MEADOWBANK GOLD PROJECT

MINE WASTE MANAGEMENT PLAN

OCTOBER 2009

EXECUTIVE SUMMARY

Agnico-Eagle Mines Ltd. Meadowbank Division (AEM) is developing the Meadowbank Gold Project (the Project), located on Inuit-owned surface lands in the Kivalliq region approximately 70 km north of the Hamlet of Baker Lake, Nunavut. The Project is subject to the terms and conditions of both the Project Certificate issued in accordance with the Nunavut Land Claims Agreement Article 12.5.12 on December 30, 2006, and the Nunavut Water Board Water Licence No. 2AM_MEA0815 issued June 9, 2008. This report presents a Mine Waste Management Plan for the Project and forms a component of the documentation series that has been produced in accordance with the above.

The Project consists of several gold-bearing deposits: Vault, Portage and Goose Island. A series of dikes will be required to isolate the mining activities from neighbouring lakes. The dikes will be constructed using quarried materials or using materials produced during mining.

Waste rock from the Portage and Goose Island pits will be stored in the Portage Rock Storage Facility and in the South Portage Pit following completion of mining in this area. The Portage Rock Storage Facility will be constructed to minimize the disturbed area and will be capped with a layer of non-acid-generating rock to constrain the active layer within relatively inert materials. The control strategy to minimize the onset of oxidation and the subsequent generation of acid rock drainage includes freeze control of the waste rock through permafrost encapsulation and capping with an insulating convective layer of NPAG rock. The waste rock below the capping layer is expected to freeze, resulting in low rates of ARD generation in the long term.

Waste rock from the Vault Pit will be stored in the Vault Rock Storage Facility. Geochemical predictions indicate that a capping layer will not be required over this area. An adaptive management plan will include monitoring of water quality during operations to confirm modelling predictions and to allow adjustments to the closure plan as required. The waste rock is expected to eventually freeze.

Tailings will be stored in the Tailings Storage Facility (TSF), defined by a series of dikes built around and across the basin of the dewatered northwest arm of Second Portage Lake. The TSF is divided into North and South Cells. During Years 1 to approximately Year 3 tailings will be deposited in the North Cell of the TSF. Once the North Cell is full, deposition will switch to the South Cell until mine operations cease in Year 9. The division of the TSF into cells allows tailings management in comparatively smaller areas with shorter beach lengths that reduce the amount of water that is trapped and permanently stored as ice. Operation in cells also allows progressive closure and cover trials of the North Cell during operation of the South Cell.

Tailings are placed sub-aerially as slurry and a water reclaim pond is operated during deposition. The tailings deposition strategy is to build beaches against the faces of the perimeter dikes to push the pond away, and ultimately produce a tailings surface that that directs drainage toward the western abutment of the Stormwater Dike. Following mine operations, a minimum 2-m thick cover of NPAG rockfill will be placed over the tailings as an insulating convective layer to confine the active layer within relatively inert materials. The final thickness of rockfill cover layer will be confirmed based on thermal monitoring to be completed during operations. The control strategy to minimize water infiltration into the TSF and the migration of constituents out of the facility includes freeze control of the tailings through permafrost encapsulation.

All infrastructure that may be maintained for mine operations, closure and reclamation including mine waste management areas will re-contoured and/or surface treated in closure according to site specific conditions to minimize wind blown dust and erosion from surface runoff, and enhance the development site area for re-vegetation and wildlife habitat.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

PROJECT LOCATION MAP

SECTION 1 • INTRODUCTION

Agnico-Eagle Mines Ltd. (AEM) is developing the Meadowbank Gold Project (the Project), located approximately 70 km north of Baker Lake, Nunavut, as shown in Figure 1. The Project is subject to the terms and conditions of the Project Certificate issued in accordance with the Nunavut Land Claims Agreement Article 12.5.12 on December 30, 2006, and Nunavut Water Board Water Licence No. 2AM_MEA0815 issued June 9, 2008. This report presents a Waste Management Plan for the Project and forms a component of the documentation series produced in accordance with the above.

The proposed mine will generate approximately 173 Mt of mine waste rock, and 29.4 Mt of tailings from the following deposits:

- Vault;
- Portage; and
- Goose Island.

The initial waste management plan for the Project was presented in *Meadowbank Gold Project Mine Waste & Water Management* (MMC, 2007a), a support document (Doc. 500) to the Type-A Water License Application for the Project. Quantities reflect an increase in ore reserve from 22 Mt, as reported in Doc. 500, to 29.3 Mt.

Tailings are stored within the Tailings Storage Facility (TSF), which includes dikes built around and across the basin formed by dewatering the northwest arm of Second Portage Lake (2PL arm). The sequence of operation of the TSF has been updated to accommodate the dewatering sequence. In Doc. 500, tailings were to be deposited in the main basin of the northwest arm of Second Portage Lake (2PL Arm) until Year 6 when the main basin tailings capacity would be achieved and tailings deposition would commence in the north part of the basin. The present plan outlines an approach to deposit tailings in the north basin, or North Cell, during Years 1 to 3, followed by deposition in the main basin, or South Cell, during the remaining years of mine life. The updated approach removes the requirement to fully dewater 2PL Arm and construct the Central Dike prior to mill start up, and provides greater operational flexibility and less risk to dewatering and dike construction schedules. Although the ore reserve is increased, the footprint area designated for tailings storage has not changed. Instead, the increase in volume has been accommodated by raising of the TSF perimeter dikes by approximately 2 m.

Tailings are placed sub-aerially as thickened slurry and a water reclaim pond is operated during deposition. The tailings deposition strategy is to build beaches against the faces of the perimeter dikes to push the pond away, and ultimately produce a tailings surface that directs drainage towards the western abutment of the Stormwater Dike. Thermal modelling indicates that the tailings will freeze in the long term, and that the talik that currently exists below Second Portage Arm will freeze before seepage from the TSF reaches the groundwater below the permafrost. Therefore, the potential for groundwater contamination to occur as a result of seepage from the TSF is considered to be low. The tailings are potentially acid generating (PAG). A minimum 2-m thick cover of NPAG rockfill will be placed over the tailings to physically isolate the tailings and to confine the active layer within relatively inert materials. Cover trials will be completed during operations to confirm the required cover thickness to physically isolate the tailings and to confine the active layer within relatively inert materials. The control strategy to minimize water infiltration into the TSF and the migration of constituents out of the facility includes freeze control of the tailings through permafrost encapsulation.

Waste rock storage requirements have increased to approximately 173 Mt. Waste rock from the Portage and Goose Island open pits will be stored in an area to the north of Second Portage Arm and to the west of the Vault Haul Road, designated as the Portage Rock Storage Facility. Later in mine life, waste rock from these pits will also be stored within the mined out south Portage Pit, which will be ultimately be flooded. Waste rock from the Vault Pit will be stored in an area to the west of the pit, designated as the Vault Rock Storage Facility.

The Portage Rock Storage Facility will be capped at closure with a layer of non-PAG rock to constrain the active layer within relatively inert materials, and will be regraded to encourage runoff from the facility. The PAG waste rock is expected to freeze, resulting in low rates of acid rock drainage (ARD) generation in the long term.

The Vault Rock Storage Facility (RSF) will be regraded at closure to encourage runoff and to provide a final shape consistent with the surrounding topography. The water seepage from the Vault RSF area is expected to be of suitable quality to allow discharge to the environment without treatment (Golder, 2007c), and capping of this facility is therefore not proposed. An adaptive management plan will include monitoring of water quality during operations to confirm modelling predictions and to allow adjustments to the closure plan as required. The waste rock is expected to eventually freeze.

A plan for the management of contact and diverted water is presented in an accompanying document.

SECTION 2 • BACKGROUND INFORMATION

2.1 PROJECT DESCRIPTION

The Meadowbank Gold Project consists of several gold-bearing deposits within reasonably close proximity to one another. The three main deposits are: Vault, Portage (South, Center and North Portage deposits), and Goose Island.

The South Portage deposit is located on a peninsula, and extends northward under Second Portage Lake (2PL) and southward under Third Portage Lake (3PL). The North Portage deposit is located on the northern shore of 2PL. The South, Center and North Portage deposits will be mined from a single pit, termed the Portage pit, which will extend approximately 2 km in a north-south direction. The Goose Island deposit lies approximately 1 km to the south of the Third Portage deposit, and beneath 3PL. The Vault deposit is located adjacent to Vault Lake, approximately 6 km north from the Portage deposits. A series of dewatering dikes (East, West Channel, Bay-Goose, South Camp and Vault) will be required to isolate the mining activities from the lakes. Additional dikes (the Central Dike, Stormwater Dike and Saddle Dams 1 to 6) will also be constructed to manage tailings within the dewatered 2PL Arm. The dikes will be constructed primarily using materials produced on site.

Mining will be primarily a truck-and-shovel open pit operation. The current mining plan indicates that approximately 29.3 Mt of ore will be mined over a nominal mine life of approximately 9 years.

2.2 SITE CONDITIONS

The site layout is illustrated in Figure 2.1.

2.2.1 Climate

The Meadowbank region is located within a low Arctic ecoclimate described as one of the coldest and driest regions of Canada. Arctic winter conditions occur from October through May, with temperatures ranging from +5°C to -40°C. Summer temperatures range from -5°C to +25°C with isolated rainfall increasing through September (Table 2.1).

Table 2.1: Estimated Average Monthly Climate Data – Meadowbank Site

Month	Max. Air Temp. (°C)	Min. Air Temp. (°C)	Rainfall (mm)	Snowfall (mm)	Total Precip. (mm)	Lake Evap. (mm)	Min. Relative Humidity (%)	Max. Relative Humidity (%)	Wind Speed (km/h)	Soil Temp. (°C)
January	-29.1	-35.5	0	11.2	11.2	0	67.1	75.9	16.3	-25.5
February	-27.8	-35.2	0	10.5	10.5	0	66.6	76.5	16.0	-28.1
March	-22.3	-30.5	0.1	14.6	14.6	0	68.4	81.4	16.9	-24.9
April	-13.3	-22.5	2.3	16.7	19.0	0	71.3	90.1	17.3	-18.1
May	-3.1	-9.9	9.8	11.3	21.1	0	75.7	97.2	18.9	-8.0
June	7.6	0.0	14.5	3.9	18.4	8.8	62.6	97.2	16.4	2.0
July	16.8	7.2	36.7	0.0	36.7	99.2	47.5	94.3	15.1	10.5
August	13.3	6.4	45.5	0.9	46.4	100.4	59.2	97.7	18.4	9.3
September	5.7	0.9	30.1	8.8	38.9	39.5	70.8	98.6	19.3	3.6
October	-5.0	-10.6	3.5	30.3	33.8	0.1	83.1	97.4	21.4	-2.8
November	-14.8	-22.0	0	23.6	23.6	0	80.6	91.1	17.9	-11.7
December	-23.3	-29.9	0	15.0	15.0	0	73.3	82.7	17.7	-19.9

Note: Rounding of monthly averages has occurred. Temperatures and precipitation were estimated based on site data (1997 to 2004). Snowfall is based on adjusted Baker Lake data (1946 to 2004). Adjusted small lake evaporation was estimated from pan evaporation data (2002 to 2004). Mean soil temperature is reported by AMEC to be measured at a depth between 0.2 m and 0.3 m below ground surface, but should be confirmed. Installation details such as slope aspect, surficial cover, site drainage, and annual snow cover are not available.
Source: AMEC 2003, 2005a and 2005b.

The long-term mean annual air temperature for Meadowbank is estimated to be approximately -11.1°C. Air temperatures at the Meadowbank area are, on average, about 0.6°C cooler than Baker Lake air temperatures, and extreme temperatures tend to be larger in magnitude. This climatic difference is thought to be the effect of a moderating maritime influence at Baker Lake.

The prevailing winds at Meadowbank for both the winter and summer months are from the northwest. A maximum daily wind gust of 83 km/h was recorded on May 21, 2002. Light to moderate snowfall is accompanied by variable winds up to 70 km/h, creating large, deep drifts and occasional whiteout conditions. Skies tend to be more overcast in winter than in summer.

Monthly rainfall, snowfall, and total precipitation values shown in Table 2.2 were adjusted for undercatch using the values reported by Environment Canada for Baker Lake. The resulting adjusted mean annual rainfall, snowfall, and precipitation totals for Meadowbank are 142.5, 146.8, and 289.2 mm, respectively. Meadowbank total annual rainfall averaged 85% of the Baker Lake total for the common period of record.

2.2.2 Faults

As indicated on Figure 2.5, two main faults are inferred in the Portage deposit area. These are the Bay Zone Fault and an associated splay, and the Second Portage Fault. The Bay Zone Fault and associated splay trend in a roughly north-south direction along the western margin of the South Portage deposit, while the Second Portage fault trends to the northwest underneath the Central Dike and TSF, roughly parallel to the orientation of the Second Portage Lake. In order to reduce the risk of potential seepage through the Second Portage Fault, bedrock grouting will be carried out beneath the Central Dike (Golder, 2007a).

2.2.3 Permafrost

The Meadowbank Gold Project is located in the area of continuous permafrost, as shown on Figure 2.2.

Lake ice thicknesses of between 1.5 m and 2.5 m have been encountered during geotechnical investigations in mid to late spring. Taliks (areas of unfrozen ground) are expected where water depth is greater than about 2 to 2.5 m. It is possible that ice thickness will be greater than that reported above during the mid-winter period; however, no data relating to ice thickness currently exists for the mid-winter period.

Based on thermal studies and measurements of ground temperatures (Golder, 2003), the depth of permafrost at site is estimated to be in the order of 450 to 550 m, depending on proximity to lakes. The depth of the active layer ranges from about 1.3 m in areas with shallow overburden, up to about 4 m adjacent to lakes. The depth of the permafrost and active layer will vary based on proximity to lakes, overburden thickness, vegetation, climate conditions, and slope direction.

Based on ground conductivity surveys and compilation of regional data, the ground ice content is expected to be low. Locally on land, ice lenses and ice wedges are present, as indicated by ground conductivity, and by permafrost features such as frost mounds. These areas of local ground ice are generally associated with low-lying areas of poor drainage.

2.2.3.1 Second Portage Lake Talik

Thermistors have been installed in numerous boreholes (see Figure 2.3 for locations); the inferred thermal regime beneath the Second Portage Arm, based on measurements from these instruments, is shown in Figure 2.4. A talik (zone of permanently unfrozen ground) exists below Second Portage Arm, and is expected to extend to the base of the permafrost (Figure 2.6).

2.2.3.2 Vault Lake Talik

Due to the size of Vault Lake, the underlying talik is expected to be closed or confined within the permafrost. This means it does not extend to the deep groundwater flow regime, because the size and depth of the lake is not sufficient for an open talik to develop. Much of the lake is less than 2 m in depth; consequently it freezes to the bottom during winter.

2.2.3.3 Impact of Global Warming on Site Conditions

A report titled "Implications of Global Warming and the Precautionary Principle in Northern mine Design and Closure" (BGC, 2003) was prepared for Indian and Northern Affairs Canada, and provides guidance relevant to mine design in Nunavut.

This report suggests that globally the average temperature may increase by about 2°C by 2100 due to global warming. However, the report also states that the increase may be double the global average for sites located at 50°N, and may be 3.5 times greater for sites located at 80°N. In a more recent study, the Intergovernmental Panel on Climate Change (IPCC, 2007) projected the maximum average air temperature to increase by 6.4°C by 2100 for a site located at 65°N latitude.

Table 2.2 presents a summary of reported climate change predictions used on a number of northern projects that have been reported in the engineering and scientific literature.

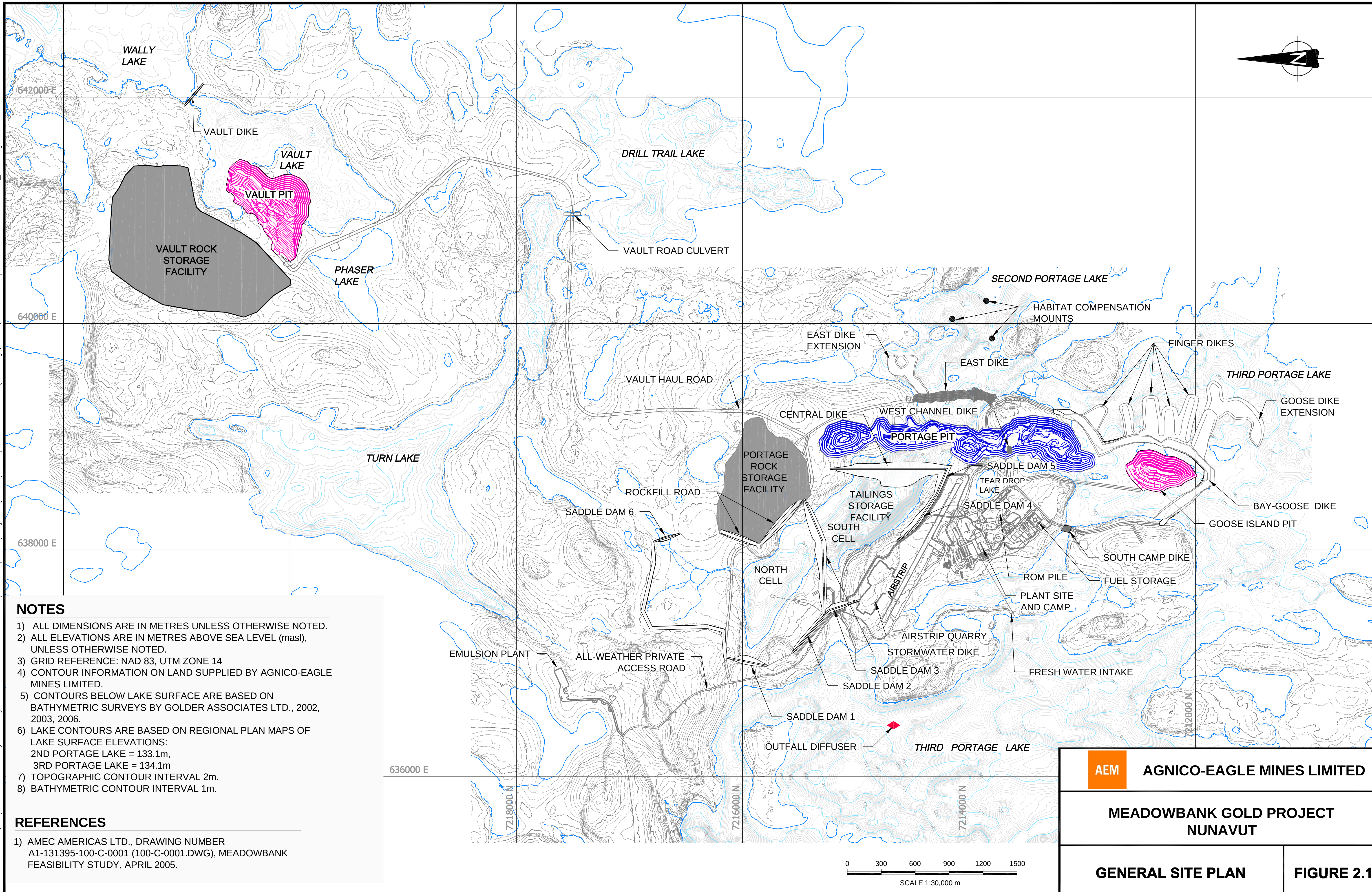
Table 2.2: Summary of Reported Climate Change Rates Used in Northern Projects Engineering Studies

Reference	Increase in MAAT by Year 2100 (°C)	Notes
Hayley (2004)	4.7	Used in design studies for the Inuvik Regional Health Center. Reported as increase of 0.47°C per decade.
Hayley and Cathro (1996)	5.0	Used for Raglan Dam analyses.
Diavik	3.2	Used for the Processed Kimberlite Containment Facility Design
Burn (2003)	6.0	For use in the Western Arctic for pipeline design projects. Reported as increase of 1.75°C over a 29 year period

Based on Table 2.2, a climate warming trend of 6.4°C over 100 years is considered to be a conservative upper estimate of the climate change rate for the project area and is consistent with predicted and recommended climate change trends for projects in the north.

By the middle of the 21st century, the effect of temperature change is predicted to reduce near-surface permafrost by 12% to 15% once equilibrium conditions become established under the new temperatures. The predicted increase in active layer thickness of 15% to 30% will reach equilibrium relatively much faster (NRC, 2004).

Studies indicate that the boundaries of discontinuous and continuous permafrost are expected to move northward due to global warming (Woo et al., 1992) (Figure 2.2). Predictions based on a warming of 4°C to 5°C over the next 50 years (NRC, 2004) (approximately double the rate predicted above) suggests that the Meadowbank property would remain within the zone of continuous permafrost, but the active layer thickness would be expected to increase, and the total thickness of permafrost may slowly reduce in time.



