMMENTS

2014 drilling program started but not drilling day of inspection

Tailings Disposal Facility



Lynx Tailings Disposal Facility



MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: Scott Shagford **DATE:** Aug 21 / 2014

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	/						
Surface Cracks - Longitudinal	/						
Settlement / Depressions	/						
Erosion or Gully Channels	/						
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	/						
Riprap coverage adequate?	/						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	/						
Surface Settlement / Depressions	/						
Sinkholes	/						
Cracks / Slope Movement/Bulging	/	/					
Seepage / Wet Areas	/	/					
Other Unusual Conditions	/						
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map						/	
Pond Water Elevation (Top of decant is 3390.3)	/						
Depth of water at decant inlet and clarity	/	/					
Inlet opening clear?	/	/					
Sand Storage Area–Pond to Crest Distance > 10 m?	/						
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	/						
Decant inlet opening clear?	/						
Depth of water at decant inlet and clarity?	/						
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?	/						
Any Ditch Damage?	/						
Signs of Ditch Overtopping?	/						
Flow Conditions in Ditch (m^3/s)	/						
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	/						
Surface Cracks - Longitudinal	/						
Settlement / Depressions	/						
Erosion or Gully Channels	/						Some Channels on Seismic Berm
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?	/						Small depression ~2m dia.
Sump pump currently pumping?	/						
Ponded water evident on paste tails? if yes, how deep?	/						
Is water flowing into the pit? If yes, show on map	/						
Evidence of slope failure into the Lynx TDF?	/						
Active Tailings Placement? if yes, show on map	/						

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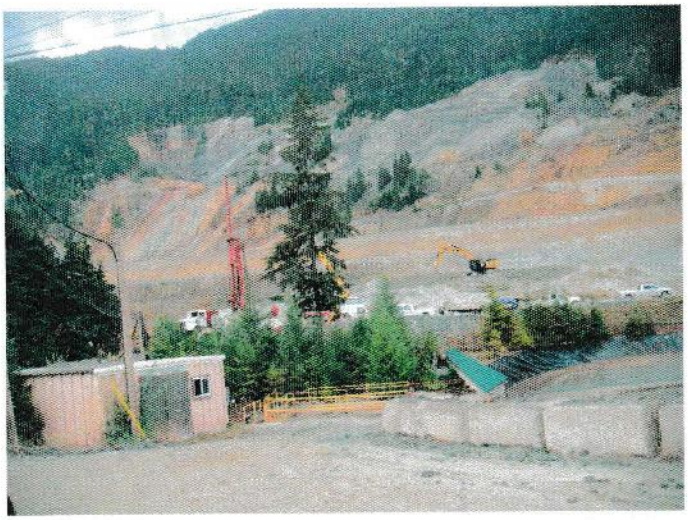
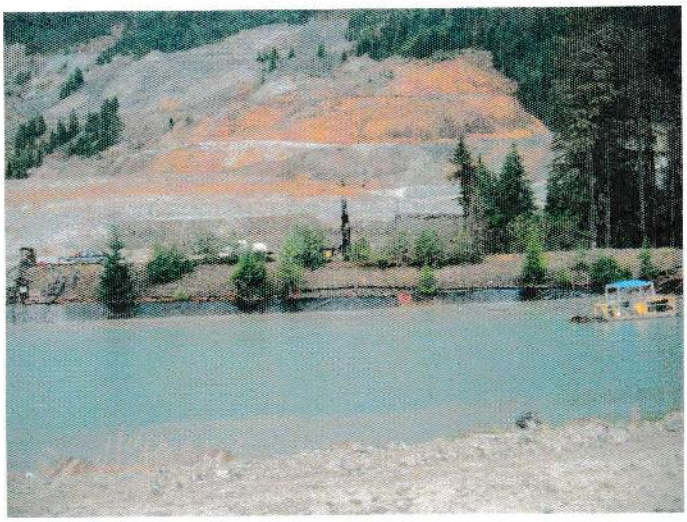
Version 5 – Nov 2008

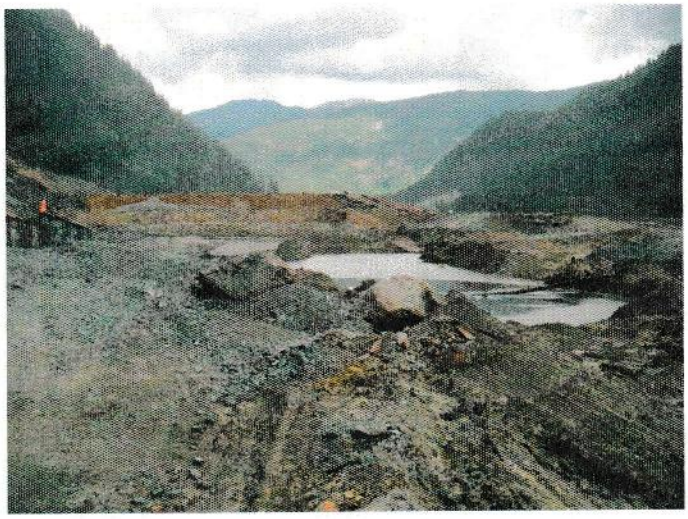
Additional Comments:

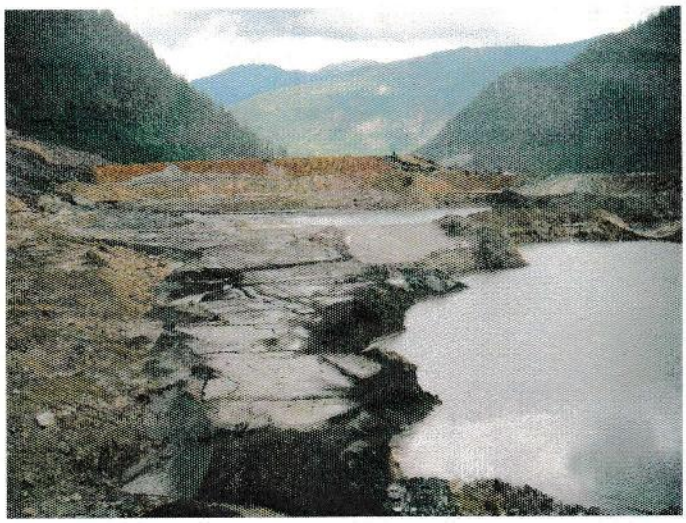
Seepage Zone Soft to walk on. Signs of moisture ~ 4" under surface.

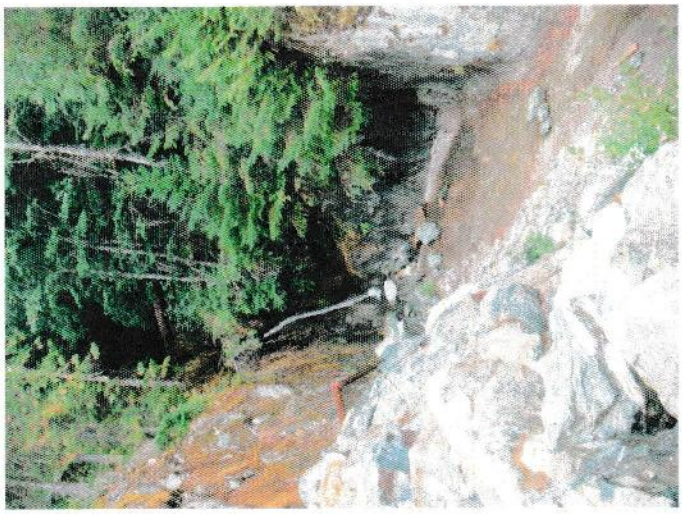
TDF INSPECTION AUGUST 21, 2014











MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: IVOR Mc WILLIAMS

Inspector Position: ENVIRONMENTAL MANAGER

Inspection Date/Time: FRIDAY AUGUST 29/14 ~ Noon.

Weather Conditions: OVERCAST, ISOLATED LIGHT SHOWERS.

Reason for Inspection:

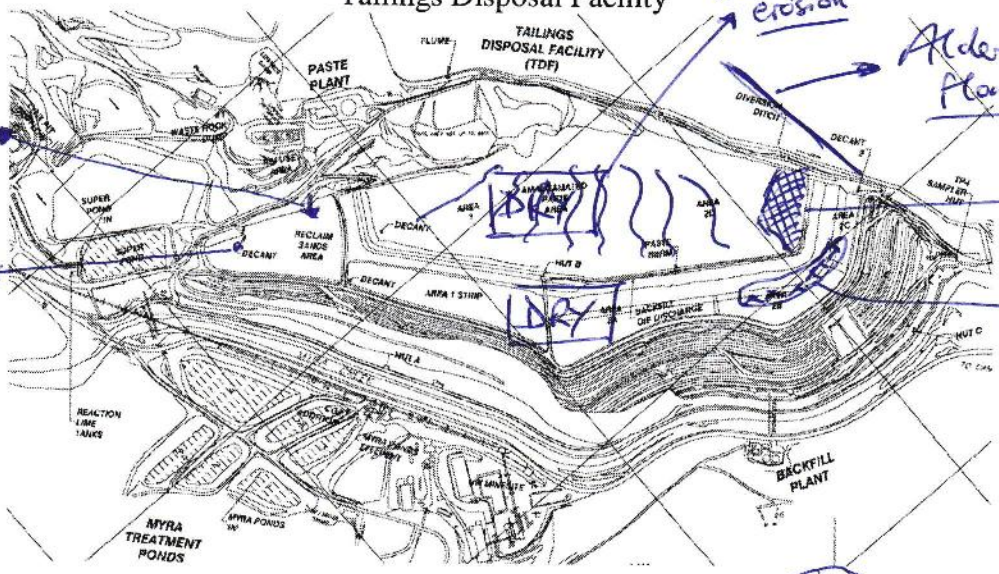
Routine ☑

Special Condition ☐

ADDITIONAL COMMENTS

- Mill running
- Lynx TDF construction ongoing
- Dredge operating in Super Pond

Tailings Disposal Facility



Gully erosion

Alder Reach – flow ~ 20 l/min.

PAG cover

Historic seepage

Paste plant o/f discharge location

Backfill o/f line

Lynx Tailings Disposal Facility

Refuse dump

Water

Water

Sand

Sinkhole

Water

Pump

Sand

Old refuse dump

MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: IMcW **DATE:** Aug 29/14

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	✓						
Riprap coverage adequate?	✓						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	✓						
Surface Settlement / Depressions	✓						
Sinkholes	✓						
Cracks / Slope Movement/Bulging	✓						
Seepage / Wet Areas		✓					Still "spongy"
Other Unusual Conditions							Precipitate "blooms" on TDF Strip
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map						✓	
Pond Water Elevation (Top of decant is 3390.3)	✓						
Depth of water at decant inlet and clarity	✓						
Inlet opening clear?	✓						DRY
Sand Storage Area–Pond to Crest Distance > 10 m?	✓						
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	✓						
Decant inlet opening clear?	✓						
Depth of water at decant inlet and clarity?	✓						DRY
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?		✓					Debris - rock + wood - see photo
Any Ditch Damage?	✓						
Signs of Ditch Overtopping?	✓						
Flow Conditions in Ditch (m^3/s)	✓						Very low flows
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?	✓						1 small sinkhole - as previous
Sump pump currently pumping?	✓						
Ponded water evident on paste tails? if yes, how deep?	✓						Shallow
Is water flowing into the pit? If yes, show on map	✓						
Evidence of slope failure into the Lynx TDF?	✓						
Active Tailings Placement? if yes, show on map	✓						

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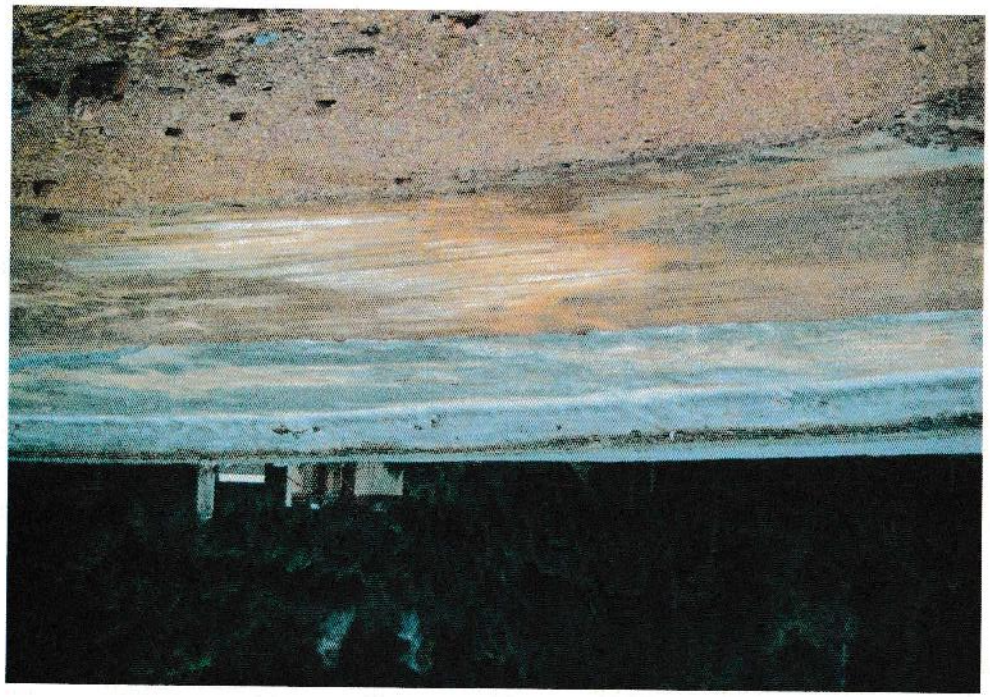
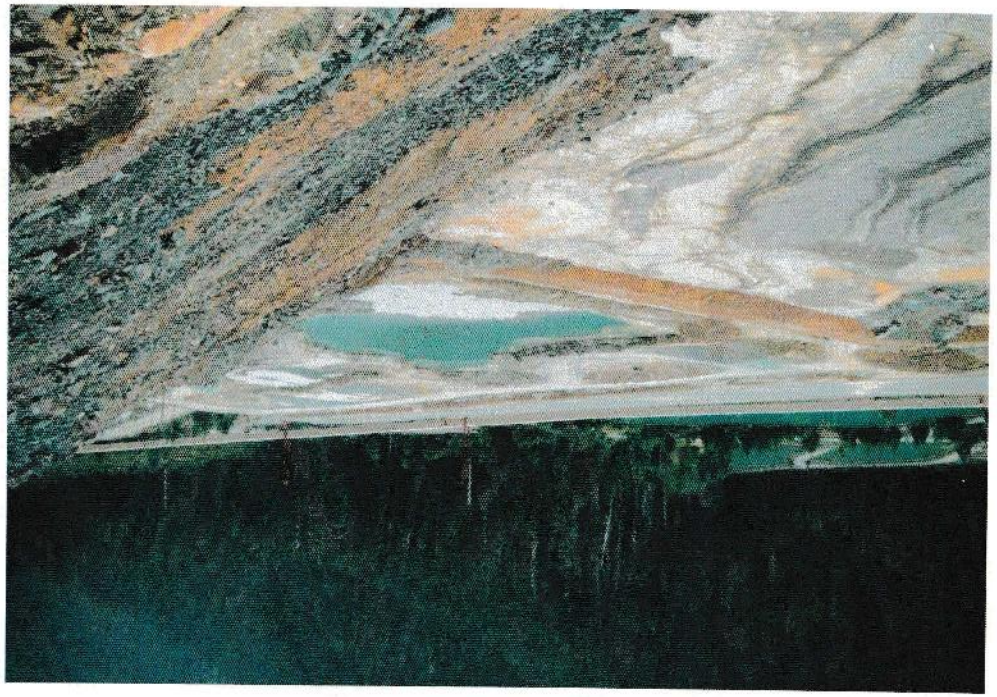
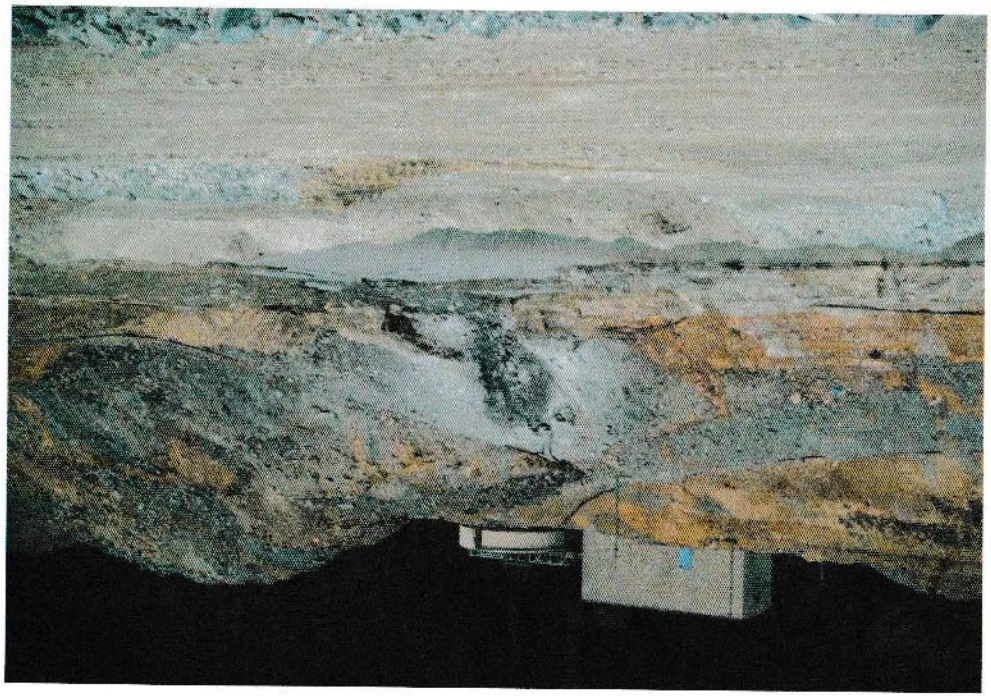
NA = Not applicable

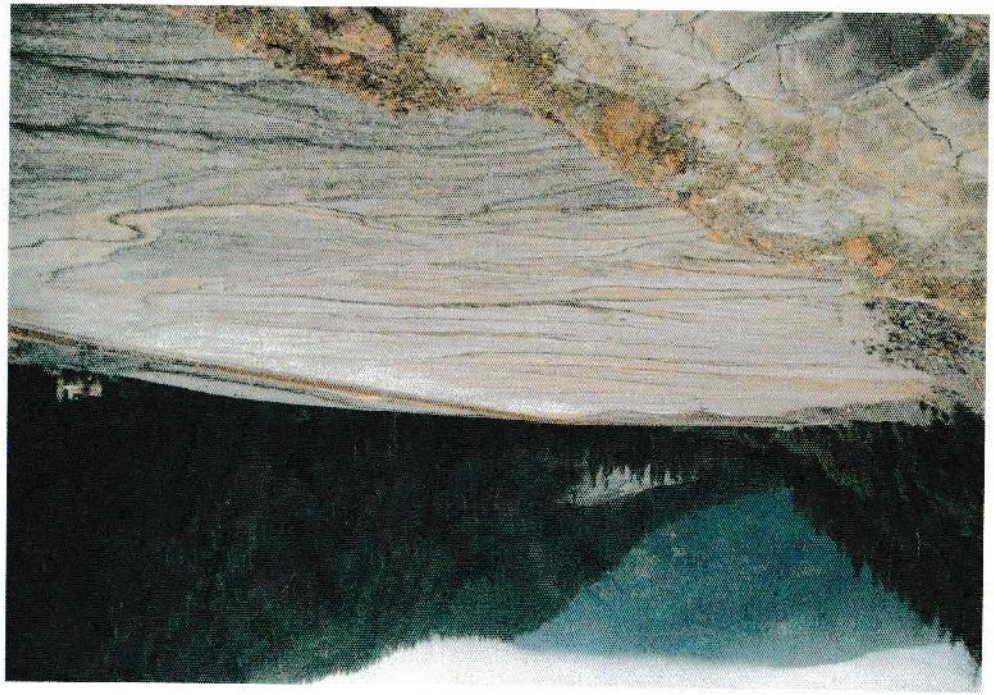
Additional Comments:

