Appendix B1

Report: 2015 Annual Geotechnical Inspection

Letter: Implementation Plan for 2015 Annual Geotechnical Inspection Recommendations

December 15, 2015

REPORT ON

2015 Annual Geotechnical Inspection Meadowbank Gold Mine, Nunavut

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REPORT

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Golder Associés

Executive Summary

Agnico-Eagle Mines Limited (AEM) mandated Golder Associés Ltée (Golder) to conduct the 2015 geotechnical inspection of the Meadowbank Gold Mine Project to comply with the requirements of AEM's Water Licence Permit. The inspection was conducted from August 27 to September 3, 2015, and covered the geotechnical aspects and the review of the available instrumentation data for the dewatering dikes, the tailings storage facility (TSF) structures, the structures along the All-Weather Private Road (AWPR) located between the mine site and the town of Baker Lake, the bulk fuel storage facility at the mine site and at Baker Lake, as well as other site facilities such as site roads, the landfill, the landfarm, the Stormwater Management Pond, the diffusers, the erosion and sediment protection structure and the airstrip.

At the time of the inspection, and based on the instrumentation data, the condition of the dewatering dikes appears stable. It is recommended to flag the piezometers that recorded data below 0°C in the past at East Dike and Bay-Goose Dike and be very careful when interpreting their data as they might be broken. Once a piezometer has frozen it cannot be relied upon even if it unfroze.

It is recommended that the ultramafic waste rock dump not move closer to the downstream toe of South Camp Dike to allow for good visual observation of the downstream toe area. The tension cracks observed on the crest of Vault Dike in 2013 have mostly faded. No geotechnical issue were observed with these structures.

The safety berm on several areas of Bay-Goose Dike should be replaced. The settlement and tension cracks observed in 2013 and 2014 on the upstream side within the thermal cap of Bay-Goose Dike were still visible but did not show signs of progression. The water pond at the downstream toe and the seepage downstream of Bay-Goose Dike and into Bay-Goose Pit should continue to be monitored. North Channel, Channel 1 and Channel 3 should be carefully monitored as the instrumentation or field observations seem to indicate that seepage could be occurring at these locations but is directly reported to Bay-Goose Pit instead of the downstream toe of the dike. The seepage being reported to Bay-Goose Pit should be included in the statistics of Bay-Goose Dike seepage.

At the time of the inspection and based on the instrumentation data the TSF structures were in good condition. The tailings beach was adequate against the majority of the structure. Water was observed directly ponding against portions of Stormwater Dike and Central Dike. AEM is closely monitoring the formation of a tailings beach against the peripheral structure of the TSF. AEM is not planning on protecting Stormwater Dike as part of the closure strategy for the North Cell. Golder recommends continuing the deposition of tailings along all structures, as per the design requirement, including Stormwater Dike. A water balloon was observed in the liner at Stormwater Dike; it is recommended to puncture the liner to free the water and to repair it afterward. Water was observed on the downstream side of Saddle Dam 2 ponding within the rockfill embankment. It is recommended to observe carefully this area and be on the lookout for additional water ponding within the rockfill. The environment department should continue monitoring the water quality of the water ponding downstream of Saddle Dam 1 and within the Saddle Dam 2 rockfill and share this information with the engineering department to determine if seepage from the North Cell is happening at this location. Outflow of clear water was observed downstream of Stormwater Dike (South Cell). It is recommended to assess the water quality to determine its origin.

Clear water was observed ponding at the downstream toe of Central Dike. AEM is currently pumping some of that water back to the South Cell to control the water level in the downstream toe area. The instrumentation data and other observation indicate the presence of seepage from the South Cell. AEM is working closely with the MDRB and the dike designer (Golder) to determine the seepage pathway and to establish measures to keep the situation under control. Golder recommends: 1) maintaining a tailings beach against Central Dike, 2) to control the hydraulic gradient by proper management of South Cell water pond and dike downstream toe pond, 3) to closely monitor the water quality and 4) to inspect the structure.

No geotechnical issues were identified with the bridges, culverts and quarries along the AWPR. It is recommended to pay particular attention to culverts R-00A, 5+700, PC-14 and PC-16. If insufficient capacity to handle the flows is observed at freshet, or water is circulating under the road at these locations, then it is recommended to clear the obstructions or repair the culverts. It is recommended to add protection to the fine granular material placed around culverts PC-17 and PC-17A. It is also recommended to monitor the progression of the erosion of culverts at freshet at R14, R18-B, R20, R23, R24. If the erosion condition continues to deteriorate at these culverts it is recommended to repair them.

Presence of unstable blocks and loose rocks along steep walls were also observed in most of the quarries but especially in Quarries 3, 7, 9, 16, 19 and 23. These unstable blocks and loose rocks should be cleaned if operation of these quarries resumes. It is recommended that workers be cautious in these quarries and be made aware of the potential hazard.

No geotechnical issues were observed with the Meadowbank Vault fuel tank. Water was observed ponding in several areas at the Baker Lake fuel tank farm and at the Meadowbank Main Camp fuel tank. Ongoing removal of fluids that accumulated within the secondary containment facilities should be managed to minimise the amount of water in contact with the tanks base. At the Baker Lake fuel tank farm, the geomembrane was exposed between Tanks 1 and 2 on the internal slope. Exposed damaged geomembrane was also observed between the south side of tank 2 and 3. Holes in the geomembrane were observed within the Jet A Fuel tank containment facility. It is recommended to repair the geomembrane and to re-cover the area with fill material. Per AEM, the deficiencies observed at the Baker Lake Tank Farm were repaired in September after the inspection.

At the Meadowbank Main Camp fuel tank two small channels of erosion were observed in the tank platform. It is recommended to repair these channels to control the erosion of the foundation pad.

It is recommended to monitor at freshet the performance of the five culverts installed on Vault Road as three of them are partially collapsed in the middle. One of them had an entirely obstructed inlet and one of them had a partially obstructed outlet.

It is important that the diversion ditch and its erosion protection structure and sediment barriers be inspected during the next freshet season. No geotechnical concerns were identified with the diffusers, landfill, landfarm, Stormwater Management Pond, and airstrip.

Study Limitations

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1.0 INTRODUCTION

Agnico-Eagle Mines Limited's (AEM) Meadowbank Division mandated Golder Associés Ltée (Golder) to conduct the 2015 annual geotechnical inspection, pursuant to the requirement of Type A Water Licence Permit No. 2AM-MEA0815 for the Meadowbank Gold Project, Nunavut.

Under Part I, Item 12 (pages 23 and 24), AEM is required to undertake an annual geotechnical inspection of its facilities between the months of July and September. The following structures were covered by the inspection:

- Dewatering dikes (East Dike, South Camp Dike, Bay-Goose Dike and Vault Dike);
- Tailings Storage Facility (Stormwater Dike, Saddle Dam 1, Saddle Dam 2 and Central Dike);
- Reclaim pond and attenuation pond;
- Geotechnical instrumentation;
- All-Weather Private Access Road (AWPR) and site roads (in particular culverts and bridges at water crossings);
- Quarries on the site and along the AWPR;
- Landfill and contaminated soil storage and bioremedial landfarm facility;
- Bulk fuel storage facilities at the mine site and in Baker Lake;
- Shoreline protection and diffusers;
- Sediment and erosion control structures;
- Other structures: sumps, airstrip, Stormwater pond, diversion ditch.

The 2015 geotechnical inspection was conducted from August 27 to September 3, 2015, by Yves Boulianne, a professional geotechnical engineer from Golder. The inspection was scheduled at the time of year when the seasonal depth of thaw (active layer) is expected at, or near its maximum. Surface water flow is generally low to moderate at this time of year. Peak water flows typically occur during the spring thaw (mid-June through mid-July).

During the inspection the weather was overcast with daily temperatures varied between 5°C and 10°C. Water levels were normal and the flow observed at water crossings was moderate.

This report describes the geotechnical aspects of the areas inspected and presents general observations and recommendations.

Figure 1 shows the main mine site area. At the time of the inspection, placement of rockfill on Central Dike was being done up to El. 137 m and Saddle Dam 3 and 4 had been built to El. 140 m. Tailings deposition in the South Cell had been interrupted for the raise of Central Dike but was scheduled to resume shortly. Construction of subsequent portions of the Tailings Storage Facility will occur on an ongoing basis as additional capacity to store tailings is required.

It is noted that an external review board, the Meadowbank Dike Review Board (MDRB), periodically meets to review dike designs, construction activities, as-built information and other geotechnical aspects of the project.

The MDRB members were present on site in July before the annual geotechnical of 2015 inspection was performed.

1.1 Scope Limitations

The scope of the inspection is limited to the geotechnical aspects of each of the facilities listed above. The inspection did not include other assessments such as structural, mechanical or environmental.

For additional information related to the limitations of this scope, reference should be made to the Study Limitations provided at the beginning of this report.

2.0 DEWATERING DIKES

The dewatering dikes at Meadowbank include: East Dike, South Camp Dike, Bay-Goose Dike and Vault Dike. A plan view of these dikes, indicating the observations made during the inspection, is shown on Figures 2 to 4. East Dike has been in operation since the dewatering of the northwestern arm of Second Portage Lake was completed in 2009. Dewatering of the Bay-Goose Basin was completed in July 2012; consequently Bay-Goose Dike and South Camp Dikes were operational. Construction of Vault Dike was completed in March 2013 and phase 2 of the dewatering of Vault Lake was completed in 2014.

The most current versions of the Operation, Maintenance and Surveillance (OMS) Manual (AEM, 2015a), including the Emergency Preparedness Plan (EPP), and of the overall Emergency Response Plan (ERP) for the mine (AEM, 2014) are dated January 2015 and November 2014. It is good practice to review these documents each year to keep the information up to date, particularly the 24-hour contact name and phone number.

A detailed visual inspection of the dewatering dikes is performed by AEM at least once a month. The monthly inspection reports were available for review. Most of the instruments on East Dike and Bay-Goose Dike are connected to a system that automatically collects and transmits data every 3 hours. Data for all instruments can be visualized on the software (VDV) and are checked daily by the mine engineering team. A review of the instrumentation data for the dewatering dikes is presented in Section 4.0 of this report.

Figure A1 shows a plan view of East Dike which indicates the location of the photos taken and observations noted during the inspection. Figure A2-A3 shows a plan view of South Camp Dike and Bay-Goose Dike which indicates the location of the photos taken and observations noted during the inspection. Figure A4 shows a plan view of Vault Dike which indicates the location of the photos taken and observations noted during the inspection.

2.1 East Dike

East Dike is located on the east side of Portage Pit, and isolates the northwestern arm of Second Portage Lake. Dewatering of the northwestern arm of Second Portage Lake allowed for the development of Portage Pit and the construction of the Tailings Storage Facility. At the time of the inspection, East Dike served as an access road to the northern portion of Bay-Goose Dike and had not been used as a haul road since 2011.

East Dike was constructed in the summer of 2008 and grouting of the foundation and bedrock occurred in 2008 and during the first quarter of 2009. East Dike is approximately 800 m in length, and was constructed within Second Portage Lake prior to dewatering. It consists of a wide rockfill shell, with downstream filters and a soil-bentonite cut-off wall that extends to bedrock up to 8 m below lake level.

Instrumentation has been installed within East Dike and includes piezometers, thermistors, inclinometers and flow meters. Survey monuments were removed from East Dike as they have never been used. The location of the instrumentation is indicated on Figure 2. The inclinometer at Sta. 60+195 was destroyed in the past and has not been replaced. Replacement of this instrument is not considered necessary; however, monitoring within East Dike should continue and, if anomalous conditions are observed then replacement of this inclinometer should be re-evaluated. Refer to Section 4.1 for the analysis of East Dike instrumentation data.

At the time of the 2015 inspection, no signs of cracking, sloughing or settlement were observed on the structure (including the vicinity of the 2009 sinkhole near Sta. 60+472). Three seepage zones were identified in the past near the downstream toe of East Dike (at Sta.60+247, 60+498, and 60+575). The zones at about Sta. 60+247 and Sta. 60+498 each have a seepage collection sump with a pump connected to a year-round pumping system.

At the time of the inspection, the seepage was being captured within the sumps at about Sta. 60+247 and Sta. 60+498. A very slow trickle of clear water was observed at the downstream toe at Sta. 60+575. According to AEM, the zone at about Sta. 60+575 was practically dry all year. No sign of new seepage on the ground surface or downstream in Portage Pit was observed.

During the year, the water quality in the sump was monitored by the environment department every week. It was reported that the water was clear in the sumps but exceeded the TSS criterion in some occasions. When the TSS criterion was exceeded, the water was pumped to Portage Pit instead of being sent to Second Portage Lake.

Flow meters are installed in each sump to measure the flow and are working properly. The average flow measured during the year by the flow meter was 570 m^3/day with a peak of around 705 m^3/day in the summer of 2015. The measured flow is decreasing when compared to values from the past years.

During the geotechnical inspection, and based on the instrumentation data, the condition of East Dike generally appears stable, as:

- No visual signs of slope instability or erosion were observed on the upstream and downstream rockfill slopes;
- No visual signs of cracking or settlement were observed on the dike and along the cut-off wall alignment;
- Seepage rates, while higher than anticipated in the design, are stable and are still under control with the pumping system in place. The TSS criterion is generally low enough for the water to be released in Second Portage Lake.
- Freeboard is adequate; and,
- Instrumentation data: piezometric, thermal, seepage, and inclinometer data do not show deteriorating conditions (refer to Section 4.1).

Appendix A1 contains a photographic log and the record of inspection form for East Dike.

2.2 South Camp Dike

South Camp Dike is located south of the plant site area and is used to connect the mainland to South Camp Island. South Camp Dike, in conjunction with Bay-Goose Dike, isolates a portion of Third Portage Lake (Bay-

Goose Basin) that allowed the development of Goose Island Pit and the southern portion of Portage Pit. It covers a narrow channel, approximately 60 m wide, with shallow water depths ranging from 0.5 m to 1.0 m.

South Camp Dike was constructed between April and June of 2009. Additional thermal capping material and rockfill for the haul road was added to the dike in the winter of 2009-2010. South Camp Dike has a broad rockfill shell with a bituminous geomembrane liner installed on the upstream side. Compacted granular material mixed with bentonite was placed above the toe of the liner. The liner was installed on native frozen (permafrost) till material in a trench approximately 3 m to 5 m below the lakebed surface. At the time of the inspection, South Camp Dike was used as an access road to connect the southern part of Bay-Goose Dike, and the contractor's offices and equipment area with the mine facilities.

An ultramafic waste rock dump about 10 m high is located 20 m away from the downstream toe of the dike. The distance between South Camp dike and the waste rock dump was sufficient to allow a complete visual inspection of the downstream area of the dike. It is recommended to continue keeping the downstream toe of the dike clear to facilitate inspection. The downstream toe and slope area was in good condition.

No geotechnical issue or seepage was observed during the inspection.

Two thermistor strings are installed on the upstream side of the dike. The thermistor data indicate that the foundation of the dike remained frozen throughout the past few summers (2009 to 2015). Refer to Section 4.2 for a more detailed analysis of the instrumentation data on South Camp Dike.

Appendix A2 contains a photographic log and record of inspection form for South Camp Dike.

2.3 Bay-Goose Dike

Bay-Goose Dike is located within Third Portage Lake on the southern side of Portage Pit and encompasses the Goose Island Pit. Bay-Goose Dike, in conjunction with South Camp Dike, isolates a portion of Third Portage Lake (Bay-Goose Basin).

Construction of Bay-Goose Dike started in the summer of 2009. The earthworks component for the northern portion of the dike was mostly completed by early October 2009 and by October 2010 for the southern portion. Grouting of the foundation and bedrock occurred between March 2010 and July 2011. Jet grouting occurred in selected portions of the dike between October 2010 and May 2011. The first phase of dewatering Bay-Goose Basin was completed by mid-November 2011 and the second phase was completed in August 2012.

Bay-Goose Dike is approximately 2,200 m long and consists of a wide rockfill shell, with downstream filters and a cut-off wall. For the majority of the dike, the cut-off wall extends to bedrock and consists of soil-bentonite (SB) and/or cement-soil bentonite (CSB). For portions of the dike where the cut-off wall was not constructed to bedrock, jet grouting of the soil between the base of the cut-off wall and the bedrock was performed, thereby extending the low permeability element of the dike to the bedrock surface. The water depth beneath the dike is up to 9 m, with a maximum depth to bedrock below lake elevation upwards of 20 m.

There is currently no downstream seepage collection and monitoring system as the amount of seepage through the dike is not significant.

Instruments to monitor and assess the dike's performance are installed on Bay-Goose Dike. The instrumentation includes piezometers, flow meters (water collection pipe and a plastic bucket), thermistor strings and inclinometers. Every blast in the vicinity of the dike is monitored for blast vibration. Survey monuments were removed from Bay-Goose as they have never been used. Figure 3 shows the location of the instrumentation on Bay-Goose Dike.

Bay-Goose Dike is not intended to function as a haul road and access to the dike is restricted to geotechnical personnel (light vehicles and road maintenance vehicles). Barricades are placed at both ends of the dike to limit entry and were in place during the inspection. At the time of the inspection, access to the cut-off wall alignment and all instrumentation was available. It was observed that some portions of the safety berms, mostly on the upstream side but also on downstream side of the dike, were non-existent. In the past, some berms on the upstream side fell in Third Portage Lake. It is recommended to replace these berms.

The tension cracks observed in 2013 and 2014 on the upstream side within the thermal cap were still visible during the 2015 inspection but did not show signs of progression. Settlement within the thermal cap and on the upstream side of the crest, ranging from 0.1 m to >1 m, was observed but did not show any additional sign of movement since last year. These areas should continue to be closely monitored to make sure there are no aggravating conditions developing.

Seepage channels and water accumulation were observed at the toe of the dike during the inspection (North Channel, Central Channel and Central Shallows). Flow from these channels is monitored by various stations and no turbidity was observed in the water at the downstream toe. The total average flow at the toe of the dike for 2015 was measured from the four monitoring station to be 29.8 m^3/day compared to 70 m^3/day in 2014, 132.2 m^3/day in 2013 and 97.2 m^3/day in 2012. This value of 29.8 m^3/day does not take into account the inflow of water from the pond at Central Channel as this value was not measured in 2015 (61 m^3/day in 2013 and 2014). The overall seepage is less than anticipated and is not a concern for now. It is recommended to continue monitoring the evolution of the seepage at the toe of the dike.

Water was observed flowing in the North Channel during the inspection at Sta. 30+420 (flow of about 17.5 m^3/day). According to AEM, water was observed ponding at the toe during the year. The flow is being monitored by station 8 (30+420) and 9 (30+380) and has an average flow of 17 m^3/day compared to 58 m^3/day in 2013 and 80.8 m^3/day in 2012. It is recommended to regularly inspect this area, monitor the flow of water and to be on the lookout for sign of seepage from the toe of the dike. Due to the topography, it is possible that water is ponding in this area from a nearby seepage channel (i.e., near the northern abutment).

Flow was observed into the Central Shallow seepage channel during the inspection at Sta. 30+625 and 30+655 (approximately 5.1 m^3/day). The flow is being monitored by station 7 and has an average of 12 m^3/day in 2015 compared to 13.3 m^3/day in 2013 and 18.9 m^3/day in 2012.

A water pond formed by the Central Channel seepage was observed downstream at Sta. 31+125. The mine pumps this pond as needed. The inflow was not assessed in this area in 2015 but was low according to AEM, in 2013 and 2014 the inflow from this area was 61 m^3/day. It is recommended to keep measuring the water inflow from the water pond formed at Central Channel.

A pond of water with no flow was observed at Channel 3 during the inspection (at about 31+500). A drainage channel had been dug into the ring road to allow water to flow freely in the pit. This area is monitored by station 6. According to AEM a small amount of water has been reported to the pit from this location during the year.

A water pond was observed downstream at Sta. 31+750, between Channel 2 and Channel 1. This water pond is not considered seepage by the mine as it has never been pumped and its level never changes except at freshet and after rain events. It is recommended to visually inspect the pond and, if the level changes, to monitor its water level.

Channels 1 and 2 were not active at the time of the inspection. According to AEM, water is only observed at the toe of these areas during freshet season. In previous year the instrumentation near Sta. 32+000 (Channel 1) indicated a potential seepage zone in that area and an increase in piezometric pressure during the winter. These trends were not observed this year in the instrumentation data. It could be possible that seepage is occurring at this location but is reporting directly to the pit. The instrumentation at this location needs to be closely monitored for changing trend.

During the inspection, it was observed that an inflow of water was still reported to Goose Pit above the active Goose Pit ramp. One source of inflow is near Channel 2 and the other is near Channel 1. These inflows are not being monitored anymore.

At the time of the site inspection and based on the instrumentation data, the performance of Bay-Goose Dike appears satisfactory, as:

- No visual signs of slope instability or erosion were observed on the upstream and downstream rockfill slopes;
- The settlement and sloughing observed in the thermal cap and in the upstream side of the crest are stable and have not aggravated;
- Freeboard is adequate; and,
- Instrumentation data: piezometric, thermal, seepage, and inclinometer data do not show deteriorating conditions (refer to Section 4.3).

Appendix A3 contains a photographic log and the record of inspection.

2.4 Vault Dike

Vault Dike is located across a shallow creek which connects Wally Lake and Vault Lake, at the Vault Pit area. Vault dike was designed and constructed as a zoned rockfill dam with filter zones and an impervious upstream liner consisting of a bituminous membrane. The dike has an upstream key trench made of aggregate mixed with bentonite. Figure 4 shows a plan view of Vault Dike. The construction of Vault Dike was done in the winter of 2013 to keep its foundation frozen.

At the time of the inspection, Vault Dike was in good condition. The settlement and cracks observed in 2013 and 2014 were not noticeable anymore. No new issues were discovered.

Five thermistor strings are installed on Vault Dike and are operational. One thermistor (TH-3) had been damaged by sloughing in previous year and has seven broken beads. Data are collected every 3 days and show that the foundation of the dike is frozen. Refer to Section 4.4 for a more detailed analysis of the instrumentation data on Vault Dike.

Appendix A4 contains a photographic log and record of inspection form for Vault Dike.

3.0 TAILINGS STORAGE FACILITY

The Tailings Storage Facility (TSF) consists of the North Cell and the South Cell. It is being progressively constructed within the dewatered portion of the northwestern arm of Second Portage Lake as additional capacity to store tailings is required. A plan view of the TSF is shown on Figure 5.

The TSF was commissioned in conjunction with the mill start-up in February 2010, with tailings being deposited within the North Cell of the facility. The North Cell was initially formed through the Stage 1 construction of Stormwater Dike and Saddle Dam 1 in 2009. The construction of Central Dike was initiated in 2012, thereby closing the eastern portion of the South Cell. The beginning of the tailings deposition in the South Cell started at the end of 2014. The rockfill shell of Central Dike was raised up to El. 137 m in 2015. The construction of Saddle Dam 3 to EL. 140 m, Saddle Dam 4 to elevation 140 m and Saddle Dam 5 to elevation 137 m started in 2015 to increase the capacity of the South Cell.

A retention basin and a series of diversion ditches surround the catchment basin of the North Cell. These structures were used in the past to convey surface water runoff away from the TSF. This is still the case for the Eastern Diversion Ditch, but since 2014 the Western Diversion Ditch is collected within a retention basin prior to being pumped within the North Cell due to the presence of low cyanide content. Refer to Section 8.2 for the inspection of these diversion structures.

According to the TSF’s design, a tailings beach must be present at all times against all peripheral structures. At the time of the inspection, the tailings pond elevation in the North Cell was at approximately 147.65 m and the beach elevation varied between 147.8 m and 149.5 m. The tailings pond elevation in the South Cell was at 121.6 m and the tailing elevation varied between 119.9 and 120.6 m. Most of the structure had an adequate tailings beach against them but some water was observed directly ponding against Central Dike and a portion of Stormwater Dike.

Construction drawings for Stormwater Dike, Saddle Dam 1 and Saddle Dam 2 provide details for seepage collection trenches and sumps along the downstream toe of the structures in order to collect, monitor, and pump seepage back to the TSF. A permanent system is installed at Saddle Dam 1 and is currently collecting freshet drainage. A similar collection system should be constructed if seepage or water ponding against Saddle Dam 2 is observed.

The most current versions of the Operation, Maintenance and Surveillance (OMS) Manual (AEM, 2015b), including the Emergency Preparedness Plan (EPP), and of the overall Emergency Response Plan (ERP) for the mine (AEM, 2014) are dated January 2015 and November 2014. It is good practice to review these documents each year to keep the information up to date, particularly the 24-hour contact name and phone number.

An inspection of the TSF is performed once a month by AEM. The instruments are manually read twice a week during the summer and once a week during the winter. A summary of the instrumentation data obtained from the TSF is presented in Sections 4.5 and 4.6 and in Appendix C3.

Figure B1 shows a plan view that indicates the location of the pictures and observations related to the North Cell and South Cell. Figure B2-B3 contains a plan view that shows the location of the photos and observations noted on Saddle Dam 1 and Saddle Dam 2. Figure B4 contains a plan view that shows the location of the photos and observations noted on Stormwater Dike. Figure B5 contains a plan view that shows the location of the photos and observations noted on Central Dike.

3.1 General Observations of the Tailings Facility

The reclaim pond and the tailings deposition within the TSF's North Cell was transferred within the South Cell at the end of 2014. Tailings deposition occurred again during the summer of 2015 within the North Cell and has been resumed in the South Cell in October 2015.

During the inspection, adequate tailings beach were observed against Saddle Dam 1, Saddle Dam 2, RF1, RF2 and part of Stormwater Dike. At the time of the inspection, the pond of water was located towards the centre of the facility and there was a tailings beach against the peripheral structure to protect them from ice in the winter and to prevent the migration of water out of the TSF (see Figures 5 and B1 to B3 for an approximate location of the tailings beach). AEM is closely monitoring the formation of a tailings beach against the peripheral structures and is monitoring the compliance of the tailings deposition with the deposition plan.

During the inspection it was observed that water was ponding directly against Stormwater Dike between Sta. 10+100 and 10+375. Stormwater Dike is not a peripheral dike of the TSF but an internal structure which separates the North Cell from the South Cell. It is still recommended to protect Stormwater Dike from direct contact with water. If water is allowed to continue ponding directly against Stormwater Dike from the North Cell, the bituminous liner of the dike may be damaged by ice during winter, which might result in seepage of water into the South Cell. As the South Cell is operational the consequence of such seepage is minimized but yet considered as potential threat due to consequences of high volume rapid inflow within the South Cell and against Central Dike.

At the time of the inspection, the pond elevation in the South Cell was at 121.6 m and the tailings elevations varied between 119.9 and 120.6 m. Tailings deposition from Central Dike stopped during the construction of Central Dike in the summer, but deposition resumed after construction to promote a tailings beach against the structure.

In the summer of 2014 the mine constructed an engineered tailings barrier along RF1 and RF2 to mitigate piping of tailings through RF1 and RF2. Construction consisted in profiling the upstream slope and placing a 0.5-m-thick layer of compacted crusher reject, and then installing a geotextile membrane, covered by 0.5 m of fine ultramafic rockfill and material rejected from till sieving. Both granular layers were compacted with an excavator bucket. No geotechnical issues were identified with this structure during the inspection. As no more seepage is significantly observed on the northern side of the Rock Storage Facility, the performance of the mitigation measures described above is considered adequate.

Appendix B1 contains a general photographic log of the TSF's North Cell and South Cell.

3.2 Saddle Dam 1

Saddle Dam 1 (SD1) is located in the northwestern corner of the TSF and forms one of the perimeter structures intended to retain tailings and supernatant fluid during the operation of the North Cell and the closure of the mine. Saddle Dam 1 crosses a depression between the northwestern arm of Second Portage Lake and Third Portage Lake.

SD1 is a rockfill embankment with an 3H:1V upstream slope and a 1.3H:1V downstream slope. This structure has inverted base filters, upstream graded filters, and a linear low density polyethylene (LLDPE) geomembrane liner on the upstream dike face. The geomembrane liner is placed between an upper and lower non-woven geotextile layer for protection, and is covered by approximately 0.3 m of granular material up to El. 140 m. No granular layer was placed above El. 140 m and the liner remains exposed. According to the design, a tailings beach has to be maintained on the face of the structure to reduce the potential for ice damage to the liner. The abutments are founded on bedrock, while the central portion of the dike is founded on ice-poor soil. Till and/or crushed aggregate mixed with dry bentonite powder have been placed above the toe of the liner.

Saddle Dam 1 was progressively constructed. Stage 1 was constructed in the fall of 2009 with a height of 10 m (crest elevation of 141 m) and a length of 250 m. Stage 2 was constructed in 2010 to an overall height of 20 m (crest elevation of 150 m) and length of about 400 m.

Four thermistor strings are installed on Saddle Dam 1 and are manually read. Three thermistors (T1, T2, T3) are installed to monitor the thermal condition within the structure and its foundation, and were installed in 2009 and early 2010 as part of Stage 1. The fourth thermistor string (T4) was installed in 2009 and extended in 2010 along the upstream face of the dam to monitor the thermal condition of the tailings. The location of the instrumentation is shown in Appendix C3. Refer to Section 4.6.1 for the analysis of the instrumentation data.

At the time of the inspection, an adequate tailings beach was observed along the upstream face of Saddle Dam1.

A permanent dewatering sump is installed downstream within a sea-can container. During the inspection, no water was observed ponding at the downstream toe of Saddle Dam 1. The environment department is monitoring the water quality during the year and this information is shared with the engineering department. As the water ponding at the toe of Saddle Dam1 has a low cyanide concentration, the water is pumped back within the TSF. It is recommended that the environment department continue monitoring the water quality and sharing this information with the engineering team to assess if there is seepage through Saddle Dam 1 from the TSF's North Cell. Golder considers that the sump system redirecting the water into the North Cell is appropriate.

During the inspection it was observed that Saddle Dam 1 is performing well and does not show any sign of instability.

Appendix B2 contains a photographic log and the record of inspection form for Saddle Dam 1.

3.3 Saddle Dam 2

Saddle Dam 2 (SD2) is located along the western side of the TSF and connects to the western corner of Stormwater Dike. Along with Saddle Dam 1, it forms one of the perimeter structures of the TSF's North Cell which retain tailings and supernatant fluid during the operation and closure of the mine. Saddle Dam 2 crosses a depression between the northwestern arm of Second Portage Lake and Third Portage Lake. Its construction is similar to Saddle Dam 1. The upstream foundation of the dike and abutments are primarily founded on bedrock; however, some portions of the structure, underneath the inverted filter, are founded on ice-poor soil. A thin layer of low permeability till was placed and compacted along the liner connection with bedrock for placing the upstream liner tie-in. In areas where open factures within the bedrock were noted, a thin layer of crushed aggregate (0-22 mm) mixed with dry bentonite powder was placed under the thin layer of low permeability till. A blanket of till was also placed above the installed liner tie-in at the toe of the structure. Saddle Dam 2 has a maximum height of about 10 m and a crest length of 460 m.

Four thermistor strings (T1, T2, T3, and T4) have been installed at Saddle Dam 2 to monitor the thermal condition within the structure and its foundation. The location of the instrumentation is shown in Appendix C3. Refer to Section 4.6.2 for the analysis of the instrumentation data.

During the inspection, it was observed that there was an adequate tailings beach against the structure.

During the inspection, water was observed on the downstream side ponding within the rockfill embankment between Sta. 20+275 to Sta. 20+475 approximately. This water was not observed in the past by Golder but AEM stated that it was already the condition. The presence of water within the SD2 embankment may lead to thaw its foundations which could weaken the seepage barrier. Therefore the pursuance of thermal monitoring is recommended to lookout for change in the thermal regime.

During the inspection it was observed that Saddle Dam 2 is performing well and does not show any sign of instability.

Appendix B3 contains a photographic log and the record of inspection form for Saddle Dam 2.

3.4 Stormwater Dike

Stormwater Dike (SWD) is an internal structure that subdivides the TSF into the North Cell and the South Cell within the dewatered northwestern arm of Second Portage Lake. Stormwater Dike is a temporary structure intended to retain tailings and supernatant fluid during the first years of operation.

Stormwater Dike is a rockfill embankment structure founded on lakebed soils. The upstream slope is approximately 3H:1V and the downstream slope is about 1.5H:1V. A bituminous geomembrane liner has been installed above the graded filters on the upstream face of the dike. Low permeability till was placed and compacted along the upstream toe of the dike, above the liner. The majority of the dike is founded on dense till of the former lakebed within the talik. The abutments are generally founded on bedrock. Some areas have been built on frozen soil with varying quantities of ice.

Stormwater Dike was progressively constructed. Stage 1 was constructed in 2009 to a height of 10 m (crest elevation of 140 m) and a length of 860 m. Stage 2 was primarily constructed in 2010 to an overall height of 18 m (crest elevation of 148 m) and length of about 1,060 m. A horizontal bench exists along the upstream face of the structure between the connection of the 2009 and 2010 portions of the structure. The junction between the bituminous liner of Stormwater Dike and the LLDPE liner of Saddle Dam 2 was completed in 2011. The crest of Stormwater Dike was raised to 150 m in 2013.

At the time of the inspection, water was observed ponding directly along the upstream face of Stormwater Dike, see Section 3.1 for more details and associated recommendations.

During the inspection, it was observed that a balloon filled with water was still present in the bituminous geomembrane at Sta.10+380. This balloon was approximately 3 m long, 0.5 m wide and 0.15 m high. This phenomenon was observed in previous years on Stormwater Dike and on the Saddle dams, and is due to water infiltration from the crest. Because these balloons produce stress on the seams of the geomembrane, it is recommended to puncture a hole in the liner to free the water and to repair it afterward.

Stormwater Dike was in good condition at the time of the inspection. No tension cracks were observed and the differential settlement observed in 2012 on the upstream slope and the edge of the crest from about Sta.10+735 to Sta.11+045 was still partly visible, with no sign of aggravation.

Very low seepage was observed at the downstream toe area at Sta.10+700 and Sta.10+900. A water outcome was observed coming from the soil foundation at the toe of the downstream slope at approximately 10+560. A clear flow of water was observed from this location at an approximate rate of 5 L/min. It is recommended to test the water quality in order to determine its origin (i.e., natural water from the abutment or water from the North Cell). No water quality testing result is available from previous year.

Appendix B4 contains a photographic log and the record of inspection form for Stormwater Dike.

3.5 Central Dike

Central Dike is located along the eastern side of the TSF and connect to the eastern corner of Saddle Dam 5. Along with Saddle Dam 4 and Saddle Dam 5, Central Dike form one of the perimeter structures of the South Cell which is intended to retain tailings and supernatant fluid during the operation and closure of the mine. Central Dike crosses a depression within Second Portage Lake. The current crest elevation of Central Dike is at 137 m and the final crest elevation of Central Dike is subject to review by AEM.

Central Dike includes a compacted rockfill embankment with an upstream seepage barrier, granular filters and a key trench located along the centreline of the dike that is transitioning on the upstream toe near both abutments. Foundation soils include lakebed sediments and till overlying bedrock. Soft and ice-rich soils were removed from the Central Dike footprint to limit settlement beneath the entire dike footprint.

Tailings deposition had started in the South Cell at the end of 2014. There was some water ponding against the structure at the time of the inspection, less than 2 m of free water. The deposition of tailings against the dike stopped in the summer during the raise of Central Dike but was planned to resume shortly as new tailings deposition finger were being installed at the time of the inspection. AEM is planning on maintaining a tailings beach against this structure during operation and closure as per design requirements.

Some angular material from the construction of Central Dike was observed on the LLDPE geomembrane and stuck between the LLDPE and the geotextile on the upstream slope. It was later confirmed that this material had been cleaned. It is recommended that the TSF operator personals be better inform to the requirement of keeping the geomembrane surface free of any angular material prior deposition of tailings against it.

Nine boreholes have been drilled on three different rows on Central Dike. Piezometers and thermistor strings are installed in each of these boreholes (for a total of 32 piezometers and 9 thermistors). One row corresponds to the central key trench, one row corresponds to the final downstream toe and one row corresponds to the Portage Pit limit. The instruments are read manually. Special attention will have to be taken to protect the instrumentation during the construction of Central Dike. A review of the instrumentation data is provided in Section 4.5.

During the inspection, water was observed ponding at the downstream toe of the dike between approximately Sta.0+545 and the southern access road at Sta. 0+830. The water was clear with no sign of turbidity. Water was observed ponding in that area during the 2014 inspection. Pumping of that pond by AEM started on April 2015 and has not stopped as there is a strong inflow of water reporting to that pond (800 m^3/hr). There is a direct hydraulic connection between this pond and the South Cell as suggested by the piezometer located on the other side of the key trench from Sta.0+650 to Sta.0+750 (refer to Section 4.5.2). No water inflow was reported to Portage Pit by AEM along its west wall or pit bottom. At the time of the inspection the mine was pumping water from this pond back in the South Cell to maintain it at an elevation of approximately 110 m. The water level of this pond is being surveyed daily and water samples are taken to determine its quality.

AEM has performed various analyses to determine the seepage pathway from the South Cell and mandated Golder for an in-depth assessment of the situation (Golder, 2015). Following these analyses the following recommendations were emitted by Golder:

- Continue to develop and maintain tailings beaches adjacent to Central Dike and to operate the reclaim pond towards the centre of the South Cell.
- To control the hydraulic gradient condition at the downstream toe of the dike:
  - Reduce the hydraulic gradient by raising the downstream water level to 115 m and maintain that level until the tailings deposition is completed. However, this mitigation may impact the thermal conditions beneath the West Road and along the pit (see Item 4 below).
  - Extend the inverse filter from the downstream toe of Central Dike to the West Road.
- Monitor with instruments any mitigation measures to control how the conditions evolve (e.g. geophysical target, thermal conditions along Pits and beneath West Road).
- Regularly inspects Central Dike to ensure that no adverse situation is in development.
- Continue monitoring the quality of the water ponding, especially the turbidity.

Appendix B5 contains a photographic log and the record of inspection form for Central Dike.

4.0 GEOTECHNICAL INSTRUMENTATION

As part of the 2015 geotechnical inspection, Golder reviewed the instrumentation data from the dewatering dikes and the TSF. During the year, daily review of the instrumentation on the dewatering dikes is done by the mine personnel and monthly reports summarizing their observations are issued internally. The compilation of instrumentation data was not part of the scope of this study and the figures showing the data were provided by AEM. The information provided by AEM is presented as received in Appendix C. The data were sent as figures for the dewatering dikes and as PowerPoint documents for the TSF structures. Continued monitoring and review of data from all instruments is recommended.

4.1 East Dike

Instrumentation within East Dike was installed in the spring of 2009 to monitor the dike's performance following construction and during dewatering, operation, and into closure. Additional instrumentation was added in 2009 and 2010 to increase coverage across the dike. Since June 2012, all piezometers and thermistors on East Dike have been connected to an automatic data collection and transmission system and data are now visible through the VDV database. The following subsections present a summary of the data collected between July 2014 and July 2015. Previous annual geotechnical inspection reports contain additional information regarding instrumentation data collected prior to September 2014. The 2015 instrumentation data for East Dike are presented in Appendix C1.

4.1.1 Piezometers

Three arrays of multilevel vibrating wire piezometers (VWP) were installed within East Dike in mid-March 2009 as follows:

- South Channel (Sta. 60+190);
- North Channel (Sta. 60+490); and,
- North Shallows (Sta. 60+700).

At each location, multilevel VWPs were installed on the:

- Upstream side of the cut-off wall, approximately 2 m from the centreline;
- Immediately downstream of the cut-off wall, approximately 2 m from the centreline; and,
- Further downstream of the cut-off wall, approximately 10 m from the centreline.

In addition, single VWPs were installed immediately downstream of the cut-off wall near the contact area (base of cut-off wall and top of bedrock surface) at Sta. 60+150, Sta. 60+200, Sta. 60+240, Sta. 60+400, Sta.60+420, Sta.60+440, Sta. 60+450, Sta. 60+460, Sta., Sta.60+470 60+472, Sta. 60+480, Sta. 60+500, Sta. 60+510, Sta. 60+550, Sta. 60+600, Sta. 60+650, and Sta. 60+750.

According to the mine, the piezometers located at Sta.60+150 and 60+470 are broken and the piezometers located at Sta. 60+750C and Sta. 60+700P1B are giving erratic data as they are frozen. The data analysis indicates that these piezometers are in fact frozen. The analysis also indicates that piezometers 60+700P1C, 60+700P2C and 60+650C might also have frozen as they recorded data below 0°C at some point during the year. Even though they recorded data below 0°C, the piezometric reading remained stable for 60+700P1C and 60+650C. This could mean that the thermal calibration is slightly off and that the piezometer did not really freeze or it could mean that the piezometer froze at one point but that it has not been reflected in the data. A piezometer that has frozen at some point cannot be relied upon. It is thus recommended to flag these piezometers and be very careful when interpreting their data. Piezometer 60+700P2C started showing erratic data in October 2014.

In general, the piezometers measured that pore water pressure is not increasing and is similar to the value recorded in the past with a long-term trend going towards a general decrease in the pore water pressure. Some small spikes in the recorded pressure returning to normal value were observed during the years and can be explained by the mine. Such a spike occurred in June 2015 when the deposition point for the water discharge location in Second Portage Lake was switched.

For the three piezometric arrays located at Sta. 60+190, Sta. 60+490, and Sta. 60+700, the following observations can be made:

- At Sta. 60+190, the observed levels are consistent with expectations for a functioning cut-off wall. There is a consistent drop in the hydraulic head across the cut-off wall and within the grouted bedrock in the downstream direction. Further downstream, the hydraulic head continues to decrease. During the year there are small spike increases in the hydraulic head likely due to pumping interruption for maintenance. In early June, the mine reported that the discharge point changed. As a result, the hydraulic head increased by almost 1 m and then levelled off. The temperature data, however, indicates the presence of seepage.

For example, the temperature at 190-P1-C increases from 1 °C to 6 °C between July and mid-September 2015. Then, the temperature decreases from 6 °C to 1 °C between mid-September and February 2015. Between February and May 2015, the temperature at 190-P1-C remained constant, despite extremely cold air temperatures. If the temperature fluctuations at 190-P1-C were caused by changes in air temperature at the ground surface, then thermal responses in both summer and winter would be expected. Since the latter is not the case, it is highly probable that seepage water from the upstream side of the dike is responsible for the thermal behaviour. There was an offset between the maximum lake and 190-P1-C temperatures of approximately 1.5 months. However, similar to 190-P1-C, the lake temperature remained constant during the winter. The recorded piezometric pressure decreases towards the downstream side and with elevation, which seems to indicate that flow is occurring towards the pit. Given the hydraulic head response and the thermal offset between maximum lake and 190-P1-C temperatures, it is reasonable to assume that the seepage water is originating from a different part of the dike.

- At Sta. 60+490, flow through this portion of the dike is apparent as the piezometric pressure is very similar before and after the cut-off wall (490-P3-B vs 490-P2-B in particular). This is also particularly evident in the thermal instrumentation data associated with this piezometric array. From August to November 2015, the temperature for 490-P2-C decreased from 12°C to 0.5°C and the lake temperature decreased from 15 °C to 2 °C. In addition, there is very little offset (approximately 0.5 months) between the maximum lake temperature and the maximum temperature for 490-P2-B. The aforementioned piezometric and thermal trends correspond to the seepage zone observed at Sta.60+498. During the year, there are small spikes in the hydraulic head due to pumping interruption for maintenance and to switching the deposition point. The recorded piezometric pressure decreases towards the downstream side and with elevation, which seems to indicate that flow is occurring towards the pit.
- At Sta. 60+700, the observed levels are consistent with expectations for a functioning cut-off wall. The temperature data are consistent with observations noted during the previous years and do not indicate the presence of seepage. The recorded piezometric pressure decreases towards the downstream side and with elevation, which seems to indicate that flow is occurring towards the pit.

The following observations were also made for the single VWPs:

Sta. 60+440 to 60+500

The temperature variations recorded by these piezometers show the same trends as Sta. 60+490 and Sta. 60+190 and are consistent with previous years. These piezometers are recording the effect of the seepage observed at Sta. 60+498.

4.1.2 Thermistors

Five thermistors have been installed on East Dike at Sta.60+092, 60+185, 60+485, 60+695, and 60+842. The observations made during the July 2014 to 2015 period are consistent with the historical trends. The thermal data do not show the presence of any new seepage areas. Note that since the presented thermistor results for 2015 end in July, the maximum ground thermal regimes shown are not representative of the maximum temperatures for 2015. This is because the thawing season would normally continue until September. It is recommended for better interpretation purpose that the thermistors on site be presented on a graph for a period extending early October to end of September and that a second graph be prepared to compare summarized readings at different key period of the year so it is possible to see the evolution trend.

These specific observations have been made for each instrument:

Sta. 60+092 and Sta. 60+842

The two thermistors installed at Sta. 60+092 and Sta. 60+842 are located on the southern and northern abutments. The upper 1.5 m of the dike for 60+092 and the upper 2 m of the dike for 60+842 thawed during Summer 2014 (active layer). From July 2014 to July 2015, there has been little to no change in the ground thermal regime. In July 2014 and July 2015, node 1 (El. 135 m) temperatures were 0°C and -1 °C, respectively. Below El. 134 m, the cut-off wall remained frozen for the two thermistors. The temperature within the dike varied from 10°C to -20°C within the active layer of the dike, from -1°C to -15°C in the till, and from -2°C to -12°C in the bedrock. Less temperature variations were observed with depth at each location. The depth of zero annual amplitude was approximately 10 m below the top of bedrock and had a temperature of -5 °C.

Beads numbers 2 and 4 of the thermistor at Sta.60+842 seems to have stopped working properly.

Sta. 60+185

The thermistor string installed in the South Channel at Sta. 60+185 (bedrock about 6 m below water surface at El. 127 m) recorded the following temperature variations:

- The upper layer of the cap material (from El. 136 m to El. 134 m) thawed during the summer 2014 and was frozen during the winter period (active layer). The active layer shows significant fluctuations in temperature during the year going from 2°C to -12.5°C;
- The cut-off wall above the lake level and in the till from El. 133 to 127 m remained frozen, but very slightly below 0 °C. In 2014 it was observed that the portion between El. 133 m and El. 128 m remained frozen during the year. Very little to no change in the ground thermal regime has been observed from 2014 to 2015. This result may seem surprising, as potential seepage is inferred from the thermal behaviour at 190-P1-C at station Sta. 60+190. However, 1901-P1-C is further downstream from the dike and the lag between maximum 190-P1-C and lake temperatures suggests that the water is originating from a different part of the dike structure closer to Sta. 60+490.
- The remaining portion of the wall (below El. 127 m) remained thawed during the year. The bedrock had a temperature variation between 0.5°C and 4°C increasing with depth. At each node into the bedrock, the temperature varied during the year by approximately one to two degrees.

Sta. 60+485

The thermistor string at Sta. 60+485, installed within the North Channel (bedrock at approximately El. 126 m, 8 m below lake level), indicated the following temperature variations:

- From El. 136 m to 128 m, the upper portion of the cut-off wall located above the till and in the lake froze and thawed during the year. Significant temperature fluctuations were also recorded (12°C to -20°C);
- The cut-off wall below El. 128 m and the bedrock remained thawed during the year with significant variations in temperature (between 13°C and 1°C).

The thermal variation observed within the cut-off wall below El. 128 m and in the bedrock is significant with fluctuations between 12°C and slightly above 0°C. There is good correlation between recorded temperatures and the upstream lake temperatures indicating advective flow through the dike (i.e., recorded temperature changes are primarily a result of temperature changes in water flowing through this area). The delay between changes in the recorded temperatures within the lake and within the cut-off wall is minimal. The temperature responses recorded in the piezometers at Sta. 60+490 P2 (A,B,C) and 60+490 P1 (A,B,C) are also significant, as are the responses recorded within the piezometers at Sta. 60+190-P1-C, Sta.60+450, Sta.60+460, Sta. 60+472, Sta. 60+480, Sta. 60+490, and Sta. 60+500. Seepage is being observed downstream and is collected in the sump and removed via the pumping system.

Sta. 60+695

The thermistor string installed in the North Shallow at Sta. 60+695 (bedrock at El. 128.5 m approximately, 4 m below upstream lake level) recorded the following temperature variations:

- The thermistor beads from El. 136 m to 130 m indicate that the upper portion of the cut-off wall is thawed during the summer and frozen during the winter (active layer). The recorded temperature variations are between 8°C and -18°C;
- The thermistor beads from El. 130 m to 128 m indicate that the cut-off wall and the till between these elevations remained frozen throughout the monitoring period with temperature fluctuations between 0°C and -8°C;
- The temperature recorded in the bedrock varied between -0.5°C and 4°C increasing with depth. The temperature recorded at each node in the bedrock varied by approximately 1-2°C during the year.

4.1.3 Inclinometers

Three inclinometers were installed on East Dike at Sta. 60+195, Sta. 60+495, and 60+705. The inclinometer at Sta. 60+195 was destroyed in July 2010 and has not been replaced. The inclinometer displacements are referenced along Axis A and Axis B; Axis A is perpendicular to the cut-off wall alignment (positive displacements are towards the Pit side), while Axis B is parallel to the cut-off wall (positive displacements are towards the increasing chainage), perpendicular to Axis A.

Recorded displacements are small up until the date of the inspection. The maximum cumulative displacements at the crest were observed in the inclinometer installed at Sta. 60+705. The cumulative displacement is about 25 mm perpendicular to the cut-off wall (Axis A), and 20 mm aligned to the cut-off wall (Axis B). Crest displacements recorded in the inclinometer at Sta. 60+495 are slightly higher. The recorded displacements are well within the tolerable displacements for the structure and are not a concern.

4.1.4 Seismograph

No PVS measurements were taken in 2015 for East Dike as no blast occurred in the vicinity of East Dike.

4.1.5 Flow Meters

The flow was measure by the flow meters installed in the two seepage collection sumps downstream of East Dike. The average flow measured during the year by the flow meters was 570 m^3/day with a peak of 705 m^3/day in July 2015. The measured flow is slightly decreasing compared to values from the past years.

4.2 South Camp Dike

Two thermistor strings are installed on the upstream side of South Camp Dike. SD-10 is located near the liner toe. SD-09-A is located approximately 20 m further upstream within Third Portage Lake. South Camp Dike thermistor data for July 2014 to July 2015 are presented in Appendix C1. Based on the thermistors, no signs of seepage are evident and the recorded value follows historical trends.

The following summarizes the observations regarding the thermal regime at these locations:

- The temperature profile at SD-09 on the upstream side of the dike shows that the soils located beneath the dike foundation and liner appear to have remained frozen (permafrost) below El. 128 m;
- The temperature profile at SD-10 shows that the foundation of the dike below the thermal cap stayed frozen all year long.

4.3 Bay-Goose Dike

Instruments were installed on Bay-Goose Dike in the summer of 2011 to monitor the dike's performance following construction, during dewatering, operation, and into closure. At the time of the inspection, all the piezometers and thermistors on Bay-Goose Dike (except three thermistors) had an automatic data collection and transmission system to the VDV database. The following subsections present a summary of the data collected between July 2014 and July 2015. It is important to keep in mind that these data do not cover the entirety of the thawing period for 2015. Data plots for the instrumentation sent by AEM are presented in Appendix C1.

4.3.1 Piezometers

Arrays of multilevel VWPs were installed within Bay-Goose Dike as follows:

- Sta. 30+158 (1P)
- Sta. 30+276.5 (2P)
- Sta. 30+378.5 (3P)
- Sta. 30+453.5 (4P)
- Sta. 30+645.5 (5P)
- Sta. 31+165 (23P)
- Sta. 31+600 (24P)
- Sta. 31+815 (25P)
- Sta. 31+885 (26P)
- Sta. 32+000 (27P)
- Sta. 32+065 (28P)
- Sta. 32+105 (29P)

At each location, multilevel VWPs were installed on the:

- Upstream side of the cut-off wall, approximately 2 m from the centreline;
- Immediately downstream of the cut-off wall, approximately 2 m from the centreline; and,
- Further downstream of the cut-off wall, approximately 10 m from the centreline.

In addition, single VWPs were installed immediately downstream of the cut-off wall near the contact area (base of cut-off wall and top of bedrock surface) at the following stations:

- Sta. 30+167 (6P2)
- Sta. 30+249.5 (7P2)
- Sta. 30+306.5 (8P2)
- Sta. 30+440 (9P2)
- Sta. 30+770 (12P2)
- Sta. 30+804.5 (13P2)
- Sta. 31+052 (14P2)
- Sta. 31+220 (15P2)
- Sta. 31+700 (18P2)
- Sta. 31+842 (22P2)
- Sta. 31+928 (192)
- Sta. 31+990 (20P2)

- Sta. 30+516.5 (10P2)
- Sta. 30+684.5 (11P2)
- Sta. 31+565 (16P2)
- Sta. 31+615 (17P2)
- Sta. 32+020 (21P2)

Some of the installed piezometers on Bay-Goose Dike are broken or malfunctioning. Table 1 indicates the list of malfunctioning instruments on Bay-Goose Dike as flagged by AEM, the possible reason why it is malfunctioning and the date when it started malfunctioning.

Table 1: Malfunctioning Instruments on Bay-Goose Dike flagged by AEM

Name of Piezometer	Location	Possible Reasons for Malfunctioning	Malfunctioning Start Date
1P1-C	30+158	Rapid freezing, piezometric head went off limits and broke the instrument (temperature still works)	February 22, 2013
1P1-B, 1P1A	30+158	Frozen, still shows head and temperature	March 19, 2014
2P1-B,	30+276.5	Frozen, still shows head and temperature	January 4, 2014
5P1-A, 5P1-B, 5P1-C	30+645.5	Frozen, still shows head and temperature	February 8, 2014
11P2	30+684.5	Frozen, still shows head and temperature	February 27, 2015
12P2	30+770	Frozen, still shows head and temperature	January 17, 2013
13P2	30+804.5	Frozen, still shows head and temperature	December 20, 2012
14P2	31+052	Rapid freezing, piezometric head went off limits and broke the instrument (temperature still works)	February 21, 2012
15P2	31+220	Frozen, still shows head and temperature	February 4, 3013
16P2	31+565	Frozen, still shows head and temperature	January 15, 2013
17P2	31+615	Frozen, still shows head and temperature	February 2, 2014
18P2	31+700	Frozen, still shows head and temperature	February 2, 2014
29P2C	32+105	Frozen, still shows head and temperature	March 6, 2014
29P1B3	32+105	Frozen, still shows head and temperature	March 4, 2014

The piezometer data analysis shows that the piezometers identified as frozen by AEM show temperatures below 0°C. In the instrumentation data sent by AEM, additional piezometers are flagged as being frozen (1P1-A, 1P2-B, 1P2-C, 2P1-A, 2P2-C, 5P2-C, 6P2, 10P2, 29P1-B2, 29P2-B3, 29P3-B3). It is recommended to add these piezometers to the monthly instrumentation report as potentially malfunctioning. The thermal data analysis for the piezometers also shows that piezometers, 2P1-C, 7P2, 8P2, 23P1-C, 25-P1-B1, 25P1-B2, 27P1-B2, 29P1-B1 and 29P3-A1 might have frozen as they recorded data below 0°C. Even though they recorded data below 0°C, the piezometric reading remained stable. This could be because the thermal calibration is slightly off and the piezometer did not really freeze, or it could mean that the piezometer froze and is broken but that it has not been reflected in the data. A piezometer that has frozen once may not be relied upon even if it unfroze. It is recommended to flag these piezometers and be careful when interpreting their data while staying vigilant to any rapid piezometric variance. Furthermore, for the first time a piezometric rapid increase associated to frozen piezometers is observed requiring some vigilance from AEM but not without overweighting the abnormal trend. For those showing very high piezometric readings, it is recommended to compare the pressure recorded to the instrument limit to identify if the variance could be due by other factors than mechanical disorder such as seepage.

There is a drop in the hydraulic head across the cut-off wall and within the grouted bedrock in the downstream direction. In general the data from the piezometer are similar to the historical trend.

Specific observations were made for the following instruments:

North Portion (Sta. 30+158 to 30+516.5)

The temperature recorded by the piezometer from Sta.30+150 to Sta.30+306.5 shows various spikes in the temperature in July 2015. The average spike jump is less than 1 degree. According to the mine, this kind of spiking occurred at the same time last year.

The recorded pore water pressure from Sta. 30+276.5, Sta.30+378.5 and 30+453.5 on the downstream side near the cut-off wall steadily increased by 1 to 1.5 m during the year while the recorded pore water pressure on the upstream side fluctuated by 0.2 m.

Piezometer 9P2 at Sta. 30+453.5 had a significant rise of 1 m in pore water pressure from January 2015 to February 2015. Afterward, the pore water pressure decreased steadily and stabilized at a level 0.5 m higher than the January 2015 level.

Similar increases in pore water pressure have been observed in the past and are happening in zones where the North Channel seepage had been observed historically. It is recommended to closely monitor these instruments and to be on the lookout for signs of seepage in the downstream toe area or reporting to the pit.

Central Shallows (Sta. 30+645.5 to 30+804)

Piezometer 5P1-A recorded erratic trends in porewater pressure. The temperature of this instrument was slightly below 0°C for most of the year. Piezometers 5P1-A, 5P1-B and 5P1-C are probably frozen.

Central Channel (Sta. 31+020 to 31+220)

From June 2014 to July 2015, fluctuations in the hydraulic head of the piezometer at 31+165 were observed which corresponded to the freshet water and the pumping of the pond located downstream. There is a seepage zone observed downstream associated with this channel.

Channel 3 (Sta. 31+565 to 31+700)

The instrumentation at Sta.31+600 showed a pronounced decrease of about 2 m in the piezometric pressure downstream of the cutoff wall (P1) at the end of September 2014 for unknown reason. The porewater pressure increased by 2 m in January 2015 and returned to its normal level. In the past a rise of 2 m in piezometric pressure has been observed in the winter and was attributed to the freezing of the high wall which could be the reason why the piezometric head seemed to have returned to normal. It is recommended to closely inspect this area and to measure the seepage being reported to the pit or to the downstream toe area.

Channels 1 and 2 (Sta. 31+815 to 32+105)

In 2014, thermal monitoring indicated that a zone of potential seepage might exist near Sta. 32+000 where the CSB overlies jet grouting. No thermal patterns indicative of potential seepage were observed in 2015. No seepage has been observed at the toe of the dike in 2015 but seepage from this location has been reported to the pit in the past. It is recommended to monitor this location and to measure the seepage being reported to the pit or to the downstream toe area.

4.3.2 Thermistor

Thirty-three thermistors (from T1 to T30 and T3’ to T5’) have been installed on Bay-Goose Dike. From July 2014 to July 2015 the following observations can be made.

Sta. 30+134 (T1), Sta. 30+827 (T14) and 32+140 (T30)

The three thermistors installed at Sta. 30+134 (T1), Sta. 30+827 (T14), and Sta. 32+140 (T30) are located on the northern abutment, the Goose Island and the western abutments. The first node of these thermistors is installed about 1 m below the dike crest. For this period, the dike and its foundation were entirely frozen on the northern abutment (T1), Goose Island abutment (T14) and on the western abutment (T30). From September 2013 to September 2014, thawing was observed in the first metre of northern abutment (T1).

Sta. 30+185 (T2), Sta. 30+489.5 (T9), Sta. 30+553.25 (T10), Sta. 30+621.5 (T11), Sta. 30+650 (T12), Sta. 30+713 (T13), Sta. 31+080 (T15), Sta. 31+134.5 (T16), Sta. 31+170 (T17), Sta. 31+352 (T18), Sta. 31+752.5 (T21), Sta. 31+820 (T22)

Twelve thermistors were installed in the SB portion of the cut-off wall. All the thermistors with the exception of T18 show a similar trend. The maximum active layer from July 2014 to July 2015 was above an elevation of 134 m. In addition, the layer ranging from El. 135 m to approximately El. 129 m stayed frozen during the whole year. Below the frozen layer, the thermistors showed a layer up to 5 m thick whose temperatures ranged above and below 0°C for the period monitored. Below an elevation ranging from 126-132m, the ground remained permanently unfrozen. Therefore, the till foundation did not remain frozen for the entire year for any thermistor and the bedrock was always in an unfrozen state with temperatures ranging from 3°C and 1°C.

The only exception to the general trends outlined above was T18. At this thermistor, the ground, including the till foundation and a large portion of the bedrock, remained frozen from elevation 135-121 m.

Sta. 30+260 (T3), Sta. 30+261.5 (T3’), Sta. 30+272 (T4), Sta. 30+273.5 (T4’), Sta. 30+288.5 (T5), Sta. 30+290 (T5’), Sta. 30+330.5 (T6)

This portion of the dike contains a cut-off wall where settlement could occur due to CSB, a rigid material, sitting on top of SB, a soft material. The designed thermistor nodes configuration for T3 (Sta. 30+260), T4 (Sta. 30+272), and T5 (Sta. 30+288.5) were modified to have nodes located very close together and were to be installed to monitor the interface between the CSB and SB materials as noted below. Thermistors T3, T4, and T5 were not installed to the designed depths, but instead have been installed below the interface and monitor the bedrock contact. These thermistors are recording temperatures above 0°C.

Thermistor T6 indicates that the ground is completely unfrozen below an elevation of 130 m. Therefore the till foundation was unfrozen from July 2014 to July 2015. From 130-133 m, the ground fluctuates above and below 0 °C and from 133-135 m, the dike remained frozen. Hence it can be inferred that the surface active layer is located above 135 m.

In 2011, AEM installed three more thermistors at Sta. 30+261.5 (T3’), Sta. 30+273.5 (T4’), and Sta. 30+290 (T5’) that provide readings across the CSB/SB interface. The spacing between each node does not meet the design. No seepage directly downstream of this portion of the dike was observed, however, based on the topography, it is anticipated that seepage from this area could report to a lower point within the North Channel (i.e., 30+360). These thermistors show that the ground was completely unfrozen below an elevation ranging from 129-130 m. Therefore, the till foundation remained unfrozen from July 2014 to July 2015.

Sta. 30+386 (T7), Sta. 30+417.5 (T8), Sta. 31+595 (T19), Sta. 31+605 (T20), Sta. 31+850 (T23), Sta. 31+880 (T24), Sta. 31+960 (T25), Sta. 31+995+ (T26), Sta. 32+030 (T27), Sta. 32+060 (T28), Sta. 32+100 (T29)

Eleven thermistors were installed in areas where the bottom of the cut-off wall was jet grouted. As observed in most of the thermistors installed along Bay-Goose Dike centreline, these thermistors show that the maximum active layer depth was above 135 m between July 2014 and July 2015. Only thermistor T20 showed fluctuations above and below 0 °C until a depth of 132 m. Each thermistor showed a layer that remained frozen from July 2014 to July 2015 and this thickness ranged from 3-7 m from elevations 135-128 m. Below the frozen layer, most thermistors showed a layer 1 m thick whose temperature ranged above and below 0 °C. The top elevation of the permanently unfrozen zone ranged from 130-127 m.

With the exception of the T29, no part of the till foundation remained frozen for the entire July 2014 to July 2015 period. The jet grouted area, however, did not remain frozen at T29. The temperature of the jet grouted area varied between 3°C and 0°C.

No trend indicating seepage can be seen in these thermistors.

4.3.3 Inclinometers

Five inclinometers were read at Bay-Goose Dike in 2015 at Sta. 30+282, Sta. 30+390, 31+590, 31+885, and 32+065. The inclinometer displacements are referenced along Axis A and Axis B; Axis A is perpendicular to the cut-off wall alignment (positive displacement towards the Pit side) while Axis B is perpendicular to Axis A, parallel to the cut-off wall (positive displacements towards the increasing chainage). The displacement in Axis A varied from 0.1 mm to 25 mm. Displacement values for Axis B varied from 0.1 mm to 20 mm. The larger settlement happened in the upper portion of the dike and in the thermal cap. Recorded displacements up until the date of the inspection are mainly small and are within the tolerable displacements for the structure.

4.3.4 Seismograph

For every blast at Goose-Pit, seismograph monitoring of blast vibrations on the crest of Bay-Goose Dike has occurred. AEM looks at the monitored blast vibrations after each event. The maximum allowable PVS for all dikes is set by AEM at 50 mm/s. The highest recorded PVS for Bay-Goose from September 2014 to September 2015 was 20.1 mm/s. No estimated tensile and shear strains were calculated this year for the purpose of this geotechnical inspection. The recorded PVSs were compared to the PPV values used in the previous Meadowbank Pit Blasting Effect Study which considered the tensile and shear strains, indicating that the blast vibrations recorded are not a concern for the integrity of the dike.

4.3.5 Flow Meters

The flow was estimated at various stations at the toe of the dike using a water collection pipe and a plastic bucket. From July to August 2015, the total average flow due to seepage from the toe of the dike was measured at 29.8 m^3/day, compared to 132.2 m^3/day (1.5 L/s) in 2013, and 97.2 m^3/day (1.22 L/s) in 2012. This value of 29.8 m^3/day does not take into account the inflow of water from the pond at Central Channel as this value was not measured in 2015 (61 m^3/day in 2013 and 2014).

It is recommended to continue monitoring the evolution of the seepage at the toe and to continue measuring the inflow of water from the pond at Central Channel. It is also recommended to include the seepage being reported to Bay-Goose pit as part of the seepage flow follow-up from Bay-Goose Dike.

4.4 Vault Dike

Five thermistor strings were installed on Vault Dike following its construction in the winter of 2013. T3 is installed in the deepest channel downstream, T5 is installed under the liner, T6 is installed upstream of the liner, T7 is installed east of the deepest channel, and T8 is installed upstream in the deepest channel outside of the key trench. The Vault Dike thermistors' data are presented in Appendix C1.

The following summarizes the observations regarding the thermal regime at these locations:

- Beads 1,2,3,4,5,14 and 15 of thermistor TH-3 are broken;
- The instrumentation shows that the entire foundation of Vault Dike (till and bedrock) is frozen;
- The active layer in the rockfill was up to 3 m thick in the Summer of 2015.
- The temperature of thermistor T5 installed under the liner is still higher than temperatures recorded by the other thermistors, as it has been observed in the past. More specifically, the maximum temperature at any depth for thermistor T5 is greater than 2.5 °C. Data from this thermistor need to be closely monitored.

4.5 Central Dike

Instruments were installed on Central Dike in the winter of 2013 to monitor the dike's performance during its construction, operation, and closure. The following presents a summary of the data collected between September 2014 and September 2015 for the piezometers and January 2015 to August 2015 for the thermistors. Data plots for the instrumentation sent by AEM are presented in Appendix C2.

Nine boreholes have been drilled on and around Central Dike which correspond to the central key trench (P1), the final downstream toe (P2) and the Portage Pit limit (P3). Piezometers and thermistor strings are installed in each of these boreholes (for a total of 32 piezometers and 9 thermistors).

4.5.1 Thermistors

The following observations of the thermistors' data can be made:

- The instruments installed along the central key trench show thawed conditions within the till and the bedrock and most of the rockfill (except for the presence of an active layer in the upper portion of the dike).
- The instruments installed along the downstream toe of the final Central Dike footprint indicate that permafrost conditions are developing. Between January and August 2015, the ground was frozen at an elevation of approximately 95 m and below for 545-P2 and 650-P2. Therefore, the till units at these two locations were completely frozen for the elevations measured.
- The instruments along the Portage Pit limit show variable results. The bedrock temperature decreases from -6 °C (El. 105 m) to -3.5°C (El. 50 m) at 465-P3, decreases from -8 °C (El. 105 m) to -0.5 °C (El. 60 m) at 650-P3 and is about 1°C at 875-P3. This seems to indicate that a permafrost condition is still developing along the Portage Pit west wall perimeter.
- The beads at 750-P1 demonstrate a correlation with the temperature of the water at the South Cell. Therefore, a direct hydraulic connection is interpreted between 750-P1 and the South Cell.

4.5.2 Piezometers

Nine piezometers have readings that closely reflect the fluctuations of the South Cell pond, six of which are in the bedrock and three of which are in the till foundation. In addition, there is little to no delay in the piezometric responses to the South Cell water level. The aforementioned piezometers also show similar porewater pressures to the South Cell, except for 580-P1-A (bedrock), 650-P2-C (bedrock), and 650-P3-A (bedrock), which showed slightly lower porewater pressures. Six of the nine piezometers are located along the central key trench (line P1), while three are located along the downstream toe of the final Central Dike (line P2). Similar readings between the water level of the South Cell pond and the recorded water pressure on the downstream side of the key trench mean that these instruments are hydraulically connected to the South Cell pond. Up until September 2014, this hydraulic connection seemed to affect the southern portion of the dike more than the northern portion. However, piezometer 545-P1-D (till), which was not responding to South Cell water changes before September 2014, started to increase rapidly at this time. As the piezometric elevation of 545-P1-D approached the South Cell water level, its rate of change decreased. When the downstream pond started to be lowered in August 2015, the 545-P1-D showed an immediate reaction and lowered as well. However, during steady-state downstream pond conditions, 545-P1-D finally re-equilibrated with the South Cell water level within a few days. Table 2 indicates the instruments that follow the same fluctuations as the South Cell pond.

Like previous years, it can be observed that some piezometers are still recording negative pressure. Negative pressure for unfrozen conditions was recorded in three piezometers located in the bedrock along the central key trench (line P1). Based on the available information, it is not possible to determine the exact cause of this suction as their behavior is erratic when compared to each other and does not make any geological sense. Table 2 indicates the instruments measuring suction.

By comparing the piezometers' installation elevation to the thermistor readings, it is possible to observe that eight piezometers have experienced temperatures below 0°C in 2015. Two of these piezometers demonstrated correlations with the South Cell water level, but with significantly or slightly lower pore-water pressures. The remaining piezometers that were frozen generally showed piezometric readings that were stable except for 465-P3-A. This could be because the thermal calibration is slightly off and because the piezometer did not really freeze, or it could mean that the piezometer froze and is broken but that it has not been reflected in the data. A piezometer that has frozen once cannot be relied upon even if it unfroze. It is recommended to flag these piezometers and be careful when interpreting their data even if they seem to make sense. For example, 650-P3-A closely follows the water level fluctuations of the South Cell, but since it is frozen, the relatively lower porewater pressure might not be representative of the actual field conditions. Table 2 indicates the instruments that could have frozen in the past.

Generally a downward hydraulic gradient towards the bedrock can be interpreted in each string of piezometers. and a hydraulic gradient towards the pit can be observed, but the downward hydraulic gradient is stronger. The thermistor data seem to indicate that permafrost is forming near the limit of the pit which is diminishing the hydraulic gradient towards the pit. A small upward gradient can also be observed in some piezometer strings, such as 650-P2. These upward hydraulic gradients are partly responsible for the ponding observed at the toe of Central Dike and should be closely monitored.

The piezometric data indicate that piezometers located at 545-P1, 650-P1, 650-P2, and 750-P1 are in direct hydraulic connection with the attenuation pond. Piezometer 580-P1-A is also reacting similarly to the attenuation pond, but the pore water pressure measurement is significantly lower.

Table 2: Observation on the Piezometer Readings of Central Dike

Name of Piezometer	Installation Unit	Observation
545-P1-(A,B,C)	bedrock	Recorded suction
545-P1-D	till	Starting in September 2014, the piezometric elevation started to increase rapidly and equilibrate with the South Cell water level.
580-P1-A	bedrock	Water level fluctuates with South Cell pond (lower PWP)
650-P1-A	bedrock	Recorded suction
650-P1-B	bedrock	Water level fluctuates with South Cell pond (similar PWP)
650-P1-(C,D)	till	Water level fluctuates with South Cell pond (similar PWP)
750-P1-(A,B,C)	bedrock	Recorded suction
750-P1-D	till	Water level fluctuates with South Cell pond (similar PWP)
750-P1-E	rockfill	Water level fluctuates with South Cell pond (similar PWP)
545-P2-C	bedrock	Frozen
545-P2-D	till	Frozen
650-P2-(A,B)	bedrock	Water level fluctuates with South Cell pond (similar PWP)
650-P2-C	bedrock	Water level fluctuates with South Cell pond (slightly lower PWP), frozen
650-P2-D	till	Frozen
465-P3-A	bedrock	Frozen
465-P3-B	bedrock	Frozen
650-P3-A	bedrock	Water level fluctuates with South Cell pond (lower PWP), frozen
650-P3-B	bedrock	Frozen
875-P3-A	bedrock	Water level fluctuates with South Cell pond (lower PWP)
875-P3-B	bedrock	Water level fluctuates with South Cell pond (similar PWP)

4.5.3 Seismograph

For every blast at Portage Pit, seismograph monitoring of blast vibrations on the crest of Central Dike has occurred at four locations along the dike. AEM looks at the monitored blast vibrations after each event. The maximum allowable PVS for all dikes is set by AEM at 50 mm/s. The highest recorded PVS for Central Dike from September 2014 to September 2015 was 4.78 mm/s.

4.6 Tailings Storage Facility - North Cell

Thirteen thermistors and one piezometer are installed on the various structures of the TSF's North Cell.

4.6.1 Saddle Dam 1

Thermistor data from within the structure indicate that the dike foundation remained frozen during the past few years. The foundation soil and bedrock remained in a frozen state with temperatures ranging from about -2°C to -10°C. At the upstream toe, below El. 132 m, the compacted till base material below the liner remained frozen. The rockfill shell remained frozen during the reported year as no active layer has been observed. However data were only available up to July 2015 and the thawing period ends in September.

No sign of seepage or thawing of the foundation soil was observed. The structure is performing as expected.

Plots of the Saddle Dam 1 thermistors' data are presented in Appendix C3.

The SD1-T1 thermistor string was installed in the centre of the upstream face of the dike immediately beneath the geomembrane liner to monitor temperatures within the deposited tailings. A thin layer of protective granular material exists above the geomembrane liner at this location. This thermistor records values similar to the ambient air temperature above El. 144 m. Stable values around 0°C were recorded during the year (in the winter and in the summer) below El. 144 m. It is anticipated that data collected from this location will be useful in monitoring the freezing of the tailings in the coming years.

The SD1-T2 thermistor string was installed vertically through the upstream Stage 1 crest in the centre of the dike at El. 140 m. The data show that the dike foundation remained frozen during the past year with temperatures fluctuating between -2°C and -4.5°C which is consistent with historical data. It can be observed that the temperature of the foundation material has increase by 4°C on average since 2010. Temperatures between 0°C and -2°C were recorded in the rockfill of the dike which remained frozen all year long. It is the first year that no active layer has been observed in the dike rockfill. However data were only available up to July 2015 and the thawing period ends in September.

The SD1-T3 thermistor string was installed vertically through the upstream Stage 2 crest in the centre of the dike at El. 150 m. It can be observed that the dike foundation and dike rockfill remained frozen during the past year with temperatures fluctuation between -2.5°C and -10°C. The trends observed were consistent with the data from the past years but it is the first year that no active layer has been observed in the dike rockfill. However data were only available up to July 2015 and the thawing season ends in September.

The SD1-T4 thermistor string was installed vertically through the upstream toe of the dike near the centre of the dike. It indicates that the dike foundation on the upstream toe, including the liner tie-in till plug, remained frozen during the past year. It can be observed that the temperature of the foundation material has increased by 5°C on average since 2010.

4.6.2 Saddle Dam 2

Thermistor data from within the structure indicates that the dike foundation remained frozen from September 2013 to September 2014 with temperatures ranging from about -3°C to -7.5°C. At the upstream toe of the dike, the semi-pervious backfill remained frozen during the year. The rockfill stayed in frozen condition without any active layer. However data were only available up to July 2015 and the thawing season ends in September.

No signs of seepage or thawing of the foundation soil were observed. The structure is performing as expected.

Plots of the Saddle Dam 2 thermistors data are presented in Appendix C3.

The SD2-T1 thermistor string was installed in 2012 in the centre of the upstream face of the dike immediately on top of the geomembrane liner to monitor the thermal regime of the tailings in contact with the structure. Value between 0°C and -5°C were recorded during the year (in the winter and in the summer) below El. 147.7 m. It is anticipated that data collected from this location will be useful in monitoring the freezing of the tailings in the coming years.

The SD2-T2 thermistor string was installed vertically through the upstream crest in the centre of the dike at El. 140 m. It shows that the dike foundation and rockfill shell remained frozen during the past year (temperature varying from -1.5°C to -7.5°C). It is the first year that no active layer was observed in the upper rockfill shell. However data were only available up to July 2015 and the thawing period ends in September.

The SD2-T3 thermistor string was installed vertically through the upstream liner tie-in trench near the centre of the dike at about El. 144 m. It shows that the dike foundation and the semi-pervious backfill placed on top of the compacted till remained frozen during the past year (temperature of the foundation between -5.5°C and -7.5°C). The range of temperature recorded is smaller than in past year at this location.

The SD2-T4 thermistor string was installed vertically through the upstream toe about mid-way between the centre of the dike and the northwestern abutment. It shows that the dike foundation remained frozen during the past year along with the compacted till base material below the geomembrane liner in this area. The semi-pervious backfill placed on top of the compacted till also remained frozen during the summer of 2015. The temperature varied between -3°C to -6°C.

4.6.3 Stormwater Dike

No instrumentation is currently installed within Stormwater Dike to monitor its performance. A single deep thermistor (T147-1) and piezometer string (VWP 13265) are installed at the downstream toe of Stormwater Dike (within the South Cell). These instruments are being used to monitor the freeze back of the talik, and will be used in the future to monitor the thermal regime beneath the tailings in the South Cell.

Thermistor T147-1 shows the existence of a frozen crust of material from El. 120 m to El. 112 m that stayed frozen during the summer of 2015. However data were only available up to July 2015 and the thawing season ends in September. Below El. 112 m, the temperature varied between 0.3°C and 0.1°C.

Piezometer VWP 13265 is responding to the water level of the South Cell.

Plots of Stormwater Dike thermistor and piezometer data are presented in Appendix C3.

4.6.4 Other Instruments

Other thermistors were installed in 2012 in the TSF to monitor the temperature of the tailings as well as the temperature of RF1 and RF2 (which delineates the northeastern side of the TSF's North Cell). Plots of these thermistors' data are presented in Appendix C3.

Three thermistors are installed on RF1 (T121-1, T73-6, and RF-3). Thermistor T121-1 shows temperatures which vary from -0.8°C to -5.4°C. Thermistor T73-6 shows a wide range of temperatures above El. 145 m, but below that elevation the temperature fluctuates between 0.5°C and -0.5°C. A similar trend was observed last year. This trend indicates the presence of an active zone within the upper elevation of the deposited tailings.

RF1-3 shows frozen conditions all year long below El. 147 m with temperatures varying between 0°C and -4°C. Above that elevation, the temperature seems to fluctuate seasonally between 11°C and -11°C. This trend indicates the presence of an active zone within the upper elevation of the deposited tailings.

One thermistor is installed on RF2 (T122-1) and shows temperatures which vary from -2°C to -6.5°C, indicating that the RF2 foundation is in a frozen state.

5.0 ALL-WEATHER PRIVATE ROAD

The All-Weather Private Road (AWPR), formerly referred to as the All-Weather Private Access Road (AWPAR), was built in 2007-2008 to connect the hamlet of Baker Lake to the Meadowbank Mine site (Figures 6A, 6B, and 6C). The road is approximately 107 km long with nine bridge crossings and culverts installed at a total of thirty-eight locations. Table 3 at the end of Section 5.0 lists each structure along the AWPR, their designated name, their approximate location and the observations noted during the inspection.

The road design is based on a general rockfill sub-base and crushed granular rockfill surfacing with a combined minimum thickness of 1 m over thawed stable soil and 1.2 m over thawed susceptible soil.

No evidence of thermal degradation of the permafrost was observed on the road during the inspection. It should be noted that visual evidence may not necessarily be observed due to the regular road maintenance performed by AEM. During the inspection, water levels and flow velocities at the crossings were considered to be normal for the time of year.

Water was not observed flowing through the rockfill near the culverts during this inspection. The fill material that comprises the majority of the road provides no significant barrier to low gradient water flow due to its coarse nature. During higher flow and runoff periods, water may flow through portions of the road fill. Signs that water flowed beneath the road were observed at some locations during the inspection. This could also be due to the inlet or the outlet of some culverts having been installed too high or too low which did not promote the flow of water through the culvert until a certain water level had been reached.

During the year AEM conducts regular and event-based visual inspections of the fish-bearing water crossing locations along the access road. Golder did not receive a copy of the “AWPR Water Quality Monitoring Results” document. This data should continue to be compiled by AEM to confirm the hydraulic function of the crossings, the adequacy of the crossing locations with respect to the watercourses, and minimal impact to fish habitat.

It is understood that AEM’s monitoring program includes an assessment of sedimentation and potential erosion issues at the major bridge crossings. Consideration should be given to expanding AEM’s monitoring program to include all culverts and bridges along the road to assess whether they are providing adequate capacity during the freshet and following large precipitation events.

5.1 Culverts

The culverts were generally in good condition at the time of the inspection. No significant degradation of culvert conditions has been observed when compared to the 2014 inspection. Most culverts were unobstructed with no signs of erosion and no signs of damage to the culverts.

A photographic log of the inspected culverts is provided in Appendix D1. Culverts in the following discussion, and in the photographic log, have been identified by name (e.g., R-24) to be consistent with those indicated on the as-built drawings provided by AEM and as shown on Figures 6A to 6C. Some of the new culverts installed in 2010 and 2011 are not shown on these figures. Each culvert is also identified by its approximate kilometre location (e.g., km 98+250) along the road alignment.

Signs indicating that minor erosion might have occurred were observed at the inlet of PC-17A (8+830), PC-17 (8+850), and the outlet of R14 (km 67+840) and R24 (km 98+100). The erosion of PC-17A as progressed since last year and AEM should consider adding protection for the existing fine granular placed around the culvert on the side slope to reduce the chances of erosion during the next freshet. No action is recommended for the other culverts showing sign of erosion. The progression of the erosion of the culverts should be monitored at freshet.

During the inspection, signs of water flowing beneath the road were observed at some locations. This is generally due to the inlet or the outlet of the culvert having been installed too high or too low which did not promote the flow of water through the culvert until a certain water level had been reached. This condition can promote erosion and risk of washout beneath the road. This condition should be monitored at PC-17A (8+830), R-18B (80+950), R-20 (85+490), and R-23 (93+600).

Potential culvert obstructions were observed at some locations during the inspection. In many cases, the obstructions are related to inlets and/or outlets becoming partially or completely obstructed by accumulated rockfill and road bed material. There was no substantial increase in the number of significantly damaged culverts observed during the 2015 inspection when compared to 2014.

Table 3, found at the end of Section 5.2, describes the observations for each culvert at the time of the inspection as well as recommendations. It is recommended to monitor the water level upstream and the flow through the culverts during high flow events (e.g., freshet season) for the culvert locations listed in Table 3 that have this recommendation. It is recommended to clear the obstructions (when safe to do so) or repair the culvert if insufficient capacity to handle the flow is observed.

5.2 Bridges

Nine bridges are located along the AWPR: four Acrow Panel bridges and five Rapid Span bridges. All bridges and their embankments were in good geotechnical condition at the time of the inspection. A structural and/or mechanical assessment of the bridges was not conducted and is beyond the scope of this geotechnical inspection. A description of the observations of the bridges made during the inspection is presented in Table 3. A photographic log of the bridges is included in Appendix D2.

The bridges have been identified in sequence, increasing in number along the road from Baker Lake to Meadowbank, (e.g., from Bridge 1 to Bridge 9). The name of each bridge (e.g., R02) is consistent with the as-built drawings of the AWPR provided by AEM. Each bridge is also identified by its approximate kilometre location (e.g., km 8+750).

Due to the general low-lying terrain between Baker Lake and Meadowbank, water flow typically occurs in broad areas and not in well-defined channels. The majority of water crossings spanned by bridges have increased channelization of flow as embankment fill has encroached on the crossing. No significant visual signs of embankment erosion were observed at the time of the inspection. Embankments have generally been constructed with coarse rockfill and, therefore, no sediments from the embankments were observed entering the watercourse.

The following observations were made at the bridge locations during the inspection:

- Bridge 1, R02 at about km 8+750: normal flow was observed at the time of the inspection. No signs of erosion or turbidity were noted. In 2011, two additional culverts of 1,800 mm in diameter were installed to increase the drainage capacity during high flow events and prevent the road and the bridge from washing out. It is understood that AEM removes snow and ice at this location and other bridges before the freshet and will continue this practice in the future. It is recommended to monitor the nearby culverts at the freshet to see if they provide sufficient drainage;

- Bridge 2, R05 at about km 17+600: Minor damage to the bin wall of both abutments has been observed, and is likely a result of past snow removal activities. No evidence of erosion was observed and the foundation was in good condition. The stream bed consists primarily of cobbles, gravel and a few boulders towards the perimeter of the channel;
- Bridge 3, R06 at about km 23+100: construction of the bridge has concentrated flow in this area. No signs of erosion or turbidity were observed and the bridge was in good condition at the time of the inspection;
- Bridge 4, R09 at approximately km 48+500: construction of initial road on upstream side of bridge has concentrated the flow from two channels into a single channel prior to reaching the bridge. The right abutment appears to have been constructed from a mixture of gravel to boulder size particles. No signs of turbidity or erosion were observed at the time of the inspection and the bridge was in good condition;
- Bridge 5, R13 at about km 62+060: at the time of the inspection, the bridge was in good condition. All flow was observed to be passing beneath the bridge and there were no signs of turbidity or erosion;
- Bridge 6, R15 at about km 69+200: no evidence of erosion or turbidity was observed at the time of the inspection. Minor damage to the bin wall of both abutments was observed, and is likely a result of past snow removal activities. The damage is minor and does not impact the geotechnical integrity of the bridge or of the embankments;
- Bridge 7, R16 at about km 73+800: no signs of erosion or turbidity noted. Construction of the bridge has served to concentrate the flow in this area;
- Bridge 8, R18 at about km 79+500: the bridge spans over a boulder field and was in good condition. No flow was observed passing beneath the bridge at the time of the inspection; and,
- Bridge 9, R19 at about km 83+150: steel plates with pipe anchors are installed along both embankments of the bridge. Some damage (bending) to the steel containment plates and to one pile was observed, which may be associated with snow removal activities. The damage is minor and does not impact the geotechnical integrity of the bridge or of the embankment as the surrounding piles seem to hold the metal sheet in place (protecting the abutment backfill). No turbidity or erosion was observed at the time of the inspection.

Table 3: Inspection of the Facilities along the All-Weather Private Road

Station	Name	Structure Description	Comments
0+430	PRC1	1x600 mm CSP	Culvert owned by the town and not AEM. Minor obstruction to the outlet, but still in good condition. No follow-up required.
0+470	PRC2	2x600 mm CSP	Culvert owned by the town and not AEM. In good condition.
1+380	PRC3	1x600 mm CSP	Culvert owned by the town and not AEM. In good condition.
2+550	R-00A	1x600 mm CSP	Inlet partially collapsed, outlet entirely collapsed with signs of obstruction from road material. One hole in the culvert visible from the crest of the road. AEM should monitor if the culvert receives some flow during the freshet. If no flow, then it is recommended to remove the culvert. If monitoring indicates that a culvert is necessary at this location, then it is recommended to replace the culvert and provide adequate backfill around the culvert to protect it.
4+260	PC-14	2x600 mm CSP	Inlet of one culvert is collapsed, no sign of obstruction. AEM should monitor water levels upstream and flow through the damaged culvert during the freshet. If there is no flow through the damaged culvert during the freshet, no action is required. If the other culvert (currently in acceptable condition) does not support the level of water flowing in this area, it is recommended to replace the damaged culvert.
5+200	Quarry 1		Slope remediation in progress.
~5+700	unnamed	1x600 mm CSP	The inlet is short in length as the road rolling surface is at the edge of the inlet.
8+750	R02 Centre Bridge	30m Acrow Panel Bridge	In good condition.
8+830	PC-17A		Sign of erosion and water flowing beneath the inlet. The 1800 CSP culvert was installed too high. As a result the outlet has continued to erode and deteriorate. It is recommended that cobbles and smaller boulders be placed on top of the geotextile. AEM should consider adding protection to the existing fine granular material placed around the culvert on the side slope to reduce the chances of erosion at the next freshet.
8+850	PC-17	2x1200 mm CSP	Sign of erosion beneath the inlet. The 1800 CSP culvert was installed too high. As a result the outlet eroded and deteriorated. It is recommended that cobbles and smaller boulders be placed on top of the geotextile. AEM should consider adding protection to the existing fine granular material placed around the culvert on the side slope to reduce the chances of erosion at the next freshet.

Station	Name	Structure Description	Comments
9+952	PC-1	1x600 mm CSP	In good condition.
10+580	R-03	1x600 mm CSP	In good condition.
12+050	R-04	1x1200 mm CSP	In good condition.
12+745	PC-13	1x600 mm CSP	In good condition.
13+250	Quarry 2		Remediation of steep wall in progress.
13+405	PC-2	1x600 mm CSP	In good condition.
13+685	PC-3	1x600 mm CSP	In good condition.
13+950	unnamed	1x600 mm CSP	In good condition.
14+910	PC-4	1x600 mm CSP	In good condition.
15+745	R-05A	1x1200 mm CSP	In good condition.
17+600	R05 Center Bridge	30m Acrow Panel Bridge	In good condition. Minor damage to the bin wall of both abutments as a results of past snow removal activities.
18+280	PC-5	1x600 mm CSP	In good condition.
18+900	PC-6	1x600 mm CSP	In good condition.
20+240	PC-7A	2x600 mm CSP	In good condition.
20+250	PC-7	1x600 mm CSP	In good condition.
23+100	R06 Center Bridge	30 m Acrow Panel Bridge	In good condition.
23+700	Quarry 3		Presence of loose rocks along the steep wall.
25+900	R-07	1x1200 mm CSP	In good condition.
29+420	PC-8	1x600 mm CSP	In good condition.
31+300	Quarry 4		Quarry flooded.
34+650	Quarry 5		Slope remediation is in progress.
35+690	PC-9	1x600 mm CSP	In good condition.
36+470	Quarry 6		Slope remediation is in progress.
36+865	PC-10	1x600 mm CSP	In good condition.
39+552	PC-11	1x600 mm CSP	In good condition.
39+800	Quarry 7		Presence of unstable blocks due to high abrupt wall.

Station	Name	Structure Description	Comments
41+300	PC-12	1x600 mm CSP	In good condition.
42+950	Quarry 8		Nothing to report.
44+600	Quarry 9		Presence of unstable loose rocks and boulders.
48+500	R09 Center Bridge	12m Rapid Span Bridge	In good condition.
48+900	Quarry 10		Nothing to report.
53+500	Quarry 11		Nothing to report.
54+950	PC-16	1x600 mm CSP	Inlet and outlet totally buried. To be cleaned if water is ponding at freshet.
58+300	Quarry 12		Slope remediation is in progress but need to be reworked to meet the closure requirement.
62+060	R13 Center Bridge	12 m Rapid Span Bridge	In good condition.
62+350	Quarry 13		Slope remediation is in progress.
65+700	Quarry 14		Quarry flooded, slope remediation is in progress.
67+600	Quarry 15		Slope remediation is in progress.
67+840	R-14	3x1200 mm CSP	Middle and northern culverts show minor erosion at the outlet and have been damaged (collapsed) inside, below the road, but it is anticipated that they will continue to perform well. No action required.
69+200	R15 Centre Bridge	30 m Acrow Panel Bridge	Bin wall of both abutments were observed to be damaged but they are holding well.
70+400	Quarry 16		Slope remediation is in progress. Presence of unstable loose rocks and boulders.
72+800	Quarry 17		Slope remediation is in progress.
73+800	R16 Centre Bridge	12m Rapid Span Bridge	In good condition.
77+440	R-17	1x1200 mm CSP	In good condition.
79+500	R18 Centre Bridge	12 m Rapid Span Bridge	In good condition.
80+200	Quarry 18		Slope remediation is in progress.

Station	Name	Structure Description	Comments
80+950	R-18A	3x1200 mm CSP	In good condition.
	R-18B	1X600 mm CSP	The granular material under the culvert was washed out.
83+150	R19 Centre	12m Rapid Span Bridge	Some damage to the steel containment plates and to one pile was observed which may be associated with snow removal activity. The damage is minor and does not affect the geotechnical integrity of the bridge.
84+300	Quarry 19		Presence of loose rock on top of steep wall. Should be cleaned if operation resume. Slope remediation has begun.
85+490	R-20	1x1200 mm CSP	Outlet of the culvert is slightly twisted. The middle of the culvert is slightly collapsed. The inlet is installed above the ground surface and water is able to flow beneath the culvert. No follow-up required.
87+300	R-21	2x1200 mm CSP	Both culverts are slightly collapsed in the middle. Should have been installed lower to avoid erosion issue. In stable condition.
89+550	Quarry 20		Slope remediation is in progress.
93+400	Quarry 21		Slope remediation is in progress.
93+600	R-23	1x1200 mm CSP	Minor damage near the top of the culvert, but still in good condition. The culvert is installed too high and as a result there is a flow of water through the road rockfill.
98+100	R-24	2x1200 mm CSP	Both outlets are installed too high. The outlet of the southern culvert shows small signs of erosion. Both culvert show deformation in the upper part.
99+200	Quarry 22		Slope remediation is in progress.
101+950	R-25	2x600 mm CSP	One culvert is angling up toward the downstream end and natural drainage by gravity does not occur. During the freshet, because the water level is high, the culvert will evacuate the flow from upstream to downstream. A second culvert alongside is well installed and should drain water for the remainder of the season. No sign of erosion observed during the inspection.
104+400	R-26	3x1200 mm CSP	Small obstruction of the west inlet by a boulder (0.4 m). The culvert is in good condition, no follow-up required.
	Quarry 23		Presence of loose rocks on top of steep wall.

6.0 QUARRIES

Twenty-two quarries were developed in the past along the AWPR to provide material for its construction. An additional quarry was developed near the airstrip at Meadowbank to provide further construction materials. All quarries were inspected as part of the geotechnical inspection and a photographic log is presented in Appendix E. Table 3 above presents a summary of the observations and recommendations made during the 2015 inspection for the structures along the AWPR road including the quarries. In accordance with the as-built drawings, the quarries have been numbered sequentially from 1 to 22 starting near Baker Lake and increasing towards Meadowbank. The airstrip quarry is referred to as Quarry 23.

At the time of the inspection, the majority of the quarries were dry with some containing small stockpiles of material for future use in maintaining the AWPR. Quarry 23 was used to store miscellaneous items such as drill core on racks, diamond drill contractor drill rigs, sea-can containers, pipes and culverts.

During the inspection, it was observed that Quarry 4 and Quarry 14 were flooded. These quarries have been flooded for a couple of years and it is understood that AEM is evaluating how to eliminate the ponding of water within these quarries. Quarries 13, 15, contained minor ponding of water (approximately 5 to 15 cm deep). Quarries that contain significant amount of ponded water should be monitored to assess if ponding persists and, if necessary, whether ditches should be developed to facilitate the drainage of water.

Presence of unstable blocks and loose rocks along steep walls was observed in Quarries 3, 7, 9, 16, 19 and 23. It is recommended that workers be cautious in these quarries and aware of the potential hazard.

The Closure and Reclamation Plan requires that all quarries and borrow sources developed during the construction of the AWPR be reclaimed following their use. The closure plan further requires that all quarry slopes be left at an angle of 45 to 50 degrees. During the inspection, it was observed that slope remediation was in progress but none of them were totally reclaimed.

7.0 BULK FUEL STORAGE FACILITIES

This section contains the observations made during the 2015 annual inspection of the Baker Lake and Meadowbank tank farm facilities (Main Camp and Vault).

7.1 Baker Lake Tank Farm

The Baker Lake tank farm consists of six large-capacity tanks (10 million litres each) and twenty Jet A fuel tanks (100,000 litres each) that have been constructed within four bermed areas or containment cells. Tank 1 and Tank 2 are located within the first containment area, which is located on the western side of the fuelling area. Tank 3 and Tank 4 are located within a second containment area adjacent to the first. A central berm is located between the two containment areas. Tank 5 and Tank 6 are within the third containment area located north and upslope of Tanks 3 and 4. Tanks 5 and 6 are situated within an entirely separate containment cell. The twenty Jet A Fuel tanks were installed in 2013 in a new containment area located northwest of Tanks 5 and 6 and lying over a 0.5 m-thick granular base fill material.

Each containment area has been lined with a 1.5-mm high density polyethylene (HDPE) geomembrane to provide secondary containment.

Visual inspection of the majority of the liner in the containment areas for Tanks 1 to 6 was not possible as it is covered with granular fill material to provide protection. Exposed geomembrane no longer protected by granular material was observed between Tanks 1 and 2 on the internal slope separating the containment cell. It is recommended to cover the area with geotextile and fill material to re-establish the liner protection. Exposed damaged geomembrane was observed between the south side of tank 2 and 3. It is recommended to repair the geomembrane, cover the area with geotextile and add material to protect the liner.

The geomembrane of the containment cell of the twenty Jet A fuel tanks remains uncovered around the tanks. Several holes to be repaired were observed in the southern part of the containment cell geomembrane.

As per AEM, the deficiencies noted above observed at the Baker Lake Tank Farm were repaired in September after the inspection.

Ponded water was observed on the southern side of the first, second and third containment areas. Presence of water on the southern side of the containment areas was reported in the 2011 to 2014 geotechnical inspections. Water was also observed on the north part of containment cell of tank 5 and 6. This water was reported in the 2014 geotechnical inspection. No sump or pump was visible during the site visit. It is recommended to keep the water accumulation at a minimum near the tank foundation.

The embankments around the tank farm containment areas appeared stable. Tension cracks were observed during the 2011 to 2014 inspection (100 mm open) on the upper bench north of Tanks 3 and 4 and south of Tanks 5 and 6. These tension cracks were observed during the 2015 inspection but have not progressed and are starting to disappear.

The containment area of Tanks 5 and 6 has been subexcavated into the hill slope above the initial tank farm area. Water diversion berms are located around the northern and eastern sides and there is an access road around the perimeter of the upper slopes. The slopes in the containment area, especially on the northern side, are relatively high and steep. Given the relatively steep slope, the sand and gravel cover may be prone to erosion. AEM should continue to monitor this area for signs of erosion and make repairs as necessary.

There is a fuelling station on the western side of the tank farm that consists of two containers and a pumping system. The fuelling area is covered by granular road base material and had no geotechnical issues at the time of the inspection.

A photographic log of the Baker Lake tank farm and a plan view that shows the location of the photos and observations is included in Appendix F1.

7.2 Meadowbank Tank Farm (Main Camp)

The Meadowbank Main Camp tank farm consists of a single large-capacity tank (5.6 million litres) constructed within an area that has been subexcavated to provide secondary containment. The area has been lined with a 1.5-mm HDPE geomembrane. The liner could not be visually inspected as it was well covered with granular fill material for protection.

At the time of the inspection, the tank backfill foundation pad was in good condition. Two small channels of erosion were observed within the tank platform. The erosion of one channel was under control while the other channel seemed uncontrolled. It is recommended to repair these channels to control the erosion of the foundation pad.

Water (approximately 100 mm) was observed within the eastern corner. Signs of high water levels being present in this area in the past were noted during the inspection. Pumping of ponded water is considered a good practice and should continue.

A fuelling station is located on the northern side of the tank farm. The fuelling area is covered by granular road base material. A geomembrane liner is installed below the refuelling area but could not be visually inspected.

As the tank farm area has been subexcavated, runoff from the tank farm is not anticipated to occur. The side slopes in the tank area are shallow and appear stable.

Appendix F2 contains a photographic log and a plan view that shows the location of the photos and observations noted at the Meadowbank tank farm.

7.3 Meadowbank Tank Farm (Vault Dike)

The Vault tank farm consists of five tanks and was built in 2014. The retention basin is installed below the rockfill pad and is made of a geosynthetic clay liner. No geotechnical issues were noted with this structure.

Appendix F3 contains a photographic log and a plan view that shows the location of the photos and observations.

8.0 OTHER MEADOWBANK FACILITIES

This section contains the observations made for the other Meadowbank facilities visited during the 2015 geotechnical inspection such as: the site roads, the diversion ditch and erosion protection structure, the diffusers, the landfill, the contaminated soil storage and bioremedial landfarm facility, the Stormwater Management Pond, and the airstrip. Figure G1 in Appendix G shows the location of the photos taken during the inspection for the other Meadowbank facilities.

8.1 Site Roads

The following roads were inspected:

- East Road – Former haul road between North Portage Pit and East Dike;
- West Road – Haul road between North Portage Pit and the plant;
- Vault Road – Haul road between North Portage Pit and the Vault deposit;
- RF1 – Starts near the northern abutment of Stormwater Dike and follows the eastern perimeter of the TSF's North Cell and the southwestern side of the Portage Rock Storage Facility; and,
- RF2 – Starts at the end of RF1 and follows the western side of the Portage Rock Storage Facility.

These roads were of adequate width and had appropriate berms at the time of the inspection. The haul road from Goose Pit to the plant was not inspected during this investigation. No geotechnical concerns were identified with East Road, West Road, RF1 and RF2.

Three culverts are installed beneath Vault Road at coordinate 640 964 E / 7 217 466 N. These three culverts were slightly collapsed in the middle and showed signs of erosion at the inlet. This condition was observed from 2012 to 2014. No action is required as their condition is stable and they seemed to perform well during freshet. They need to be monitored during freshet to ensure that they provide sufficient capacity and that erosion is not occurring. Two other culverts are located at 639 214 E / 7 216 189 N on Vault Road. It was observed that the inlet of one of these culverts was entirely obstructed by rockfill and that its outlet was broken while the outlet of the other culvert was partially obstructed. It is recommended to observe this area at freshet and to clear the obstructions if insufficient capacity to handle the flow is observed.

Temporary roads developed for construction purposes were not inspected.

Appendix G1 contains photographs of the Vault Road culvert.

8.2 Diversion Ditch and Sediment and Erosion Protection Structure

There is a Western diversion ditch and an Eastern diversion ditch around the TSF's North Cell. The original intent of those ditches was to take the runoff water away from the TSF. The Western Diversion Ditch is now collected within a retention basin prior to being pumped within the North Cell due to the presence of low cyanide content. Refer to Section 3.1 for more details and recommendations. The Eastern Diversion Ditch yet discharges to NP-2 Lake , then NP-1 Lake and then to Dog Leg Lake. Sediment barriers and an erosion protection structure are installed at the outlet of the diversion ditch in Lake NP-1, Lake NP-2 and Third Portage Lake (Dog Leg Lake).

The diversion ditch around the TSF's western and eastern extensions is in good condition.

The erosion protection structure and sediment barriers were in good condition at the time of the inspection. It is important that they keep being inspected prior to the next freshet season as they may need to be repaired.

Appendix G2 contains photographs of the diversion ditch and its sediment and erosion protection structure.

8.3 Diffusers

The objective of the diffusers is to return the water to the environment without eroding the shoreline. No geotechnical issue was observed with the diffusers installed in Wally Lake and no sign of shoreline erosion was observed in the vicinity of the pipelines entering the lake. The diffuser at Portage Lake is no longer in operation and was not visited during the inspection. Appendix G3 contains photograph of the diffuser.

8.4 Landfill

The Meadowbank landfill is located on the northeastern side of the TSF, within the Portage Rock Storage Facility area. It is progressively being constructed and filled. Waste material is being dumped within a bermed area on a pad built using waste rock from the open pit. The waste is then covered with a thin layer of rockfill to reduce windblown debris. No geotechnical concerns were identified with the landfill. Appendix G4 contains photograph of the landfill.

8.5 Contaminated Soil Storage and Bioremedial Landfarm Facility

The Meadowbank Contaminated Soil Storage and Bioremedial Landfarm Facility is located on the downstream side of Stormwater Dike within the TSF's South Cell close to the Water Treatment Plant (WTP). A berm surrounds the landfarm to contain the fluid/runoff and stops it from moving laterally. Contaminated soils are stored within this cell to promote biodegradation until the soil meets environmental criteria before being disposed within the Portage Rock Storage Facility. AEM stated that the water ponding within the cell during the freshet season and following heavy rainfall during the summer does not seep out by the entrance as there is enough containment volume within the cell to deal with water from the containment area.

No geotechnical concerns were identified with this structure. Appendix G5 contains photographs of the Contaminated Soil Storage and Bioremedial Landfarm Facility.

8.6 Stormwater Management Pond

Stormwater Management Pond is located near the main camp and is being used to store various site waters and sewage. No runoff from the pond was observed at the time of the inspection. No geotechnical concerns were identified with Stormwater Management Pond and the nearby crusher ramp. Due to the proximity of the crusher ramp to the pond, it is recommended that regular geotechnical inspections of the crusher ramp be conducted.

No geotechnical concerns were identified with this structure. Appendix G6 contains a photographic log of Stormwater Management Pond.

8.7 Airstrip

There are several small channels dug adjacent to the airstrip to divert water into small excavations or “ponds”. The channels and ponds are unlined, and the ponds have no designed outlet structure. In general, these ponds would serve to collect water and allow some suspended sediments to settle out before the water would overflow into other vegetated areas and/or infiltrate, depending on the thermal state of the soils.

The runway was extended in the winter of 2013 at both ends to allow a Boeing 737-200 to land at the Meadowbank site. The northwestern boundary of the airstrip extends approximately 20 m within the lake and was constructed in two phases. The first phase corresponds to the placement of the rockfill 1.0 m above the water and the second phase corresponds to the rockfill construction to its final elevation. The rockfill slopes for Phase 2 have a side slope of 1.5H:1.0V. The rockfill of Phase 2 is surrounded by a 17.0-m-wide bench going from the toe of Phase 2 to the edge of the crest of Phase 1. The Phase 1 rockfill surface and visible side slope were built with coarse boulders to protect the embankment against waves and ice action. The airstrip construction within the lake is considered appropriate.

No geotechnical concerns were identified with this structure. Appendix G7 contains a photographic log of the airstrip.

9.0 SUMMARY AND RECOMMENDATIONS

The following presents a summary of the key findings and recommendations of the 2015 geotechnical inspection.

9.1 Dewatering Dikes

- The most current versions of the Operation, Maintenance and Surveillance (OMS) Manual (AEM, 2015), including the Emergency Preparedness Plan (EPP), and of the overall Emergency Response Plan (ERP) for the mine (AEM, 2014) are dated January 2015 and November 2014. It is a good practice to keep these documents up to date.

- The condition of the dewatering dikes is regularly inspected by the mine and this practice should continue.

East Dike

- No visual signs of slope instability or erosion were observed on the upstream or downstream rockfill slopes.
- No signs of tension cracks were observed along the cut-off wall alignment.
- Regular monitoring and assessment of the monitoring data (piezometric, thermal, inclinometer, flow meter and seismograph) should continue. It is recommended to flag the piezometers that recorded data below 0°C in the past and be very careful when interpreting their data as they might be broken.
- At the time of the site inspection, and based on the instrumentation data collected up to that time, the condition of East Dike appears stable.

South Camp Dike

- No geotechnical concerns related to the integrity of South Camp Dike were identified.
- It is recommended to continue keeping the downstream toe of the dike clear to facilitate inspection. The nearby ultramafic rock dump should not obstruct the toe of the dike.

Bay-Goose Dike

- The safety berms should be replaced on several areas of Bay-Goose Dike.
- The tension cracks observed in 2013 and 2014 on the upstream side within the thermal cap were still visible during the 2015 inspection but did not show signs of progression. The settlement within the thermal cap was observed but did not show any additional sign of movement since 2013. The area should continue to be closely monitored to make sure there are no aggravating conditions developing.
- Regular monitoring and assessment of the monitoring data (piezometric, flow, thermal, inclinometer, and seismograph) occurs and should continue.
- It is recommended to flag the piezometers that recorded data below 0°C in the past and be very careful when interpreting their data as they might be broken. Once a piezometer has frozen, it cannot be relied upon even if it unfroze.
- Water ponds were observed at the downstream toe during the inspection. It is recommended to continue monitoring the elevation of these ponds and pumping out the water to allow for good visual inspection of the dike's downstream toe. The flow of pond formed by seepage should be monitored and recorded.
- The overall seepage is less than anticipated and is not a concern for now. The seepage downstream of Bay-Goose Dike and in Bay-Goose Pit should continue to be monitored. The seepage at the downstream toe is currently too small to require a year-round collection system, but if the condition changes such a system might be required.
- North Channel, Channel 1 and Channel 3 should be carefully monitored and inspected. Limited evidence of seepage is observed at the downstream toe of these Channels. The instrumentation data or field observations seem to indicate that seepage is occurring at these locations but is directly reported to Bay-

Goose Pit instead of the downstream toe area. The seepage being reported to Bay-Goose Pit should be included in the statistics of Bay-Goose Dike seepage.

- At the time of the site inspection, and based on the instrumentation data collected up to that time, the condition of Bay-Goose Dike appears stable.

Vault Dike

- Vault Dike was in good condition at the time of the inspection. The settlement and cracks observed in 2013 and 2014 were not noticeable anymore.
- Regular monitoring and assessment of the thermistor data should continue.

9.2 Tailings Storage Facility

- The most current versions of the Operation, Maintenance and Surveillance (OMS) Manual (AEM, 2015b), including the Emergency Preparedness Plan (EPP), and of the overall Emergency Response Plan (ERP) for the mine (AEM, 2014) are dated January 2015 and November 2014. It is a good practice to keep these documents up to date.
- At the time of the inspection, the peripheral structure of the TSF had an adequate tailings beach against them. Some water was observed ponding against a portion of Stormwater Dike and Central Dike. Golder recommends continuing deposition of tailings along all peripheral dikes of the facility to distance the water prior to winter as per the design requirement, including the Stormwater Dike.
- AEM does not plan on maintaining a tailings beach against Stormwater Dike as part of their closure strategy for the North Cell. This may result in the bituminous liner being damaged and in seepage from the North Cell into the South Cell. As the South Cell is operational, the consequence of such seepage minimized but yet considered as potential treat due to consequences of high volume rapid inflow within the South Cell and against the Central Dike.. It is recommended to consider protecting the upstream face of Stormwater Dike from direct contact with the water.
- No geotechnical issues were observed with the engineered tailings barrier along RF1 and RF2 (till plug).
- Saddle Dam 1 has a permanent sump with a pump back system. For Saddle Dam 2, such a system is not considered necessary as no seepage is reported, but AEM should be prepared in case of any change especially since water has been observed ponding in the rockfill of SD2 during the inspection.
- Regular visual inspection as well as collection and regular review of instrument data should continue for all structures within the TSF.

Saddle Dam 1

- No visual signs of slope instability, erosion or tension cracks were observed.
- The environment department should continue monitoring the water quality and share this information with the engineering department to assess if there is seepage through Saddle Dam 1.

Saddle Dam 2

- Water was observed on the downstream side ponding within the rockfill embankment between Sta. 20+275 to Sta. 20+475. It is recommended to be on the lookout for change of the thermal regime of its foundation and upstream toe from the installed thermistors.
- No visual signs of slope instability, erosion or tension cracks were observed.

Stormwater Dike

- Water was observed ponding directly against Stormwater Dike from about 10+100 to 10+375. It is recommended to protect the upstream face of Stormwater Dike from direct water contact, especially if the tailings levels at closure in the North Cell and the South Cell remain different.
- Differential settlement was still partly visible between Sta. 10+735 and Sta. 11+045 on the upstream edge and slope. There was no sign of degradation from previous year's inspection.
- Very low seepage were observed in the downstream toe area at Sta.10+700 and Sta.10+900.
- A water outcome (clear flow) was observed at the downstream toe at about Sta.10+560. It is recommended to test the quality of the water in order to determine its origin.
- It was observed that a balloon filled with water was still present in the bituminous geomembrane at Sta.10+380. It is recommended to puncture a hole in the balloon to free the water and to repair it afterward.

Central Dike

- Tailings deposition from Central Dike stopped during the raise of Central Dike in the summer of 2015 but deposition was planned to resume in September 2015 to promote a tailing beach against that structure.
- Special attention will have to be taken to protect the instrumentation during the construction of Central Dike.
- Clear water was observed ponding at the downstream toe of Central Dike between approximately Sta. 0+545 and 0+830. AEM is currently pumping that water back to the South Cell to control the water level in the downstream toe area (800 m^3/hr). The instrumentation data and various observations on site confirmed that there is seepage from the South Cell accumulating in the downstream toe area of Central Dike. Golder recommends the following action in regard to this condition
  - Continue to develop and maintain tailings beaches adjacent to Central Dike and to operate the reclaim pond towards the centre of the South Cell.
  - Reduce the hydraulic gradient by raising the downstream water level to 115 m and maintain that level until the tailings deposition is completed. However, this mitigation may impact the thermal conditions beneath the West Road and along the pit (see Item 4 below).
  - Extend the inverse filter from the downstream toe of Central Dike to the West Road.
  - Monitor with instruments any mitigation measures to control how the conditions evolve (e.g. geophysical target, thermal conditions along Pits and beneath West Road).
  - Regularly inspects Central Dike to ensure that no adverse situation is in development.

- Continue monitoring the quality of the water ponding, especially the turbidity.

9.3 AWPR

- No geotechnical issues were identified with the AWPR at the time of the inspection that were related to thermal degradation of the permafrost, thaw settlement, erosion of the road materials, or sediment migration from the road into adjacent watercourses.
- Regular inspections and maintenance of the road by AEM should continue. Consideration should be given to expanding AEM's monitoring program to include all culverts and bridges along the road to assess whether they are providing adequate capacity during the freshet and following large precipitation events.
- AEM has been conducting regular and event-based inspections of the fish-bearing water crossing locations along the road and these should continue in order to confirm the hydraulic function of the crossings, adequacy of crossing locations with respect to the watercourses, and minimal impact to fish habitat.
- It is recommended to add protection to the existing fine granular material placed around culvert PC-17A (8+830) and PC-17 (8+850) to reduce the chance of erosion at next freshet. The progression of the erosion of culverts R14 (67+840), R18-B (80+950), R20 (85+490), R23 (93+600) and R24 (98+100) should also be monitored at freshet for sign of progression or washout.
- For some culvert locations, it is recommended that AEM conduct monitoring to see if flow is actually occurring through the culvert (i.e., during the freshet). If insufficient capacity to handle the flows is observed, or water is circulating under the road, then it is recommended to clear the obstructions or repair the culverts. Particular attention should be paid to R-00A (km 2+550), the culvert at (5+700), PC-14 (km 4+260), and PC-16 (km 54+950).
- The inspected bridges and their embankments were in good geotechnical condition.

9.4 Quarries

- Presence of unstable blocks and loose rocks along steep walls was observed in Quarries 3, 7, 9, 16, 19 and 23. These unstable blocks and loose rocks should be cleaned if operation of these quarries resumes. Workers should be cautious in these quarries and aware of the potential hazard.
- Slope remediation is in progress, but none of them were totally reclaimed. It is understood that AEM is developing a plan to progressively close some of the quarries along the AWPR while maintaining others to produce and store material supplies for ongoing road maintenance.
- Quarry 4 and Quarry 14 are flooded. It is understood that AEM is evaluating how best to eliminate the ponding of water within these quarries.

9.5 Bulk Fuel Storage Facilities

- Ponded water within the secondary containment cell was observed at the Baker Lake and Meadowbank main camp fuel tank farm. Ongoing removal of fluids should be managed to keep the water accumulation at a minimum near the tank foundation.
- Exposed geomembrane no longer protected by granular material was observed between Tanks 1 and 2 on the internal slope separating the containment cell. It is recommended to cover the area with geotextile and fill material to re-establish the liner protection. Exposed damaged geomembrane was observed between

the south side of tank 2 and 3. It is recommended to repair the geomembrane, cover the area with geotextile and add material to protect the liner.

- For the containment cell of the twenty Jet A fuel tanks, the geomembrane remains uncovered around the tanks. Several holes in the geomembrane to be repaired were observed in the southern part of the containment cell geomembrane. It is recommended to remain vigilant during the freshet and throughout the year to manage water accumulated within the bermed area.
- Per AEM, the deficiencies observed at the Baker Lake Tank Farm were repaired in September after the inspection.
- The tension cracks observed in the past on the upper bench, north of Tanks 3 and 4 and south of Tanks 5 and 6, have not progressed and are starting to disappear.
- At the Meadowbank Main Camp tank farm, small channels of erosion were observed in the tank platform. It is recommended to repair these channels to control the erosion of the foundation pad.
- No geotechnical issues were noted with the Meadowbank Vault tank farm.

9.6 Other Meadowbank Facilities

Meadowbank Site Roads

- Haul roads currently in operation appear to be of adequate width and have appropriate berms.
- Three culverts were installed on Vault Road (coordinate 640964E/7217466N). As previously observed in past annual inspections, these three culverts were partially collapsed in the middle and showed signs of erosion at the inlet. This is currently not a significant issue, but it is recommended to monitor these culverts at freshet to ensure that they provide sufficient capacity and that erosion is not occurring.
- Two culverts are installed on Vault Road (coordinate 639214E/7216189N). It was observed that the inlet of one of the culvert was entirely obstructed by rockfill and that the outlet of one of the culvert was partially obstructed while the outlet of the other culvert was broken. It is recommended to observe this area at freshet and to clear the obstructions if insufficient capacity to handle the flow is observed.

Diversion Ditch and Sediment and Erosion Protection Structure

- No geotechnical concerns were observed with this structure
- It is important that the erosion protection structure and sediment barriers be inspected during the next freshet season.

Diffuser

- No geotechnical concerns with the diffuser at Wally Lake and no sign of shoreline erosion was identified at the time of the inspection.

Landfill and Contaminated Soil Storage and Bioremedial Landfarm Facility

- No geotechnical concerns related to the landfill or the landfarm were identified at the time of the inspection.

Stormwater Management Pond

- From observations made from around the pond, no geotechnical concerns were identified regarding Stormwater Management Pond, or the crusher ramp located nearby. The geotechnical stability of the crusher ramp should be regularly inspected by AEM due to its proximity with Stormwater management pond.

Airstrip

- No geotechnical concerns were identified with the airstrip.

10.0 CLOSURE

This report was prepared to summarize the findings from the 2015 geotechnical inspection conducted between August 27 and September 3, 2015, to comply with the requirements of AEM's Type A Water Licence Permit No. 2AM-MEA0815, Part I, Item 12. An inspection of the pit walls is reported under separate cover.

We trust the above information is sufficient for your current needs. Should you require additional information or further clarification, please contact us.

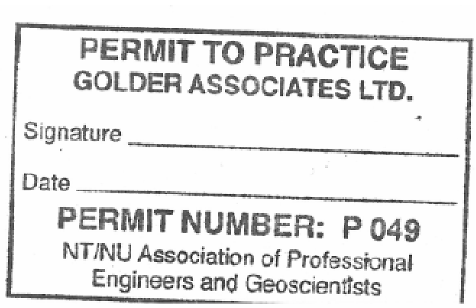
GOLDER ASSOCIÉS LTÉE

ORIGINAL SIGNED

Frédérick L.Bolduc, Eng., M.Sc.
Geotechnical Engineer

ORIGINAL SIGNED AND SEALED

Yves Boulianne, Eng.
Senior Geotechnical Engineer, Associate



ORIGINAL SIGNED

FLB/YB/

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11.0 REFERENCES

Agnico-Eagle Mines Ltd., Meadowbank Division, 2015a. “Dewatering Dikes Operation, Maintenance And Surveillance Manual”. Version 4. January 2015.

Agnico-Eagle Mines Ltd., Meadowbank Division, 2014. “Emergency Response Plan, Meadowbank Gold Project”. Version 9. November 2014.

Agnico-Eagle Mines Ltd., Meadowbank Division, 2015b. “Tailings Storage Facility Operation, Maintenance And Surveillance Manual”. Version 4. January 2015.

Golder Associés. Central Dike Seepage Modelling and Stability Assessment, Meadowbank Gold Project. Doc 1528 Rev 0. October 2015

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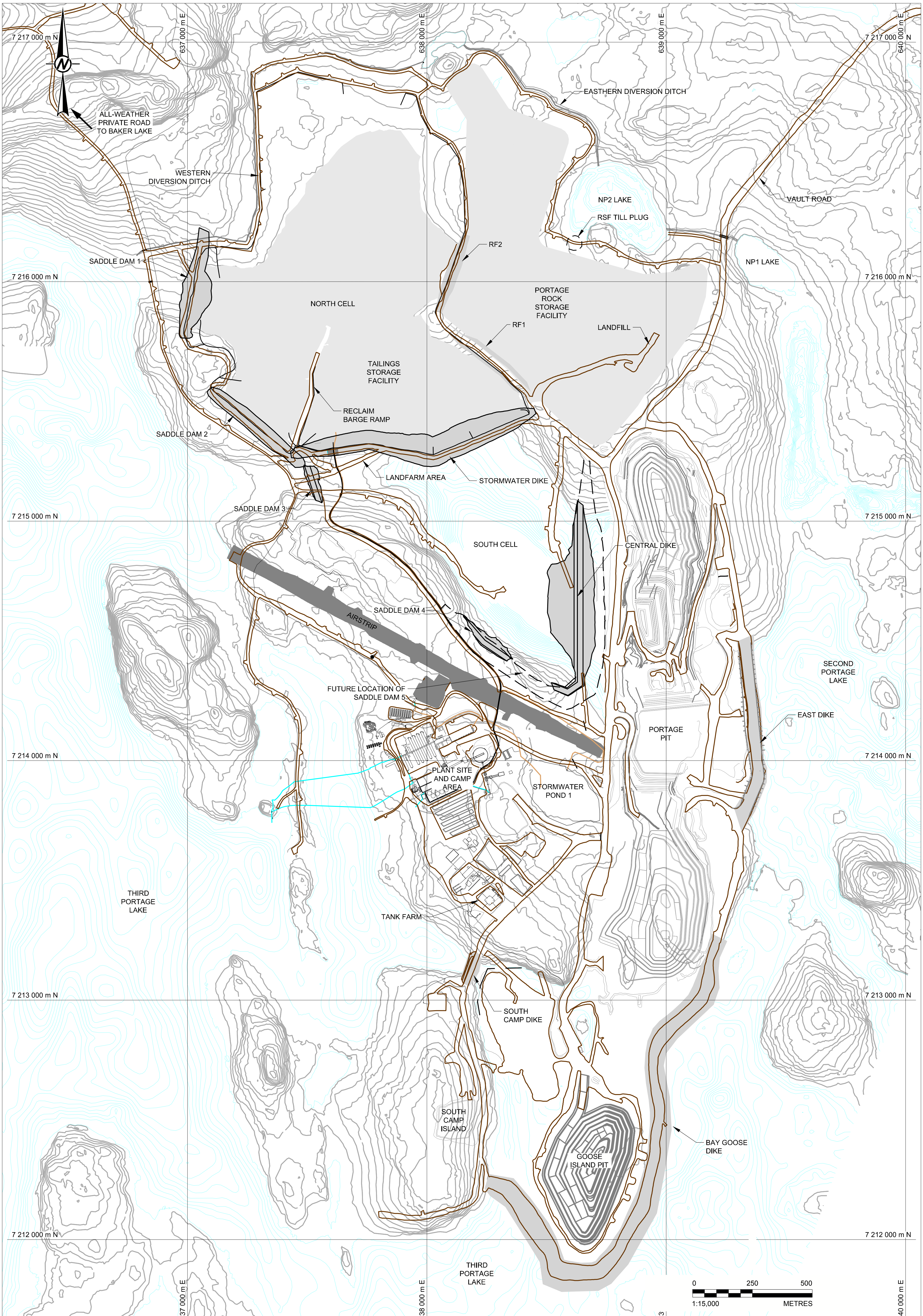


IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25 mm

LEGEND

BATHYMETRIC MAJOR CONTOURS

TOPOGRAPHIC CONTOUR

NOTE

GRID REFERENCE: NAD 83, UTM ZONE 14.

REFERENCE

DRAWING BASE PROVIDED BY AEM LTD., MEADOWBANK DIVISION IN "MBK Site map updated JULY 2014.dwg" DATED JULY 8, 2014.

CLIENT

AGNICO EAGLE

CONSULTANT

Golder Associates

YYYY-MM-DD	2015-12-11
PREPARED	F. L. Bolduc
DESIGN	R. Gravel
REVIEW	F. L. Bolduc
APPROVED	Y. Boulianne

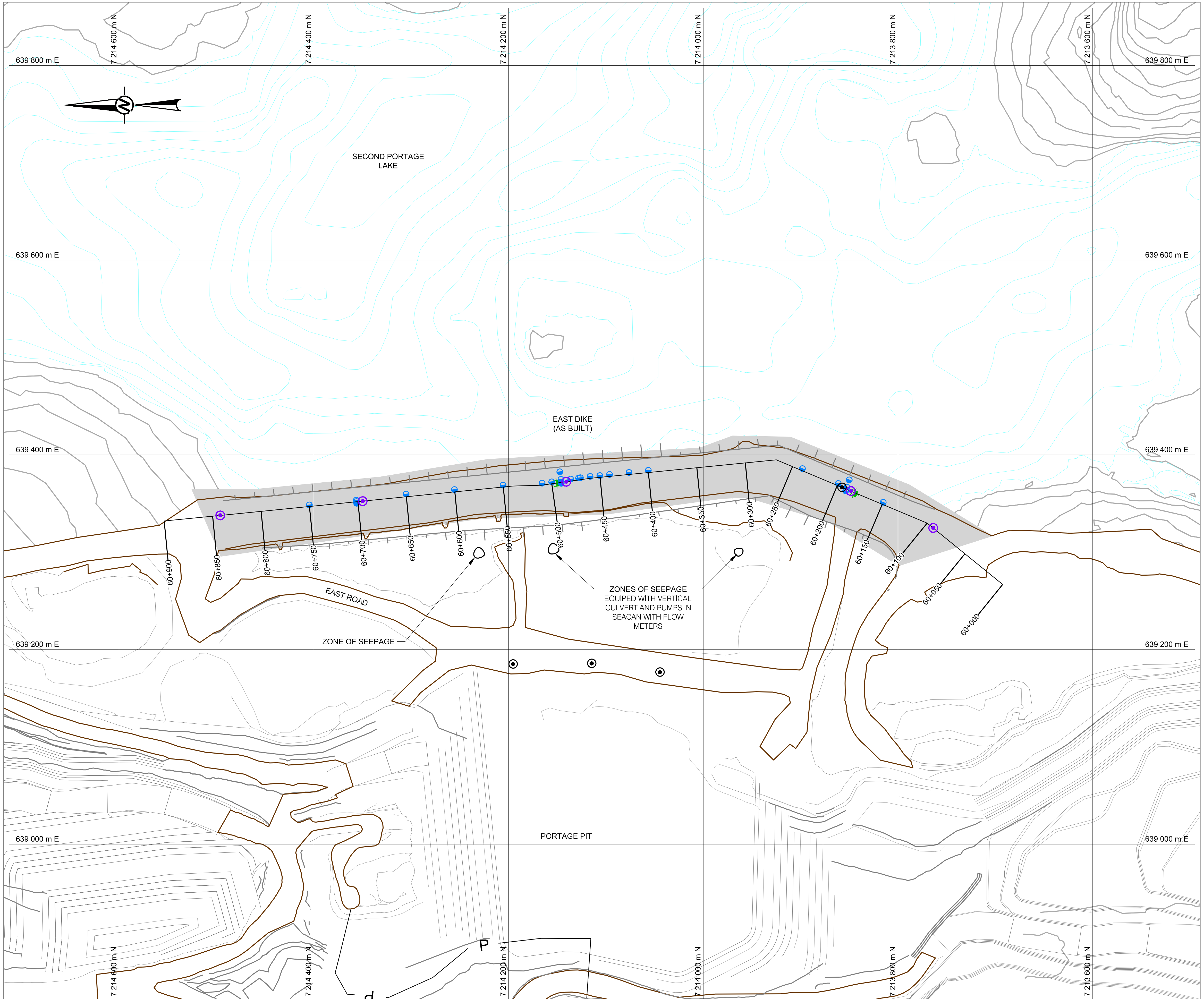
PROJECT

2015 ANNUAL GEOTECHNICAL INSPECTION
MEADOWBANK GOLD MINE, NUNAVUT

TITLE

MEADOWBANK MINE SITE

PROJECT No.	PHASE	Rev.	FIGURE
1535715	3000	0	1



LEGEND

- BATHYMETRIC MAJOR CONTOURS
- TOPOGRAPHIC CONTOUR
- EXISTING THERMISTOR
- PIEZOMETER
- INCLINOMETER
- BLAST MONITORING POINT

NOTE

GRID REFERENCE: NAD 83, UTM ZONE 14.

REFERENCE

DRAWING BASE PROVIDED BY AEM LTD., MEADOWBANK DIVISION IN "MBK Site map updated JULY 2014.dwg" DATED JULY 8, 2014.

0 100 200
1:4 000 METRES

CLIENT
AGNICO EAGLE

PROJECT
2015 ANNUAL GEOTECHNICAL INSPECTION
MEADOWBANK GOLD MINE, NUNAVUT

TITLE
EAST DIKE

CONSULTANT
Golder Associates

YYYY-MM-DD	2015-12-11
PREPARED	F. L. Bolduc
DESIGN	R. Gravel
REVIEW	F. L. Bolduc
APPROVED	Y. Boulianne

PROJECT No.	PHASE	Rev.	FIGURE
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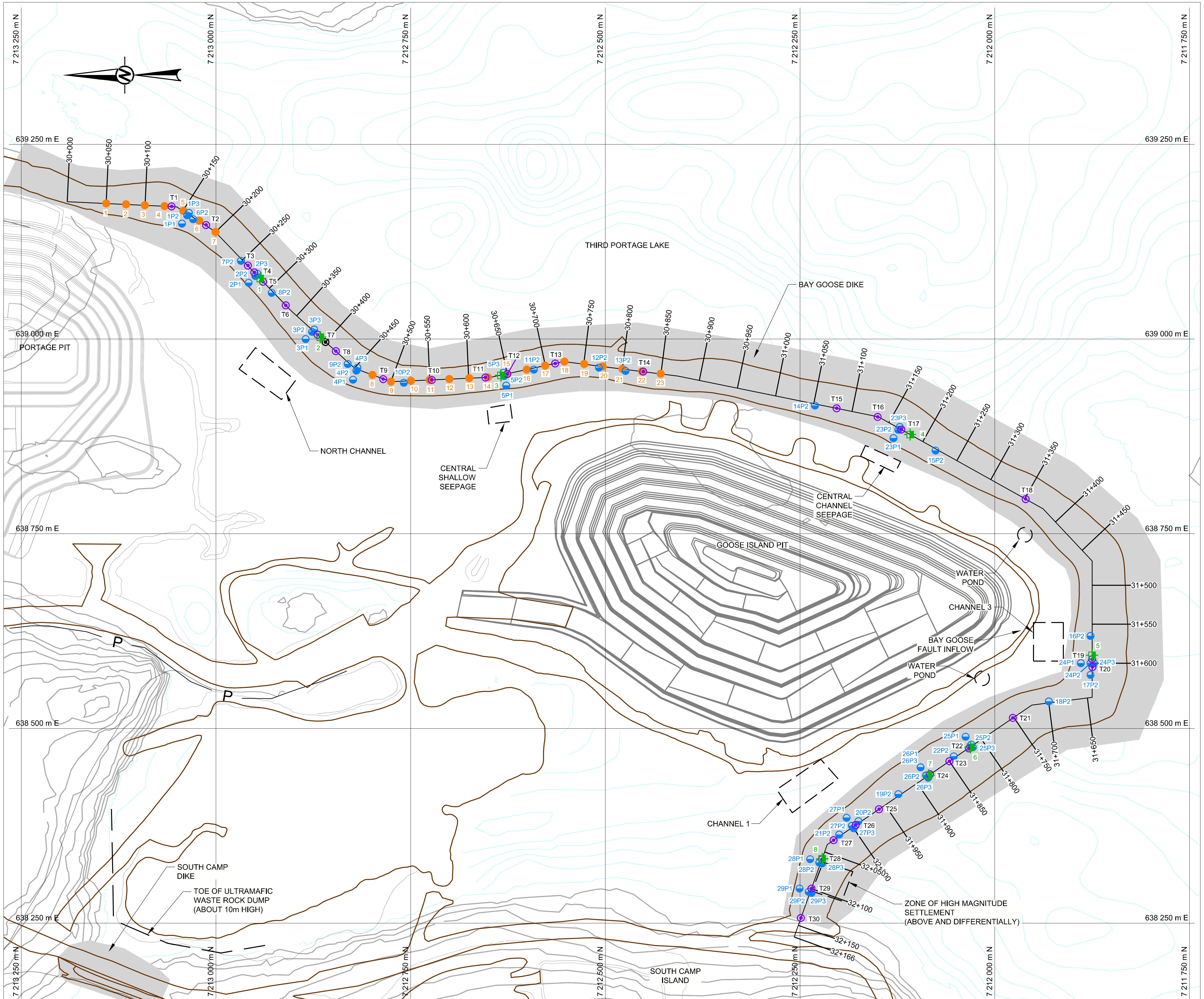

LEGEND

- BATHYMETRIC MAJOR CONTOURS
- TOPOGRAPHIC CONTOUR
- EXISTING THERMISTOR
- SURVEY MONUMENT LOCATION
- PIEZOMETER
- INCLINOMETER
- BLAST MONITORING POINT

NOTE

GRID REFERENCE: NAD 83, UTM ZONE 14.

REFERENCE

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1:5 000 METRES

CLIENT

AGNICO EAGLE

PROJECT

2015 ANNUAL GEOTECHNICAL INSPECTION
MEADOWBANK GOLD MINE, NUNAVUT

TITLE

BAY-GOOSE DIKE AND SOUTH CAMP DIKE

CONSULTANT

Golder Associates

YYYY-MM-DD	2015-12-11
PREPARED	F. L. Bolduc
DESIGN	R. Gravel
REVIEW	F. L. Bolduc
APPROVED	Y. Boulianne

PROJECT No.	PHASE	Rev.	FIGURE
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25 mm

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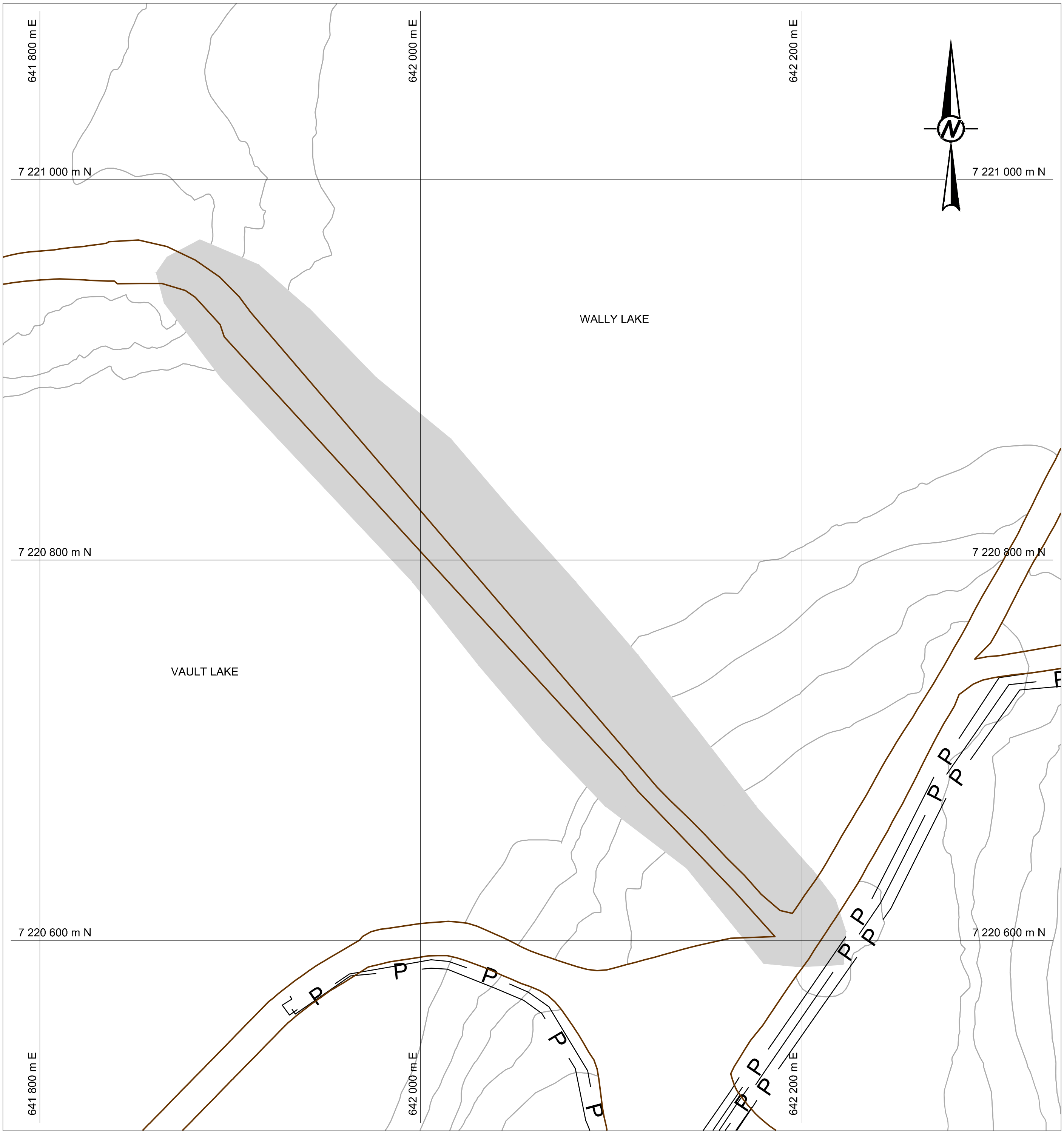


LEGEND

TOPOGRAPHIC CONTOUR

NOTE

GRID REFERENCE: NAD 83, UTM ZONE 14.

REFERENCE

DRAWING BASE PROVIDED BY AEM LTD., MEADOWBANK DIVISION IN "MBK Site map updated JULY 2014.dwg" DATED JULY 8, 2014.

0 50 100
1:3,000 METRES

CLIENT
AGNICO EAGLE

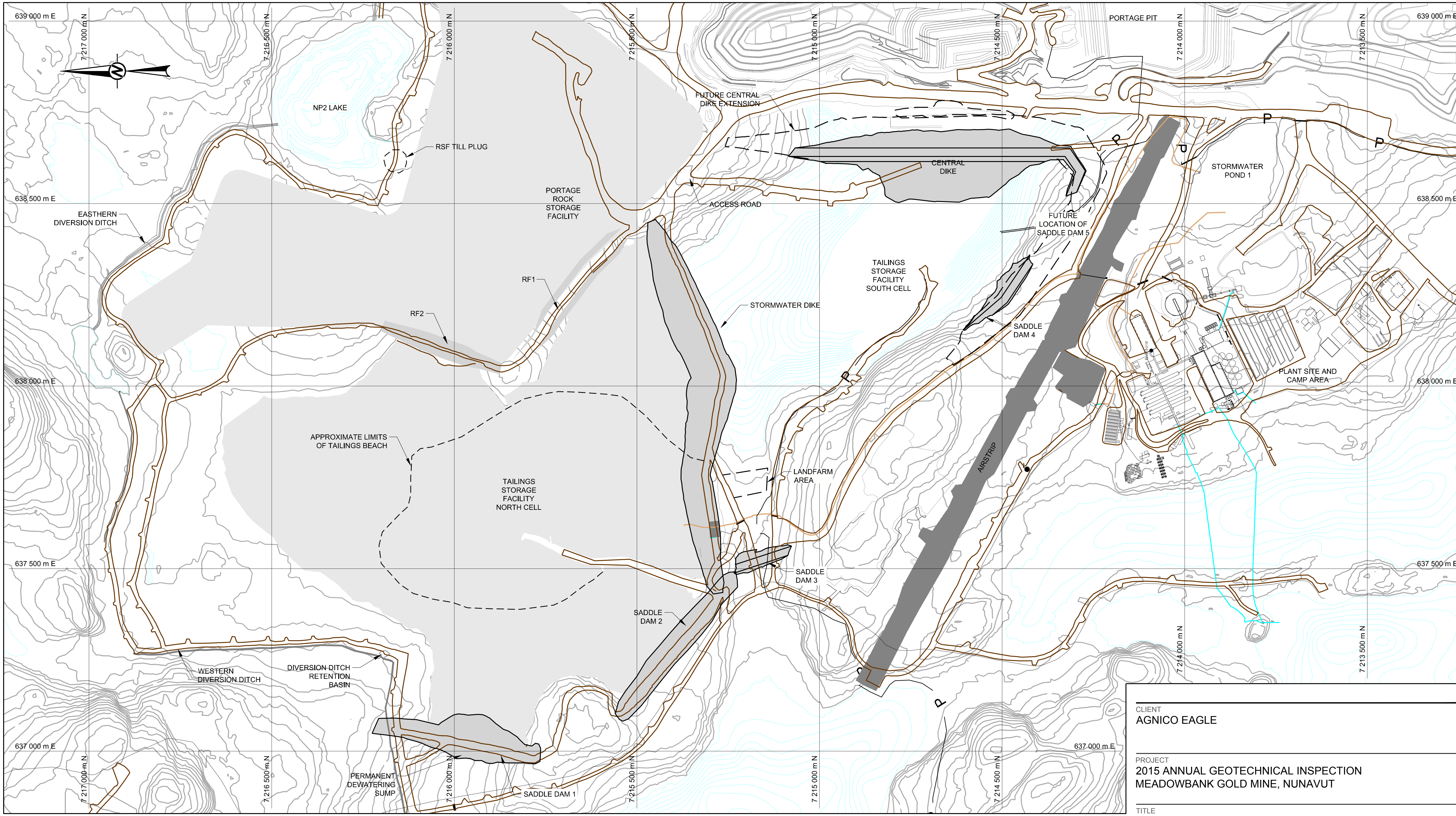
PROJECT
2015 ANNUAL GEOTECHNICAL INSPECTION
MEADOWBANK GOLD MINE, NUNAVUT

CONSULTANT

YYYY-MM-DD	2015-12-11
PREPARED	F. L. Bolduc
DESIGN	R. Gravel
REVIEW	F. L. Bolduc
APPROVED	Y. Boulianne

TITLE
VAULT DIKE

PROJECT No.	PHASE	Rev.	FIGURE
1535715	3000	0	4



LEGEND

BATHYMETRIC MAJOR CONTOURS

TOPOGRAPHIC CONTOUR

NOTE

GRID REFERENCE: NAD 83, UTM ZONE 14.

REFERENCE

DRAWING BASE PROVIDED BY AEM LTD., MEADOWBANK DIVISION IN "MBK Site map updated JULY 2014.dwg" DATED JULY 8, 2014.

0 250 500
1:10 000 METRES

CLIENT
AGNICO EAGLE

PROJECT
2015 ANNUAL GEOTECHNICAL INSPECTION
MEADOWBANK GOLD MINE, NUNAVUT

TITLE
GENERAL VIEW OF TAILINGS STORAGE FACILITY

CONSULTANT

Golder Associates

YYYY-MM-DD	2015-12-11
PREPARED	F. L. Bolduc
DESIGN	R. Gravel
REVIEW	F. L. Bolduc
APPROVED	Y. Boulianne

PROJECT No.	PHASE	Rev.	FIGURE
1535715	3000	0	5

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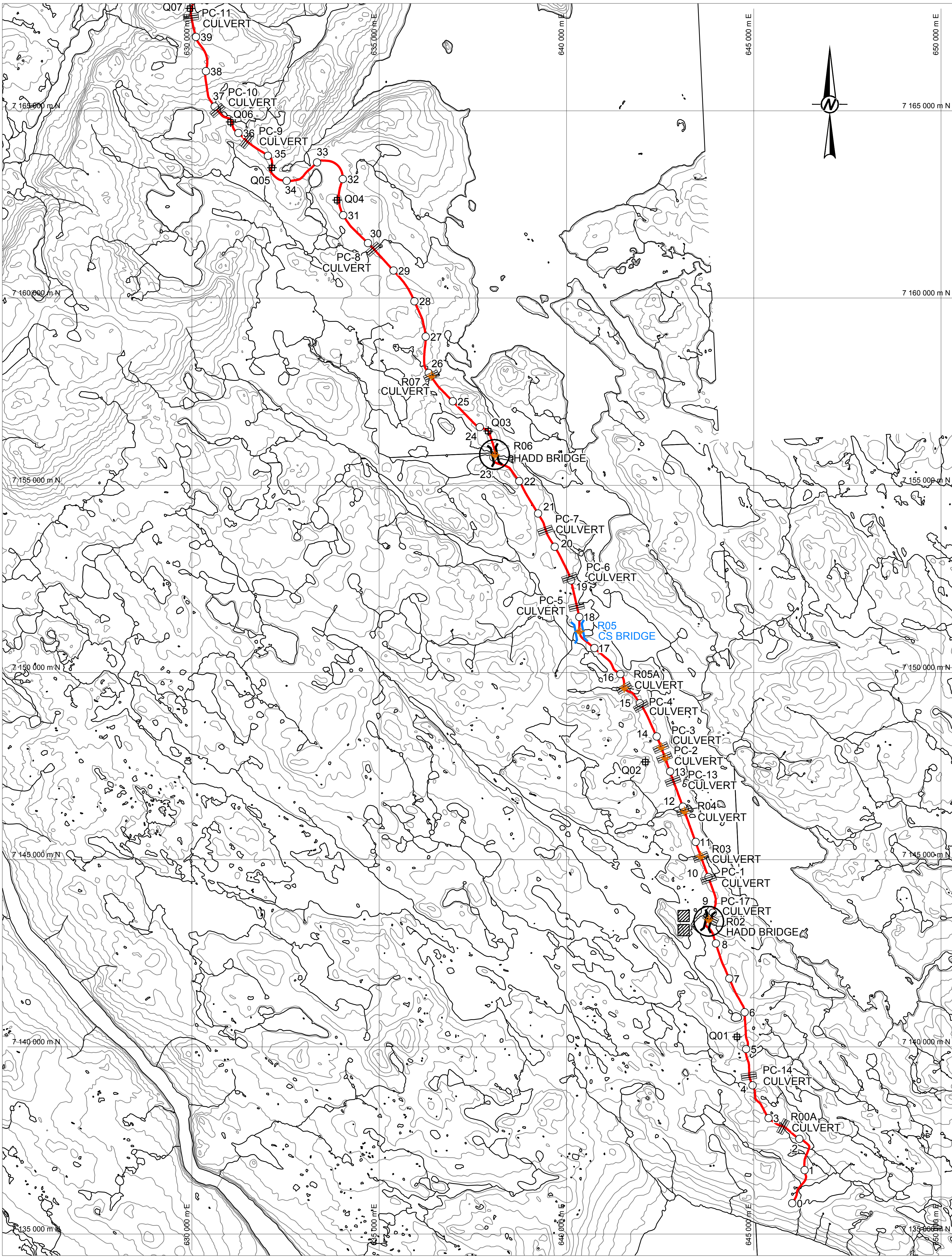

LEGEND

- CULVERT
- HADD BRIDGE
- CLEAR-SPAN BRIDGE
- EXISTING QUARRY
- 10 KILOMETER MARKER
- PIT INVESTIGATED

REFERENCE

1) ROAD ALIGNMENT, BRIDGE, CULVERT AND QUARRY LOCATIONS FROM NUNA M&T SERVICES Ltd.
2) POOL LOCATIONS FROM AZIMUTH CONSULTING GROUP INC.

0 2,500 5,000
1:100,000 METRES

CLIENT

PROJECT
2015 ANNUAL GEOTECHNICAL INSPECTION
MEADOWBANK GOLD MINE, NUNAVUT

TITLE
ALL-WEATHER PRIVATE ROAD

CONSULTANT

Golder Associates

YYYY-MM-DD	2015-12-11
PREPARED	F. L. Bolduc
DESIGN	R. Gravel
REVIEW	F. L. Bolduc
APPROVED	Y. Boulianne

PROJECT No.	PHASE	Rev.	FIGURE
1535715	3000	0	6A

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25 mm
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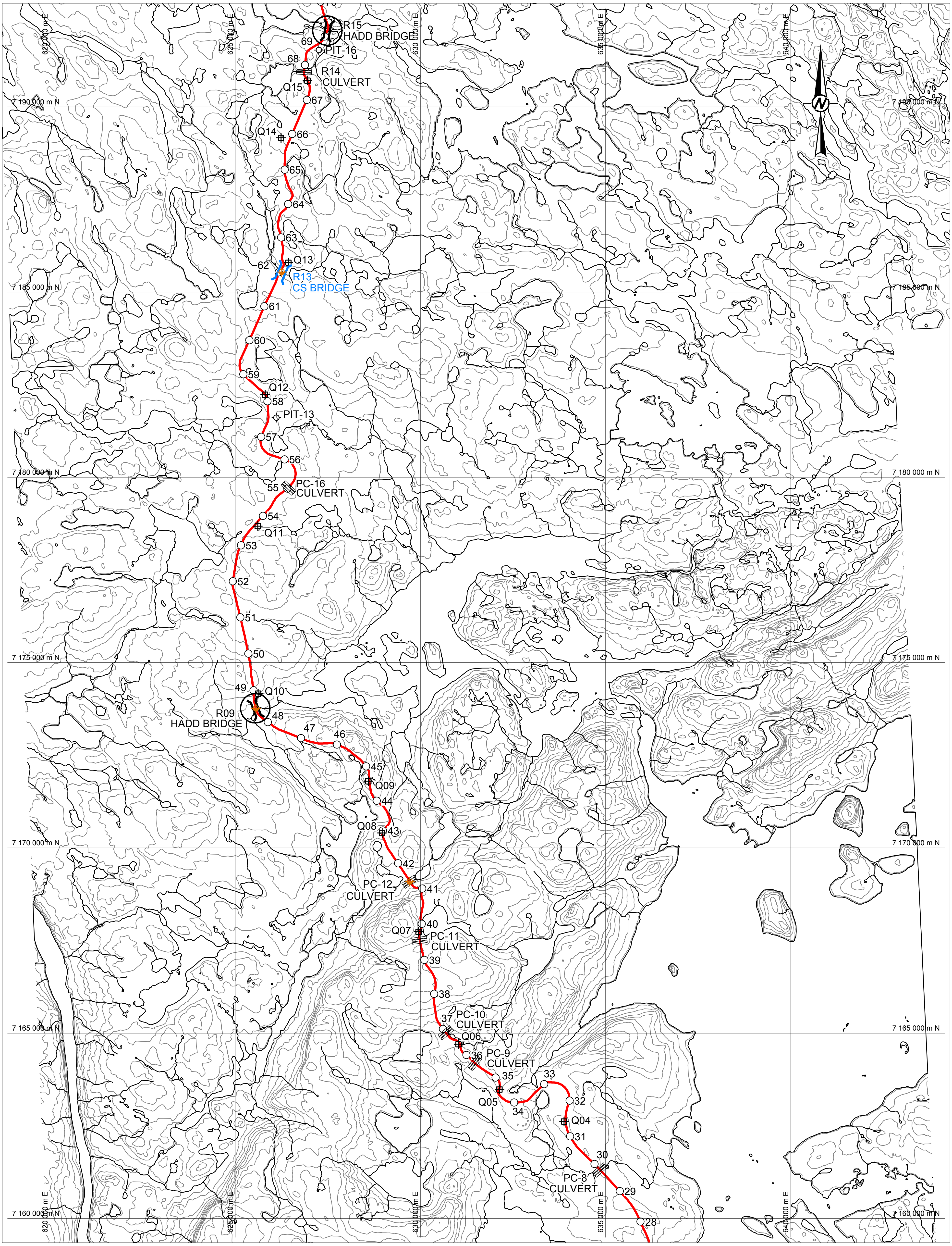

CLIENT

LEGEND

- CULVERT
- HADD BRIDGE
- CLEAR-SPAN BRIDGE
- EXISTING QUARRY
- 10 KILOMETER MARKER
- PIT INVESTIGATED

REFERENCE

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2) POOL LOCATIONS FROM AZIMUTH CONSULTING GROUP INC.

0 2,500 5,000
1:100,000 METRES

PROJECT
2015 ANNUAL GEOTECHNICAL INSPECTION
MEADOWBANK GOLD MINE, NUNAVUT

TITLE
ALL-WEATHER PRIVATE ROAD

CONSULTANT

Golder Associates

YYYY-MM-DD	2015-12-11
PREPARED	F. L. Bolduc
DESIGN	R. Gravel
REVIEW	F. L. Bolduc
APPROVED	Y. Boulianne

PROJECT No.	PHASE	Rev.	FIGURE
1535715	3000	0	6B

25 mm

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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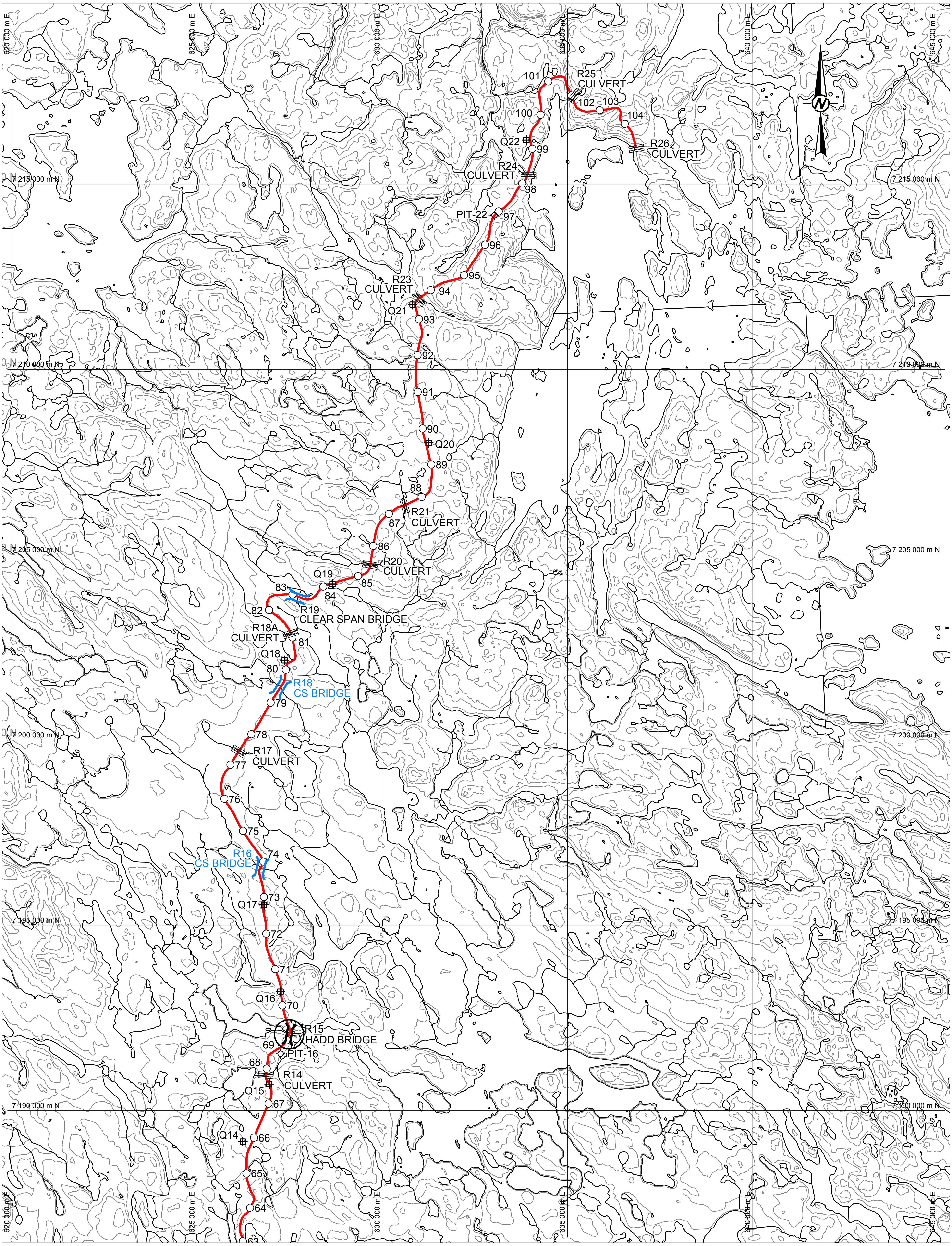

CLIENT

LEGEND

- CULVERT
- HADD BRIDGE
- CLEAR-SPAN BRIDGE
- EXISTING QUARRY
- 10 KILOMETER MARKER
- PIT INVESTIGATED

REFERENCE

1) ROAD ALIGNMENT, BRIDGE, CULVERT AND QUARRY LOCATIONS FROM NUNA M&T SERVICES Ltd.
2) POOL LOCATIONS FROM AZIMUTH CONSULTING GROUP INC.

0 2,500 5,000
1:100,000 METRES

PROJECT
2015 ANNUAL GEOTECHNICAL INSPECTION
MEADOWBANK GOLD MINE, NUNAVUT

TITLE
ALL-WEATHER PRIVATE ROAD

CONSULTANT

Golder Associates

YYYY-MM-DD	2015-12-11
PREPARED	F. L. Bolduc
DESIGN	R. Gravel
REVIEW	F. L. Bolduc
APPROVED	Y. Boulianne

PROJECT No.	PHASE	Rev.	FIGURE
1535715	3000	0	6C

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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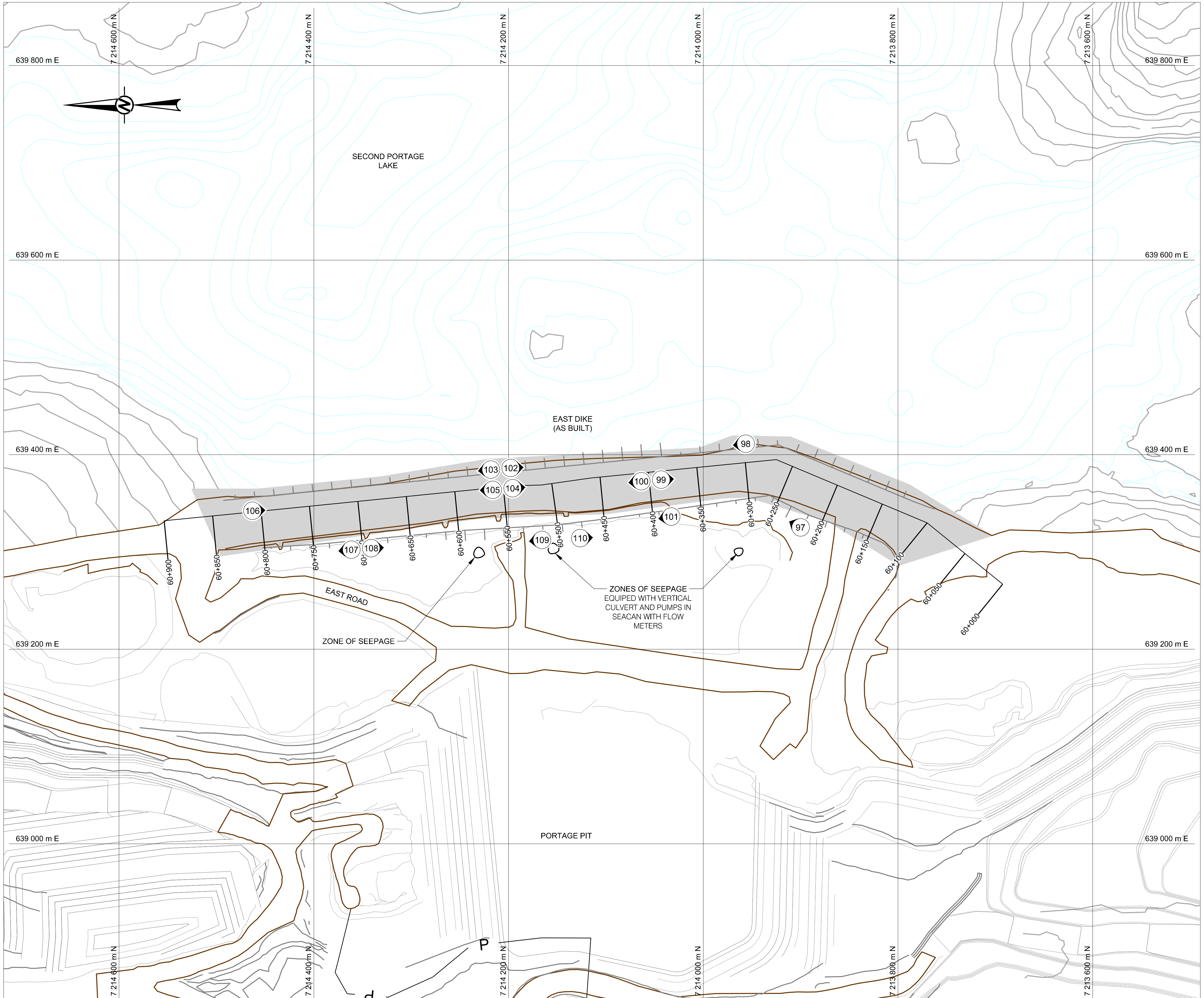
APPENDIX A

Dewatering Dikes

APPENDIX A1

East Dike Photographic Log and Record of Inspection



LEGEND

BATHYMETRIC MAJOR CONTOURS

TOPOGRAPHIC CONTOUR

1 IDENTIFICATION AND DIRECTION OF PHOTOGRAPHY TOOK DURING THE ANNUAL INSPECTION OF 2015

NOTE

GRID REFERENCE: NAD 83, UTM ZONE 14.

