AGNICO EAGLE

Meadowbank Division

Whale Tail Pit – Waste Rock Management Plan

JANUARY 2017
VERSION 1

EXECUTIVE SUMMARY

Agnico Eagle Mines Limited – Meadowbank Division (Agnico Eagle) is proposing to develop the Whale Tail Pit and Haul Road Project (Project), a satellite deposit located on the Amaruq property, to continue mine operations and milling at Meadowbank Mine.

The proposed open pit mine, mined by truck-and-shovel operation, will produce 8.3 million tonnes (Mt) of ore, 46.1 Mt of waste rock, and 5.6 Mt of overburden waste. There are four phases to the development: 1 year of construction, 3 years of mine operations, 8 years of closure, and the post-closure period. According to the Whale Tail Pit Life of Mine (LOM) calculation, the addition of the Whale Tail Pit to the actual Meadowbank LOM (LOM 2015) will generate an addition of approximately 8.3 Mt (dry) of tailings to the Meadowbank Tailings Storage Facility (TSF) for a total of 35.4 Mt.

Project mining facilities include accommodation buildings; two ore stockpiles; one overburden stockpile; one waste rock storage facility (WRSF) area planned to receive waste rock and waste overburden; a water management system that includes collection ponds, water diversion channels, and retention dikes/berms; and a Water Treatment Plant.

One area, located north-west of the open pit, has been identified as the Whale Tail WRSF. Waste rock and overburden will be trucked to the Whale Tail WRSF until the end of mine operations, with distribution according to the operations schedule. Waste rock and overburden will be co-disposed together in one of the two piles constituting the Whale Tail WRSF area. Results of geochemical testing indicate that approximately 73% of the waste rock and overburden produced is potentially acid generating and/or metal leaching. The remaining 27% is non-potentially acid generating and non-metal leaching and can be used as construction material for pads, roads, water management infrastructures, and reclamation. Closure of the Whale Tail WRSF will begin when practical as part of the progressive reclamation program. The Whale Tail WRSF will be covered with non-potentially acid generating and non-metal leaching waste rock to promote freezing as a control strategy against acid generation and migration of contaminants. Thermistors will be installed within the Whale Tail WRSF to monitor permafrost development.

Ore will be stockpiled on the three Ore Stockpiles planned for the Project. Ore is potentially acid generating. The Ore Stockpiles will be reclaimed at the end of the operations.

The Whale Tail WRSF and the Ore Stockpiles were designed to minimize the impact on the environment and to consider geotechnical and geochemical stability. The surface runoff and seepage water from these facilities will be collected in water collection ponds as part of the water management strategy. If water quality does not meet the discharge criteria as per the Water Licence requirement, the collected water will be treated prior to being discharged to the outside environment.

Pit flooding volumes and sequencing updated for the revised mining schedule including Whale Tail Pit are presented in this report. An updated water quality forecasting model is also presented in this report. Based on the modelling results, copper, selenium, and total nitrogen may require removal treatment in order for the pit water quality to meet Canadian Council of Ministers of the Environment criteria prior to dike breaching in 2029.

Tailings from the Project will be stored in the Meadowbank TSF. The management operation and monitoring of the TSF is regulated under Agnico Eagles existing Type A Water Licence 2AM-MEA1525 (Part H, Item 19). Updates to the Meadowbank Mine Waste Rock and Tailings Management Plan have been provided in support of the current application and any amendment needed to the existing Type A water licence to reflect changes in the Meadowbank operations.

In summary, the TSF consists of a North Cell and South Cell located within the basin of the former north-west arm of Second Portage Lake previously dewatered to allow mining in the Portage Pit. To store the full volume of tailings from processing of the Whale Tail Pit ore, Agnico Eagle will maximize storage in South cell through the deposition of approximately 5.3 Mt of tailings, and is proposing to construct internal dike structures to store the remaining 3 Mt within the current footprint of the North Cell.

The tailings deposition plan has been optimized to target tailings deposition in the North Cell TSF during summer, and in the South Cell TSF during winter to reduce the impact of cold climate on the tailings dry density. Tailings deposition within the North Cell raise will continue as a sub-aerially slurry placement, and water from the pond will be reclaimed during operations. The current tailings deposition strategy is to build beaches against the face of the perimeter dikes to eliminate ponding and ultimately produce a tailings surface that directs drainage towards the western abutment of the Stormwater Dike.

The control strategy to minimize water infiltration into the TSF and the migration of constituents out of the facility in closure and post-closure includes freeze control of the tailings through permafrost encapsulation. Consistent with approved interim closure plans for Meadowbank, a minimum of a 2-metre thick cover of non-potentially acid generating 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 the rockfill cover layer will be confirmed in the final closure design based on thermal monitoring to be completed during operations.

DOCUMENT CONTROL

Version	Date (YM)	Section	Page	Revision
1	January 2017	ALL	-	Comprehensive plan for Whale Tail Pit project

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ACRONYMS

Agnico Eagle	Agnico Eagle Mines Limited – Meadowbank Division
ARD	Acid Rock Drainage
CCME	Canadian Council of Ministers of the Environment
FEIS	Final Environmental Impact Statement
IPCC	Intergovernmental Panel on Climate Change
LOM	Life of Mine
ML	Metal Leaching
NML	Non-Metal Leaching
NPAG	Non-Potentially Acid Generating
NWB	Nunavut Water Board
PAG	Potentially Acid Generating
PGA	peak ground acceleration
Project	Whale Tail Pit and Haul Road Project
SWD	Stormwater Dike
TSF	Tailings Storage Facility
WRSF	Waste Rock Storage Facility
WTP	Water Treatment Plant

UNITS

%	percent
°C	degrees Celsius
°C/m	degrees Celsius per metre
g	gram
ha	hectare
km	kilometre(s)
km^2	square kilometre(s)
m	metre
masl	metre above sea level
mm	millimetre
m^3	cubic metre(s)
m^3/hr	cubic metre(s) per hour
Mm^3	million cubic metre(s)
Mt	million tonne(s)
t	tonne
t/day	tonne(s) per day
t/m^3	tonne(s) per cubic metre

SECTION 1 • INTRODUCTION

Agnico Eagle Mines Limited – Meadowbank Division (Agnico Eagle) is proposing to develop the Whale Tail Pit and Haul Road Project (Project), a satellite deposit located on the Amaruq property, to continue mine operations and milling at Meadowbank Mine.

The Amaruq property is a 408 square kilometre (km^2) site located on Inuit Owned Land approximately 150 kilometres (km) north of the hamlet of Baker Lake and approximately 50 km northwest of Meadowbank Mine in the Kivalliq Region of Nunavut. The deposit will be mined as an open pit (i.e., Whale Tail Pit), and ore will be hauled to the approved infrastructure at Meadowbank Mine for milling.

The proposed open pit mine, mined by truck-and-shovel operation, will produce 8.3 million tonnes (Mt) of ore, 46.1 Mt of waste rock, and 5.6 Mt of overburden waste. There are four phases to the development: 1 year of construction, 3 years of mine operations, 8 years of closure, and the post-closure period.

The general mine site location for the Project and a site layout plan are shown in Figure 1.1. The mine development will include the following major infrastructure:

- industrial area (camp and garage);
- crusher;
- ore stockpiles;
- rock and overburden storage facilities;
- landfill;
- haul and access roads;
- open pit mine; and
- water dewatering dikes.

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560000 580000 600000 620000 640000 660000 680000 700000 720000

7260000 7240000 7220000 7200000 7180000 7160000 7140000

N

Whale Tail Pit

Meadowbank Mine to Whale Tail (71.5 km)

Vault Pit

Baker Lake to Meadowbank Mine (107.5 km)

Baker Lake

Pipedream Lake

Tehek Lake

Schultz Lake

Baker Lake

7012 7014 7001 7009 7013 7016 7912

LEGEND

- COMMUNITY
- PROPOSED HAUL ROAD
- ALL WEATHER ROAD
- WHALE TAIL PIT
- MEADOWBANK OPERATION AND INFRASTRUCTURE
- CLAIM BOUNDARY
- WATERCOURSE
- WATERBODY

REFERENCE

1. HAUL ROAD OBTAINED FROM AGNICO EAGLE MINES LIMITED. 2015-10-14 FROM 6103-117-230-200_R0.dwg
2. CLAIM BOUNDARIES OBTAINED FROM AGNICO EAGLE MINES LIMITED.
3. WATERCOURSE AND WATERBODY DATA OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
4. INSET MAP DATA OBTAINED FROM ESRI.