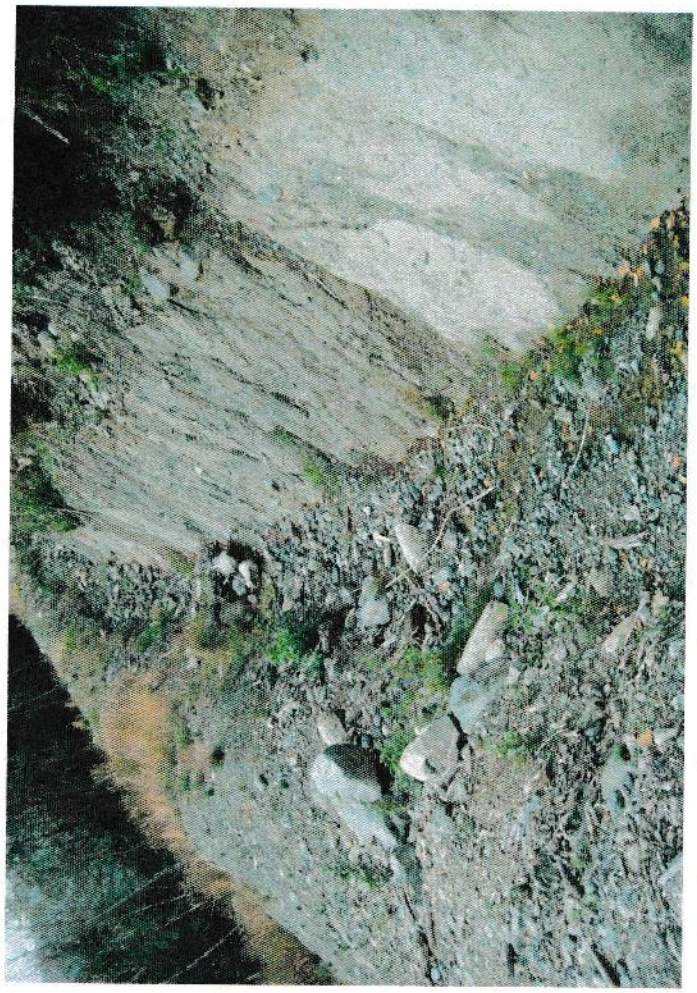
Excavation has started on Springs Drain for Lynx TDF

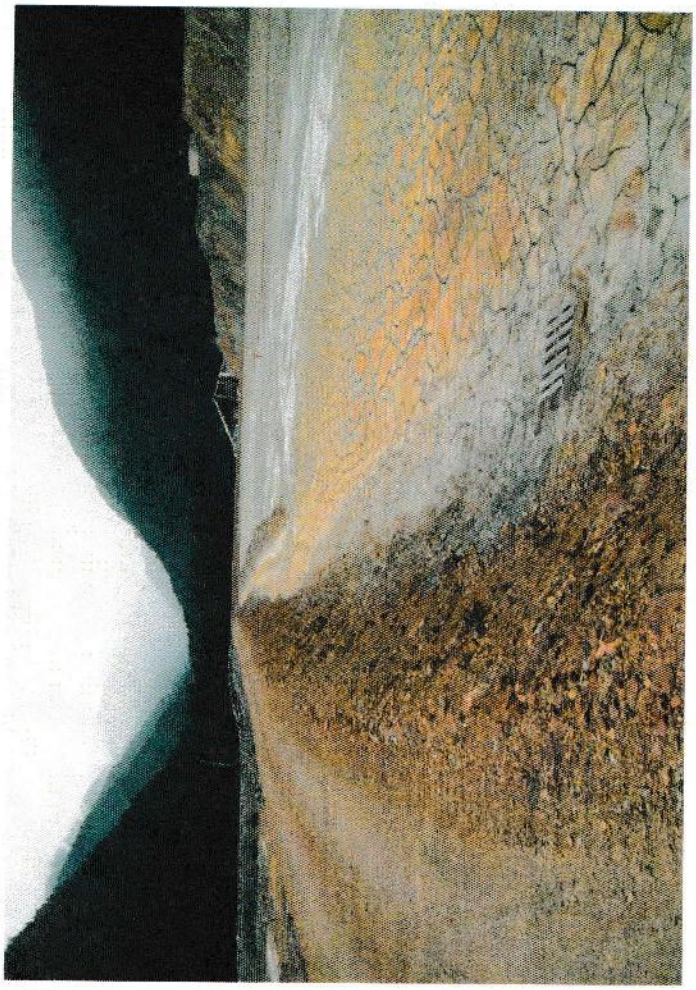












MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: Scott Skogford

Inspector Position: Enviro Technician

Inspection Date/Time: Sept 04, 2014 13:35

Weather Conditions: Sunny, calm, dry

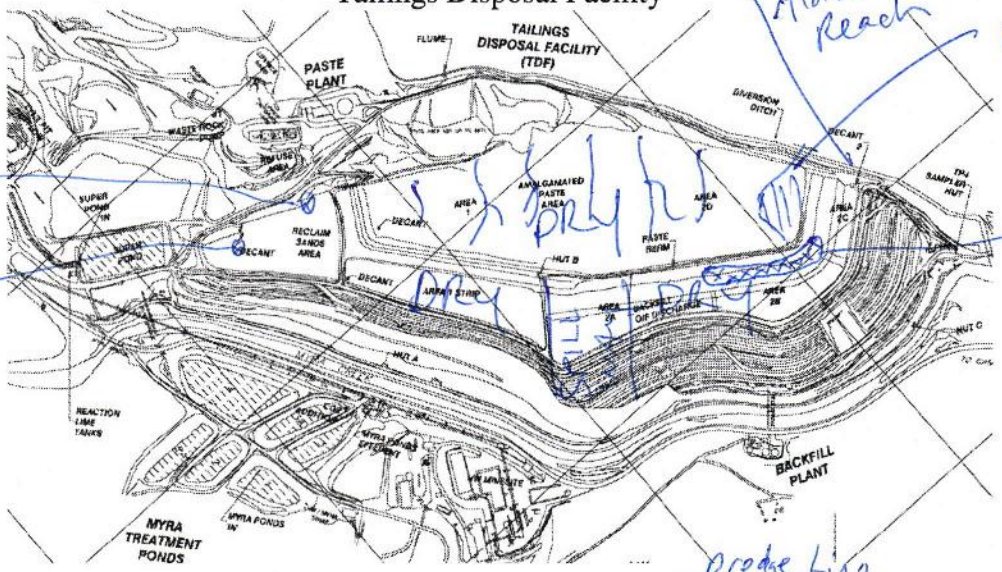
Reason for Inspection:

Routine [X] Lynx Construction (Dam Raise)

Special Condition [ ]

ADDITIONAL COMMENTS

Tailings Disposal Facility



Alder Reach

PAG Cover

Paste Plant UKF

Seepage Zone

Backfill OIF

Dredge Line

Lynx Tailings Disposal Facility

Refuse Pit

Water Skim

Paste Water Line

Water Skim Flow

Sand

Small Depression

Old Refuse Pit

MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: _____ **DATE:** _____

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	/						
Surface Cracks - Longitudinal	/						
Settlement / Depressions	/						
Erosion or Gully Channels	/						
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	/						
Riprap coverage adequate?	/						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	/						
Surface Settlement / Depressions	/						
Sinkholes	/						
Cracks / Slope Movement/Bulging	/						
Seepage / Wet Areas	/						
Other Unusual Conditions	/						
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map						/	
Pond Water Elevation (Top of decant is 3390.3)	/						
Depth of water at decant inlet and clarity	/						
Inlet opening clear?	/						
Sand Storage Area–Pond to Crest Distance > 10 m?	/						
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	/						
Decant inlet opening clear?	/						
Depth of water at decant inlet and clarity?	/						
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?	/						
Any Ditch Damage?	/						
Signs of Ditch Overtopping?	/						
Flow Conditions in Ditch (m^3/s)	/						
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	/						
Surface Cracks - Longitudinal	/						
Settlement / Depressions	/						
Erosion or Gully Channels	/						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?		/					
Sump pump currently pumping?						/	No pump
Ponded water evident on paste tails? if yes, how deep?	/						
Is water flowing into the pit? If yes, show on map	/						
Evidence of slope failure into the Lynx TDF?	/						
Active Tailings Placement? if yes, show on map	/						

*** RATING LEGEND (see next page)**

S = Satisfactory (Meets the intended purpose)

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U = Unsatisfactory (Will not meet intended purpose, repair or modify)

N = Not inspected

NA = Not applicable

Additional Comments:

Seepage Area Relatively Dry / Firm
Minimal moisture detected

MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: IVOR McWILLIAMS

Inspector Position: ENVIRONMENTAL MANAGER

Inspection Date/Time: FRIDAY SEPT 12 2014 1→2pm

Weather Conditions: SUNNY, DRY, 20°+C

Reason for Inspection:

Routine ☑

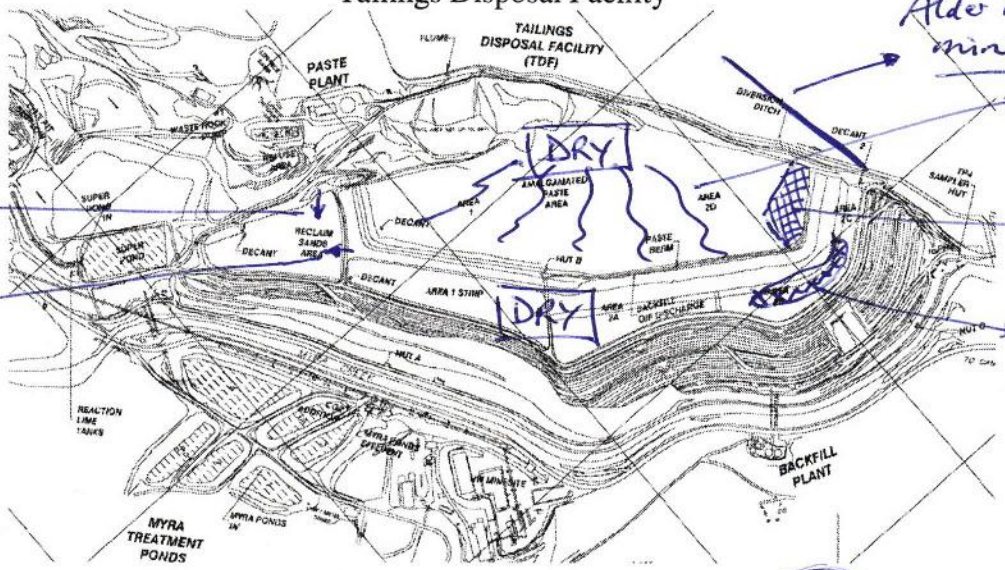
Special Condition ☐

ADDITIONAL COMMENTS

Paste plant down

No photos taken

Tailings Disposal Facility



Alder Reach – minimal flow

Gully erosion features

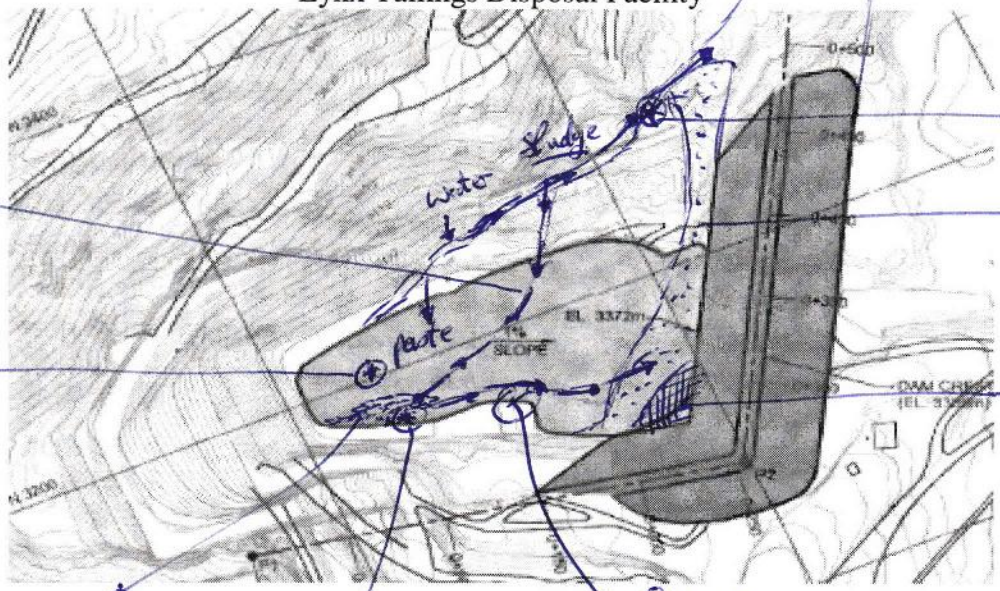
Paste Plant u/f discharge

PAG cover

Backfill d/f line

Historic seepage

Lynx Tailings Disposal Facility



trace of brown sludge flow

Refuse

Shallow water

Sinkhole

Sand

Water

Pump

Old refuse dump

MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: IMcW **DATE:** Sept 12/14

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	✓						
Riprap coverage adequate?	✓						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	✓						
Surface Settlement / Depressions	✓						
Sinkholes	✓						
Cracks / Slope Movement/Bulging	✓						
Seepage / Wet Areas		✓					Same area
Other Unusual Conditions							
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map						✓	
Pond Water Elevation (Top of decant is 3390.3)	✓						
Depth of water at decant inlet and clarity	✓						
Inlet opening clear?	✓						DRY
Sand Storage Area–Pond to Crest Distance > 10 m?	✓						Actively pouring into RSA
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	✓						
Decant inlet opening clear?	✓						
Depth of water at decant inlet and clarity?	✓						DRY
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?	✓						Log removed
Any Ditch Damage?		✓					
Signs of Ditch Overtopping?	✓						
Flow Conditions in Ditch (m^3/s)	✓						Minimal flow
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?	✓						1 consistent ~ 5x5 sinkhole
Sump pump currently pumping?	✓						
Ponded water evident on paste tails? if yes, how deep?	✓						Shallow - due to Super Pond sludge
Is water flowing into the pit? If yes, show on map	✓						
Evidence of slope failure into the Lynx TDF?	✓						
Active Tailings Placement? if yes, show on map					✓		Paste plant down

* **RATING LEGEND (see next page)**

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F = Fair (Meets intended purpose, but some maintenance needed)

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U = Unsatisfactory (Will not meet intended purpose, repair or modify)

N = Not inspected

NA = Not applicable

Version 5 – Nov 2008

Additional Comments:

Actively de sludging Super Pond sludge into Lynx Facility.

MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

No Photos

INSPECTION DETAILS

Inspector Name: IVOR McWILLIAMS

Inspector Position: ENVIRONMENTAL MANAGER

Inspection Date/Time: ~NOON FRIDAY SEPT 19, 2014

Weather Conditions:

Reason for Inspection:

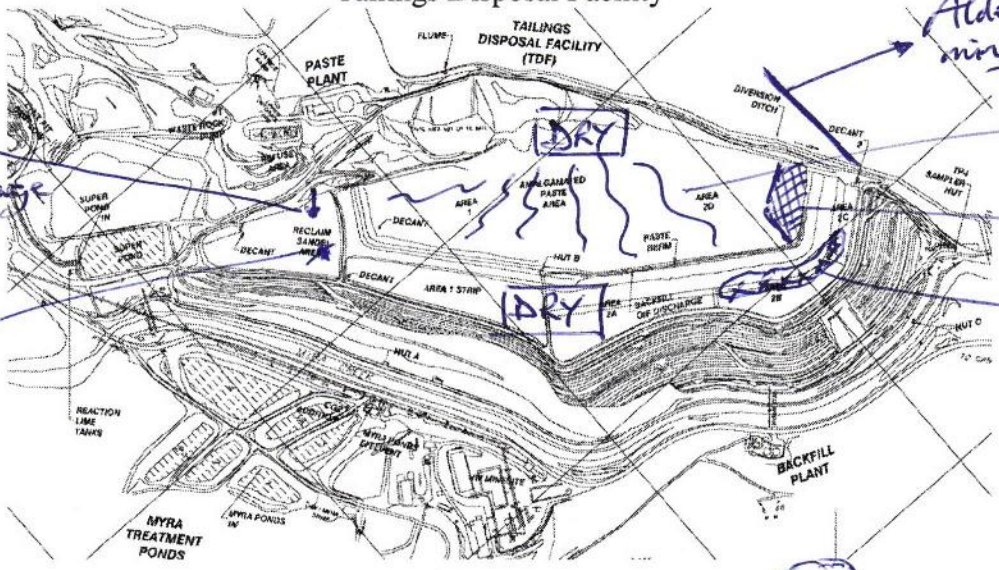
Routine ☑ Limited showers over last 5-6 days.

Special Condition ☐ Construction work along Springs Drain

ADDITIONAL COMMENTS

Lynx berm construction now complete - minor sloping to be completed. Springs Drain work is ongoing.

Tailings Disposal Facility



Paste Plant O/F discharge

Backfill O/F line

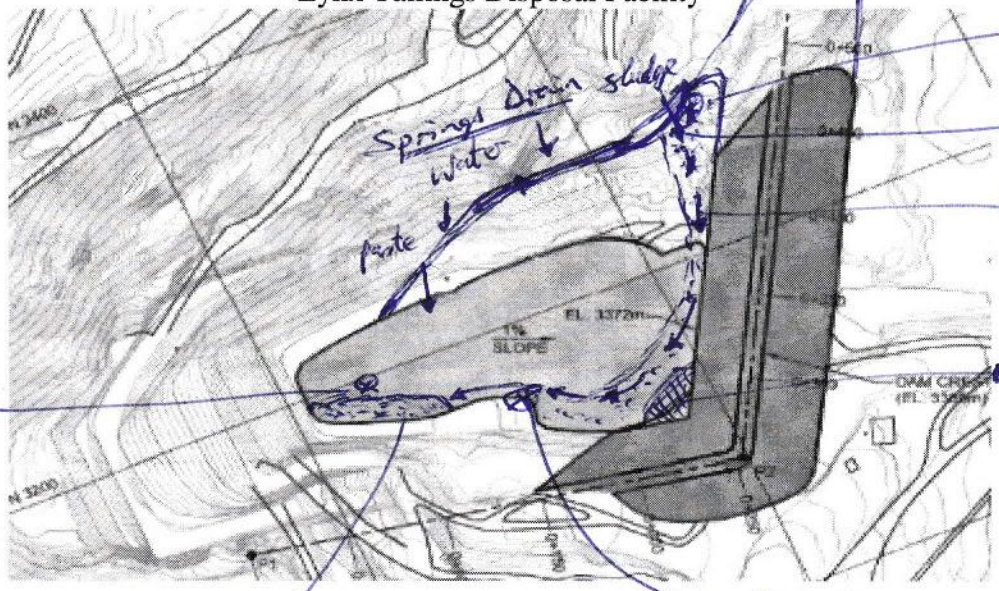
Alder Reach - minimal flow

Erosion gullies

PAG cover

Historic seepage

Lynx Tailings Disposal Facility



Refuse

Sludge discharge line

Water

Reclaim sand

Sinkhole

Water

Old refuse area

MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: IMcW **DATE:** Sept 19/14

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	✓						
Riprap coverage adequate?	✓						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	✓						
Surface Settlement / Depressions	✓						
Sinkholes	✓						
Cracks / Slope Movement/Bulging	✓						
Seepage / Wet Areas		✓					As before
Other Unusual Conditions							
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map						✓	
Pond Water Elevation (Top of decant is 3390.3)	✓						
Depth of water at decant inlet and clarity	✓						
Inlet opening clear?	✓						
Sand Storage Area–Pond to Crest Distance > 10 m?	✓						Dry Pouring U/F into RSA
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	✓						
Decant inlet opening clear?	✓						
Depth of water at decant inlet and clarity?	✓						DRY
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?	✓						
Any Ditch Damage?	✓						
Signs of Ditch Overtopping?	✓						
Flow Conditions in Ditch (m^3/s)	✓						Flows @ ? historic low levels
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?	✓						Sink hole as before
Sump pump currently pumping?	✓						
Ponded water evident on paste tails? if yes, how deep?		✓					
Is water flowing into the pit? If yes, show on map	✓						
Evidence of slope failure into the Lynx TDF?	✓						
Active Tailings Placement? if yes, show on map					✓		U/F into RSA

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NA = Not applicable

Version 5 – Nov 2008

Additional Comments:

Continue de-sludging Seepage Pond @ sludge into Lynx TDF.

MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

All parts of this inspection report should be completed. Adverse conditions should be described. Additional information may be put on attached pages

INSPECTION DETAILS

Inspector Name: IVOR McWILLIAMS

Inspector Position: ENVIRONMENTAL MANAGER

Inspection Date/Time: FRIDAY Sept 26, 2014 ~ 2:30pm

Weather Conditions: OVERCAST, LIGHT RAIN

Reason for Inspection:

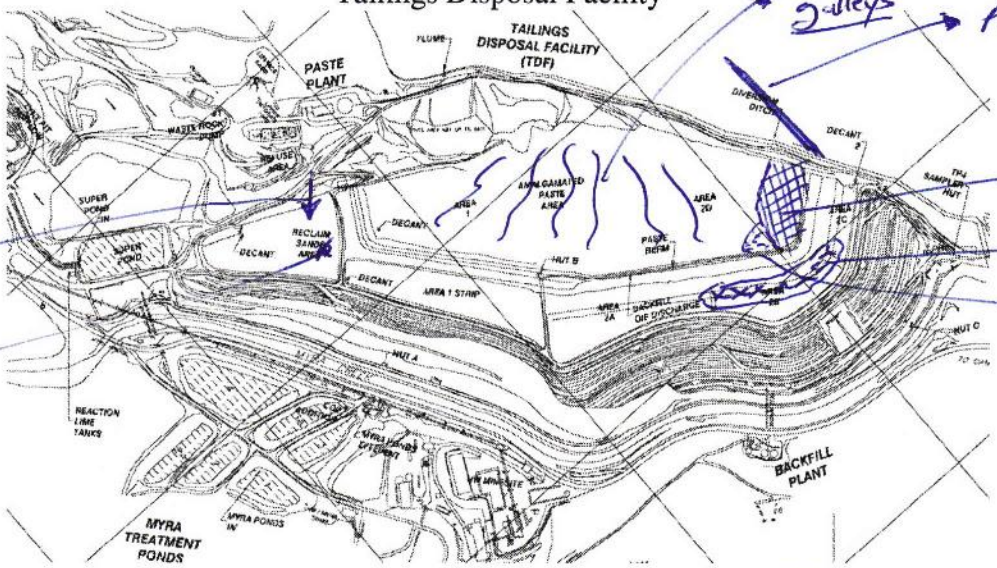
Routine ☑ Break in paste line by Springs Drain Construction zone @ ~ NOON.

Special Condition ☐

ADDITIONAL COMMENTS

~ 125 mms rainfall over past 7 days.

Tailings Disposal Facility



Erosion gulleys

Alder Reach – ~ 5 L/min

PAG cover

Seepage zone

pooled water

Paste plant u/f line discharge

Backfill u/f line

Lynx Tailings Disposal Facility

Shallow water

Reclaim sand

Depression covered by water.

Reddish brown ARD

pump

Shallow water

MYRA FALLS TAILINGS DISPOSAL FACILITY – INSPECTION REPORT

INSPECTOR NAME: IMcW **DATE:** Sept 26/14

INSPECTION POINT / ITEMS	CONDITION						
	RATING						REMARKS / DESCRIPTIONS
Tailings Dam Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Spillway Inspection	**S**	**F**	**P**	**U**	**N**	**NA**	
Invert opening clear?	✓						
Riprap coverage adequate?	✓						
Tailings Dam Slope and Toe	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Erosion	✓						
Surface Settlement / Depressions	✓						
Sinkholes	✓						
Cracks / Slope Movement/Bulging	✓						
Seepage / Wet Areas		✓					As before
Other Unusual Conditions							
Amalgamated Paste Area	**S**	**F**	**P**	**U**	**N**	**NA**	
Active Tailings Placement? If yes, show on map						✓	
Pond Water Elevation (Top of decant is 3390.3)	✓						Minimal pooling of water against berm
Depth of water at decant inlet and clarity	✓						
Inlet opening clear?	✓						Flow ~ 50 L/min
Sand Storage Area–Pond to Crest Distance > 10 m?	✓						
TDF Strip	**S**	**F**	**P**	**U**	**N**	**NA**	
Distance between water and outer embankment > 20m?	✓						
Decant inlet opening clear?	✓						Flow < 5 L/min.
Depth of water at decant inlet and clarity?	✓						
Lynx Diversion Ditch	**S**	**F**	**P**	**U**	**N**	**NA**	
Ditch Clear? No infill material?	✓						
Any Ditch Damage?	✓						
Signs of Ditch Overtopping?	✓						
Flow Conditions in Ditch (m^3/s)	✓						Low - surprisingly so after rains.
Paste Berm Crest	**S**	**F**	**P**	**U**	**N**	**NA**	
Surface Cracks - Transverse	✓						
Surface Cracks - Longitudinal	✓						
Settlement / Depressions	✓						
Erosion or Gully Channels	✓						
Lynx TDF	**S**	**F**	**P**	**U**	**N**	**NA**	
Sink holes or depressions evident in the tailings?	✓						
Sump pump currently pumping?	✓						
Ponded water evident on paste tails? if yes, how deep?		✓					
Is water flowing into the pit? If yes, show on map	✓						
Evidence of slope failure into the Lynx TDF?	✓						
Active Tailings Placement? if yes, show on map	✓						

*** RATING LEGEND (see next page)**

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N = Not inspected

NA = Not applicable

Additional Comments:

Despite heavy persistent rains during the week, no water management issues evident. Only minor water ponding on TDF - installed 2 discharge lines from top of Seismic Berm down outer rip rap.

APPENDIX F – INCLUDED ON ATTACHED CD
KEY CORRESPONDENCE

March 31, 2014

AMEC File: NX10011

PO Box 8000
Campbell River BC V9W 5E2

Attn: Ivor McWilliams

RE: Preliminary Drill Investigation and Instrumentation Plan
Lynx TDF, Myra Falls Mine, BC

1.0 INTRODUCTION

Robertson GeoConsultants Inc. (RGC) recently completed a Dam Safety Review of Lynx TDF, as reported in February 2014. The Dam Safety Review recommended several actions in order to bring the dam into a safe condition including:

i. assessment of the static and seismic stability of the tailings dam based on information collected in a recent drill investigation by RGC;
ii. assessment of the stability and performance of the waste rock dumps above the facility; and,
iii. consideration of relocation of the waste rock dumps as soon as practicable.

Ministry of Energy and Mines MEM provided review comments regarding the Dam Safety Review in a letter dated March 5, 2013. In those comments, MEM requested that Nyrstar provide a schedule for completing the work. This letter presents a preliminary scope and timeline to complete geotechnical investigation and assessment for the purposes of addressing the first two items.

2.0 STATIC AND SEISMIC STABILITY OF LYNX TDF DAM

The 2001 Klohn Lynx TDF design report indicated that the Lynx tailings dam is to be founded on the underlying dense till following excavation of the overlying loose colluvium to an elevation of EL. 3373 m. However, based on a cursory review of the recent RGC boreholes (MW13-05 and MW13-06) the depth to top of glacial till underlying the dam footprint may actually be closer to El. 3355 m, or 18 m deeper than what Klohn had originally anticipated.

To confirm foundation conditions in the dam footprint and to assess the static and seismic stability of Lynx TDF Dam (item i), AMEC proposes the following actions:

- Carry out supplementary geotechnical investigation of the Lynx TDF Dam footprint.
- Revisit the current seismic design ground motion criteria and input base motions.
- Assuming that the foundation conditions and/or seismic input criteria differ from those used in previous analysis, carry out supplementary detailed stability analysis by limit equilibrium and finite element methods.
- Prepare preliminary recommendations for design changes such as geometry changes, ground improvement, or other measures as appropriate.

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The preliminary geotechnical investigation layout is shown on Figure 1, attached, which includes the following information:

- The centerline alignment of the dam (black dashed line), the downstream dam crest (blue line), and the approximate location of the ultimate dam toe (red line);
- The 2011 AMEC boreholes (BH11-16 and BH11-17) and the 2013 RGC boreholes (MW13-05S/D and MW13-06S/D); and,
- The thirteen proposed 2014 AMEC boreholes (BH14-01 to BH14-13). The actual borehole locations may have to be shifted somewhat depending on drill accessibility. Instrument Planes D, E, F are defined on the drawing.

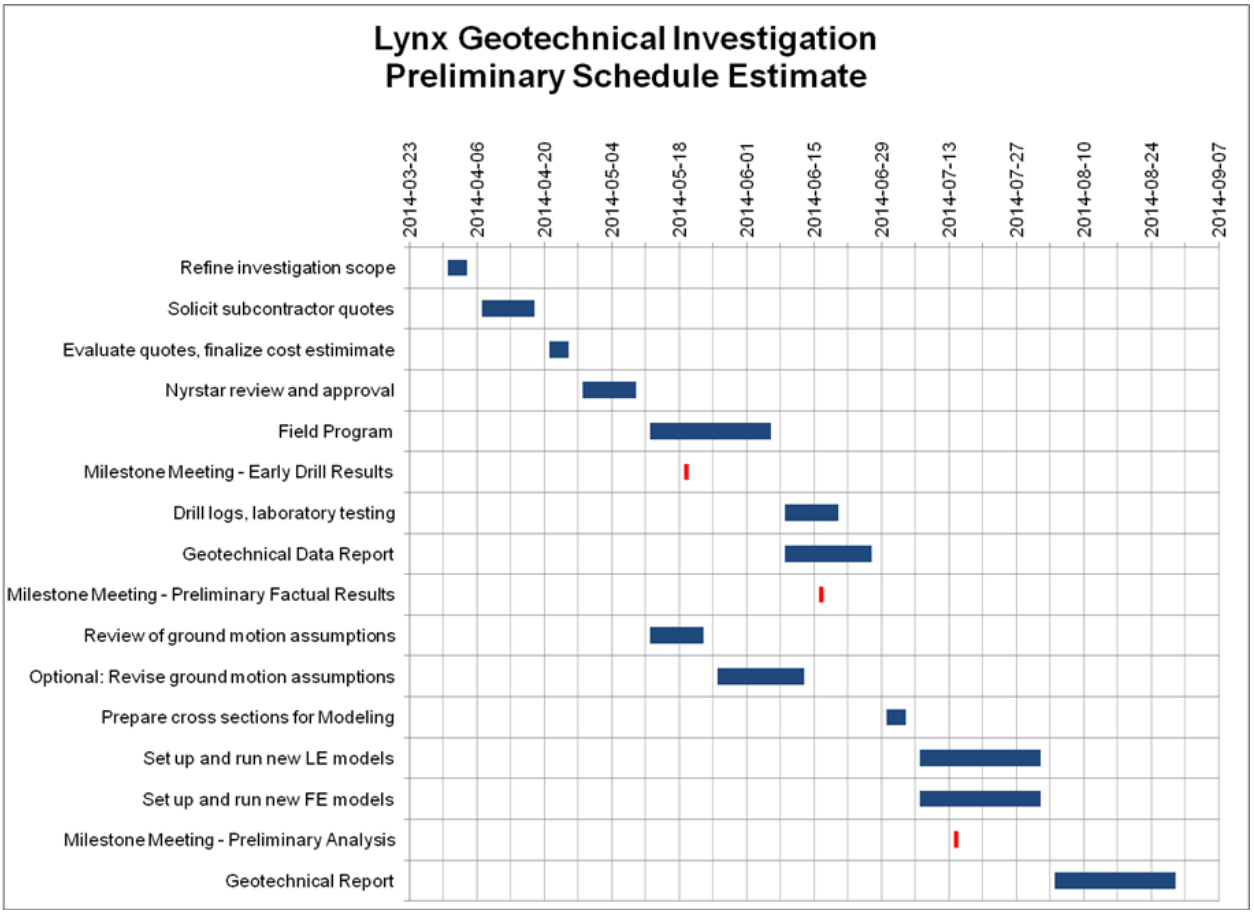
The exact drilling methodology will be determined/refined at a later date. At present, AMEC is tentatively planning on conducting closed-ended Becker Penetration Tests (BPT) to assess the density and static/seismic strength of the coarse soils by correlating the blows to SPT $(N_1)_{60}$ values. The subsurface stratigraphy would then be determined by open-ended Becker drilling adjacent to the BPT locations for sampling and logging of the boreholes. Standard Penetration Testing may also be carried out in zones of low BPT resistance to both confirm the inferred SPT $(N_1)_{60}$ values and to obtain soil samples for simple laboratory testing. The lab testing would include selected gradation analysis, moisture content determinations, and Atterberg limits, as deemed appropriate.

Vibrating wire piezometers would be installed at selected depths and locations to monitor future piezometric conditions. The current thought is to route the piezometer wires to a monitoring hut located outside the ultimate dam footprint near the Super Pond. It should be noted that BH14-13 would not be drilled, but rather a shallow vibrating wire piezometer would be installed by hand in the recently deposited reclaim sand beach on the upstream side of the dam.

The depths of the proposed boreholes are anticipated to vary across the site. The intent would be to penetrate either bedrock or dense basal till. Given the chance of encountering large boulders and/or rafted till materials, AMEC proposes a minimum of 10 m of penetration into till or bedrock at all locations.

Geotechnical investigation and instrumentation and limit equilibrium stability analysis will be carried out under the supervision of Dan Hughes-Games, P.Eng. Assessment of seismic input parameters, liquefaction potential, and dynamic finite element stability modeling will be carried out under the supervision of Dr. Blair Gohl, P.Eng.

A Gantt chart presenting a conceptual schedule is attached. Nyrstar has requested that AMEC consider a staged schedule. AMEC agrees that a staged schedule is appropriate provided the initial stages of investigation do not identify seriously problematic conditions. The intent is that schedule would be reassessed at each of the “milestone meetings” shown on the Gantt chart. The schedule provided outlines a complete work plan that would only go ahead and that all analyses are required, and assumes no delays whatsoever. It is anticipated that the schedule will evolve based on availability of contractors and personnel and to changes of the scope of work as information becomes available.



3.0 UPSLOPE WASTE DUMP STABILITY REVIEW

AMEC recommends the following scope of work to address the stability of the upslope waste dumps:

- Detailed survey in order to provide a base to work from. Note that the area is highly irregular and surveying will need to be carried out in great detail. AMEC strongly suggests using LiDAR or an equivalent high-resolution surveying method beacuase features that may indicate past movements may be extremely subtle and are unlikely to be fully captured by conventional surveying.
- Detailed field reconnaissance of the area by AMEC staff trained in slope stability assessment; and,
- Numerical slope stability modeling, the scope of which is to be determined after the surveying and reconnaissance.

Schedule will depend on the availability and results of detailed survey information.

4.0 CLOSURE

The recommendations herein are based on review of available information and are subject to revision upon the availability of new information.

This letter has been prepared for the exclusive use of Nyrstar and the Ministry of Energy and Mines for specific application to the area described within this report. Any use which a third party makes of this report or any reliance on or decisions made based on it are the responsibility of such third parties. AMEC accepts no responsibility for damages suffered by any third party as a result of decisions made or actions based on this report. It has been prepared in accordance with generally accepted soil and foundation engineering practices. No other warranty, express or implied, is made.

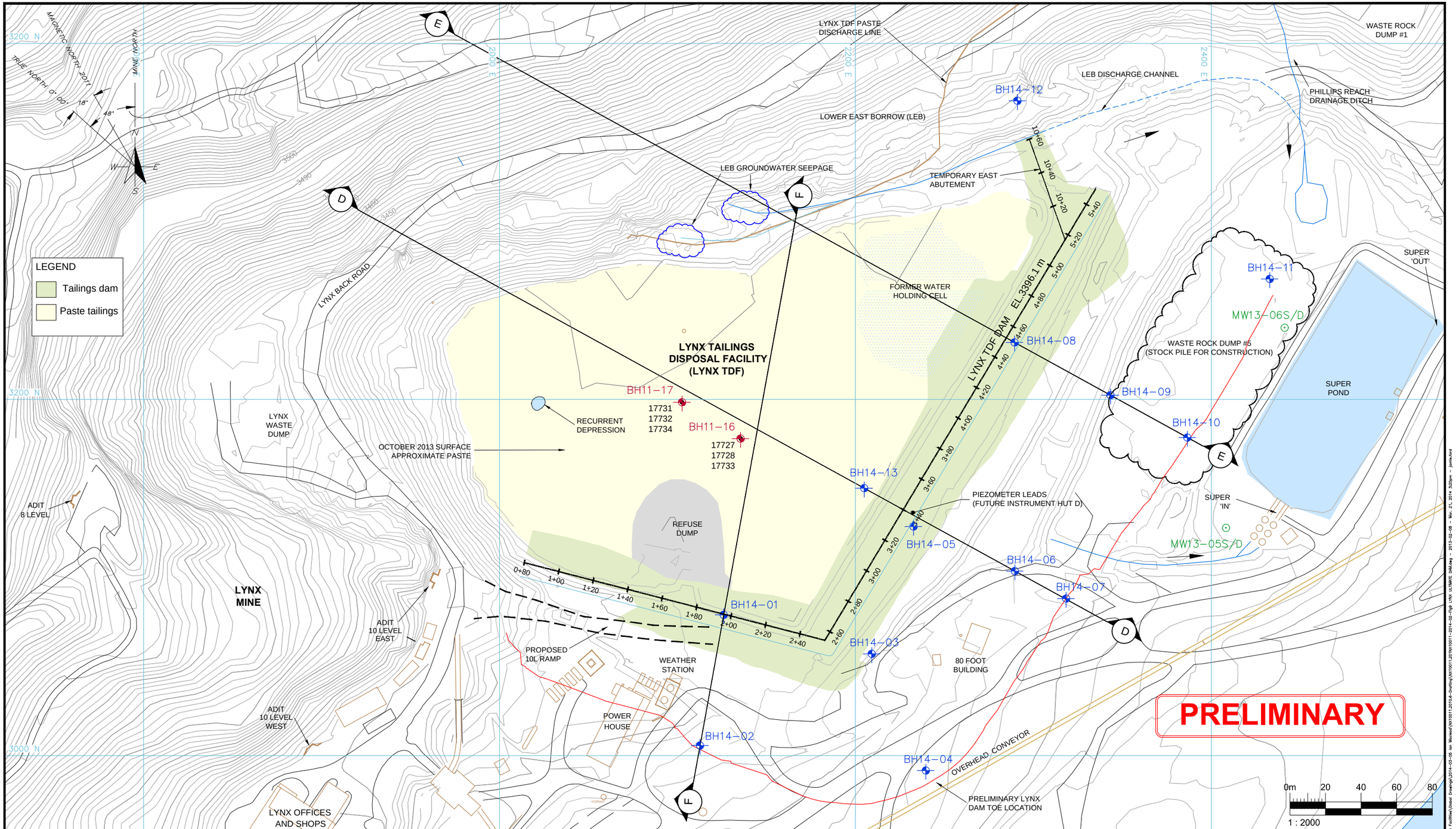
Respectfully submitted,

AMEC Environment & Infrastructure
a division of AMEC Americas Limited

Dan Hughes-Games, P.Eng.
Geotechnical Engineer
Project Manager

Reviewed by:

Adrian Chesham
Geotechnical Engineer



LEGEND:
- 2011 AMEC BOREHOLES
- PROPOSED 2014 AMEC BOREHOLES
- 2013 RGC BOREHOLES

NOTES:
1. 2013 SURVEY SURFACE TOPOGRAPHY SUPPLIED BY CLIENT
2. THIS SURVEY IS REFERENCED TO MINE DATUM (MASL + 3048 m).

REV	D	M	Y	ISSUE / REVISION DESCRIPTION	ENG.	APPR.
6						
5						
4						
3						
2						
1						
0						

Client: nyrstar

AMEC Environment & Infrastructure
4385 Boban Drive, Nanaimo, B.C., V9T 5V9
Tel. 250 758-1887 Fax 250 758-1899

DATUM:	MINE
PROJECTION:	MINE
DRAWN BY:	J. Ford
REVIEWED BY:	D.Hughes-Games
SCALE:	1:2000

PROJECT: MYRA FALLS TAILINGS STORAGE FACILITIES
LYNX TDF 2014 PROPOSED GEOTECHNICAL INVESTIGATION

TITLE: 2014 PROPOSED BOREHOLE LOCATIONS

PROJECT NO.:	NX10011
REVISION NO.	
DATE:	MARCH 2014
DRAWING NO.:	FIGURE 1
SHEET NO.:	1 of 1

S:\PROJECTS_LNX10\NX10011 Myra Falls Tailings Facilities\Detail Drawings\2014-03-06 Issued\NX10011-2014-02-Fig1 LYNX ULTIMATE.dwg – 2015-02-06 – Mar 21, 2014 - 3:20pm – jlamb.ford

ROBERTSON GEOCONSULTANTS INC. *A Robertson Group Company*

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March 31, 2014
RGC Project No: 212004

Ministry of Energy and Mines
Mines and Mineral Resources Division

PO Box 9320, Stn Prov Govt
Victoria, BC, V8W 9N3
Canada

Attention: Messrs. George Warnock and Chris Carr

RE: MEM Review of Dam Safety Review Reports – Tailings Disposal Facilities

George and Chris,

As requested in your letter of March 5, 2014 to Ivor McWilliams, Environmental Manager, Nyrstar Myra Falls Ltd. on the topic of *MEM Review of Dam Safety Review Reports – Tailings Disposal Facilities*, Robertson GeoConsultants Inc. (RGC) is asked to:

- Comment on proposed timelines for evaluating the dam safety concerns we raised in our reports;
- Vet the plan to bring the facilities into a safe condition; and
- Comment on the suitability of continued use of the facility in the interim.