NOTES

1) ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
2) ALL ELEVATIONS ARE IN METRES ABOVE SEA LEVEL (masl), UNLESS OTHERWISE NOTED.
3) GRID REFERENCE: NAD 83, UTM ZONE 14
4) CONTOUR INFORMATION ON LAND SUPPLIED BY AGNICO-EAGLE MINES LIMITED.
5) CONTOURS BELOW LAKE SURFACE ARE BASED ON BATHYMETRIC SURVEYS BY GOLDER ASSOCIATES LTD., 2002, 2003, 2006.
6) LAKE CONTOURS ARE BASED ON REGIONAL PLAN MAPS OF LAKE SURFACE ELEVATIONS:
   2ND PORTAGE LAKE = 133.1m,
   3RD PORTAGE LAKE = 134.1m
7) TOPOGRAPHIC CONTOUR INTERVAL 2m.
8) BATHYMETRIC CONTOUR INTERVAL 1m.

REFERENCES

1) AMEC AMERICAS LTD., DRAWING NUMBER A1-131395-100-C-0001 (100-C-0001.DWG), MEADOWBANK FEASIBILITY STUDY, APRIL 2005.

AEM AGNICO-EAGLE MINES LIMITED

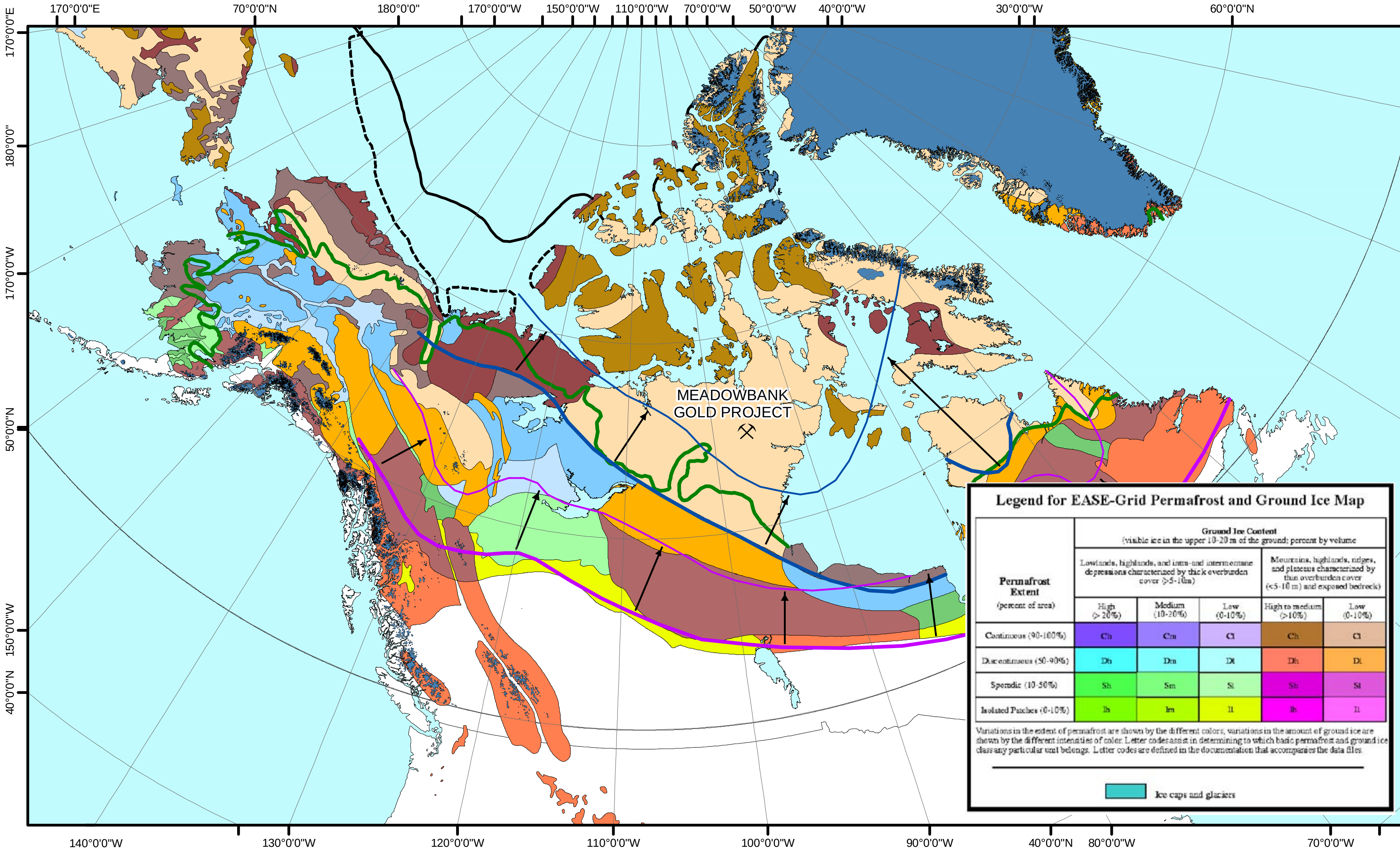
MEADOWBANK GOLD PROJECT
NUNAVUT

GENERAL SITE PLAN

FIGURE 2.1

REVISION DATE: 09/07/14 10:44AM By: MHintoy CADD FILE: N:\Bur-Graphics\Projects\2009\1428\09-1428-0014\Drafting\2000\Task-1000\0914280014-2000-FIG_2.1.dwg

N:\Bur-Graphics\Projects\2008\1428\08-1428-0029\GIS\projects\figure-02-02_permafrost_rev1.mxd



LEGEND

- TREELINE
- SEA-ICE EDGE LIMIT
- SUBSEA PERMAFROST LIMIT
- SOUTHERN BOUNDARY OF DISCONTINUOUS PERMAFROST - PRESENT
- SOUTHERN BOUNDARY OF DISCONTINUOUS PERMAFROST - PREDICTED
- SOUTHERN BOUNDARY OF CONTINUOUS PERMAFROST - PRESENT
- SOUTHERN BOUNDARY OF CONTINUOUS PERMAFROST - PREDICTED
- PREDICTED MOVEMENT OF PERMAFROST BOUNDARIES

NOTES

1) PROJECTION: LAMBERT AZIMUTHAL EQUAL AREA

0 300 600 900 1,200 1,500

Scale in Kilometres

REFERENCES

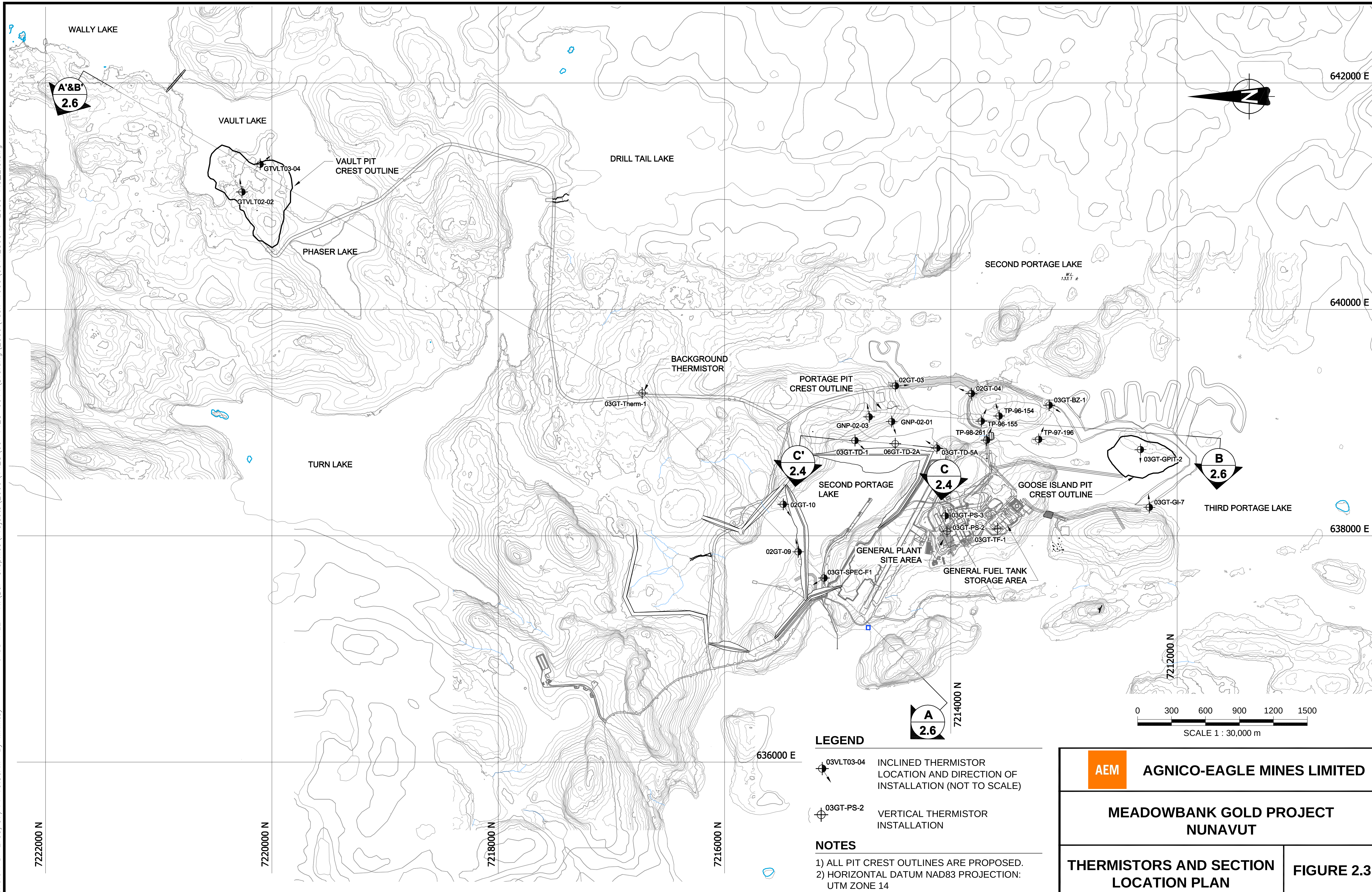
1) BROWN, J., O.J. FERRIANS JR., J.A. HEGINBOTTOM, AND E.S. MELNIKOV. 1998. CIRCUM-ARCTIC MAP OF PERMAFROST AND GROUND-ICE CONDITIONS. BOULDER, CO: NATIONAL SNOW AND ICE DATA CENTER/WORLD DATA CENTER FOR GLACIOLOGY. DIGITAL MEDIA.
2) PREDICTED PERMAFROST BOUNDARIES BASED ON WOO ET AL., 1992.

AEM AGNICO-EAGLE MINES LIMITED

MEADOWBANK GOLD PROJECT
NUNAVUT

PERMAFROST MAP OF CANADA

FIGURE 2.2



NOTES

1) ALL PIT CREST OUTLINES ARE PROPOSED.
2) HORIZONTAL DATUM NAD83 PROJECTION: UTM ZONE 14

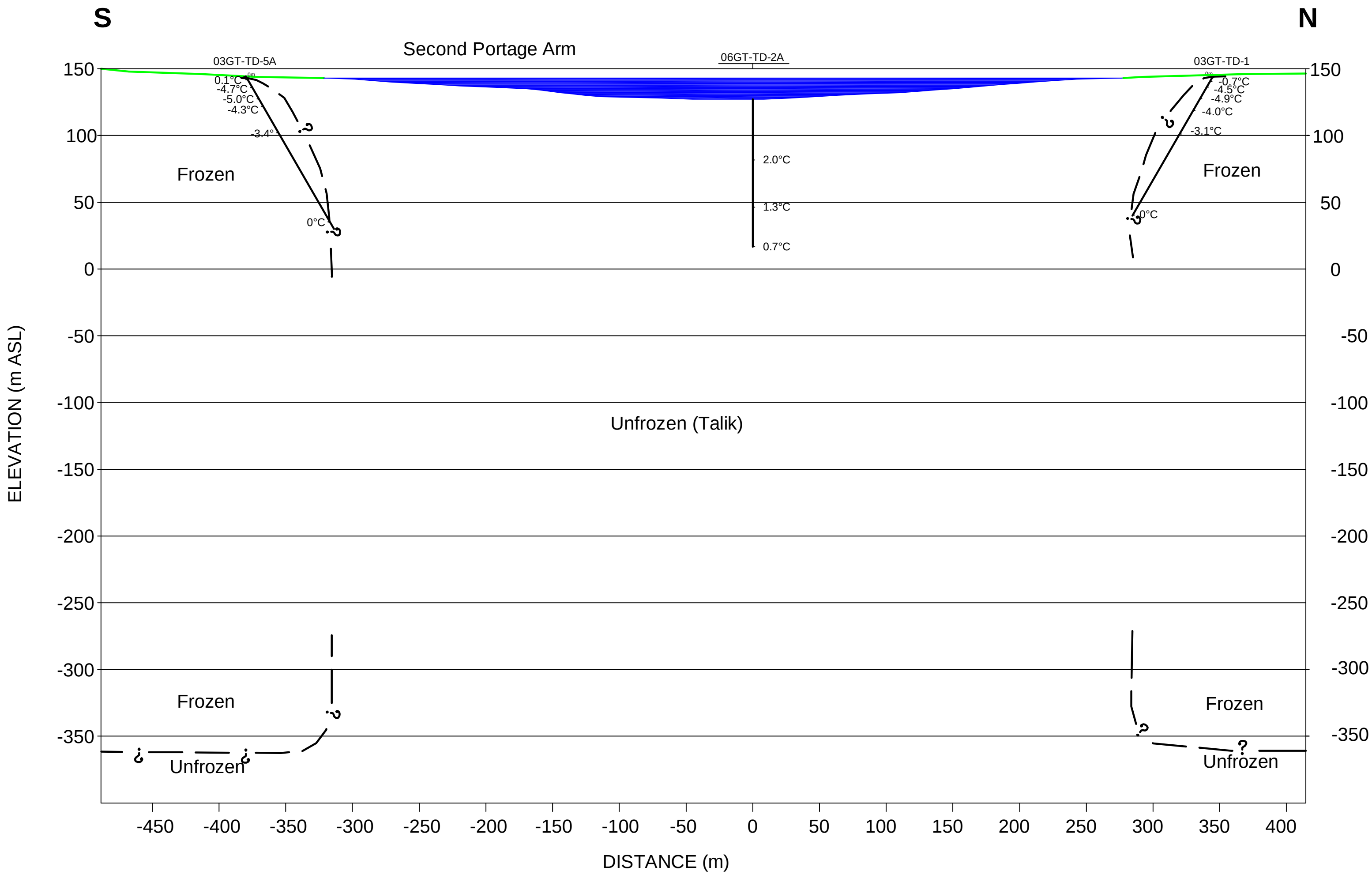
AEM AGNICO-EAGLE MINES LIMITED

MEADOWBANK GOLD PROJECT
NUNAVUT

THERMISTORS AND SECTION LOCATION PLAN

FIGURE 2.3

REVISION DATE: 09/07/14 10:52AM By: MHintay CADD FILE: N:\Bur-Graphics\Projects\2009\1428\09-1428-0014\Drafting\2000\Task-1000\0914280014-1000-FIG_2.4.dwg



C
2.3

CROSS SECTION C-C'

0 50 100 150 200 250

SCALE IN METRES

LEGEND

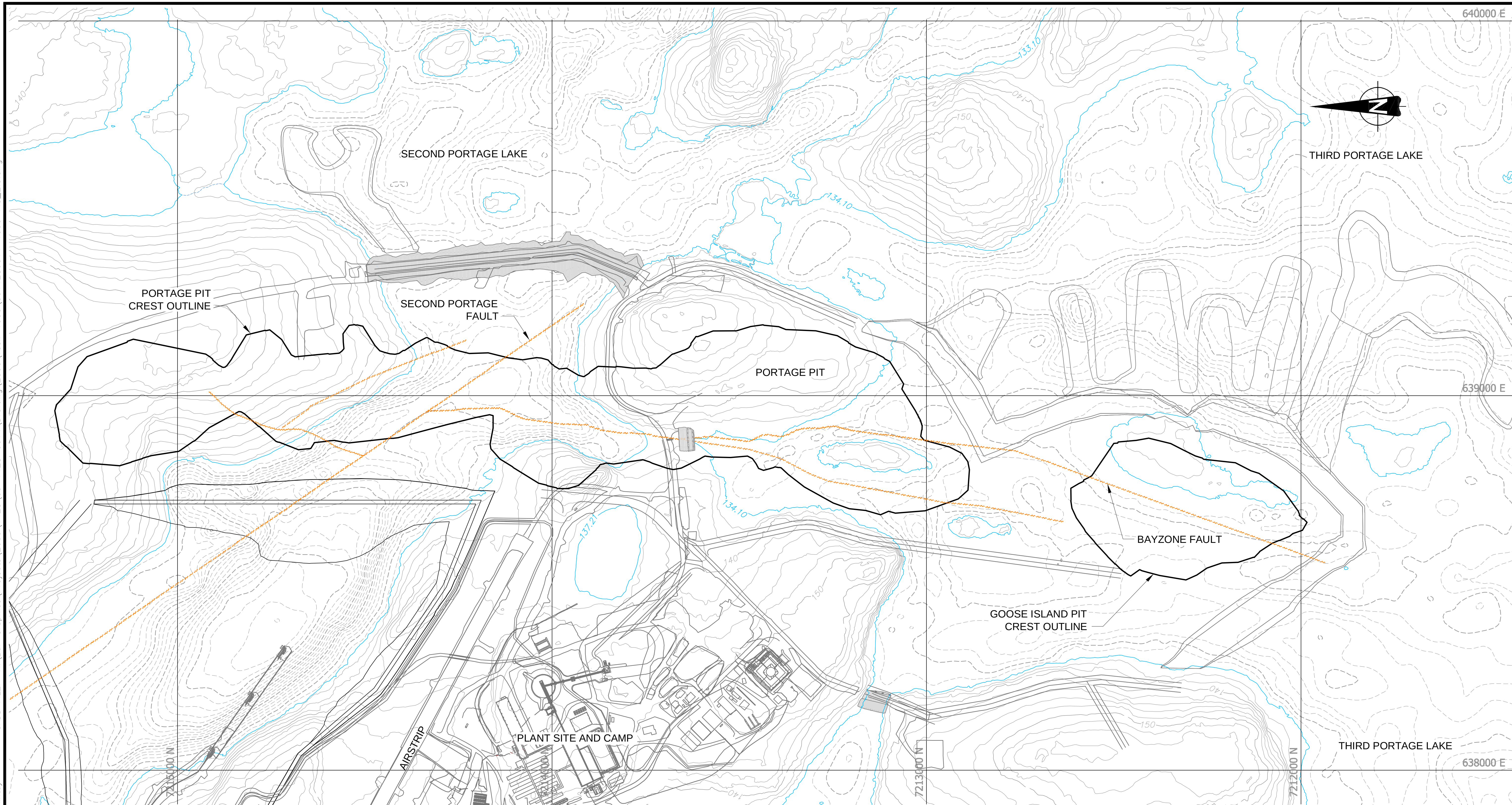
— —? — Inferred Permafrost Boundary

AEM **AGNICO-EAGLE MINES LIMITED**

MEADOWBANK GOLD PROJECT
NUNAVUT

BASELINE THERMAL CONDITION BELOW SECOND PORTAGE ARM

FIGURE 2.4



CADD FILE: N:\Bur-Graphics\Projects\2009\1428\09-1428-0014\Drafting\2000\Task-1000\0914280014-1000-FIG_2.5.dwg

By: MHinton

REVISION DATE: 09/07/14 10:57AM

LEGEND

- LAKE SHORELINE CONTOUR
- LAND - BASED MAJOR CONTOUR
- LAND - BASED MINOR CONTOUR
- PIT CREST
- BATHYMETRY MAJOR CONTOUR
- BATHYMETRY MINOR CONTOUR
- INFERRED LOCATION OF FAULTS

NOTES

1) ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
2) ALL ELEVATIONS ARE IN METRES ABOVE SEA LEVEL (masl), UNLESS OTHERWISE NOTED.
3) GRID REFERENCE: NAD 83, UTM ZONE 14.
4) CONTOUR INFORMATION ON LAND SUPPLIED BY AGNICO-EAGLE MINES LIMITED
5) CONTOUR BELOW LAKE SURFACE ARE BASED ON BATHYMETRIC SURVEYS BY GOLDER ASSOCIATES LTD., 2002, 2003, 2006.
6) BATHYMETRY CONTOUR DATA SUBJECT TO FUTURE UPDATE.
7) LAKE CONTOURS ARE BASED ON SURVEYED LAKE SURFACE ELEVATIONS:
   2nd PORTAGE LAKE= 133.1m,
   3rd PORTAGE LAKE= 134.1m.
8) TOPOGRAPHIC CONTOUR INTERVAL 2M.
9) BATHYMETRIC CONTOUR INTERVAL 1M.