DATUM: NAD 83 CSRS PROJECTION: UTM ZONE 14

12 0 12

KILOMETRES

PROJECT

AGNICO EAGLE

AGNICO EAGLE MINES LIMITED:
MEADOWBANK DIVISION
WHALE TAIL PIT PROJECT

TITLE

LOCATION OF WHALE TAIL PIT

Golder Associates

PROJECT		1541520	FILE No.	
DESIGN	JR	24 Mar. 2016	SCALE AS SHOWN	REV. 0
GIS	CDB	11 May 2016		
CHECK	SO	06 Jun. 2016		
REVIEW	LY	06 Jun. 2016		

FIGURE 2.1

This document presents the Waste Rock Management Plan (the Plan) to support the application to the NWB for a Type A Water Licence for mining of Whale Tail Pit. The purpose of the Plan is to provide consolidated information on the management ore stockpiled on site, waste rock and overburden, including strategies for runoff and dust control and monitoring programs for the storage facilities. The management operation and monitoring of the TSF (refer to Figure 1.2) is regulated under Agnico Eagles existing Type A Water Licence 2AM-MEA1525. Updates to the Meadowbank Mine Waste Rock and Tailings Management Plan have been provided in support of the current application and any amendment needed to the existing Type A water licence to reflect changes in the Meadowbank operations.

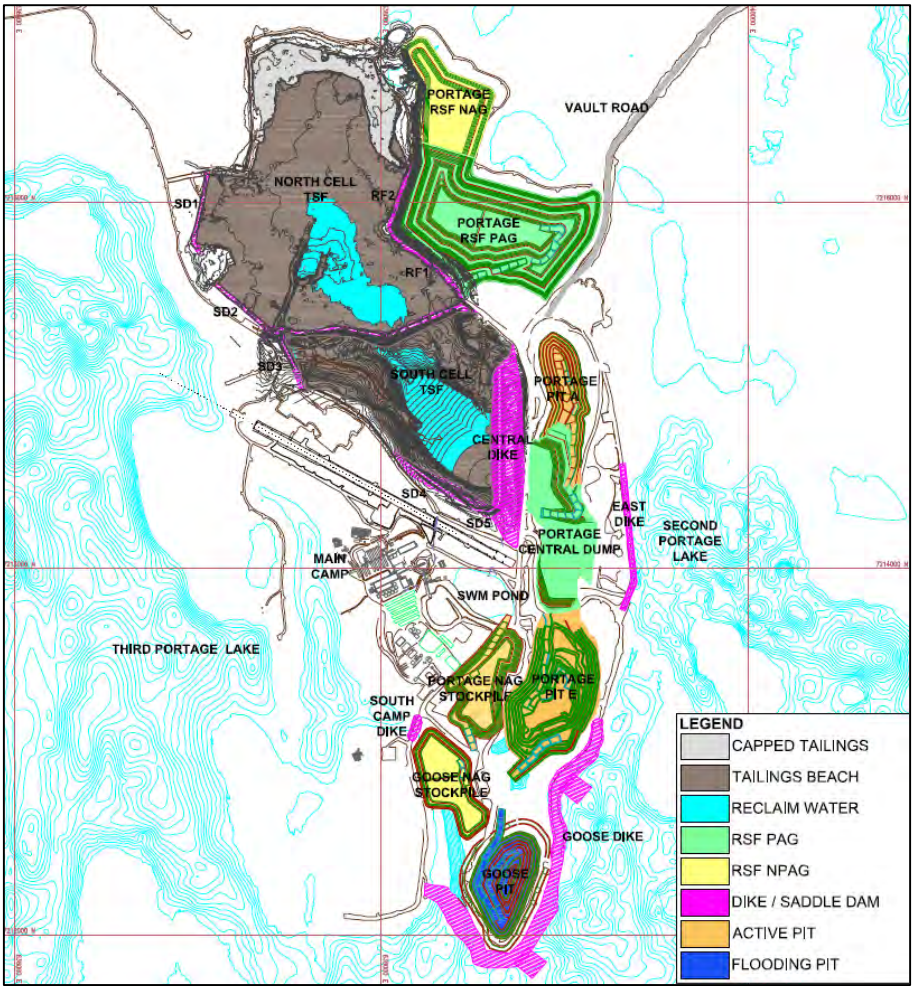

Figure 1.2 Meadowbank Tailings Storage Facility

SECTION 2 • BACKGROUND INFORMATION

2.2 Whale Tail Pit Mine Operations

The construction phase is anticipated to start in the second quarter of Year -1 (2018) and focus on site preparation and the construction of infrastructure, with the development of a quarry (Quarry 2) located in the open pit to produce construction material. The operations (mining and ore processing) will continue approximately 3 years, from Year 1 (2019) to Year 4 (2022), with a rate of extraction targeted between 9,000 and 12,000 tonnes per day (t/day) of ore at an average stripping ratio of 6,25. Mining activities are expected to end in Year 3 (2021) and ore processing is expected to end during the first quarter of Year 4 (2022). Closure will occur from Year 4 (2022) to Year 11 (2029) after the completion of mining and will include removal of the non-essential site infrastructure and flooding of the mined-out open pit, as well as reestablishment of the natural Whale Tail Lake level. Post-closure and monitoring phases will commence as closure is completed in Year 11 (2029) and will continue until Year 15 (2034) or it is shown that the site and water quality meets regulatory closure objectives. Table 2.1 summarizes the Project timeline and general activities.

2.1 Meadowbank Mine Operations

As a requirement of the Type A Water Licence, any modifications to the dewatering process, LOM, TSF, and any other aspect associated to the water management at Meadowbank are adhered to and updated in the annual submission of the Meadowbank Water Management Plan and associated water balance. According to the current reserve at Meadowbank, and in the absence of Whale Tail Pit, operations within the approved Meadowbank TSF are scheduled to cease in Q3 2018 with closure and post-closure activities occurring thereafter.

Table 2.1 Overview of Timeline and General Activities

Phase	Year	General Activities
Construction	Year -1	• Construct site infrastructure • Develop open pit mine • Stockpile ore
Operations	Year 1 to 3	• Open pit operations • Transport ore to Meadowbank Mine • Stockpile ore • Discharge Tailings in Meadowbank TSF
	Year 4	• Complete transportation of ore to Meadowbank Mine • Complete discharge tailings in Meadowbank TSF
Closure	Year 4 to 11	• Remove non-essential site infrastructure • Flood mined-out open pit • Re-establish natural Whale Tail Lake level
Post-Closure	Year 11 forwards	• Site and surrounding environment monitoring

TSF = Tailings Storage Facility

2.3 Whale Tail Pit Site Layout

Site layouts are presented in Appendix A.

2.4 Climate

Climate characteristics presented herein were extracted from the permitting level engineering report (SNC 2015).

The Project is located in an arid arctic environment that experiences extreme winter conditions, with an annual mean temperature of -11.3 degrees Celsius (°C). The monthly mean temperature ranges from -31.3°C in January to 11.6°C in June, with above-freezing mean temperatures from June to September. The annual mean total precipitation at the Project is 249 millimetres (mm), with 59 percent (%) of precipitation falling as rain, and 41% falling as snow. Mean annual losses were estimated to be 248 mm for lake evaporation, 80 mm for evapotranspiration, and 72 mm for sublimation. Mean annual temperature, precipitation, and losses characteristics are presented in Table 2.2.

Short-duration rainfall events representative of the Project are presented in Table 2.3, based on intensity-duration-frequency curves available from the Baker Lake A meteorological station (Station ID 2300500) operated by the Government of Canada (2015).

Table 2.2 Estimated Mine Site Monthly Mean Climate Characteristics

Month[a]	Mean Air Temperature (°C) [a]	Monthly Precipitation (mm) [a]			Losses [a]		
		Rainfall (mm)	Snowfall Water Equivalent (mm)	Total Precipitation (mm)	Lake Evaporation (mm)	Evapo-transpiration (mm)	Snow Sublimation (mm)
January	-31.3	0	7	7	0	0	9
February	-31.1	0	6	6	0	0	9
March	-26.3	0	9	9	0	0	9
April	-17.0	0	13	13	0	0	9
May	-6.4	5	8	13	0	0	9
June	4.9	18	3	21	9	3	0
July	11.6	39	0	39	99	32	0
August	9.8	42	1	43	100	32	0
September	3.1	35	7	42	40	13	0
October	-6.5	6	22	28	0	0	9
November	-19.3	0	17	17	0	0	9
December	-26.8	0	10	10	0	0	9
Annual	**-11.3**	**146**	**103**	**249**	**248**	**80**	**72**

[a] SNC (2015).

mm = millimetre; °C = degrees Celsius.