REFERENCE

DRAWING BASE PROVIDED BY AEM LTD., MEADOWBANK DIVISION IN "MBK Site map updated JULY 2014.dwg" DATED JULY 8, 2014.

0 100 200

1:4 000 METRES

CLIENT

AGNICO EAGLE

PROJECT

2015 ANNUAL GEOTECHNICAL INSPECTION
MEADOWBANK GOLD MINE, NUNAVUT

TITLE

EAST DIKE

CONSULTANT

Golder Associates

YYYY-MM-DD	2015-12-11
PREPARED	F. L. Bolduc
DESIGN	R. Gravel
REVIEW	F. L. Bolduc
APPROVED	Y. Boulianne

PROJECT No.	PHASE	Rev.	FIGURE
1535715	3000	0	A1

25 mm

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Client:	AEM	**By:**	Yves Boulianne
Project:	Meadowbank	**Date:**	August 29, 2015
Location:	East Dike	**Reviewed:**	Yves Boulianne

GENERAL INFORMATION

Dam Type:	Rockfill embankment with a soil bentonite cut-off wall and downstream filters		
Weather Conditions:	Overcast	**Temperature:**	8°C

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
1. DAM CREST		99,100,102,103, 104,105,106	
1.1 Crest elevation	136.5 m Cut-off 136.1m		Design thermal cap crest revised in 2011 to El. 136.5 m (Golder 2011a)
1.2 Reservoir Level	132.87 m U/S		
Current Freeboard	3.6 m		Design 2 m.
1.3 Distance To Tailings Pond (if applicable)	Not applicable		
1.4 Surface Cracking	None at time of inspection		No surface cracking was observed during the inspection. In 2009, cracking was observed in sinkhole area near Sta. 60+472 upstream of the cut-off wall, parallel and perpendicular. Since then, the conditions seem under control
1.5 Unexpected Settlement	None		
1.6 Lateral Movement	Not apparent		
1.7 Other Unusual Conditions	None		The 2009 sinkhole near Sta. 60+472 has been filled. No sign of sinkhole on the crest at the time of the inspection.
2. UPSTREAM SLOPE		98,102,103,106	
2.1 Slope angle	Approx. 1.6H:1V		
2.2 Signs of Erosion	Stable		
2.3 Signs of Movement (Deformation)	None observed		
2.4 Cracks	None observed		
2.5 Face liner condition (if applicable)	Not applicable		

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
2.6 Other Unusual Conditions	None		
3. DOWNSTREAM SLOPE		97,101,107,108, 109,110	
3.1 Slope angle	Approx.1.6H:1V		
3.2 Signs of Erosion	None observed		
3.3 Signs of Movement (Deformation)	None observed		
3.4 Cracks	None observed		
3.5 Seepage or Wet Areas	Not apparent		
3.6 Vegetation Growth	None observed		
3.7 Other Unusual Conditions	None		
4. DOWNSTREAM TOE AREA		97,101,107,108, 109,110	
4.1 Seepage from Dam	Yes, presence of 3 zones	97	Zone of seepage downstream near Sta. 60+247. A sump is installed (pumping system located in container on the photo). No additional seepage observed at the surface of the ground. Pumping collection system started on April 4' 2012. Flow is being monitored since July 2013.
		101	Zone of seepage downstream near Sta. 60+498. A sump is installed (pumping system located in container on the photo). Ponded water nearby. No additional seepage observed at the surface of the ground during the inspection. Pumping collection system started on April 4, 2012. Flow is being monitored since July 2013.
			Seepage zone near Sta. 60+575. Mean flow from 2010 to 2012 was 2 m^3/days. According to AEM, this zone was practically dry all year. A very slow trickle of water was observed in the summer of 2014 and 2015 and during the inspection
4.2 Signs of Erosion	Not observed		
4.3 Signs of Turbidity in Seepage Water	Not observed		Based on AEM's monthly report: TSS criteria were exceeded in some occasion in 2015
4.4 Discoloration/staining	No		
4.5 Outlet operating problem (if applicable)	Not applicable		

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
4.6 Other Unusual Conditions	None		
5. ABUTMENTS			
5.1 Seepage at contact zone (abutment/embankment)	None observed		
5.2 Signs of Erosion	None observed		
5.3 Excessive Vegetation	No		
5.4 Presence of Rodent Burrows	None observed		
5.5 Other Unusual Conditions	None		
6. RESERVOIR			
6.1 Stability of Slopes	Stable		Low relief region, stable upstream and downstream of dike. Portage Pit is on the downstream side of the dike.
6.2 Distance to Nearest Slide (if applicable)	None observed		
6.3 Estimate of Slide Volume (if applicable)	Not applicable		
6.4 Floating debris	None observed		
6.5 Other Unusual Conditions	None		
7. EMERGENCY SPILLWAY/ OUTLET STRUCTURE			
7.1 Surface Condition	No spillway or outlet structure exists, only dewatering pump.		
7.2 Signs of Erosion			
7.3 Signs of Movement (Deformation)			
7.4 Cracks			
7.5 Settlement			
7.6 Presence of Debris or Blockage			
7.7 Closure mechanism operational			
7.8 Slope Protection			
7.9 Instability of Side Slopes			
7.10 Other Unusual Conditions	No		

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
8. Instrumentation			
8.1 Piezometers	Yes		See Section 4.0 of the report
8.2 Settlement Cells	No		
8.3 Thermistors	Yes		See Section 4.0 of the report
8.4 Settlement Monuments	Not anymore		They have been removed
8.5 Seismograph	Periodic		See Section 4.0 of the report
8.6 Inclinometer	Yes		See Section 4.0 of the report
8.7 Weirs and Flow Monitors	Yes		Flow meters are installed for the two pumping systems downstream. The flow of the seepage zone at Sta. 60+575 is measured using a pipe.
8.8 Data logger(s)	Yes		The piezometers and thermistors on East Dike have automatic data collection since June 2012 (data transmitted every 3 hours).
8.9 Other			
9. DOCUMENTATION			
9.1 Operation, Maintenance and Surveillance (OMS) Plan			
9.1.1 OMS Plan exists	Yes		
9.1.2 OMS Plan reflects current dam conditions	Yes		
9.1.3 Date of last revision	January 2015		
9.2 Emergency Preparedness Plan (EPP)			
9.2.1 EPP exists	Yes		Included within OMS and ERP plan
9.2.2 EPP reflects current conditions	Yes		
9.2.3 Date of last revision	November 2014		

10. NOTES

Inspector's Signature		**Date:**	

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Photograph A1-1 East Dike

Date: August 29, 2015 **Photo Number**: 106

Description: From Sta. 60+811, looking south at the crest.

Photograph A1-2 East Dike

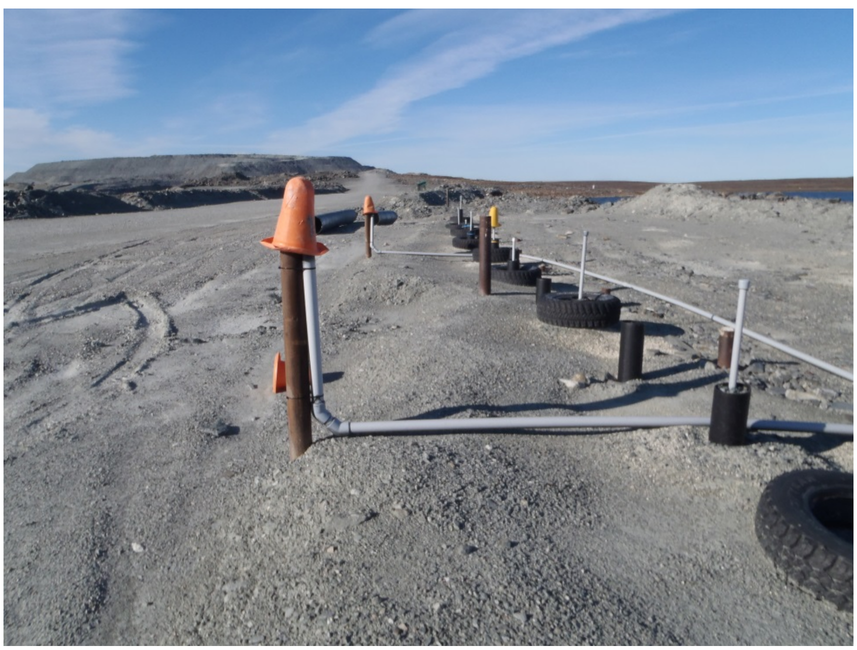
Date: August 29, 2015 **Photo Number**: 107

Description: From Sta. 60+700 downstream, looking north.

Photograph A1-3 East Dike

Date: August 29, 2015 **Photo Number**: 108

Description: From Sta. 60+700 downstream, looking south.



Photograph A1-4 East Dike

Date: August 29, 2015 **Photo Number**: 105

Description: From Sta. 60+553, looking north at the crest.

Photograph A1-5 East Dike

Date: August 29, 2015 **Photo Number**: 103

Description: From Sta. 60+553, looking north at the upstream slope.

Photograph A1-6 East Dike

Date: August 29, 2015 **Photo Number**: 104

Description: From Sta. 60+553, looking south at the crest centreline.

Photograph A1-7 East Dike

Date: August 29, 2015 **Photo Number**: 102

Description: From Sta. 60+553, looking south at the upstream slope.

Photograph A1-8 East Dike

Date: August 29, 2015 **Photo Number**: 100

Description: From Sta. 60+394, looking north along the crest centreline.

Photograph A1-9 East Dike

Date: August 29, 2015 **Photo Number**: 99

Description: From Sta. 60+394, looking south at the crest.

Photograph A1-10 East Dike

Date: August 29, 2015 **Photo Number**: 109

Description: From approximately Sta. 60+525 downstream, looking north.

Photograph A1-11 East Dike

Date: August 29, 2015 **Photo Number**: 110

Description: From approximately Sta. 60+475 downstream, looking south.

Photograph A1-12 East Dike

Date: August 29, 2015 **Photo Number**: 101

Description: From approximately Sta. 60+375 downstream, looking north. Notice the pump and sump in the sea-can container at 60+498.

Photograph A1-13 East Dike

Date: August 29, 2015 **Photo Number**: 98

Description: From approximately Sta. 60+300, looking north at the upstream slope.

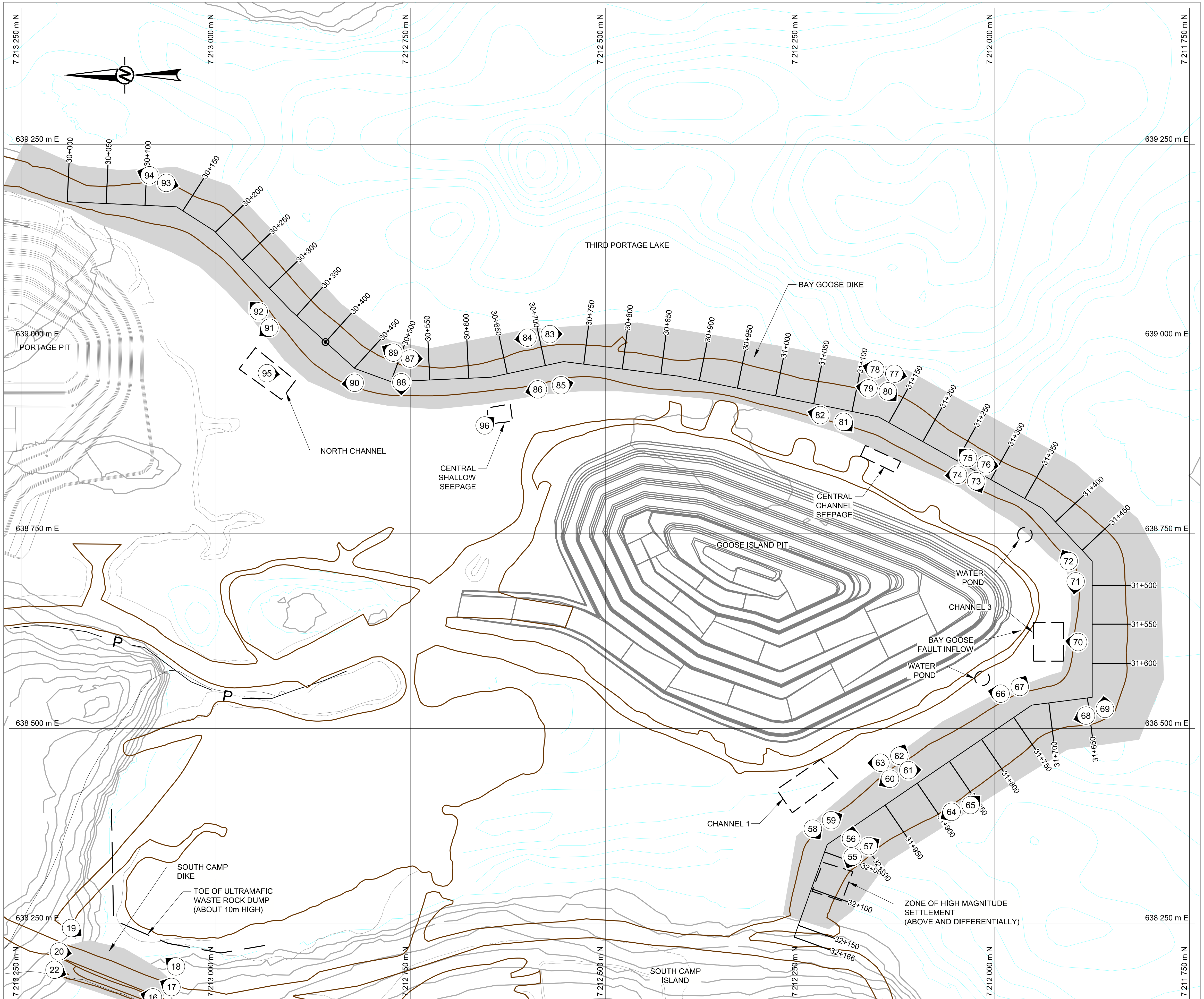
Photograph A1-14 East Dike

Date: August 29, 2015 **Photo Number**: 97

Description: From Sta. 60+211, looking north at the downstream area of the dike. Notice the pump and sump in the sea-can container at Sta. 60+247.

APPENDIX A2

South Camp Dike Photographic Log and Record of Inspection



LEGEND

BATHYMETRIC MAJOR CONTOURS

TOPOGRAPHIC CONTOUR

IDENTIFICATION AND DIRECTION OF PHOTOGRAPHY TOOK DURING THE ANNUAL INSPECTION OF 2014

NOTE

GRID REFERENCE: NAD 83, UTM ZONE 14.

REFERENCE

DRAWING BASE PROVIDED BY AEM LTD., MEADOWBANK DIVISION IN "MBK Site map updated JULY 2014.dwg" DATED JULY 8, 2014.

0 100 200

1:4 000 METRES

CLIENT

AGNICO EAGLE

PROJECT

2015 ANNUAL GEOTECHNICAL INSPECTION
MEADOWBANK GOLD MINE, NUNAVUT

TITLE

BAY-GOOSE DIKE AND SOUTH CAMP DIKE

CONSULTANT

Golder Associates

YYYY-MM-DD	2015-12-11
PREPARED	F. L. Bolduc
DESIGN	R. Gravel
REVIEW	F. L. Bolduc
APPROVED	Y. Boulianne

PROJECT No.	PHASE	Rev.	FIGURE
1535715	3000	0	A2

25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Client:	AEM	**By:**	Yves Boulianne
Project:	Meadowbank	**Date:**	August 28, 2015
Location:	South Camp Dike	**Reviewed:**	Yves Boulianne

GENERAL INFORMATION

Dam Type:	Rockfill shell with upstream filter, a bituminous geomembrane liner and protective cover.		
Weather Conditions:	Sunny	**Temperature:**	10°C

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
1. DAM CREST		17,20	
1.1 Crest elevation	El. 136.6 m (rockfill) El 134.7 m (liner)		
1.2 Reservoir Level	U/S El.133.6 m D/S		No water downstream since 2011.
Current Freeboard	3 m (rockfill crest) 1.1 m (liner crest)		
1.3 Distance to Tailings Pond (if applicable)	Not applicable		
1.4 Surface Cracking	None at the time of inspection		
1.5 Unexpected Settlement	None at the time of inspection		
1.6 Lateral Movement	Not apparent		
1.7 Other Unusual Conditions	None		
2. UPSTREAM SLOPE		16, 22	
2.1 Slope Angle	Approx. 1.3V: 1H		Adequate for a rockfill shell with small height.
2.2 Signs of Erosion	None observed		
2.3 Signs of Movement (Deformation)	None observed		
2.4 Cracks	None observed		

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
2.5 Face Liner Condition (if applicable)	Liner not visible at the time of the inspection		Bituminous geomembrane liner. Compacted granular material mixed with bentonite was placed above the liner, followed by a thermal cap layer covering the entire liner face.
2.6 Other Unusual Conditions	None		
3. DOWNSTREAM SLOPE		18,19	
3.1 Slope angle	Approx. 1.4V: 1H		Adequate for a rockfill shell with small height.
3.2 Signs of Erosion	None observed		
3.3 Signs of Movement (Deformation)	None observed		
3.4 Cracks	None observed		
3.5 Seepage or Wet Areas	Not apparent		
3.6 Vegetation Growth	No		
3.7 Other Unusual Conditions	None		
4. DOWNSTREAM TOE AREA		18,19	
4.1 Seepage from Dam	None observed		
4.2 Signs of Erosion	None observed		
4.3 Signs of Turbidity in Seepage Water	None		
4.4 Discoloration/staining	No		
4.5 Outlet operating problem (if applicable)	Not applicable		
4.6 Other Unusual Conditions	None		
5. ABUTMENTS			
5.1 Seepage at contact zone (abutment/embankment)	None observed		
5.2 Signs of Erosion	None observed		
5.3 Excessive Vegetation	No		
5.4 Presence of Rodent Burrows	None observed		
5.5 Other Unusual Conditions	None		
6. RESERVOIR			
6.1 Stability of Slopes	Stable		
6.2 Distance to Nearest Slide (if applicable)	Not applicable		

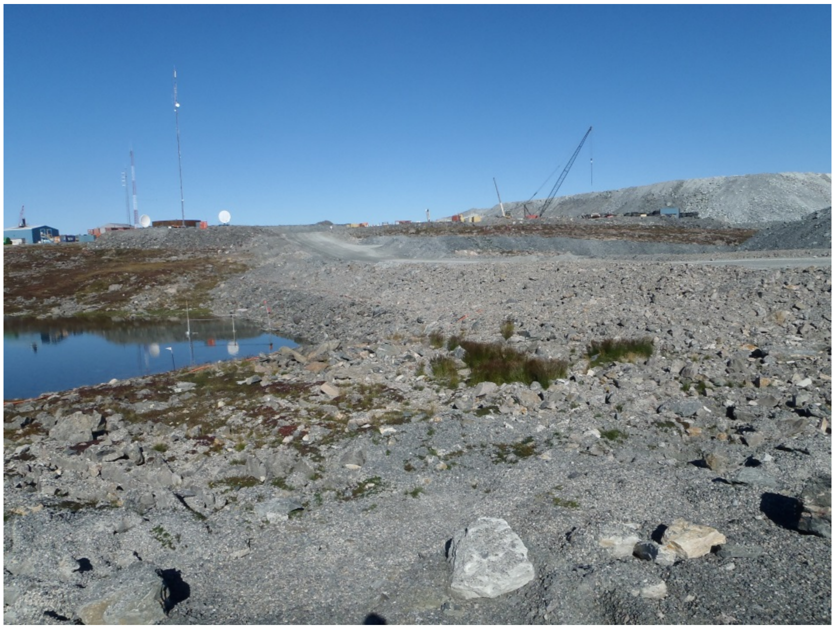
INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
6.3 Estimate of Slide Volume (if applicable)	None observed		
6.4 Floating debris	None		
6.5 Other Unusual Conditions	None		
7. EMERGENCY SPILLWAY/ OUTLET STRUCTURE			
7.1 Surface Condition	No spillway or outlet structure exists		
7.2 Signs of Erosion			
7.3 Signs of Movement (Deformation)			
7.4 Cracks			
7.5 Settlement			
7.6 Presence of Debris or Blockage			
7.7 Closure mechanism operational			
7.8 Slope Protection			
7.9 Instability of Side Slopes			
7.10 Other Unusual Conditions			
8. INSTRUMENTATION			
8.1 Piezometers	No		
8.2 Settlement Cells	No		
8.3 Thermistors	Yes		Section 4.0 of the report describes the thermal condition
8.4 Settlement Monuments	No		
8.5 Seismograph	No		
8.6 Inclinometer	No		
8.7 Weirs and Flow Monitors	No		
8.8 Data logger(s)	No		
8.9 Other	No		
9. DOCUMENTATION			
9.1 Operation, Maintenance and Surveillance (OMS) Plan			
9.1.1 OMS Plan exists	Yes		

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
9.1.2 OMS Plan reflects current dam conditions	Yes		
9.1.3 Date of last revision	January 2015		
9.2 Emergency Preparedness Plan (EPP)			
9.2.1 EPP exists	Yes		Included within the OMS and ERP
9.2.2 EPP reflects current conditions	Yes		
9.2.3 Date of last revision	November 2014		

10. NOTES

Inspector's Signature		**Date:**	

n:\actif\2015\3 proj\1535715 aem inspection geotechnical 2015 meadowbank\5 preparation of deliverables\1533-2015 geotech inspec\rev0\appendix a - dewatering dikes\a2 - south camp dike inspection 2015.docx



Photograph A2-1 South Camp Dike

Date: August 28, 2015 **Photo Number**: 16

Description: From the south abutment, looking north at the upstream slope and the thermistors instrumentation set-up.

Photograph A2-2 South Camp Dike

Date: August 28, 2015 **Photo Number**: 22

Description: From the north abutment, looking south at the upstream slope and thermistors instrumentation set-up.

Photograph A2-3 South Camp Dike

Date: August 28, 2015 **Photo Number**: 17

Description: From the south abutment, looking north at the crest.

Photograph A2-4 South Camp Dike

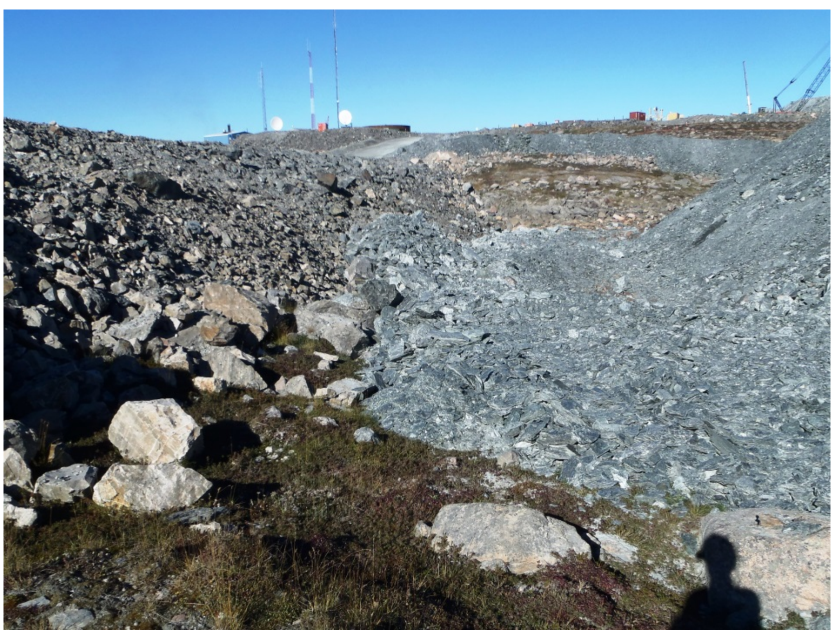
Date: August 28, 2015 **Photo Number**: 20

Description: From the north abutment, looking south at the crest.

Photograph A2-5 South Camp Dike

Date: August 28, 2015 **Photo Number**: 19

Description: From the north abutment, looking south at the downstream slope.



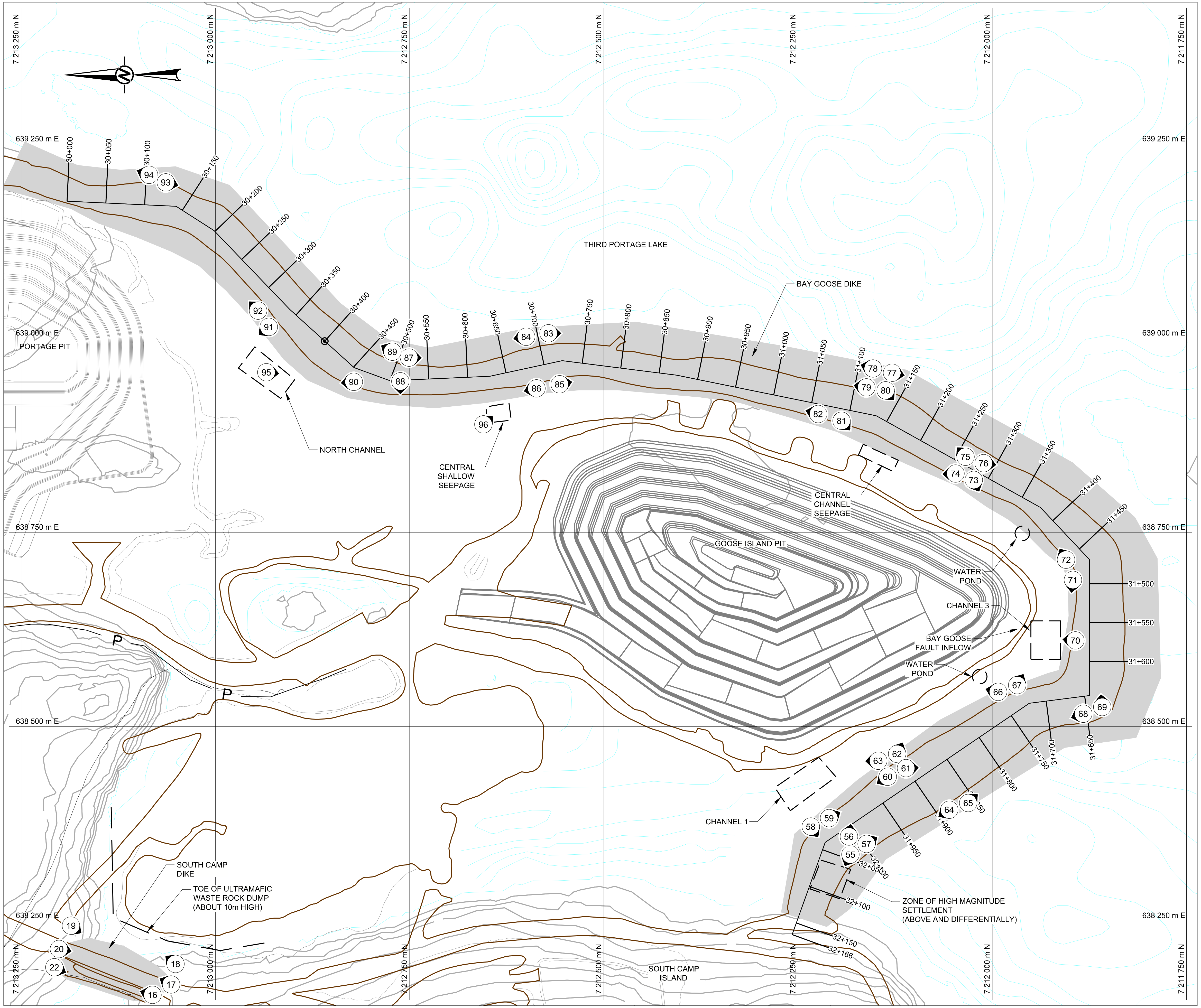
Photograph A2-6 South Camp Dike

Date: August 28, 2015 **Photo Number**: 18

Description: From the south abutment, looking north at the downstream slope.

APPENDIX A3

Bay-Goose Dike Photographic Log and Record of Inspection



LEGEND

BATHYMETRIC MAJOR CONTOURS

TOPOGRAPHIC CONTOUR

IDENTIFICATION AND DIRECTION OF PHOTOGRAPHY TOOK DURING THE ANNUAL INSPECTION OF 2014

NOTE

GRID REFERENCE: NAD 83, UTM ZONE 14.

REFERENCE

DRAWING BASE PROVIDED BY AEM LTD., MEADOWBANK DIVISION IN "MBK Site map updated JULY 2014.dwg" DATED JULY 8, 2014.

0 100 200
1:4 000 METRES

CLIENT
AGNICO EAGLE

PROJECT
2015 ANNUAL GEOTECHNICAL INSPECTION
MEADOWBANK GOLD MINE, NUNAVUT

TITLE
BAY-GOOSE DIKE AND SOUTH CAMP DIKE

CONSULTANT
Golder Associates

YYYY-MM-DD	2015-12-11
PREPARED	F. L. Bolduc
DESIGN	R. Gravel
REVIEW	F. L. Bolduc
APPROVED	Y. Boulianne

PROJECT No.	PHASE	Rev.	FIGURE
1535715	3000	0	A3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25 mm

Client:	AEM	**By:**	Yves Boulianne
Project:	Meadowbank	**Date:**	August 29, 2015
Location:	Bay-Goose Dike	**Reviewed:**	Yves Boulianne

GENERAL INFORMATION			
Dam Type:	Rockfill embankment with a cut-off wall (soil-bentonite, cement-soil-bentonite and jet grouting columns) and downstream filters		
Weather Conditions:	Overcast	**Temperature:**	8°C

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
1. DAM CREST		55,56,57,58,59,60, 61,64,65,68,69,73, 74,75,76,77,78,79, 80,81,82,83,84,85, 86,87,88,89,92,93, 94	
1.1 Crest elevation	+/-138 cut-off 136.1m		Thermal cap completed in May 2013
1.2 Reservoir Level	133.6 m upstream		Downstream side dewatered since mid-November 2011.
Current Freeboard	4.4 m		Design 2.0 m
1.3 Distance To Tailings Pond (if applicable)	Not applicable		
1.4 Surface Cracking	Yes		The tension cracks observed in 2013 on the upstream side within the thermal cap placed during the winter 2013 are still visible but do not show signs of progression.
1.5 Unexpected Settlement	Yes		The rockfill cap added over the cut-off in the winter of 2013 is showing settlement all along the upstream side of the dike and over the cut-off. Settlement varies from 0.1 m to > 1 m. No additional sign of movement since last year.
1.6 Lateral Movement	Not apparent.		
1.7 Other Unusual Conditions	Yes		Safety berms on both sides are inadequate in some sections.

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
2. UPSTREAM SLOPE		65,77,78,83,84,87, 89	
2.1 Slope angle	Approx. 1.6H:1.0V		Rockfill
2.2 Signs of Erosion	Stable		
2.3 Signs of Movement (Deformation)	None observed		
2.4 Cracks	None observed		
2.5 Face liner condition (if applicable)	Not applicable		
2.6 Other Unusual Conditions	None		
3. DOWNSTREAM SLOPE		59,62,63,66,67,70, 71,72,73,74,81,82, 85,86,90,91,92,95, 96	
3.1 Slope angle	Approx.1.6H:1V		
3.2 Signs of Erosion	None observed		
3.3 Signs of Movement (Deformation)	None observed		
3.4 Cracks	None observed		
3.5 Seepage or Wet Areas	Not apparent		
3.6 Vegetation Growth	None observed		
3.7 Other Unusual Conditions	None		
4. DOWNSTREAM TOE AREA		59,62,63,66,67,70, 71,72,73,74,81,82, 85,86,90,91,92,95, 96	
4.1 Seepage from dike	Yes		Seepage zone observed as well as water pond. The seepage is being monitored by the mine and does not show sign of aggravation.
	North Channel	90,91,95	Monitored by stations 8 (30+420) and 9 (30+380). Water flowing was observed during the inspection (17.5m^3/day). Strong flow in the area of station 8 and very low flow at the location of station 9
	Central Shallow	86,96	Presence of 2 seepage channels at 30+650 and 30+625. Flow was observed during inspection at 30+650 (5.1 m^3/day). Monitored by stations 7.

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
	Central Channel	74,81	Presence of a seepage channel at Sta. 31+165. Water ponding was observed at the time of the inspection. The recharge of this pond has been assessed by AEM
	Channel 3	70	No flow observed during inspection. Monitored by station 6.
	Chanel 1	63	This seepage channel was not flowing at the time of the inspection. According to the mine it was not active this year.
	Water Ponds	66,73,74	Presence of 2 water ponds with no sign of seepage. Located at 31+350 and 31+750.
4.2 Signs of Erosion	None observed		
4.3 Signs of Turbidity in Seepage Water	No.		
4.4 Discoloration/staining	No		
4.5 Outlet operating problem (if applicable)	Not applicable		
4.6 Other Unusual Conditions	Yes		Inflow of water on pit south wall. Probably due to the Bay-Goose fault and rock quality below Channels 1 and 2. Not monitored anymore.
5. ABUTMENTS			
5.1 Seepage at contact zone (abutment/embankment)	None observed		
5.2 Signs of Erosion	None observed		
5.3 Excessive Vegetation	No		
5.4 Presence of Rodent Burrows	None observed		
5.5 Other Unusual Conditions	None		
6. RESERVOIR			
6.1 Stability of Slopes	Stable		
6.2 Distance to Nearest Slide (if applicable)	None observed		
6.3 Estimate of Slide Volume (if applicable)	Not applicable		
6.4 Floating debris	None observed		
6.5 Other Unusual Conditions	None		
7. EMERGENCY SPILLWAY/ OUTLET STRUCTURE			

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
7.1 Surface Condition	No spillway or outlet structure exists, only dewatering pump.		
7.2 Signs of Erosion			
7.3 Signs of Movement (Deformation)			
7.4 Cracks			
7.5 Settlement			
7.6 Presence of Debris or Blockage			
7.7 Closure mechanism operational			
7.8 Slope Protection			
7.9 Instability of Side Slopes			
7.10 Other Unusual Conditions			
8. INSTRUMENTATION			
8.1 Piezometers	Yes		See Section 4.0 of the report.
8.2 Settlement Cells	No		
8.3 Thermistors	Yes		See Section 4.0 of the report.
8.4 Settlement Monuments	Survey monuments		See Section 4.0 of the report.
8.5 Seismograph	Periodic		See Section 4.0 of the report.
8.6 Inclinometer	Yes		See Section 4.0 of the report.
8.7 Weirs and Flow Monitors	Yes		Seepage monitoring system installed at seepage channel to monitor flow.
8.8 Data logger(s)	Yes		The piezometers and the thermistors have automatic data transmission (every 3 hours).
8.9 Other			
9. DOCUMENTATION			
9.1 Operation, Maintenance and Surveillance (OMS) Plan			
9.1.1 OMS Plan exists	Yes		
9.1.2 OMS Plan reflects current dam conditions	Yes		
9.1.3 Date of last revision	January 2015		
9.2 Emergency Preparedness Plan (EPP)			

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
9.2.1 EPP exists	Yes		Included within the OMS and ERP.
9.2.2 EPP reflects current conditions	Yes		
9.2.3 Date of last revision	November 2014		

10. NOTES

Inspector's Signature		Date:	

n:\actif\2015\3 proj\1535715 aem inspection geotechnical 2015 meadowbank\5 preparation of deliverables\1533-2015 geotech inspec\rev0\appendix a - dewatering dikes\a3-bay goose dike inspection 2015.docx

Photograph A3-1 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 93

Description: From Sta.30+142 (north abutment) looking southwest along the crest centreline.

Photograph A3-2 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 94

Description: From Sta.30+130 (north abutment), looking north along the crest centreline.

Photograph A3-3 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 92

Description: From Sta.30+340 on the crest, looking northeast at the dam crest and downstream slope

Photograph A3-4 Bay Goose Dike

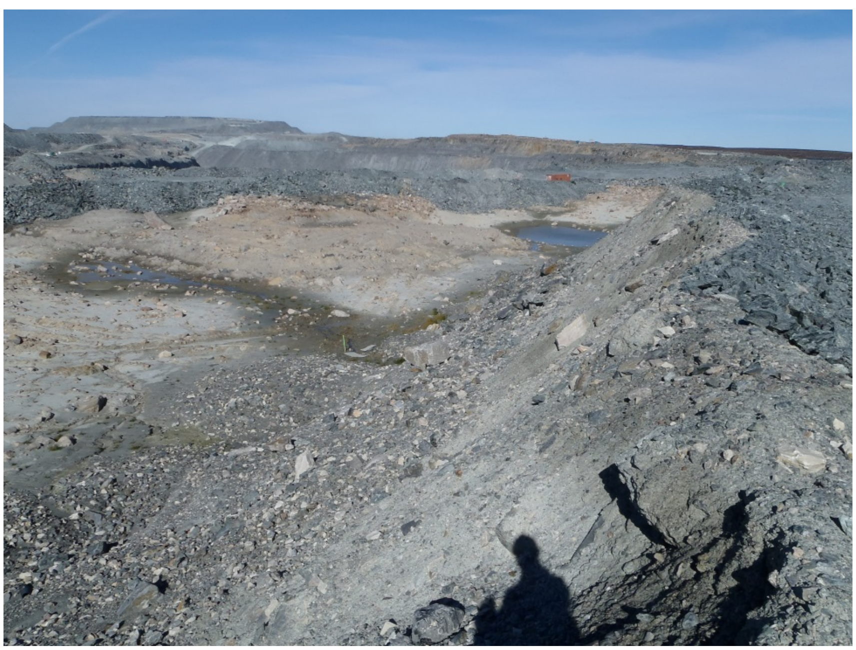
Date: August 29, 2015 **Photo Number**: 91

Description: From Sta.30+340, looking northwest at the north seepage channel.

Photograph A3-5 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 95

Description: Close-up of seepage monitoring station 8 to monitor the flow at the North Channel (around Sta.30+420). Strong flow was observed during the inspection.



Photograph A3-6 Bay Goose Dike

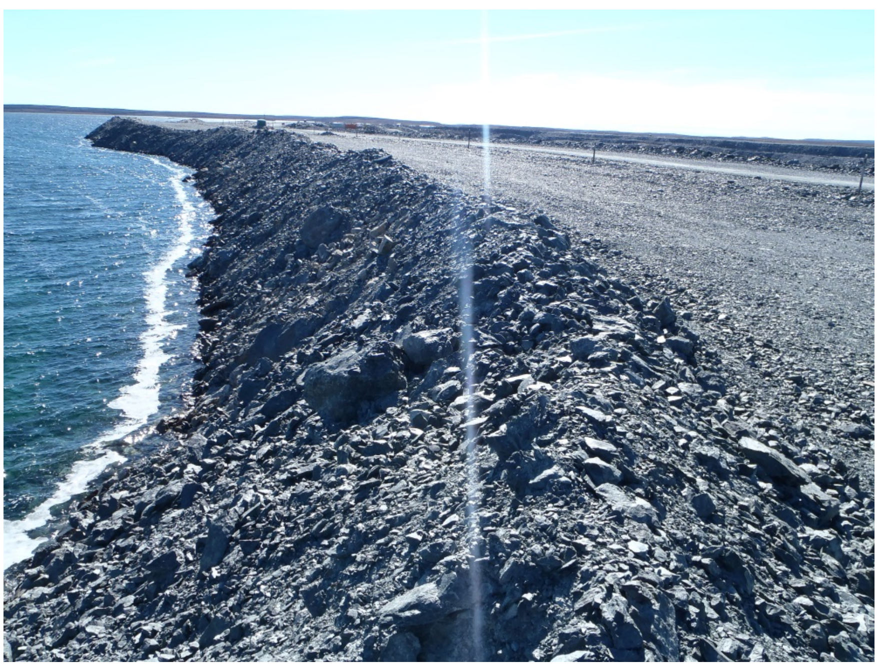
Date: August 29, 2015 **Photo Number**: 90

Description: From Sta.30+450, looking north at the downstream slope.

Photograph A3-7 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 89

Description: From Sta.30+499, looking northeast at the crest and upstream slope.



Photograph A3-8 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 87

Description: From Sta.30+499, looking south at the crest and upstream slope.

Photograph A3-9 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 88

Description: From Sta.30+499, looking west at the crest centreline.

Photograph A3-10 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 83

Description: From Sta.30+700, looking south at the crest and upstream slope.

Photograph A3-11 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 84

Description: From Sta.30+680, looking north at the crest and upstream slope.

Photograph A3-12 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 96

Description: From Sta.30+640 downstream, looking southeast at the Central Shallow seepage monitoring Station 7 (Sta.30+650).

Photograph A3-13 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 86

Description: From Sta.30+680 on the crest, looking north at the downstream slope and downstream toe.

Photograph A3-14 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 85

Description: From Sta.30+680 on the crest, looking south at the downstream slope and downstream toe.

Photograph A3-15 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 77

Description: From Sta. 31+130, looking south at the crest and upstream slope. There are no safety berms.

Photograph A3-16 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 78

Description: From Sta. 31+130, looking north at the crest and upstream slope. Notice that there are no safety berms.

Photograph A3-17 Bay Goose Dike

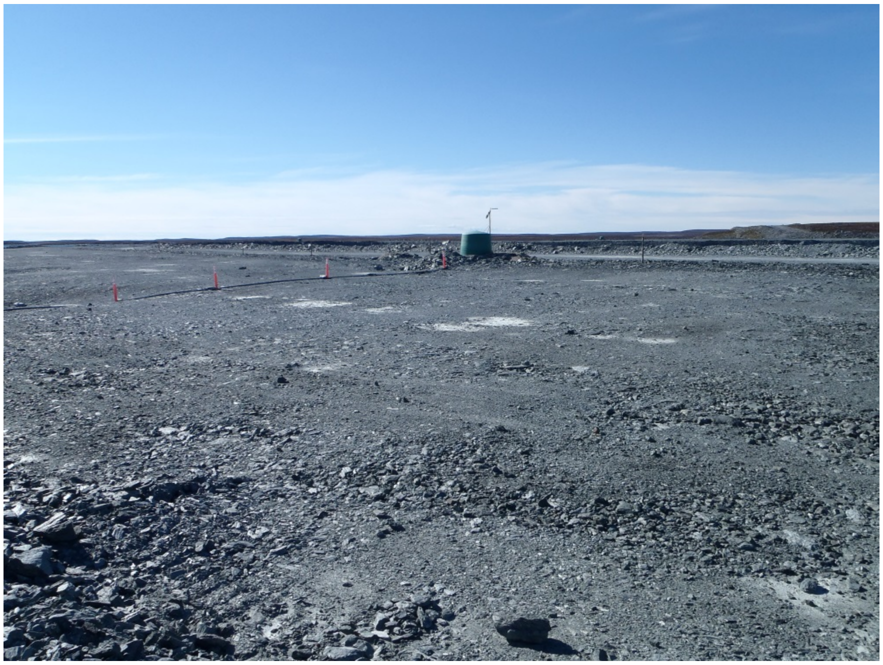
Date: August 29, 2015 **Photo Number**: 82

Description: From Sta. 31+080 on the crest, looking north at the downstream slope and toe.

Photograph A3-18 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 81

Description: From Sta. 31+080 on the crest, looking southwest at the pond of water at Central Chanel seepage at Sta. 31+165.



Photograph A3-19 Bay Goose Dike

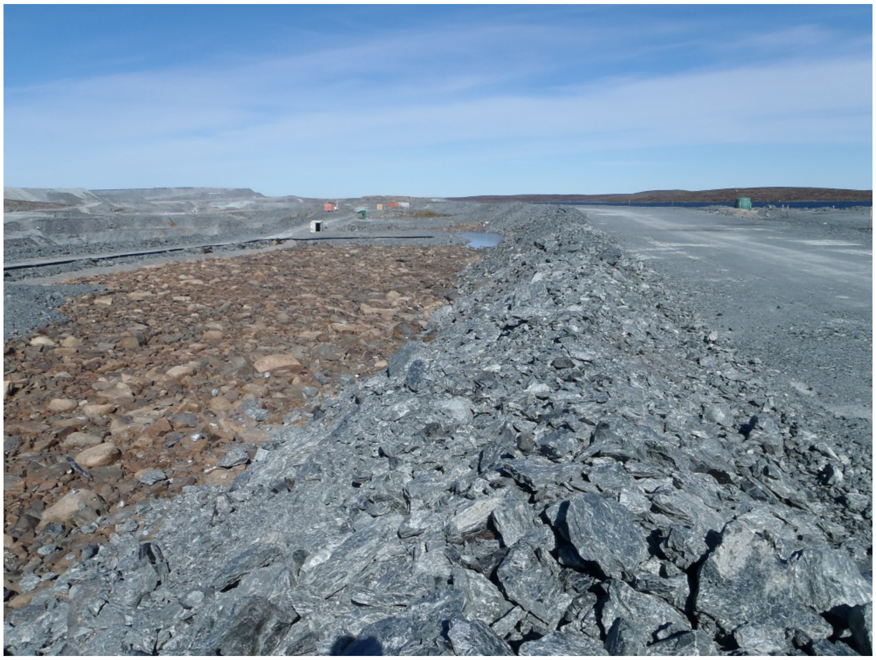
Date: August 29, 2015 **Photo Number**: 80

Description: From Sta. 31+130, looking southwest at the crest centreline.

Photograph A3-20 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 79

Description: From Sta. 31+130, looking north at the crest centreline.



Photograph A3-21 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 74

Description: From Sta. 31+280 on the crest, looking north at the downstream slope and toe area.

Photograph A3-22 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 73

Description: From Sta. 31+280 on the crest, looking southwest at the downstream slope and the water pond at the downstream toe at Sta. 31+350.

Photograph A3-23 Bay Goose Dike

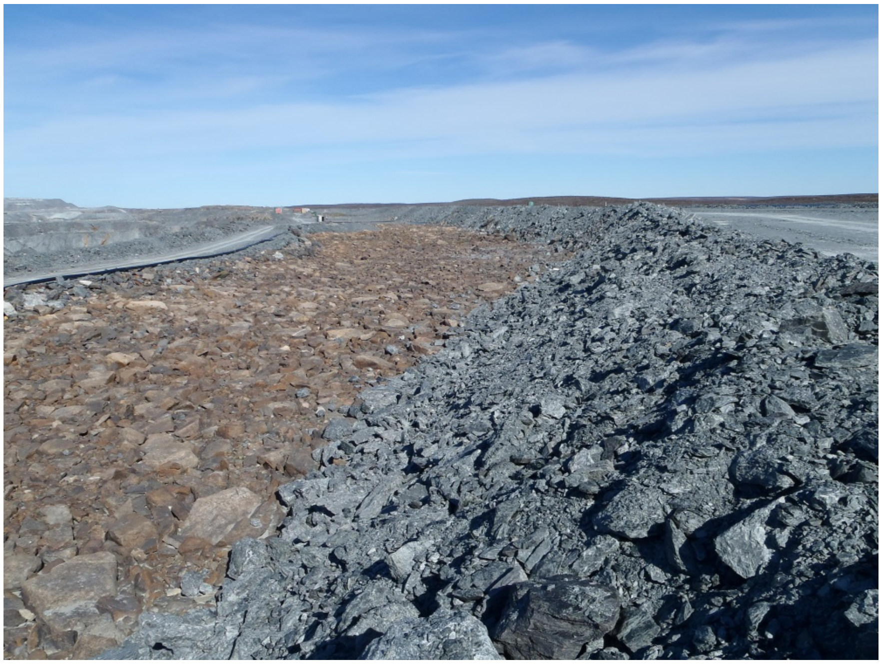
Date: August 29, 2015 **Photo Number**: 76

Description: From Sta. 31+280, looking south at the crest.

Photograph A3-24 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 75

Description: From Sta. 31+280, looking northeast at the crest.



Photograph A3-25 Bay Goose Dike

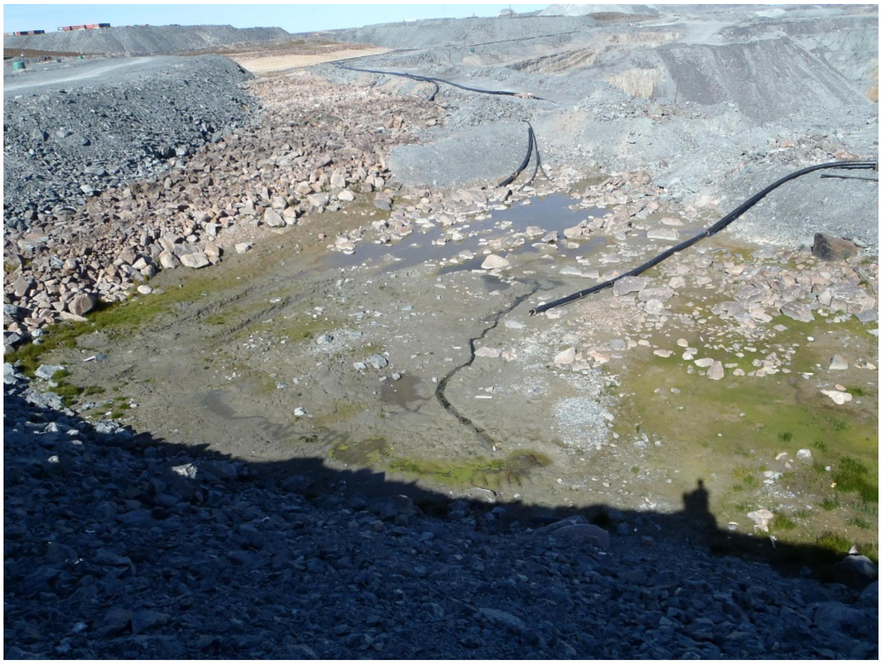
Date: August 29, 2015 **Photo Number**: 72

Description: From Sta. 31+490, looking northeast downstream toward the water pond at Sta. 31+350 (Channel 3).

Photograph A3-26 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 71

Description: From Sta. 31+490, looking west toward Channel 3.



Photograph A3-27 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 70

Description: From Sta. 31+570, looking north toward Channel 3.

Photograph A3-28 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 69

Description: From Sta. 31+645, looking east at the crest centreline.

Photograph A3-29 Bay Goose Dike

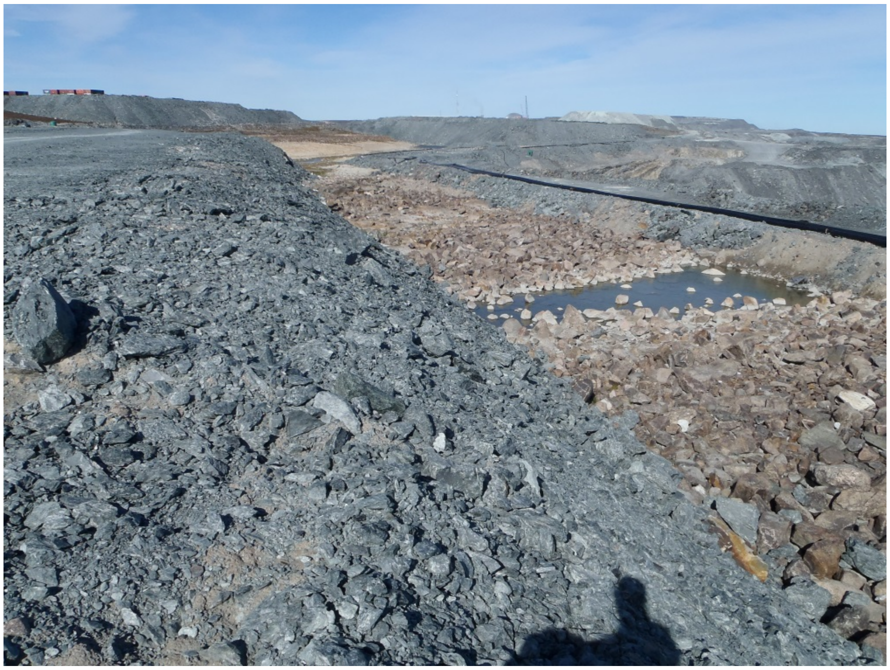
Date: August 29, 2015 **Photo Number**: 68

Description: From Sta. 31+645, looking northwest at the crest.

Photograph A3-30 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 67

Description: From the crest at Sta. 31+740. Looking southeast downstream toward Channel 3.



Photograph A3-31 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 66

Description: From the crest at Sta. 31+740, looking north downstream at the water pond at Sta. 31+750.

Photograph A3-32 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 64

Description: From Sta. 31+870, looking northwest at the crest and upstream slope.

Photograph A3-33 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 65

Description: From Sta. 31+870, looking southeast at the crest and upstream slope.

Photograph A3-34 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 61

Description: From Sta. 31+920, looking south at the crest.

Photograph A3-35 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 60

Description: From Sta. 31+920, looking northwest at the crest.

Photograph A3-36 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 62

Description: From Sta. 31+920 on the crest, looking southeast at the downstream slope.

Photograph A3-37 Bay Goose Dike

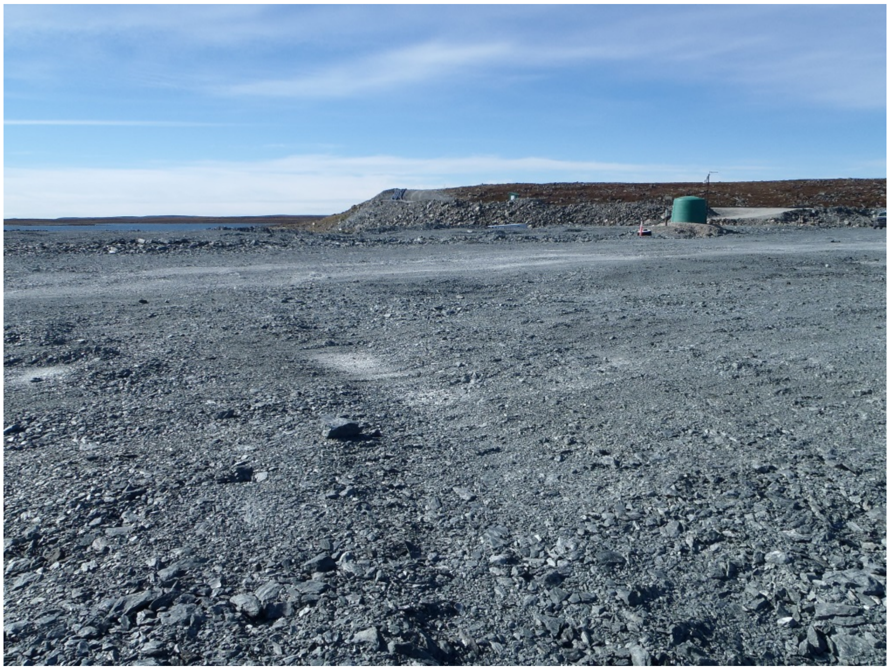
Date: August 29, 2015 **Photo Number**: 63

Description: From Sta. 31+920 on the crest, looking northwest toward Channel 1 monitoring station.

Photograph A3-38 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 59

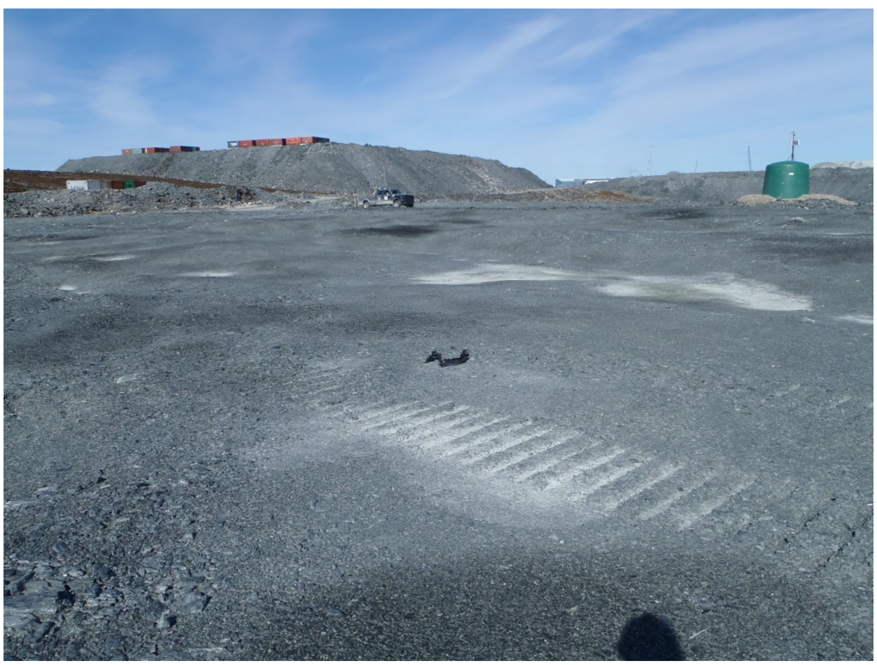
Description: From Sta. 32+030 looking southeast at the crest.



Photograph A3-39 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 58

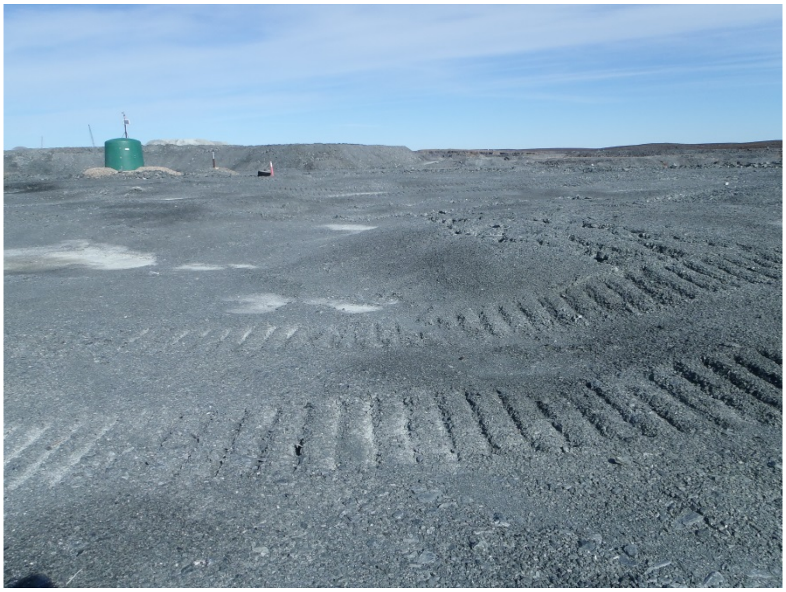
Description: From Sta. 32+030 looking southwest at the crest.



Photograph A3-40 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 55

Description: From Sta. 32+015 (south abutment) looking northeast at the crest. Presence of high magnitude settlements in the ultramafic cap placed in the winter of 2013.



Photograph A3-41 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 56

Description: From Sta. 32+015 (south abutment) looking east at the crest. Presence of high magnitude settlements in the ultramafic cap placed in the winter of 2013.

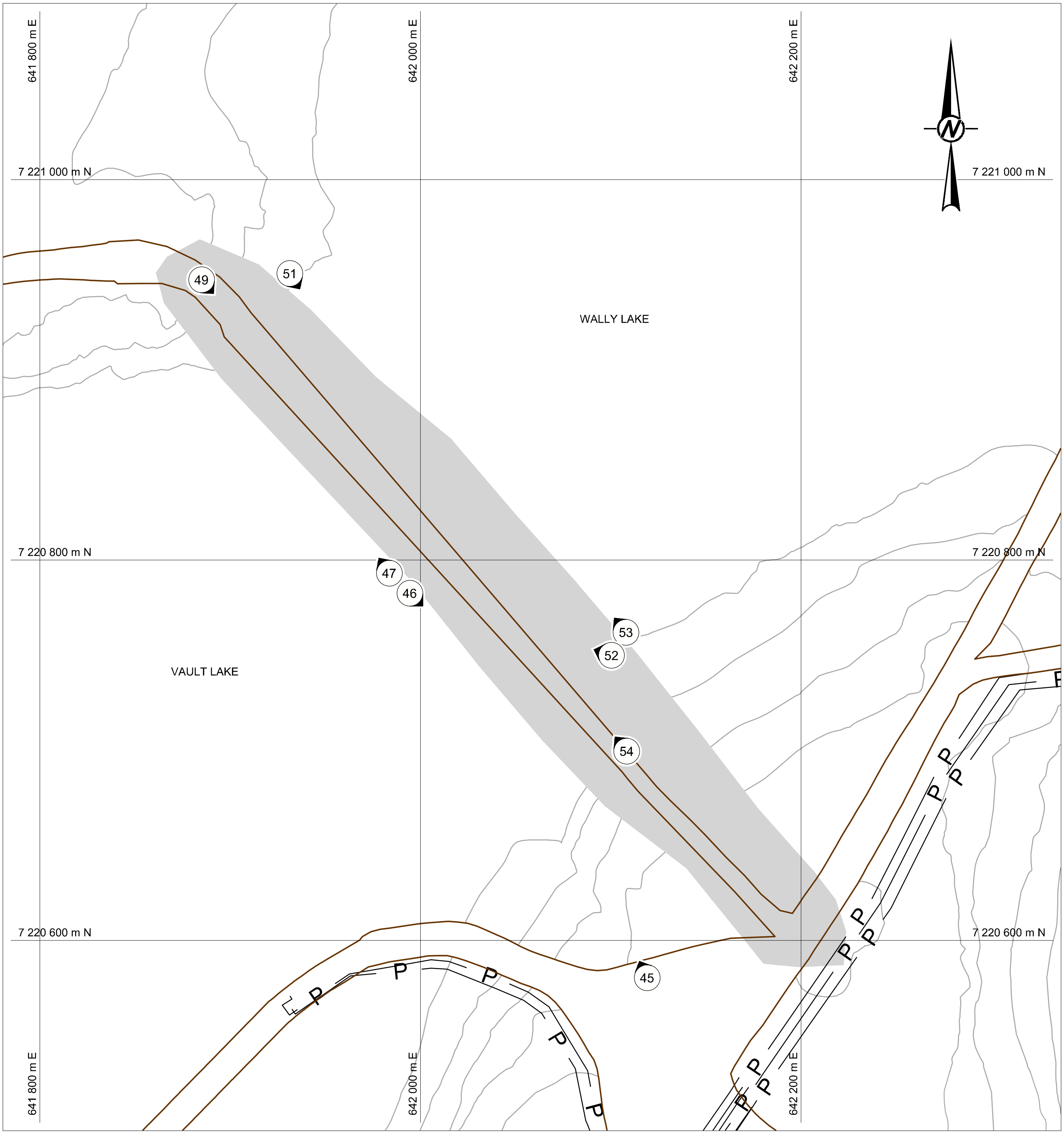
Photograph A3-42 Bay Goose Dike

Date: August 29, 2015 **Photo Number**: 57

Description: From Sta. 32+015 (south abutment) looking southeast at the crest and upstream slope. Presence of high magnitude settlements in the ultramafic cap placed in the winter of 2013.

APPENDIX A4

Vault Dike Photographic Log and Record of Inspection



LEGEND

TOPOGRAPHIC CONTOUR

IDENTIFICATION AND DIRECTION OF PHOTOGRAPHY TOOK DURING THE ANNUAL INSPECTION OF 2015

NOTE

GRID REFERENCE: NAD 83, UTM ZONE 14.

REFERENCE

DRAWING BASE PROVIDED BY AEM LTD., MEADOWBANK DIVISION IN "MBK Site map updated JULY 2014.dwg" DATED JULY 8, 2014.

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CLIENT
AGNICO EAGLE

PROJECT
2015 ANNUAL GEOTECHNICAL INSPECTION
MEADOWBANK GOLD MINE, NUNAVUT

CONSULTANT

Golder Associates

YYYY-MM-DD	2015-12-11
PREPARED	F. L. Bolduc
DESIGN	R. Gravel
REVIEW	F. L. Bolduc
APPROVED	Y. Boulianne

TITLE
VAULT DIKE

PROJECT No.	PHASE	Rev.	FIGURE
1535715	3000	0	A4

Client:	AEM	**By:**	Yves Boulianne
Project:	Meadowbank	**Date:**	August 28, 2015
Location:	Vault Dike	**Reviewed:**	Yves Boulianne

GENERAL INFORMATION

Dam Type:	Rockfill embankment with filter zones, impervious upstream liner (bituminous membrane) and an upstream key trench (aggregate mixed with bentonite)		
Weather Conditions:	Sunny	**Temperature:**	10°C

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
1. DAM CREST		45, 49,50, 51, 52,53, 54	
1.1 Crest elevation	142.4 m		
1.2 Reservoir Level	139.3 m U/S 139.5 m D/S		
Current Freeboard	3.1 m		
1.3 Distance To Tailings Pond (if applicable)	Not applicable		
1.4 Surface Cracking	No		The cracks observed in 2013 are not noticeable anymore.
1.5 Unexpected Settlement	No		
1.6 Lateral Movement	Not apparent		
1.7 Other Unusual Conditions	No		
2. UPSTREAM SLOPE		51,53	
2.1 Slope angle	Approx. 1.5H:1V		
2.2 Signs of Erosion	Stable		
2.3 Signs of Movement (Deformation)	None observed		
2.4 Cracks	No		
2.5 Face liner condition (if applicable)	Not applicable		
2.6 Other Unusual Conditions	None		

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
3. DOWNSTREAM SLOPE		45,46,47	
3.1 Slope angle	Approx.1.5H:1V		
3.2 Signs of Erosion	None observed		
3.3 Signs of Movement (Deformation)	No		
3.4 Cracks	None observed		
3.5 Seepage or Wet Areas	Not apparent		
3.6 Vegetation Growth	None observed		
3.7 Other Unusual Conditions	None		
4. DOWNSTREAM TOE AREA		45,46,47	
4.1 Seepage from Dam	None		
4.2 Signs of Erosion	Not observed		
4.3 Signs of Turbidity in Seepage Water	No		
4.4 Discoloration/staining	No		
4.5 Outlet operating problem (if applicable)	Not applicable		
4.6 Other Unusual Conditions	None		
5. ABUTMENTS			
5.1 Seepage at contact zone (abutment/embankment)	None observed		
5.2 Signs of Erosion	None observed		
5.3 Excessive Vegetation	No		
5.4 Presence of Rodent Burrows	None observed		
5.5 Other Unusual Conditions	None		
6. RESERVOIR			
6.1 Stability of Slopes	Good conditions		Natural lake and flat shoreline
6.2 Distance to Nearest Slide (if applicable)	None observed		
6.3 Estimate of Slide Volume (if applicable)	Not applicable		
6.4 Floating debris	None observed		
6.5 Other Unusual Conditions	None		

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
7. EMERGENCY SPILLWAY/ OUTLET STRUCTURE	No spillway or outlet structure exists, only dewatering pump.		
7.1 Surface Condition			
7.2 Signs of Erosion			
7.3 Signs of Movement (Deformation)			
7.4 Cracks			
7.5 Settlement			
7.6 Presence of Debris or Blockage			
7.7 Closure mechanism operational			
7.8 Slope Protection			
7.9 Instability of Side Slopes			
7.10 Other Unusual Conditions	No		
8. Instrumentation			
8.1 Piezometers	No		
8.2 Settlement Cells	No		
8.3 Thermistors	Yes		See Section 4.0 of the report.
8.4 Settlement Monuments	No		
8.5 Seismograph	No		
8.6 Inclinometer	No		
8.7 Weirs and Flow Monitors	No		
8.8 Data logger(s)	No		
8.9 Other			
9. DOCUMENTATION			
9.1 Operation, Maintenance and Surveillance (OMS) Plan			
9.1.1 OMS Plan exists	Yes		
9.1.2 OMS Plan reflects current dam conditions	Yes		
9.1.3 Date of last revision	January 2015		
9.2 Emergency Preparedness Plan (EPP)			
9.2.1 EPP exists	Yes		Included within OMS and ERP plan

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
9.2.2 EPP reflects current conditions	Yes		
9.2.3 Date of last revision	November 2014		

10. NOTES

Inspector's Signature		Date:	

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Photograph A4-1 Vault Dike

Date: August 28, 2015 **Photo Number**: 45

Description: General view of the dike from the east abutment looking north. Wally Lake on the right side of the picture and Vault Lake on the left side.

Photograph A4-2 Vault Dike

Date: August 28, 2015 **Photo Number**: 54

Description: From the east abutment, looking northwest at the crest.

Photograph A4-3 Vault Dike

Date: August 28, 2015 **Photo Number**: 46

Description: From downstream, looking southeast.

Photograph A4-4 Vault Dike

Date: August 28, 2015 **Photo Number**: 47

Description: From downstream, looking northwest.

Photograph A4-5 Vault Dike

Date: August 28, 2015 **Photo Number**: 49

Description: From the west abutment, looking southeast at the crest

Photograph A4-6 Vault Dike

Date: August 28, 2015 **Photo Number**: 51

Description: From the upstream side, looking southeast at the upstream slope.

Photograph A4-7 Vault Dike

Date: August 28, 2015 **Photo Number**: 53

Description: From the upstream side, looking northwest at the upstream slope.

Photograph A4-8 Vault Dike

Date: August 28, 2015 **Photo Number**: 52

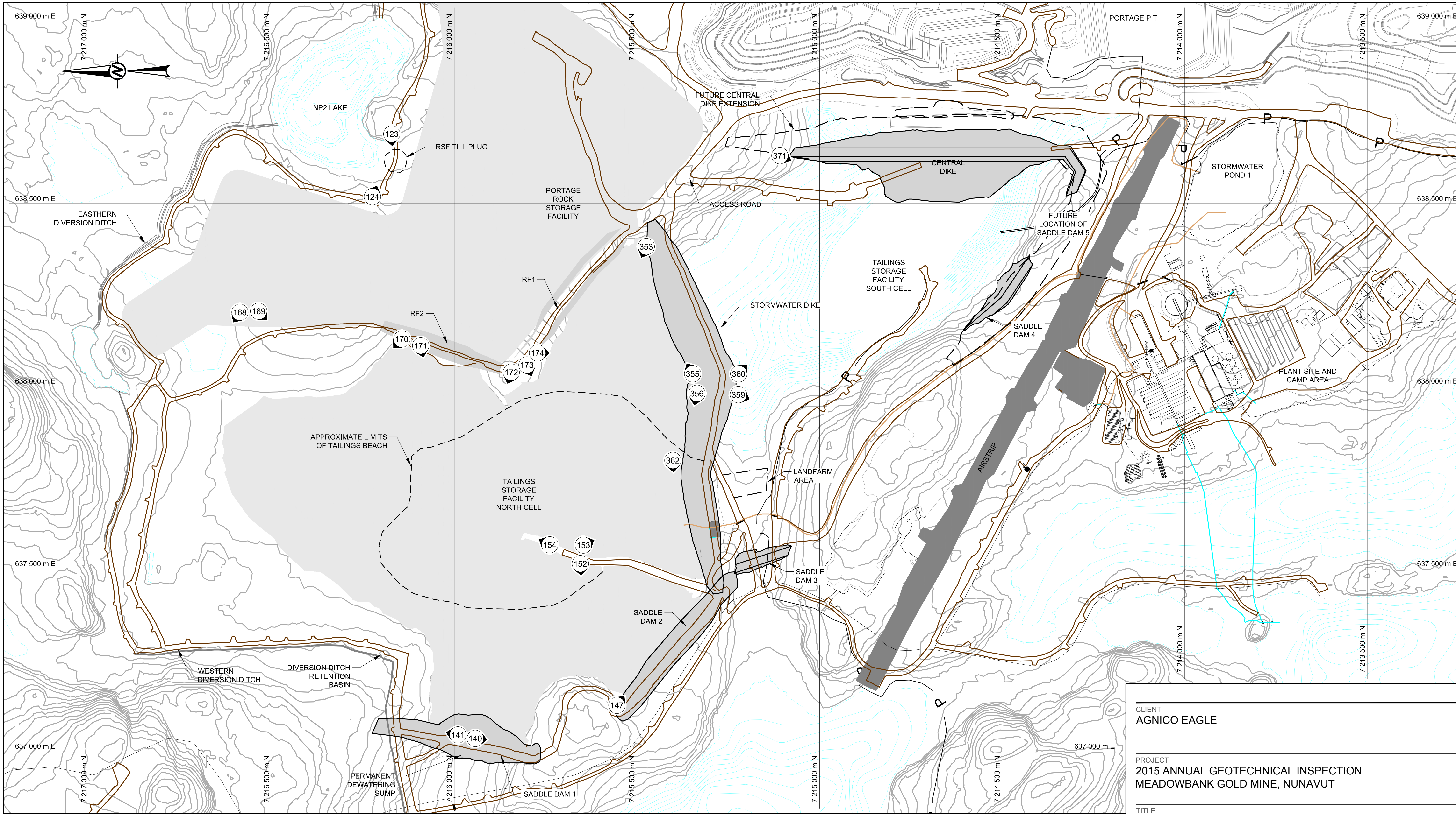
Description: From the upstream side, looking northwest at the crest.

APPENDIX B

Tailings Storage Facility

APPENDIX B1

Tailings Facility Photographic Log



LEGEND

BATHYMETRIC MAJOR CONTOURS

TOPOGRAPHIC CONTOUR

1 IDENTIFICATION AND DIRECTION OF PHOTOGRAPHY TOOK DURING THE ANNUAL INSPECTION OF 2015

NOTE

GRID REFERENCE: NAD 83, UTM ZONE 14.

REFERENCE

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CLIENT

AGNICO EAGLE

PROJECT

2015 ANNUAL GEOTECHNICAL INSPECTION
MEADOWBANK GOLD MINE, NUNAVUT

TITLE

GENERAL VIEW OF TAILINGS STORAGE FACILITY

CONSULTANT

Golder Associates

YYYY-MM-DD	2015-12-11
PREPARED	F. L. Bolduc
DESIGN	R. Gravel
REVIEW	F. L. Bolduc
APPROVED	Y. Boulianne

PROJECT No.	PHASE	Rev.	FIGURE
1535715	3000	0	B1

25 mm

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Photograph B1-1 Tailings Storage Facility

Date: August 31, 2015 **Photo Number**: 147

Description: From Saddle Dam 2 (Sta. 20+110) looking southeast at the North Cell tailings pond. Adequate tailings beach against SD2

Photograph B1-2 Tailings Storage Facility

Date: August 31, 2015 **Photo Number**: 140

Description: From Saddle Dam 1 (Sta. 0+195) looking south at the North Cell tailings pond. Adequate tailings beach against SD1.

Photograph B1-3 Tailings Storage Facility

Date: August 31, 2015 **Photo Number**: 141

Description: From Saddle Dam 1 (Sta. 0+195), looking north at the North Cell tailings pond. Adequate tailings beach against SD1.

Photograph B1-4 Tailings Storage Facility

Date: August 31, 2015 **Photo Number**: 362

Description: From Sta. 10+375 on Stormwater Dike looking west. Inadequate tailings beach against portion of Stormwater Dike.

Photograph B1-5 Tailings Storage Facility

Date: August 31, 2015 **Photo Number**: 356

Description: From Sta. 10+650 on Stormwater Dike looking west. Inadequate tailings beach against portion of Stormwater Dike.

Photograph B1-6 Tailings Storage Facility

Date: August 31, 2015 **Photo Number**: 355

Description: From Sta. 10+650 on Stormwater Dike looking west. Adequate tailings beach against portion of Stormwater Dike.

Photograph B1-7 Tailings Storage Facility

Date: August 31, 2015 **Photo Number**: 353

Description: Overview of the North Cell looking northwest from Stormwater Dike (Sta. 11+100).

Photograph B1-8 Tailings Storage Facility

Date: August 31, 2015 **Photo Number**: 174

Description: From the RSF looking south at RF1 and the North Cell toward Stormwater Dike.

Photograph B1-9 Tailings Storage Facility

Date: August 31, 2015 **Photo Number**: 173

Description: From the RSF looking southwest at RF1 and the North Cell.

Photograph B1-10 Tailings Storage Facility

Date: August 31, 2015 **Photo Number**: 172

Description: From the RSF looking northwest at RF1 and the North Cell.

Photograph B1-11 Tailings Storage Facility

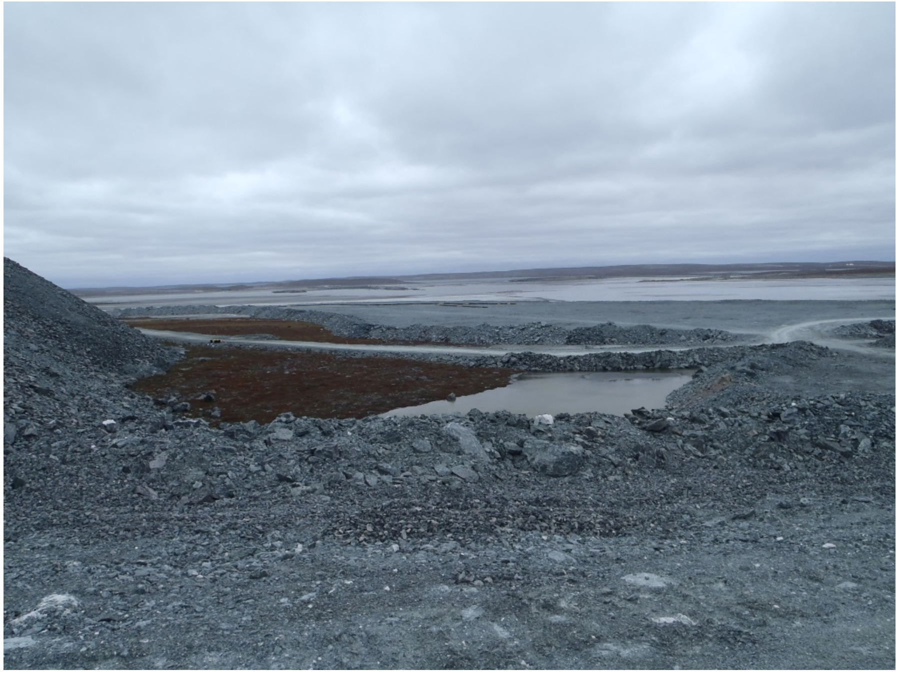
Date: August 31, 2015 **Photo Number**: 171

Description: From the RSF looking southwest at RF2 and the North Cell.

Photograph B1-12 Tailings Storage Facility

Date: August 31, 2015 **Photo Number**: 170

Description: From the RSF looking northwest at RF2 and the North Cell.



Photograph B1-13 Tailings Storage Facility

Date: August 31, 2015 **Photo Number**: 169

Description: From the RSF looking southwest at RF2 and the North Cell.

Photograph B1-14 Tailings Storage Facility

Date: August 31, 2015 **Photo Number**: 168

Description: From the RSF looking northeast at RF2 and the North Cell.

Photograph B1-15 Tailings Storage Facility

Date: August 31, 2015 **Photo Number**: 154

Description: From the reclaim access ramp, looking northeast at the crest.

Photograph B1-16 Tailings Storage Facility

Date: August 31, 2015 **Photo Number**: 153

Description: From the reclaim access ramp, looking southeast at the North Cell.

Photograph B1-17 Tailings Storage Facility

Date: August 31, 2015 **Photo Number**: 152

Description: From the reclaim access ramp, looking west at the North Cell.

Photograph B1-18 Tailings Storage Facility

Date: August 31, 2015 **Photo Number**: 359

Description: Overview of the South Cell looking south toward SD4.

Photograph B1-19 Tailings Storage Facility

Date: August 31, 2015 **Photo Number**: 360

Description: Overview of the South Cell looking southeast toward Central Dike.

Photograph B1-20 Tailings Storage Facility

Date: August 31, 2015 **Photo Number**: 371

Description: Overview of the South Cell attenuation pond looking South from Central Dike north abutment.

Photograph B1-21 RSF Till Plug

Date: August 30, 2015 **Photo Number**: 123

Description: Looking northwest at the RSF till plug

Photograph B1-22 RSF Till Plug

Date: August 30, 2015 **Photo Number**: 124

Description: Looking southeast at the RSF till plug

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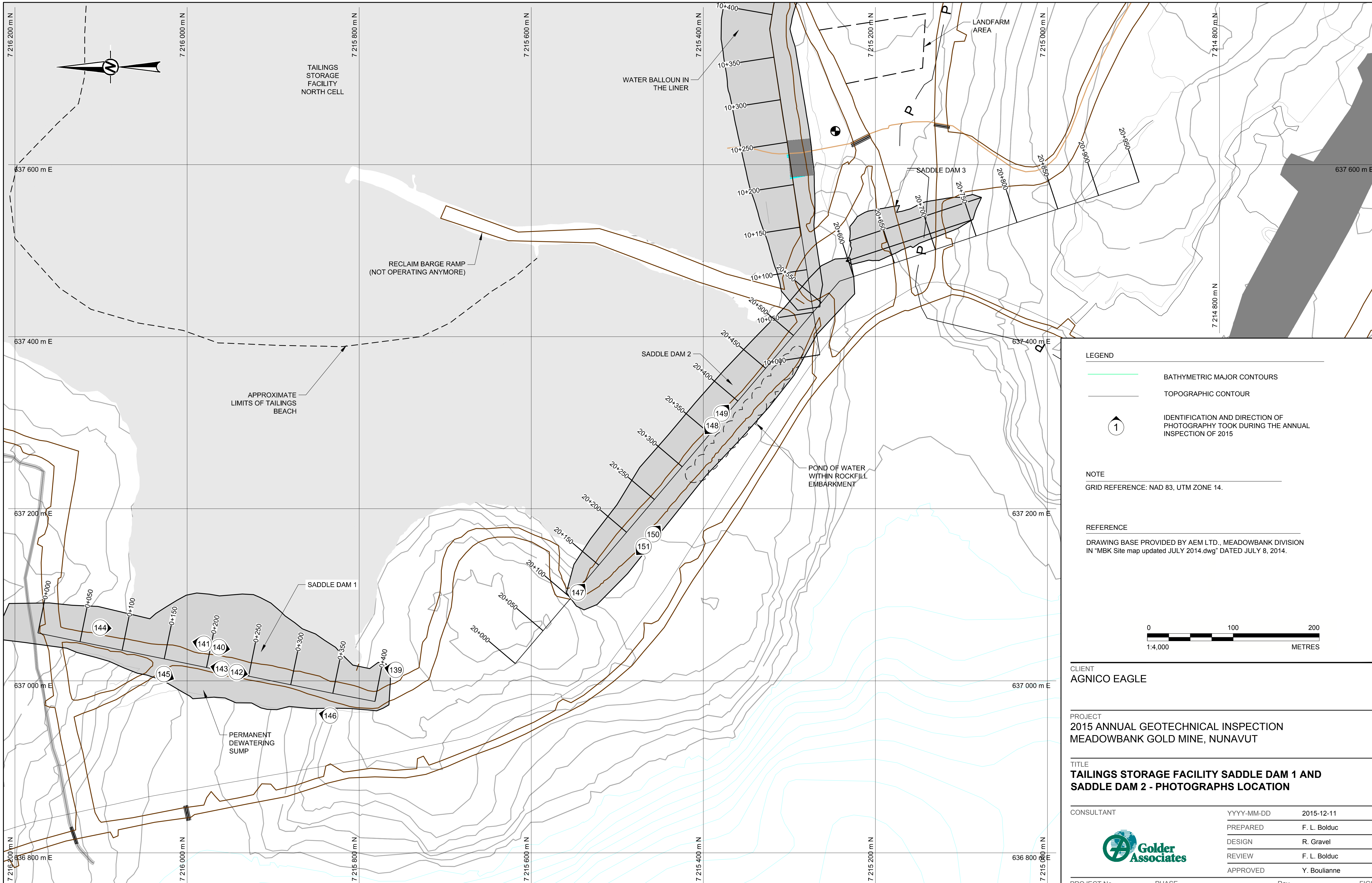
APPENDIX B2

Saddle Dam 1 Photographic Log and Record of Inspection



LEGEND

BATHYMETRIC MAJOR CONTOURS

TOPOGRAPHIC CONTOUR

IDENTIFICATION AND DIRECTION OF PHOTOGRAPHY TOOK DURING THE ANNUAL INSPECTION OF 2015

NOTE

GRID REFERENCE: NAD 83, UTM ZONE 14.

REFERENCE

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CLIENT
AGNICO EAGLE

PROJECT
2015 ANNUAL GEOTECHNICAL INSPECTION
MEADOWBANK GOLD MINE, NUNAVUT

TITLE
TAILINGS STORAGE FACILITY SADDLE DAM 1 AND SADDLE DAM 2 - PHOTOGRAPHS LOCATION

CONSULTANT

Golder Associates

YYYY-MM-DD	2015-12-11
PREPARED	F. L. Bolduc
DESIGN	R. Gravel
REVIEW	F. L. Bolduc
APPROVED	Y. Boulianne

PROJECT No.	PHASE	Rev.	FIGURE
1535715	3000	0	B2

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APPENDIX B2
RECORD OF DAM INSPECTION

Client:	AEM	**By:**	Yves Boulianne
Project:	Meadowbank	**Date:**	August 31, 2015
Location:	Saddle Dam 1	**Reviewed:**	Yves Boulianne

GENERAL INFORMATION			
Dam Type:	Rockfill embankment with inverted filter on base, upstream filters, a geomembrane liner tied in a toe till plug and protective cover.		
Weather Conditions:	Overcast	**Temperature:**	5°C

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
1. DAM CREST		142,143,144	
1.1 Crest elevation	150 m		Design 150 m
1.2 Reservoir Level	147.6 m – water 149.4 m - tailings		
Current Freeboard	2.4 m – water 0.6 m -tailings		Design 2 m water, 0.5 m tailings
1.3 Distance To Tailings Pond (if applicable)	300 m		Tailings beach all along SD1
1.4 Surface Cracking	None at time of inspection		
1.5 Unexpected Settlement	None observed		
1.6 Lateral Movement	Not apparent		
1.7 Other Unusual Conditions			
2. UPSTREAM SLOPE		139,140,141,144	
2.1 Slope angle	Approx. 3H:1V		Rockfill
2.2 Signs of Erosion	None observed		
2.3 Signs of Movement (Deformation)	None observed		
2.4 Cracks	None observed		
2.5 Face liner condition (if applicable)	In good condition		
2.6 Other Unusual Conditions	None		
3. DOWNSTREAM SLOPE		145,146	
3.1 Slope angle	Approx.1.2H or 1.3 H:1V variable		Rockfill

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
3.2 Signs of Erosion	None observed		
3.3 Signs of Movement (Deformation)	None observed		
3.4 Cracks	None observed		
3.5 Seepage or Wet Areas	None observed		
3.6 Vegetation Growth	None observed		
3.7 Other Unusual Conditions	None		
4. DOWNSTREAM TOE AREA		145,146	
4.1 Seepage from Dam	Uncertain		A dewatering sump is installed downstream to promote frozen condition of the dike foundation. The water in the sump is chemically analysed to determine its origin.
4.2 Signs of Erosion	None observed		
4.3 Signs of Turbidity in Seepage Water	Not applicable		
4.4 Discoloration/staining	No		
4.5 Outlet operating problem (if applicable)	Not applicable		
4.6 Other Unusual Conditions			
5. ABUTMENTS			
5.1 Seepage at contact zone (abutment/embankment)	None observed		
5.2 Signs of Erosion	None observed		
5.3 Excessive Vegetation	No		
5.4 Presence of Rodent Burrows	None observed		
5.5 Other Unusual Conditions	None		
6. RESERVOIR			
6.1 Stability of Slopes	Stable		
6.2 Distance to Nearest Slide	None observed		
6.3 Estimate of Slide Volume (if applicable)	Not applicable		
6.4 Floating debris	None observed		
6.5 Other Unusual Conditions	No		
7. EMERGENCY SPILLWAY/ OUTLET STRUCTURE			

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
7.1 Surface Condition	No spillway or outlet structure exists, only dewatering pump.		
7.2 Signs of Erosion			
7.3 Signs of Movement (Deformation)			
7.4 Cracks			
7.5 Settlement			
7.6 Presence of Debris or Blockage			
7.7 Closure mechanism operational			
7.8 Slope Protection			
7.9 Instability of Side Slopes			
7.10 Other Unusual Conditions			
8. INSTRUMENTATION			
8.1 Piezometers	No		
8.2 Settlement Cells	No		
8.3 Thermistors	Yes		See Section 4.0 of the report
8.4 Settlement Monuments	No		Construction drawings show settlement monuments to be installed on Stage 2 crest.
8.5 Seismograph	No		
8.6 Inclinometer	No		
8.7 Weirs and Flow Monitors	No		As per the design, a seepage collection and pump back system is built.
8.8 Data logger(s)	No		
8.9 Other			
9. DOCUMENTATION			
9.1 Operation, Maintenance and Surveillance (OMS) Plan			
9.1.1 OMS Plan exists	Yes		
9.1.2 OMS Plan reflects current dam conditions	Yes		
9.1.3 Date of last revision	January 2015		
9.2 Emergency Preparedness Plan (EPP)			
9.2.1 EPP exists	Yes		Included within the OMS and ERP plan.

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
9.2.2 EPP reflects current conditions	Yes		
9.2.3 Date of last revision	November 2014		

10. NOTES :

Inspector's Signature		**Date:**	

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Photograph B2-1 Saddle Dam 1

Date: September 31, 2015 **Photo Number**: 146

Description: From the south abutment (Sta. 0+350) looking north at the downstream face. Notice the sea-can container where a sump is installed.

Photograph B2-2 Saddle Dam 1

Date: September 31, 2015 **Photo Number**: 145

Description: From Sta. 0+150 looking south at the downstream face. Notice the sea-can container where a sump is installed.

Photograph B2-3 Saddle Dam 1

Date: September 31, 2015 **Photo Number**: 143

Description: From Sta. 0+225, looking north at the crest.

Photograph B2-4 Saddle Dam 1

Date: September 31, 2015 **Photo Number**: 142

Description: From Sta. 0+225, looking south at the crest.

Photograph B2-5 Saddle Dam 1

Date: September 31, 2015 **Photo Number**: 144

Description: From Sta. 0+055, looking south at the crest and upstream slope.

Photograph B2-6 Saddle Dam 1

Date: September 31, 2015 **Photo Number**: 140

Description: From Sta. 0+195 upstream, looking south at the upstream slope. Adequate tailings beach against SD1.

Photograph B2-7 Saddle Dam 1

Date: September 31, 2015 **Photo Number**: 141

Description: From Sta. 0+195 upstream, looking north at the upstream slope. Adequate tailings beach against SD1.

Photograph B2-8 Saddle Dam 1

Date: September 31, 2015 **Photo Number**: 139

Description: From the south abutment looking north at the upstream slope. Adequate tailings beach against SD1.

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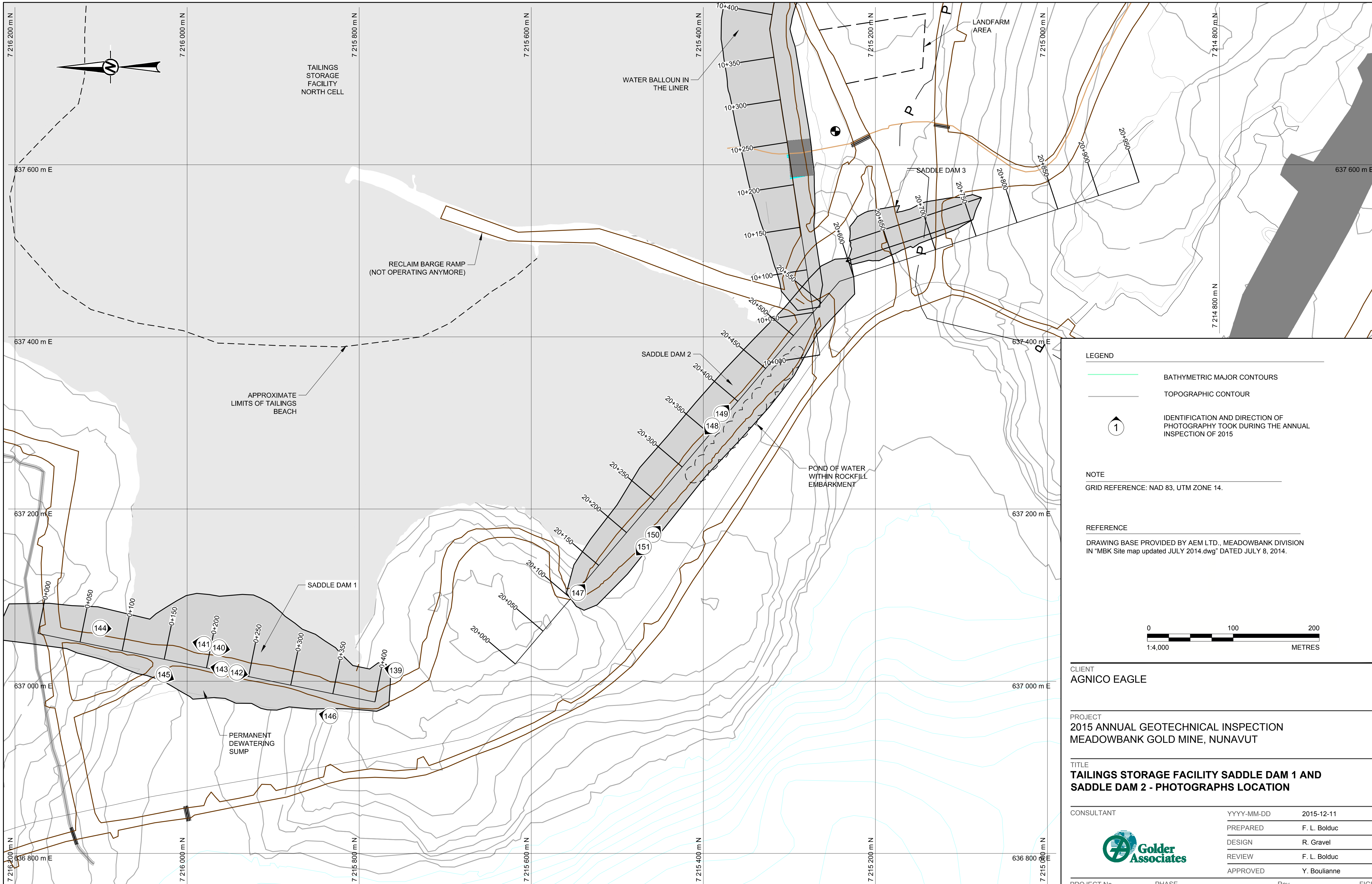
APPENDIX B3

Saddle Dam 2 Photographic Log and Record of Inspection



LEGEND

BATHYMETRIC MAJOR CONTOURS

TOPOGRAPHIC CONTOUR

IDENTIFICATION AND DIRECTION OF PHOTOGRAPHY TOOK DURING THE ANNUAL INSPECTION OF 2015

NOTE

GRID REFERENCE: NAD 83, UTM ZONE 14.

REFERENCE

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CLIENT

AGNICO EAGLE

PROJECT

2015 ANNUAL GEOTECHNICAL INSPECTION
MEADOWBANK GOLD MINE, NUNAVUT

TITLE

TAILINGS STORAGE FACILITY SADDLE DAM 1 AND SADDLE DAM 2 - PHOTOGRAPHS LOCATION

CONSULTANT

Golder Associates

YYYY-MM-DD	2015-12-11
PREPARED	F. L. Bolduc
DESIGN	R. Gravel
REVIEW	F. L. Bolduc
APPROVED	Y. Boulianne

PROJECT No.	PHASE	Rev.	FIGURE
1535715	3000	0	B3

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Client:	AEM	**By:**	Yves Boulianne
Project:	Meadowbank	**Date:**	August 31, 2015
Location:	Saddle Dam 2	**Reviewed:**	Yves Boulianne

GENERAL INFORMATION

Dam Type:	Rockfill embankment with inverted filter on base, upstream filters, a geomembrane liner tied in a toe till plug and upstream till blanket.		
Weather Conditions:	Overcast	**Temperature:**	5°C

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
1. DAM CREST		147,148,149	
1.1 Crest elevation	150 m		Design 150 m
1.2 Reservoir Level	147.65 m – water 149.5 m - tailings		
Current Freeboard	2.35 m – water 0.5 m - tailigns		Design 2 m water, 0.5 m tailings
1.3 Distance To Tailings Pond (if applicable)	>200 m		Adequate tailings beach
1.4 Surface Cracking	None at time of inspection		
1.5 Unexpected Settlement	None observed		
1.6 Lateral Movement	Not apparent		
1.7 Other Unusual Conditions	None		
2. UPSTREAM SLOPE		147,148,149	
2.1 Slope angle	Approx. 3H:1V		Rockfill
2.2 Signs of Erosion	None observed		
2.3 Signs of Movement (Deformation)	None observed		
2.4 Cracks	None observed		
2.5 Face liner condition (if applicable)	Good		
2.6 Other Unusual Conditions	None		
3. DOWNSTREAM SLOPE		150,151	
3.1 Slope angle	Approx.1.2H or 1.3 H:1V variable		Rockfill

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
3.2 Signs of Erosion	None observed		
3.3 Signs of Movement (Deformation)	None observed		
3.4 Cracks	None observed		
3.5 Seepage or Wet Areas	None observed on slope		
3.6 Vegetation Growth	None observed		
3.7 Other Unusual Conditions	None		
4. DOWNSTREAM TOE AREA		150,151	
4.1 Seepage from Dam	No		
4.2 Signs of Erosion	None observed		
4.3 Signs of Turbidity in Seepage Water	Not applicable		
4.4 Discoloration/staining	No		
4.5 Outlet operating problem (if applicable)	Not applicable		
4.6 Other Unusual Conditions	Yes		Water is ponding within the rockfill embankment between 20+275 to 20+475 approximately
5. ABUTMENTS			
5.1 Seepage at contact zone (abutment/embankment)	None observed		
5.2 Signs of Erosion	None observed		
5.3 Excessive Vegetation	No		
5.4 Presence of Rodent Burrows	None observed		
5.5 Other Unusual Conditions	None		
6. RESERVOIR			
6.1 Stability of Slopes	Stable		
6.2 Distance to Nearest Slide (if applicable)	None observed		
6.3 Estimate of Slide Volume (if applicable)	Not applicable		
6.4 Floating debris	None observed		
6.5 Other Unusual Conditions	No		
7. EMERGENCY SPILLWAY/ OUTLET STRUCTURE			
7.1 Surface Condition	No spillway or outlet structure exists, only dewatering pump.		

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
7.2 Signs of Erosion			
7.3 Signs of Movement (Deformation)			
7.4 Cracks			
7.5 Settlement			
7.6 Presence of Debris or Blockage			
7.7 Closure mechanism operational			
7.8 Slope Protection			
7.9 Instability of Side Slopes			
7.10 Other Unusual Conditions			
8. INSTRUMENTATION			
8.1 Piezometers	No		
8.2 Settlement Cells	No		
8.3 Thermistors	Yes		See Section 4.0 of the report
8.4 Settlement Monuments	No		Construction drawings show displacement monitoring points to be installed on Stage 2 crest.
8.5 Seismograph	No		
8.6 Inclinometer	No		
8.7 Weirs and Flow Monitors	No		Construction drawings indicate a seepage collection system is to be constructed. AEM has indicated they plan to construct a seepage collection and pump back system.
8.8 Data logger(s)	No		
8.9 Other			
9. DOCUMENTATION			
9.1 Operation, Maintenance and Surveillance (OMS) Plan			
9.1.1 OMS Plan exists	Yes		
9.1.2 OMS Plan reflects current dam conditions	Yes		
9.1.3 Date of last revision	January 2015		
9.2 Emergency Preparedness Plan (EPP)			
9.2.1 EPP exists	Yes		Included within the OMS and ERP plan.

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
9.2.2 EPP reflects current conditions	Yes		
9.2.3 Date of last revision	November 2014		

10. NOTES :

Inspector's Signature		Date:	

n:\actif\2015\3 proj\1535715 aem inspection geotechnical 2015 meadowbank\5 preparation of deliverables\1533-2015 geotech inspec\rev0\appendix b - tsf\b3 - saddle dam 2 inspection 2015.docx

Photograph B3-1 Saddle Dam 2

Date: September 31, 2015 **Photo Number**: 147

Description: From Saddle Dam 2 (Sta. 20+110) looking southeast at the crest and upstream slope of Saddle Dam 2. The tailings beach against SD2 is adequate.

Photograph B3-2 Saddle Dam 2

Date: September 31, 2015 **Photo Number**: 149

Description: From Sta. 20+370 looking southeast at the crest and upstream slope

Photograph B3-3 Saddle Dam 2

Date: September 31, 2015 **Photo Number**: 148

Description: From Sta. 20+370 looking northwest at the crest and upstream slope.

Photograph B3-4 Saddle Dam 2

Date: September 31, 2015 **Photo Number**: 151

Description: From Sta. 20+210 downstream, looking northwest.

Photograph B3-5 Saddle Dam 2

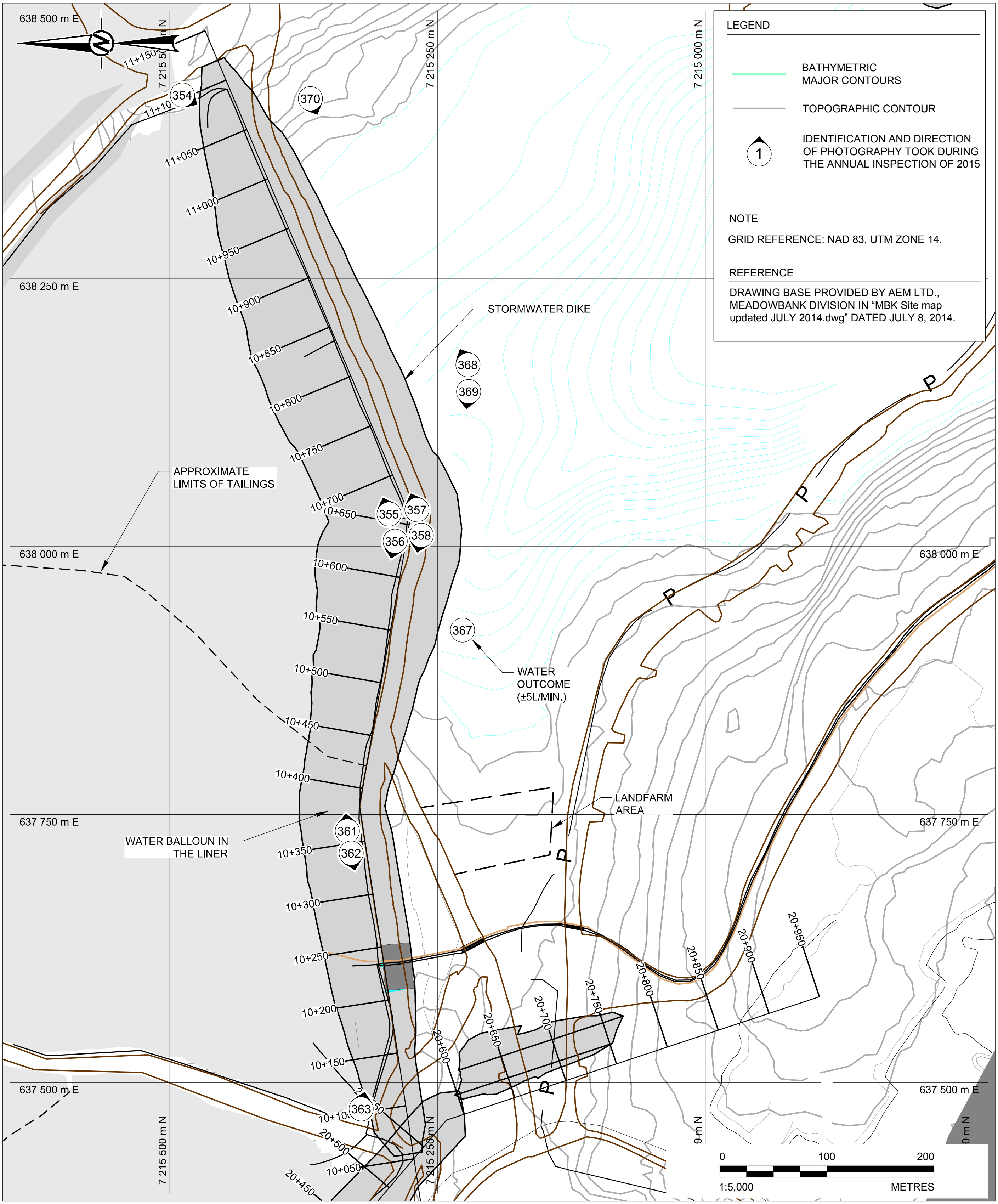
Date: September 31, 2015 **Photo Number**: 150

Description: From Sta. 20+210 downstream, looking southeast.

n:\actif\2015\3 proj\1535715 aem inspection geotechnical 2015 meadowbank\5 preparation of deliverables\1533-2015 geotech inspec\rev0\appendix b - tsf\b3 - saddle dam 2 photo log.docx

APPENDIX B4

Stormwater Dike Photographic Log and Record of Inspection



LEGEND

BATHYMETRIC MAJOR CONTOURS

TOPOGRAPHIC CONTOUR

IDENTIFICATION AND DIRECTION OF PHOTOGRAPHY TOOK DURING THE ANNUAL INSPECTION OF 2015

NOTE

GRID REFERENCE: NAD 83, UTM ZONE 14.

REFERENCE

DRAWING BASE PROVIDED BY AEM LTD., MEADOWBANK DIVISION IN "MBK Site map updated JULY 2014.dwg" DATED JULY 8, 2014.

CLIENT
AGNICO EAGLE

PROJECT
2015 ANNUAL GEOTECHNICAL INSPECTION
MEADOWBANK GOLD MINE, NUNAVUT

CONSULTANT
Golder Associates

YYYY-MM-DD	2015-12-11
PREPARED	F. L. Bolduc
DESIGN	R. Gravel
REVIEW	F. L. Bolduc
APPROVED	Y. Boulianne

TITLE
STORMWATER DIKE
PHOTOGRAPHS LOCATION

PROJECT No.	PHASE	Rev.	FIGURE
1535715	3000	0	B4

APPENDIX B4
RECORD OF DAM INSPECTION

Client:	AEM	**By:**	Yves Boulianne
Project:	Meadowbank	**Date:**	September 2, 2015
Location:	Stormwater Dike	**Reviewed:**	Yves Boulianne

GENERAL INFORMATION

Dam Type:	Rockfill embankment, upstream filters and a bituminous geomembrane liner. Compacted till placed above liner at toe, prior to tailings deposition.		
Weather Conditions:	Overcast	**Temperature:**	5°C

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
1. DAM CREST		354,357,358,	
1.1 Crest elevation	150 m		Design 150 m, raised during summer 2013.
1.2 Reservoir Level	147.65 – water 149.5 m - tailings		
Current Freeboard	2.35 m – water 0.5 m - tailings		Design 2 m in operation and 1 m at closure for water and 0.5 m for tailings.
1.3 Distance To Tailings Pond (if applicable)	0 m for the middle part		No tailings beach from 10+100 to 10+375 approximately.
1.4 Surface Cracking	None at time of inspection		
1.5 Unexpected Settlement	None observed		
1.6 Lateral Movement	Not apparent		
1.7 Other Unusual Conditions			
2. UPSTREAM SLOPE		354,355,356, 361,362,363	
2.1 Slope angle	Approx. 3H:1V		Rockfill
2.2 Signs of Erosion	None observed		
2.3 Signs of Movement (Deformation)	Differential settlement		Differential settlement between Sta. 11+045 and 10+735. Still partly visible but no sign of aggravation.
2.4 Cracks	None observed		

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
2.5 Face liner condition (if applicable)	Good conditions overall		Balloon of water in the LLDPE, 3 m long by 0.5 m wide by 0.15 m high on average found at Sta. 10+380 at about El. 148 m.
2.6 Other Unusual Conditions	None		
3. DOWNSTREAM SLOPE		366,368, 369,370	
3.1 Slope angle	Approx.1.2H or 1.5 H:1V variable		Rockfill
3.2 Signs of Erosion	None observed		
3.3 Signs of Movement (Deformation)	None observed		
3.4 Cracks	None observed		
3.5 Seepage or Wet Areas	None observed on slope		
3.6 Vegetation Growth	None observed		
3.7 Other Unusual Conditions	None		
4. DOWNSTREAM TOE AREA		366,367,368, 369,370	
4.1 Seepage from Dam	Yes	367	Very low seepage observed at approximately 10+700 and 10+900. Water outcome observed from the soil at the toe at approximately 10+560. Clear flow of approximately 5 L/min.
4.2 Signs of Erosion	None observed		
4.3 Signs of Turbidity in Seepage Water	No		
4.4 Discoloration/staining	No		
4.5 Outlet operating problem (if applicable)	Not applicable		
4.6 Other Unusual Conditions			
5. ABUTMENTS			
5.1 Seepage at contact zone (abutment/embankment)	None observed		
5.2 Signs of Erosion	None observed		
5.3 Excessive Vegetation	No		
5.4 Presence of Rodent Burrows	None observed		
5.5 Other Unusual Conditions	None		

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
6. RESERVOIR			
6.1 Stability of Slopes	Stable		
6.2 Distance to Nearest Slide (if applicable)	None observed		
6.3 Estimate of Slide Volume (if applicable)	Not applicable		
6.4 Floating debris	None observed		
6.5 Other Unusual Conditions	No		
7. EMERGENCY SPILLWAY/ OUTLET STRUCTURE			
7.1 Surface Condition	No spillway or outlet structure exists, only dewatering pump.		
7.2 Signs of Erosion			
7.3 Signs of Movement (Deformation)			
7.4 Cracks			
7.5 Settlement			
7.6 Presence of Debris or Blockage			
7.7 Closure mechanism operational			
7.8 Slope Protection			
7.9 Instability of Side Slopes			
7.10 Other Unusual Conditions			
8. INSTRUMENTATION			
8.1 Piezometers	Yes		See Section 4.0
8.2 Settlement Cells	No		
8.3 Thermistors	Yes		See Section 4.0
8.4 Settlement Monuments	No		
8.5 Seismograph	No		
8.6 Inclinometer	No		
8.7 Weirs and Flow Monitors	No		
8.8 Data logger(s)	No		
8.9 Other	None		

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
9. DOCUMENTATION			
9.1 Operation, Maintenance and Surveillance (OMS) Plan			
9.1.1 OMS Plan exists	Yes		
9.1.2 OMS Plan reflects current dam conditions	Yes		
9.1.3 Date of last revision	January 2015		
9.2 Emergency Preparedness Plan (EPP)			
9.2.1 EPP exists	Yes		Included within OMS and ERP.
9.2.2 EPP reflects current conditions	Yes		
9.2.3 Date of last revision	November 2014		

10. NOTES :

Inspector's Signature		**Date:**	

n:\actif\2015\3 proj\1535715 aem inspection geotechnical 2015 meadowbank\5 preparation of deliverables\1533-2015 geotech inspec\rev0\appendix b - tsf\b4 - stormwater dike inspection 2015.docx

Photograph B4-1 Stormwater Dike

Date: August 31, 2015 **Photo Number**: 354

Description: From the east abutment (11+100 approximately), looking west at the upstream face.

Photograph B4-2 Stormwater Dike

Date: August 31, 2015 **Photo Number**: 355

Description: From Sta. 10+650 looking west at the upstream slope.

Photograph B4-3 Stormwater Dike

Date: August 31, 2015 **Photo Number**: 356

Description: From Sta. 10+650 looking west at the upstream slope. No tailings beach against portion of Stormwater Dike.

Photograph B4-4 Stormwater Dike

Date: August 31, 2015 **Photo Number**: 361

Description: From Sta. 10+375 looking east at the upstream slope. Notice the presence of a water balloon in the liner. No tailings beach against portion of Stormwater Dike.

Photograph B4-5 Stormwater Dike

Date: August 31, 2015 **Photo Number**: 362

Description: From Sta. 10+375 looking west at the upstream slope. No tailings beach against portion of Stormwater Dike.

Photograph B4-6 Stormwater Dike

Date: August 31, 2015 **Photo Number**: 363

Description: From Sta. 10+100 looking east at the upstream slope. No tailings beach against portion of Stormwater Dike.

Photograph B4-7 Stormwater Dike

Date: September 2, 2015 **Photo Number**: 357

Description: From Sta.10+650, looking east at the crest.

Photograph B4-8 Stormwater Dike

Date: September 2, 2015 **Photo Number**: 358

Description: From Sta.10+494, looking west at the crest.

Photograph B4-9 Stormwater Dike

Date: September 2, 2015 **Photo Number**: 370

Description: From the east abutment downstream (Sta. 11+055), looking southwest.

Photograph B4-10 Stormwater Dike

Date: September 2, 2015 **Photo Number**: 368

Description: From Sta.10+750 approximately, looking northeast at the downstream toe and slope.

Photograph B4-11 Stormwater Dike

Date: September 2, 2015 **Photo Number**: 369

Description: From Sta.10+750 approximately, looking west at the downstream area.

Photograph B4-12 Stormwater Dike

Date: September 2, 2015 **Photo Number**: 367

Description: Water outcome observed at the downstream toe of the dike (Sta. 10+660 approximately).

Photograph B4-13 Stormwater Dike

Date: September 2, 2015 **Photo Number**: 366

Description: From approximately Sta. 10+420 downstream, looking east at the downstream area.

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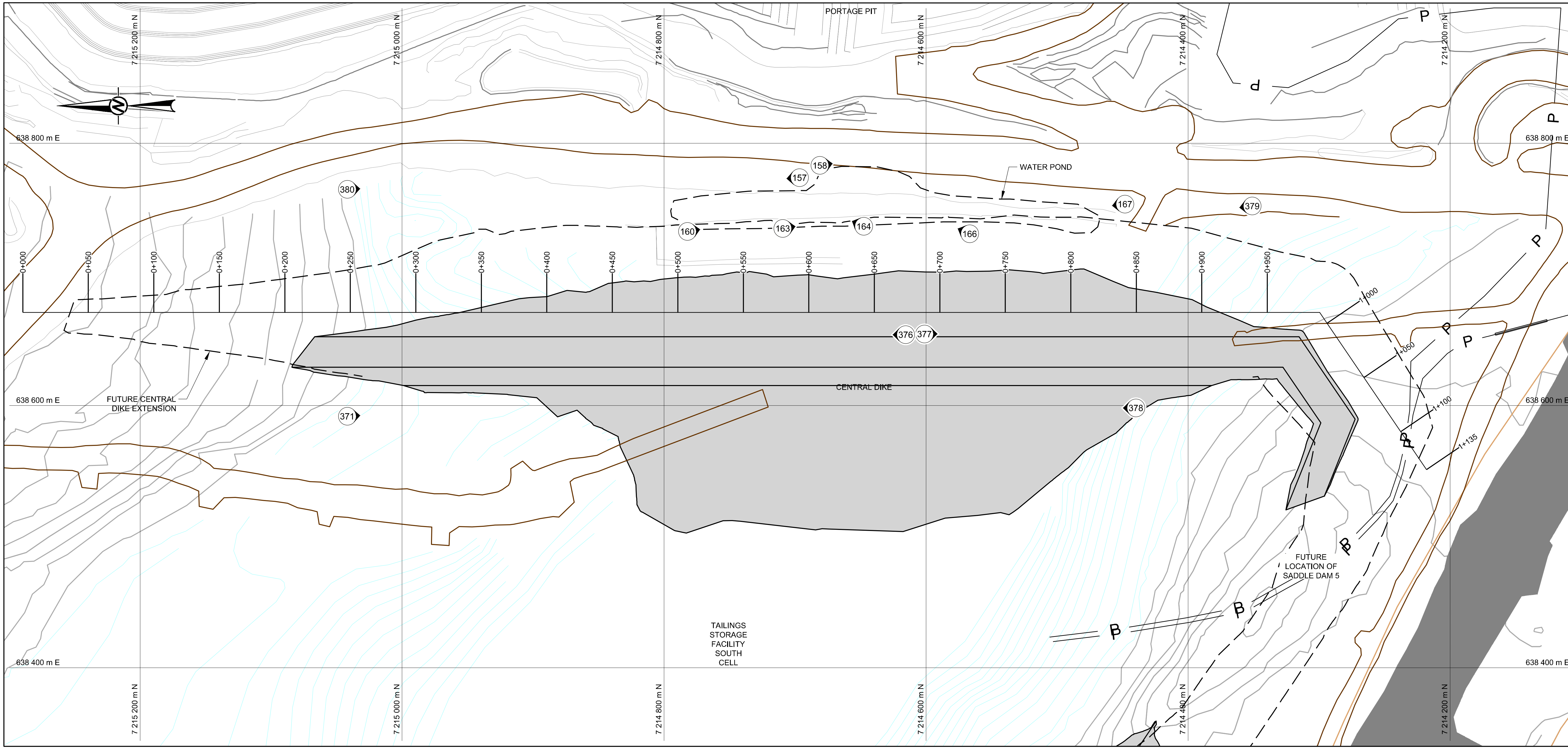
APPENDIX B5

Central Dike Photographic Log and Record of Inspection



LEGEND

BATHYMETRIC MAJOR CONTOURS

TOPOGRAPHIC CONTOUR

IDENTIFICATION AND DIRECTION OF PHOTOGRAPHY TOOK DURING THE ANNUAL INSPECTION OF 2015

NOTE

GRID REFERENCE: NAD 83, UTM ZONE 14.

REFERENCE

DRAWING BASE PROVIDED BY AEM LTD., MEADOWBANK DIVISION IN "MBK Site map updated JULY 2014.dwg" DATED JULY 8, 2014.

0 50 100

1:3,000 METRES

CLIENT
AGNICO EAGLE

PROJECT
2015 ANNUAL GEOTECHNICAL INSPECTION
MEADOWBANK GOLD MINE, NUNAVUT

TITLE
CENTRAL DIKE
PHOTOGRAPHS LOCATION

CONSULTANT

YYYY-MM-DD	2015-12-11
PREPARED	F. L. Bolduc
DESIGN	R. Gravel
REVIEW	F. L. Bolduc
APPROVED	Y. Boulianne

PROJECT No.	PHASE	Rev.	FIGURE
1535715	3000	0	B5

Client:	AEM	**By:**	Yves Boulianne
Project:	Meadowbank	**Date:**	September 2, 2015
Location:	Central Dike	**Reviewed:**	Yves Boulianne

GENERAL INFORMATION

Dam Type:	Rockfill embankment with inverted filter on base, key trench, upstream filters, a geomembrane liner tied in a toe till plug and protective cover.		
Weather Conditions:	Overcast	**Temperature:**	5°C

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
1. DAM CREST		376,377	
1.1 Crest Elevation	Cofferdam Crest = 110 m Rockfill crest = 137 m		
1.2 Reservoir Level	121.6 m		
Current Freeboard	15.4 m from the crest		
1.3 Distance To Tailings Pond (if applicable)	-		No tailings beach. An erosion protection layer is in place to protect the geomembrane liner
1.4 Surface Cracking	None at time of inspection		
1.5 Unexpected Settlement	None observed		
1.6 Lateral Movement	Not apparent		
1.7 Other Unusual Conditions			
2. UPSTREAM SLOPE		371,376,377,378	
2.1 Slope angle	3:1V up to El. 130 m and 2H:1V above		
2.2 Signs of Erosion	None observed		
2.3 Signs of Movement (Deformation)	None observed		
2.4 Cracks	None observed		

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
2.5 Face liner condition (if applicable)			Liner covered by a granular protection layer up to El. 128 m. Angular material stuck between LLDPE and geotextile. Should be clean prior deposition of tailings at that elevation.
2.6 Other Unusual Conditions	None		
3. DOWNSTREAM SLOPE		157,160,167,379, 380	
3.1 Slope angle	Approx.1.5H		Rockfill
3.2 Signs of Erosion	None observed		
3.3 Signs of Movement (Deformation)	None observed		
3.4 Cracks	None observed		
3.5 Seepage or Wet Areas			
3.6 Vegetation Growth	None observed		
3.7 Other Unusual Conditions	None		
4. DOWNSTREAM TOE AREA		157,158,160,163, 164,166,167,379, 380	
4.1 Seepage from Dam	Yes	157,158,160,163, 164,166,167	A water pond was observed in 2014 in the downstream area from Sta. 0+545 to the access road (Sta. 0+830). It was determined in 2015 that the pond is feeded by seepage from the South Cell. Calculated seepage is estimated at 800 m^3/hr.
4.2 Signs of Erosion	None observed		
4.3 Signs of Turbidity in Seepage Water	No		The water ponding downstream is not turbid
4.4 Discoloration/staining	No		
4.5 Outlet operating problem (if applicable)	Not applicable		
4.6 Other Unusual Conditions			
5. ABUTMENTS			
5.1 Seepage at contact zone (abutment/embankment)	None observed		
5.2 Signs of Erosion	None observed		
5.3 Excessive Vegetation	No		

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
5.4 Presence of Rodent Burrows	None observed		
5.5 Other Unusual Conditions	None		
6. RESERVOIR			
6.1 Stability of Slopes	Stable		
6.2 Distance to Nearest Slide	None observed		
6.3 Estimate of Slide Volume (if applicable)	Not applicable		
6.4 Floating debris	None observed		
6.5 Other Unusual Conditions	No		
7. EMERGENCY SPILLWAY/ OUTLET STRUCTURE			
7.1 Surface Condition	No spillway or outlet structure exists, only dewatering pump.		
7.2 Signs of Erosion			
7.3 Signs of Movement (Deformation)			
7.4 Cracks			
7.5 Settlement			
7.6 Presence of Debris or Blockage			
7.7 Closure mechanism operational			
7.8 Slope Protection			
7.9 Instability of Side Slopes			
7.10 Other Unusual Conditions			
8. INSTRUMENTATION			
8.1 Piezometers	Yes		See section 4.0
8.2 Settlement Cells	No		
8.3 Thermistors	Yes		See section 4.0
8.4 Settlement Monuments	No		
8.5 Seismograph	No		
8.6 Inclinometer	No		
8.7 Weirs and Flow Monitors	No		
8.8 Data logger(s)	No		

INSPECTION ITEM	OBSERVATIONS DATA	PHOTO	COMMENTS & OTHER DATA
8.9 Other			
9. DOCUMENTATION			
9.1 Operation, Maintenance and Surveillance (OMS) Plan			
9.1.1 OMS Plan exists	Yes		
9.1.2 OMS Plan reflects current dam conditions	Yes		
9.1.3 Date of last revision	January 2015		
9.2 Emergency Preparedness Plan (EPP)			
9.2.1 EPP exists	Yes		Included within the OMS and ERP plan.
9.2.2 EPP reflects current conditions	Yes		
9.2.3 Date of last revision	November 2014		

10. NOTES :

Inspector's Signature		**Date:**	

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Photograph B5-1 Central Dike

Date: September 2, 2015 **Photo Number**: 167

Description: From Sta. 0+850 downstream, looking north. View of the seepage water ponding downstream between Central Dike and the West Road. A pump has been installed in the container.

Photograph B5-2 Central Dike

Date: September 2, 2015 **Photo Number**: 166

Description: From approximately Sta. 0+725 downstream, looking north. View of the seepage water ponding downstream between Central Dike and the West Road. A pump has been installed in the container.

Photograph B5-3 Central Dike

Date: September 2, 2015 **Photo Number**: 158

Description: From approximately Sta. 0+625 downstream, looking south. View of the seepage water ponding downstream between Central Dike and the West Road. Presence of a zone of superficial material sloughing.

Photograph B5-4 Central Dike

Date: September 2, 2015 **Photo Number**: 157

Description: From approximately Sta. 0+625 downstream, looking north. View of the seepage water ponding downstream between Central Dike and the West Road.

Photograph B5-5 Central Dike

Date: September 2, 2015 **Photo Number**: 164

Description: From approximately Sta. 0+650 downstream, looking north. View of the seepage water ponding downstream between Central Dike and the West Road.

Photograph B5-6 Central Dike

Date: September 2, 2015 **Photo Number**: 163

Description: From approximately Sta. 0+575 downstream, looking south. View of the seepage water ponding downstream between Central Dike and the West Road. A pump has been installed in the container.

Photograph B5-7 Central Dike

Date: September 2, 2015 **Photo Number**: 160

Description: From approximately Sta. 0+500 downstream, looking south. View of the seepage water ponding downstream between Central Dike and the West Road. A pump has been installed in the container.

Photograph B5-8 Central Dike

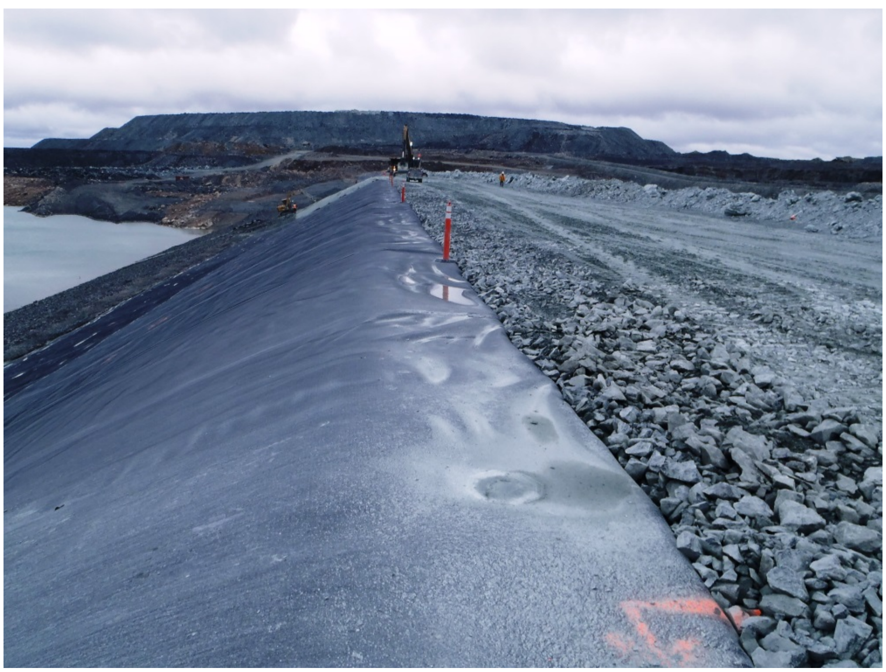
Date: September 2, 2015 **Photo Number**: 379

Description: From the south abutment looking north at the downstream area.

Photograph B5-9 Central Dike

Date: September 2, 2015 **Photo Number**: 380

Description: From the north abutment looking south at the downstream area.



Photograph B5-10 Central Dike

Date: September 2, 2015 **Photo Number**: 376

Description: From Sta. 0+670 looking north. View of the crest of Central Dike at El. 137 m.

Photograph B5-11 Central Dike

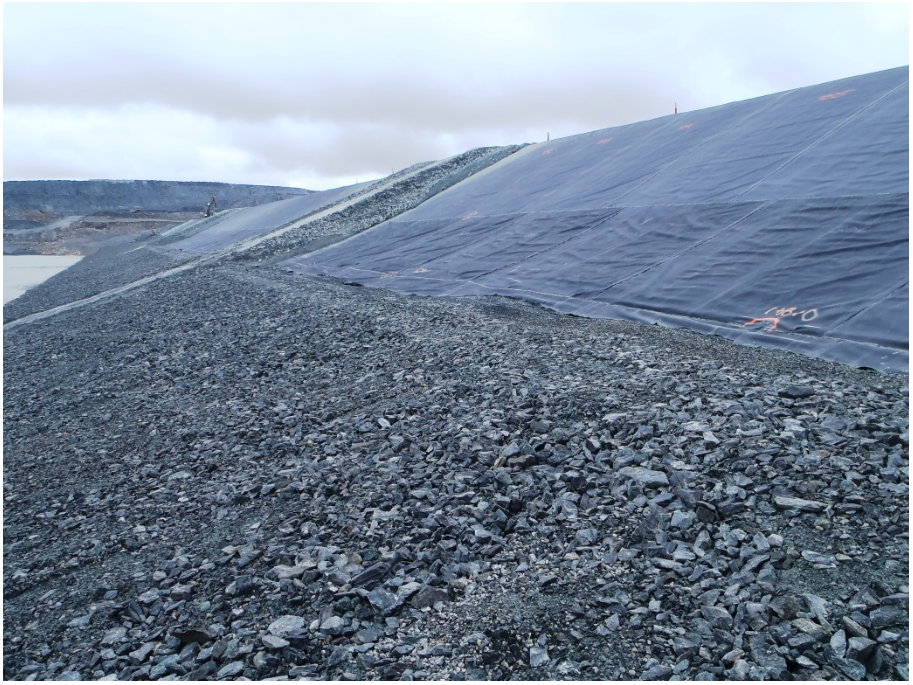
Date: September 2, 2015 **Photo Number**: 377

Description: From Sta. 0+670 looking south. View of the crest of Central Dike at El. 137 m.

Photograph B5-12 Central Dike

Date: September 2, 2015 **Photo Number**: 371

Description: From the north abutment looking south at the upstream slope.



Photograph B5-13 Central Dike

Date: September 2, 2015 **Photo Number**: 378

Description: From the south abutment looking north at the upstream slope.

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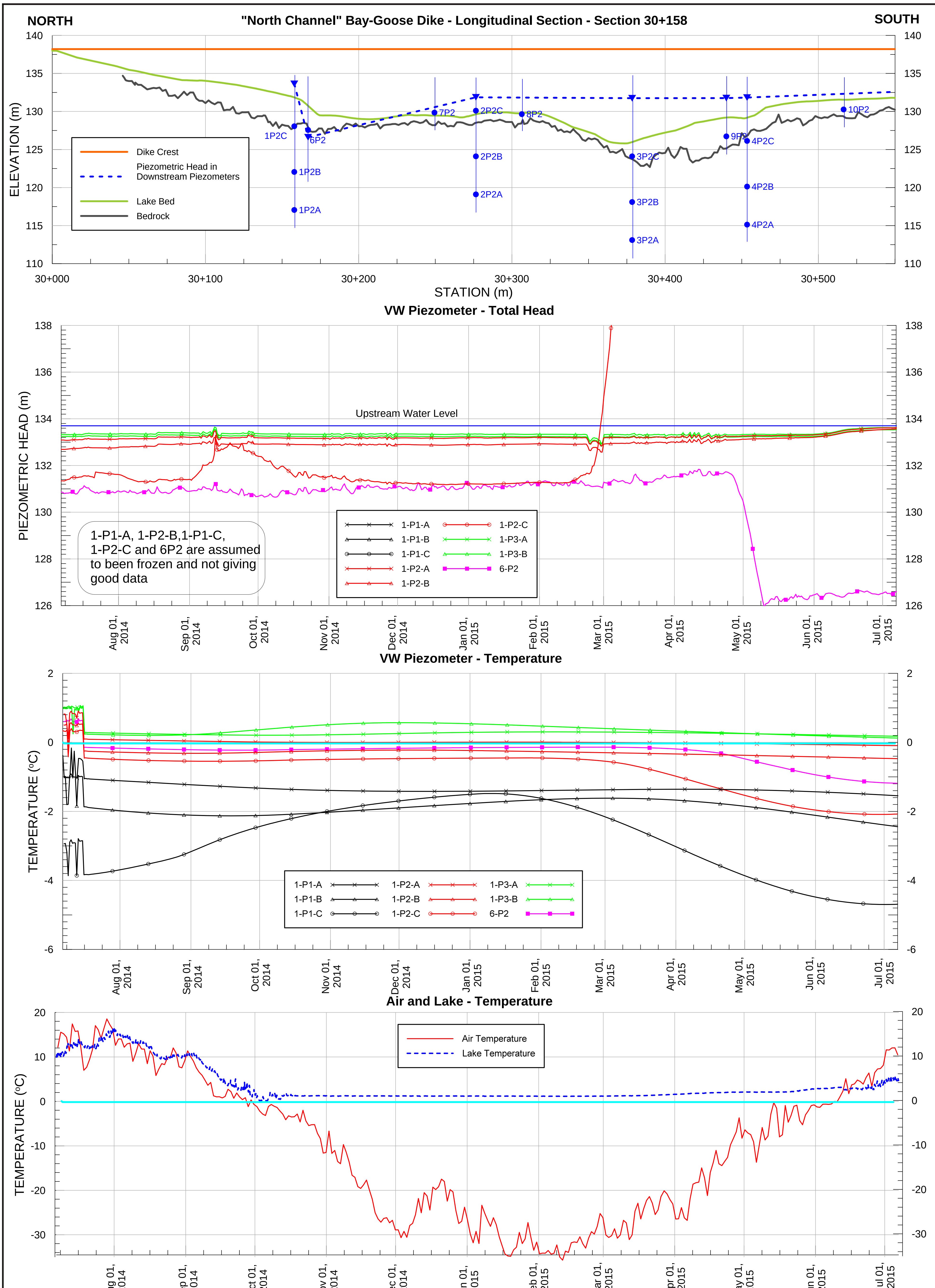
APPENDIX C

Geotechnical Instrumentation Data

APPENDIX C1

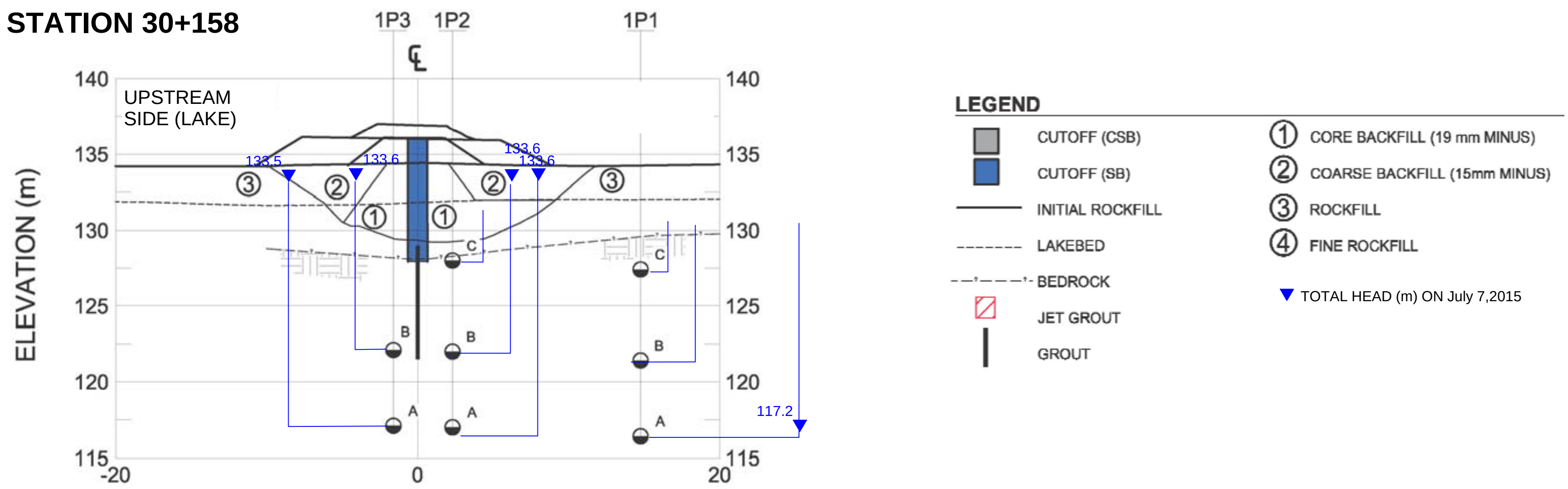
Dewatering Dikes Instrumentation Data

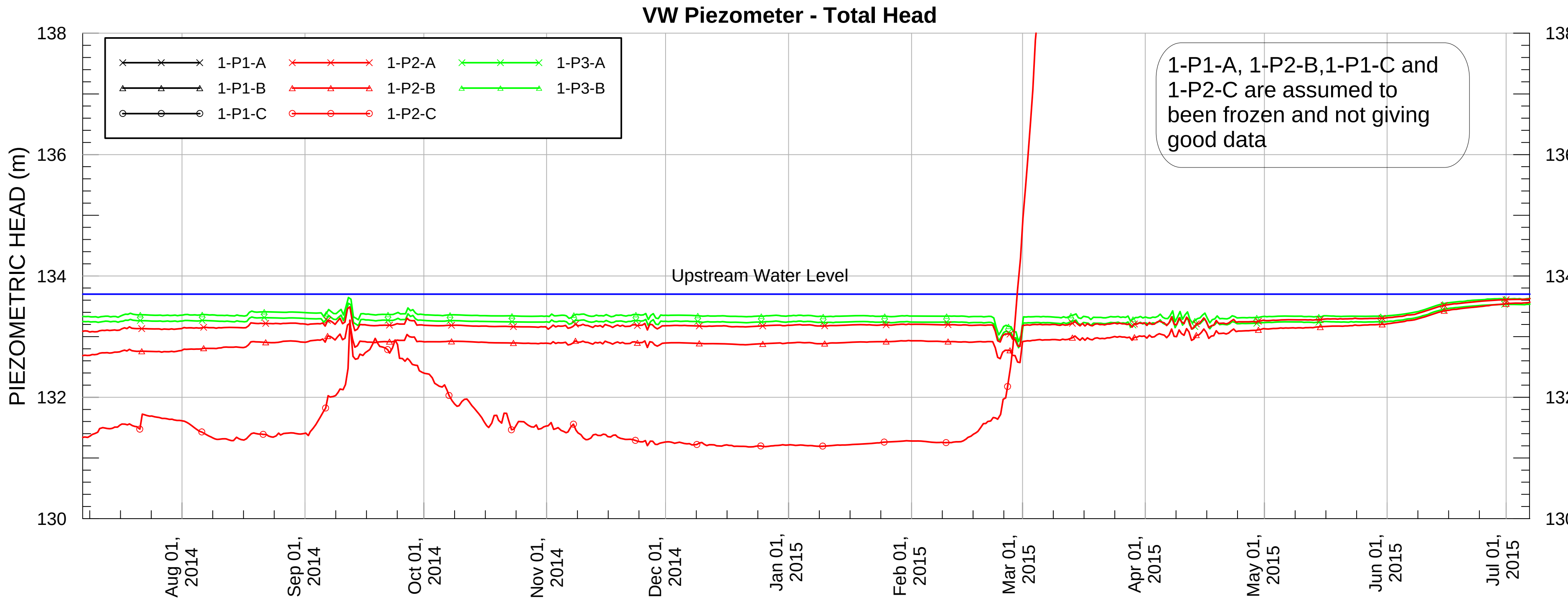


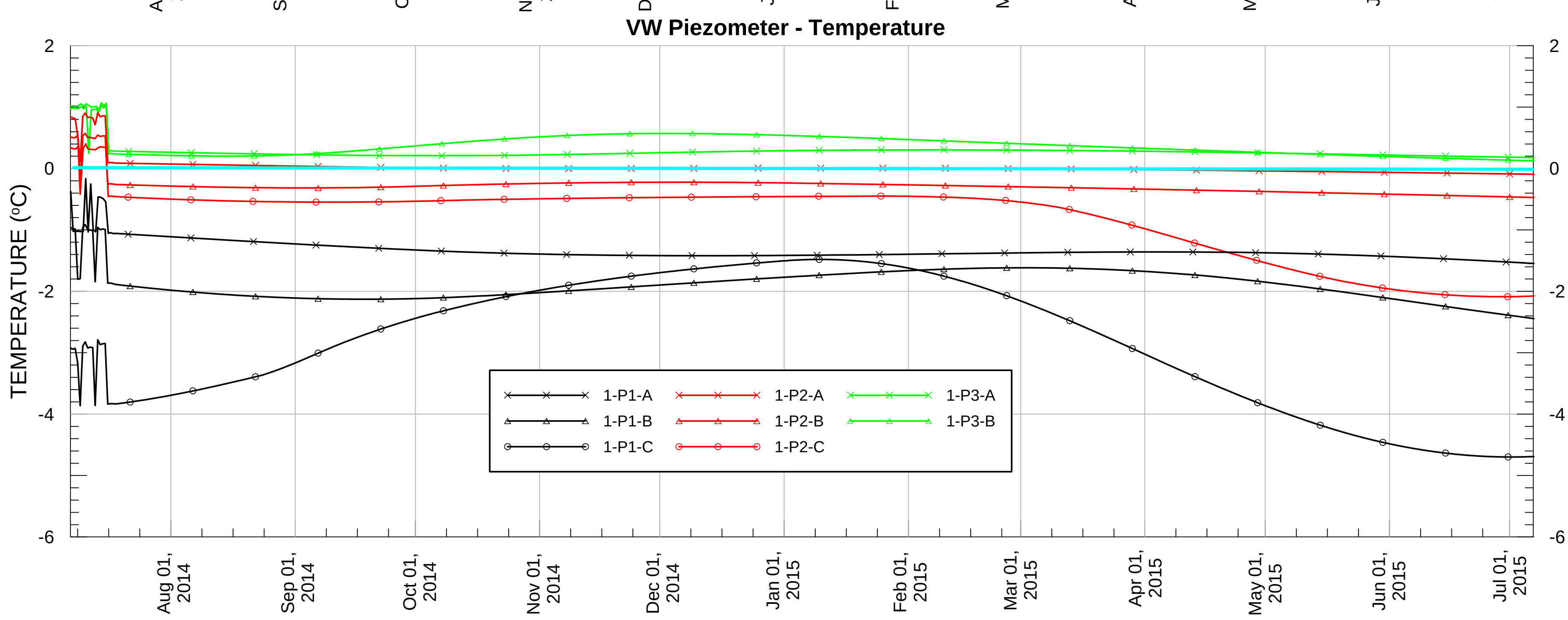
PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT
TITLE	BAYGOOSE DIKE Section 30+158 - PIEZOMETRIC DATA (July 7/14 to July 7/15)

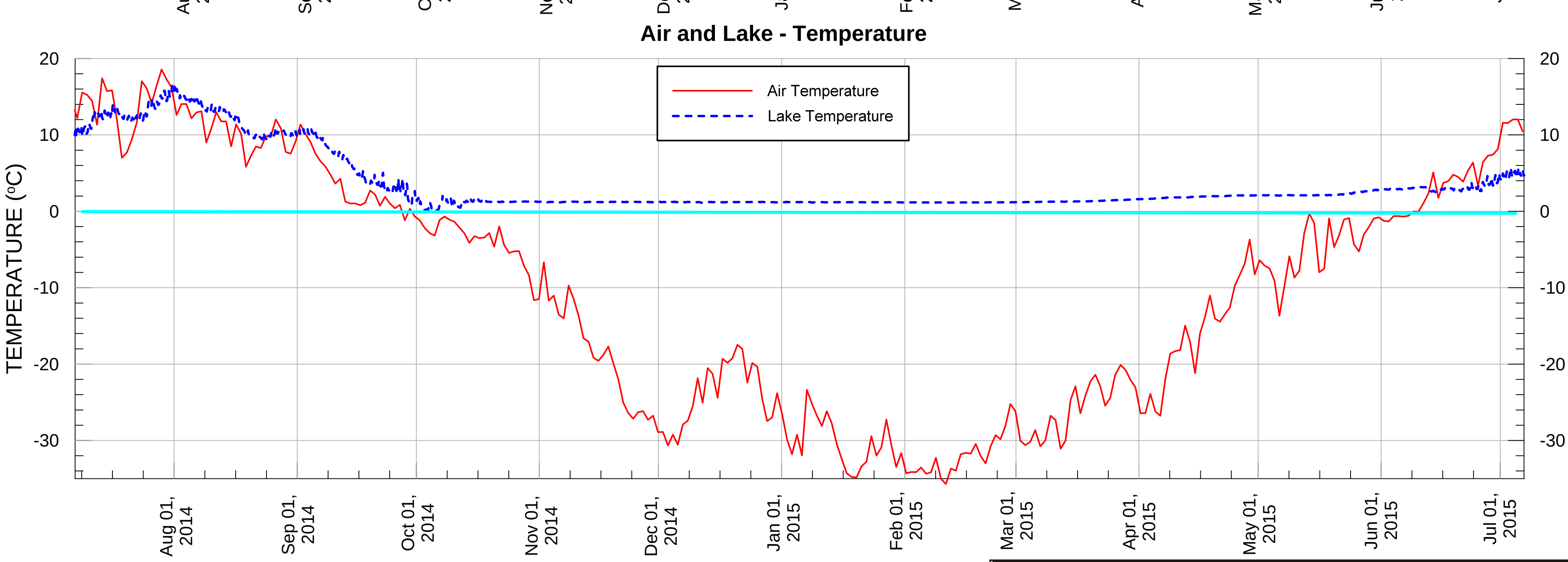
AGNICO EAGLE
MEADOWBANK

PROJECT No.			PHASE No.
DESIGN	TD	30/8/14	SCALE AS SHOWN REV.
CADD	TD	30/8/14	FIGURE 1
CHECK	PG	31/8/14	
REVIEW			





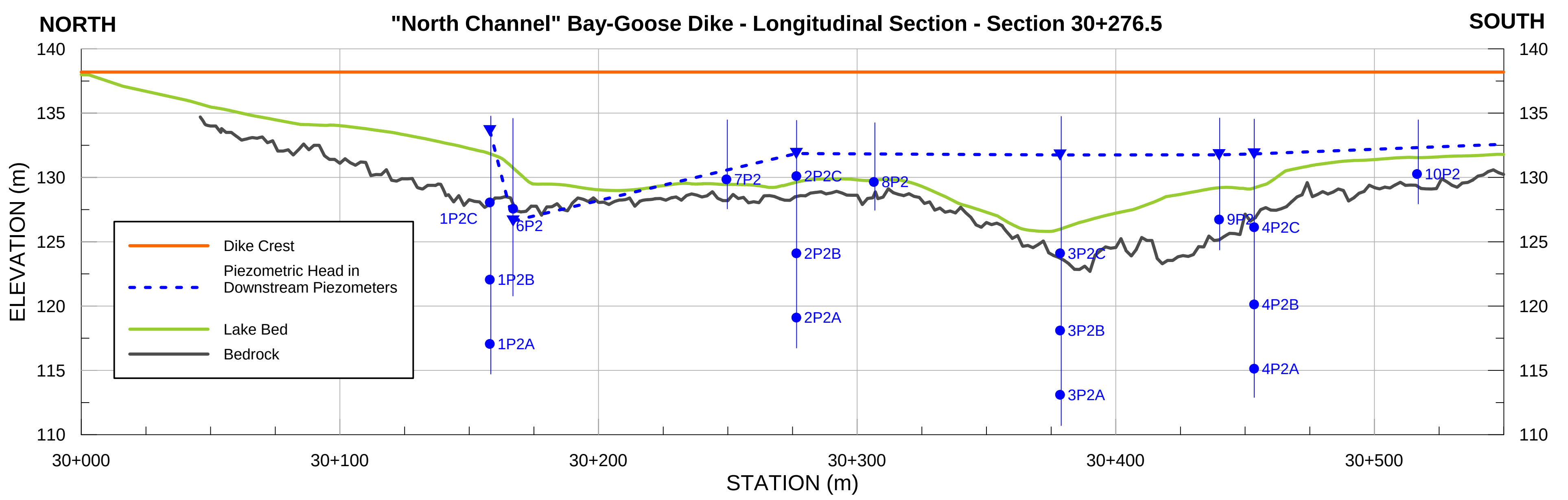




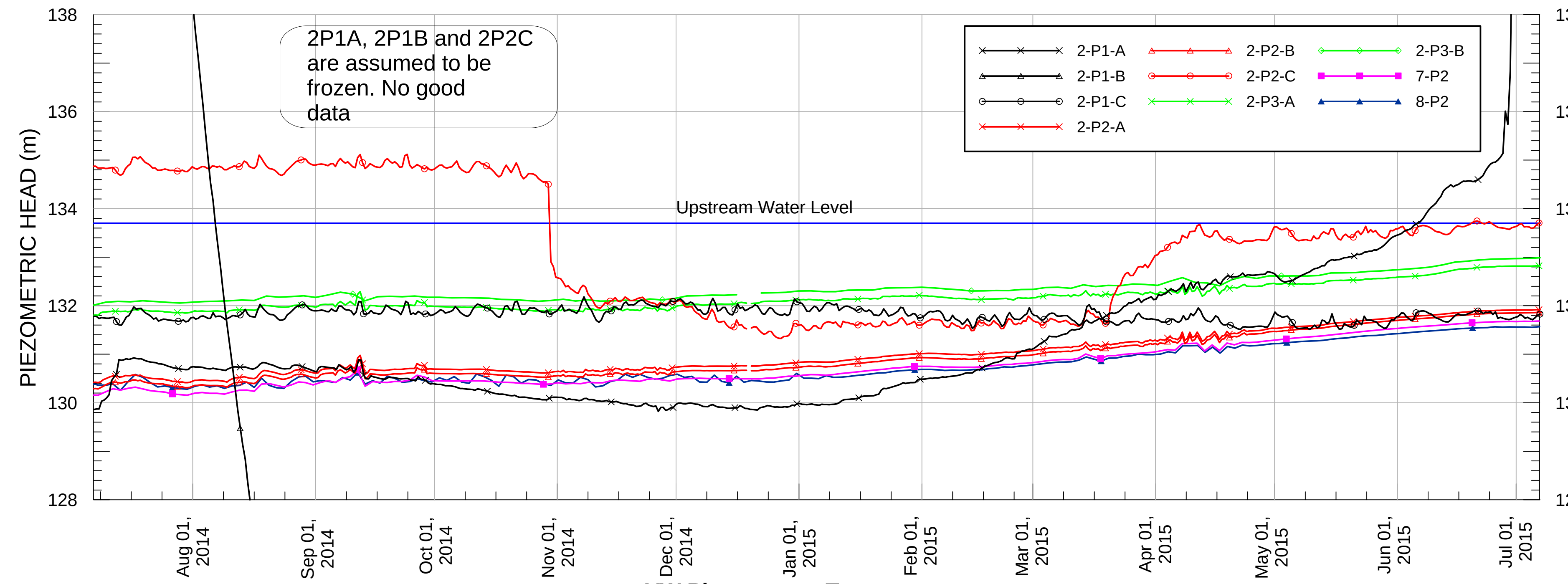
PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT
TITLE	BAYGOOSE DIKE - SECTION 30+158 PIEZOMETRIC DATA (July 7/14 to July 7/15)

AGNICO EAGLE
MEADOWBANK

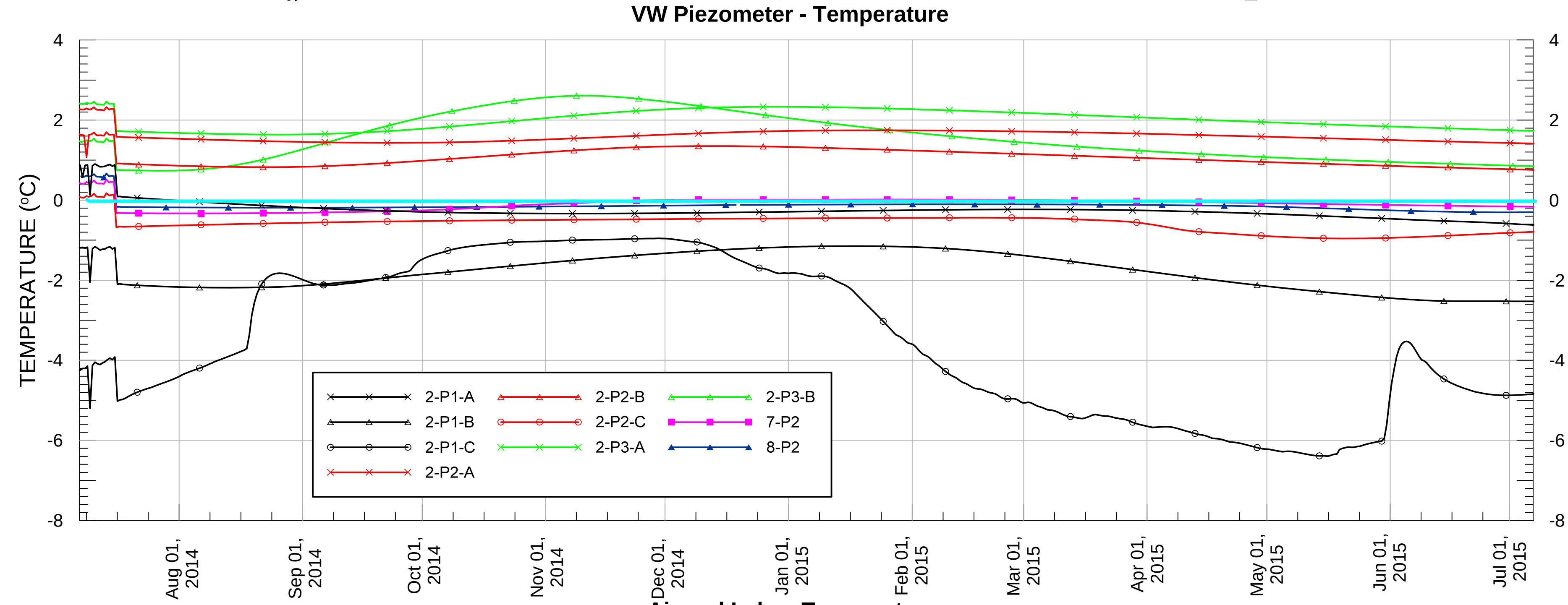
PROJECT No.			PHASE No.	
DESIGN	TD	31AUG14	SCALE AS SHOWN	REV.
CADD	TD	31AUG14	FIGURE 2	
CHECK	PG	28AUG14		
REVIEW				



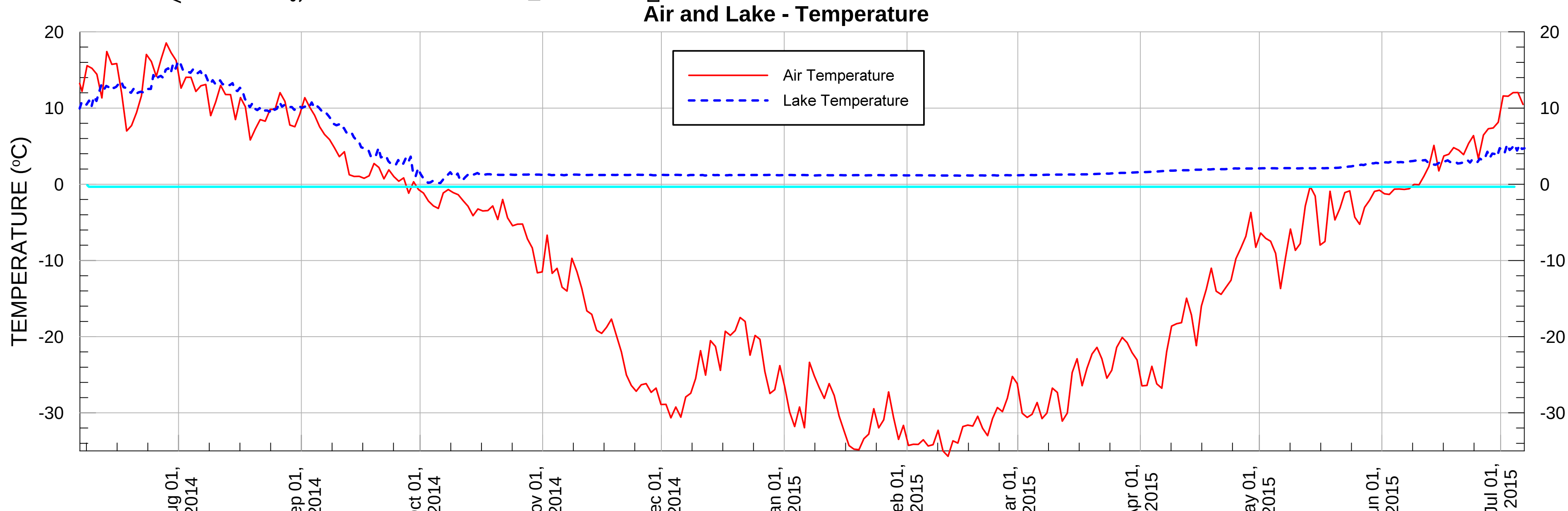
VW Piezometer - Total Head



VW Piezometer - Temperature



Air and Lake - Temperature



PROJECT

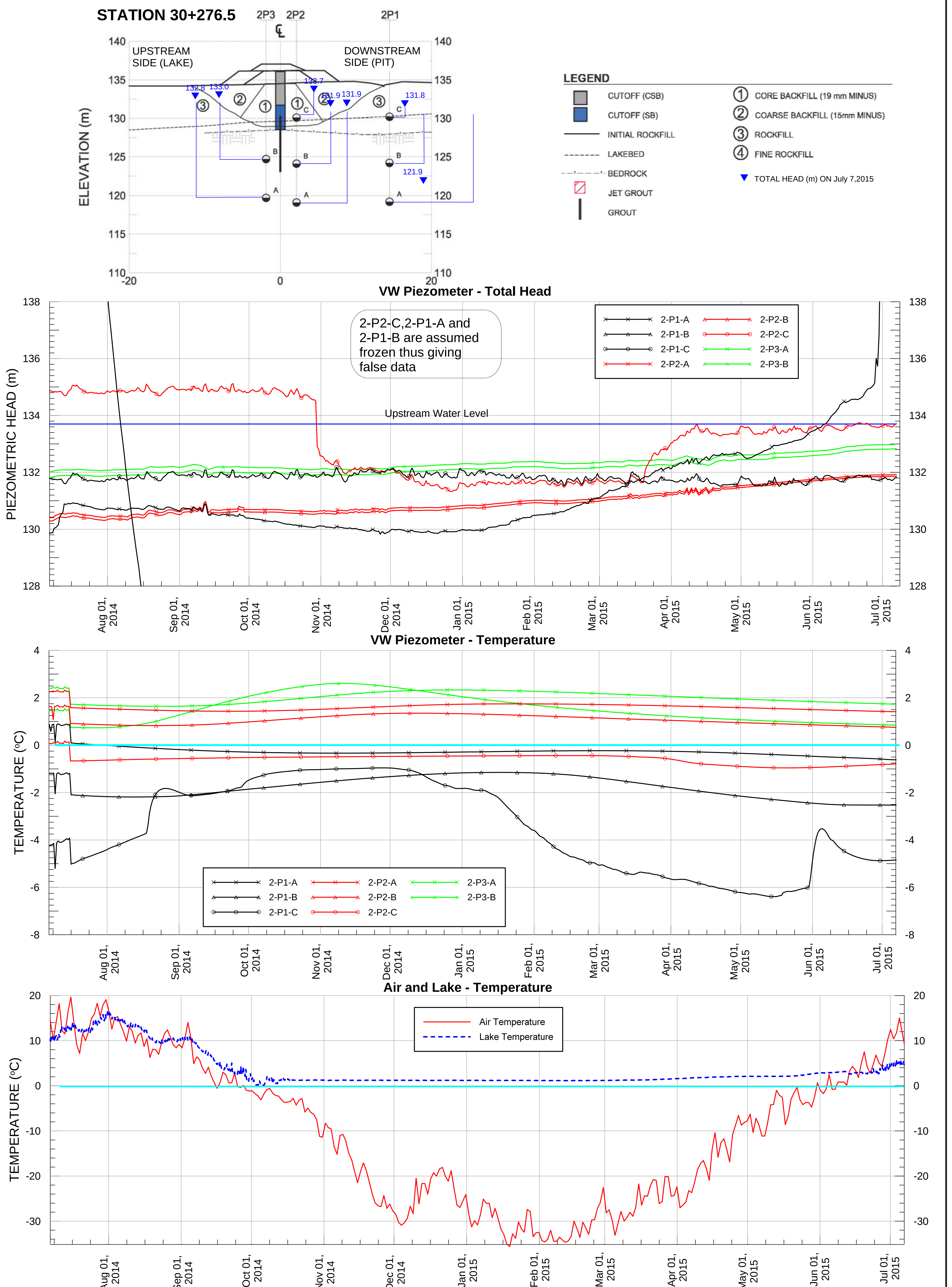
AGNICO EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

TITLE

BAYGOOSE DIKE
Section 30+276.5 - PIEZOMETRIC DATA
(July 7/14 to July 7/15)

AGNICO EAGLE MEADOWBANK

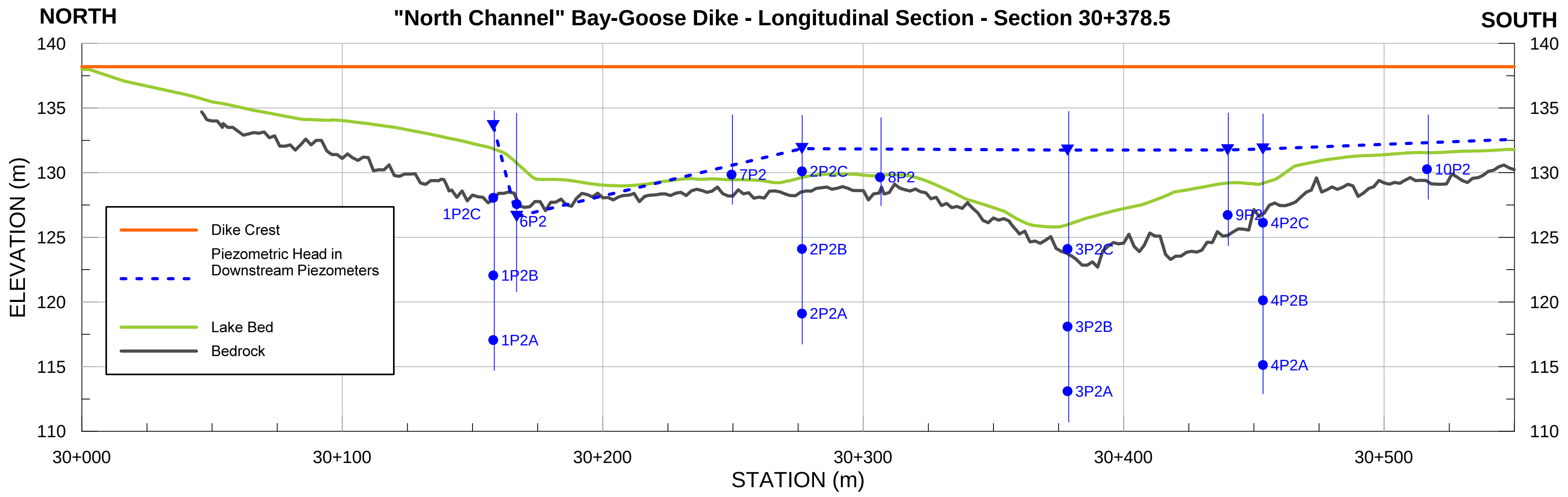
PROJECT No.			PHASE No.	
DESIGN	TD	28AUG14	SCALE AS SHOWN	REV.
CADD	TD	28AUG14	**FIGURE 3**	
CHECK	PG	28AUG14		
REVIEW				