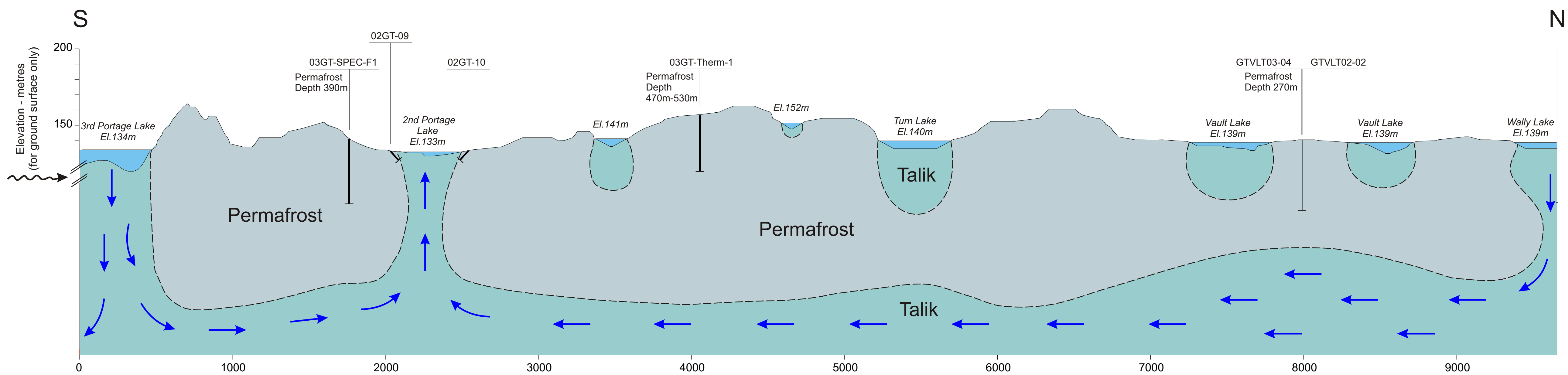
0 100 200 300 400 500
SCALE 1:10,000 m

AEM AGNICO-EAGLE MINES LIMITED

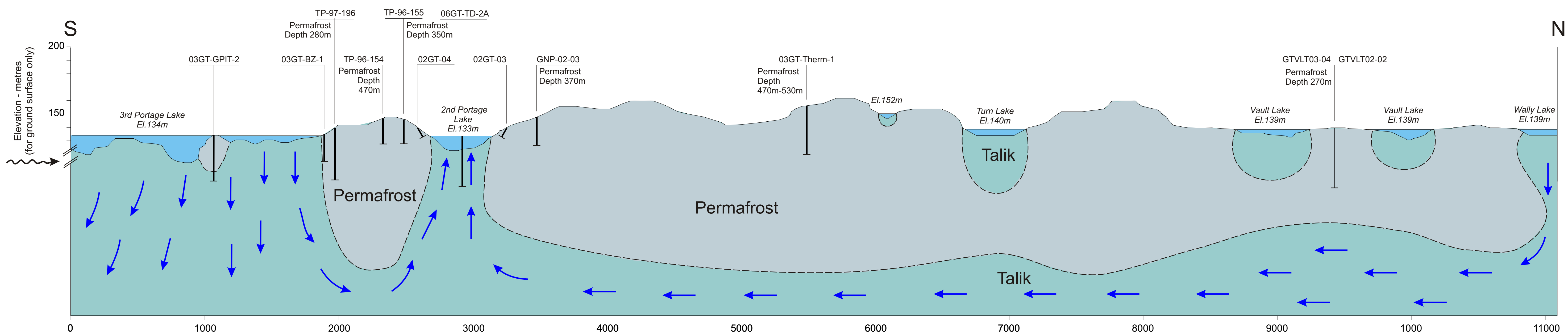
MEADOWBANK GOLD PROJECT
NUNAVUT

INFERRED LOCATIONS OF FAULTS

FIGURE 2.5



A 2.3 CROSS SECTION A-A'



B 2.3 CROSS SECTION B-B'

0 400 800 1200 1600 2000

Horizontal Scale (m)

0 40 80 120 160 200

Vertical Scale (m)
(above ground surface)

0 100 200 300 400 500

Depth Scale (m)
(For below ground surface. Permafrost depth measured from ground surface.)

NOTES

1. DIKES AND PITS NOT SHOWN.

AEM AGNICO-EAGLES MINES LIMITED

MEADOWBANK GOLD PROJECT
NUNAVUT

BASELINE PERMAFROST AND GROUNDWATER CONDITIONS

FIGURE 2.6

SECTION 3 • MINE DEVELOPMENT PLAN

3.1 MINE WASTE PRODUCTION SEQUENCE

The current mine plan indicates that approximately 29.3 Mt of ore will be mined over a nominal mine life of 9 years. The operation will generate approximately 172.6 Mt of mine waste rock and, approximately 29.4 Mt of tailings will be produced.

The mine plan has been used to prepare a materials balance, as shown in Table 3.1. This balance indicates the distribution of the following categories of materials by rock type:

- Mine rock for general construction;
- Mine rock for dike construction;
- Mine rock for capping; and
- Mine rock to RSFs and the Portage Pit.

Stripping and mine waste rock will be used for construction of mine infrastructure and dikes at the site. Construction rockfill will initially come from pre-stripping operations and through the development of a starter pit at the Portage deposit. Based on current material balance calculations, sufficient quantities of suitable rockfill and till borrow materials will be available from pre-mining activities. The general mine development sequence is described in Section 3.2.

Table 3.1: Meadowbank Mined Tonnages and Volumes

		2009	2010	2011	2012	2013	2014	2015	2016	2017
Portage Pit	NPAG (t)	2,196,328	6,684,948	12,105,835	15,584,162	4,851,714	4,883,364	0	0	0
	PAG (t)	2,467,716	9,371,960	11,737,428	9,210,564	4,815,050	7,630,178	0	0	0
	Total Waste (t)	4,664,044	16,056,908	23,843,263	24,794,726	9,666,764	12,513,542	0	0	0
	Till (t)	1,906,870	2,902,242	2,270,077	2,506	0	0	0	0	0
	Ore (t)	726,694	2,665,116	3,591,763	3,806,677	4,721,389	1,140,088	0	0	0
	Waste Destination	1, 2, 4, 7, 10, 18	3, 4, 7, 8, 11, 15, 17, 18, 19	4, 12, 13, 16	4,16	4, 5	4, 5			
Goose Pit	NPAG (t)	0	0	0	0	8,232,406	8,604,586	0	0	0
	PAG (t)	0	0	0	0	3,753,064	2,855,182	0	0	0
	Total Waste (t)	0	0	0	0	11,985,470	11,459,768	0	0	0
	Till (t)	0	0	0	0	2,023,141	0	0	0	0
	Ore (t)	0	0	0	0	601,469	2,064,803	0	0	0
	Waste Destination					5	5			
Vault Pit	NPAG (t)	0	0	0	0	0	779,043	20,005,918	15,602,345	6,850,591
	PAG (t)	0	0	0	0	0	259,681	6,668,639	5,200,782	2,283,530
	Total Waste (t)	0	0	0	0	0	1,038,724	26,674,557	20,803,127	9,134,121
	Till (t)	0	0	0	0	0	884,763	649,453	0	0
	Ore (t)	0	0	0	0	0	46,108	2,901,060	3,587,147	3,536,087
	Waste Destination						6, 9	6	6	6
Waste Destination Codes[1]		1 East Dike (0.56 Mt)			8 Vault Access Road (0.65 Mt)			15 Saddle Dam 6 (0.03 Mt)		
		2 Bay Goose Dike Phase 1 (0.76 Mt)			9 Vault Dike (N/A)			16 Central Dike (5.45 Mt)		
		3 Bay Goose Dike Phase 2 (1.36 Mt)			10 Saddle Dam 1 (0.27 Mt)			17 Airstrip Extension (1.75 Mt)		
		4 Portage Rock Storage Facility (76.3 Mt)			11 Saddle Dam 2 (0.14 Mt)			18 RF1 (0.5 Mt)		
		5 Portage Pit Backfill (33.85 Mt)			12 Saddle Dam 3 (0.19 Mt)			19 RF2 (0.15 Mt)		
		6 Vault Rock Storage Facility (59.1 Mt)			13 Saddle Dam 4 (0.3 Mt)					
		7 Stormwater Dike (1.58 Mt)			14 Saddle Dam 5 (0.33 Mt)					

[1]Total volume of rock and till to each waste destination code shown in brackets

3.2 MINE DEVELOPMENT SEQUENCE

The general sequence of mine development over the operating life is listed in Table 3.2 and illustrated in Figures 3.1 to 3.6. A conceptual sequence of pit development is illustrated in Figure 3.7.

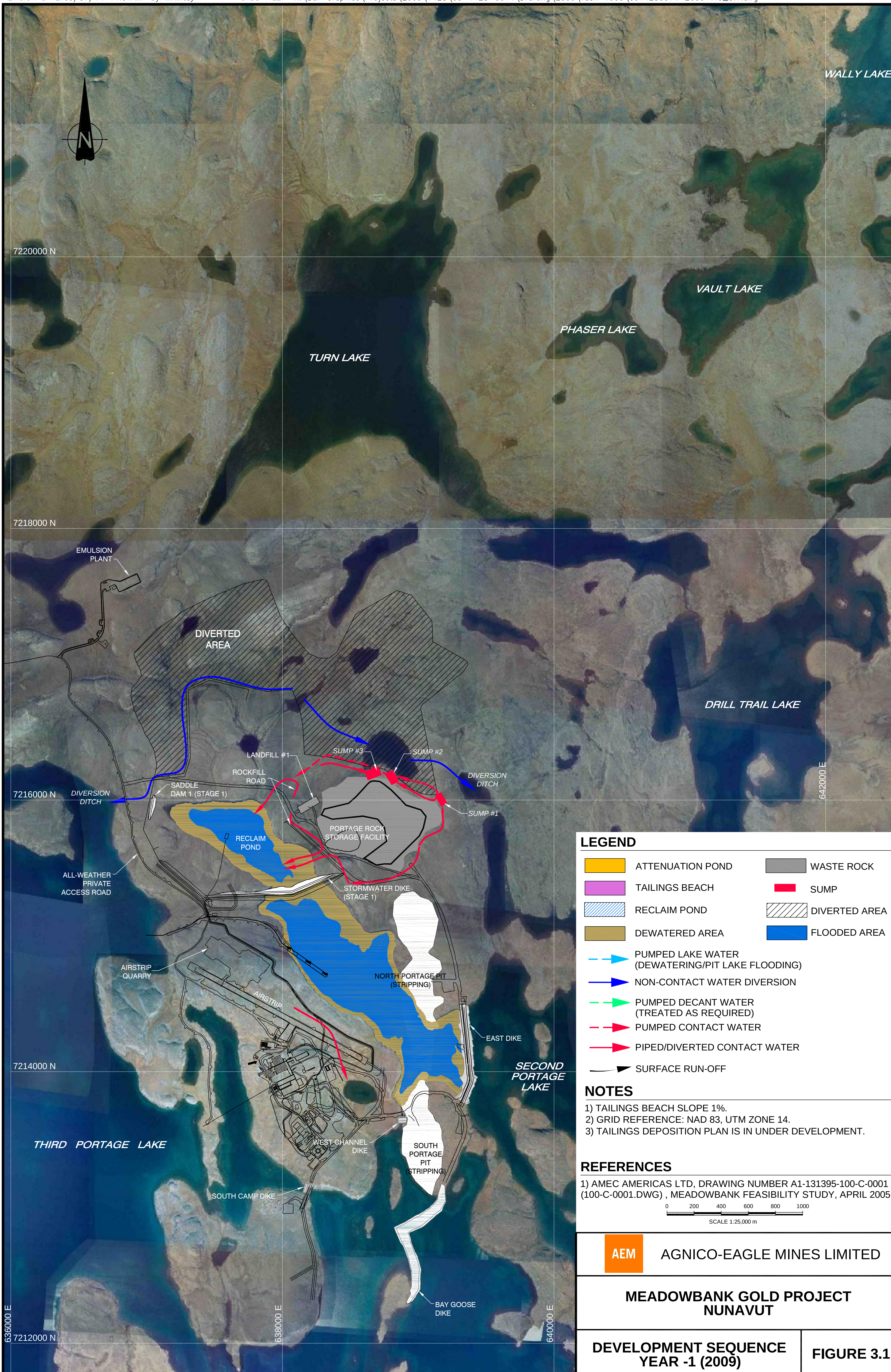
Table 3.2: Mine Development Sequence

Fig. No.	Year	Items
	-2 (2008)	-Construct plant site, plant roads and road to ANFO storage. -Initiate construction of East and West Channel dikes.
3.1	-1 (2009)	-Complete construction of East and West Channel dikes. -Stripping in North Portage and South Center Portage (part). -Dewater 2PL Arm to elevation 127 masl by mid June, and 116 masl by end December to facilitate construction of the Stormwater Dike and initiate mining in the Portage Pit North Center and South Center, respectively. -Dewater volume discharged directly to 3PL if meet TSS criteria. Otherwise, treated prior to release, or sent to Reclaim Pond for storage and reuse as reclaim water. -Construct Stormwater (first raise), South Camp, and Bay Goose (Phase 1) dikes, as well as Saddle Dam 1.
3.2	1 (2010)	-Commence mining of Portage Pit North, North Center and South Center. -Continue dewatering of 2PL Arm if required. -Operate separate Reclaim and Portage Attenuation ponds. -Construct Vault Haul Road. -Initiate tailings deposition in TSF north cell. Initiate waste rock placement in the Portage Rock Storage Facility (RSF). -Runoff from Portage RSF and Landfill directed to Reclaim Pond. -Portage Pit water, and plant site and airstrip runoff directed to Portage Attenuation pond, or pumped to Tear Drop Lake (Sump 4) for use as process make-up water as required before discharge of excess to Portage Attenuation Pond. -Monitor water quality within Portage Attenuation Pond, treating if required prior to decant of excess to 3PL, the Reclaim Pond and/or pumping to Process Plant for use as make-up water. -Construction of Bay Goose Dike (Phase 2), Saddle Dams 2 and 6, and second raise of the Stormwater Dike and Saddle Dam 1. -Maintain low water volume within Portage Attenuation Pond during open water season to facilitate construction of the Central Dike in 2011, if necessary.

Fig. No.	Year	Items
3.3	2-3 (2011-2012)	-Complete construction of Bay Goose Dike if required. -Dewater inside Bay Goose Dike to 3PL. Dewater volume discharged directly to 3PL if meet TSS criteria. Otherwise, treated prior to release, or sent to Portage Attenuation Pond or Reclaim Pond for storage, treatment or reuse as process/reclaim water. -Advance mining in Portage Pit South (to completion) , North center and South center. -Commence construction of Finger Dikes and Goose Island Dike (now Bay Goose Dike) Extension. -Stage 1 construction of the Central Dike to elevation 135 masl. -Continue to operate separate Reclaim and Portage Attenuation ponds. -Runoff from Portage RSF and Landfill directed to Reclaim Pond. -Portage Pit waters, and plant site and airstrip runoff directed to Portage Attenuation pond, or pumped to Tear Drop Lake (Sump 4) for use as process make-up water as required before discharge of excess to Portage Attenuation Pond. -Monitor water quality within Portage Attenuation Pond, treating if required prior to decant of excess to 3PL, the Reclaim Pond and/or pumping to Process Plant for use as make-up water. -Maintain low water volume within Portage Attenuation Pond during open water season to facilitate construction of the Central Dike. -Construct Vault dike.
	4 (2013)	-Continue construction of Finger Dikes and Goose Island Dike (now Bay Goose Dike) Extension. -Advance mining in Portage North Center and South Center (to completion) and North Portage. Initiate mining in Goose Pit. -Selective placement of waste rock into Portage Pit South. -Stop tailings deposition in north cell of TSF and commence in the south cell. Portage Attenuation and Reclaim ponds combine. -Being reclamation in North Cell, including cover trials. -Runoff from Portage RSF and Landfill directed to Reclaim Pond. -Portage and Goose pit waters, and plant site and airstrip runoff directed to Reclaim Pond, or pumped to Tear Drop Lake (Sump 4) for use as process make–up water as required before discharge of excess to the Reclaim Pond. -Dewater Vault Lake to Wally Lake. Dewater volume discharged directly to Wally Lake if meet TSS criteria. Otherwise, stored in Vault Attenuation Pond, and treated before release.

Fig. No.	Year	Items
3.4	5 (2014)	-Stage 2 construction of Central Dike to elevation 145 masl. -Saddle Dams 3, 4 and 5 construction to elevation 145 masl. -Continue and complete construction of Finger Dikes and Goose (now Bay Goose) and East Dike extensions. Construct Fish Habitat Compensation Mounts in 2PL. -Runoff from Portage RSF and Landfill directed to Reclaim Pond. -Portage and Goose pit waters (until completion of mining) and plant site and airstrip runoff directed to Reclaim Pond, or pumped to Tear Drop Lake (Sump 4) for use as process make-up water as required before discharge of excess to the Reclaim Pond. -Selective placement of waste rock into Portage Pit South. -Advance and complete mining of Portage and Goose Pits. -Stripping and initiate mining in Vault Pit.
3.5	6-8 2015-2017	-Commence flooding of Portage Pit (Portage and Goose pits) Lake. -Monitor water quality within flooded pits, treating in–situ if required and/or pumping to Process Plant for use as process water. -Advance mining of Vault Pit. -Runoff from Vault RSF directed to Vault Attenuation Pond. -Monitor water quality within Vault Attenuation Pond, treating in–situ if required prior to decant of excess to Wally Lake. -Stage 3 Central Dike and Stage 2 Saddle Dams 3, 4 and 5 construction to elevation 150 masl. -Runoff from Portage Rock Storage Facility and Landfill directed to Reclaim Pond. -Plant site and airstrip runoff to be directed to Tear Drop Lake (Sump 4) for use as process make-up water as required before discharge of excess to Goose and Portage pits to assist with flooding. -Continue Portage Pit Lake flooding. Monitor water quality within flooded pits, treating in–situ if required and/or pumping to process plan for use as process water.
3.6	9 2018	-Mining complete, start final closure and reclamation. -Runoff from Portage Rock Storage Facility and Landfill directed to Reclaim Pond. -Plant site and airstrip runoff to be directed to Tear Drop Lake (Sump 4) (until mining complete) for use as process make-up water as required before discharge of excess to Goose and Portage pits to assist with flooding. -Reclaim Pond water treated if necessary and discharged to Portage Pit Lake to assist with flooding. -Continue Portage Pit Lake flooding. - Commence Vault Pit Lake flooding. -Monitor water quality within flooded pits, treating in–situ if required.
3.7	post closure	-Breach dewatering dikes once pit lake water quality is suitable for mixing with neighbouring lakes.

REVISION DATE: 09/07/14 11:01AM By: MHintay CADD FILE: N:\Bur-Graphics\Projects\2009\1428\09-1428-0014\Drafting\2000\Task-1000\0914280014-2000-FIG_3.1.dwg



LEGEND

	ATTENUATION POND		WASTE ROCK
	TAILINGS BEACH		SUMP
	RECLAIM POND		DIVERTED AREA
	DEWATERED AREA		FLOODED AREA

- PUMPED LAKE WATER (DEWATERING/PIT LAKE FLOODING)
- NON-CONTACT WATER DIVERSION
- PUMPED DECANT WATER (TREATED AS REQUIRED)
- PUMPED CONTACT WATER
- PIPED/DIVERTED CONTACT WATER
- SURFACE RUN-OFF

NOTES

1) TAILINGS BEACH SLOPE 1%.
2) GRID REFERENCE: NAD 83, UTM ZONE 14.
3) TAILINGS DEPOSITION PLAN IS IN UNDER DEVELOPMENT.

REFERENCES

1) AMEC AMERICAS LTD, DRAWING NUMBER A1-131395-100-C-0001 (100-C-0001.DWG) , MEADOWBANK FEASIBILITY STUDY, APRIL 2005.