Table 2.3 Estimated Mine Site Extreme 24-Hour Rainfall Events

Return Period (Years) [a]	24-hour Precipitation (mm) [a]
2	27
5	40
10	48
25	57
50	67
100	75
1000	101

[a] SNC (2015).

mm = millimetre.

2.5 Climate Change

Climate change information presented herein was extracted from the Final Environmental Impact Statement (FEIS) Amendment, Volume 4, Section 4.2.

The climate in the Arctic is changing faster than at mid-latitudes (IPCC 2014). The most recent set of climate model projections (CMIP5) predict an Arctic-wide year 2100 multi-model mean temperature increase of +13°C in late fall and +5°C in late spring under the Intergovernmental Panel on Climate Change (IPCC)'s "business as usual scenario" (RCP8.5). IPCC climate change mitigation scenario RCP4.5 results in a year 2100 multi-model Arctic wide prediction of +7°C in late fall and +3°C in late spring (Overland et al. 2013). The effects of changes of this magnitude to terrestrial, aquatic and marine ecosystems, and social and economic systems of the Arctic are an active area of research. However, due to the short duration of the proposed Project, climate change related effects to the Project are likely negligible.

2.6 Permafrost

The mine site is located in an area of continuous permafrost, as shown on Figure 2.1. Based on measurements of ground temperatures (Knight Piésold 2015), the depth of permafrost at the mine site is estimated to be in the order of 425 metres (m) outside of the influence of waterbodies. The depth of the permafrost and active layer will vary based on proximity to the lakes, overburden thickness, vegetation, climate conditions, and slope direction. The typical depth of the active layer is 2 m in this region of Canada. The typical permafrost ground temperatures at the depths of zero annual amplitude (typically at the depth of below 15 m) is approximately -8.0 °C in areas away from lakes and streams. The geothermal gradient measured is 0.02 degrees Celsius per metre (°C/m) (Knight Piésold 2015). Late-winter ice thickness on freshwater lakes is approximately 2.0 m. Ice covers usually appear by the end of October and are completely formed in early November. The spring ice melt typically begins in mid-June and is complete by early July.

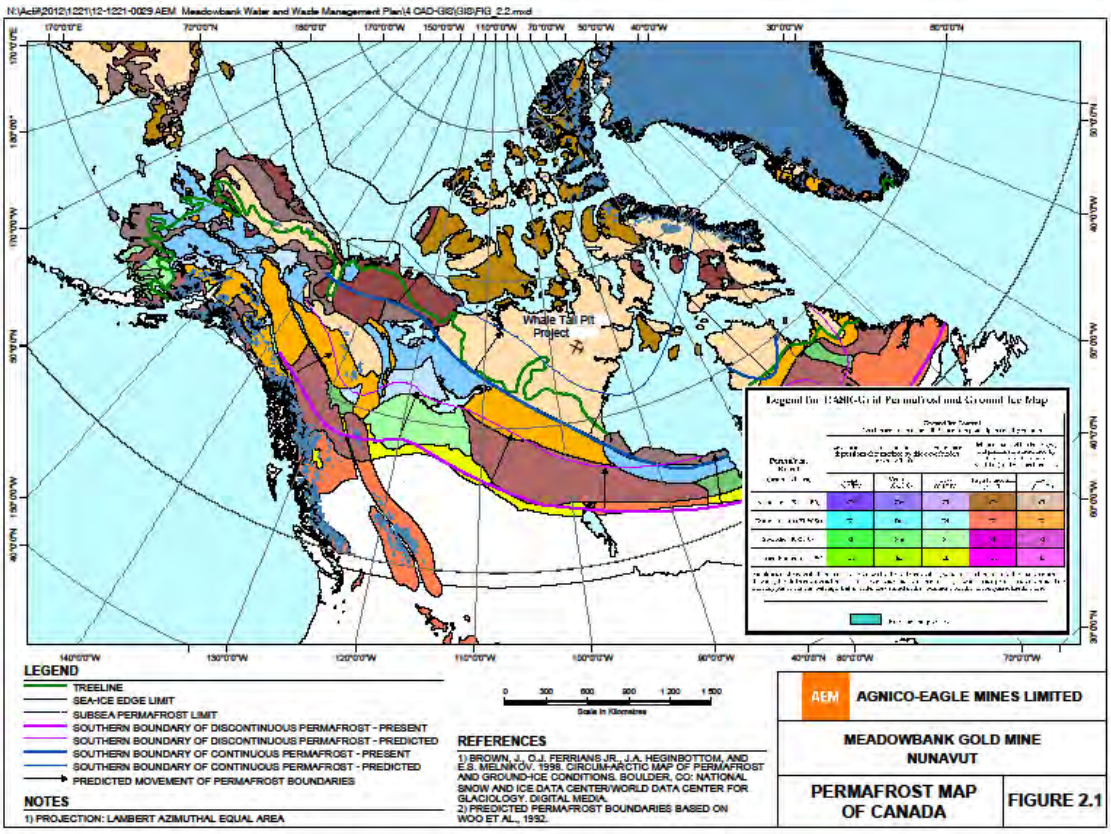

Figure 2.1 Permafrost Map of Canada

2.7 Seismic Zone

The mine site is situated in an area of low seismic risk. The peak ground acceleration (PGA) for the area was estimated using the seismic hazard calculator from the 2010 National Building Code of Canada website (http://www.earthquakescanada.nrcan.gc.ca/hazard-alea/interpolat/index_2010-eng.php). The estimated PGA is 0.019 grams (g) for a 5% in 50-year probability of exceedance (0.001 per annum or 1 in 1,000 year return) and 0.036 g for a 2% in 50-year probability of exceedance (0.000404 per annum or 1 in 2,475 year return) for the area.

SECTION 3 • WHALE TAIL PIT DEVELOPMENT PLAN

3.1 Whale Tail Pit Life of Mine

Several LOM scenarios were analysed by Agnico Eagle, which ultimately retained the best one based on economic viability of the Project. The chosen scenario is not expected to change significantly from that existing at Meadowbank, and will remain on average 9,000 t/day and up to a peak mill throughput of 12,000 t/day (which is the current rate capacity at Meadowbank Mill). Milling will end as the maximum capacity of the current TSF is reached (8.3 Mt). Table 3.1 summarizes the Whale Tail Pit LOM.

Table 3.1 Projected Whale Tail Pit Mined Tonnages

Year	Period	Ore Mined (t)	Ore Processed in Mill (t)	Production Days
2018		160,020	-	-
2019	Q1	366,229	-	184
	Q2	610,012	-	
	Q3	418,663	821,250	
	Q4	895,072	821,250	
2020	Q1	800,463	821,250	366
	Q2	931,458	821,250	
	Q3	763,882	821,250	
	Q4	856,512	821,250	
2021		2,476,834	3,285,000	365
2022		0	66,644	8
Total		**8,279,144**	**8,279,144**	**923**

t = tonne.

The Whale Tale Pit deposition plan is proposed to be a continuation of the current Meadowbank deposition plan according to the Whale Tail Pit production rates and mill feed presented in Table 3.1. Completion of the Meadowbank LOM milling activities will occur in Q3 2018.

For additional information refer to the Mine Waste Rock and Tailings Management Plan submitted under Water Licence 2AM-MEA1525.

3.2 Mine Waste Production Sequence

Two mine waste streams will be produced at Whale Tail Pit, waste rock and overburden. A third mine waste stream, tailings, will be produced at Meadowbank Mine (Refer to the Mine Waste Rock and Tailings Management Plan submitted under Water Licence 2AM-MEA1525). Approximately 46.1 Mt of waste rock, 5.6 Mt of overburden will be generated by the Project (Tables 3.2 and 3.3). . Note: The management operation and monitoring of the TSF is regulated under Agnico Eagles existing Type A water Licence 2AM-MEA1525.

The term “waste rock” designates all fragmented rock mass that has no economic value and needs to be stored separately. Waste rock is also commonly referred to as “mine rock” in the mining industry. Typically, waste rock is produced during the initial stripping and the subsequent development of open pits and underground workings.

The term “overburden” designates all soils above the bedrock that needs to be stripped at surface prior to developing the open pits. Generally, the overburden at the site consists of a thin layer of organic material overlying a layer of non-cohesive soil with variable amounts of silt, sand, and gravel.