We have received from AMEC, the facility engineers of record, a plan to undertake the work. See AMEC letter dated March 31, 2014 *RE: Preliminary Drill Investigation and Instrumentation Plan, Lynx TDF, Myra Falls Mine BC.*

We believe the technical & engineering approach proposed by AMEC is reasonable and consistent with standard good practice. We support the proposed ambitious schedule because of the significance of the issues involved.

With regard to the suitability of continued use of the facility in the interim, it is our opinion that it is reasonable to continue use of the Lynx Tailings Disposal Facility pending completion of the work proposed to further assess its stability. Our reasons include the fact that the embankment height is still relatively low and there is currently significant freeboard should embankment deformation occur. Our concern for facility safety is predicated on the knowledge that the embankment is planned to get much higher

and that there are times when there is little freeboard. Thus we recommend that, pending completion of the study proposed by AMEC, the freeboard be kept as great as possible---certainly more than four meters.

As regards the request that Nyrstar develop a seepage control plan for the Lynx TDF in the near term, we recommend that this plan be developed in association with the dam stability evaluation---it is possible that dewatering of potentially liquefiable layers will both reduce dam stability concerns and further contribute to contaminant migration control.

We are informed that Nyrstar intends to update and consolidate the Emergency Preparedness Plan and the Emergency Management Plan into a single document by the end of 2014.

Should you require any additional information, please do not hesitate to contact the undersigned.

Best Regards,

ROBERTSON GEOCONSULTANTS INC.

License # 11634

Andrew Robertson, P. Eng. PhD.
Principal

J Caldwell. M.Sc.(Eng.)
Civil Engineer

Reviewed by:

Peter M. Byrne, P.Eng. PhD.

Civil Engineer.

Patten, Tyler W

From: Hughes-Games, Dan
Sent: June-26-14 6:26 PM
To: McWilliams, Ivor
Cc: Rice, Steve (Burnaby); Jack Caldwell; Mooney, Shawn; Collier, Andy; Patten, Tyler W; Helmer, Murray
Subject: Lynx construction review 2014-06-25

This email provides geotechnical best practices and general guidance in light of my site visit of June 25, observations and discussions.

Shawn Mooney has expressed concern regarding increased stringency with respect to compaction review, proof rolling, and acceptance relative to previous years. I acknowledge that the standards being enforced are much more stringent than those prior to 2013, but also point out they are entirely consistent with last year's standards. The increase in stringency is a direct result of the dam safety review carried out by Robertson Geoconsultants, in particular comments made by Jack Caldwell both in his report and to me personally.

The gradation of Zone A fill allows for up to 20% fines, and testing shows it typically has more than 10% fines. This will make it moisture sensitive and very difficult to work with unless it is at or below optimum moisture content. The borrow area at the top of Waste Dump 1 was checked for material consistency and moisture content. In general the material below about 1 m depth is still wet from winter. Older material in the pile has been cemented by oxides, but is still quite damp. Opening up the area will help it dry. Spreading damp material on the grade in good weather and waiting for it to dry before compaction is likely the fastest route to workable material. We generally don't suggest blending wet and dry materials, as this has usually been unsuccessful in the past.

We went out on site and observed some proof rolling. A few areas were noted where a single pass of a loaded truck caused significant rebound and slight rutting. The rebound indicates the material was above optimum moisture content and that maximum density could not be achieved due to the water in the pore space. The area was scarified and left to dry for a few hours, after which it was recompacted and passed proof roll without issue. This highlights the need to carefully source material early in the season when the borrows are still wet, and also allowing time within the construction schedule for drying of material. Time and weather are the key here. It should also be stressed that the area that initially did not pass was the minority – most of the lift passed without issue.

I checked last year's construction records and there were issues with wet material until approximately July 20, but leaving wet lifts alone for even as little as 2-3 hours usually improved conditions enough to continue placing. In general construction on Lynx is a lot further ahead of where it was last year at this time as it didn't even start until the first week of July. At this point I don't think wet material in the WD1 borrow should be a surprise. There was also a day in early July where heavy rain between about 7 and 9 am shut down construction for 2 days. This is the reality of working with high-fines materials.

However, there is ***lots*** of work to be done on the site that does not involve compaction. So in the interim before the borrow areas dry out an in light of possible rain delays, here is what I suggest can keep the crews busy:

1. Springs drain rough-in. There is a large cut that needs to be made to prepare the springs drain envelope. Material from this cut can be stockpiled for later or used to fill the "4:1" area downstream of the east arm, which has no compaction requirements. To be frank, I'm concerned at this point that the drain work hasn't started as it is going to be slow and careful excavator work and will likely take a long time.

2. Relocation of the culvert above the springs drain area. This water needs to be diverted. Looking at the site yesterday, this is going to require piping and significant excavation. It needs to be done before work placing the drain materials commences.

3. Removal of debris from the west abutment, tie-in of the west abutment to bedrock. The Zone J core needs to extend to bedrock, whether this is along its plan alignment, or alternately wrapped along the inside of the pit to the outcrop that's exposed near that location.

4. Removal of the uncontrolled portion of the 10L ramp. Can be cut down to 0.45 m above last year's grade and spread out for compaction. The material is likely fairly dry as it's near the surface and the weather has been good.

5. Removal of the garbage from between the 10L ramp and the Zone J core. In conjunction, establish a formal dumping location and sign it so that the other crews know where to dump.

6. Fluffing of borrow areas to expedite drying – in good weather only.

7. General fill placement in the "4:1" area. There needs to be an additional ~5 m placed over the entire area. I realize this was being left for later as its less critical, but it can be used as a make work project if necessary. The area must be at the 4:1 grade minimum by the end of construction, but it can go above that if needed. For now until detailed stability analysis is finished, the limit should be the final raise height (flat grade).

8. Once the springs drain is underway the core collection/conveyance zone and coarse filter can be placed in wet weather. These are clean, open graded rockfill materials and are not moisture sensitive at all.

There was also some discussion between Shawn, Ivor and I of the implications of a short season on future construction. The restricted season for Zone A materials is definitely a limiting factor – if it's not dry until July and the weather in September/October is unreliable. This can be mitigated in part by:

- Planning construction to maximize available work area/benches so that material may be laid out to dry during good weather in May/June.
- Buttressing of the upstream side of the dam with reclaim sand early in the year – as was done this year to good effect.
- Using thinner lifts in good weather early in the season.
- Careful selection of the driest materials early in the year – basically "high-grade" the driest stuff off the top.
- Completing foundation prep for the following year late in the season rather than at the start of the year – again to maximize working space and drying time.
- Using more equipment to accommodate the volume requirements within the shortened season.
- Budgeting to have equipment available through September and October for "bonus work" if/when the weather cooperates – get a jump on the following year.
- And critically: each year's minimum volume placed should be proportioned from the total remaining volume and estimated number of remaining years, rather than just the fill strictly needed to reach minimum height for the year – otherwise the amount of fill required increases every year to the point where it is extremely problematic.

I'm out of the office tomorrow but will be available all week next week for any questions or clarifications.

Regards,

Dan Hughes-Games, P.Eng.
Geotechnical Engineer
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Patten, Tyler W

From: Hughes-Games, Dan
Sent: August-13-14 11:50 AM
To: McWilliams, Ivor
Cc: Rice, Steve (Burnaby); Patten, Tyler W; Helmer, Murray; Jack Caldwell; Behrendt, Robert
Subject: RE: Myra Falls - Lynx Spring Drain
Attachments: NX10011 Lynx Seepage Interceptor Drain Concept 2013-09-10 Final.pdf; NX10011 Lynx Springs Drain-IFC 2014-05-23.pdf

Ivor has asked that I revisit the springs drain concept with Jack Caldwell, in order to solicit some independent thinking on the problem. To that effect, I've included Jack on this message, as well as attached the concept report and IFC drawings. Please see below for the original request, from Ivor and Robert through Murray.

The key intent of the springs drain is to convey water outside the facility, keeping it out of contact with the tails. It's a fundamental and critical component of the design, and has evolved from a much more extensive drain system that was included in the original Klohn concept for the facility. In effect it represents the bare minimum underdrainage system given the information that has gradually come to light between the time when Klohn prepared their concept and the completion of the Lower East Borrow excavation, which ultimately unearthed the bedrock source of flow.

Key points to note:

The springs drain is entirely surrounded and isolated from the tailings by material matching the gradation and construction specifications as the Zone J core of the dam. In effect this is an extension of the dam core that wraps around and encapsulates the springs drain from the facility. This core material is segregated from the drain conveyance zone by two additional filter layers to mitigate washing of soil into the drain. The drain penetrates the dam abutment but the entire length of the drain is also filtered against tailings ingress.

The rationale for using permeable rock material for the drain rather than a synthetic solution such as a pipe was precisely to optimize the longevity and survivability of the system, and to minimize the potential for issues at the dam abutment. As the mine is no doubt keenly aware from experience at the old TDF, collapsed or blocked pipes under tailings facilities are very difficult to mitigate.

The springs represent a bedrock source of water, and the complete bedrock groundwater system, being fracture controlled, is somewhat unknowable. It stands to reason from the surrounding topography that the effective limit on pressure if the springs were simply blocked off and covered over with tailings could exceed the capacity of the tailings mass to confine it – worst case there could easily be a few hundred metres of water pressure. This would result in several potential issues:

1. The water is going to find a way out. As it does so, it would likely flow through the tailings and would cause internal erosion and void formation, and the resulting water discharge would likely be of low quality in terms of sediment and chemistry. As it stands, I understand the water coming from the springs is of relatively good quality. To allow it to flow through PAG materials or tailings would add an unnecessary load on the treatments system, both now and for perpetuity. Part of the intent is to keep clean water clean (hence the liner on the downstream side, through the PAG shell of the dam).
2. One potential flow path is downwards into the underground mine. In this case, internal erosion over the long term would likely lead to sinkholes, which could be large enough to be very problematic. This would become an issue when the voids eventually migrated to surface, which they eventually would. It could compromise cover, revegetation, and surface water management, and generally make portions of the reclaimed tailings area unsafe for personnel to enter.
3. Another potential flow path is to the surface of the tailings. Poor water quality, water management problems, and tailings discharge at surface due to internal erosion are all potential issues. Also associated with this flow path, the pore water pressure in the tailings body would be relatively high, reducing the overall stability of the facility.

The springs drain as designed is a robust structure. It was designed by conservatively estimating the maximum past observed flow, making conservative assumptions about the capacity of rockfill to convey water, then adding a factor of safety of approximately 10 to account for how much remains unknowable about the groundwater system. Provided it's built carefully, methodically, and according to design, it will allow the springs to continue flowing at low pressure and isolate this discharge from the tailings mass. It will also provide a point of low porewater pressure for lowering the porewater pressure in the final tailings mass.

I'm open to scrutiny and suggestions, but at this late stage I don't see any practicable alternatives. Draining the bedrock formation would be the only other way to manage the water pressures. Technical challenges aside, I think it's simply too late in the day to be considering that as a viable option. It was previously discussed on site, and ultimately rejected by Todd Martin and Bob Ozerkevich.

The current rate of tailings deposition requires these springs to be put to bed before the end of this construction season. In effect the mine has deferred this issue to the last possible minute already, no further delay is advisable.

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From: Helmer, Murray
Sent: August 6, 2014 15:16
To: Hughes-Games, Dan
Cc: Rice, Steve (Burnaby); Patten, Tyler W
Subject: Myra Falls - Lynx Spring Drain

Hi Dan,
Sorry to bother you, but the management at Myra Falls (Robert, Ivor, and the shifters), are showing some trepidation regarding the design and construction of the springs drain. In light of recent events, they seem to be concerned that the springs drain is a risk, on account of it directing flow through the embankment. Their main concern is that the ministry will increase scrutiny and no longer allow this design, so any capital expended by Myra on the drain will be lost. However, they also seemed receptive to the idea of any other options which may convey springs flow elsewhere, even if it were a more expensive design.

Ivor has requested a meeting (either in person or by teleconference) with yourself, Steve Rice, and the Myra Falls management prior to Nyrstar signing a contract with Uplands to perform the construction of the springs drain. They seem to want to confirm that the springs drain is still the best option before they incur costs for it. They also wish to discuss any alternatives, though I'm not sure they understand the timelines involved in changing the design, nor the fact that springs drain construction cannot be postponed to next year.

I have explained that you are currently away and unable to discuss their request this week. I have emphasized that Steve will be very busy with more urgent projects right now, and his availability will be very low. If you could perhaps touch base with Ivor once you are back he will be able to explain their concerns more clearly.

Regards,

Murray Helmer

Geotechnical Engineering EIT

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Patten, Tyler W

From: Hughes-Games, Dan
Sent: August-27-14 10:21 AM
To: Helmer, Murray
Cc: Patten, Tyler W
Subject: RE: Pond draining near west abutment

This is a really normal situation for Lynx Pit… water drains into the pit wall there year round, particularly in the winter. It's undoubtedly going underground. The current management philosophy is to let it drain. I don't see any issue with that, the Lynx mine is separated from the active workings by a bulkhead which is monitored 24/7/365 and can be closed remotely from the mill control room.

The specific location you note is likely very close to old rubblized underground workings. We're somewhere between 10 and 11 Levels, and the final pit envelope intercepted adits on both, and went right down to the top of the 12 level stopes. In addition to adits, there are manways, ore passes, and holes drilled for stope backfilling, as well as fissure permeability that would have opened up due to stress relaxation around the stopes and around the subsequent open pit.

Sometime you should check out the complete underground map, I think there's one in the first or second room on the right when you walk in the front of HW office. It's an ant's nest around Lynx.

Even if we were concerned, dye tracing might not work… there's something approaching 100,000 m³ of water in Lynx mine between the tailings facility and the bulkhead/drainage point.

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From: Helmer, Murray
Sent: August 27, 2014 09:20
To: Hughes-Games, Dan
Cc: Patten, Tyler W
Subject: Pond draining near west abutment

Hi Dan,
This morning Brad noticed why the pond has not been building up despite the cyclone underflow they've been discharging; there's a small hole in the waste rock near the west abutment through which it's draining. It's about 2 m from the bottom of the pile they pushed out for the water pump, so about 10 m along the wall from the abutment. It's a hole about 0.2 m across, with about 50-100 L/min of water flowing into it right at paste level.

Please see the attached photos. The first shows the general arrangement of the abutment right now. The second is looking down from next to the pump; the hole is visible just up from centre frame. The third and fourth are close-ups of the hole itself.

I'm not too sure where water could be going from that location. The pile pushed out for the pump is composed of finer Zone A, but could potentially be a conduit somewhere. It that location there are several metres of native ground between the hole and the Zone J core, both laterally or vertically. Most likely the water is flowing into the waste rock along that edge of the pit, and then potentially going underground from there.

Please advise on how we should proceed with this hole. My initial thought is to plug the hole itself with a small amount of Zone A, then cover it over with Zone J or reclaim sand, then let the paste cover it over. However, let me know if we need something more substantial than that to repair it, such as extending the Zone J around that abutment. What

would be ideal would be to do investigate whether the water is coming out underground, or do a tracer dye test. I also had Brad survey the location

Please let me know of any questions you have.

Regards,

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MEMO

To	Dan Hughes-Games		
From	Amr Fathalla		
Tel	604.295.1769	**AMEC File No.**	NX14001.2014.0801
Fax	604.294.4664	**cc**	Charles Masala
Date	29 August 2014		Diana Alvarez

Subject **Tailing Storage Facility Lower Diversion Ditch - Temporary Design**

1.0 BACKGROUND

Nyrstar Myra Falls Ltd. (Nyrstar) operates the Myra Falls mine within Strathcona Provincial Park, near the south end of Buttle Lake, on Vancouver Island in British Columbia (DWG000). The mine site's north side is protected by a diversion ditch that captures the non-contact water from the upstream forested slopes and conveys it to Myra Creek. The lower reach of the diversion ditch is adjacent to the north side of the Myra Tailings Disposal Facility (TDF) (DWG001).

The Myra TDF dam is classified as "High" consequence under the *Canadian Dam Associations Guidelines* as referenced by the *Health, Safety, and Reclamation Code for Mines in British Columbia* under the *Mines Act.* The appropriate Inflow Design Flood (IDF) for the facility under the CDA Guidelines has a magnitude of 1/3 between the 1 in 1000-year flood and the probable maximum flood (PMF) resulting from the Probable Maximum Precipitation (PMP) storm event. The design of the facility as a paste tailings storage facility necessitates that the diversion system be able to divert the IDF away from the tailings, otherwise significant erosion of the paste stack and discharge to the environment could occur.

Past hydrology work on the site by AMEC Environment & Infrastructure, a division of AMEC Americas Limited (AMEC) has identified the lower reach of the diversion ditch system as a potential vulnerability with respect to extreme storm events. It has been estimated that the existing ditch cannot convey a flood larger than one with about a 1 in 200 year recurrence. In 2012, AMEC completed a precipitation study for Nyrstar which included updating design storms for the mine.

Recently the Ministry of Energy and Mines have requested than Nyrstar take immediate action to correct this vulnerability. These steps include preparation of a design for temporary upgrade of the diversion ditch no later than August 31, 2014, with construction of the resulting temporary measures no later than December 31, 2014. This letter addresses the first requirement, preparation of a design of temporary works. Other steps should be taken later to update the design flows and provide permanent design of the overall diversion ditch.

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2.0 OBJECTIVES

The following objectives were identified to complete the temporary design of the Lower Reach diversion ditch at Myra Falls:

- Provide a preliminary estimation of the Inflow Design Flow (IDF) based on (AMEC, 2012);
- Assess the vertical rise height to provide 0.5 m freeboard at three critical sections along the lower reach of the diversion ditch; and
- Provide drawings for temporary construction at the three critical sections and recommendations for construction.

3.0 HYDROLOGY

The existing diversion ditch was designed to route the 1 in 200 year flow (AMEC, 2008b) Due to subsequent changes to the maximum flow requirements, this design flow needs to be updated to accommodate the IDF as noted above. This section will provide the precipitation associated with the design flow for the Lower Reach diversion ditch.

3.1 PRECIPITATION

AMEC fitted the existing daily rainfall data in a Log-Pearson type III, statistical distribution (AMEC, 2012). The 1 in 200 year and the 1 in 1000 year, 24-hour storm, were estimated to be 220 mm and 236 mm, respectively. The estimated daily snowmelt was 17 mm. The 1 in 200 year and 1 in 1000 year 24-hour design storms which included snowmelt were 237 mm and 253 mm, respectively.

The probable maximum precipitation (PMP) was calculated (AMEC, 2012) using the Hershfield method (Hershfield, 1977). AMEC added the additional years of rainfall from 2008 to 2011 (AMEC, 2012) to the analysis completed in 2008 (AMEC, 2008b) to estimate a PMP of 628 mm.

Based in the previous values the precipitation value associated to 1/3 of the way between the 1 in 1000-year flood and the probable maximum flood (PMF) storm event is 378 mm.

3.2 DESIGN FLOWS

AMEC used the hydrologic model developed by the Hydrologic Engineering Centers-Hydrologic Modeling System (HEC-HMS) to estimate the flow. The HEC-HMS model is designed to simulate the precipitation-runoff processes of watershed systems using the Soil Conservation Service (SCS) methodology.

Input parameters for the HEC-HMS model included the catchment area, lag time and curve number. The catchment is 4.0 km^2 (AMEC, 2008b). AMEC estimated the time of concentration

for the catchment area using the Kirpich's methodology. Assuming that the lag time is 0.6 times the time of concentration, the estimated lag time is approximately 11 minutes.