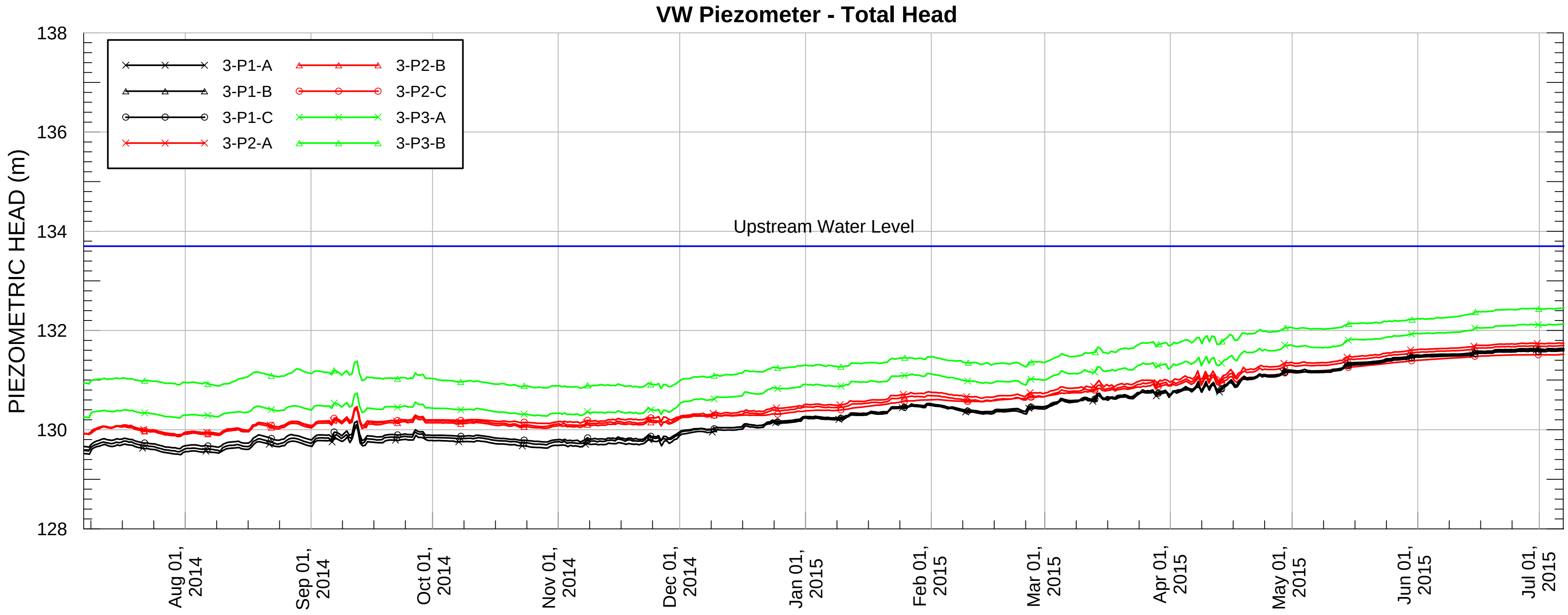


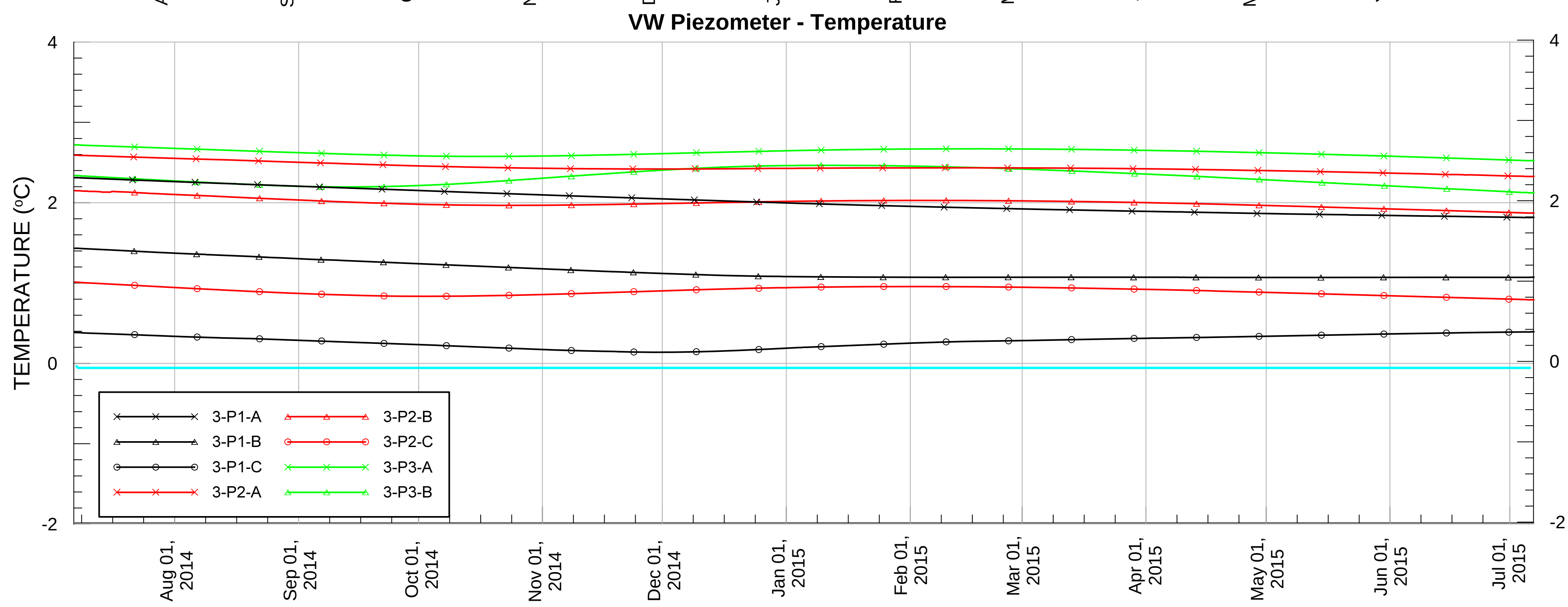
PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT
TITLE	BAY GOOSE DIKE - SECTION 30+276.5 PIEZOMETRIC DATA (July 7/14 to July 7/15)

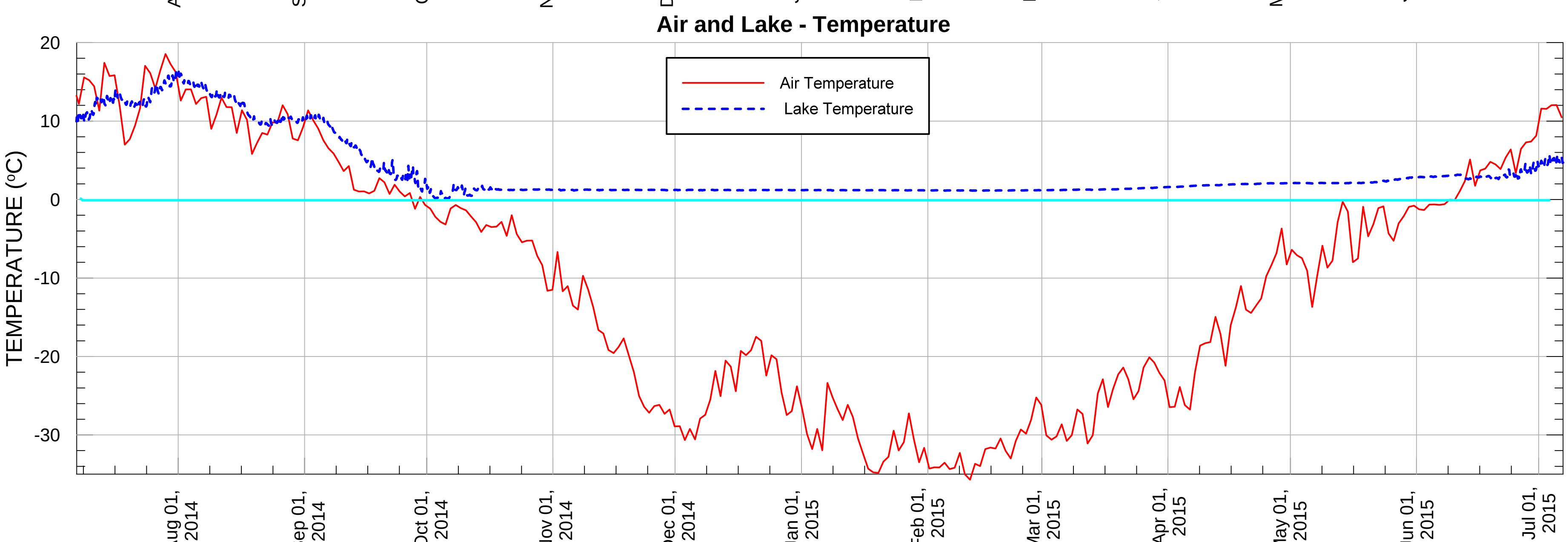
AGNICO EAGLE MEADOWBANK

PROJECT No.			PHASE No.	
DESIGN	TD	28AUG14	SCALE AS SHOWN	REV.
CADD	TD	28AUG14	Figure 4	
CHECK	PG	28AUG14		
REVIEW				







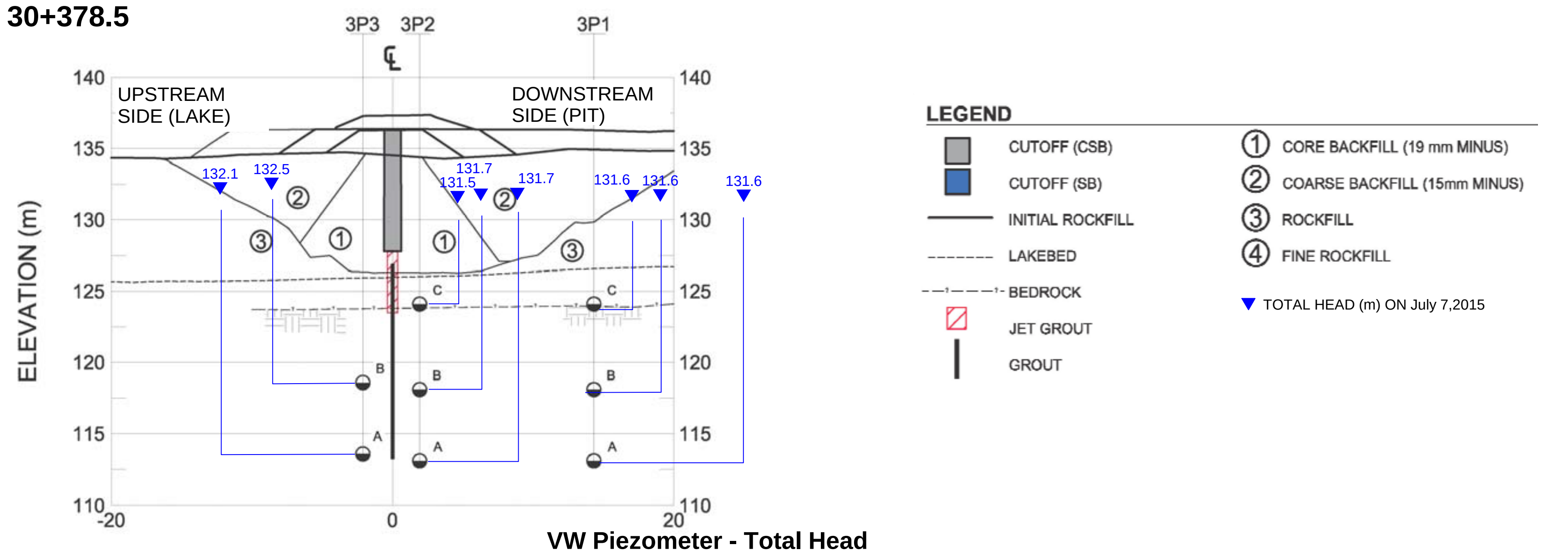


PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT
TITLE	**BAYGOOSE DIKE** **Section 30+378.5 - PIEZOMETRIC DATA** **(July 7/14 to July 7/15)**

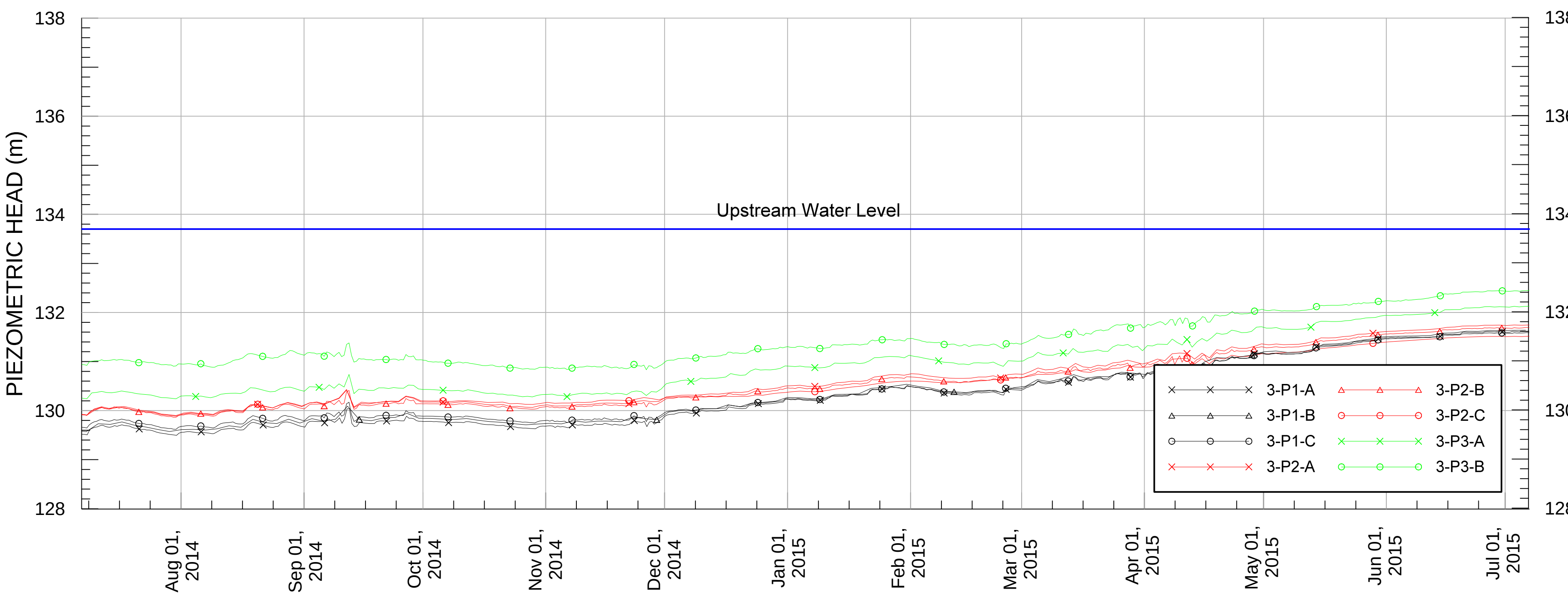
AGNICO EAGLE MEADOWBANK

PROJECT No.			PHASE No.	
DESIGN	TD	28AUG14	SCALE AS SHOWN	REV.
CADD	TD	28AUG14	**FIGURE 5**	
CHECK	PG	28AUG14		
REVIEW				

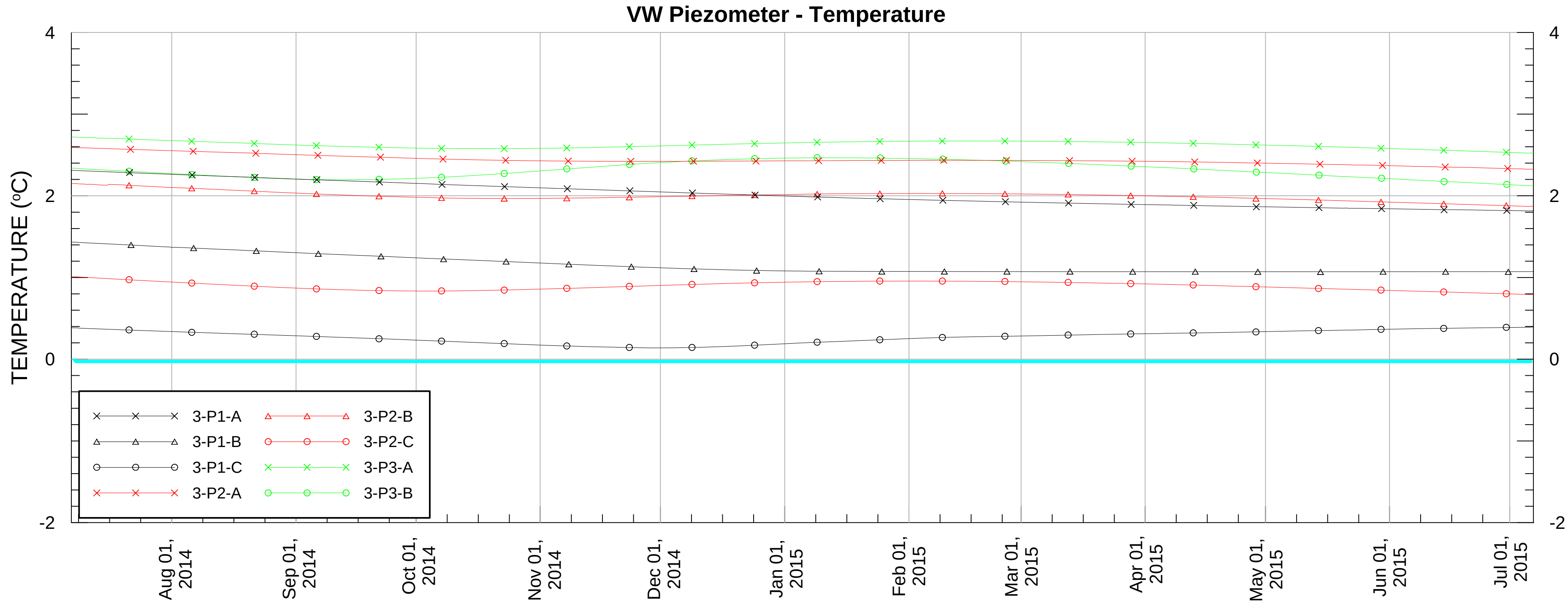
STATION 30+378.5



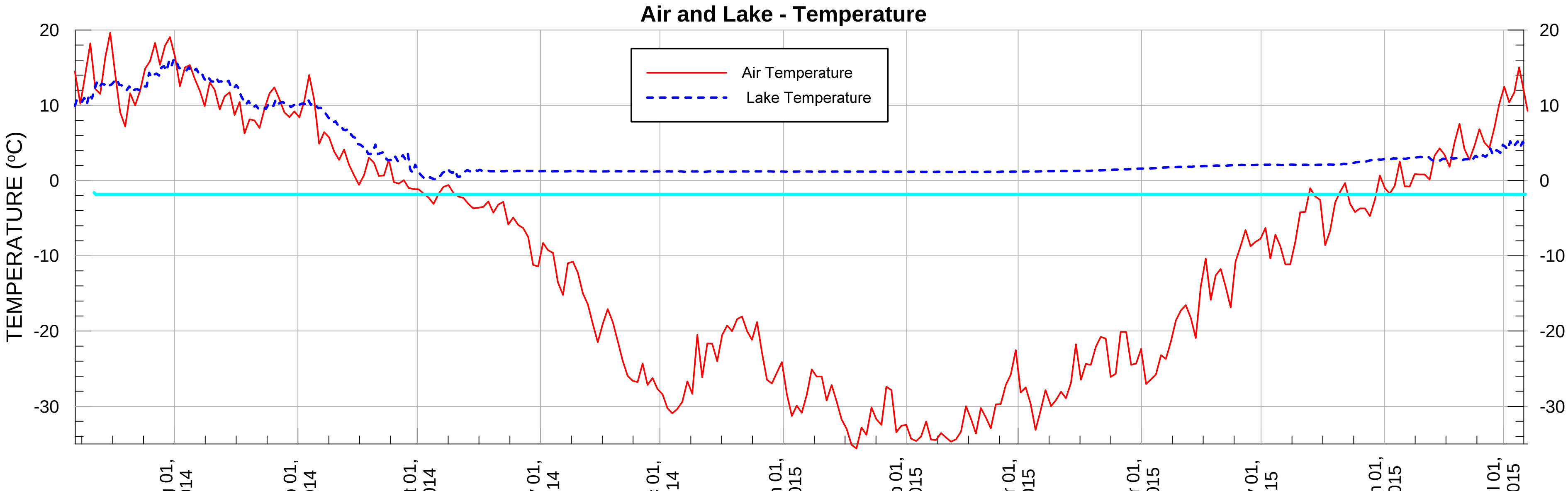
VW Piezometer - Total Head



VW Piezometer - Temperature

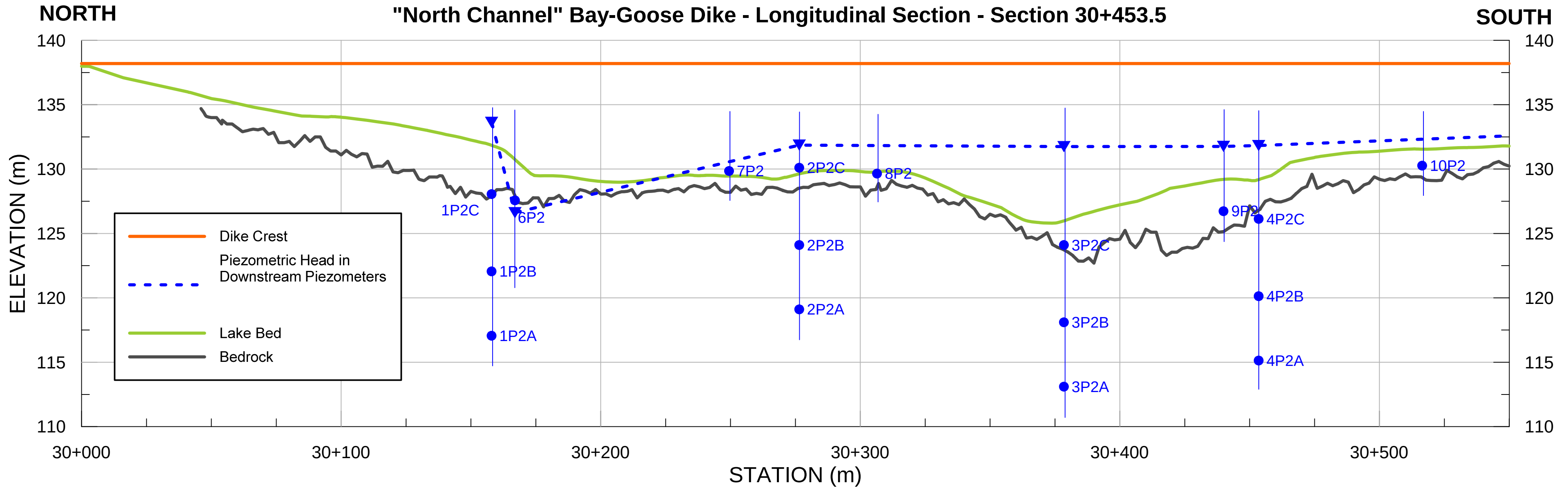


Air and Lake - Temperature

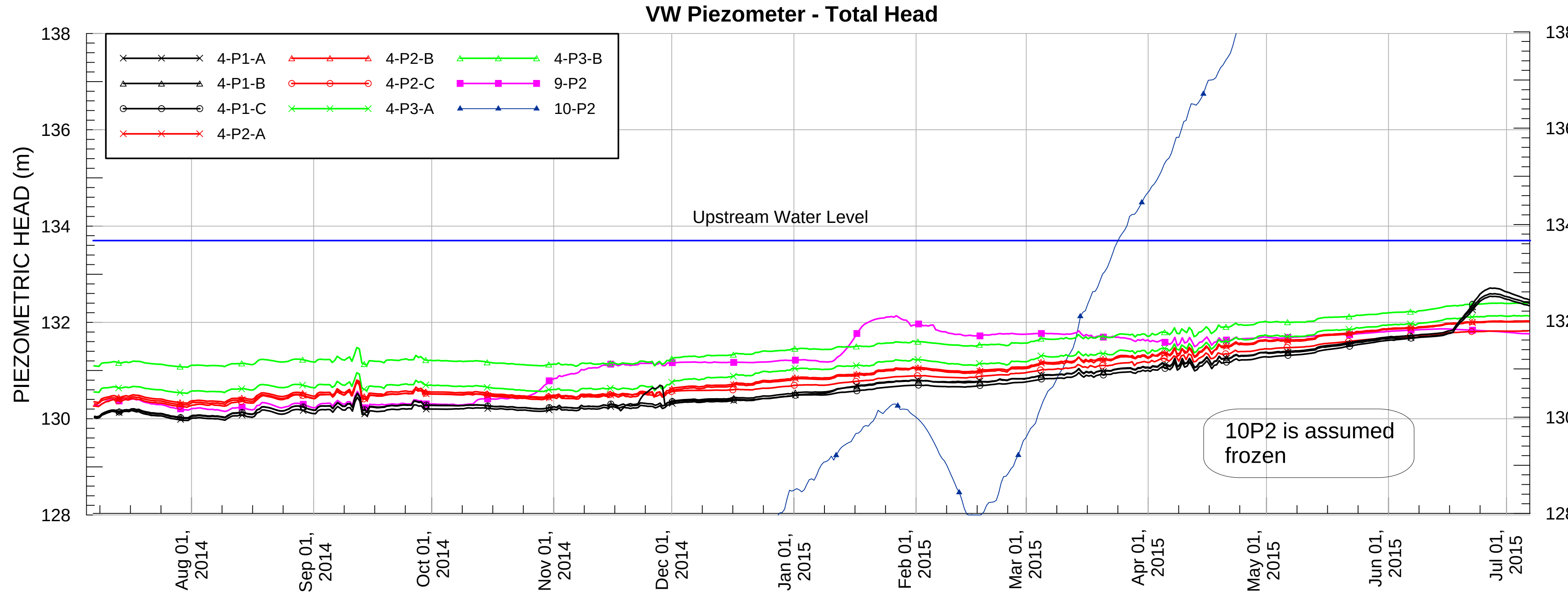


PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT			
TITLE	BAYGOOSE DIKE - SECTION 30+378.5 PIEZOMETRIC DATA (July 7/14 to July 7/15)			
AGNICO EAGLE MEADOWBANK	PROJECT No.			PHASE No.
	DESIGN			SCALE: AS SHOWN / REV.
	CADD	TD	28AUG14	
	CHECK	TD	28AUG14	
	REVIEW	PG	28AUG14	FIGURE 6

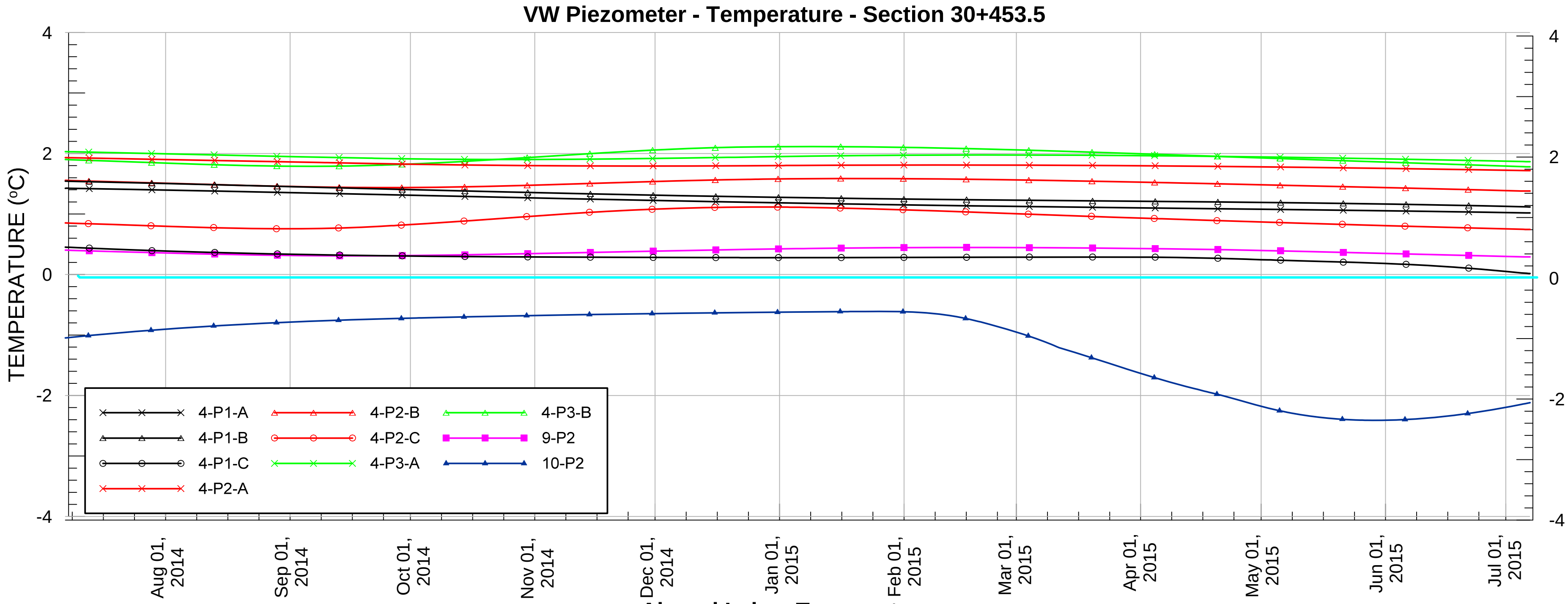
"North Channel" Bay-Goose Dike - Longitudinal Section - Section 30+453.5



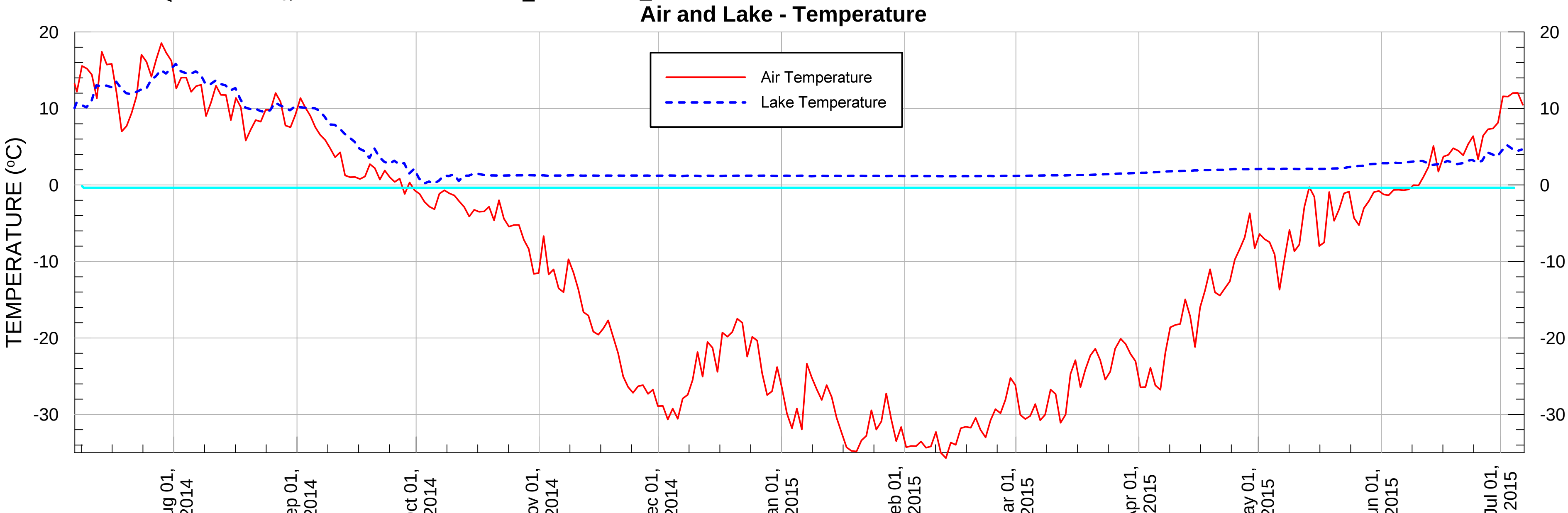
VW Piezometer - Total Head



VW Piezometer - Temperature - Section 30+453.5



Air and Lake - Temperature

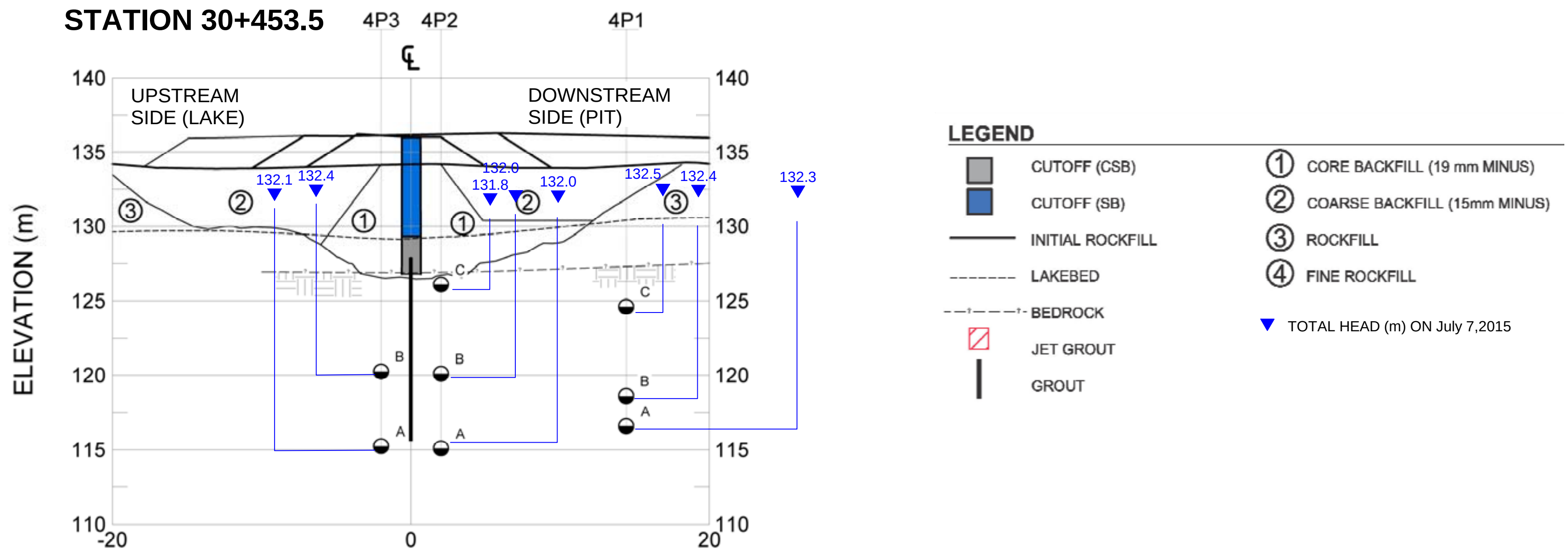


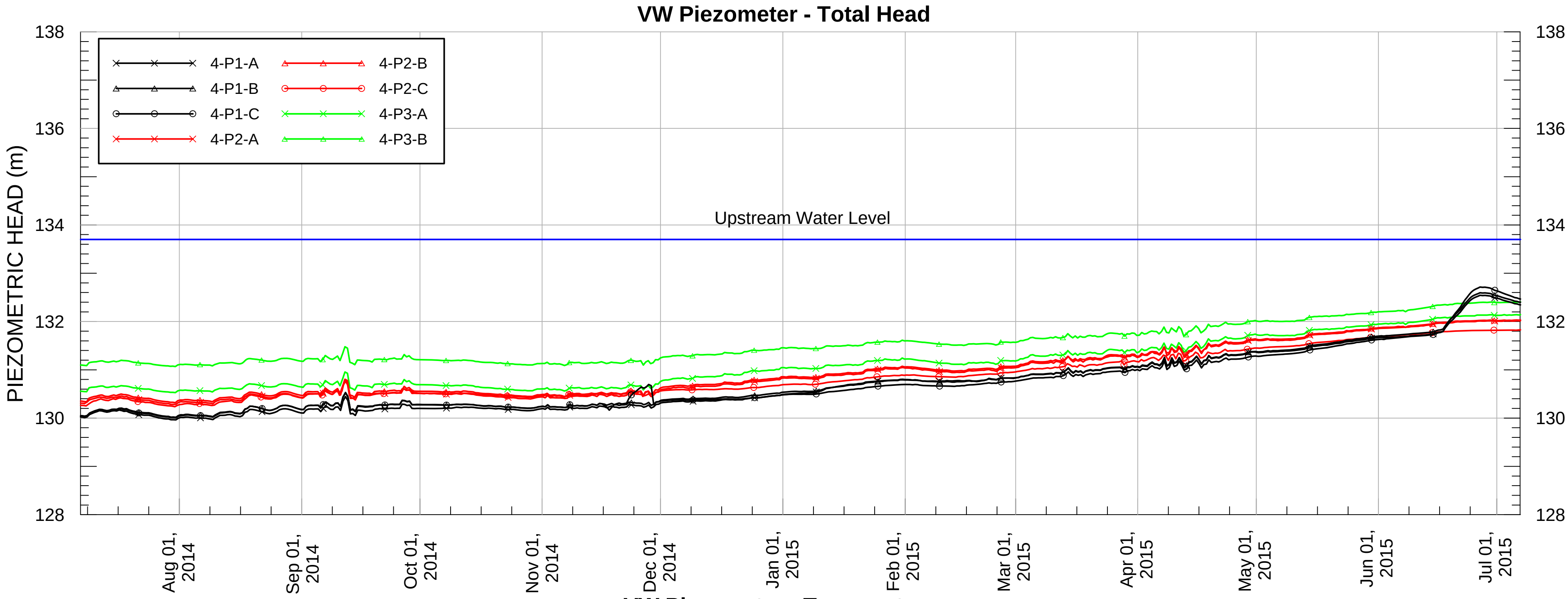
PROJECT **AGNICO EAGLE MINES LIMITED**
MEADOWBANK GOLD PROJECT
NUNAVUT

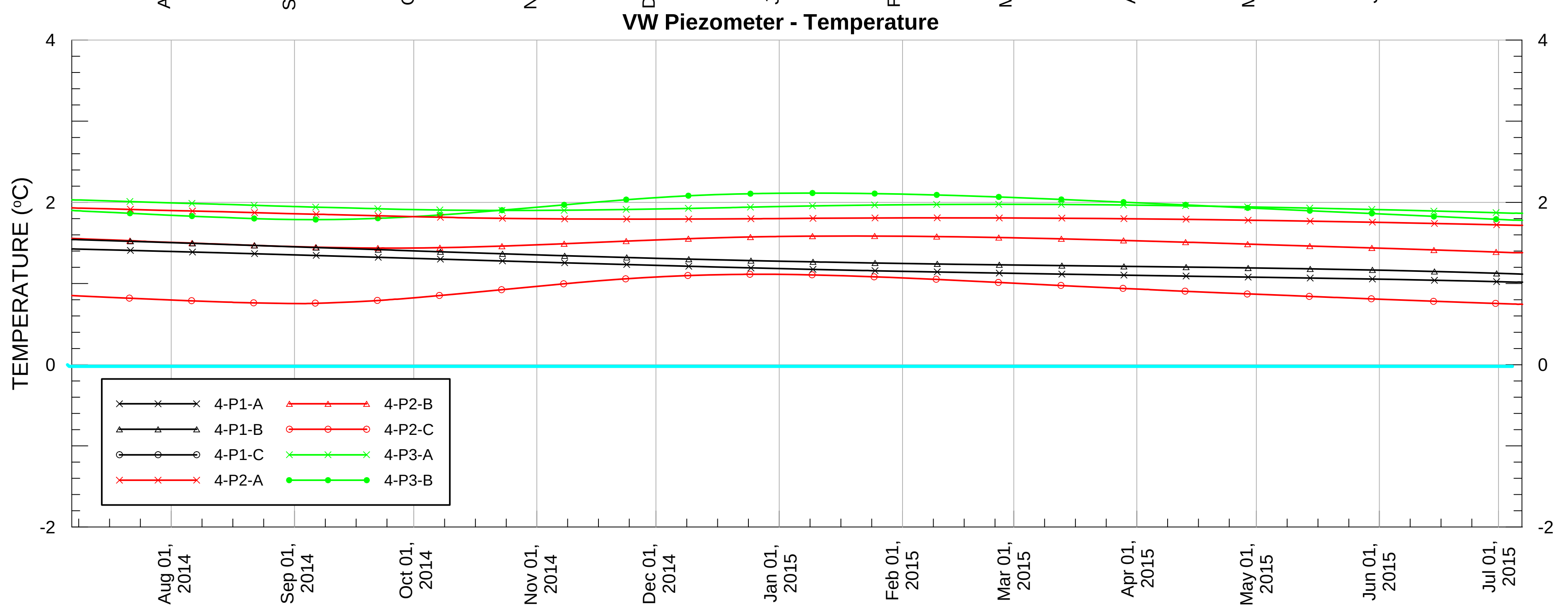
TITLE **BAYGOOSE DIKE**
Section 30+453.5 - PIEZOMETRIC DATA
(July 7/14 to July 7/15)

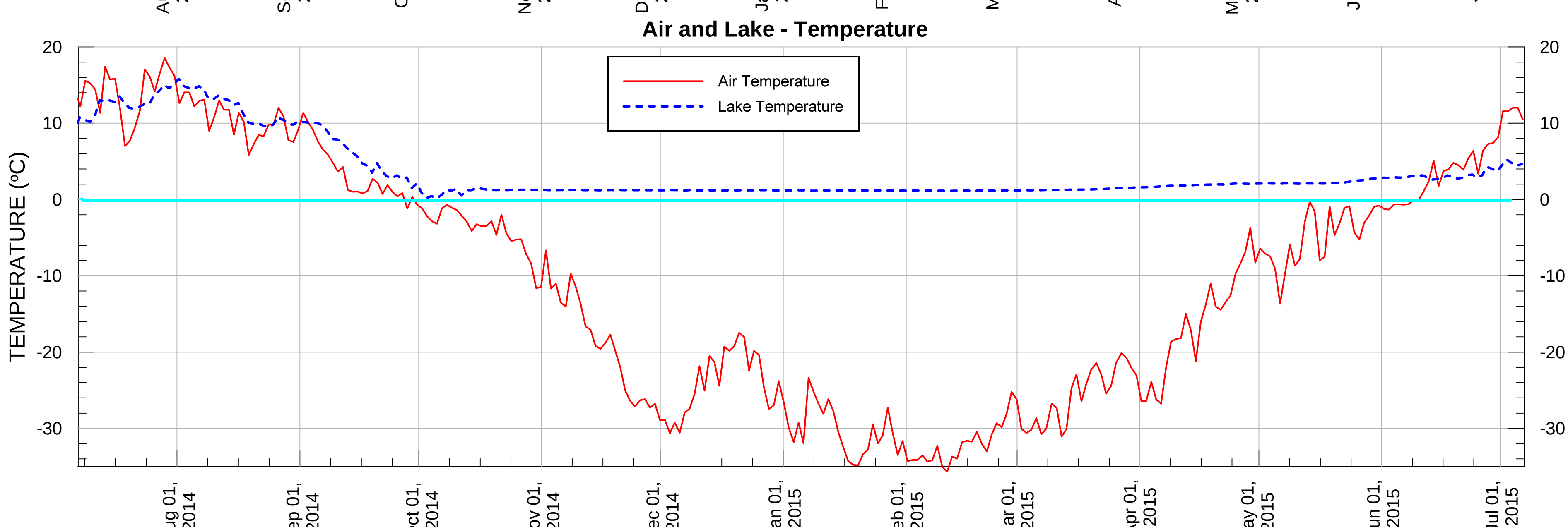
AGNICO EAGLE
MEADOWBANK

PROJECT No.			PHASE No.
DESIGN	TD	28AUG14	SCALE AS SHOWN REV.
CADD	TD	28AUG14	**FIGURE 7**
CHECK	PG	28AUG14	
REVIEW			



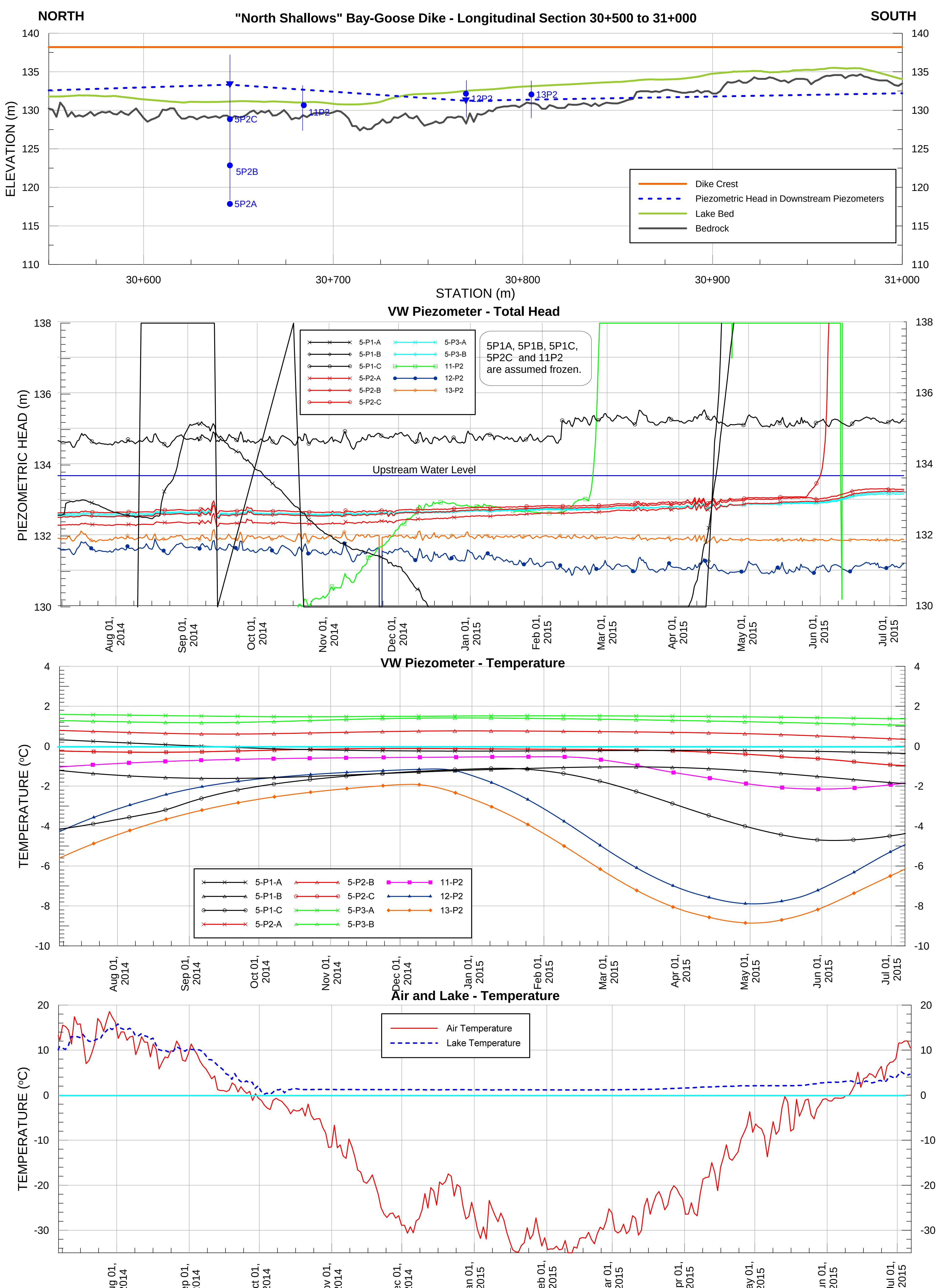






PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT
TITLE	BAYGOOSE DIKE - SECTION 30+453.5 PIEZOMETRIC DATA (July 7/14 to July 7/15)

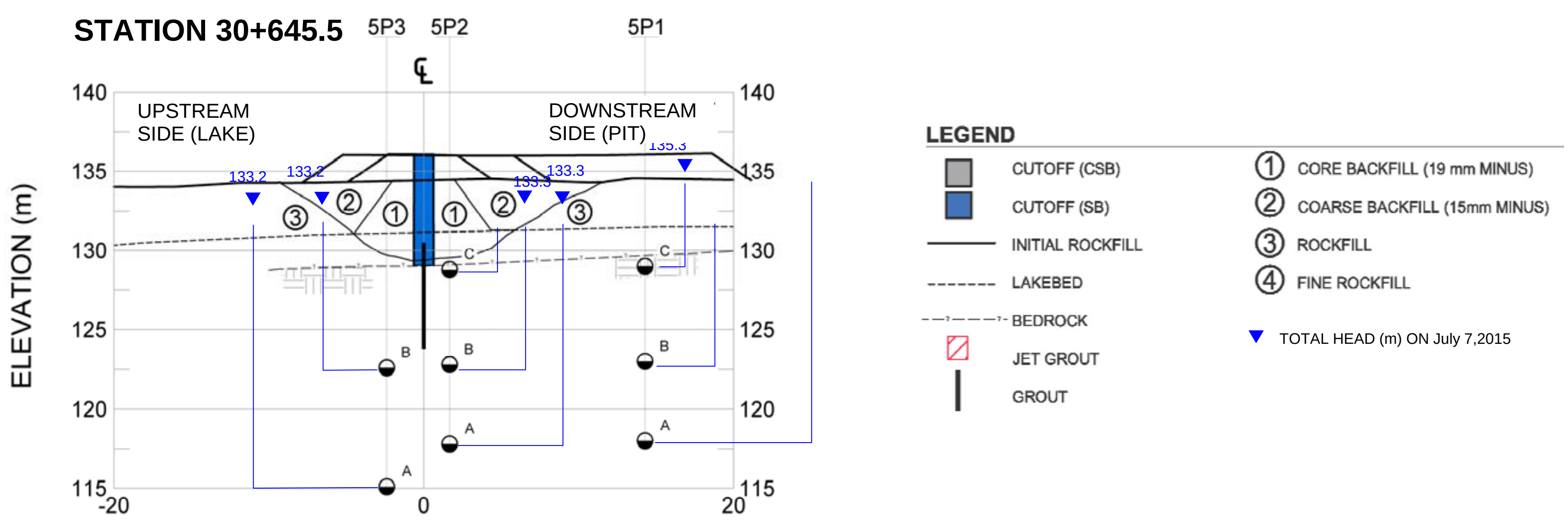
PROJECT No.			PHASE No.	
DESIGN	TD	28AUG14	SCALE AS SHOWN	REV.
CADD	TD	28AUG14	FIGURE 8	
CHECK	PG	28AUG14		
REVIEW				

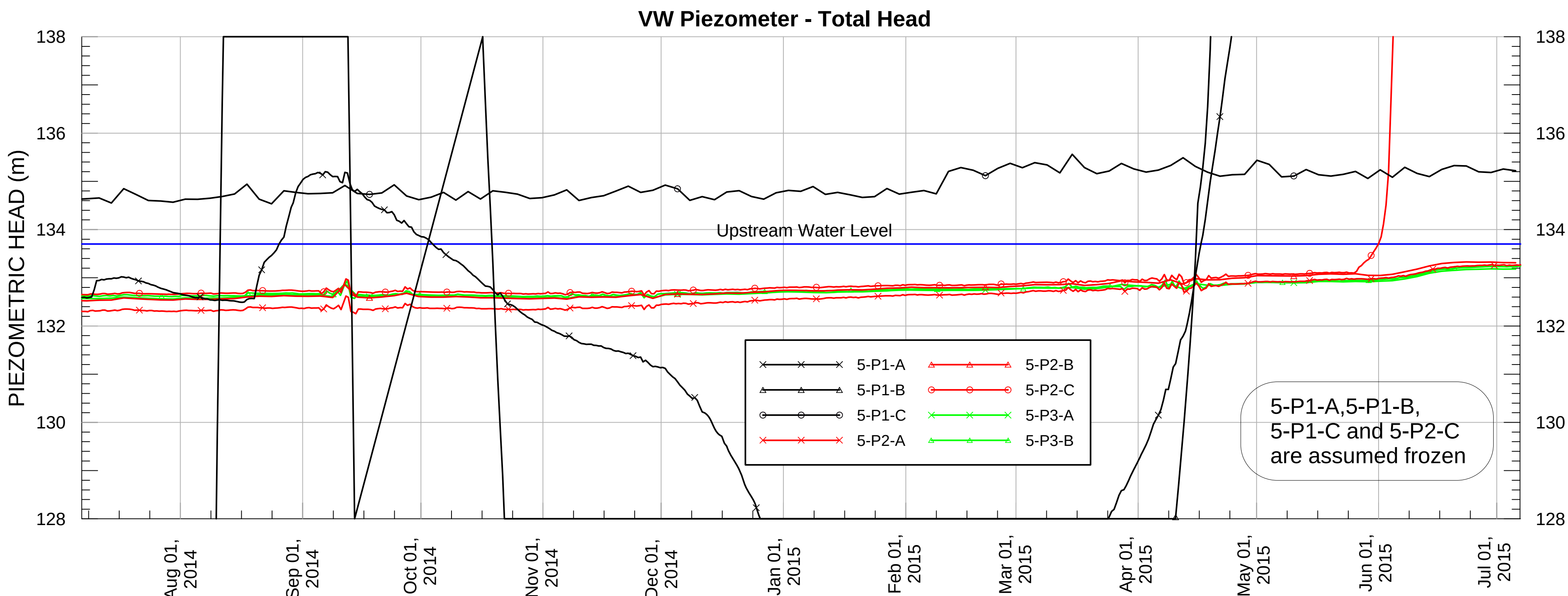


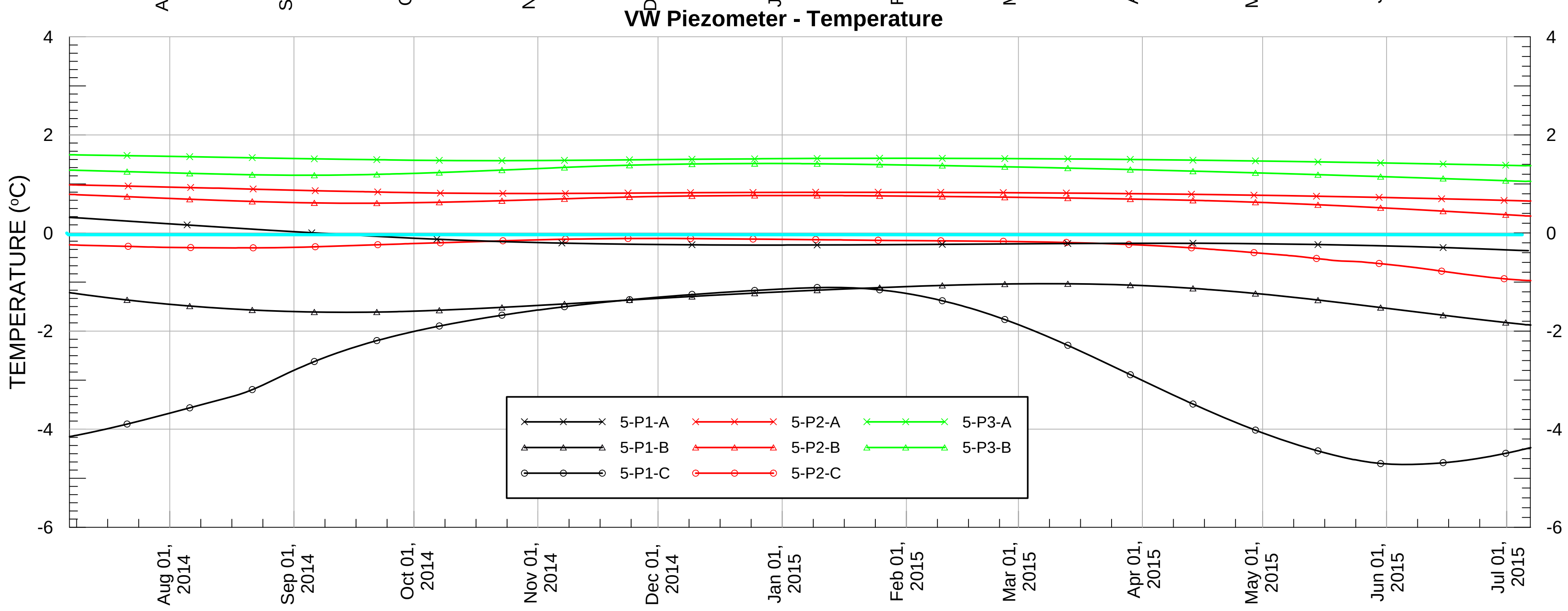
PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT
TITLE	**BAYGOOSE DIKE 30+550 to 31+000 - PIEZOMETRIC DATA (July 7/14 to July 7/15)**

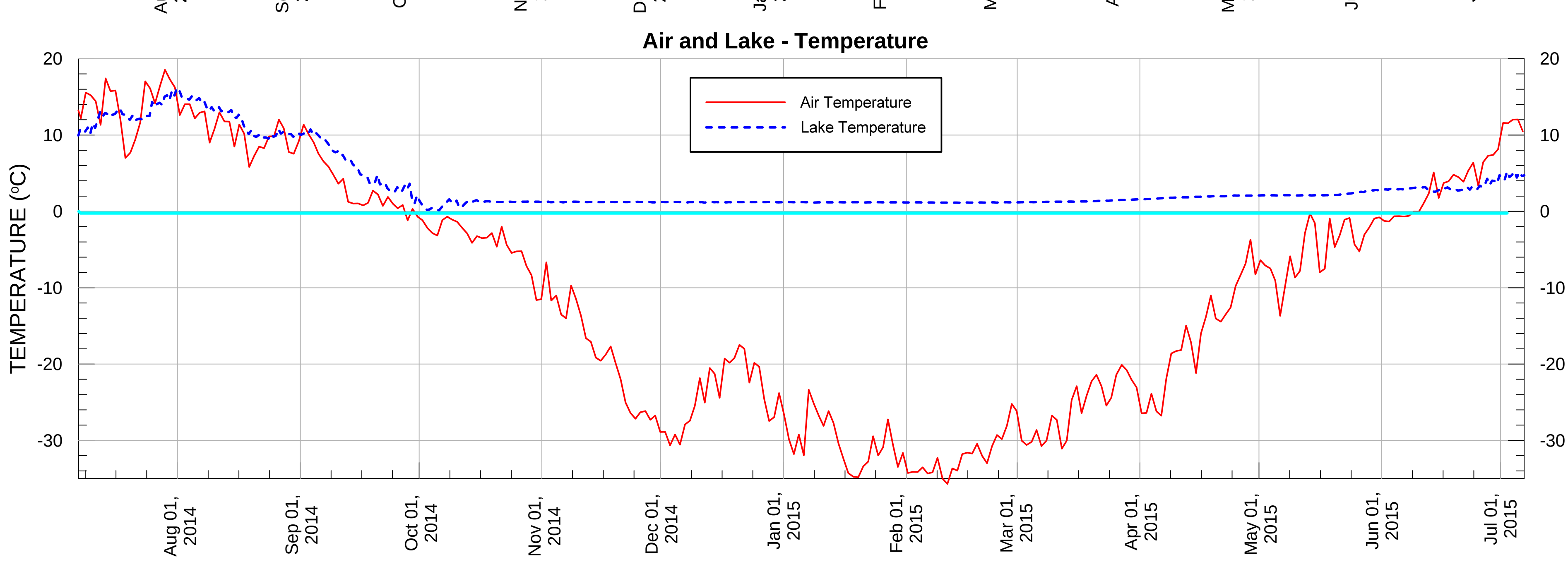
AGNICO EAGLE MEADOWBANK

PROJECT No. 09-1428-5007			PHASE No. 4000
DESIGN	TD	28AUG14	SCALE AS SHOWN REV.
CADD	TD	28AUG14	**FIGURE 9**
CHECK	PG	28AUG14	
REVIEW			







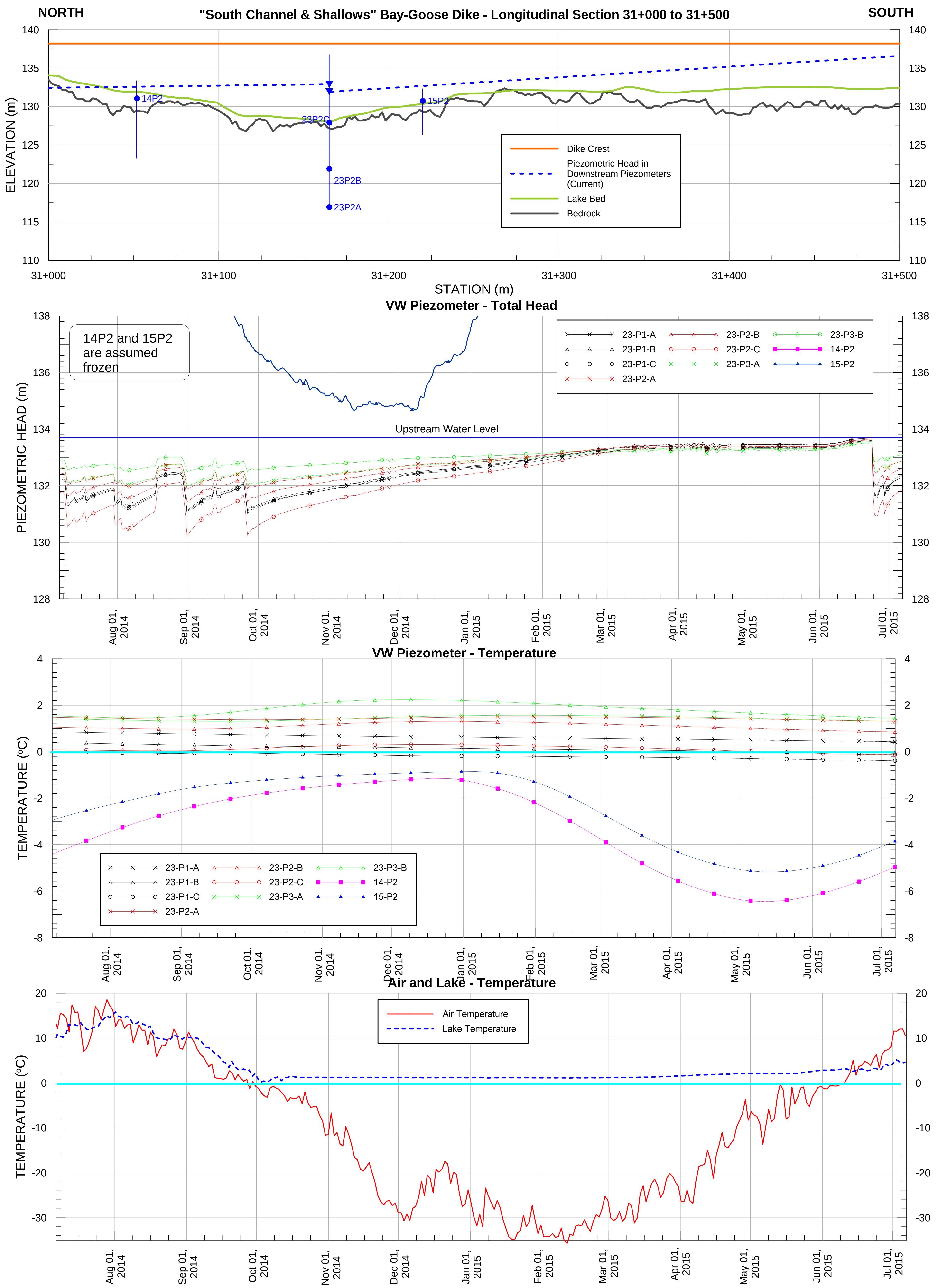


PROJECT AGNICO EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

TITLE **BAYGOOSE DIKE - SECTION 30+645.5**
PIEZOMETRIC DATA
(July 7/14 to July 7/15)

AGNICO EAGLE
MEADOWBANK

PROJECT No.			PHASE No.	
DESIGN	TD	17JAN14	SCALE AS SHOWN	REV.
CADD	TD	17JAN14		
CHECK			**FIGURE 10**	
REVIEW				



PROJECT

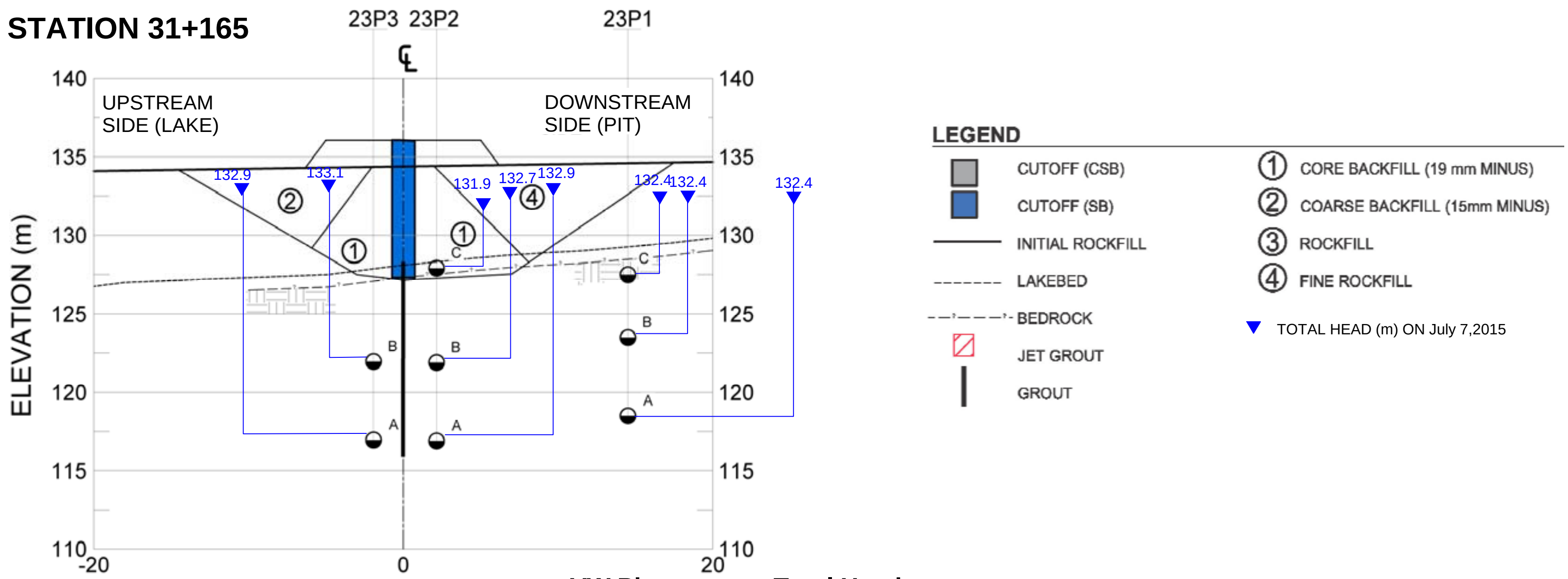
AGNICO EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

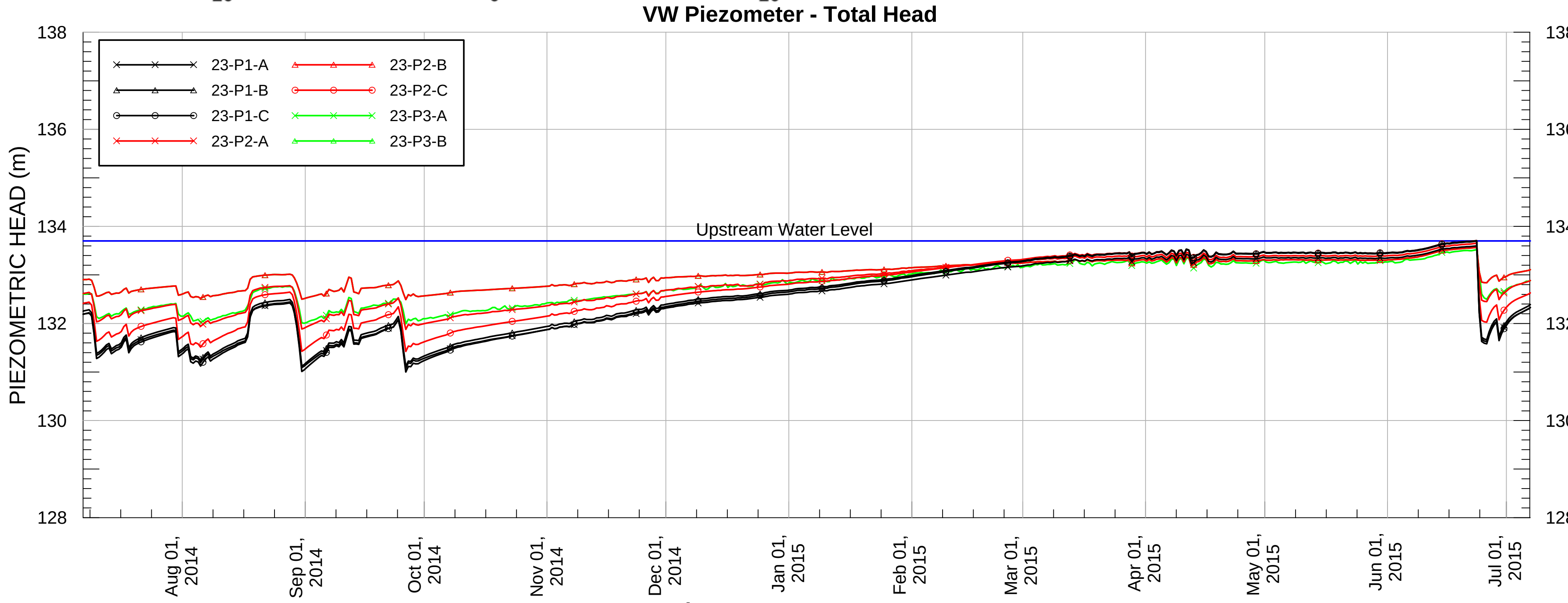
TITLE

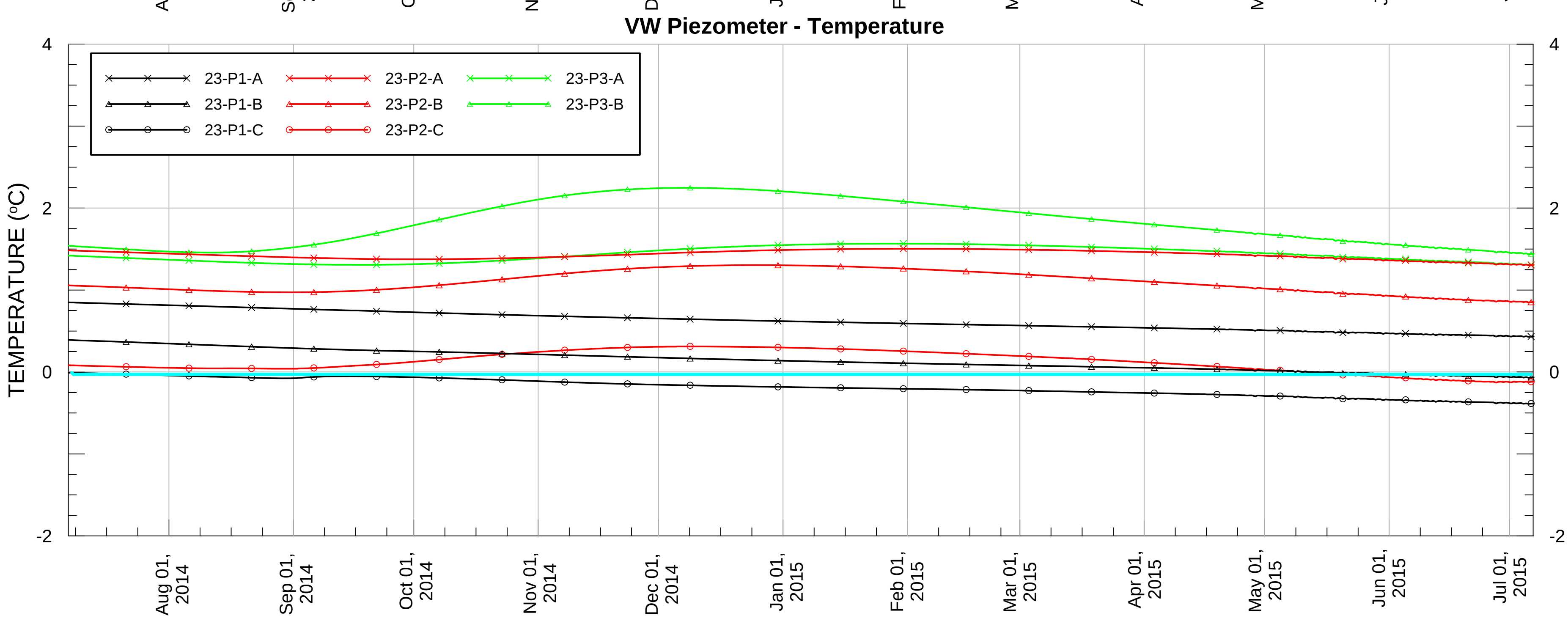
BAYGOOSE DIKE
31+000 to 31+500 - PIEZOMETRIC DATA
(July 7/14 to July 7/15)

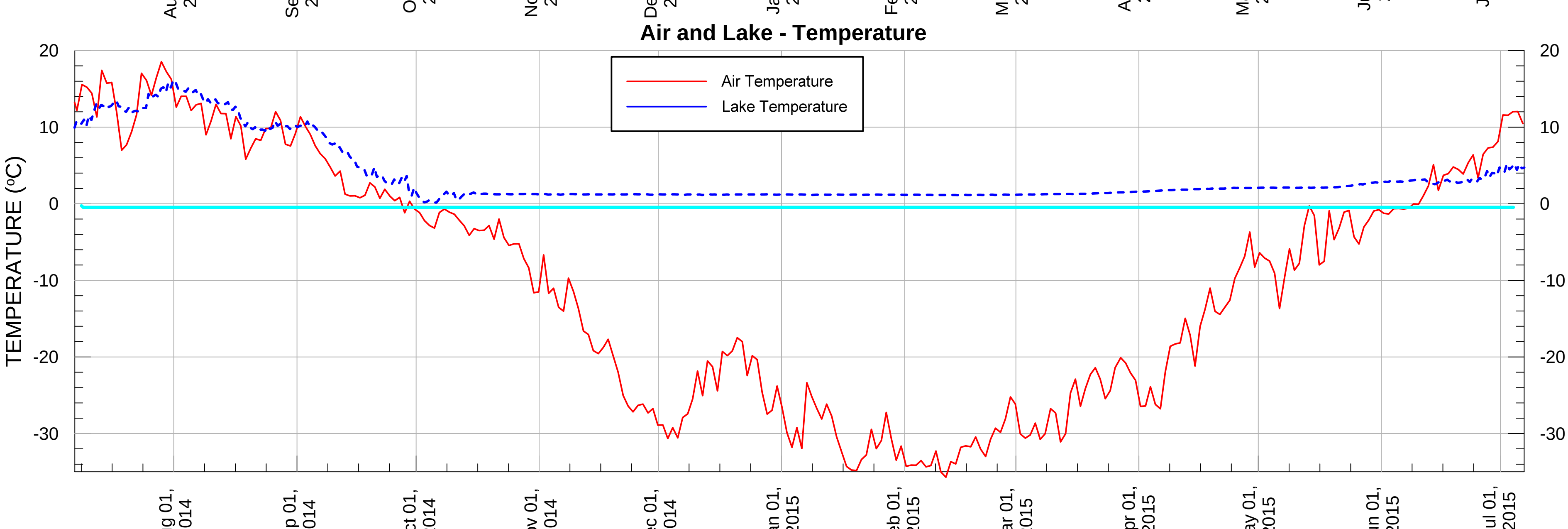
AGNICO EAGLE
MEADOWBANK

PROJECT No.			PHASE No.
DESIGN	TD	28AUG14	SCALE AS SHOWN REV.
CADD	TD	28AUG14	
CHECK	PG	28AUG14	**FIGURE 11**
REVIEW			





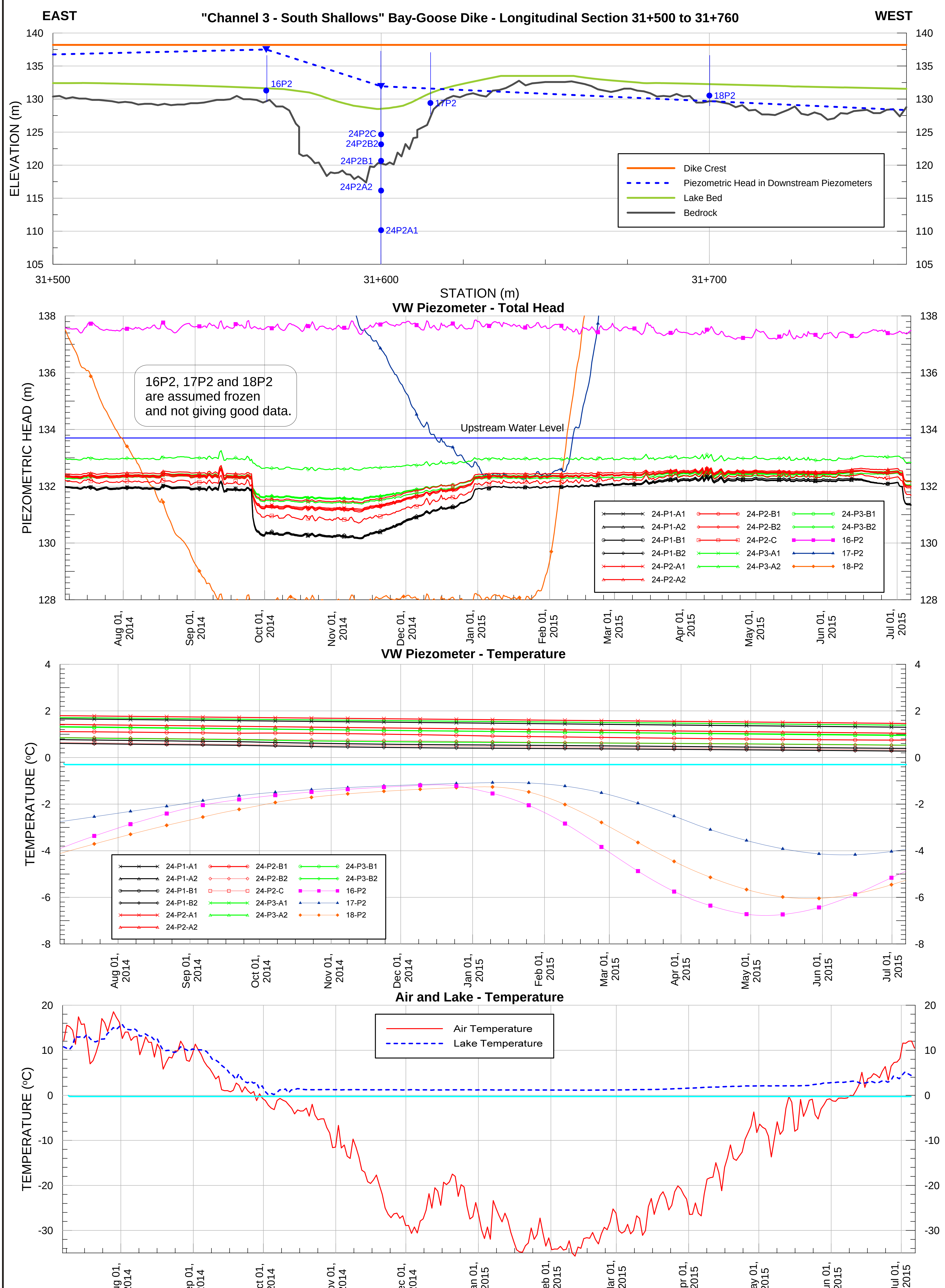




PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT
TITLE	BAYGOOSE DIKE - SECTION 31+165 PIEZOMETRIC DATA (July 7/14 to July 7/15)

AGNICO EAGLE
MEADOWBANK

PROJECT No.			PHASE No.	
DESIGN	TD	28AUG14	SCALE AS SHOWN	REV.
CADD	TD	28AUG14	FIGURE 12	
CHECK	PG	28AUG14		
REVIEW				



PROJECT

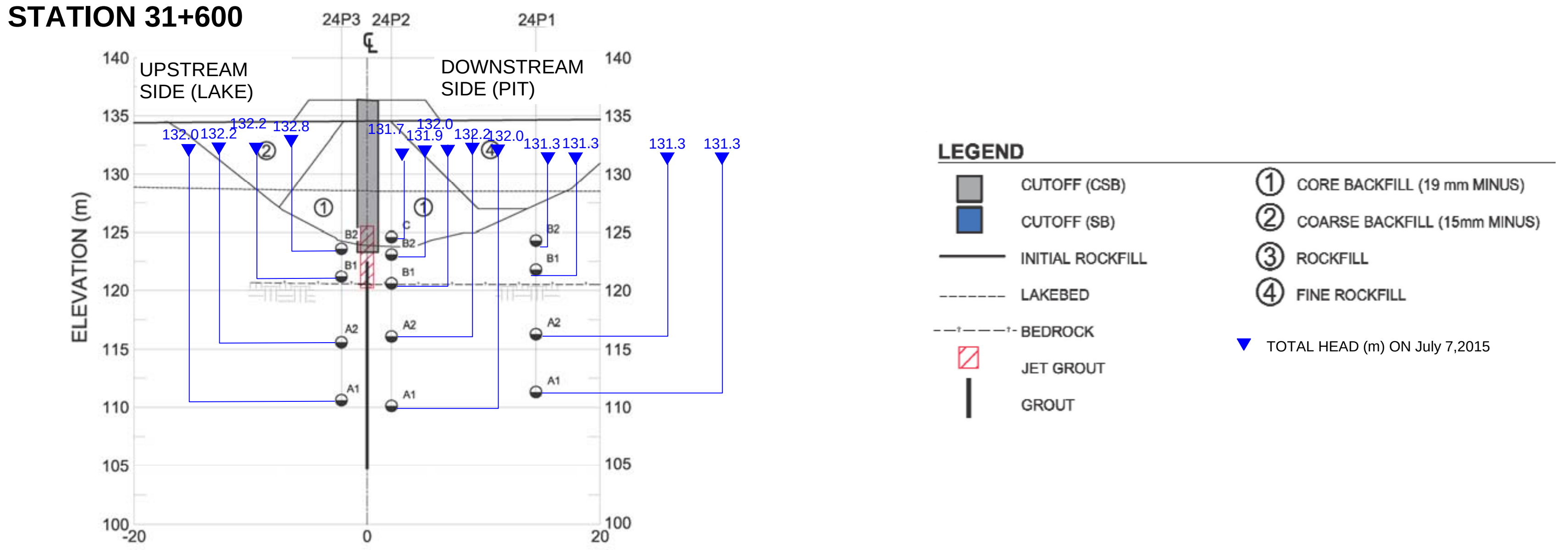
AGNICO EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

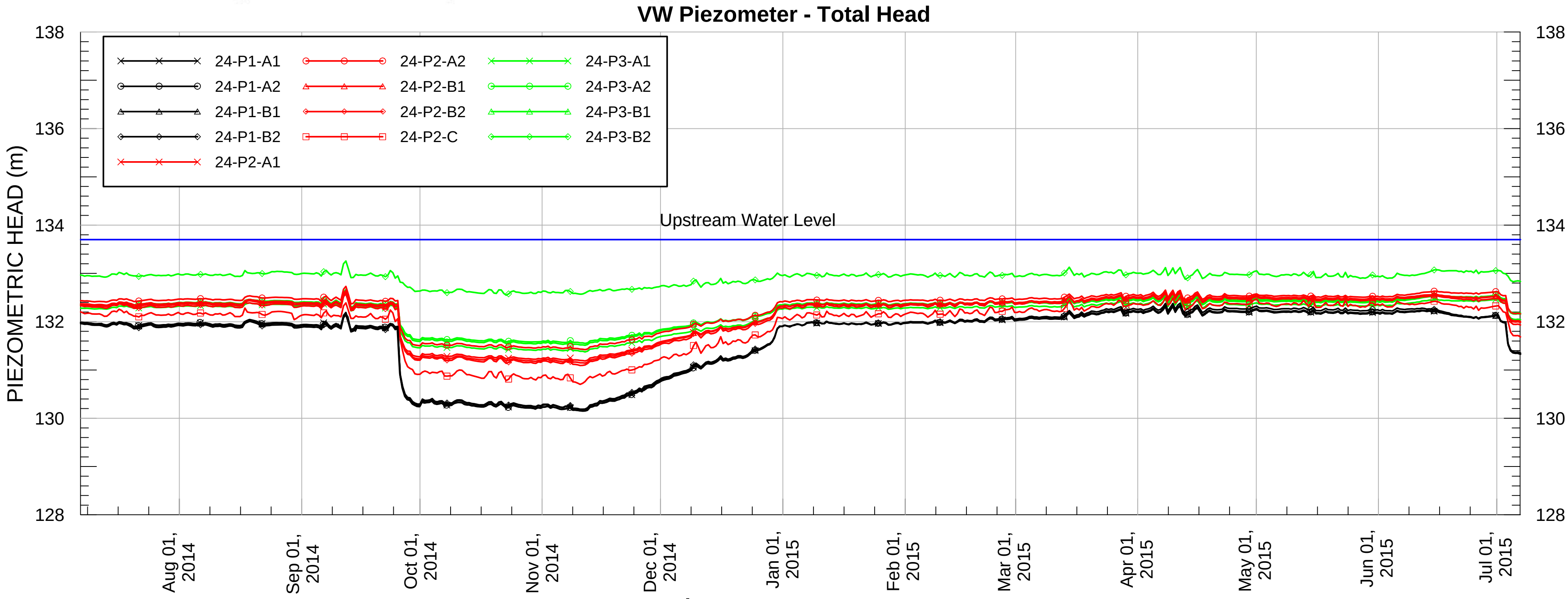
TITLE

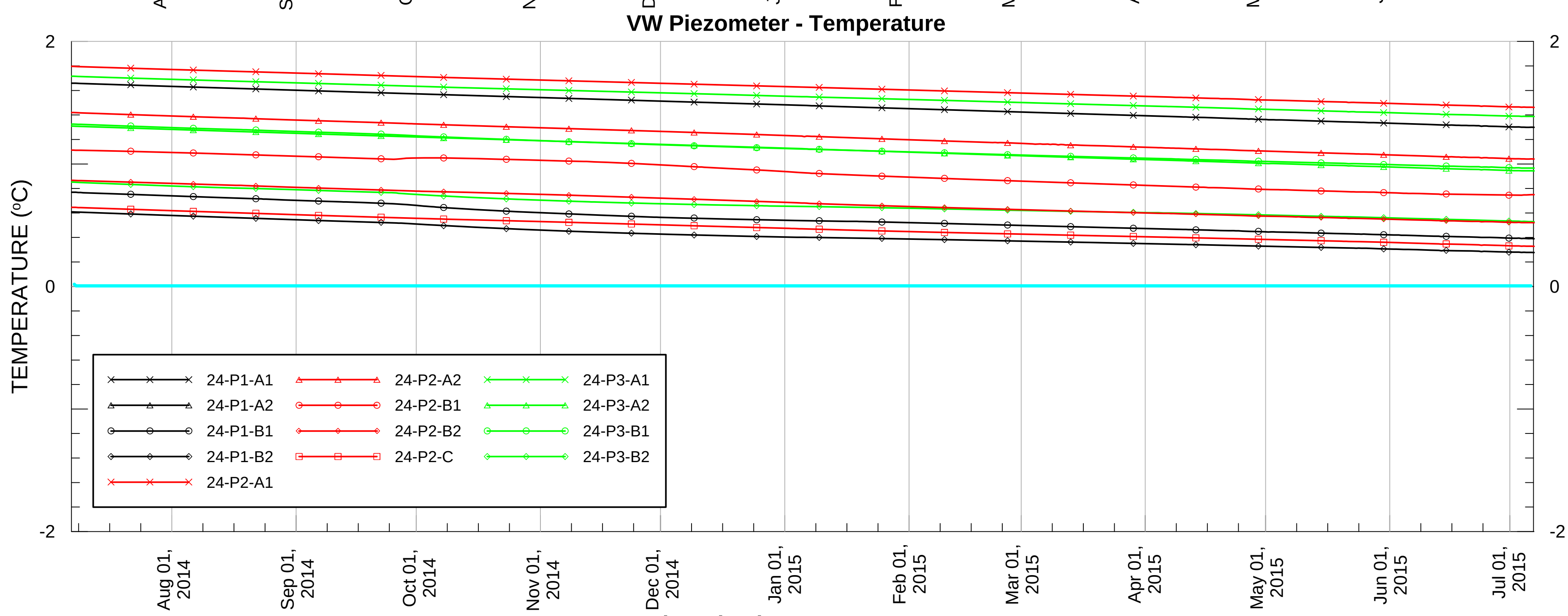
BAYGOOSE DIKE
31+500 to 31+760 - PIEZOMETRIC DATA
(July 7/14 to July 7/15)

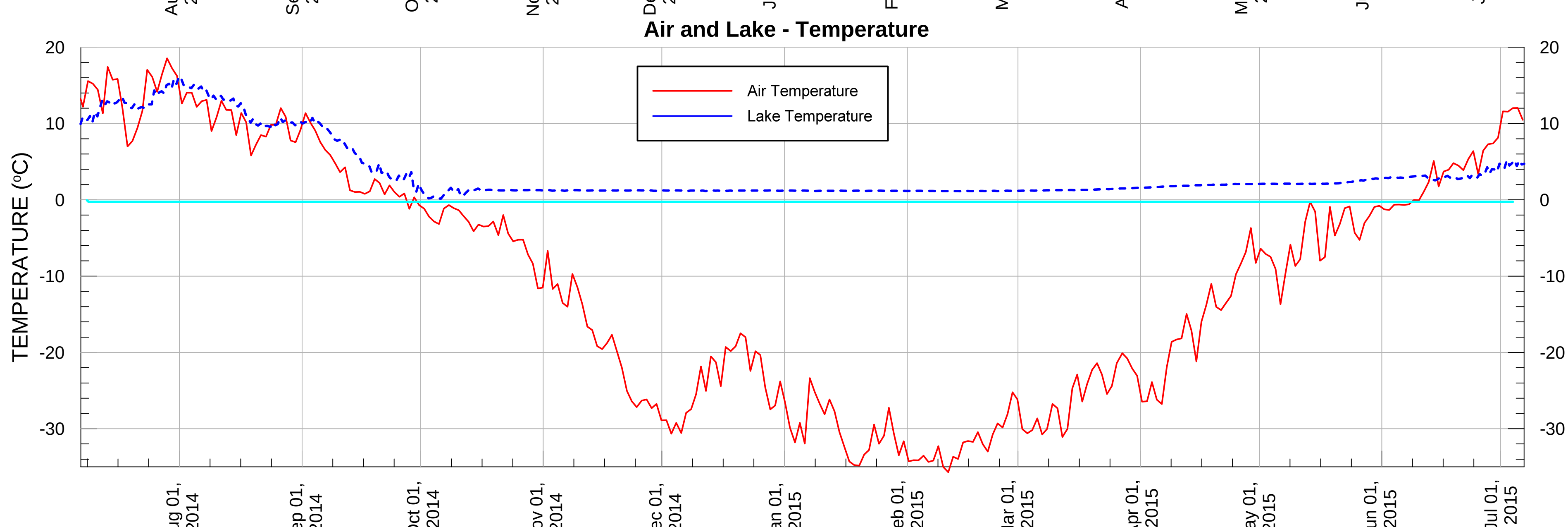
AGNICO EAGLE MEADOWBANK

PROJECT No.			PHASE No.
DESIGN	TD	28AUG14	SCALE AS SHOWN REV.
CADD	TD	28AUG14	FIGURE 13
CHECK	PG	28AUG14	
REVIEW			









PROJECT

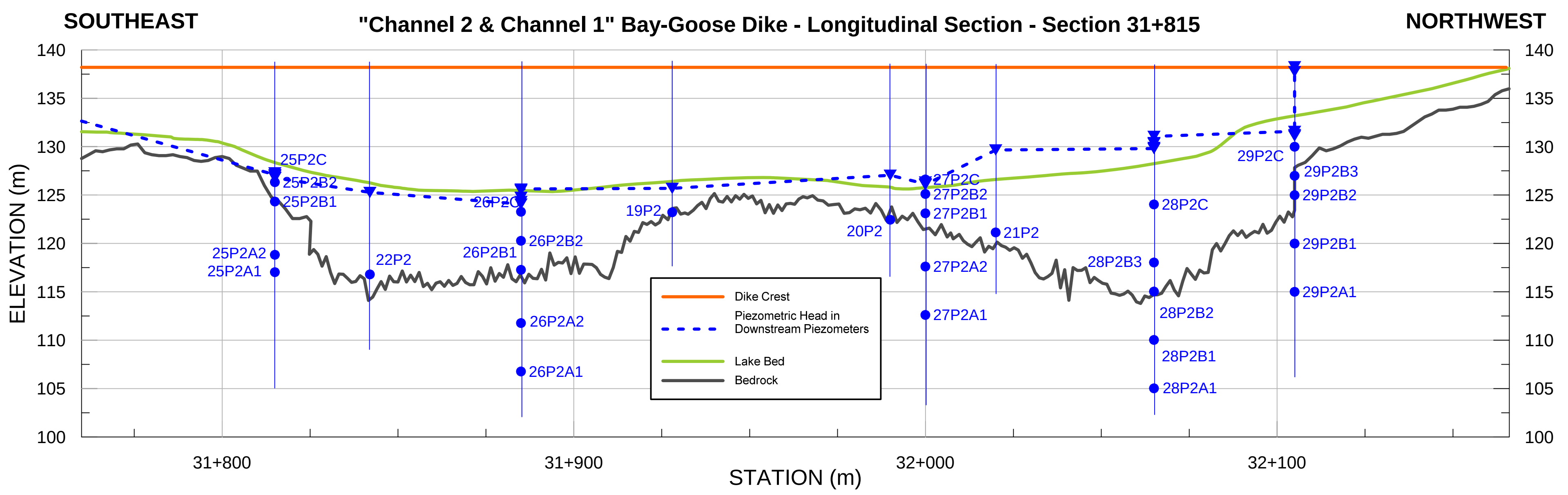
AGNICO EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

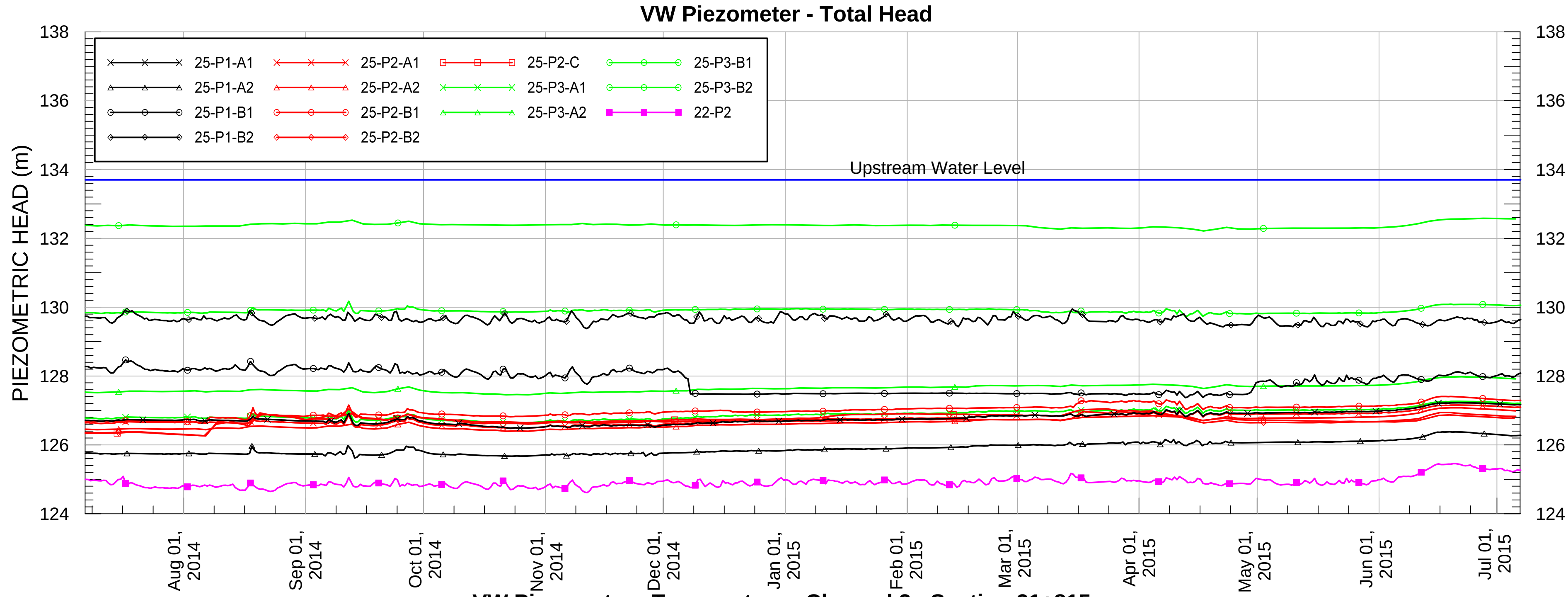
TITLE

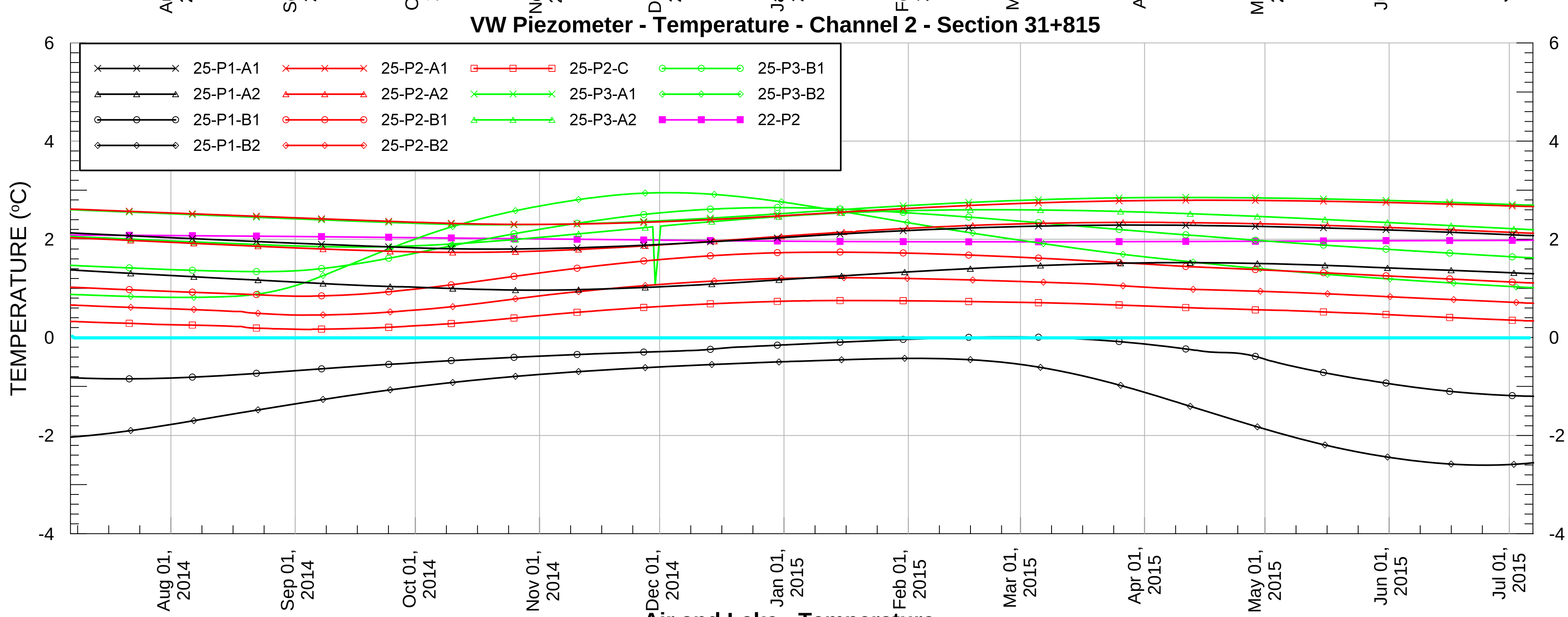
BAYGOOSE DIKE - SECTION 31+600
PIEZOMETRIC DATA
(July 7/14 to July 7/15)

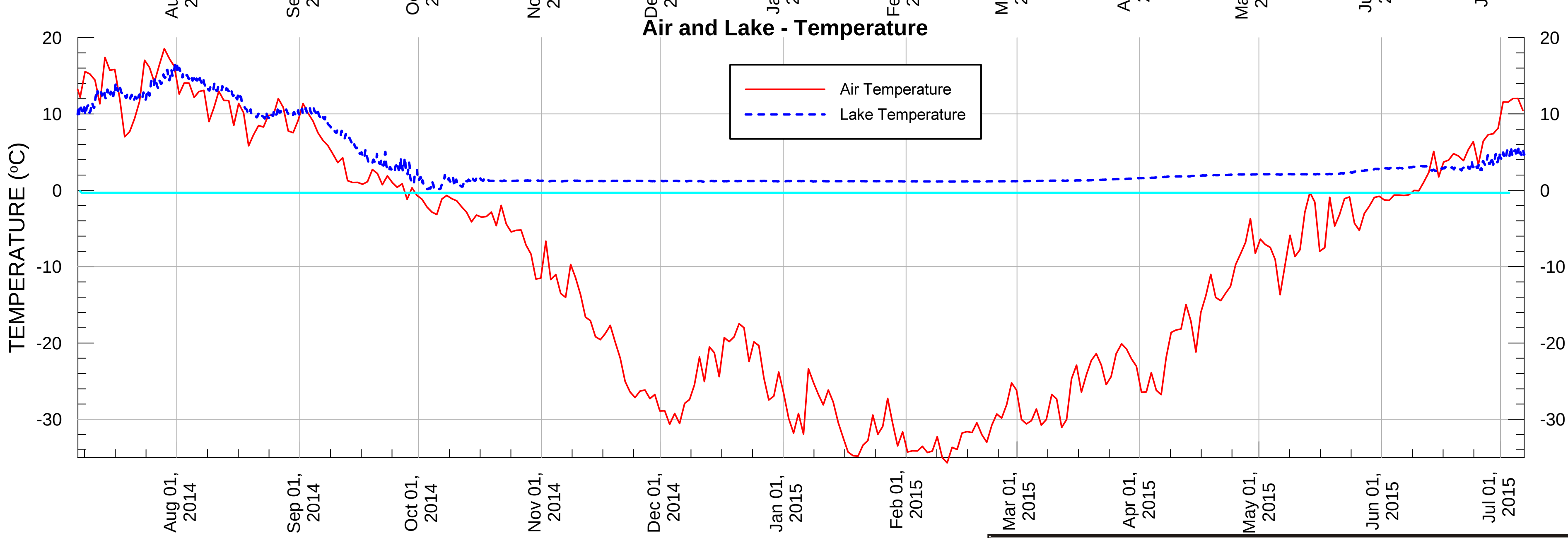
AGNICO EAGLE
MEADOWBANK

PROJECT No.			PHASE No.
DESIGN	TD	28AUG14	SCALE AS SHOWN REV.
CADD	TD	28AUG14	
CHECK	PG	28AUG14	**FIGURE 14**
REVIEW			









PROJECT

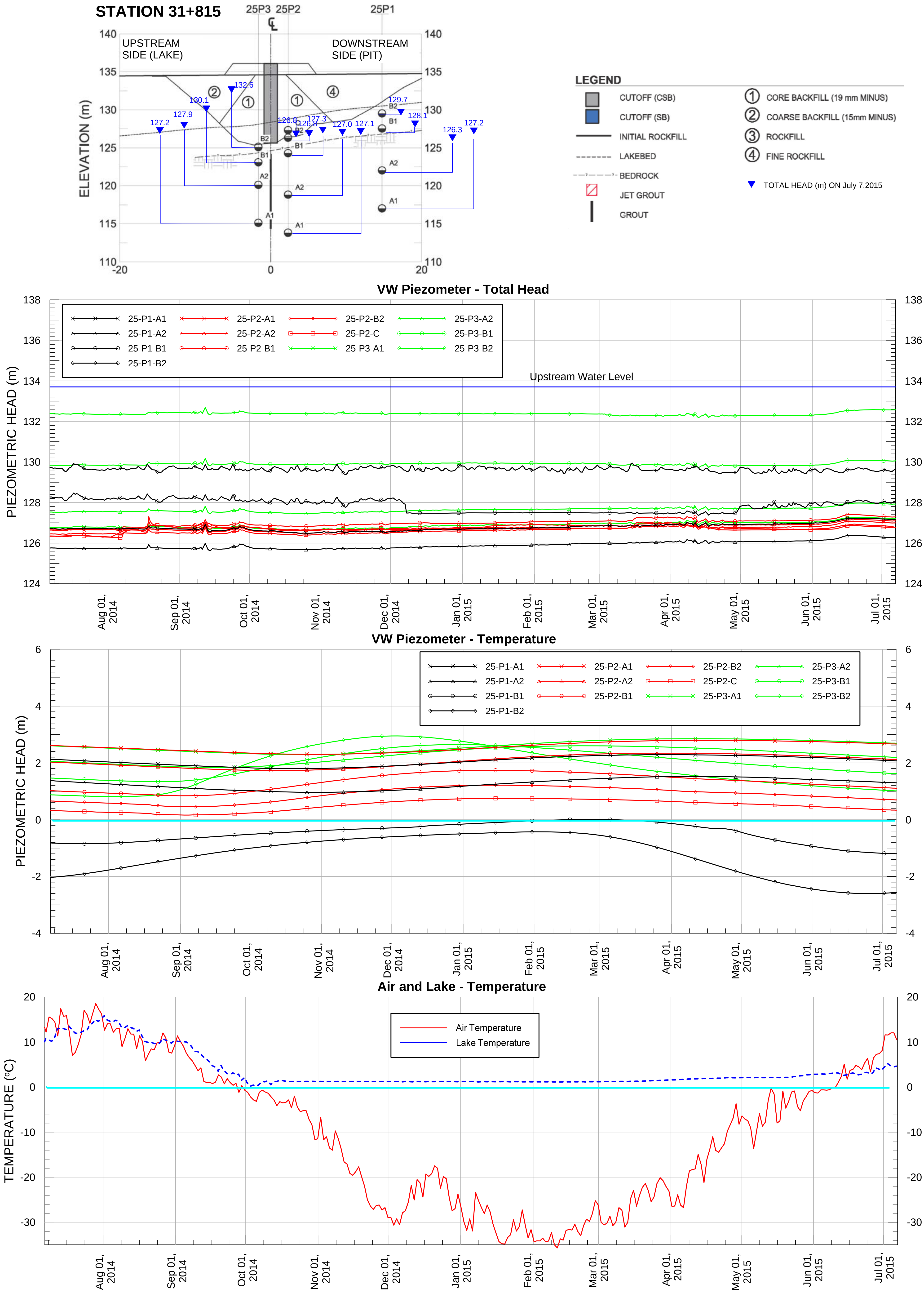
AGNICO EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

TITLE

BAYGOOSE DIKE
Section 31+815 - CHANNEL 2, PIEZOMETRIC DATA (July 7/14 to July 7/15)

AGNICO EAGLE MEADOWBANK

PROJECT No.			PHASE No.	
DESIGN	TD	28AUG14	SCALE AS SHOWN	REV.
CADD	TD	28AUG14	**FIGURE 15**	
CHECK	PG	28AUG14		
REVIEW				



PROJECT

AGNICO EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

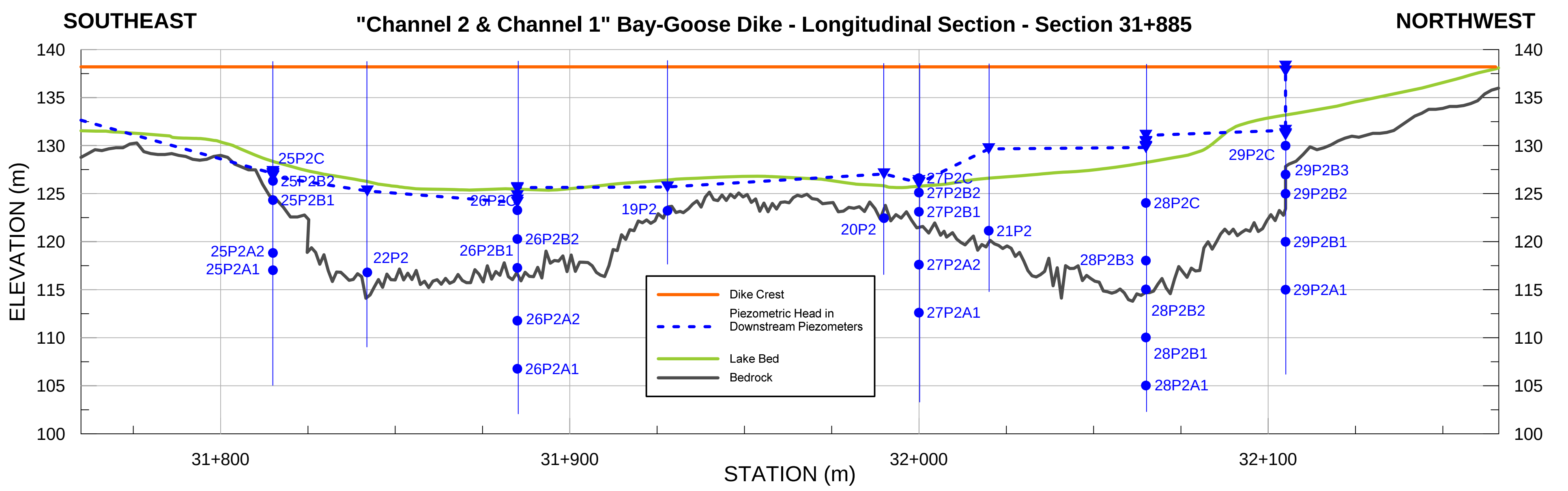
TITLE

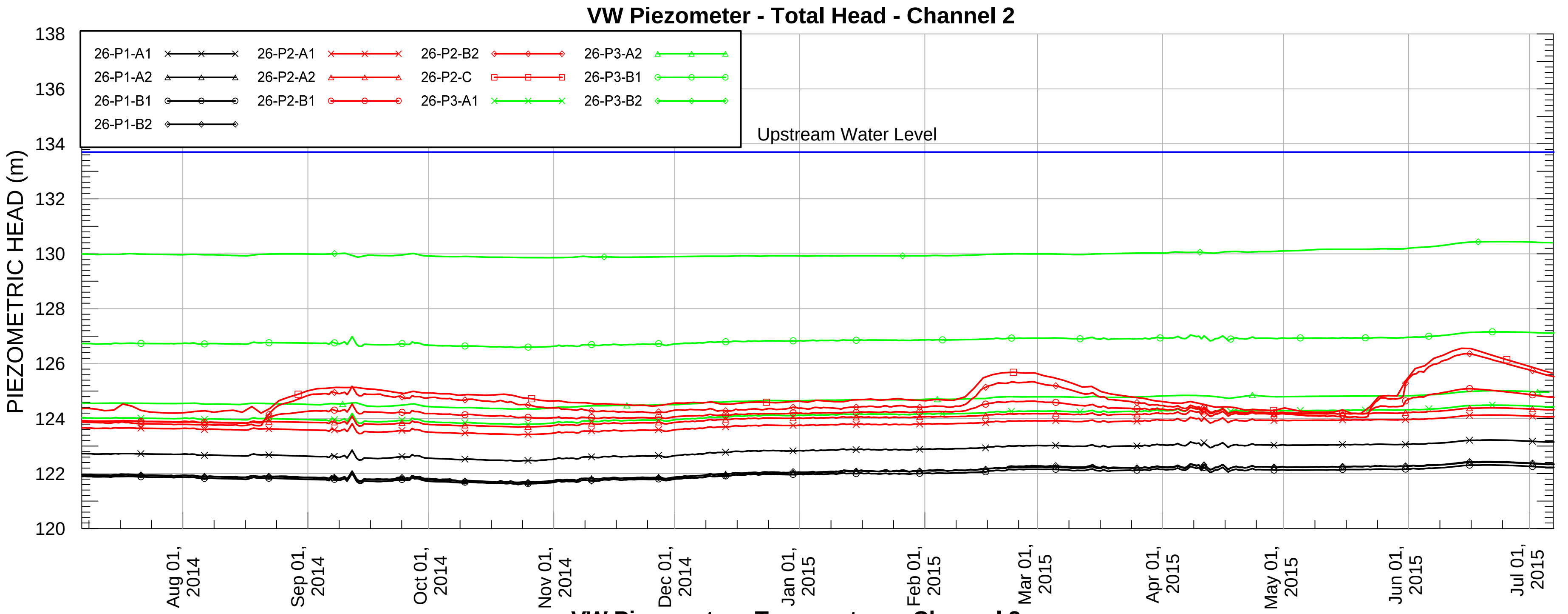
BAY-GOOSE DIKE - SECTION 31+815
PIEZOMETRIC DATA
(July 7/14 to July 7/15)

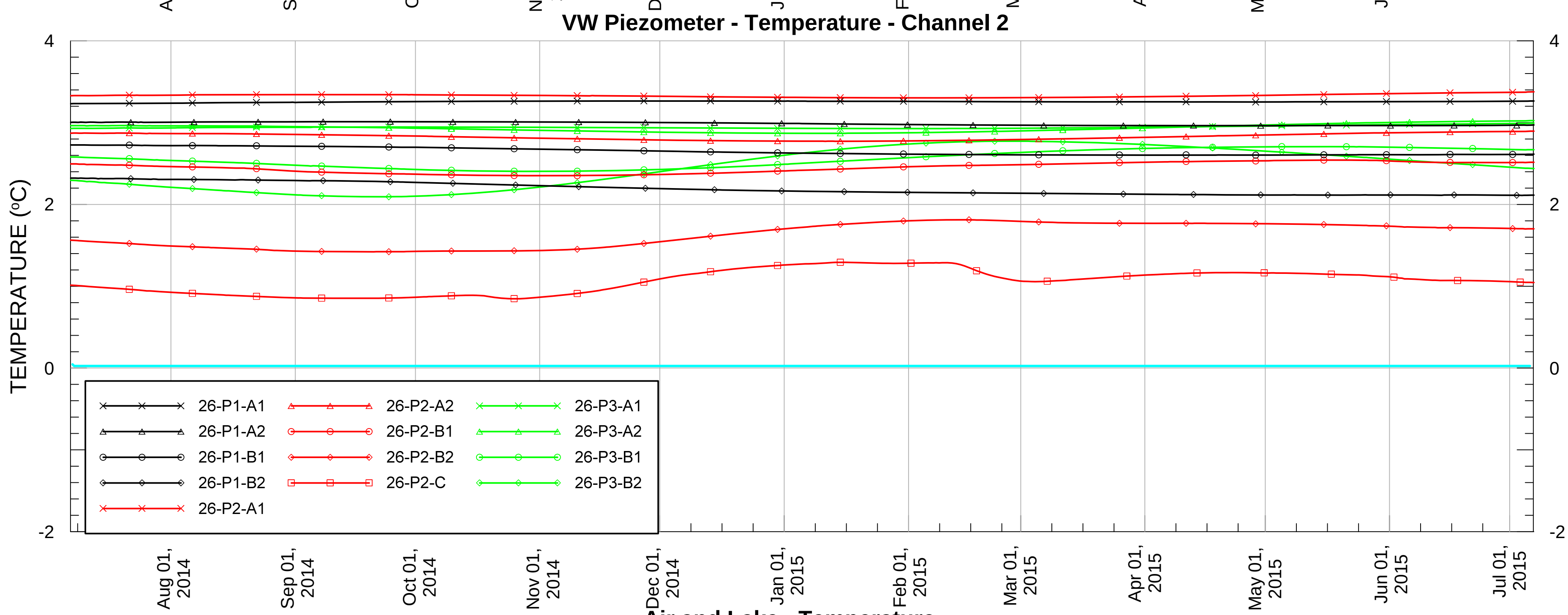
AGNICO EAGLE MEADOWBANK

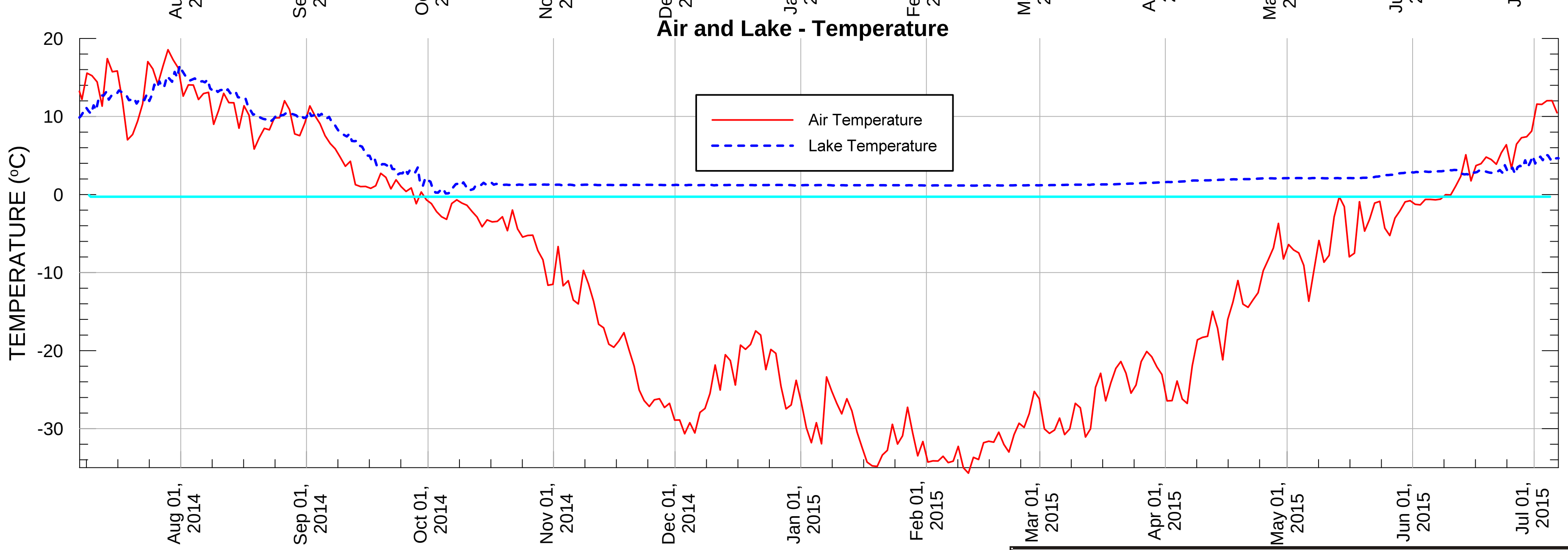
PROJECT No.	09-1428-5007		PHASE No.	4000
DESIGN	TD	28AUG14	SCALE	AS SHOWN
CADD	TD	28AUG14	REV.	
CHECK	PG	28AUG14		
REVIEW				

FIGURE 16





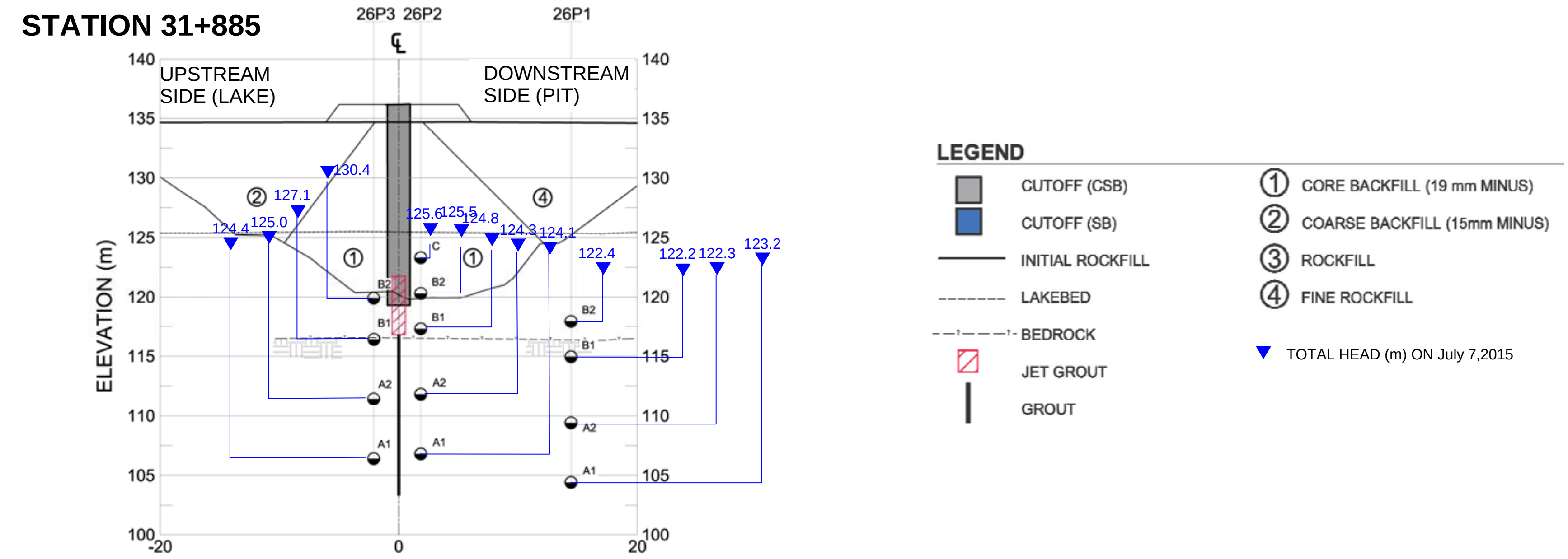


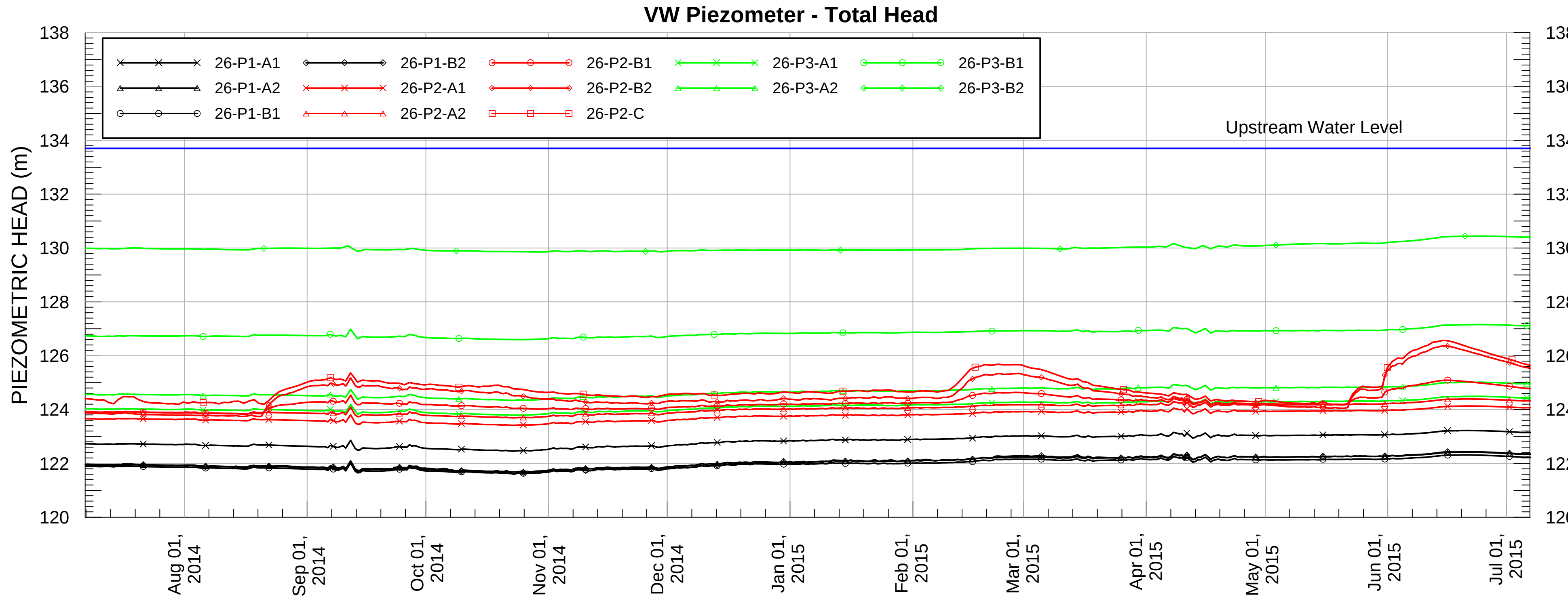


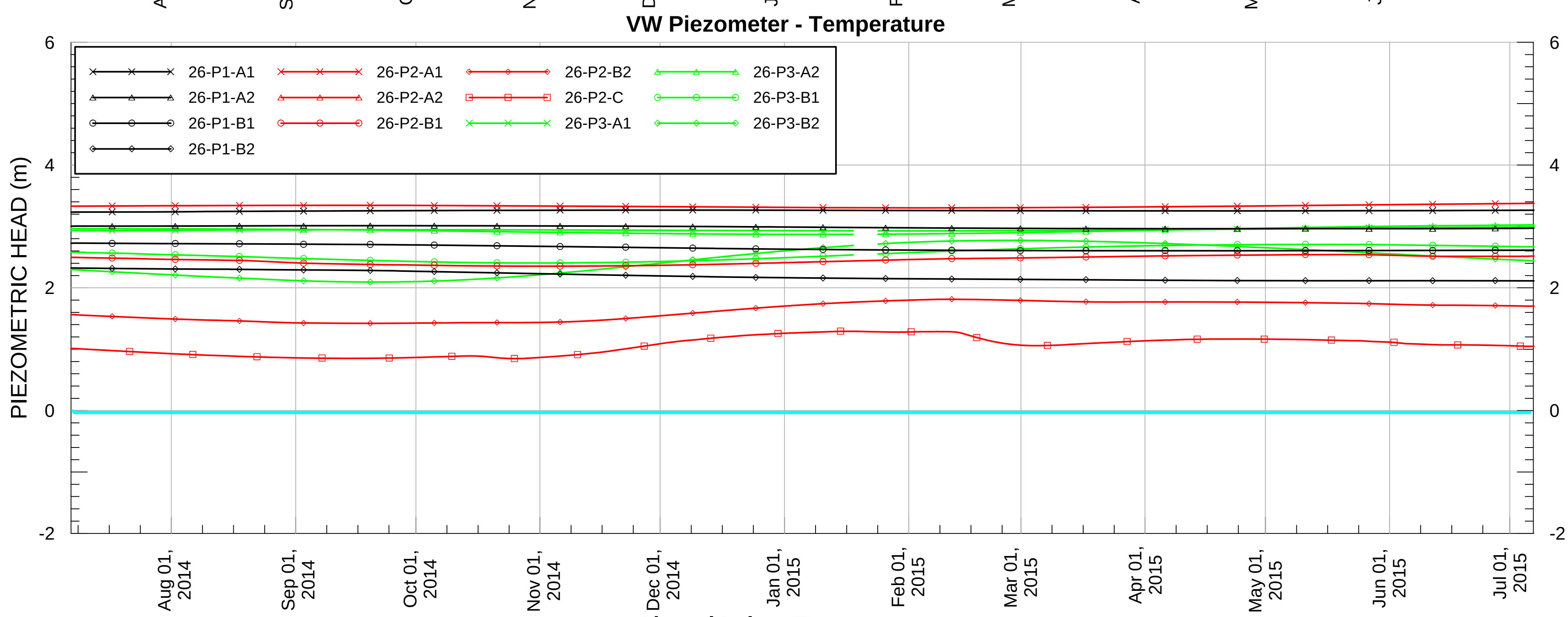
PROJECT	**AGNICO EAGLE MINES LIMITED** **MEADOWBANK GOLD PROJECT** **NUNAVUT**
TITLE	**BAYGOOSE DIKE** **Section 31+885 - CHANNEL 2, PIEZOMETRIC DATA (July 7/14 to July 7/15)**

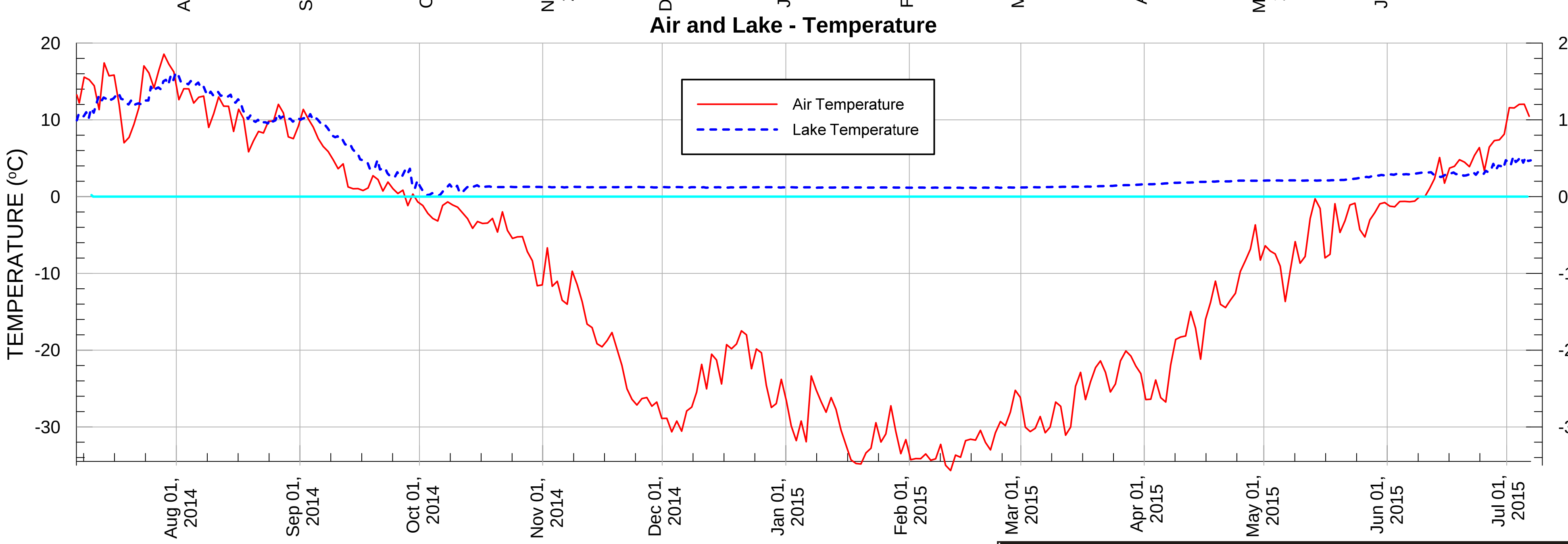
AGNICO EAGLE MEADOWBANK

PROJECT No.			PHASE No.	
DESIGN	TD	28AUG14	SCALE AS SHOWN	REV.
CADD	TD	28AUG14	**FIGURE 17**	
CHECK	PG	28AUG14		
REVIEW				





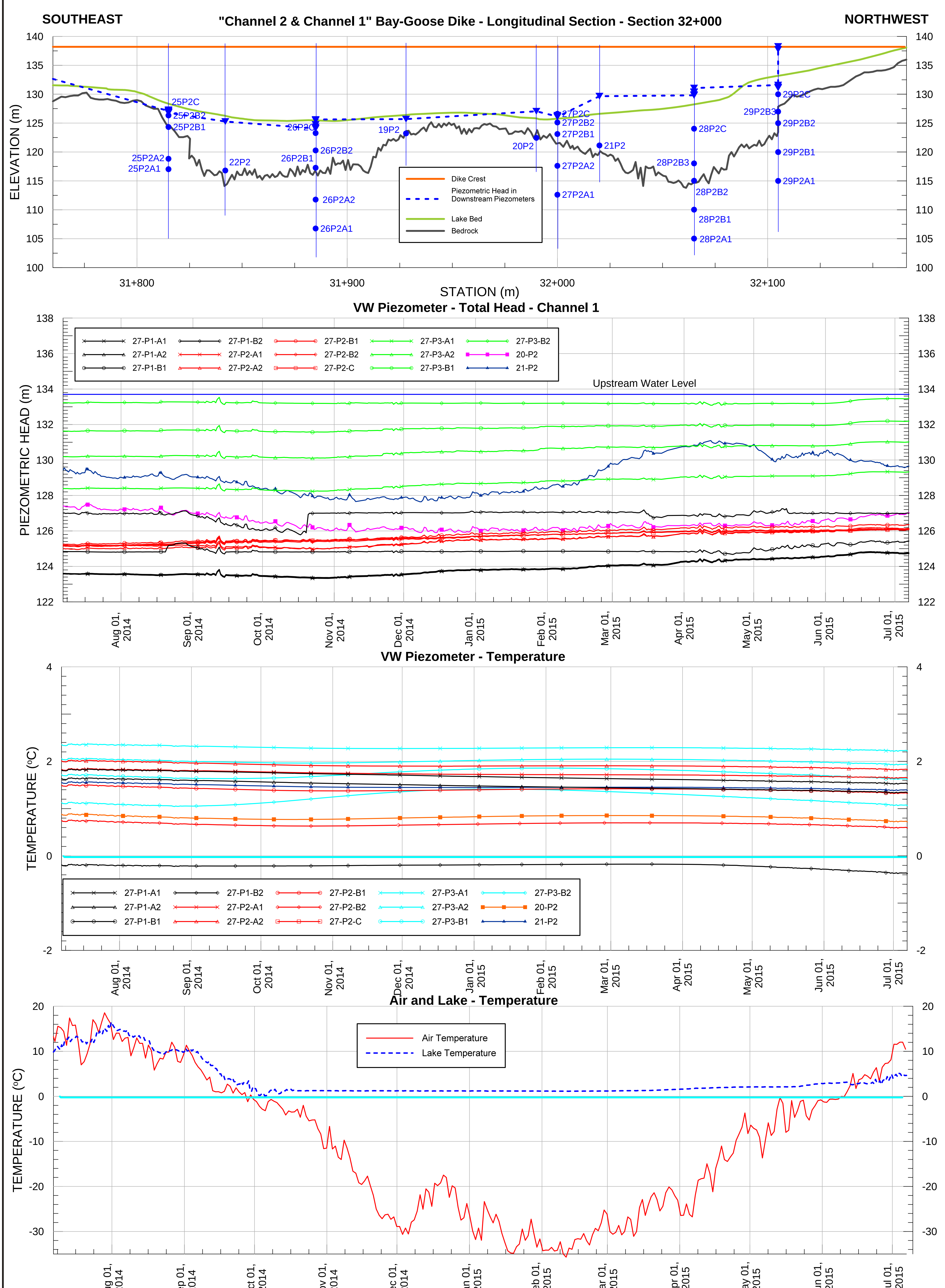




PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT
TITLE	BAYGOOSE DIKE - SECTION 31+885 PIEZOMETRIC DATA (July 7/14 to July 7/15)

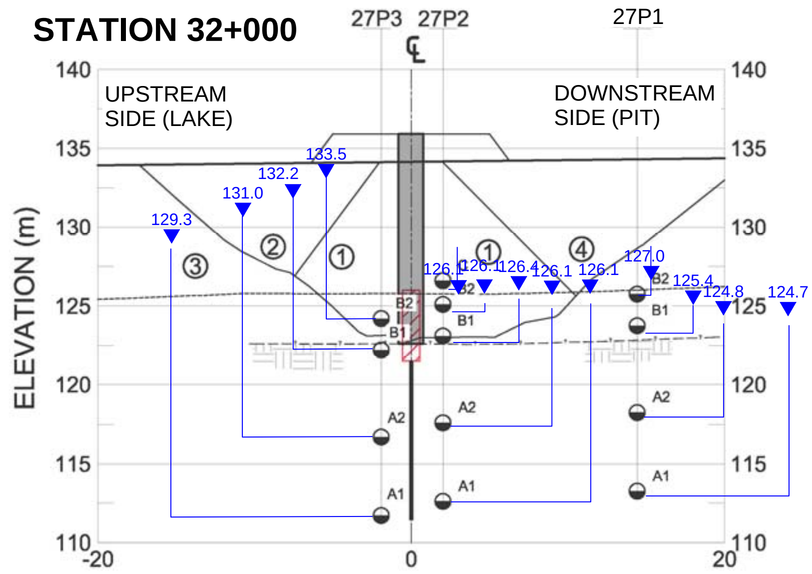
AGNICO EAGLE
MEADOWBANK

PROJECT No.			PHASE No.	
DESIGN	TD	28AUG14	SCALE AS SHOWN	REV.
CADD	TD	28AUG14	FIGURE 18	
CHECK	PG	28AUG14		
REVIEW				



PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT
TITLE	BAYGOOSE DIKE CHANNEL 1, PIEZOMETRIC DATA SECTION 32+000 (July 7/14 to July 7/15)

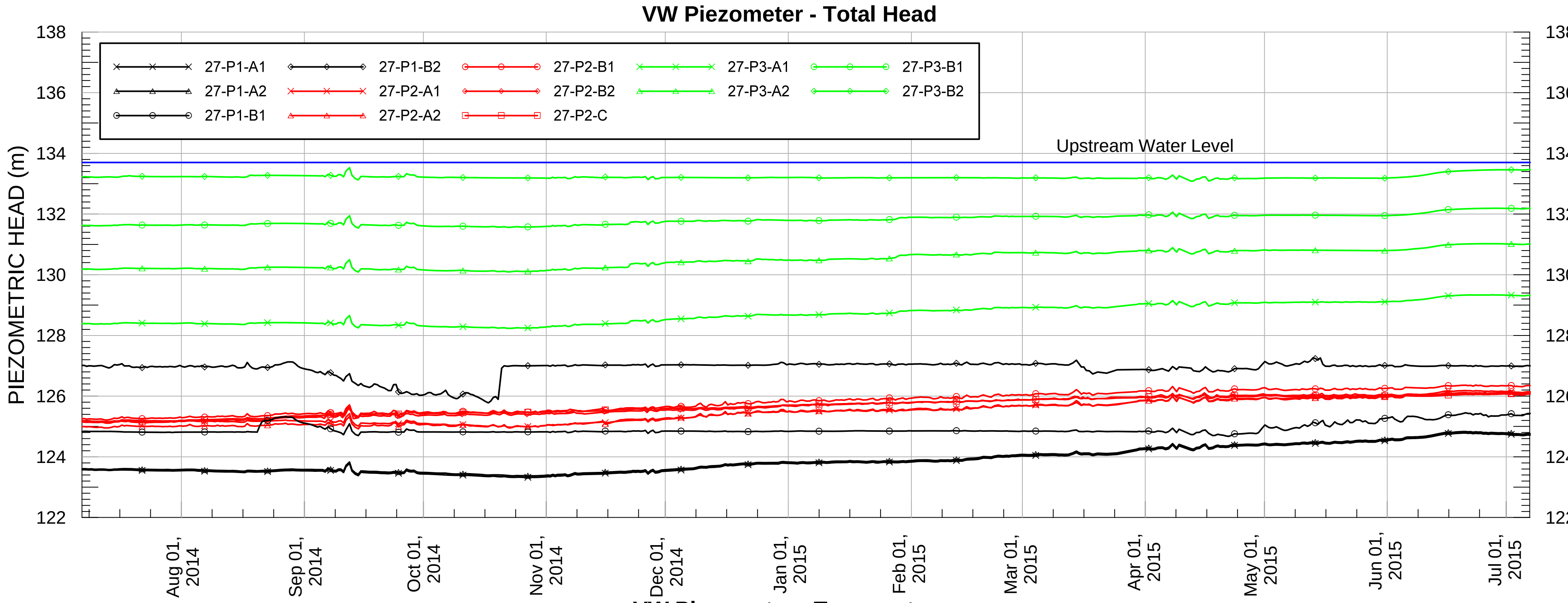
AGNICO EAGLE MEADOWBANK	PROJECT No.			PHASE No.	
	DESIGN	TD	28AUG14	SCALE AS SHOWN	REV.
	CADD	TD	28AUG14	FIGURE 19	
	CHECK	PG	28AUG14		
	REVIEW				



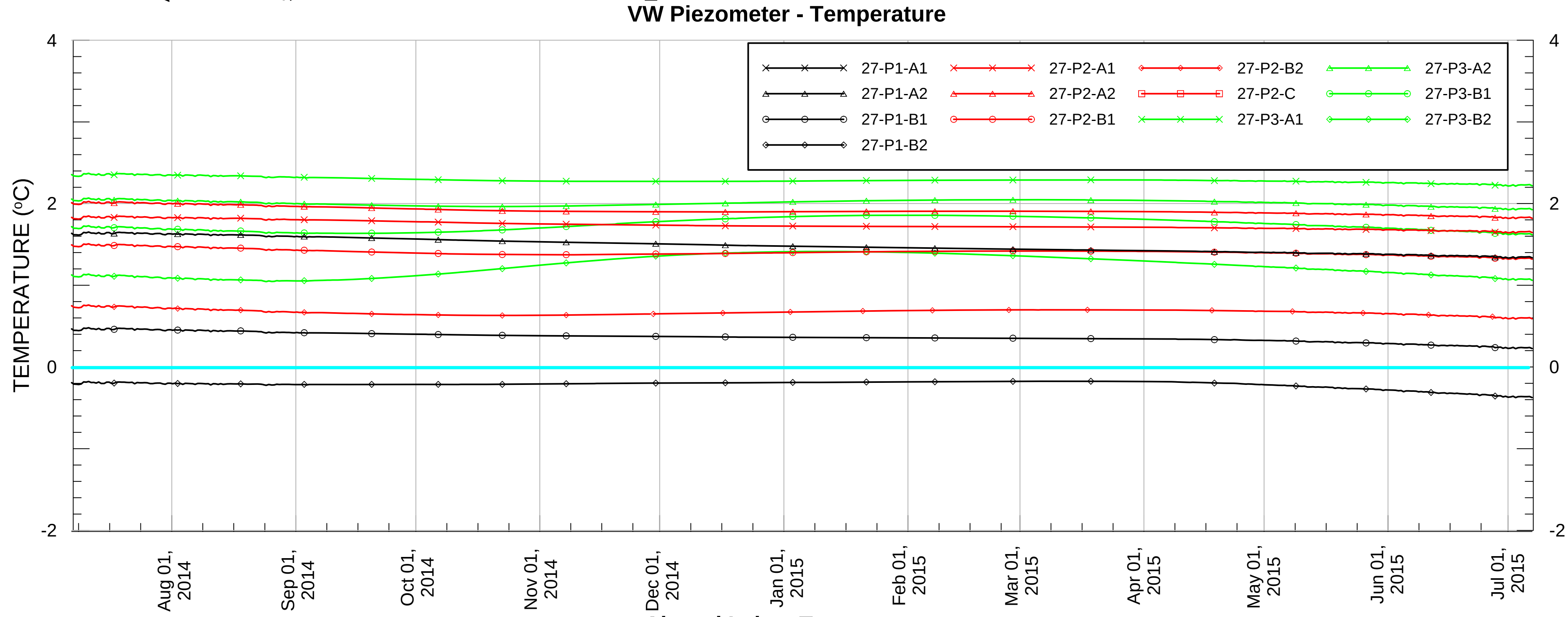
LEGEND

- CUTOFF (CSB)
- CUTOFF (SB)
- INITIAL ROCKFILL
- LAKEBED
- BEDROCK
- JET GROUT
- GROUT
- ① CORE BACKFILL (19 mm MINUS)
- ② COARSE BACKFILL (15mm MINUS)
- ③ ROCKFILL
- ④ FINE ROCKFILL
- ▼ TOTAL HEAD (m) ON July 7,2015

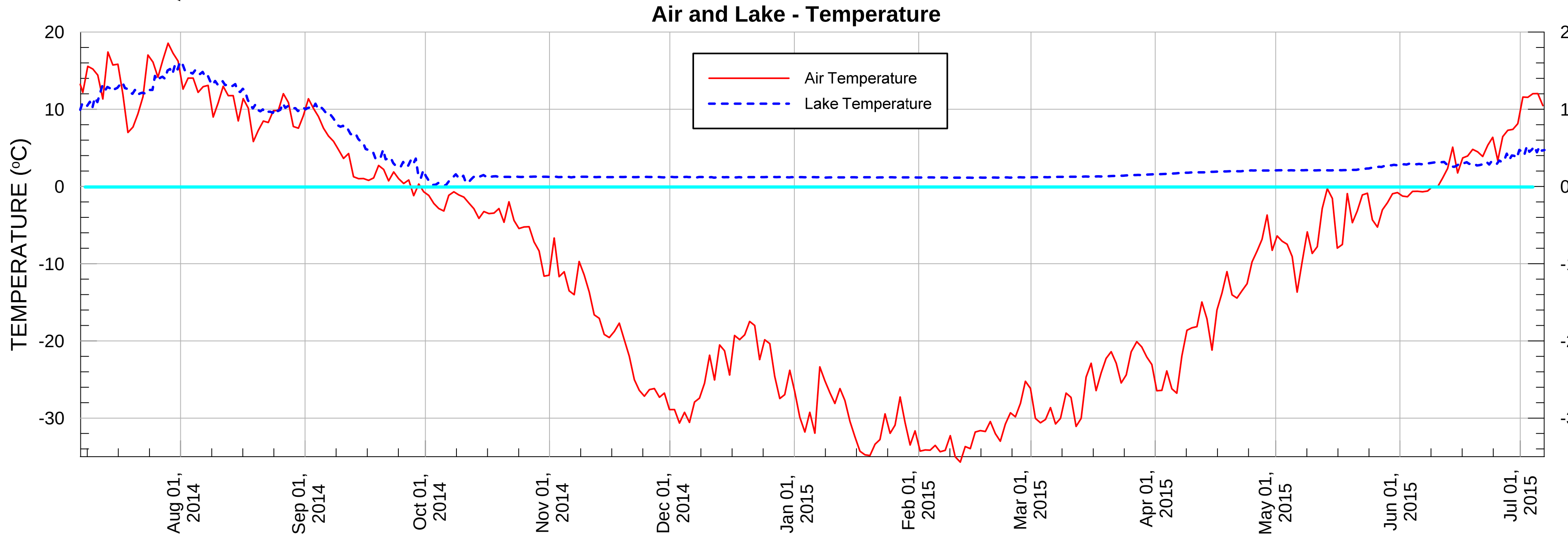
VW Piezometer - Total Head



VW Piezometer - Temperature



Air and Lake - Temperature

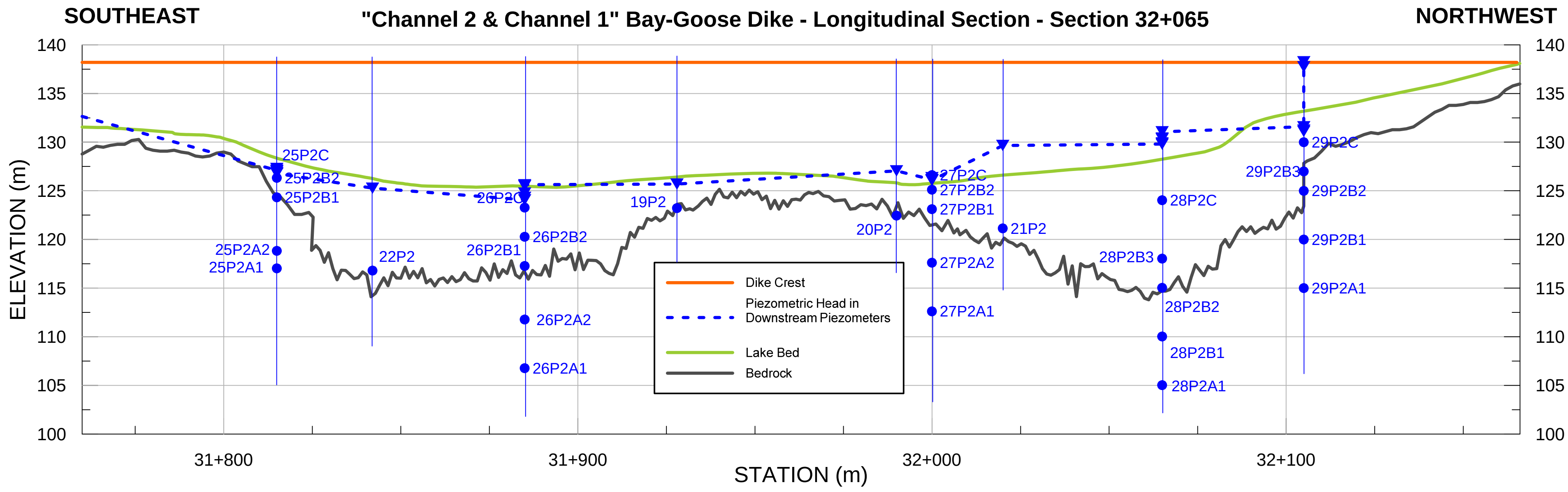


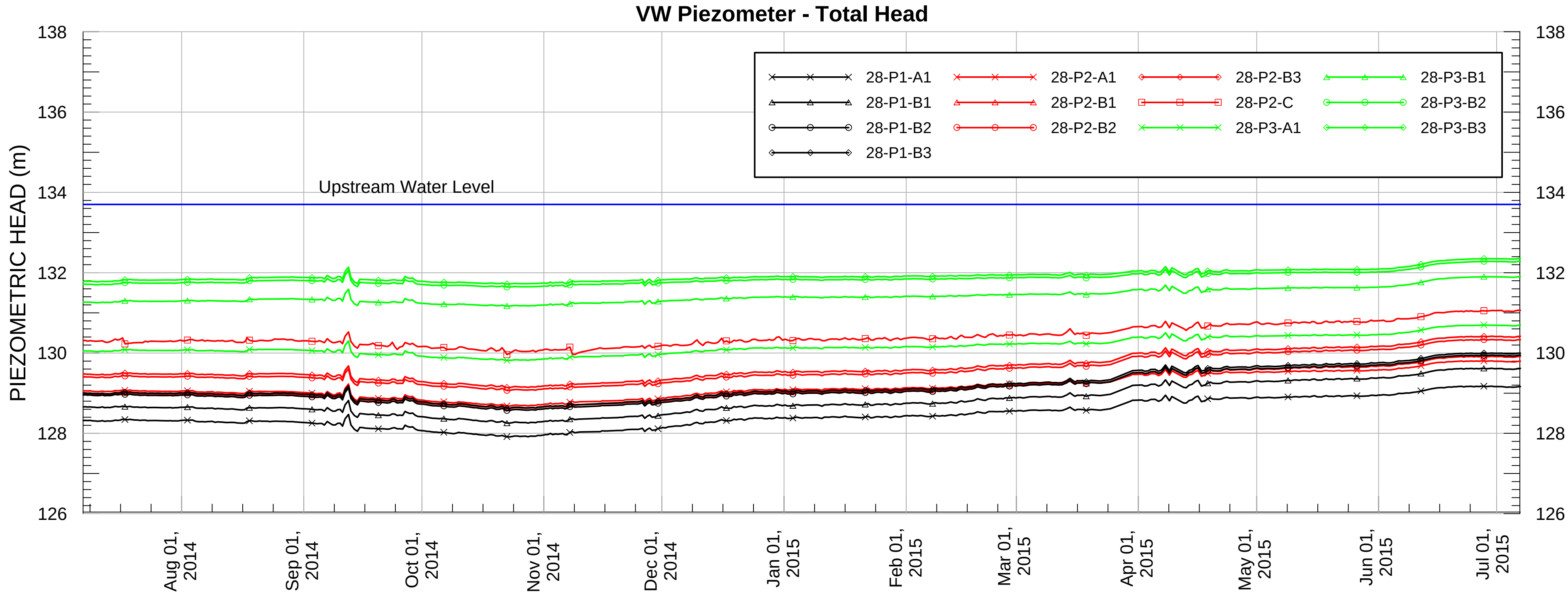
PROJECT
AGNICO EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

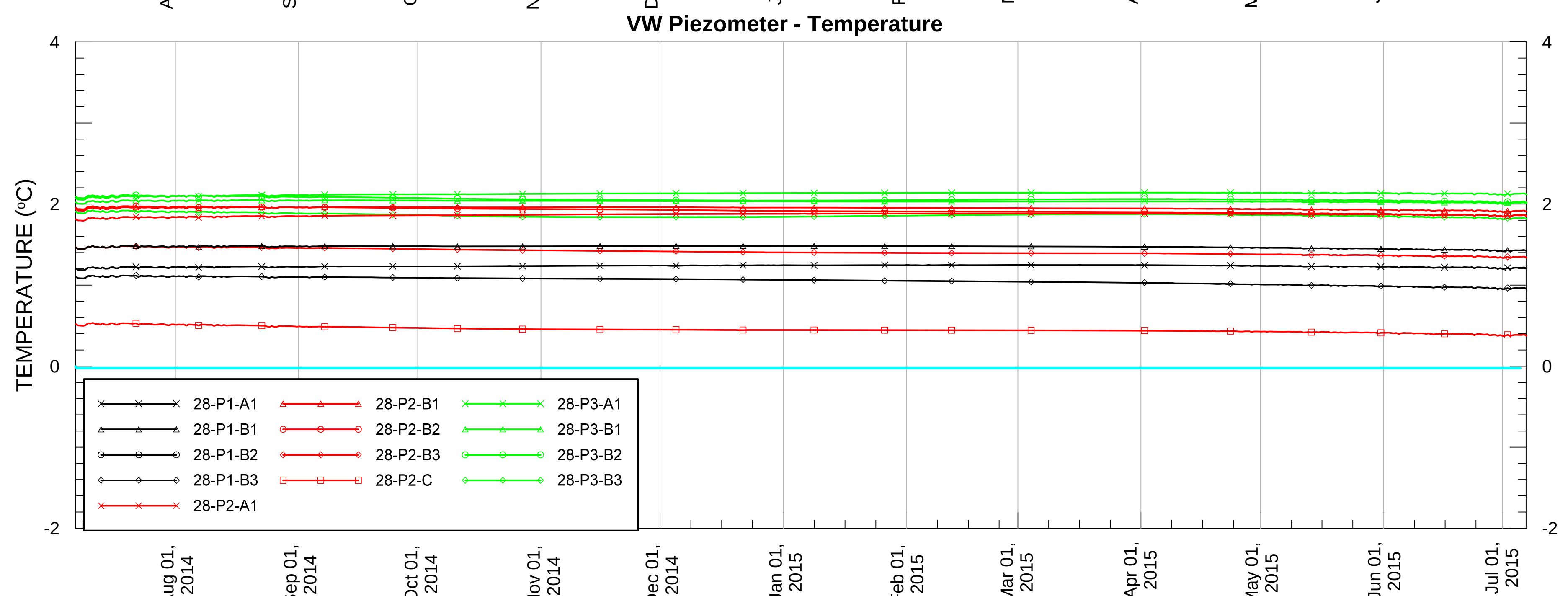
TITLE
BAY OOSE DIKE - SECTION 32+000
PIEZOMETRIC DATA
(July 7/14 to July 7/15)

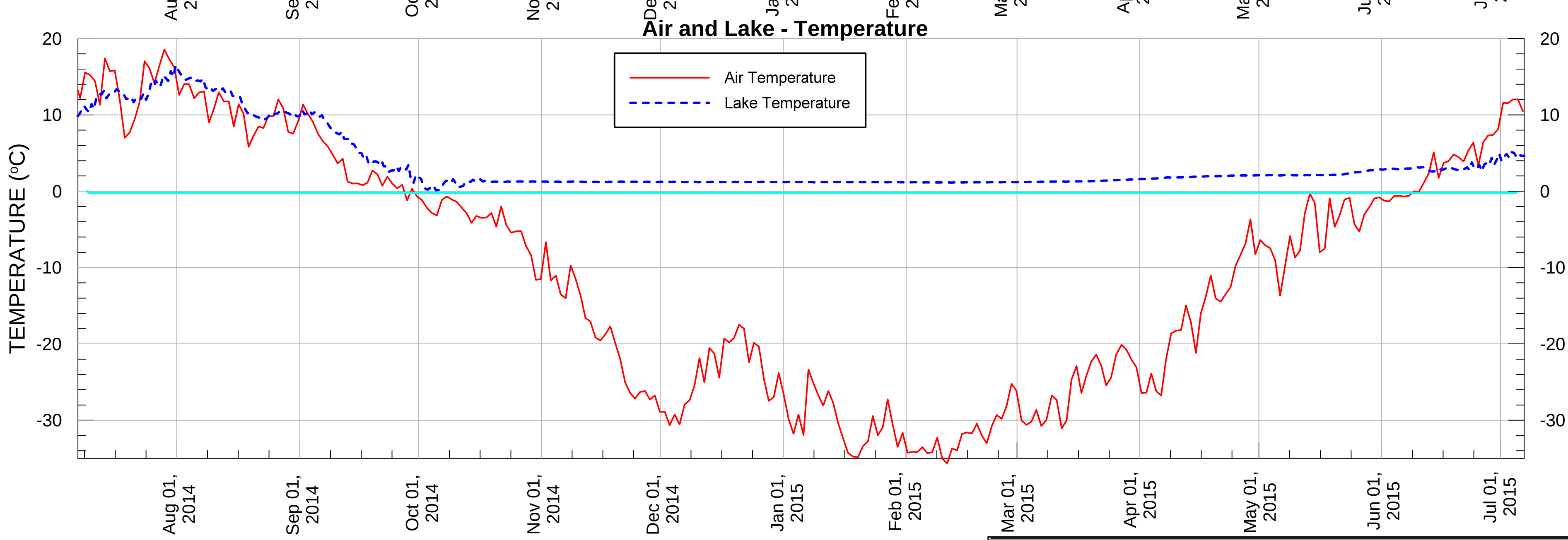
AGNICO EAGLE MEADOWBANK

PROJECT No.			PHASE No.	
DESIGN	TD	28AUG14	SCALE AS SHOWN	REV.
CADD	TD	28AUG14	FIGURE 20	
CHECK	PG	28AUG14		
REVIEW				









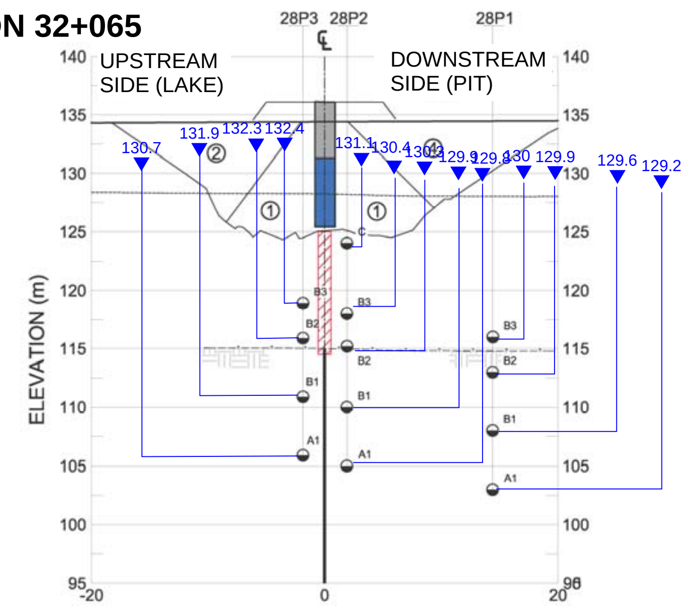
PROJECT
AGNICO EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

TITLE
BAYGOOSE DIKE
Section 32+065 - CHANNEL 1, PIEZOMETRIC DATA (July 7/14 to July 7/15)