Table 3.2 Projected Mined Tonnages and Ore Stockpile Balance (2018 – 2022)

Year	Period	Ore Mined (t)	Waste Rock Excavated (t)	Overburden Excavated (t)	Total Material Excavated (t)	Total Material Excavated (t/day)	Strip ratio	Ore Stockpile Balance (t)
2018	June to Sept.	-	400,782	610,973	1,011,754	8,431	-	-
	Q4	160,020	1,080,812	807,105	2,047,937	22,260	11.80	160,020
	Sub-total	**160,020**	**1,481,594**	**1,418,078**	**3,059,691**	**14,433**	**18.12**	**160,020**
2019	Q1	366,229	1,905,908	820,072	3,092,209	33,980	7.44	526,249
	Q2	610,012	2,299,406	122,351	3,031,769	33,316	3.97	1,136,261
	Q3	418,663	4,307,676	2,350,185	7,076,524	77,764	15.90	733,674
	Q4	895,072	5,284,473	826,373	7,005,917	76,988	6.83	807,495
	Sub-total	**2,289,976**	**13,797,463**	**4,118,981**	**20,206,420**	**55,360**	**7.82**	**807,495**
2020	Q1	800,463	6,111,564	81,160	6,993,187	76,848	7.74	786,709
	Q2	931,458	5,816,680	139	6,748,277	74,157	6.24	896,916
	Q3	763,882	5,120,892	0	5,884,773	64,668	6.70	839,548
	Q4	856,512	4,455,358	0	5,311,869	58,372	5.20	874,809
	Sub-total	**3,352,314**	**21,504,494**	**81,300**	**24,938,107**	**68,324**	**6.44**	**874,809**
2021		**2,476,834**	**9,320,843**	**0**	**11,797,677**	**32,322**	**3.76**	**66,644**
2022		**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total		**8,279,144**	**46,104,394**	**5,618,359**	**60,001,895**		**6.25**	**0**

t = tonne; t/day = tonnes per day.

The proposed usage or destination of the two mine waste materials is presented in Table 3.3. Further details on the management of the mine waste materials are presented in Sections 5 and 6 of this Plan.

The site layouts presented in Appendix A show the evolution of the site in 2018, 2019, 2022, and 2029. Most of the waste rock excavated in 2018 from Quarry 2 will be used for the construction of the water management structures, the infrastructures pads, and the access roads (Table 3.4). During the Year 1 (2019) and the Year 2 (2020), the remaining required facilities for the operations will be completed.

Table 3.3 Summary of Mine Waste Tonnage and Destination

Mine Waste Stream	Estimated Quantities	Waste Destination
Overburden	5.6 Mt	• Temporary storage West of Whale Tail Lake (~ 0.1 Mt for operations) • Co-disposed with waste rock in Whale Tail WRSF
Waste Rock	46.1 Mt	• Construction material • Whale Tail WRSF • Closure and site reclamation

Mt = million tonnes; WRSF = Waste Rock Storage Facility.

Table 3.4 Projected Waste Rock Tonnages Used for Construction (2018 – 2022)

Year	Period	Waste Rock and Overburden Excavated (t)	Waste Rock Used for Pad Construction (t)	Waste Rock Used for Road Construction (t)	Waste Rock Used for Water Management Structures (t)	Waste Rock and Overburden Stored in Whale Tail WRSF (t)
2018	June to Sept.	1 011 755	356 435	103 658	512 900	38 762
	Q4	1 887 917	150 949	1 364	192 082	1 543 522
	Sub-total	**2 899 672**	**507 384**	**105 022**	**704 982**	**1 582 284**
2019	Q1	2 725 980	0	94 625	154 608	2 476 747
	Q2	2 421 757	143 155	201 321	8 656	2 068 625
	Q3	6 657 861	20 877	0	40 041	6 596 943
	Q4	6 110 846	0	85 722	0	6 025 124
	Sub-total	**17 916 444**	**164 032**	**381 668**	**203 306**	**17 167 439**
2020	Q1	6 192 725	0	0	3 624	6 189 101
	Q2	5 816 820	0	0	0	5 816 820
	Q3	5 120 892	0	0	0	5 120 892
	Q4	4 455 358	0	0	0	4 455 358
	Sub-total	**21 585 794**	**0**	**0**	**3 624**	**21 582 170**
2021		**9 320 843**	**0**	**0**	**0**	**9 320 843**
2022		**0**	**0**	**0**	**0**	**0**
Total		**51 722 752**	**671 416**	**486 689**	**911 912**	**49 652 736**

t = tonne; WRSF = Waste Rock Storage Facility.

Over the LOM, non-potentially acid generating (NPAG)/non-metal leaching (NML) and potentially acid generating (PAG) waste rock will be segregated according to the requirement for construction (see the Operational Acid Rock Drainage (ARD)/ Metal Leaching (ML) Testing and Sampling Plan) and capping of the Whale Tail WRSF (see Section 6).

SECTION 5 • WHALE TAIL PIT OVERBURDEN MATERIALS

A detailed description of soils in the Project footprint is presented in FEIS Volume 5, Section 5.3 - Terrain, Permafrost, and Soils. Soils in the Project footprint are predominantly coarse to moderately coarse-textured glacial till and colluvium with high coarse fragment content commonly overlying bedrock at shallow depths (less than 1 m). Soils are dominated by Cryosols which develop on till dominated landscapes. Saturated soil layers overlying frozen layers have been observed on site. Other soils identified include Brunisols which are most prevalent on glaciofluvial material (e.g., eskers), Gleysols which develop on till in transition areas between upland and depressional landscape positions, and Regosols which are poorly developed soils. Organic Cryosolic soils have been found in wetlands.

Field results suggest that the mineral soils are predominantly acidic to neutral, ranging from pH 5.14 to 6.96, with pH tending to increase with soil depth (FEIS Amendment Volume 5, Appendix 5-A, Appendix E). Due to their mineralogy, the mineral soils in the Project area are increasingly sensitive to adverse effects due to acid deposition with decreasing baseline pH. Soils in the Project footprint are generally not susceptible to compaction. Soils prone to compaction are limited to low-lying, imperfectly and poorly drained areas where the clay content of soils is slightly higher.

Most soils in the Project area are rated as having moderate erosion potential, with the exception of areas with morainal blankets or colluvial deposits on slopes greater than 60%, and areas containing glaciofluvial soils. In areas of gullied or dissected terrain, the erosion potential would increase.

There is a level of uncertainty associated with the location of ice-rich permafrost within the Project footprint as no detailed permafrost studies regarding the thickness of the active layer or the ice content of the soils were completed for this area. It is assumed that ground ice content is between 0 and 10% as suggested by Heginbottom et al. (1995).

A chemical characterization program investigated the geo-environmental properties of surficial overburden and Whale Tail Lake sediments. Static geochemistry tests, mineralogy and kinetic leaching tests were carried out to investigate the reactivity of these materials with respect to their potential to generate ARD and to release metals (metal leaching or ML) to the receiving environment. The surficial overburden, as described in FEIS Amendment Volume 5, Appendix 5-E, is NPAG and has low leachability but the fines portion of the material could be amenable to erosion and transport as suspended solids in contact water.

The overburden expected to be excavated over the LOM is presented in the Table 3.2. According to Meadowbank Mine experience, lakebeds will consist of water saturated and soft soils. The remainder of the overburden materials will consist of till excavated on land. Some of the till or till-like material (approximately 100,000 t) is expected to be used during operations and will be temporarily stockpiled on the Overburden Storage pad (having approximate footprint of

3.2 hectares [ha]) near Whale Tail Dike and where the contact runoff will naturally flow into the Whale Tail Attenuation Pond. The remaining 5.5 Mt of overburden will be piled at the base of the Whale Tail WRSF and surrounded with waste rock to stabilize the material (see Figure A.1 in Appendix A). All the overburden stockpiled in the Whale Tail WRSF will be eventually covered with waste rock.

SECTION 6 • WHALE TAIL PIT WASTE ROCK

The location of the Whale Tail WRSF took into consideration the following environmental, social, economic, and technical aspects of waste rock management:

- minimize the overall footprint of the Whale Tail WRSF to the extent practicable while maintaining the short-term and long-term stability of the facilities;
- avoid or minimize impact to adjacent fish bearing lakes;
- minimize the haul distance from the open pit to the Whale Tail WRSF;
- minimize the number of the water catchment areas potentially affected by drainage from the Whale Tail WRSF;
- when feasible, divert upstream clean natural non-contact run-on water away from the Whale Tail WRSF; and
- facilitate the collection and management of the contact water from the Whale Tail WRSF during mine operations to avoid potentially negative impacts on the surrounding environment.