0 200 400 600 800 1000
SCALE 1:25,000 m

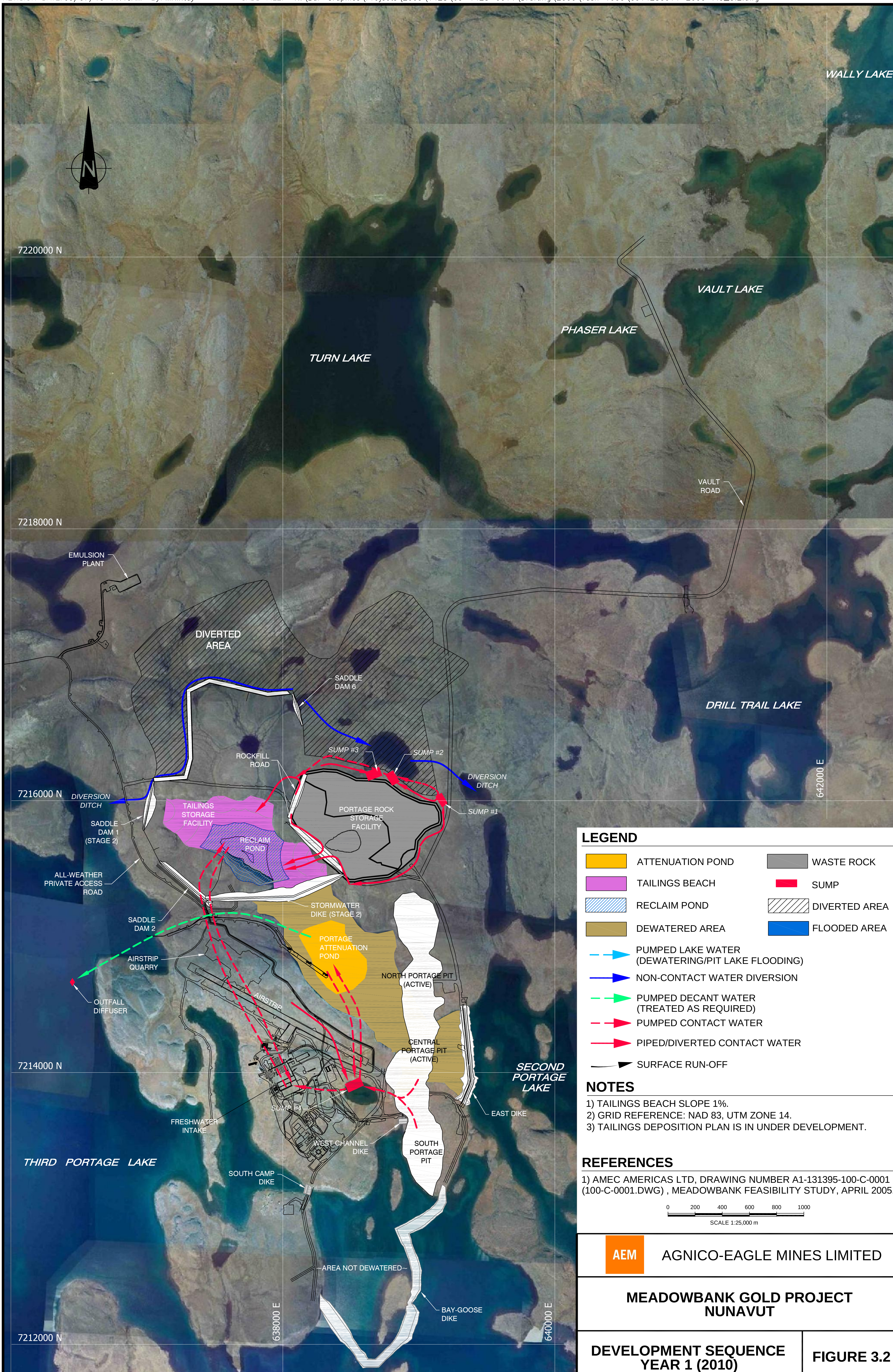
AEM AGNICO-EAGLE MINES LIMITED

MEADOWBANK GOLD PROJECT NUNAVUT

DEVELOPMENT SEQUENCE YEAR -1 (2009)

FIGURE 3.1

REVISION DATE: 09/07/15 11:45AM By: MHintay CADD FILE: N:\Bur-Graphics\Projects\2009\1428\09-1428-0014\Drafting\2000\Task-1000\0914280014-2000-FIG_3.2.dwg



LEGEND

- ATTENUATION POND
- WASTE ROCK
- TAILINGS BEACH
- SUMP
- RECLAIM POND
- DIVERTED AREA
- DEWATERED AREA
- FLOODED AREA
- PUMPED LAKE WATER (DEWATERING/PIT LAKE FLOODING)
- NON-CONTACT WATER DIVERSION
- PUMPED DECANT WATER (TREATED AS REQUIRED)
- PUMPED CONTACT WATER
- PIPED/DIVERTED CONTACT WATER
- SURFACE RUN-OFF

NOTES

1) TAILINGS BEACH SLOPE 1%.
2) GRID REFERENCE: NAD 83, UTM ZONE 14.
3) TAILINGS DEPOSITION PLAN IS IN UNDER DEVELOPMENT.

REFERENCES

1) AMEC AMERICAS LTD, DRAWING NUMBER A1-131395-100-C-0001 (100-C-0001.DWG) , MEADOWBANK FEASIBILITY STUDY, APRIL 2005.

0 200 400 600 800 1000
SCALE 1:25,000 m

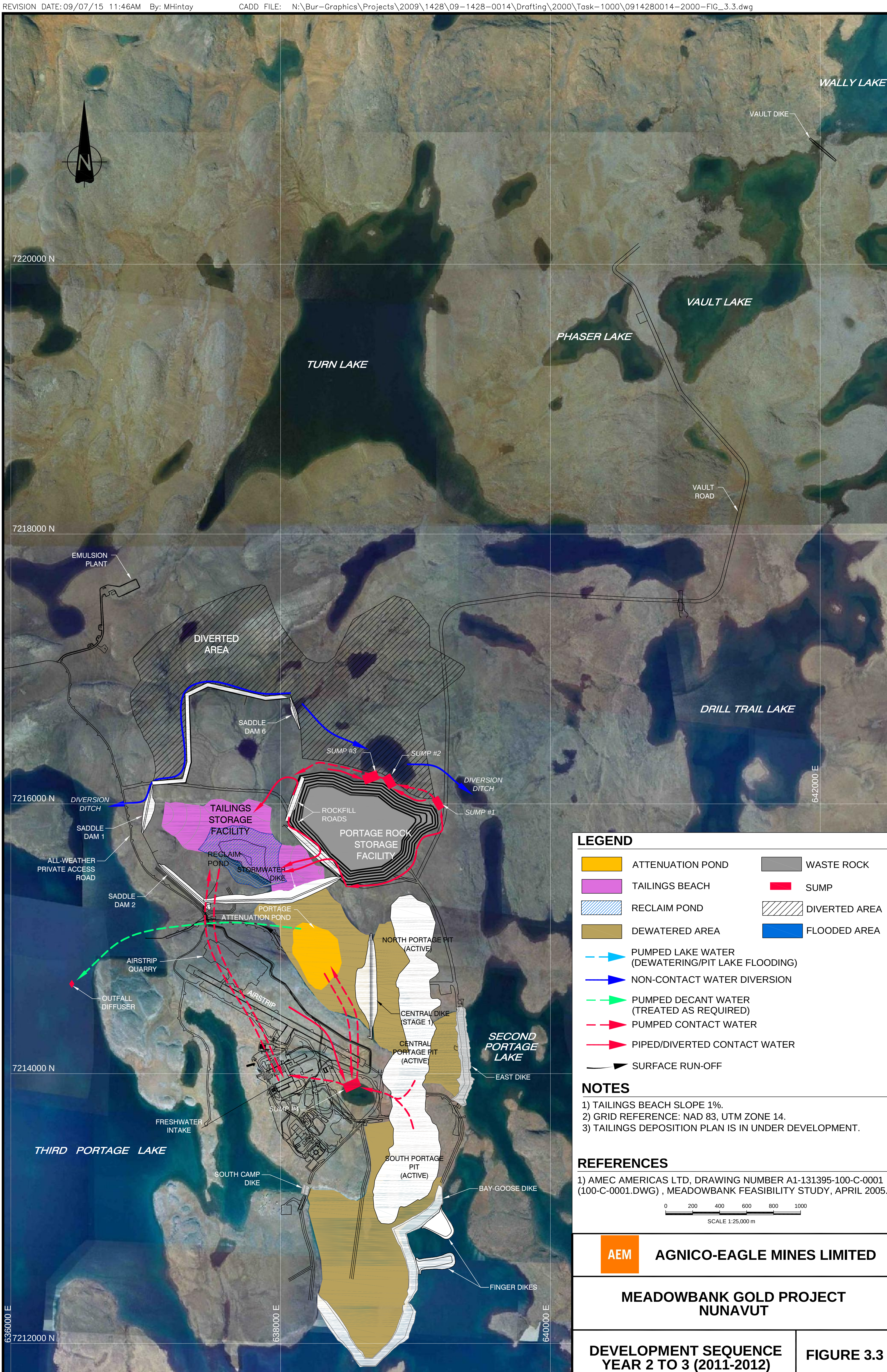
AEM AGNICO-EAGLE MINES LIMITED

MEADOWBANK GOLD PROJECT NUNAVUT

DEVELOPMENT SEQUENCE YEAR 1 (2010)

FIGURE 3.2

REVISION DATE: 09/07/15 11:46AM By: MHintay CADD FILE: N:\Bur-Graphics\Projects\2009\1428\09-1428-0014\Drafting\2000\Task-1000\0914280014-2000-FIG_3.3.dwg



LEGEND

- ATTENUATION POND
- TAILINGS BEACH
- RECLAIM POND
- DEWATERED AREA
- WASTE ROCK
- SUMP
- DIVERTED AREA
- FLOODED AREA
- PUMPED LAKE WATER (DEWATERING/PIT LAKE FLOODING)
- NON-CONTACT WATER DIVERSION
- PUMPED DECANT WATER (TREATED AS REQUIRED)
- PUMPED CONTACT WATER
- PIPED/DIVERTED CONTACT WATER
- SURFACE RUN-OFF

NOTES

1) TAILINGS BEACH SLOPE 1%.
2) GRID REFERENCE: NAD 83, UTM ZONE 14.
3) TAILINGS DEPOSITION PLAN IS IN UNDER DEVELOPMENT.

REFERENCES

1) AMEC AMERICAS LTD, DRAWING NUMBER A1-131395-100-C-0001 (100-C-0001.DWG) , MEADOWBANK FEASIBILITY STUDY, APRIL 2005.

0 200 400 600 800 1000
SCALE 1:25,000 m

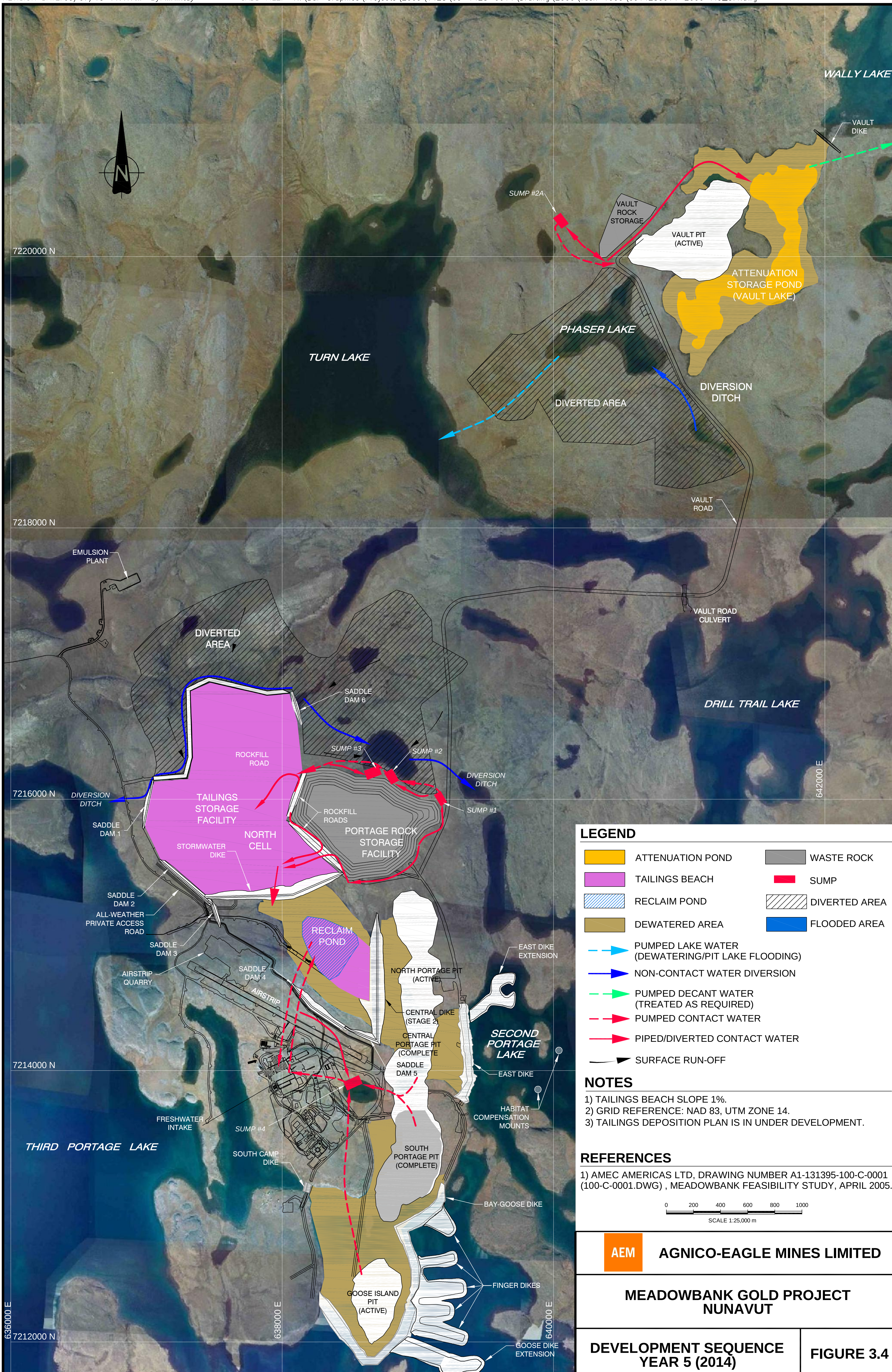
AEM AGNICO-EAGLE MINES LIMITED

MEADOWBANK GOLD PROJECT
NUNAVUT

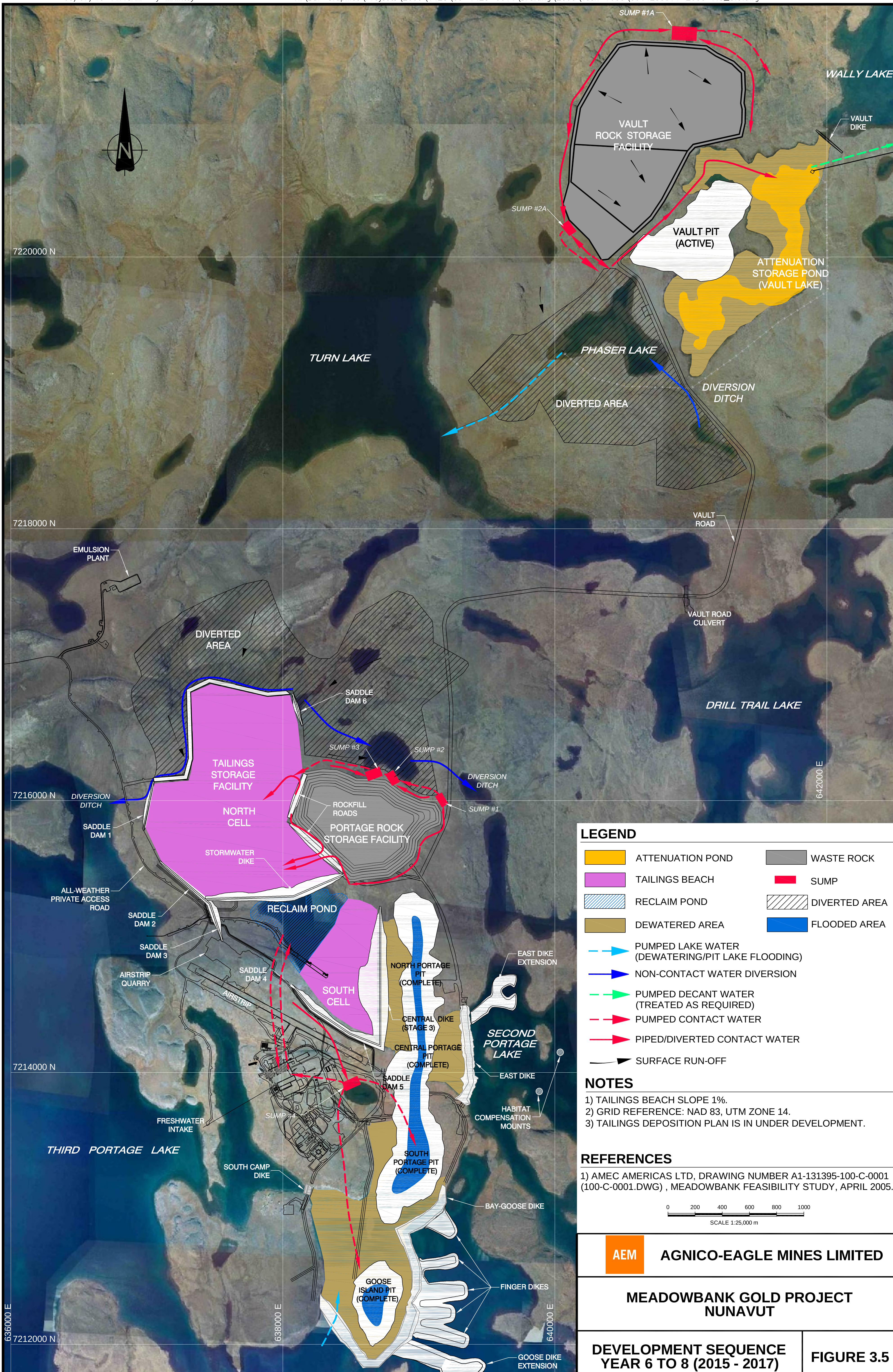
DEVELOPMENT SEQUENCE
YEAR 2 TO 3 (2011-2012)

FIGURE 3.3

REVISION DATE: 09/07/15 11:47AM By: MHintay CADD FILE: N:\Bur-Graphics\Projects\2009\1428\09-1428-0014\Drafting\2000\Task-1000\0914280014-2000-FIG_3.4.dwg



REVISION DATE: 09/07/15 11:48AM By: MHintay CADD FILE: N:\Bur-Graphics\Projects\2009\1428\09-1428-0014\Drafting\2000\Task-1000\0914280014-2000-FIG_3.5.dwg



LEGEND

ATTENUATION POND	WASTE ROCK
TAILINGS BEACH	SUMP
RECLAIM POND	DIVERTED AREA
DEWATERED AREA	FLOODED AREA

- PUMPED LAKE WATER (DEWATERING/PIT LAKE FLOODING)
- NON-CONTACT WATER DIVERSION
- PUMPED DECANT WATER (TREATED AS REQUIRED)
- PUMPED CONTACT WATER
- PIPED/DIVERTED CONTACT WATER
- SURFACE RUN-OFF

NOTES

1) TAILINGS BEACH SLOPE 1%.
2) GRID REFERENCE: NAD 83, UTM ZONE 14.
3) TAILINGS DEPOSITION PLAN IS IN UNDER DEVELOPMENT.

REFERENCES

1) AMEC AMERICAS LTD, DRAWING NUMBER A1-131395-100-C-0001 (100-C-0001.DWG) , MEADOWBANK FEASIBILITY STUDY, APRIL 2005.