The curve number (CN) selected for this study is 75. This value is based in a previous HEC-HMS developed and calibrated by (AMEC, 2008b) for the mine. The estimated peak flow associated with the IDF for the lower reach diversion ditch is 79.5m^3/s.

4.0 DESIGN CONSIDERATIONS

Lower Reach is approximately 1,000 m in length from the base of the Cascade Reach to the east end of the TDF (i.e., near No 4 Pump House) where it discharges to Myra Creek. The survey data for the Lower Reach completed by MFO in 2007 indicates that the longitudinal slope of this Reach ranges from 1 % to 15 %; the base width ranges between 1 m and 4 m; and the depth ranges between 0.9 m to 3.1 m. (AMEC, 2008)

Four cross sections were selected from the provided survey as representative of the most critical conditions of the flow in the lower reach diversion ditch. These sections were identified based on the following parameters:

- Minimum slope and maximum channel depth required. (Section 6)
- Smallest depth close to the facility. (Section 15)
- Maximum slope. (Section 33)
- End of the reach cross section. (Section 37)

The assessment of the minimum depth required to route the design flow in the lower reach diversion ditch was carried out using Manning's formula. The manning's roughness coefficient assumed for the ditch was assumed 0.022, for shotcrete surface. The results of the local assessment for each section are shown in Table 4.1.

Table 4.1 Current Diversion Ditch Configuration

Section	Channel Average Slope	As-Built Flow Capacity (m^3/s)
6	0.003	11.73
15	0.116	23.64
33	0.140	44.98
37	0.130	61.60

Table 4.2 shows the design capacity and the minimum diversion ditch depth to convey the IDF. The minimum depth was determined based on 0.5 m freeboard. The minimum depth is measured from the bottom of the diversion ditch to the crest of the raised berm.

Table 4.2 Diversion Ditch Temporary Design

Section	Channel Average Slope	Design Capacity (m^3/s)	Velocity (m/s)	Minimum Depth to Convey the IDF (m)
6	0.003	79.5	2.03	2.90
15	0.116	79.5	13.97	2.20
33	0.140	79.5	13.90	1.90
37	0.130	79.5	14.29	2.35

DWG002 and DWG003 show the profile and typical selected cross sections. The minimum depth required for each reach of the lower ditch is included in DWG002. Due to the very high predicted velocities in the diversion ditch under IDF conditions, use of steel fibre shotcrete is recommended to provide erosion and impact resistance to the structure. Other measures to reduce the velocities can be investigated when developing a permanent design of the diversion ditch.

5.0 LIMITATIONS

The scope of work of this study is to provide a temporary solution. Hence, the information used for this preliminary estimation needs to be revised and additional analysis should be carried out to provide a permanent solution. The information provided in this memo is not for construction. Any construction work will need to be field fitted with the approval of a qualified professional. Specifications of the shotcrete and the berm raising materials are not provided and will need to be produced prior to construction. AMEC can assist with the preparation of the specifications at that stage.

REFERENCES

AMEC. (2008). *Myra Falls Upper Diversion Ditch. Construction Design for New Upper Diversion Ditch and Recommended Upgrades of Existing Diversion Ditch Following May 2008 Field Reconnaissance.*

AMEC. (2012). *Nyrstar Myra Falls. Update of the Design Storms.*

AMEC. (2008). *Water Management Study Progress Report No 1.* NCVI Minning Ltd.

6.0 CLOSURE

The recommendations herein are based on accepted water management practices and data available and are subject to revision upon the availability of new information.

This letter has been prepared for the exclusive use of Nyrstar Myra Falls Ltd. for specific application to the area described within this report. Any use which a third party makes of this report or any reliance on or decisions made based on it are the responsibility of such third parties. AMEC accepts no responsibility for damages suffered by any third party as a result of decisions made or actions based on this report. It has been prepared in accordance with generally accepted soil and foundation engineering practices. No other warranty, express or implied, is made.

Respectfully submitted,

AMEC Environment & Infrastructure Ltd.
a Division of AMEC Americas Limited

Prepared by:

Amr Fathalla, M.Sc., P. Eng.
Senior Associate Water Resources

Reviewed by:

Charles Masala, M.A.Sc., P.Eng., P.E.
Senior Water Resources Engineer

FIGURES

MYRA FALLS
LOWER REACH DIVERSION DITCH UPGRADE

DRAWING INDEX

DRAWING No:	DRAWING TITLE:	DRAWING DATE:
NX14001.2014.000	DRAWING INDEX	AUGUST 29, 2014
NX14001.2014.001	LOWER DIVERSION CHANNEL TEMPORARY DESIGN - PLAN	AUGUST 29, 2014
NX14001.2014.002	LOWER DIVERSION CHANNEL TEMPORARY DESIGN - PROFILE	AUGUST 29, 2014
NX14001.2014.003	LOWER DIVERSION CHANNEL TEMPORARY DESIGN - CROSS-SECTIONS	AUGUST 29, 2014

NOTE:

THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC ENVIRONMENT AND INFRASTRUCTURE MEMO DATED AUGUST 2014.

CLIENT: nvi MINING LTD.

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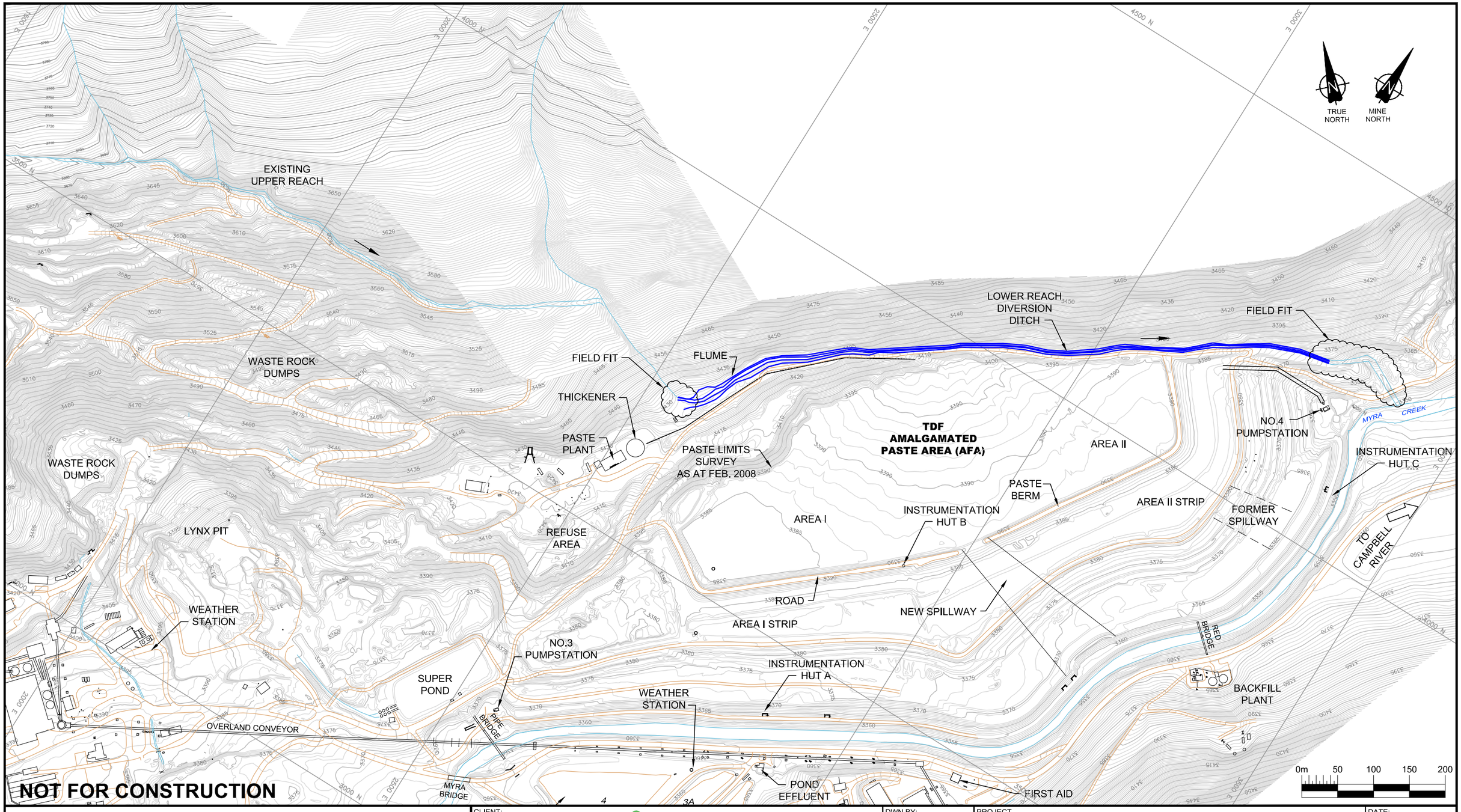
DWN BY:	TH
CHK'D BY:	DA / AF
DATUM:	MINE
PROJECTION:	MINE
SCALE:	AS SHOWN

PROJECT: MYRA FALLS

TITLE: LOWER DIVERSION CHANNEL TEMPORARY DESIGN DRAWING LIST

	AUGUST 2014
PROJECT NO:	NX14001.2014
REV. NO:	A
DRAWING NO:	NX14001.2014.000



NOT FOR CONSTRUCTION

NOTES:

1. 2m SURFACE TOPOGRAPHY SUPPLIED BY CLIENT, APRIL 2008.
2. EXISTING DITCH SURVEY COMPILED BY HIGHLAND ENGINEERING AND SURVEYING, MAY 2008.
3. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC ENVIRONMENT AND INFRASTRUCTURE MEMO DATED AUGUST 2014.

CLIENT: nvi MINING LTD.

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amec

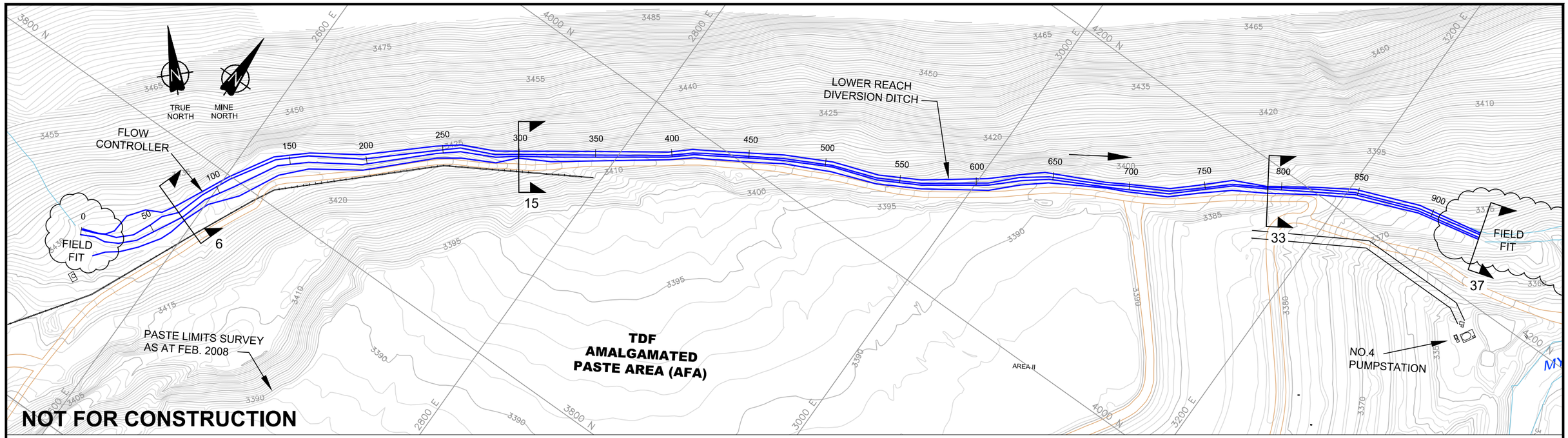
DWN BY:	TH
CHK'D BY:	DA / AF
DATUM:	MINE
PROJECTION:	MINE
SCALE:	AS SHOWN

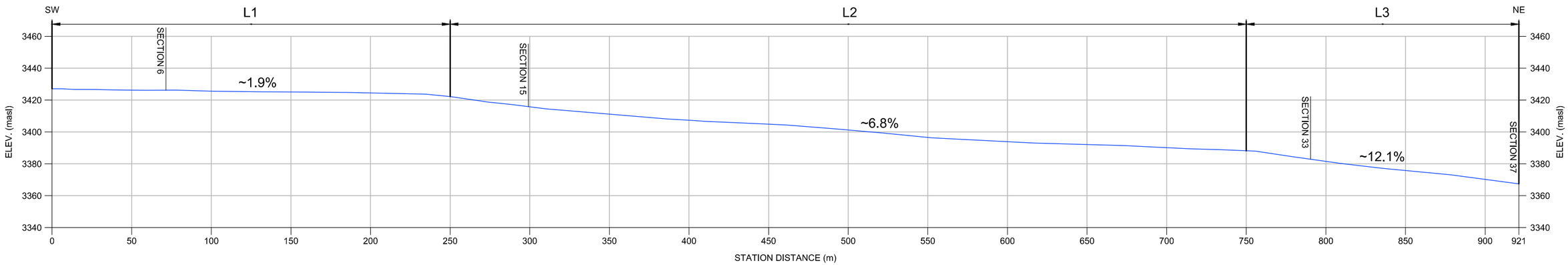
PROJECT: MYRA FALLS

TITLE: LOWER DIVERSION CHANNEL TEMPORARY DESIGN PLAN

DATE:	AUGUST 2014
PROJECT NO:	NX14001.2014
REV. NO:	A
DRAWING NO:	NX14001.2014.001

W:\Projects\Myra Temp Diversion Channel\Drawings\NX14001.2014.001.dwg – 001 – Aug. 29, 2014 2:16pm – tim.hawker





DIVERSION DITCH PROFILE

0m 20 40 60 80 100

REACH ID	FROM STN. (m)	TO STN. (m)	MIN. DEPTH BETWEEN THE BOTTOM OF THE DIVERSION CHANNEL AND RAISED EMBANKMENT (m)	SLOPE (Avg)
L1	0	250	3.0	1.9
L2	250	750	2.2	6.8
L3	750	921	2.4	12.1

NOTES:

1. 2m SURFACE TOPOGRAPHY SUPPLIED BY CLIENT, APRIL 2008.
2. EXISTING DITCH SURVEY COMPILED BY HIGHLAND ENGINEERING AND SURVEYING, MAY 2008.
3. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC ENVIRONMENT AND INFRASTRUCTURE MEMO DATED AUGUST 2014.

CLIENT: nvi MINING LTD.

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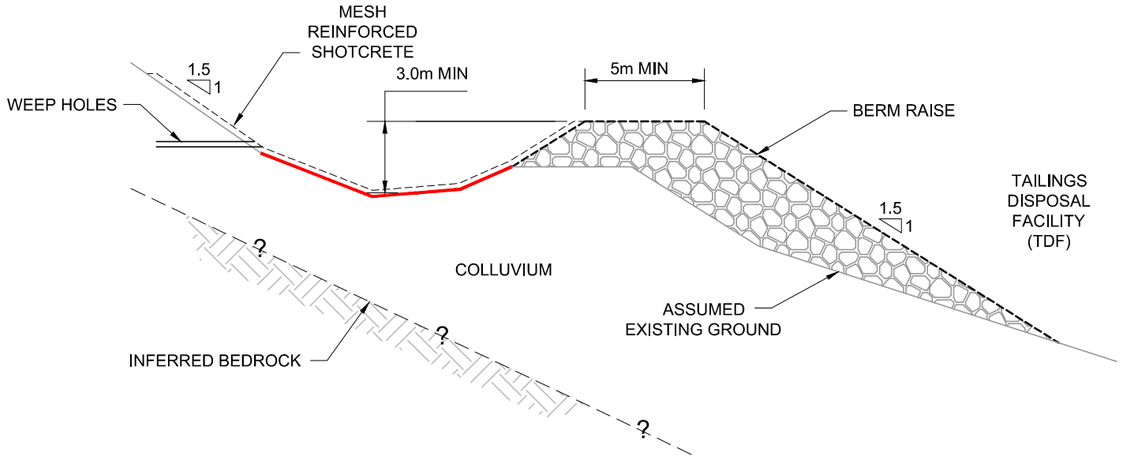
DWN BY:	TH
CHK'D BY:	DA / AF
DATUM:	MINE
PROJECTION:	MINE
SCALE:	AS SHOWN

PROJECT: MYRA FALLS

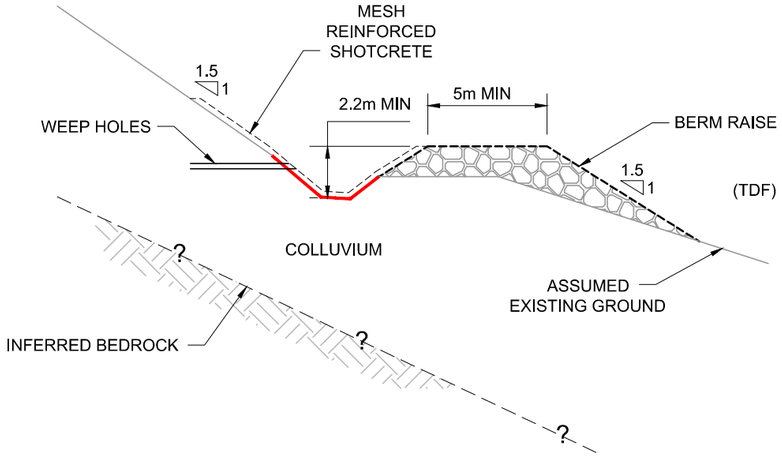
TITLE: LOWER DIVERSION CHANNEL TEMPORARY DESIGN PROFILE

DATE:	AUGUST 2014
PROJECT NO:	NX14001.2014
REV. NO:	A
DRAWING NO:	NX14001.2014.002

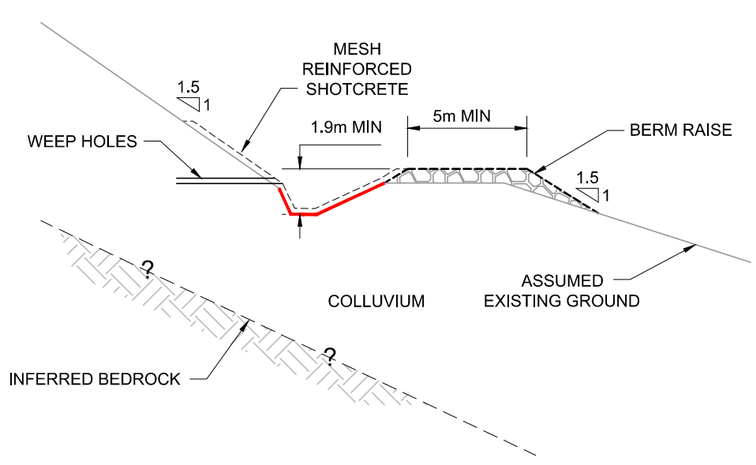
W:\Projects\Myra Temp Diversion Channel\Drawings\NX14001.2014.002.dwg – 002 – Aug. 29, 2014 2:16pm – tim.hawker



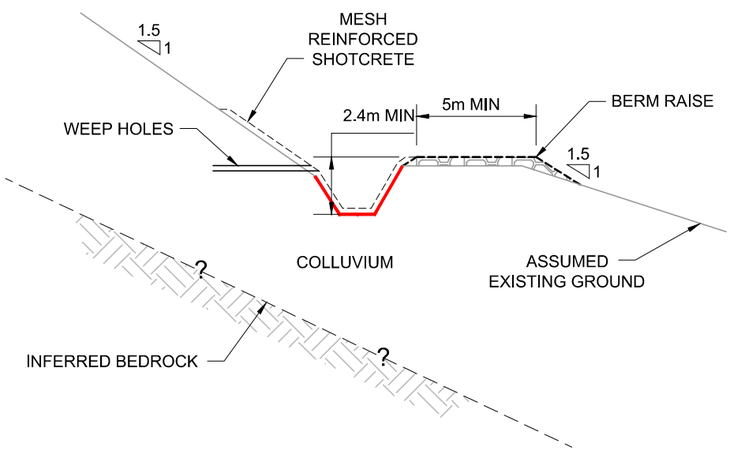
DIVERSION DITCH - SECTION 6



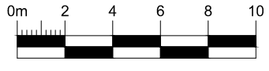
DIVERSION DITCH - SECTION 15



DIVERSION DITCH - SECTION 33



DIVERSION DITCH - SECTION 37



NOTES:

1. SUITABLE EXCAVATED MATERIAL TO BE CAST TO DOWN SLOPE SIDE TO INCREASE HEIGHT OF EMBANKMENT & HENCE DEPTH OF DITCH.

2. THE SPECIFICATIONS OF THE SHOTCRETE AND BERM RAISE ARE NOT PROVIDED AND SHOULD BE PREPARED PRIOR TO CONSTRUCTION OF THE DIVERSION DITCH.