The area selected for the storage of waste rock and overburden materials is shown in Figures A.1 to A.4 of Appendix A. This area has an approximate footprint of 110 ha. Waste rock and overburden from the Whale Tail Pit not used for site development purposes, will be trucked to the Whale Tail WRSF until the end of mine operations.

6.1 Waste Rock Properties

A chemical characterisation program investigated the geo-environmental properties of waste rock and ore at the Project (FEIS Amendment Volume 5, Appendix 5-E). Static geochemistry tests, mineralogy and kinetic leaching tests were carried out to investigate the reactivity of these materials with respect to their potential to generate ARD and to release metals (ML) to the receiving environment.

The Whale Tail deposit mineralization is low sulphur but the sulphur carries arsenic which is enriched in all waste rock types. Arsenic, sulphur, and carbonate-buffering capacity are the parameters of environmental interest present in mining wastes.

Most of the waste rock lithologies to be disturbed by mining are NPAG including: ultramafic, iron formation, mafic volcanic, southern greywacke and intermediate intrusive units. Together, these lithologies comprise approximately 73% of the waste rock (33.6 Mt). These units will not require means to control ARD. Of these, however, 46% (ultramafic and iron formation units) and some of the lake sediments leach arsenic in static and kinetic leaching tests at concentrations that exceed the Meadowbank Mine (Portage) effluent criterion. The mafic volcanic lithology can leach elevated arsenic at the contact with the ultramafic and greywacke units, however the bulk of the samples

have low arsenic content and release arsenic at low concentrations. This does not necessarily infer future water quality exceedances at site but contact water will need to be monitored before discharge to the receiving environment.

The southern greywacke, the bulk of the mafic volcanic waste rock units away from the contacts of greywacke and ultramafic rock, and the intermediate intrusive within the open pit are NPAG and have low leachability. These units represent approximately 27% of the waste rock (12.4 Mt), and will not require environmental control in the short or long-term. As such, they are targeted for use as construction materials on site, as cover material for the Whale Tail WRSF and as reclamation material.

The ore and the central greywacke and chert waste rock are PAG. Chert and central greywacke represent 27% of waste rock to be generated by mining (12.4 Mt). They are silicified, have a lower buffering capacity and a higher sulphur content than the southern greywacke and other NPAG waste rock. The PAG waste rock also leaches arsenic but at concentrations that are well below the Portage effluent criterion. Based on results to date, a sulphur content of 0.1 wt% appears to be a suitable cut-off criteria below which chert and greywacke waste rock are NPAG.

Kinetic leaching tests, mineral depletion calculations and consideration of the scale and site differences between laboratory tests and field conditions suggest a time lag to possible ARD development at site of more than a decade. Upper tier ARD materials (high sulphur/low buffering capacity greywacke or chert waste rock) generated acidic drainage earlier but without the benefit of added buffering capacity from mixing with other NPAG rock piles. The delay to onset of ARD from the bulk of PAG waste rock and ore is expected to be substantially longer than the seven years of mine construction, operations, and closure. Accordingly, ARD control mechanisms for PAG materials can be implemented at the end of mining operations.

6.2 Whale Tail Waste Rock Storage Facility Management

Seepage and runoff water from the Whale Tail WRSF will be managed by a combination of water retention dikes and water collection ponds (Whale Tail WRSF Pond and Whale Tail Attenuation Pond). If water quality does not meet discharge criteria, contact water in the water collection ponds will be treated at the Whale Tail WTP prior to discharge to the outside environment.

The Whale Tail WRSF was located considering advantageous topography in the form of a gentle valley presenting one low topographic point near Mammoth Lake where a contact water pond will be built. Only one low topographic point is observed north of the Whale Tail WRSF where potential runoff could escape from the Whale Tail WRSF footprint. As part of the surrounding road, a saddle dam will be constructed at this location to avoid contamination of the sub-watershed located northward of the Whale Tail WRSF.

The construction of Whale Tail WRSF Pond (Whale Tail WRSF Dike) and Whale Tail Attenuation Pond (Whale Tail Dike) are among the most important water management infrastructure for the Project.

These ponds and accompanying dikes will be built as soon as licenses and permits for the Project are approved. The source of construction material for these facilities will be the open pit (Quarry 2) where NPAG and NML rocks are located. The overburden from the quarry will be removed and stockpiled in the Whale Tail WRSF. During the construction, berms and sumps will be built inside the footprint of the Whale Tail WRSF area if required to limit seepage and runoff from overburden and waste rock. As soon as waste rock material will be available from the open pit, the overburden will be surrounded with run of mine material (see Figure A.1 in Appendix A) to control the stability of the pile. If deemed necessary turbidity barriers in Mammoth Lake will also be installed.

During the operations of the mine, seepage and runoff from the Whale Tail WRSF will be captured by the Whale Tail WRSF Pond and pumped to the Whale Tail Attenuation Pond where the contact water will be treated in the Whale Tail WTP prior to discharge to the outside environment.

The Whale Tail WRSF water management infrastructure will remain in place until mine closure activities are completed and monitoring results demonstrate that the contact water quality from the Whale Tail WRSF meets discharge criteria (see Section 10.1).

6.3 Whale Tail Waste Rock Storage Facility Dimensions

The evolution of the Whale Tail WRSF is shown in Figures A.1 to A.4 of Appendix A. At completion, the crest elevation of the Whale Tail WRSF will be approximately at 235 m (maximum height of 80 m; see Figure 6.1) in an environment where the adjacent topography elevation varies between 154 and 170 m.

The Whale Tail WRSF is designed to minimize the impact on the environment and consider both the physical and geochemical stability of the stored waste rock and overburden. The design criteria are presented in FEIS Amendment Volume 2, Appendix 2-J. Final design details for the Whale Tail WRSF will be provided to the regulators for approval at least 60 days prior to construction. The Whale Tail WRSF is designed considering the placement of the waste rock and overburden in layers spread using a dozer to minimize the footprint and the dust. Each bench of 20 m maximum height is going to be composed of 4 layers of 5 m thickness, and where the bench toe will start at a setback distance of 20 m from the crest of the previous bench. The current design and overall sideslope angle of the Whale Tail WRSF will be 2.5V:1V, an angle generally considered stable for such a facility. However, slope stability analyses will be performed during the next engineering phases to determine the final design so that it is consistent with approved Portage and Vault Waste Rock facilities at Meadowbank Mine.

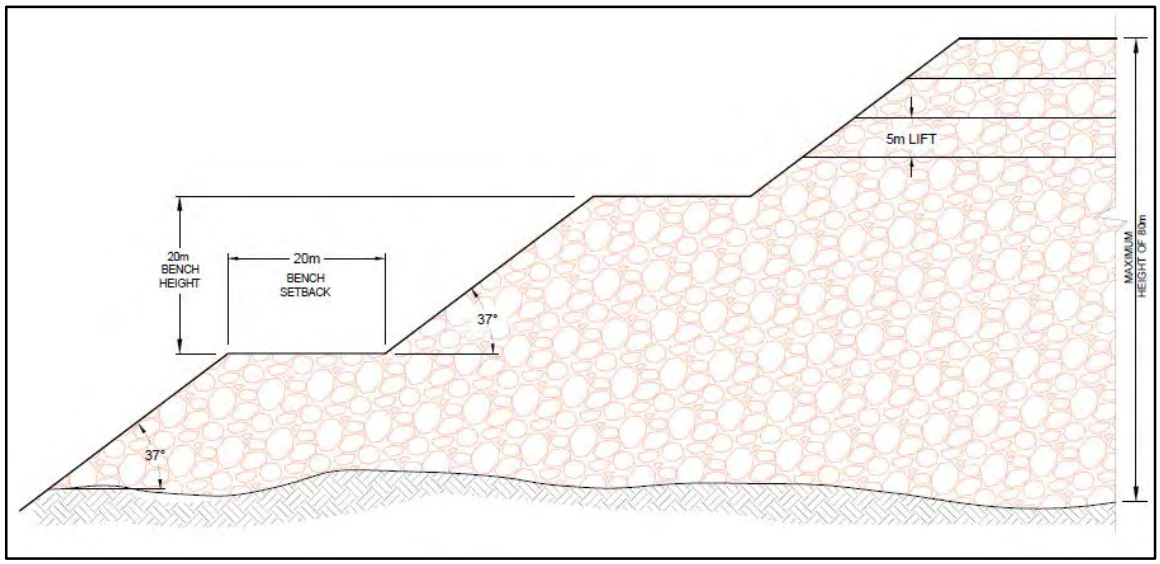

Figure 6.1 Typical Cross Section of the Whale Tail Waste Rock Storage Facility

Source: SNC (2015).