0 200 400 600 800 1000

SCALE 1:25,000 m

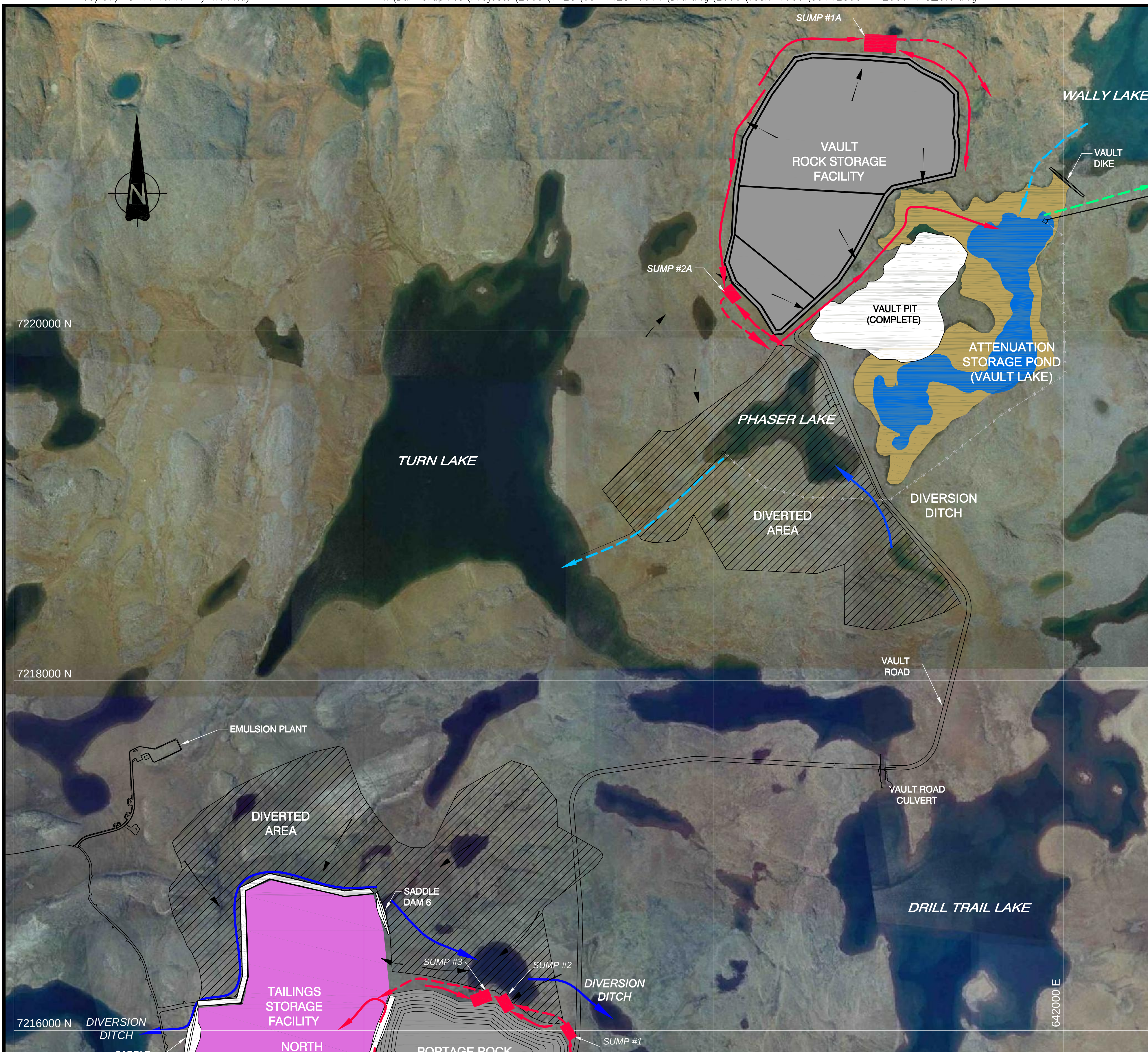
AEM AGNICO-EAGLE MINES LIMITED

MEADOWBANK GOLD PROJECT
NUNAVUT

DEVELOPMENT SEQUENCE YEAR 6 TO 8 (2015 - 2017)

FIGURE 3.5

REVISION DATE: 09/07/15 11:49AM By: MHintay CADD FILE: N:\Bur-Graphics\Projects\2009\1428\09-1428-0014\Drafting\2000\Task-1000\0914280014-2000-FIG_3.6.dwg



LEGEND

	ATTENUATION POND		WASTE ROCK
	TAILINGS BEACH		SUMP
	RECLAIM POND		DIVERTED AREA
	DEWATERED AREA		FLOODED AREA

PUMPED LAKE WATER (DEWATERING/PIT LAKE FLOODING)
NON-CONTACT WATER DIVERSION
PUMPED DECANT WATER (TREATED AS REQUIRED)
PUMPED CONTACT WATER
PIPED/DIVERTED CONTACT WATER
SURFACE RUN-OFF

NOTES

1) TAILINGS BEACH SLOPE 1%.
2) GRID REFERENCE: NAD 83, UTM ZONE 14.
3) TAILINGS DEPOSITION PLAN IS IN UNDER DEVELOPMENT.

REFERENCES

1) AMEC AMERICAS LTD, DRAWING NUMBER A1-131395-100-C-0001 (100-C-0001.DWG) , MEADOWBANK FEASIBILITY STUDY, APRIL 2005.

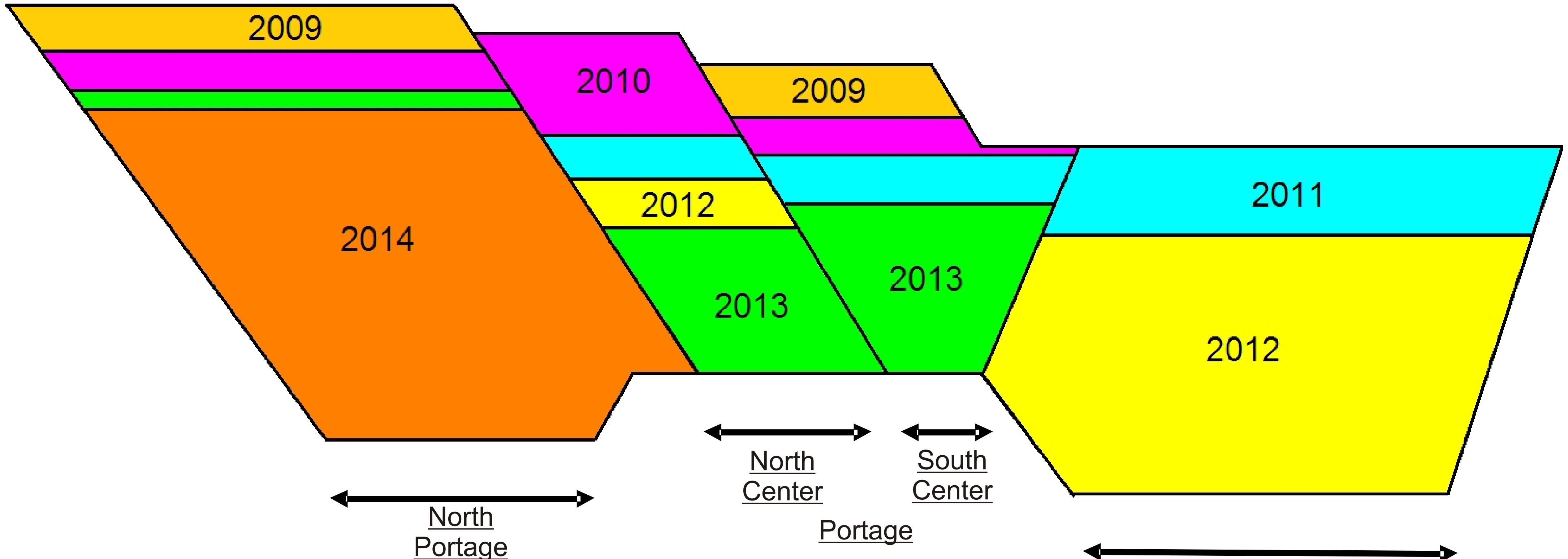
0 200 400 600 800 1000
SCALE 1:25,000 m

AEM **AGNICO-EAGLE MINES LIMITED**

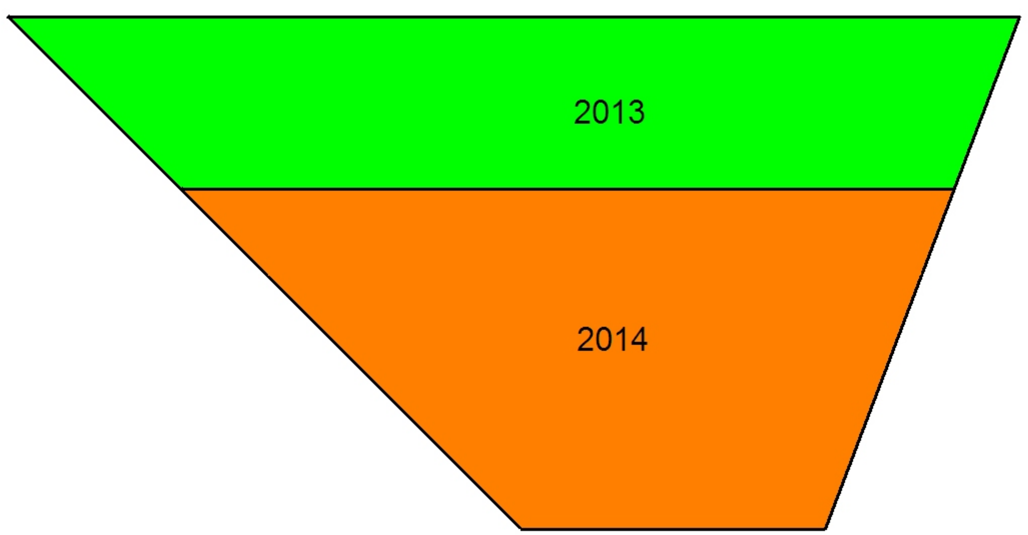
MEADOWBANK GOLD PROJECT NUNAVUT

DEVELOPMENT SEQUENCE YEAR 9 (2018)

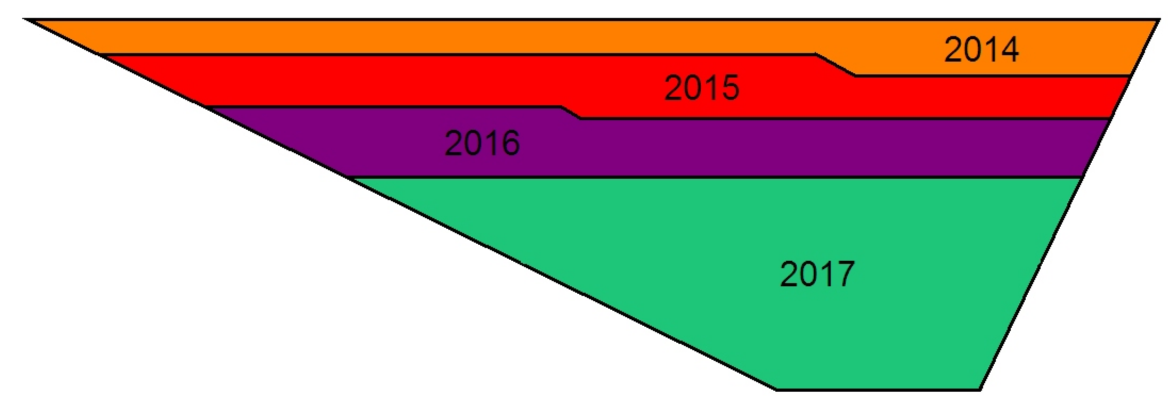
FIGURE 3.6



PROPOSED MINING SEQUENCE
PORTAGE PIT



PROPOSED MINING SEQUENCE
GOOSE PIT



PROPOSED MINING SEQUENCE
VAULT PIT

AEM AGNICO-EAGLES MINES LIMITED	
MEADOWBANK GOLD PROJECT NUNAVUT	
CONCEPTUAL MINING SEQUENCE	FIGURE 3.7

DRAWING DATE: 14-Jul-09 COREL FILE: N:\Bur-Graphics\Projects\2009\1428\09-1428-0014\Drafting\2000\Task-1000\09142800014-2000-FIG_3.7.cdr

SECTION 4 • CONTROL STRATEGIES FOR ACID ROCK DRAINAGE IN COLD REGIONS

The generation of metal leachate in acidic drainage is a concern for mining projects. In evaluating the potential control strategies for the disposal of the mine waste at the Meadowbank Gold Project, consideration was given to control strategies that are effective in cold regions. A discussion of the alternative control strategies considered for the Meadowbank Gold Project is summarized below.

Common control strategies for the prevention or reduction of acid mine drainage in cold regions are:

1. Control of acid generating reactions;
2. Control of migration of contaminants; and
3. Collection and treatment.

In assessing the overall control strategies for the Meadowbank Gold Project, emphasis has been placed on methods that satisfy (1) and (2) in the above list, which then has an impact on (3) by potentially reducing the requirements for these activities. Table 4.1 presents various acid mine drainage control strategies.

The Meadowbank Gold Project is located within the zone of continuous permafrost, and has a mean annual air temperature of about -11.1°C. Based on thermal data collected from the site since 1996, the project area is underlain by permafrost to depths between 450 and 550 m. In developing the Mine Waste Management Plan for the project, freeze control and climate control strategies have been adopted.

Freeze control strategies rely on the immobilization of pore fluids to control acid mine drainage reactions, and the potential migration of contaminated porewater outside of the storage facility. The climate conditions at the Meadowbank Gold Project site are amenable to freeze control strategies, and hence should be taken advantage of. In addition to immobilization of pore fluids, permafrost can reduce the hydraulic conductivity of materials by several orders of magnitude. Consequently, freeze control strategies are effective methods for preventing the migration of contaminants through materials.

According to Dawson and Morin (1996), freeze control strategies can only be effective if sufficient quantities of non-acid-generating waste rock are available for use as a cover and insulation protection. Based on the production forecast schedule for the Meadowbank Gold Project (Table 3.1), there will be sufficient NPAG rock available to provide cover over the Portage RSF and TSF.

Table 4.1: Acid Mine Drainage Control Strategies of the Arctic

Strategy	Tailings	Waste Rock
Freeze Controlled	Total or perimeter freezing options can be considered. Can freeze up to greater than 15 m annually if freezing in thin layers. Process chemicals could cause high unfrozen water contents.	Requires considerable volumes of non-acid waste rock for insulation protection. Better understanding of air and water transport through waste rock required for reliable design.
Climate Controlled	May not be a reliable strategy for saturated tailings.	Requires control of convective air flow through waste rock, infiltration control with modest measures and temperature controls. Better understanding of waste rock air, water, and heat transport for reliable design.
Engineered Cover	Special consideration for freeze-thaw effects. Availability and cost of cover materials are major impediments.	
Subaqueous Disposal	Special considerations for winter ice conditions and pipeline freeze-up.	Very difficult to dispose of waste rock beneath winter ice.
Collection and Treatment	Costly to maintain at remote locations Long term maintenance cost.	
Segregation and Blending	Tailings are normally geochemically homogeneous.	May be very effective. Research and development on-going.

Reference: (MEND 1.61.2, 1996)

Climate control strategies rely on cold temperatures to reduce the rate at which oxidation occurs. The low net precipitation in permafrost regions limits infiltration of water into waste rock and tailings disposal areas. Consequently, the climate of the Meadowbank Gold Project area will act as a natural buffer to the production of acid mine drainage and metal leachate. Climate control strategies are best applied to materials placed at a low moisture content to reduce the need for additional controls on seepage and infiltration. This strategy is considered to be effective for waste rock, but not tailings. Therefore, the arid climate at the Meadowbank Gold Project is also suited for climate control strategies for use with the RSFs.

SECTION 5 • OVERBURDEN MATERIALS

5.1 LAKE BOTTOM SEDIMENTS

The lakebed is generally expected to consist of soft, fine grained sedimentary deposits, referred to as lake bottom sediments that are underlain by till or other soil materials, and then bedrock. The thickness of lake bottom sediments is expected to be variable, and may range from a few centimetres up to several meters, as suggested by geophysical surveys. Other projects in the north have reported soft sediments up to about 4 m in thickness. These sediments will need to be removed to beyond the footprint of the Central and Stormwater dikes and the open pits after the lakes have been drawn down. A range in potential volumes has been provided in Table 5.1, assuming 1 and 2 m average sediment thicknesses.

Table 5.1: Estimate of Lake Bottom Sediment Volumes

	Approximate Footprint Area (m^2)	Volume (m^3) (assuming 1 m average thickness)	Volume (m^3) (assuming 2 m average thickness)
Central Dike	130,000	130,000	260,000
Stormwater Dike	40,000	60,000	120,000
Goose Island Pit	130,000	130,000	260,000
Portage Pit	300,000	300,000	600,000
Total	600,000	600,000	1,200,000

Note: Volumes are based on plan areas of pits and dike below lake level where soft sediments may be present, and not on total footprint areas.

The sediments will be exposed and may be allowed to freeze before being excavated with conventional equipment. Ripping or blasting may be required to loosen the materials, depending on the nature of the sediments and the time for which they are exposed to freezing conditions.

Lake bottom sediments will only be removed from the footprint area of the Central and Stormwater dikes (Golder, 2008b). The proposed construction methodology for the Dewatering Dikes does not include the removal of lake bottom sediments (Golder, 2008c, 2008d). Within the Central Dike footprint, lake bottom sediments will be stripped to expose the till foundation and will be disposed of immediately upstream of the Central Dike. Stripped lake bottom sediments from the Stormwater Dike foundation will be placed upstream of the dike in the North Cell. The stripped material from the dike foundations will be placed on to dewatered lake bottom sediments. Initial tailings deposit will be from the upstream face of Stormwater Dike, and later to the upstream of the Central Dike on the areas of lake bottom sediment disposal.

Lake bottom sediments will also be mined as part of development of the open pits and are proposed to be placed in the area between the North Portage deposit and the East Dike. One reason for selecting this location is that the sediment may consolidate and could then be accessed in future for a reclamation material if suitable. There is no plan to use the soft lake bottom sediments as construction materials.

5.2 TILL

The remainder of the overburden materials on site are a rocky till. Some till will be used in the construction of retaining dikes for water and tailings; with the balance placed in the RSFs. Till placed in the RSFs will either be mixed with the waste rock, or stockpiled separately for future use (*e.g.*, reclamation). The average till thicknesses throughout the Project area are on the order of 2 to 3 m based on reverse circulation drilling carried out in 2002. Locally, thicknesses may reach up to 18 m.

In general terms, the till can be described as a silty sand/gravel till, having a fines (silt + clay) content between about 30% and 40% based on laboratory grain size analyses. The material also contains up to boulder-sized particles.

The material that has been recovered from beneath the lakes during geotechnical drilling along the proposed dike alignments generally can be described as cobbles and gravel with traces of sand, silt, and clay (Golder, 2006). Locally, samples of sand have been obtained. Samples of clayey sand materials have been recovered using split spoon sampling methods.

SECTION 6 • MINE WASTE ROCK

Waste rock from the open pit mines not used for site development purposes will be trucked to mine waste rock storage areas until the end of mine operations. Near to the end of the Portage Pit mining operations, excess waste rock will also be placed within the South Portage Pit to be submerged during pit flooding (subaqueous disposal).

Due to the distance between the Portage mining area and the Vault mining area, two waste rock storage facilities (RSFs) are required. Waste rock from the Portage and Goose Island pits will be stored in a storage facility located near to these pits (Portage RSF), while waste rock from the Vault open pit will be stored in a separate storage facility adjacent to the Vault Pit (Vault RSF). Waste Rock Properties

The quantities of waste rock to be excavated during mining of the open pits are summarized in Table 3.1. The estimated quantities by waste rock type to be stored in each of the RSFs are summarized in Table 6.1.

Table 6.1: Quantities of Waste Rock Types to the RSFs

Rock Storage Facility	Rock Type	Quantity
Portage	NPAG	30.6 Mt
	PAG	38.9 Mt
	Till	7.1 Mt
Vault	NPAG	43.2 Mt
	PAG	14.4 Mt
	Till	1.5 Mt

6.1 WASTE ROCK MANAGEMENT

Waste rock within the RSFs will be disposed of on land using a total freezing control strategy. As shown in Table 6.1, the waste types that will report to the RSFs show variable ARD potentials, some of which will require control measures. Based on the results of thermal modelling, it is expected that the material within the RSFs will freeze within two years of placement (BGC, 2004).

Conceptual waste rock deposition plan for the Portage and Vault RSF's are shown in Figure 6.1 and Figure 6.2, respectively. Placement of waste rock within the Portage RSF will commence closest to the Portage Pit and will generally proceed westward over the entire footprint, then upward to further benches during development of the mine. Placement of waste rock within the Vault RSF will commence closest to the Vault Pit and will proceed in a north-westerly direction during development of the pit.

As a further ARD control measure, the Portage RSF will be capped with a 4-m thick cover of NPAG rock at closure. The depth of cover was selected based on thermistor data, which indicates the depth of thaw (active layer depth) to be on the order of 1.5 m. The cover material would be coarse to allow the development of convective cooling during winter, and insulation through trapped air within voids during summer. Given the high evaporation rate and low annual average precipitation at the site, the average annual infiltration into the pile is expected to be low.