3. UPGRADE WILL ONLY AFFECT THE CHANNEL DEPTH. THE BOTTOM WIDTH IS NOT CHANGED.

4. INFORMATION PROVIDED IN THE DRAWINGS ARE FOR CONCEPTUAL DESIGN OF TEMPORARY DIVERSION DITCH CONSTRUCTION CAN CAN BE USED ONLY FOR GENERAL PLANNING.

5. THE DRAWINGS ARE PREPARED BASED ON THE INFORMATION AVAILABLE TO AMEC AT THE TIME OF ISSUE.

6. IT IS ASSUMED THAT THE TEMPORARY DIVERSION DITCH WORK WILL BE FIELD-FIT UNDER THE DIRECTION OF A QUALIFIED PROFESSIONAL.

NOT FOR CONSTRUCTION

NOTES:

1. 2m SURFACE TOPOGRAPHY SUPPLIED BY CLIENT, APRIL 2008.
2. EXISTING DITCH SURVEY COMPILED BY HIGHLAND ENGINEERING AND SURVEYING, MAY 2008.
3. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC ENVIRONMENT AND INFRASTRUCTURE MEMO DATED AUGUST 2014.

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amec

DWN BY:	TH
CHK'D BY:	DA / AF
DATUM:	MINE
PROJECTION:	MINE
SCALE:	AS SHOWN

PROJECT: MYRA FALLS

TITLE: LOWER DIVERSION CHANNEL TEMPORARY DESIGN CROSS SECTIONS

	AUGUST 2014
PROJECT NO:	NX14001.2014
REV. NO:	A
DRAWING NO:	NX14001.2014.003

Patten, Tyler W

From: McWilliams, Ivor <Ivor.Mcwilliams@nyrstar.com>
Sent: August-29-14 1:37 PM
To: Hughes-Games, Dan
Cc: Helmer, Murray
Subject: RE: Myra fall planning

Thanks guys.

From: Hughes-Games, Dan [mailto:Dan.Hughes-Games@amec.com]
Sent: August 29, 2014 1:34 PM
To: McWilliams, Ivor
Cc: Helmer, Murray
Subject: FW: Myra fall planning

Some spit-balling on the paste erosion issues… for your thoughts.

Dan Hughes-Games, P.Eng.
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From: Helmer, Murray
Sent: August 29, 2014 12:18
To: Hughes-Games, Dan
Subject: RE: Myra fall planning

Andrew has some experience with Kemess, where there's ongoing issues of the stability of the cyclone sand outer shell. I'm quite familiar with that one, as well. That's quite a bit steeper, and the final reclamation cover has been placed there, but the issues of gullying and rilling are the same. I'll shoot him an email.

The solution which they employed there, which on the less steep areas has worked quite well, has been to employ a "rough and loose" texture, also known as "humpties". Essentially, make small pits and mounds with an excavator so that water doesn't run on the surface. This was also to promote the surface as a growth medium for plants by allowing them more consistent water. It's been effective, but probably wouldn't apply here since we don't want to leave loose mounds of paste on surface for the wind to pick up. It's also fairly labour intensive.

At Huckleberry's TMF2 they started with humpties on the dam shell, but gave up after it was taking too long. What they opted for instead was cutting sweeping swales in the overburden shell surface. At the top they're a bit steeper, but the gradient drops and it curves to the side as you get farther down, so that scour is reduced.

Check berms are likely the best temporary solution for the APA. One issue to consider is that water will also pool against them, so we would want to make sure they have some gradient to them across the dam, maybe 1%? Then armor where they drain with a bit of waste rock and have it flow into the decant.

I'll see if I can dig up some photos of what I've mentioned to show you.

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From: Hughes-Games, Dan
Sent: August-29-14 11:25 AM
To: Helmer, Murray
Subject: RE: Myra fall planning

All ideas are worth considering. Thanks for being proactive.

So maybe the right approach is now before it gets too wet, doze it flat, and add a series of small waste rock check berms. It's simple and relatively inexpensive. Do you know if there's anyone in AMEC that's dealt with this kind of issue before? Ask Andrew maybe?

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From: Helmer, Murray
Sent: August 29, 2014 09:54
To: Hughes-Games, Dan
Subject: RE: Myra fall planning

I'm not sure if a stabilizing agent would work to reduce erosion on the paste, but it could be something to consider. I'm trying to find out what they used at Huckleberry on TMF2. It could be a possibility for temporary stabilization while they dither about closure planning. One such product is by ENS Solutions (http://www.enssolutions.com/industries/mining/mining-fugitive-dust-control). I think I have a contact there, I might see if they have any promotional materials.

Another option if they don't have sufficient effort to fully cover the APA with a cover would be starting the cover in stages, beginning with strips running laterally across it. This would at least cut down the draw length of the paste, giving it less distance to develop large gullies. Let me know what you think.

Cheers,
Murray

Patten, Tyler W

From: Hughes-Games, Dan
Sent: September-09-14 12:35 PM
To: Patten, Tyler W
Cc: Helmer, Murray
Subject: RE: Myra Daily Update

I reviewed this wet area in detail on Monday morning. I agree with Murray's observation, water levels are distinctly higher further away from the dam. At the time of my review, conditions were static, no flow or rise in levels observed – just a bunch of still puddles.

It seems odd to me that the Zone J stockpile would contain so much water at this time of year. Please keep an eye on it.

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From: Helmer, Murray
Sent: September 6, 2014 20:18
To: Hughes-Games, Dan; Patten, Tyler W
Subject: Myra Daily Update

Hi Guys,
Here is the daily update for Lynx construction. Zone J placement continued smoothly.

Near the end of the day, we did encounter seepage coming from the face they're loading from in the Zone J stockpile, about 10 m away from the toe of the dam. However, the face was perpendicular to the dam, and most of the material between the toe and the seep had already been excavated. It appears to be the water table from within the Superpile at the start of the year. However, I'll keep an eye on it in case it turns out to be seepage from the dam toe taking an odd route.

Let me know of any questions or concerns.

Cheers,

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amec.com

Patten, Tyler W

From: McWilliams, Ivor <Ivor.Mcwilliams@nyrstar.com>
Sent: September-16-14 11:36 AM
To: Hughes-Games, Dan; Collier, Andy; Mooney, Shawn
Cc: Rice, Steve (Burnaby); Patten, Tyler W; Helmer, Murray; Henderson, Sharlene; Skagford, Scott
Subject: RE: Lynx Piezos during construction

Hi,
Not 100% sure of the details here but I really have to re-emphasize Dan's comments. Over the last 15 months we have invested in and installed many new piezometers, monitoring wells and now pumping wells. Together these probably have an all-in cost of $1 million and the info that they will generate will drive some of the most important decisions that will be made at this operation for the next number of years. All of us must do everything we can to mark, protect and preserve these installations. Part of that is communicating the importance of these to all who report to us, ensuring that their location and protection is understood. If you need any help in this please let me know.
Ivor.

From: Hughes-Games, Dan [mailto:Dan.Hughes-Games@amec.com]
Sent: September 16, 2014 9:56 AM
To: McWilliams, Ivor; Collier, Andy; Mooney, Shawn
Cc: Rice, Steve (Burnaby); Patten, Tyler W; Helmer, Murray
Subject: Lynx Piezos during construction

It's been brought to my attention that operators are intentionally working extremely close to the piezometer installations, and that in some cases they are striking or burying the wire leads. These things are very well marked, and very delicate compared to the size of the construction equipment. Our staff have notified the crew leads, who have notified the operators, but the issues continue.

I realize construction around the wires is down to the short strokes, but please take all measures going forward to ensure that the condition of the wire leads is not unnecessarily jeopardized. We will require replacement of any instruments damaged beyond repair as mandatory action item in our annual review.

I fully agree that construction around these wires is a bit of a delicate operation with the size and scale of the equipment in use; however, utmost care needs to be taken to not damage these things. If they can't work as close as they have been without hitting them, then they need to leave more room and fill in the resulting gaps with smaller equipment.

The cost implications of that are fairly significant. Mobilization of a suitable drill rig is approximately $12,000. Each wire is worth about $1000. Drilling a single hole is worth at least $10000, or more depending on depth. AMEC's cost per drill hole are a few $1000 for supervision and instrumentation. The total cost for a single drill hole would be at least $30,000. Repair of severed wires is sometimes possible, but is also very labour intensive and often the results are unreliable.

Of more concern would be the missing information – it would leave a gap in the study we're currently working on to substantiate and confirm the Lynx Dam design, as study that has been mandated by MEM as a condition of continued operation.

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Its contents (including any attachments) may contain confidential and/or privileged information.

Patten, Tyler W

From: Hughes-Games, Dan
Sent: September-29-14 9:59 AM
To: McWilliams, Ivor
Cc: Helmer, Murray
Subject: RE: Springs Drain Tailings Leak

Yes, to clarify – a small amount of tailings in the drain will not compromise it hydraulically. Please continue.

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From: McWilliams, Ivor [mailto:Ivor.Mcwilliams@nyrstar.com]
Sent: September 29, 2014 09:40
To: Hughes-Games, Dan
Cc: Helmer, Murray
Subject: FW: Springs Drain Tailings Leak

Hi Dan,

Just to clarify the highlighted phrase from Murray's email below - we can proceed without removing the contaminated fill – this is based on my understanding that a fair amount of effort has already gone into the removal of the spilled paste and that what remains has migrated into the basal filter layers over a width of about 1m. It is of course impossible to accurately say what percent of spilled paste was cleaned up and what percent remains within the filter zone. Agree that we now need to continue with the remaining construction of the drain and that any and all pipe line moves must be planned to minimize the likelihood of any repeat breakage.

Ivor.

From: Hughes-Games, Dan [mailto:Dan.Hughes-Games@amec.com]
Sent: September 29, 2014 8:37 AM
To: Helmer, Murray
Cc: McWilliams, Ivor
Subject: RE: Springs Drain Tailings Leak

My feeling is that what's done is done, and at this point there is no time to go back and clean it out. Operations/Uplands needs to be more careful. Tyler Patten tells me he recommended routing the line around the work area weeks ago specifically to avoid something like this.

Your plan for flushing is good. I agree, better to have it flushed than leave it caked in tailings for all time.

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From: Helmer, Murray
Sent: September 29, 2014 07:51
To: Hughes-Games, Dan
Cc: Ivor.Mcwilliams@nyrstar.com
Subject: RE: Springs Drain Tailings Leak

Hi Dan,
This morning Ivor, Anton and I had a brief discussion regarding the tailings leaked into the drain. From what I understood from Ivor, since the water is neither necessarily clean to begin with, and is not discharging into the environment anyways, the tailings are not a major environmental concern. Provided we keep it well documented, Ivor said that from his standpoint we can proceed without removing the contaminated fill.

As per our discussion Friday, I made it clear that from a geotechnical standpoint, leaving the tailings in the drain is not ideal, since we can no longer assess any potential tailings leak into the drain in the future with certainty, but that it did not pose a significant risk of clogging the drain rock. Considering our schedule and the amount of fills that would need to be removed, are you still comfortable with us proceeding without removing the contaminated drain rock?

Our current plan is to re-excavate the area down to the coarse drain rock and properly clean off the filter zones, then flush the drain rock in that area with the water truck. I'm aware this will not accomplish removing the tailings from the drain, but it will help clean off the drain rock higher in the drain, which would otherwise stay dirty as it's above the normal water level within the drain. The tailings in the bottom of the drain will then be left to naturally be removed from drain flow. Please let me know if you have any issues or comments, or concerns with how we plan to proceed, or give Ivor a call to discuss.

Thanks,

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From: McWilliams, Ivor [mailto:Ivor.Mcwilliams@nyrstar.com]
Sent: September-26-14 5:11 PM
To: Helmer, Murray
Subject: Re: Springs Drain Tailings Leak

Yes can do... A little earlier would be good as I have the usual 8:15 meeting at HW.
Sent from my Blackberry Wireless Handheld

From: Helmer, Murray [mailto:murray.helmer@amec.com]
Sent: Saturday, September 27, 2014 01:10 AM W. Europe Standard Time
To: McWilliams, Ivor
Cc: Hughes-Games, Dan <Dan.Hughes-Games@amec.com>
Subject: Springs Drain Tailings Leak
Hi Ivor,
Dan and I would like to have a discussion with you Monday morning to talk about the environmental and geotechnical implications of the tailings spilled into the Springs Drain, as well as remediation goals and how to achieve them. Would it be okay if you and I had a conference call with Dan around 8 am or so on Monday?

Thanks,

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If you receive this e-mail in error, please notify the sender by reply e-mail and delete and destroy the message.

Patten, Tyler W

From: Hughes-Games, Dan
Sent: October-09-14 2:20 PM
To: Helmer, Murray; Patten, Tyler W
Cc: Ivor Mcwilliams
Subject: RE: Seepage at 4:1 Toe

From what I observed, what was in that corner was very wet primarily dredging material, and I think the apparent drop was simply water decanting off leaving a high water mark. It is anticipated that water will infiltrate in this corner in keeping with past years' performance. Certainly we need to keep tabs on the wet area. There is also a chance that it is the result of infiltration of rainfall into the 4:1 Zone A surface last week.

Thanks for documenting and surveying the spot!

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From: Helmer, Murray
Sent: October 9, 2014 14:09
To: Hughes-Games, Dan; Patten, Tyler W
Subject: RE: Seepage at 4:1 Toe

Sorry, the paste elevation is 3398.2.

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From: Helmer, Murray
Sent: October-09-14 2:06 PM
To: Hughes-Games, Dan; Patten, Tyler W
Subject: Seepage at 4:1 Toe

Hi Dan,
A little while ago it was noted that there's a very slight amount of seepage coming from near the toe of the 4:1 near the springs drain. Chris says he noticed it a couple days ago, Brad and I noted it today. It's near the toe of the dam face, in an area where the Zone A is roughly to grade for this year. The seep is about 4 m away from the springs drain cut at station ~2+00, about .5 m above the top of the cut vertically. The flow is very small, but if you watch it carefully you can see water moving. I've attached a couple photos to show what we're looking at.

The seep's location is approximately the following:
N: 3344.6 E: 2349.7 EL: 3395.5

The paste elevation behind the dam at the east end is currently 2298.2 m.

Please advise if this is a concern. Is there any chance it could be related to the drop in solids elevation last week, which we attributed to solids separating out from the tailings water while the mill was running slowly?

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APPENDIX G – INCLUDED ON ATTACHED CD
AMEC DAM INSPECTIONS

TAILINGS FACILITY FIELD REVIEW REPORT			
Date of Field Review:	January 31, 2014	Date of Report:	February 1, 2014
AMEC File: NX10011.2014.201		Contents:	3 pages plus photographs
Engineer:	Adrian Chesham, P.Eng.	To:	Ivor McWilliams
With:	N/A	Cc:	Bob Ozerkevich Robert Behrendt

Summary

- The TDF and Lynx TDF facilities were inspected by AMEC.
- Action Items:
  1. Recently placed Zone A fill on the Lynx south arm had covered a portion of the vibrating wire piezometer cables that may have caused damage to the cables. Further investigation is required once the fill unthaws to assess potential damage.

End of Summary

The TDF and Lynx TDF are inspected by AMEC on a monthly basis as part of the work done to satisfy the Dam Safety Regulation. During the inspection, AMEC notes conditions in and around the facilities, with emphasis on water management, dam stability, and seepage conditions.

TDF:

- A trickle of water was flowing into the RSA decant structure (no ponding surrounding the decant). The ponded water in the RSA was prevented from flowing toward the decant structure by some Zone A fill that had been placed.
- Ponded water was observed on the TDF Seismic Upgrade Berm below the 6:1 Buttress between approximately Sta. 2+80 to 3+50 m. (see photo).
- No flow or ponding was observed at the APA decant.
- A small trickle of flow was observed flowing into the Strip decant structure. The flow was entering between a gap between the two upper decant rings.

Lynx TDF:

- Paste was being deposited at the usual discharge location on the northeast pit wall. The paste discharge had a slightly watery consistency.
- The usual circular erosional feature was noted on the paste surface in the northwest corner of the pit. The circular feature was estimated visually to be approximately 5 to 6 m in diameter.
- Some ARD staining was noted on the paste tailings along the northwest corner of the Lynx TDF against the high-wall.

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- Some ponding and ice was noted on the paste surface near the refuse dump. Some ponding was also noted against the reclaim sand fan in the southwest corner of the Lynx TDF.
- Nyrstar had placed some garbage (e.g. wood pallets) on top of the Lynx west arm approximately 40 m north of the refuse dump.
- The piles of Zone A noted on the Lynx south arm noted during last month's inspection had been bladed into a lift (not compacted). This actual lift thickness was measured at some locations to be nearly 0.7 m thick. It was noted that some of the Zone A material had rolled onto a portion of the vibrating wire piezometer cables. AMEC could not read VW17734 which suggests that one of the cables may have been compromised. AMEC could not unearth the cables to inspect for damages due to the frozen ground.
- Some piles of Zone A have been placed on the west arm to protect the sump-line that is currently situated south of the refuse dump.
- An erosional feature was noted on the paste surface in the southeast corner of the Lynx TDF that suggests that the surficial water had drained into this point location.
- Some ravelling of the waste dump slope had occurred at 2 locations on the switch-backs above the Lynx TDF. AMEC was able to physically move the cobbles to provide access through for truck.
- Some tension cracks were noted running along the top of the reclaim sand buttress on the Lynx TDF west abutment south of the refuse dump.
- The erosional gully on the reclaim sand buttress is still apparent on the Lynx TDF west arm.
- AMEC continued to observe the cracks noted near the upstream edge of the Zone 'J' on the east end of the south arm. The cracks were measured to be approximately 45 m in length and were painted with orange marking paint. No appreciable change in the crack geometry was noted since the last monthly dam inspection. The reclaim sand immediately north of the crack appears to have settled 25 to 100 mm and up to 200 mm in places.
- Some seepage was noted at the usual rock springs location north of the Lynx TDF pit along the northeast high-wall. This water was flowing along the ditch north of the paste line road in an east direction.
- Nyrstar continuing to place a significant amount of Zone A material east of the Lynx East abutment (see photos).

Diversion Ditches:

- AMEC could not access the Arnica Reach and Upper Reach for inspection due to road conditions.
- Water flowing in Lower Reach below Cascade Falls.
- A boulder approximately 2 m x 1m was noted to have unravelled from the till embankment into the Alder Reach.
- No flow was noted in the APA ditch.

The recommendations herein are based on AMEC's observation of surface conditions at the time of the field review and are subject to revision upon the availability of new information.

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Photographs

Photo 1 – Looking south across the Lynx TDF west arm. Note the garbage placed on the top of the west arm north of the refuse dump.

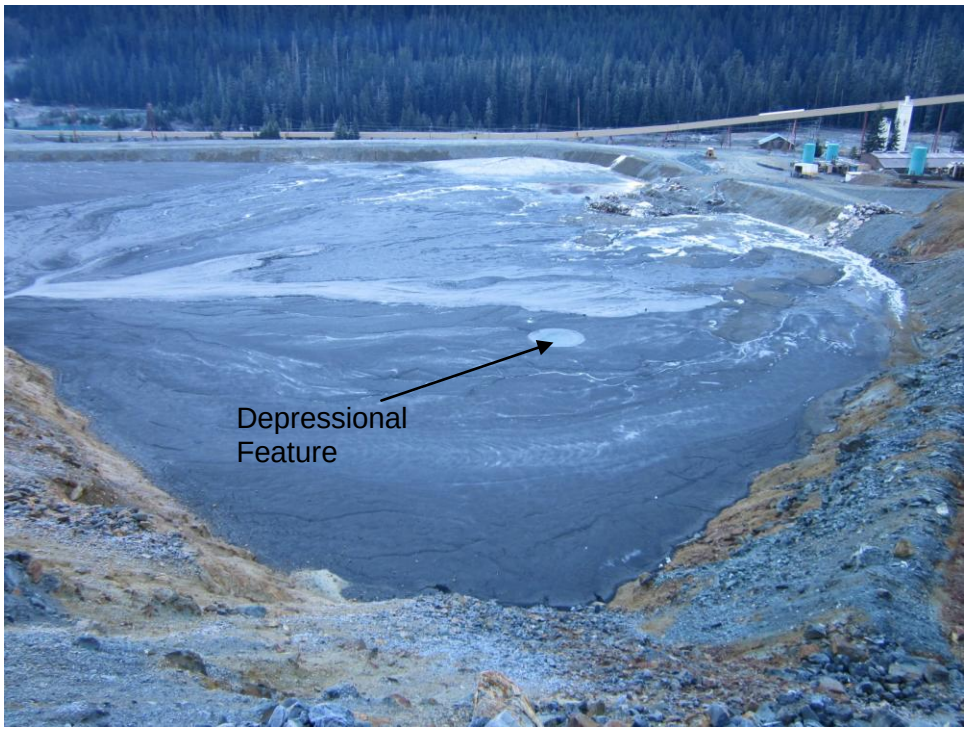

Photo 2 – Photograph looking south across the Lynx TDF. Note the circular depressional feature annotated on the drawing (refer to for Photo 3 close-up).