AGNICO EAGLE MEADOWBANK

PROJECT No.			PHASE No.
DESIGN	TD	28AUG14	SCALE AS SHOWN REV.
CADD	TD	28AUG14	**FIGURE 21**
CHECK	PG	28AUG14	
REVIEW			

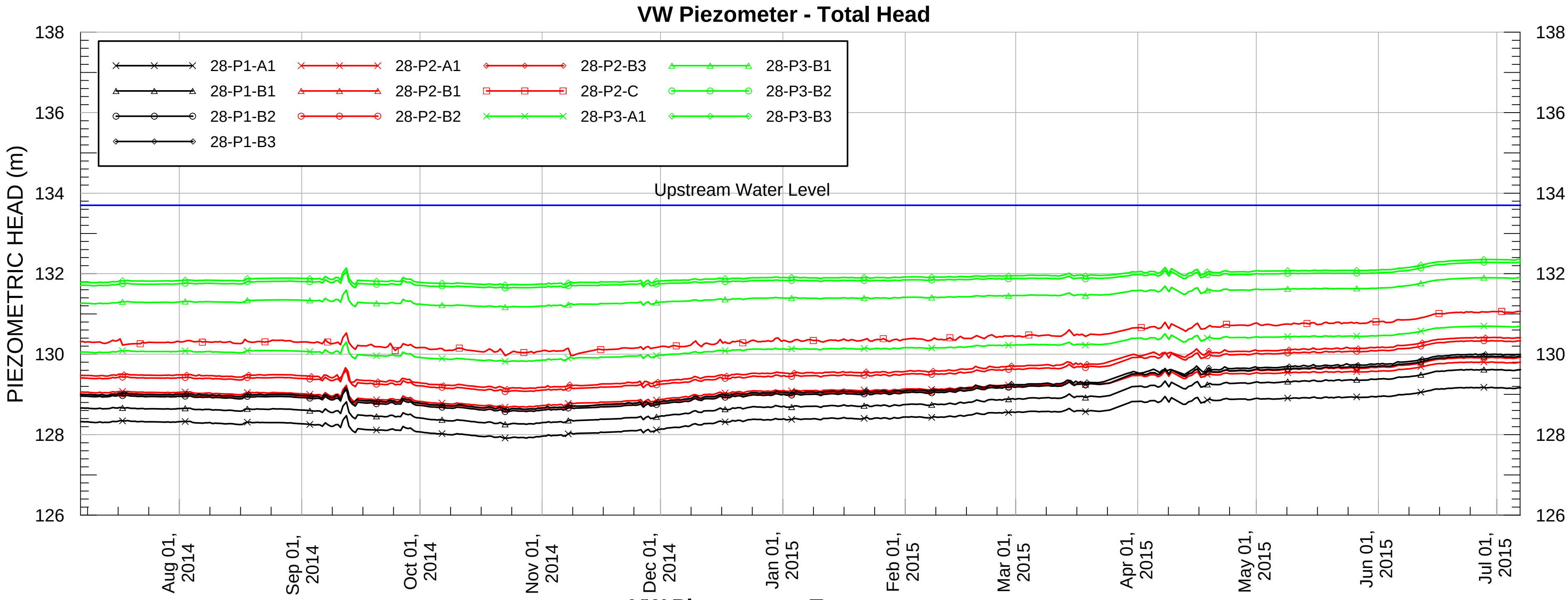
STATION 32+065



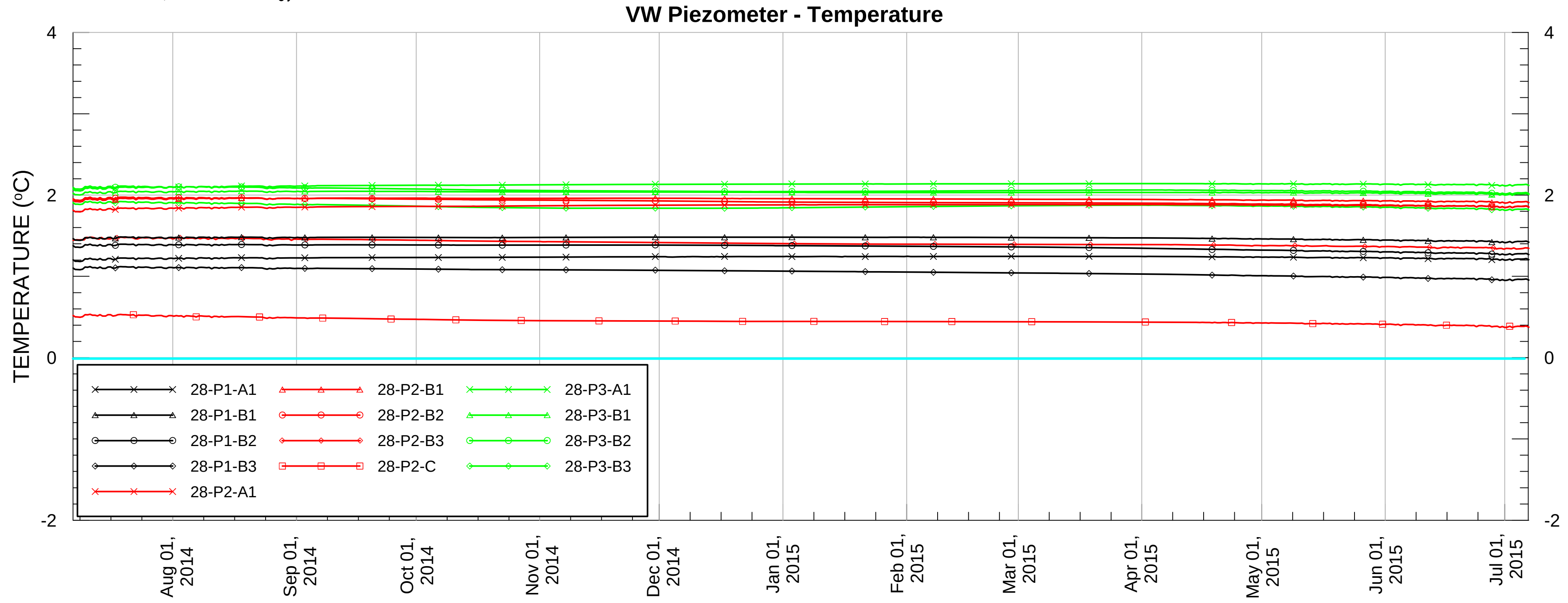
LEGEND

- CUTOFF (CSB)
- CUTOFF (SB)
- INITIAL ROCKFILL
- LAKEBED
- BEDROCK
- JET GROUT
- GROUT
- ① CORE BACKFILL (19 mm MINUS)
- ② COARSE BACKFILL (15mm MINUS)
- ③ ROCKFILL
- ④ FINE ROCKFILL
- ▼ TOTAL HEAD (m) ON July 7,2015

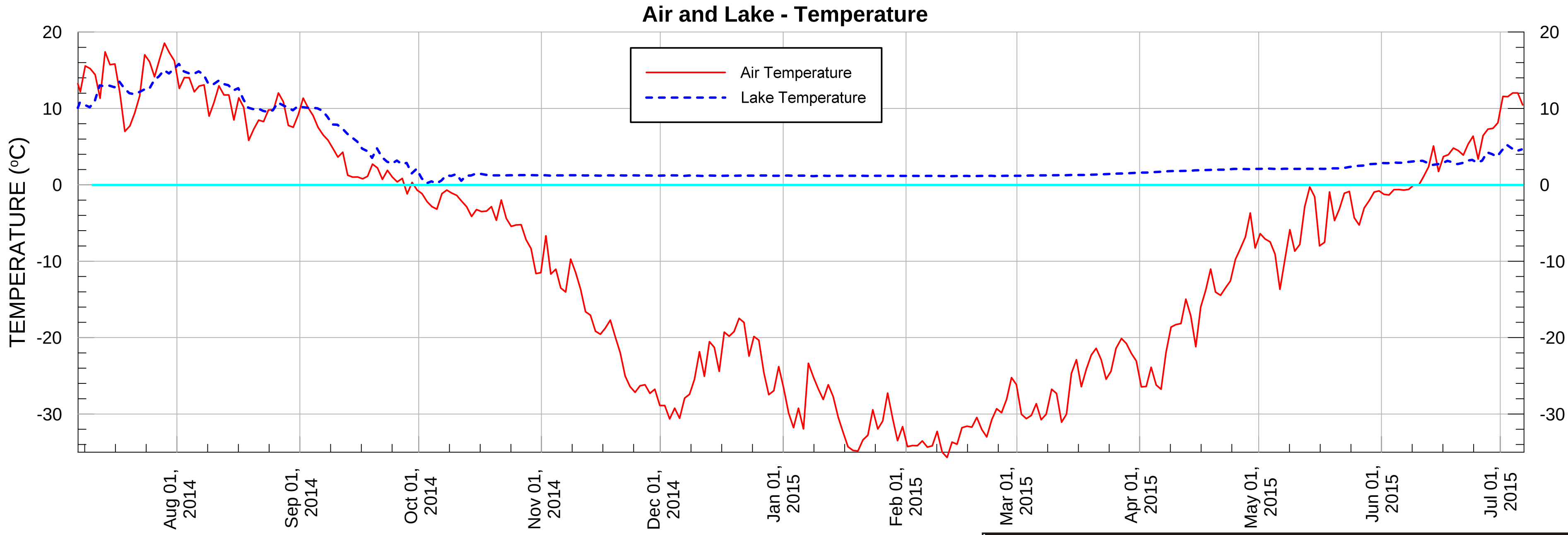
VW Piezometer - Total Head



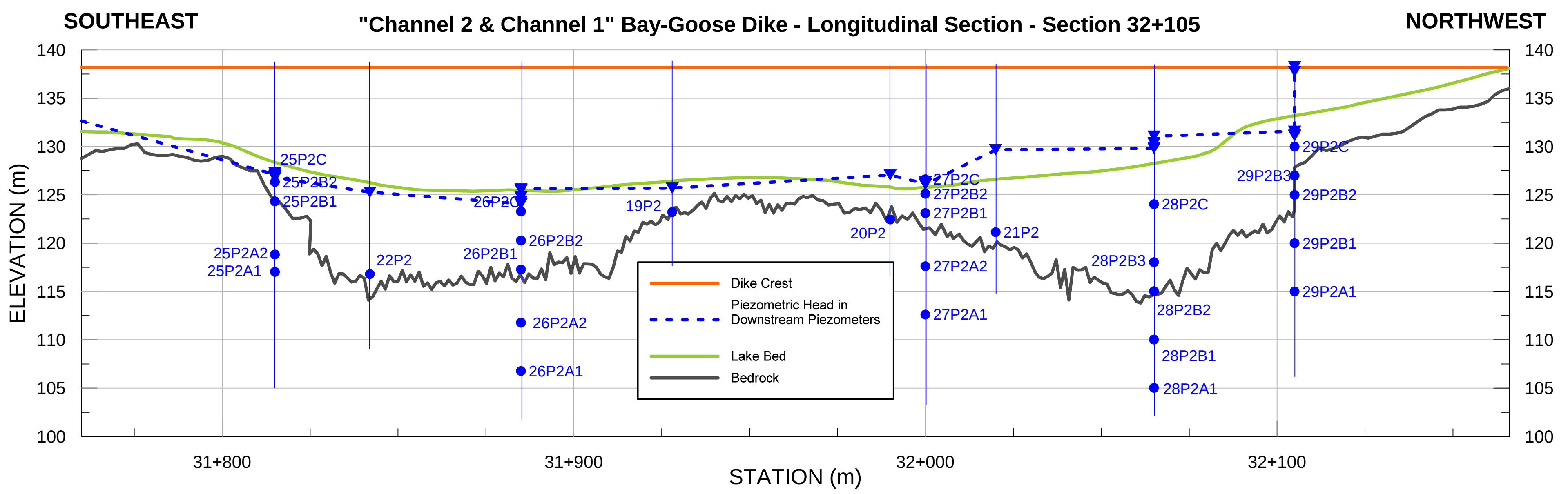
VW Piezometer - Temperature

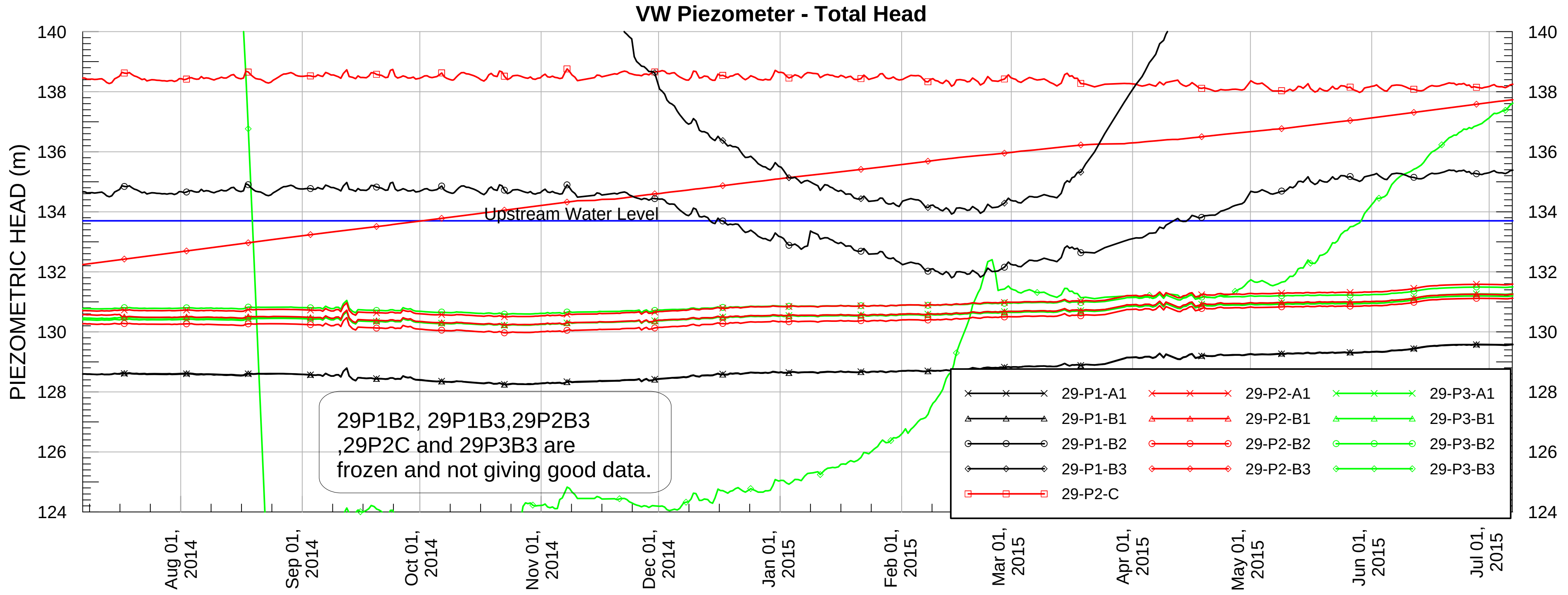


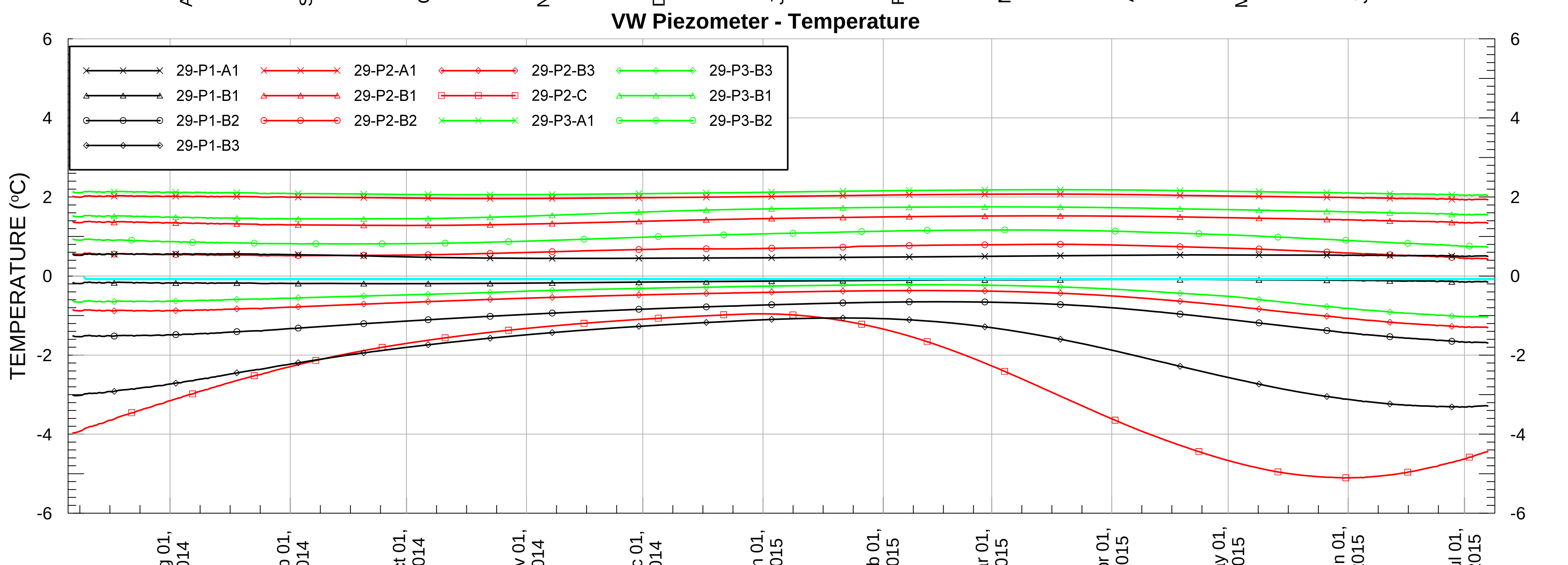
Air and Lake - Temperature

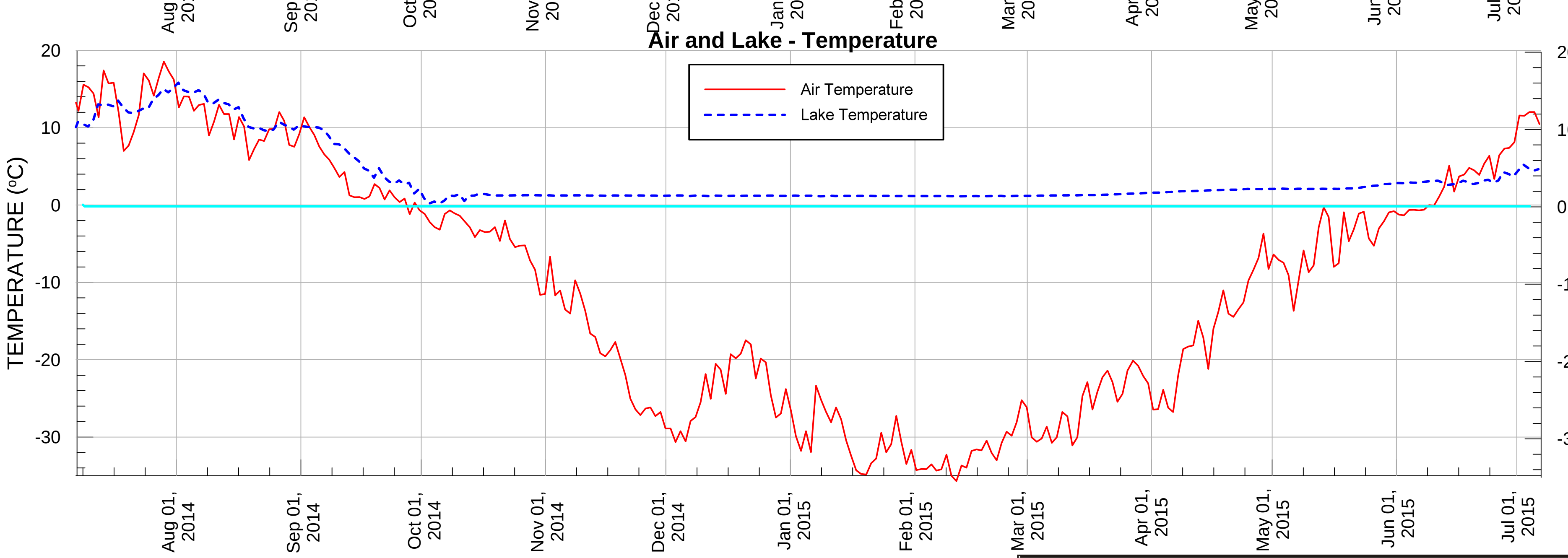


PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT			
TITLE	BAYGOOSE DIKE - SECTION 32+065 PIEZOMETRIC DATA (July 7/14 to July 7/15)			
AGNICO EAGLE MEADOWBANK	PROJECT No.			PHASE No.
	DESIGN	TD	28AUG14	SCALE AS SHOWN REV.
	CADD	TD	28AUG14	FIGURE 22
	CHECK	PG	28AUG14	
	REVIEW			









PROJECT

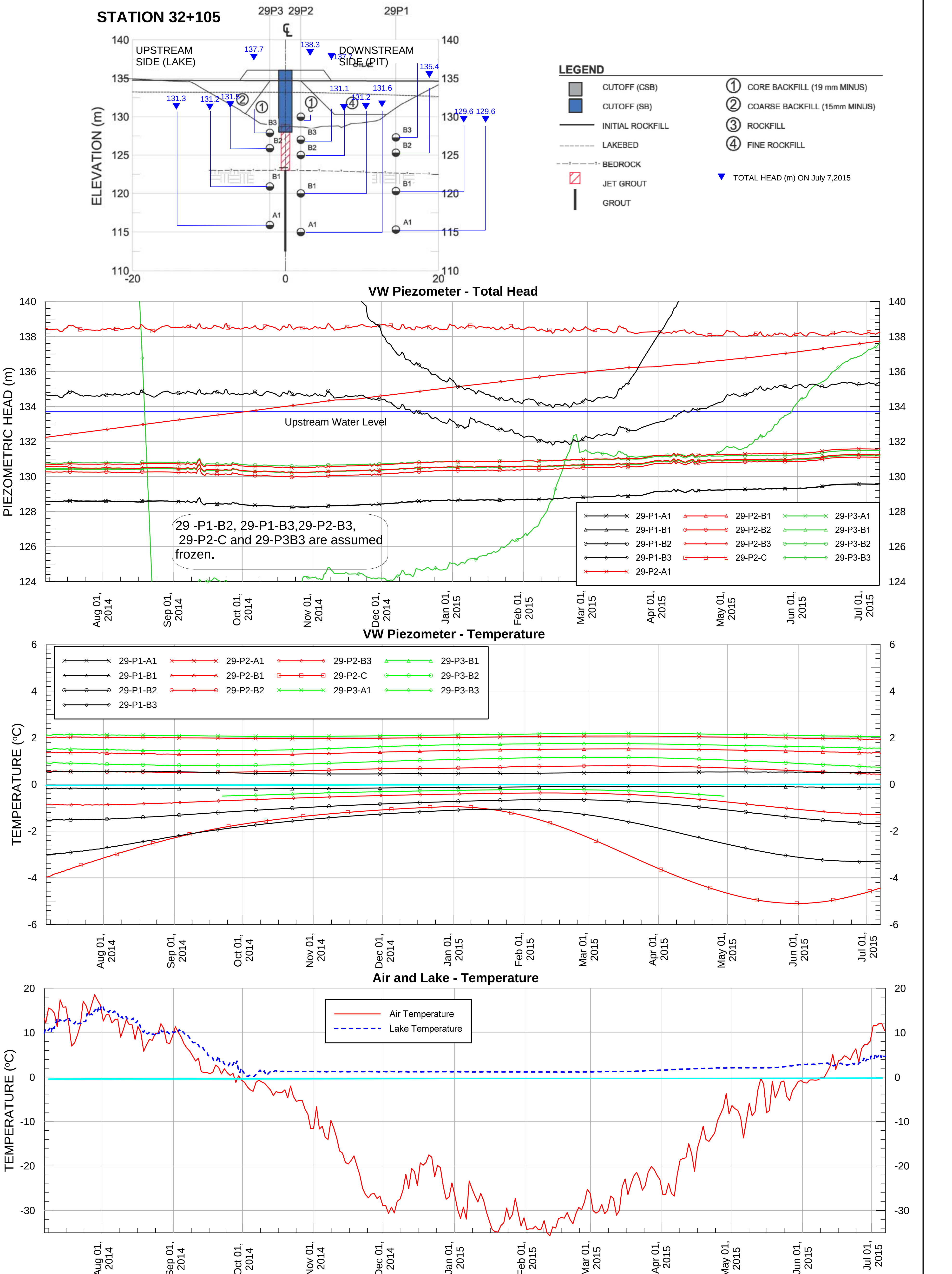
AGNICO EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

TITLE

BAYGOOSE DIKE
Station 32+105 - CHANNEL 1, PIEZOMETRIC DATA (July 7/14 to July 7/15)

AGNICO EAGLE MEADOWBANK

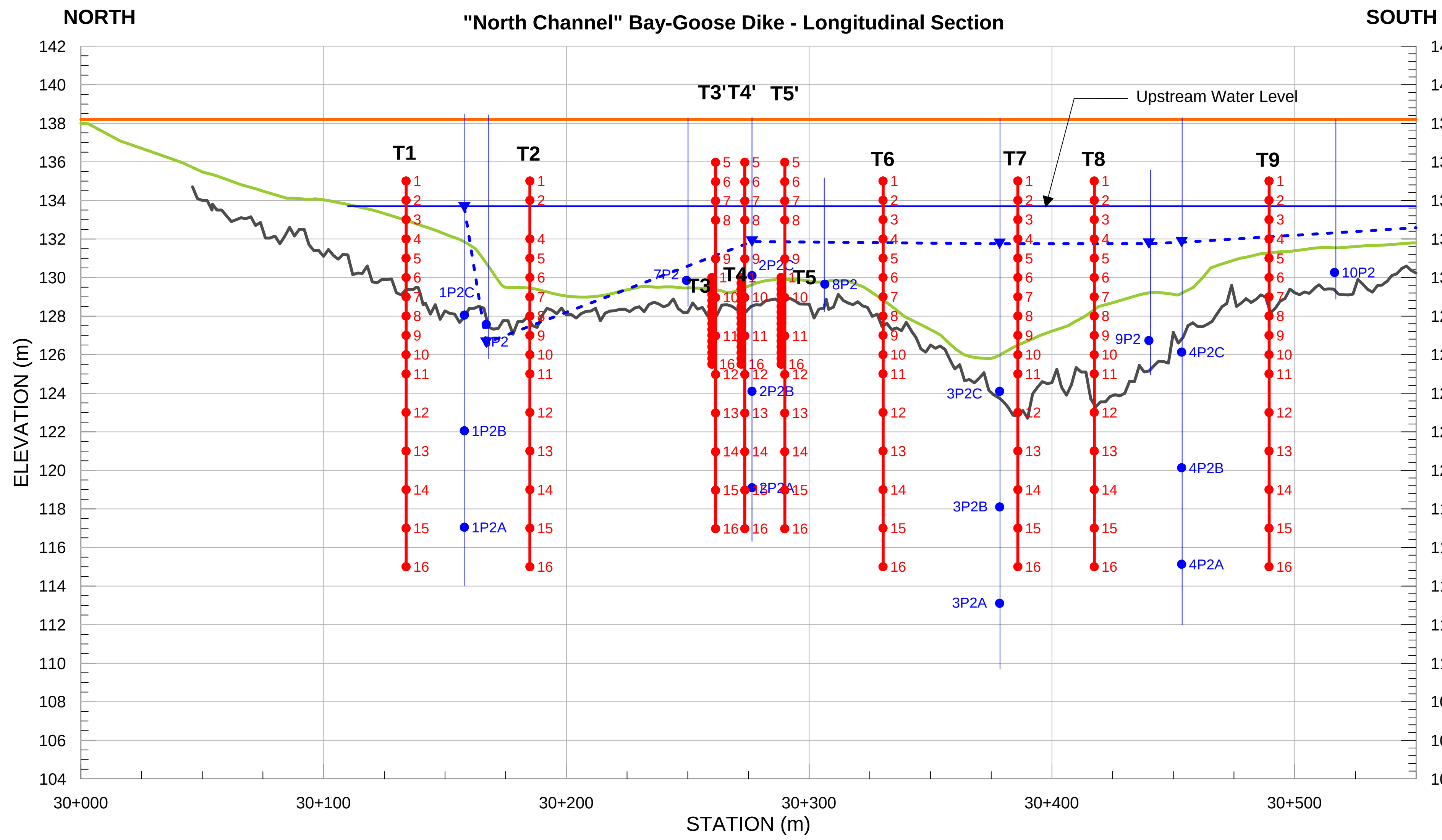
PROJECT No.			PHASE No.
DESIGN	TD	28AUG14	SCALE AS SHOWN REV.
CADD	TD	28AUG14	
CHECK	PG	28AUG14	**FIGURE 23**
REVIEW			

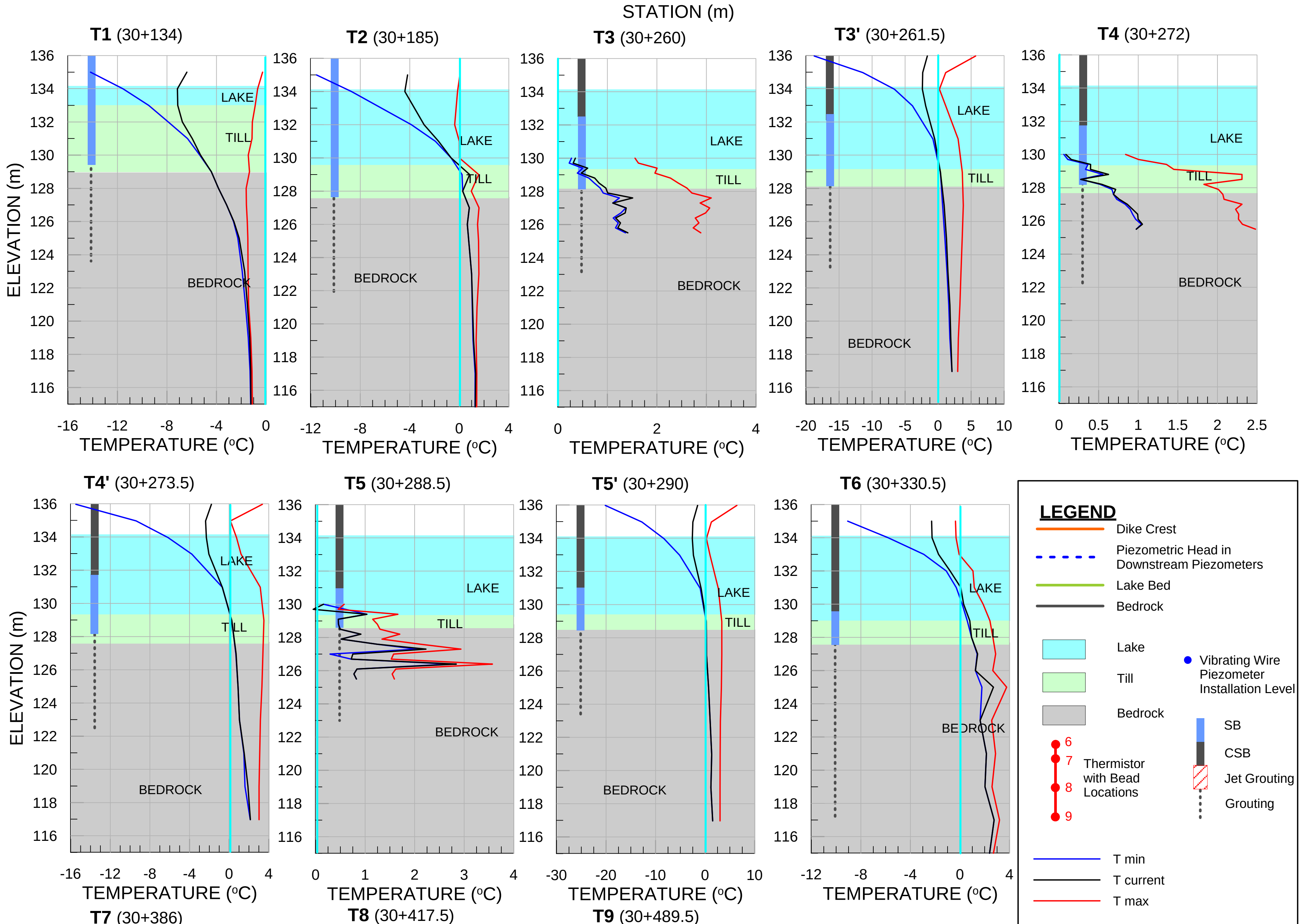


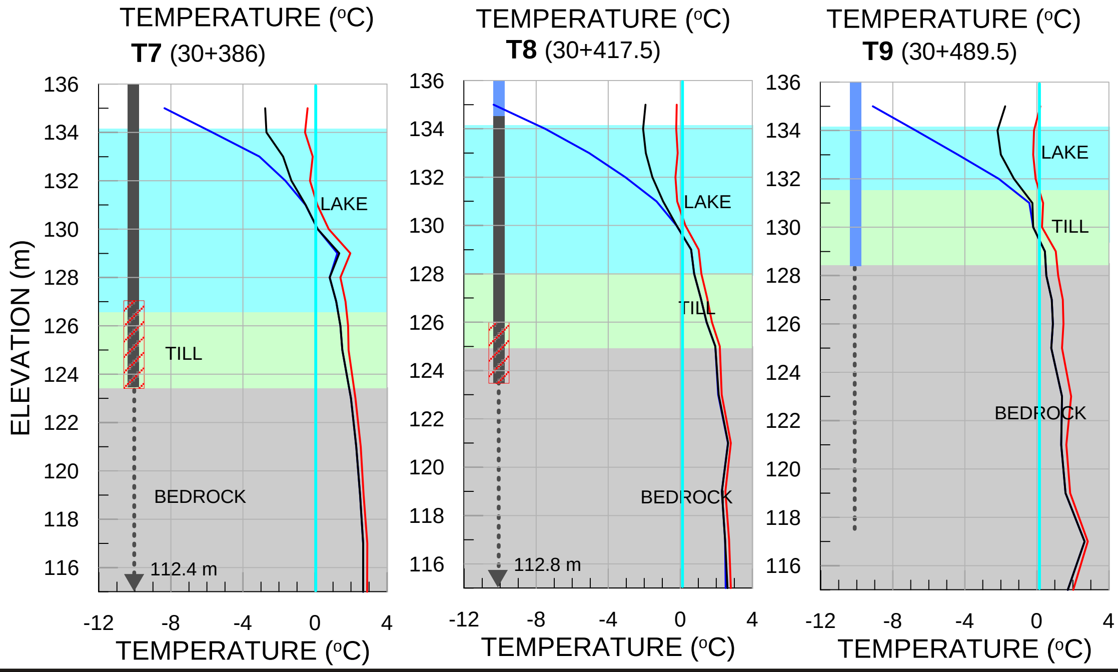
PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT
TITLE	BAYGOOSE DIKE - SECTION 32+105 PIEZOMETRIC DATA (July 7/14 to July 7/15)

AGNICO EAGLE MEADOWBANK

PROJECT No.			PHASE No.	
DESIGN	TD	28AUG14	SCALE AS SHOWN	REV.
CADD	TD	28AUG14	FIGURE 24	
CHECK	PG	28AUG14		
REVIEW				

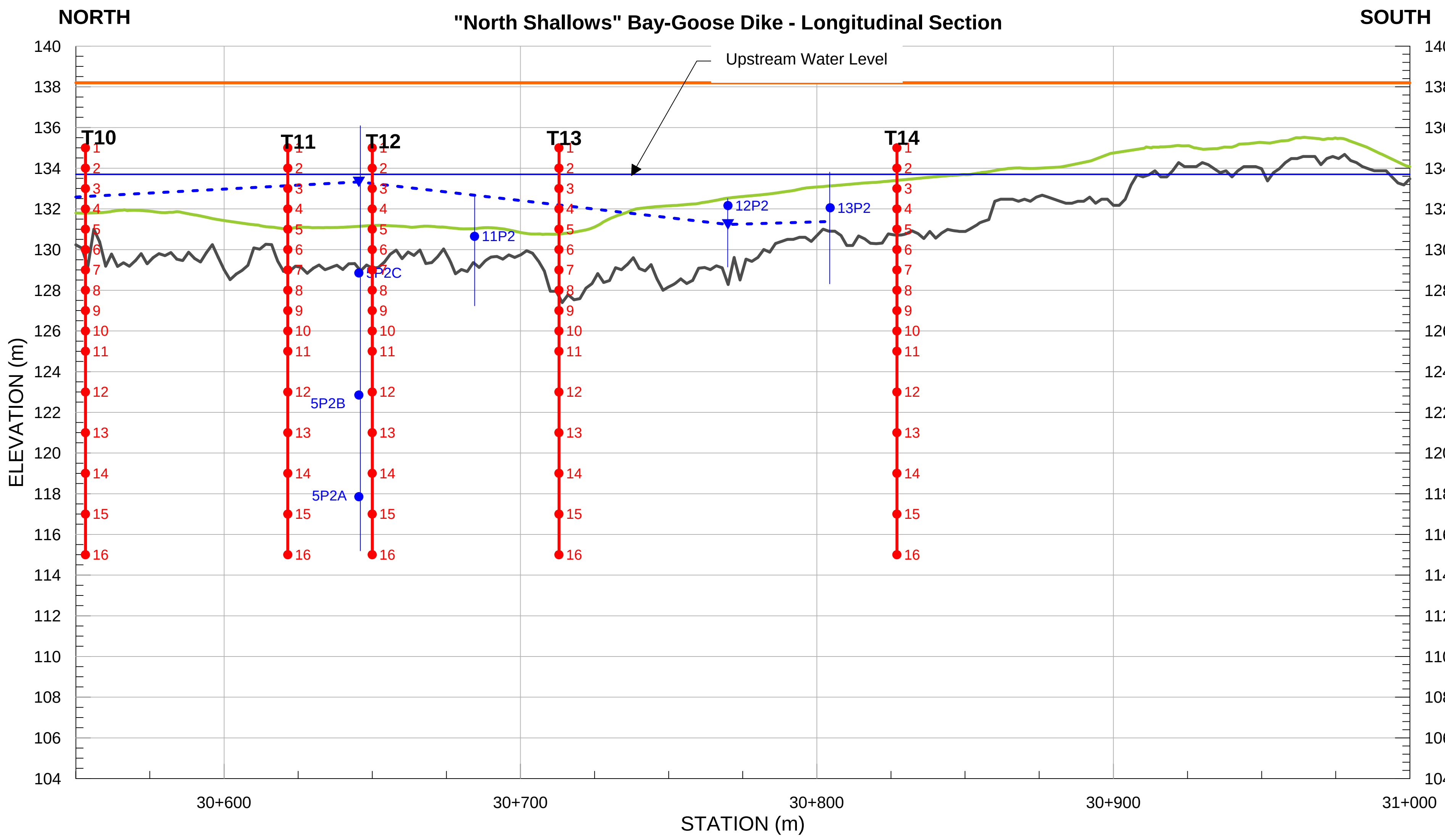


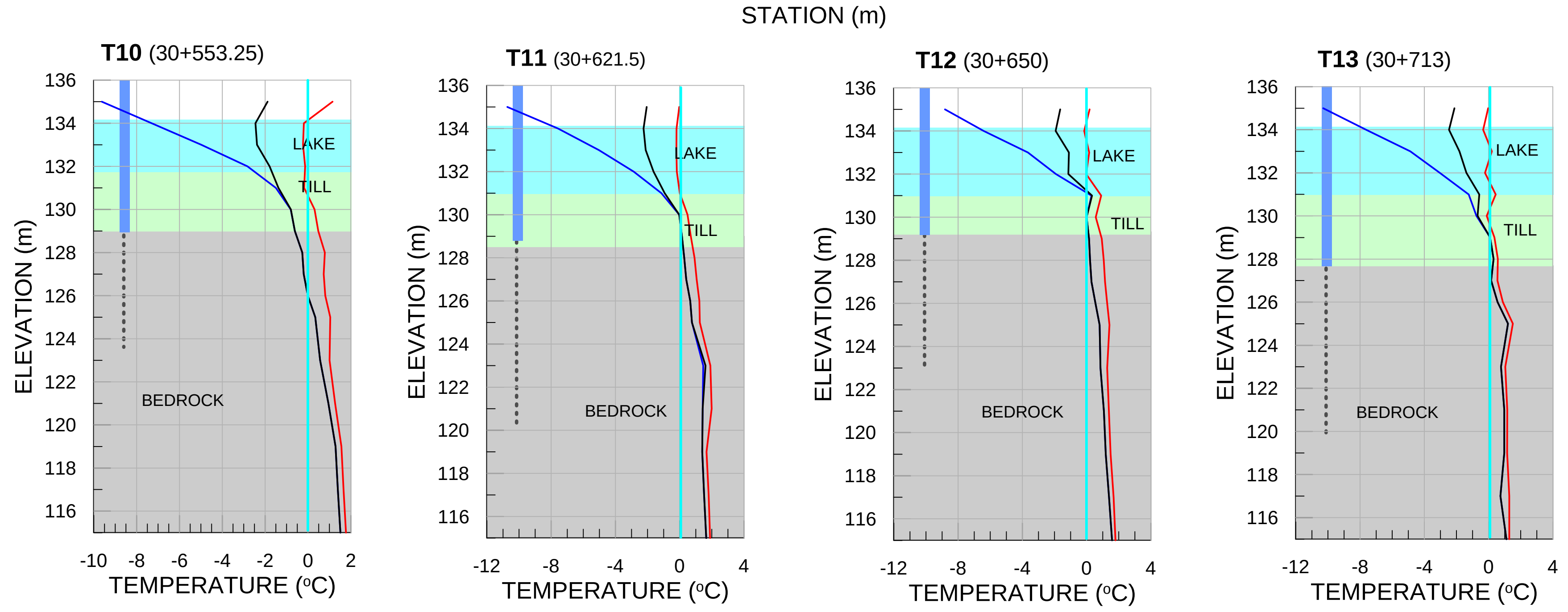


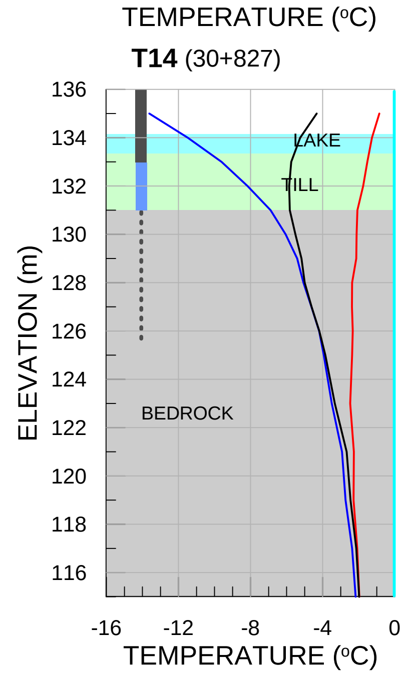


NOTES:
1. Third node of thermistor T2 (elevation 135 m) is not functional.

PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT			
TITLE	**BAYGOOSE DIKE** **30+000 to 30+550 - TEMPERATURE DATA** **(July 7/14 to July 7/15)**			
AGNICO EAGLE MEADOWBANK	PROJECT No.			PHASE No.
	DESIGN	TD	20JAN14	SCALE AS SHOWN REV.
	CADD	TD	20JAN14	**FIGURE 25**
	CHECK			
	REVIEW			



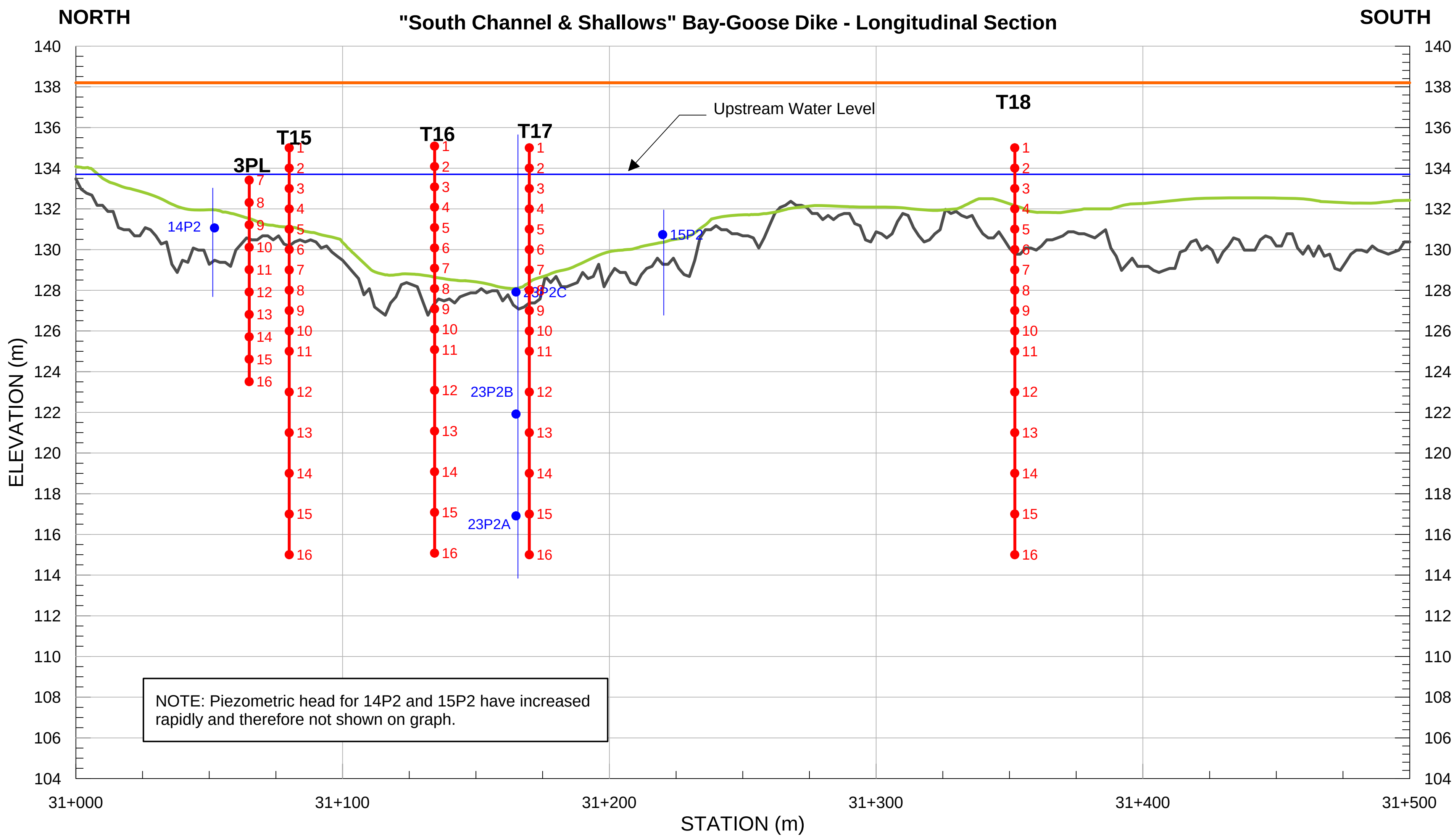


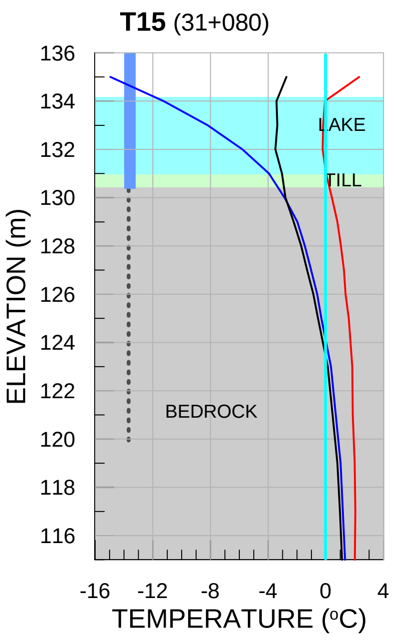


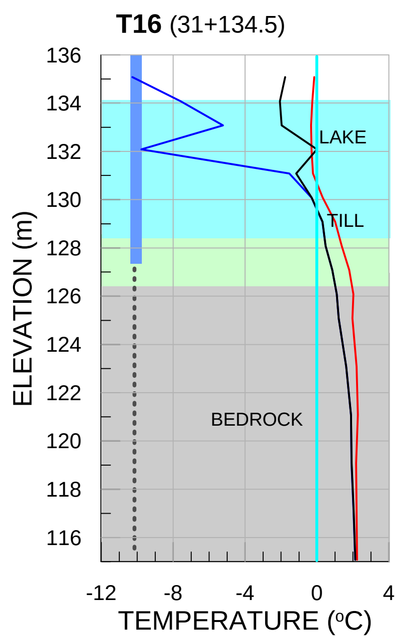
LEGEND

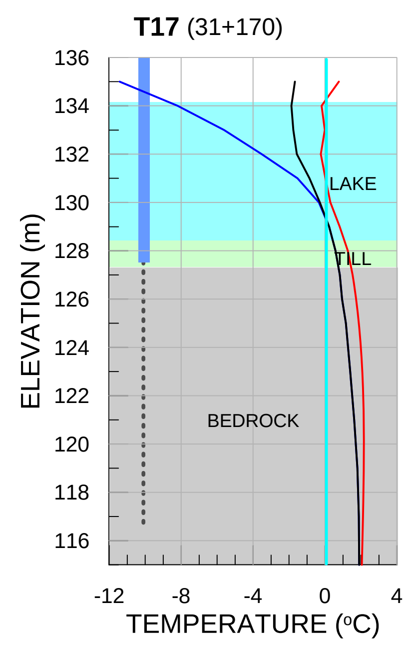
- Dike Crest
- Piezometric Head in Downstream Piezometers
- Lake Bed
- Bedrock
- T min
- T current
- T max
- Lake
- Till
- Bedrock
- Vibrating Wire Piezometer Installation Level
- SB
- CSB
- Jet Grouting
- Grouting
- Thermistor with Bead Locations (6, 7, 8, 9)

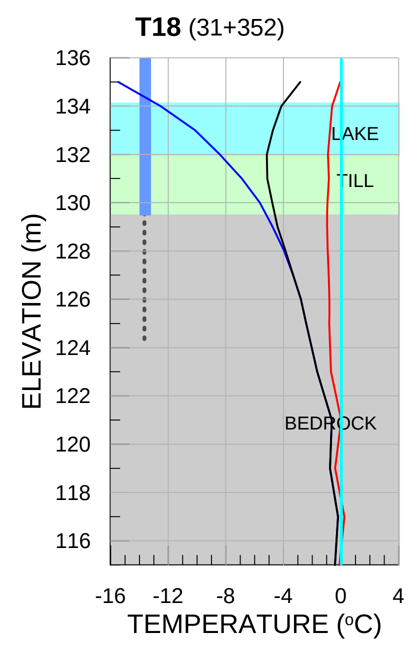
PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT			
TITLE	BAYGOOSE DIKE 30+550 to 31+000 - TEMPERATURE DATA (July 7/14 to July 7/15)			
AGNICO EAGLE MEADOWBANK	PROJECT No.			PHASE No.
	DESIGN	TD	20JAN14	SCALE AS SHOWN REV.
	CADD	TD	20JAN14	FIGURE 26
	CHECK			
	REVIEW			

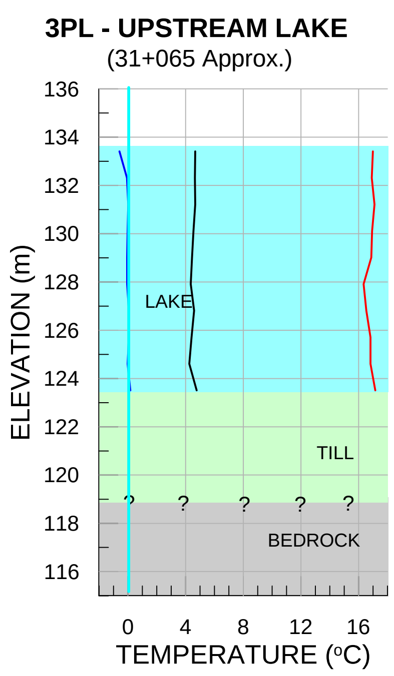


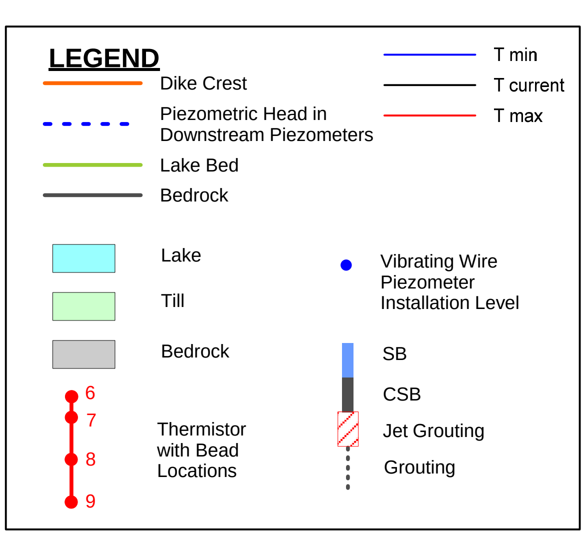








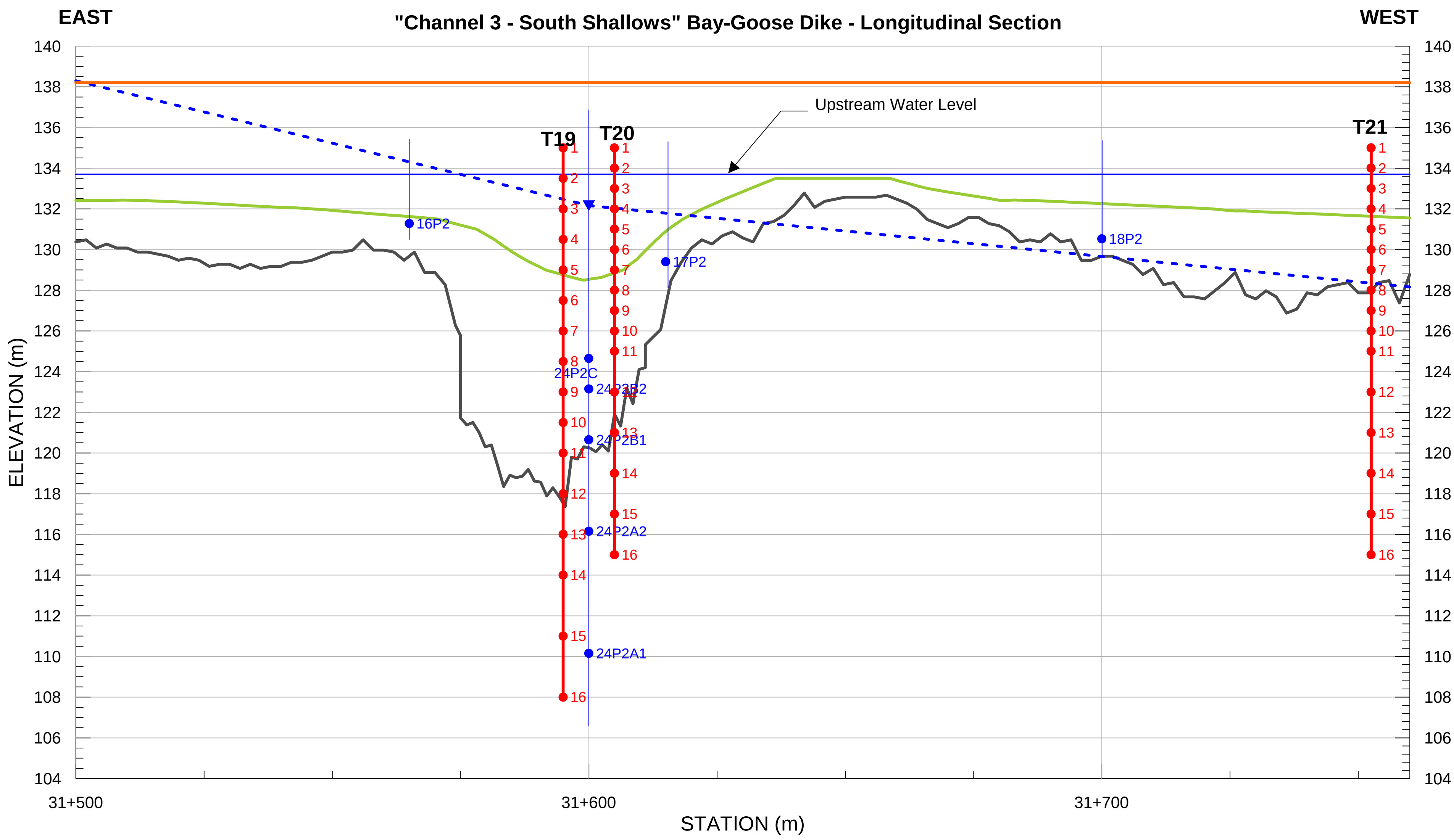


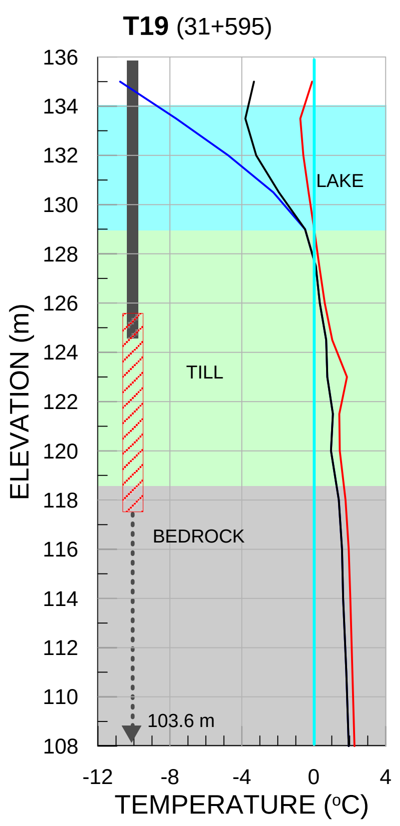


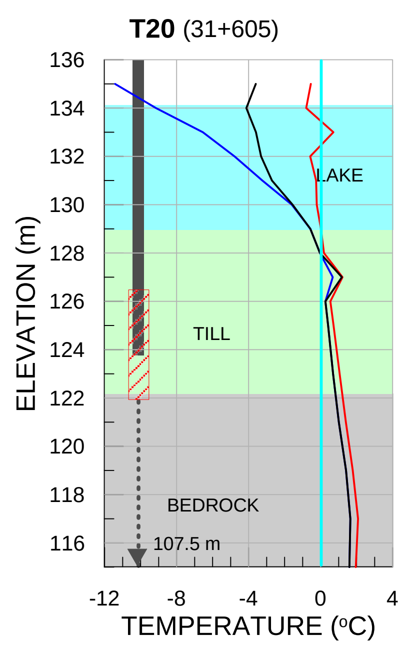
NOTES:
1. Thermistor 3PL is installed upstream of the dike within Third Portage Lake.

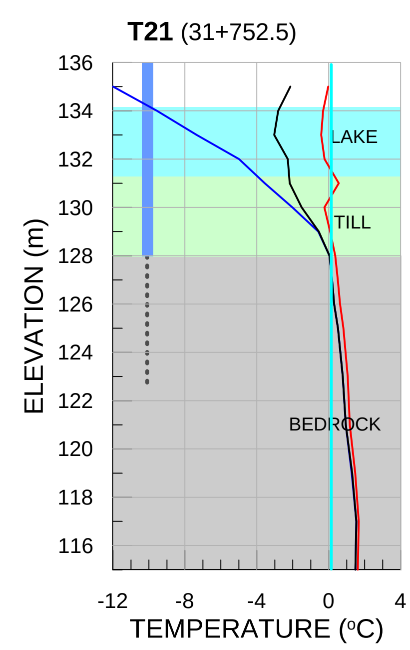
PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT		
TITLE	BAYGOOSE DIKE 31+000 to 31+500 - TEMPERATURE DATA (July 7/14 to July 7/15)		
AGNICO EAGLE MEADOWBANK	PROJECT No.		PHASE No.
	DESIGN TD 20JAN14		SCALE AS SHOWN REV.
	CADD TD 20JAN14		FIGURE 27
	CHECK		
	REVIEW		

"Channel 3 - South Shallows" Bay-Goose Dike - Longitudinal Section





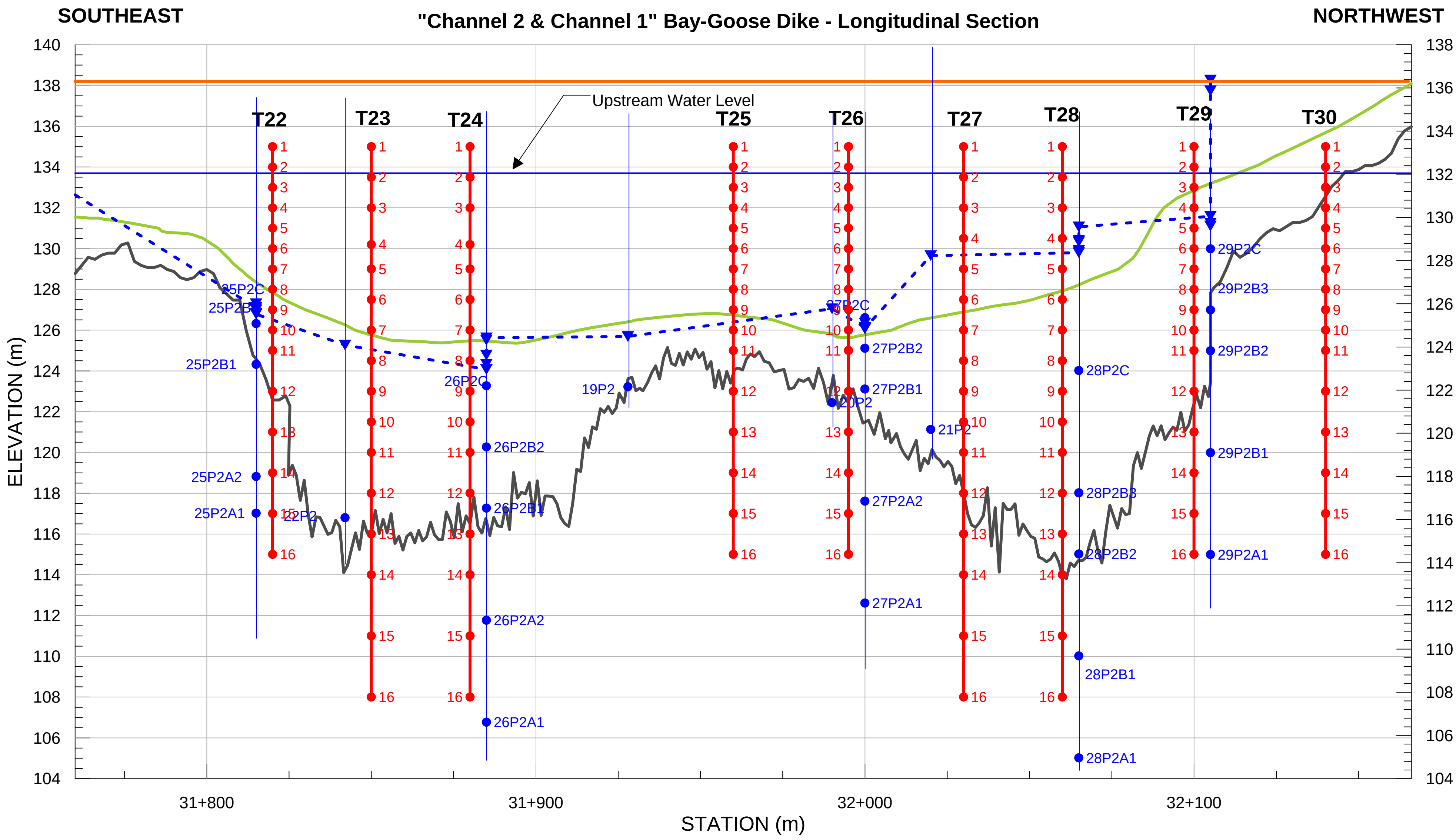


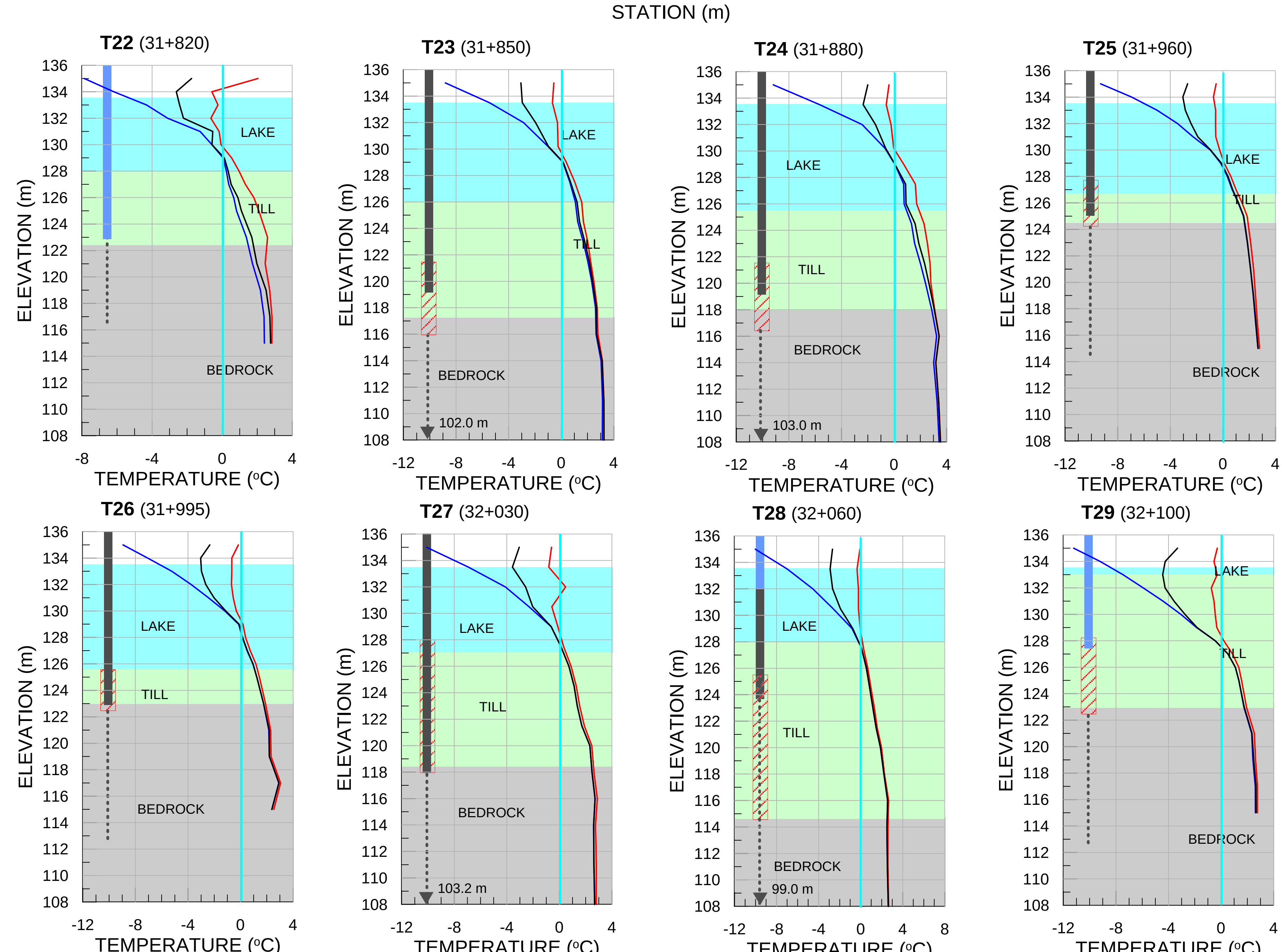


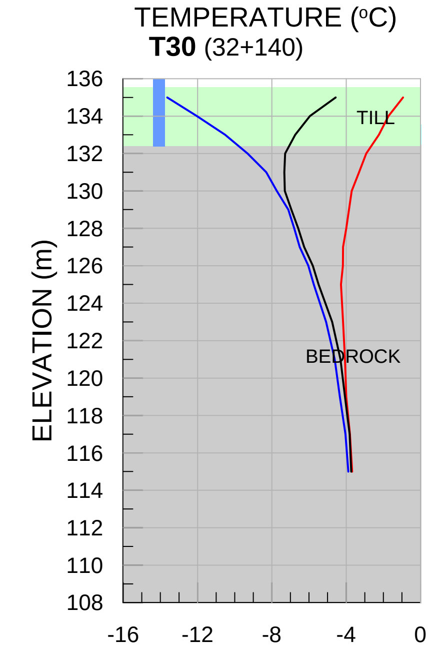
LEGEND

- Dike Crest
- Piezometric Head in Downstream Piezometers
- Lake Bed
- Bedrock
- T min
- T current
- T max
- Lake
- Till
- Bedrock
- Vibrating Wire Piezometer Installation Level
- SB
- CSB
- Jet Grouting
- Grouting
- Thermistor with Bead Locations (6, 7, 8, 9)

PROJECT	AGNICOEAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT			
TITLE	**BAYGOOSE DIKE** **31+500 to 31+760 - TEMPERATURE DATA** **(July 7/14 to July 7/15)**			
AGNICO EAGLE MEADOWBANK	PROJECT No.			PHASE No.
	DESIGN	TD	20JAN14	SCALE AS SHOWN REV.
	CADD	TD	20JAN14	**FIGURE 28**
	CHECK			
	REVIEW			







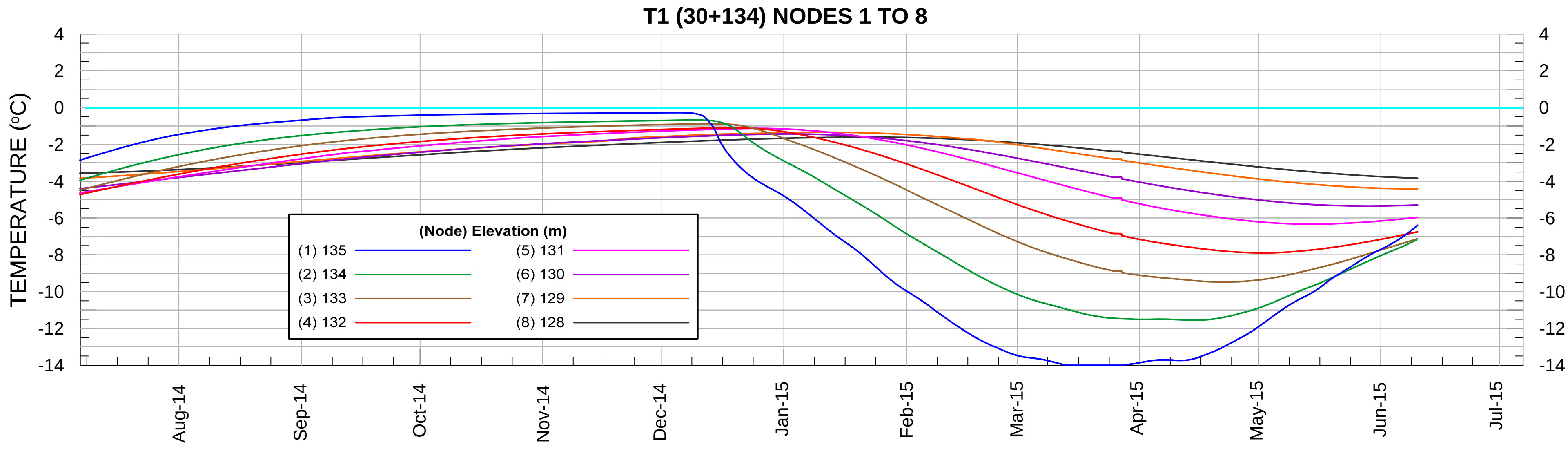
LEGEND

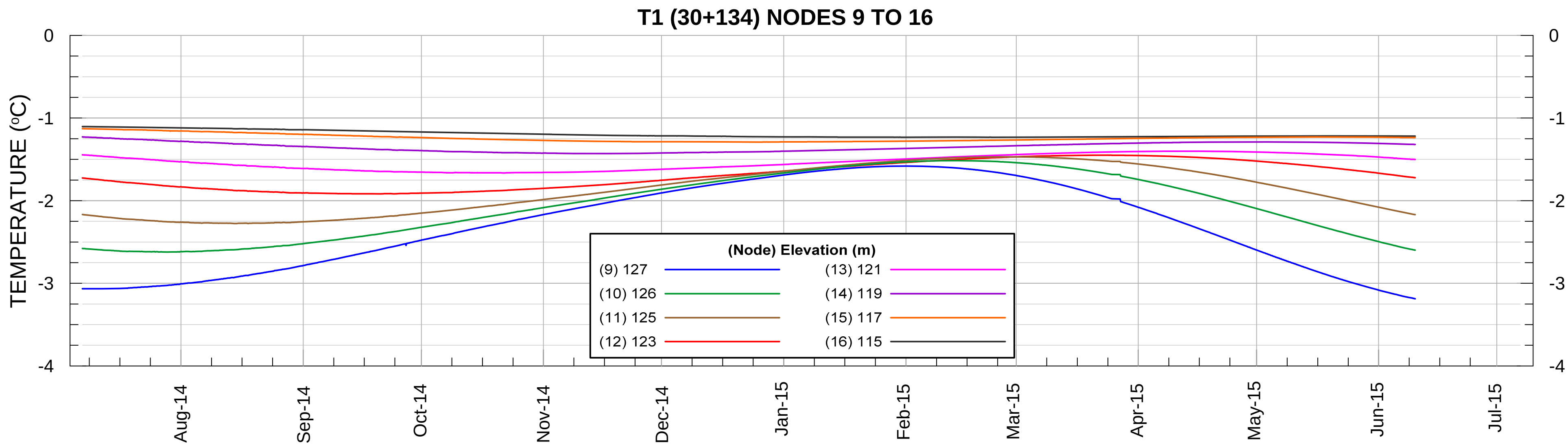
- Dike Crest
- Piezometric Head in Downstream Piezometers
- Lake Bed
- Bedrock
- Lake
- Till
- Bedrock
- Thermistor with Bead Locations
- T min
- T current
- T max
- Vibrating Wire Piezometer Installation Level
- SB
- CSB
- Jet Grouting
- Grouting

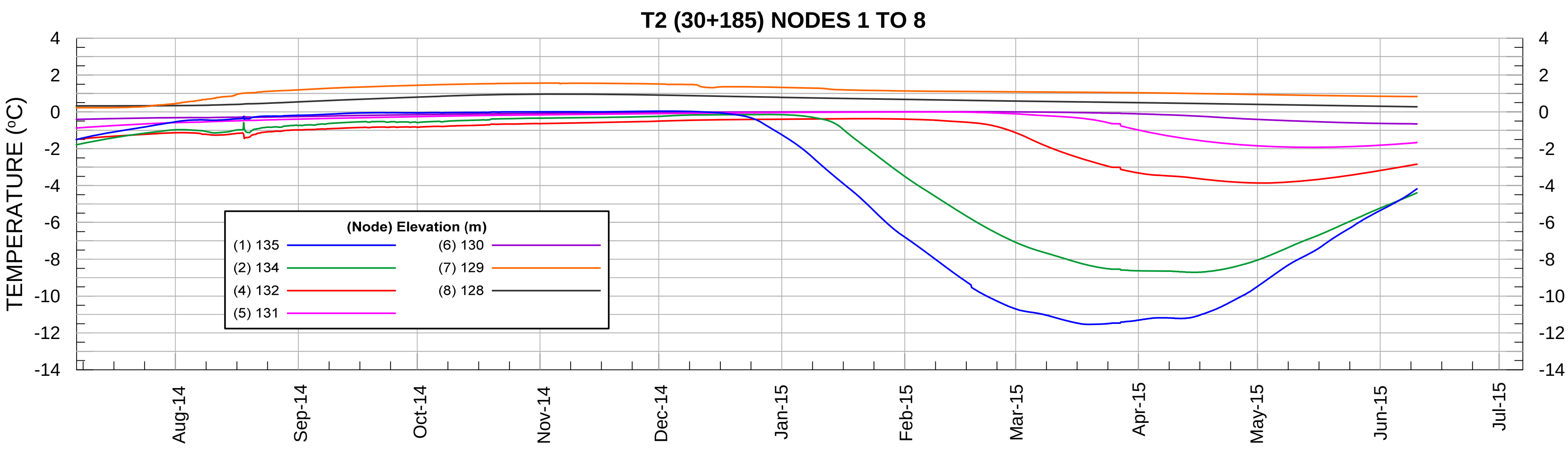
PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT
TITLE	BAYGOOSE DIKE 31+760 to 32+166 - TEMPERATURE DATA (July 7/14 to July 7/15)

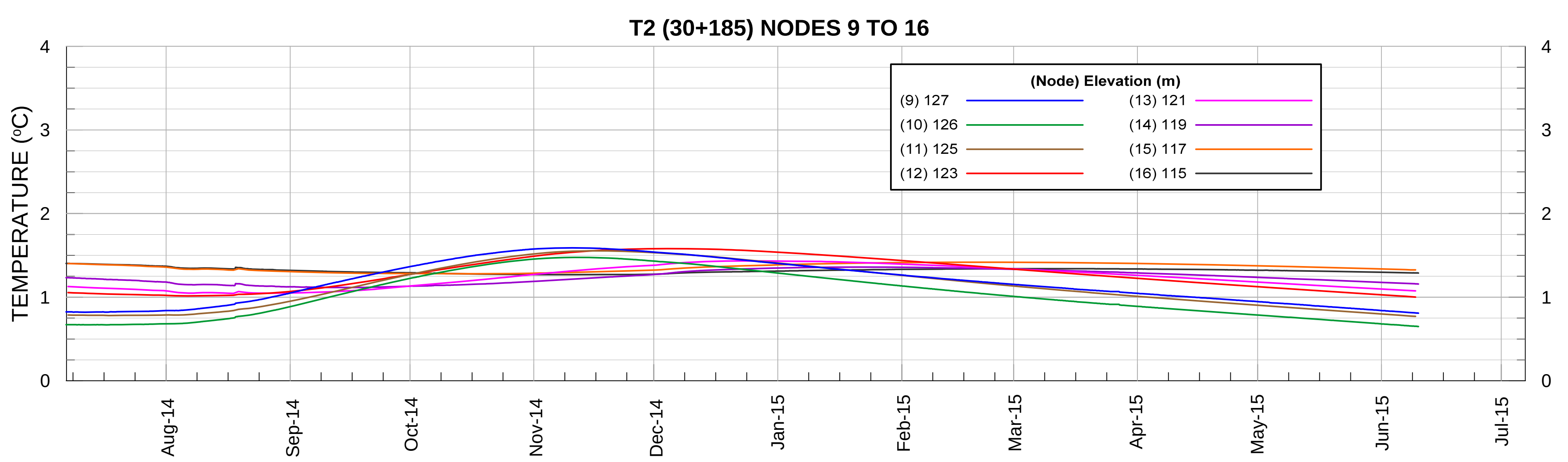
AGNICO EAGLE MEADOWBANK

PROJECT No.			PHASE No.	
DESIGN	TD	20JAN14	SCALE AS SHOWN	REV.
CADD	TD	20JAN14	FIGURE 29	
CHECK				
REVIEW				









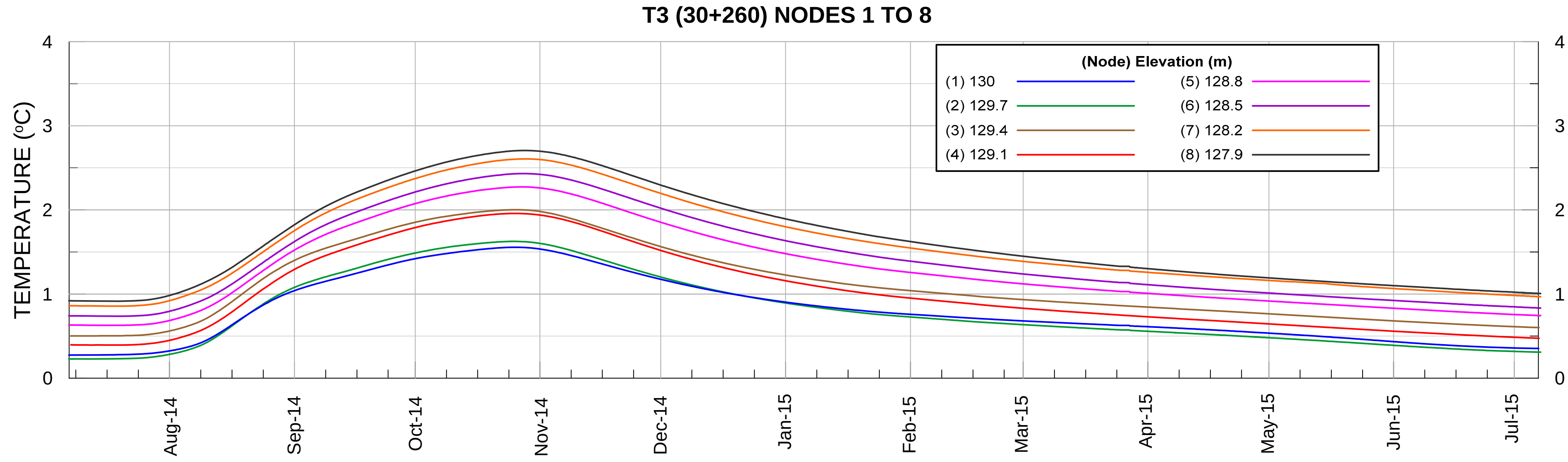
NOTES:
1. T1 (30+134) - values less than -0.5°C are not shown for Node 8 at elevation 128 m from June 24, 2011 to June 30, 2011 as these values are believed to be inaccurate.
2. Third node of thermistor T2 (elevation 135 m) is not functional.
3. T1 and T2 thermistors stopped transmitting data on June 10, 2015. Inspecting areas to determine a cause.

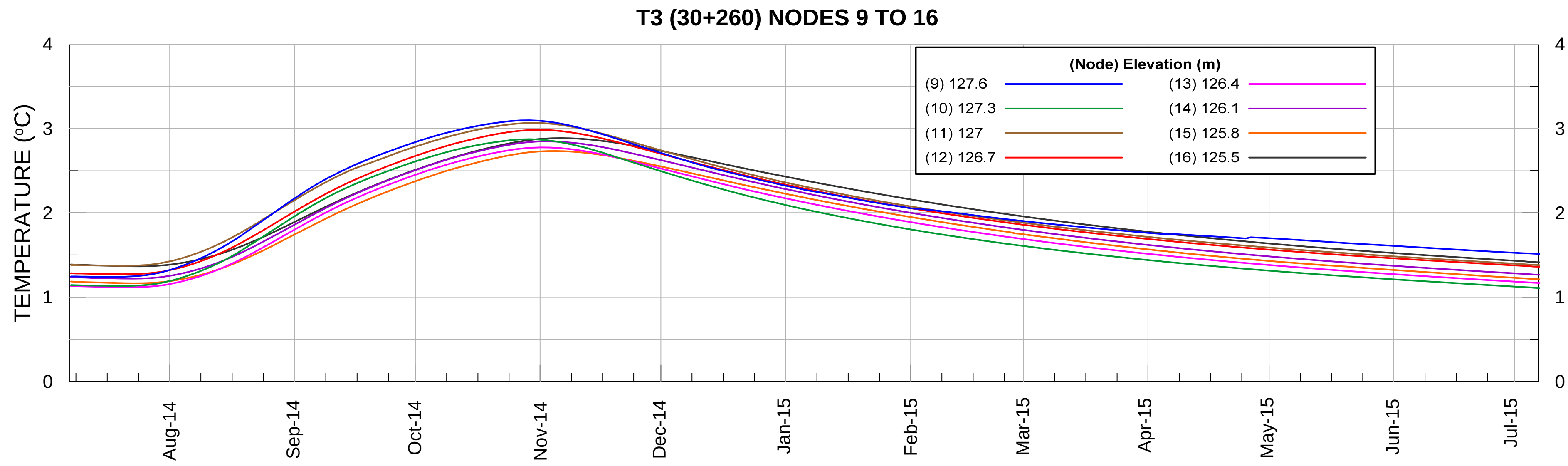
PROJECT
AGNICO EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

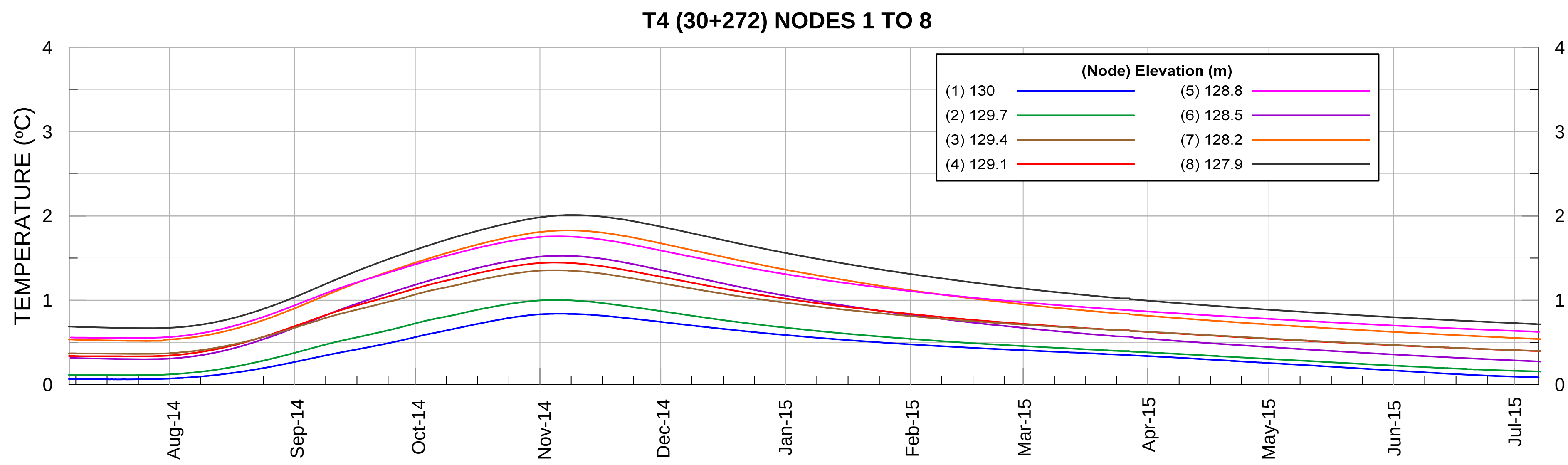
TITLE
BAYGOOSE DIKE
NODAL THERMAL TIMELINES
(July 7/14 to July 7/15)

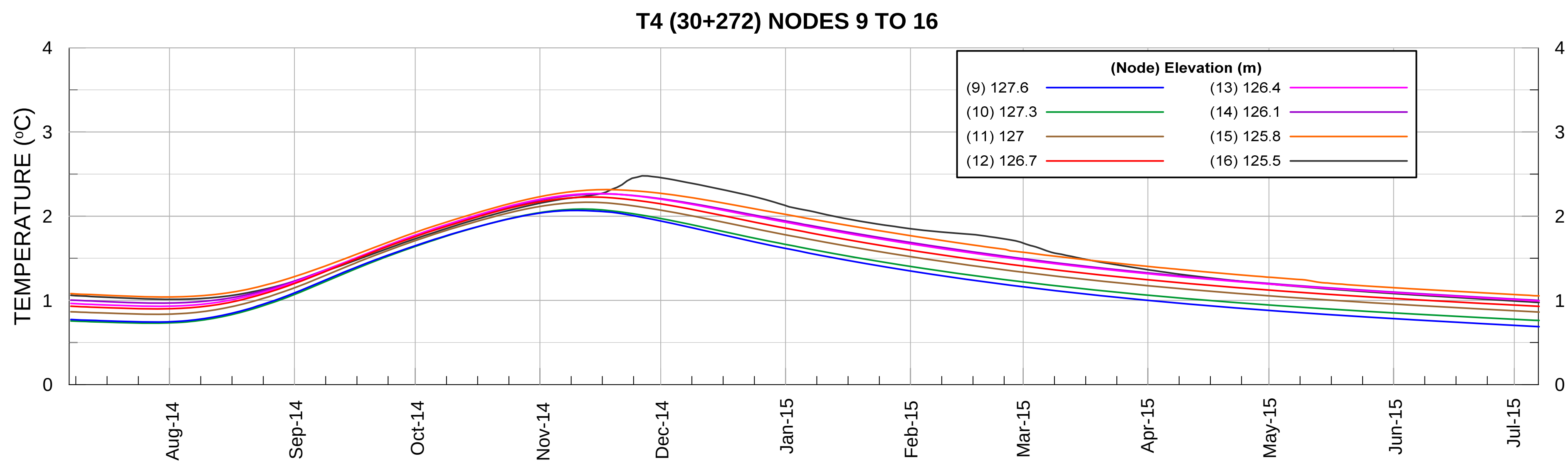
AGNICO EAGLE
MEADOWBANK

PROJECT No.			PHASE No.
DESIGN	TD	20JAN14	SCALE AS SHOWN REV.
CADD	TD	20JAN14	
CHECK			**FIGURE 30**
REVIEW			







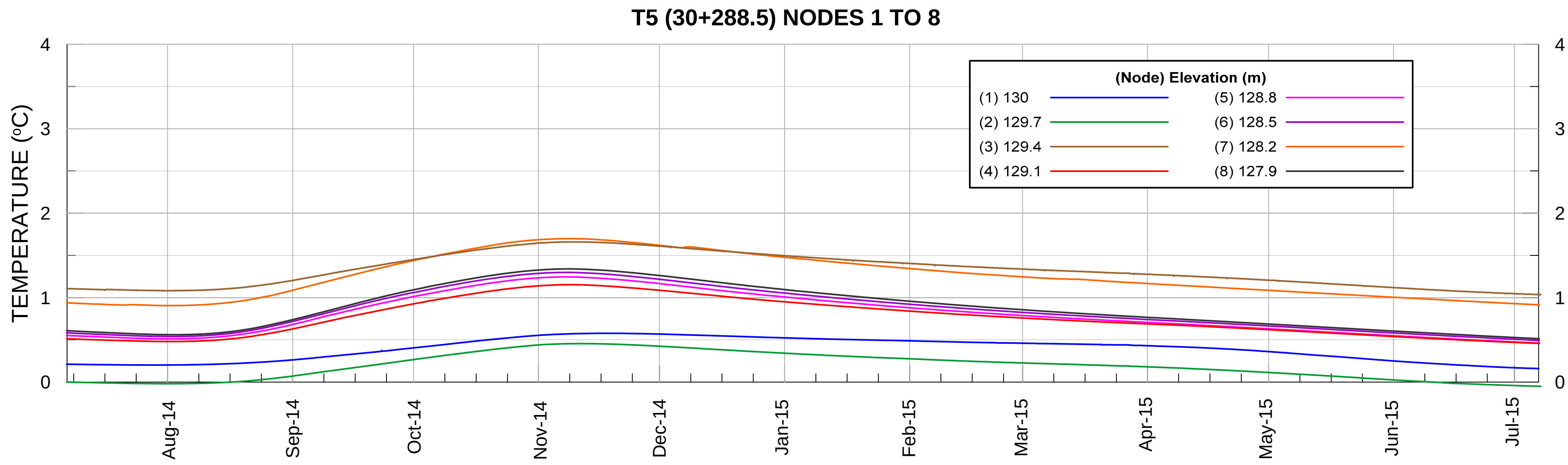


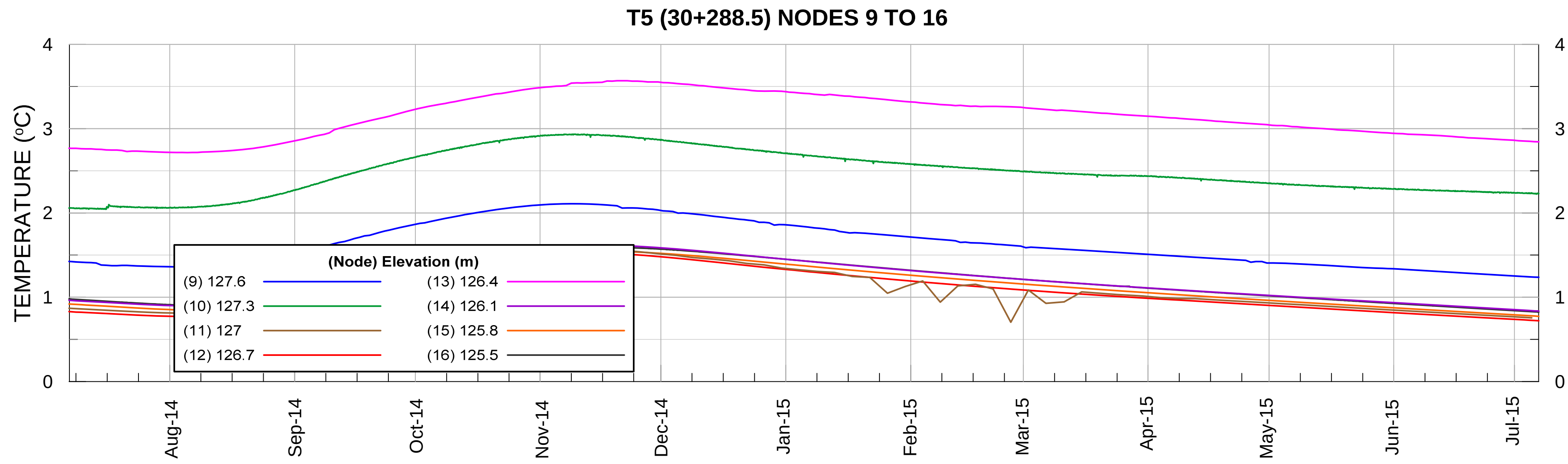
PROJECT
AGNICO EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

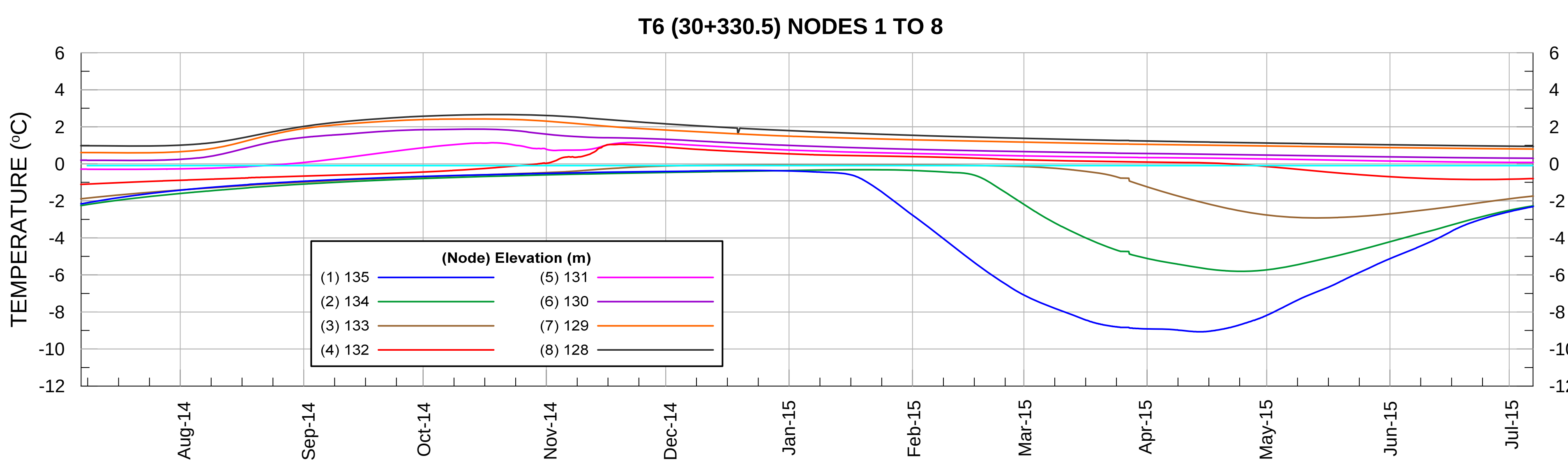
TITLE
BAYGOOSE DIKE
NODAL THERMAL TIMELINES
(July 7/14 to July 7/15)

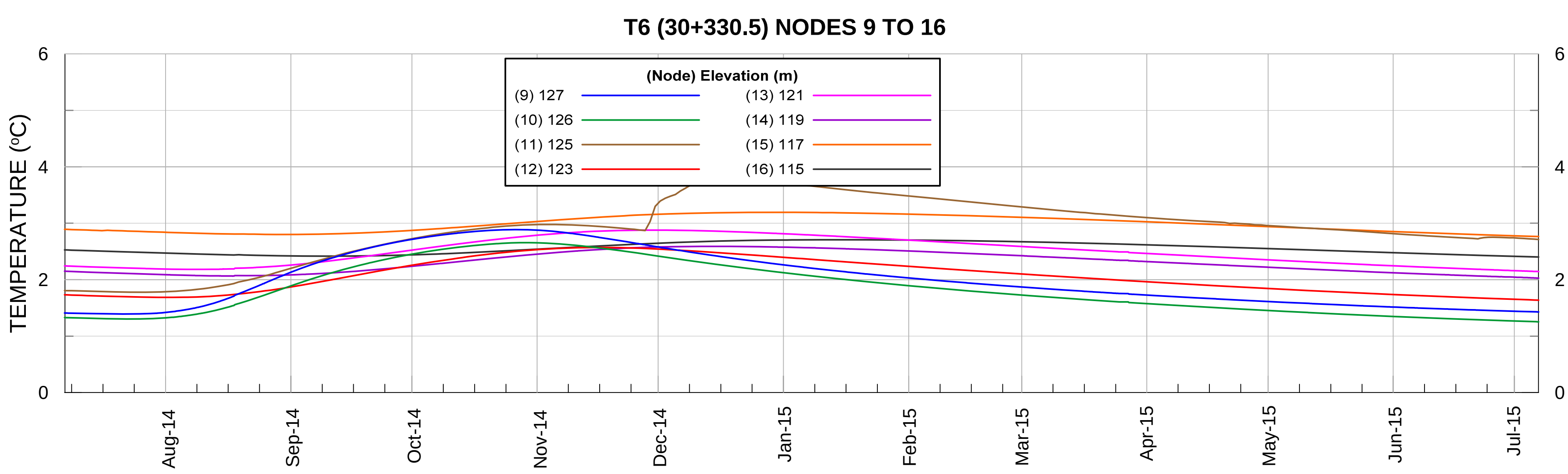
AGNICO EAGLE
MEADOWBANK

PROJECT No.			PHASE No.
DESIGN	TD	20JAN14	SCALE AS SHOWN REV.
CADD	TD	20JAN14	
CHECK			**FIGURE 31**
REVIEW			









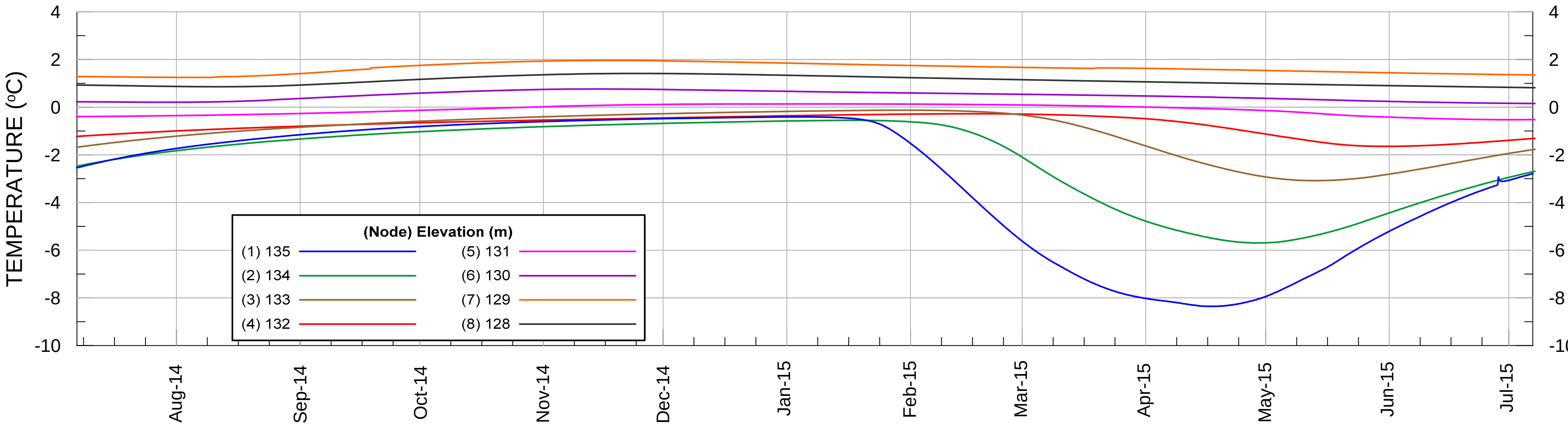
NOTE:

PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT
TITLE	BAYGOOSE DIKE NODAL THERMAL TIMELINES (July 7/14 to July 7/15)

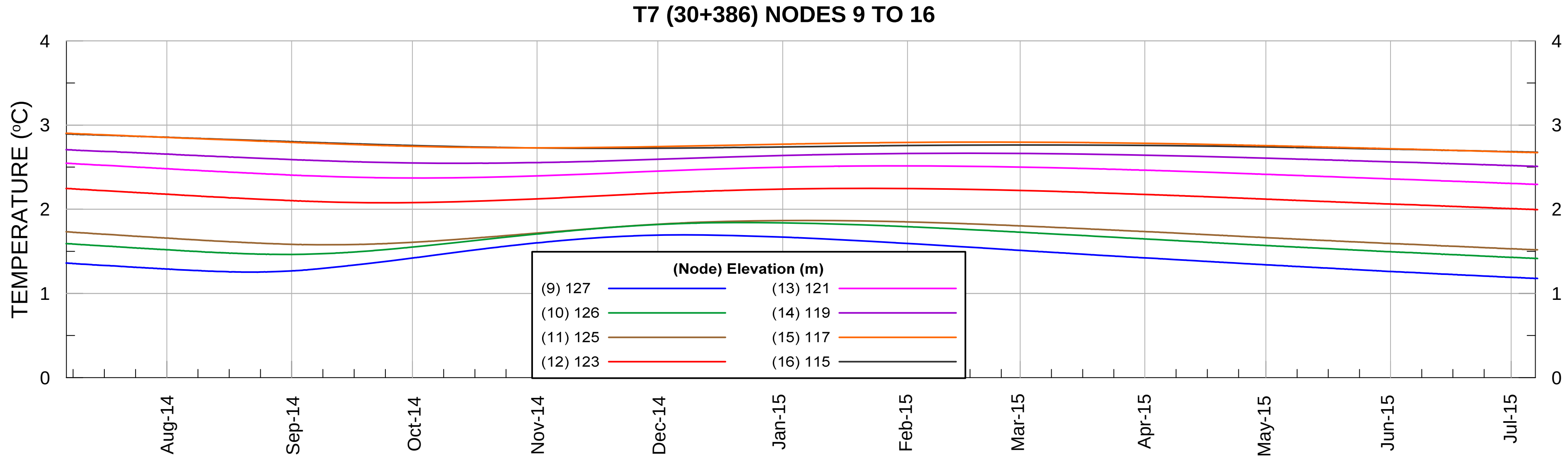
PROJECT No.			PHASE No.
DESIGN	TD	20JAN14	SCALE AS SHOWN REV.
CADD	TD	20JAN14	FIGURE 32
CHECK			
REVIEW			

AGNICO EAGLE

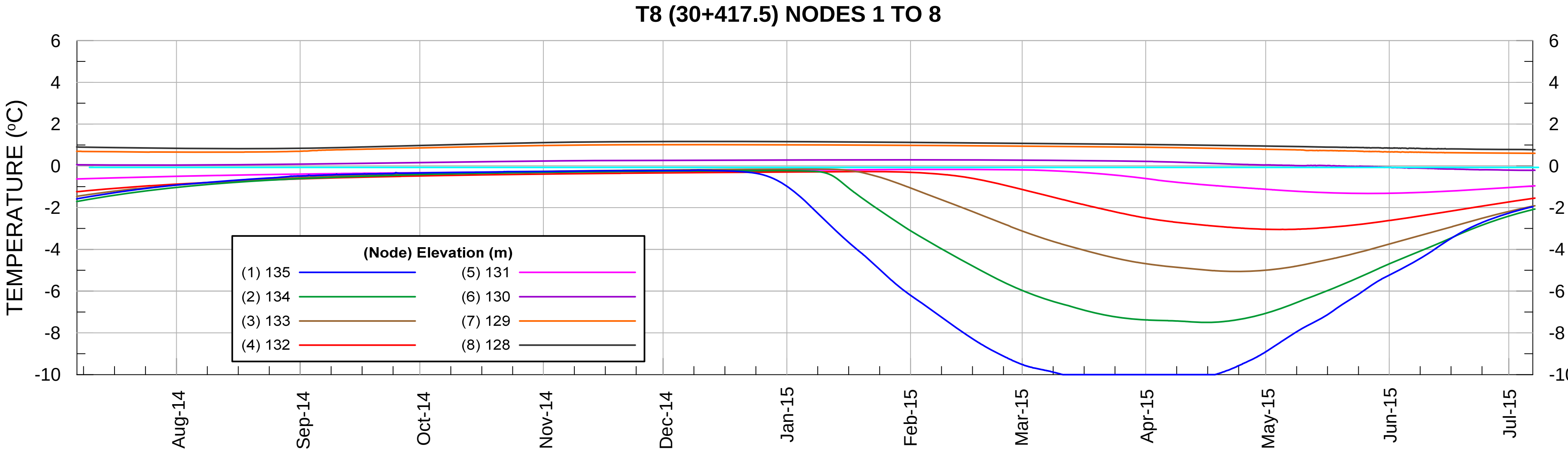
T7 (30+386) NODES 1 TO 8



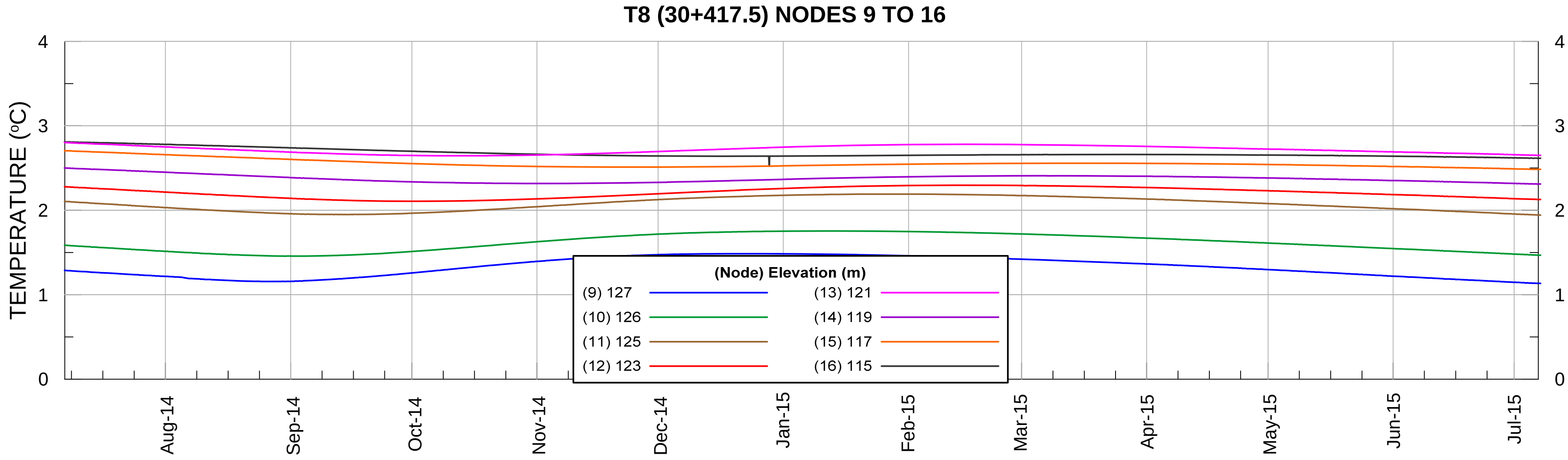
T7 (30+386) NODES 9 TO 16



T8 (30+417.5) NODES 1 TO 8



T8 (30+417.5) NODES 9 TO 16

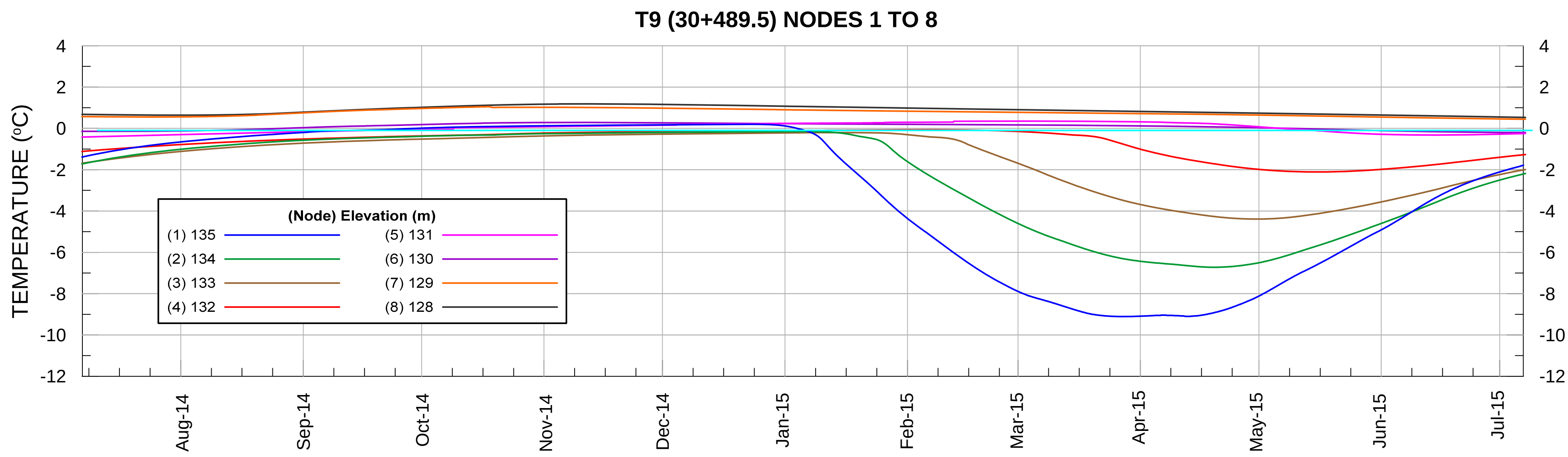


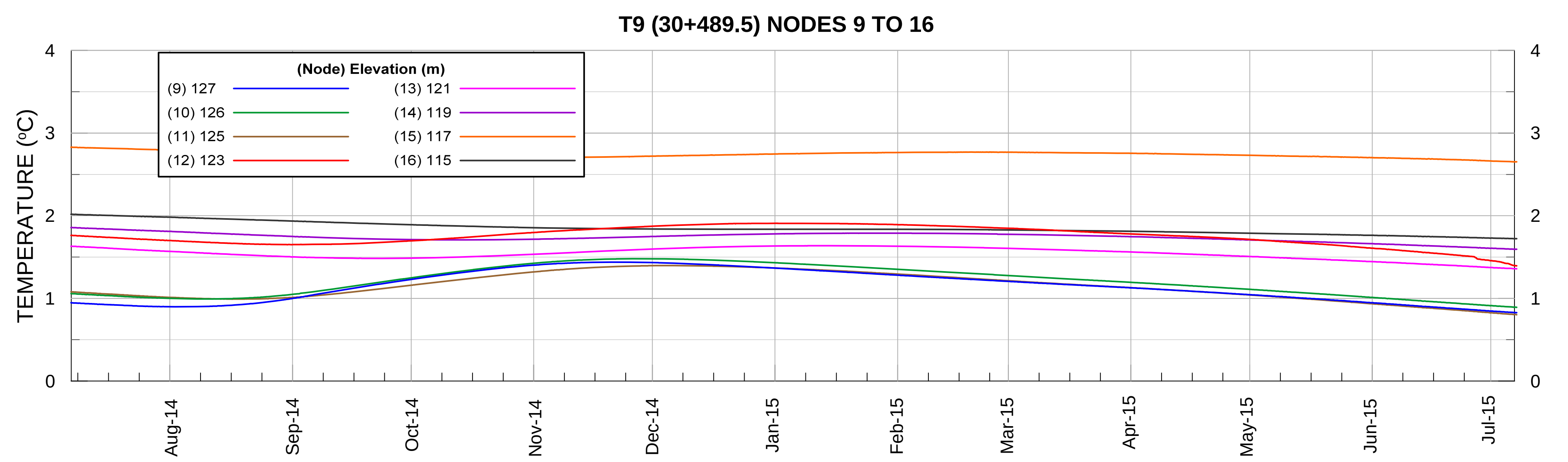
NOTE:

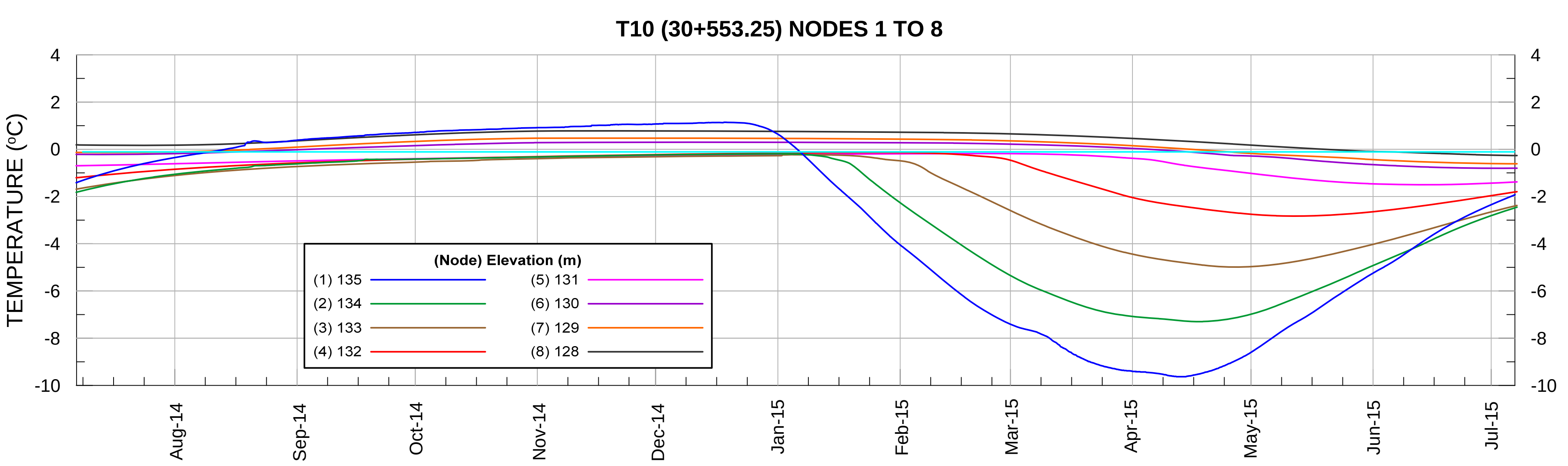
PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT
TITLE	BAYGOOSE DIKE NODAL THERMAL TIMELINES (July 7/14 to July 7/15)

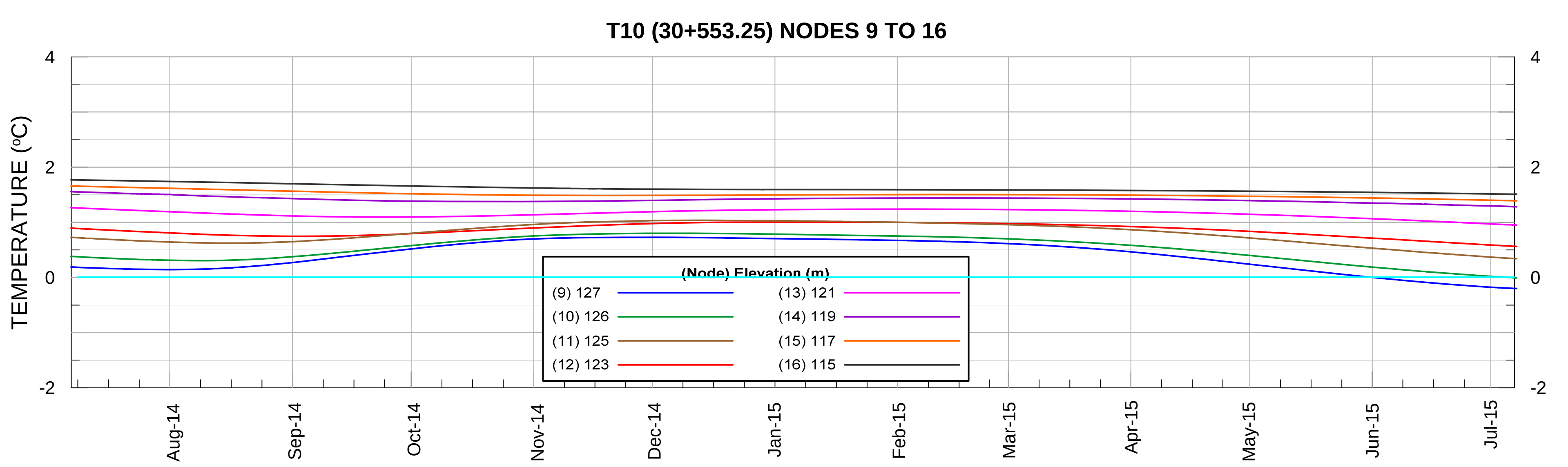
AGNICO EAGLE

PROJECT No.			PHASE No.
DESIGN	TD	20JAN14	SCALE AS SHOWN REV.
CADD	TD	20JAN14	
CHECK			FIGURE 33
REVIEW			









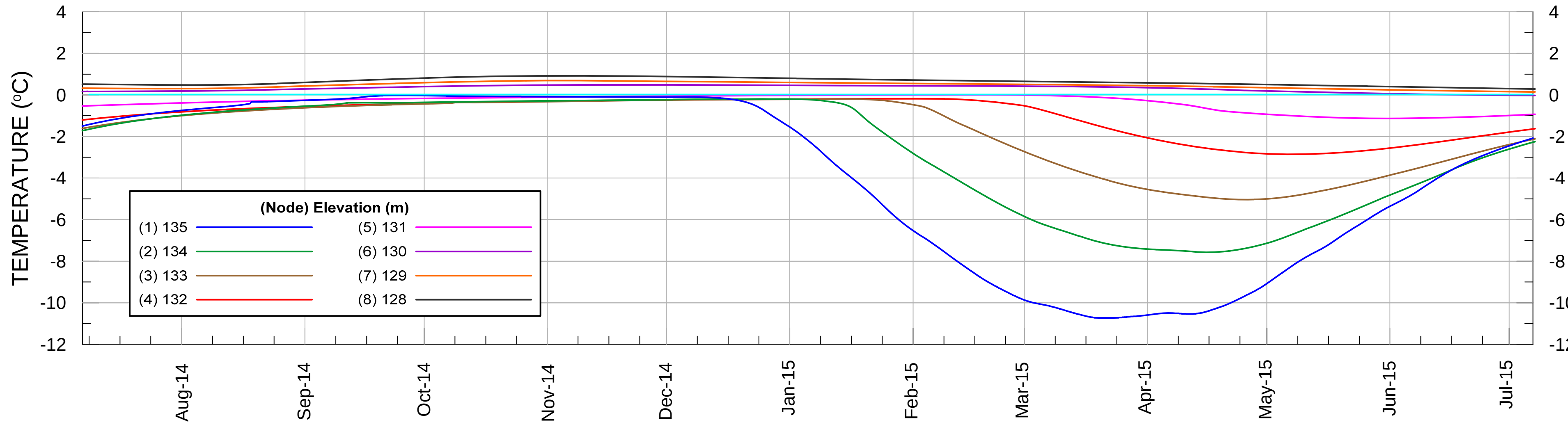
PROJECT
AGNICO EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

TITLE
BAYGOOSE DIKE
NODAL THERMAL TIMELINES
(July 7/14 to July 7/15)

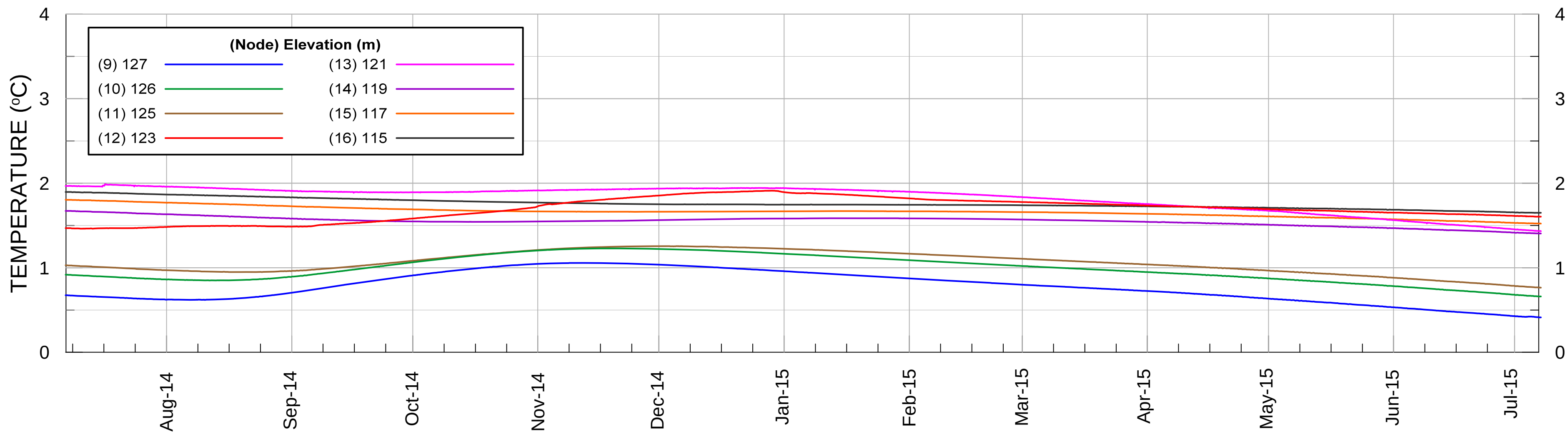
AGNICO EAGLE
MEADOWBANK

PROJECT No.			PHASE No.
DESIGN	TD	20JAN14	SCALE AS SHOWN REV.
CADD	TD	20JAN14	FIGURE 34
CHECK			
REVIEW			

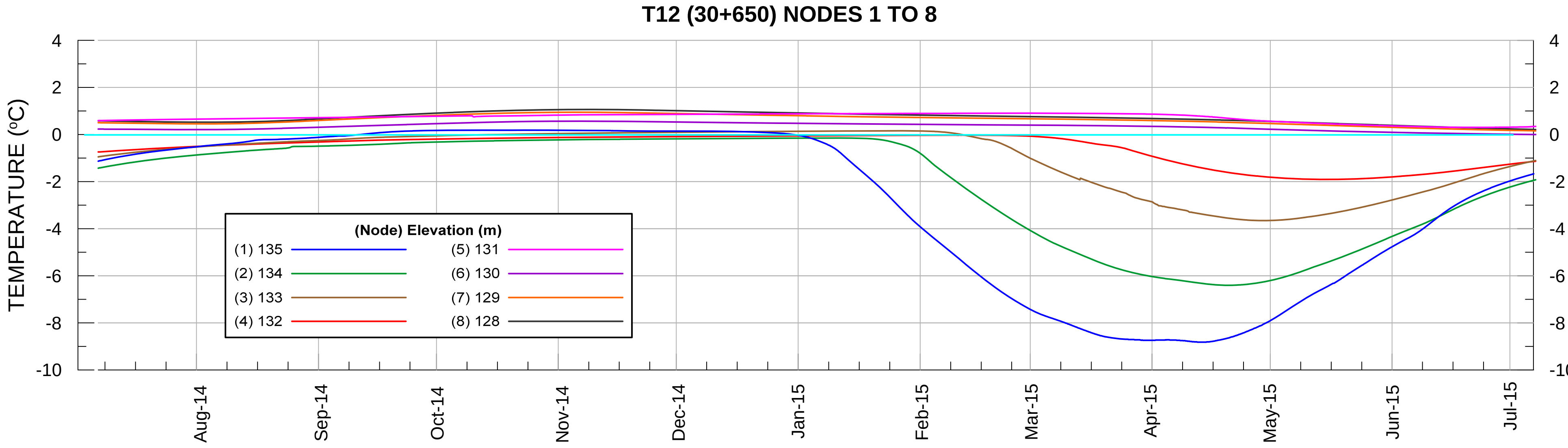
T11 (30+621.5) NODES 1 TO 8



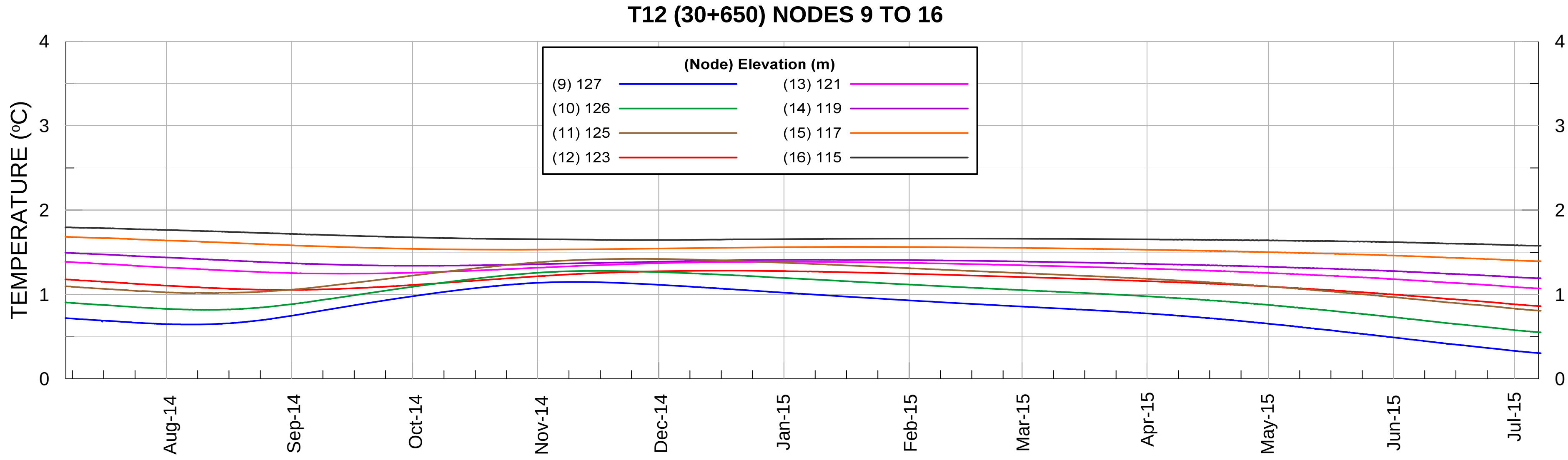
T11 (30+621.5) NODES 9 TO 16



T12 (30+650) NODES 1 TO 8



T12 (30+650) NODES 9 TO 16

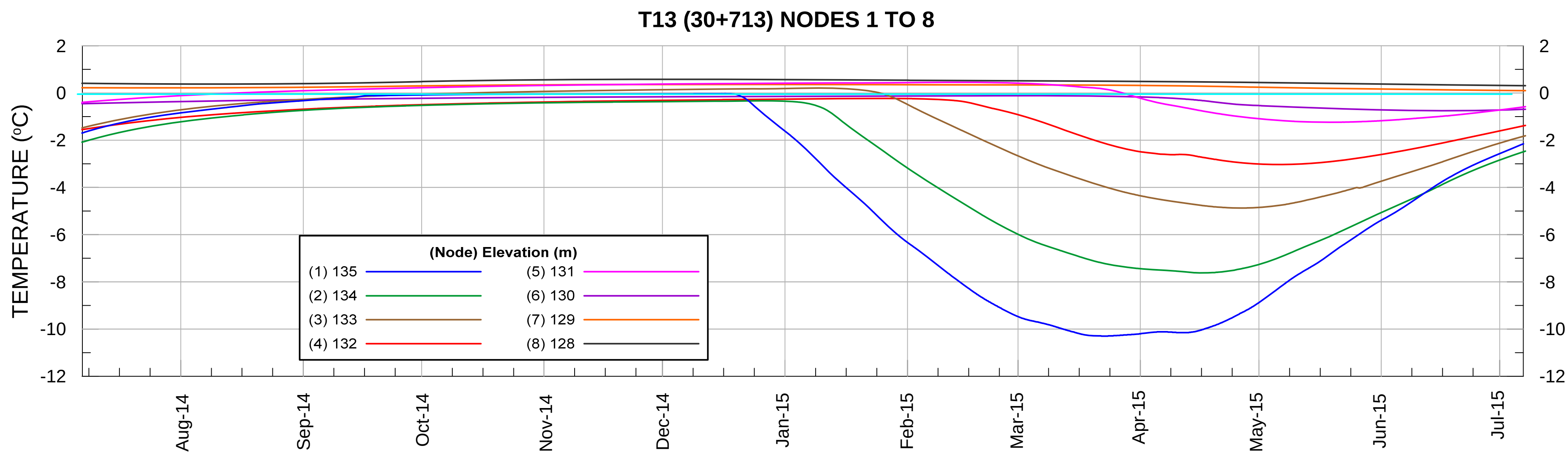


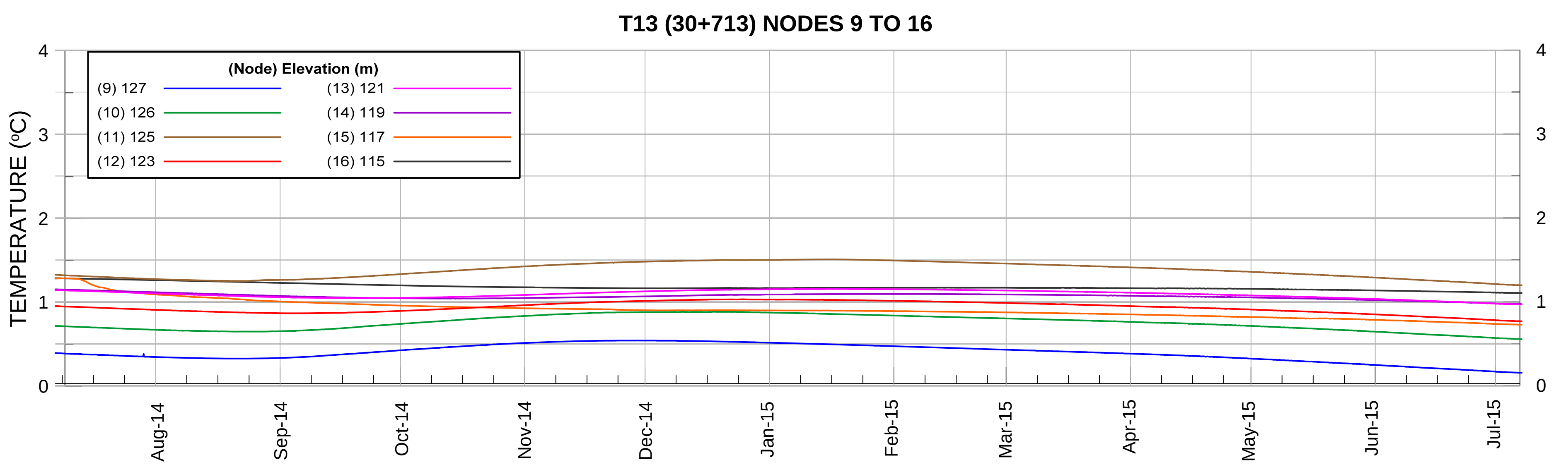
PROJECT
AGNICO EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

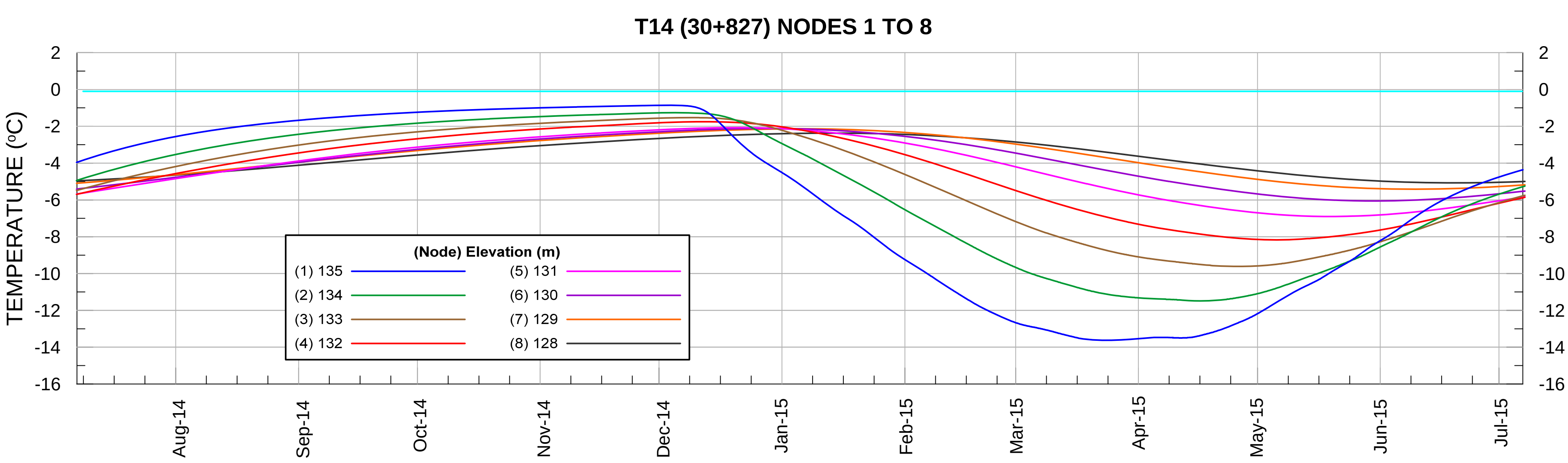
TITLE
BAYGOOSE DIKE
NODAL THERMAL TIMELINES
(July 7/14 to July 7/15)

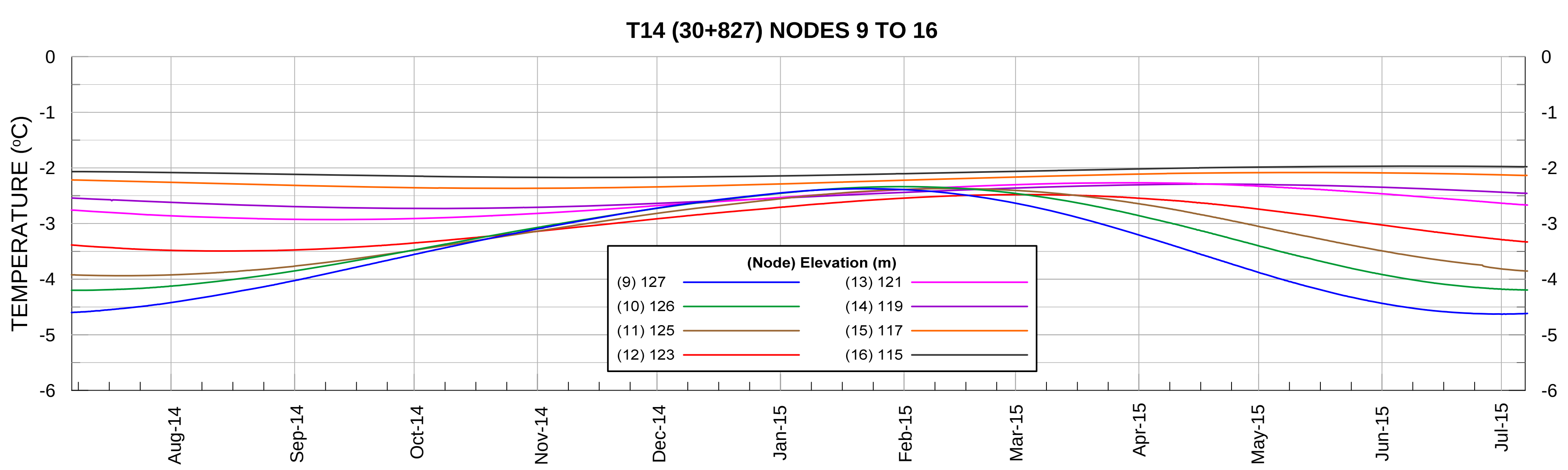
AGNICO EAGLE
MEADOWBANK

PROJECT No.			PHASE No.	
DESIGN	TD	20JAN14	SCALE AS SHOWN	REV.
CADD	TD	20JAN14	FIGURE 35	
CHECK				
REVIEW				





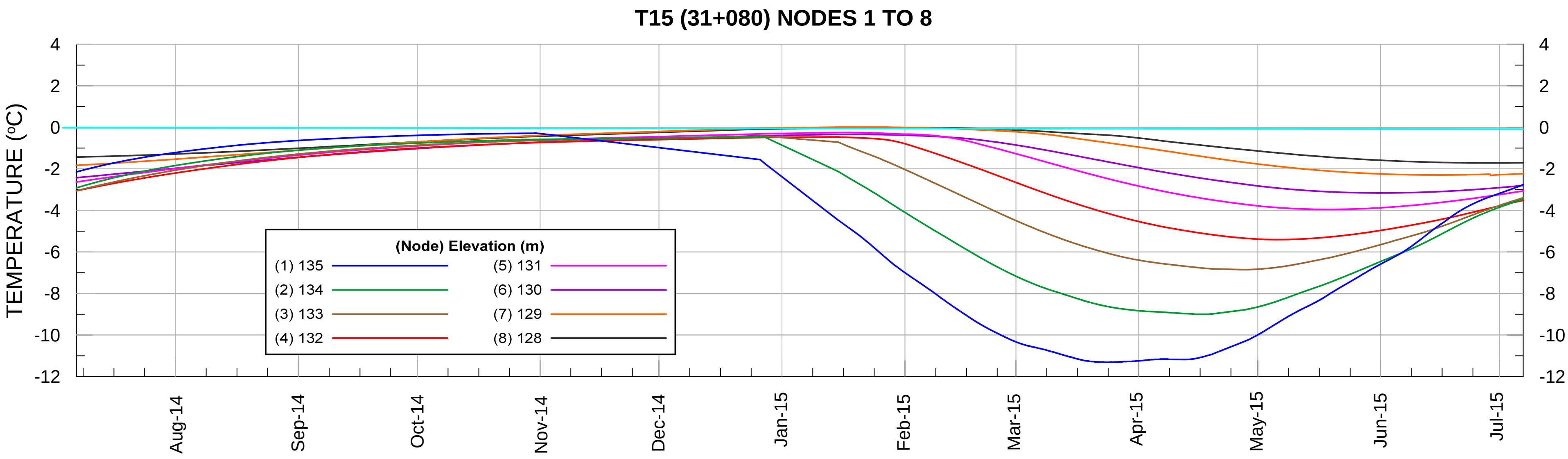


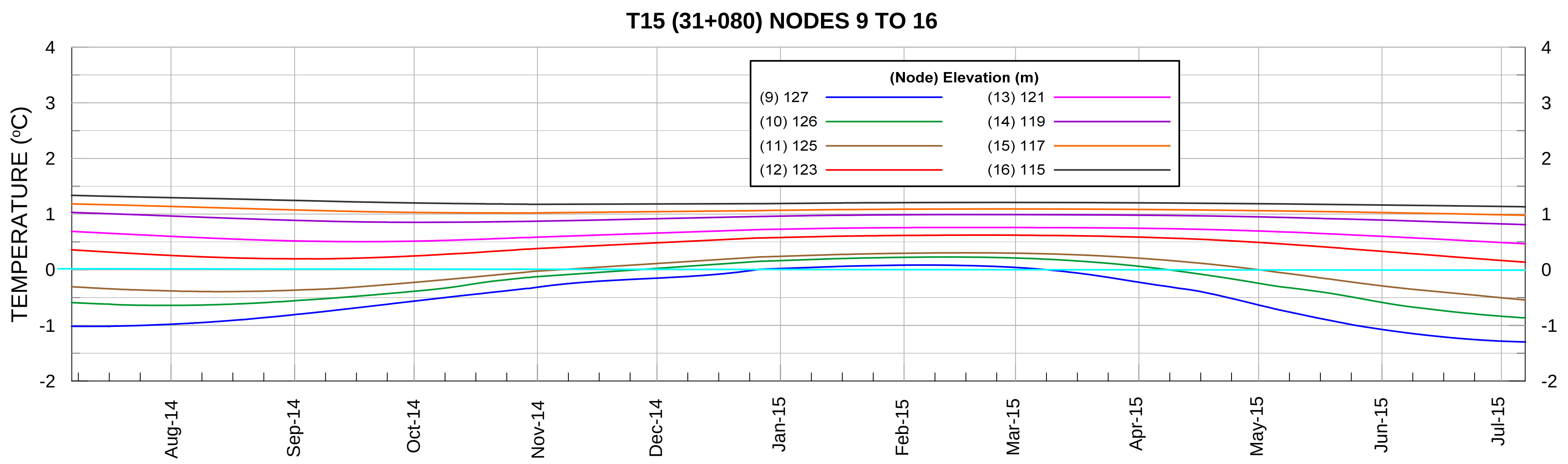


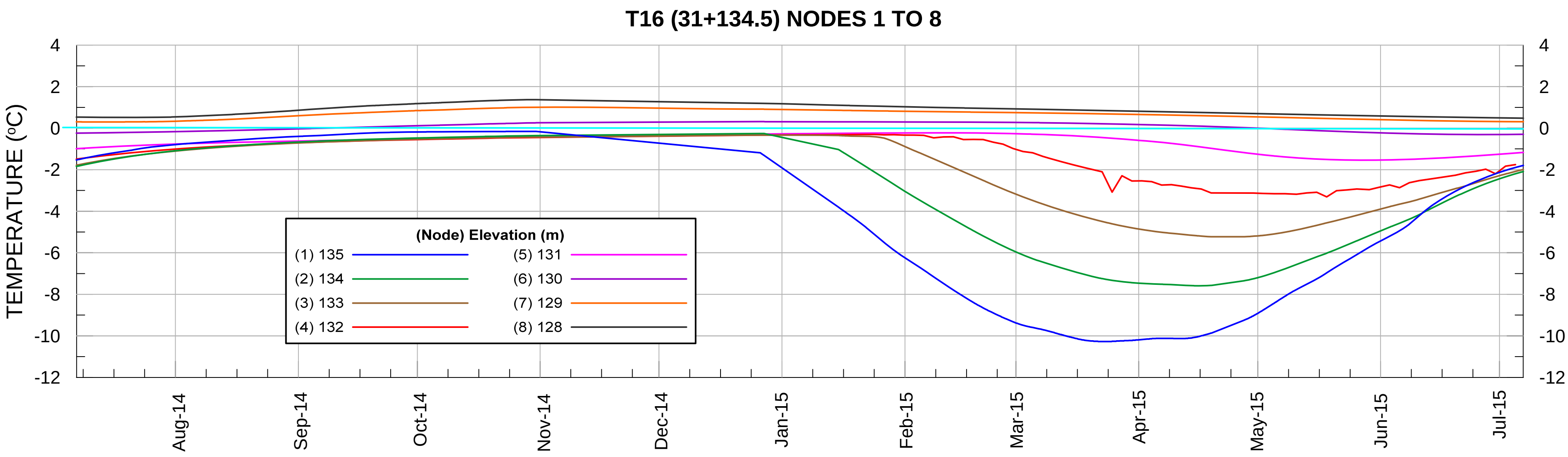
PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT
TITLE	BAYGOOSE DIKE NODAL THERMAL TIMELINES (July 7/14 to July 7/15)

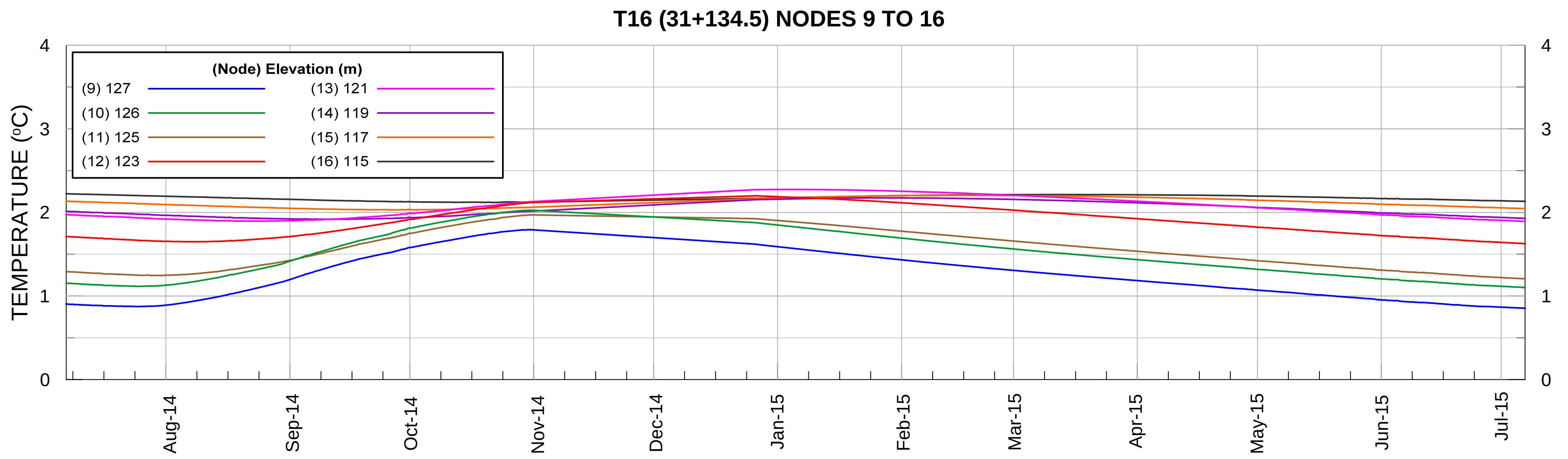
AGNICO EAGLE MEADOWBANK

PROJECT No.			PHASE No.
DESIGN	TD	20JAN14	SCALE AS SHOWN REV.
CADD	TD	20JAN14	FIGURE 36
CHECK			
REVIEW			







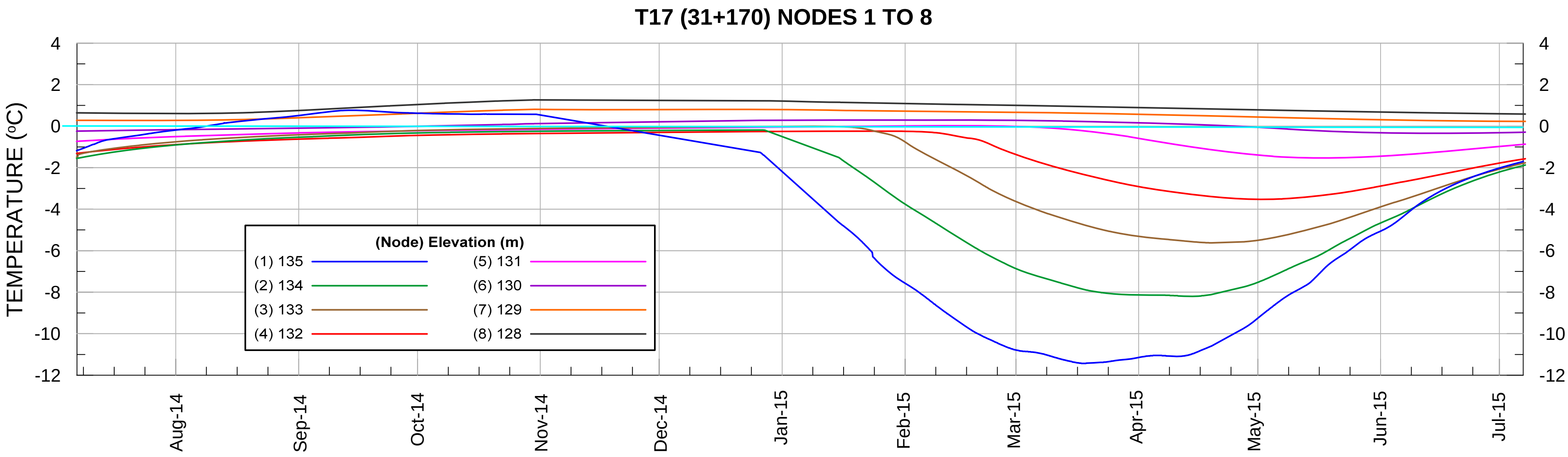


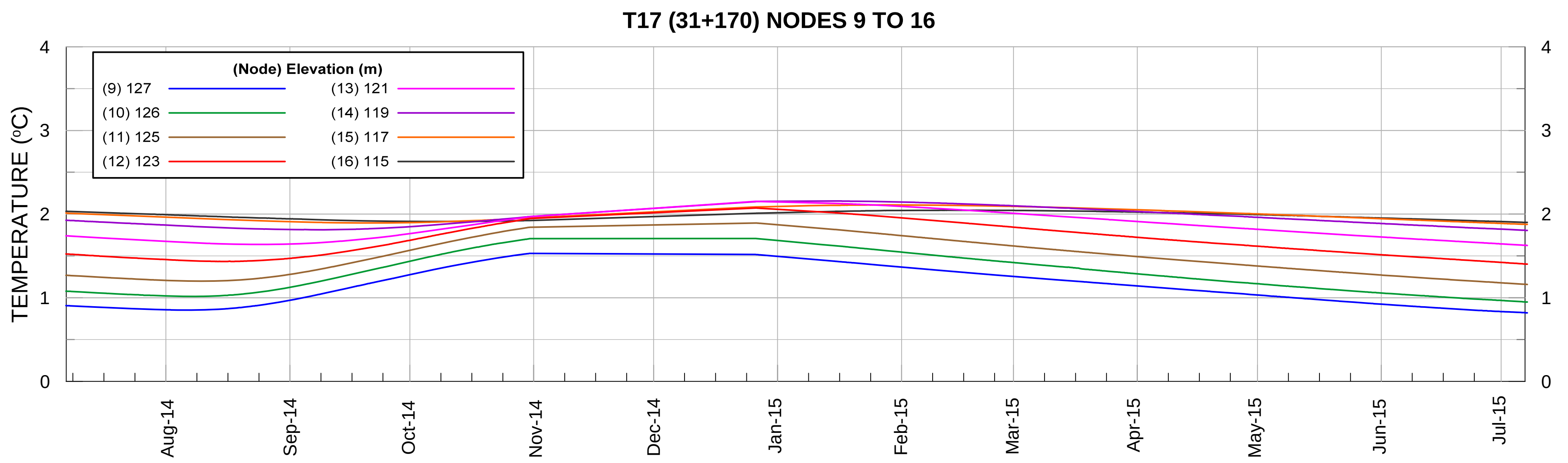
PROJECT **AGNICO EAGLE MINES LIMITED**
MEADOWBANK GOLD PROJECT
NUNAVUT

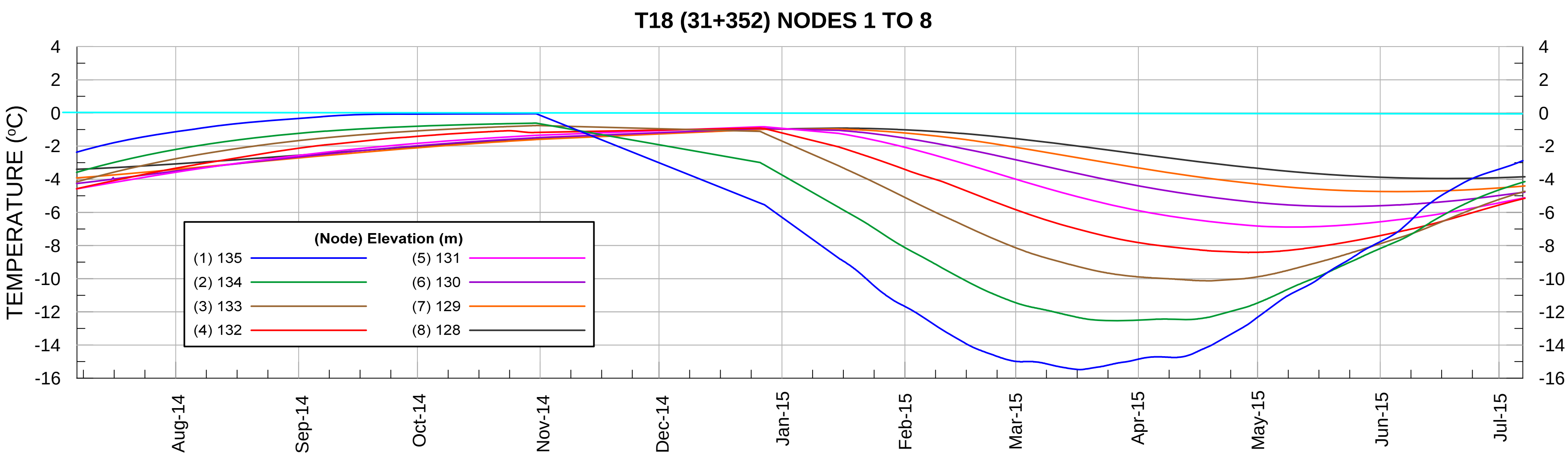
TITLE **BAYGOOSE DIKE**
NODAL THERMAL TIMELINES T15-T16
(July 7/14 to July 7/15)

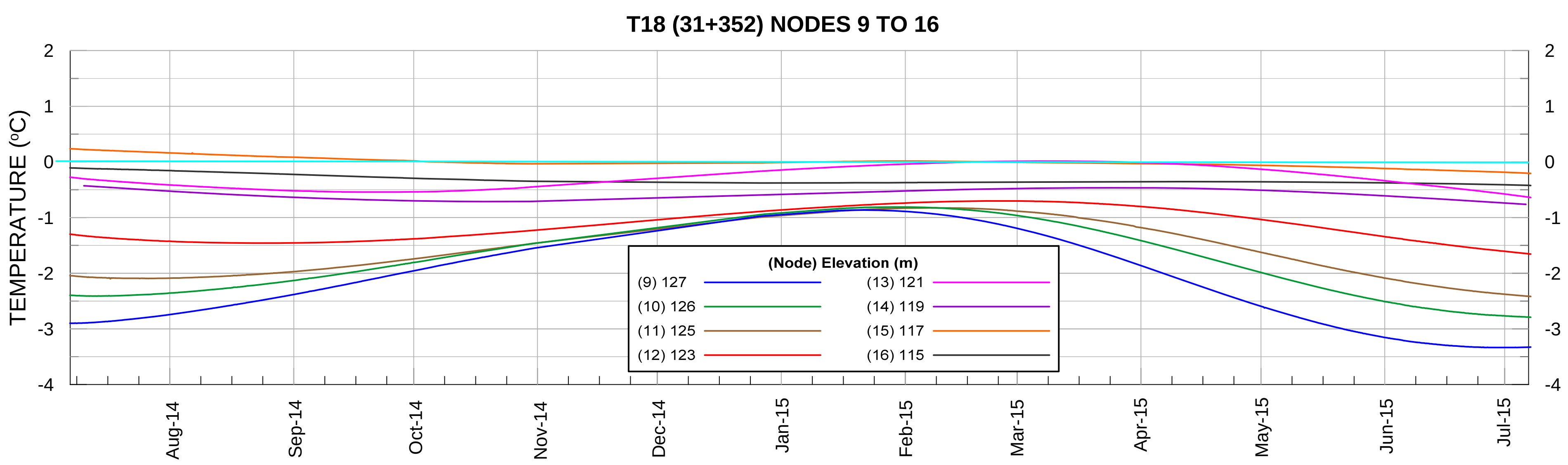
AGNICO EAGLE
MEADOWBANK

PROJECT No.			PHASE No.	
DESIGN	TD	20JAN14	SCALE AS SHOWN	REV.
CADD	TD	20JAN14	**FIGURE 37**	
CHECK				
REVIEW				

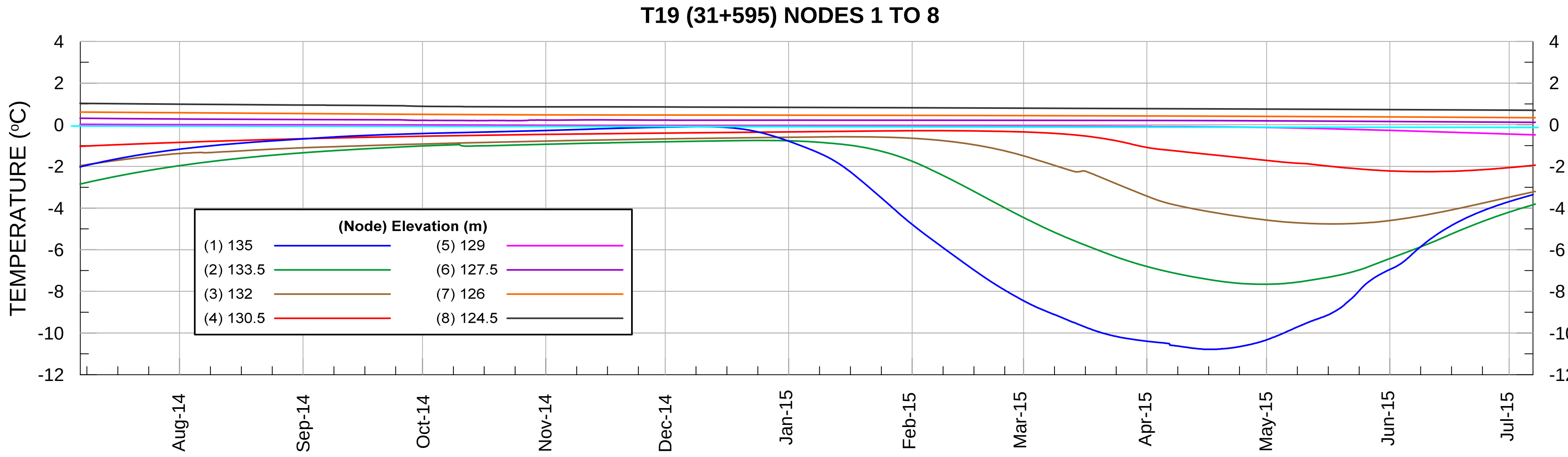


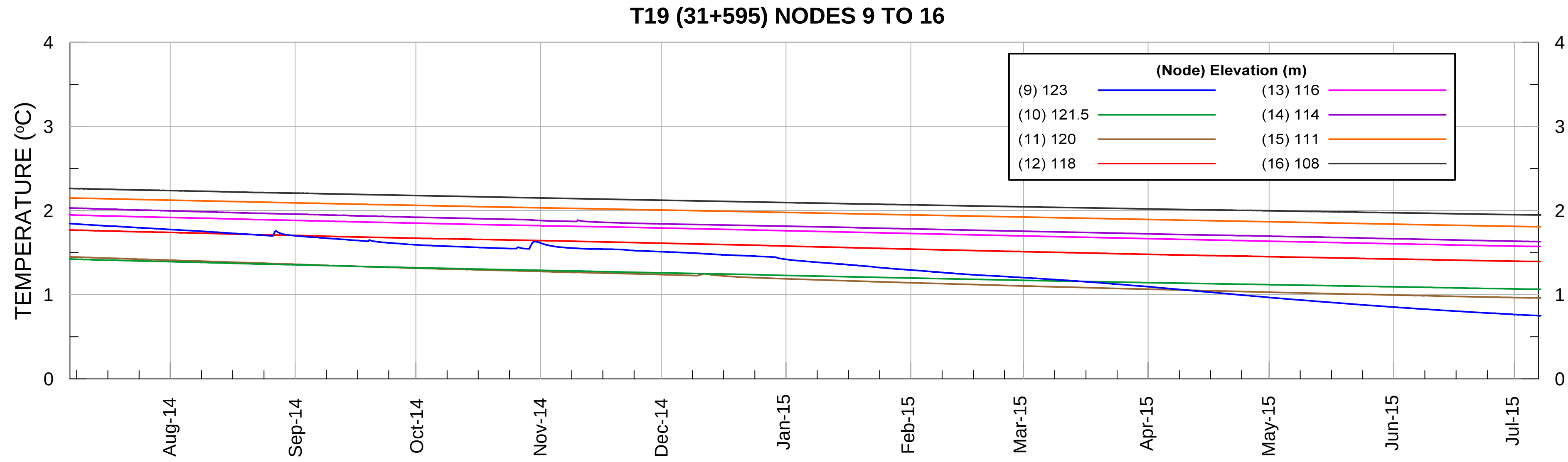


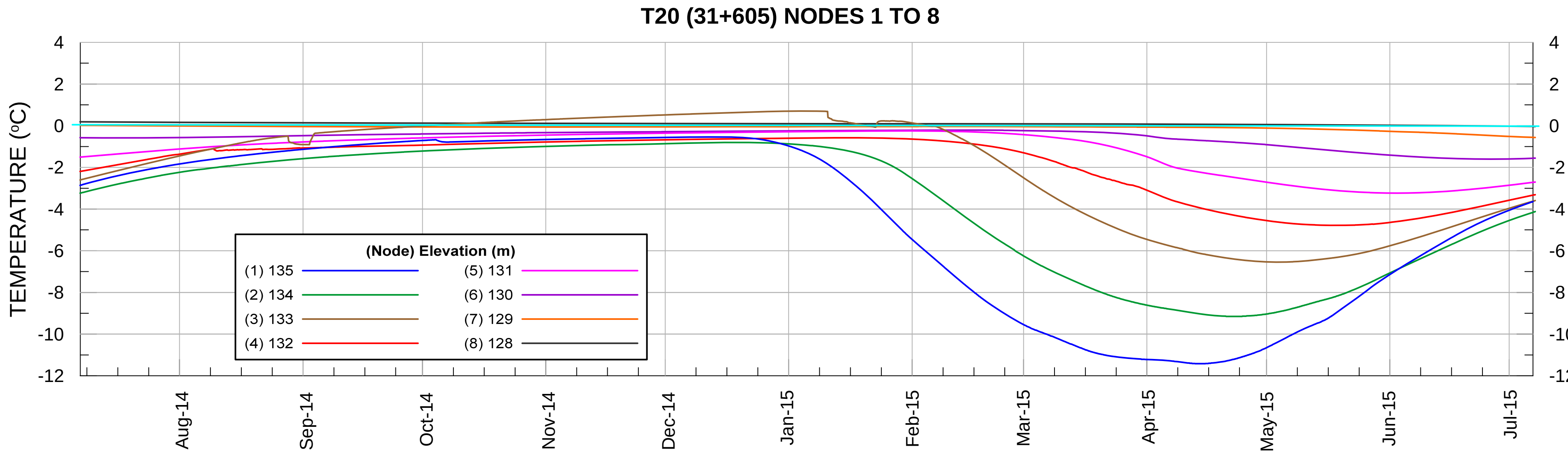


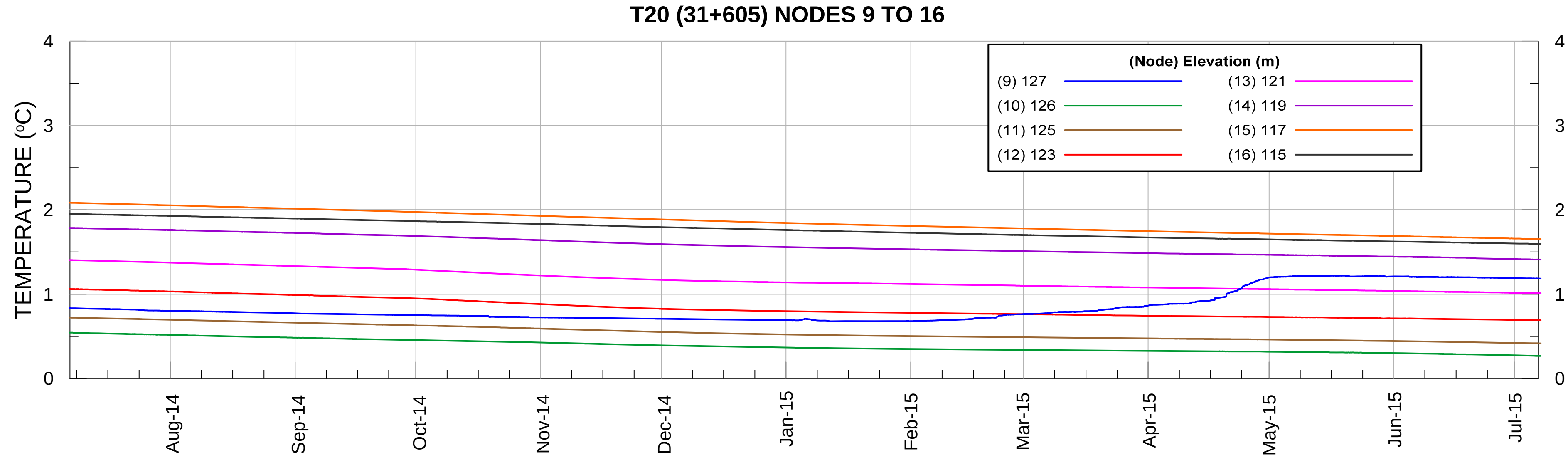


PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT			
TITLE	BAYGOOSE DIKE NODAL THERMAL TIMELINES (July 7/14 to July 7/15)			
AGNICO EAGLE MEADOWBANK	PROJECT No.			PHASE No.
	DESIGN	TD	20JAN14	SCALE AS SHOWN REV.
	CADD	TD	20JAN14	FIGURE 38
	CHECK			
	REVIEW			