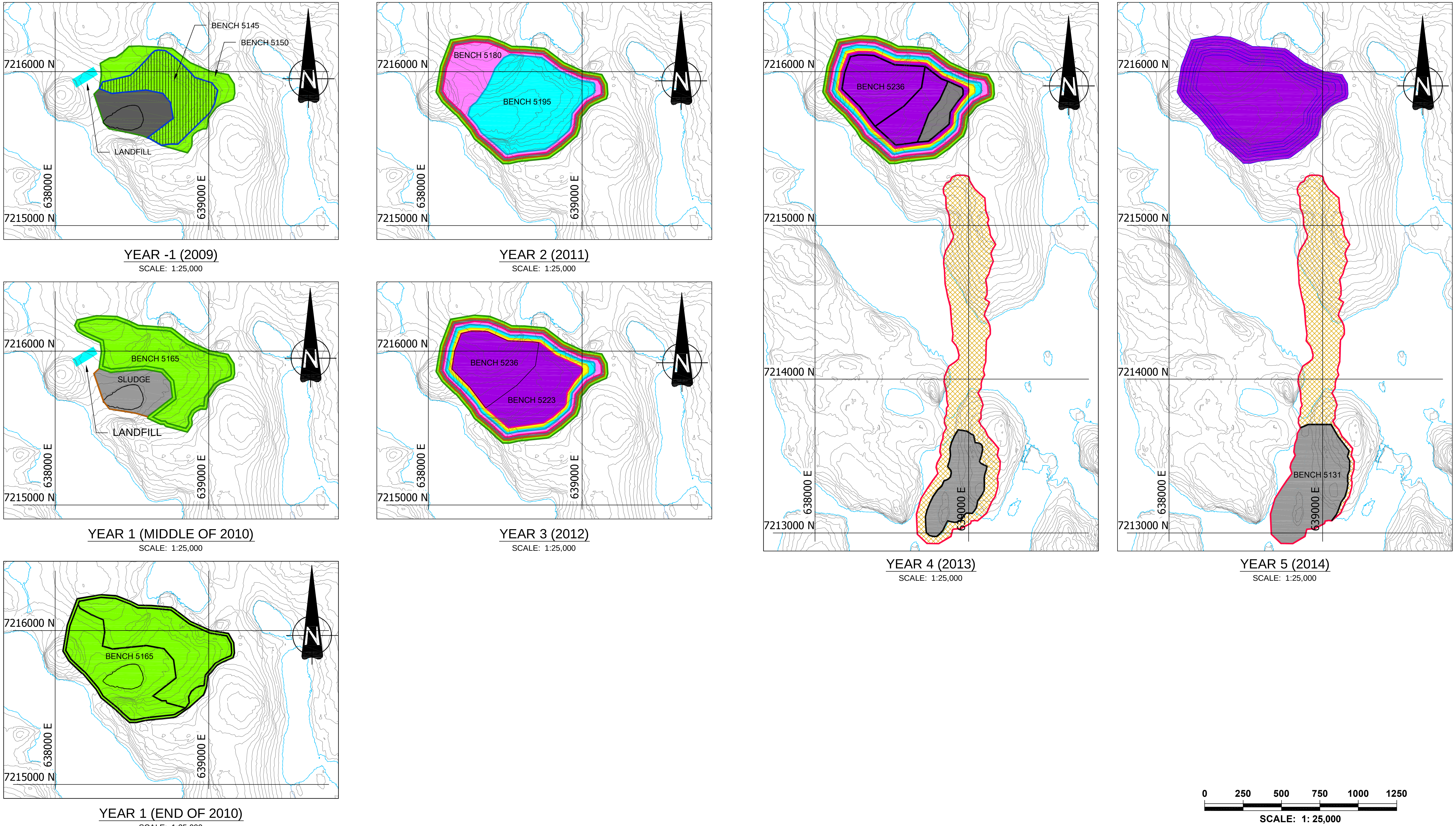
The Vault RSF is not expected to require capping, as the bulk of the material from this deposit is NPAG.

6.2 WASTE ROCK STORAGE DIMENSIONS

Table 6.2 summarizes the physical dimensions and aspects of the Portage and Vault RSFs.

Table 6.2: Details of Proposed Rock Storage Facilities

Descriptors	Portage Rock Storage Facility	Vault Rock Storage Facility
Approximate storage volume	38.15 Mm^3	34 Mm^3
Approximate crest elevation	214 m	180 m
Approximate height	82 m	25 m
Maximum elevation of adjacent topography	192 m	190 m
Approximate footprint area	64 ha	115 ha



NOTES

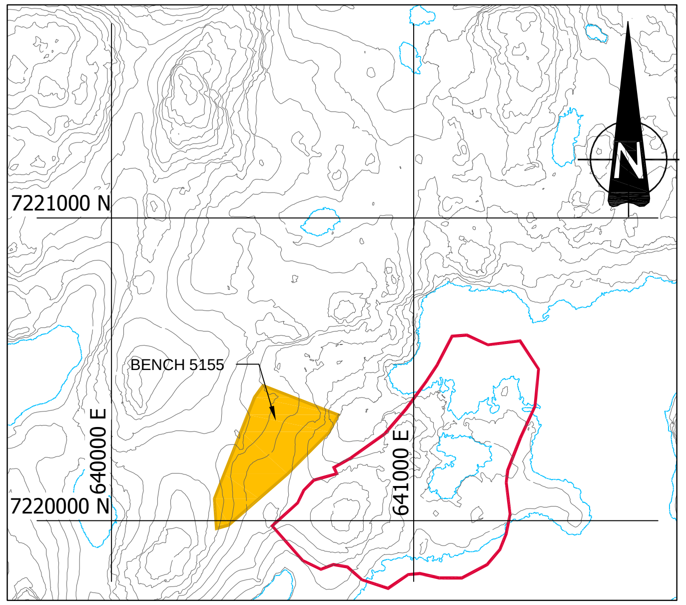
1. GRID REFERENCE: NAD 83, UTM ZONE 4.
2. BENCH ELEVATIONS IN MINE DATUM.

AGNICO-EAGLE MINES LIMITED

MEADOWBANK GOLD PROJECT
NUNAVUT

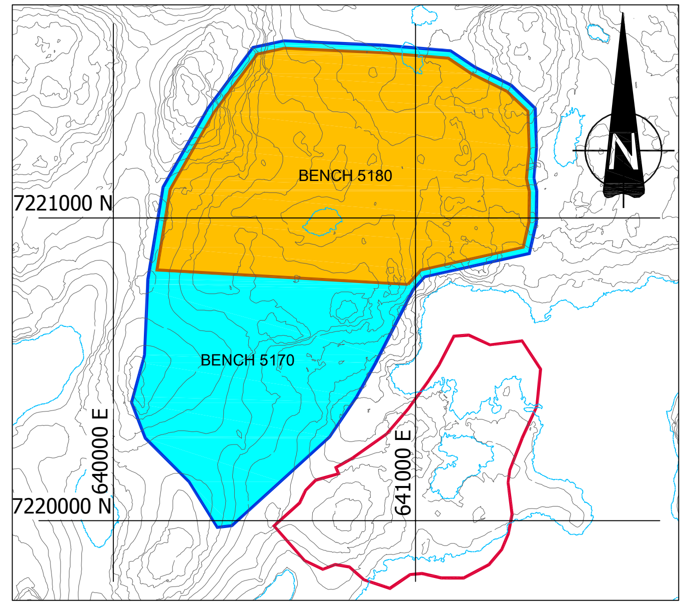
CONCEPTUAL WASTE ROCK DEPOSITION PLAN PORTAGE ROCK STORAGE FACILITY

FIGURE 6.1



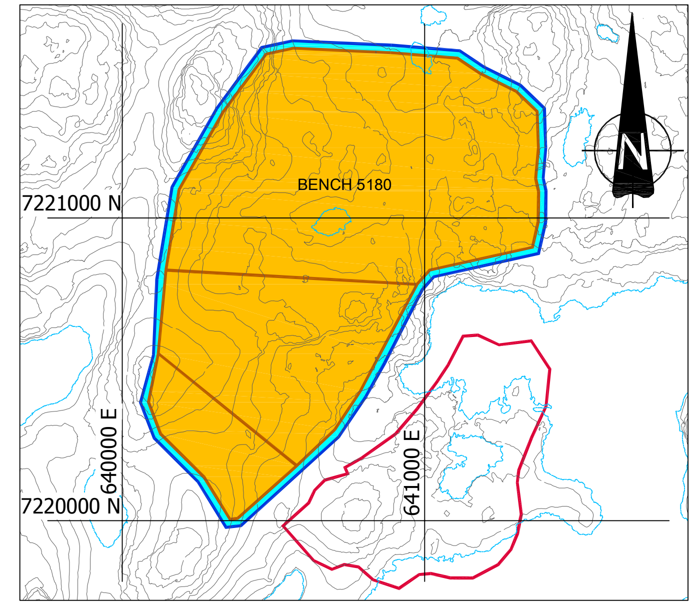
YEAR 5 (2014)

SCALE: 1:25,000



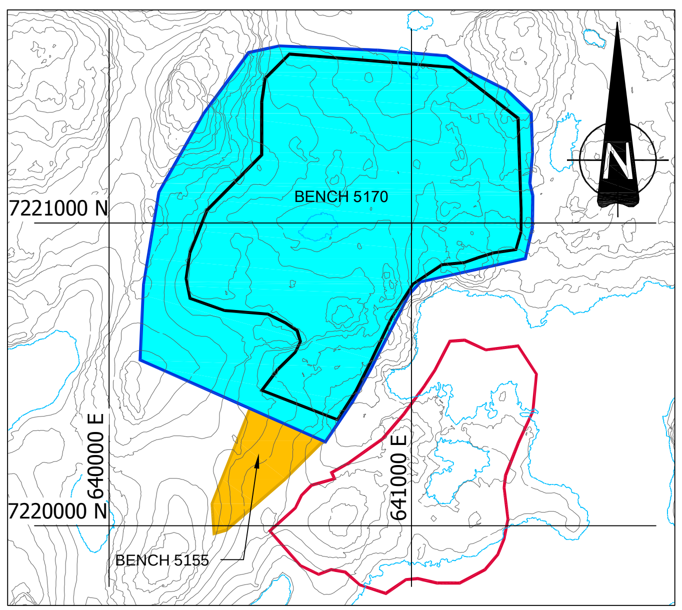
YEAR 7 (2016)

SCALE: 1:25,000



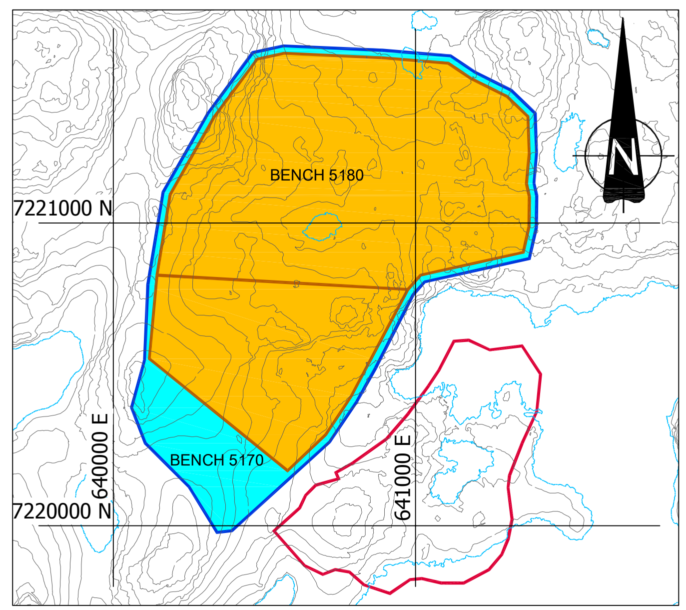
YEAR 9 (2018)

SCALE: 1:25,000



YEAR 6 (2015)

SCALE: 1:25,000



YEAR 8 (2017)

SCALE: 1:25,000

0 250 500 750 1000 1250

SCALE: 1: 25,000

NOTES

1. GRID REFERENCE: NAD 83, UTM ZONE 14.
2. BENCH ELEVATIONS IN MINE DATUM.

AEM **AGNICO-EAGLE MINES LIMITED**

MEADOWBANK GOLD PROJECT
NUNAVUT

CONCEPTUAL WASTE ROCK DEPOSITION PLAN VAULT ROCK STORAGE FACILITY	**FIGURE 6.2**

SECTION 7 • TAILINGS MANAGEMENT

Tailings are the processed material by-product of the gold recovery process. Tailings will be processed through a cyanide destruction circuit, then pumped to the Tailings Distribution Box, combined with the treated sewage from the Sewage Treatment Plant, and then pumped to the Tailings Storage Facility.

Tailings will be deposited into the northwest arm of Second Portage Lake, commencing in the North Cell, near the Stormwater Dike, switching to the South Cell after approximately 3.5 years. This tailings deposition strategy will result in Second Portage Arm being filled with tailings at the end of mine life. Initially, the basin at the south end of the facility will be operated as an attenuation storage pond, while the Reclaim Pond is operated within the North Cell. Later in mine life, the deposition switches to the south and the Attenuation and Reclaim ponds will combine.

7.1 TAILINGS PROPERTIES

Properties of the tailings relevant to the design of the TSF are presented in Table 7.1.

Table 7.1: Relevant Data for Tailings Storage Facility

Property	Value
Mine design life	9 yrs
Mill production (solids)	8,500 tpd
Ore processed (In-pit Reserves)	29.39 Mt
Goose Island pit	2.67 Mt
Vault pit	10.07 Mt
Portage pit	16.65 Mt
Average specific gravity for ore	3.1 t/m^3
Assumed void ratio	1.4
Assumed dry density (frozen with 20% swell for ice)	1.31 t/m^3
Volume of tailings including 20% for ice entrapment	22.4 Mm^3

7.2 TAILINGS MANAGEMENT STRATEGIES

Due to the arid climate and permafrost environment, tailings will be disposed of in a manner that encourages total freezing as a control strategy. Given the length of time that water at the site is ice-covered, subaerial disposal is preferred. This will allow the tailings to be frozen in thin layers in order to maximize the total frozen thickness. The tailings will eventually become encapsulated by permafrost; thus limiting oxygen diffusion and water infiltration into the pile, and the generation of acid mine drainage.

During operations, the basin into which tailings will be deposited will initially be a local groundwater discharge area as the water level in the tailings will be below that of Second Portage Lake. As the Portage Pit is excavated however, it will become a regional hydraulic sink in the area. Any seepage into the talik beneath the tailings area will be directed towards the Portage Pit where it will be captured during the open pit operations and redirected back to the TSF.

The tailings deposition plan will result in the development of a tailings beach starting on the upstream slope of the Central Dike and progressively advancing to the west, away from the Central Dike and open pit. This will act to increase the potential seepage pathway and reduce seepage-flux through the Central Dike and foundation materials.

Once hydraulic gradients are reduced, the migration of tailings constituents into the talik beneath the North Arm of Second Portage Lake can only occur by diffusion. Diffusive transport is calculated to require more than $1x10^6$ years for 1% of the initial constituent concentration to reach the deep regional groundwater system. The rate of advance of the freezing front into the talik beneath the Second Portage Lake is therefore expected to exceed the rate of advance of diffusive transport, eventually encapsulating any constituents.

At closure, the tailings surface will be capped with a minimum 2-m thick layer of NPAG rockfill and will be shaped to direct water away from the perimeter dikes. The final thickness of capping will be such as to limit yearly thawing (the active layer) to within the acid-buffering capping layer, and promote the development of permafrost within the tailings. Cover trials will be completed during operations to confirm the required cover thickness to physically isolate the tailings and to confine the active layer within relatively inert materials.

In addition to providing a layer to limit the depth of potential frost penetration into reactive tailings pile, the cover layer will also serve the following beneficial purposes:

- The cover will reduce the potential for wind blown tailings;
- The cover will be composed of acid buffering waste rock; and
- The cover will contribute to shedding of water from the surface of the tailings, and consequently will limit infiltration of water into the tailings pile.

The beneficial effects of the cover layer will provide an alternative and preventive strategy for the management of the TSF in the event that permafrost develops more slowly than predicted.

During the post-closure period, the tailings are predicted to freeze with time, resulting in permafrost encapsulation. A very low seepage flux of tailings porewater seepage is expected to report to the Portage Pit Lake until the tailings are frozen. The pit lake will be isolated from the adjacent Third Portage Lake until monitoring indicates the pit lake water quality achieves acceptable levels to allow removal of sections of the Bay-Goose Dike.

7.3 TAILINGS FREEZEBACK AND SEEPAGE

Modeling of tailings freezeback and contaminant transport was completed in two stages of increasing complexity, as described in Golder 2007a and 2008a. The first stage of modeling was completed using a simplified thermal model of the proposed tailings deposit in the northwest arm of Second Portage Lake. It was carried out to predict the range of time required to freeze the tailings and into the underlying talik (Golder, 2007a). The model was intended to simulate evolution of the foundation and tailings temperature during operations and after closure. The second stage of modeling included the effects of staged flooding of the Portage Pit, and contaminant transport semi-coupled with seepage/thermal processes on foundation and tailings temperatures (Golder, 2008a).

The modeling assumed that tailings were deposited instantaneously as a thawed mass to the full depth, approximating advective heat flow preventing freezing of the tailings until the tailings basin has been fully filled by end of mine life. These are conservative assumptions, as it is expected that the climate conditions at site will result in some freezing of the tailings mass.

Climate change was also incorporated into the modeling exercise using climate warming trend of 6.4°C over 100 years. This is considered to be a conservative upper estimate of the climate change rate for the project area and is consistent with predicted and recommended climate change trends for projects in the north.

The model results indicate that the degree of freezing, time to reach fully frozen tailings, and the depth of the frozen foundation beneath the tailing pile would depend upon the placement of the tailings and the duration of the exposure of the tailings to air temperature. The results also indicate that water flowing through the tailings will increase the time for the tailings to freeze completely. However, the impact of heat introduced by water flow will be limited by the expected low hydraulic conductivity of the tailings.

The seepage component of the coupled model analysis indicated that water flux in the TSF will be mainly controlled in the short term by the hydraulic gradient existing between the tailings and Portage Pit areas. Upon mine closure and flooding of the Portage Pit, the hydraulic gradient between the two areas will gradually reduce as the lake level rises and the tailings drain. Hydrostatic equilibrium will occur within about 10 years causing flux from the tailings area to practically cease. After that, the freezing front will progressively advance into the tailings and the tailings will freeze within a period of about 40 years after closure.

7.3.1 Monitoring of Tailings Freezeback

During the development and mining of the deposits, an adaptive management plan will be implemented with respect to monitoring of the TSF. The plan will involve the installation of a series of thermistors at prescribed locations around the facility. During the operational phase, it is expected that a number of test pad stratigraphies will be developed to assess various cover designs, and to determine the most appropriate design for the actual site conditions. Such an approach has been used previously at northern mines such as Nanisivik.

The thermistors will be installed in boreholes drilled around the perimeter of the facility, and inclined at angles towards the center of the facility so as to penetrate the talik beneath the facility. The purpose of the perimeter thermistors will be to monitor the talik temperatures as freezing progresses. The thermistors will be monitored during the operational period. The results will be used to evaluate the predicted thermal response of the facility with the actual thermal response. This will allow adjustments to the tailings deposition plan to be made during the operational period to optimize the rate at which the tailings and talik freeze.

In addition to the perimeter thermistors, installation of thermistors within boreholes drilled from the surface of the tailings will be undertaken. These installations would take place as the TSF is filled with tailings. Initially, some of the installations may be 'sacrificial'; in other words installations that are installed early in the life of the TSF may become covered as the facility is filled. The rationale behind installing such thermistors is to monitor the thermal conditions within and beneath the TSF from a very early stage in the facility's life. As the TSF reaches final elevation, thermistors will be installed from the final tailings surface, and directly into the underlying bedrock. These will likely be on the order of 50 m to 75 m in length, with nodes placed at intervals to monitor temperatures within the tailings and within the bedrock. The thermistors will be monitored with time, and the results will be compared with the predicted temperatures and freeze back rates.

It is expected that the proposed monitoring program will provide the data required to validate the predictions of freeze-back within the tailings. If it is determined by monitoring during operations that the tailings are freezing at lower rates than predicted, then mitigation procedures would be implemented.