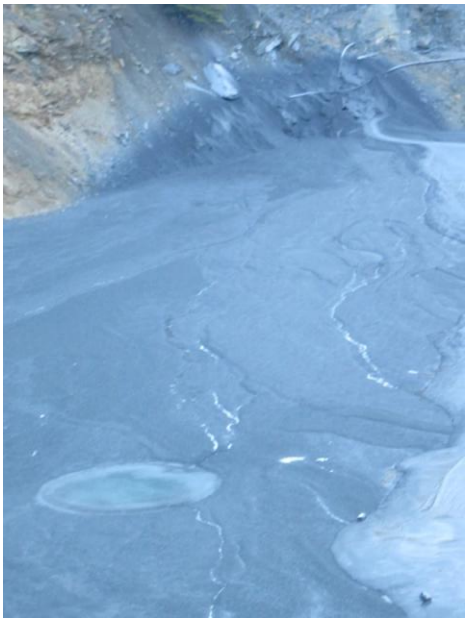

Photo 3 – Looking eastward at depressional feature on Lynx paste surface. Usual paste discharge location shown at top of photo for reference.

Photo 4 – Unravelling of waste rock onto switch-back road above the Lynx TDF.

Photo 5 – Zone A recently placed on Lynx south arm buried a portion of the vibrating wire piezometer cables. (See also Photo 6)

Photo 6 – Zone A waste rock buried a portion of vibrating wire piezometers on the Lynx south arm. (See also Photo 5).

Photo 7 – Looking east along the Lynx south arm. Note the layer of uncompacted Zone A material placed during winter months near the centreline of the dam (i.e. below truck).

Photo 8 – Longitudinal cracking along reclaim sand buttress on the upstream side of the Lynx west abutment.

Photo 9 – Approximately 45 m long longitudinal crack observed on upstream side of Lynx south arm.

Photo 10 – Erosional gully on paste surface in the southeast corner of the Lynx TDF, suggesting seepage draining into this point location.

Photo 11 – Seepage from rock-springs located on the northeast pit wall behind the Lynx TDF pit.

Photo 12 – Flow observed from the Phillips Reach outlet pipe near the Lower East Borrow.

Photo 13 – Looking northeast at new embankment of Zone A material placed by Nyrstar located east of the Lynx TDF east abutment. The toe of the new embankment follows the temporary haul road. (Refer to Photo 14 for a view looking down on the top of the embankment).

Photo 14 – Looking east across the newly placed Zone A material east of the Lynx TDF east abutment. Quonset Hut shown at top of photograph for reference. (Also see Photo 14)

Photo 15 – Looking west and downward on newly placed material east of the Lynx TDF east abutment.

Photo 16 – Pump House No. 4 discharge line return flow into the Super Pond.

Photo 17 – Minor trickle noted flowing into the RSA decant structure.

Photo 18 – Looking south across the TDF depicting the gullies on the paste surface formed by erosion. The backfill plant is shown in the background for reference.

Photo 19 – Large boulder approximately 1 m x 2 m in dimension unravelled into the Alder Reach.

Photo 20 – Flow noted in Lower Reach.

Photo 21 – Looking south across the TDF strip at typical seepage zones of ARD. Photograph taken from top of APA berm on the east abutment.

Photo 22 – Small amount of flow observed into the TDF Strip decant structure.

Photo 23 – Ponding noted on TDF Seismic Upgrade Berm below the 6:1 Buttress.

TAILINGS FACILITY FIELD REVIEW REPORT			
Date of Field Review:	February 28, 2014	Date of Report:	March 1, 2014
AMEC File: NX10011.2014.201		Contents:	3 pages plus photographs
Engineer:	Adrian Chesham, P.Eng.	To:	Ivor McWilliams
With:	Tyler Patten, E.I.T.	Cc:	Bob Ozerkevich Robert Behrendt

Summary

- The TDF and Lynx TDF facilities were inspected by AMEC. The majority of the site had been covered in approximately 8 inches of snow and foggy conditions throughout the day.
- Action Items:
  1. Garbage dumped on the Lynx TDF west arm should be pushed off the dam and into the designated refuse area.

End of Summary

The TDF and Lynx TDF are inspected by AMEC on a monthly basis as part of the work done to satisfy the Dam Safety Regulation. During the inspection, AMEC notes conditions in and around the facilities, with emphasis on water management, dam stability, and seepage conditions.

TDF:

- The TDF tailings surface and dam slopes were covered in snow.
- A localized area of ponded water was observed on the TDF Strip near the east abutment.
- A slight trickle of flow was observed into the Strip decant structure. The decant had plastic spacers between the upper decant rings that prevented the formation of a sedimentation pond. Newly placed piles of lime were noted along the Strip near the decant.
- Generally there was no observable ponding on the RSA with the exception of an orangish puddle on the RSA at the far east end.
- No obvious flow was observed along the paste berm, which was covered in snow. A small trickle of water entering the APA decant could be heard, however, the decant cover could not be removed due to snow and ice.

Lynx TDF:

- Garbage including wood pallets was noted on top of the Lynx TDF west arm near the refuse dump location. Recommend to push this garbage off the dam and into the designated refuse area.

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- Ponding and ice noted in southwest corner possibly due to recent flump line discharge (i.e. Super Pond dredging). Ivor indicated that the flump is pumping approximately 4 hrs per day into the Lynx TDF from the Super Pond.
- Grader had plowed one blade width on the top of the Lynx west, south and east arms in addition to the paste line road behind the Lynx TDF.
- AMEC attempted to drive switchbacks behind the Lynx pit but could not access the entire way due to excessive snow conditions.
- AMEC noted 3 paste discharge locations set-up along the paste line road. The paste was currently being discharged at the usual location and had thick consistency.
- Top and slopes of the Lynx TDF berms were covered in approximately 8 inches of snow.
- Seepage observed flowing from the natural springs behind the paste plant road (see photographs).
- The cracks previously noted during the January dam safety review were covered in snow and consequently could not be visually observed.
- Exceptionally dirty water was noted in the Super Pond, which may be from RSA decant. The RSA decant was noted to not be functioning properly as no sedimentation pond was evident. Significant thickener underflow was being discharged to a location approximately 15 m away from the RSA decant structure and this dirty return water flowed directly into the decant. AMEC visually observed leaking decant rings on the RSA.
- Nyrstar had plowed a large area adjacent and east of the Lynx TDF east arm in preparation for additional loads of Zone A to be stock-piled. The snow had been bladed over the edge of the newly stockpiled Zone A area.

Diversion Ditches:

- The Arnica and Upper reaches could not be accessed due to the recent snow cover on the access road.
- The Cascade Reach and Alder Reach was visually observed by AMEC. The sides of the channels had snow cover. Nothing new to report since last monthly dam safety inspection.

The recommendations herein are based on AMEC's observation of surface conditions at the time of the field review and are subject to revision upon the availability of new information.

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Photographs

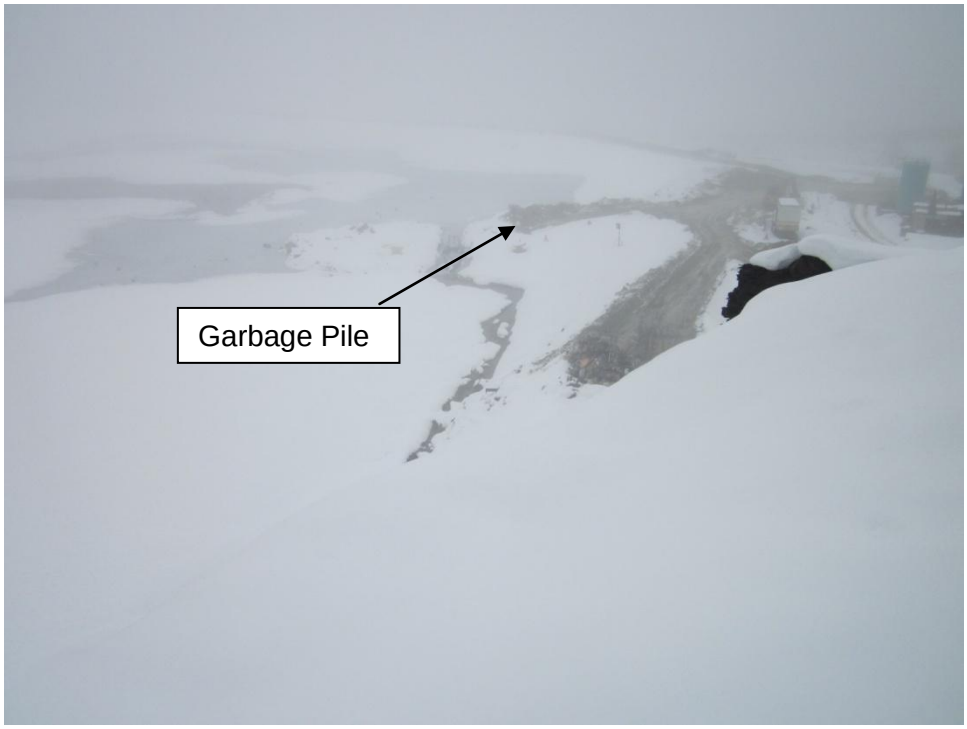

Photo 1 – Garbage Pile including wood pallet debris observed on Lynx TDF west arm.

Photo 2 – Lynx TDF paste discharge locations along paste line road.

Photo 3 – Discharge from Natural Rock Springs observed on the northeast pit wall behind the Lynx TDF pit.

Photo 4 – Discharge from Natural Rock Springs observed on the northeast pit wall behind the Lynx TDF pit.

Photo 5 – Paste deposition at usual location behind Lynx TDF pit.

Photo 6 – Paste deposited onto snow on TDF tailings surface from usual discharge location.

Photo 7 – Nyrstar plowed snow at area located east of the Lynx TDF east abutment in preparation for additional Zone A mine waste stockpiling. The snow was plowed over the embankment.

Photo 8 – Thickener underflow directed to the RSA area near the decant.

Photo 9 – RSA decant operating at full condition.

Photo 10 – RSA decant during near empty condition.

Photos 11 & 13 – Flow observed in Lower Reach above TDF.

Photo 12 – Ponded water noted on TDF strip below Paste Berm east abutment.

Photo 13 – Snow cover on TDF Seismic Upgrade east of the spillway.

Photo 14 – Flow observed into the TDF strip decant structure.

Photo 15 – TDF Strip decant structure.

Photo 16 – Looking west across the Reclaim Sand Area (RSA).

TAILINGS FACILITY FIELD REVIEW REPORT			
Date of Field Review:	March 27, 2014	Date of Report:	April 8, 2014
AMEC File: NX10011.2014.201		Contents:	3 pages plus photographs
Engineer:	Adrian Chesham, P.Eng.	To:	Ivor McWilliams
With:	N/A	Cc:	Robert Behrendt

Summary

- The TDF and Lynx TDF facilities were inspected by AMEC.
- Action Items:
  1. Garbage dumped on the Lynx TDF west arm should be pushed off the dam and into the designated refuse area.

End of Summary

The TDF and Lynx TDF are inspected by AMEC on a monthly basis as part of the work done to satisfy the Dam Safety Regulation. During the inspection, AMEC notes conditions in and around the facilities, with emphasis on water management, dam stability, and seepage conditions.

TDF:

- Some ponding was noted on the Strip which was likely due to recent snow melt. Some ARD puddles were noted in the east end of the Strip.
- Water had ponded along the upstream side of the ditch against the APA Paste Berm at the east end. Water was also noted to be ponding on the APA tailings surface in the south east corner. (See photos).
- RSA decant appears to be functioning with some ponded water surrounding the structure. The Nyrstar excavator operator indicated that the line depositing fluid from the Backfill Plant to the RSA decant had been damaged and he was repairing the line. He also indicated that Nyrstar is considering shifting the RSA decant slightly to the west so it can handle flows at greater ponded depths. He indicated that the depth of the pond adjacent to the RSA decant is nearly 20 ft deep.

Lynx TDF:

- ARD ponding observed surrounding the refuse dump on west side of Lynx TDF. (See photos).
- Garbage including wood pallet debris noted on the upstream side of the west abutment. Recommend to push this garbage off the dam and into the designated refuse area so encapsulated with paste tailings. (See photos).
- Noted depressional feature on paste tailings at typical location. The feature was infilled with water. (See photos).

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- The reclaim sand on the west and south arms that buttress the Zone J core material appears to have minimal erosion from the wet winter months.
- Observed two pontoon floats stationed at the refuse location that were pumping ponded fluid from Lynx TDF to the Super Pond.
- Additional loads of Zone A material had been placed east of the Lynx TDF east abutment.
- Nyrstar had removed the vibrating wire piezometer cables that had previously been buried by Zone A mine waste. Lynx piezometers cables VW17733, 17734, and 17732 were visually inspected and no obvious signs of damage were observed.
- Minimal ponding was observed on the Lynx TDF dykes, with the exception of water ponding in vehicle ruts.
- No appreciable change in cracking on the south arm (upstream side) since the previous Dam safety review undertaken in February, 2014.
- The paste discharging into the pit from the typical location was a good consistency. The thickener underflow was also discharging adjacent to the paste discharge and was flowing to the refuse dump on the west side of the Lynx TDF.
- Observed flow from natural rock springs on the north wall behind the Lynx TDF. (See photo).
- Piles of reclaim sand had recently been placed in the west end of the J-Zone Construction Stockpile.

Diversion Ditches:

- Walked the Upper Reach and Arnica Reach diversion ditches. The ditches were more or less bare of snow, however, the road adjacent to the ditches had up to 0.3 m of snow cover.
- No flow was observed in the Arnica ditch. Moderate flow was observed in the Upper Reach.
- No change in Alder Reach since last site visit in February 2014.

The recommendations herein are based on AMEC's observation of surface conditions at the time of the field review and are subject to revision upon the availability of new information.

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Photographs

Photo 1 – Lynx TDF looking south. Note the garbage on west abutment and ARD ponding.

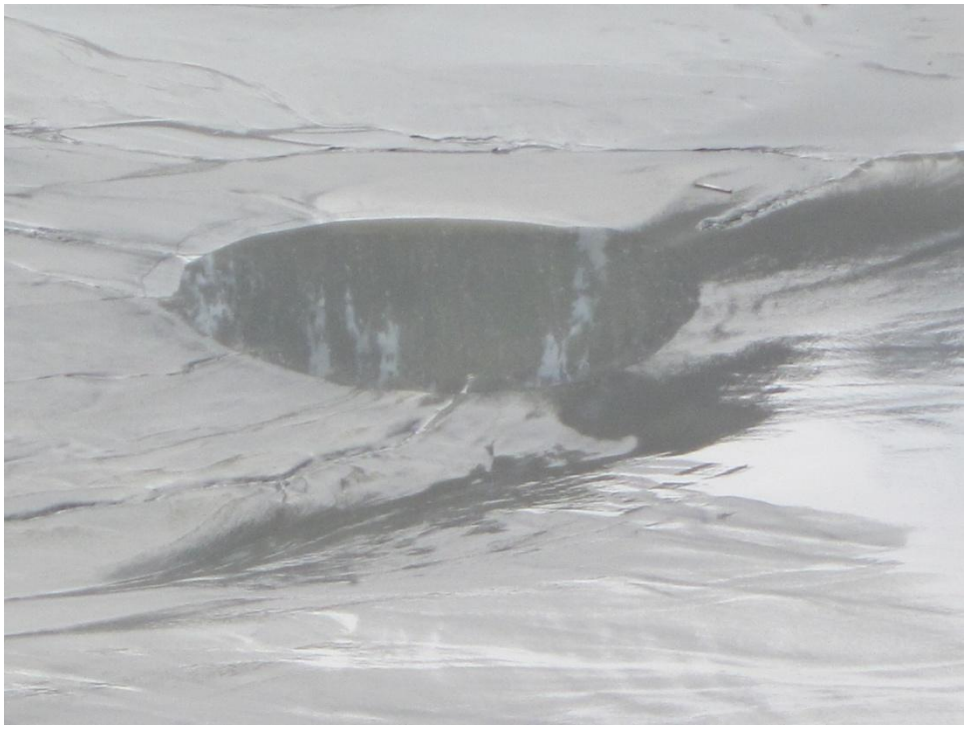

Photo 2 – Depressional feature on Lynx TDF paste surface. Refer to Photo 3 for location.

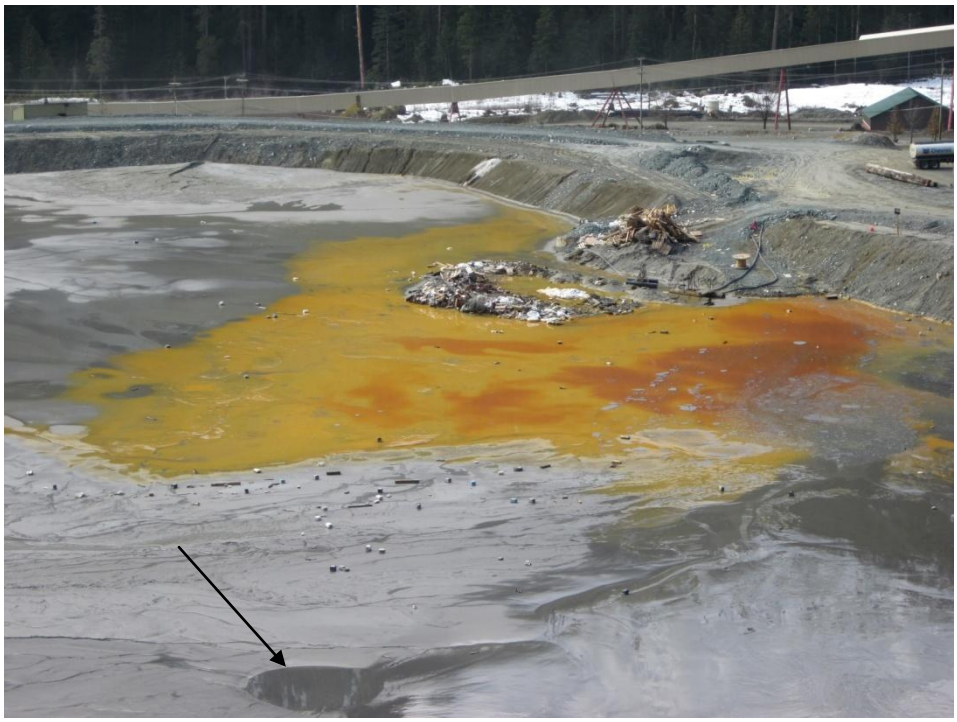

Photo 3 – Lynx TDF looking south. Note the depressional feature and ARD ponding.

Photo 4 – Garbage on Lynx TDF west abutment.

Photo 5 – Garbage on Lynx TDF west abutment.

Photo 6 – Looking across eastern portion of Lynx TDF and J-Zone Construction Stockpile.

Photo 7 – Nyrstar pumping ponded water near Lynx TDF refuse dump to Super Pond.

Photo 8 – Upstream reclaim sand buttress along Lynx TDF south arm looking east.

Photo 9 – Lynx TDF south arm looking west.

Photo 10 – Seepage observed from natural rock springs behind Lynx TDF.

Photos 11 – Paste deposition into the Lynx TDF from typical discharge location.

Photo 12 – Lynx TDF looking west.

Photo 13 – Nyrstar placing and spreading Zone A material east of the Lynx TDF east abutment.

Photo 14 – Nyrstar placing and spreading Zone A material east of the Lynx TDF east abutment.