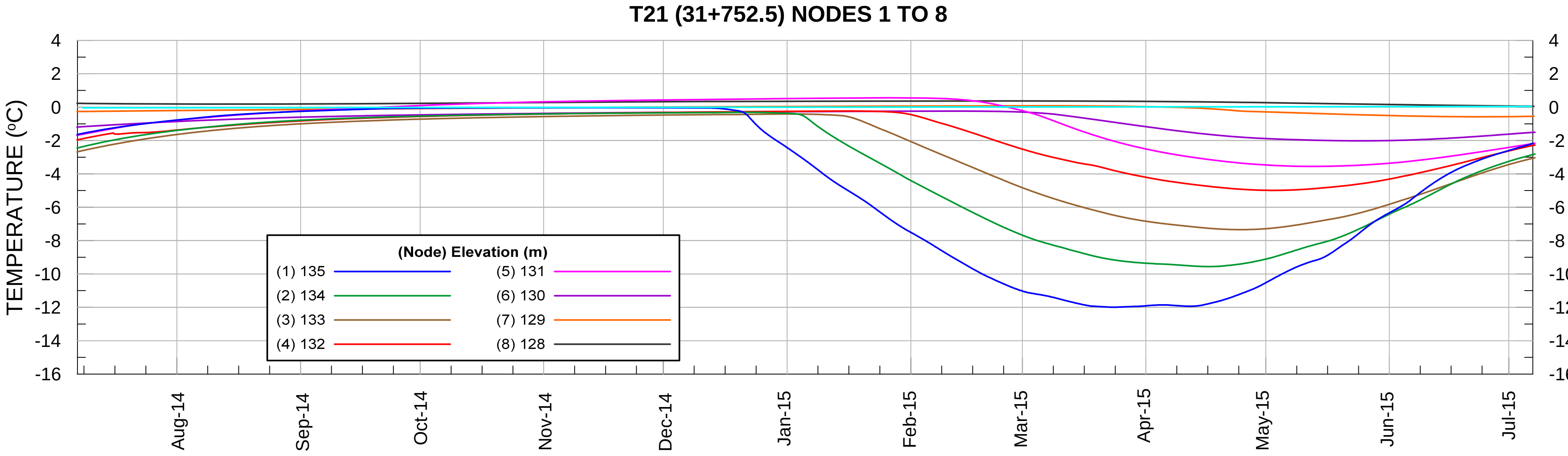


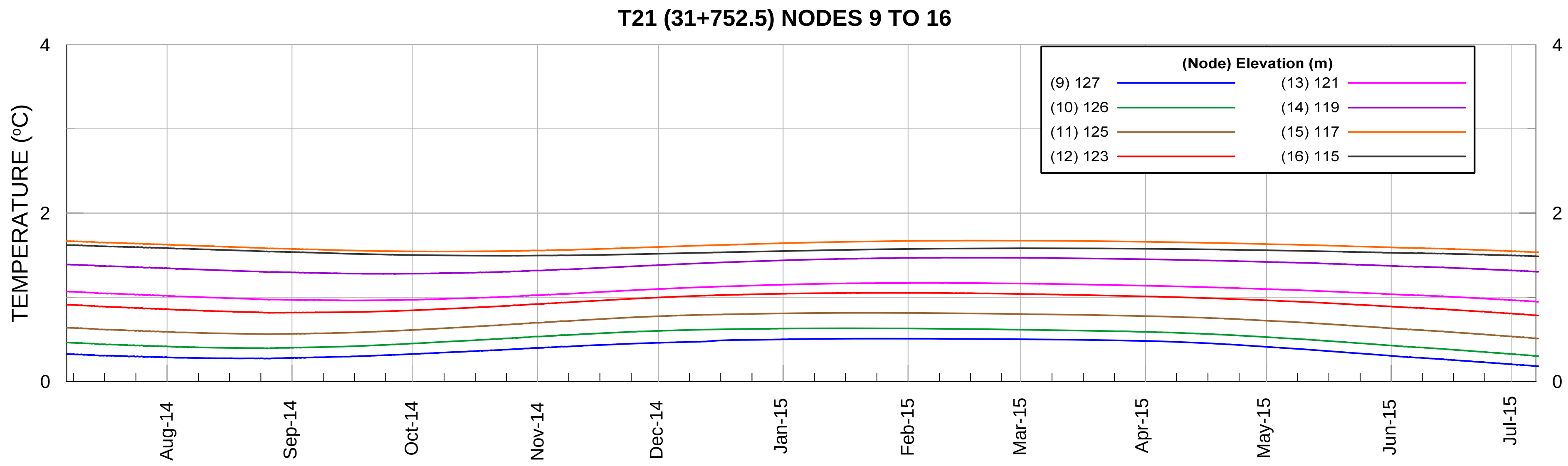
PROJECT
AGNICO EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

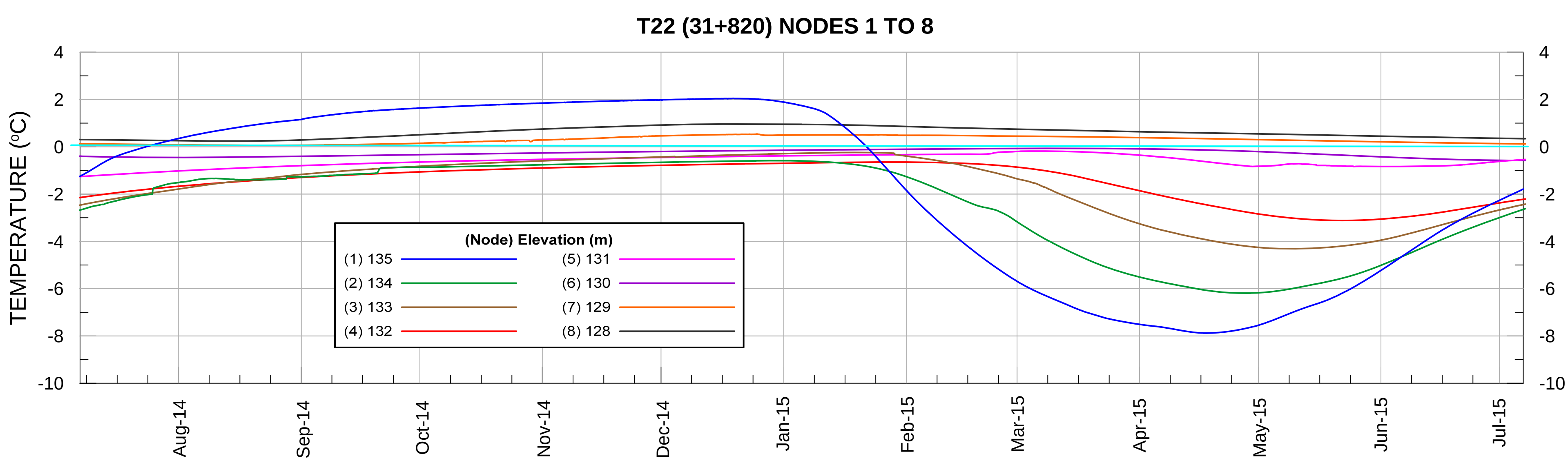
TITLE
BAYGOOSE DIKE
NODAL THERMAL TIMELINES
(July 7/14 to July 7/15)

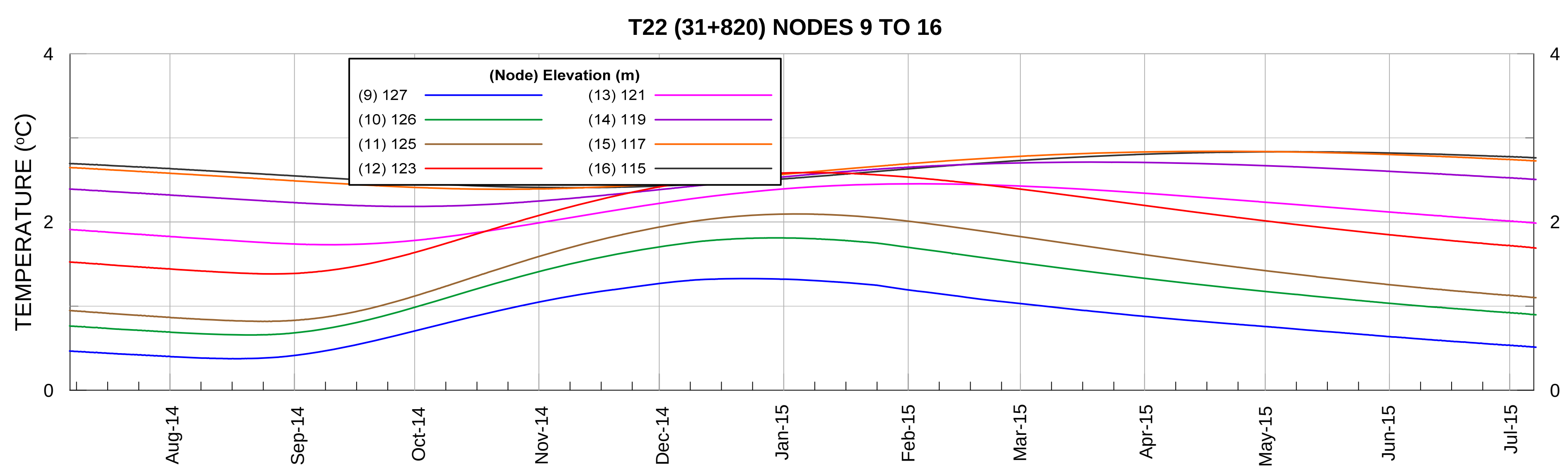
AGNICO EAGLE MEADOWBANK

PROJECT No.			PHASE No.	
DESIGN	TD	20JAN14	SCALE AS SHOWN	REV.
CADD	TD	20JAN14	FIGURE 39	
CHECK				
REVIEW				









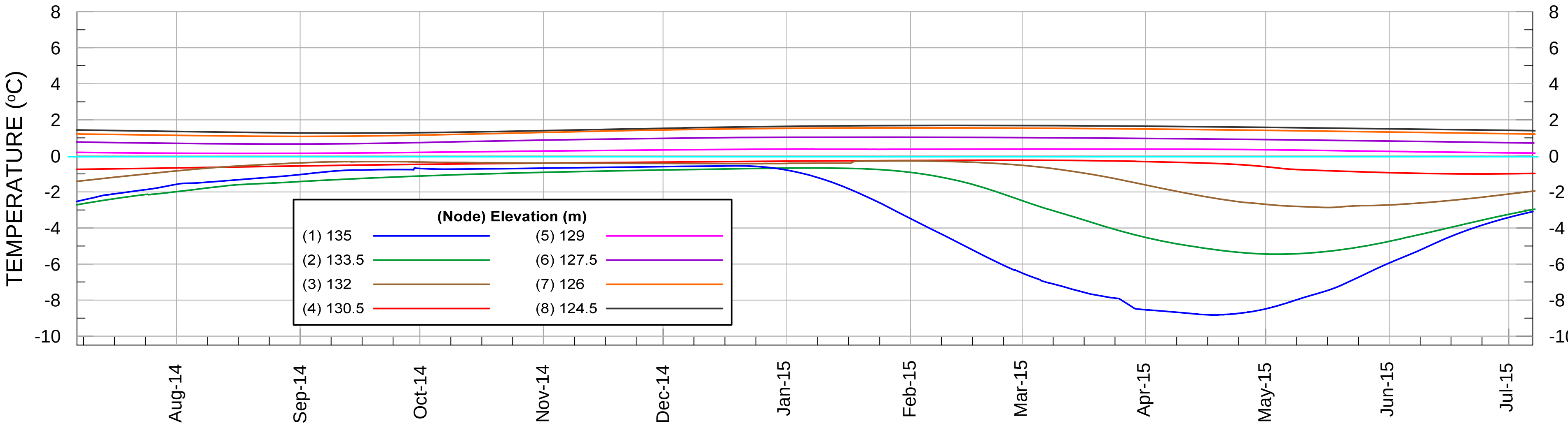
PROJECT
AGNICO EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

TITLE
BAYGOOSE DIKE
NODAL THERMAL TIMELINES
(July 7/14 to July 7/15)

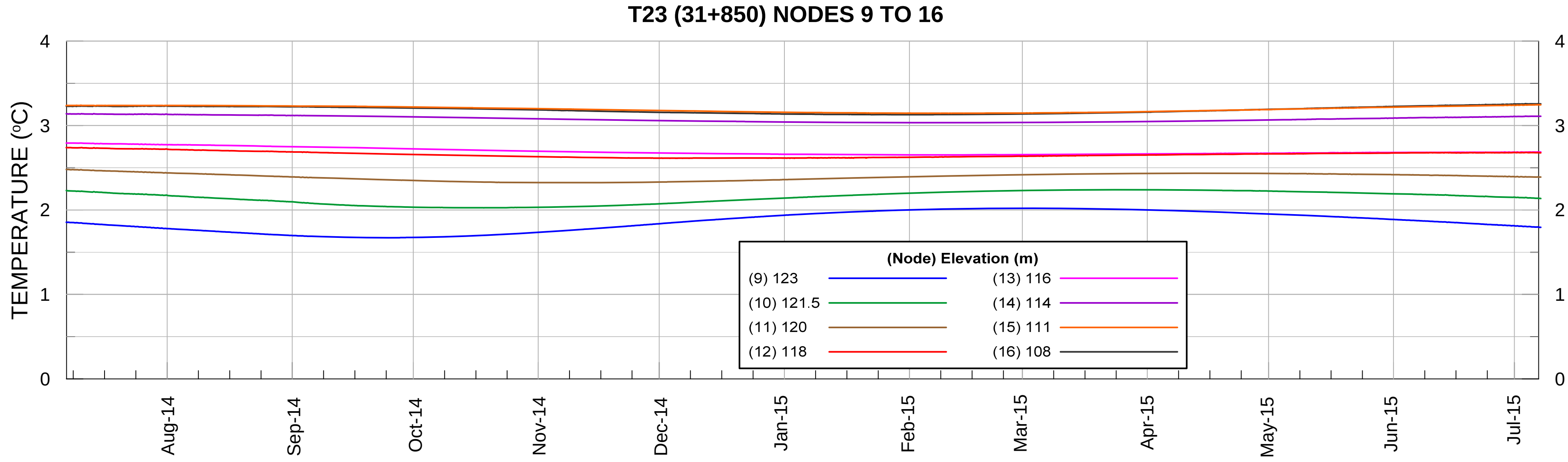
AGNICO EAGLE MEADOWBANK

PROJECT No.			PHASE No.
DESIGN	TD	20JAN14	SCALE AS SHOWN REV.
CADD	TD	20JAN14	
CHECK			**FIGURE 40**
REVIEW			

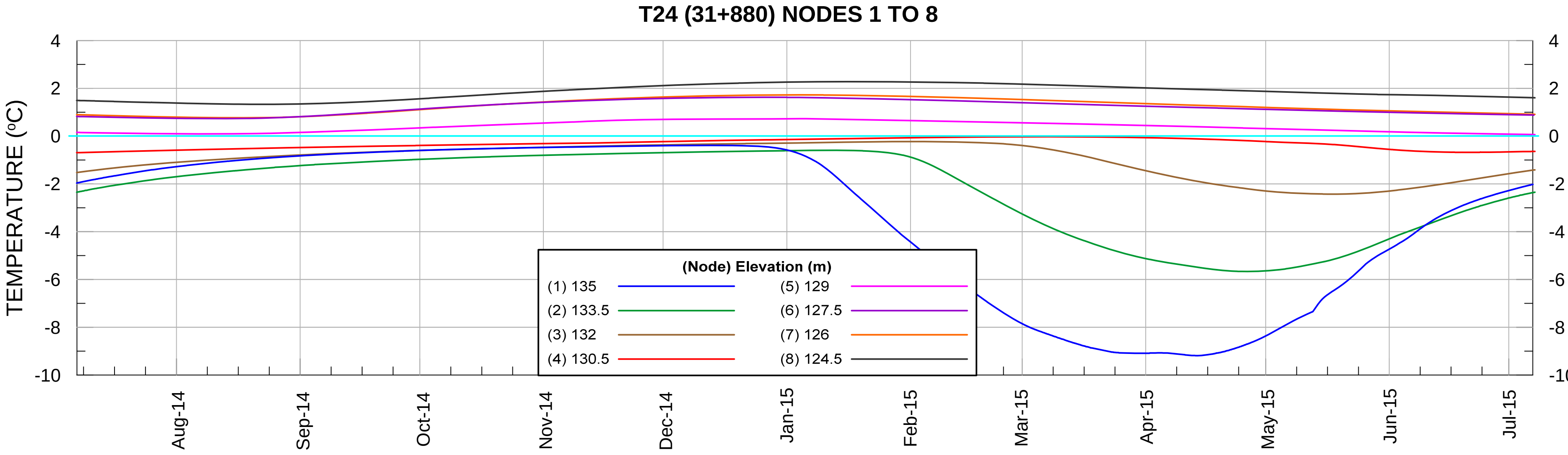
T23 (31+850) NODES 1 TO 8



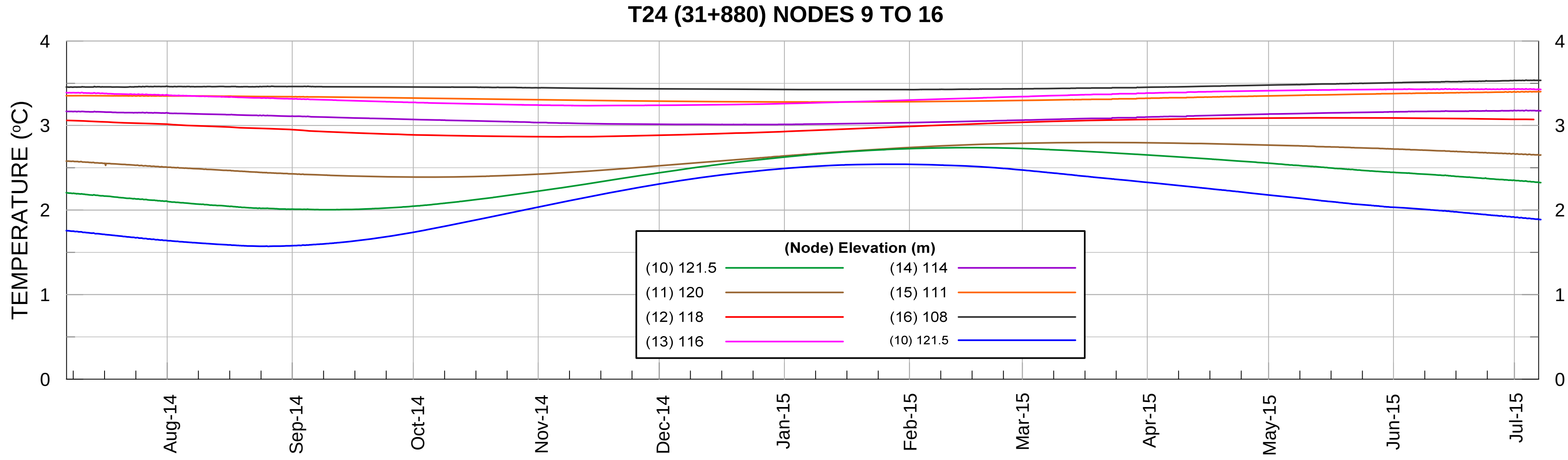
T23 (31+850) NODES 9 TO 16



T24 (31+880) NODES 1 TO 8



T24 (31+880) NODES 9 TO 16

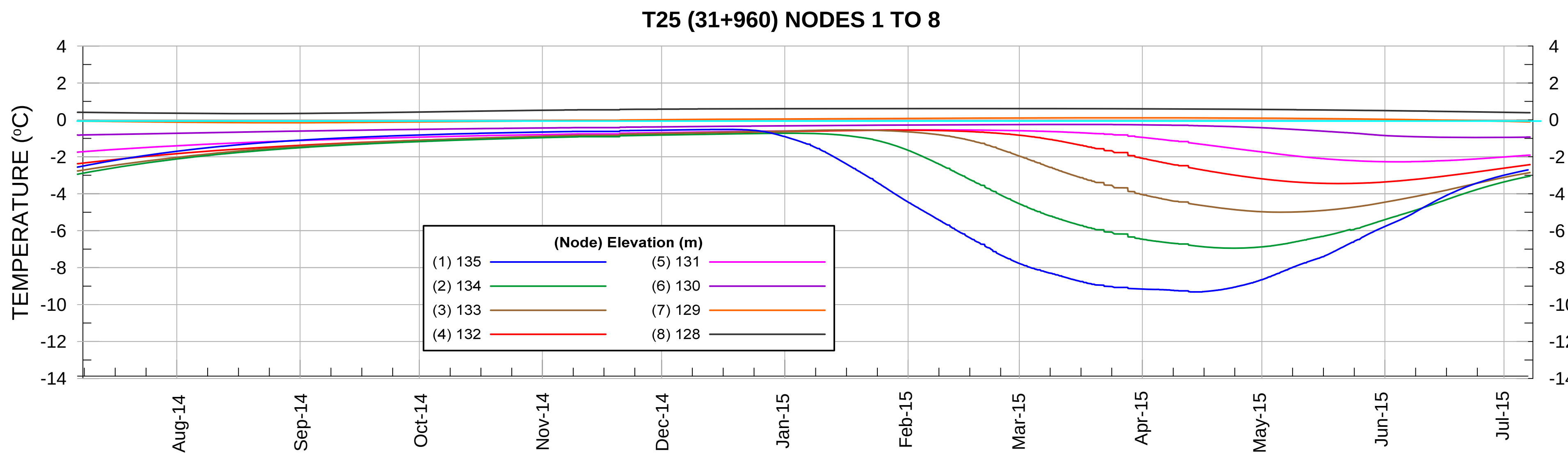


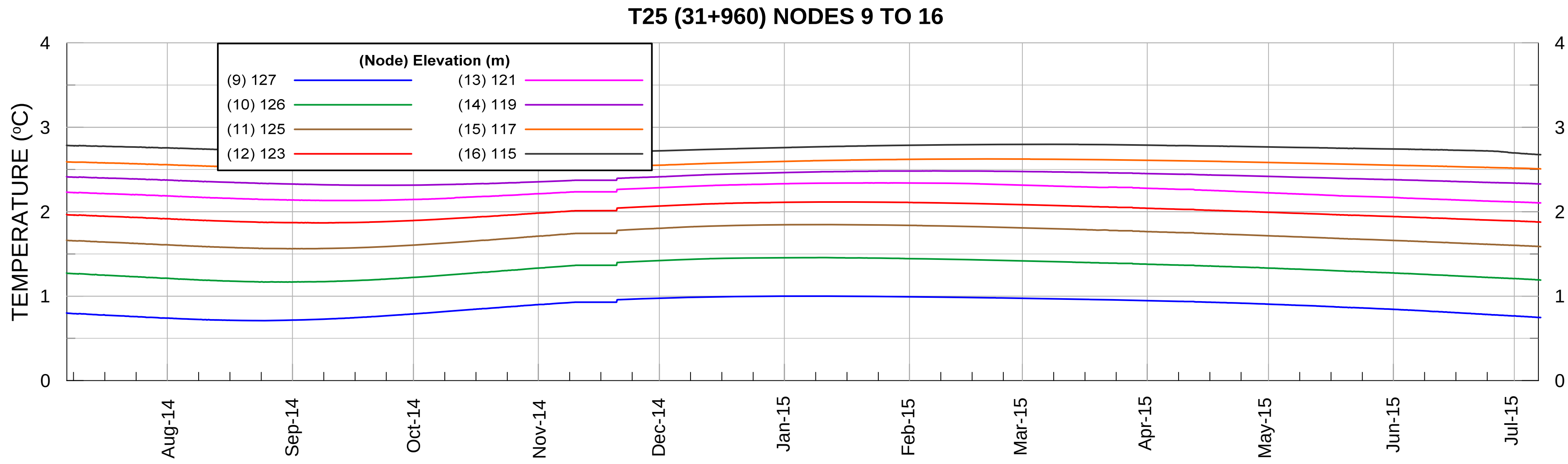
PROJECT **AGNICO EAGLE MINES LIMITED**
MEADOWBANK GOLD PROJECT
NUNAVUT

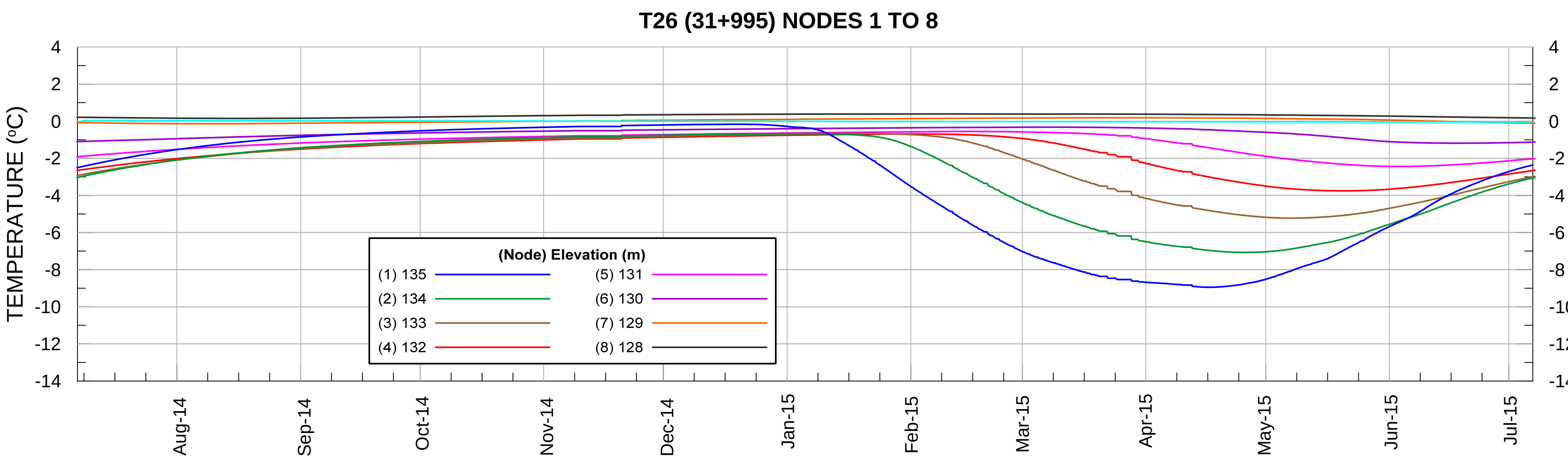
TITLE **BAYGOOSE DIKE**
NODAL THERMAL TIMELINES
(July 7/14 to July 7/15)

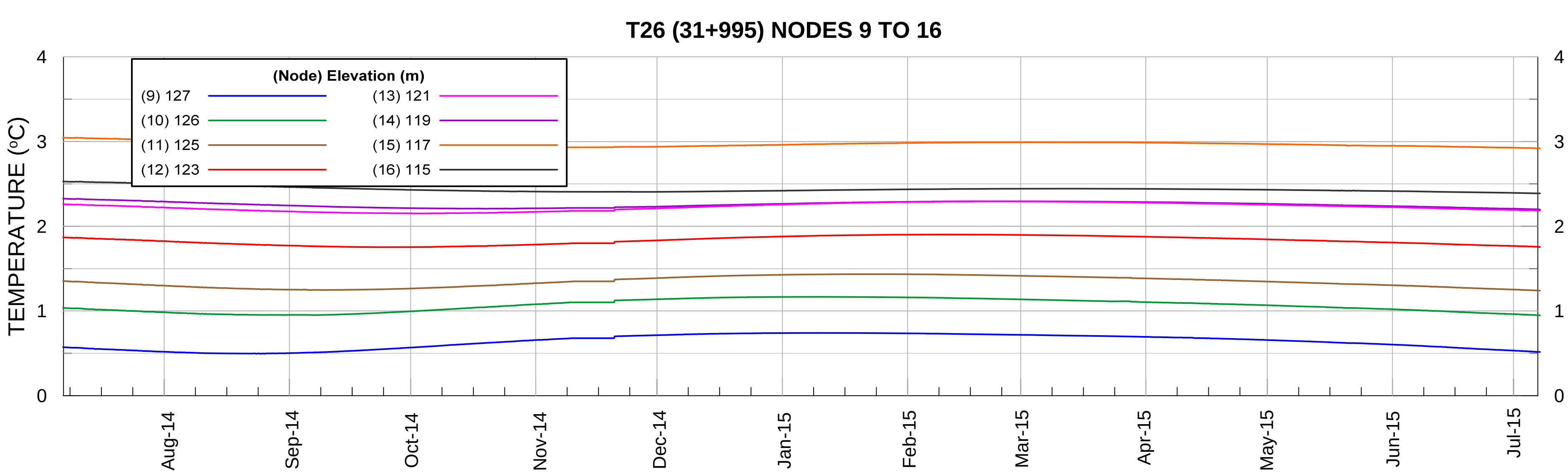
AGNICO EAGLE
MEADOWBANK

PROJECT No.			PHASE No.
DESIGN	TD	20JAN14	SCALE AS SHOWN REV.
CADD	TD	20JAN14	**FIGURE 41**
CHECK			
REVIEW			









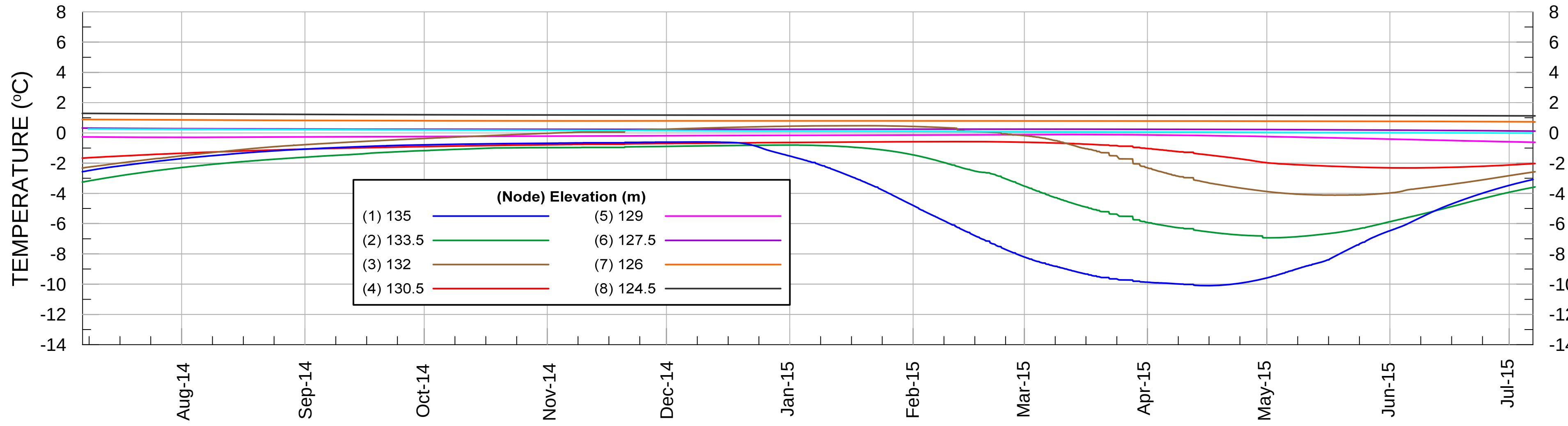
PROJECT **AGNICO EAGLE MINES LIMITED**
MEADOWBANK GOLD PROJECT
NUNAVUT

TITLE **BAYGOOSE DIKE**
NODAL THERMAL TIMELINES
(July 7/14 to July 7/15)

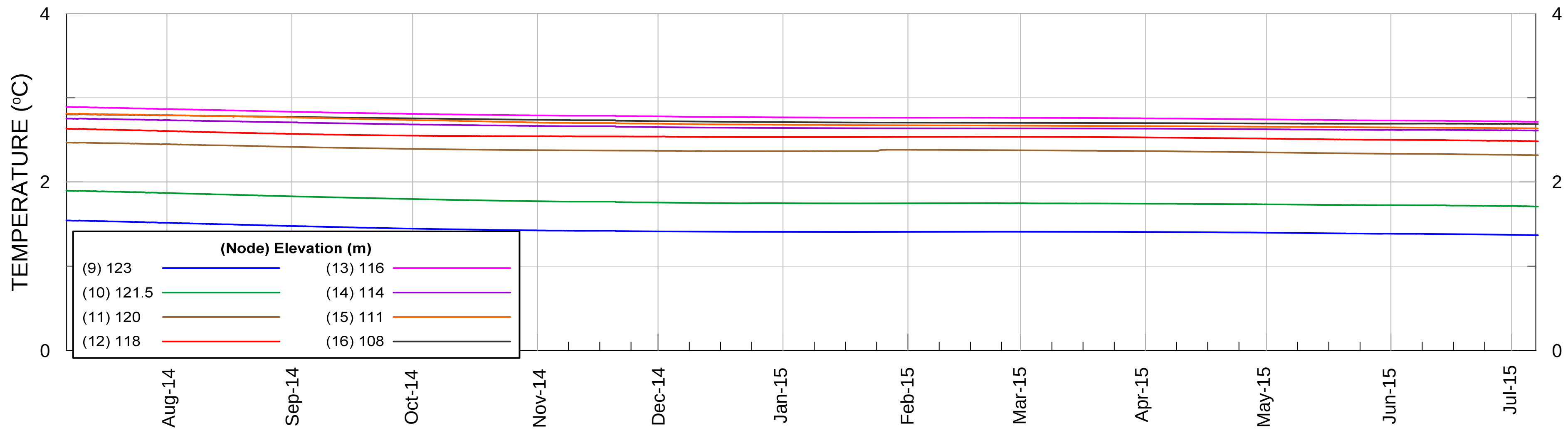
AGNICO EAGLE
MEADOWBANK

PROJECT No.			PHASE No.
DESIGN	TD	20JAN14	SCALE AS SHOWN REV.
CADD	TD	20JAN14	
CHECK			**FIGURE 42**
REVIEW			

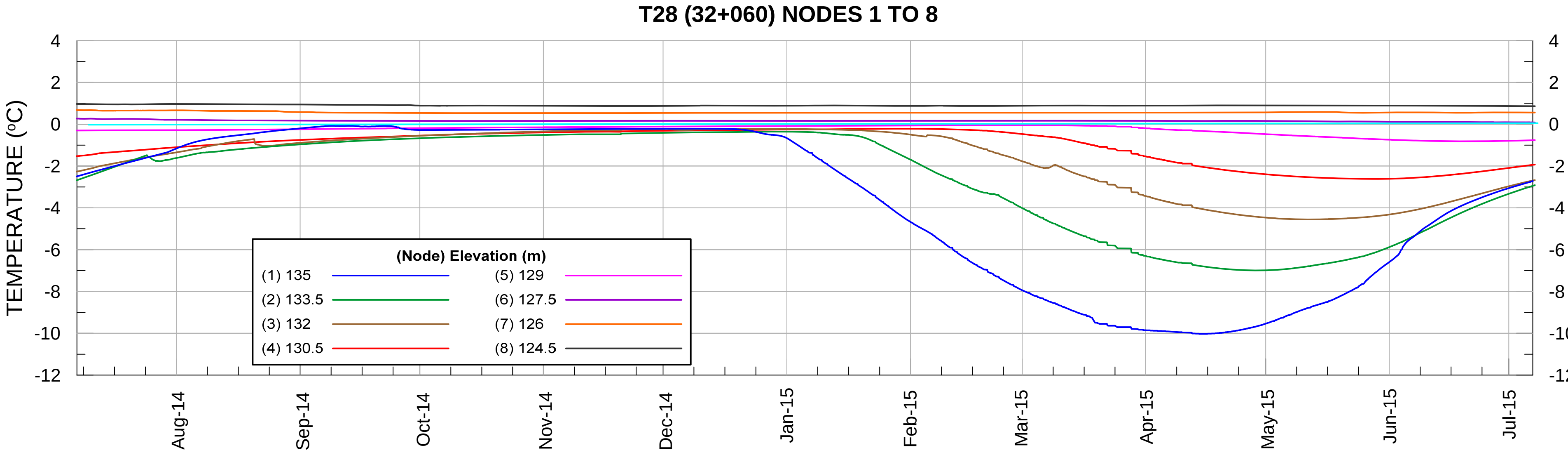
T27 (32+030) NODES 1 TO 8



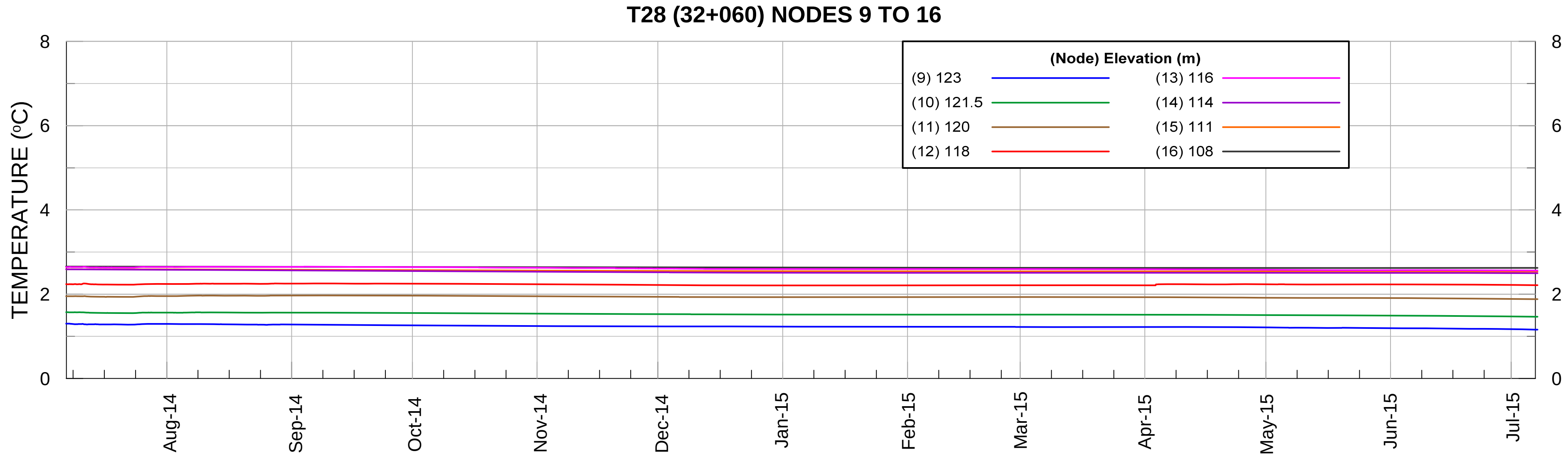
T27 (32+030) NODES 9 TO 16



T28 (32+060) NODES 1 TO 8



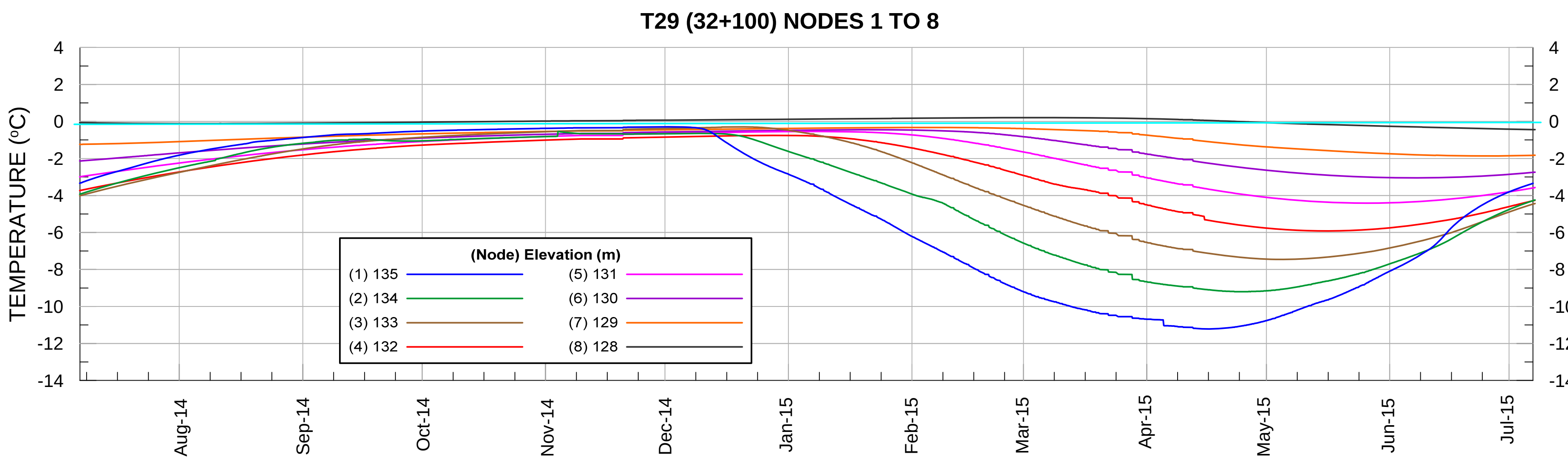
T28 (32+060) NODES 9 TO 16

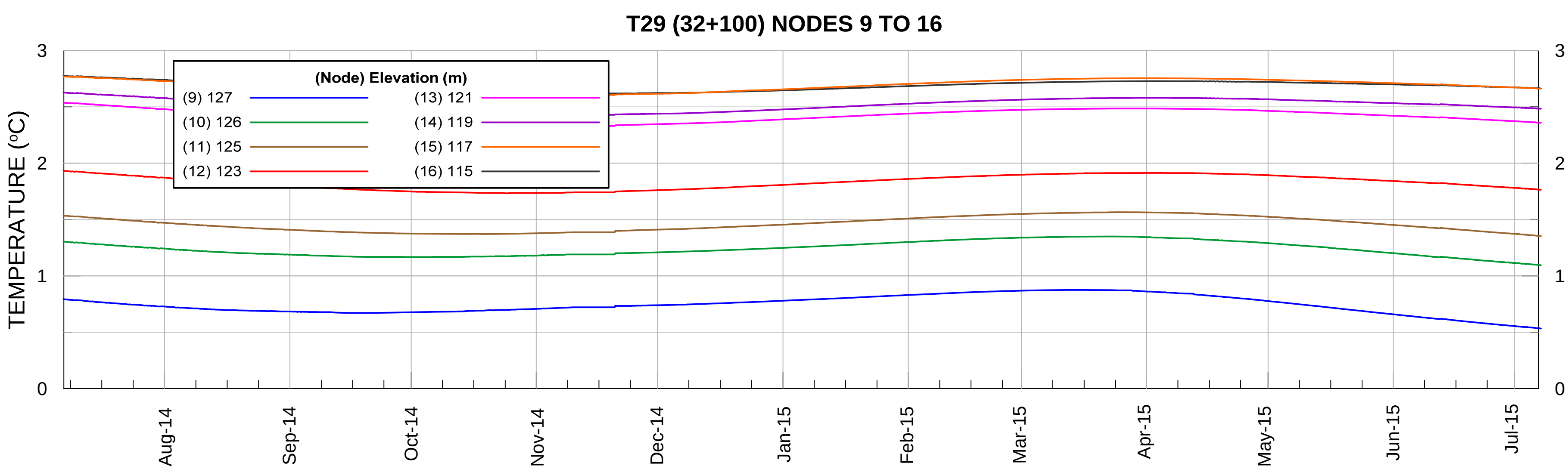


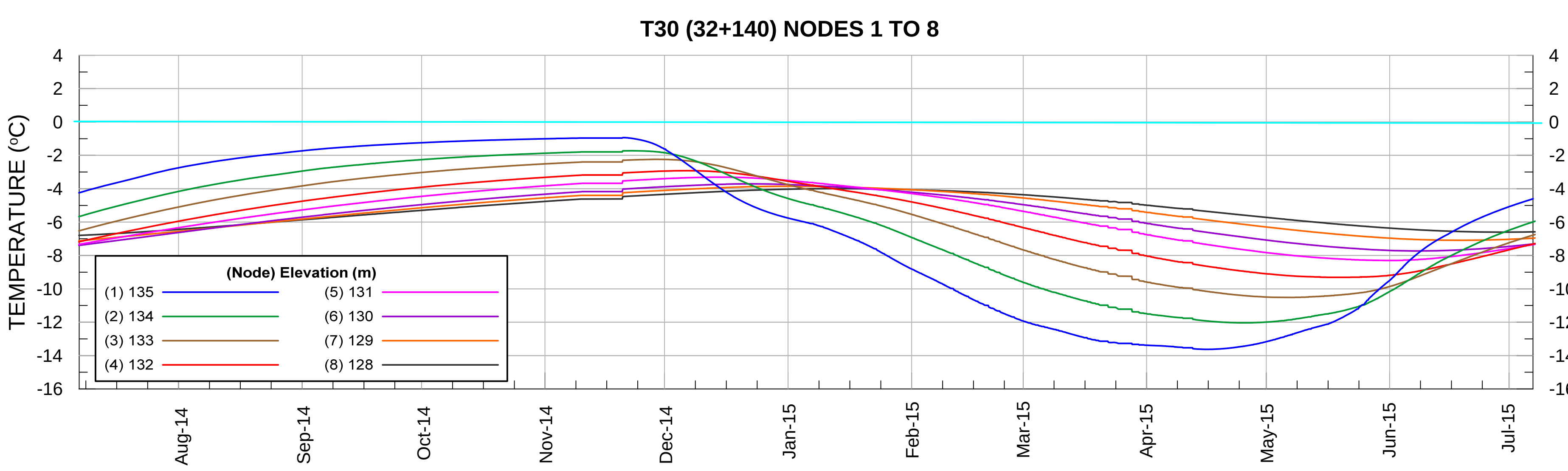
PROJECT	**AGNICO EAGLE MINES LIMITED** **MEADOWBANK GOLD PROJECT** **NUNAVUT**
TITLE	**BAYGOOSE DIKE** **NODAL THERMAL TIMELINES** **(July 7/14 to July 7/15)**

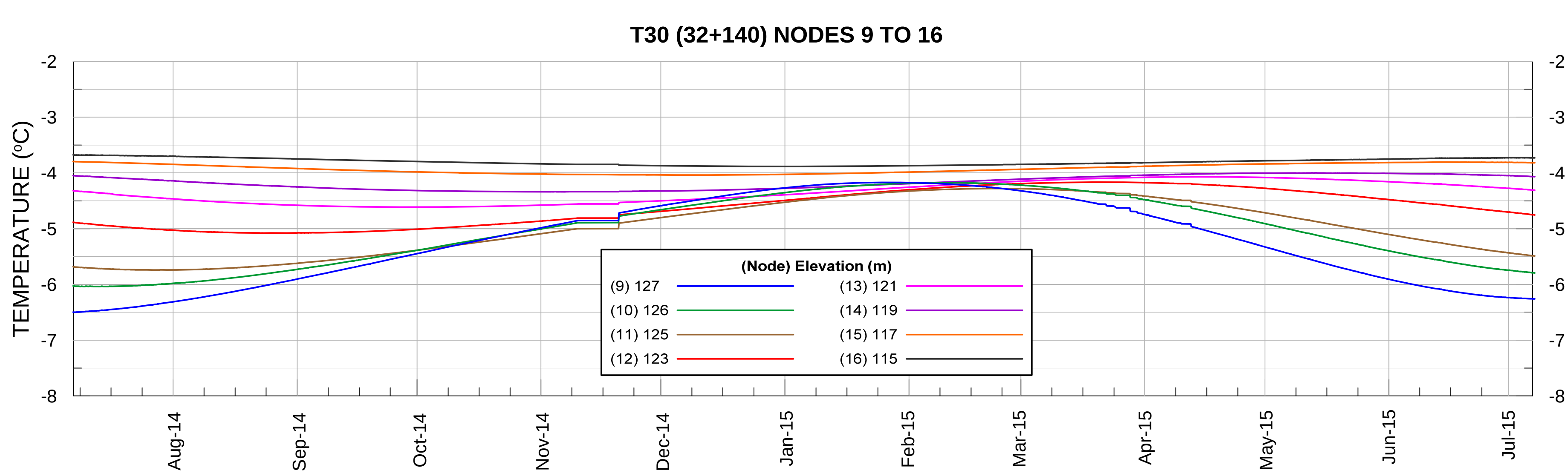
AGNICO EAGLE
MEADOWBANK

PROJECT No.			PHASE No.
DESIGN	TD	17JAN14	SCALE AS SHOWN REV.
CADD	TD	17JAN14	
CHECK			**FIGURE 43**
REVIEW			







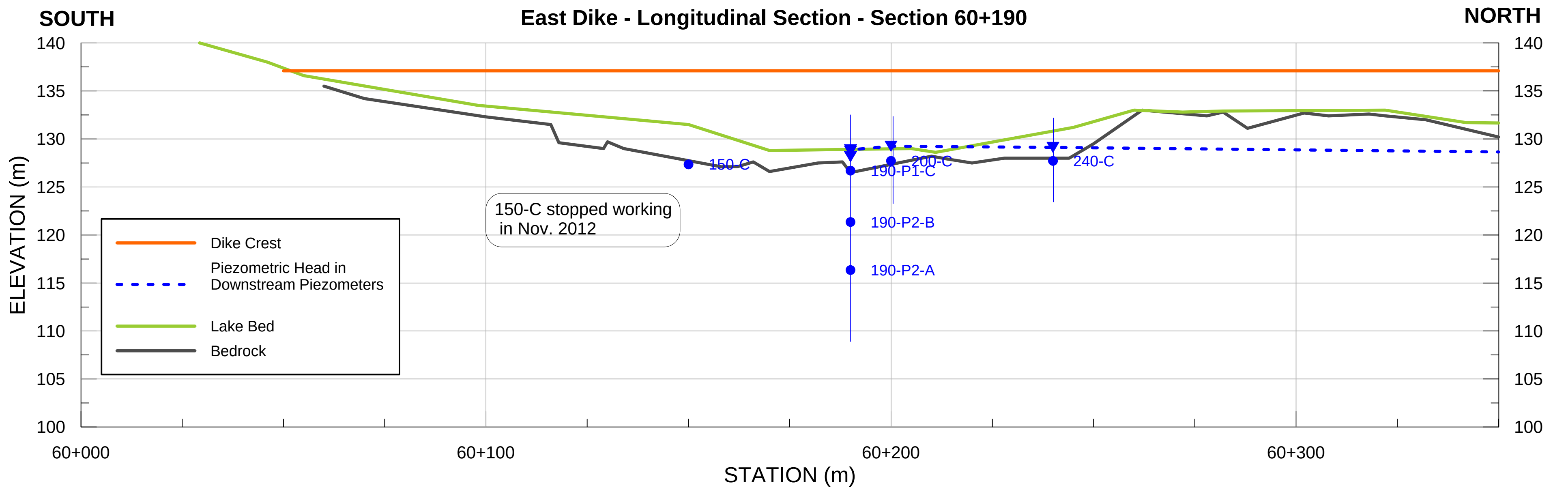


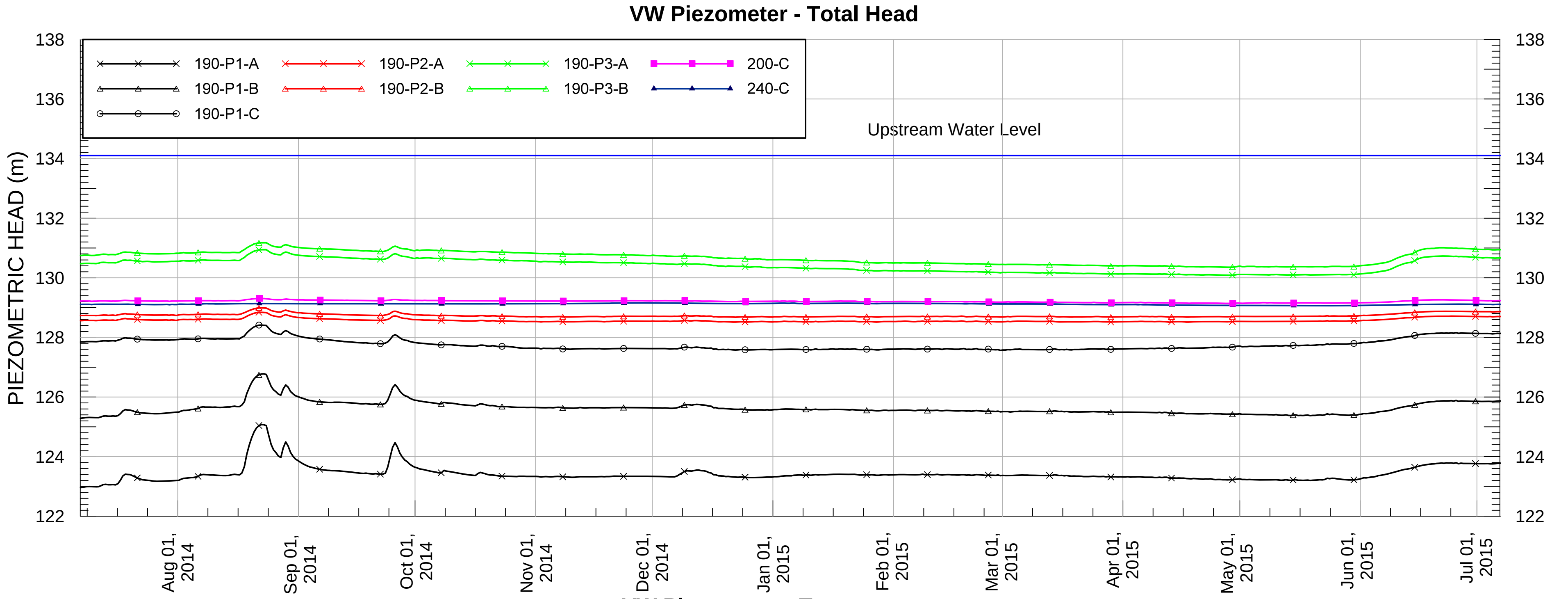
PROJECT
AGNICO EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

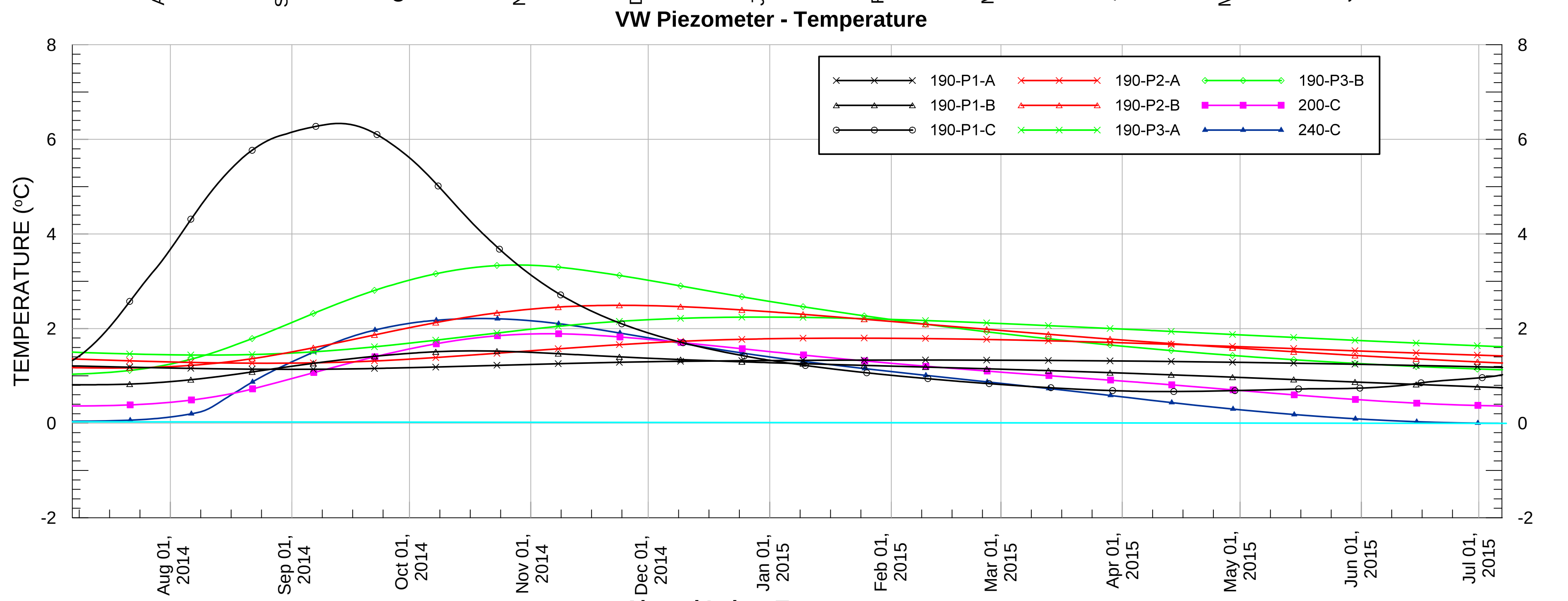
TITLE
BAYGOOSE DIKE
NODAL THERMAL TIMELINES
(July 7/14 to July 7/15)

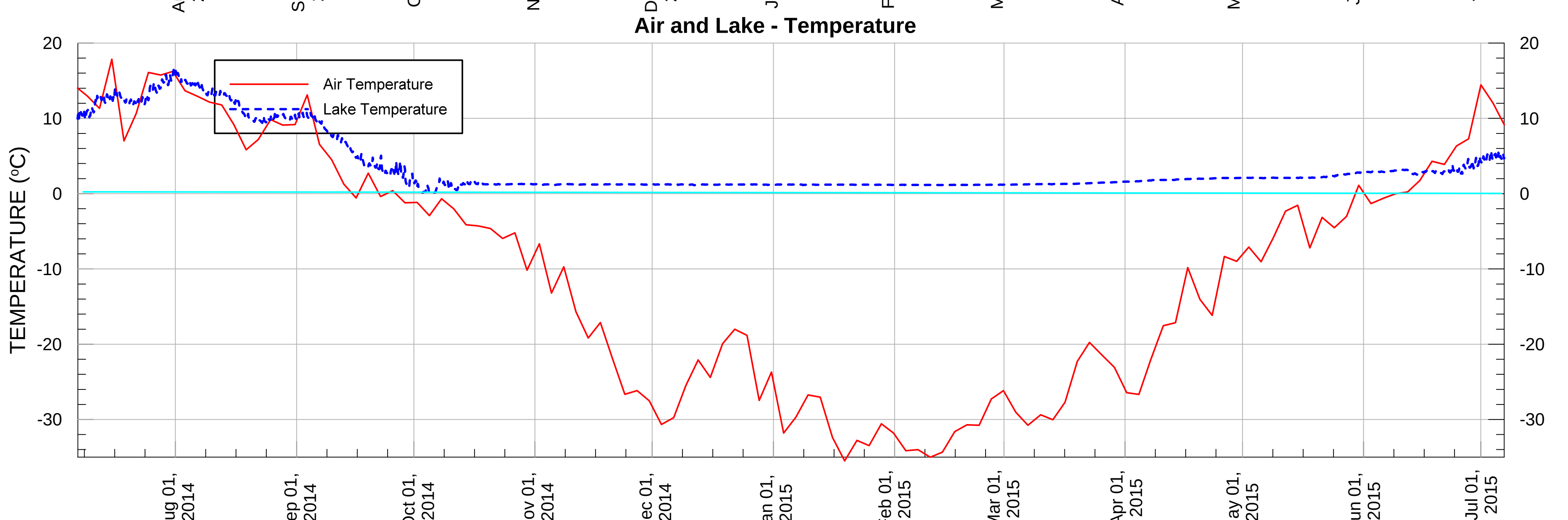
AGNICO EAGLE
MEADOWBANK

PROJECT No.			PHASE No.	
DESIGN	TD	17JAN14	SCALE AS SHOWN	REV.
CADD	TD	17JAN14		
CHECK			**FIGURE 44**	
REVIEW				



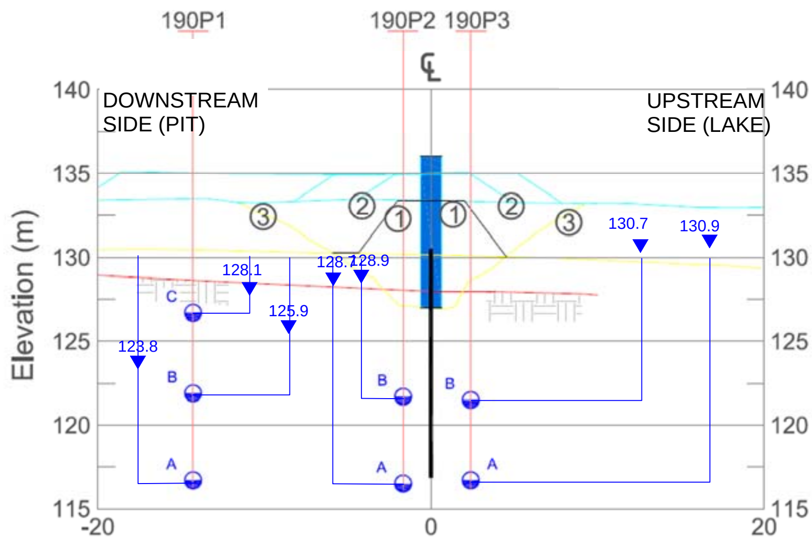






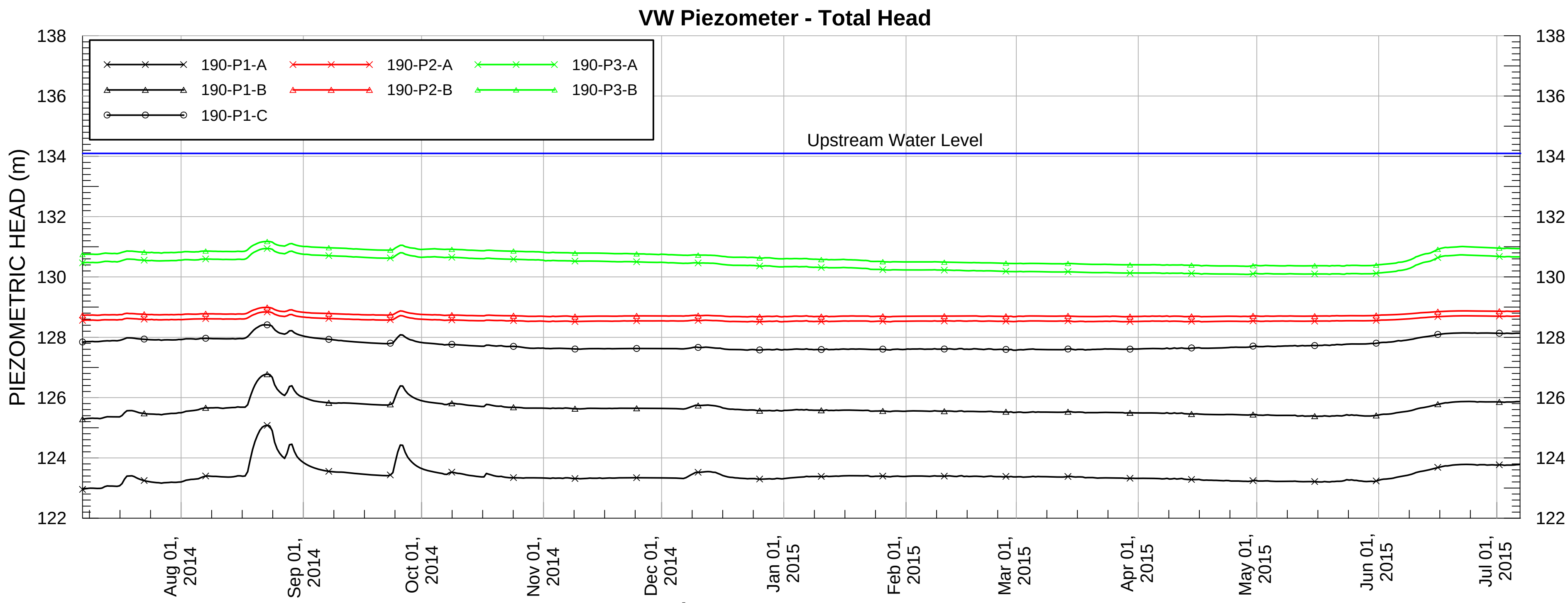
PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT				
TITLE	EAST DIKE Section 60+190 - PIEZOMETRIC DATA (July 7/14 to July 7/15)				
AGNICO EAGLE MEADOWBANK	PROJECT No.			PHASE No.	
	DESIGN	TD	28AUG14	SCALE AS SHOWN	REV.
	CADD	TD	28AUG14	FIGURE 45	
	CHECK	PG	28AUG14		
	REVIEW				

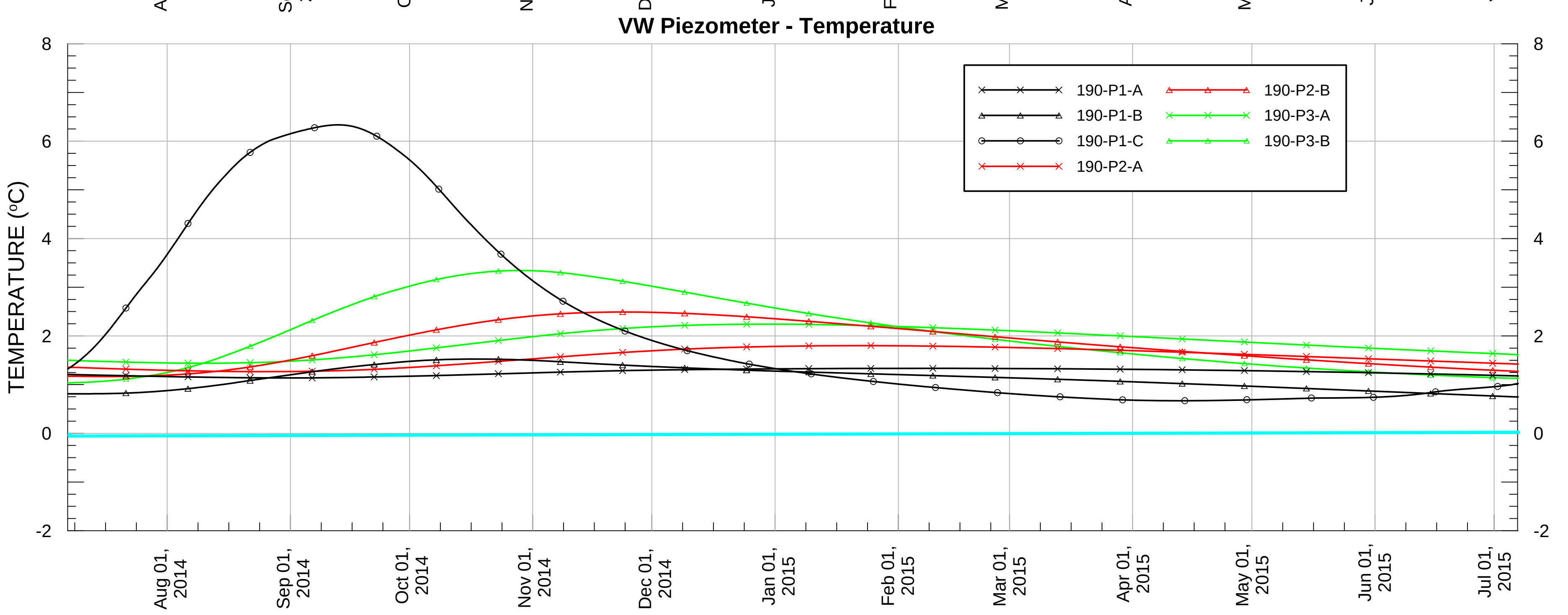
STATION 60+190

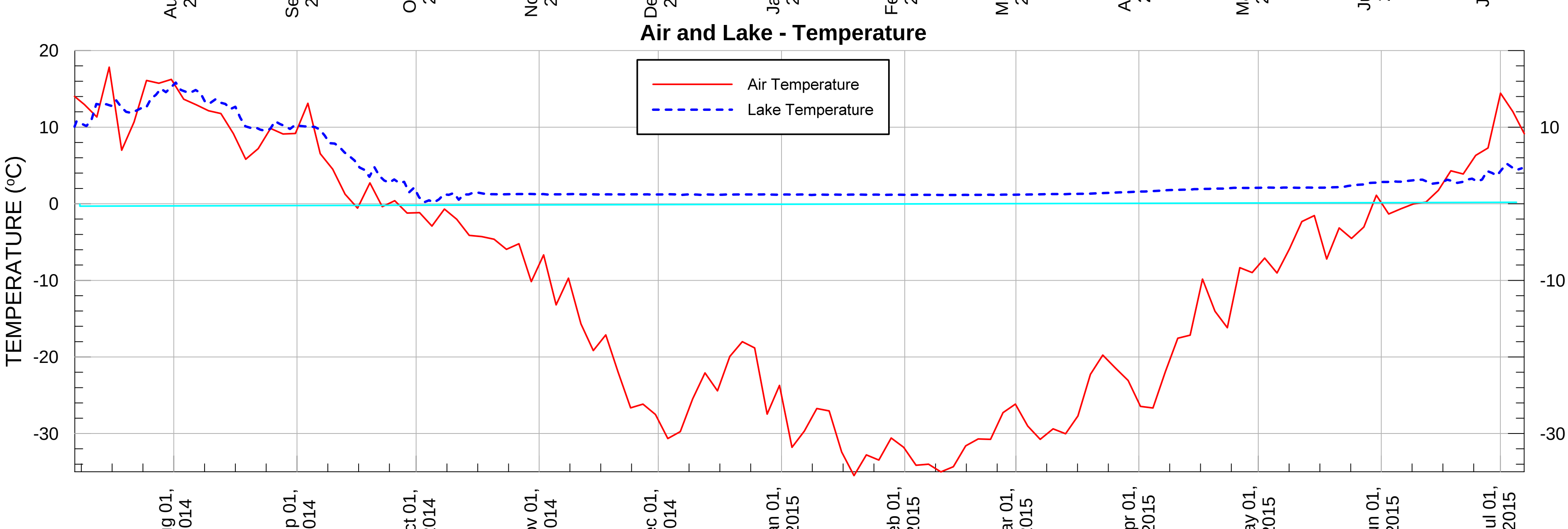


LEGEND

	CUTOFF (CSB)	1	CORE BACKFILL (19 mm MINUS)
	CUTOFF (SB)	2	COARSE BACKFILL (15mm MINUS)
	INITIAL ROCKFILL	3	ROCKFILL
	LAKEBED	4	FINE ROCKFILL
	BEDROCK		TOTAL HEAD (m) ON July 7,2015
	JET GROUT		
	GROUT		



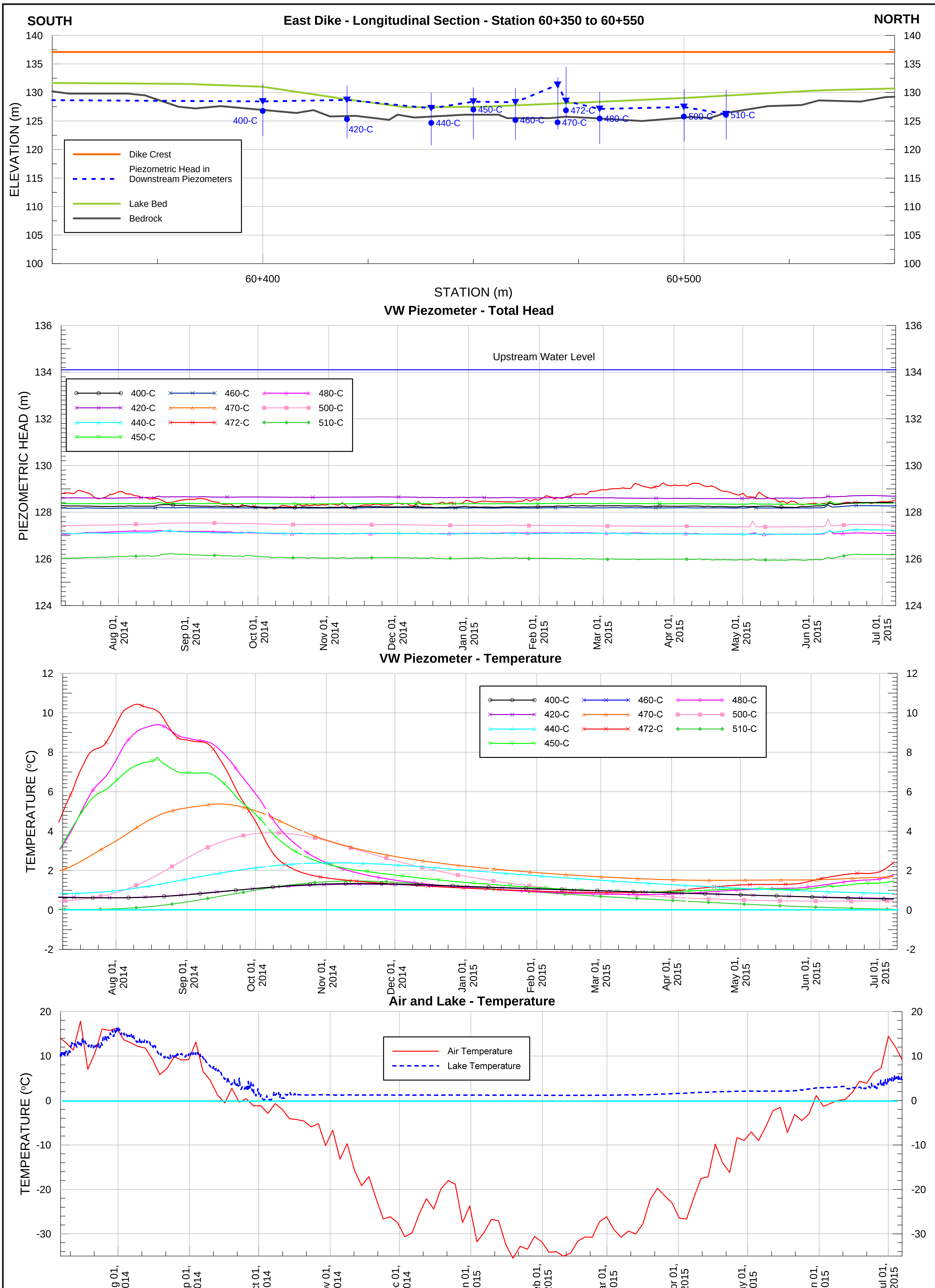




PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT
TITLE	**EAST DIKE - SECTION 60+190 PIEZOMETRIC DATA (July 7/14 to July 7/15)**

AGNICO EAGLE MEADOWBANK

PROJECT No.			PHASE No.	
DESIGN	TD	28AUG14	SCALE AS SHOWN	REV.
CADD	TD	28AUG14	**FIGURE 46**	
CHECK	PG	28AUG14		
REVIEW				

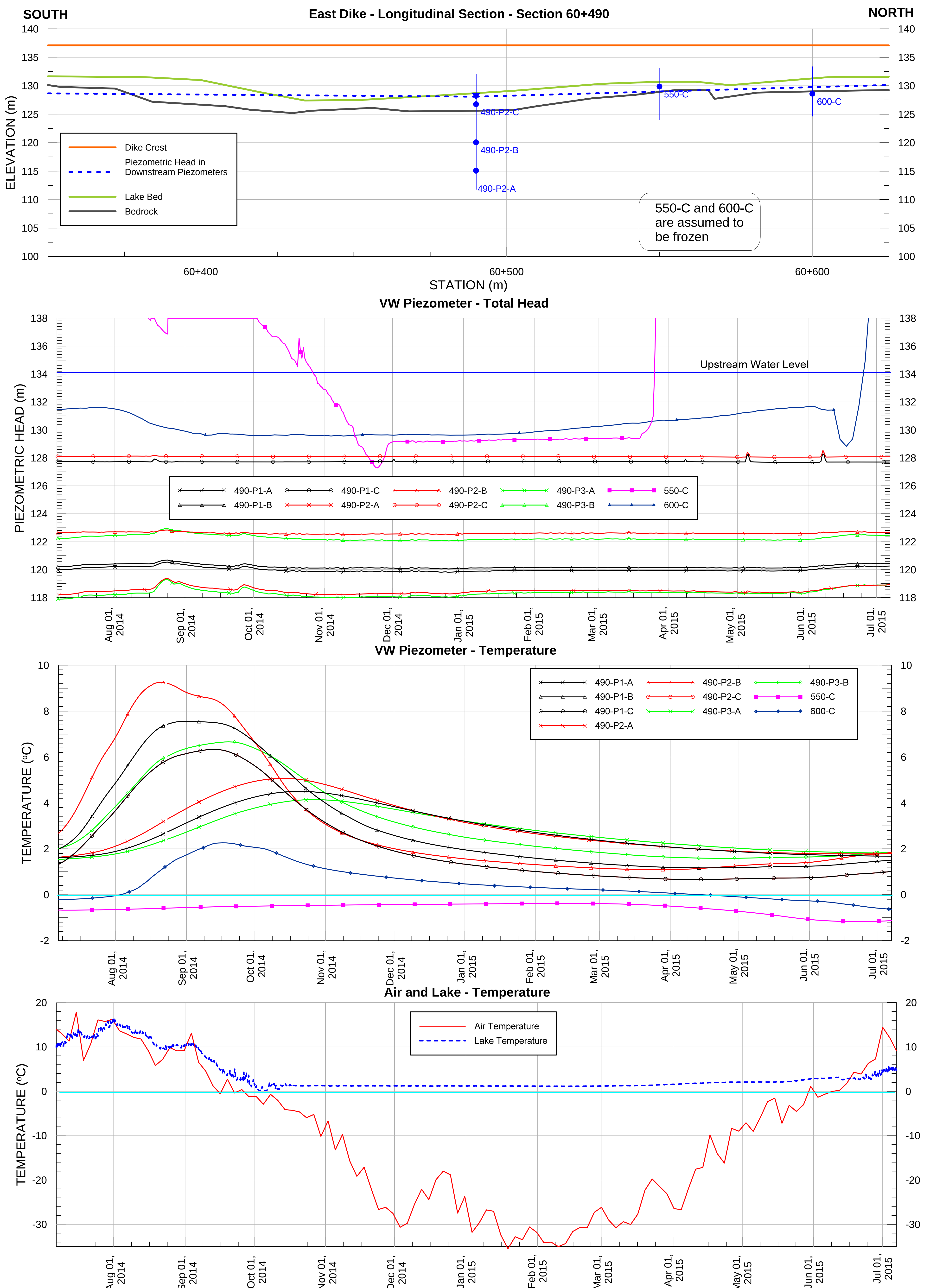


PROJECT
AGNICO EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

TITLE
EAST DIKE
Section 60+350 to60+550 - PIEZOMETRIC DATA (July 7/14 to July 7/15)

AGNICO EAGLE MEADOWBANK

PROJECT No.			PHASE No.
DESIGN	TD	28AUG14	SCALE AS SHOWN REV.
CADD	TD	28AUG14	FIGURE 47
CHECK	PG	28AUG14	
REVIEW			



PROJECT

AGNICO EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

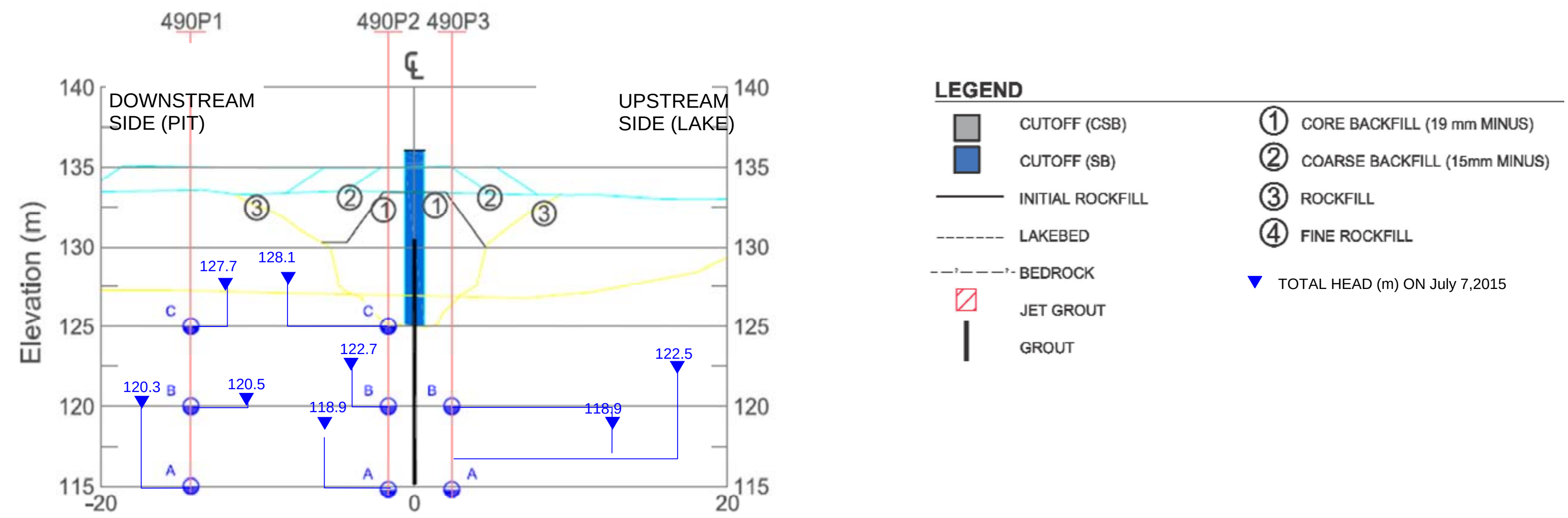
TITLE

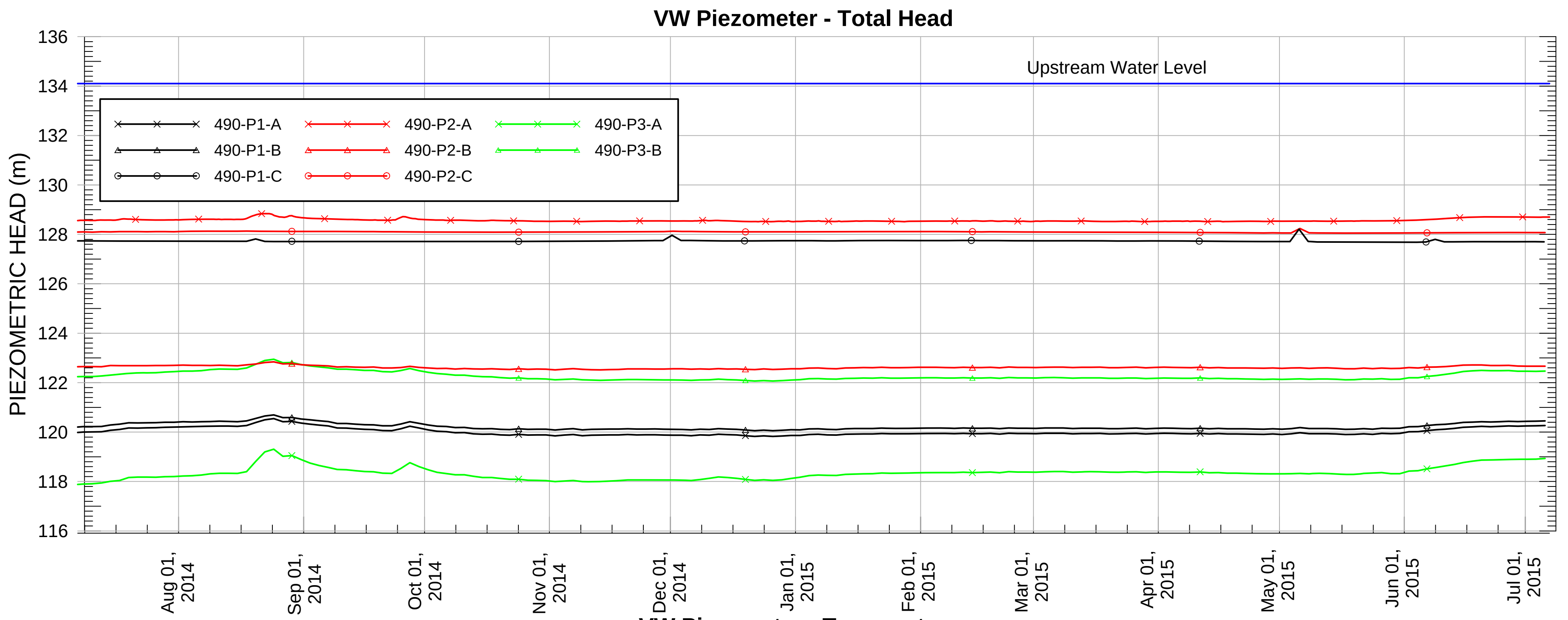
EAST DIKE
Section 60+490 - PIEZOMETRIC DATA
(July 7/14 to July 7/15)

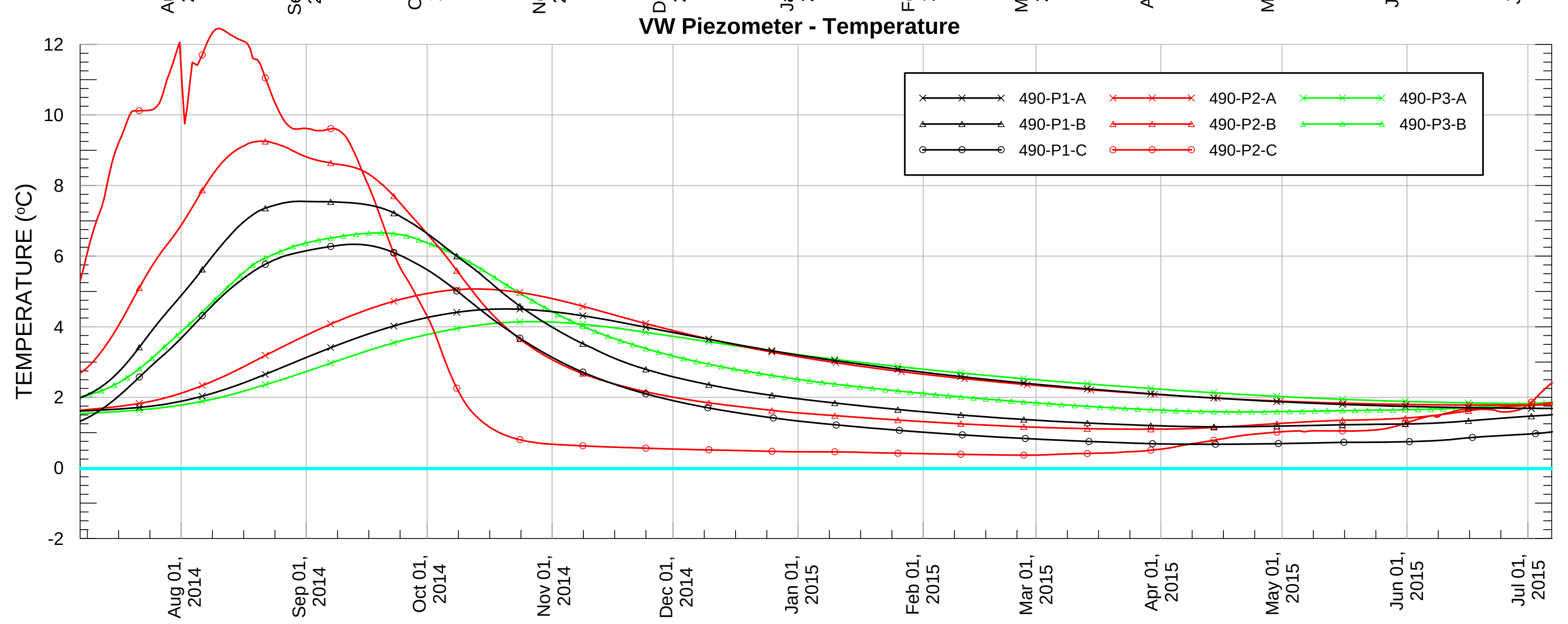
AGNICO EAGLE MEADOWBANK

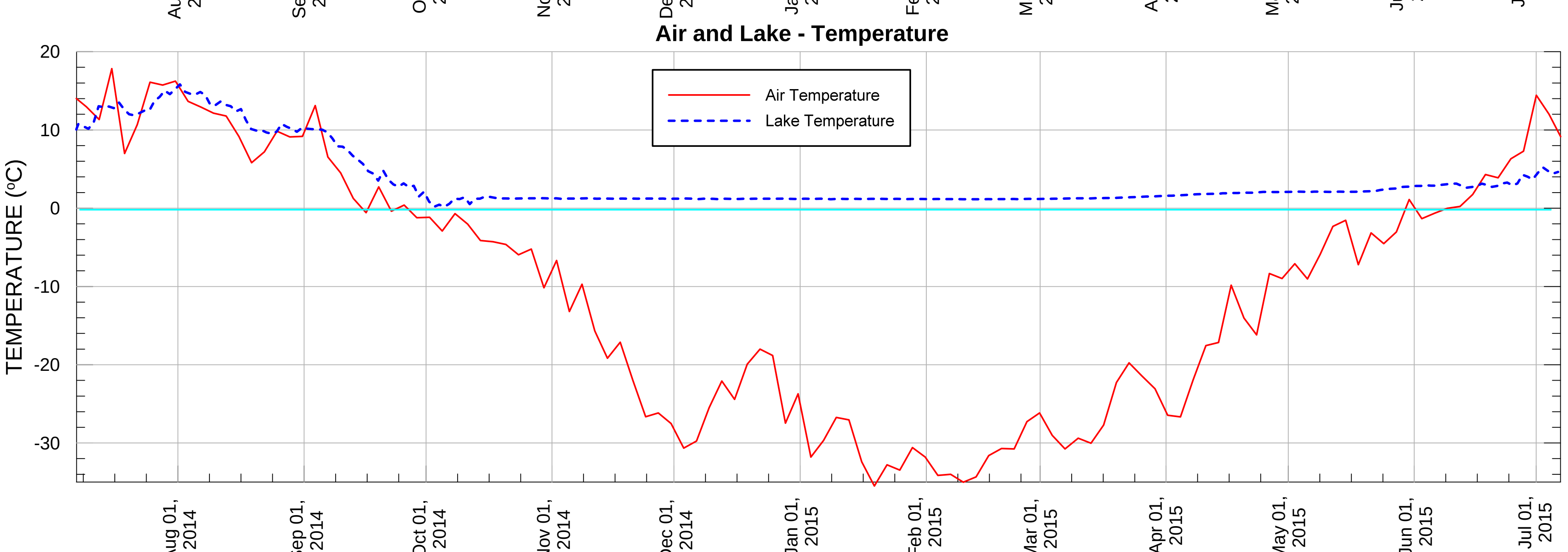
PROJECT No.			PHASE No.
DESIGN	TD	28AUG14	SCALE AS SHOWN REV.
CADD	TD	28AUG14	**FIGURE 48**
CHECK	PG	28AUG14	
REVIEW			

STATION 60+490







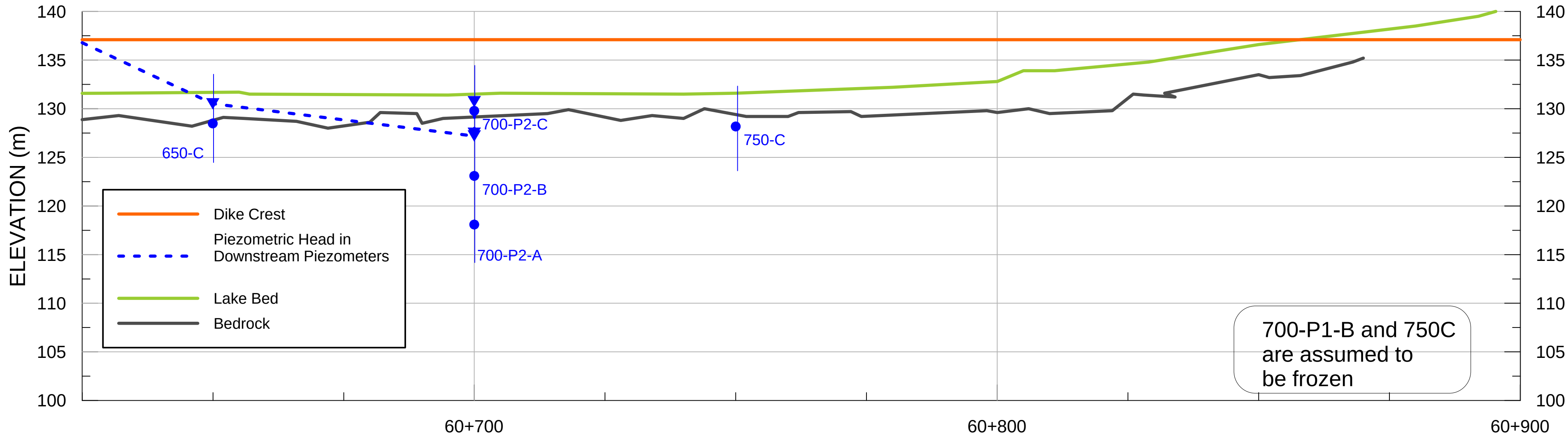


PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT
TITLE	EAST DIKE - SECTION 60+490 PIEZOMETRIC DATA (July 7/14 to July 7/15)

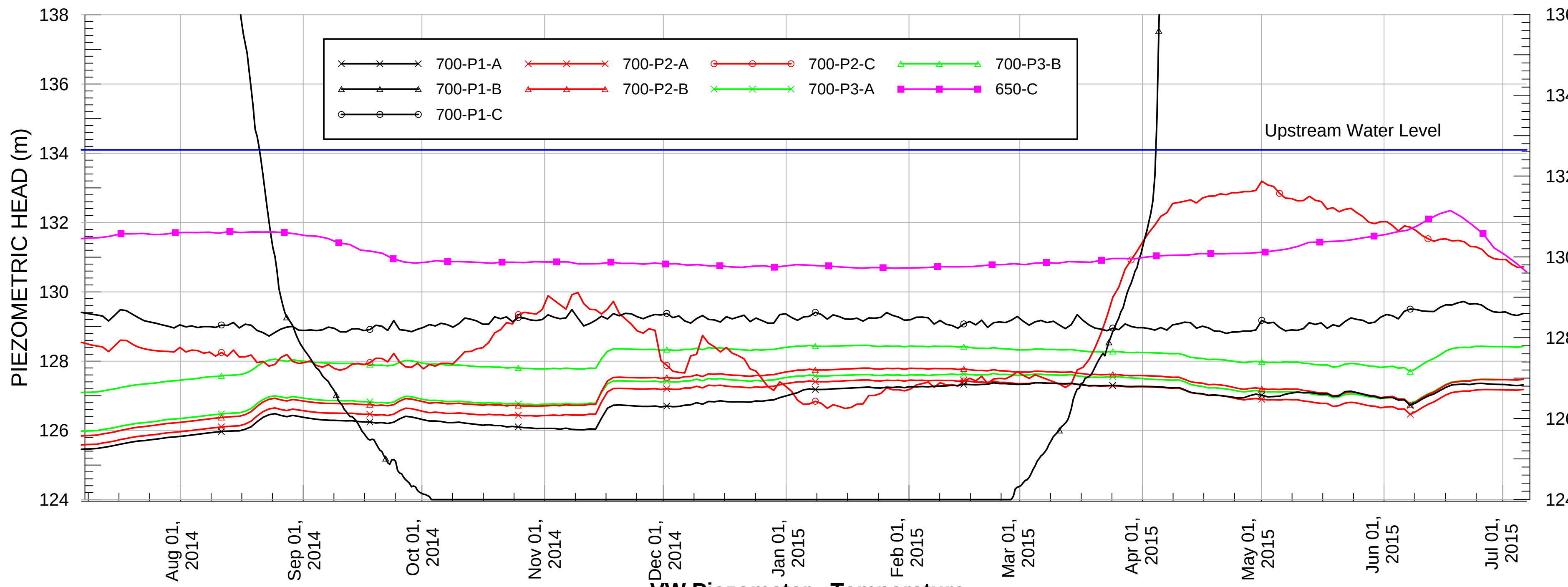
AGNICO EAGLE
MEADOWBANK

PROJECT No.			PHASE No.	
DESIGN	TD	28AUG14	SCALE AS SHOWN	REV.
CADD	TD	28AUG14		
CHECK			FIGURE 49	
REVIEW				

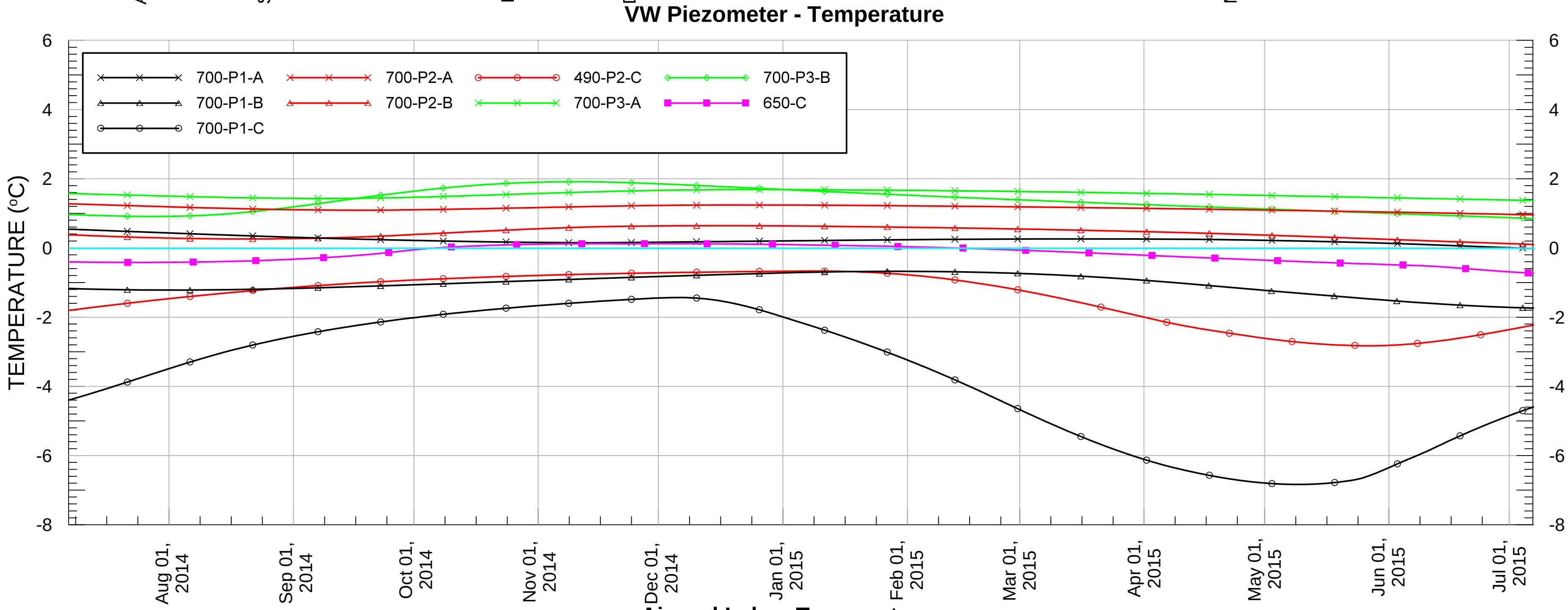
East Dike - Longitudinal Section - Station 60+600 to 60+900



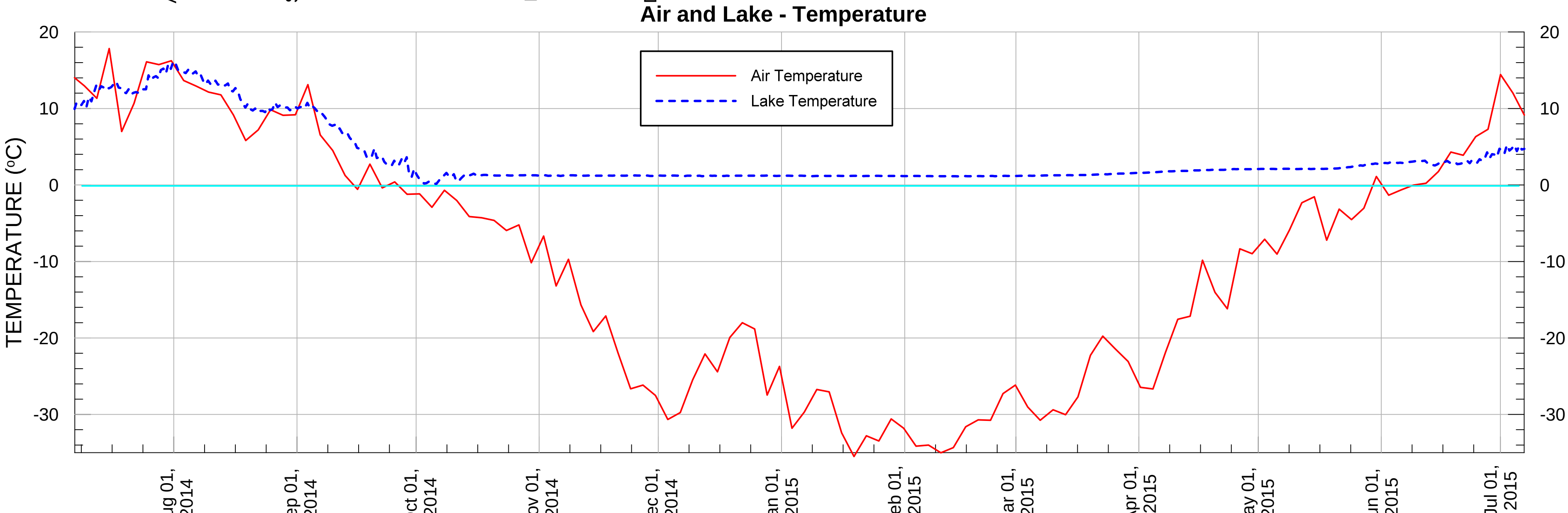
VW Piezometer - Total Head



VW Piezometer - Temperature



Air and Lake - Temperature



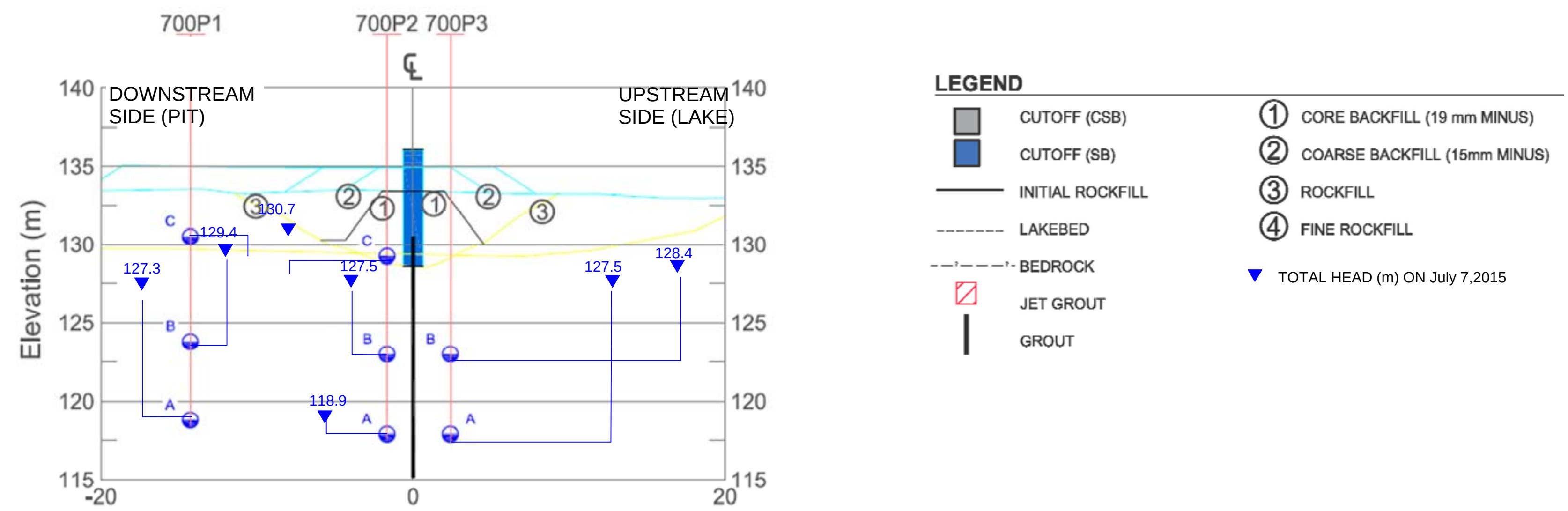
PROJECT
AGNICO EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

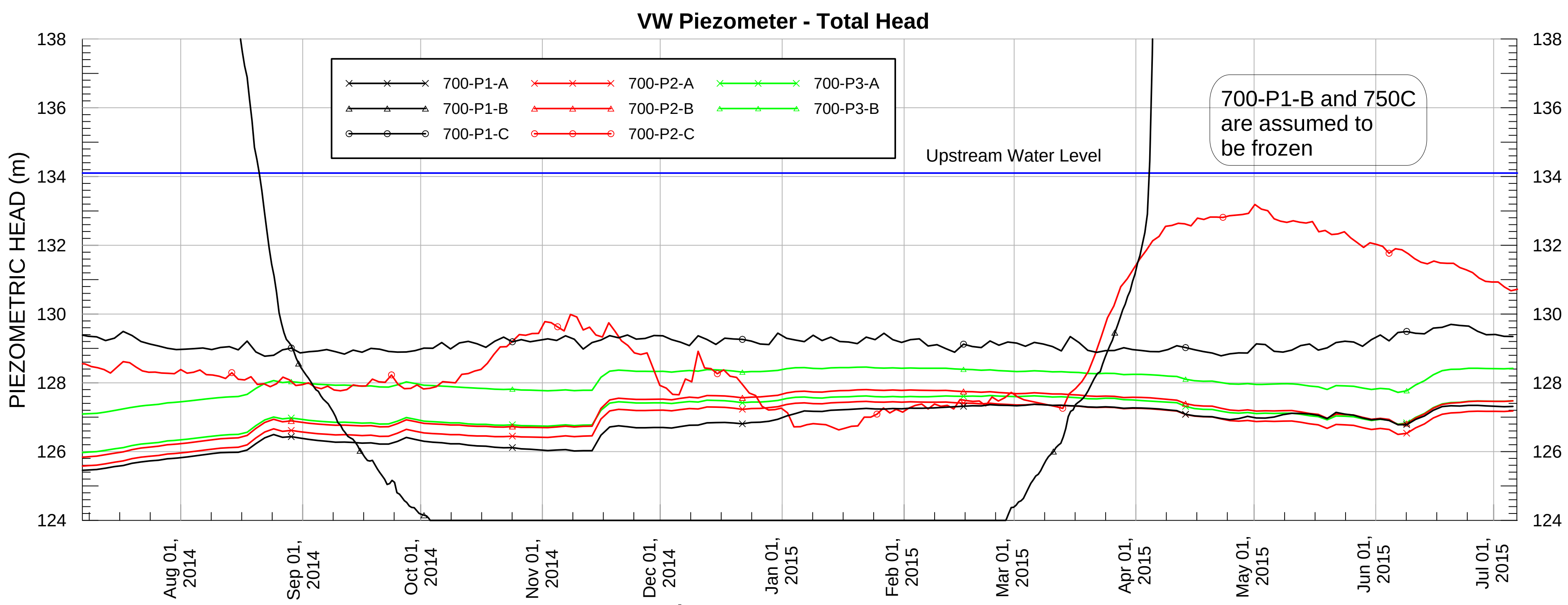
TITLE
EAST DIKE
Section 60+600 to 60+900 - PIEZOMETRIC DATA
(July 7/14 to July 7/15)

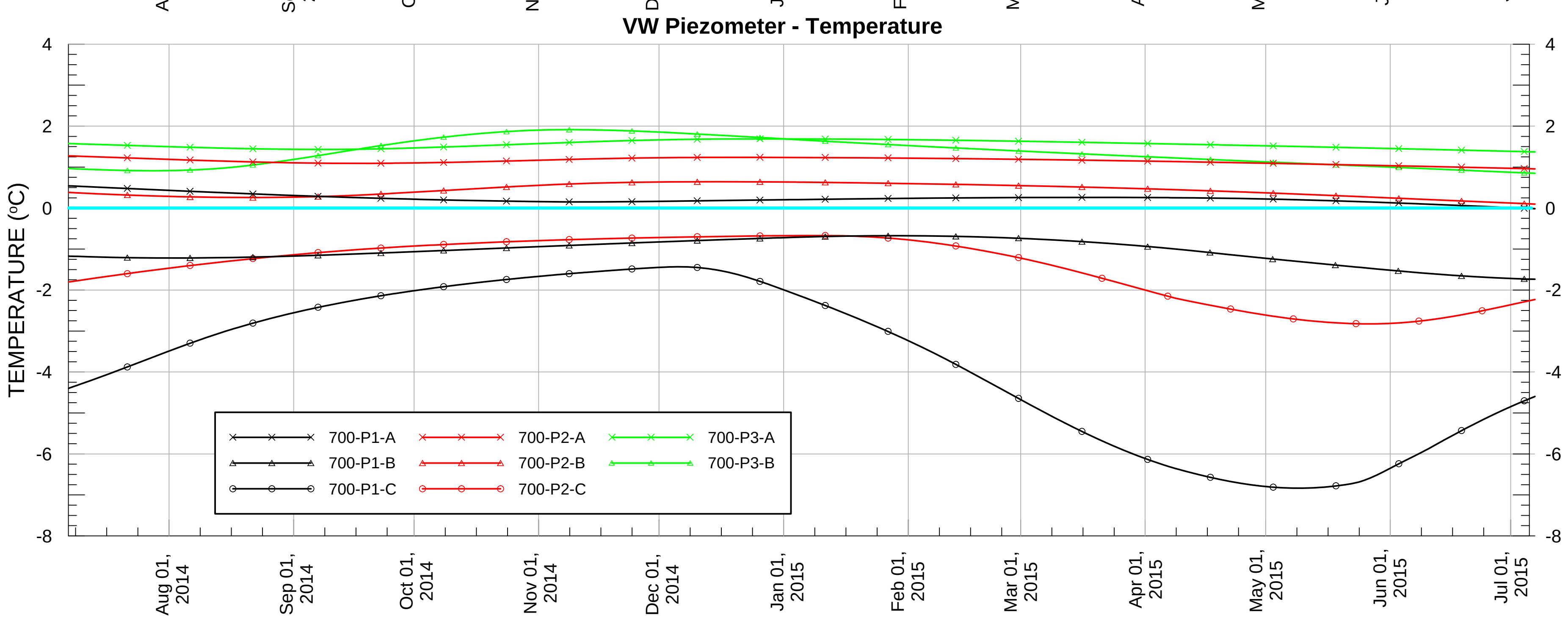
AGNICO EAGLE MEADOWBANK

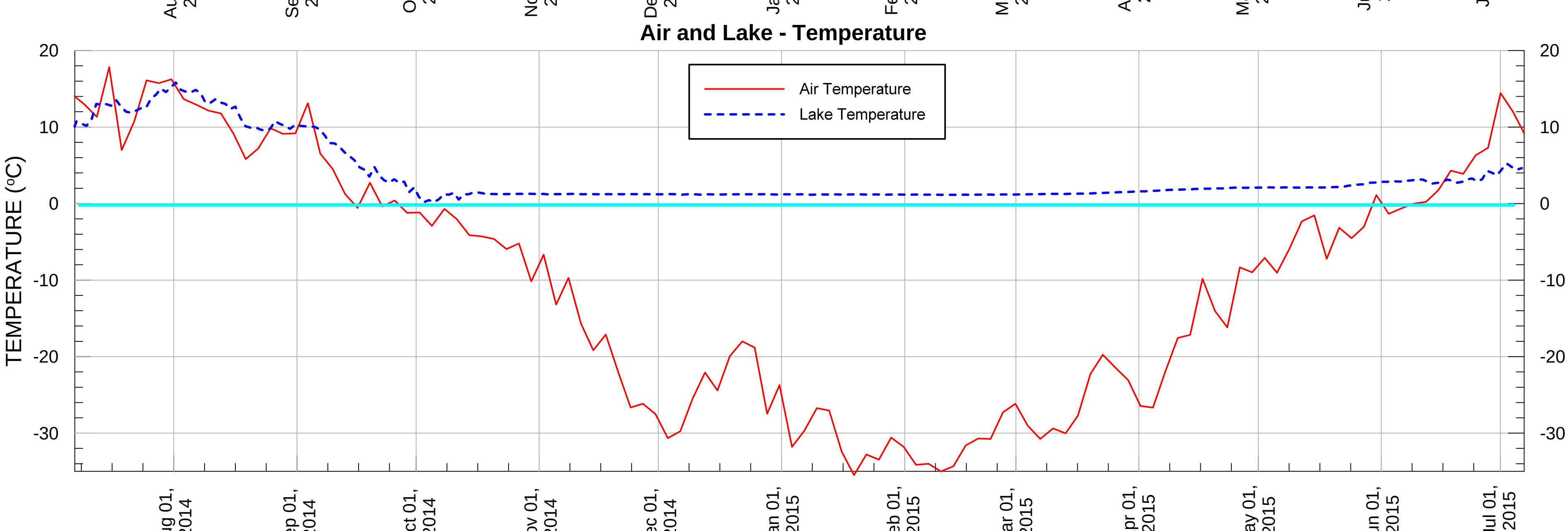
PROJECT No.			PHASE No.	
DESIGN	TD	28AUG14	SCALE AS SHOWN	REV.
CADD	TD	28AUG14	**FIGURE 50**	
CHECK	PG	28AUG14		
REVIEW				

STATION 60+700

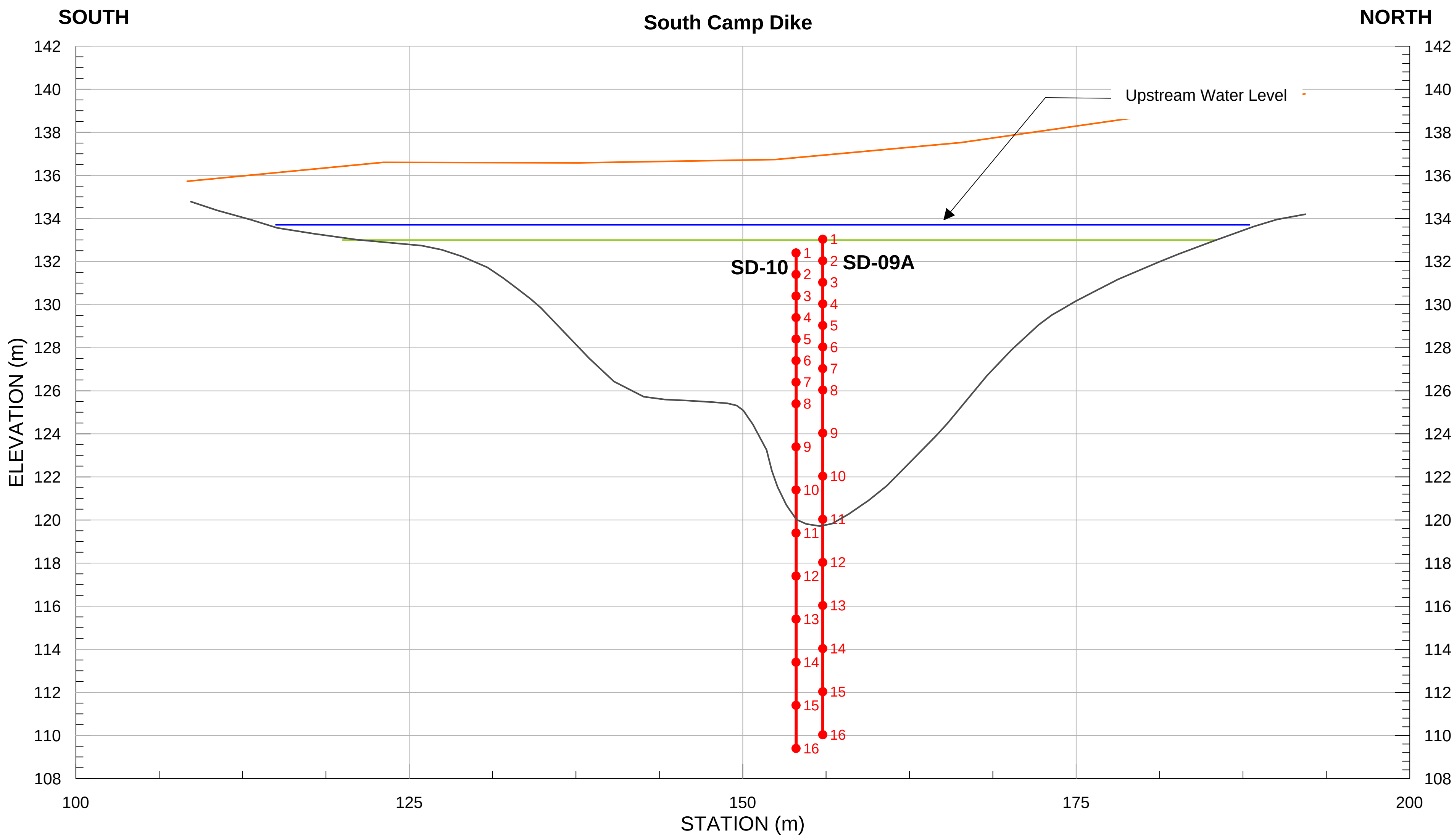


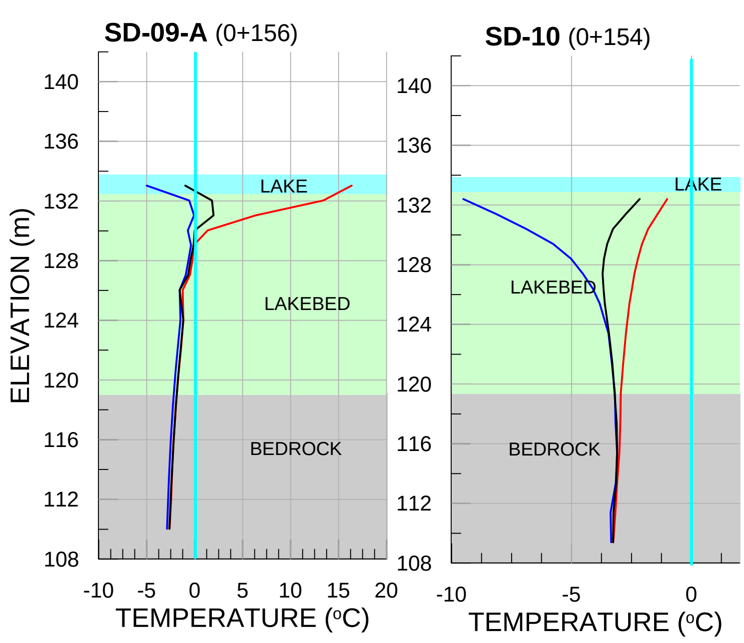


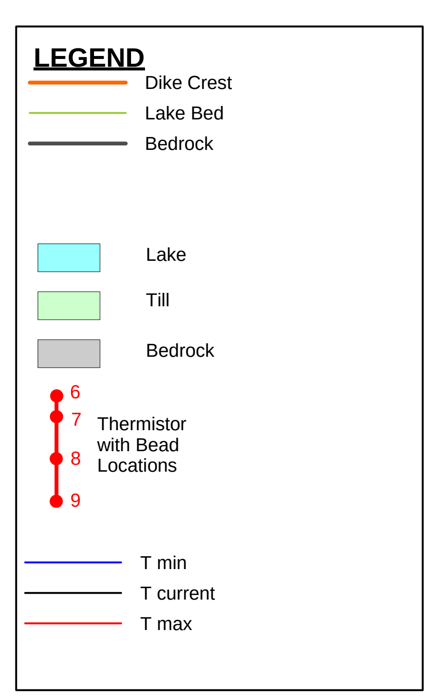




PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT				
TITLE	**EAST DIKE - SECTION 60+700** **PIEZOMETRIC DATA** **(July 7/14 to July 7/15)**				
AGNICO EAGLE MEADOWBANK	PROJECT No.			PHASE No.	
	DESIGN	TD	28AUG14	SCALE AS SHOWN	REV.
	CADD	TD	28AUG14	**FIGURE 51**	
	CHECK	PG	28AUG14		
	REVIEW				



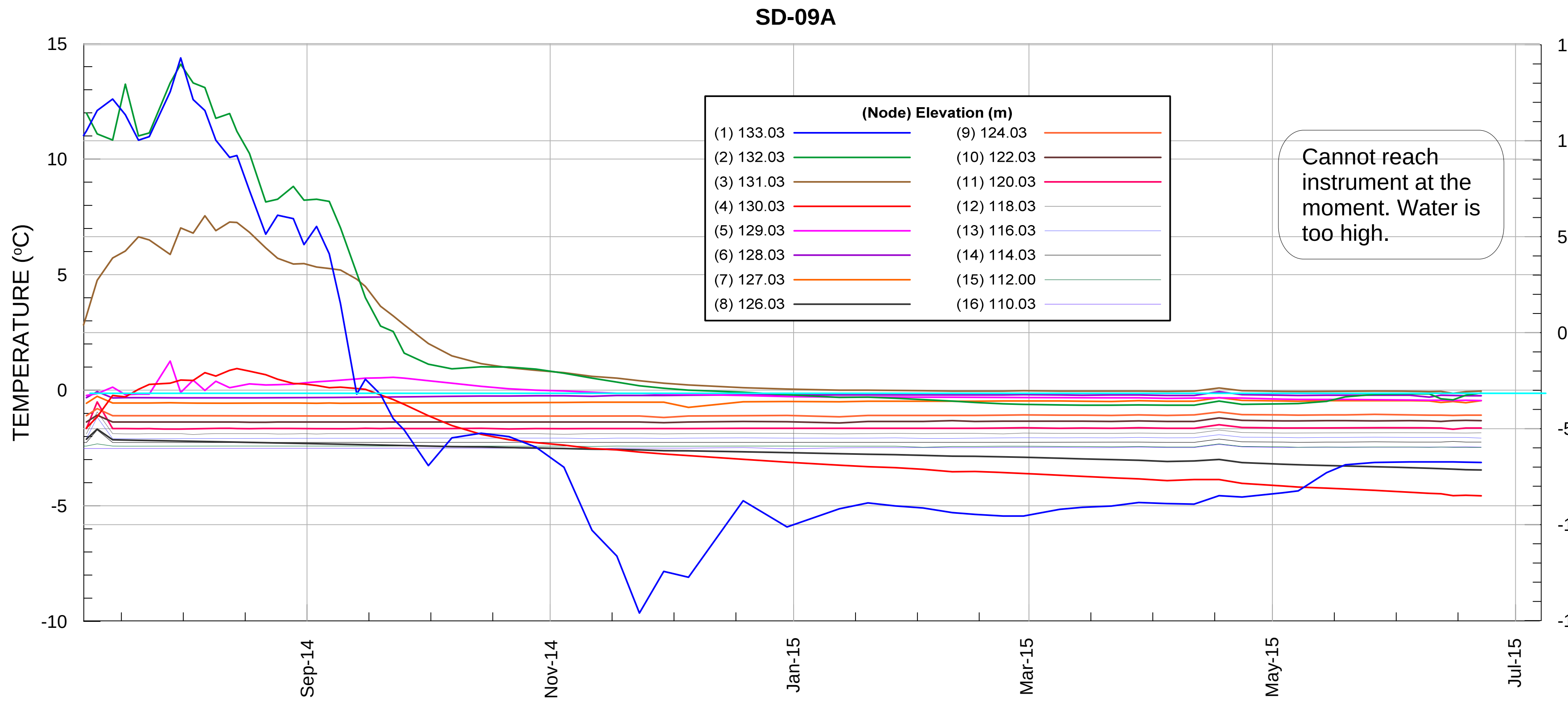


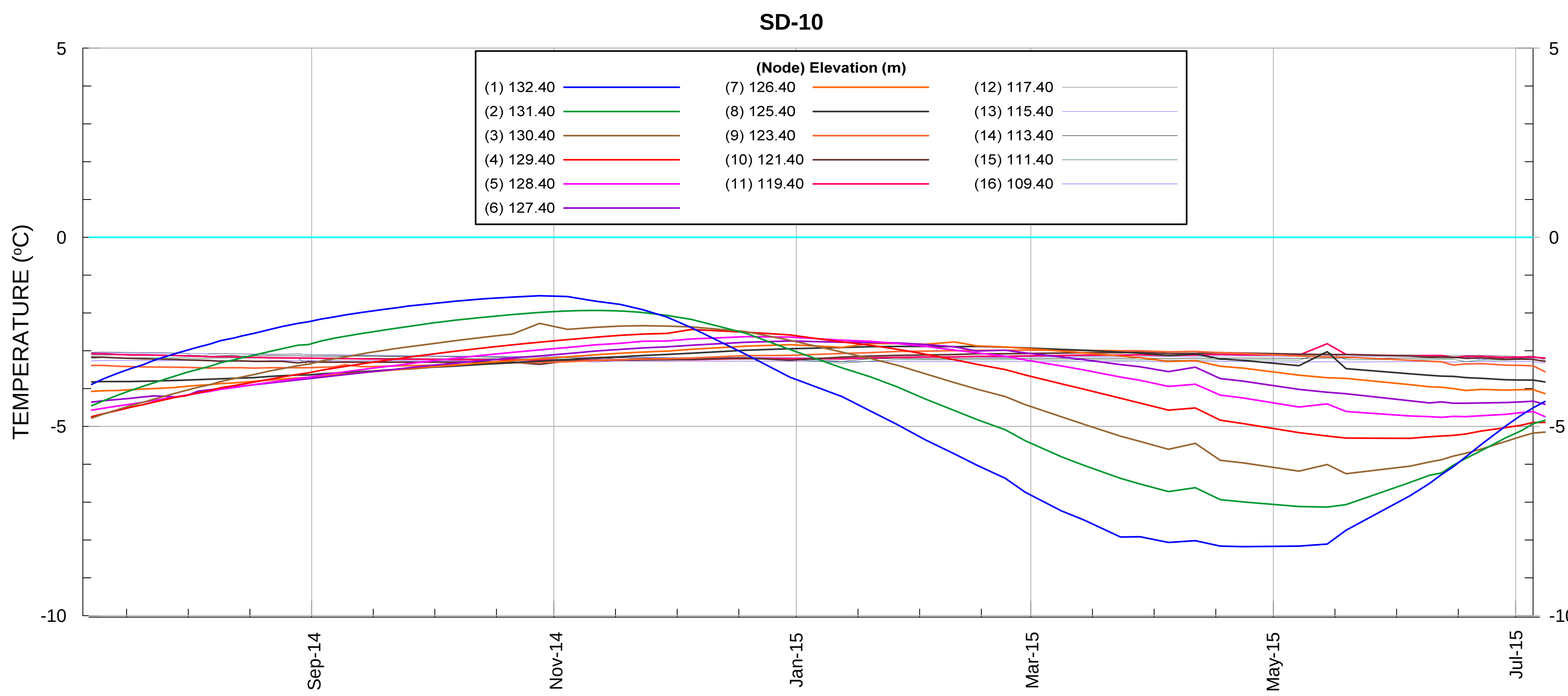


PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT
TITLE	SOUTH CAMP DIKE TEMPERATURE DATA (July 7/14 to July 7/15)

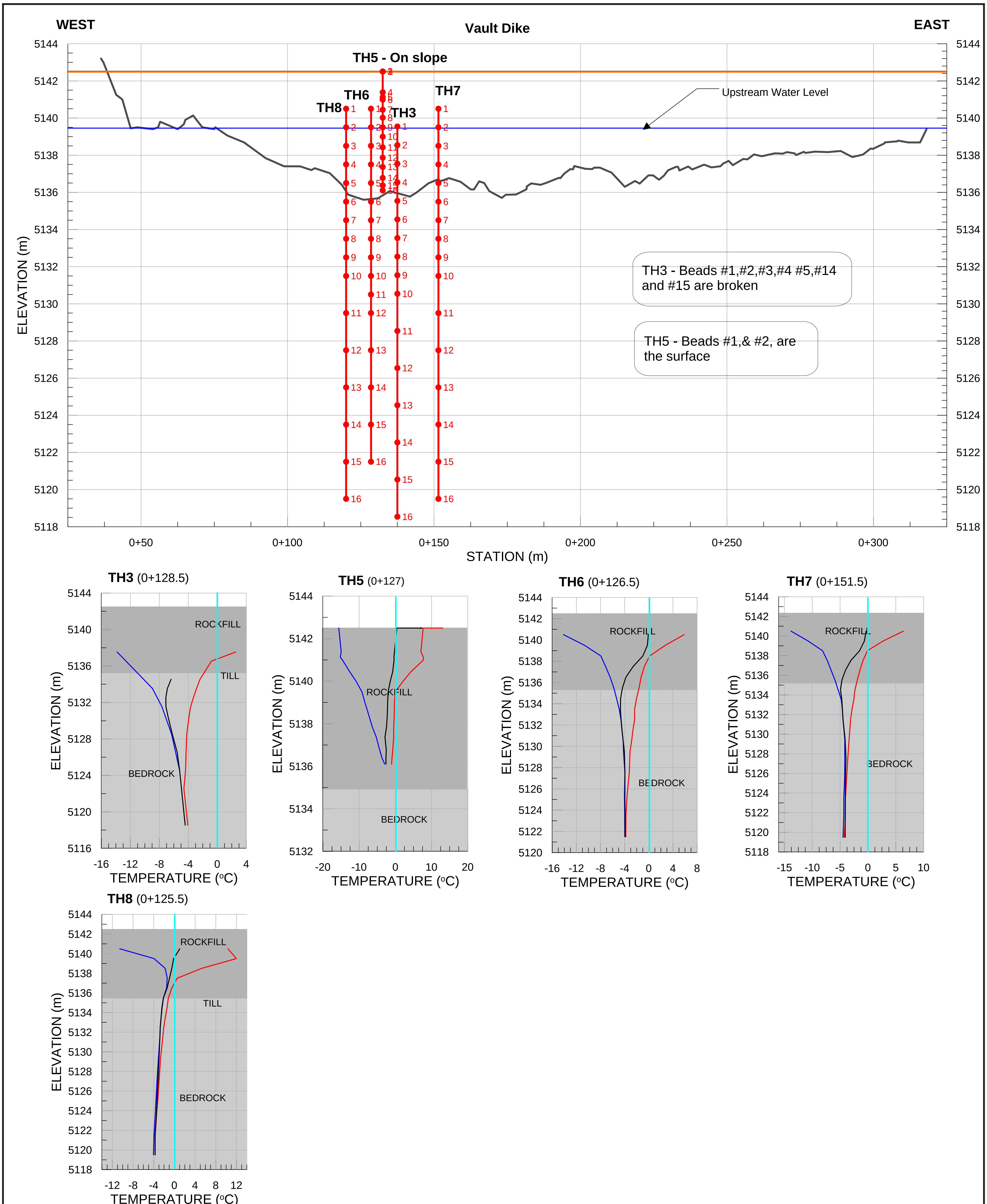
AGNICO EAGLE MEADOWBANK

PROJECT No.			PHASE No.
DESIGN	TD	28AUG14	SCALE AS SHOWN REV.
CADD	TD	28AUG14	FIGURE 52
CHECK	PG	28AUG14	
REVIEW			





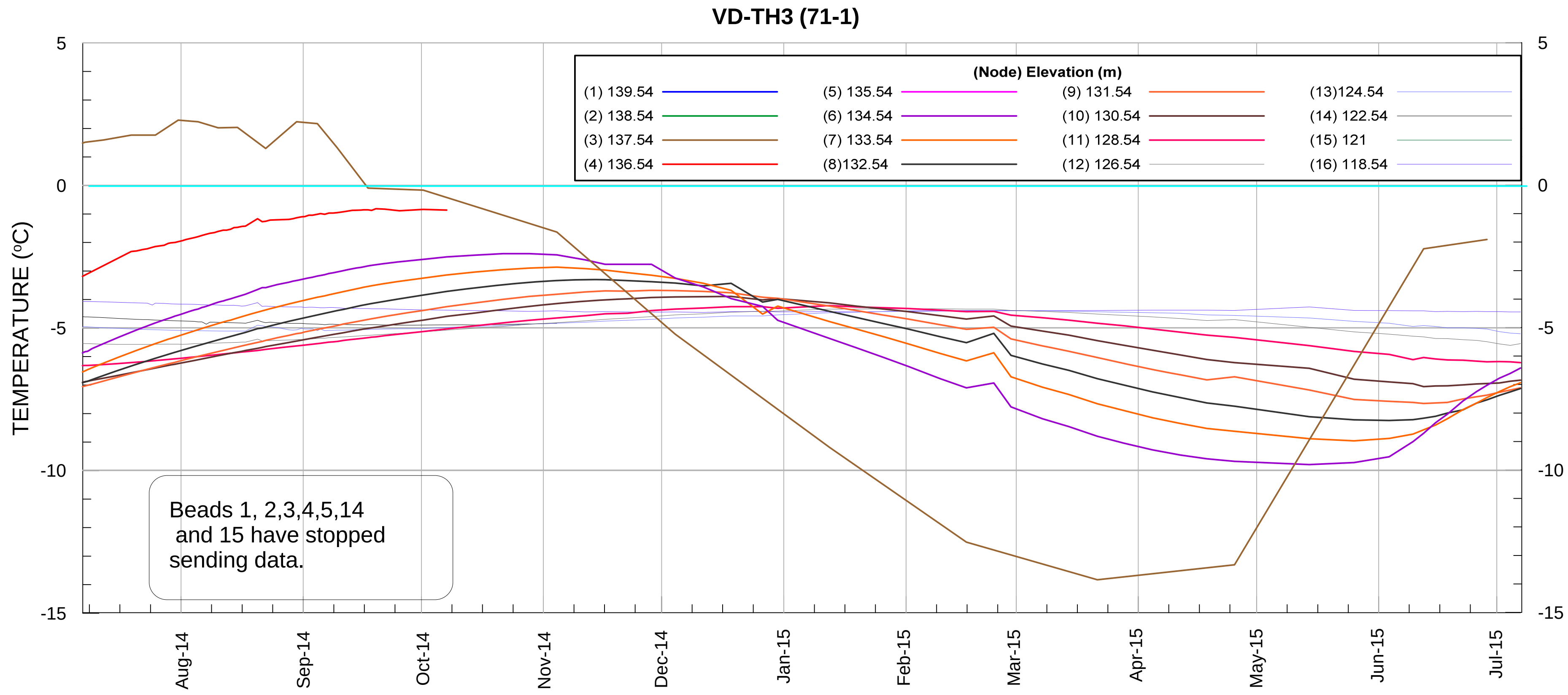
PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT				
TITLE	SOUTH CAMP DIKE NODAL THERMAL TIMELINES (July 7/14 to July 7/15)				
AGNICO EAGLE MEADOWBANK	PROJECT No.			PHASE No.	
	DESIGN	TD	28AUG14	SCALE AS SHOWN	REV.
	CADD	TD	28AUG14	FIGURE 53	
	CHECK	PG	28AUG14		
	REVIEW				

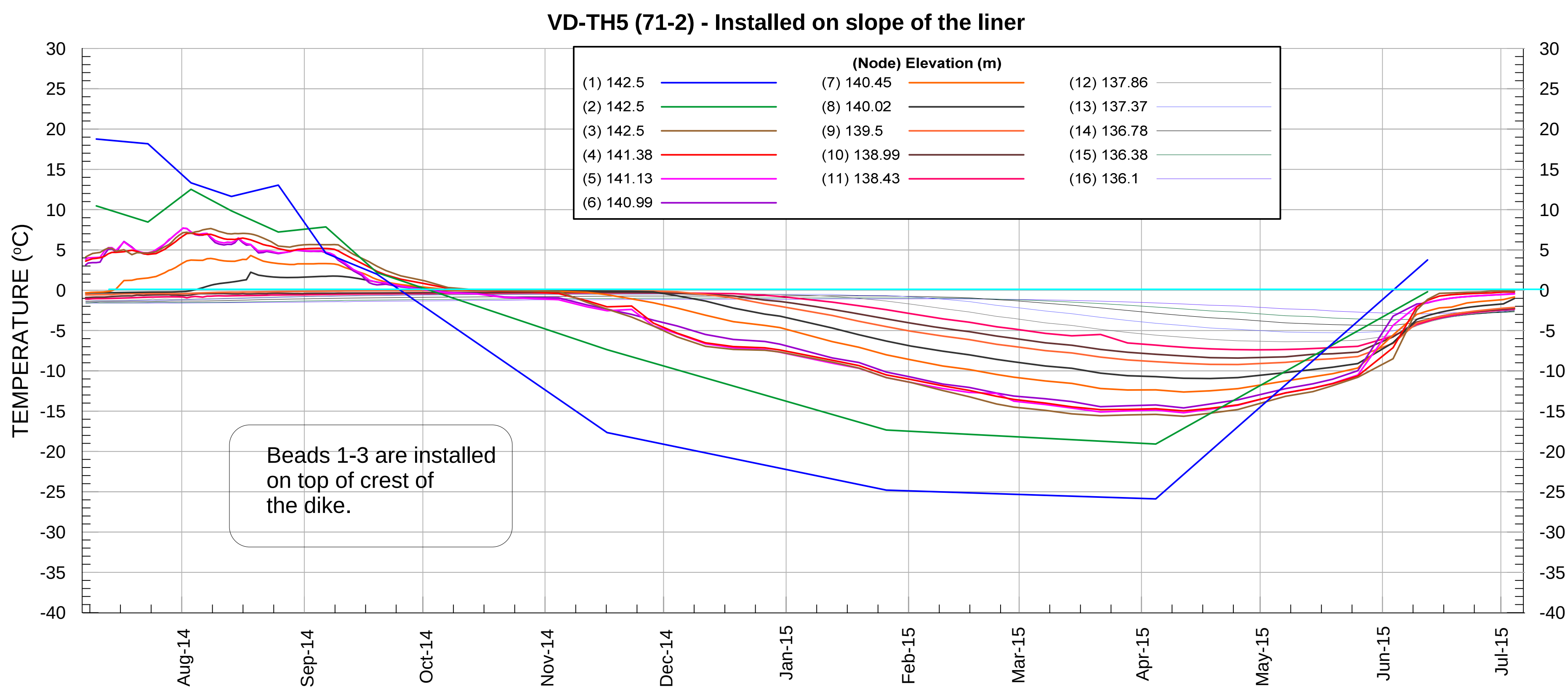


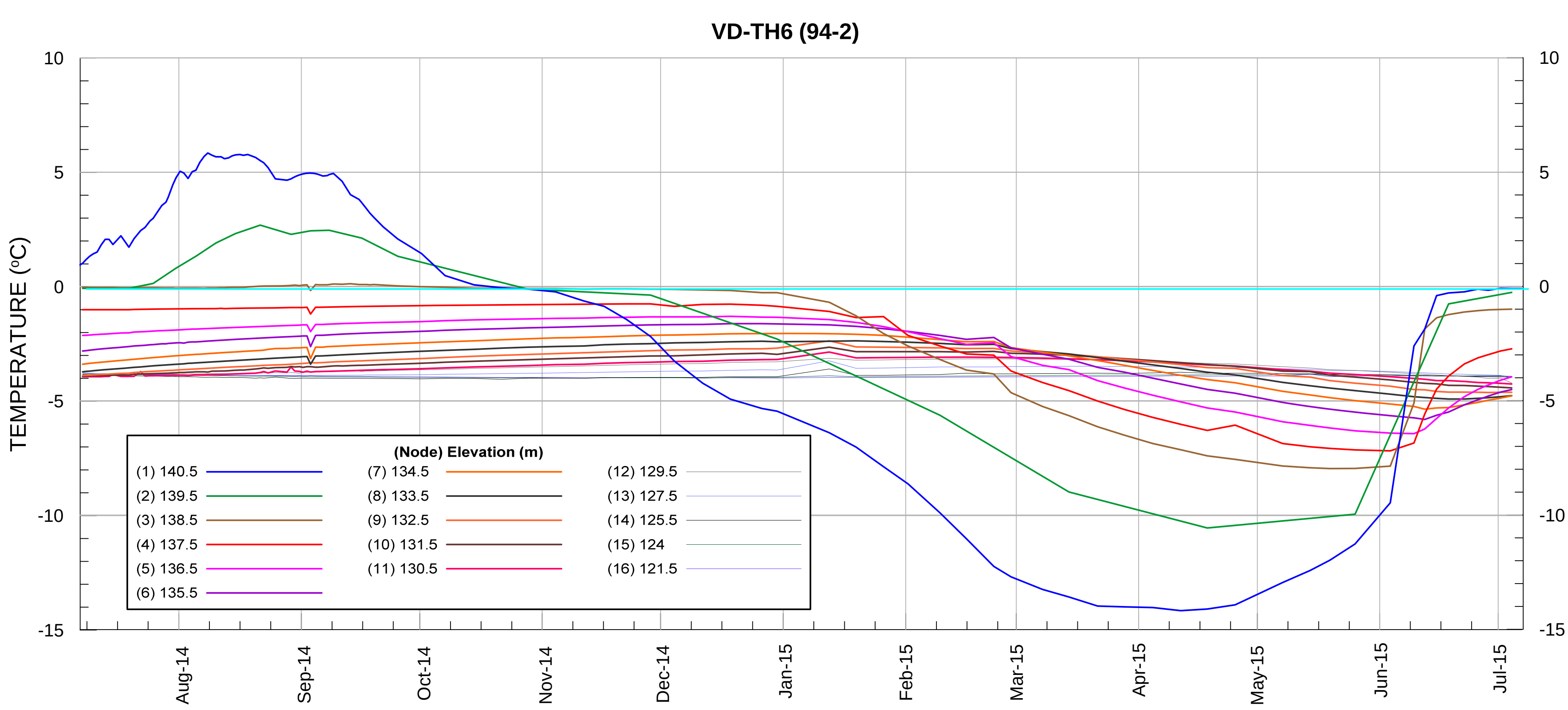
LEGEND

- Dike Crest
- Lake Bed
- Bedrock
- T min
- T current
- T max
- Lake
- Till
- Bedrock
- Thermistor with Bead Locations

PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT			
TITLE	VAULT DIKE TEMPERATURE DATA July 7/14 to July 7/15)			
AGNICO EAGLE MEADOWBANK	PROJECT No.			PHASE No.
	DESIGN	TD	28AUG14	SCALE AS SHOWN REV.
	CADD	TD	28AUG14	FIGURE 54
	CHECK	PG	28AUG14	
	REVIEW			



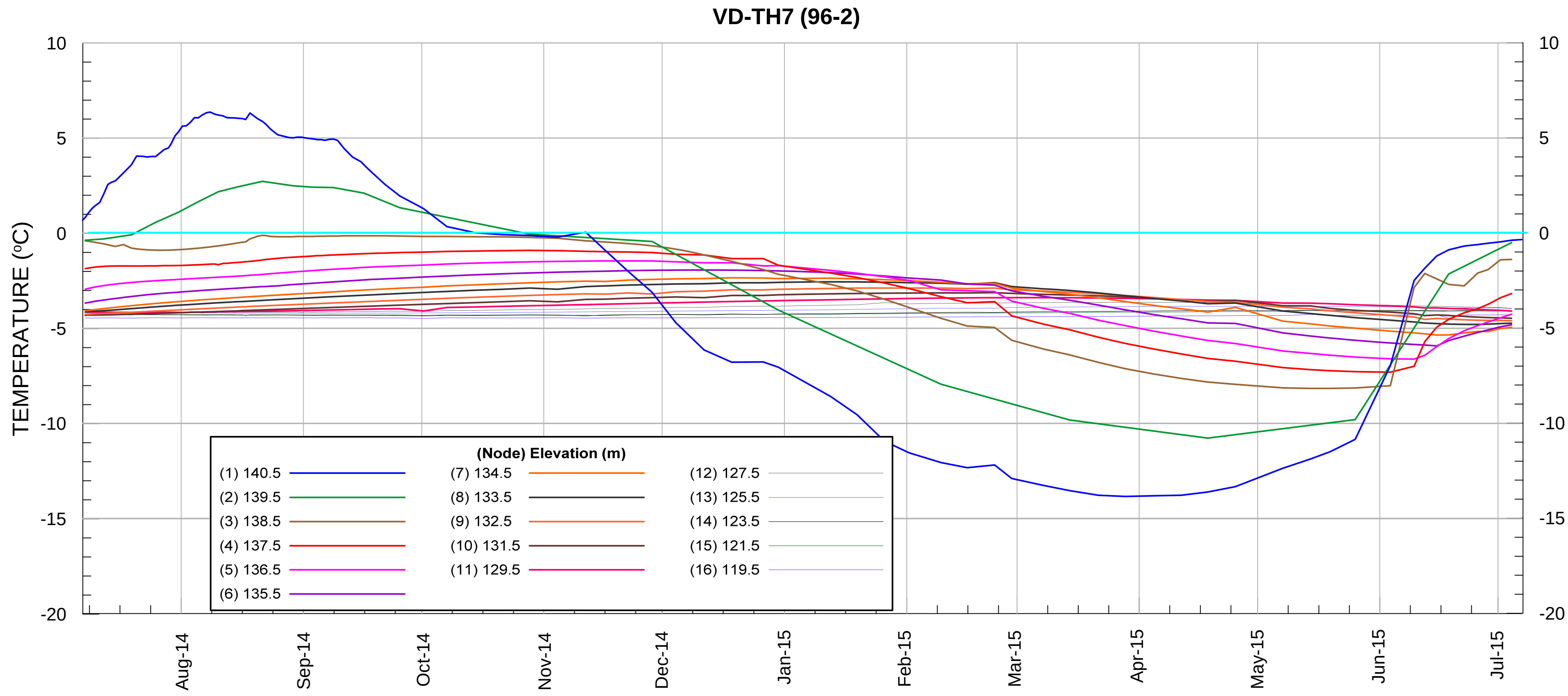


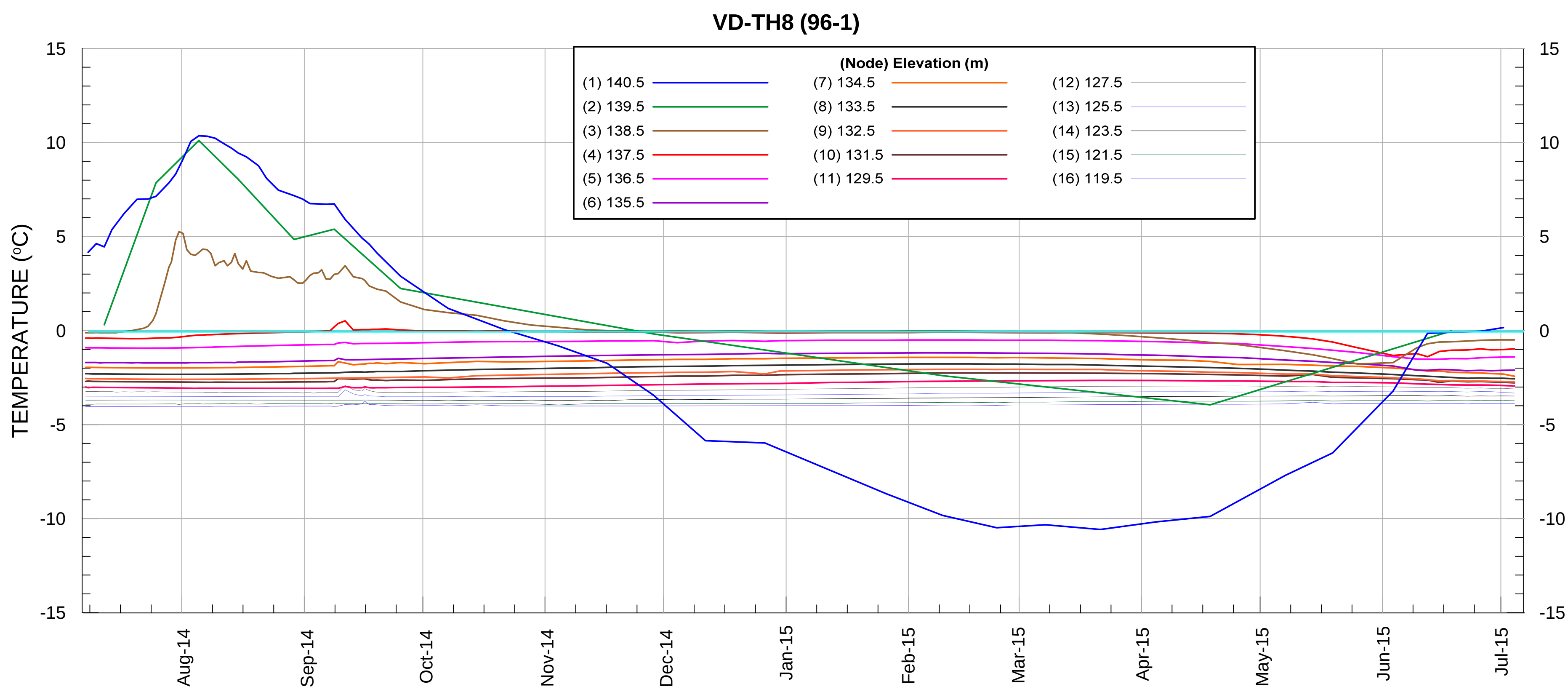


PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT
TITLE	VAULT DIKE NODAL THERMAL TIMELINES (July 7/14 to July 7/15)

AGNICO EAGLE MEADOWBANK

PROJECT No.			PHASE No.	
DESIGN	TD	28AUG14	SCALE AS SHOWN	REV.
CADD	TD	28AUG14	FIGURE 55	
CHECK	PG	28AUG14		
REVIEW				



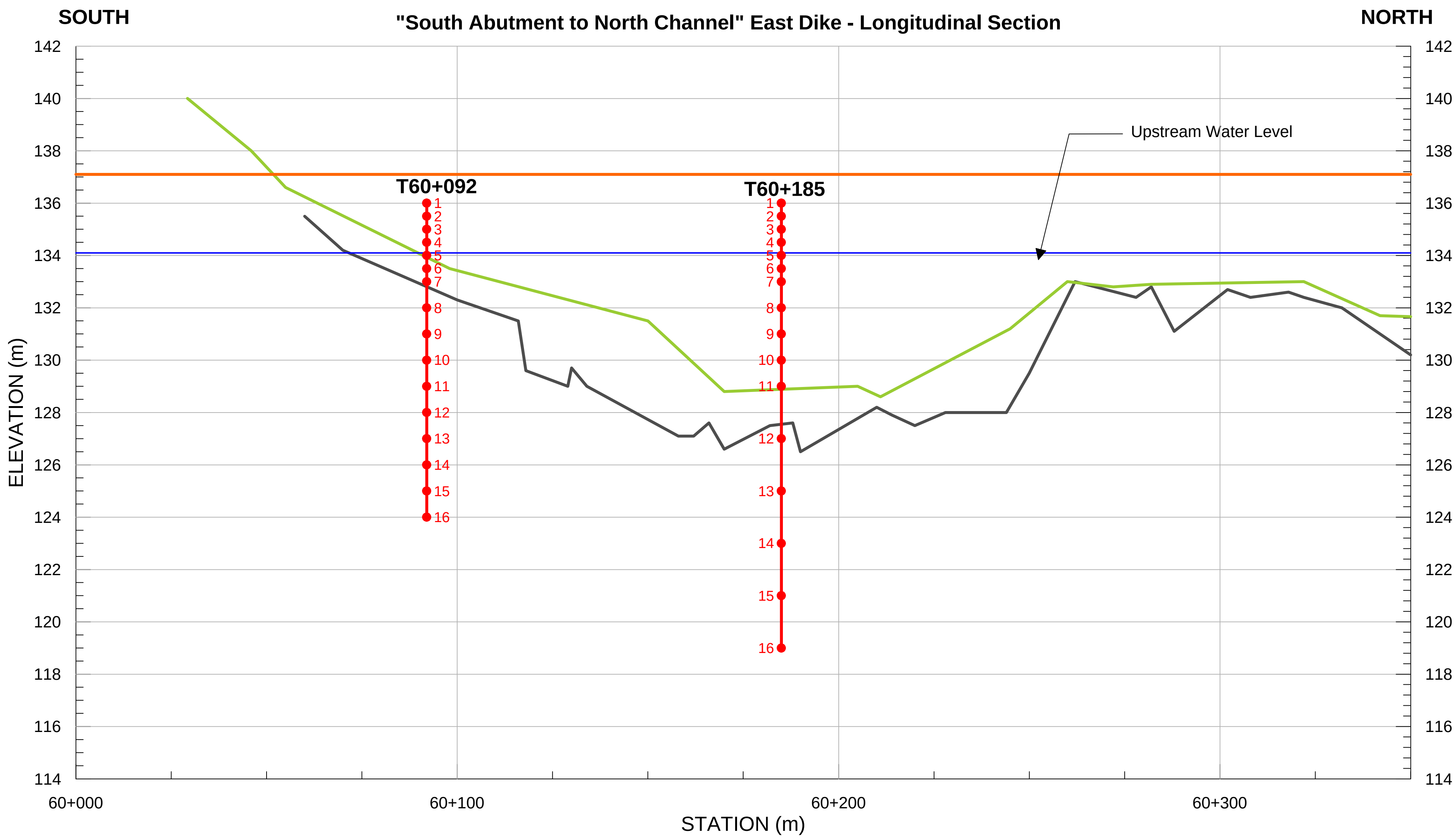


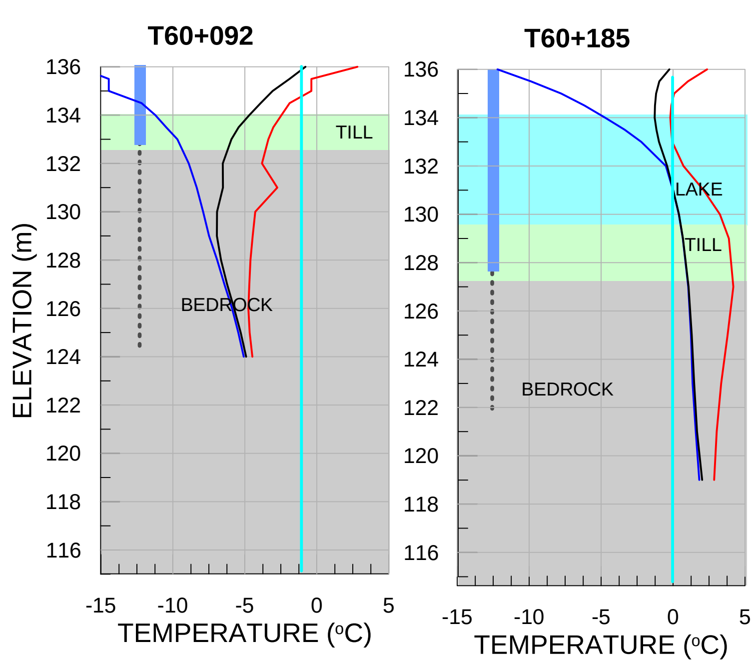
PROJECT
AGNICO EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

TITLE
VAULT DIKE
NODAL THERMAL TIMELINES
(July 7/14 to July 7/15)

AGNICO EAGLE
MEADOWBANK

PROJECT No.			PHASE No.	
DESIGN	TD	28AUG14	SCALE AS SHOWN	REV.
CADD	TD	28AUG14	**FIGURE 56**	
CHECK	PG	28AUG14		
REVIEW				





LEGEND

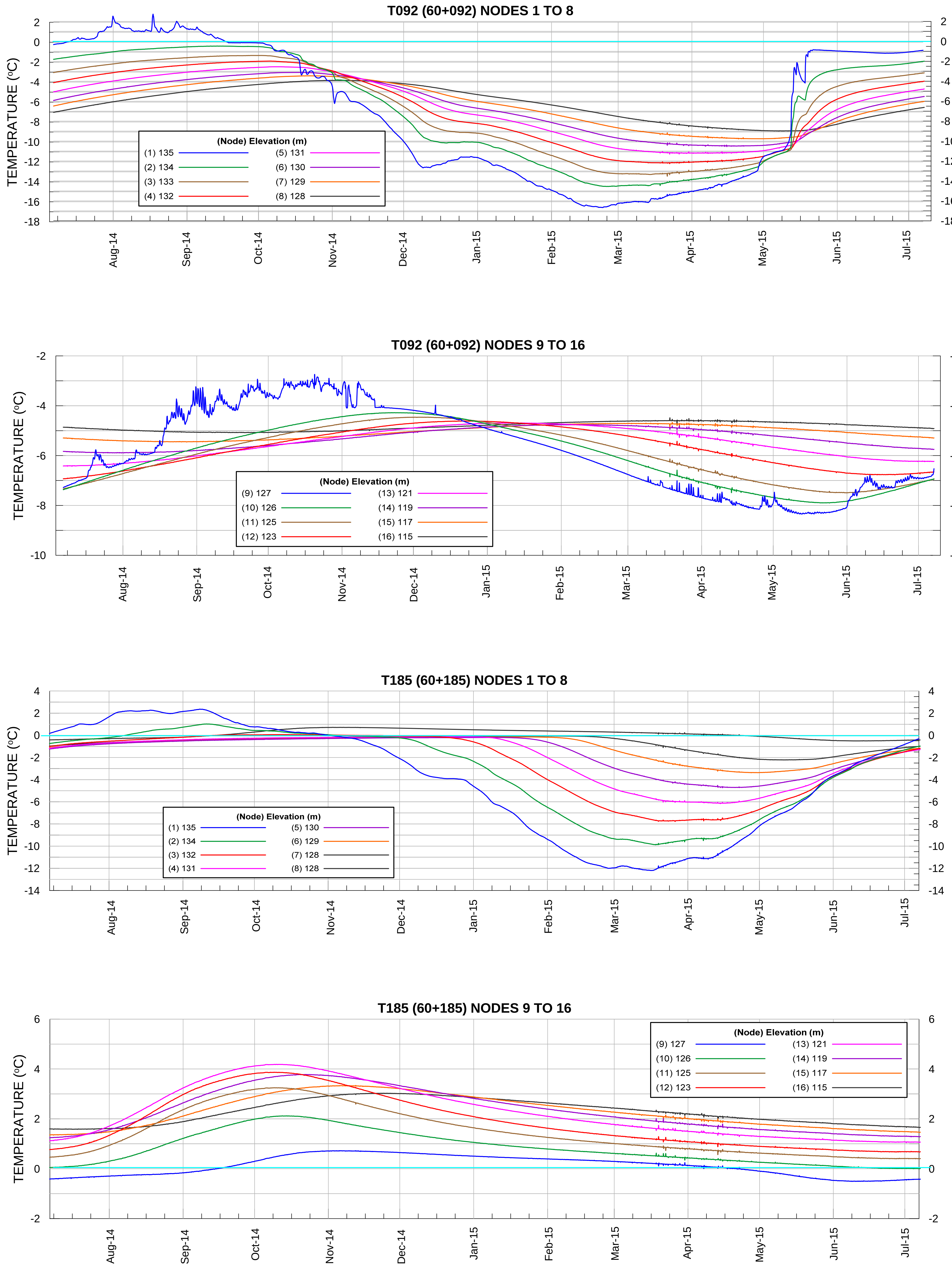
- Dike Crest
- Piezometric Head in Downstream Piezometers
- Lake Bed
- Bedrock
- Lake
- Till
- Bedrock
- Thermistor with Bead Locations
- Vibrating Wire Piezometer Installation Level
- SB
- CSB
- Jet Grouting
- Grouting
- T min
- T current
- T max

NOTES:
1.