A number of mitigation measures are available to control ground temperature and to enhance freezing. These include the use of passive or active thermosyphon systems. Passive systems rely on natural (or wind induced) ventilation while active systems rely on forced ventilation or circulation of refrigerants through a heat exchanger. The passive systems utilizing natural circulation are less costly, and are easily implemented, consisting essentially of an air convection pile, or pipe, that is open to the atmosphere. Heat is exchanged by convective circulation resulting from the cold air from the surface environment sinking within the open pipe, and warm air inside the pipe rising. These systems can also be closed systems having some internal fluid that is used as the heat transfer medium. Active (forced ventilation) systems utilize pumps and refrigerants to achieve the same cooling effect but at an accelerated rate. Both systems are used reliably in northern climates to preserve or promote freezing.

As indicated above, the tailings will also be covered with a minimum 2-m thickness of NPAG rockfill (final thickness to be confirmed based on cover trials), which will provide an alternative and preventive strategy for the management of the TSF in the event that permafrost develops more slowly than predicted.

7.3.2 Monitoring of Tailings Seepage

Following dewatering of Second Portage Arm, several investigative procedures will be utilised to identify the location and hydraulic properties of faults that are inferred to be present beneath the North Arm of Second Portage Lake including mapping of exposed bedrock, testing and monitoring during installation of the grout curtain in the Central Dike, and geophysical logging and packer testing in boreholes (MMC, 2007c). If the testing interval indicates a zone of enhanced permeability then these zones will be sealed.

The results of the above investigations will be used to situate monitoring wells and thermistors that will be installed within the dike, and between the Central Dike and crest of the Portage Pit. These wells will be used to monitor groundwater quality and the effectiveness of the grout curtain in preventing the flow of contaminants from the TSF through the faults. Thermal data will be monitored to evaluate and freeze back of the TSF, and of the Central Dike and foundation.

If monitoring indicates flow rates and water qualities of concern, then mitigation measures would be undertaken. The potential mitigation action would be dependent on observed flow rates and water quality data, but might include the following (Golder, 2007b):

- Installation of an additional grout curtain between the downstream toe of the dike and the crest of the pit; and
- If, during monitoring, it is found that the freeze-back of the dike and tailings deposit are occurring at a rate less than predicted, then enhancement by artificial freezing methods may be considered.

7.3.3 Requirements for Sumps and Seepage Pump Back

Seepage collection systems are required downstream of the TSF dikes as a contingency against seepage. Seepage collection systems consist of trenches and sumps located immediately downstream of the TSF dikes. Seepage reporting to the sumps is pumped back over the dike into the TSF. Seepage pump back rates will be monitored and recorded as a measure of dike performance.

7.4 TAILINGS DEPOSITION PLANNING

The main components of the TSF are illustrated in Figure 7.1 and the general operation of the TSF facility will follow the sequence laid out in Table 3.2. The storage capacity of the tailings basin, Attenuation/Reclaim Pond, and total basin capacity are shown on Figure 7.2. An operational detailed deposition plan for the TSF is presented under a separate cover.

Tailings deposition planning for the mine is based on the following general objectives and operating philosophy:

- Define a deposition sequence based on proposed dike alignments with sufficient capacity to store the life of mine tailings plus a contingency while maintaining the required setback from the Portage Pit;
- Define a deposition sequence that allows the basin to be partitioned to facilitate the lake dewatering sequence, construction of the Central Dike, and to allow a portion of the TSF to be operated as a storm water attenuation pond for approximately 3 years;
- Define a deposition sequence that maintains a reclaim pond with sufficient depth for efficient operation of the reclaim barge near the west side of the impoundment;
- Define a deposition sequence that maintains beaches on the upstream faces of perimeter dikes, and the Stormwater Dike;
- Define a deposition sequence to operate in cells to reduce beach length to more efficiently operate in cold conditions to minimize the storage of ice;
- Define the staged construction schedule for the dikes so that adequate freeboard is maintained within the impoundment;

- Define a deposition sequence that creates a tailings surface that will require the minimum earthworks during closure and if possible will allow covering of some portion of the tailings surface during operations; and
- Define a deposition sequence that promotes freezing of the tailings during the operating period.

The general operational management strategy for the TSF involves discharging tailings into the northern portion of the TSF, called the North Cell, to the maximum elevation prior to tailings being discharged into the main basin in the south, called the South Cell. Once the North Cell is filled, the reclaim barge will be moved into the South Cell, and tailings deposition continued in that basin. While the South Cell is operated, the North Cell will be allowed to freeze, and may be progressively closed and will allow cover trials during mine life. The tailings will be covered with rockfill placed starting from the perimeter and working towards the Stormwater Dike.

7.5 TAILINGS STORAGE FACILITY CAPACITY

As mill processing rates and tailings characteristics are liable to fluctuate over the life of the mine, the design of the TSF and tailings deposition plan will evolve based on changes in design parameters including mill process rates, tailings beach slopes, ice entrapment, and tailings in-situ densities.

The TSF was designed to have sufficient capacity to store the expected tailings volume over the life of mine (Golder, 2008b). The design includes an assumption of a 20% tailings bulking factor due to ice entrapment, which is considered reasonable for a well run facility. In addition, the design of the dikes allows for staging crest elevations to be varied without major re-design. The TSF dikes are raised by the downstream method, and the alignments of the dikes were selected to allow additional raising to occur above 150 masl, should additional ore bodies be identified.

It is likely that some ice will be trapped in the tailings as a result of tailings transport water freezing before it reaches the Reclaim Pond. The quantity of ice trapped will depend on the tailings beach management, but increases in volume due to ice entrapment of up to 30% have been reported by other mines in similar environments. The impact of varying proportions of entrapped ice on the storage capacity of the TSF is presented in Figure 7.3. The figure indicates that an increase in bulking from 20% to 30% due to ice entrapment in the tailings would result in the final height of the TSF increasing by about 1.2 m. This increase would require minor extensions of containment berms.

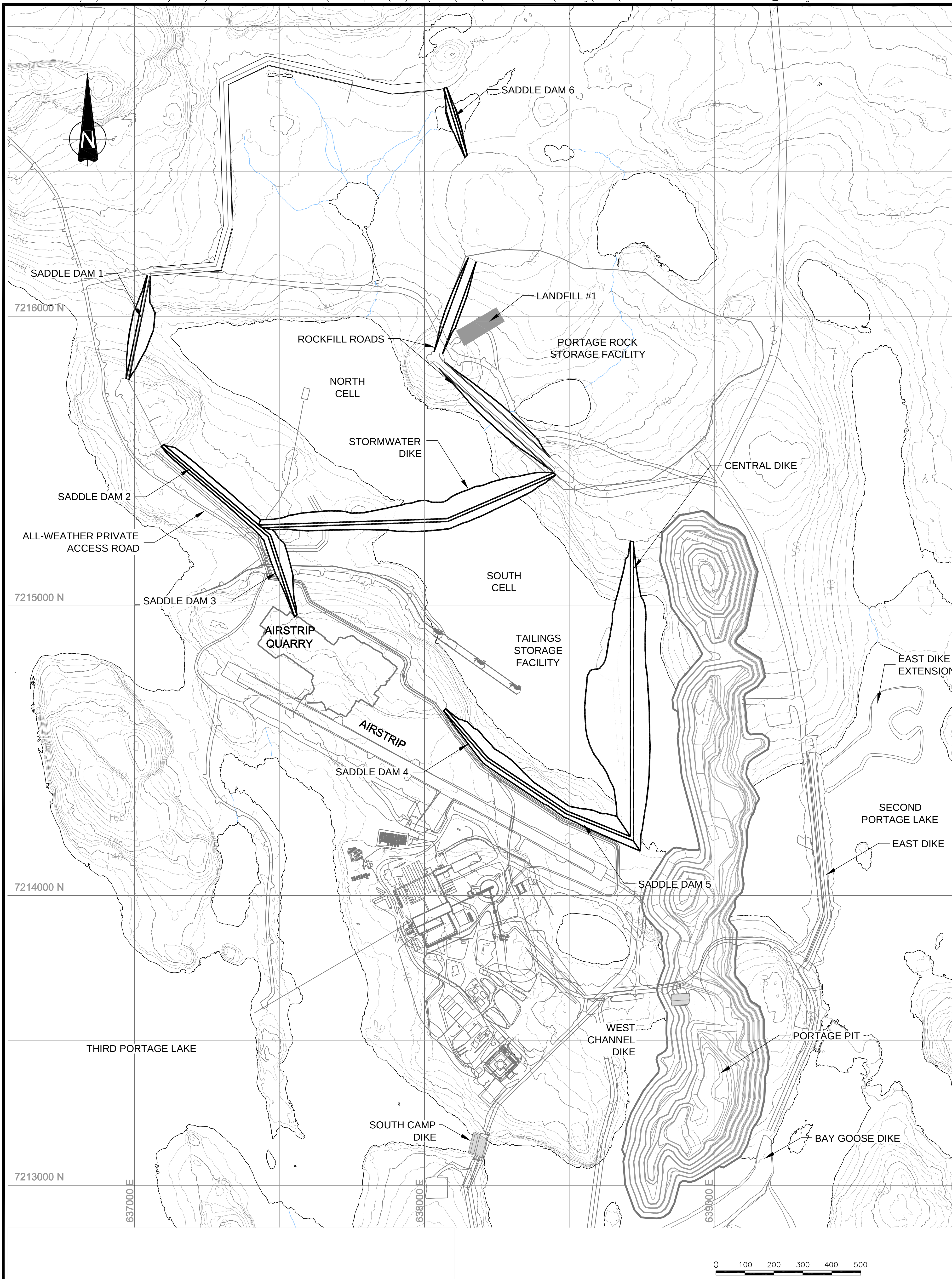
The impact of possible ice entrapment on the final elevation of the TSF is summarized in Table 7.2 based on preliminary tailings deposition planning for the project (Golder, 2008b). As indicated above, current tailings deposition planning for the mine assumes a 20% bulking factor for ice. While the actual amounts of ice entrapment will not be known until the commencement of operations, ice entrapment can be managed to a large degree by effective beach management and through the implementation of appropriate operational strategies. It should be noted however that tailings deposition planning for the mine assumes a relatively low tailings in-situ density, and therefore, additional storage contingency may be available within the TSF. Even so, an advantage of the current facility layout relative to other possible storage areas is that increases in storage volume requirements can be accommodated by relatively small increases in the final tailings surface elevation, while maintaining a low overall profile relative to the surrounding terrain.

Table 7.2: Average Tailings Surface Elevation for Various Amounts of Ice Entrapment

Proportion of Entrapped Ice (%)	Final Elevation of Tailings (m)
0	141.2
10	142.6
20	143.7
30	144.9

Additional fill to the TSF may include lake bottom sediment generated during stripping of mining areas and the Central and Stormwater dike footprints. The thickness of sediments may range from centimetres to several metres. Assuming a 1 m to 2 m average sediment thicknesses, the estimated potential volumes range from about 160,000m^3 to 380,000 m^3, or approximately 0.5% to 1.5% of the total capacity of the TSF at elevation 148 m (see Table 5.1 and Figure 7.2).

REVISION DATE: 09/07/14 01:35PM By: MHintay CADD FILE: N:\Bur-Graphics\Projects\2009\1428\09-1428-0014\Drafting\2000\Task-1000\0914280014-2000-FIG_8.1.dwg



NOTES

1) TOPOGRAPHIC CONTOUR INTERVAL 2M.
2) GRID REFERENCE: NAD 83, UTM ZONE 14

REFERENCES

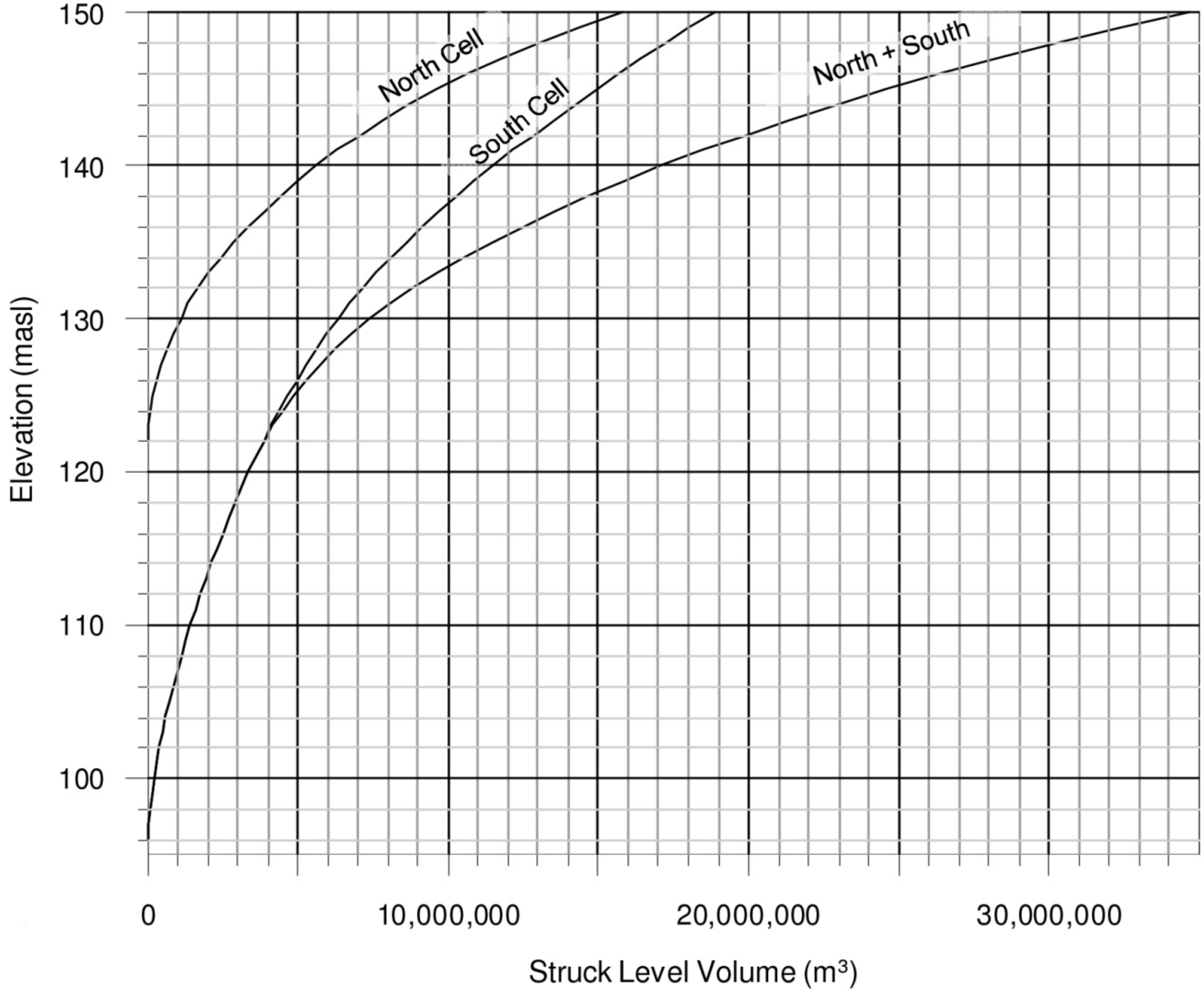
1) AMEC AMERICAS LTD., DRAWING NUMBER A1-131395-100-C-0001 (100- C-0001.DWG), MEADOWBANK FEASIBILITY STUDY, APRIL 2005.

PROJECT
AGNICO-EAGLE MINES LIMITED

TITLE
MEADOWBANK GOLD PROJECT NUNAVUT

TAILINGS STORAGE FACILITY MAIN COMPONENTS

FIGURE 7.1



REFERENCE

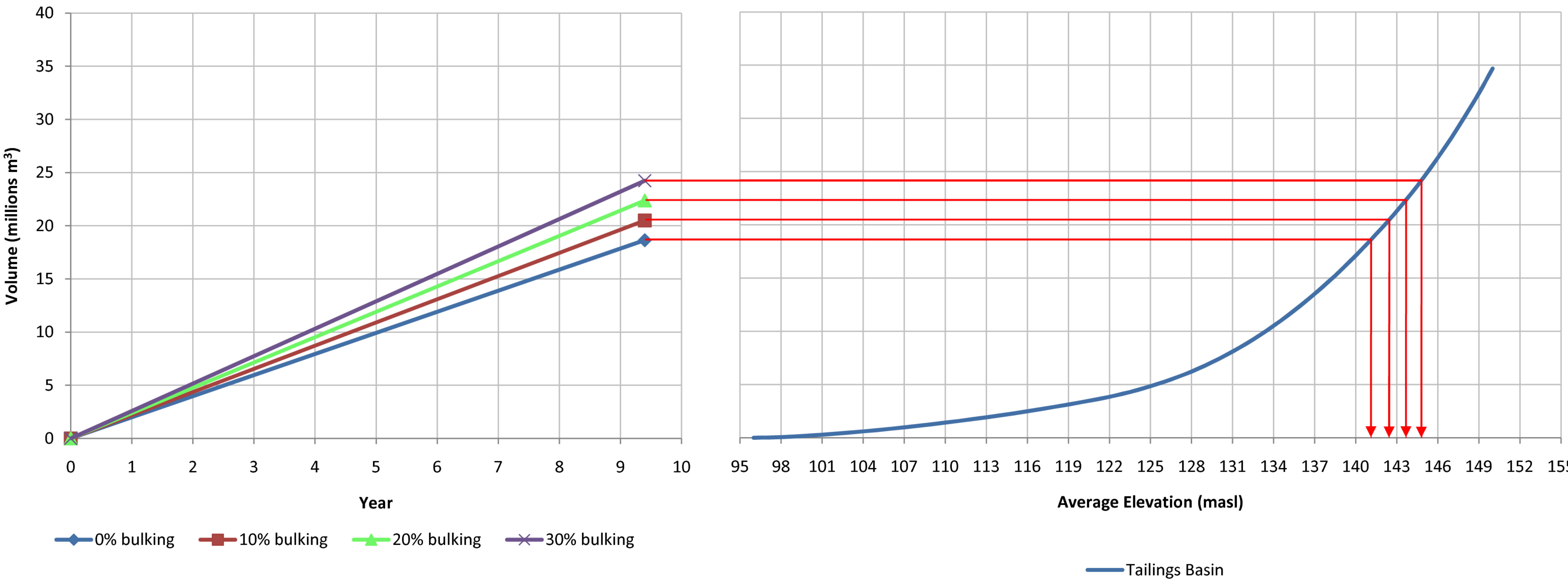
REPORT ON TAILINGS STORAGE FACILITY DIKE DESIGN
DOC. 784, DECEMBER 2008

AEM AGNICO-EAGLES MINES LIMITED

MEADOWBANK GOLD PROJECT

TAILINGS STORAGE FACILITY STAGE STORAGE VOLUME CURVE

FIGURE 7.2



NOTE
FOR COMPARATIVE PURPOSES ONLY.
FINAL TAILINGS ELEVATIONS ARE AVERAGES ONLY AND DO NOT REFLECT POTENTIAL ELEVATION VARIATIONS ACROSS THE BASIN

AEM AGNICO-EAGLE MINES LIMITED

MEADOWBANK GOLD PROJECT
NUNAVUT

TSF STORAGE AS A FUNCTION OF ICE CONTENT

FIGURE 7.3

SECTION 8 • SEWAGE AND WASTE DISPOSAL

A pre-fabricated, modular-type accommodation complex for 365 persons is planned to house personnel during mine operations. The accommodation complex will be supported with a sewage treatment plant, solid waste disposal, incinerator and potable water treatment plant. Further details on these facilities can be found in the sewage treatment, incinerator management, landfill management and hazardous materials management plans for the project provided under separate covers.

During the construction phase of the Project before construction of the TSF, treated sewage water will be discharged into Tear Drop Lake, a small shallow (less than 2 m deep) and fishless, water body. This water body is located within the mine footprint. Treated water from Tear Drop Lake will be pumped to the TSF via the tailings distribution lines following commissioning of the TSF and the lines. During operations, the effluent will be pumped to the Tailings Distribution Box, then to the TSF. The sewage volume to the TSF is estimated to be a maximum of 2.0% of the total inflow to the TSF. Therefore, the chemical load from sewage water is of low significance relative to that of the tailings water quality and overall mine site water quality. Tailings reclaim water will not be discharged until end of mine life, at which time it will be treated, if necessary, prior to release to the Goose Island or Portage pit lakes.

Solid waste from the accommodation camp, kitchen, shops, and offices is burned in a diesel-fired waste incinerator located in a prefabricated structure downwind of the facilities. Waste is transported by pickup truck and loaded into the incinerator. The materials to be incinerated are limited to putrescible waste such as paper, wood and food waste, and used petroleum products such as used rags and engine oil. Non-salvageable, non-hazardous solid wastes, including ash from the incinerator, are buried in one of two solid waste landfills. Hazardous waste is stored on site in sea cans until they can be transported to other provincial or territorial jurisdictions for recycling or disposal.