SECTION 7 • WHALE TAIL PIT ORE STOCKPILES

The three areas selected for stockpiling of ore are identified as Ore Stockpile 1, Ore Stockpile 2, and Ore Stockpile 3 on Figure A.2 of Appendix A. These ore stockpile pads have an approximate footprint of 5.7, 5.5, and 6.5 ha, respectively. As presented in Table 3.1, the maximum amount of ore stockpiled on the ore pads is 1,136,261 tonnes (t) in Q2 2019, from there the quantity of ore stockpiled stabilizes and then decreases until the end of operations in Q1 2022. No ore will remain on stockpile pads at the end of operations.

7.1 Ore Properties

A chemical characterization program investigated the geo-environmental properties of waste rock and ore report (FEIS Amendment Volume 5, Appendix 5-E). Static geochemistry tests, mineralogy and kinetic leaching tests were carried out to investigate the reactivity of these materials with respect to their potential to generate ARD and to release metals (ML) to the receiving environment.

The ore is PAG, and is enriched in arsenic, antimony, bismuth, chromium, selenium, silver and to a lesser extent, nickel. Some of the ore samples leached arsenic at concentrations that exceed the Portage effluent criterion in static (shake flask extraction) tests but exceedances were short-lived in the first cycles of kinetic leaching tests. The delay to onset of ARD from ore is expected to be substantially longer than the seven years of mine construction, operations, and closure.

7.2 Ore Stockpile Management

Seepage and runoff water from Ore Stockpiles 1, 2, and 3 will naturally flow to the Whale Tail Attenuation Pond; channels will be constructed if deemed required to direct the seepage and runoff to the pond. If the water quality does not meet discharge criteria, the contact water will be treated at the Whale Tail WTP prior to discharge to the outside environment.

7.3 Ore Stockpile Facility Dimensions

The three ore stockpiles will occupy an area of approximately 17.8 ha. A typical cross section of these facilities is presented in Appendix A (Drawing no. 6108-687-210-001). Currently, Ore Stockpiles 1, 2, and 3 are designed to stack three layers of 5 m maximum thickness for a total height of 15 m. The sideslope angle of these ore stockpiles will be 3V:1V, an angle generally considered stable for such facility. Slope stability analyses will be performed during the next engineering phases and a final design will be presented prior to construction.

SECTION 8 • MEADOWBANK TAILINGS STORAGE FACILITY - TAILINGS MANAGEMENT FOR WHALE TAIL PIT

According to the Whale Tail Pit LOM calculation, the addition of the Whale Tail Pit to the Meadowbank LOM (LOM 2015 – completion Q3 2018) will generate an addition of approximately 8.3 Mt (dry) of tailings to the Meadowbank TSF for a total of 35.4 Mt.

Currently, Meadowbank tailings are stored within the TSF North and South Cells. The TSF includes dikes/dams, and is located within the basin of the former north-west arm of Second Portage Lake which has been dewatered to allow mining in the Portage Pit (refer to Figure 1.2). The TSF North and South cells are separated by the Stormwater Dike. Tailings were deposited into the North Cell from 2010 until November 2014, and again from June to September 2015. The South Cell (former Portage Attenuation Pond) is currently operating and receiving tailings.

Tailings from Whale Tail Pit will be stored within the approved Meadowbank TSF footprint. According to the approved Meadowbank TSF design and Meadowbank LOM 2015, there remains a capacity of 5.3 Mt in the South Cell after the completion of mining Goose Pit, Portage Pit, Vault Pit, BB Phaser, and Phaser Pit. To provide the additional 3 Mt of capacity required to store Whale Tail Pit tailings, Agnico Eagle is proposing to construct an internal structure raise over the outside perimeter of the existing and frozen North Cell. This concept will increase the tailings beach elevation to a maximum of 153.5 masl in the North Cell.

The management operation and monitoring of the TSF is regulated under Agnico Eagles existing Type A Water Licence 2AM-MEA1525. Updates to the Meadowbank Mine Waste Rock and Tailings Management Plan has been provided in support of the current Whale Tail Pit application and any amendment needed to the existing Type A water licence to reflect changes in the Meadowbank operations.

SECTION 9 • 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 for the Whale Tail Pit, consideration was given to strategies that are effective in cold regions. A discussion of the alternative control strategies considered 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 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 9.1 presents various acid mine drainage control strategies.

Table 9.1 Acid Mine Drainage Control Strategies of the Arctic

Strategy	Description
Freeze Controlled	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	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	Very difficult to dispose of waste rock beneath winter ice.
Collection and Treatment	Costly to maintain at remote locations Long-term maintenance cost.

Source: Dawson and Morin (1996).

The Whale Tail Pit site is located within the zone of continuous permafrost, and has a mean annual air temperature of about -11.3°C. Based on thermal data collected during baseline studies, the mine area is underlain by permafrost to the depth of 425 m below the ground surface. In developing this Plan, 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 pore water outside of the storage facility. The climate conditions in the project area 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 reducing the migration of contaminants through materials.

According to Dawson and Morin (1996), freeze control strategies can only be effective if sufficient quantities of NPAG waste rock are available for use as a cover and insulation protection.

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 Whale Tail Pit will act as a natural control to reduce 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 in arid climate such as the one of project.

Meadowbank Mine uses the climate control strategy for the reclamation of the WRSF and TSF. Research activities are ongoing about the behaviour and the performance of the proposed cover systems for Meadowbank Mine with the participation of the Université du Québec en Abitibi-Témiscamingue: Research Institute Mines and Environment since 2014. Experience and knowledge acquired at Meadowbank Mine regarding the design and the monitoring of the cover system will be applied to the Whale Tail Pit scenario.

SECTION 10 • MONITORING AND CLOSURE

10.1 Whale Tail Waste Rock Storage Facility

Progressive reclamation includes closure activities that take place prior to permanent closure in areas or at facilities that are no longer actively required for current or future mining operations. Reclamation activities can be done during operations with the available equipment and resources to reduce future reclamation costs, minimize the duration of environmental exposure, and enhance environmental protection. Progressive reclamation may shorten the time for achieving reclamation objectives and may provide valuable experience on the effectiveness of certain measures that might be implemented during permanent closure. The Whale Tail WRSF will be operated to facilitate progressive reclamation; detailed mine closure and reclamation activities are provided in the Whale Tail Interim Closure and Reclamation Plan.

Monitoring will be carried out during all stages of the mine life to demonstrate geotechnical stability and the safe environmental performance of the 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 Whale Tail Interim Closure and Reclamation Plan.

Mine closure and the reclamation of the Whale Tail WRSF will use currently accepted management practices and appropriate mine closure techniques that will comply with accepted protocols and standards.

Geochemical testing indicates that approximately 27% of the total amount of waste rock produced during the Project is NPAG and NML (FEIS Amendment Volume 5, Appendix 5-E). The remaining 73% of waste rock shows PAG and/or ML behaviour; therefore, means to limit oxidation and water infiltration need to be put in place. A closure cover system will be added on the top of the Whale Tail WRSF. The design proposed is the same as that at Meadowbank Mine for the Portage WRSF, i.e. the addition of 2 to 4 m of NPAG and NML waste rock as a final surface cover. The intent of the cover is to contain the yearly active layer inside the thickness of the cover and maintain a temperature below 0°C for the underlying rock. The objective of the cover is the control of acid generating reactions and migration of contaminants.

The segregation of the PAG/NPAG and ML/NML waste rock will occur during operations (see the Operational ARD-ML Sampling and Testing Plan), as will the progressive placement of the final cover on the WRSF slopes. The covering of the top of the Whale Tail WRSF will be completed during the closure period using of the stockpiled NPAG and NML waste rock. It is anticipated that the native lichen community will naturally re-vegetate the surface of the Whale Tail WRSF over time.

The contact water management system for the Whale Tail WRSF (WRSF Dike and WRSF Pond) will remain in place until mine closure activities are completed and monitoring results demonstrate that water quality conditions from the Whale Tail WRSF are acceptable for discharge with no further

treatment required. Once water quality meets the discharge criteria established through the water licensing process, the contact water management system will be decommissioned to allow the surface runoff and seepage water from the Whale Tail WRSF to naturally flow to the outside environment. Water quality predictions for Whale Tail Pit are provided in Volume 6, Appendix 6-H of the FEIS.