PROJECT	**AGNICO EAGLE MINES LIMITED** **MEADOWBANK GOLD PROJECT** **NUNAVUT**
TITLE	**EAST DIKE** **60+000 to 60+350 - TEMPERATURE DATA** **(July7/14 to July 7/15)**

AGNICO EAGLE
MEADOWBANK

PROJECT No.			PHASE No.
DESIGN	TD	20JAN14	SCALE AS SHOWN REV.
CADD	TD	20JAN14	
CHECK			**FIGURE 57**
REVIEW			



PROJECT

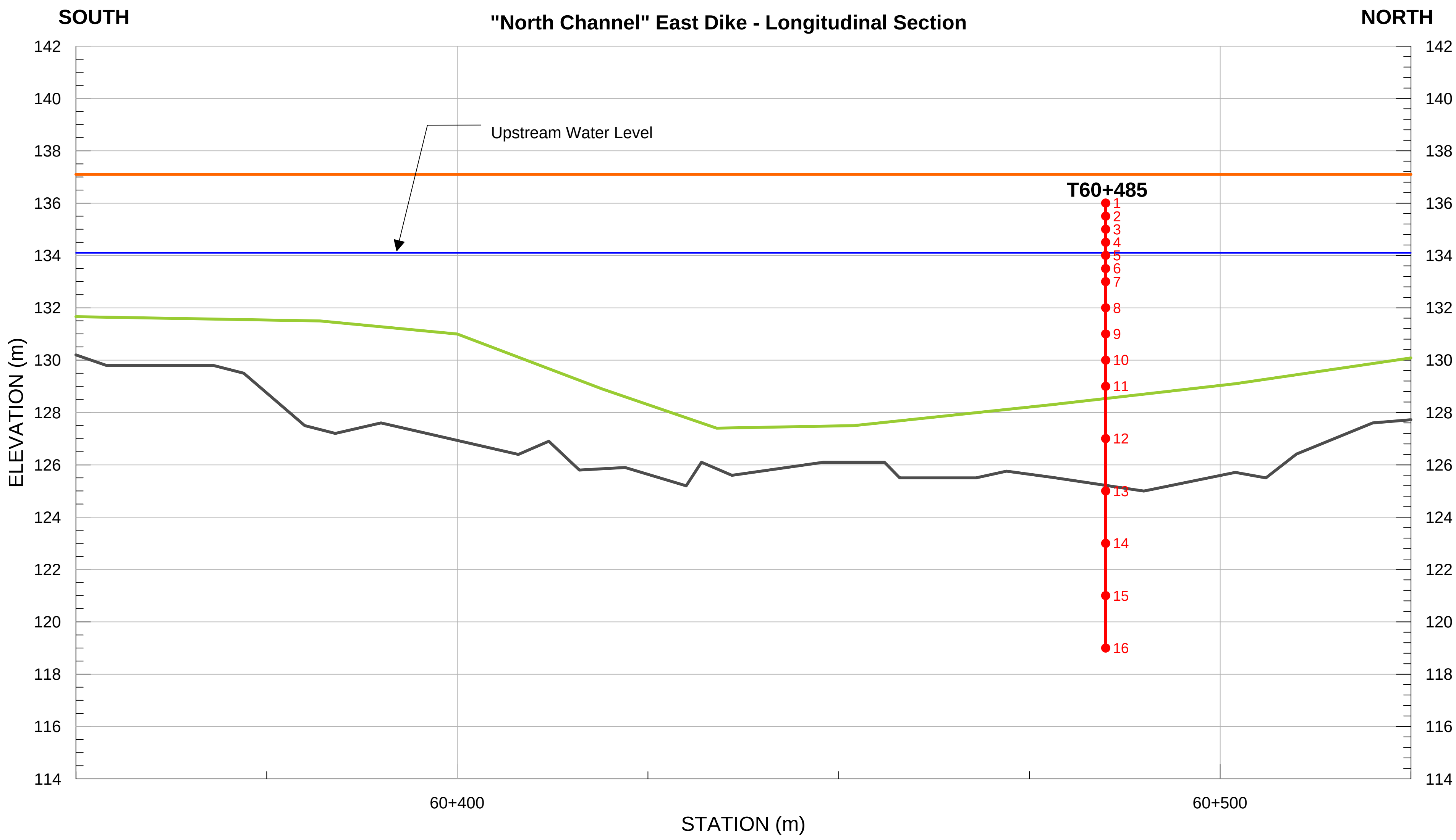
AGNICO EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

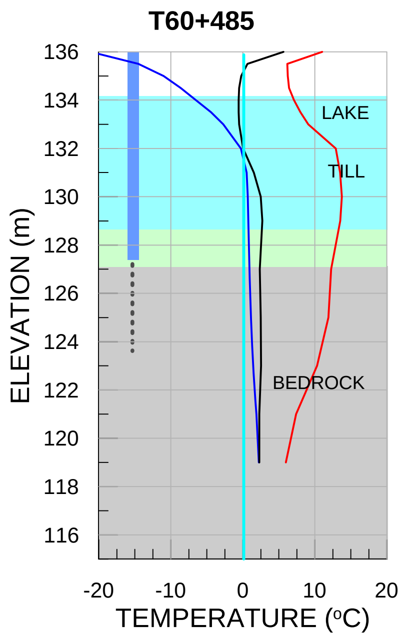
TITLE

EAST DIKE
NODAL THERMAL TIMELINES
(July 7/14 to July 7/15)

AGNICO EAGLE
MEADOWBANK

PROJECT No.			PHASE No.
DESIGN	TD	20JAN14	SCALE AS SHOWN REV.
CADD	TD	20JAN14	**FIGURE 58**
CHECK			
REVIEW			





LEGEND

- Dike Crest
- Piezometric Head in Downstream Piezometers
- Lake Bed
- Bedrock
- Lake
- Till
- Bedrock
- Thermistor with Bead Locations
- Vibrating Wire Piezometer Installation Level
- SB
- CSB
- Jet Grouting
- Grouting
- T min
- T current
- T max

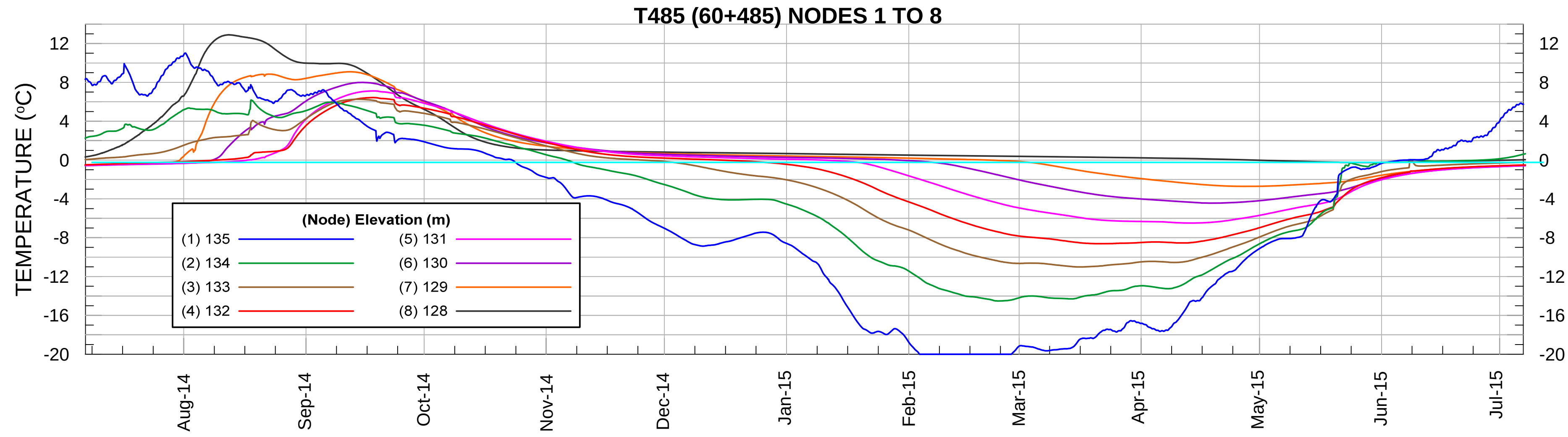
NOTES:
1.

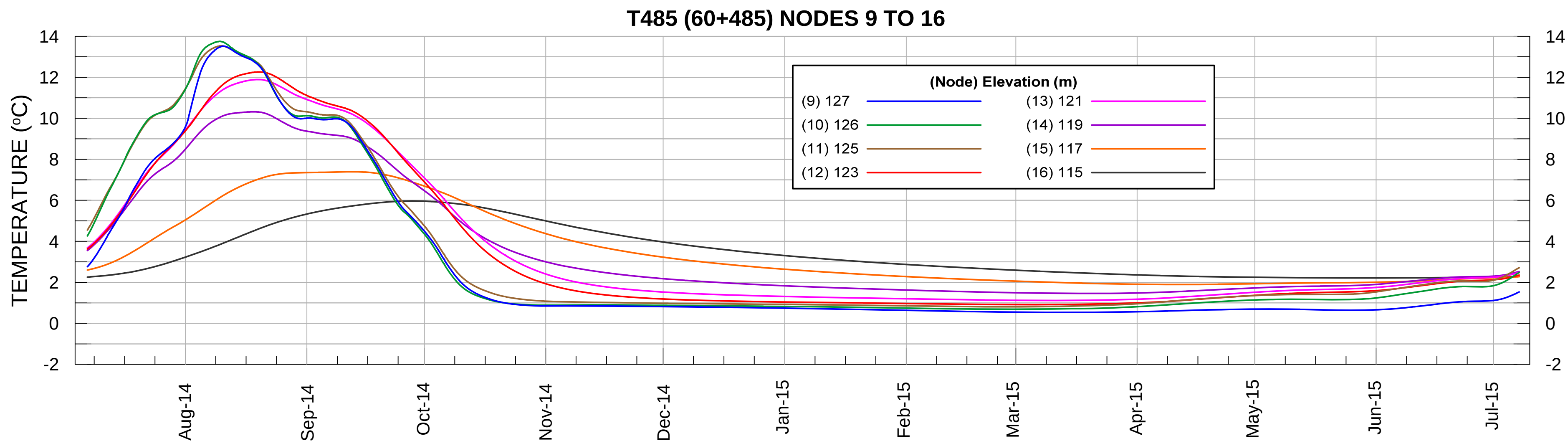
PROJECT **AGNICO EAGLE MINES LIMITED**
MEADOWBANK GOLD PROJECT
NUNAVUT

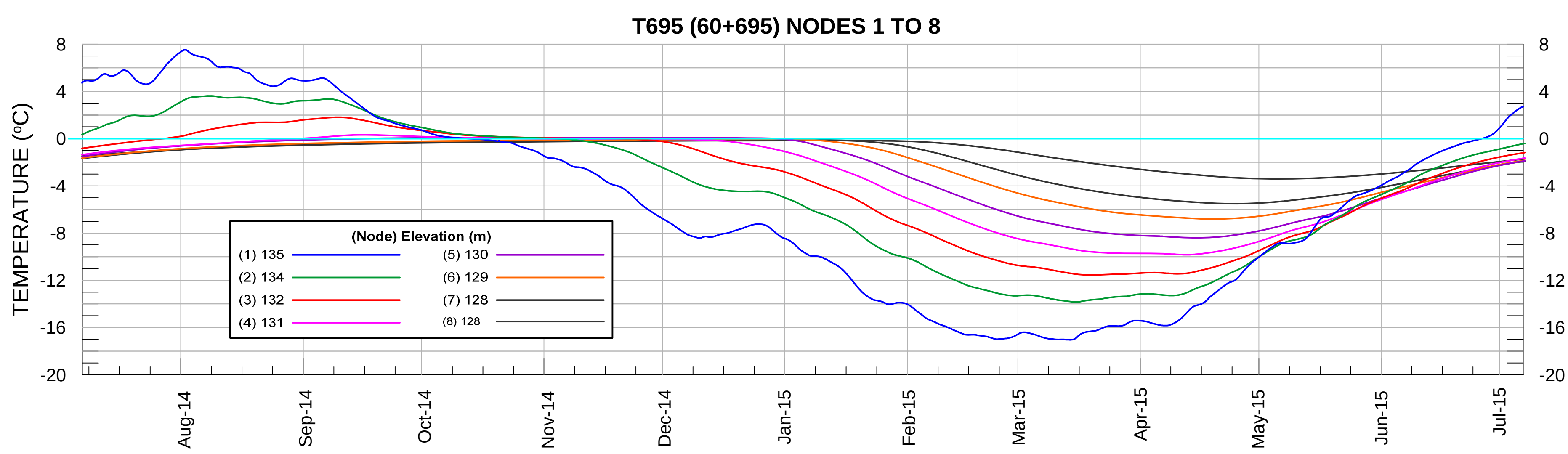
TITLE **BAYGOOSE DIKE**
60+350 to 60+525 - TEMPERATURE DATA
(July 7/14 to July 7/15)

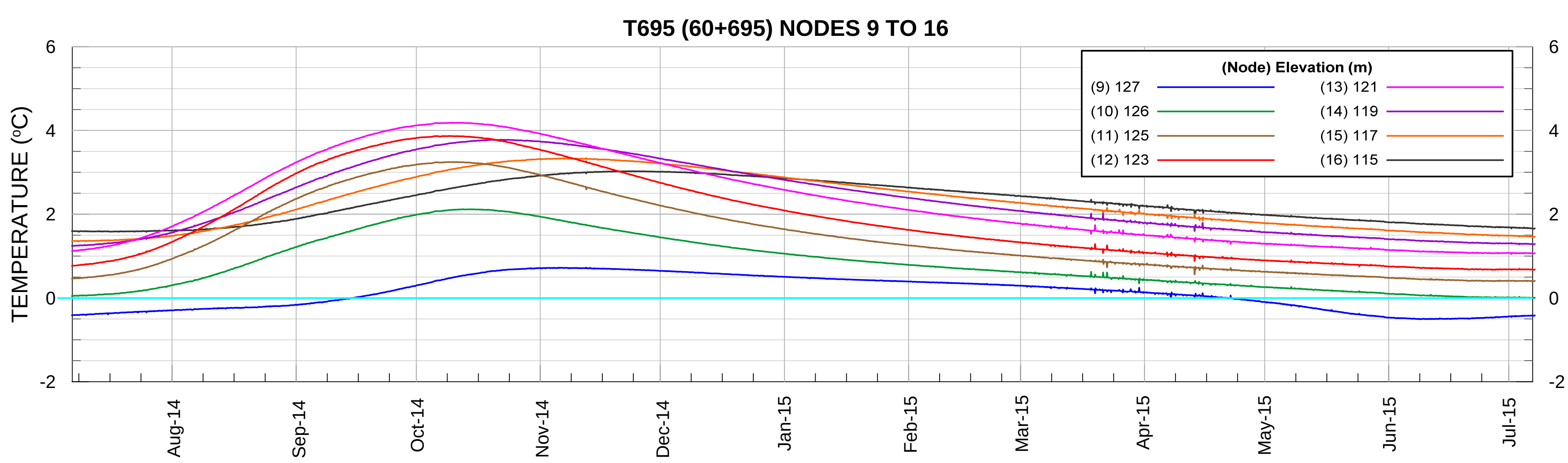
AGNICO EAGLE MEADOWBANK

PROJECT No.			PHASE No.
DESIGN	TD	20JAN14	SCALE AS SHOWN REV.
CADD	TD	20JAN14	**FIGURE 58**
CHECK			
REVIEW			





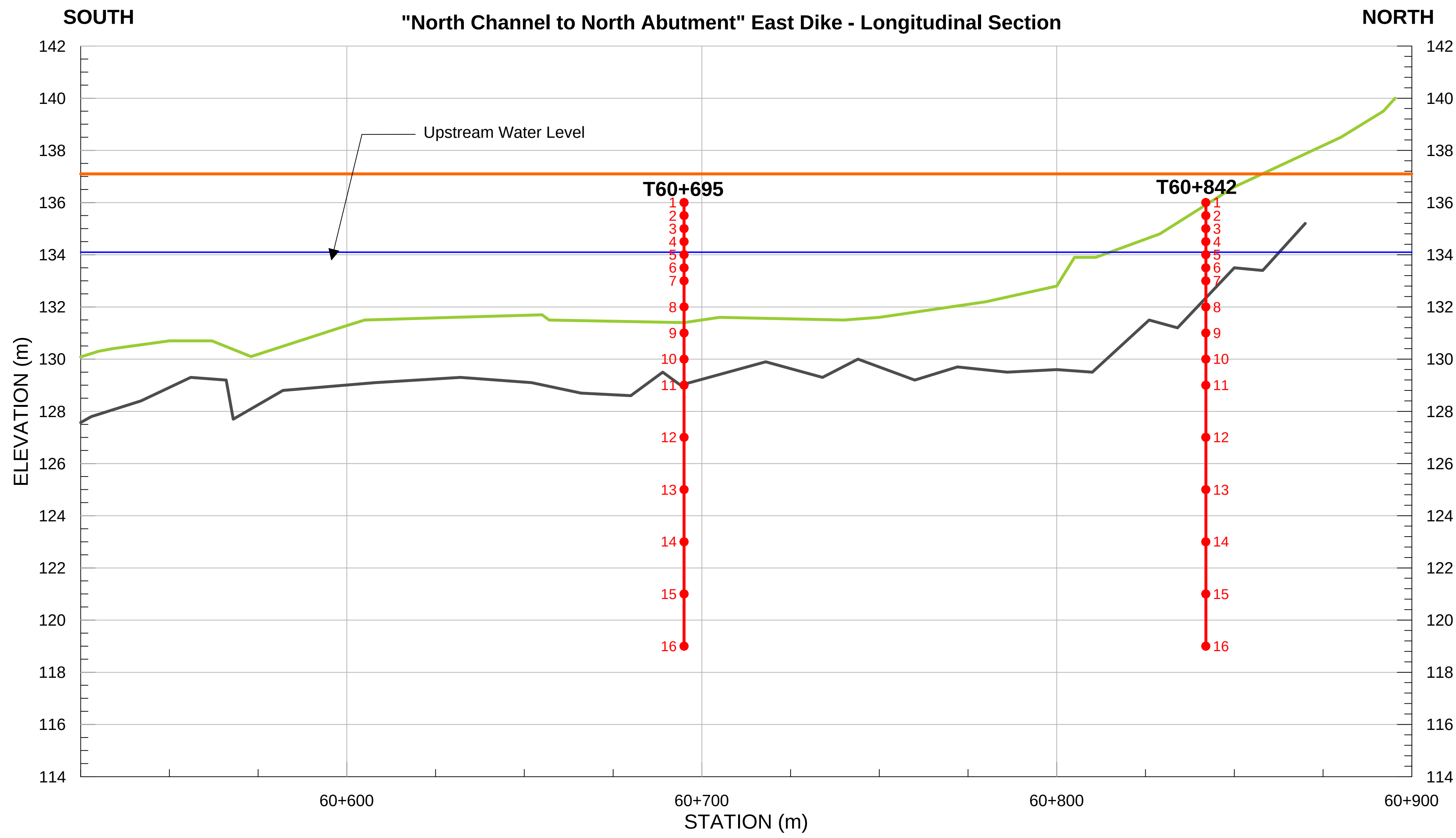


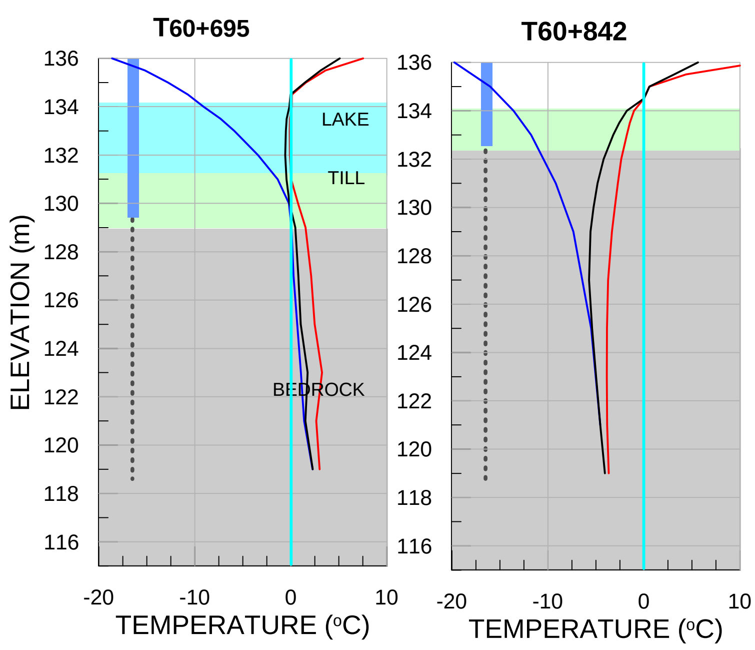


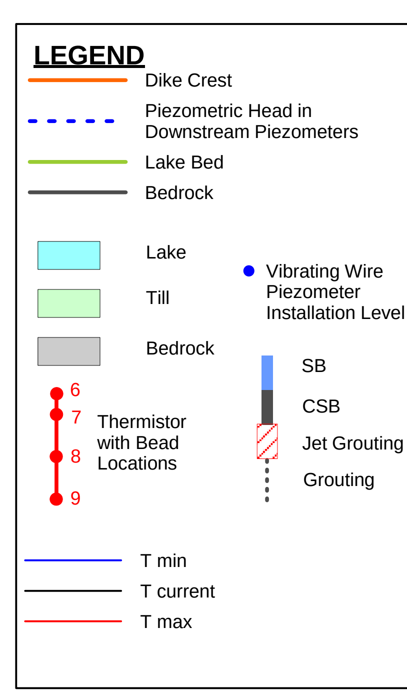
PROJECT	AGNICO EAGLE MINES LIMITED MEADOWBANK GOLD PROJECT NUNAVUT
TITLE	EAST DIKE NODAL THERMAL TIMELINES (July 7/14 to July 7/15)

AGNICO EAGLE MEADOWBANK

PROJECT No.			PHASE No.
DESIGN	TD	20JAN14	SCALE AS SHOWN REV.
CADD	TD	20JAN14	FIGURE 60
CHECK			
REVIEW			





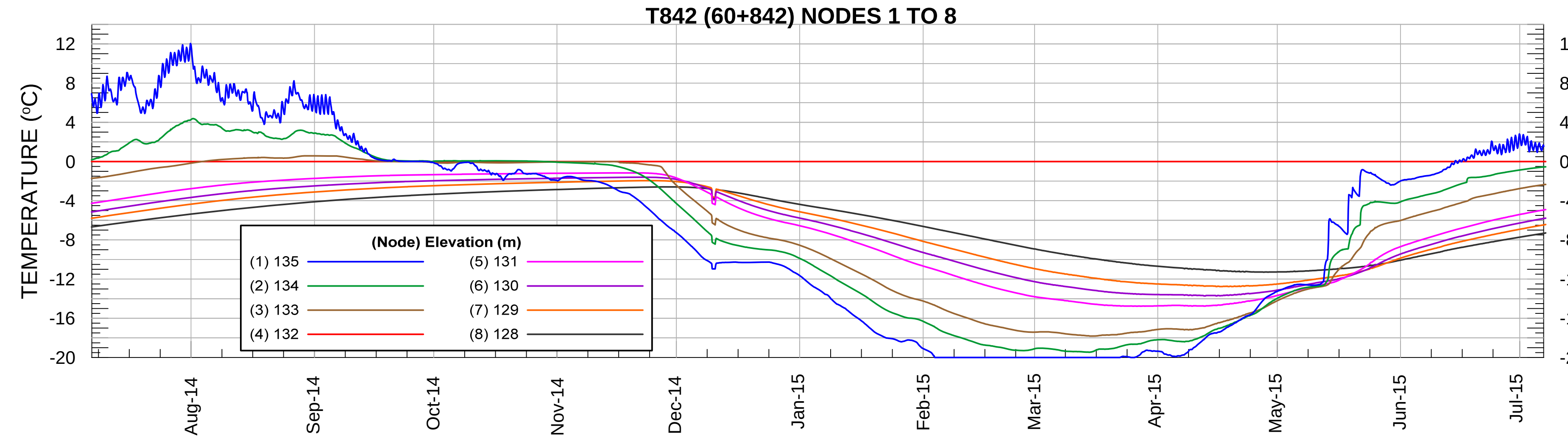


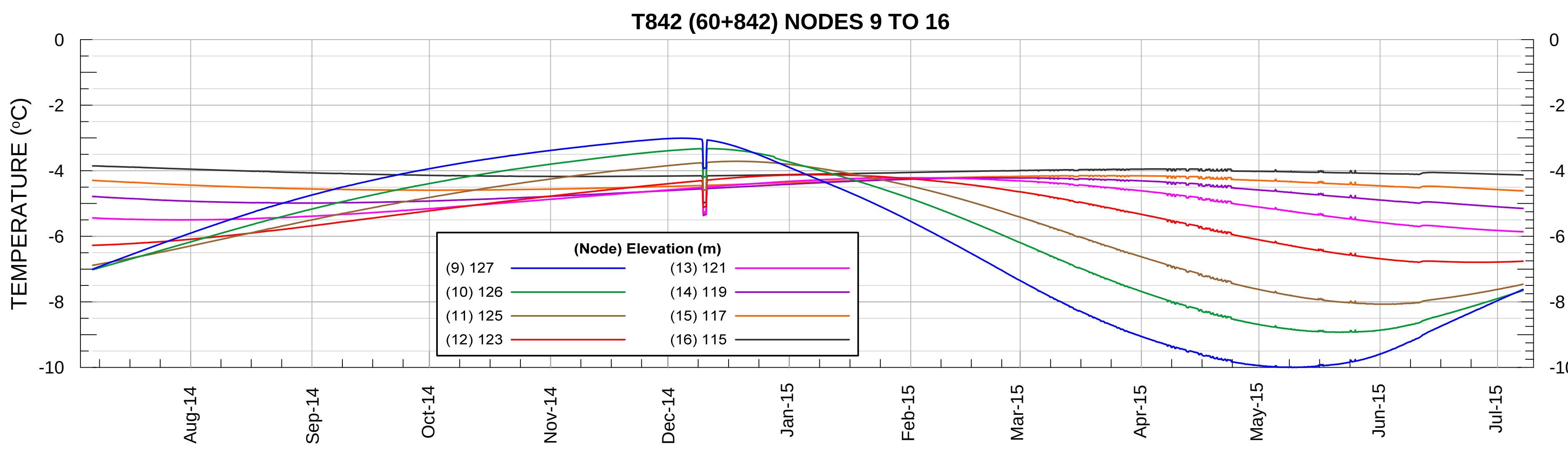
NOTES:
1. Beads 2 and 4 on T60+842 do not seem to be working properly.

PROJECT	**AGNICO EAGLE MINES LIMITED** **MEADOWBANK GOLD PROJECT** **NUNAVUT**
TITLE	**BAYGOOSE DIKE** **30+000 to 30+550 - TEMPERATURE DATA** **(July 7/14 to July 7/15)**

AGNICO EAGLE
MEADOWBANK

PROJECT No.			PHASE No.
DESIGN	TD	20JAN14	SCALE AS SHOWN REV.
CADD	TD	20JAN14	
CHECK			**FIGURE 61**
REVIEW			





PROJECT
AGNICO EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

TITLE
EAST DIKE
NODAL THERMAL TIMELINES
(July 7/14 to July 7/15)

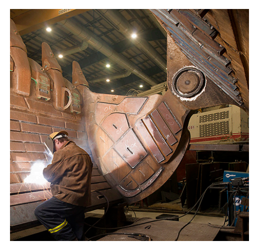
AGNICO EAGLE
MEADOWBANK

PROJECT No.			PHASE No.	
DESIGN	TD	20JAN14	SCALE AS SHOWN	REV.
CADD	TD	20JAN14	FIGURE 62	
CHECK				
REVIEW				

APPENDIX C2

Central Dike Instrumentation Data

AGNICO EAGLE

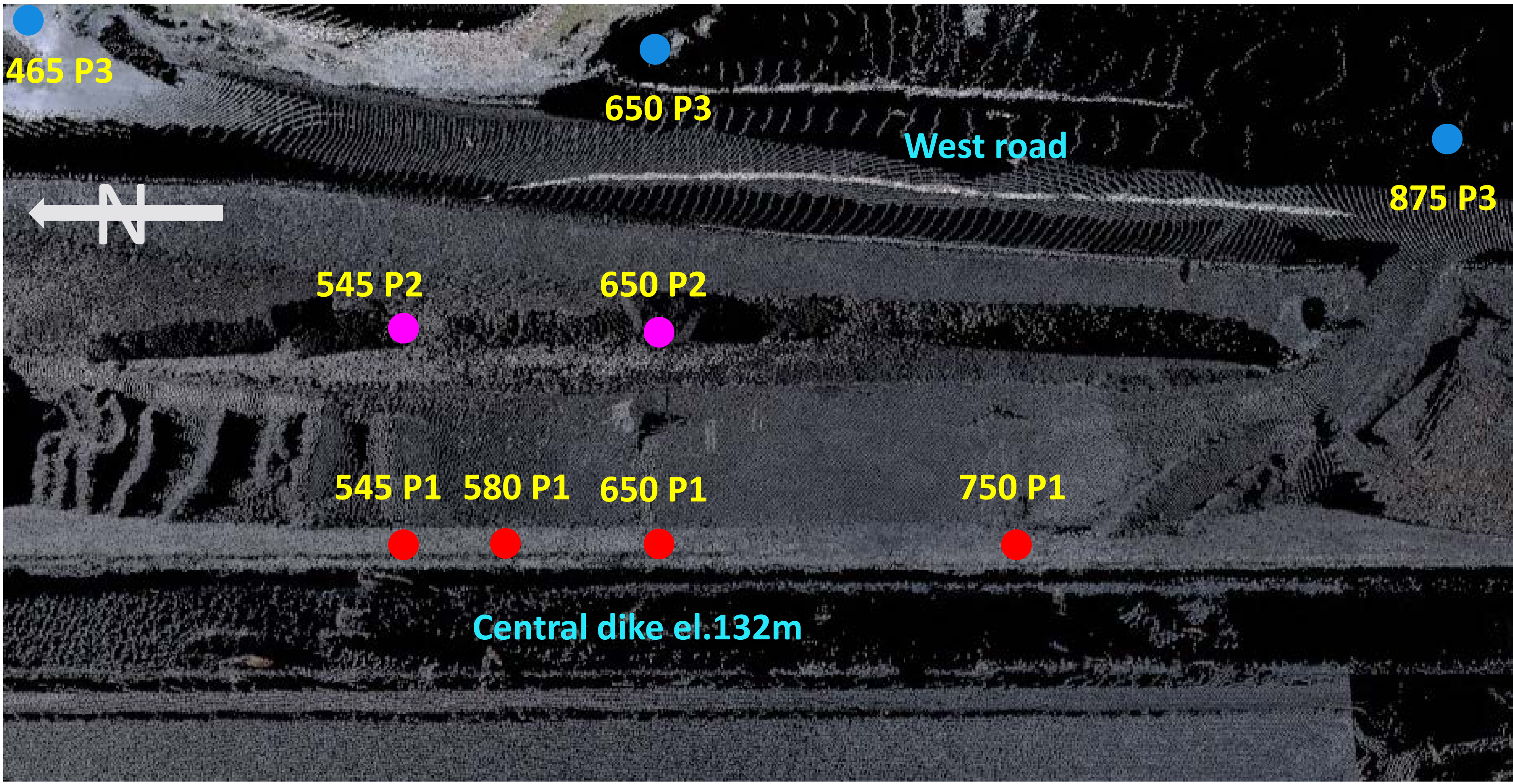


MDRB # 18

P4 – UPDATE ON FIELD OBSERVATION, INSTRUMENTATION AND MODELLING RESULTS

Update – Instrumentations

- 32 piezometers and 9 thermistors installed
  - A total of 9 boreholes have been drilled on three different rows. Instruments are installed along the central key trench (**P1**), along the final Central Dike downstream toe (El. 150m) (**P2**) and along the Portage Pit Limit (**P3**);
  - Piezometers and thermistor strings are installed in each borehole.



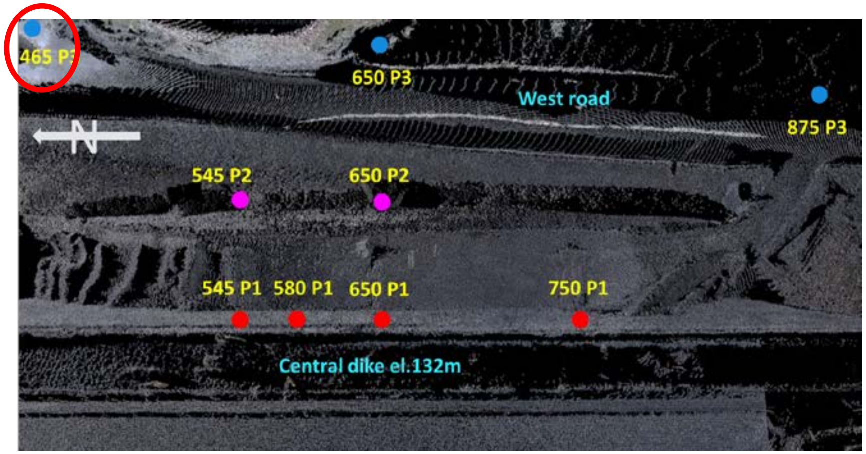
AGNICO EAGLE

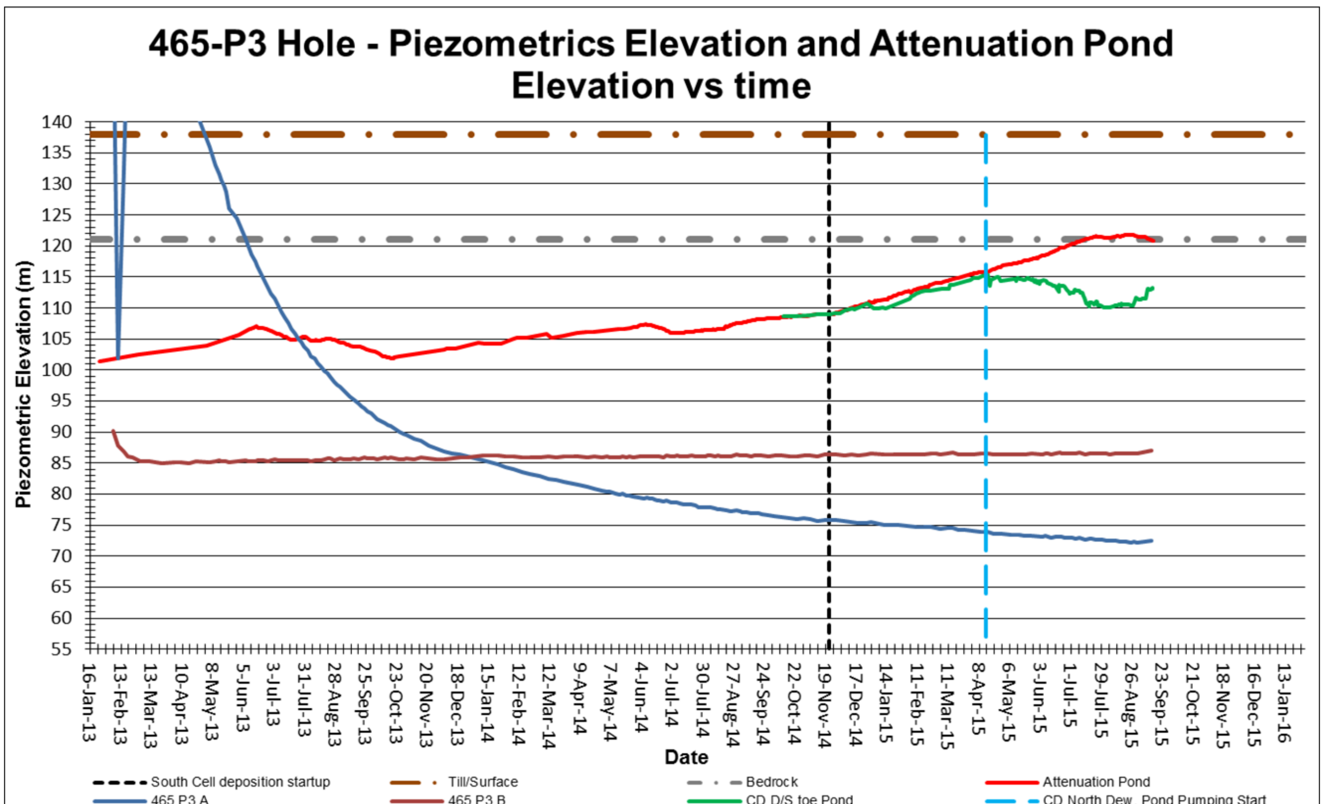
Location, Instrument and Monitoring Purpose of Boreholes

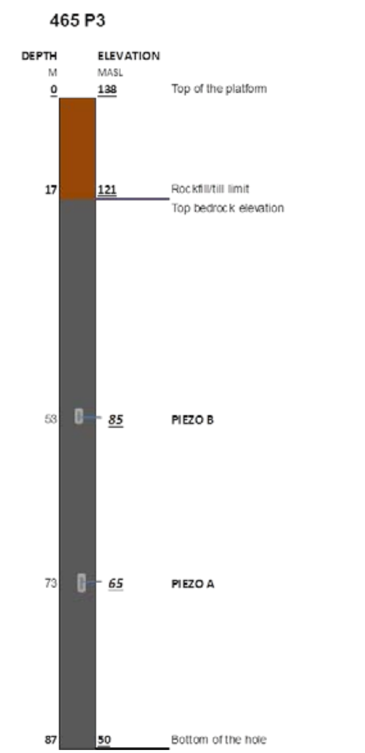
Approx.Station	Borehole Name	Location	Piezometers	Thermistances	Objective
0+875	875-P3	Pit Limit	Typical Section P3 - Bedrock (2)	First bead - El. 105m	In front of north-west extremity of Pit C, easy access for drilling and instrumentation reading
0+750	750-P1	3m from D/S compacted till	Typical Section P1 - Till / Bedrock (5)	First bead - El. 111m	In situ till not excavated in key trench with artesian flow
0+650	650-P1	3m from D/S compacted till	Typical Section P1 - Till / Bedrock (5)	First bead - El. 111m	Till not excavated to bedrock in key trench
	650-P2	5m from D/S Central Dike toe (El. 150m)	Typical Section P2 - Till / Bedrock (4)	First bead - El. 105m	Possible access between the West Road and Central Dike downstream toe (El.150m), access possible for instrumentation reading in the winter
	650-P3	Pit Limit	Typical Section P3 - Bedrock (2)	First bead - El. 105m	In front of Pit B, easy access for drilling and instrumentation reading
0+580	580-P1	3m from D/S compacted till	Typical Section P1 - Till / Bedrock (5)	First bead - El. 111m	Close to sandy till zone found within key trench
0+545	545-P1	3m from D/S compacted till	Typical Section P1 - Till / Bedrock (5)	First bead - El. 111m	Within deepest area of in situ till not excavated in key trench
	545-P2	5m from D/S Central Dike toe (El. 150m)	Typical Section P2 - Till / Bedrock (4)	First bead - El. 105m	Possible access between the West Road and Central Dike downstream toe (El.150m), access possible for instrumentation reading in the winter
0+465	465-P3	Pit Limit	Typical Section P3 - Bedrock (2)	First bead - El. 105m	In front of south-west extremity of Pit A, easy access for drilling and instrumentation reading

INSTRUMENTATION RESULTS

PIEZOMETERS SECTION 465

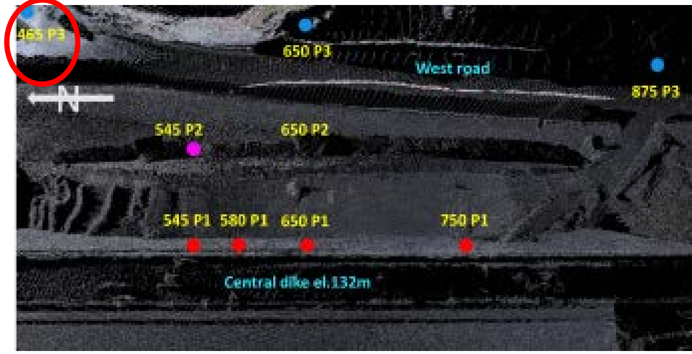


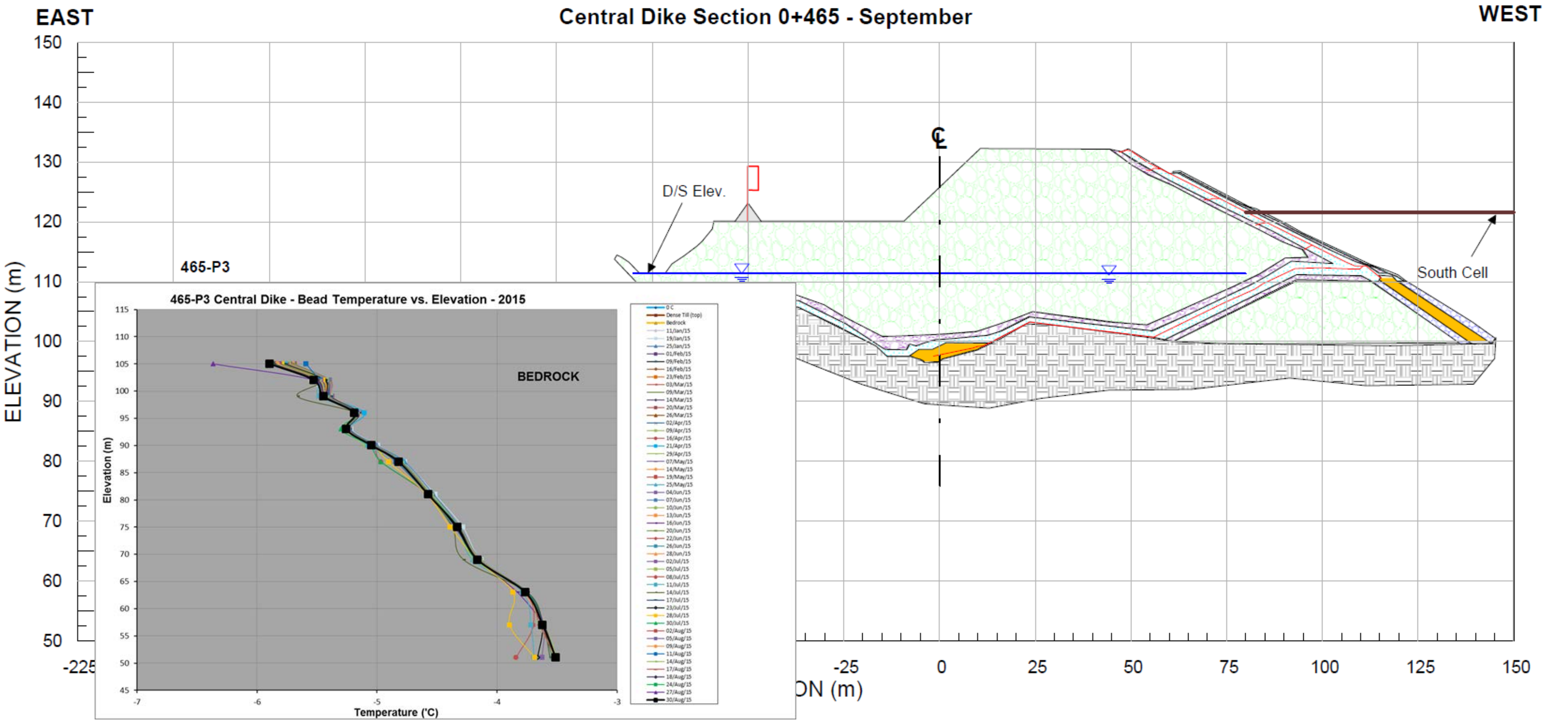




INSTRUMENTATION RESULTS

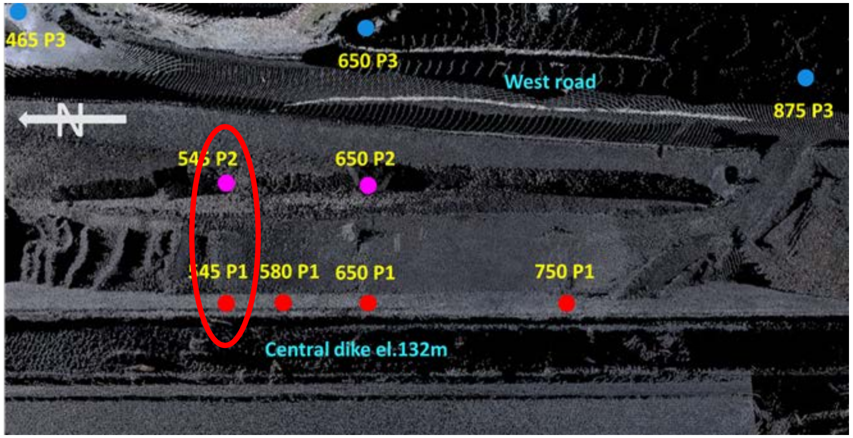
THERMISTORS SECTION 465

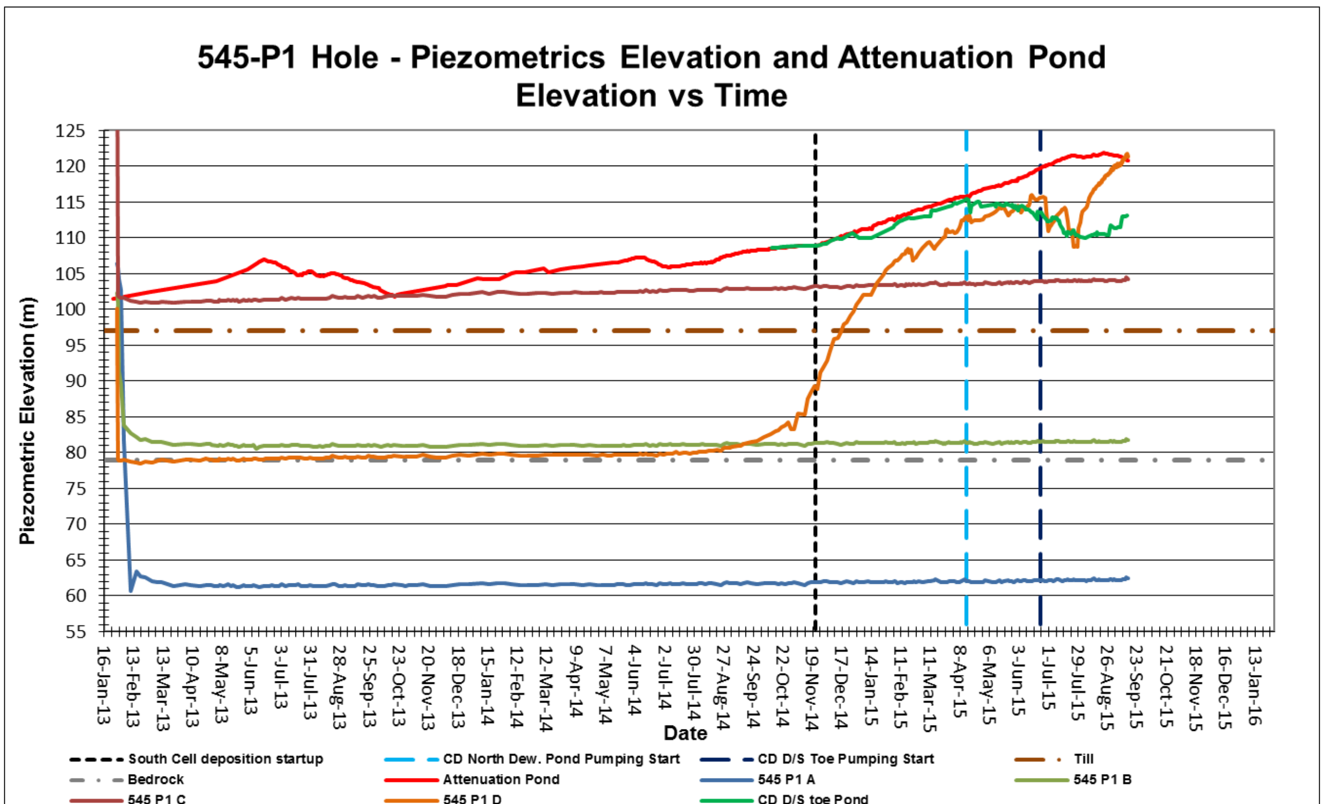


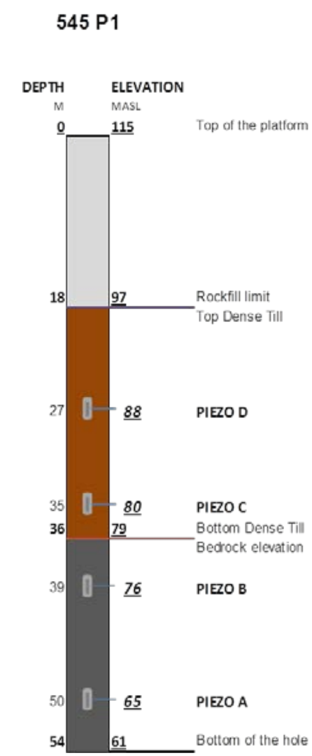


INSTRUMENTATION RESULTS

PIEZOMETERS SECTION 545

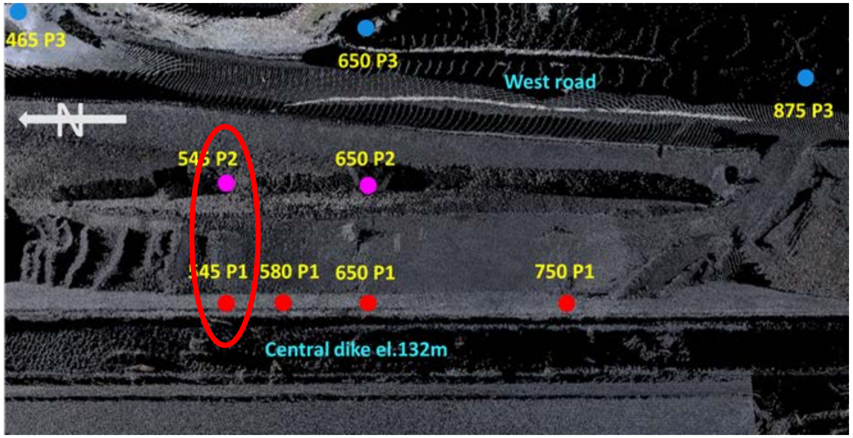


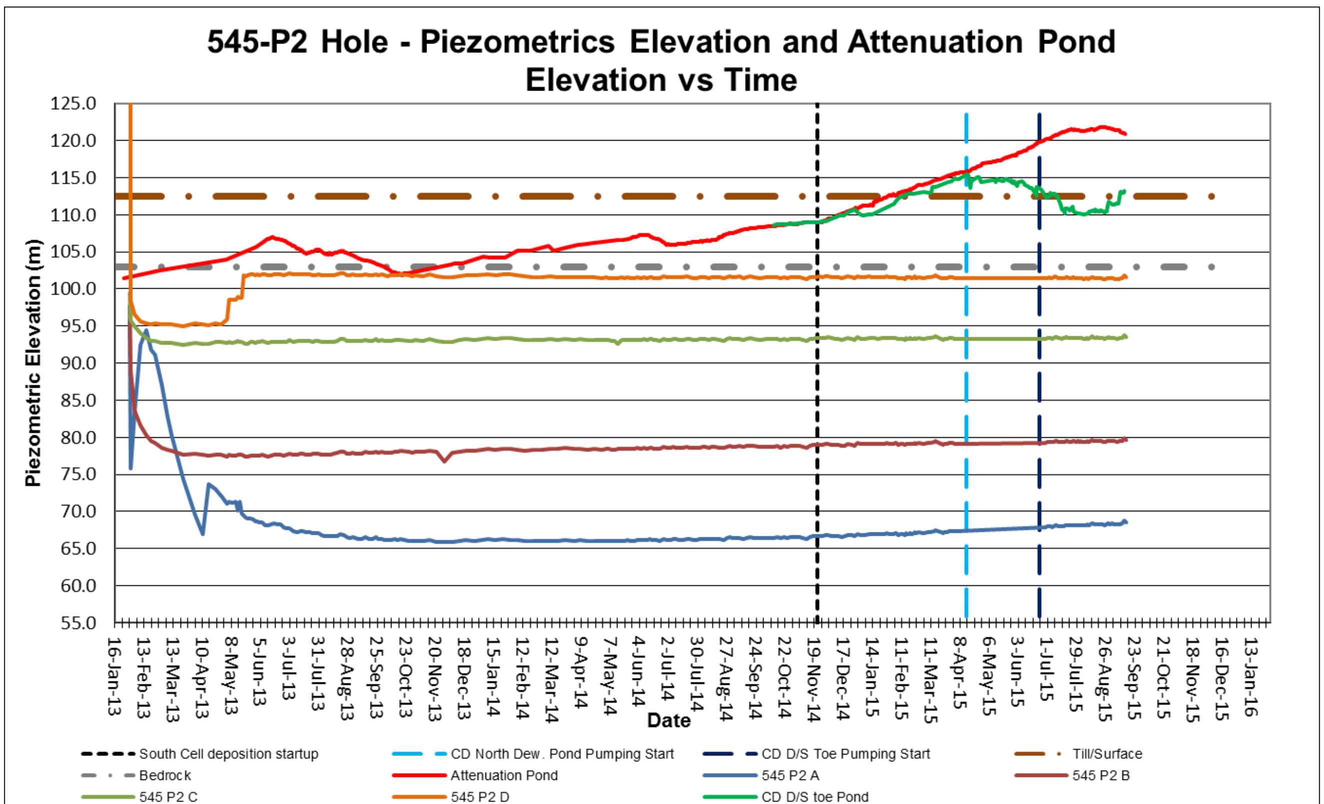


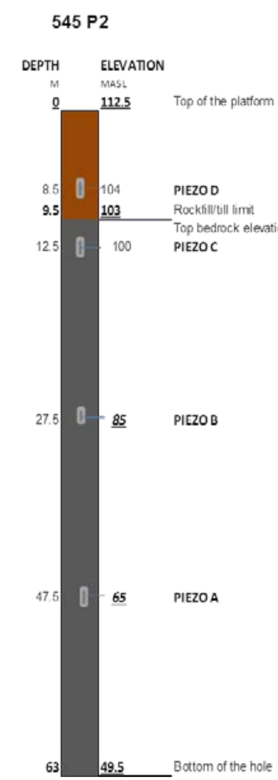


INSTRUMENTATION RESULTS

PIEZOMETERS SECTION 545

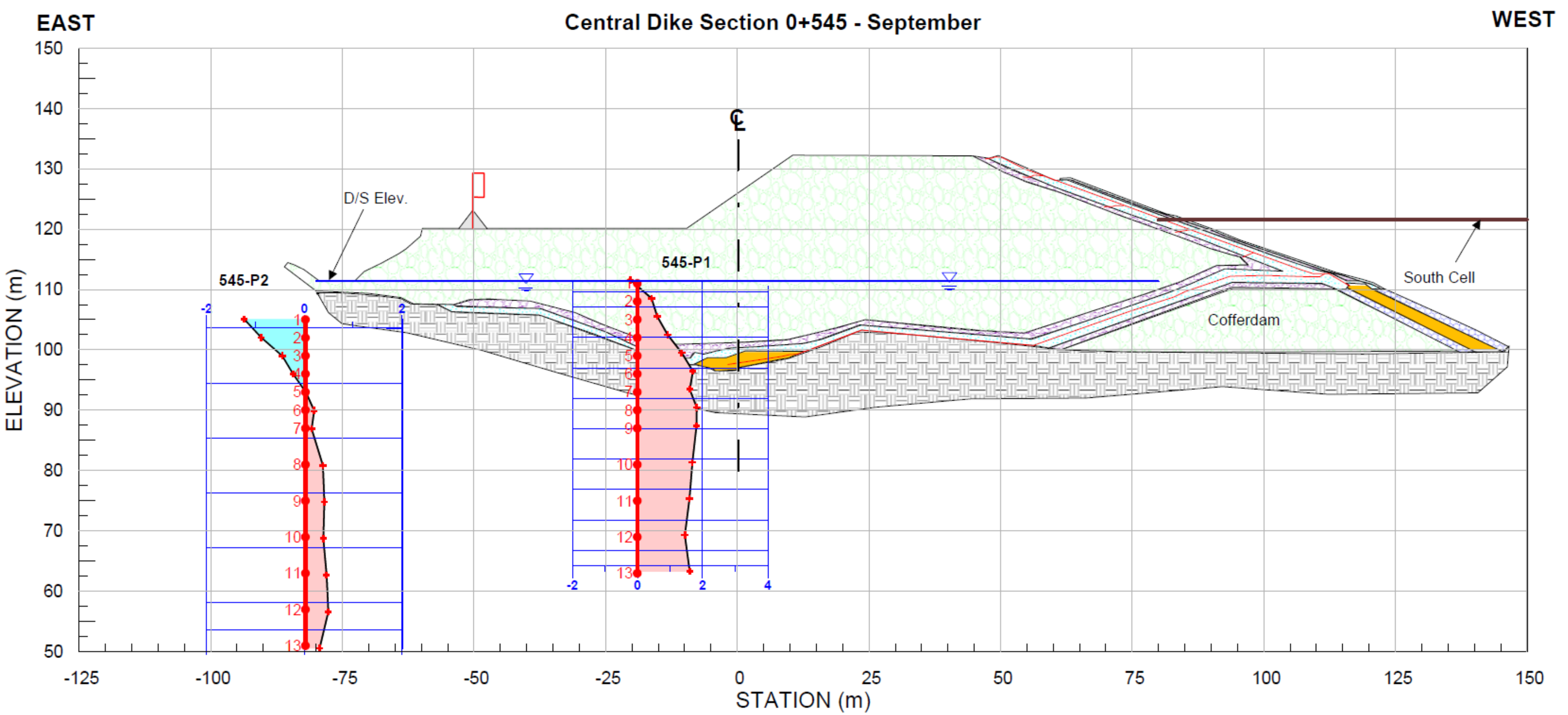






INSTRUMENTATION RESULTS

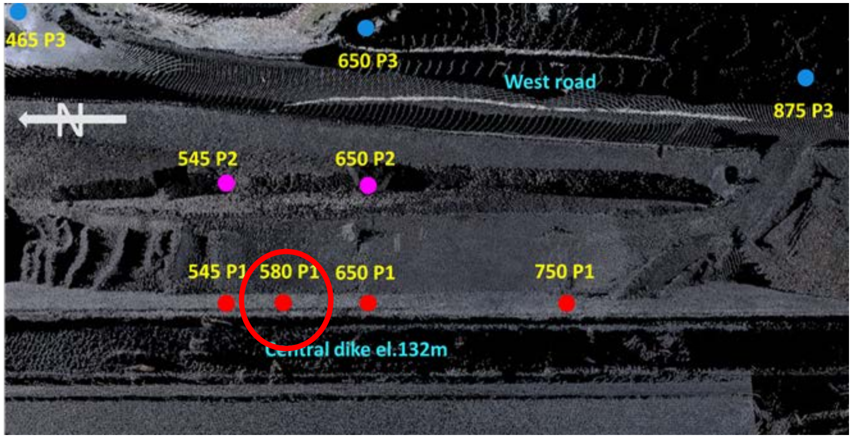
THERMISTORS SECTION 545

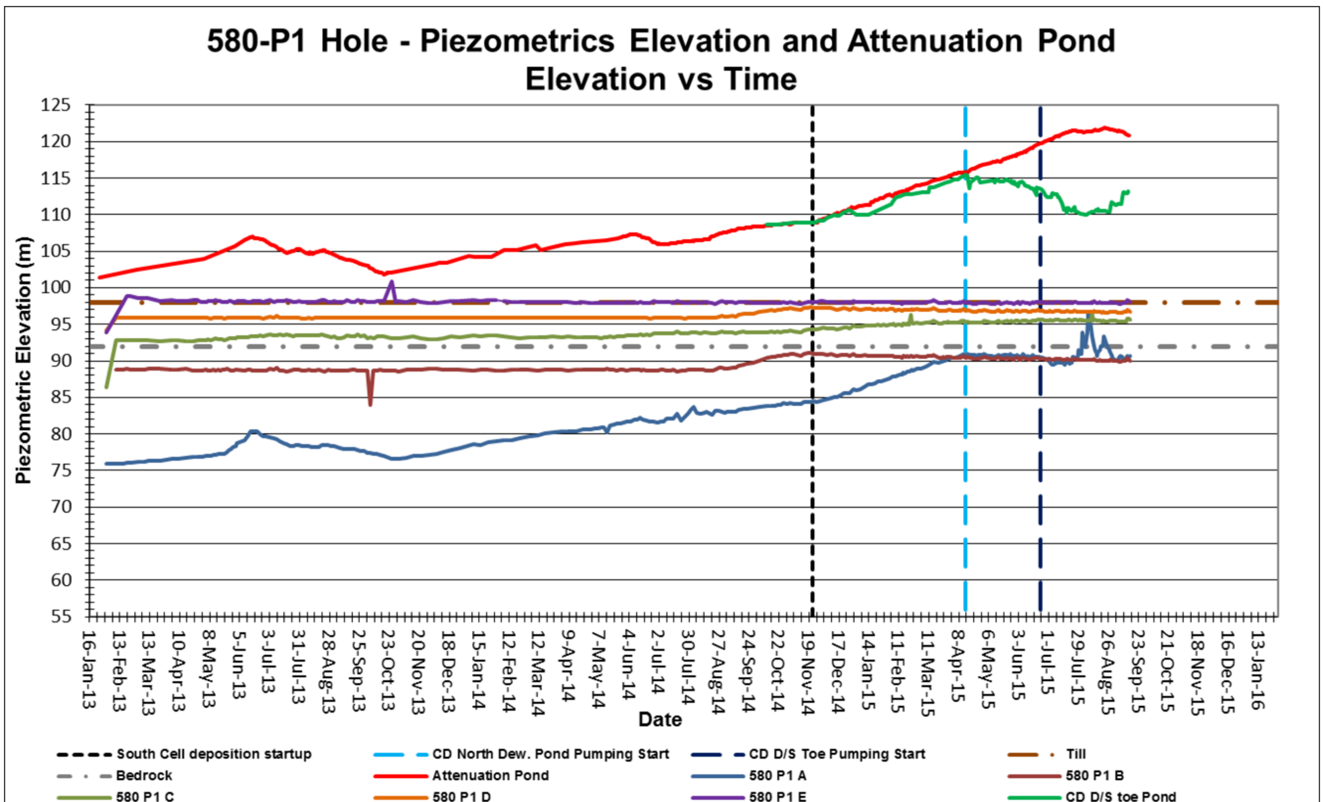


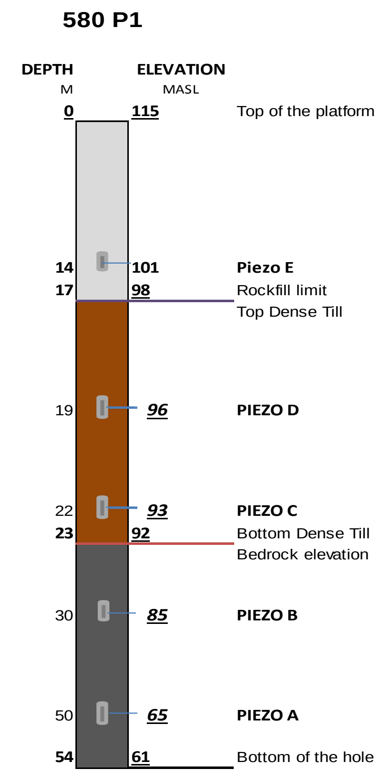
INSTRUMENTATION RESULTS

PIEZOMETERS SECTION 580

AGNICO EAGLE

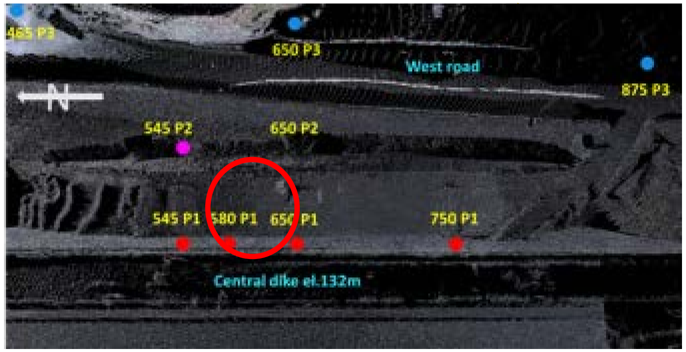


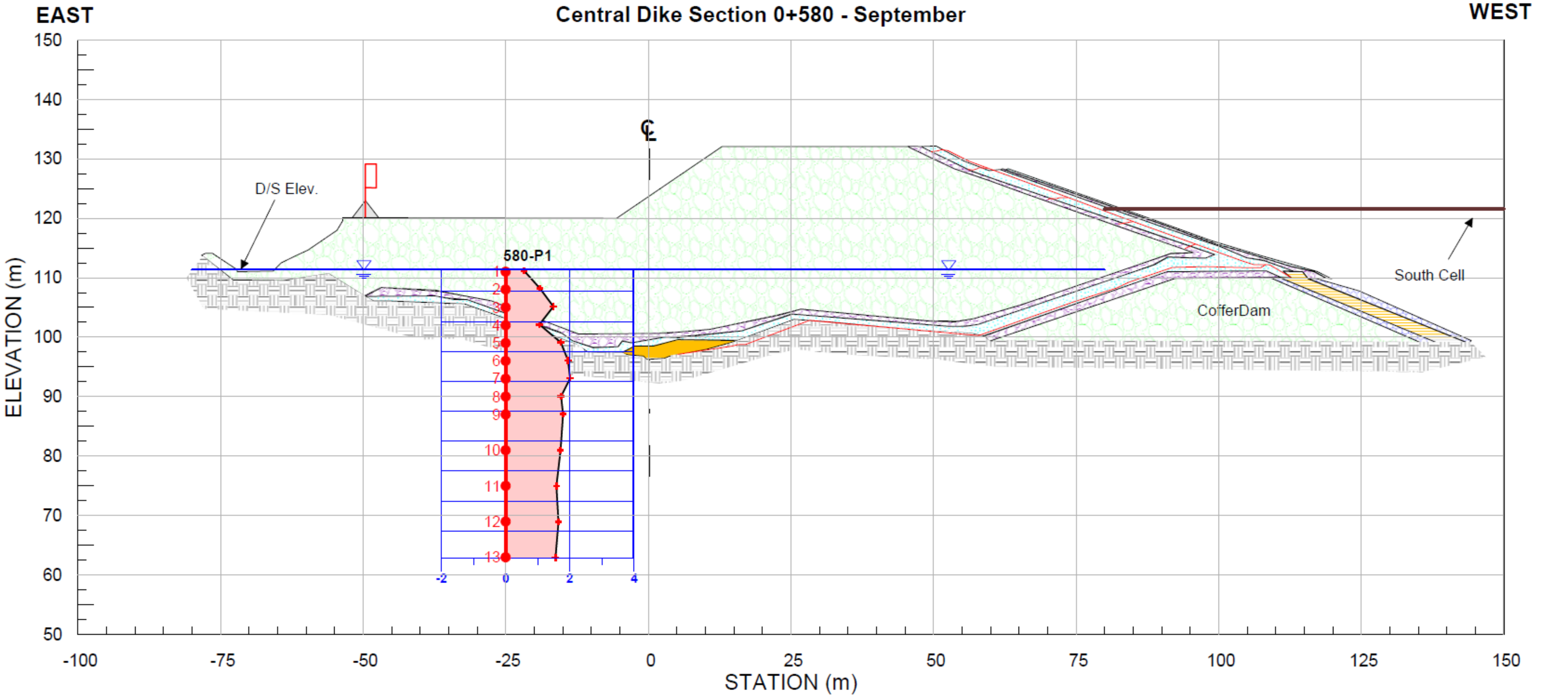




INSTRUMENTATION RESULTS

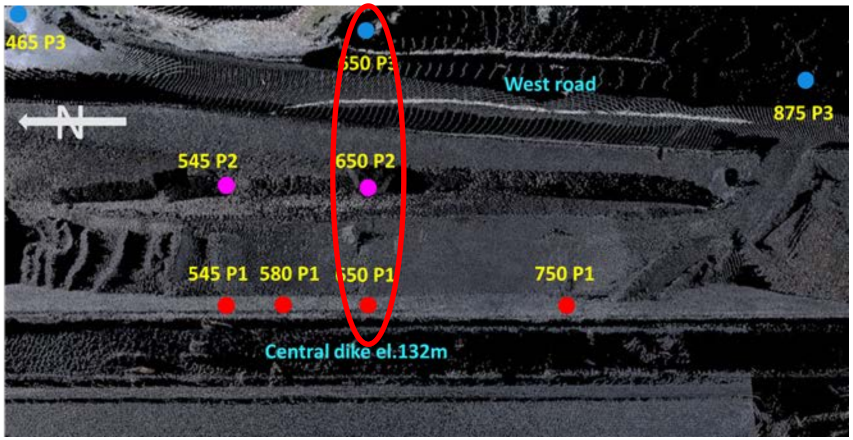
THERMISTORS SECTION 580

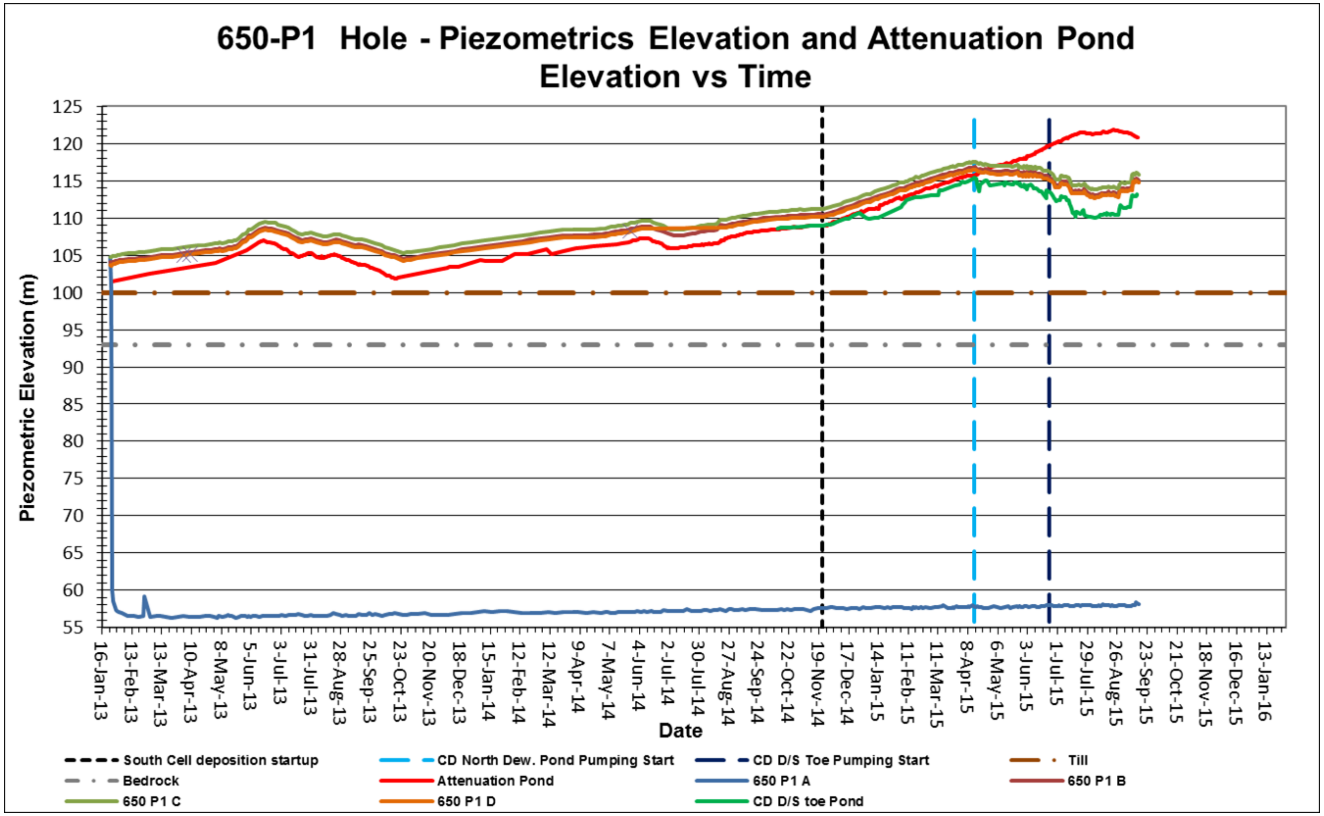


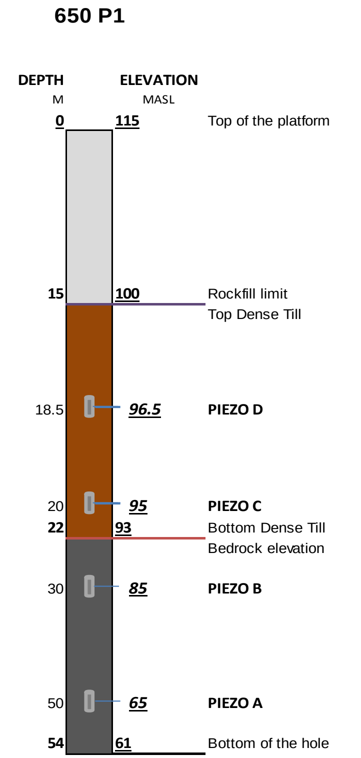


INSTRUMENTATION RESULTS

PIEZOMETERS SECTION 650

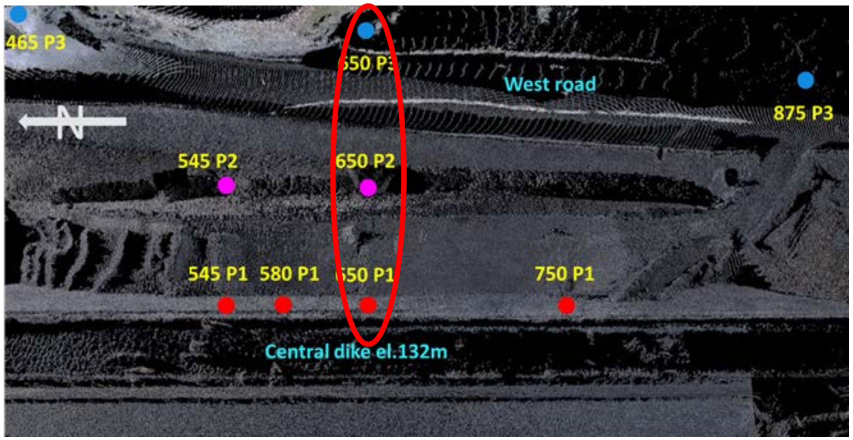


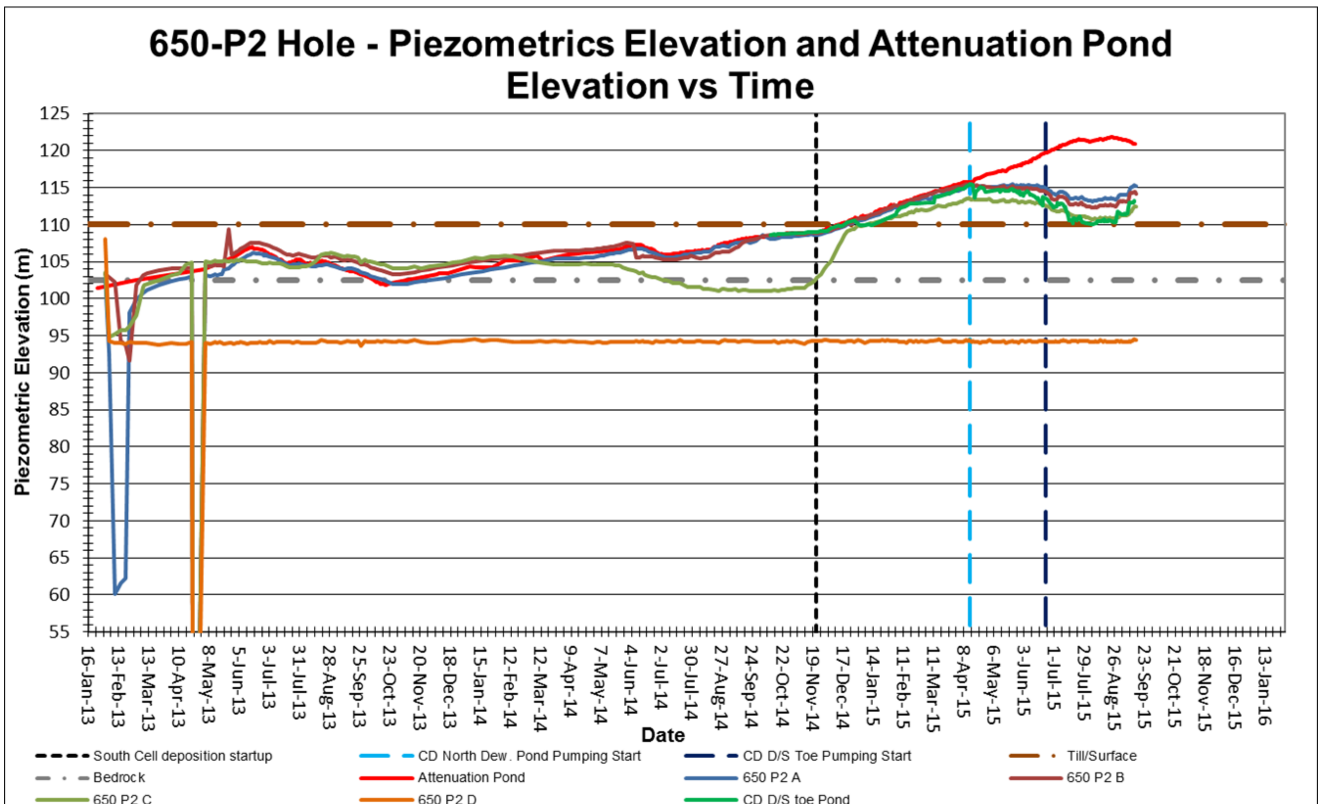


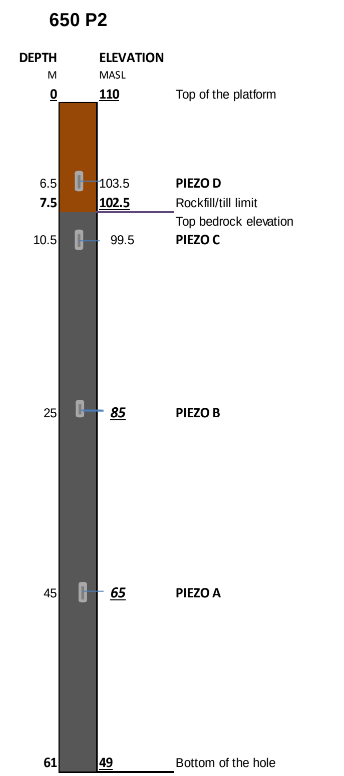


INSTRUMENTATION RESULTS

PIEZOMETERS SECTION 650

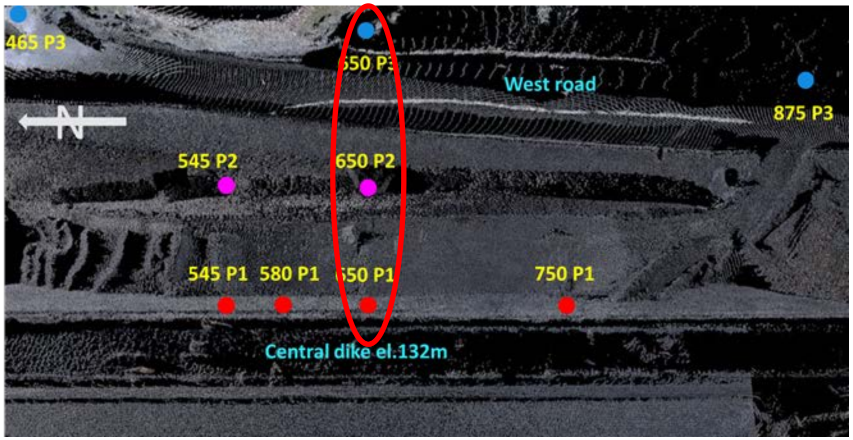


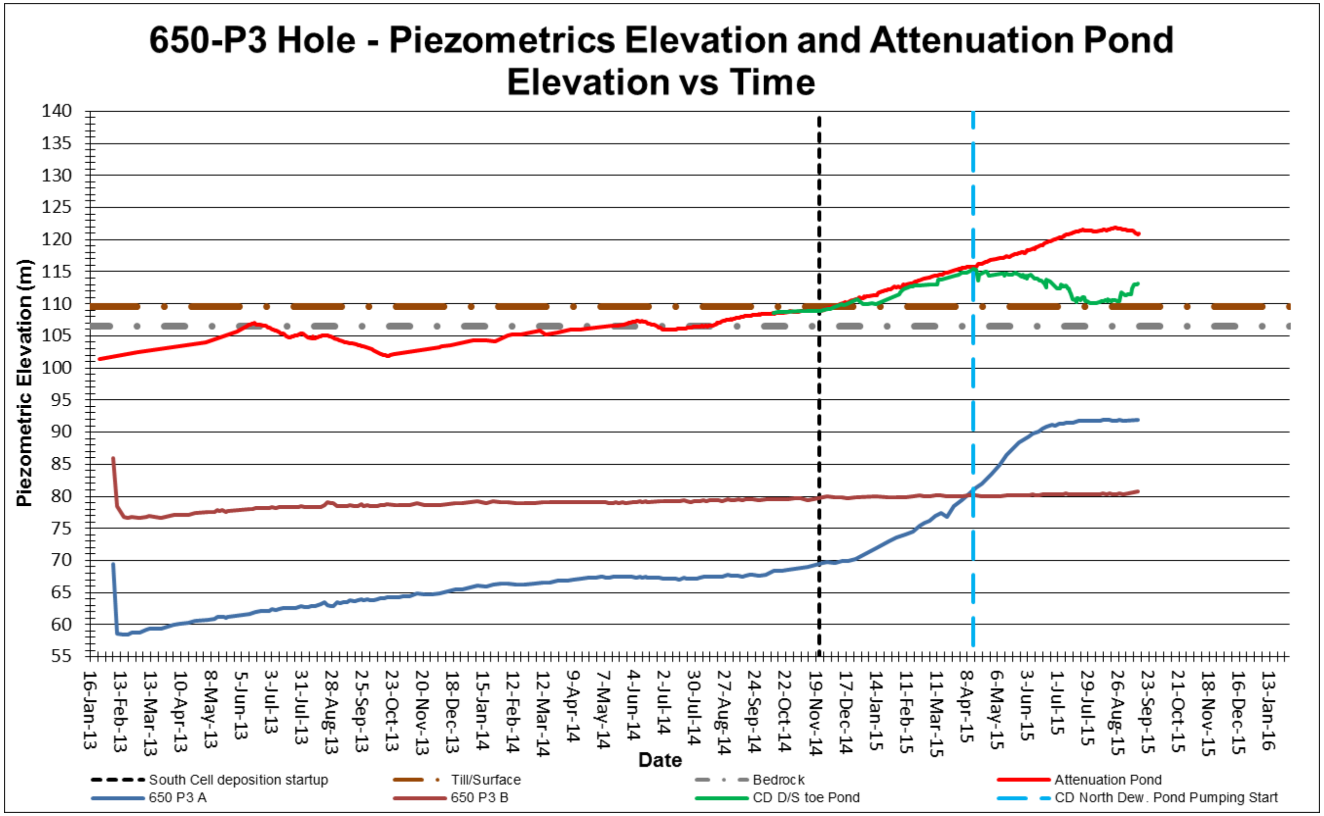


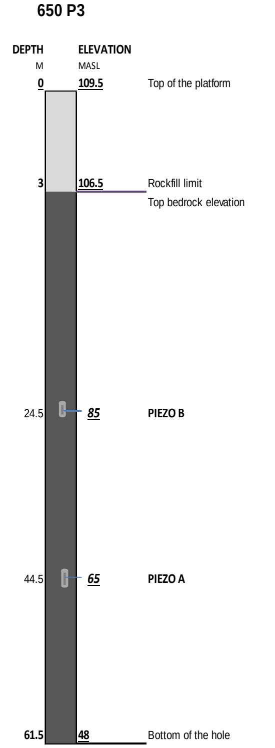


INSTRUMENTATION RESULTS

PIEZOMETERS SECTION 650

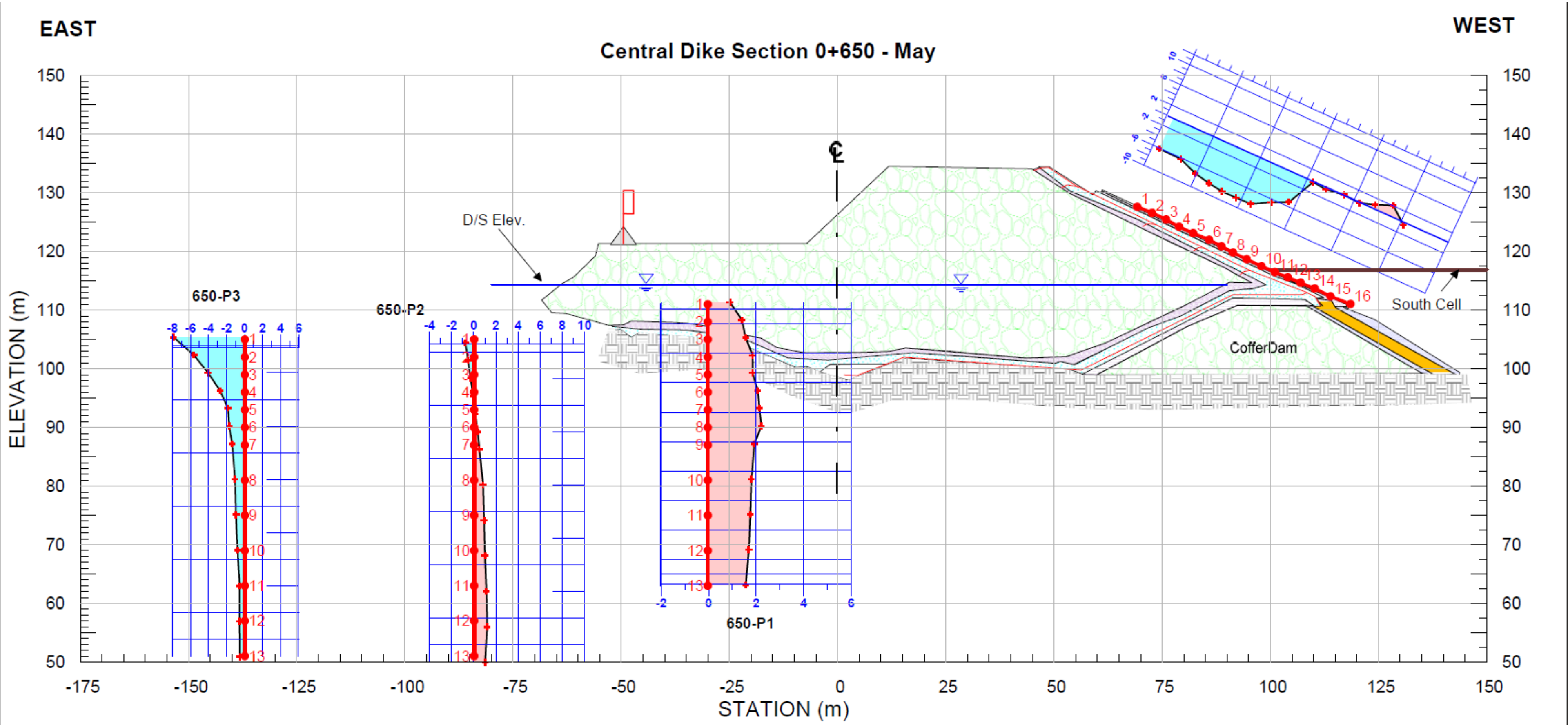






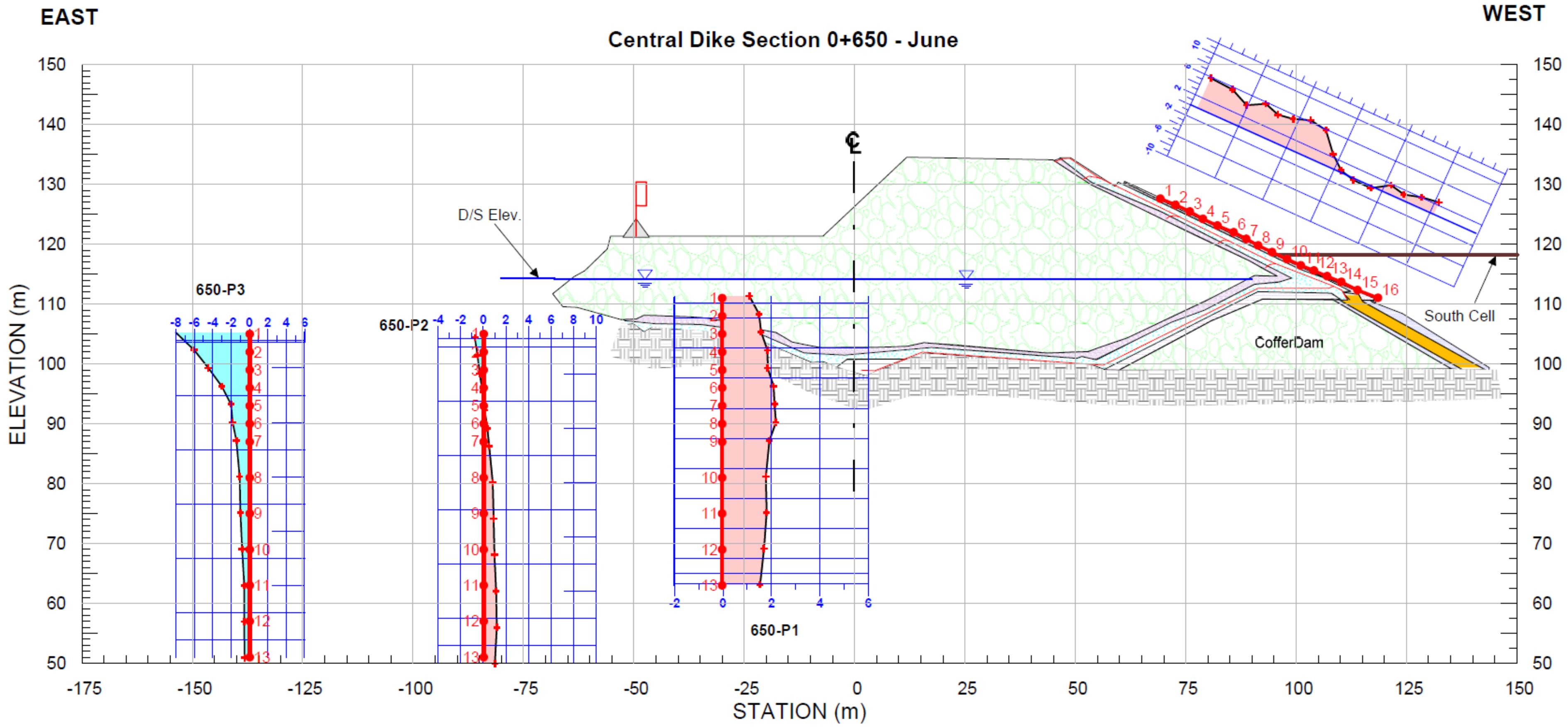
INSTRUMENTATION RESULTS

THERMISTORS SECTION 650



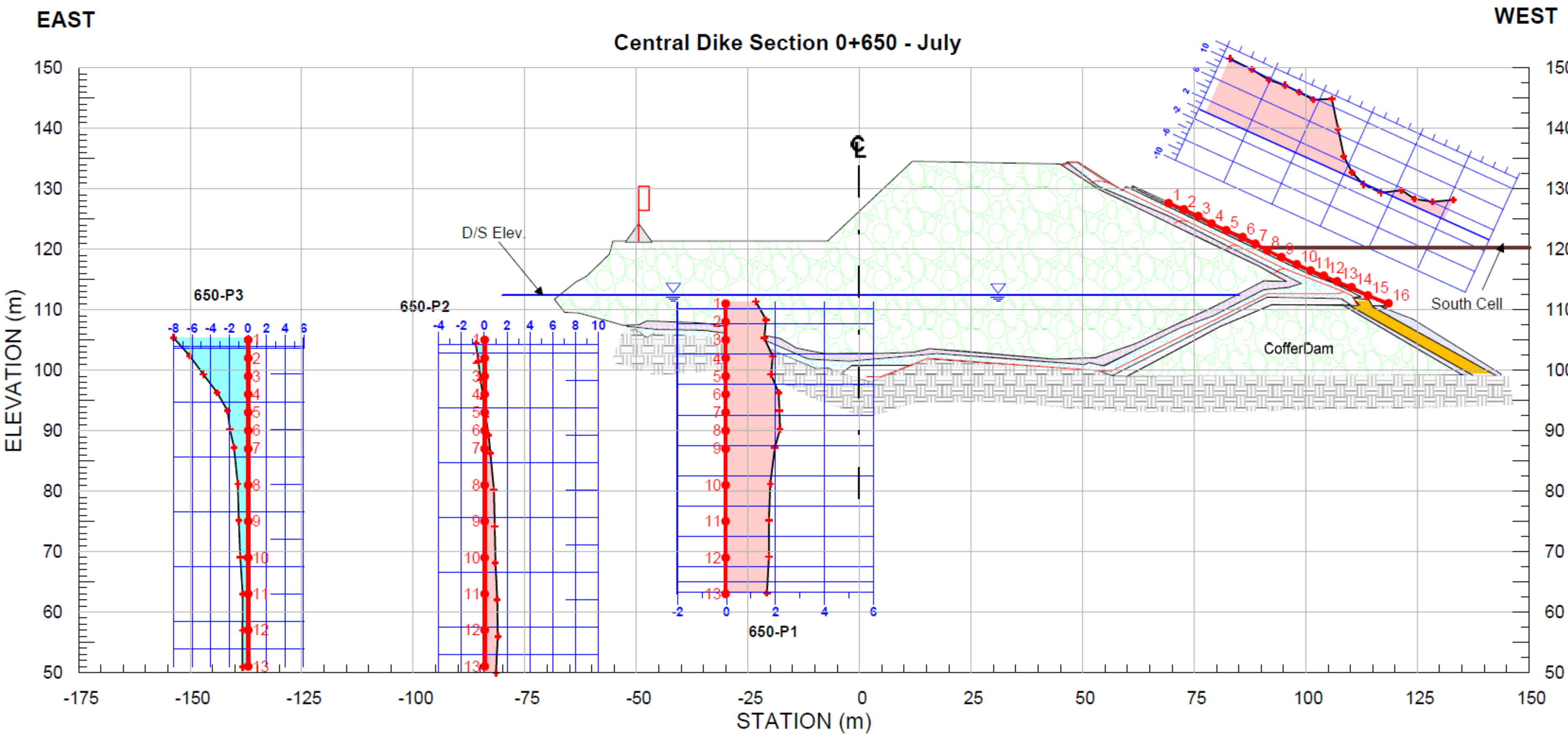
INSTRUMENTATION RESULTS

THERMISTORS SECTION 650



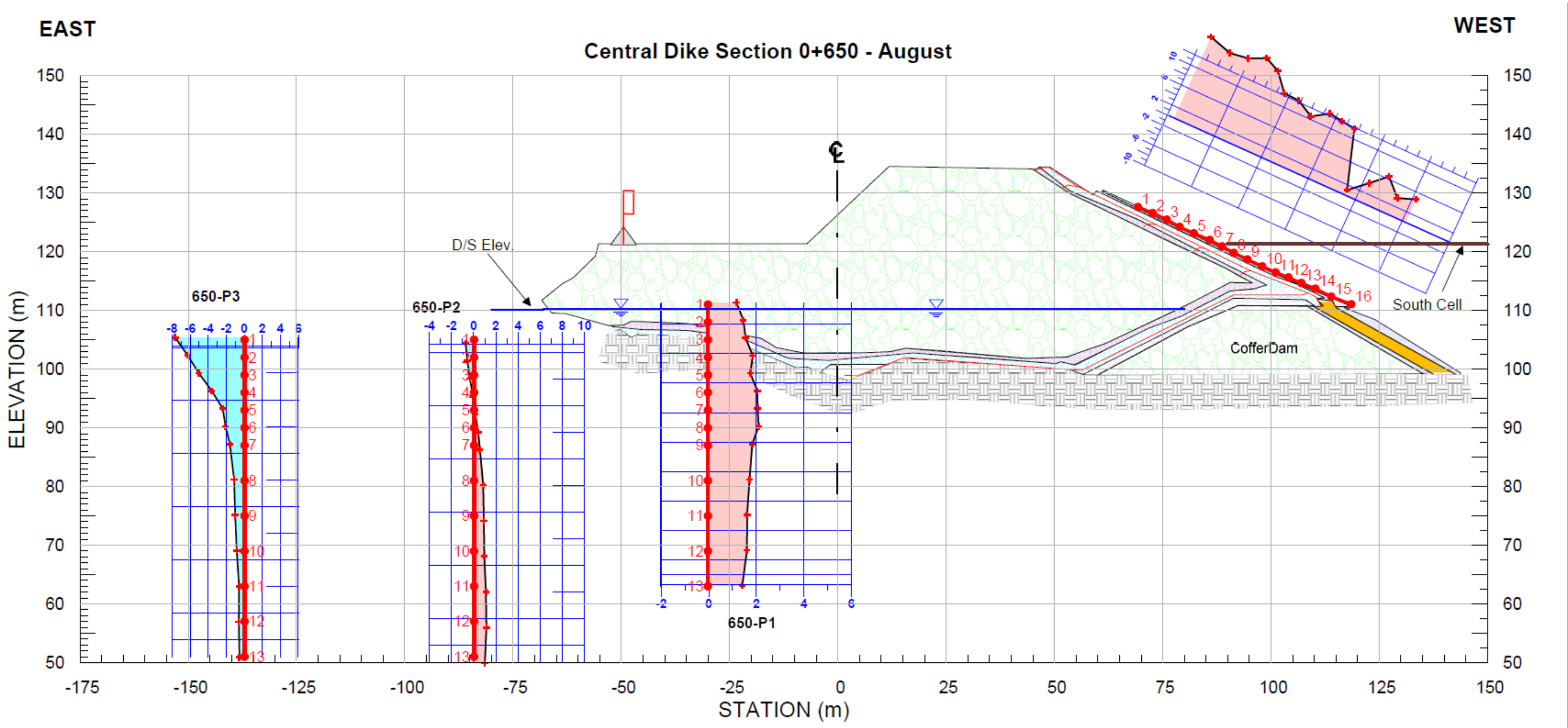
INSTRUMENTATION RESULTS

THERMISTORS SECTION 650



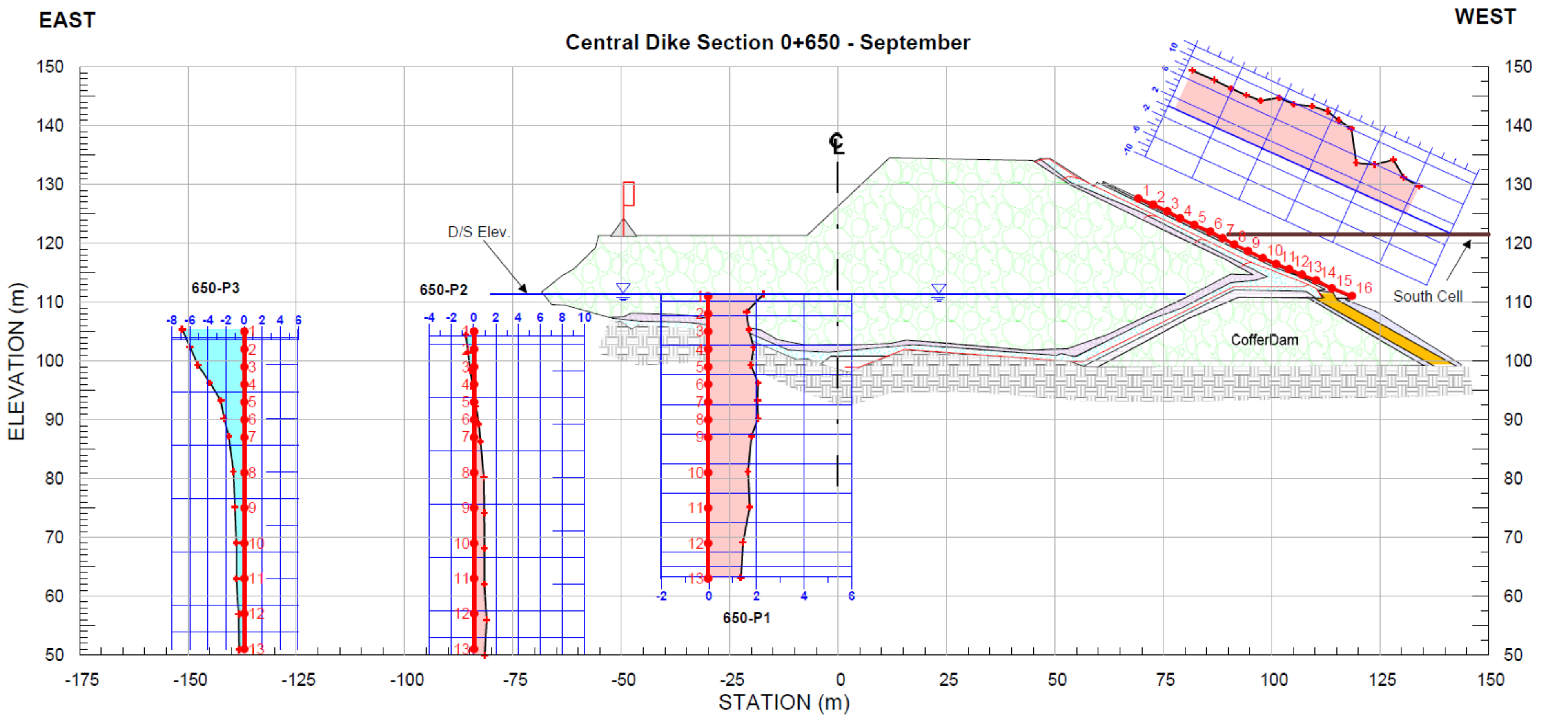
INSTRUMENTATION RESULTS

THERMISTORS SECTION 650



INSTRUMENTATION RESULTS

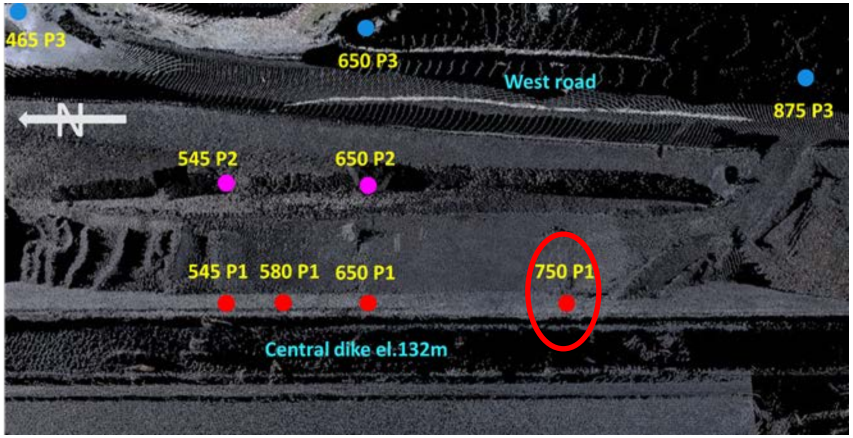
THERMISTORS SECTION 650

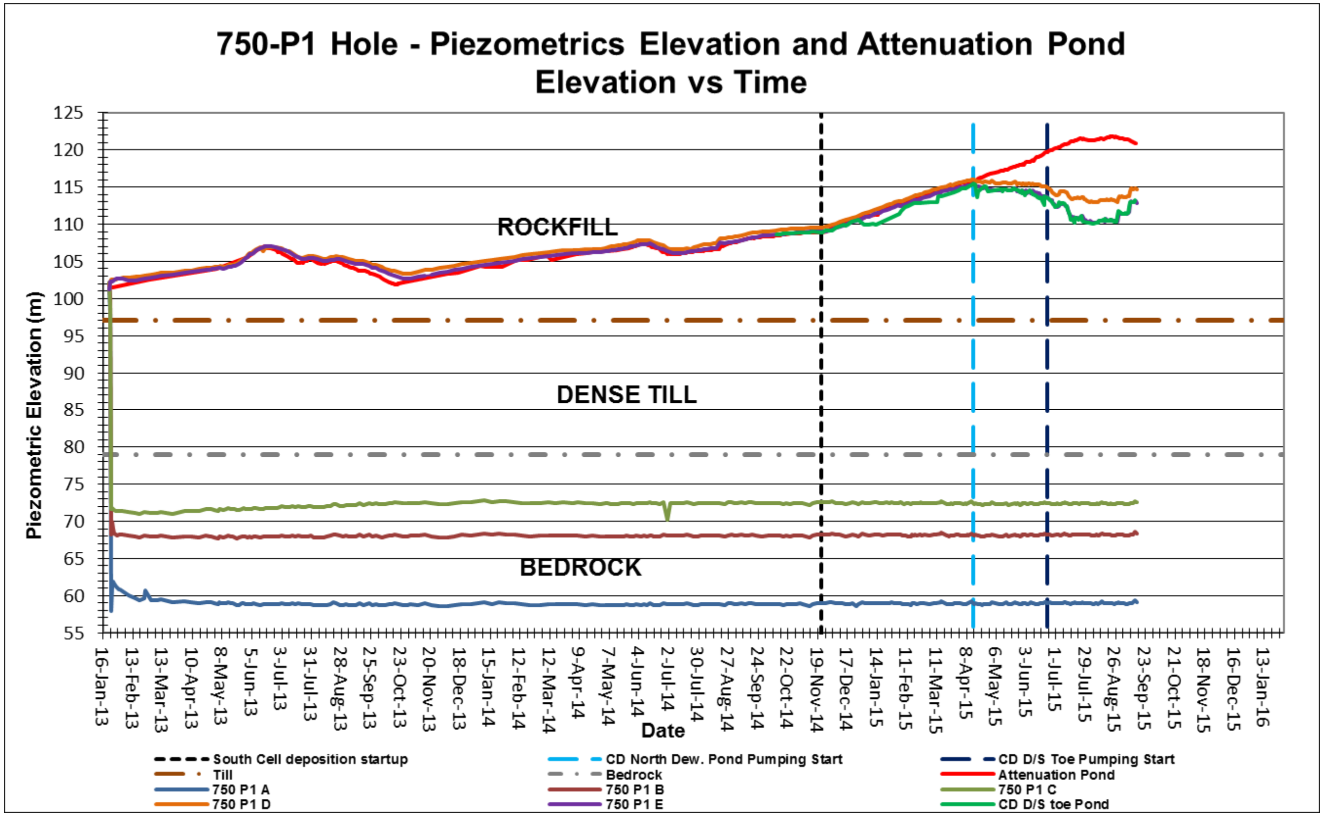


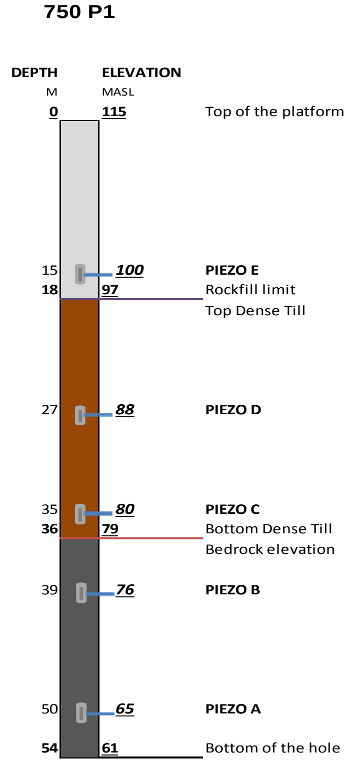
INSTRUMENTATION RESULTS

PIEZOMETERS SECTION 750

AGNICO EAGLE

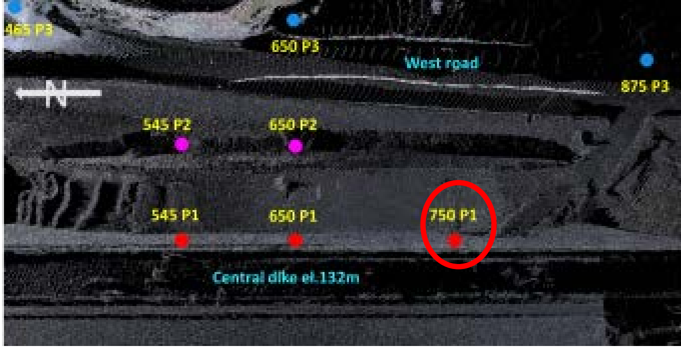


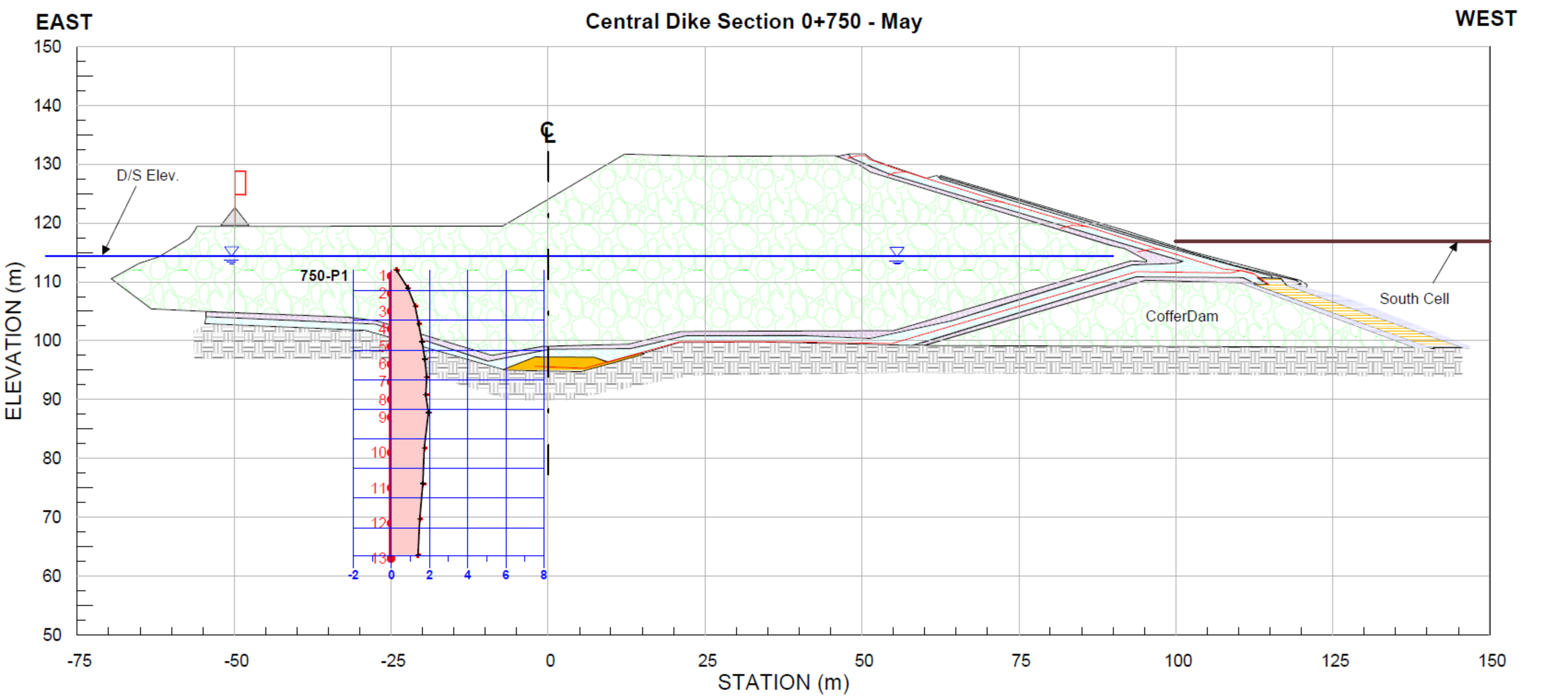




INSTRUMENTATION RESULTS

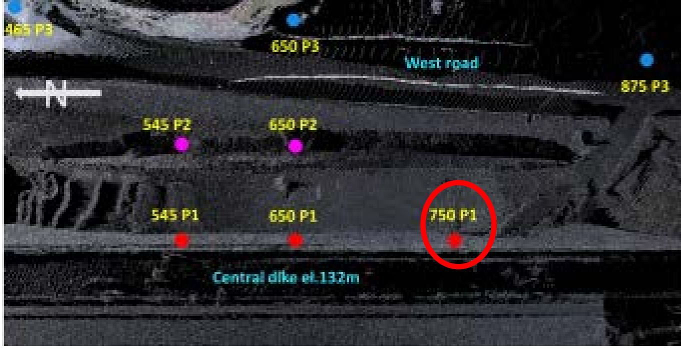
THERMISTORS SECTION 750

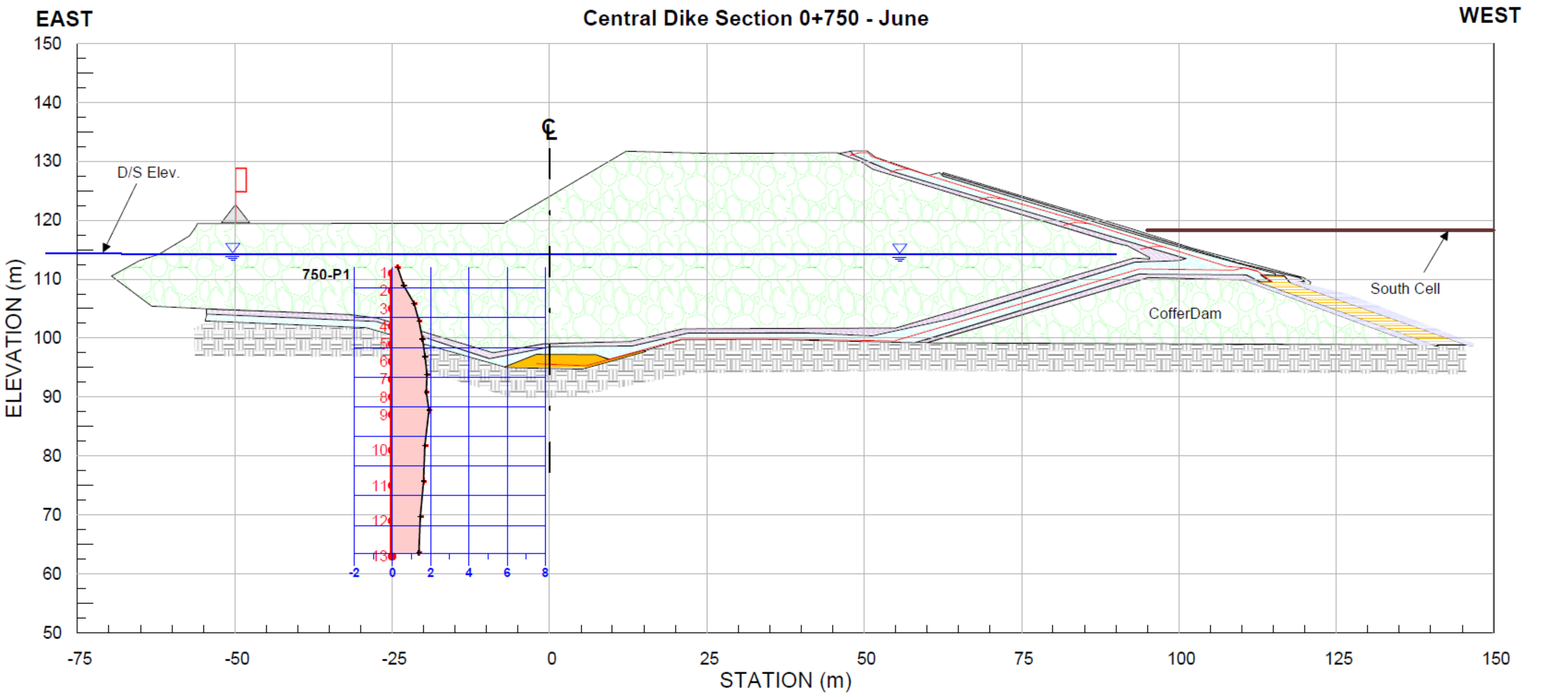




INSTRUMENTATION RESULTS

THERMISTORS SECTION 750





INSTRUMENTATION RESULTS

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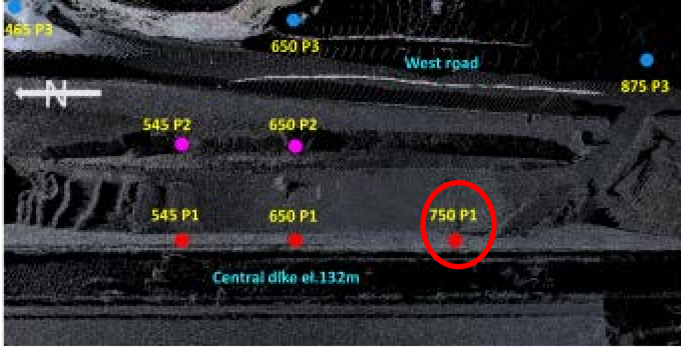

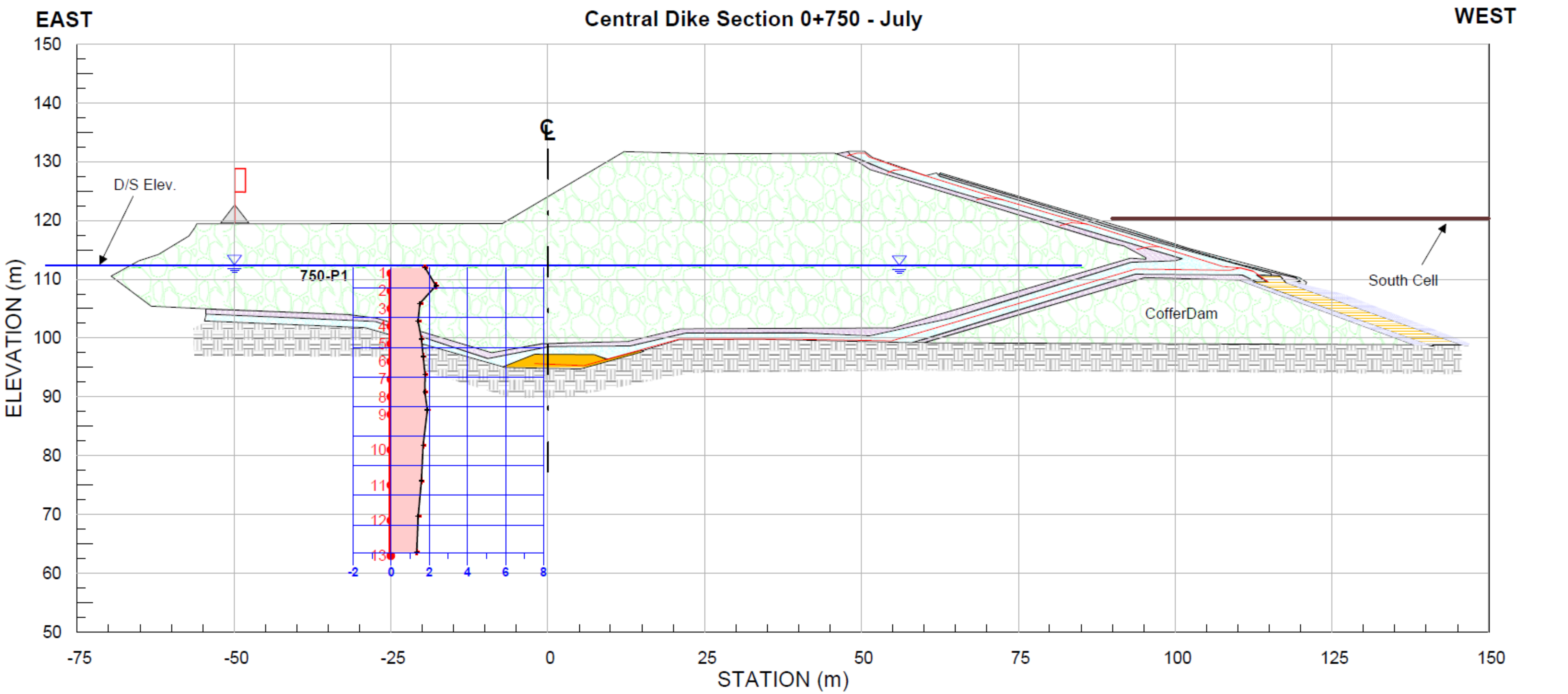

INSTRUMENTATION RESULTS

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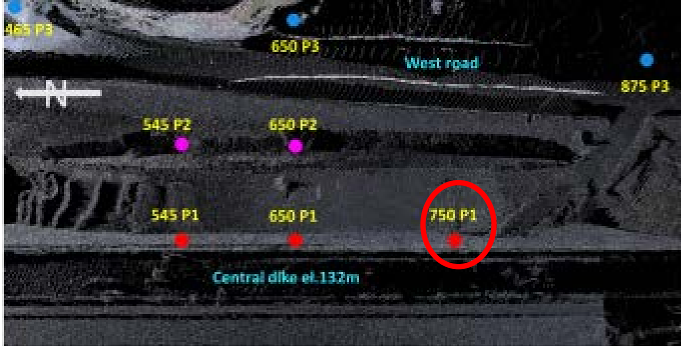
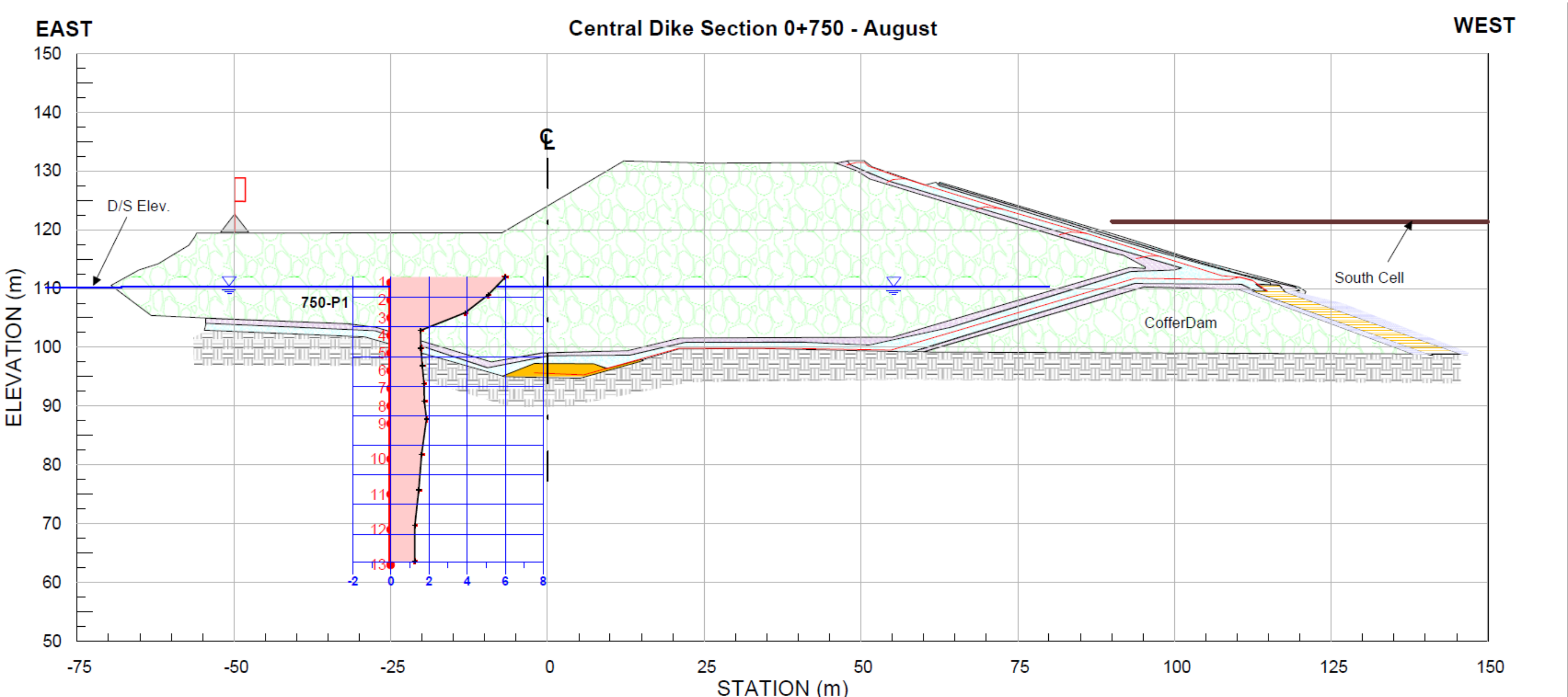
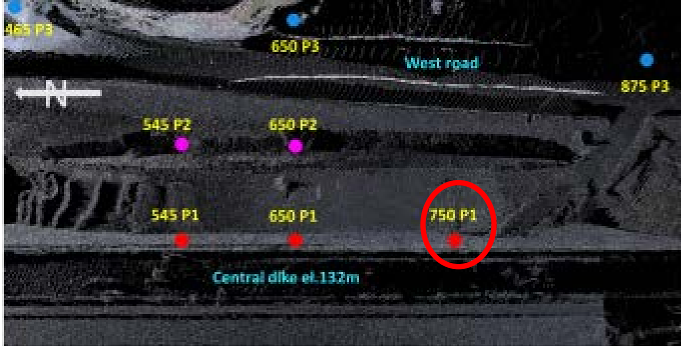
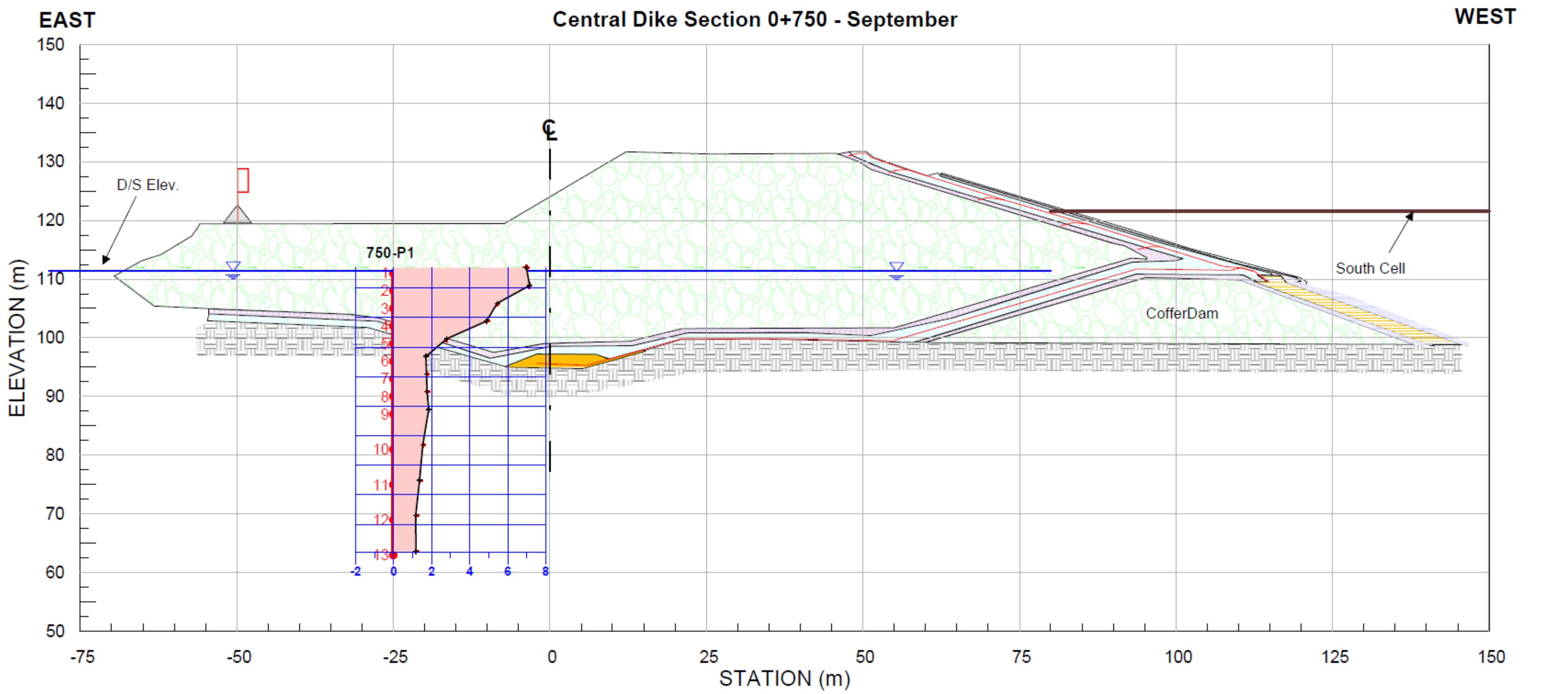




INSTRUMENTATION RESULTS

THERMISTORS SECTION 750





INSTRUMENTATION RESULTS

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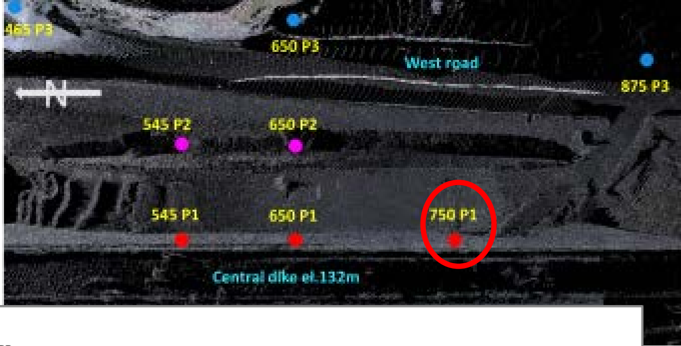
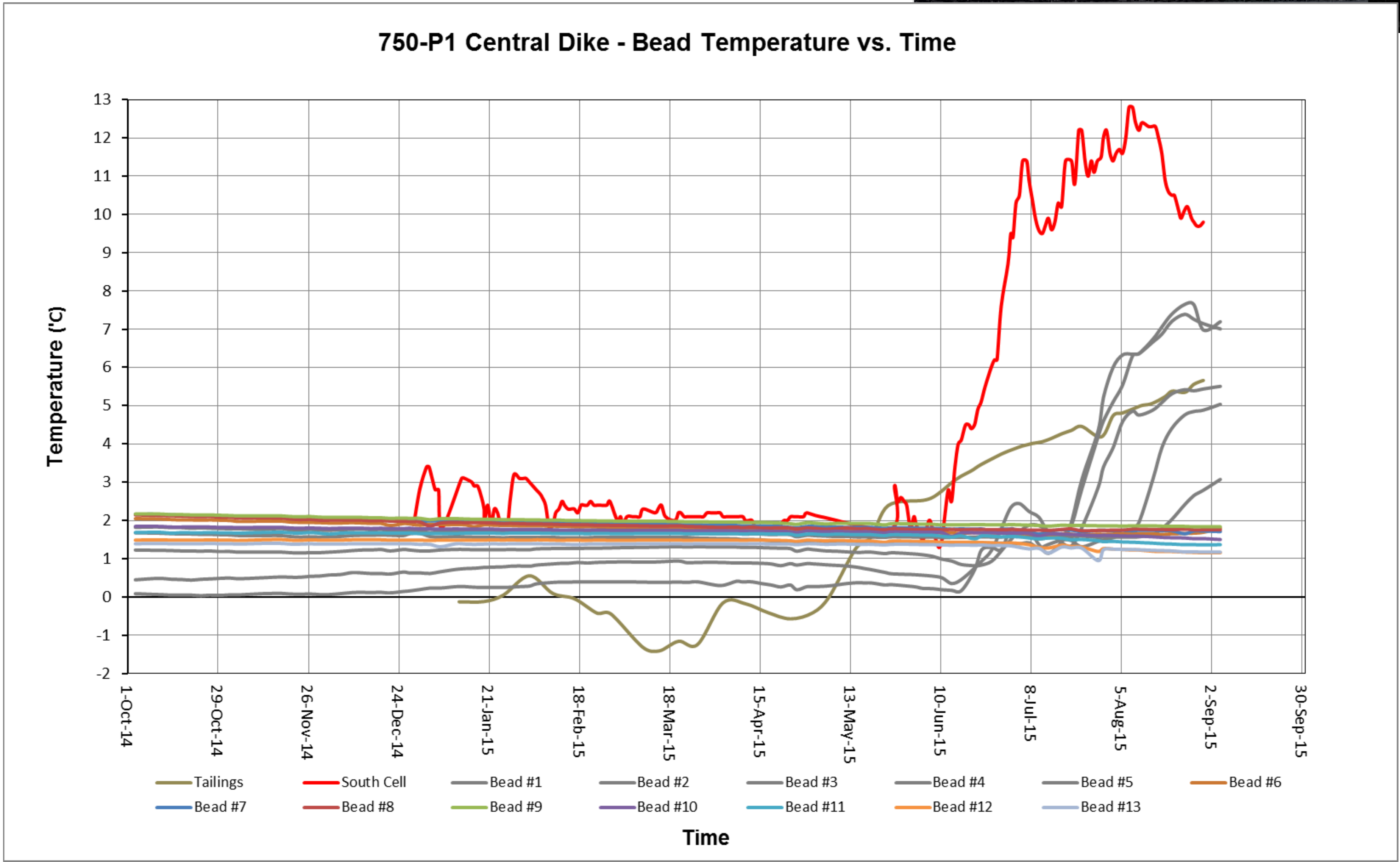
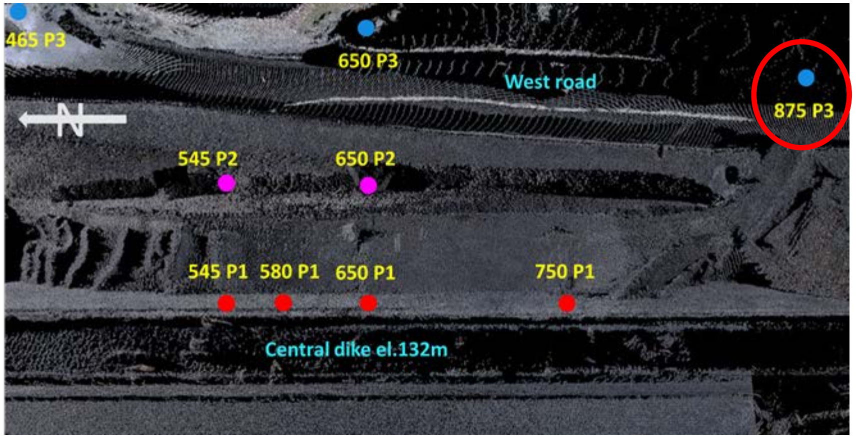
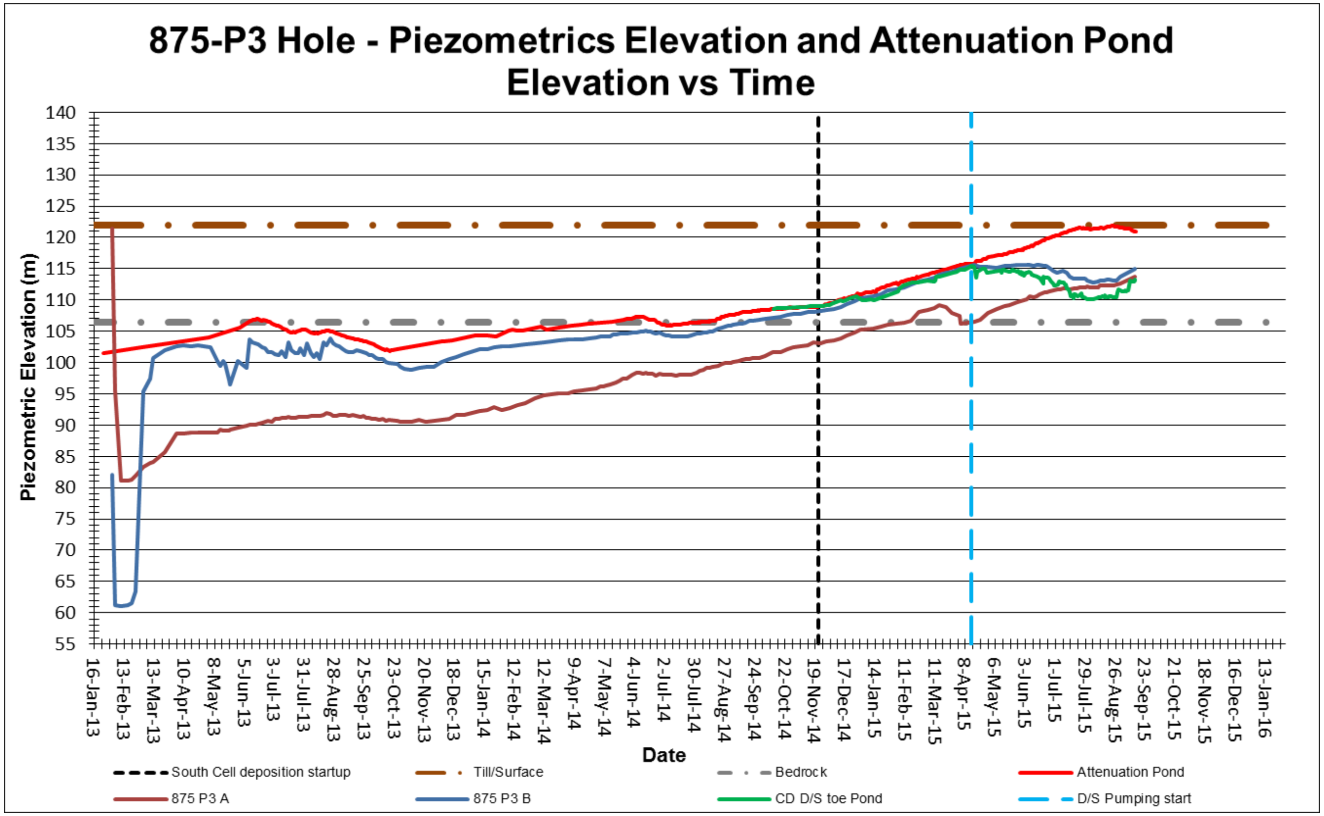


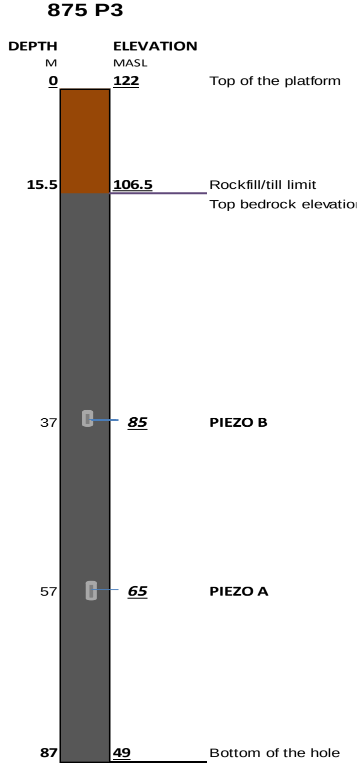


INSTRUMENTATION RESULTS

PIEZOMETERS SECTION 875

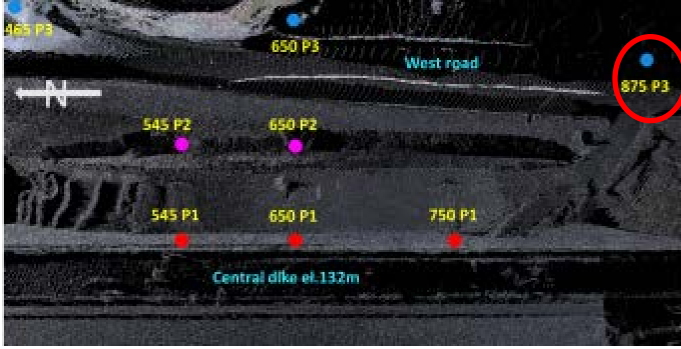


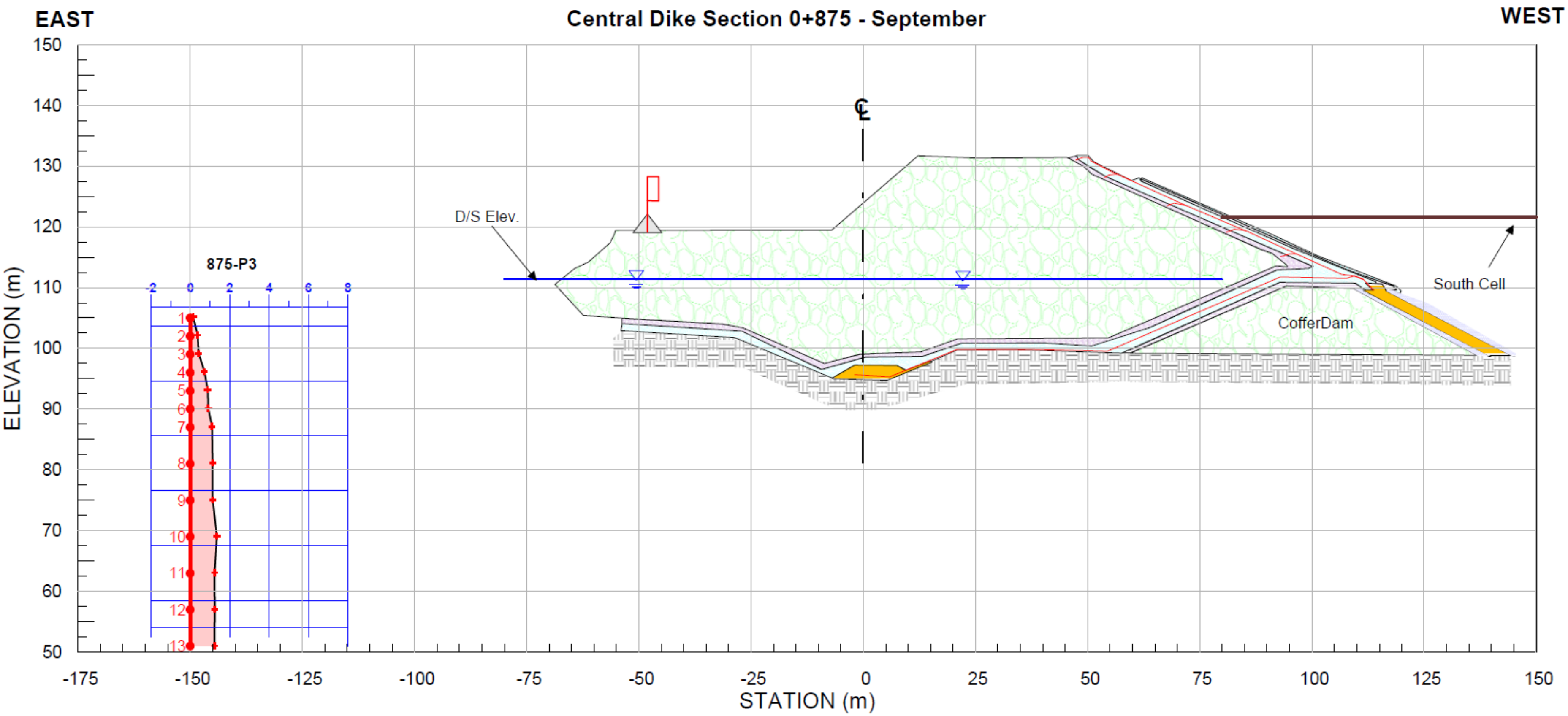




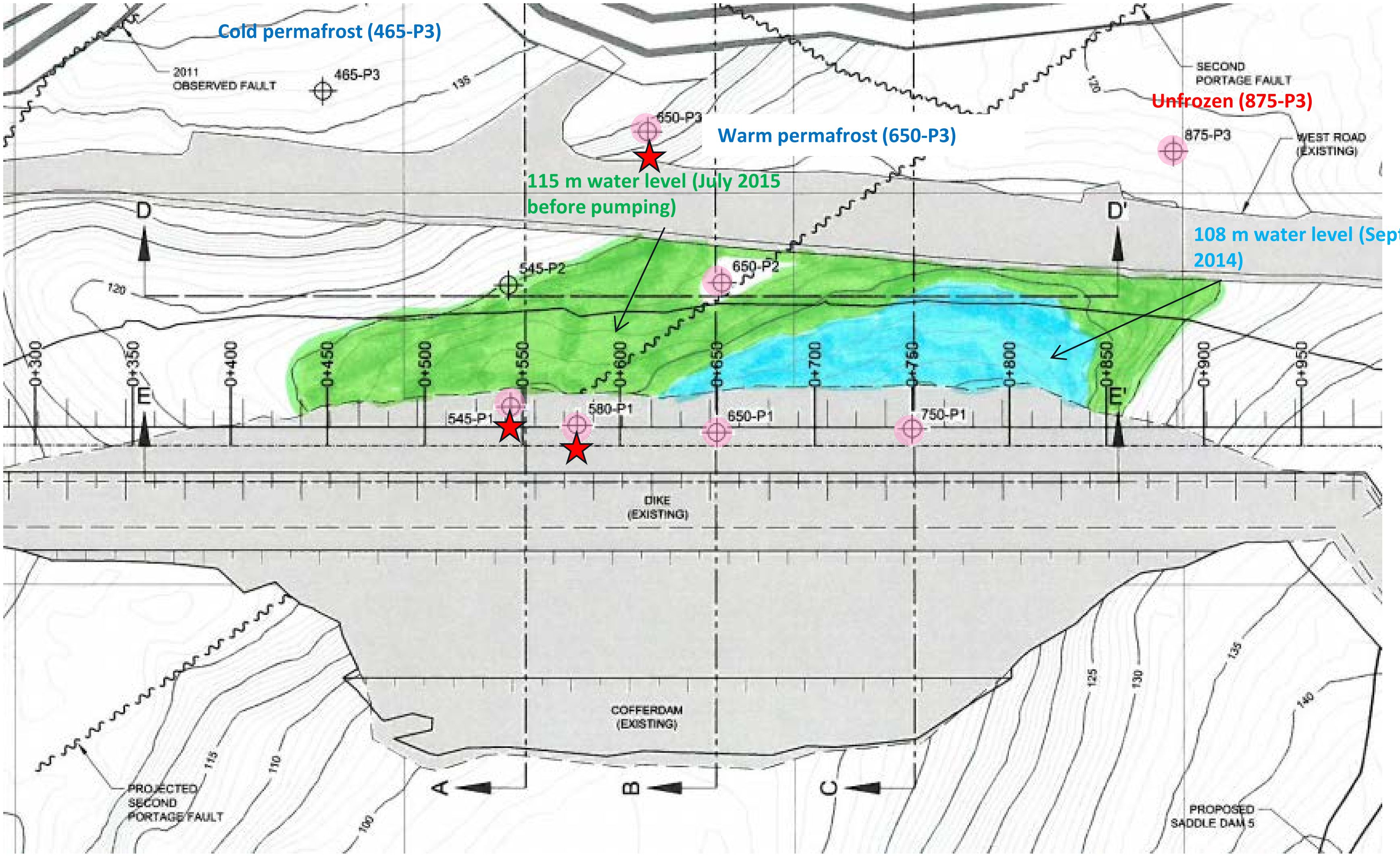
INSTRUMENTATION RESULTS

THERMISTORS SECTION 875





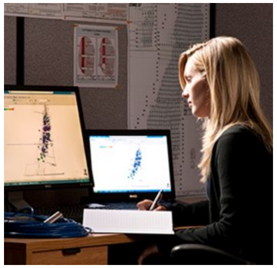
CENTRAL DIKE SITE OVERVIEW



Rapid rise in pore-water pressure observed:
580 P1 A (Bedrock) – August 2015
545 P1 D (Till) – September 2014
650 P3 A (Bedrock) – November 2014

Responds to South Cell Pond Elevation Changes

AGNICO EAGLE



Trading Symbol:
AEM on TSX & NYSE

Investor Relations:
416-847-8665
info@agnicoeagle.com

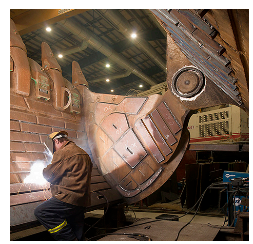
agnicoeagle.com

WORLD GOLD COUNCIL

APPENDIX C3

TSF North Cell Instrumentation Data

AGNICO EAGLE



MDRB #17

TAILINGS STORAGE FACILITIES INSTRUMENTATION REVIEW

TSF– OPERATIONAL STRUCTURES

AGNICO EAGLE

NORTH CELL

Rockfill Road 1 and 2
Thermistor – 3 Total
T121-1, T122-1 and T73-6

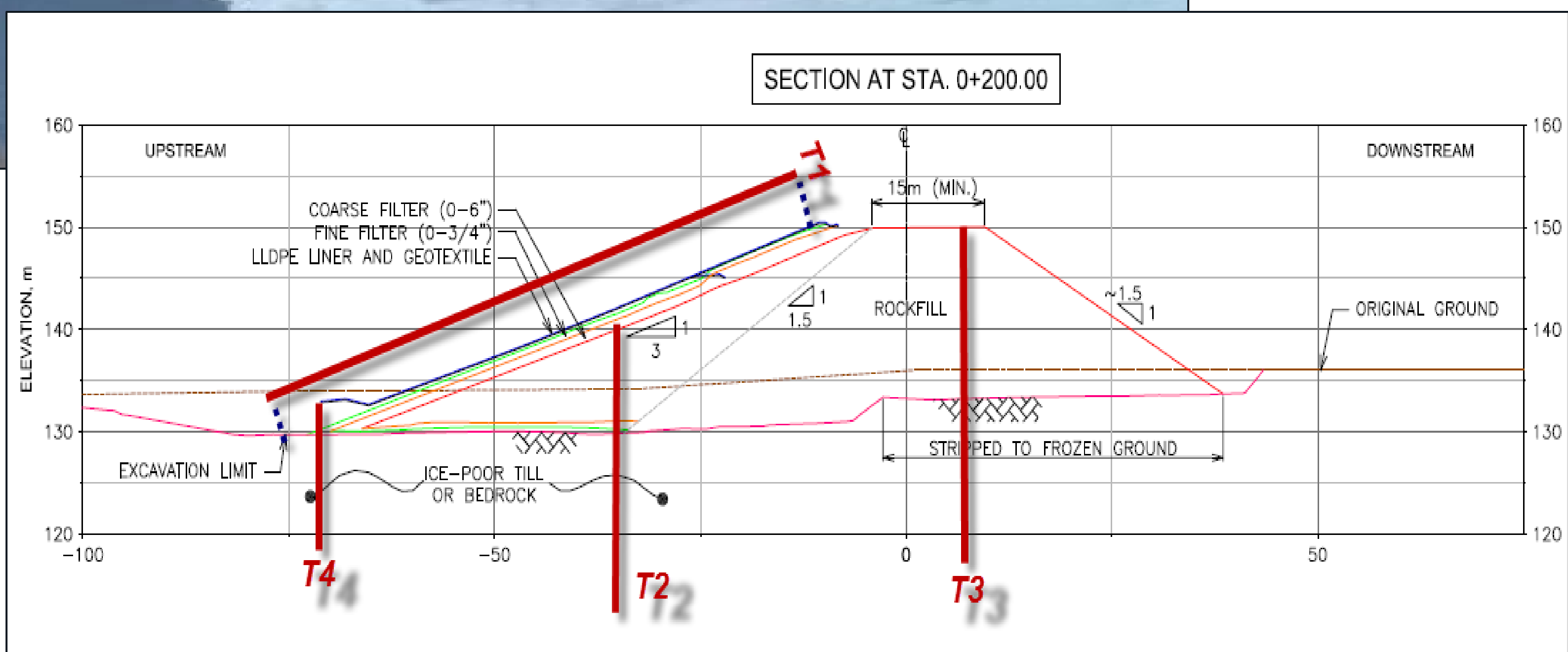
Saddle Dam 1
Thermistor – 4 Total
T1, T2, T3 and T4

Saddle Dam 2
Thermistor – 4 Total
T1, T2, T3 and T4

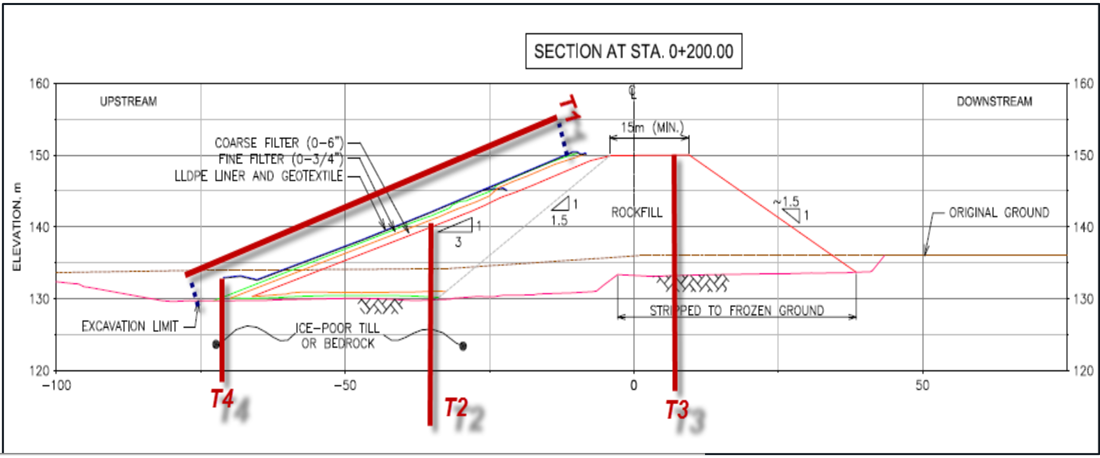
Stormwater Dike
Piezometer – 1 Total VWP 13265
Thermistor – 1 Total T147-1