SECTION 9 • MONITORING AND CLOSURE

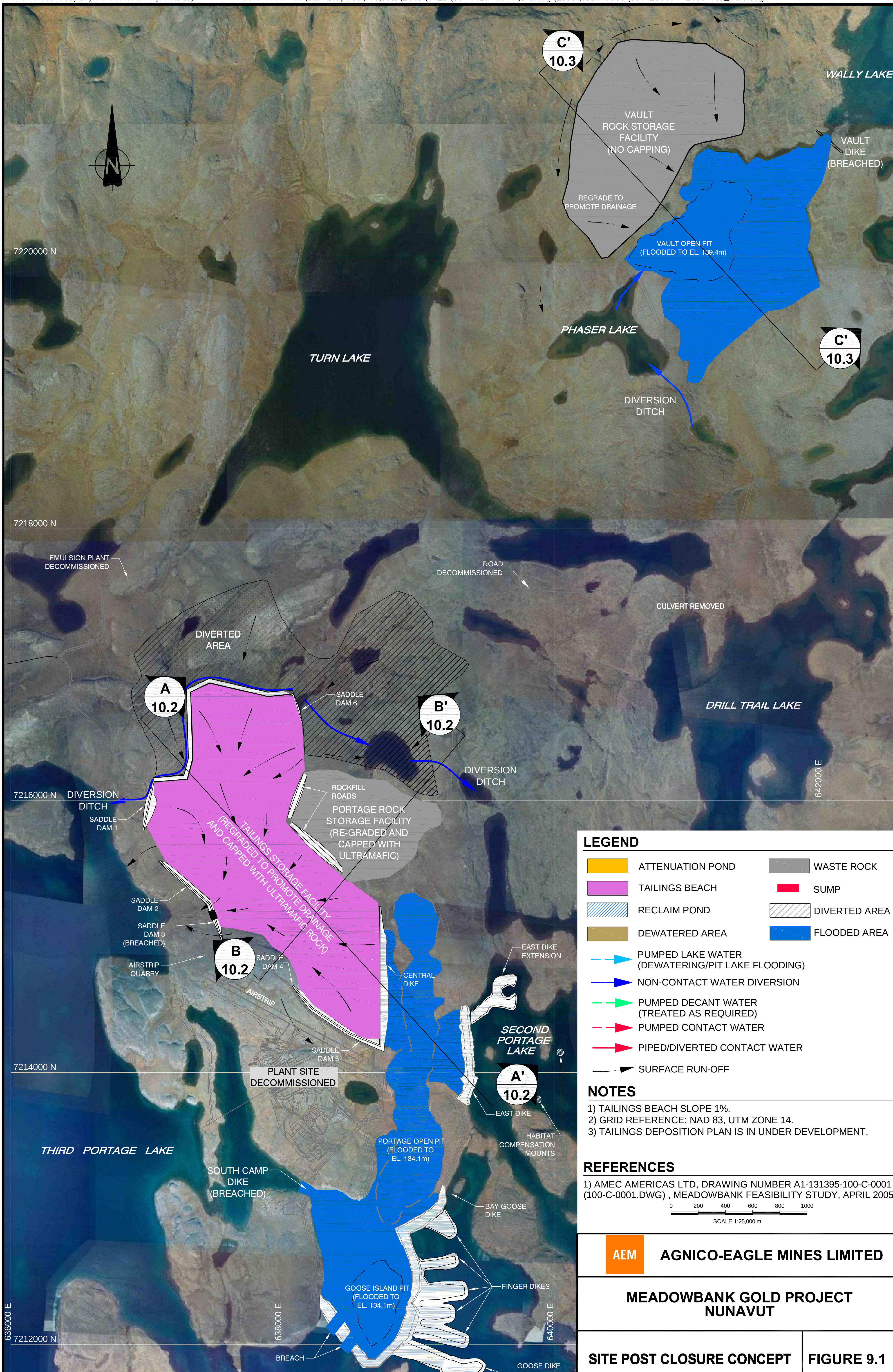
Mine closure and reclamation will utilize currently accepted management practices and appropriate mine closure techniques that will comply with accepted protocols and standards. Closure will be based on project design and operation to minimize the area of surface disturbance, stabilize disturbed land surfaces and permafrost against erosion, and return the land to post-mining uses for traditional pursuits (MMC, 2007b).

The post-closure concept is illustrated in Figure 9.1. The waste storage facilities will be progressively closed during mine operations. A dry cover of NPAG rock will be placed over PAG waste rock piles and the TSF to confine the permafrost active layer within relatively inert materials. The surfaces of the Portage and Vault RSFs will be contoured to direct drainage to the Reclaim and Vault Attenuation pond areas. Sections through the Portage RSF and TSF areas at closure are illustrated in Figure 9.2. A section through the Vault RSF is shown in Figure 9.3.

The Reclaim Pond will remain in place until mining and milling has been completed. At this time, reclaim water will be drained from the TSF and treated, if necessary, prior to discharge to the Goose Island or Portage pit lakes. If necessary, treatment of reclaim water will be completed in-situ or through a water treatment plant converted from the Process Plant. It is expected that treatment of reclaim water, if required, would produce approximately 3,000 m^3 of 30% solids density sludge. The sludge would be tested but is expected to be chemically stable. Sludge disposal options include disposal back into the TSF and eventual cover with NPAG rock. The sludge material would freeze along with the underlying tailings. A second option would be to pump the sludge to the base of the Goose Island or Portage pit lakes, similar to current practice for HDS sludge disposal at the Equity Silver mine near Houston, British Columbia.

All infrastructure that may be maintained for mine operations, closure and reclamation including waste management facilities will be re-contoured and/or surface treated according to site specific conditions to minimize wind blown dust and erosion from surface runoff, and enhance the development site area for re vegetation and wildlife habitat. The final Reclamation and Closure Plan for the Project will be developed in conjunction with the mine plan so that considerations for site closure can be incorporated into the mine design. Monitoring will be carried out during all stages of the mine life to demonstrate the safe performance of the mine facilities. If any non-compliant conditions are identified, then maintenance and planning for corrective measures will be completed in a timely manner to ensure successful completion of the Reclamation and Closure Plan.

REVISION DATE: 09/07/14 01:47PM By: MHintay CADD FILE: N:\Bur-Graphics\Projects\2009\1428\09-1428-0014\Drafting\2000\Task-1000\0914280014-2000-FIG_10.1.dwg



LEGEND

- ATTENUATION POND
- TAILINGS BEACH
- RECLAIM POND
- DEWATERED AREA
- WASTE ROCK
- SUMP
- DIVERTED AREA
- FLOODED AREA
- PUMPED LAKE WATER (DEWATERING/PIT LAKE FLOODING)
- NON-CONTACT WATER DIVERSION
- PUMPED DECANT WATER (TREATED AS REQUIRED)
- PUMPED CONTACT WATER
- PIPED/DIVERTED CONTACT WATER
- SURFACE RUN-OFF

NOTES

1) TAILINGS BEACH SLOPE 1%.
2) GRID REFERENCE: NAD 83, UTM ZONE 14.
3) TAILINGS DEPOSITION PLAN IS IN UNDER DEVELOPMENT.

REFERENCES

1) AMEC AMERICAS LTD, DRAWING NUMBER A1-131395-100-C-0001 (100-C-0001.DWG) , MEADOWBANK FEASIBILITY STUDY, APRIL 2005.

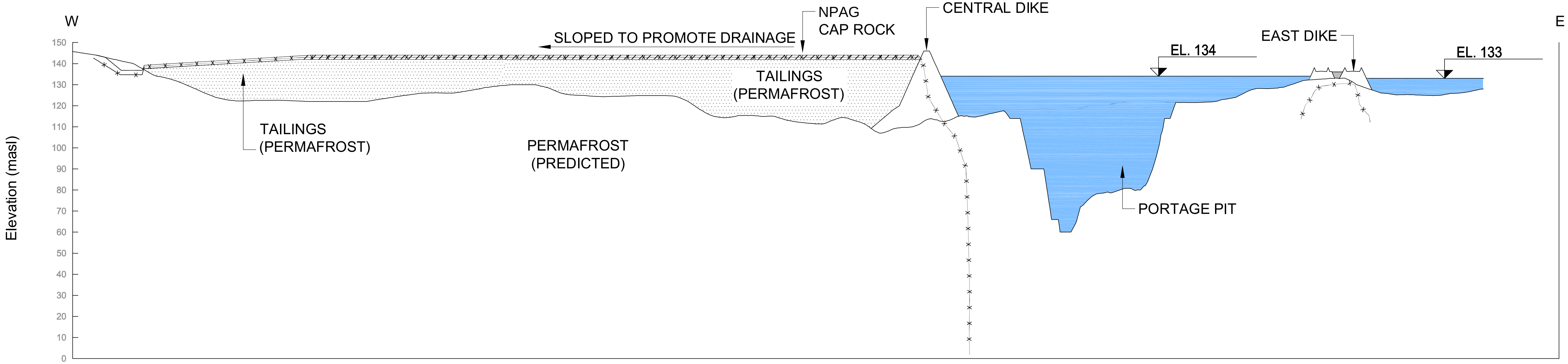
0 200 400 600 800 1000

SCALE 1:25,000 m

AEM **AGNICO-EAGLE MINES LIMITED**

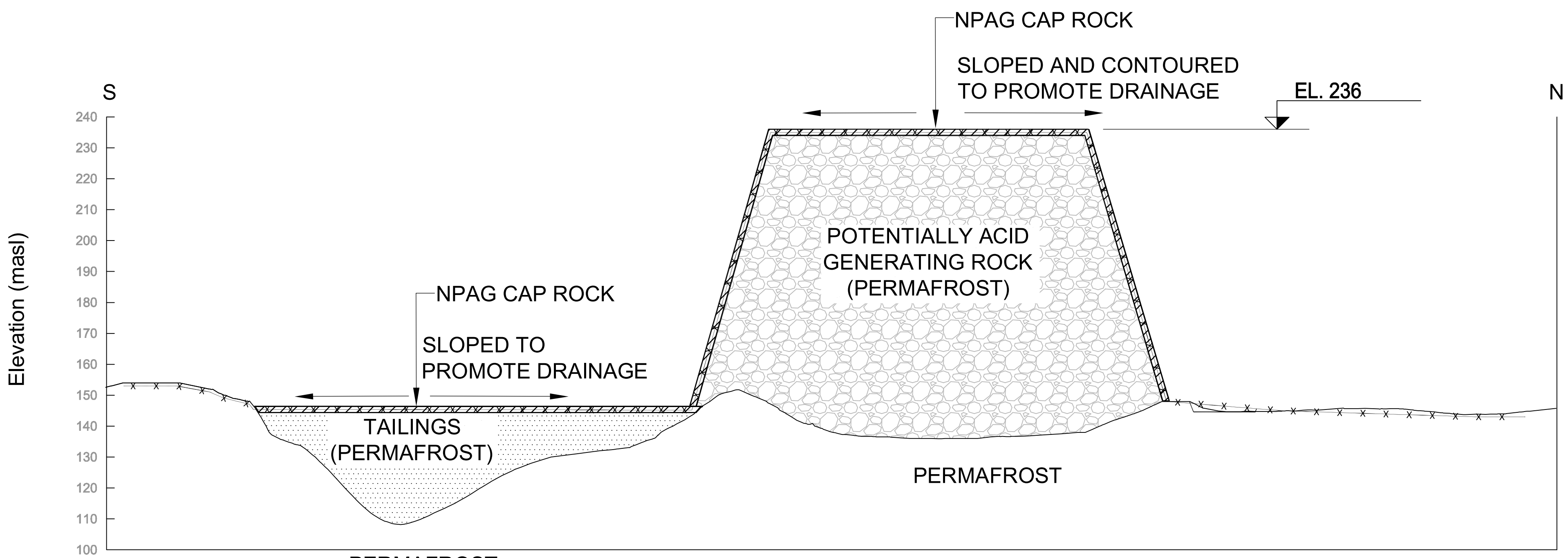
MEADOWBANK GOLD PROJECT
NUNAVUT

SITE POST CLOSURE CONCEPT	FIGURE 9.1



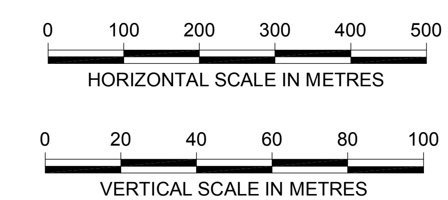
A
10.1

CROSS SECTION A-A'
TAILINGS STORAGE FACILITY



B
10.1

CROSS SECTION B-B'
PORTAGE ROCK STORAGE FACILITY



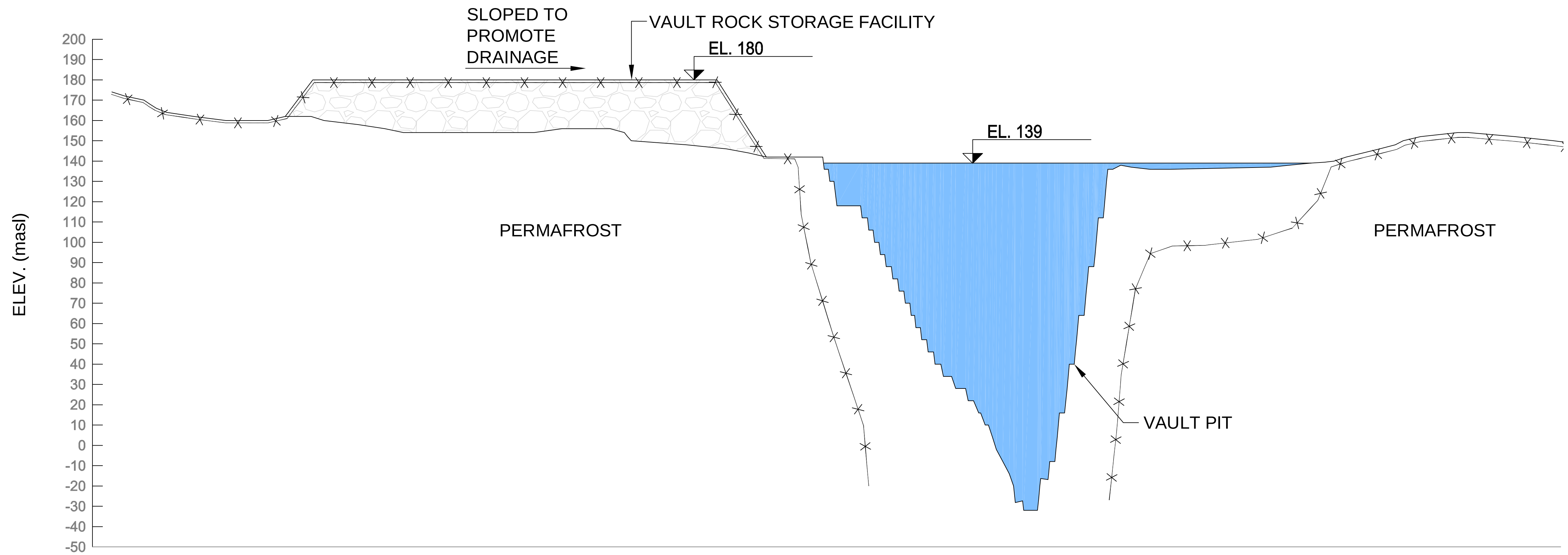
LEGEND:

-x-x-x-x-x- PERMAFROST BOUNDARY (INFERRED)

AEM AGNICO-EAGLE MINES LIMITED	
MEADOWBANK GOLD PROJECT NUNAVUT	
PORTAGE TAILINGS AND ROCK STORAGE CLOSURE DESIGN CONCEPT CROSS SECTION	FIGURE 9.2

CADD FILE: N:\Bur-Graphics\Projects\2009\1428\09-1428-0014\Drafting\2000\Task-1000\0914280014-2000-FIG_10.2.dwg

REVISION DATE: 09/07/14 01:48PM By: MHintay



C
10.1

CROSS SECTION C-C'
VAULT ROCK STORAGE FACILITY

0 100 200 300 400 500
HORIZONTAL SCALE IN METRES

0 25 50 75 100 125
VERTICAL SCALE IN METRES

LEGEND:

Permafrost Boundary (inferred)

REFERENCES

1) Amec Americas Ltd., Drawing Number A1-131395-100-C-0001 (100-C-0001.DWG), Meadowbank Feasibility Study, April 2005.

CADD FILE: N:\Bur-Graphics\Projects\2009\1428\09-1428-0014\Drafting\2000\Task-1000\0914280014-2000-FIG_10.3.dwg
REVISION DATE: 09/07/14 01:49PM By: MHinton

AEM	**AGNICO-EAGLE MINES LIMITED**
MEADOWBANK GOLD PROJECT NUNAVUT	
VAULT ROCK STORAGE CLOSURE DESIGN CONCEPT CROSS SECTION	**FIGURE 9.3**

SECTION 10 • REFERENCES

AMEC, 2003. Baseline Hydrology Study, AMEC Earth and Environmental, December 2003 with January 2004 errata sheets.

AMEC, 2005a. Meadowbank Gold Project Hydrologic Monitoring 2004 Draft Data Report. February 2005.

AMEC, 2005b. Meadowbank Gold Project Feasibility Study Report. June 2005.

BGC Engineering Incorporated, (BGC) 2003. Implications of Global Warming and the Precautionary Principle in Northern Mine Design and Closure. 2003.

BGC Engineering Incorporated, (BGC) 2004. Meadowbank Gold Project Preliminary Geothermal and Slope Stability Modelling of Rock Storage Facilities. March 31, 2004.

Burn, C. R. 2003. Thermal modeling, Meadowbank Gold Project.

Dawson and Morin, 1996. Mine Effluent Neutral Drainage (MEND), 1.61.2: Acid Mine Drainage in Permafrost Regions: Issues, Control Strategies and Research Requirements, 1996.

Golder Associates Ltd. (Golder), 2008a. Coupled Thermal/Seepage and Contaminant Transport Modeling For The Tailings Facility, Meadowbank Gold Project. August 1, 2008.

Golder Associates Ltd. (Golder), 2008b. Report on Tailings Storage Facility Dike Design, Meadowbank Gold Project. December 17, 2008.

Golder Associates Ltd. (Golder), 2008c. Letter: Bay-Goose Dike and South Camp Dike Designs, Meadowbank Gold Project. December 2008.

Golder Associates Ltd. (Golder), 2008d. Report on East Dike Design, Meadowbank Gold Project. October 2008.

Golder Associates Ltd. (Golder), 2007a. Detailed Design of Central Dike, Meadowbank Gold Project. March 16, 2007.

Golder Associates Ltd. (Golder), 2007b. Mitigative Measures for Potential Seepage from Tailings Facility. August, 2007.

Golder Associates Ltd. (Golder), 2007c. Water Quality Predictions, Meadowbank Gold Project, Nunavut. August, 2007.

Golder Associates Ltd. (Golder), 2006. Report on Winter 2006 Second Portage Central Dike Geotechnical Drilling, Hydrogeological, and Televiewer Investigation, Meadowbank Gold Project, Nunavut. July, 2006.

Golder Associates Ltd. (Golder), 2003. Report on Permafrost Thermal Regime Baseline Studies, Meadowbank Project. December 18, 2003.

Hayley, D. W. 2004. Climate Change – An Adaptation Challenge for Northern Engineers. The PEGG. January 2004, p.21.

Hayley, D.W. and Cathro D.C. 1996. Working with Permafrost when Planning an Arctic Mine. CIM Edmonton 96, April 28 - May 2, 1996, Edmonton, Alberta.

IPCC (Intergovernmental Panel on Climate Change), 2007. Climate Change 2007: The Physical Science Basis.

Meadowbank Mining Corporation (MMC), 2007a. Meadowbank Gold Project Operational ARD/ML Sampling and Testing Plan. August, 2007.

Meadowbank Mining Corporation (MMC), 2007b. Meadowbank Gold Project Preliminary Closure and Reclamation Plan. August, 2007.

Meadowbank Mining Corporation (MMC), 2007c. Meadowbank Gold Project Fault Testing and Monitoring Plan. August, 2007.

NRC (Natural Resources Canada), 2004. National Annual Temperature Scenario: 2050. The Atlas of Canada. Natural Resources Canada. On-line map. Accessed July 2007. Available: http://atlas.gc.ca/site/english/maps/climatechange/scenarios/nationalannualtemp2050/

Woo, M.-K., A. G. Lewkowicz, and W. R. Rouse, 1992. Response of the Canadian Permafrost Environment to Climatic Change. 1992.