10.2 Ore Stockpiles

Ore Stockpiles 1, 2, and 3 will used over the operations to stockpile ore and will be freed during Q1 2022. During the following summer, if metal contamination of ore pads is measured, the pad section targeted by the contamination will be excavated and placed in the Whale Tail WRSF before its final covering with NPAG waste rock. If deemed required, the Ore Stockpiles 1, 2, and 3 will be covered with NPAG waste rock or soils. In the event of a short-term temporary closure, the water and dust management strategies for the ore stockpiles will be kept the same as used during active mine operations. In the event of a long-term temporary closure, surface water control structures will be maintained as required. Further details on mine site closure and reclamation, including the ore stockpiles, can be found in the Interim Closure and Reclamation Plan.

10.3 Water Quality Forecast for Closure Including Whale Tail Pit Operations

An updated water quality forecast report including Whale Tail Pit operations was prepared by SNC Lavalin (SNC 2016 and found in Appendix F). The purpose of the updated modelling was to identify through a mass balance approach the contaminants of concern during the pit flooding process and determine if water treatment will be required on site for closure activities when comparing the final contaminant levels to the CCME guidelines and/or site specific criteria for parameters that are not included in the CCME guidelines. The water quality forecast will be updated on an annual basis as new monitoring data is added at the site. Forecasted model values from prior years will be compared with the actual sample results from the following years for model calibration purposes.

Using Whale Tail Pit tailings geochemistry data, SNC (2016) identified three contaminants of concern that could impact end pit water quality and therefore require treatment: copper, selenium and total nitrogen. These contaminants originate from the TSF reclaim water transferred to the pits in 2022 as outlined in Section 8.7. As the afore mentioned parameters may be of concern prior to dike breaching, treatment options for their removal during or after the pit flooding process will need to be examined and will be assessed in greater detail during the preparation of the final closure and reclamation plan to be submitted one year prior to the end of operations.

10.4 Monitoring of Freezeback

10.4.1 Whale Tail Waste Rock Storage Facility

To observe the freezeback of Whale Tail WRSF, a series of subsurface thermistors will be installed at strategic locations. The purpose of the thermistors is to monitor the temperature within the facility

as freezing progresses. The thermistors will be monitored regularly throughout the operational period as well as during closure and post-closure according to Part I Item 9 of the Type A Water Licence. The results will be used to evaluate the predicted thermal response of the facility, and will allow for revision of the thickness of the final cover if required.

SECTION 11 • REFERENCES

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APPENDIX A • DRAWINGS

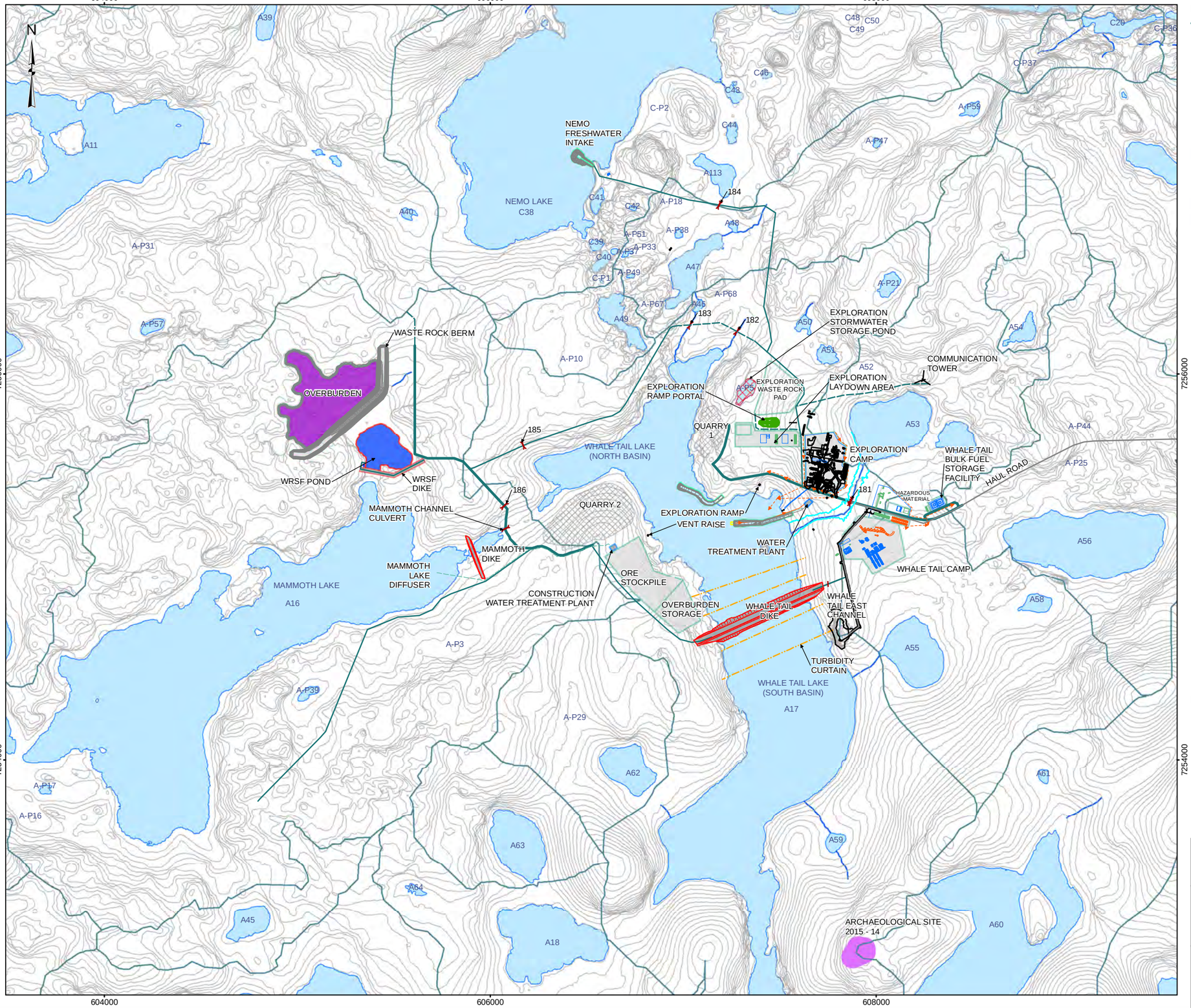
Figure A.1 Yearly Site Layout Plan (Year -1: 2018)

Figure A.2 Yearly Site Layout Plan (Year 1: 2019)

Figure A.3 Yearly Site Layout Plan (Year 4: 2022)

Figure A.4 Yearly Site Layout Plan (Year 11: 2029)

Drawing 6108-687-210-001 Ore Stockpiles 1, 2, 3



LEGEND

- ROAD
- TEMPORARY ROAD
- COLLECTION CHANNEL
- CULVERT
- CONTACT WATER PUPE
- FRESHWATER PIPE
- TURBIDITY CURTAIN
- DIKE
- OVERBURDEN
- QUARRY
- STORM WATER STORAGE POND
- NATURAL WATERSHED
- POND/SUMP
- ARCHAEOLOGICAL SITE
- WATERBODY
- WATERCOURSE

REFERENCE

1. INFRASTRUCTURE OBTAINED FROM AGNICO EAGLE MINES LIMITED FROM 6108-600-210-001_R2(2018)s.dwg.
2. WATERCOURSE AND WATERBODY DATA OBTAINED FROM PHOTOSAT
DATUM: NAD 83 CSRS PROJECTION: UTM ZONE 14

400 0 400
METRES

PROJECT
AGNICO EAGLE

AGNICO EAGLE MINES LIMITED:
MEADOWBANK DIVISION
WHALE TAIL PIT PROJECT

TITLE

YEARLY SITE LAYOUT PLAN (YEAR -1: 2018)

Golder Associates

PROJECT		1541520	FILE No.	
DESIGN	JR	24 Mar. 2016	SCALE AS SHOWN	REV. 0
GIS	MH	11 May 2016	FIGURE A.1	
CHECK	SO	06 Jun. 2016		
REVIEW	LY	06 Jun. 2016		

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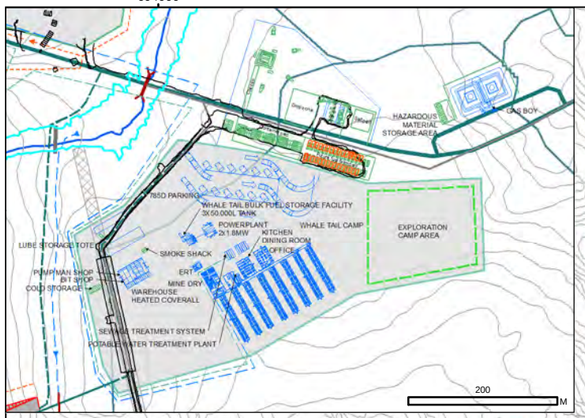