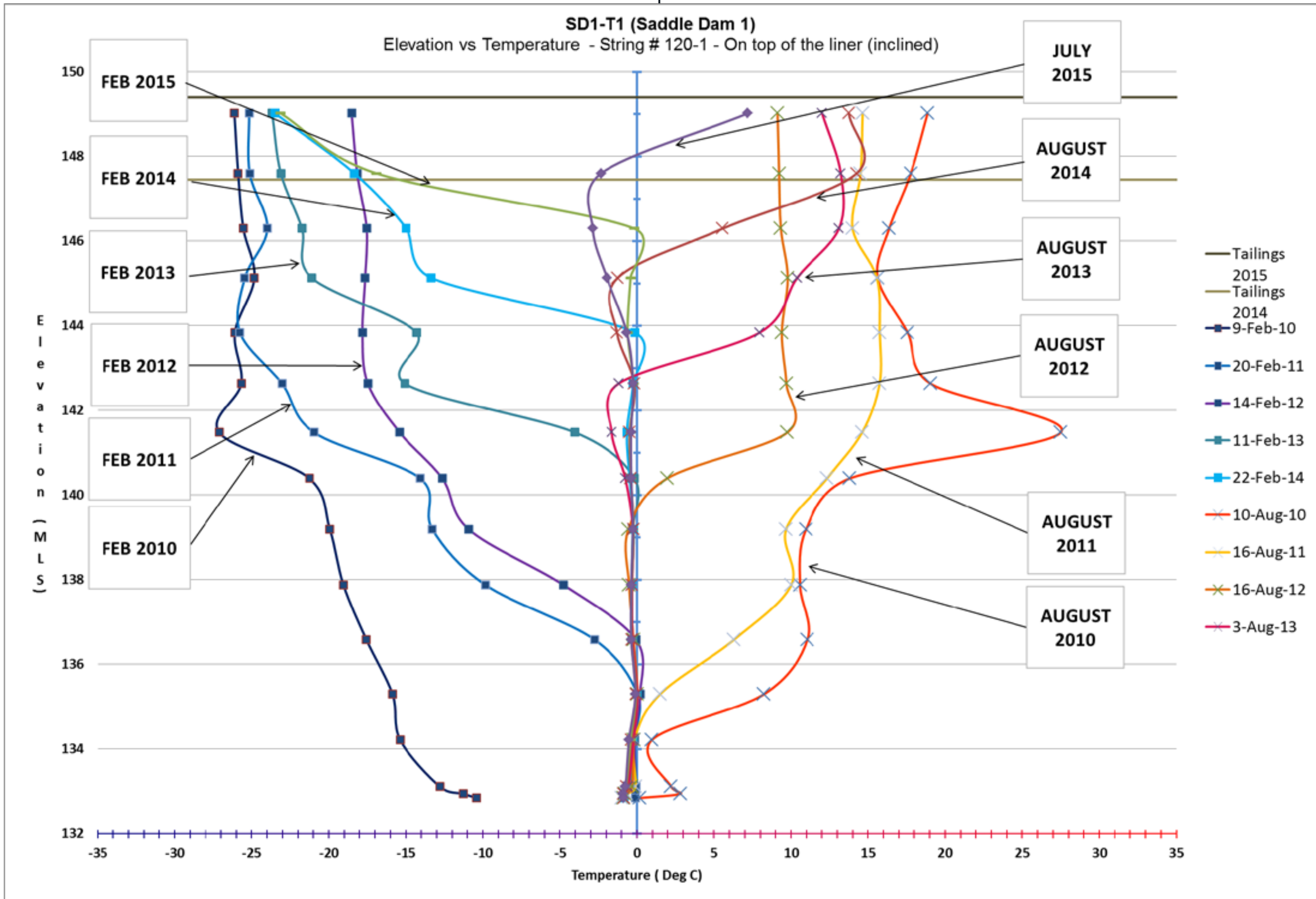
AGNICO EAGLE

Thermistors emplacement – T1, T2, T3 and T4

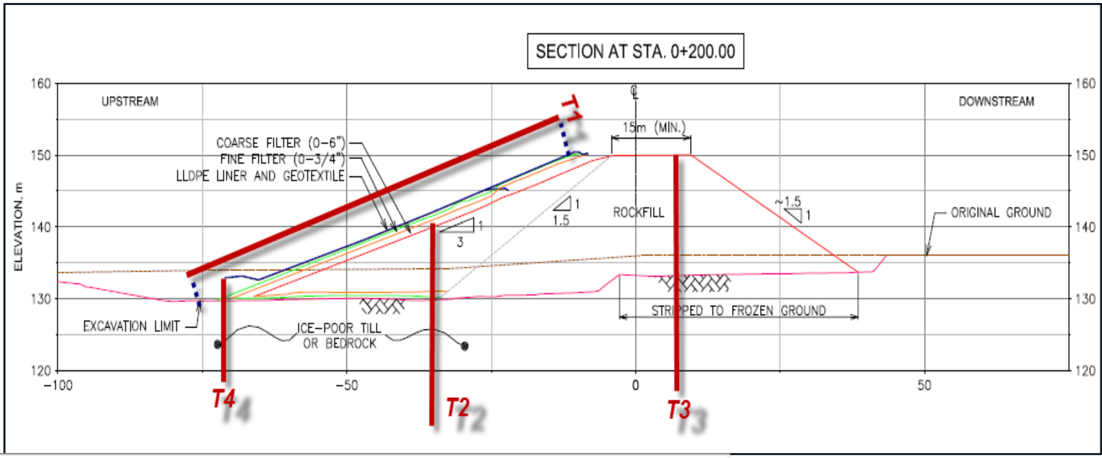


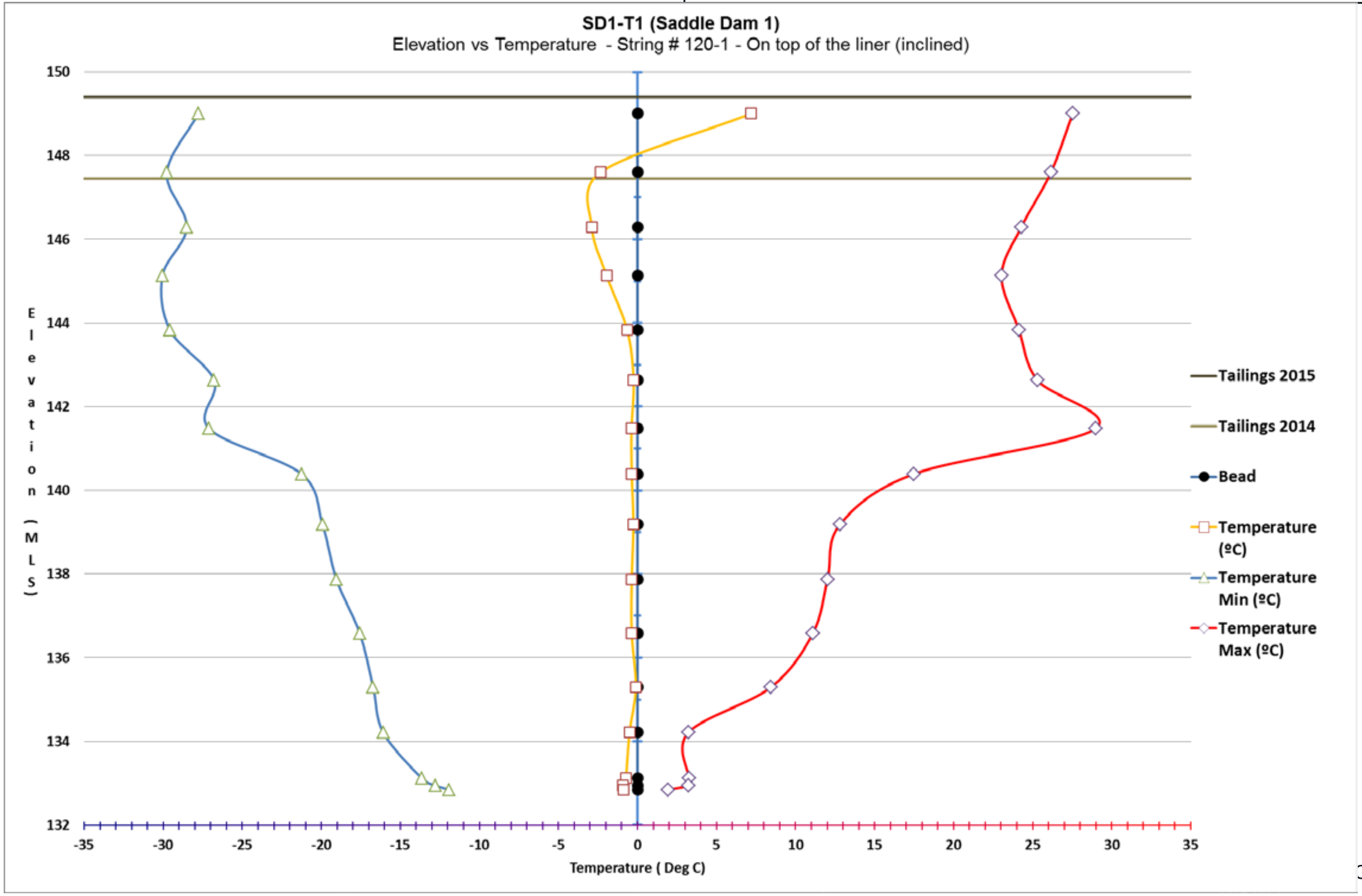
SADDLE DAM 1 - T1



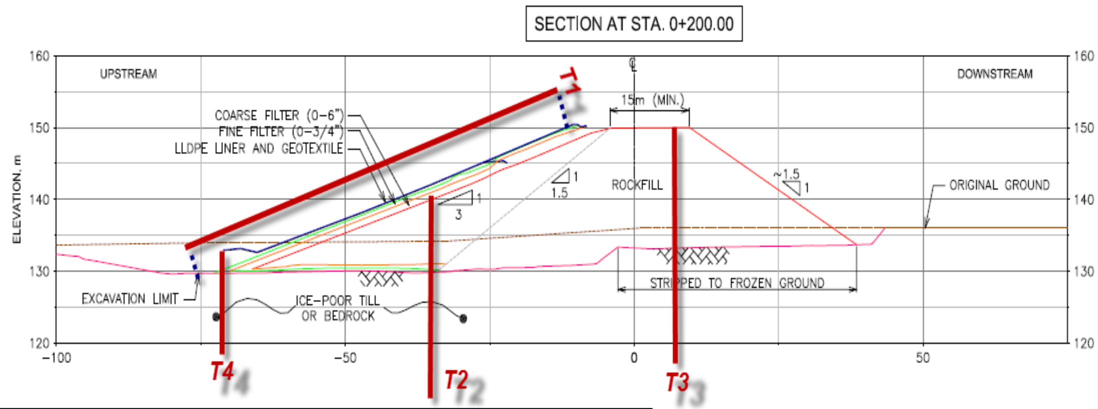


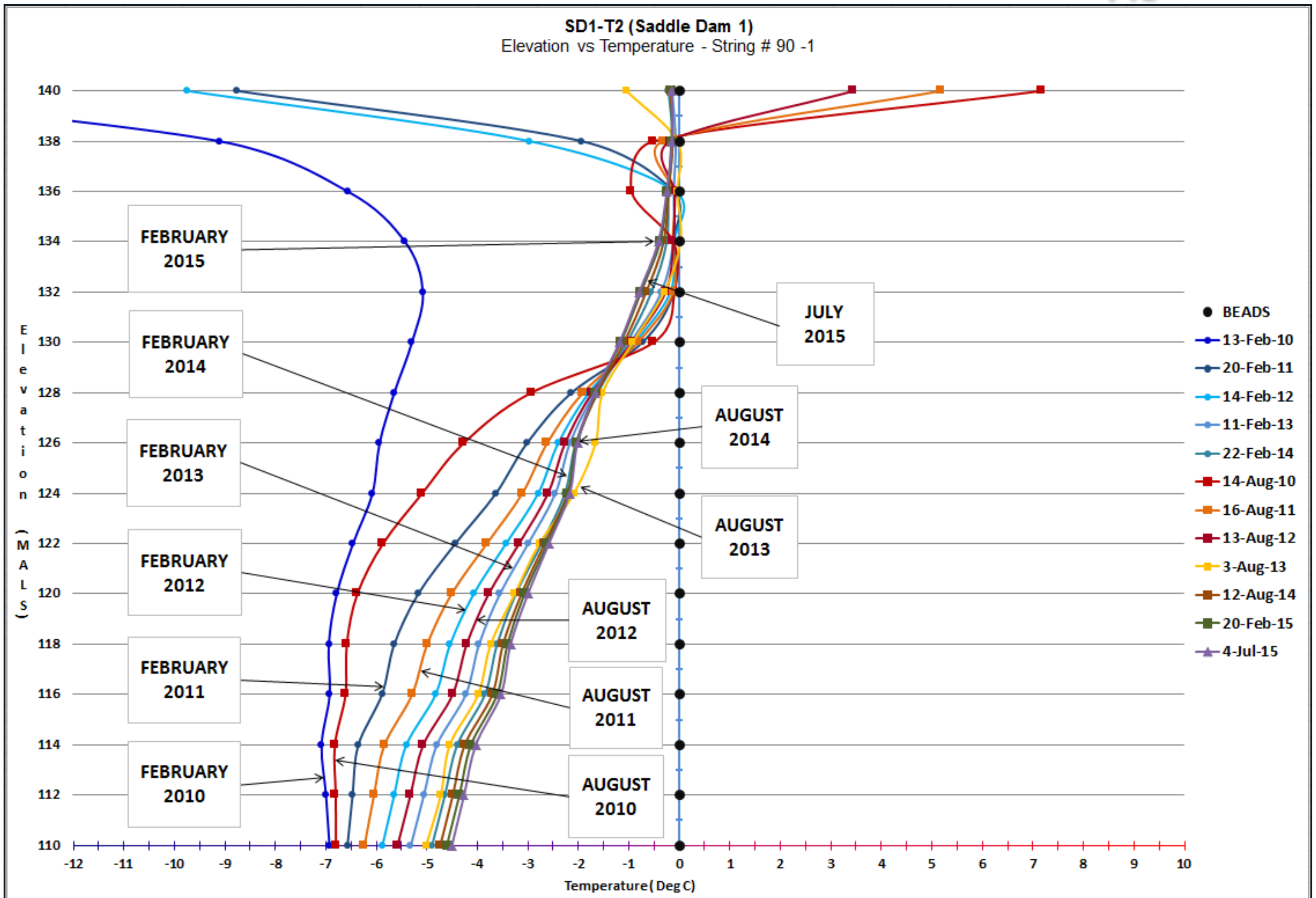
SADDLE DAM 1 - T1



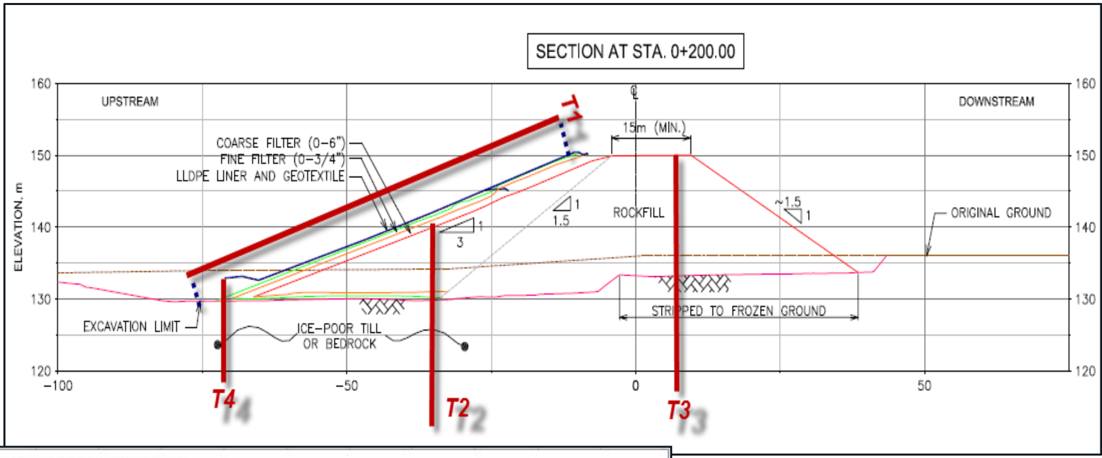


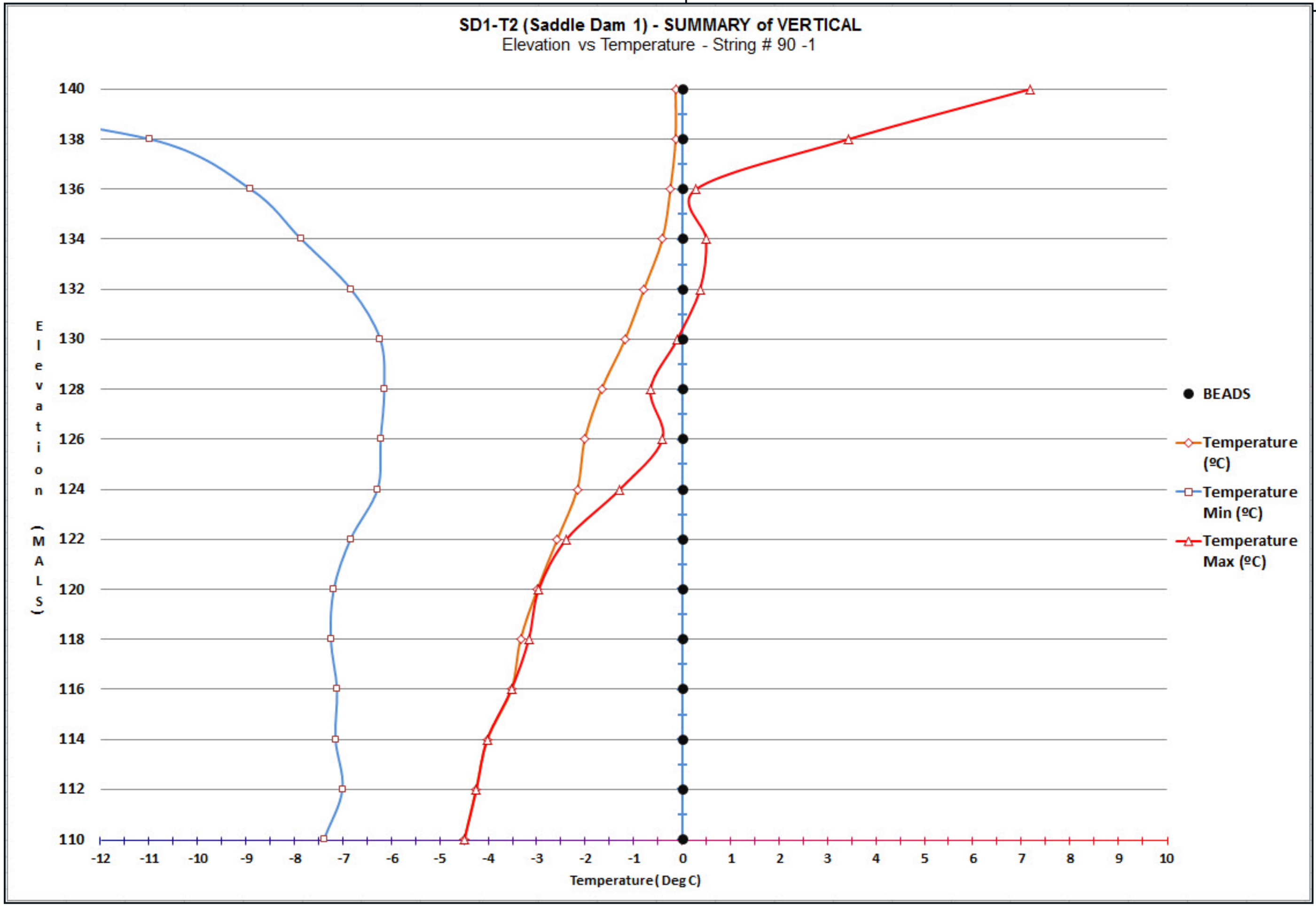
SADDLE DAM 1 - T2



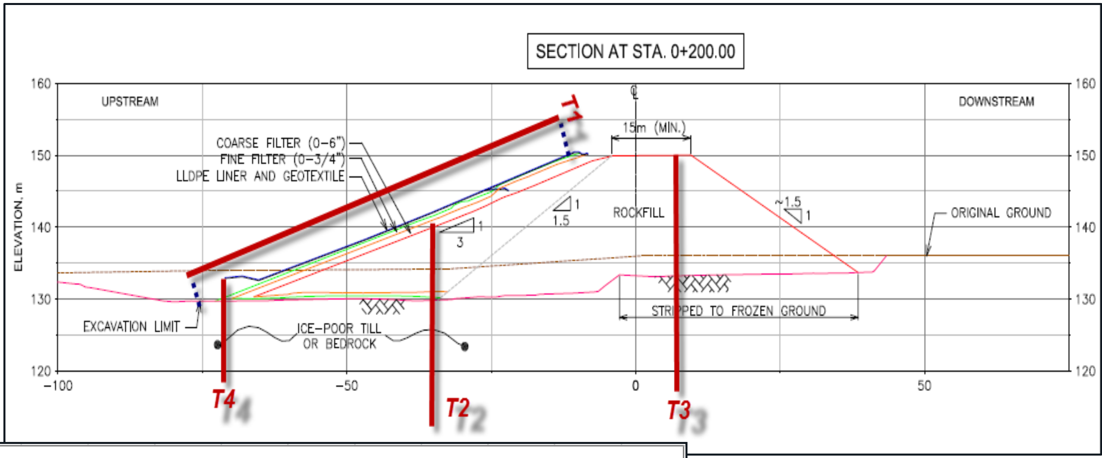


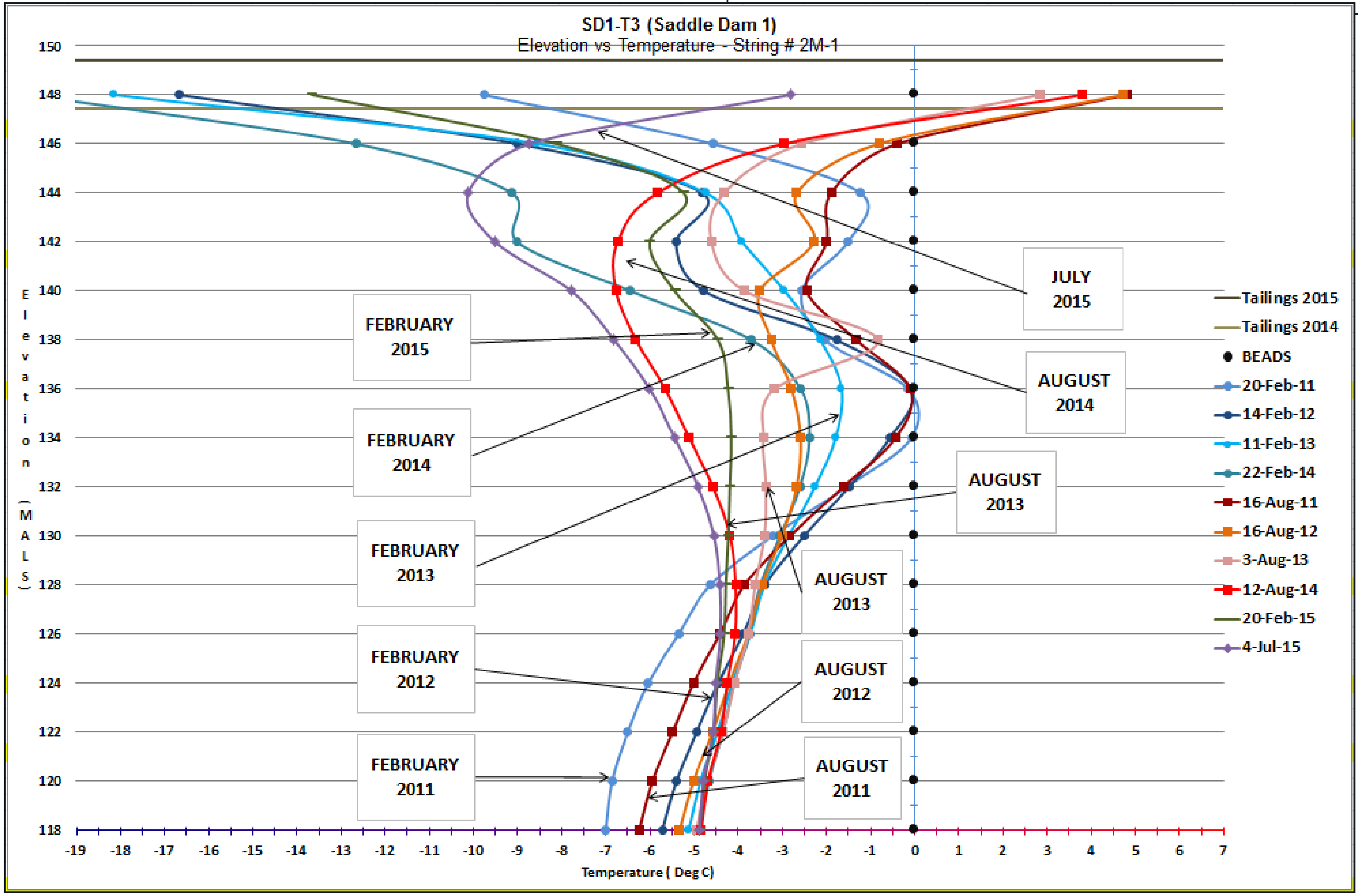
SADDLE DAM 1 - T2



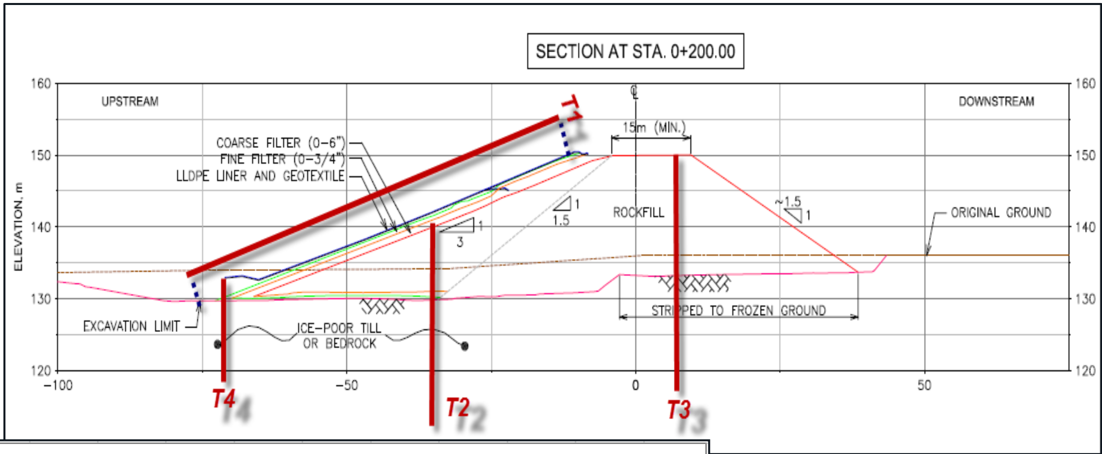


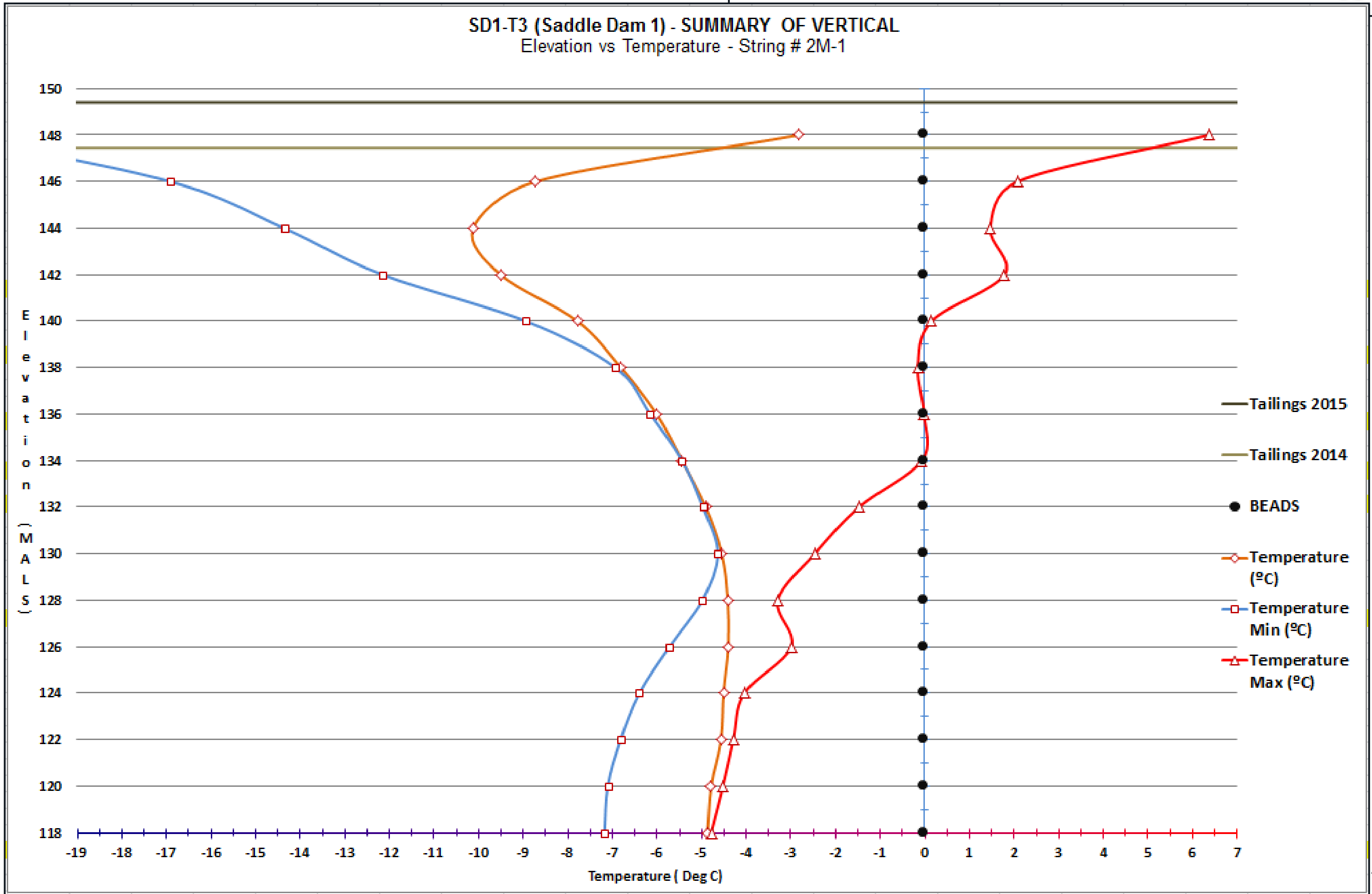
SADDLE DAM 1 - T3



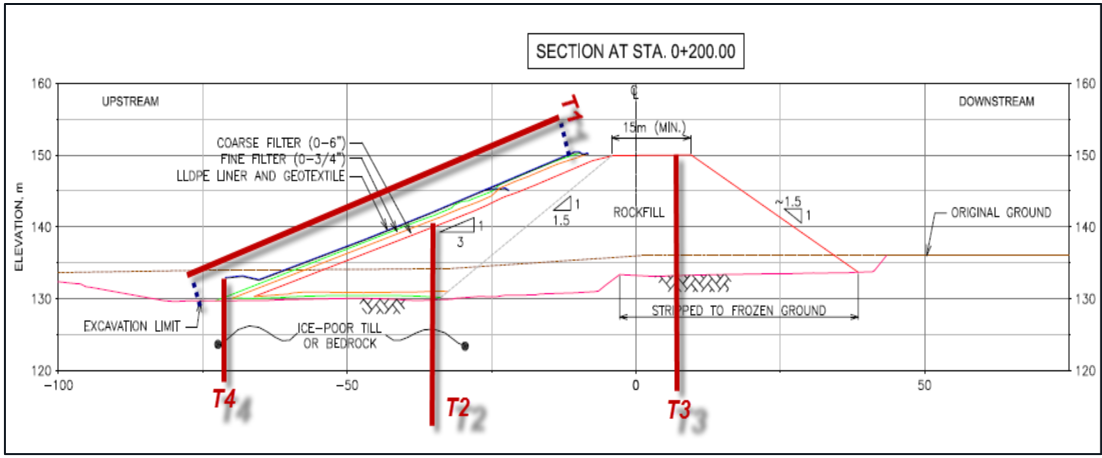


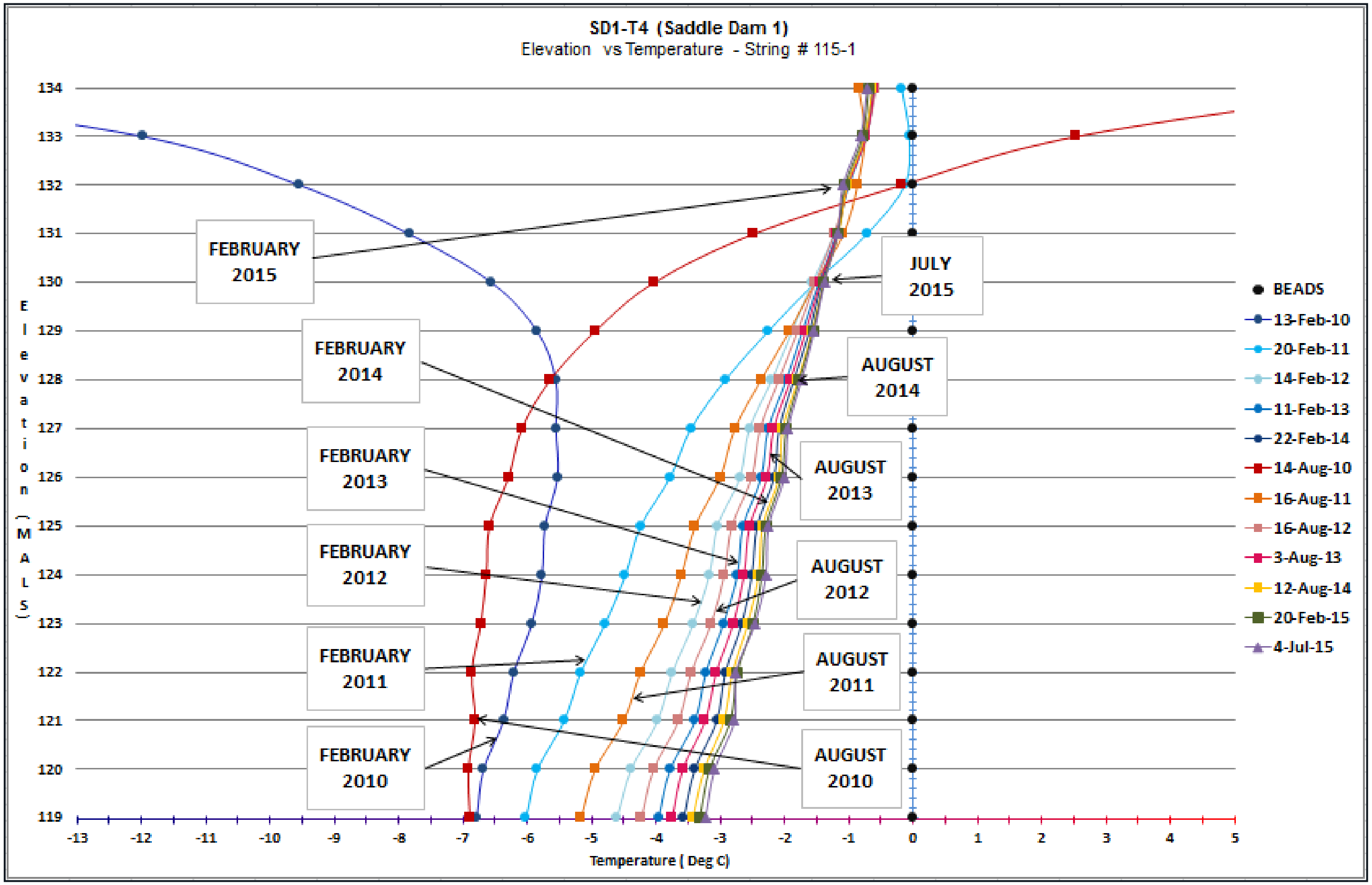
SADDLE DAM 1 - T3



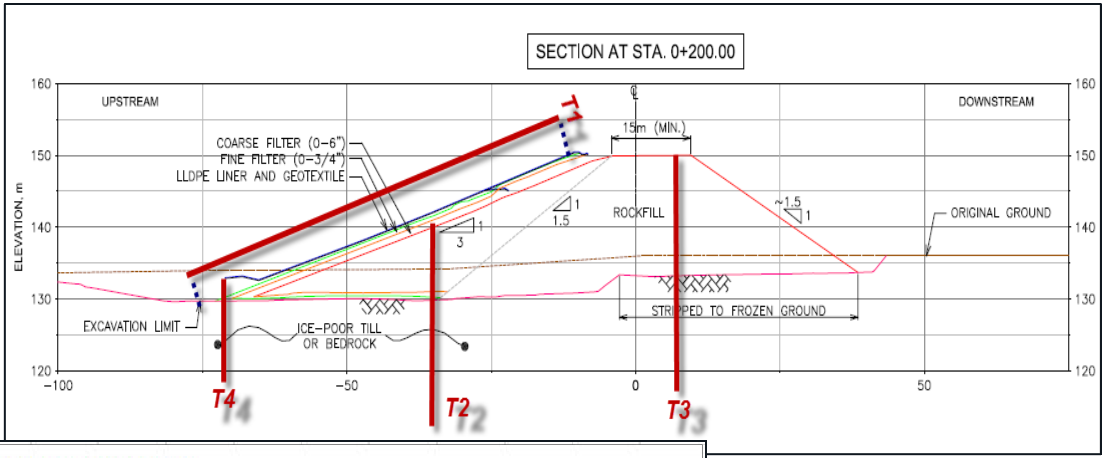


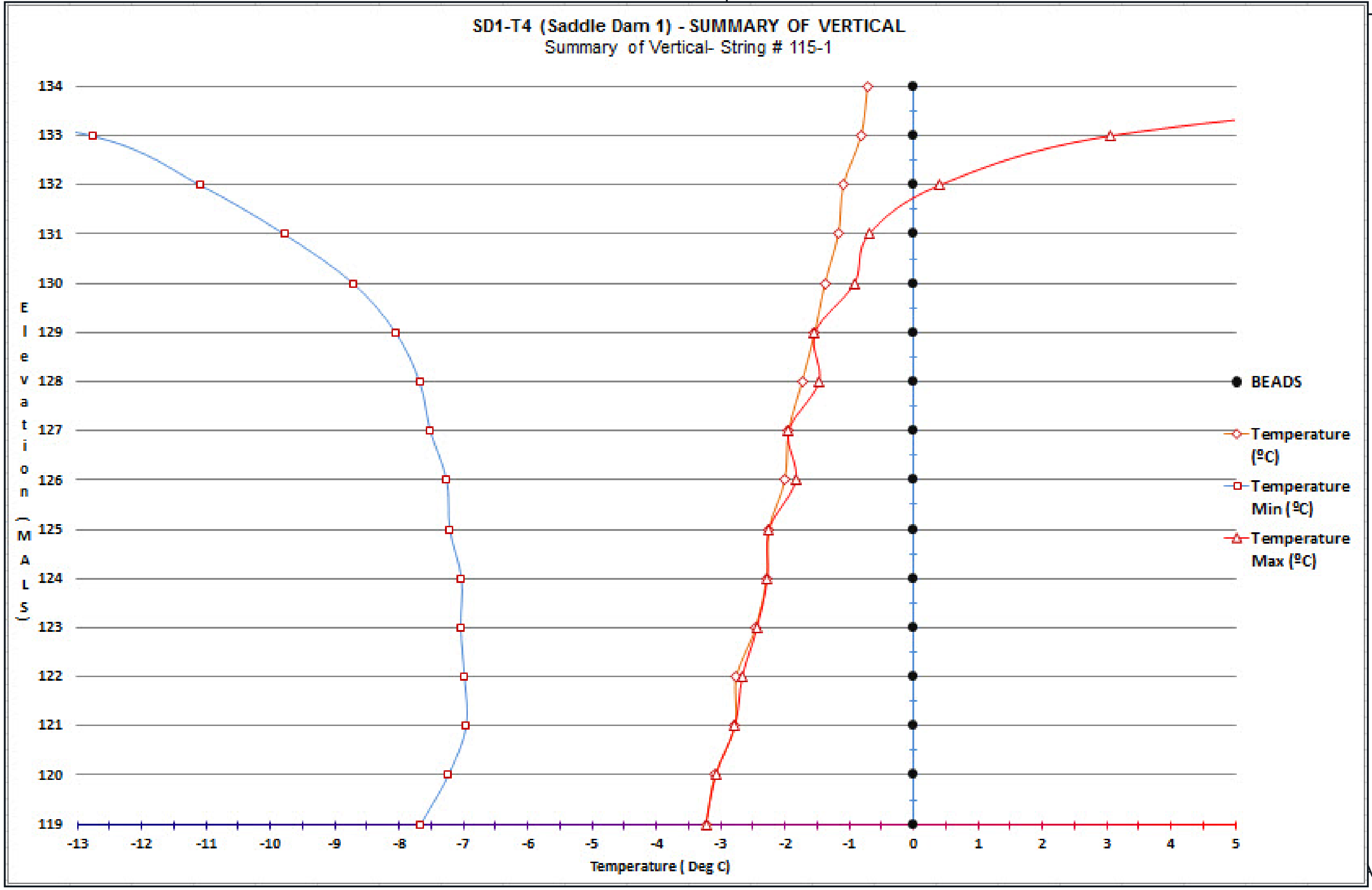
SADDLE DAM 1 - T4





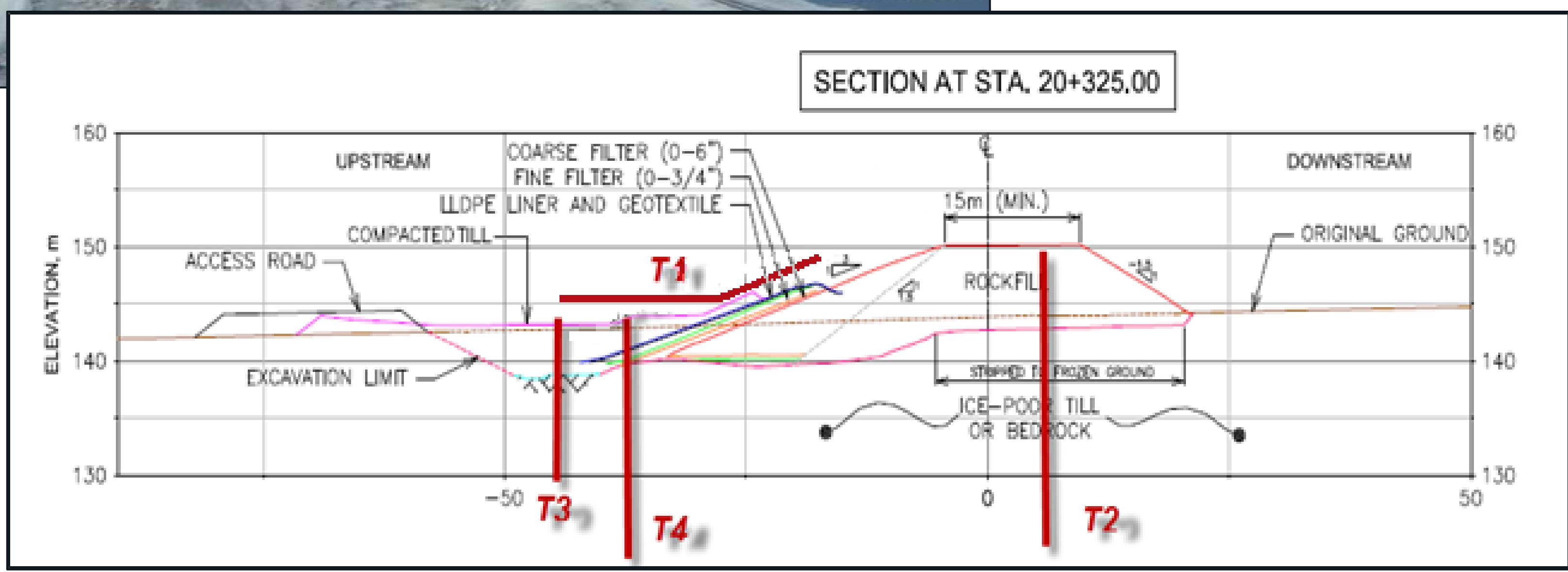
SADDLE DAM 1 - T4



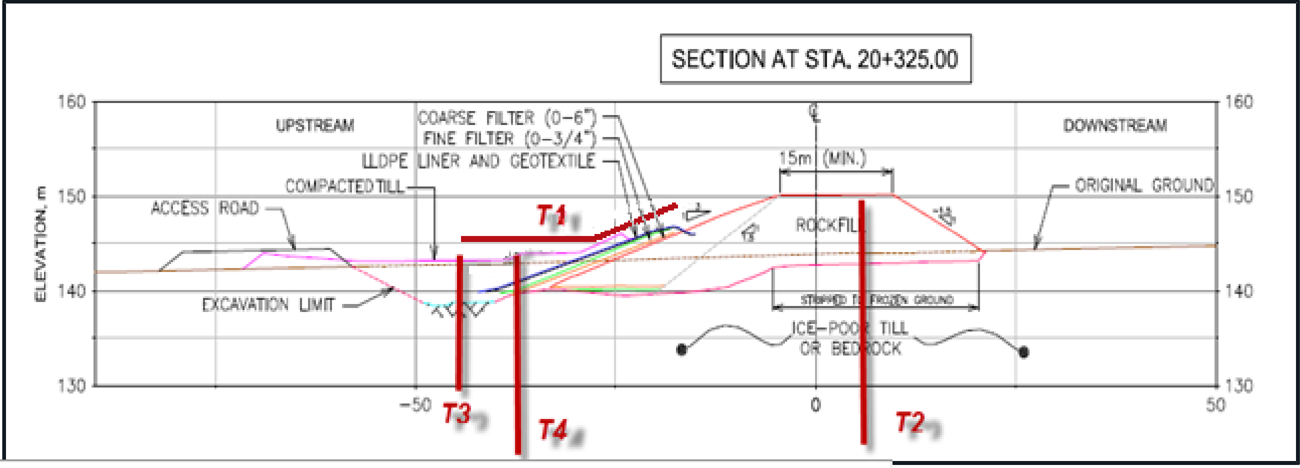


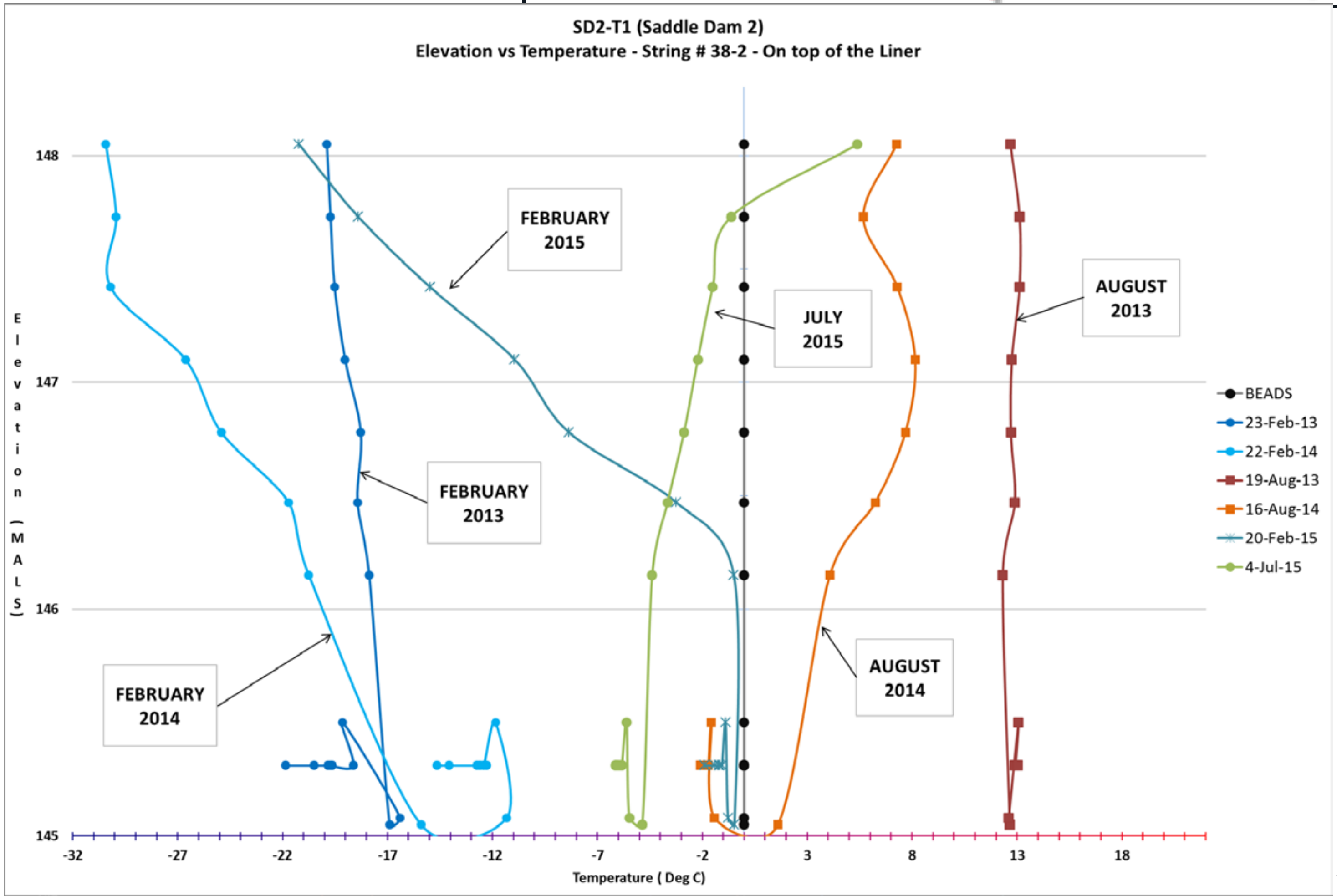
SADDLE DAM 2 – REVIEW OF INSTRUMENTATION

Thermistors emplacement – T2, T3 and T4

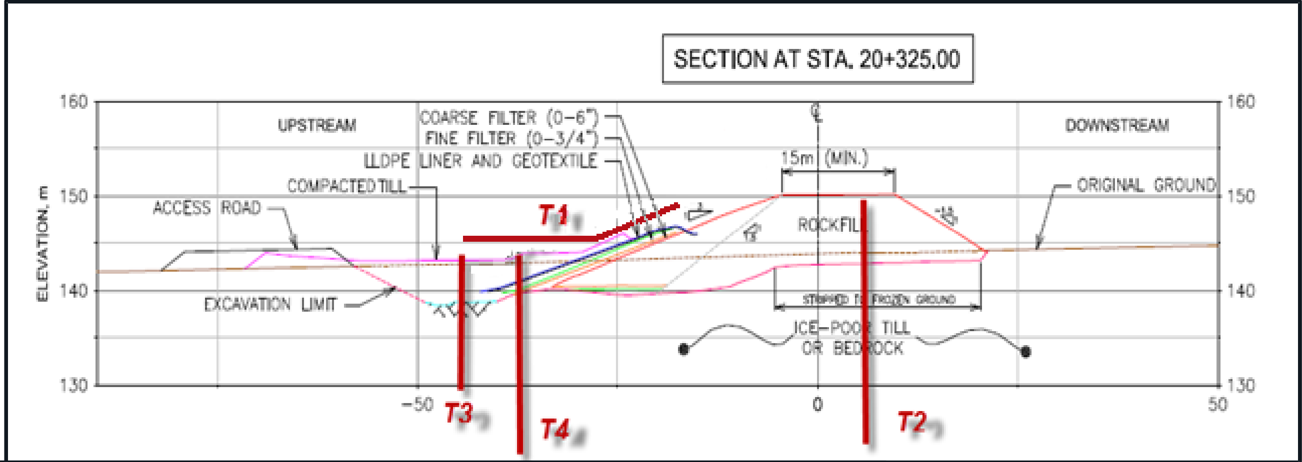


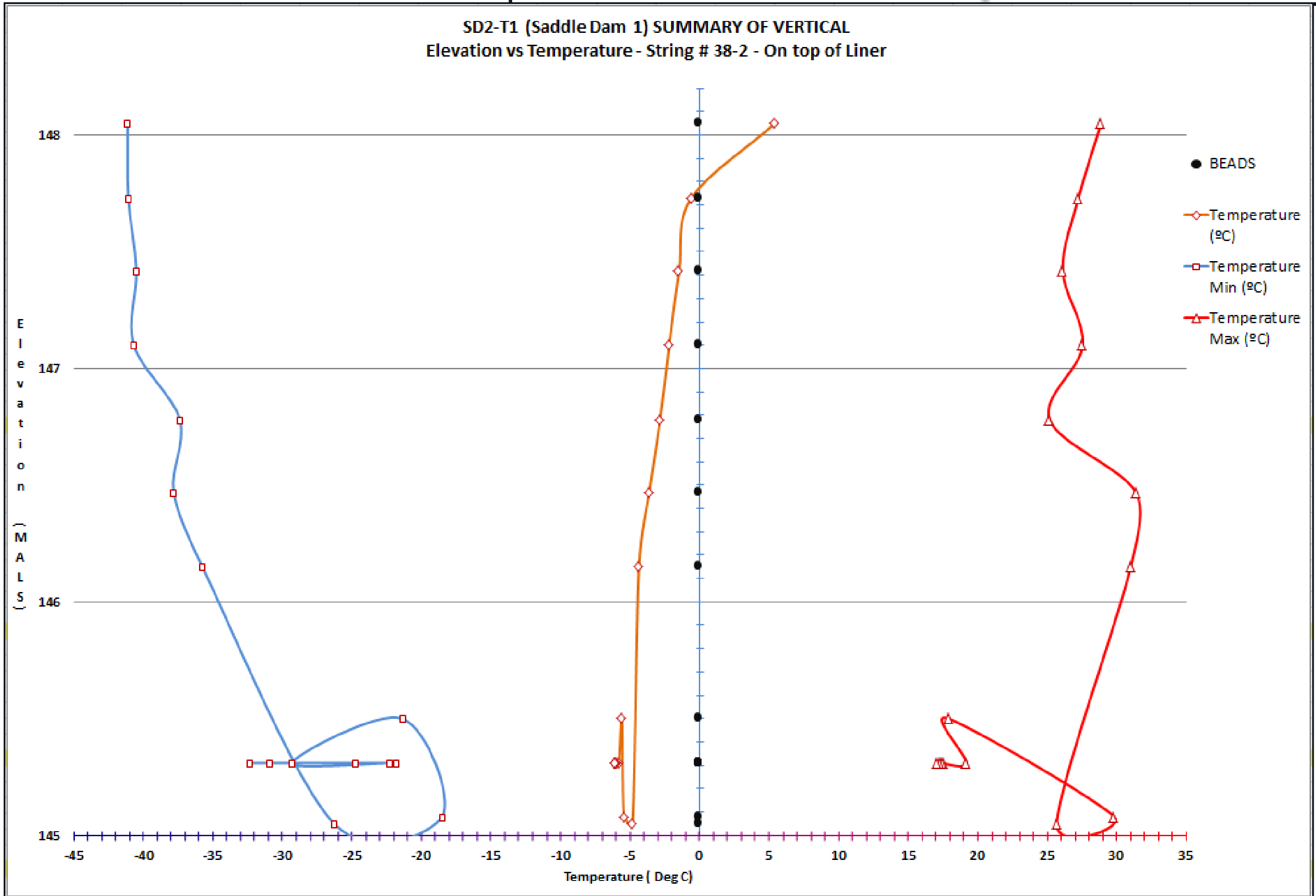
SADDLE DAM 2 - T1



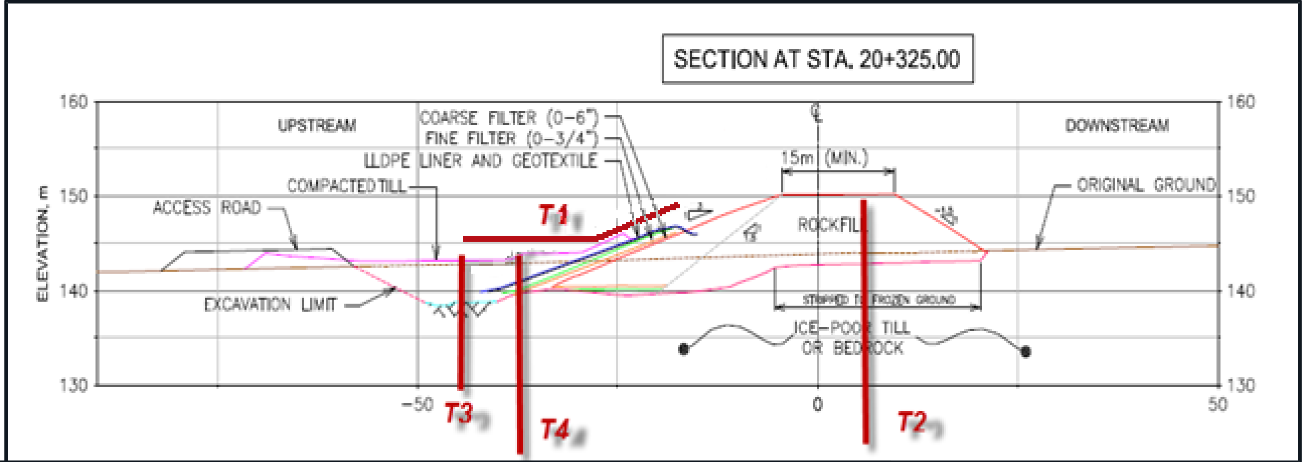


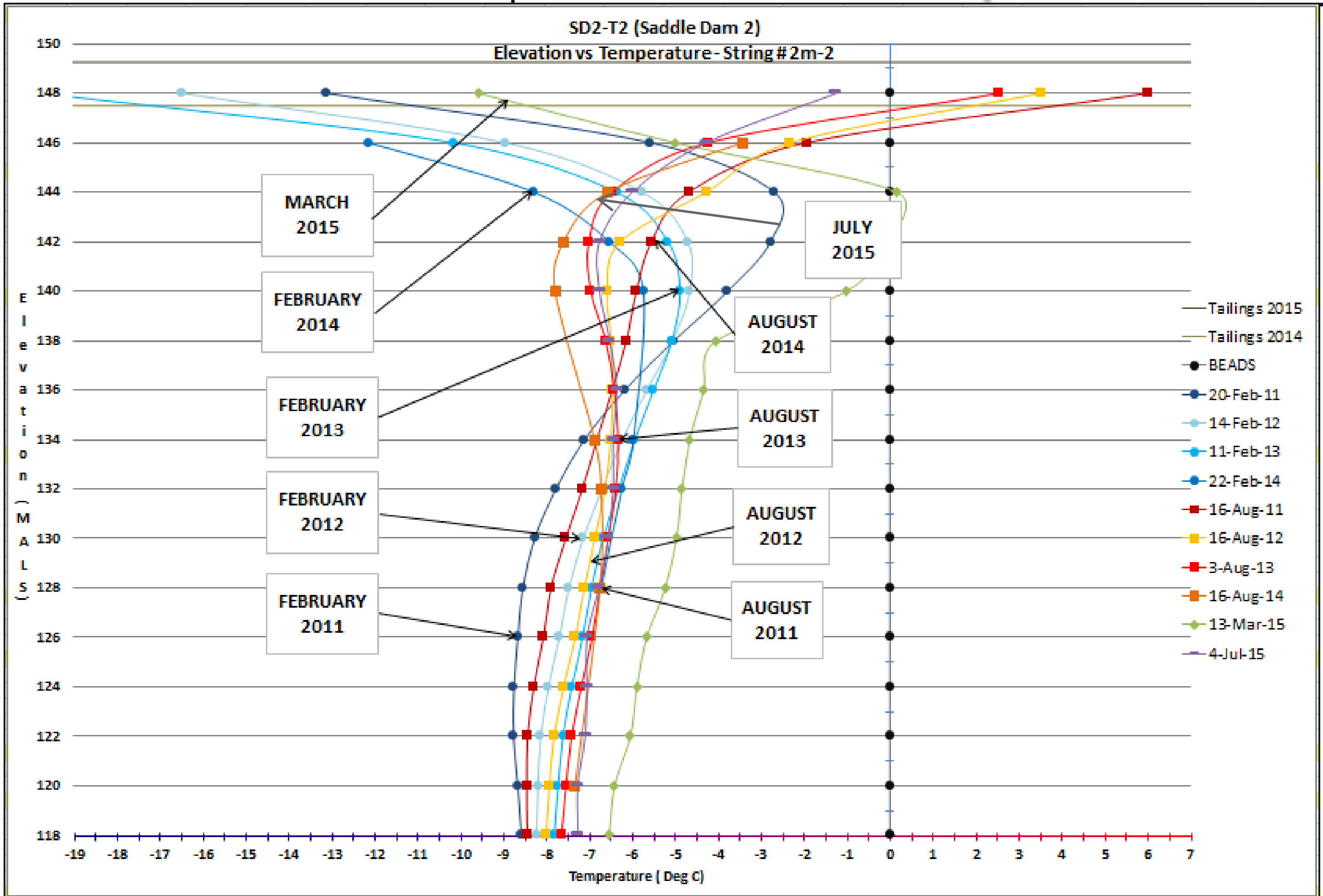
SADDLE DAM 2 - T1





SADDLE DAM 2 - T2





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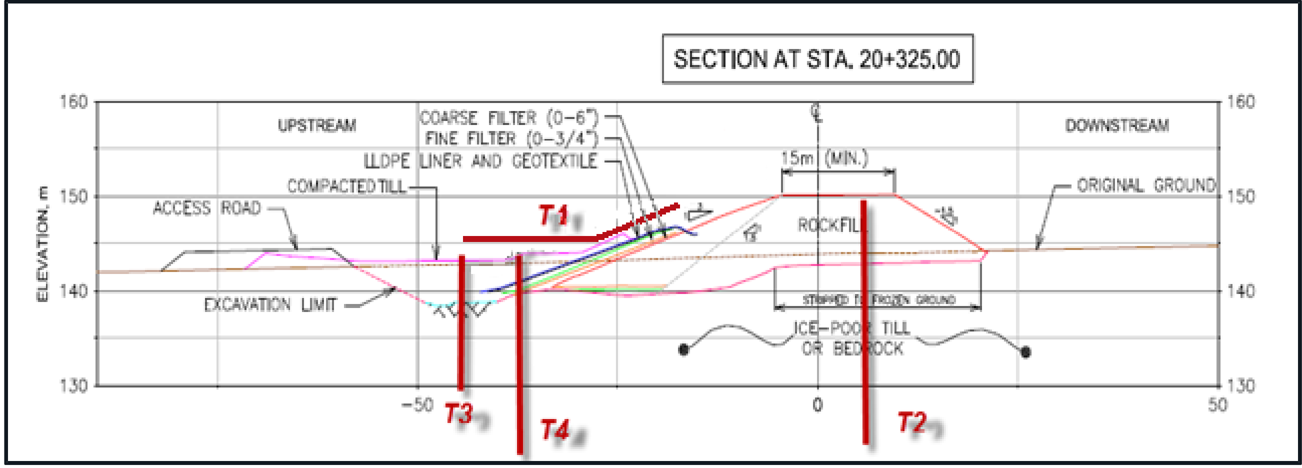

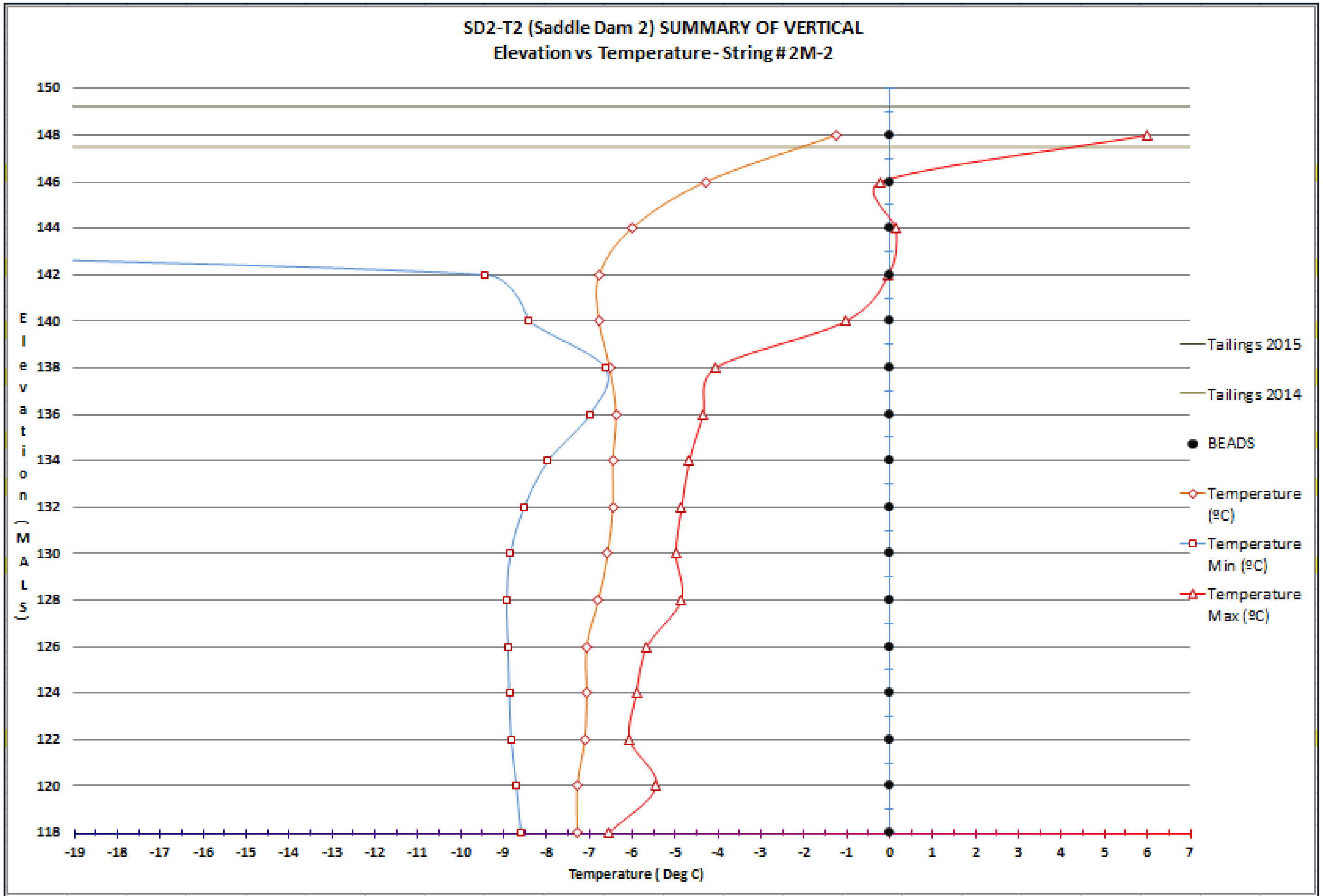

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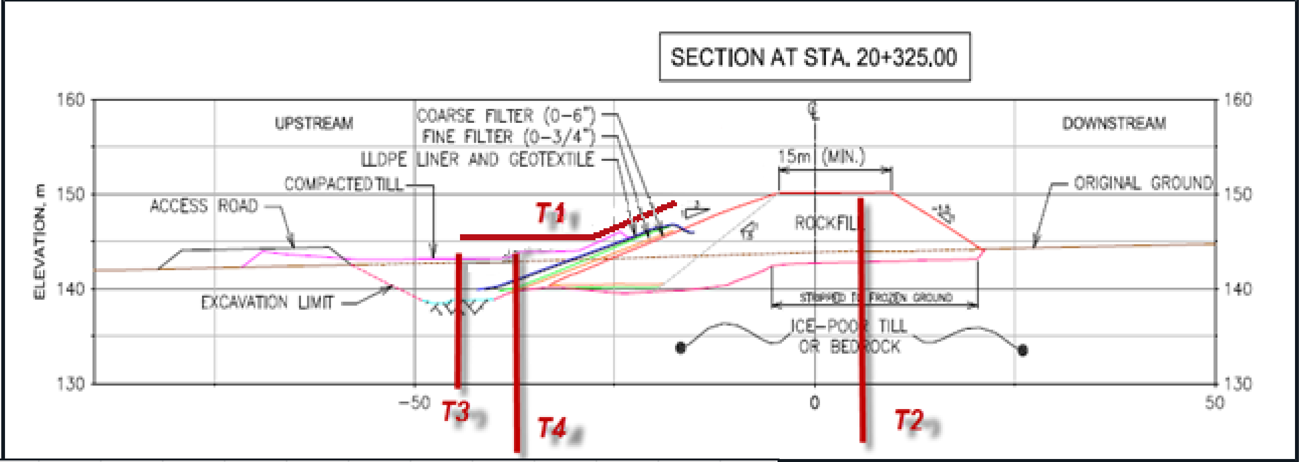
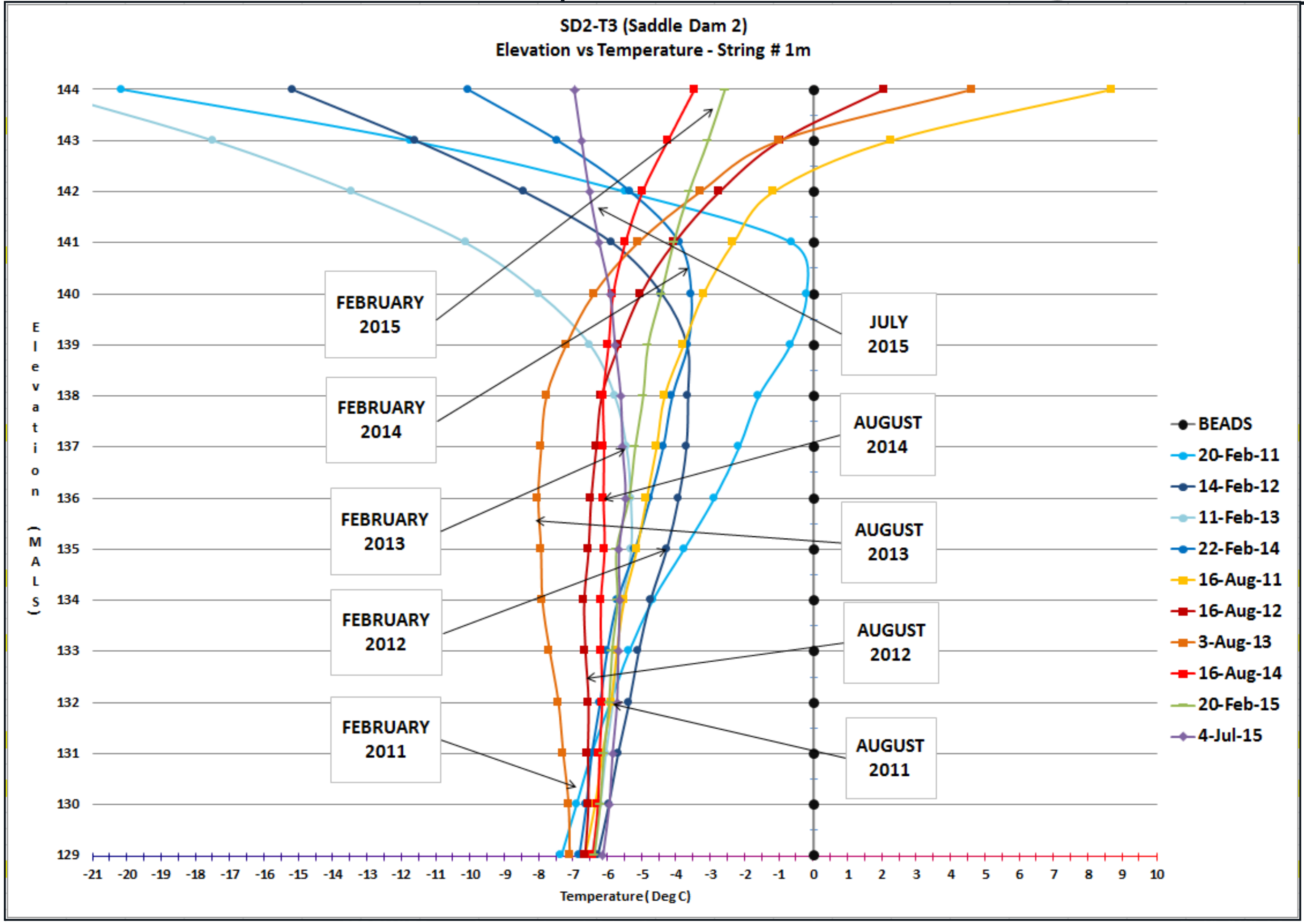
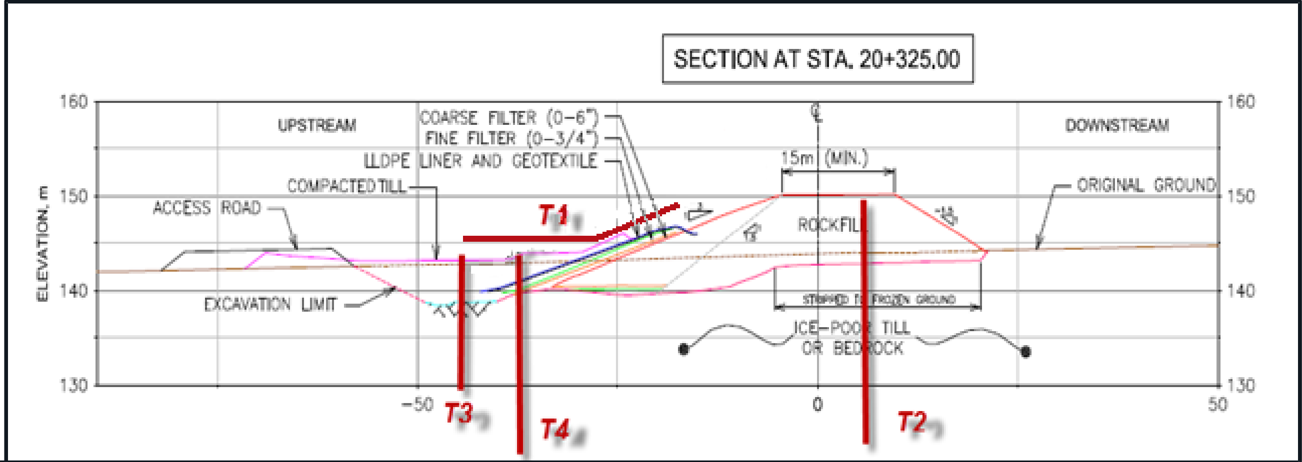
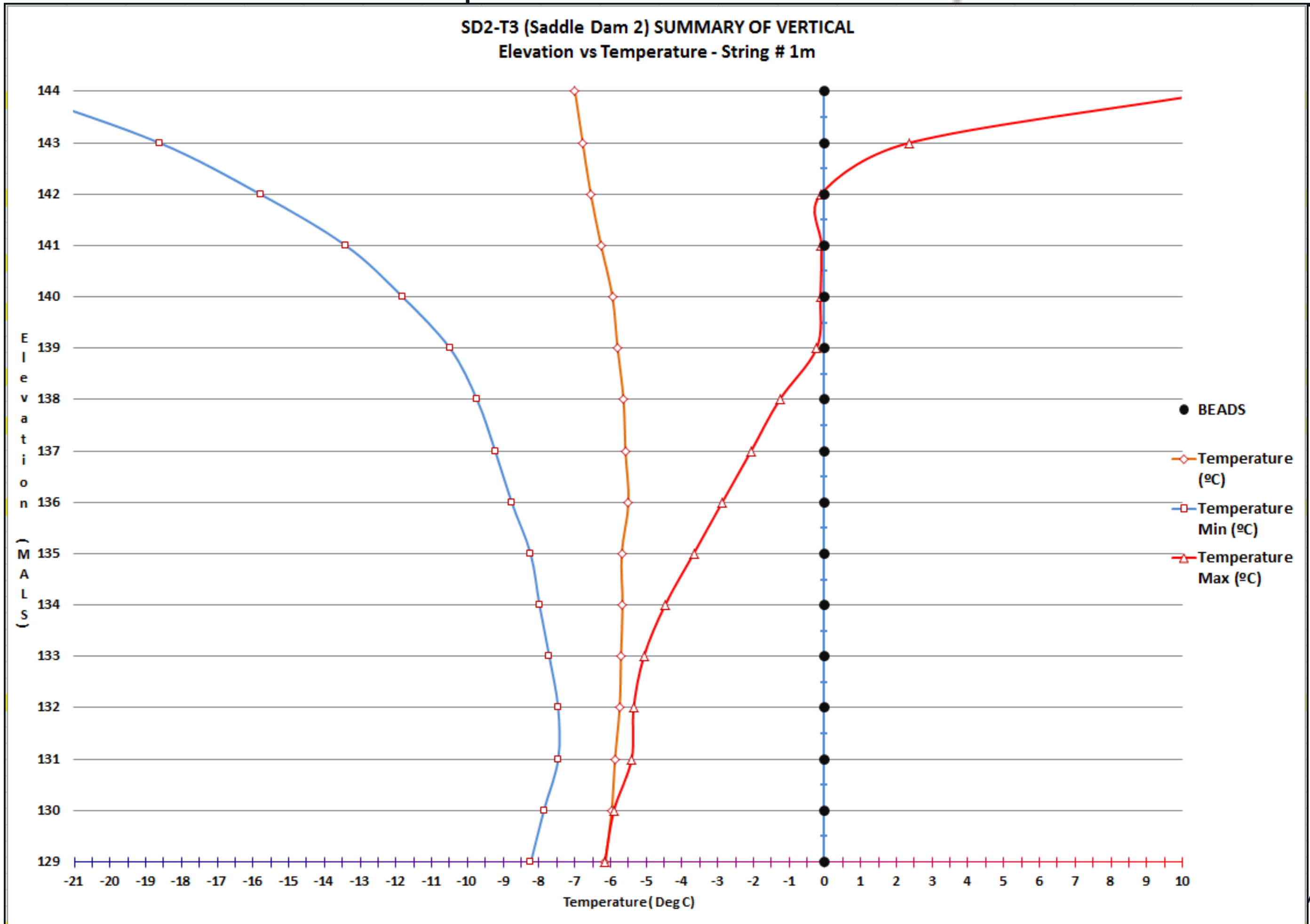


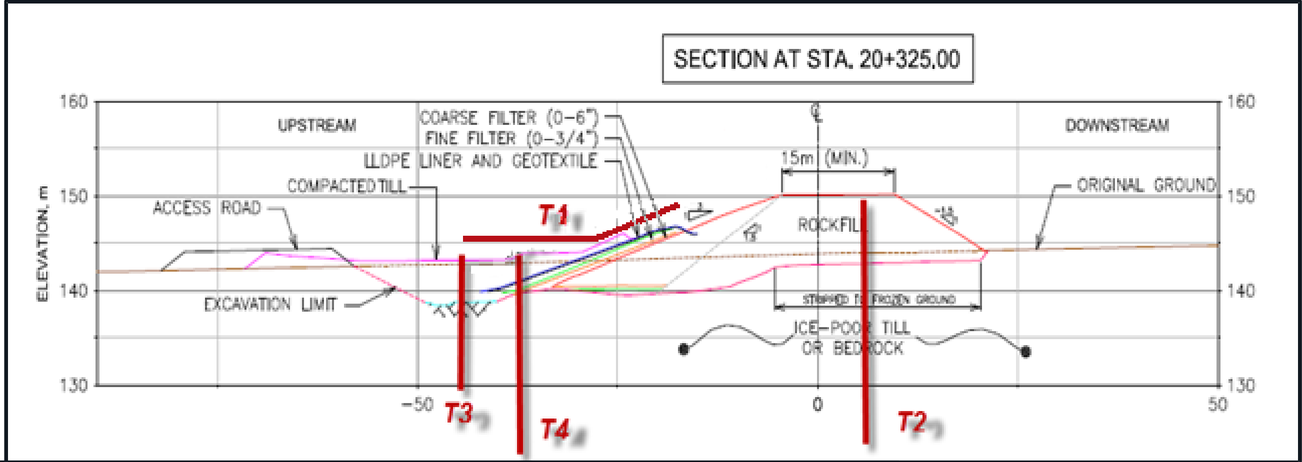


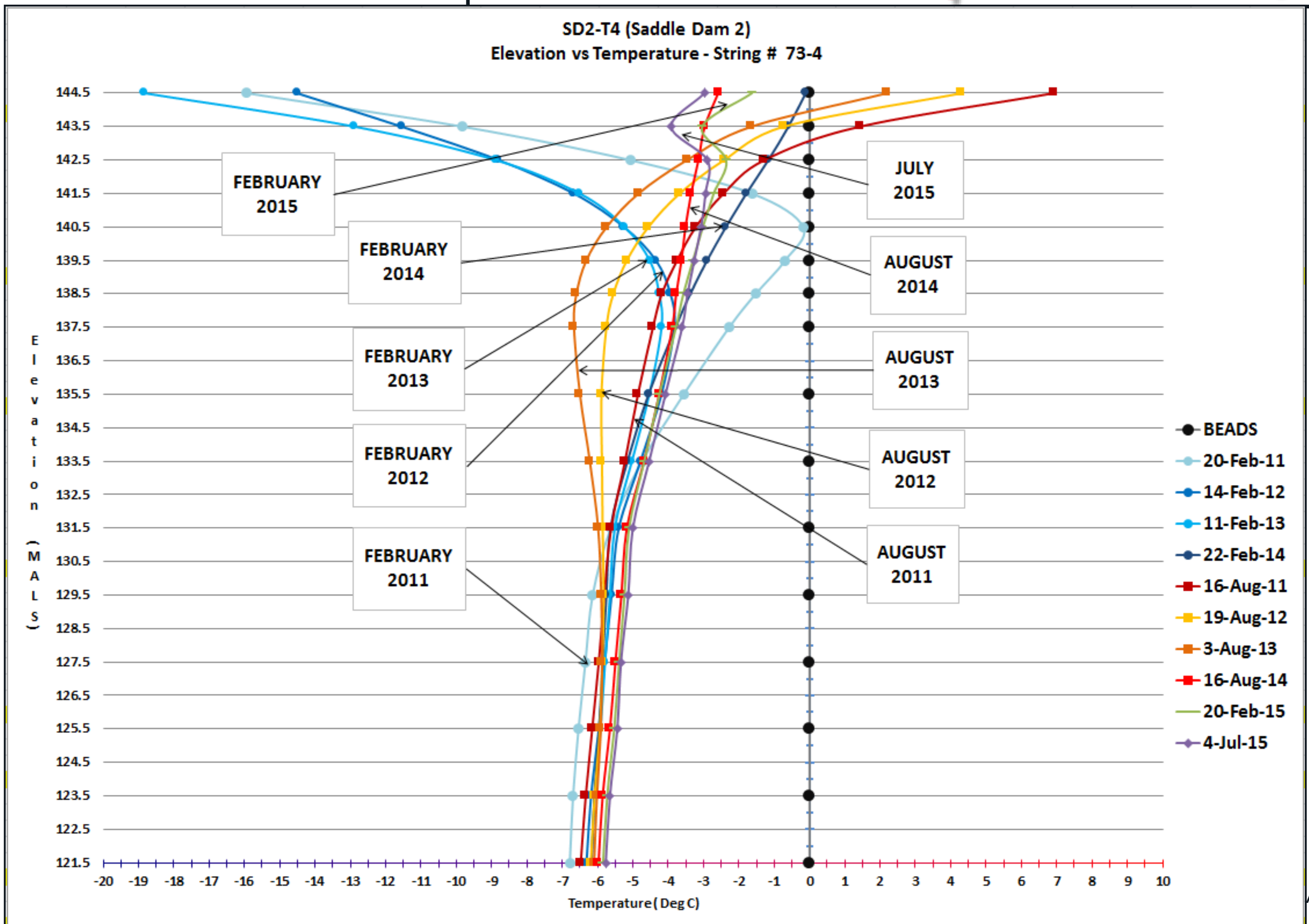
SADDLE DAM 2 - T3



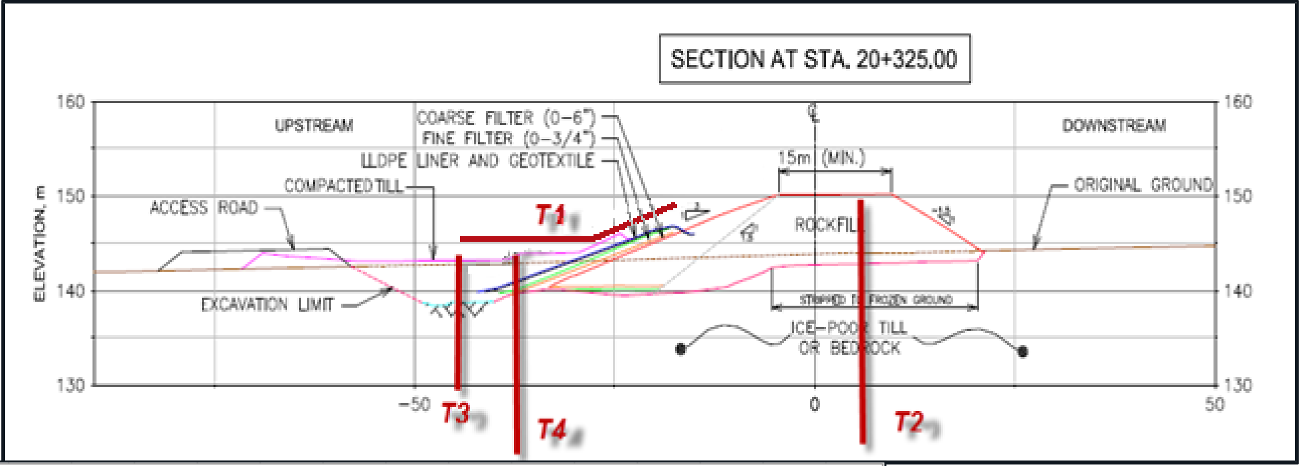


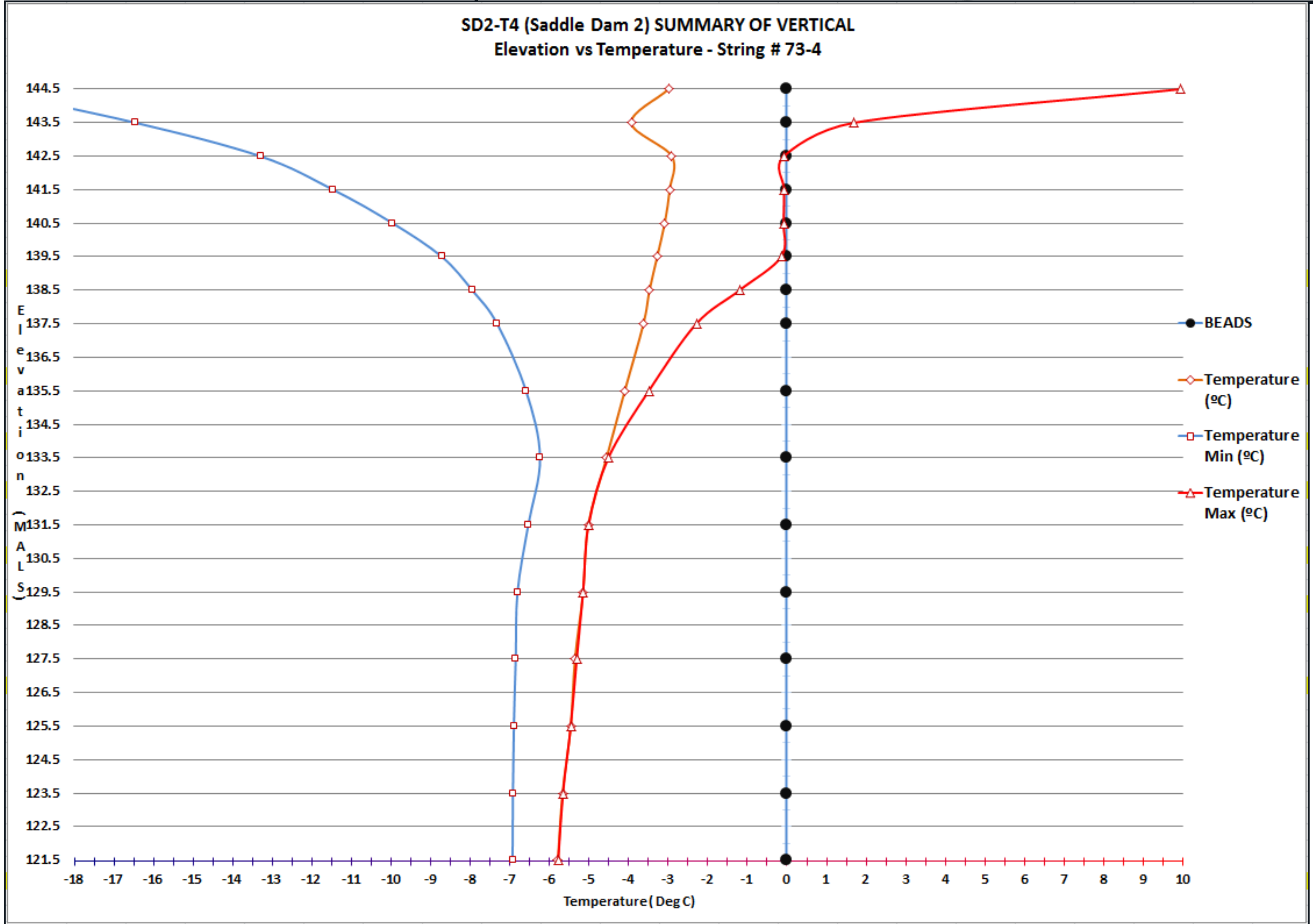
SADDLE DAM 2 - T4





SADDLE DAM 2 - T4

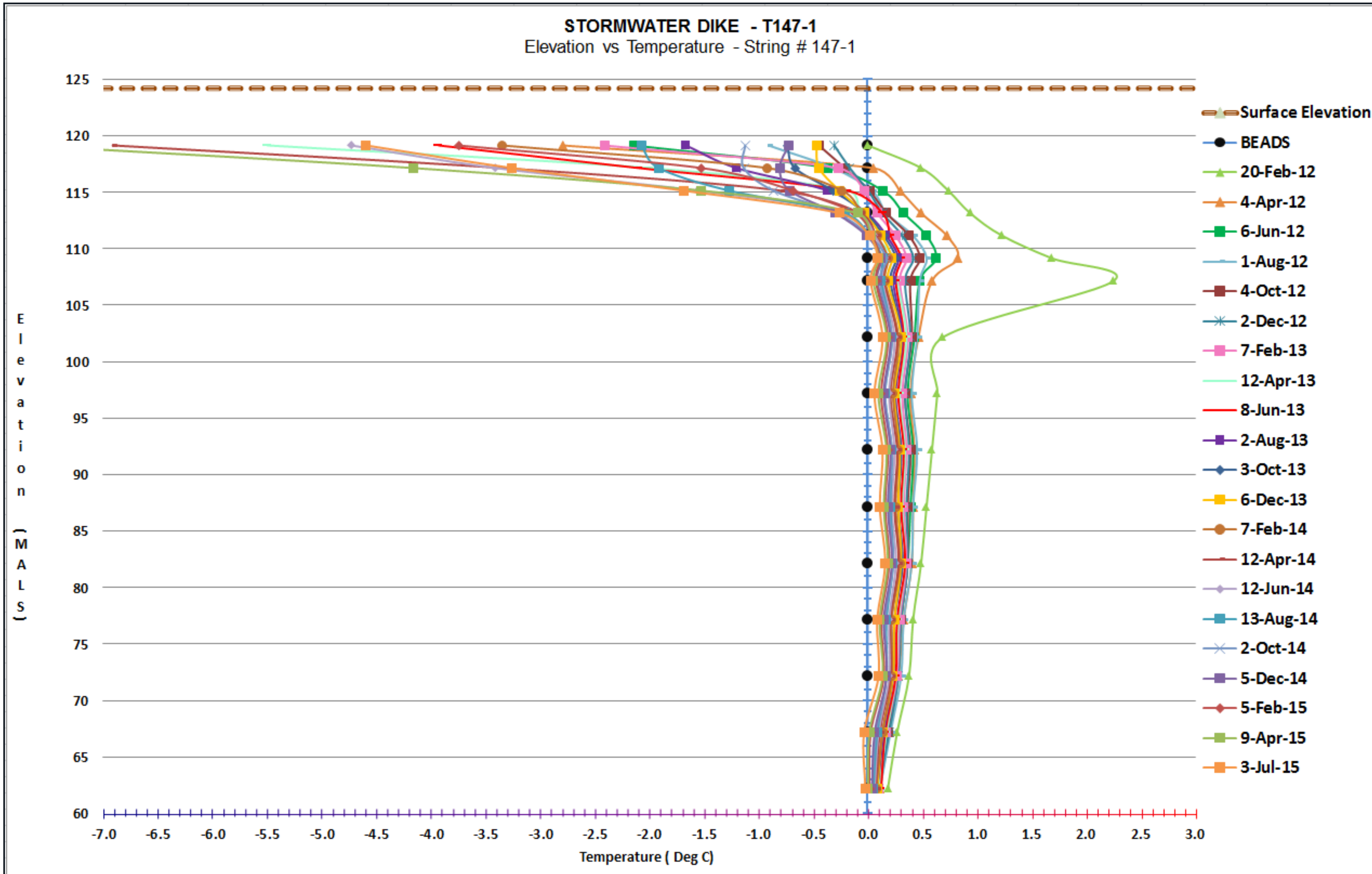




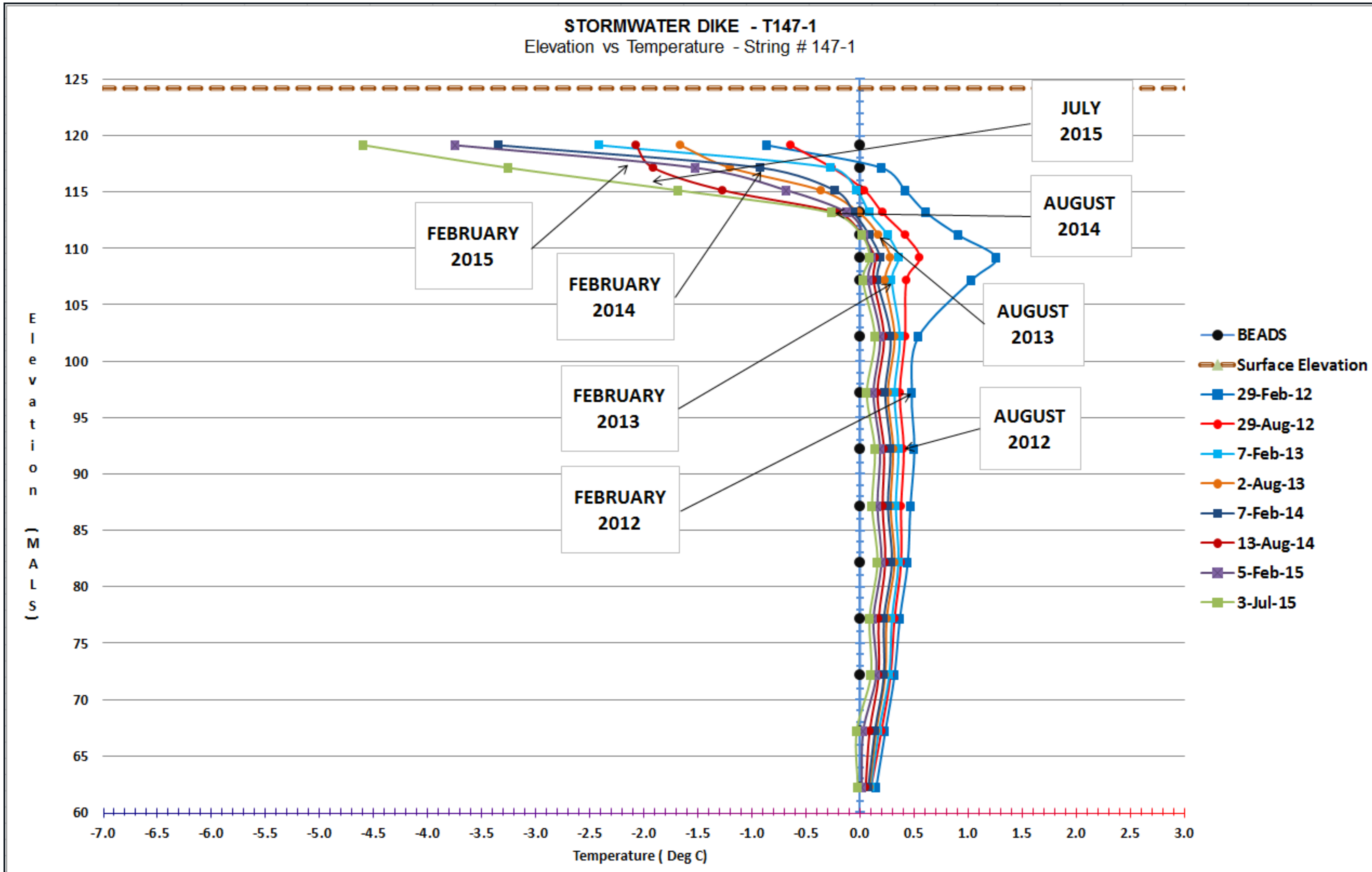
STORMWATER – *REVIEW OF INSTRUMENTATION*

- **Piezo** – 1 Total **P 13265**
- **Thermistor** – 1 Total **T147-1**

STORMWATER - T147-1

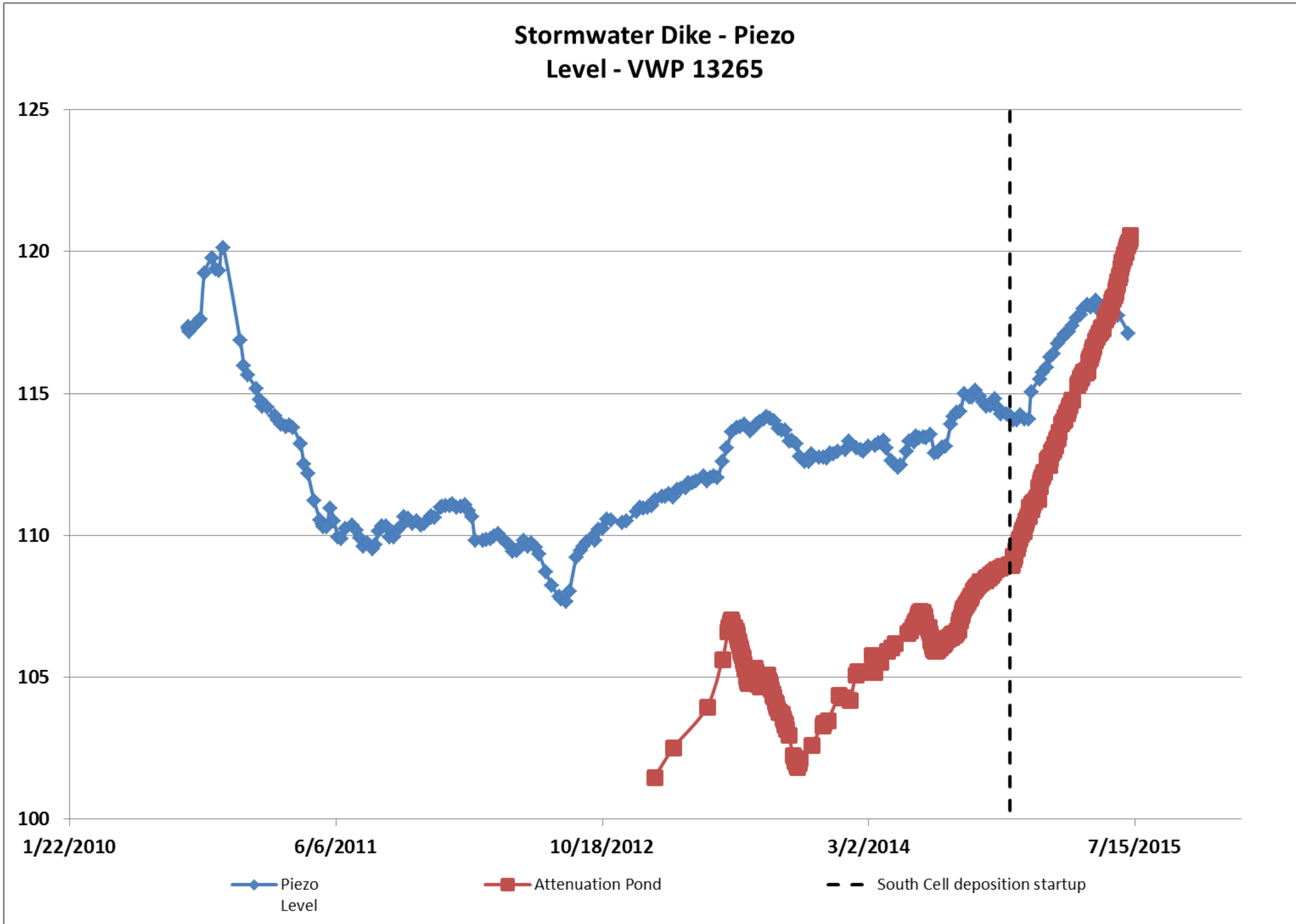


STORMWATER - T147-1



STORMWATER - VWP 13265

AGNICO EAGLE

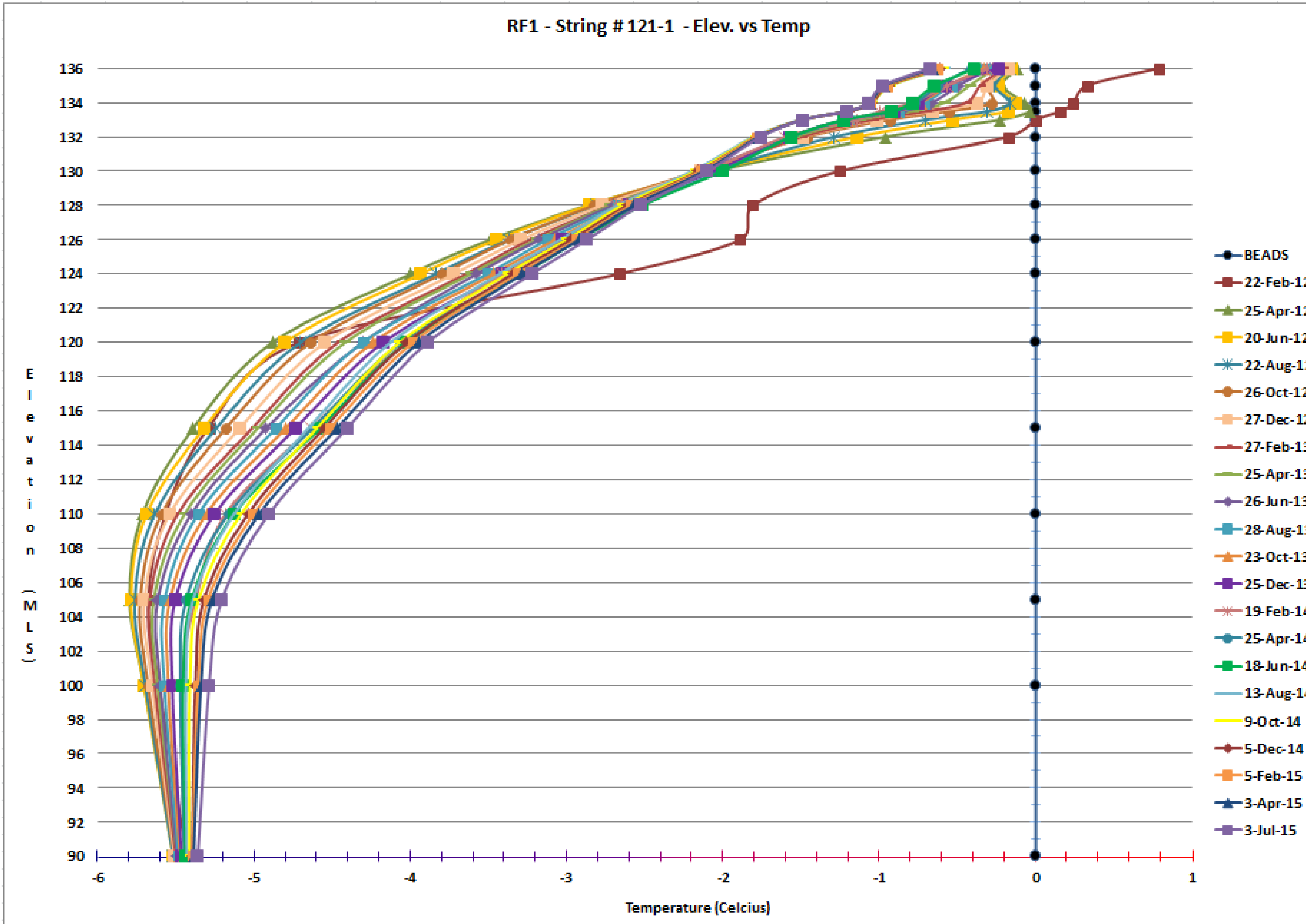


RF1 AND RF2 – REVIEW OF INSTRUMENTATION

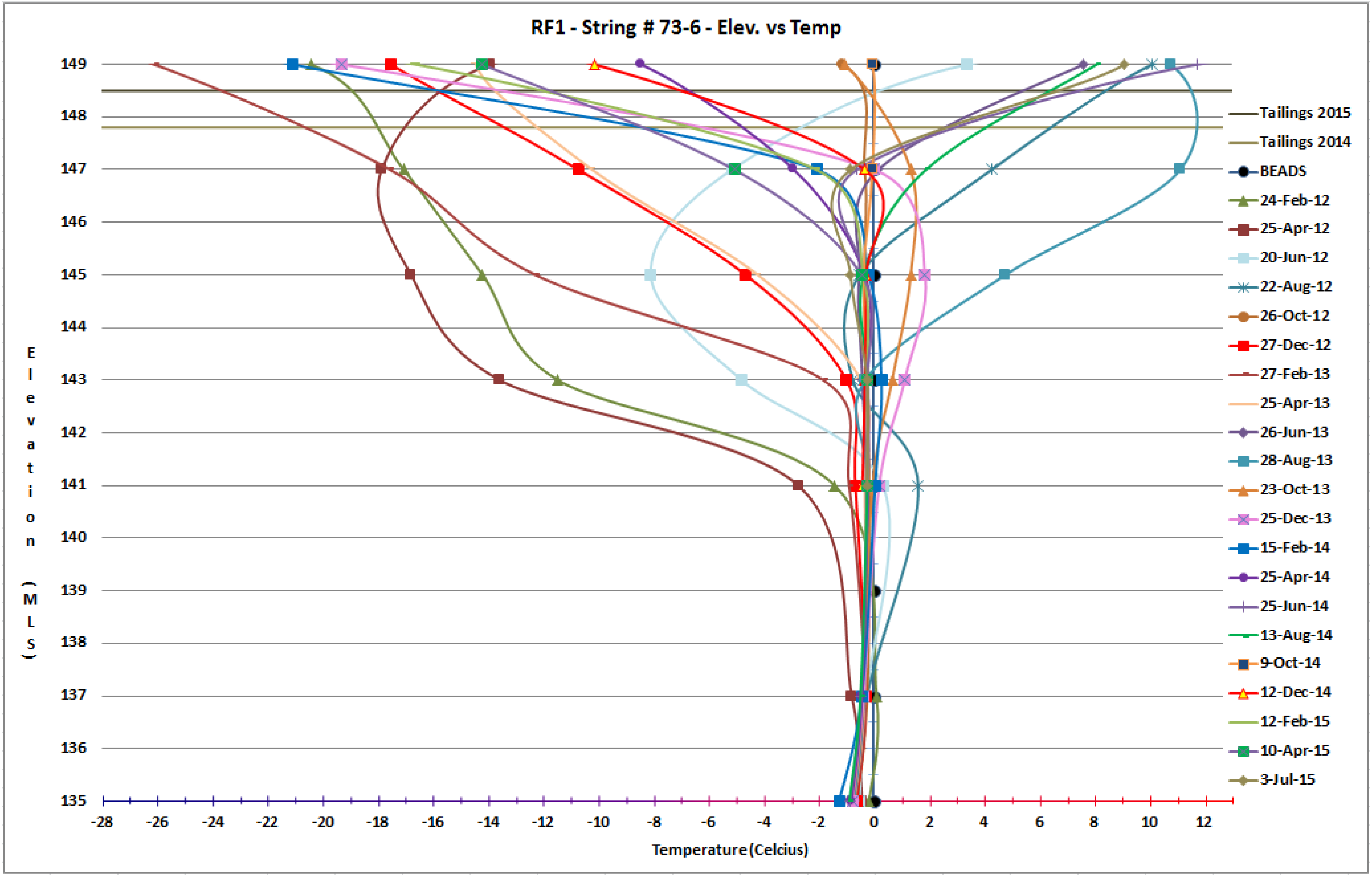
- **Thermistor** – 3 Total **T121-1, T122-1, RF1-3 and T73-6**

RF1 - T121-1

AGNICO EAGLE



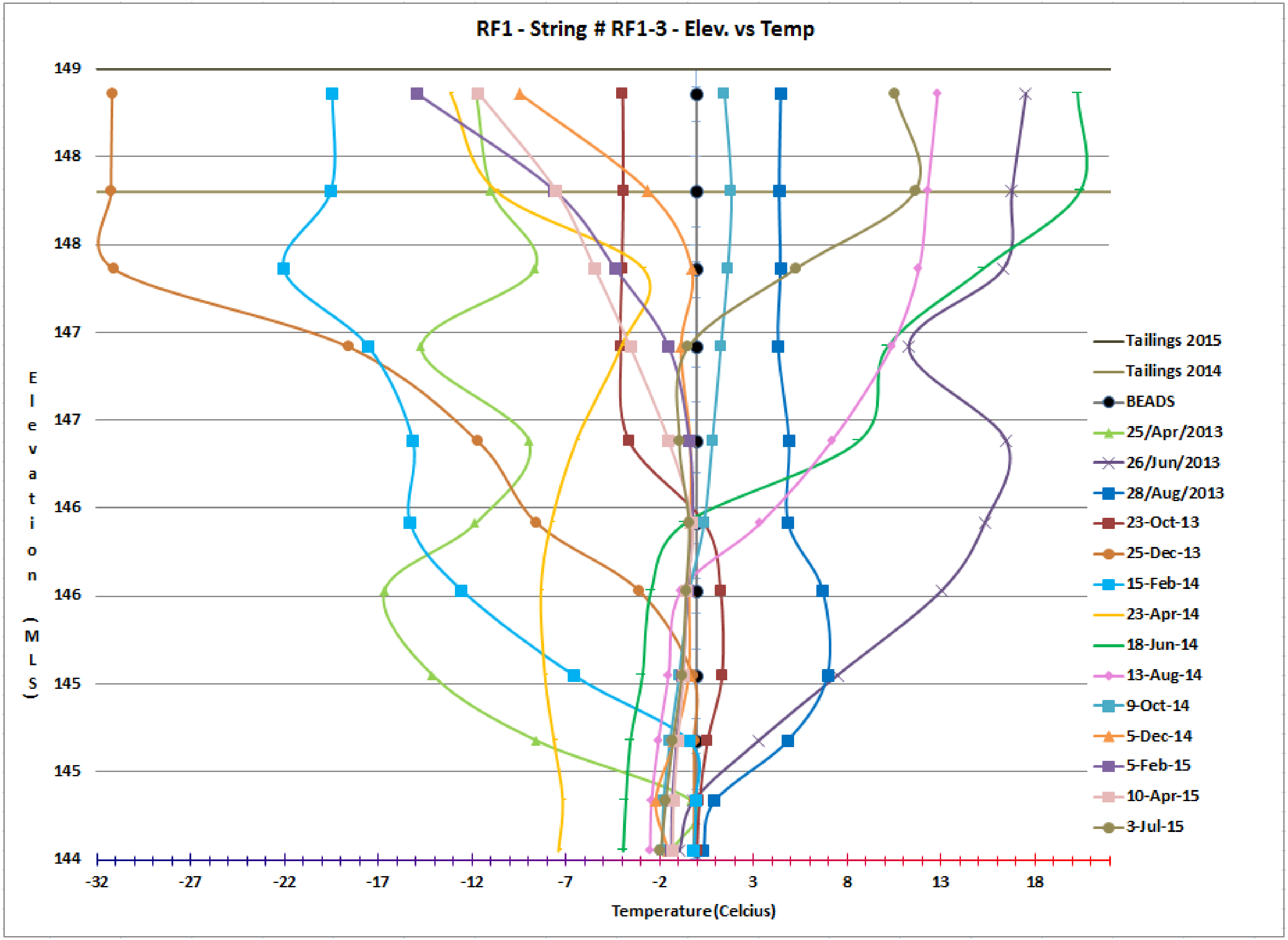
RF1 - T73-6



RF1 - String # 73-6 - Elev. vs Temp
149
148
147
146
145
144
143
142
141
140
139
138
137
136
135
Elevation (MLS)
-28
-26
-24
-22
-20
-18
-16
-14
-12
-10
-8
-6
-4
-2
0
2
4
6
8
10
12
Temperature (Celcius)
Tailings 2015
Tailings 2014
BEADS
24-Feb-12
25-Apr-12
20-Jun-12
22-Aug-12
26-Oct-12
27-Dec-12
27-Feb-13
25-Apr-13
26-Jun-13
28-Aug-13
23-Oct-13
25-Dec-13
15-Feb-14
25-Apr-14
25-Jun-14
13-Aug-14
9-Oct-14
12-Dec-14
12-Feb-15
10-Apr-15
3-Jul-15

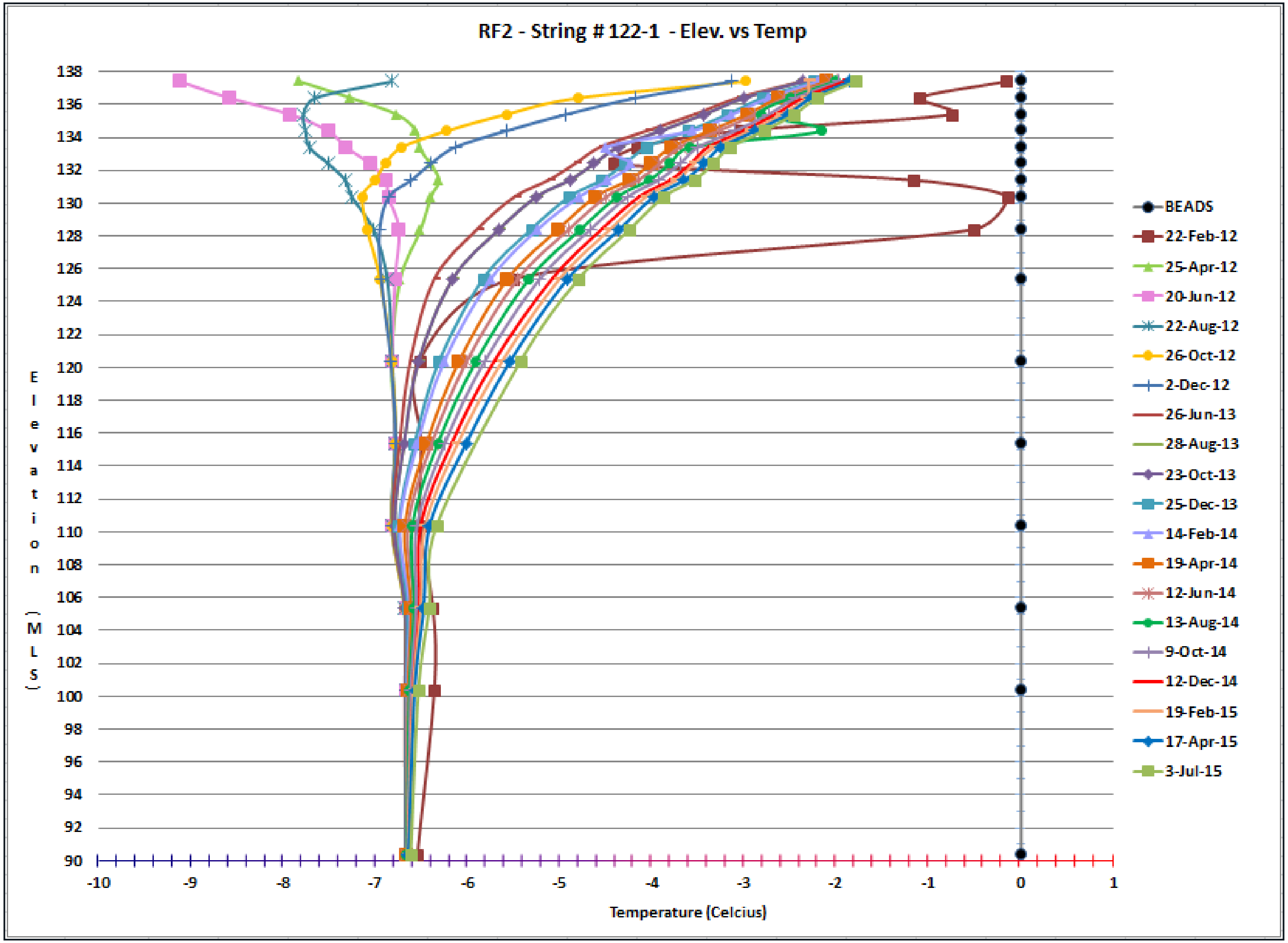
RF1 - RF1-3

AGNICO EAGLE

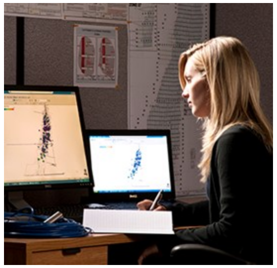


RF2 - T122-1

AGNICO EAGLE



AGNICO EAGLE



Trading Symbol:
AEM on TSX & NYSE

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info@agnicoeagle.com

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WORLD GOLD COUNCIL

APPENDIX D

All-Weather Private Road

Inspection of the Facilities Along the All-Weather Private Road

Station	Name	Structure Description	Comments
0+430	PRC1	1x600 mm CSP	Culvert owned by the town and not AEM. Minor obstruction to the outlet, but still in good condition. No follow-up required.
0+470	PRC2	2x600 mm CSP	Culvert owned by the town and not AEM. In good condition.
1+380	PRC3	1x600 mm CSP	Culvert owned by the town and not AEM. In good condition.
2+550	R-00A	1x600 mm CSP	Inlet partially collapsed, outlet entirely collapsed with signs of obstruction from road material. One hole in the culvert visible from the crest of the road. AEM should monitor if the culvert receives some flow during the freshet. If no flow, then it is recommended to remove the culvert. If monitoring indicates that a culvert is necessary at this location, then it is recommended to replace the culvert and provide adequate backfill around the culvert to protect it.
4+260	PC-14	2x600 mm CSP	Inlet of one culvert is collapsed, no sign of obstruction. AEM should monitor water levels upstream and flow through the damaged culvert during the freshet. If there is no flow through the damaged culvert during the freshet, no action is required. If the other culvert (currently in acceptable condition) does not support the level of water flowing in this area, it is recommended to replace the damaged culvert.
5+200	Quarry 1		Slope remediation in progress.
~5+700	unnamed	1x600 mm CSP	The inlet is short in length as the road rolling surface is at the edge of the inlet.
8+750	R02 Centre Bridge	30m Acrow Panel Bridge	In good condition.
8+830	PC-17A		Sign of erosion and water flowing beneath the inlet. The 1800 CSP culvert was installed too high. As a result the outlet has continued to erode and deteriorate. It is recommended that cobbles and smaller boulders be placed on top of the geotextile. AEM should consider adding protection to the existing fine granular material placed around the culvert on the side slope to reduce the chances of erosion at the next freshet.
8+850	PC-17	2x1200 mm CSP	Sign of erosion beneath the inlet. The 1800 CSP culvert was installed too high. As a result the outlet eroded and deteriorated. It is recommended that cobbles and smaller boulders be placed on top of the geotextile. AEM should consider adding protection to the existing fine granular material placed around the culvert on the side slope to

Station	Name	Structure Description	Comments
			reduce the chances of erosion at the next freshet.
9+952	PC-1	1x600 mm CSP	In good condition.
10+580	R-03	1x600 mm CSP	In good condition.
12+050	R-04	1x1200 mm CSP	In good condition.
12+745	PC-13	1x600 mm CSP	In good condition.
13+250	Quarry 2		Remediation of steep wall in progress.
13+405	PC-2	1x600 mm CSP	In good condition.
13+685	PC-3	1x600 mm CSP	In good condition.
13+950	unnamed	1x600 mm CSP	In good condition.
14+910	PC-4	1x600 mm CSP	In good condition.
15+745	R-05A	1x1200 mm CSP	In good condition.
17+600	R05 Center Bridge	30m Acrow Panel Bridge	In good condition. Minor damage to the bin wall of both abutments as a results of past snow removal activities.
18+280	PC-5	1x600 mm CSP	In good condition.
18+900	PC-6	1x600 mm CSP	In good condition.
20+240	PC-7A	2x600 mm CSP	In good condition.
20+250	PC-7	1x600 mm CSP	In good condition.
23+100	R06 Center Bridge	30 m Acrow Panel Bridge	In good condition.
23+700	Quarry 3		Presence of loose rocks along the steep wall.
25+900	R-07	1x1200 mm CSP	In good condition.
29+420	PC-8	1x600 mm CSP	In good condition.
31+300	Quarry 4		Quarry flooded
34+650	Quarry 5		Slope remediation is in progress.
35+690	PC-9	1x600 mm CSP	In good condition.
36+470	Quarry 6		Slope remediation is in progress.
36+865	PC-10	1x600 mm CSP	In good condition.
39+552	PC-11	1x600 mm CSP	In good condition.

Station	Name	Structure Description	Comments
39+800	Quarry 7		Presence of unstable blocks due to high abrupt wall.
41+300	PC-12	1x600 mm CSP	In good condition.
42+950	Quarry 8		Nothing to report.
44+600	Quarry 9		Presence of unstable loose rocks and boulders.
48+500	R09 Center Bridge	12m Rapid Span Bridge	In good condition.
48+900	Quarry 10		Nothing to report.
53+500	Quarry 11		Nothing to report.
54+950	PC-16	1x600 mm CSP	Inlet and outlet totally buried. To be cleaned if water is ponding at freshet.
58+300	Quarry 12		Slope remediation is in progress but need to be reworked to meet the closure requirement.
62+060	R13 Center Bridge	12 m Rapid Span Bridge	In good condition.
62+350	Quarry 13		Slope remediation is in progress.
65+700	Quarry 14		Quarry flooded, slope remediation is in progress.
67+600	Quarry 15		Slope remediation is in progress.
67+840	R-14	3x1200 mm CSP	Middle and northern culverts show minor erosion at the outlet and have been damaged (collapsed) inside, below the road, but it is anticipated that they will continue to perform welll. No action required.
69+200	R15 Centre Bridge	30 m Acrow Panel Bridge	Bin wall of both abutments were observed to be damaged but they are holding well.
70+400	Quarry 16		Slope remediation is in progress. Presence of unstable loose rocks and boulders.
72+800	Quarry 17		Slope remediation is in progress.
73+800	R16 Centre Bridge	12m Rapid Span Bridge	In good condition.
77+440	R-17	1x1200 mm CSP	In good condition.
79+500	R18 Centre Bridge	12 m Rapid Span Bridge	In good condition.
80+200	Quarry 18		Slope remediation is in progress.

Station	Name	Structure Description	Comments
80+950	R-18A	3x1200 mm CSP	In good condition
	R-18B	1X600 mm CSP	The granular material under the culvert was washed out.
83+150	R19 Centre	12m Rapid Span Bridge	Some damage to the steel containment plates and to one pile was observed which may be associated with snow removal activity. The damage is minor and does not affect the geotechnical integrity of the bridge.
84+300	Quarry 19		Presence of loose rock on top of steep wall. Should be cleaned if operation resume. Slope remediation has begun.
85+490	R-20	1x1200 mm CSP	Outlet of the culvert is slightly twisted. The middle of the culvert is slightly collapsed. The inlet is installed above the ground surface and water is able to flow beneath the culvert. No follow-up required.
87+300	R-21	2x1200 mm CSP	Both culverts are slightly collapsed in the middle. Should have been installed lower to avoid erosion issue. In stable condition.
89+550	Quarry 20		Slope remediation is in progress.
93+400	Quarry 21		Slope remediation is in progress.
93+600	R-23	1x1200 mm CSP	Minor damage near the top of the culvert, but still in good condition. The culvert is installed too high and as a results there is a flow of water through the road rockfill.
98+100	R-24	2x1200 mm CSP	Both outlets are installed too high. The outlet of the southern culvert shows small signs of erosion. Both culvert show deformation in the upper part.
99+200	Quarry 22		Slope remediation is in progress.
101+950	R-25	2x600 mm CSP	One culvert is angling up toward the downstream end and natural drainage by gravity does not occur. During the freshet, because the water level is high, the culvert will evacuate the flow from upstream to downstream. A second culvert alongside is well installed and should drain water for the remainder of the season. No sign of erosion observed during the inspection.
104+400	R-26	3x1200 mm CSP	Small obstruction of the west inlet by a boulder (0.4 m). The culvert is in good condition, no follow-up required.
	Quarry 23		Presence of loose rocks on top of steep wall.

APPENDIX D1

Culverts Photographic Log

Photograph D1-1: PRC1 km 0+430

Date: September 1, 2015 **Photo Number**: 195

Description: View of culvert inlet, in good condition no sign of obstruction.

Photograph D1-2: PRC1 km 0+430

Date: September 1, 2015 **Photo Number**: 196

Description: View of culvert outlet. The outlet is slightly damaged and obstructed. The culvert is still functional and in overall good condition.

Photograph D1-3: PRC2 km 0+470

Date: September 1, 2015 **Photo Number**: 197

Description: View of culverts inlet. In good condition.

Photograph D1-4: PRC2 km 0+470

Date: September 1, 2015 **Photo Number**: 198

Description: View of culverts outlet. In good condition.

Photograph D1-5: PRC3 km 1+380

Date: September 1, 2015 **Photo Number**: 200

Description: View of culvert inlet. In good condition.

Photograph D1-6: PRC3 km 1+380

Date: September 1, 2015 **Photo Number**: 199

Description: View of culvert outlet. In good condition.

Photograph D1-7: R-00A km 2+550

Date: September 1, 2015 **Photo Number**: 202

Description: View of culvert inlet. The inlet is partially collapsed. No sign of flow.

Photograph D1-8: R-00A km 2+550

Date: September 1, 2015 **Photo Number**: 201

Description: View of culvert outlet. The outlet is collapsed and the road bed cover is too thin to provide protection. No sign of flow.

Photograph D1-9: PC-14 km 4+260

Date: September 1, 2015 **Photo Number**: 204

Description: View of the culverts inlet. Culvert on the right is filled with gravel, crushed and damaged. Culvert on the left is slightly damaged but still functional.

Photograph D1-10: PC-14 km 4+260

Date: September 1, 2015 **Photo Number**: 203

Description: View of the culverts outlet. In good condition.

Photograph D1-11: unnamed km 5+700

Date: September 1, 2015 **Photo Number**: 207

Description: View of the culvert inlet. Good condition, inlet is short in length as the road rolling surface is at the edge of the inlet.

Photograph D1-12: unnamed km 5+700

Date: September 1, 2015 **Photo Number**: 208

Description: View of the culvert outlet. In good condition.

Photograph D1-13: PC-17A km 8+830

Date: September 1, 2015 **Photo Number**: 213

Description: View of the culverts inlet. Sign of erosion and flow of water beneath the inlet.

Photograph D1-14: PC-17A km 8+830

Date: September 1, 2015 **Photo Number**: 215

Description: View of the culverts outlet (left side of the picture). The culverts were installed too high. Sign of erosion, flow of water beneath the culverts and deterioration.

Photograph D1-15: PC-17 km 8+850

Date: September 1, 2015 **Photo Number**: 214

Description: View of the culverts inlet. Sign of erosion beneath the inlet.

Photograph D1-16: PC-17 km 8+850

Date: September 1, 2015 **Photo Number**: 216

Description: View of the culverts outlet (right side of the picture). Sign of erosion and deterioration.

Photograph D1-17: PC-1 km 9+952

Date: September 1, 2015 **Photo Number**: 218

Description: View of the culvert inlet. In good condition.

Photograph D1-18: PC-1 km 9+952

Date: September 1, 2015 **Photo Number**: 217

Description: View of the culvert outlet. In good condition.

Photograph D1-19: R-03 km 10+580

Date: September 1, 2015 **Photo Number**: 220

Description: View of the culvert inlet. In good condition.

Photograph D1-20: R-03 km 10+580

Date: September 1, 2015 **Photo Number**: 219

Description: View of the culvert outlet. In good condition.

Photograph D1-21: R-04 km 12+050

Date: September 1, 2015 **Photo Number**: 222

Description: View of the culvert inlet. In good condition.

Photograph D1-22: R-04 km 12+050

Date: September 1, 2015 **Photo Number**: 221

Description: View of the culvert outlet. In good condition.

Photograph D1-23: PC-13 km 12+745

Date: September 1, 2015 **Photo Number**: 224

Description: View of the culvert inlet. In good condition.

Photograph D1-24: PC-13 km 12+745

Date: September 1, 2015 **Photo Number**: 223

Description: View of the culvert outlet. In good condition.

Photograph D1-25: PC-2 km 13+405

Date: September 1, 2015 **Photo Number**: 227

Description: View of the culvert inlet. In good condition.

Photograph D1-26: PC-2 km 13+405

Date: September 1, 2015 **Photo Number**: 228

Description: View of the culvert outlet. In good condition.

Photograph D1-27: PC-3 km 13+685

Date: September 1, 2015 **Photo Number**: 230

Description: View of the culvert inlet. In good condition.

Photograph D1-28: PC-3 km 13+685

Date: September 1, 2015 **Photo Number**: 229

Description: View of the culvert outlet. In good condition.

Photograph D1-29: unnamed km 13+950

Date: September 1, 2015 **Photo Number**: 233

Description: View of the culvert inlet. In good condition.

Photograph D1-30: unnamed km 13+950

Date: September 1, 2015 **Photo Number**: 231

Description: View of the culvert outlet. The outlet is in good condition.

Photograph D1-31: PC-4 km 14+910

Date: September 1, 2015 **Photo Number**: 235

Description: View of the culvert inlet. In good condition.

Photograph D1-32: PC-4 km 14+910

Date: September 1, 2015 **Photo Number**: 234

Description: View of the culvert outlet. In good condition. Large boulders around the outlet.

Photograph D1-33: R-05A km 15+745

Date: September 1, 2015 **Photo Number**: 237

Description: View of the culvert inlet. In good condition.

Photograph D1-34: R-05A km 15+745

Date: September 1, 2015 **Photo Number**: 236

Description: View of the culvert outlet. In good condition.

Photograph D1-35: PC-5 km 18+280

Date: September 1, 2015 **Photo Number**: 243

Description: View of the culvert inlet. In good condition.

Photograph D1-36: PC-5 km 18+280

Date: September 1, 2015 **Photo Number**: 242

Description: View of the culvert outlet. In good condition.

Photograph D1-37: PC-6 km 18+900

Date: September 1, 2015 **Photo Number**: 245

Description: View of culvert inlet. In good condition.

Photograph D1-38: PC-6 km 18+900

Date: September 1, 2015 **Photo Number**: 244

Description: View of culvert outlet. In good condition.

Photograph D1-39: PC-7A km 20+240

Date: September 1, 2015 **Photo Number**: 247

Description: View of culverts inlet. In good condition.

Photograph D1-40: PC-7A km 20+240

Date: September 1, 2015 **Photo Number**: 246

Description: View of culverts outlet. In good condition.

Photograph D1-41: PC-7 km 20+250

Date: September 1, 2015 **Photo Number**: 248

Description: View of the culvert inlet. In good condition.

Photograph D1-42: PC-7 km 20+250

Date: September 1, 2015 **Photo Number**: 249

Description: View of the culvert outlet. In good condition.

Photograph D1-43: R-07 km 25+900

Date: September 1, 2015 **Photo Number**: 257

Description: View of the culvert inlet. In good condition.

Photograph D1-44: R-07 km 25+900

Date: September 1, 2015 **Photo Number**: 256

Description: View of the culvert outlet. In good condition.

Photograph D1-45: PC-8 km 29+420

Date: September 1, 2015 **Photo Number**: 259

Description: View of the culvert inlet. In good condition.

Photograph D1-46: PC-8 km 29+420

Date: September 1, 2015 **Photo Number**: 258

Description: View of the culvert outlet. In good condition.

Photograph D1-47: PC-9 km 35+690

Date: September 1, 2015 **Photo Number**: 265

Description: View of the culvert inlet. In good condition.

Photograph D1-48: PC-9 km 35+690

Date: September 1, 2015 **Photo Number**: 264

Description: View of the culvert outlet. In good condition.

Photograph D1-49: PC-10 km 36+865

Date: September 1, 2015 **Photo Number**: 268

Description: View of the culvert inlet. In good condition.

Photograph D1-50: PC-10 km 36+865

Date: September 1, 2015 **Photo Number**: 269

Description: View of the culvert outlet. In good condition.

Photograph D1-51: PC-11 km 39+552

Date: September 1, 2015 **Photo Number**: 273

Description: View of the culvert inlet. In good condition.

Photograph D1-52: PC-11 km 39+552

Date: September 1, 2015 **Photo Number**: 271

Description: View of the culvert outlet. In good condition.

Photograph D1-53: PC-12 km 41+300

Date: September 1, 2015 **Photo Number**: 277

Description: View of the culvert inlet. In good condition.

Photograph D1-54: PC-12 km 41+300

Date: September 1, 2015 **Photo Number**: 276

Description: View of the culvert outlet. In good condition.

Photograph D1-55: R-14 km 67+840

Date: September 1, 2015 **Photo Number**: 300

Description: View of the inlet culverts. Middle and northern culverts are collapsed inside (hole in the middle). Expected to continue performing well.

Photograph D1-56: R-14 km 67+840

Date: September 1, 2015 **Photo Number**: 299

Description: View of the outlet culverts. The middle and northern culverts show small signs of erosion at the outlet and these culverts are collapsed inside (hole in the middle). Expected to continue performing well.

Photograph D1-57: R-17 km 77+440

Date: September 1, 2015 **Photo Number**: 313

Description: View of the culvert inlet. In good condition.

Photograph D1-58: R-17 km 77+440

Date: September 1, 2015 **Photo Number**: 312

Description: View of the culvert outlet. In good condition.

Photograph D1-59: R-18A km 80+950

Date: September 1, 2015 **Photo Number**: 319

Description: View of the culverts inlet. In good condition.

Photograph D1-60: R-18A km 80+950

Date: September 1, 2015 **Photo Number**: 318

Description: View of the culverts outlet. In good condition.

Photograph D1-61: R-18B km 80+950

Date: September 1, 2015 **Photo Number**: 320

Description: View of the culverts inlet. The inlet was installed above the ground surface and granular material under the culvert was washed out.

Photograph D1-62: R-18B km 80+950

Date: September 1, 2015 **Photo Number**: 321

Description: View of the culverts outlet. The outlet was installed above the ground surface and granular material under the culvert was washed out.

Photograph D1-63: R-20 km 85+490

Date: September 1, 2015 **Photo Number**: 326

Description: View of the culvert inlet. The middle of the culvert is slightly collapsed. The inlet is installed above the ground surface and water flows beneath the culvert. The culvert is in stable condition.

Photograph D1-64: R-20 km 85+490

Date: September 1, 2015 **Photo Number**: 327

Description: View of the culvert outlet. Outlet is a little bit twisted. The middle of the culvert is slightly collapsed. Water flows beneath the culvert. The culvert is in stable condition.

Photograph D1-65: R-21 km 87+300

Date: September 1, 2015 **Photo Number**: 329

Description: View of the culverts inlet. Both culverts are slightly collapsed in the middle. In stable condition, but should have been installed lower to avoid erosion issue.

Photograph D1-66: R-21 km 87+300

Date: September 1, 2015 **Photo Number**: 328

Description: View of the culverts outlet. Both culverts are slightly collapsed in the middle. In stable condition, but should have been installed lower to avoid erosion issue.

Photograph D1-67: R-23 km 93+600

Date: September 1, 2015 **Photo Number**: 334

Description: View of the culvert inlet. The culvert is installed too high and there is a low flow of water through the road rockfill. In good condition.

Photograph D1-68: R-23 km 93+600

Date: September 1, 2015 **Photo Number**: 335

Description: View of the culvert outlet. The culvert is installed too high and there is a low flow of water through the road rockfill. In good condition.

Photograph D1-69: R-24 km 98+100

Date: September 1, 2015 **Photo Number**: 338

Description: View of the culverts inlet. South inlet is installed too high. Both culverts show deformation in the upper part.

Photograph D1-70: R-24 km 98+100

Date: September 1, 2015 **Photo Number**: 336

Description: View of the culverts outlet. Both outlets are installed too high. The outlet of the southern culvert (left) shows signs of erosion. Both culverts show deformation in the upper part.

Photograph D1-71: R-25 km 101+950

Date: September 1, 2015 **Photo Number**: 342

Description: View of the culverts inlet. In good condition.

Photograph D1-72: R-25 km 101+950

Date: September 1, 2015 **Photo Number**: 341

Description: View of the culverts outlet. In good condition.

Photograph D1-73: Western Diversion Ditch

Date: September 1, 2015 **Photo Number**: 344

Description: View of the culverts inlet. In good condition.

Photograph D1-74: Western Diversion Ditch

Date: September 1, 2015 **Photo Number**: 343

Description: View of the culverts outlet. In good condition.

Photograph D1-75: R-26 km 104+400

Date: September 1, 2015 **Photo Number**: 346

Description: View of the culverts inlet. Presence of a 0.4 m boulder in front of the west inlet. In good condition.

Photograph D1-76: R-26 km 104+400

Date: September 1, 2015 **Photo Number**: 345

Description: View of the culverts outlet. In good condition.

APPENDIX D2

Bridges Photographic Log

Photograph D2-1 Bridges 1 – R02 km 8+750

Date: September 1, 2015 **Photo Number**: 210

Description: Looking at the north abutment from downstream.

Photograph D2-2 Bridges 1 – R02 km 8+750

Date: September 1, 2015 **Photo Number**: 209

Description: Looking at the south abutment from downstream.

Photograph D2-3 Bridges 1 – R02 km 8+750

Date: September 1, 2015 **Photo Number**: 212

Description: Looking at the north abutment from upstream.

Photograph D2-4 Bridges 1 – R02 km 8+750

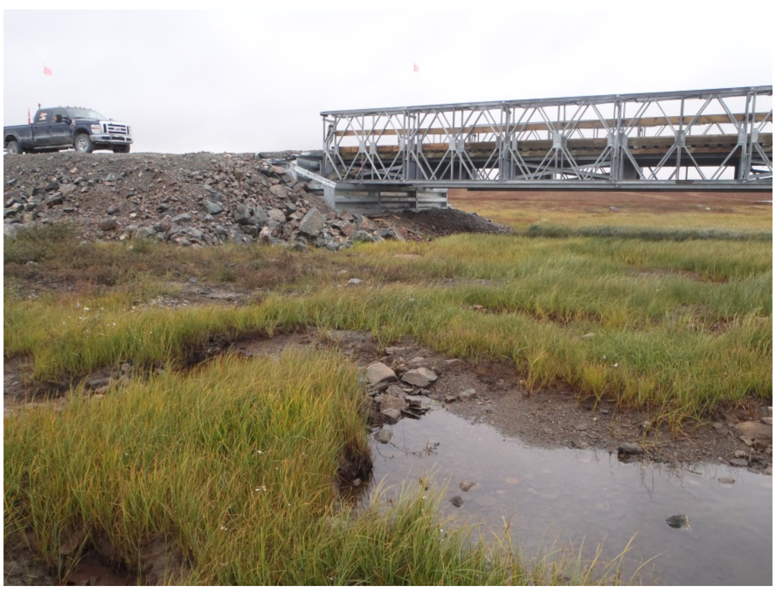
Date: September 1, 2015 **Photo Number**: 211

Description: Looking at the south abutment from upstream.

Photograph D2-5 Bridges 2 – R05 km 17+600

Date: September 1, 2015 **Photo Number**: 239

Description: Looking at the north abutment from downstream.



Photograph D2-6 Bridges 2 – R05 km 17+600

Date: September 1, 2015 **Photo Number**: 238

Description: Looking at the south abutment from downstream.

Photograph D2-7 Bridges 2 – R05 km 17+600

Date: September 1, 2015 **Photo Number**: 241

Description: Looking at the north abutment from upstream.

Photograph D2-8 Bridges 2 – R05 km 17+600

Date: September 1, 2015 **Photo Number**: 240

Description: Looking at the south abutment from upstream.

Photograph D2-9 Bridges 3 – R06 km 23+100

Date: September 1, 2015 **Photo Number**: 250

Description: Looking at the south abutment from downstream.

Photograph D2-10 Bridges 3 – R06 km 23+100

Date: September 1, 2015 **Photo Number**: 251

Description: Looking at the north abutment from downstream.

Photograph D2-11 Bridges 3 – R06 km 23+100

Date: September 1, 2015 **Photo Number**: 252

Description: Looking at the south abutment from upstream.

Photograph D2-12 Bridges 3 – R06 km 23+100

Date: September 1, 2015 **Photo Number**: 253

Description: Looking at the north abutment from upstream.

Photograph D2-13 Bridges 4 – R09 km 48+500

Date: September 1, 2015 **Photo Number**: 282

Description: Looking at the bridge from downstream.

Photograph D2-14 Bridges 4 – R09 km 48+500

Date: September 1, 2015 **Photo Number**: 283

Description: Looking at the bridge from upstream.

Photograph D2-15 Bridges 5 – R13 km 62+060

Date: September 1, 2015 **Photo Number**: 290

Description: Looking at the bridge from downstream.

Photograph D2-16 Bridges 5 – R13 km 62+060

Date: September 1, 2015 **Photo Number**: 291

Description: Looking at the bridge from upstream.

Photograph D2-17 Bridges 6 – R15 km 69+200

Date: September 1, 2015 **Photo Number**: 301

Description: Looking at the south abutment from downstream. Damage to the bin wall likely caused during snow removal activities.

Photograph D2-18 Bridges 6 – R15 km 69+200

Date: September 1, 2015 **Photo Number**: 302

Description: Looking at the north abutment from downstream. Damage to the bin wall likely caused during snow removal activities.

Photograph D2-19 Bridges 6 – R15 km 69+200

Date: September 1, 2015 **Photo Number**: 304

Description: Looking at the north abutment from upstream. Damage to the bin wall likely caused during snow removal activities.

Photograph D2-20 Bridges 6 – R15 km 69+200

Date: September 1, 2015 **Photo Number**: 303

Description: Looking at the south abutment from upstream. Damage to the bin wall likely caused during snow removal activities.

Photograph D2-21 Bridges 7 – R16 km 73+800

Date: September 1, 2015 **Photo Number**: 310

Description: Looking at the bridge from downstream.

Photograph D2-22 Bridges 7 – R16 km 73+800

Date: September 1, 2015 **Photo Number**: 311

Description: Looking at the bridge from upstream.

Photograph D2-23 Bridges 8 – R18 km 79+500

Date: September 1, 2015 **Photo Number**: 314

Description: Looking at the bridge from downstream.

Photograph D2-24 Bridges 8 – R18 km 79+500

Date: September 1, 2015 **Photo Number**: 315

Description: Looking at the bridge from upstream.

Photograph D2-25 Bridges 9 – R19 km 83+150

Date: September 1, 2015 **Photo Number**: 322

Description: Looking at the bridge from downstream.

Photograph D2-26 Bridges 9 – R19 km 83+150

Date: September 1, 2015 **Photo Number**: 323

Description: Looking at the bridge from upstream.

APPENDIX E

Quarries Photographic Log

Photograph E1-1: Quarry 1 – km 5+200

Date: September 1, 2015 **Photo Number**: 206

Description: View of south walls.

Photograph E1-2: Quarry 1 – km 5+200

Date: September 1, 2015 **Photo Number**: 205

Description: View of south and west walls.

Photograph E1-3: Quarry 2 – km 13+250

Date: September 1, 2015 **Photo Number**: 225

Description: View of south and west walls.

Photograph E1-4: Quarry 2 – km 13+250

Date: September 1, 2015 **Photo Number**: 226

Description: View of the north wall.

Photograph E1-5: Quarry 3 – km 23+700

Date: September 1, 2015 **Photo Number**: 255

Description: View of west wall. Presence of loose rock along steep wall.

Photograph E1-6: Quarry 3 – km 23+700

Date: September 1, 2015 **Photo Number**: 254

Description: View of east wall.

Photograph E1-7: Quarry 4 – km 31+300

Date: September 1, 2015 **Photo Number**: 260

Description: View of the east and south walls of Quarry 4. The quarry is flooded.

Photograph E1-8: Quarry 4 – km 31+300

Date: September 1, 2015 **Photo Number**: 261

Description: View of the west and south walls of Quarry 4. The quarry is flooded.

Photograph E1-9: Quarry 5 – km 34+650

Date: September 1, 2015 **Photo Number**: 267

Description: View of north and east wall.

Photograph E1-10: Quarry 5 – km 34+650

Date: September 1, 2015 **Photo Number**: 266

Description: View of north and west walls.

Photograph E1-11: Quarry 6 – km 36+470

Date: September 1, 2015 **Photo Number**: 263

Description: View of south and west walls.

Photograph E1-12: Quarry 6 – km 36+470

Date: September 1, 2015 **Photo Number**: 262

Description: View of south and east walls.

Photograph E1-13: Quarry 7 – km 39+800

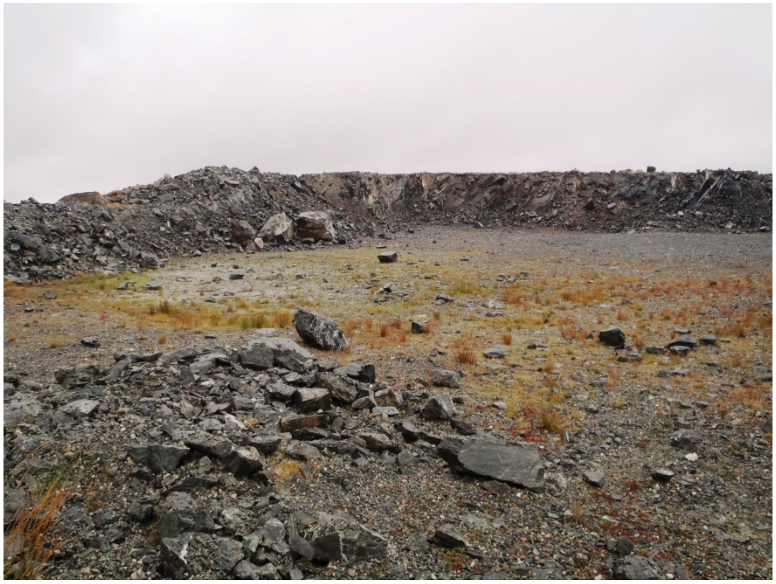
Date: September 1, 2015 **Photo Number**: 275

Description: View of west wall. Presence of loose blocks.

Photograph E1-14: Quarry 7 – km 39+800

Date: September 1, 2015 **Photo Number**: 274

Description: View of north wall. Notice the loose blocks and high abrupt walls.



Photograph E1-15: Quarry 8 – km 42+950

Date: September 1, 2015 **Photo Number**: 278

Description: View of south and west walls.

Photograph E1-16: Quarry 8 – km 42+950

Date: September 1, 2015 **Photo Number**: 279

Description: View of north and west walls.

Photograph E1-17: Quarry 9 – km 44+600

Date: September 1, 2015 **Photo Number**: 280

Description: View of west and south walls. Presence of loose blocks.

Photograph E1-18: Quarry 9 – km 44+600

Date: September 1, 2015 **Photo Number**: 281

Description: View of north and east walls.

Photograph E1-19: Quarry 10 – km 48+900

Date: September 1, 2015 **Photo Number**: 284

Description: View of the west wall.

Photograph E1-20: Quarry 10 – km 48+900

Date: September 1, 2015 **Photo Number**: 285

Description: Overview of the quarry looking north at the east, west and north walls.

Photograph E1-21: Quarry 11 – km 53+500

Date: September 1, 2015 **Photo Number**: 286

Description: Overview of Quarry 11 looking at the west and north walls.

Photograph E1-22: Quarry 11 – km 53+500

Date: September 1, 2015 **Photo Number**: 287

Description: Overview of Quarry 11 looking at the north and east walls.

Photograph E1-23: Quarry 12 – km 58+300

Date: September 1, 2015 **Photo Number**: 288

Description: View of the south and east walls.

Photograph E1-24: Quarry 12 – km 58+300

Date: September 1, 2015 **Photo Number**: 289

Description: View of the west wall.

Photograph E1-25: Quarry 13 – km 62+350

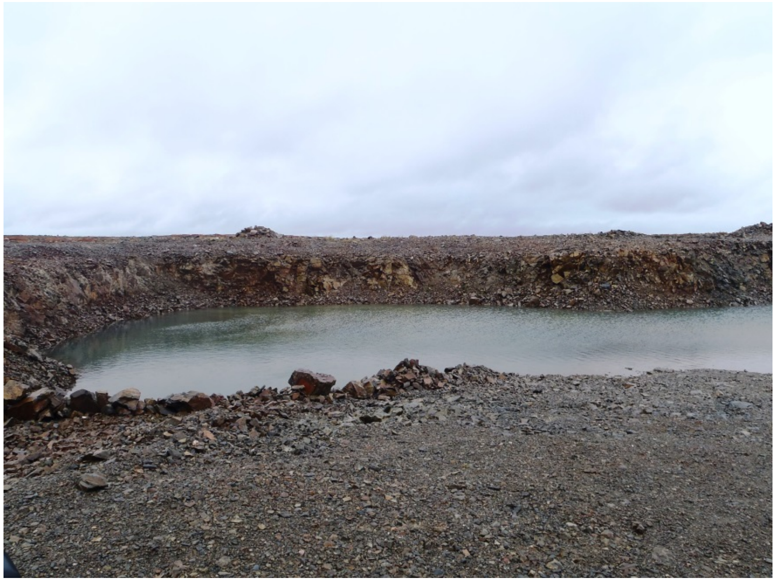
Date: September 1, 2015 **Photo Number**: 292

Description: View of the west and north walls.

Photograph E1-26: Quarry 13 – km 62+350

Date: September 1, 2015 **Photo Number**: 293

Description: Looking at the south and east walls.



Photograph E1-27: Quarry 14 – km 65+700

Date: September 1, 2015 **Photo Number**: 294

Description: View of west and south walls. Quarry flooded.

Photograph E1-28: Quarry 14 – km 65+700

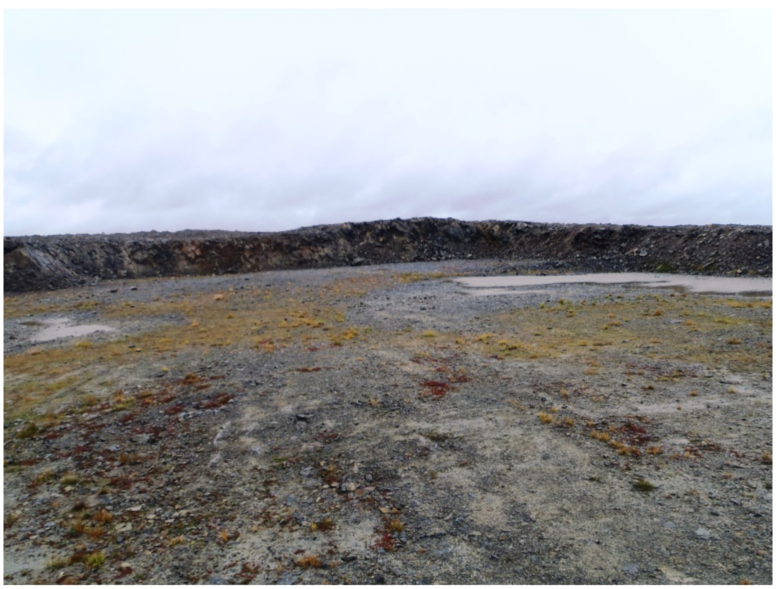
Date: September 1, 2015 **Photo Number**: 295

Description: View of north and west walls. Quarry flooded.

Photograph E1-29: Quarry 15 – km 67+600

Date: September 1, 2015 **Photo Number**: 296

Description: View of the south and west walls.



Photograph E1-30: Quarry 15 – km 67+600

Date: September 1, 2015 **Photo Number**: 297

Description: View of the north and west walls.

Photograph E1-31: Quarry 16 – km 70+400

Date: September 1, 2015 **Photo Number**: 306

Description: View of the south and west walls. Presence of loose rocks on steep wall.

Photograph E1-32: Quarry 16 – km 70+400

Date: September 1, 2015 **Photo Number**: 305

Description: View of the east and south walls. Presence of loose rocks on steep wall.

Photograph E1-33: Quarry 17 – km 72+800

Date: September 1, 2015 **Photo Number**: 309

Description: Looking at the south and east walls.

Photograph E1-34: Quarry 17 – km 72+800

Date: September 1, 2015 **Photo Number**: 308

Description: Looking at the north wall.

Photograph E1-35: Quarry 18 – km 80+200

Date: September 1, 2015 **Photo Number**: 316

Description: View of the west and of the south wall.

Photograph E1-36: Quarry 18 – km 80+200

Date: September 1, 2015 **Photo Number**: 317

Description: Looking at the north and east walls.

Photograph E1-37: Quarry 19 – km 84+300

Date: September 1, 2015 **Photo Number**: 324

Description: Looking at the north and west walls. Presence of loose rocks on top of steep wall.

Photograph E1-38: Quarry 19 – km 84+300

Date: September 1, 2015 **Photo Number**: 325

Description: Looking at the north and east walls. Presence of loose rocks on top of steep wall

Photograph E1-39: Quarry 20 – km 89+550

Date: September 1, 2015 **Photo Number**: 330

Description: Looking at the north and west walls.

Photograph E1-40: Quarry 20 – km 89+550

Date: September 1, 2015 **Photo Number**: 331

Description: Looking at the north and east wall.

Photograph E1-41: Quarry 21 – km 93+400

Date: September 1, 2015 **Photo Number**: 332

Description: Looking at the south and east walls.

Photograph E1-42: Quarry 21 – km 93+400

Date: September 1, 2015 **Photo Number**: 333

Description: Looking at the north and the west walls.

Photograph E1-43: Quarry 22 – km 99+200

Date: September 1, 2015 **Photo Number**: 339

Description: View of the north and west walls.

Photograph E1-44: Quarry 22 – km 99+200

Date: September 1, 2015 **Photo Number**: 340

Description: Looking at the north and east walls.

Photograph E1-45: Quarry 23 (Airstrip Quarry)

Date: September 1, 2015 **Photo Number**: 347

Description: Looking at the north wall.

Photograph E1-46: Quarry 23 (Airstrip Quarry)

Date: September 1, 2015 **Photo Number**: 348

Description: Looking at the south wall.

Photograph E1-47: Quarry 23 (Airstrip Quarry)

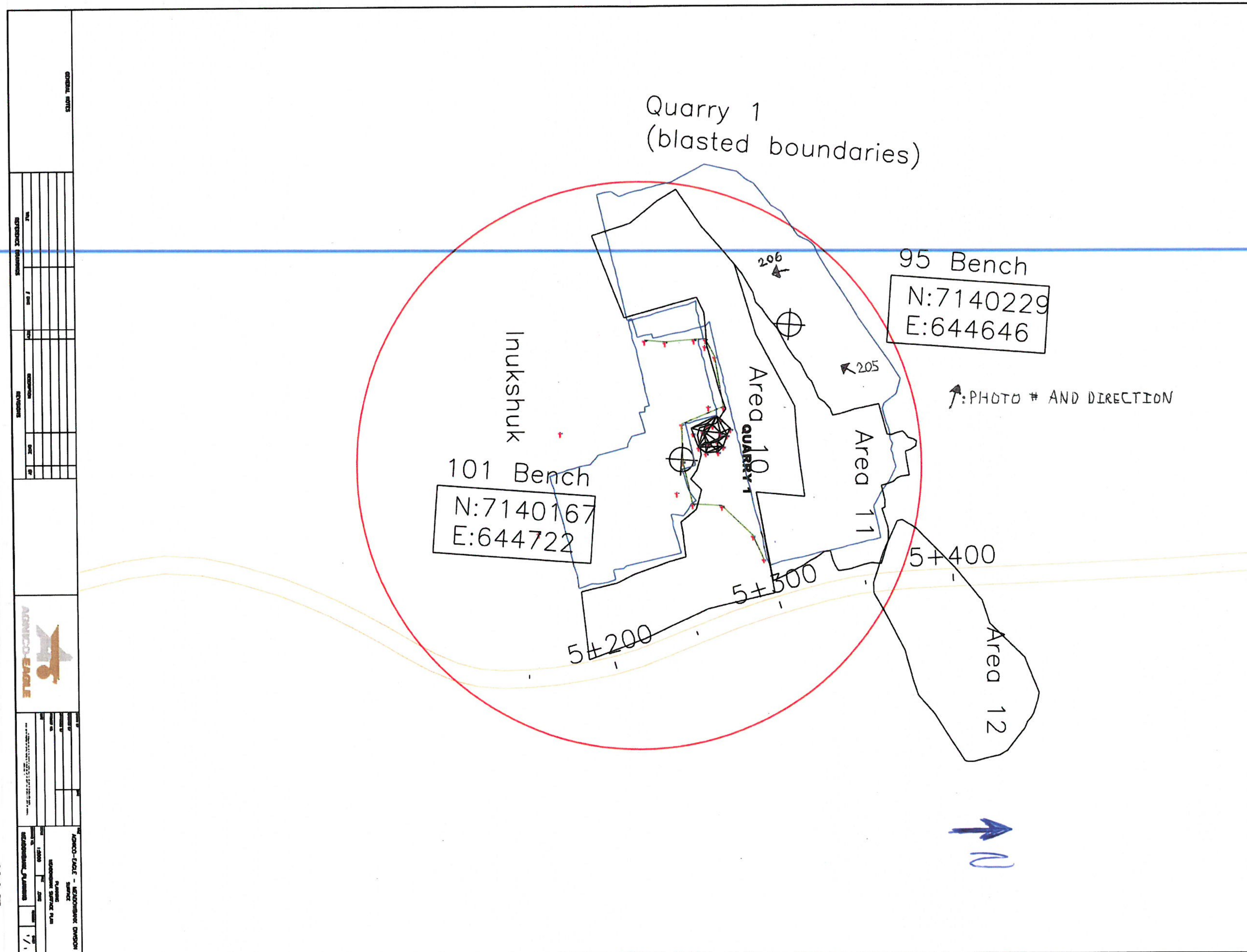
Date: September 1, 2015 **Photo Number**: 350

Description: Looking at the east and the south walls. Presence of loose rocks along steep wall.

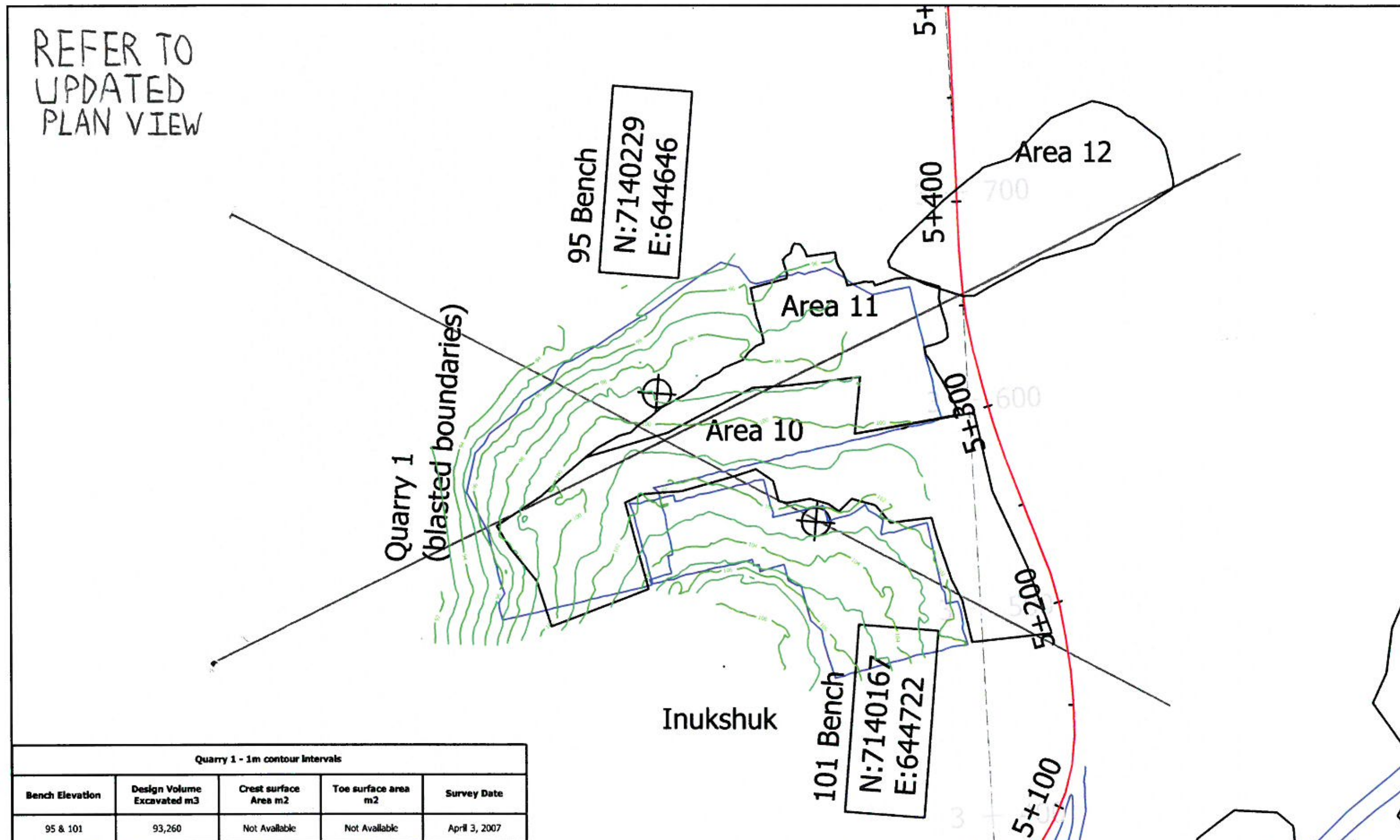
Photograph E1-48: Quarry 23 (Airstrip Quarry)

Date: September 1, 2015 **Photo Number**: 349

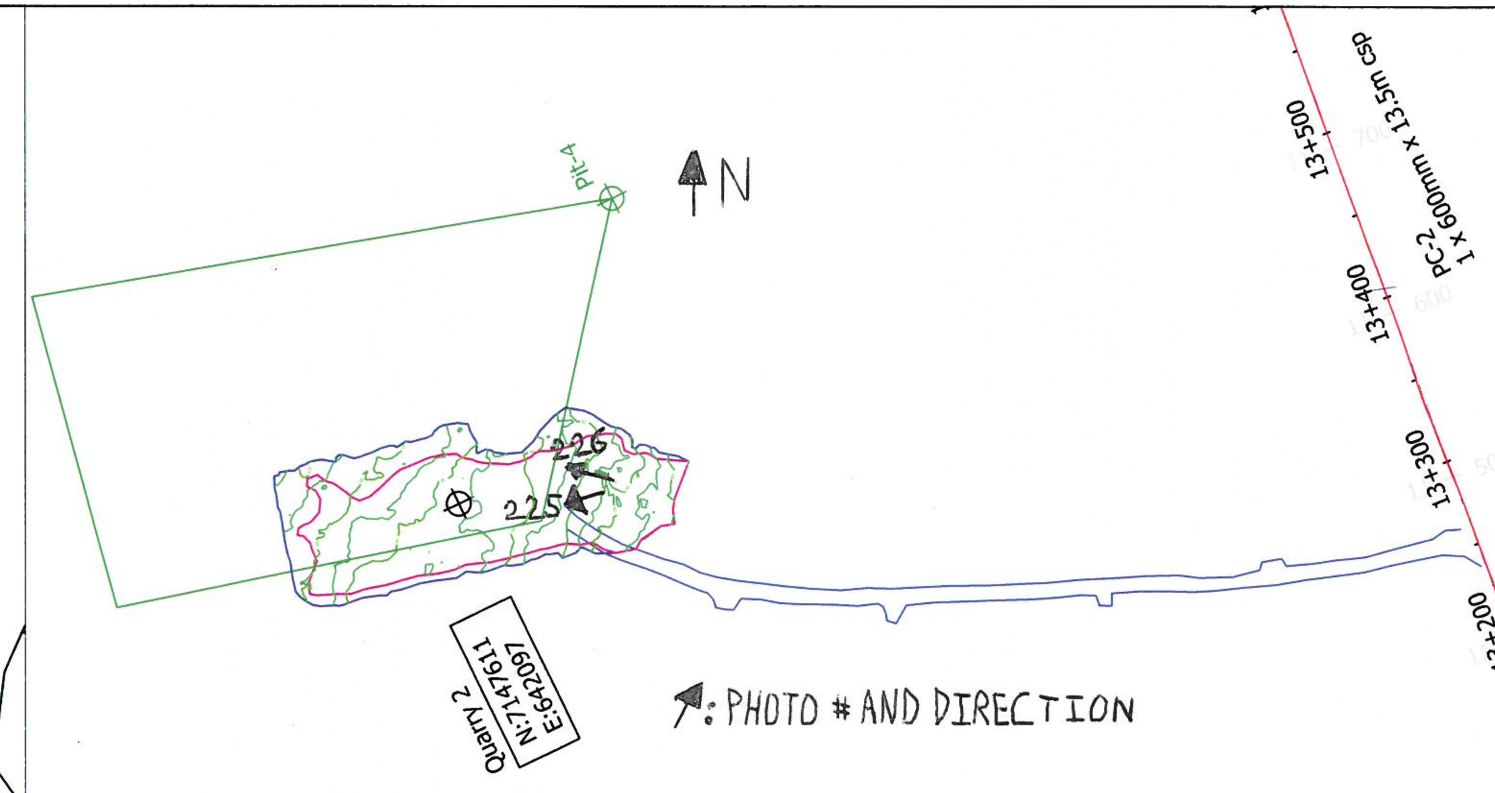
Description: Looking at the north and west walls.