Photo 15 – J-Zone Construction Stockpile looking south.

Photo 16 – J-Zone Construction Stockpile looking southwest.

Photo 17 – Flow observed along the Phillips Reach.

Photo 18 – Reclaim Sand Area looking southwest.

Photo 19 – Nyrstar excavator exposing damaged line from Backfill plant near RSA decant.

Photo 20 – Reclaim Sand Area looking east.

Photo 21 – Arnica reach looking east. Note tree debris in ditchline.

Photo 22 – Boulder channel armouring observed on Lower Reach below Cascade Falls.

Photo 23 – Flow observed in Lower Reach at intersection with Alder Reach.

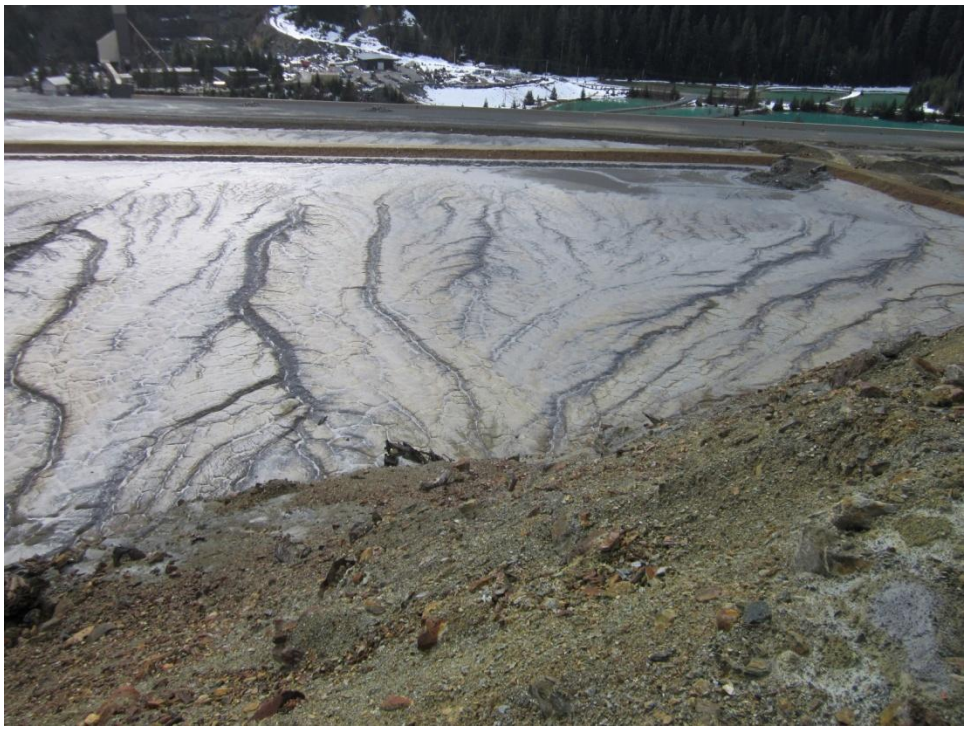

Photo 24 – TDF tailing surface looking south.

Photo 25 – Ponding noted on APA tailings surface in the south-east corner.

Photo 26 – Ponding noted along upstream side of Paste Berm at eastern end of the TDF.

Photo 27 – Upstream side of TDF Paste Berm looking west.

Photo 28 – Looking north at east arm of Paste Berm. Some ponding noted in the Strip.

Photo 29 – Some ponding noted on the TDF Seismic Upgrade Berm below the 6:1 Buttress.

TAILINGS FACILITY FIELD REVIEW REPORT			
Date of Field Review:	April 30, 2014	Date of Report:	May 9, 2014
AMEC File: NX10011.2014.201		Contents:	2 pages plus photographs
Engineer:	Adrian Chesham, P.Eng.	To:	Ivor McWilliams
With:	N/A	Cc:	Robert Behrendt

Summary

- The TDF and Lynx TDF facilities were inspected by AMEC.
- Action Items:
  1. Garbage dumped on the Lynx TDF west arm should be pushed off the dam and into the designated refuse area.

End of Summary

The TDF and Lynx TDF are inspected by AMEC on a monthly basis as part of the work done to satisfy the Dam Safety Regulation. During the inspection, AMEC notes conditions in and around the facilities, with emphasis on water management, dam stability, and seepage conditions.

TDF:

- Some ARD puddles were noted in the east end of the Strip.
- Water had ponded along the upstream side of the ditch against the APA Paste Berm at the east end. Water was also noted to be ponding on the APA tailings surface in the south east corner. (See photos).

Lynx TDF:

- Some PAG staining/puddling was noted on the 2nd lower bench of the Lynx TDF south arm. These locations were estimated using handheld GPS (N5494652 E311977; N5494652 E311962; N5494631 E311895).
- ARD ponding observed surrounding the refuse dump on west side of Lynx TDF. (See photos).
- Garbage including wood pallet debris noted on the upstream side of the west abutment. Recommend to push this garbage off the dam and into the designated refuse area so encapsulated with paste tailings. (See photos).
- Minimal ponding was observed on the Lynx TDF dykes, with the exception of water ponding in vehicle ruts.
- No appreciable change in cracking on the south arm (upstream side) since the previous Dam safety review.
- The paste discharging into the pit from the typical location was a good consistency.

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- Observed flow from natural rock springs on the north wall behind the Lynx TDF. (See photo).
- Ponding noted surrounding reclaim sand fan in southwest corner.

Diversion Ditches:

- Could not access Arnica & Upper Reach with truck.
- Moderate flow noted in Lower Reach (see photo).
- Could not access Alder Reach due to black bear in area.

The recommendations herein are based on AMEC's observation of surface conditions at the time of the field review and are subject to revision upon the availability of new information.

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Photographs

Photo 1 – Lynx TDF looking west. Note ponding in southwest portion.

Photo 2 – Some ponded water on Zone J material on Lynx TDF south arm. Photo looking west.

Photo 3 – Lynx TDF looking northeast across ARD ponding.

Photo 4 – Lynx TDF looking across Lynx TDF. Note localized ARD ponding in west end.

Photo 5 – Garbage on Lynx TDF west abutment.

Photo 6 – Looking east along road beside 80 foot building.

Photo 7 – Looking west along road beside 80 foot building.

Photo 8 – Some ARD puddling noted on a lower bench of the Lynx TDF south arm.

Photo 9 – Some puddling noted on lower bench of Lynx TDF.

Photo 10 – Looking east across the J-Zone Construction Stockpile.

Photos 11 – Looking south across the Lynx TDF.

Photo 12 – Eastward flow in ditch adjacent to the paste line road behind the Lynx TDF.

Photo 13 – Paste discharge location on Lynx TDF paste line road.

Photo 14 – Seepage from natural rock springs behind the Lynx TDF.

Photo 15 – Paste discharged from typical location behind Lynx TDF.

Photo 16 – Ponding noted adjacent to RSA decant structure.

Photo 17 – New steel access structure to RSA decant structure.

Photo 18 – Flow observed into the RSA decant structure.

Photo 19 – Flow noted in Lower Reach immediately downstream of Cascade Reach.

Photo 20 – Looking east across the TDF.

Photo 21 – Looking south across TDF and RSA areas.

Photo 22 – Ponding observed in southeast corner of TDF.

Photo 23 – Ponding noted in far east portion of ditch adjacent to the Paste Berm.

Photo 24 – ARD ponding noted in the Strip.

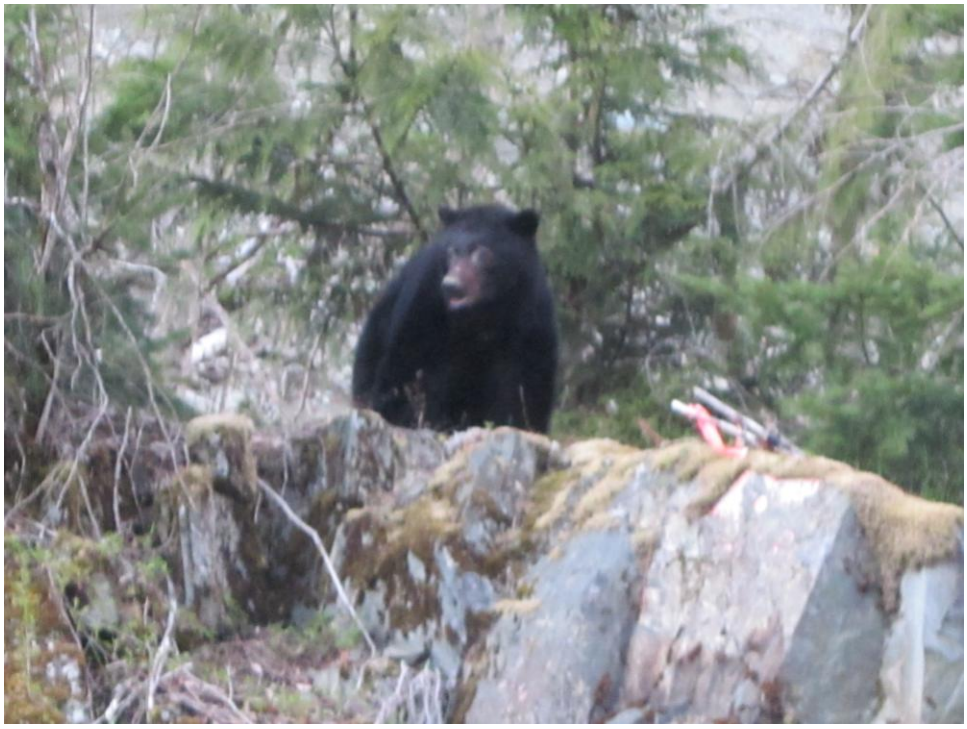

Photo 26 – Bear on rock bluff by Alder Reach

TAILINGS FACILITY FIELD REVIEW REPORT			
Date of Field Review:	May 22, 2014	Date of Report:	May 27, 2014
AMEC File: NX10011.2014.201		Contents:	2 pages plus photographs
Engineer:	Adrian Chesham, P.Eng.	To:	Ivor McWilliams
With:	N/A	Cc:	Robert Behrendt

Summary

- The TDF and Lynx TDF facilities were inspected by AMEC.
- Action Items:
  1. Garbage dumped on the Lynx TDF west arm should be pushed off the dam and into the designated refuse area.

End of Summary

The TDF and Lynx TDF are inspected by AMEC on a monthly basis as part of the work done to satisfy the Dam Safety Regulation. During the inspection, AMEC notes conditions in and around the facilities, with emphasis on water management, dam stability, and seepage conditions.

TDF:

- Some ARD puddles were noted in the Strip near the lime stockpiles.
- Water that was previously ponded along the upstream side of the ditch against the APA Paste Berm at the east end had dried-up.

Lynx TDF:

- Garbage including wood pallet debris noted on the upstream side of the west abutment. Recommend to push this garbage off the dam and into the designated refuse area so encapsulated with paste tailings. (See photos).
- Minimal ponding was observed on the Lynx TDF dykes, with the exception of water ponding in vehicle ruts.
- Observed flow from natural rock springs on the north wall behind the Lynx TDF.
- Ponding noted surrounding reclaim sand fan in southwest corner.
- Nyrstar started construction the 2014 dam raise last Tuesday. The 8 m wide RSA buttress had been completed around the perimeter of the dam to El. 3398.8 m.

Diversion Ditches:

- Could not access Arnica & Upper Reach with truck.
- Moderate flow noted in Lower Reach (see photo).
- No change to the Alder Reach since it was inspected during the March DSR.

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The recommendations herein are based on AMEC's observation of surface conditions at the time of the field review and are subject to revision upon the availability of new information.

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Photographs

Photo 1 – Lynx TDF looking east. Note the ARD ponding in foreground.

Photo 2 – Looking south along Lynx TDF west arm. Note garbage piled on the reclaim sand shell on west arm. Nyrstar compacting Zone J material on west arm.

Photo 3 – Lynx TDF looking southeast across ponding.

Photo 4 – Looking south across the Lynx TDF.

Photo 5 – Looking at west half of the Lynx TDF. Nyrstar compacting Zone J material.

Photo 6 – Looking across the east half of the Lynx TDF. Note the piles of reclaim sand around the perimeter of the south and east arm to buttress future J-core material.

Photo 7 – Looking across the area east of the Lynx TDF east abutment.

Photo 8 – Looking west along the Lynx TDF south arm.

Photo 9 – Flow observed in Lower Reach downside of Cascade Reach.

Photo 10 – Looking southeast across the TDF.

Photos 11 – Bottom portion of the deactivated Alder ditch.

Photo 12 – Looking at the east extent of the Strip.

Photo 13 – The ponding reported during last month's review on the TDF has dried-up.

Photo 14 – Looking east along the upstream side of the paste berm.

Photo 15 – ARD ponding noted near lime stockpiles in the Strip.

Photo 16 – Looking west across the RSA.

Photo 17 – Slight trickle observed flowing to the Strip decant.

Photo 18 – Slight trickle observed into the RSA decant structure.

Photo 19 – Looking east across the TDF Seismic 6:1 Buttress.

TAILINGS FACILITY FIELD REVIEW REPORT			
Date of Field Review:	June 25, 2014	Date of Report:	October 11, 2014
AMEC File: NX10011.2014.201		Contents:	2 pages plus photographs
Engineer:	Dan Hughes-Games, P.Eng.	To:	Ivor McWilliams
With:	Murray Helmer, EIT	Cc:	

Summary

- The TDF and Lynx TDF facilities were inspected by AMEC.
- Action Items:
  1. Garbage dumped on the Lynx TDF west arm should be pushed off the dam and into the designated refuse area.

End of Summary

The TDF and Lynx TDF are inspected by AMEC on a monthly basis as part of the work done to satisfy the Dam Safety Regulation. During the inspection, AMEC notes conditions in and around the facilities, with emphasis on water management, dam stability, and seepage conditions.

TDF:

- Outer face of TDF Seismic Upgrade, plantings from previous years are greening up.
- No standing water observed in the APA/Strip areas. One area of surface puddling (very red water) on Paste Berm toe buttress, adjacent to APA decant area.
- Rutting observed on seismic upgrade near corner by 0+550 to 0+700. Area should be regraded as per previous recommendations.
- Dry area with indications of previous ponding of water observed around 0+400. Area should be regraded as per previous recommendations.
- Surface water runoff from near access road at east margin of Reclaim sand area (RSA) is staining seismic upgrade berm clean fill with PAG runoff. Area around air breather and valves for Pumphouse 4 line in same location has been regraded and drains into the strip, as per previous recommendations.
- Reclaim sands area: perimeter access road within the facility may be higher than the allowable beach. The east end of the facility is dry and is undergoing excavation. The west end pond should be checked relative to maximum elevation. Recommend addition of surveyed reference points for maximum beach elevation to assist operations crews.

Lynx TDF:

- Paste deposition from the usual discharge point, flowing towards centre of south arm. Cyclone sand deposition in southwest corner. Minimal water accumulation along main

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arm and in southeast corner at margin of sand beach. Red ARD water against toe of slope on northwest side of pit. Some desiccation cracking noted in inactive areas.

- Paste depression is absent; however, its position can be noted from fresher paste infill relative to surrounding area.
- Garbage has been moved off of Zone J area, still present on upstream face, and piled on Zone A adjacent to 10L ramp.
- Observed flow from natural rock springs on the north wall behind the Lynx TDF.
- Construction of the Zone J and Zone A areas continue slowly due to wet material in borrow areas.
- Damp but no ponding of water at toe of south arm, near Sta 0+500.
- Slight cracking along paste line access road has not changed since previous inspection.
- Several small (<1 m) sinkholes on paste near east abutment. Consistent with previous features, likely due to water infiltrating down dam face and/or pit wall towards underground workings.

Diversion Ditches:

- Not reviewed.

The recommendations herein are based on AMEC's observation of surface conditions at the time of the field review and are subject to revision upon the availability of new information.

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Photographs

Photo 1 – Lynx TDF looking at west towards the east abutment and south arm.

Photo 2 – Overview of Lynx TDF, looking south.

Photo 3 – Southeast corner of Lynx TDF showing area of desiccation cracking.

Photo 4 – Looking east at the outer face of the TDF Seismic Upgrade berm around 1+000.

Photo 5 – Rutting of the TDF Seismic Upgrade clean cover materials around 0+500.

Photo 6 – View of the southwest corner of the APA, around the decant. Dry conditions.

Photo 7 – Lower Lynx Diversion Ditch flow near Alder Reach.

Photo 8 – Placing piles of Zone A fill on Lynx Dam. Road watered for dust control.

TAILINGS FACILITY FIELD REVIEW REPORT			
Date of Field Review:	September 4, 5, 8	Date of Report:	November 19, 2014
AMEC File: NX10011.2014.201		Contents:	2 pages plus photographs
Engineer:	Dan Hughes-Games, P.Eng.	To:	Ivor McWilliams
With:		Cc:	

Summary

- The TDF and Lynx TDF facilities were inspected by AMEC.
- Action Items:
  1. Chasm on upstream face of Lynx TDF west arm to be repaired.
  2. Future cyclone sand deposition should be at waterline to avoid eroding upstream buttress fill.
  3. Upstream face of Lynx TDF dam is as steep as 1.1H:1V. Must be flattened to design 1.5H:1V.
  4. Upper Lynx Diversion System is starting to need brushing. Schedule brushing for 2015.
  5. Preferentially remove Zone J from next year's construction footprint prior to spring.
  6. Plan construction cut and timing relative to Lynx TDF west abutment prep and twin tails line.
  7. Regrade the top of the seismic upgrade berm to shed water uniformly.

End of Summary

The TDF and Lynx TDF are inspected by AMEC on a monthly basis as part of the work done to satisfy the Dam Safety Regulation. During the inspection, AMEC notes conditions in and around the facilities, with emphasis on water management, dam stability, and seepage conditions.

TDF:

- No standing water observed in the APA/Strip areas.
- Drove crests of APA/OEB/seismic upgrade. No additional observations or issues noted since previous inspection.
- Regrading of rutted/ponded areas remains a recommendation.
- Reclaim Sand Area depositing "slimy" looking sand from the end of Waste Dump #6.
- RSA sand elevation appears to be below operating maximum.
- Water clarity at the RSA decant was good.

Lynx TDF:

- Thickener underflow deposition at midpoint of paste line road, flowing towards centre of south arm. Cyclone sand deposition at midpoint of west arm. Skim of water accumulated

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on top of underflow, otherwise no significant water accumulations. Some desiccation cracking noted in inactive areas.

- Cyclone sand deposition has eroded a small chasm in the upstream sand buttress on the west arm. Chasm should be filled with reclaim sand or Zone J. Future cyclone sand deposition should be discharged at waterline.
- Paste depression is present in usual location and appearance.
- Garbage has been removed from dam abutment area, but is still present on upstream face about 20 m from abutment.
- Observed flow from natural rock springs on the north wall behind the Lynx TDF. Relatively low flow.
- Dam construction nearly finished, except for springs drain area. Springs drain excavation started.
- Upstream face of dam is as steep as 1.1H:1V. Must be flattened to design 1.5H:1V.
- Standing water on flat area between toe and Zone J stockpile. Water seems to be coming from the higher areas of the stockpile.
- No seepage from the dam identified.
- Zone J material should be proactively removed from toe of dam/next year's construction area over the winter.
- Future abutment zone is highly segregated mine waste, will need to be removed, likely from the top down. The twin tails line will likely need to be relocated, at least temporarily, or the work planned during a shut-down.

Diversion Ditches:

- Arnica Ditch – dry. No significant issues noted. Some minor brush developing.
- Upper Lynx Diversion Ditch – mostly dry. No flow at discharge to Cascade Creek. Ditch will need brushing next year.
- Lower Lynx Diversion Ditch – Some damaged shotcrete areas noted. Consistent with normal conditions. Very minimal flow (just a trickle).
-

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Photographs

Photo 1 – Lynx TDF looking at west towards the east abutment and south arm.

Photo 2 – Overview of Lynx TDF, looking south.

Photo 3 – Close-up view of paste surface in Lynx TDF.

Photo 4 – Southeast corner of TDF Strip, dry conditions.

Photo 5 – Overview of APA, showing dry conditions and existing erosion gullies.

Photo 6 – Sedimentation pond in the RSA. Good water clarity. Some floating sediment/suds.

Photo 7 – Lower Lynx Diversion Ditch, very low flow conditions.

Photo 8 – Perforation in shotcrete liner, Lower Lynx Diversion Ditch below Alder Reach.