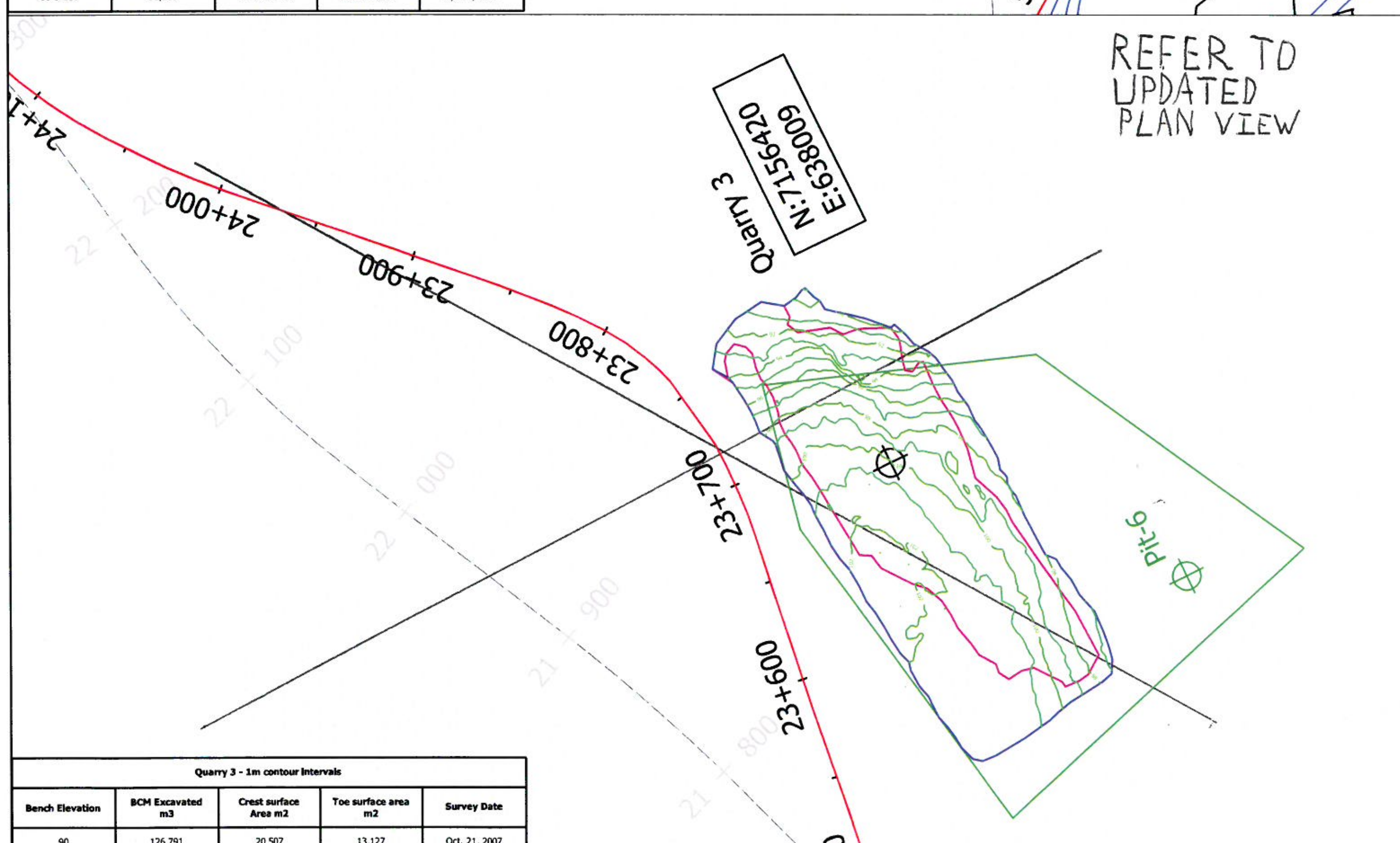
Quarry 1
(blasted boundaries)
95 Bench
N:7140229
E:644646
206
205
:PHOTO # AND DIRECTION
Inukshuk
Area 10
QUARRY 1
Area 11
Area 12
101 Bench
N:7140167
E:644722
5+200
5+300
5+400
N
AGNICO-EAGLE



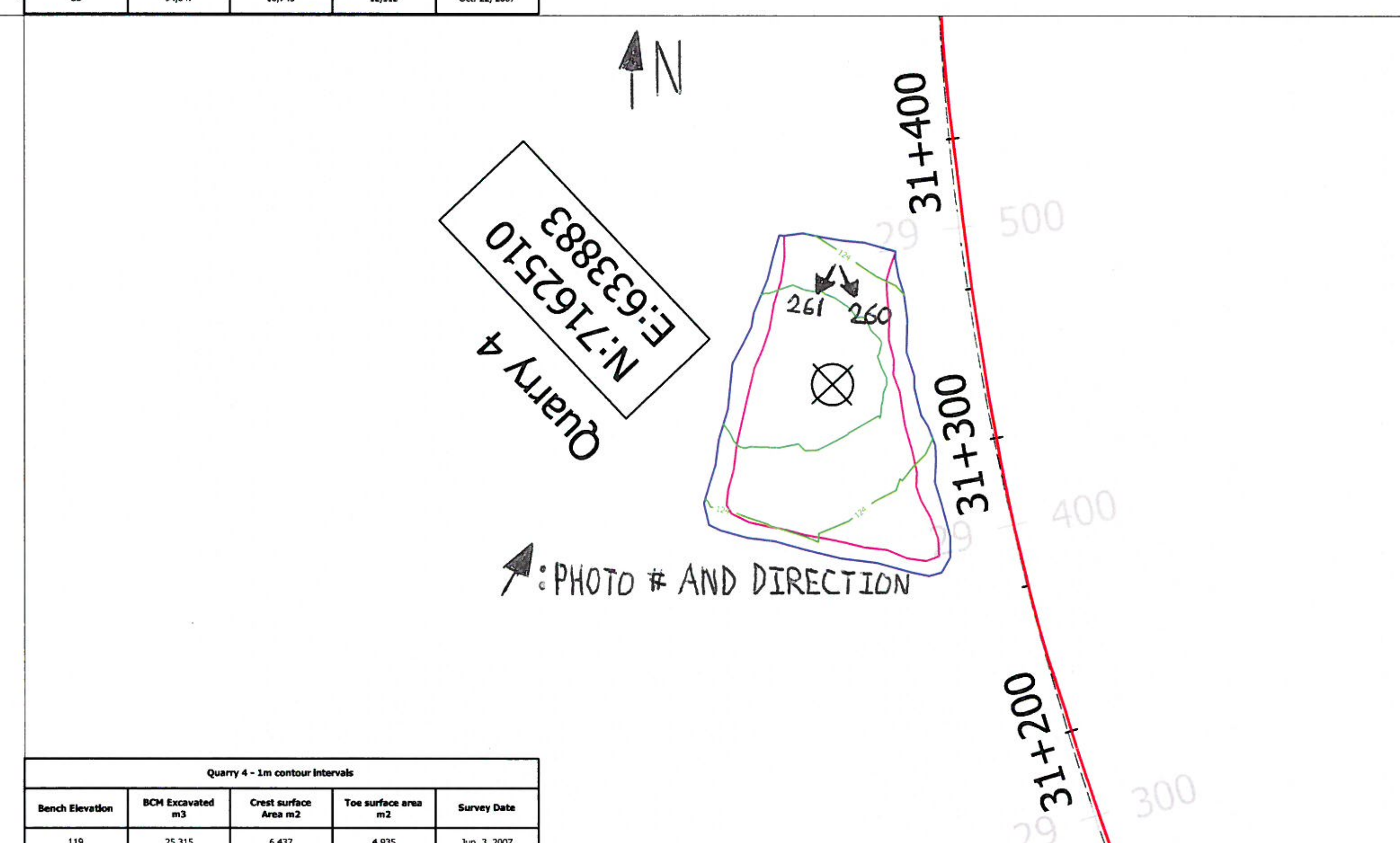
Quarry 1 - 1m contour intervals				
Bench Elevation	Design Volume Excavated m3	Crest surface Area m2	Toe surface area m2	Survey Date
95 & 101	93,260	Not Available	Not Available	April 3, 2007



Quarry 2 - 1m contour intervals				
Bench Elevation	BCM Excavated m3	Crest surface Area m2	Toe surface area m2	Survey Date
86	94,047	16,743	12,112	Oct. 22, 2007



Quarry 3 - 1m contour intervals				
Bench Elevation	BCM Excavated m3	Crest surface Area m2	Toe surface area m2	Survey Date
90	126,791	20,507	13,127	Oct. 21, 2007



Quarry 4 - 1m contour intervals				
Bench Elevation	BCM Excavated m3	Crest surface Area m2	Toe surface area m2	Survey Date
119	25,315	6,437	4,935	Jun. 3, 2007

GOLDER DATA

- LfLa-3 — Existing Archeological site
- Pit-13 — Proposed Quarry Site
- Existing Lake/Stream
- R02 — River crossing (crossing structure and dimension)
- 120 — Existing major contour (10m Topo)
- Existing minor contour (interpreted)
- 1+000 — Proposed centerline of road

AS CONSTRUCTED DATA

- 172 — Quarry original ground 2m major contour
- Quarry original ground 1m minor contour
- Crest boundary of quarry limit at original ground
- Toe boundary of quarry excavation at bench grade
- 1+200 — Centerline of road with 100m stations
- R20 PC-1 — River crossing-culvert 600mm/1200mm dia
- R02 — River Crossing-12m30m bridges

NOTES:

Quarry Data Summarized In Table 1

100m stations are referenced to 0+000 N 7135821.224 E 646026.187

Agnico-Eagle Mines Ltd

NUNAVUT

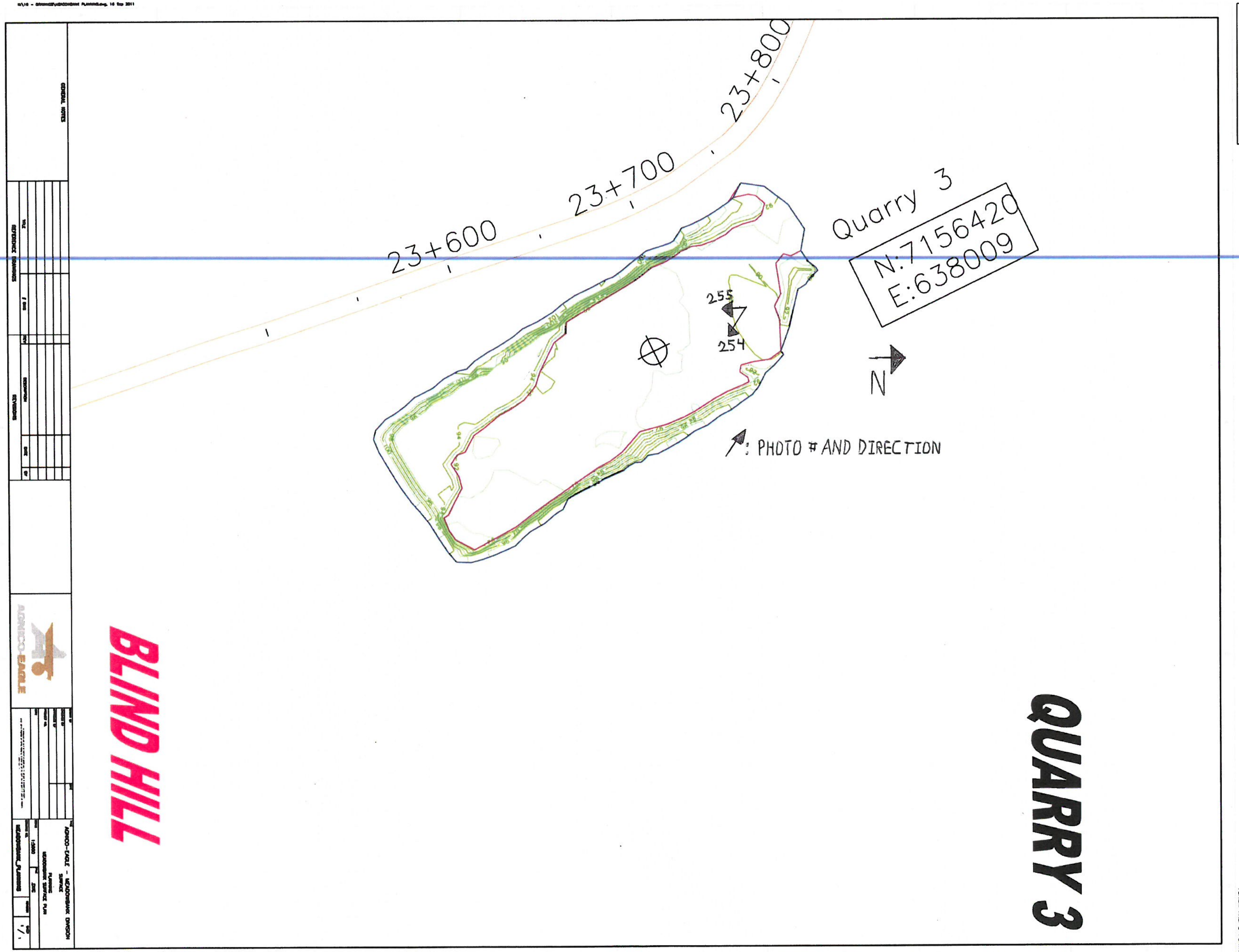
Meadowbank Gold Project
Tehek Access Road Construction

As constructed Quarry Drawing Figure 1

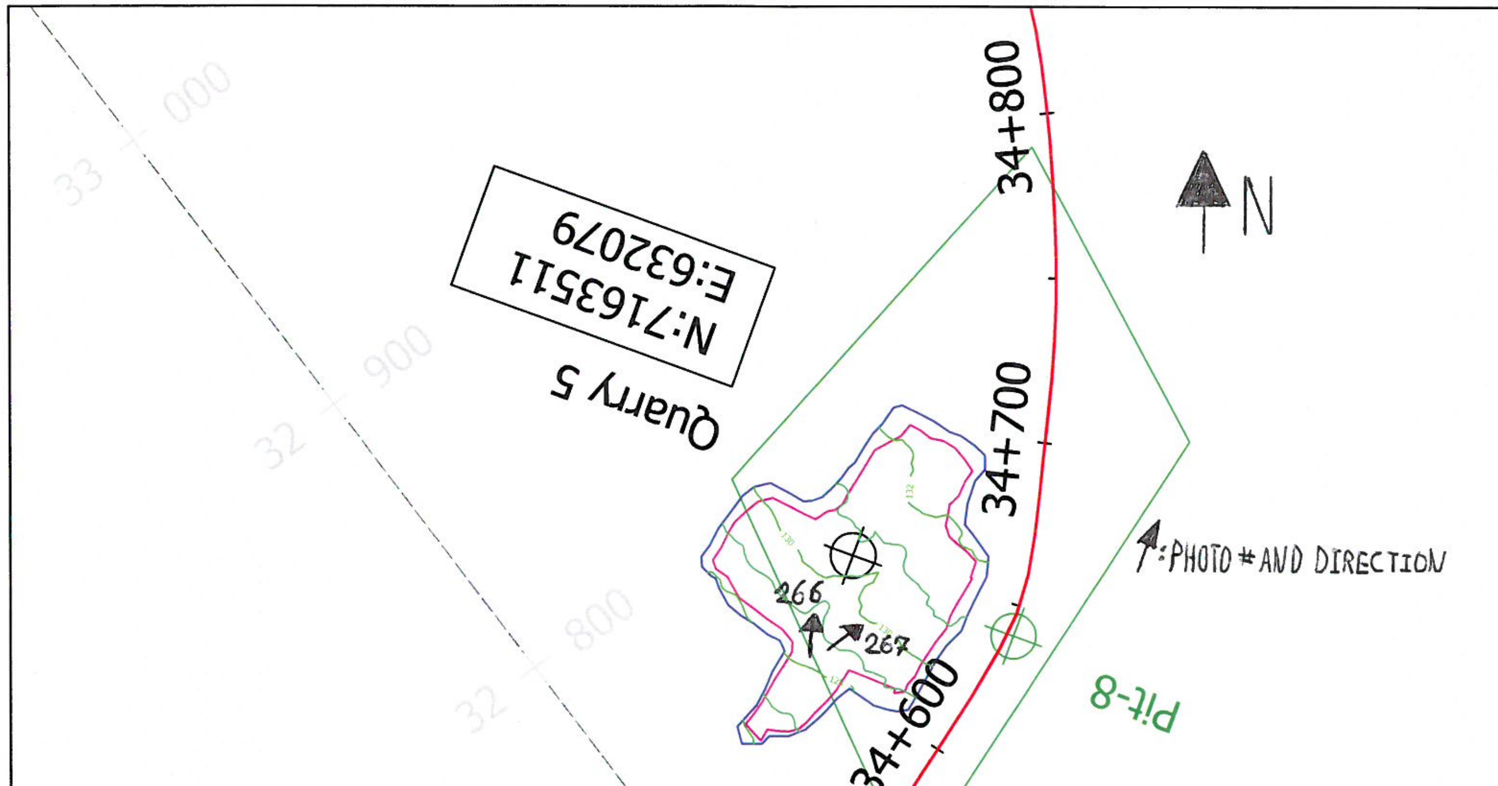
NUNA M & T SERVICES LTD.

Drawing Title: Quarry 1 to Quarry 4

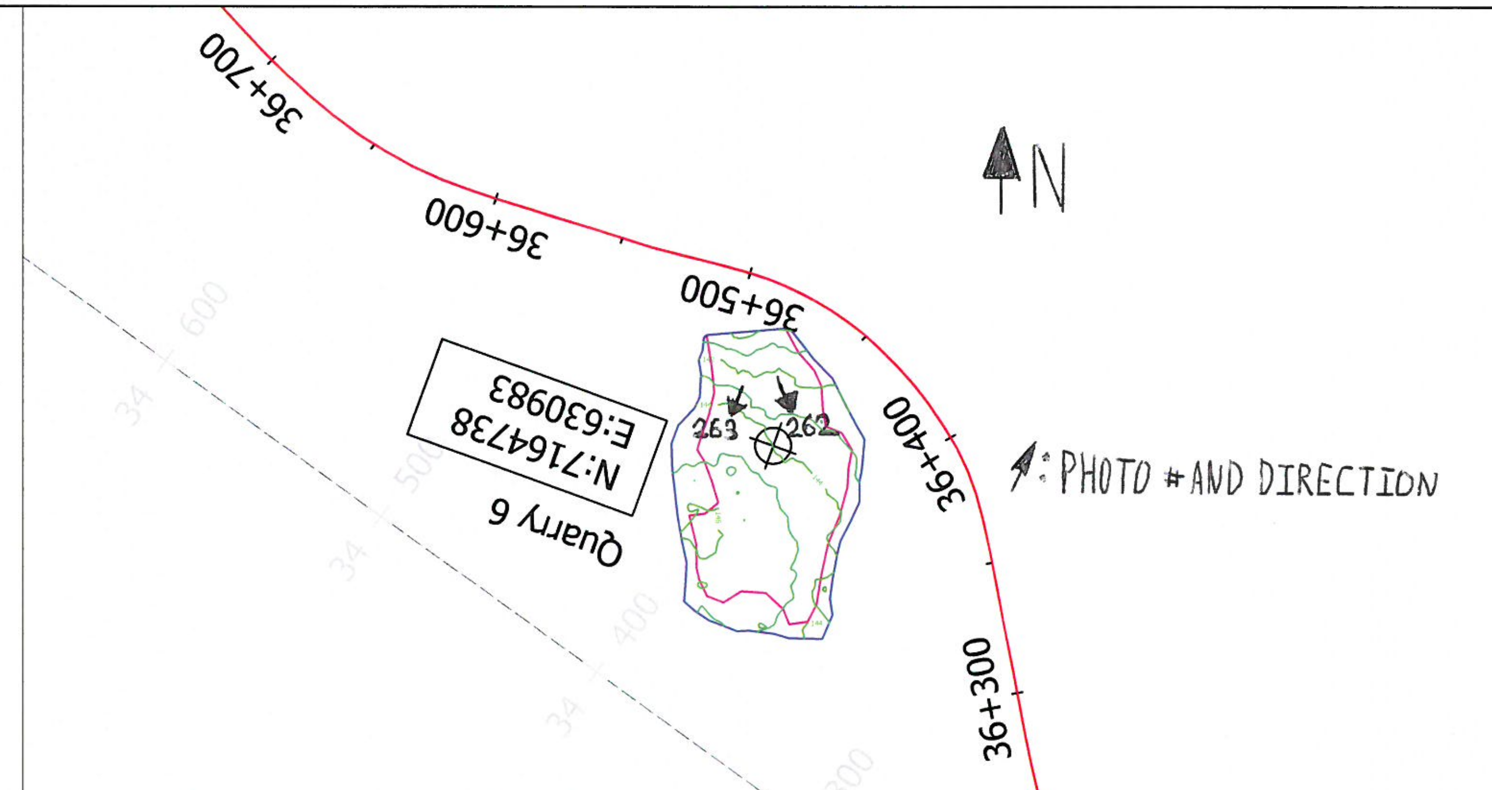
Scale	Drawn by	Checked by	Date
NTS	MC	CG/HB	March 31, 2008



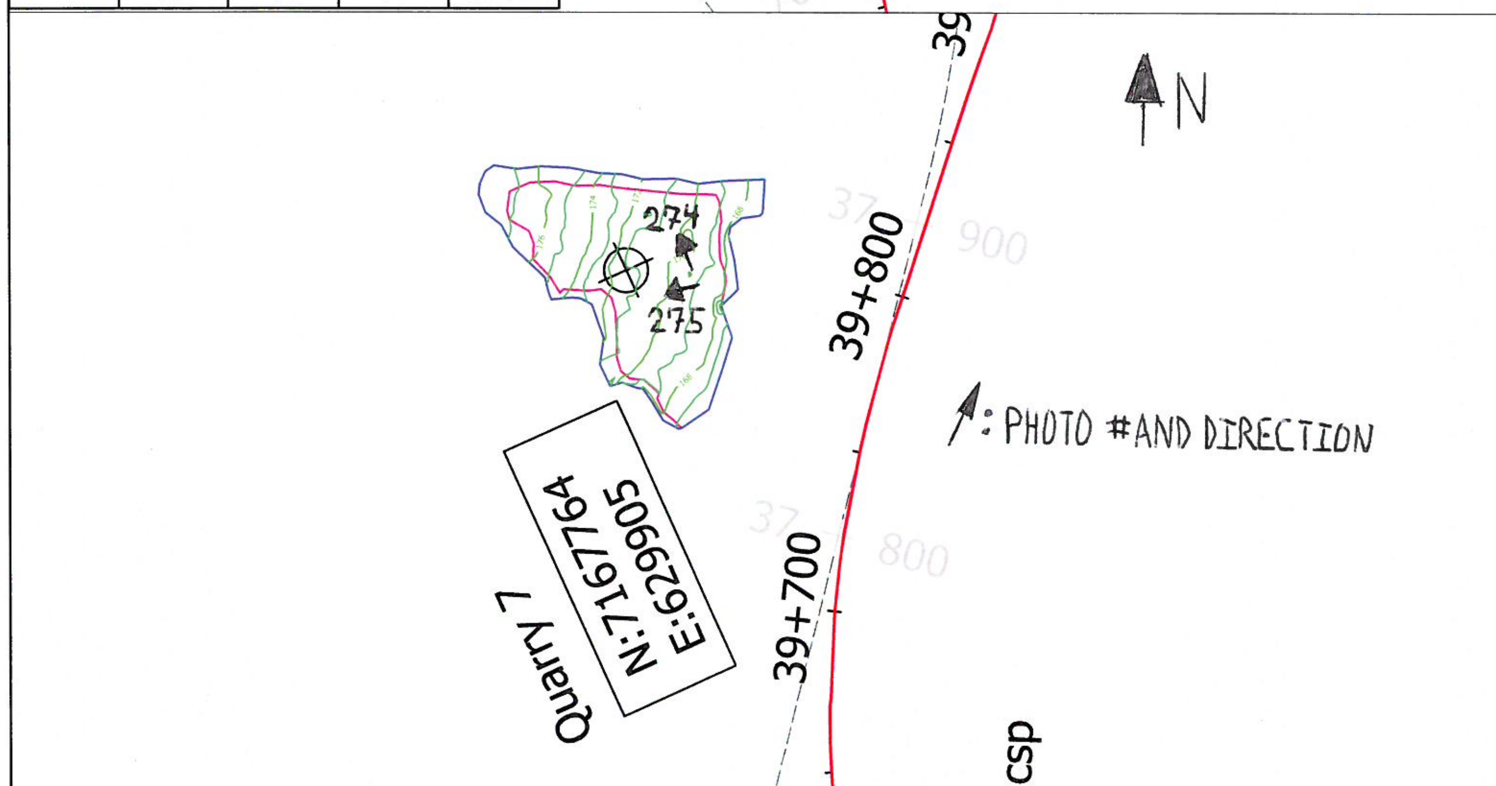
BLIND HILL
QUARRY 3
Quarry 3
N:7156420
E:638009
23+600
23+700
23+800
255
254
N
: PHOTO # AND DIRECTION
AGNICO-EAGLE



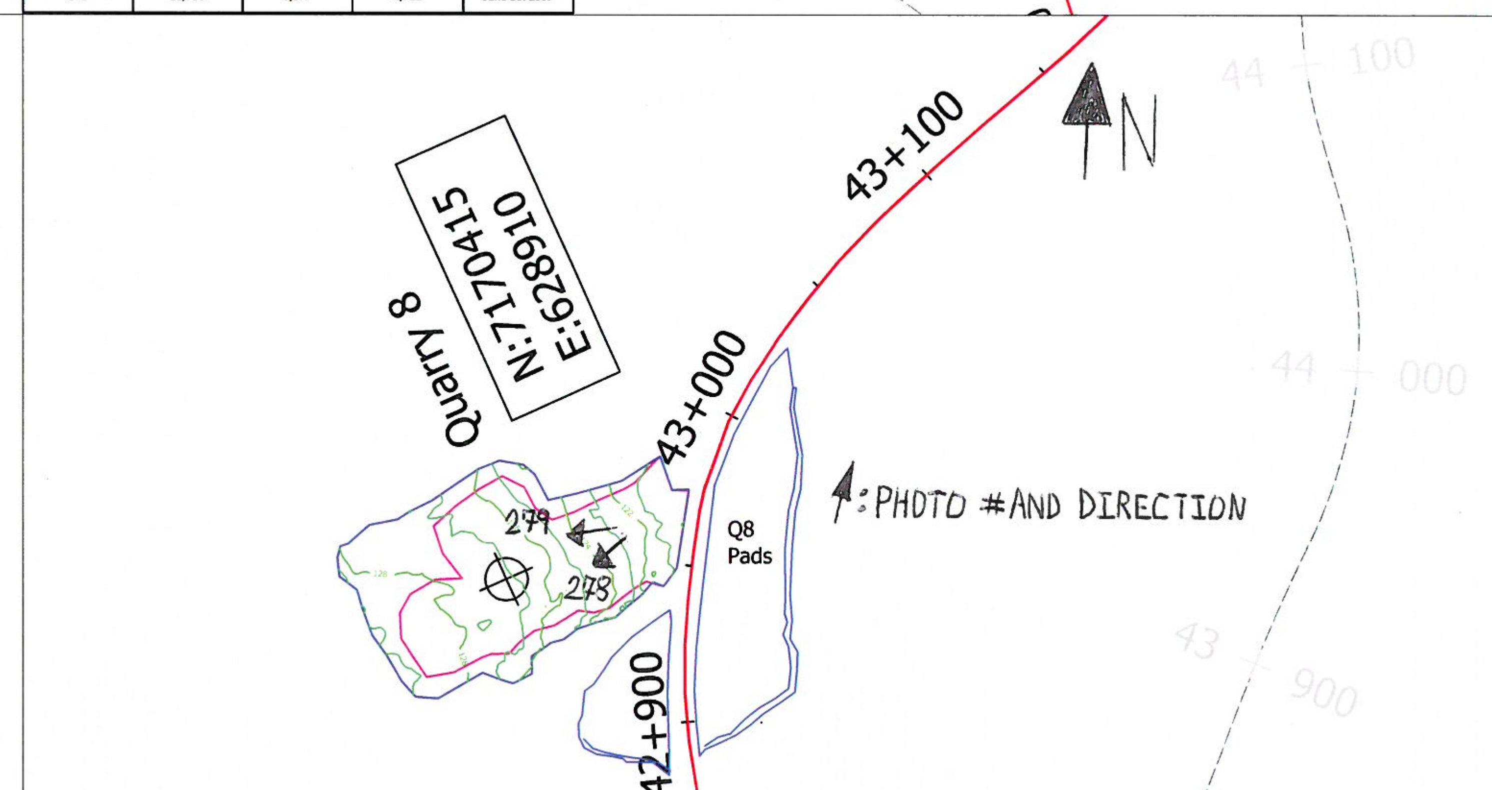
Quarry 5 - 1m contour intervals				
Bench Elevation	BCM Excavated m3	Crest surface Area m2	Toe surface area m2	Survey Date
126	20,602	5,243	4,061	June 14, 2007



Quarry 6 - 1m contour intervals				
Bench Elevation	BCM Excavated m3	Crest surface Area m2	Toe surface area m2	Survey Date
140	21,788	6,577	4,722	June 18. 2007



Quarry 7 - 1m contour intervals				
Bench Elevation	BCM Excavated m3	Crest surface Area m2	Toe surface area m2	Survey Date
165	20,298	4,046	3,045	July 9, 2007



Quarry 8 - 1m contour intervals				
Bench Elevation	BCM Excavated m3	Crest surface Area m2	Toe surface area m2	Survey Date
120	22,765	5,368	3,503	July 19, 2007

GOLDER DATA

- LfLa-3 — Existing Archeological site
- Pit-13 — Proposed Quarry Site
- Existing Lake/Stream
- R02 — River crossing (crossing structure and dimension)
- 120 — Existing major contour (10m Topo)
- Existing minor contour (interpreted)
- 1+000 — Proposed centerline of road

AS CONSTRUCTED DATA

- 172 — Quarry original ground 2m major contour
- Quarry original ground 1m minor contour
- Crest boundary of quarry limit at original ground
- Toe boundary of quarry excavation at bench grade
- 1+200 — Centerline of road with 100m stations
- R20 PC-1 — River crossing-culvert 600mm/1200mm dia
- R02 — River Crossing-12m30m bridges

NOTES:

Quarry Data Summarized in Table 1
100m stations are referenced to 0+000 N 7135821.224 E 646026.187

Agnico-Eagle Mines Ltd

NUNAVUT

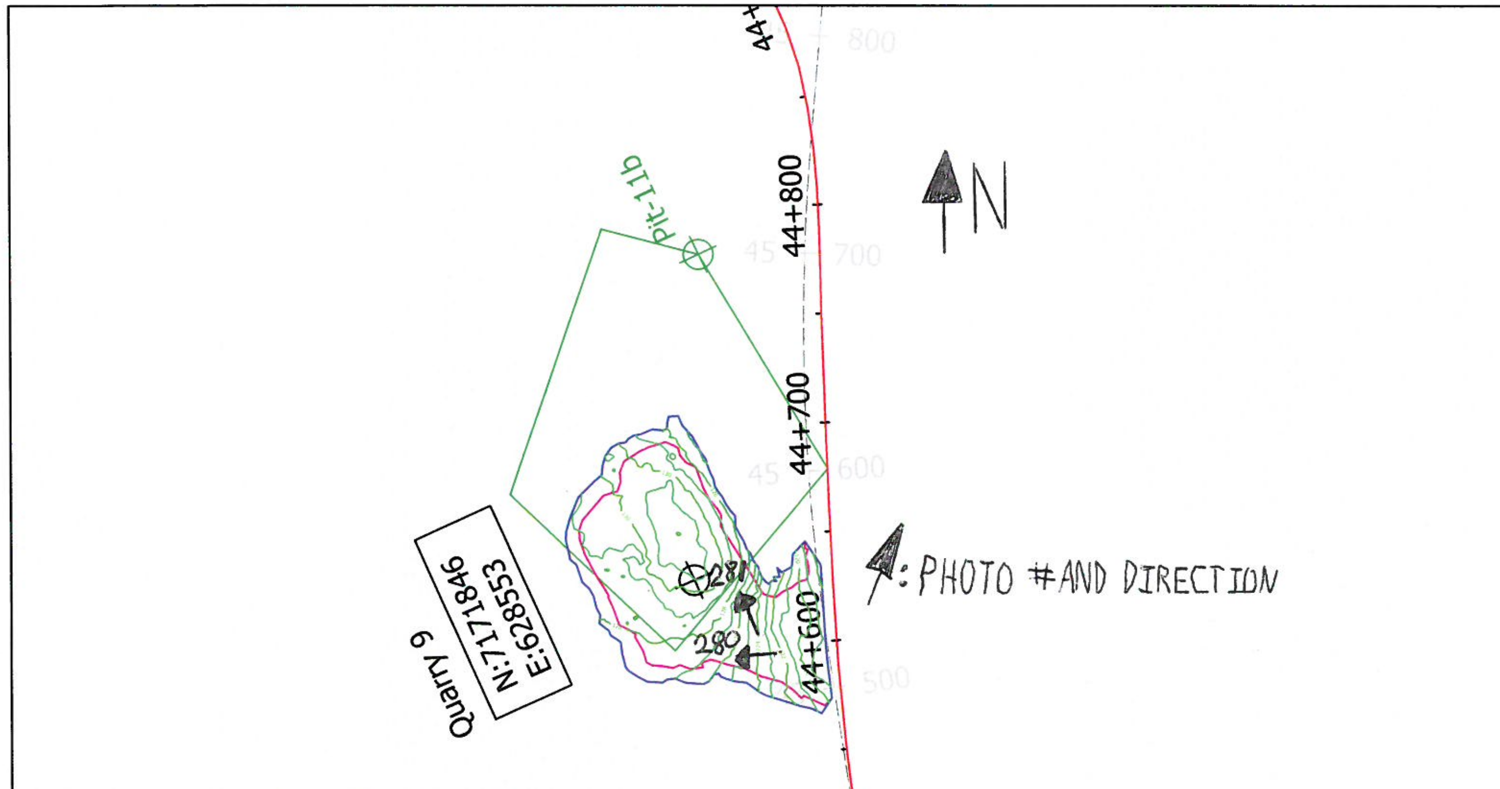
Meadowbank Gold Project
Tehek Access Road Construction

As constructed Quarry Drawing Figure 2

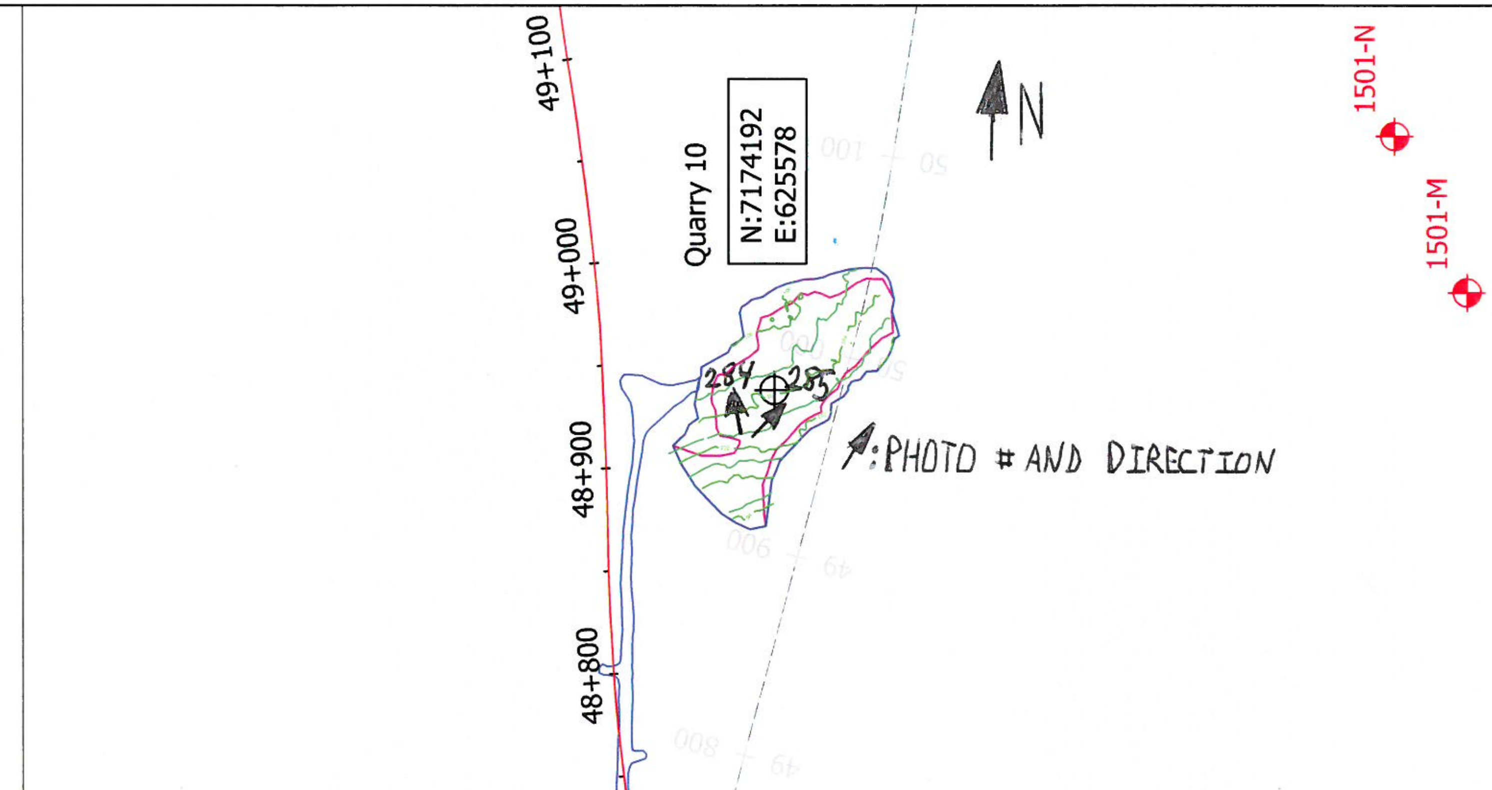
Quarry 5 to Quarry 8

NUNA M & T SERVICES LTD.

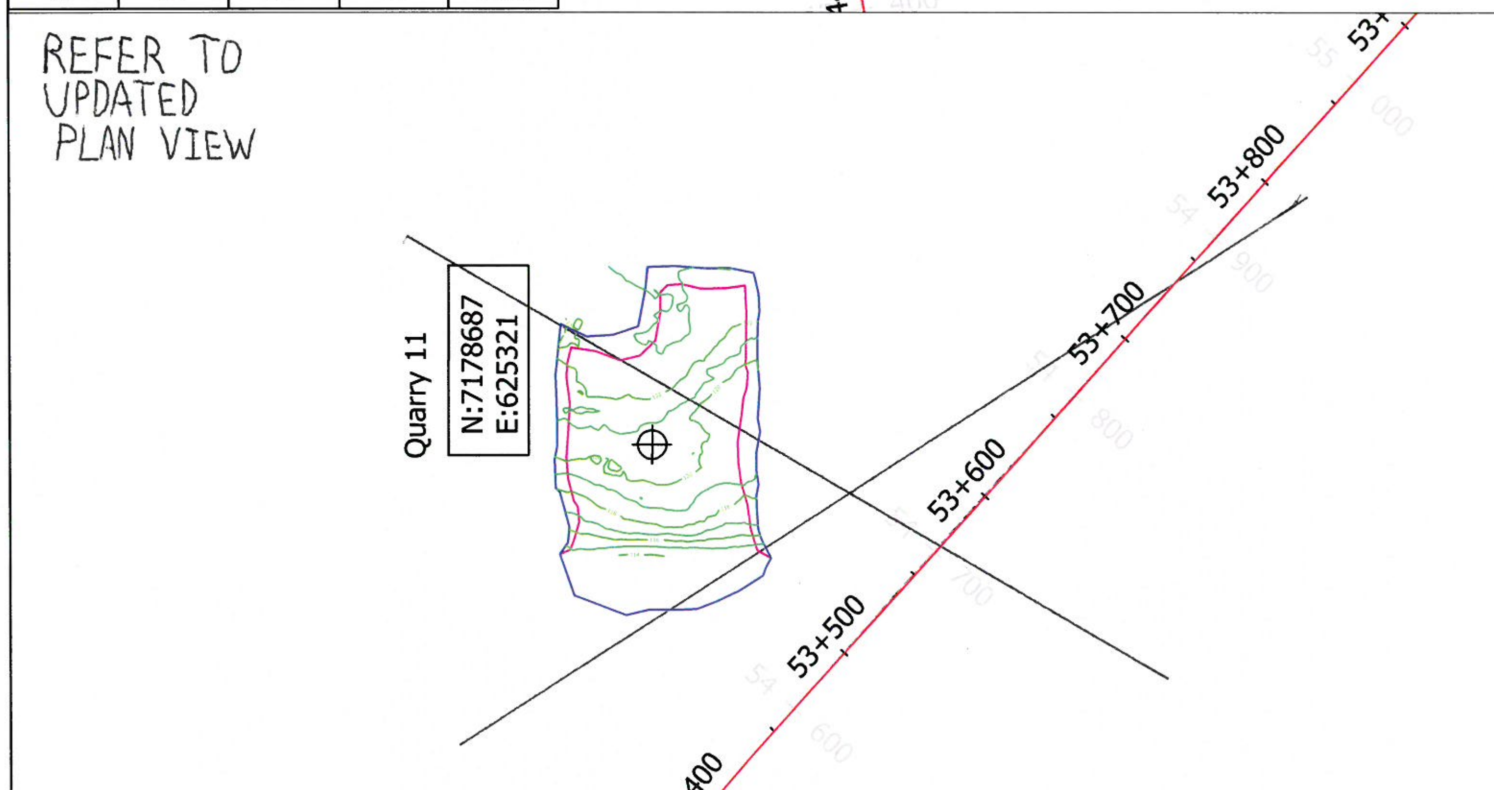
NTS	MC	CG/HB	March 31, 2008



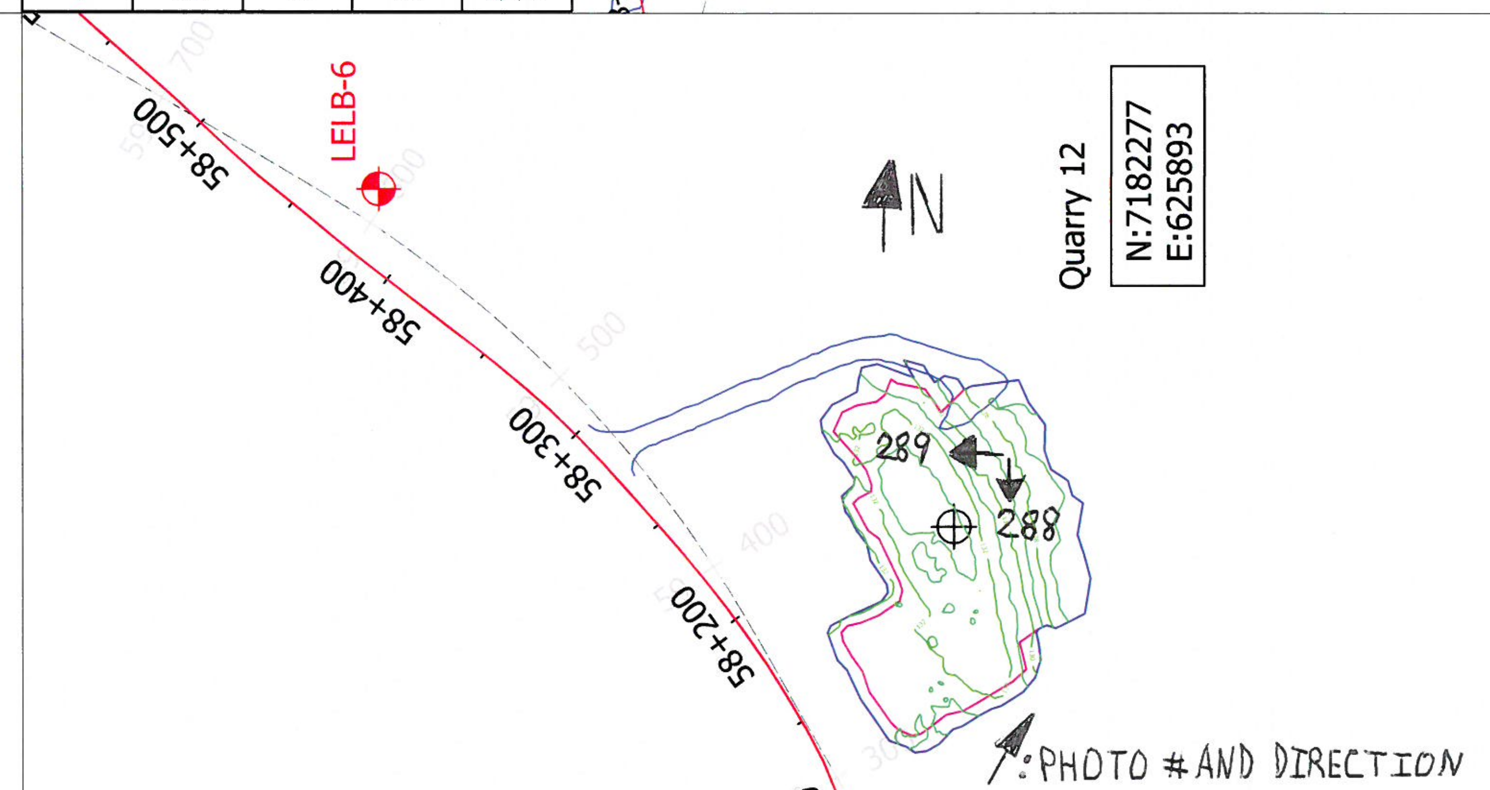
Quarry 9 - 1m contour intervals				
Bench Elevation	BCM Excavated m3	Crest surface Area m2	Toe surface area m2	Survey Date
120	57,917	9,487	7,176	Aug. 7, 2007



Quarry 10 - 1m contour intervals				
Bench Elevation	BCM Excavated m3	Crest surface Area m2	Toe surface area m2	Survey Date
97	31,663	7,235	5,201	July 26, 2007



Quarry 11 - 1m contour intervals				
Bench Elevation	BCM Excavated m3	Crest surface Area m2	Toe surface area m2	Survey Date
114	63,671	13,744	11,341	Oct. 6 ,2007



Quarry 12 - 1m contour intervals				
Bench Elevation	BCM Excavated m3	Crest surface Area m2	Toe surface area m2	Survey Date
127	48,347	11,987	10,158	Aug. 25, 2007

GOLDER DATA

- LfLa-3 — Existing Archeological site
- Pit-13 — Proposed Quarry Site
- Existing Lake/Stream
- R02 — River crossing (crossing structure and dimension)
- 120 — Existing major contour (10m Topo)
- Existing minor contour (Interpreted)
- 1+000 — Proposed centerline of road

AS CONSTRUCTED DATA

- 172 — Quarry original ground 2m major contour
- Quarry original ground 1m minor contour
- Crest boundary of quarry limit at original ground
- Toe boundary of quarry excavation at bench grade
- 1+200 — Centerline of road with 100m stations
- R20 PC-1 — River crossing-culvert 600mm/1200mm dia
- R02 — River Crossing-12m30m bridges

NOTES:

Quarry Data Summarized In Table 1

100m stations are referenced to 0+000 N 7135821.224 E 646026.187

Agnico-Eagle Mines Ltd

NUNAVUT

Meadowbank Gold Project

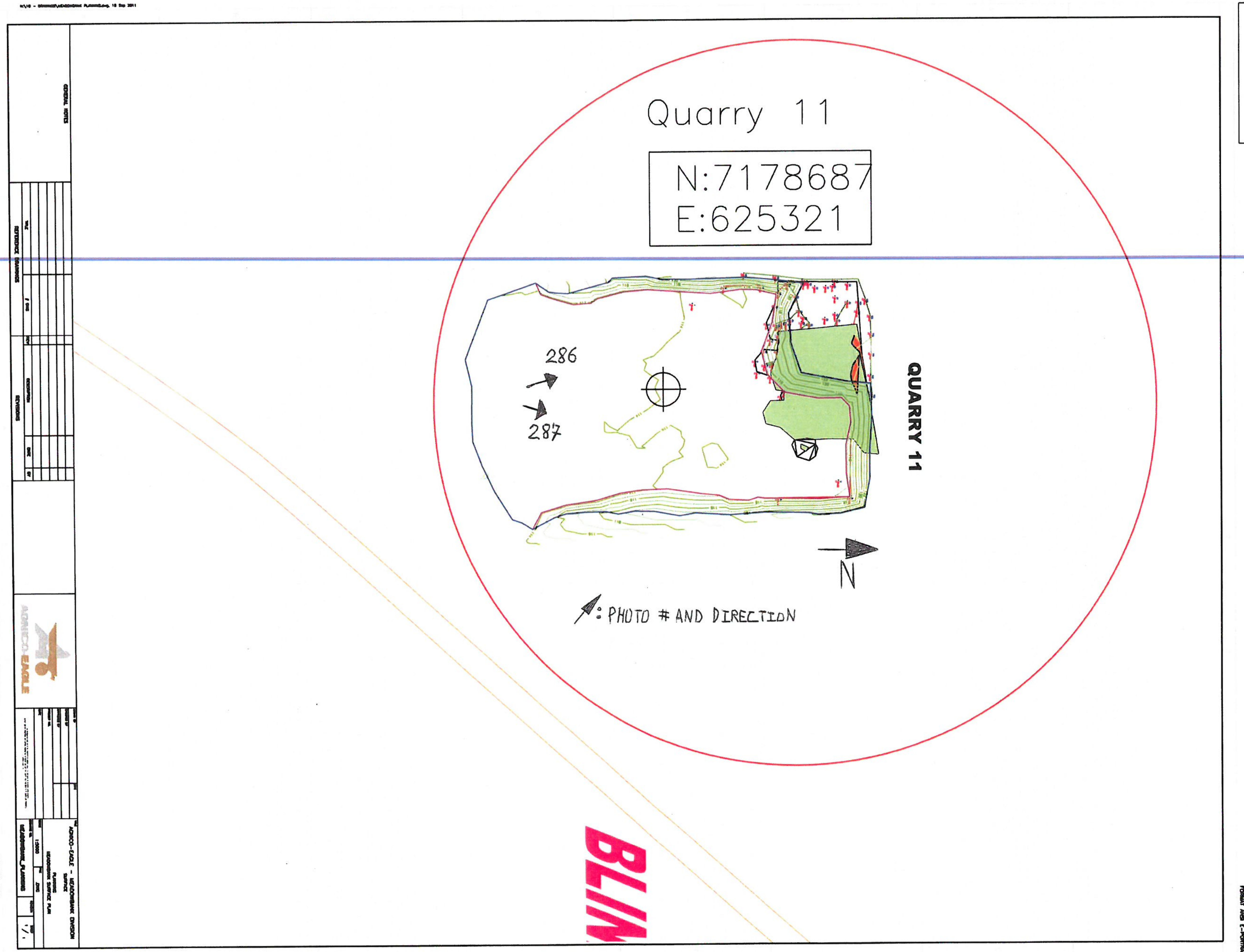
Tehek Access Road Construction

As constructed Quarry Drawing Figure 3

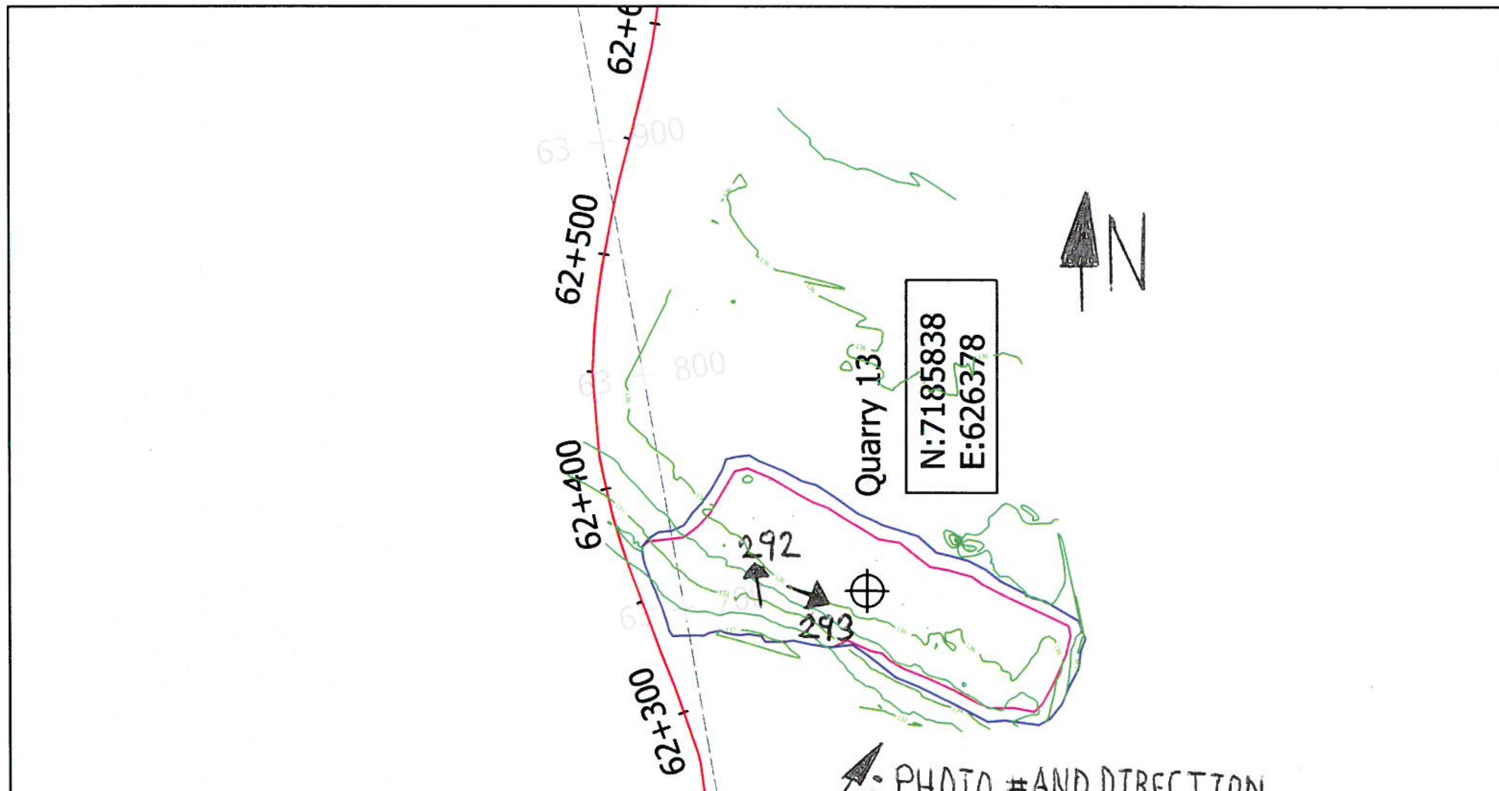
Drawing Title: Quarry 9 to Quarry 12

NUNA M & T SERVICES LTD.

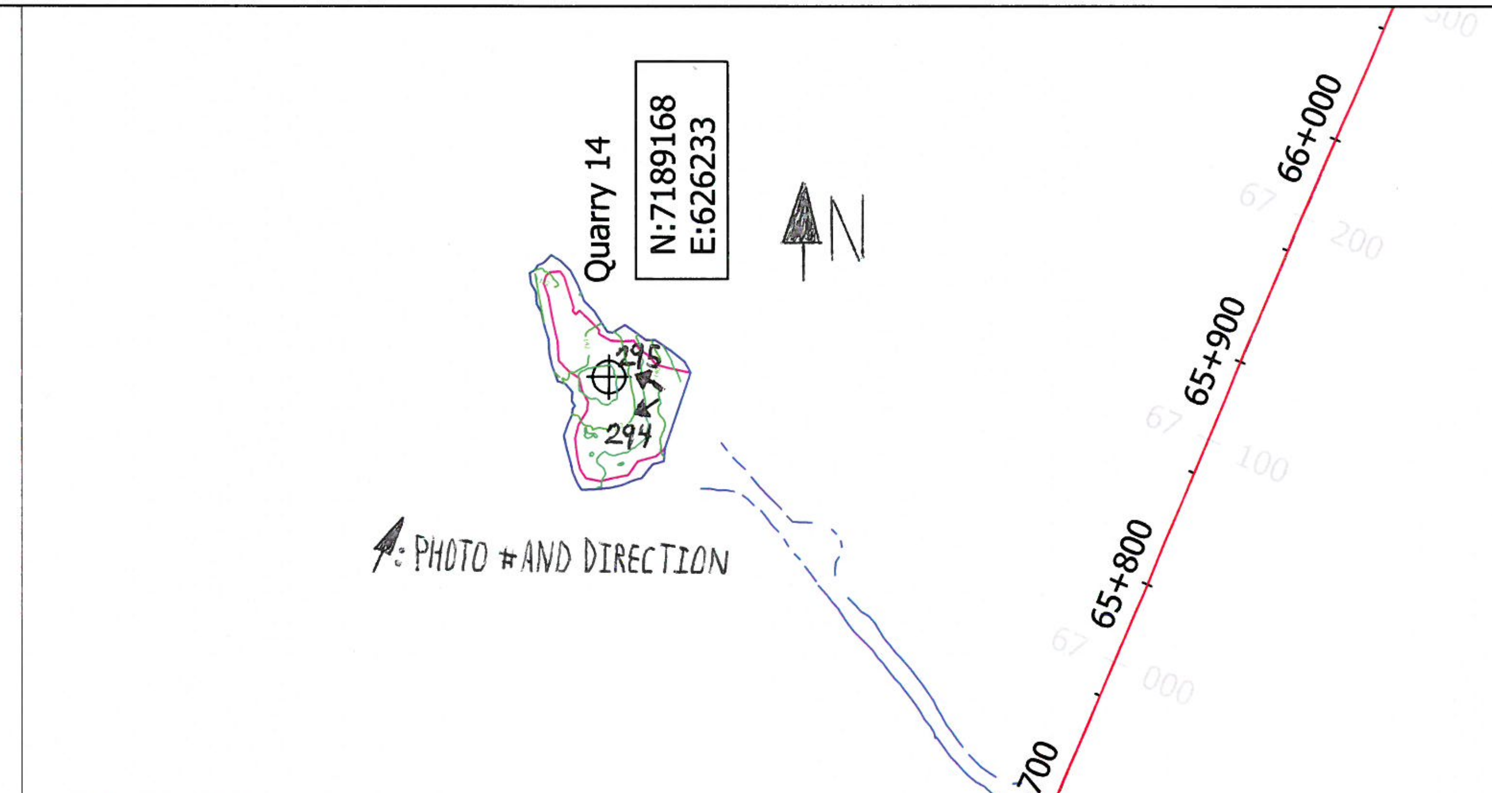
Scale	Drawn by	Checked by	Date
NTS	MC	CG/HB	March 31, 2008



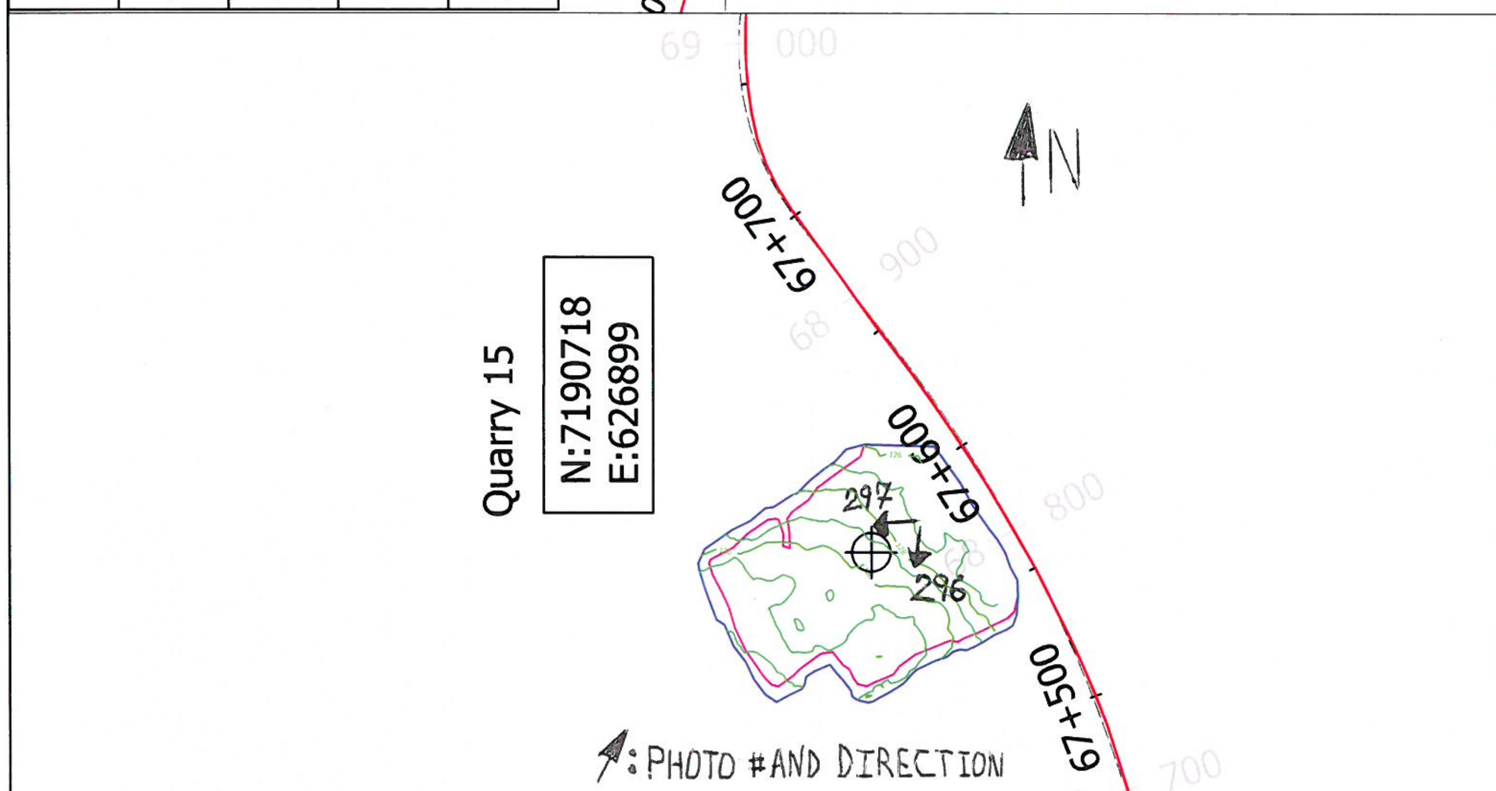
Quarry 11
N:7178687
E:625321
286
287
QUARRY 11
N
PHOTO # AND DIRECTION
BLIN
AGNICO-EAGLE



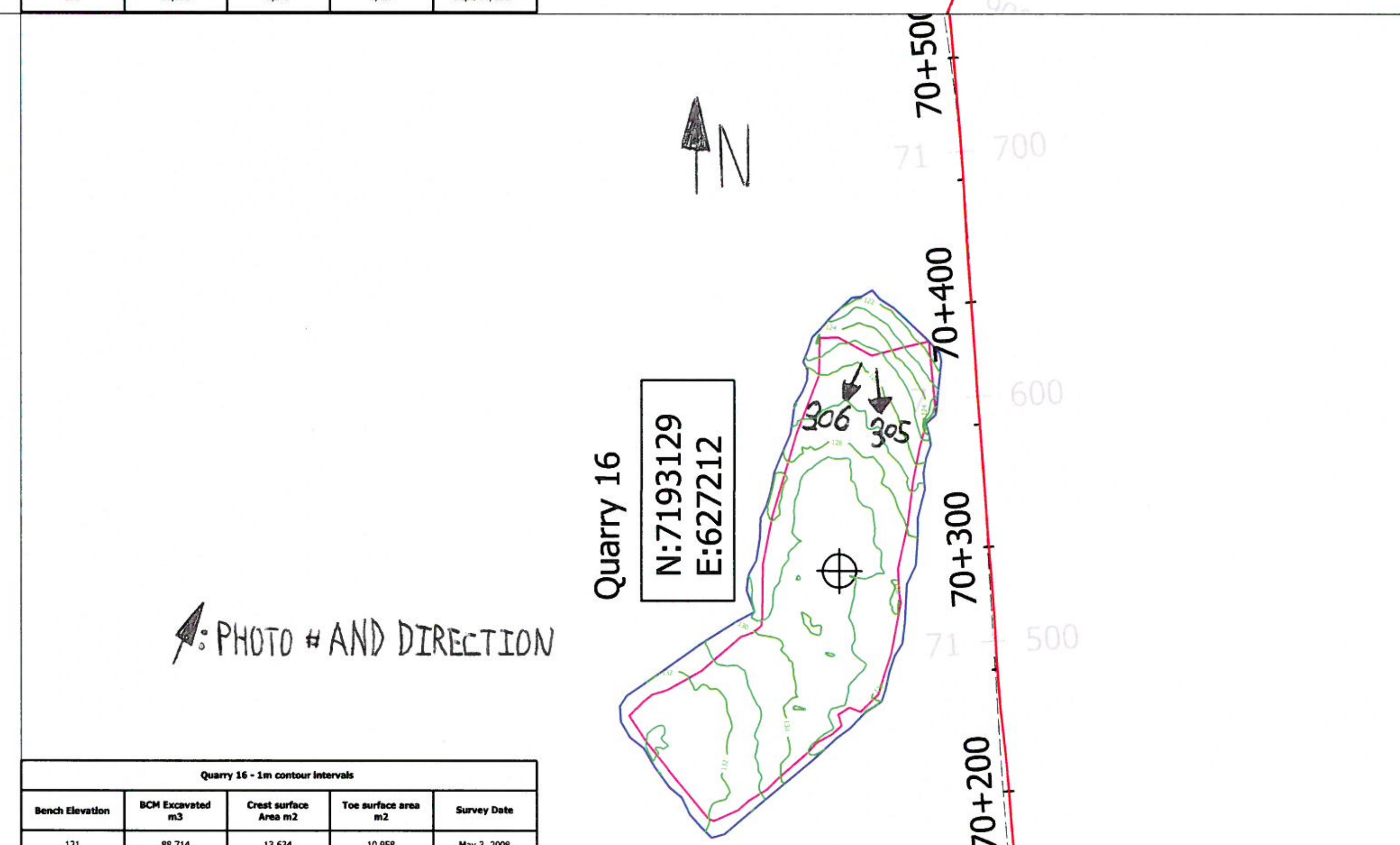
Quarry 13 - 1m contour intervals				
Bench Elevation	BCM Excavated m3	Crest surface Area m2	Toe surface area m2	Survey Date
132	36,106	10,778	8,979	Aug. 26, 2007



Quarry 14 - 1m contour intervals				
Bench Elevation	BCM Excavated m3	Crest surface Area m2	Toe surface area m2	Survey Date
136	16,295	3,375	2,427	Sept. 14, 2007



Quarry 15 - 1m contour intervals				
Bench Elevation	BCM Excavated m3	Crest surface Area m2	Toe surface area m2	Survey Date
125	30,201	6,940	5,958	Sept. 13, 2007



Quarry 16 - 1m contour intervals				
Bench Elevation	BCM Excavated m3	Crest surface Area m2	Toe surface area m2	Survey Date
121	88,714	13,634	10,958	May 3, 2008

GOLDER DATA

- LfLa-3 — Existing Archeological site
- Pit-13 — Proposed Quarry Site
- Existing Lake/Stream
- R02 — River crossing (crossing structure and dimension)
- 120 — Existing major contour (10m Topo)
- Existing minor contour (interpreted)
- 1+000 — Proposed centerline of road

AS CONSTRUCTED DATA

- 172 — Quarry original ground 2m major contour
- Quarry original ground 1m minor contour
- Crest boundary of quarry limit at original ground
- Toe boundary of quarry excavation at bench grade
- 1+200 — Centerline of road with 100m stations
- R20 PC-1 — River crossing-culvert 600mm/1200mm dia
- R02 — River Crossing-12m30m bridges

NOTES:

Quarry Data Summarized in Table 1

100m stations are referenced to 0+000 N 7135821.224 E 646026.187

Agnico-Eagle Mines Ltd

NUNAVUT

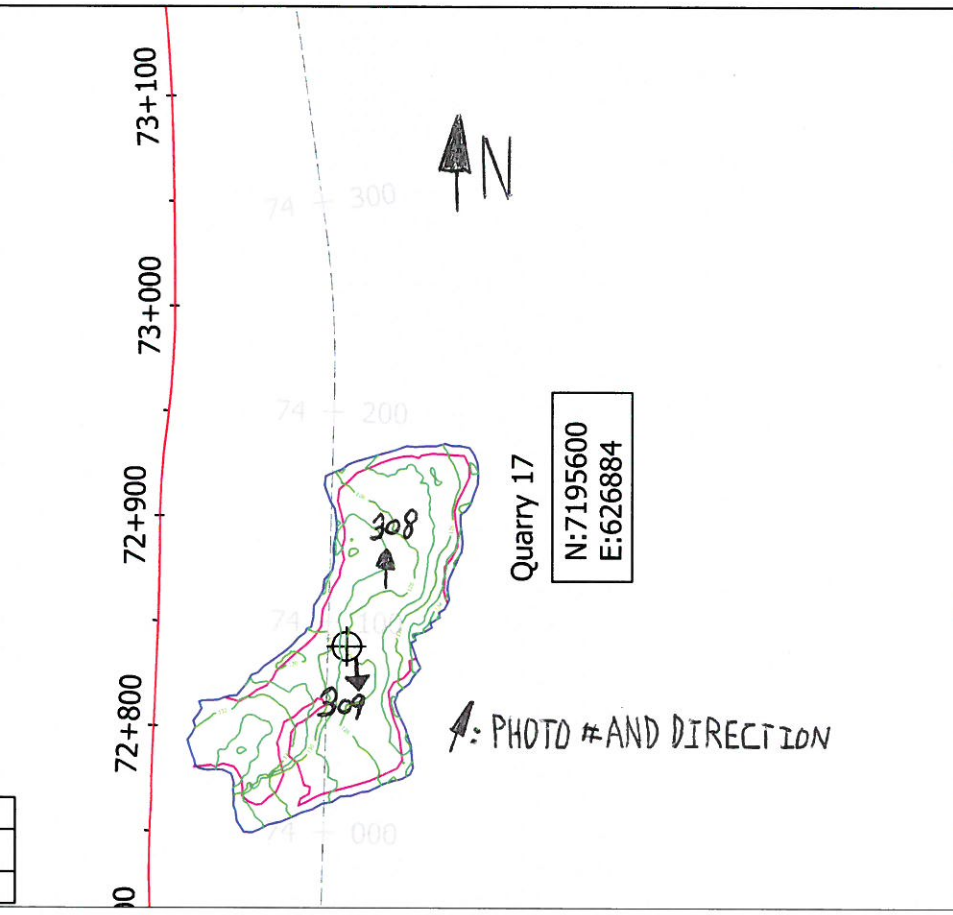
Meadowbank Gold Project
Tehek Access Road Construction

As constructed Quarry Drawing Figure 4

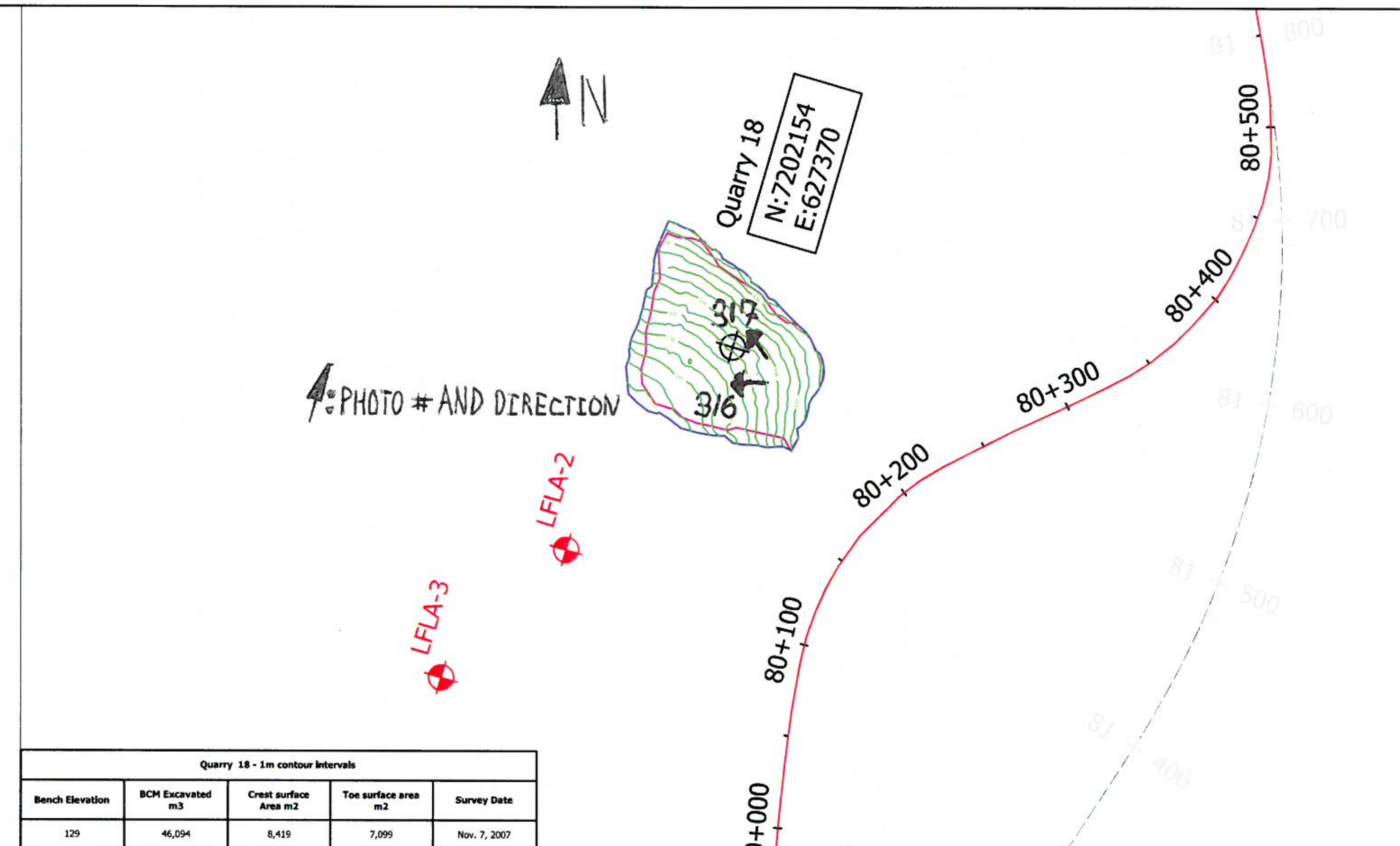
Drawing Title: Quarry 13 to Quarry 16

NUNA M & T SERVICES LTD.

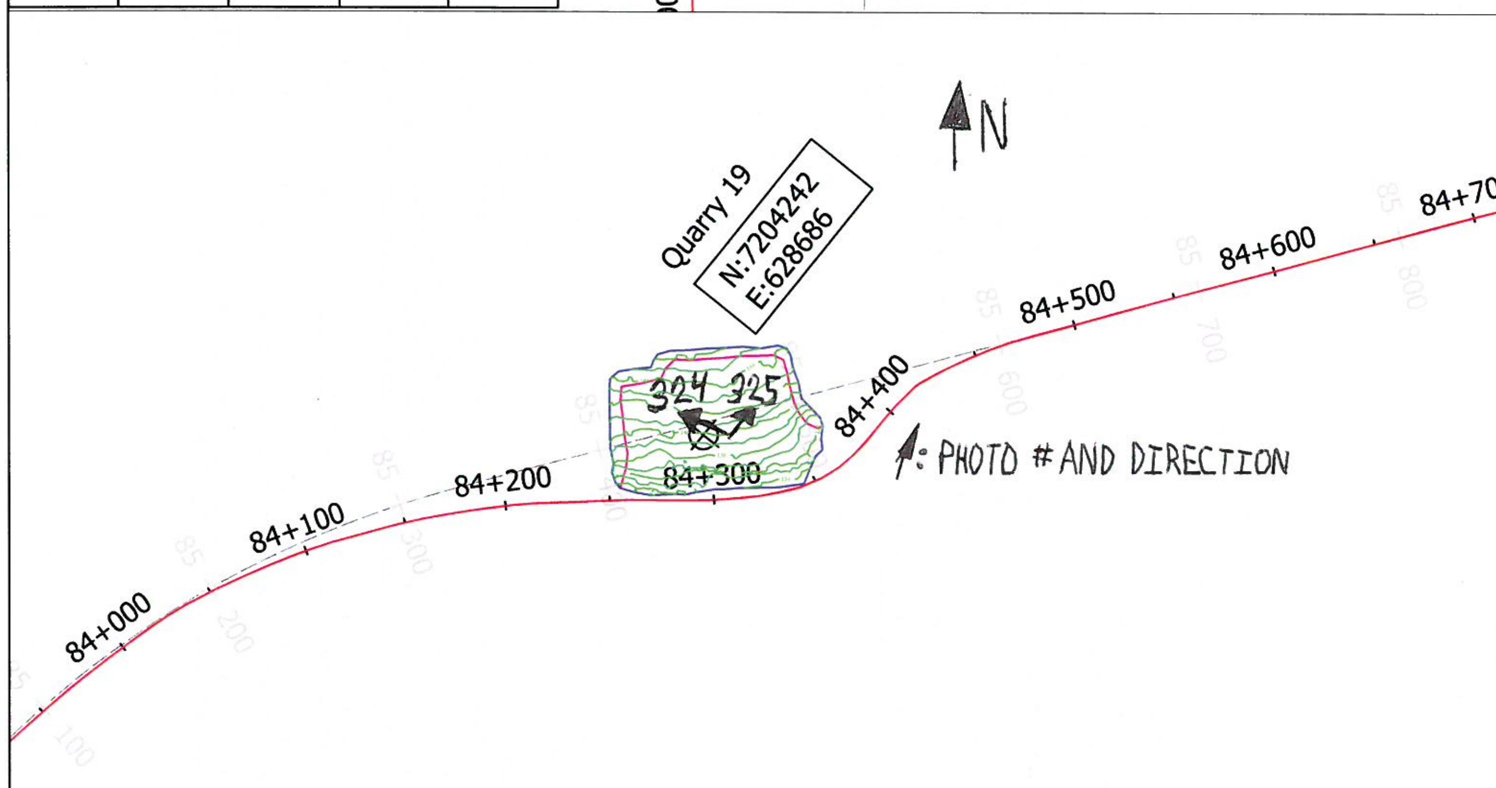
Scale	Drawn by	Checked by	Date
NTS	MC	CG/HB	May 3, 2008



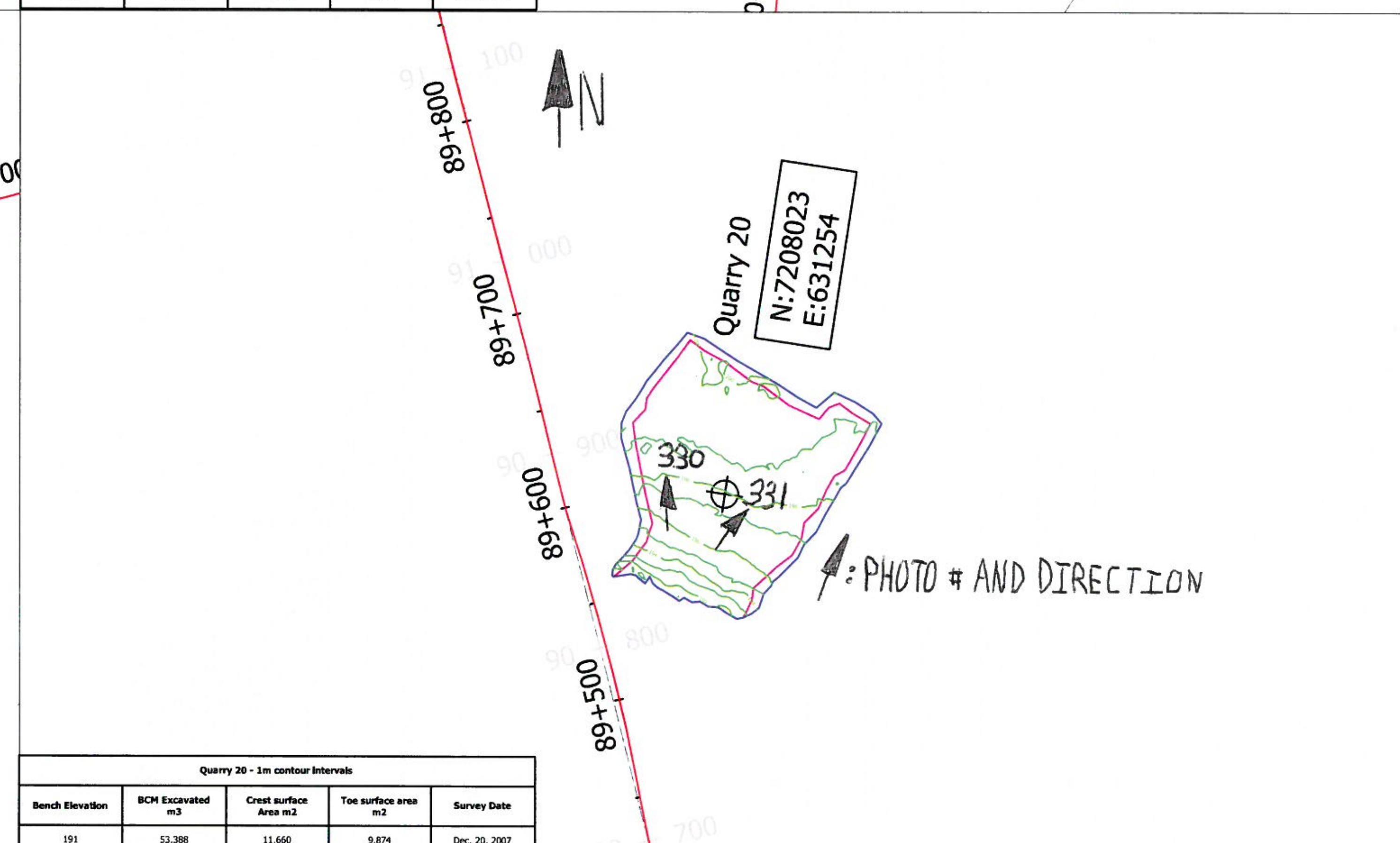
Quarry 17 - 1m contour intervals				
Bench Elevation	BCM Excavated m3	Crest surface Area m2	Toe surface area m2	Survey Date
124	48,539	12,363	10,958	Oct. 17, 2007



Quarry 18 - 1m contour intervals				
Bench Elevation	BCM Excavated m3	Crest surface Area m2	Toe surface area m2	Survey Date
129	46,094	8,419	7,099	Nov. 7, 2007



Quarry 19 - 1m contour intervals				
Bench Elevation	BCM Excavated m3	Crest surface Area m2	Toe surface area m2	Survey Date
133	34,480	6,230	5,286	Dec. 1, 2007



Quarry 20 - 1m contour intervals				
Bench Elevation	BCM Excavated m3	Crest surface Area m2	Toe surface area m2	Survey Date
191	53,388	11,660	9,874	Dec. 20, 2007

GOLDER DATA

LfLa-3 Existing Archeological site

Pit-13 Proposed Quarry Site

Existing Lake/Stream

R02 River crossing (crossing structure and dimension)

120 Existing major contour (10m Topo)

Existing minor contour (interpreted)

1+000 Proposed centerline of road

AS CONSTRUCTED DATA

172 Quarry original ground 2m major contour

Quarry original ground 1m minor contour

Crest boundary of quarry limit at original ground

Toe boundary of quarry excavation at bench grade

1+200 Centerline of road with 100m stations

R20 PC-1 River crossing-culvert 600mm/1200mm dia

R02 River Crossing-12m30m bridges

NOTES:

Quarry Data Summarized In Table 1

100m stations are referenced to 0+000 N 7135821.224 E 646026.187

Agnico-Eagle Mines Ltd

NUNAVUT

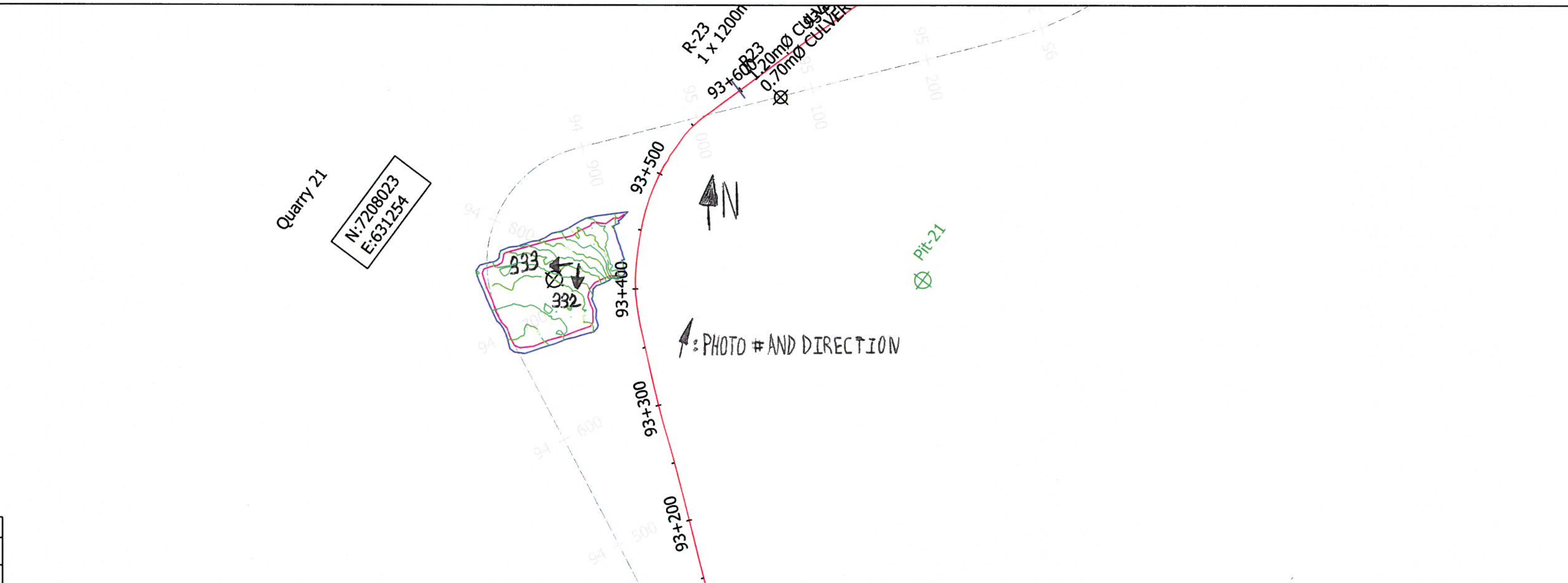
Meadowbank Gold Project
Tehek Access Road Construction

As constructed Quarry Drawing Figure 5

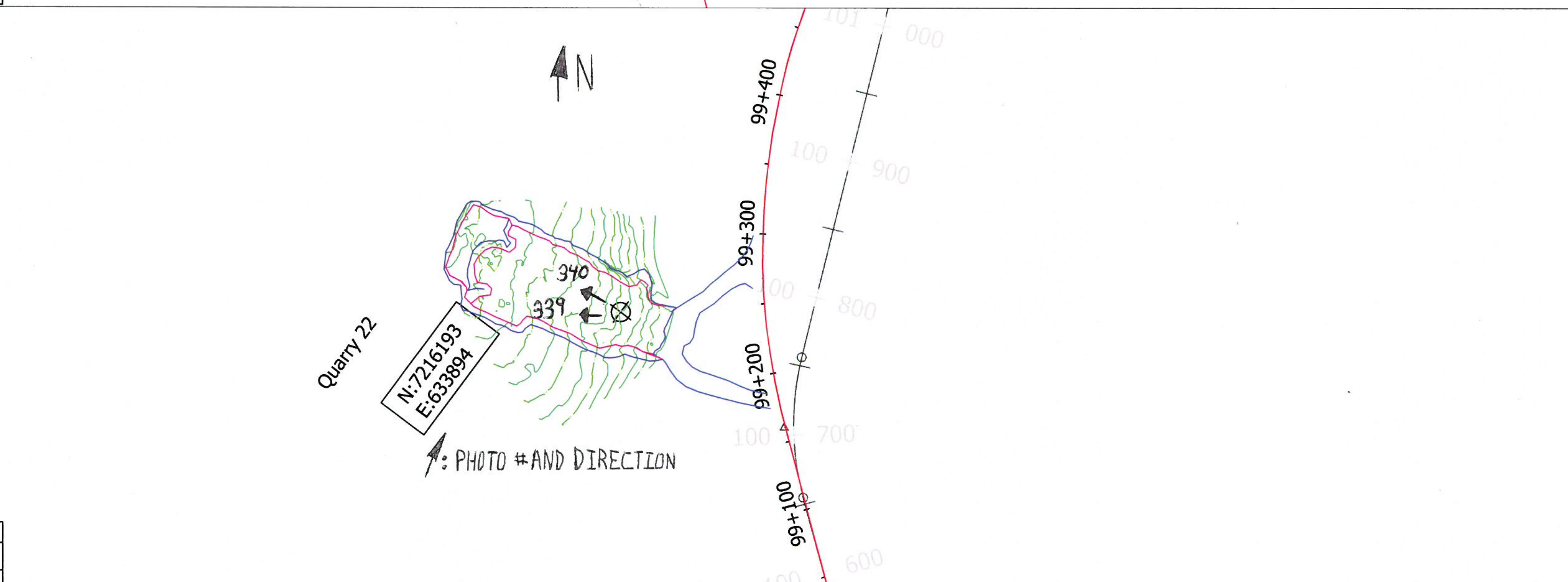
Drawing Title: Quarry 17 to Quarry 20

NUNA M & T SERVICES LTD.

Scale	Drawn by	Checked by	Date
NTS	MC	CG/HB	March 31, 2008



Quarry 20 - 1m contour intervals				
Bench Elevation	BCM Excavated m3	Crest surface Area m2	Toe surface area m2	Survey Date
167	55,360	9,096	7,732	Feb. 5, 2008



Quarry 22 Active Pit - 1m contour intervals				
Bench Elevation	BCM Excavated m3	Crest surface Area m2	Toe surface area m2	Survey Date
147	65,049	10,440	8,634	May 4, 2008

GOLDER DATA

LfLa-3	Existing Archeological site
Pit-13	Proposed Quarry Site
	Existing Lake/Stream
R02	River crossing (crossing structure and dimension)
120	Existing major contour (10m Topo)
	Existing minor contour (Interpreted)
1+000	Proposed centerline of road

AS CONSTRUCTED DATA

172	Quarry original ground 2m major contour
	Quarry original ground 1m minor contour
	Crest boundary of quarry limit at original ground
	Toe boundary of quarry excavation at bench grade
1+200	Centerline of road with 100m stations
R20 PC-1	River crossing-culvert 600mm/1200mm dia
R02	River Crossing-12m30m bridges

NOTES:

Quarry Data Summarized in Table 1

100m stations are referenced to 0+000 N 7135821.224 E 646026.187

Agnico-Eagle Mines Ltd

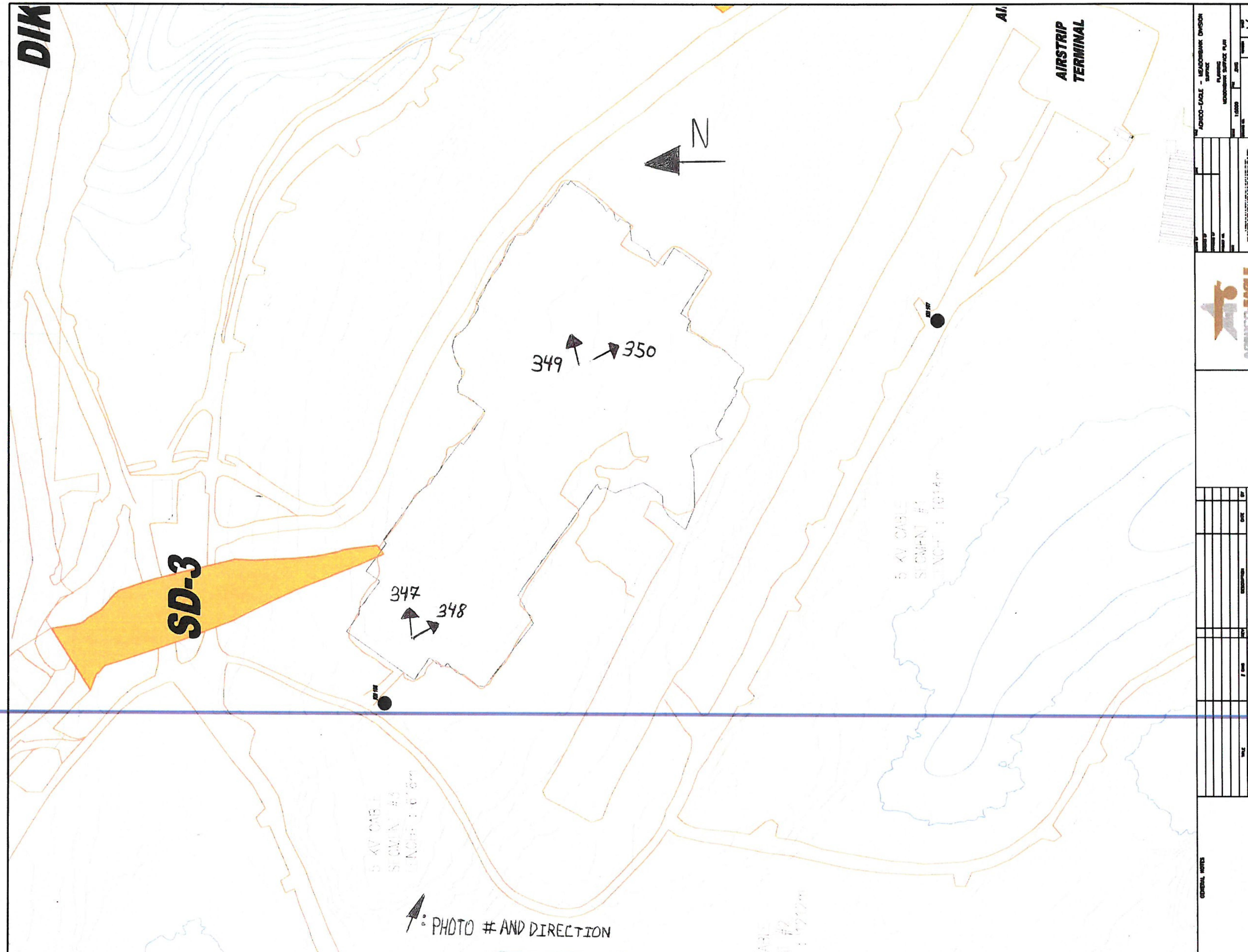
NUNAVUT

Meadowbank Gold Project
Tehek Access Road Construction

As constructed Quarry Drawing Figure 6

NUNA M & T SERVICES LTD.

Drawing Title:	Quarry 21 to Quarry 22		
Scale	Drawn by	Checked by	Date
NTS	MC	CG/HB	May 4, 2008



AIRSTRIP TERMINAL
N
349
350
347
348
SD-3
PHOTO # AND DIRECTION

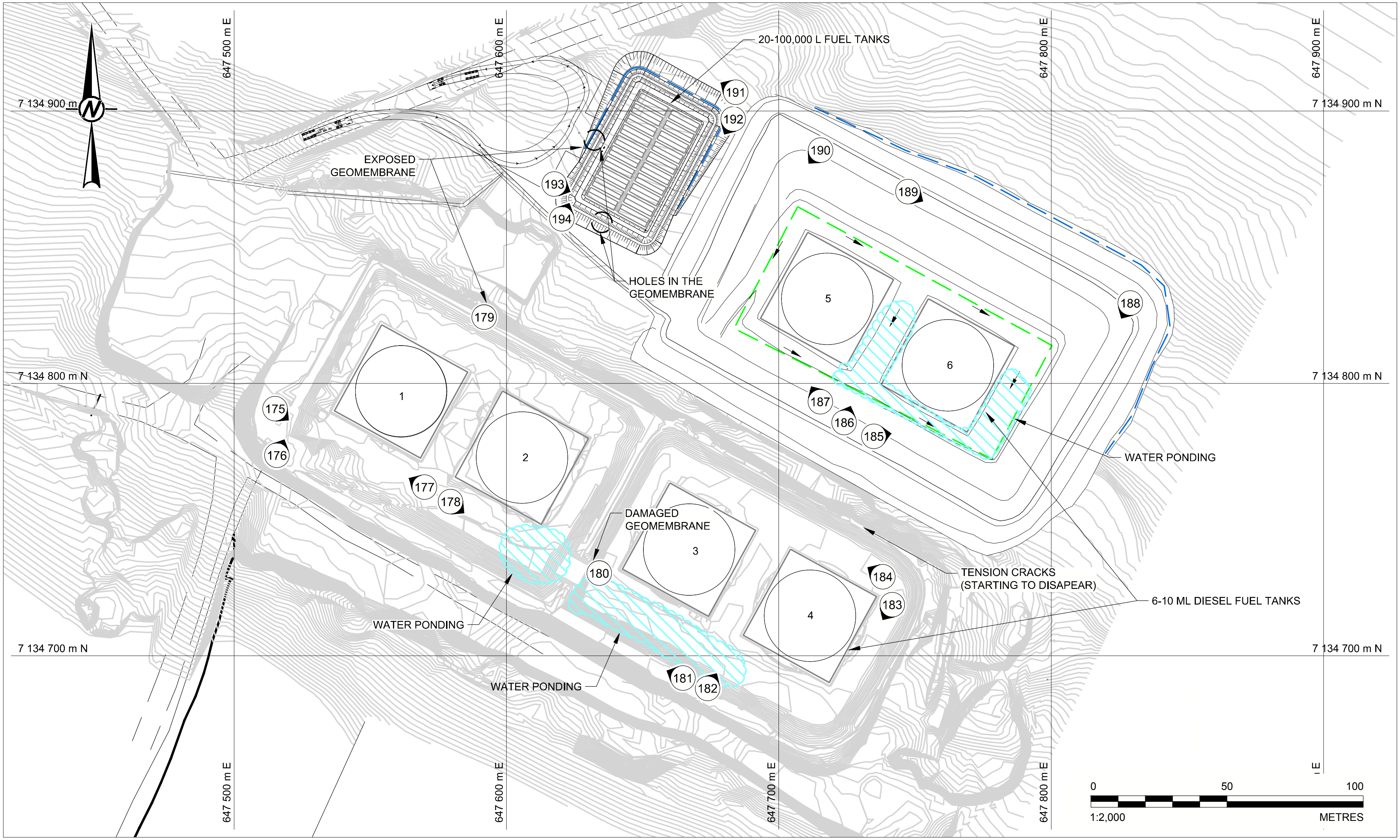
APPENDIX F

Bulk Fuel Storage Facilities

APPENDIX F1

Baker Lake Tank Farm Photographic Log

Path: \\golder.gds\gal\Montreal\SIG\CAD\PROJETS\AGNICO-EAGLE\MEADOWBANK\PRODUCTION\1535715\3000\ | File Name: 1535715-3000-01.dwg



LEGEND

1 IDENTIFICATION AND DIRECTION OF PHOTOGRAPHY TOOK DURING THE ANNUAL INSPECTION OF 2015

NOTE

GRID REFERENCE: NAD 83, UTM ZONE 14.

REFERENCE

BASE PLAN PROVIDED BY AEM LTD. IN “PORTAGE_GOOSE_VAULT_END2018_LOM2013_V4D-WITH LABEL.dwg, RECEIVED OCTOBER 7, 2013

CLIENT
AGNICO EAGLE

CONSULTANT
Golder Associates

YYYY-MM-DD	2015-12-11
PREPARED	F. L. Bolduc
DESIGN	R. Gravel
REVIEW	F. L. Bolduc
APPROVED	Y. Boulianne

PROJECT
2015 ANNUAL GEOTECHNICAL INSPECTION
MEADOWBANK GOLD MINE, NUNAVUT

TITLE
TANK FARM BAKER LAKE
PHOTOGRAPHS LOCATION

PROJECT No.	PHASE	Rev.	FIGURE
1535715	3000	0	F1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A
25 mm
0

Photograph F1-1 Baker Lake Tank Farm

Date: September 1, 2015 **Photo Number**: 175

Description: From the south side of Tank 1, looking southeast at Tanks 1, 2, 3, and 4.

Photograph F1-2 Baker Lake Tank Farm

Date: September 1, 2015 **Photo Number**: 176

Description: Looking at the southwestern corner of Tank 1.

Photograph F1-3 Baker Lake Tank Farm

Date: September 1, 2015 **Photo Number**: 179

Description: Unprotected exposed geomembrane at the base of the slope separating the lower and upper tank. The exposed area is located at the base of the slope between Tanks 1 and 2.

Photograph F1-4 Baker Lake Tank Farm

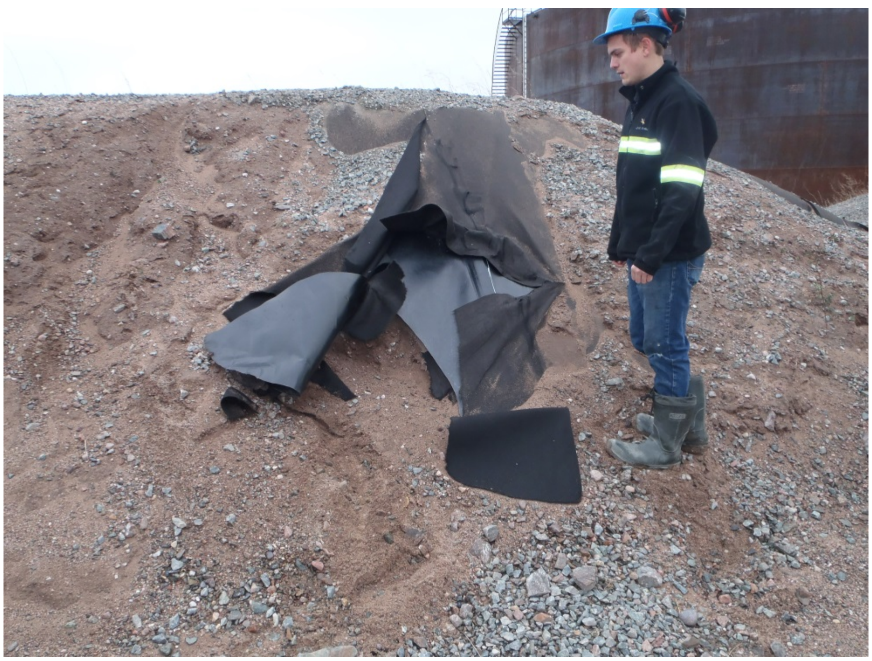
Date: September 1, 2015 **Photo Number**: 177

Description: Looking northwest toward the south side of Tanks 1.

Photograph F1-5 Baker Lake Tank Farm

Date: September 1, 2015 **Photo Number**: 178

Description: Looking northeast toward the south side of Tanks 3 and 4. Some water ponding.



Photograph F1-6 Baker Lake Tank Farm

Date: September 1, 2015 **Photo Number**: 180

Description: The geomembrane between the south side of tank 2 and 3 is damaged.

Photograph F1-7 Baker Lake Tank Farm

Date: September 1, 2015 **Photo Number**: 181

Description: From the southeastern corner of Tank 3, looking northwest at the south side of Tank 3, 2 and 1. Presence of water ponding.

Photograph F1-8 Baker Lake Tank Farm

Date: September 1, 2015 **Photo Number**: 182

Description: From the south portion of the site looking north at the south side of Tank 3, 4, 5 and 6.Presence of water ponding.

Photograph F1-9 Baker Lake Tank Farm

Date: September 1, 2015 **Photo Number**: 183

Description: From the northeastern corner of Tank 4 looking southwest toward Tank 4.

Photograph F1-10 Baker Lake Tank Farm

Date: September 1, 2015 **Photo Number**: 184

Description: From the northern side of Tank 4, looking northwest toward Tanks 4,3,2, and 1.

Photograph F1-11 Baker Lake Tank Farm

Date: September 1, 2015 **Photo Number**: 187

Description: Looking northwest at the southern and western sides of Tank 5.

Photograph F1-12 Baker Lake Tank Farm

Date: September 1, 2015 **Photo Number**: 186

Description: Looking north between Tanks 5 and 6. Presence of water ponding.

Photograph F1-13 Baker Lake Tank Farm

Date: September 1, 2015 **Photo Number**: 185

Description: Looking northwest at the southern side of Tank 6. Presence of water ponding.

Photograph F1-14 Baker Lake Tank Farm

Date: September 1, 2015 **Photo Number**: 188

Description: From the northeastern corner of Tank 6 looking south at Tanks 6, 4 and 3. Presence of water ponding.

Photograph F1-15 Baker Lake Tank Farm

Date: September 1, 2015 **Photo Number**: 189

Description: From the northern side of Tank 5 looking southeast at the northern side of Tanks 6. Presence of water ponding.

Photograph F1-16 Baker Lake Tank Farm

Date: September 1, 2015 **Photo Number**: 190

Description: From the northwestern corner of Tank 5 looking southwest at Tanks 5, 1, and 2.

Photograph F1-17 Baker Lake Tank Farm

Date: September 1, 2015 **Photo Number**: 192

Description: From the northeastern corner of the Jet A fuel tanks looking south. Presence of exposed geomembrane.

Photograph F1-18 Baker Lake Tank Farm

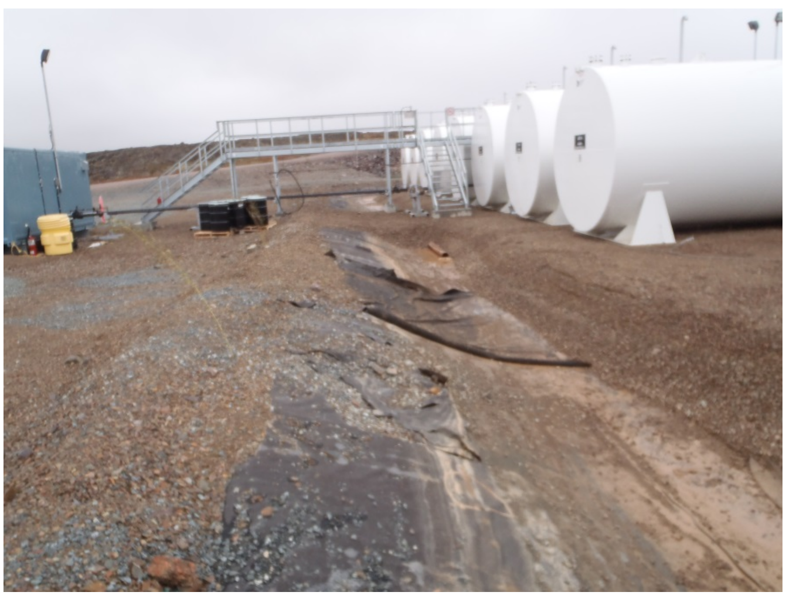
Date: September 1, 2015 **Photo Number**: 191

Description: From the northeastern corner of the Jet A fuel tanks looking northeast. Presence of exposed geomembrane.

Photograph F1-19 Baker Lake Tank Farm

Date: September 1, 2015 **Photo Number**: 193

Description: From the southwestern corner of the Jet A fuel tanks looking east. Presence of exposed geomembrane. Presence of holes in the geomembrane.



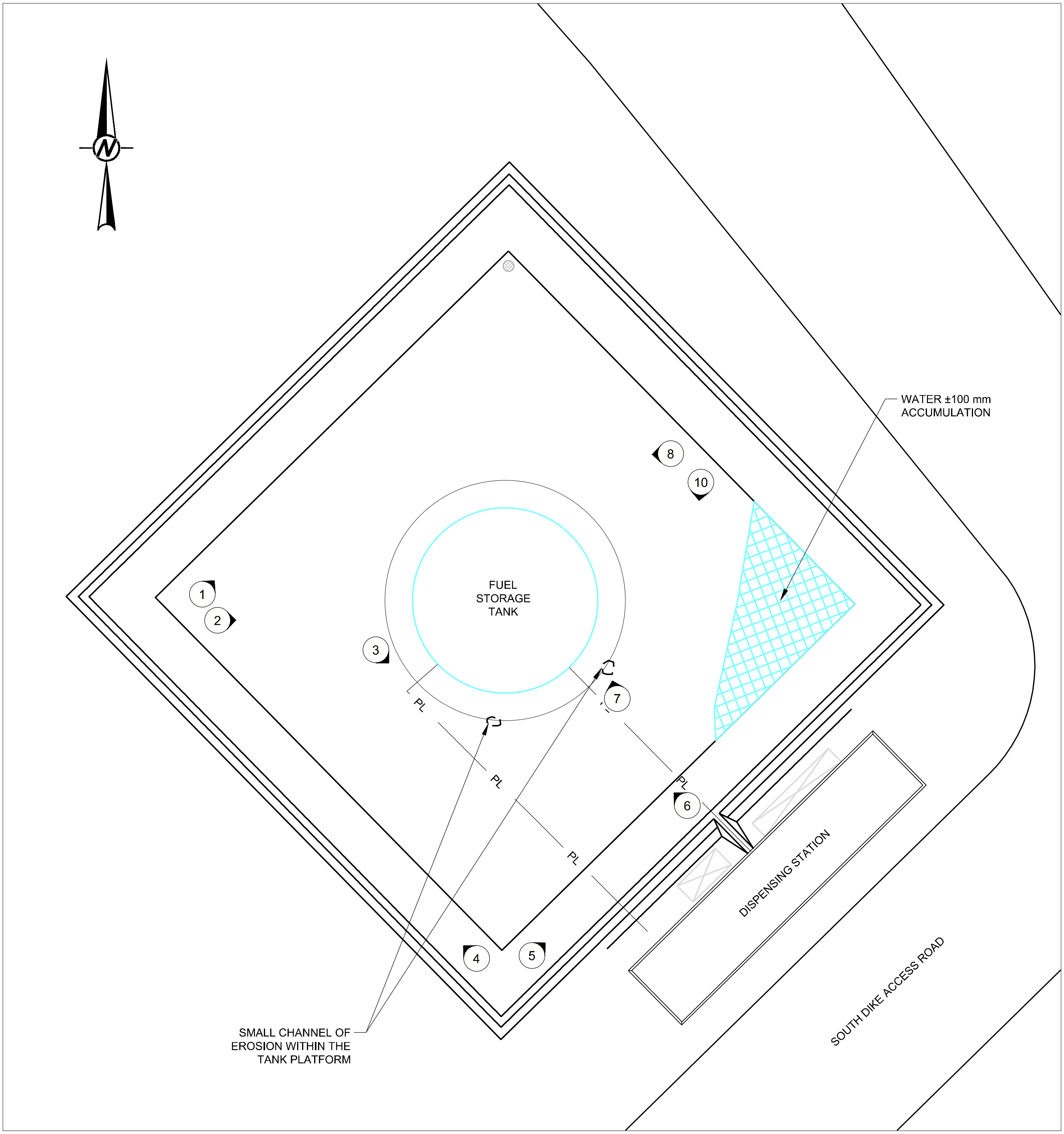
Photograph F1-20 Baker Lake Tank Farm

Date: September 1, 2015 **Photo Number**: 194

Description: From the southwestern corner of the Jet A fuel tanks looking north. Presence of exposed geomembrane. Presence of holes in the geomembrane.

APPENDIX F2

Meadowbank Tank Farm Photographic Log



LEGEND

1 — IDENTIFICATION AND DIRECTION OF PHOTOGRAPHY TOOK DURING THE ANNUAL INSPECTION OF 2015

REFERENCE

BASE PLAN INFORMATIONS IS PROVIDED BY CUMBERLAND DATED FEBRUARY 03, 2008

0 12.5 25
1:750 METRES

CLIENT	AGNICO EAGLE	PROJECT	2015 ANNUAL GEOTECHNICAL INSPECTION MEADOWBANK GOLD MINE, NUNAVUT
CONSULTANT: Golder Associates	YYYY-MM-DD	2015-12-11	TITLE: **TANK FARM MEADOWBANK PHOTOGRAPHS LOCATION**
	PREPARED	F. L. Bolduc	
	DESIGN	R. Gravel	
	REVIEW	F. L. Bolduc	PROJECT No. 1535715 — PHASE 3000 — Rev. 0 — FIGURE F2
	APPROVED	Y. Boulianne	

Photograph F2-1 Meadowbank Tank Farm

Date: August 28, 2015 **Photo Number**: 2

Description: From the western corner, looking east at the tank.

Photograph F2-2 Meadowbank Tank Farm

Date: August 28, 2015 **Photo Number**: 1

Description: From the western corner, looking northeast at the tank.

Photograph F2-3 Meadowbank Tank Farm

Date: August 28, 2015 **Photo Number**: 8

Description: From the eastern side, looking northwest.

Photograph F2-4 Meadowbank Tank Farm

Date: August 28, 2015 **Photo Number**: 10

Description: From the eastern side looking southwest. Notice the accumulation of water.

Photograph F2-5 Meadowbank Tank Farm

Date: August 28, 2015 **Photo Number**: 5

Description: Looking northeast from the southern corner. Notice the accumulation of water in the eastern corner.

Photograph F2-6 Meadowbank Tank Farm

Date: August 28, 2015 **Photo Number**: 4

Description: Looking northwest from the southern corner.

Photograph F2-7 Meadowbank Tank Farm

Date: August 28, 2015 **Photo Number**: 6

Description: Looking northwest from the northeastern side. Presence of an accumulation of water

Photograph F2-8 Meadowbank Tank Farm

Date: August 28, 2015 **Photo Number**: 3

Description: From the southwestern side of the Tank, looking southeast. Presence of sign of settlement.

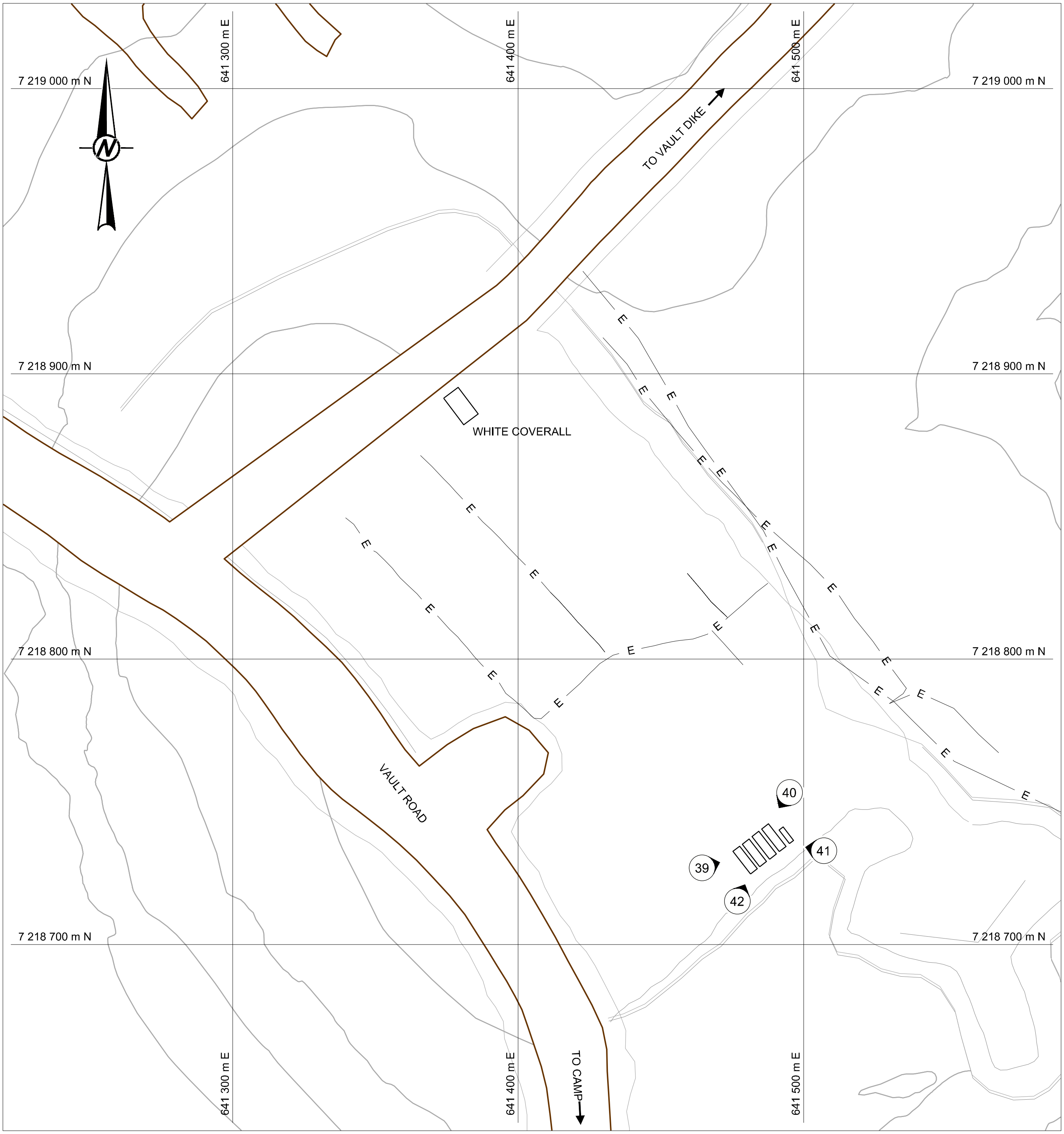
Photograph F2-9 Meadowbank Tank Farm

Date: August 28, 2015 **Photo Number**: 7

Description: From the southeast corner of the Tank, looking northeast. Presence of a small channel of erosion that should be repaired.

APPENDIX F3

Vault Tank Farm Photographic Log



LEGEND

1 IDENTIFICATION AND DIRECTION OF PHOTOGRAPHY TOOK DURING THE ANNUAL INSPECTION OF 2015

REFERENCE

BASE PLAN INFORMATIONS IS PROVIDED BY CUMBERLAND DATED FEBRUARY 03, 2008

0 50 100

1:2,000 METRES

CLIENT
AGNICO EAGLE

PROJECT
2015 ANNUAL GEOTECHNICAL INSPECTION
MEADOWBANK GOLD MINE, NUNAVUT

CONSULTANT

Golder Associates

YYYY-MM-DD	2015-12-11
PREPARED	F. L. Bolduc
DESIGN	R. Gravel
REVIEW	F. L. Bolduc
APPROVED	Y. Boulianne

TITLE
VAULT TANK FARM
PHOTOGRAPHS LOCATION

PROJECT No.	PHASE	Rev.	FIGURE
1535715	3000	0	F3

Photograph F3-1 Vault Tank Farm

Date: September 1, 2015 **Photo Number**: 41

Description: From the east corner of the Tanks looking northwest toward the Vault Tank Farm.

Photograph F3-2 Vault Tank Farm

Date: September 1, 2015 **Photo Number**: 39

Description: From the west corner of the Tanks Looking northeast toward the Vault Tank Farm.

Photograph F3-3 Vault Tank Farm

Date: September 1, 2015 **Photo Number**: 42

Description: From the south corner of the Tanks Looking northeast toward the Vault Tank Farm.

Photograph F3-4 Vault Tank Farm

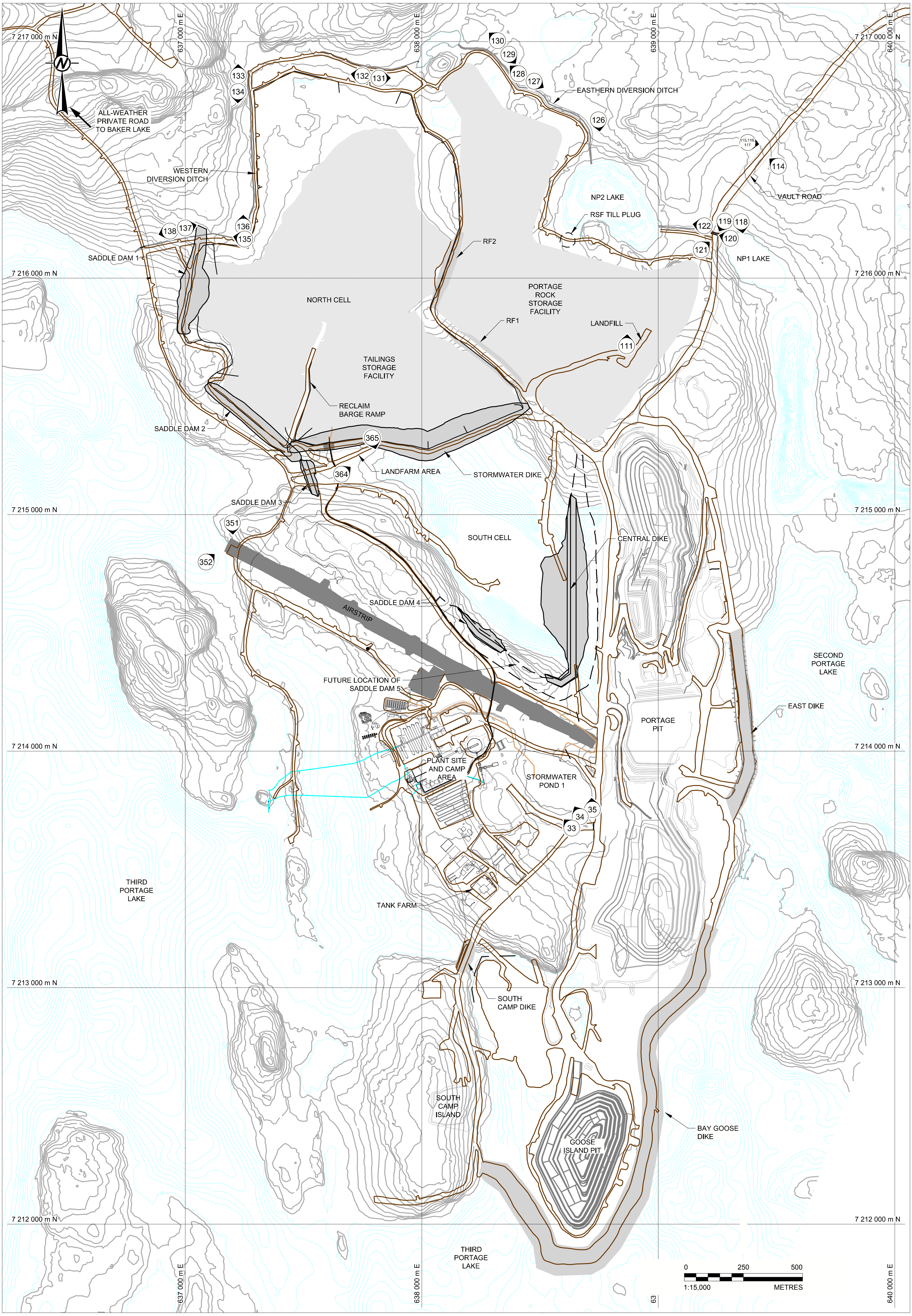
Date: September 1, 2015 **Photo Number**: 40

Description:From the north corner of the Tanks looking southwest toward the Vault Tank Farm.

APPENDIX G

Other Site Facilities

Path: \\golder.gds\gal\Montreal\SIG\CAD\PROJETS\AGNICO-EAGLE\MEADOWBANK\PRODUCTION\1535715\3000\ | File Name: 1535715-3000-01.dwg



IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25 mm

LEGEND

	BATHYMETRIC MAJOR CONTOURS
	TOPOGRAPHIC CONTOUR
1	IDENTIFICATION AND DIRECTION OF PHOTOGRAPHY TOOK DURING THE ANNUAL INSPECTION OF 2015

NOTE

GRID REFERENCE: NAD 83, UTM ZONE 14.

REFERENCE

DRAWING BASE PROVIDED BY AEM LTD., MEADOWBANK DIVISION IN "MBK Site map updated JULY 2014.dwg" DATED JULY 8, 2014.

CLIENT
AGNICO EAGLE

PROJECT
2015 ANNUAL GEOTECHNICAL INSPECTION
MEADOWBANK GOLD MINE, NUNAVUT

CONSULTANT

Golder Associates

YYYY-MM-DD	2015-12-11
PREPARED	F. L. Bolduc
DESIGN	R. Gravel
REVIEW	F. L. Bolduc
APPROVED	Y. Boulianne

TITLE
MEADOWBANK MINE SITE PHOTOGRAPHS LOCATION

PROJECT No.	PHASE	Rev.	FIGURE
1535715	3000	0	G1

APPENDIX G1

Vault Road Culverts Photographic Log

Photograph G1-1 Vault Road Culverts

Date: August 31, 2015 **Photo Number**: 121

Description: Looking at the inlet of the two culverts for NP2 exit to the environment on Vault Road (near the waste rock pile at 639214E/7216189N). The SW culvert is entirely obstructed by rockfill.

Photograph G1-2 Vault Road Culverts

Date: August 31, 2015 **Photo Number**: 119

Description: Looking at the outlet of the two culverts for NP2 exit to the environment on Vault Road (near the waste rock pile at 639214E/7216189N). The outlet is partially obstructed and the end of the NE culvert is broken.

Photograph G1-3 Vault Road Culverts

Date: August 31, 2015 **Photo Number**: 120

Description: Looking at the outlet of the two culverts for NP2 exit to the environment on Vault Road (near the waste rock pile at 639214E/7216189N). The outlet is partially obstructed with boulders.

Photograph G1-4 Vault Road Culverts

Date: August 31, 2015 **Photo Number**: 114

Description: Looking at the outlet of the three culverts located on Vault Road at 640964E/7217466N. All of them are deformed in the middle.

Photograph G1-5 Vault Road Culverts

Date: August 31, 2015 **Photo Number**: 115

Description: From the inlet side of the three culverts located on Vault Road at 640964E/7217466N. Looking inside the northern culvert. The culvert is slightly deformed on top in the middle.

Photograph G1-6 Vault Road Culverts

Date: August 31, 2015 **Photo Number**: 116

Description: From the inlet side of the three culverts located on Vault Road at 640964E/7217466N. Looking inside the central culvert. The culvert is slightly deformed on top in the middle.

Photograph G1-7 Vault Road Culverts

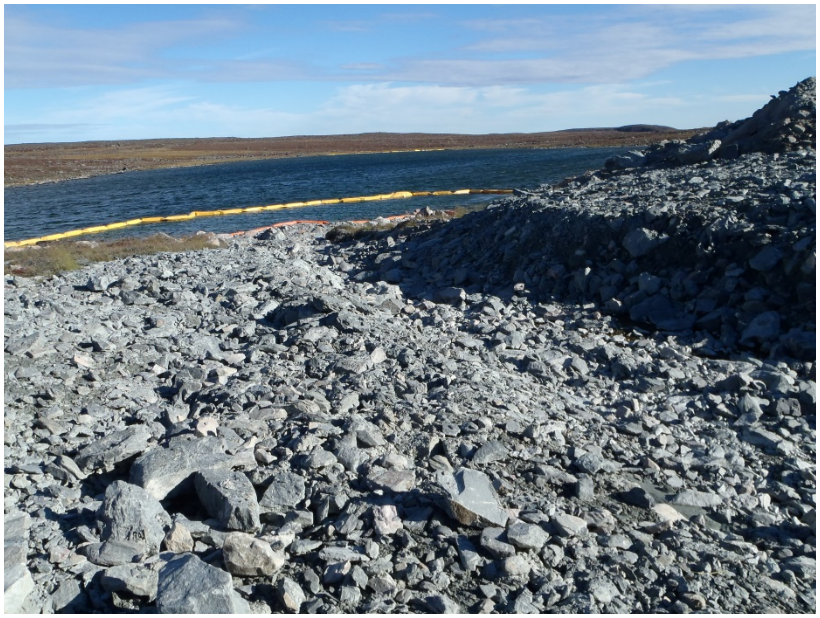
Date: August 31, 2015 **Photo Number**: 117

Description: From the inlet side of the three culverts located on Vault Road at 640964E/7217466N. Looking inside the southern culvert. The culvert is slightly deformed on top in the middle.

n:\actif\2015\3 proj\1535715 aem inspection geotechnical 2015 meadowbank\5 preparation of deliverables\1533-2015 geotech inspec\rev0\appendix g - other site facilities\g1-vault road culv photo log.docx

APPENDIX G2

Diversion Ditch and Sediment and Erosion Control Structure Photographic Log



Photograph G2-1 Diversion Ditch and its Sediment and Erosion Protection Structure

Date: August 30, 2015 **Photo Number**: 118

Description: Looking south toward Lake NP1 at the sediment and erosion protection structure.

Photograph G2-2 Diversion Ditch and its Sediment and Erosion Protection Structure

Date: August 30, 2015 **Photo Number**: 122

Description: Near the culvert between Lake NP2 and Lake NP1 looking northwest at the diversion ditch toward Lake NP2.

Photograph G2-3 Diversion Ditch and its Sediment and Erosion Protection Structure

Date: August 30, 2015 **Photo Number**: 126

Description: From the northern diversion ditch (638710E/7216493N), looking southeast toward Lake NP2 and the installed sediment barrier.

Photograph G2-4 Diversion Ditch and its Sediment and Erosion Protection Structure

Date: August 30, 2015 **Photo Number**: 127

Description: From the northern diversion ditch (638709E/7216571N) looking southeast toward Lake NP2.

Photograph G2-5 Diversion Ditch and its Sediment and Erosion Protection Structure

Date: August 30, 2015 **Photo Number**: 128

Description: From the northern diversion ditch (638709E/7216571N) looking northwest.

Photograph G2-6 Diversion Ditch and its Sediment and Erosion Protection Structure

Date: August 30, 2015 **Photo Number**: 129

Description: From the northern diversion ditch (638396E/7216813N) looking southeast.

Photograph G2-7 Diversion Ditch and its Sediment and Erosion Protection Structure

Date: August 30, 2015 **Photo Number**: 130

Description: From the northern diversion ditch (638396E/7216813N) looking northwest.

Photograph G2-8 Diversion Ditch and its Sediment and Erosion Protection Structure

Date: August 30, 2015 **Photo Number**: 131

Description: From 637919E/7216884N, looking east at the northern diversion ditch.

Photograph G2-9 Diversion Ditch and its Sediment and Erosion Protection Structure

Date: August 30, 2015 **Photo Number**: 132

Description: From 637919E/7216884N, looking west at the northern diversion ditch.

Photograph G2-10 Diversion Ditch and its Sediment and Erosion Protection Structure

Date: August 30, 2015 **Photo Number**: 133

Description: From 637281E/7216790N, looking north. View of the western and northern diversion ditch.

Photograph G2-11 Diversion Ditch and its Sediment and Erosion Protection Structure

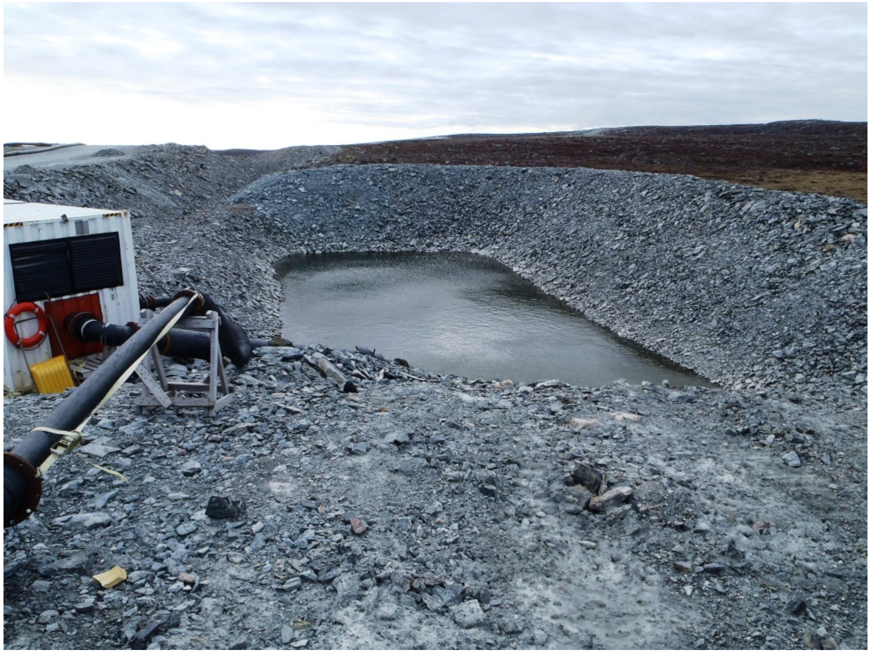
Date: August 30, 2015 **Photo Number**: 134

Description: From 637281E/7216790N, looking south at the western diversion ditch.

Photograph G2-12 Diversion Ditch and its Sediment and Erosion Protection Structure

Date: August 30, 2015 **Photo Number**: 136

Description: From 637251E/7216171N, looking north at the western diversion ditch.



Photograph G2-13 Diversion Ditch and its Sediment and Erosion Protection Structure

Date: August 30, 2015 **Photo Number**: 135

Description: From 637251E/7216171N, looking west at the western diversion ditch and its retention bassin.

Photograph G2-13 Diversion Ditch and its Sediment and Erosion Protection Structure

Date: August 30, 2015 **Photo Number**: 137

Description: From 637074E/7216157N, looking east at the western diversion ditch.

Photograph G2-14 Diversion Ditch and its Sediment and Erosion Protection Structure

Date: August 30, 2015 **Photo Number**: 138

Description: From 637074E/7216157N, looking west at the western diversion ditch.

n:\actif\2015\3 proj\1535715 aem inspection geotechnical 2015 meadowbank\5 preparation of deliverables\1533-2015 geotech inspec\rev0\appendix g - other site facilities\g2-diversion ditch photo log.docx

APPENDIX G3

Diffusers Photographic Log

Photograph G3-1 Diffusers – Wally Lake Diffuser

Date: August 28, 2015 **Photo Number**: 43

Description: Looking at the Wally Lake Diffuser (15W 360722E/7220603N).

n:\actif\2015\3 proj\1535715 aem inspection geotechnical 2015 meadowbank\5 preparation of deliverables\1533-2015 geotech inspec\rev0\appendix g - other site facilities\g3-diffusers photo log.docx

APPENDIX G4

Landfill Photographic Log

Photograph G4-1 Landfill

Date: August 29, 2015 **Photo Number**: 111

Description: Looking north toward the landfill (located at 638857E/7215767N).

n:\actif\2015\3 proj\1535715 aem inspection geotechnical 2015 meadowbank\5 preparation of deliverables\1533-2015 geotech inspec\rev0\appendix g - other site facilities\g4 - landfill photographic log.docx

APPENDIX G5

Contaminated Soil Storage and Bioremedial Landfarm Facility Photographic Log

Photograph G5-1 Contaminated Soil Storage and Bioremedial Landfarm Facility

Date: September 2, 2015 **Photo Number**: 365

Description: From 637795E/7215278N looking southeast at the Contaminated Soil Storage and Bioremedial Landfarm Facility located within the South Cell of the TSF.

Photograph G5-2 Contaminated Soil Storage and Bioremedial Landfarm Facility

Date: September 2, 2015 **Photo Number**: 364

Description: From 637660E/7215226N looking northeast at the Contaminated Soil Storage and Bioremedial Landfarm Facility located within the South Cell of the TSF.

APPENDIX G6

Stormwater Management Pond Photographic Log

Photograph G6-1 Stormwater Pond

Date: August 28, 2015 **Photo Number**: 33

Description: From the base of the crusher access ramp, looking northwest at Stormwater Pond and the crusher access ramp.

Photograph G6-2 Stormwater Pond

Date: August 28, 2015 **Photo Number**: 34

Description: From the base of the crusher access ramp, looking north at Stormwater Pond.

Photograph G6-3 Stormwater Pond

Date: August 28, 2015 **Photo Number**: 35

Description: From the base of the crusher access ramp, looking north at Stormwater Pond.

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APPENDIX G7

Airstrip Photographic Log

Photograph G7-1 Airstrip

Date: September 2, 2015 **Photo Number**: 351

Description: Looking south at the extremity of the airstrip located within Third Portage Lake.

Photograph G7-2 Airstrip

Date: September 2, 2015 **Photo Number**: 352

Description: Looking north at the extremity of the airstrip located within Third Portage Lake.

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AGNICO EAGLE

March-29-16

Ms. Phyllis Beaulieu
Licensing Administrator
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU
X0B 1J0
(867) 360-6338

Re: Meadowbank Water License 2AM-MEA1525 Part I, Item 11 – 2015 Annual Geotechnical Inspection Report

Dear Ms. Beaulieu,

Agnico Eagle Mine Ltd. received the report "*2015 Annual Geotechnical Inspection Meadowbank Gold Mine, Nunavut*". An electronically and paper copy of this report will be send to your office via Xpresspost, as required by Water license 2AM-MEA1525 Part I, Item 11, as an Appendix of the 2015 Annual Report due on March 31st, 2015.

Please consider the following information as the implementation plan to address the recommendations in Section 9.0 of the report.

Regards,
Agnico Eagle Mines Limited – Meadowbank Division

Manon Turmel
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Table of Contents

1 DEWATERING DIKES

Recommendation: The most current versions of the Operation, Maintenance and Surveillance (OMS) Manual (AEM, 2015), including the Emergency Preparedness Plan (EPP), and of the overall Emergency Response Plan (ERP) for the mine (AEM, 2014) are dated January 2015 and November 2014. Golder considers that it is good practice to keep these documents up to date.

> *Action: AEM will continue to keep the Dewatering Dikes OMS Manuel up to date. The last update of the Dewatering Dikes OMS Manuel is dated March 2016. The last update of the ERP is dated November 2014.*

Recommendation: The condition of the dewatering dikes is regularly inspected by the mine and this practice should continue.

> *Action: As stated in the Dewatering Dikes OMS manual, AEM will continue to inspect and monitor all the dewatering dikes on a monthly basis.*

1.1 East Dike

Recommendation: Regular monitoring and assessment of the monitoring data (piezometric, thermal, inclinometer, flow meter and seismograph) should continue. It is recommended to flag the piezometers that recorded data below 0°C in the past and be very careful when interpreting their data as they might be broken.

> *Action: The monitoring and data interpretation of the instrumentation at East Dike is done on a regular basis and will continue. A dewatering dike instrumentation report is prepared every month by the engineering department*

1.2 South Camp Dike

Recommendation: It is recommended to continue keeping the downstream toe of the dike clear to facilitate inspection. The nearby ultramafic rock dump should not obstruct the toe of the dike.

> *Action: The nearest NPAG material placed on the downstream side of the South Camp Dike is at a distance of 10 m from the toe of the dike, in order to keep the area clear to facilitate inspection.*

1.3 Bay-Goose Dike

<u>Recommendation</u>: The safety berms should be replaced on several areas of Bay-Goose Dike.

> *<u>Action</u>: The safety berms that are missing on the Bay Goose dike are on the lake side (upstream) which is not acting as an access road anymore. The access to the dike is restricted for inspection purposes only, so the berms are not necessary and will not be re-constructed.*

<u>Recommendation:</u> The tension cracks observed in 2013 and 2014 on the upstream side within the thermal cap were still visible during the 2015 inspection but did not show signs of progression. The settlement within the thermal cap was observed but did not show any additional sign of movement since 2013. The area should continue to be closely monitored to make sure there are no aggravating conditions developing.

> *<u>Action</u>: The monitoring of the entire dike will continue on a regular basis, emphasis will be put on the spring freshet period. Visual inspection is performed every week during that period.*

<u>Recommendation</u>: Regular monitoring and assessment of the monitoring data (piezometric, flow, thermal, inclinometer, and seismograph associated with blasting and seepage) occurs and should continue.

> *<u>Action</u>: The monitoring of the instrumentation at Bay Goose Dike is done on a regular basis and will continue. As for the monuments, they will not be read in the future as no movements of the stations are possible since they were anchored in bedrock.*

<u>Recommendation</u>: It is recommended to flag the piezometers that recorded data below 0°C in the past and be very careful when interpreting their data as they might be broken. Once a piezometer has frozen, it cannot be relied upon even if it unfroze.

> *<u>Action</u>: The monitoring of the instrumentation at Bay Goose Dike is completed on a regular basis and will continue. A register of all the broken instruments is filed on a monthly basis in the Dewatering dikes instrumentation report.*

Recommendation: Water ponds were observed at the downstream toe during the inspection. It is recommended to continue monitoring the elevation of these ponds and pumping out the water to allow for good visual inspection of the dike's downstream toe. The flow of pond formed by seepage should be monitored and recorded.

> *Action: The monitoring of the water ponds at the downstream toe of the dike will continue on a regular basis during the open water season. Pumping of the ponds is done as needed, normally 3-4 times during open water season depending on rain events.*

Recommendation: The overall seepage is less than anticipated and is not a concern for now. The seepage downstream of Bay-Goose Dike and in Bay-Goose Pit should continue to be monitored. The seepage at the downstream toe is currently too small to require a year-round collection system, but if the condition changes such a system might be required.

> *Action: The monitoring and flow measurement of the seepages along the downstream toe will continue as a part of our regular inspection and daily routine. As the mining activities have ceased in the Goose Pit, the water from seepage is directed to the Goose Pit.as part of the reflooding process.*

Recommendation: North Channel, Channel 1 and Channel 3 should be carefully monitored and inspected. Limited evidence of seepage is observed at the downstream toe of these channels. The instrumentation and field observations seem to indicate that seepage is occurring at these locations but is directly reported to Bay-Goose Pit instead of the downstream toe area. The seepage being reported to Bay-Goose Pit should be included in the statistics of Bay-Goose Dike seepage.

> *Action: Water inflow from the bedrock formations in the Goose pit (not considered as seepage) is coming from various locations around the pit and is not always associated with the Bay-Goose Dike. During mining operation at Goose pit, all the water from Goose pit was pumped into a collection sump and a flowmeter was installed on the pipe between this sump and the discharge in the Attenuation Pond. Therefore, it was not possible to differentiate the quantity of water coming from underneath the dike (seepage) with the water coming from the groundwater (talik). As the mining activities have ceased in the Goose pit, the water from some seepage and from the groundwater inflows are directed to*

Goose Pit as pumping is no longer required. Flooding rate is evaluated by scanning the Goose pit and monthly water volume evaluated with reflooding curve.

1.4 Vault Dike

Recommendation: Vault Dike was in good condition at the time of the inspection. The settlement and cracks observed in 2013 and 2014 were not noticeable anymore.

Action: The hole observed during the 2013 inspection was plugged before winter 2013 and no further issues were observed in 2014 in the area. The inspection and monitoring of the structure of the dike is done on a monthly basis and will continue.

Recommendation: Regular monitoring and assessment of the thermistor data should continue.

Action: The monitoring and data analysis of the instrumentation at Vault Dike is done on a weekly basis and will continue.

2 TAILINGS STORAGE FACILITY

<u>Recommendation</u>: The most current versions of the Operation, Maintenance and Surveillance (OMS) Manual (AEM, 2015b), including the Emergency Preparedness Plan (EPP), and of the overall Emergency Response Plan (ERP) for the mine (AEM, 2014) are dated January 2015 and November 2014. Golder considers it good practice to keep these documents up to date.

> *<u>Action</u>: The last update of the TSF OMS Manuel is dated March 2016. AEM will continue to keep the OMS Manual up to date. The last update of the ERP is dated February 2016.*

<u>Recommendation:</u> At the time of the inspection, the peripheral structure of the TSF had an adequate tailings beach against them. Some water was observed ponding against a portion of Stormwater Dike and Central Dike. Golder recommends continuing deposition of tailings along all peripheral dikes of the facility to distance the water prior to winter as per the design requirement, including the Stormwater Dike.

> *<u>Action</u>: The tailings deposition in the North Cell was completed in October 2015. The peripheral structures of the cell, including the Stormwater Dike presented adequate tailings beaches. It is also important to note that during the summer 2015, the water from the North Cell pond was transferred to the South Cell as the reclaim water system was located in the South Cell. Until North Cell TSF capping will be completed water elevation will be maintained under 148masl.*

<u>Recommendation</u>: AEM does not plan on maintaining a tailings beach against Stormwater Dike as part of their closure strategy for the North Cell. This may result in the bituminous liner being damaged and in seepage from the North Cell into the South Cell. As the South Cell is operational, the consequence of such seepage is minimized but yet considered as potential threat due to consequences of high volume rapid inflow within the South Cell and against the Central Dike. It is recommended to consider protecting the upstream face of Stormwater Dike from direct contact with the water.

> *<u>Action</u>: As part of the overall closure plan of the TSF a spillway will be designed and constructed that will convey water from the North to the South Cell. The Stormwater Dike integrity will be a key aspect considered in the design, as well as minimizing erosion and flow velocity.*

Recommendation: **Saddle Dam 1 has a permanent sump with a pump back system. For Saddle Dam 2, such a system is not considered necessary as no seepage is reported, but AEM should be prepared in case of any change especially since water has been observed ponding in the rockfill of SD2 during the inspection.**

> *Action: If required, a similar pumping system as the one located at Saddle Dam 1 would be installed at Saddle Dam 2. However, for now, a pumping system is not necessary at Saddle Dam 2.*

Recommendation: Regular visual inspection as well as collection and regular review of instrument data should continue for all structures within the TSF.

> *Action: Inspection of the TSF structures are conducted on a monthly basis and will continue.*

2.1 Saddle Dam 1

Recommendation: The environment department should continue monitoring the water quality and share this information with the engineering department to assess if there is seepage through Saddle Dam 1.

> *Action: The water quality is monitored at the downstream toe of Saddle Dam 1 (monitoring station ST-S-2). The water sampling is conducted monthly at ST-S-2 during open water season. The sampling results are reviewed by the environment department and shared with the engineering department.*

2.2 Saddle Dam 2

Recommendation: Water was observed on the downstream side ponding within the rockfill embankment between Sta. 20+275 to Sta. 20+475. It is recommended to be on the lookout for change of the thermal regime of its foundation and upstream toe from the installed thermistors.

<u>Action</u>: The results of the thermistors located in Saddle Dam 2 are reviewed on a regular basis to detect any change or anomaly in temperature trend within the structure. No trend indicating changes in the thermal regime of Saddle Dam 2 have been observed to date. Review of the thermistors results will continue.

2.3 Stormwater Dike

<u>Recommendation:</u> Water was observed ponding directly against Stormwater Dike from about 10+100 to 10+375. It is recommended to protect the upstream face of Stormwater Dike from direct water contact, especially if the tailings levels at closure in the North Cell and the South Cell remain different.

<u>Action</u>: The tailings deposition in the North Cell was completed in October 2015 and water level dropped under the beach elevation. The peripheral structures of the cell, including the Stormwater Dike presented adequate tailings beaches. It is also important to note that during the summer 2015, the water from the North Cell pond was transferred to the South Cell as the reclaim water system was located in the South Cell.

<u>Recommendation</u>: Differential settlement was still partly visible between Sta. 10+735 and Sta. 11+045 on the upstream edge and slope. There was no sign of degradation from last year's inspection.

<u>Action</u>: The depressions are visually monitored in the monthly dike inspection.

<u>Recommendation:</u> Very low seepage was observed in the downstream toe area at Sta.10+700 and Sta.10+900.

<u>Action</u>: The toe of the dike is visually inspected on a monthly basis and a visual water quality assessment is done during the inspection.

<u>Recommendation:</u> A water outcome (clear flow) was observed at the downstream toe at about Sta.10+560. It is recommended to test the quality of the water in order to determine its origin.

<u>Action</u>: No significant seepage from the Stormwater dike was observed during the regular inspections since the beginning of its operation. As the seepage

water is directed towards the South Cell basin, it was not necessary at this time to sample the water in 2015 during the open water season.

<u>Recommendation:</u> It was observed that a balloon filled with water was still present in the bituminous geomembrane at Sta.10+380. It is recommended to puncture a hole in the balloon to free the water and to repair it afterward.

<u>Action</u>: AEM does not consider this as a major concern. Repairs will be undertaken in summer, 2016.

2.4 Central Dike

<u>Recommendation</u>: Tailings deposition from Central Dike stopped during the raise of Central Dike in the summer 2015 but deposition was planned to resume in September 2015 to promote a tailings beach against that structure.

<u>Action</u>: The tailings deposition in the South Cell resumed on October 28th 2015.

<u>Recommendation</u>: Special attention will have to be taken to protect the instrumentation during the construction of Central Dike.

<u>Action</u>: Most of the instrumentation installed on Central Dike were automated in Dec. 2015 and now are regrouped inside a solid enclosure. The rest of the instruments will be protected with rock berms as the construction advances.

<u>Recommendation:</u> Clear water was observed ponding at the downstream toe of Central Dike between approximately Sta. 0+545 and 0+830. AEM is currently pumping that water back to the South Cell to control the water level in the downstream toe area (800 m3/hr). The instrumentation data and various observations on site confirmed that there is seepage from the South Cell accumulating in the downstream toe area of Central Dike. Golder recommends the following action in regard to this condition:

- **Continue to develop and maintain tailings beaches adjacent to Central Dike and to operate the reclaim pond towards the centre of the South Cell.**

- **Reduce the hydraulic gradient by raising the downstream water level to 115 m and maintain that level until the tailings deposition is completed. However, this mitigation may impact the thermal conditions beneath the West Road and along the pit (see Item 4 below).**
- **Extend the inverse filter from the downstream toe of Central Dike to the West Road.**
- **Monitor with instruments any mitigation measures to control how the conditions evolve (e.g. geophysical target, thermal conditions along Pits and beneath West Road).**
- **Regularly inspects Central Dike to ensure that no adverse situation is in development.**
- **Continue monitoring the quality of the water ponding, especially the turbidity.**

<u>Action</u>: As the deposition of tailings resumed in the South Cell, the tailings beach quickly raised in front of the Central Dike and the seepage rate gradually reduced to 400 m3/hr. According to the deposition plan, the beach will remain for the entire 2016 season. The level of the downstream pond is maintained since the end of October to a 115m elevation which is controlled by pumping the seepage water back to the South Cell. Daily inspection of the Central Dike downstream toe is done by the AEM personnel. A weekly sampling program has been implemented to follow up on the water quality of the seepage, as well as a daily turbidity assessment. All data is communicated to the Engineering department.
New instruments have been added to the West Road to monitor its condition and are read on a regular basis.

The extension of the inverse filters to the toe of the West Road will not be completed since no erosion of the till layer has been seen in that area. The toe of the West Road is entirely covered in water and will remain for the entire 2016 open water season.

3 AWAR

<u>Recommendation</u>: Regular inspections and maintenance of the road by AEM should continue. Consideration should be given to expanding AEM's monitoring program to include all culverts and bridges along the road to assess whether they are providing adequate capacity during the freshet and following large precipitation events.

> *<u>Action</u>: AWAR road crews remove ice and snow from all culverts and bridges before the freshet. Some culverts were added to prevent road washout. A weekly environmental inspection is conducted on the AWAR which includes all, the bridges and the culverts. Additional inspections on the bridges and culverts are also performed during the freshet period.*

<u>Recommendation</u>: AEM has been conducting regular and event-based inspections of the fish-bearing water crossing locations along the road and these should continue in order to confirm the hydraulic function of the crossings, adequacy of crossing locations with respect to the watercourses, and minimal impact to fish habitat.

> *<u>Action</u>: The environment department monitors and inspects the bridges during the weekly AWAR inspections. During freshet and summer periods, AEM conducts fish monitoring every two years. The fisheries monitoring program was conducted during summer 2015. Results of the program will be available in the Meadowbank Annual Report 2015.*

<u>Recommendation:</u> It is recommended to add protection to the existing fine granular material placed around culvert PC-17A (8+830) and PC-17 (8+850) to reduce the chance of erosion at next freshet. The progression of the erosion of culverts R14 (67+840), R18-B (80+950), R20 (85+490), R23 (93+600) and R24 (98+100) should also be monitored at freshet for sign of progression or washout.

> *<u>Action</u>: A weekly environmental inspection is conducted on the AWAR to inspect, , the bridges and the culverts. Additional inspections of the bridges and culverts are also performed during the freshet period to monitor signs of erosion and turbidity in the water. The Meadowbank Site Services Department also conducts inspections, especially during freshet period. Following the inspections, if work such as material placement for erosion control is deemed required around the*

culverts (stated in the above recommendation or for other culverts;, the work will be completed by AEM.

<u>Recommendation: </u>For some culvert locations, it is recommended that AEM conduct monitoring to see if flow is actually occurring through the culvert (i.e., during the freshet). If insufficient capacity to handle the flows is observed, or water is circulating under the road, then it is recommended to clear the obstructions or repair the culverts. Particular attention should be paid to R-00A (km 2+550), the culvert at (5+700), PC-14 (km 4+260), and PC-16 (km 54+950).

<u>Action</u>: The AWAR road crew removes ice and snow from all culverts and bridges before the freshet to ensure water flow. Some culverts were added to prevent road washout from occurring. A weekly environmental inspection is conducted on the AWAR to inspect the bridges and the culverts and additional inspections are also performed during the freshet period. Following the inspections, if work is deemed required such as culvert repair or replacement to prevent road washout, the work will be completed by AEM.

4 QUARRIES

<u>Recommendation</u>: Presence of unstable blocks and loose rocks along steep walls was observed in Quarries 3, 7, 9, 16, 19 and 23. These unstable blocks and loose rocks should be cleaned if operation at these quarries resumes. Workers should be cautious in these quarries and aware of the potential hazard.

> *<u>Action</u>: Some work to clean unstable blocks and loose rocks was completed in 2015. If deemed necessary, additional work will be completed in 2016. The AWAR road crew will clean up unstable blocks and loose rocks should operations resume.*

<u>Recommendation</u>: Slope remediation is in progress, but none of them were totally reclaimed. It is understood that AEM is developing a plan to progressively close some of the quarries along the AWPR while maintaining others to produce and store material supplies for ongoing road maintenance.

> *<u>Action</u>: The quarry reclamation along the AWAR is part of the Meadowbank Closure Plan. Reclamation activities for the quarries may occur during operations. The remaining reclamation activities for the quarries will occur during the closure period. As the AWAR will remain open during the closure and part of the post closure period, some quarries will remain open to supply material for ongoing road maintenance.*

<u>Recommendation</u>: Quarry 4 and Quarry 14 are flooded. It is understood that AEM is evaluating how best to eliminate the ponding of water within these quarries.

> *<u>Action:</u> During the environmental inspections AWAR, the quarries are inspected. If actions are required for mitigation measures to control the water or to promote drainage, the Environmental department would advise the Site Service Department of actions to be taken. The water ponding at freshet or during the summer period in the quarries does not drain to any nearby watercourse. During previous summer periods (2014, 2015) no mitigation was deemed necessaryas no significant amounts of water were observed in the quarries. During winter, the snow is also removed from the quarries to minimize water runoff at freshet within the quarry areas.*

5 BULK FUEL STORAGE FACILITIES

<u>Recommendation</u>: Ponded water within the secondary containment cell was observed at the Baker Lake and Meadowbank main camp fuel tank farm. Ongoing removal of fluids should be managed to keep the water accumulation at a minimum near the tank foundation.

> *<u>Action</u>: Each year, the accumulated water is pumped out in accordance with the Type A Water License 2AM-MEA1525 (particularly after freshet and as needed during the open water season). Effluent must meet criteria stated in the License. After the water is pumped, each tank foundation is inspected..*

<u>Recommendation</u>: Exposed geomembrane no longer protected by granular material was observed between Tanks 1 and 2 on the internal slope separating the containment cell. It is recommended to cover the area with geotextile and fill material to re-establish the liner protection. Exposed damaged geomembrane was observed between the south side of tank 2 and 3. It is recommended to repair the geomembrane, cover the area with geotextile and add material to protect the liner.

> <u>Action</u>: Repairs on the geomembrane close to tanks 3 and 4 was completed during summer 2015 by qualified contractors.

<u>Recommendation</u>: For the containment cell of the twenty Jet A fuel tanks, the geomembrane remains uncovered around the tanks. Several holes in the geomembrane to be repaired were observed in the southern part of the containment cell geomembrane. It is recommended to remain vigilant during the freshet and throughout the year to manage water accumulated within the bermed area.

> *<u>Action:</u>– Containment of this tank farm is 110% of the largest tank, which is 100,000L (actually exceeds). Water accumulation is monitored on a regular basis during freshet and pumped out in accordance with the Type A Water License 2AM-MEA1525. The geomembrane was repaired during summer 2015. The Jet A tankfarm is inspected regularly by the environment department.*

<u>Recommendation</u>: The tension cracks observed in the past on the upper bench, north of Tanks 3 and 4 and south of Tanks 5 and 6, have not progressed and are starting to disappear.

> *<u>Action</u>: Regular inspections (weekly) are completed at the fuel tank farm by the Site Services supervisor. Regular inspections are also completed by the environment department.*

<u>Recommendation</u>: At the Meadowbank Main Camp tank farm, small channels of erosion were observed in the tank platform. It is recommended to repair these channels to control the erosion of the foundation pad.

> *<u>Action</u>: AEM will evaluate this issue in spring 2015 and determine if remedial action is required.*

6 OTHER MEADOWBANK FACILITIES

6.1 Meadowbank Site Roads

<u>Recommendation</u>: Three culverts were installed on Vault Road (coordinate 640964E/7217466N). As previously observed in past annual inspections, these three culverts were partially collapsed in the middle and showed signs of erosion at the inlet. This is currently not a significant issue, but it is recommended to monitor these culverts at freshet to ensure that they provide sufficient capacity and that erosion is not occurring.

> *<u>Action:</u> The area has been regularly monitored since the installation of the culverts in 2013 and no issues were identified at the location in regard to water flow, quality or erosion. The same inspections will be performed during the 2016 freshet.*

<u>Recommendation</u>: Two culverts are installed on Vault Road (coordinate 639214E/7216189N). It was observed that the inlet of one of the culvert was entirely obstructed by rockfill and that the outlet of one of the culvert was partially obstructed while the outlet of the other culvert was broken. It is recommended to observe this area at freshet and to clear the obstructions if insufficient capacity to handle the flow is observed.

> *<u>Action:</u> As part of the freshet action plan, the area for the culverts located on the Vault Road between the diversion ditches and Lake NP1 is closely monitored during freshet period. Some work was completed around the culverts during summer 2015 to ensure proper flow and to minimize erosion. The same inspections will be performed in 2016. If required, additional work will be performed in 2016.*

6.2 Diversion Ditch and Sediment and Erosion Protection Structure

<u>Recommendation:</u> It is important that the erosion protection structure and sediment barriers be inspected during the next freshet season.

> *<u>Action:</u> The Diversion ditches as well as all structures and sediment barriers will be inspected during the 2016 freshet season as a part of the Freshet Action Plan.*

6.3 Stormwater Management Ponds

<u>Recommendation:</u> From observations made from around the pond, no geotechnical concerns were identified regarding Stormwater Management Pond,

or the crusher ramp located nearby. The geotechnical stability of the crusher ramp should be regularly inspected by AEM due to its proximity with Stormwater management pond.

Action: *Inspection and monitoring of the roads is performed on regular basis and will continue. No geotechnical issues have been identified on the crusher ramp since the beginning of its operation.*