NEMO FRESHWATER INTAKE
NEMO LAKE
C38
ROAD AROUND WRSF
SADDLE / COFFER DAM #1
WHALE TAIL WASTE ROCK STORAGE FACILITY
WHALE TAIL LANDFILL
WRSF POND
WRSF DIKE
NORTHEAST POND
NORTHEAST DIKE
STORM WATER STORAGE POND
WASTE ROCK EXPLORATION PAD
BERM
EXPLORATION RAMP PORTAL
EXPLORATION LAYDOWN AREA
COMMUNICATION TOWER
CRUSHING AREA (2X CRUSHER)
6508-WHL-001-001
ORE STOCKPILE 1
ORE STOCKPILE 2
EXPLORATION RAMP VENT RAISE
WATER TREATMENT PLANT
WHALE TAIL ATTENUATION POND
ORE STOCKPILE 3
OVERBURDEN STORAGE
SADDLE / COFFER DAM
WHALE TAIL DIKE
WHALE TAIL EAST CHANNEL
WHALE TAIL BULK FUEL STORAGE FACILITY
HAUL ROAD
WHALE TAIL CAMP
NORTH CHANNEL
MAMMOTH CHANNEL CULVERT
MAMMOTH DIKE
MAMMOTH CHANNEL CULVERT
MAMMOTH LAKE DIFFUSER
MAMMOTH LAKE
A16
EXPLOSIVE MAGAZINE 35 000kg
CAP MAGAZINE
CAP MAGAZINE
EXPLOSIVE MAGAZINE 35 000kg
EXPLOSIVE MAGAZINE 35 000kg
EXPLOSIVE MAGAZINE 35 000kg
WHALE TAIL DIVERSION CHANNEL
WHALE TAIL LAKE (SOUTH BASIN)
A17
ELEVATION ZONE EL. 156m
ARCHAEOLOGICAL SITE 2015-14
A18
A45
A59
A60
A61
A62
A63
A64
A53
A54
A55
A56
A58
184
183
182
181
185
186

LEGEND

- FINAL WHALE TAIL WASTE ROCK STORAGE FACILITY
- WHALE TAIL LAKE (SOUTH BASIN) FLOODED LIMIT (WATER LEVEL 156.0m)
- NATURAL WATERSHED
- DIKE
- POND/SUMP
- ARCHAEOLOGICAL SITE
- ROAD
- TEMPORARY ROAD
- DIVERSION CHANNEL
- COLLECTION CHANNEL
- CULVERT
- INTAKE WATER PIPE
- CONTACT WATER PIPE
- FRESHWATER PIPE
- WATERCOURSE
- WATERBODY

REFERENCE

1. INFRASTRUCTURE OBTAINED FROM AGNICO EAGLE MINES LIMITED FROM 6108-600-210-002_R2(2019)s.dwg.
2. WATERCOURSE AND WATERBODY DATA OBTAINED FROM PHOTOSAT
DATUM: NAD 83 CSRS PROJECTION: UTM ZONE 14

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METRES

PROJECT
AGNICO EAGLE

AGNICO EAGLE MINES LIMITED:
MEADOWBANK DIVISION
WHALE TAIL PIT PROJECT

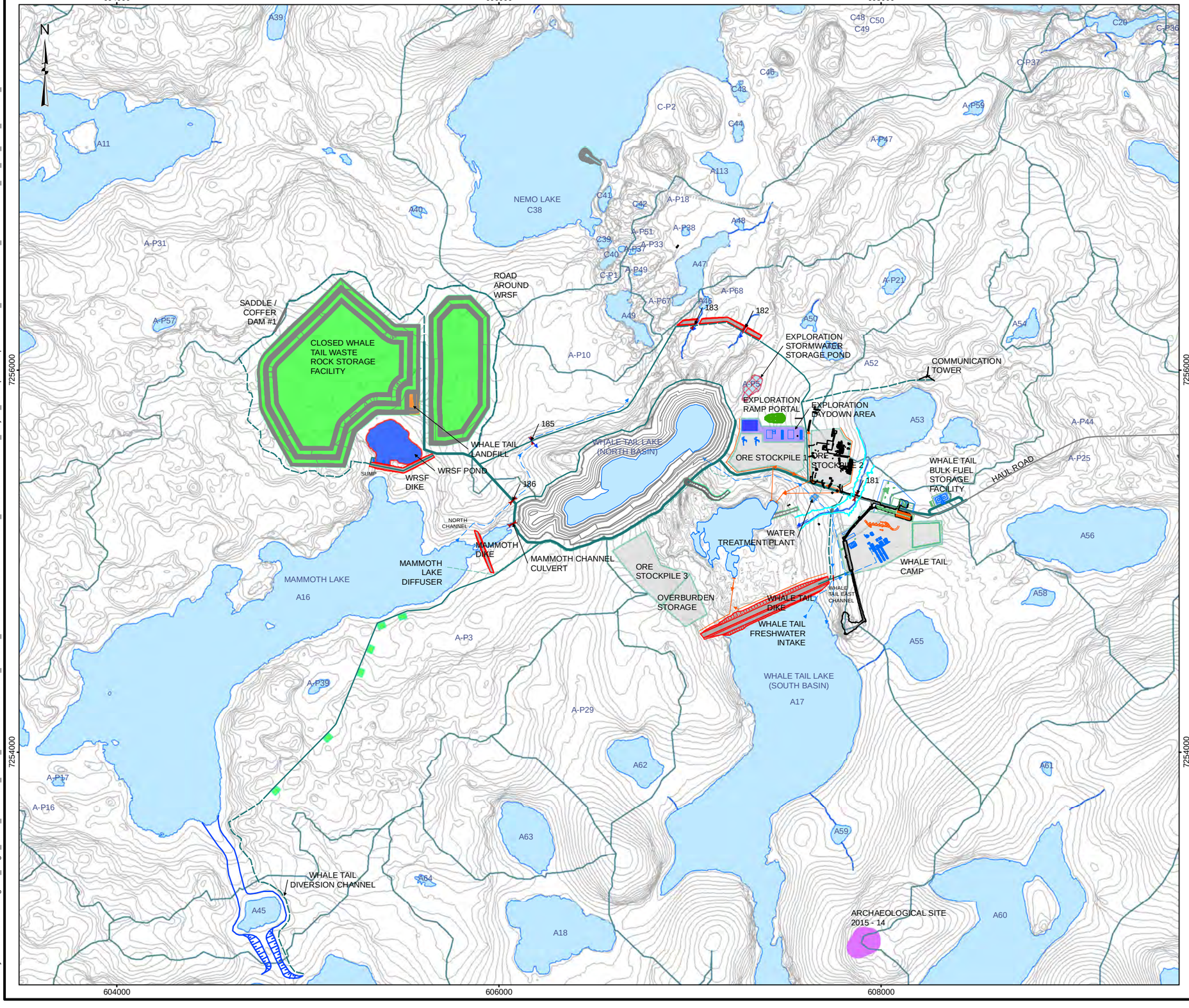
TITLE

YEARLY SITE LAYOUT PLAN (YEAR 1: 2019)

Golder Associates

PROJECT		1541520	FILE No.	
DESIGN	JR	24 Mar. 2016	SCALE AS SHOWN	REV. 0
GIS	MH	11 May 2016		
CHECK	SO	06 Jun. 2016		
REVIEW	LY	06 Jun. 2016		

FIGURE A.2



LEGEND

- ROAD
- TEMPORARY ROAD
- SCARIFIED ROAD AND ACCESS
- DIVERSION CHANNEL
- COLLECTION CHANNEL
- CULVERT
- CONTACT WATER PUPE
- FRESHWATER PIPE
- DIKE
- CLOSED FACILITY
- EXPLORATION LAYDOWN AREA
- STORM WATER STORAGE POND
- POND/SUMP
- NATURAL WATERSHED
- ARCHAEOLOGICAL SITE
- WATERBODY
- WATERCOURSE

REFERENCE

1. INFRASTRUCTURE OBTAINED FROM AGNICO EAGLE MINES LIMITED FROM 6108-600-210-003_R2(2022)s.dwg.
2. WATERCOURSE AND WATERBODY DATA OBTAINED FROM PHOTOSAT

DATUM: NAD 83 CSRS PROJECTION: UTM ZONE 14

400 0 400

METRES

PROJECT

AGNICO EAGLE

AGNICO EAGLE MINES LIMITED:
MEADOWBANK DIVISION
WHALE TAIL PIT PROJECT

TITLE

YEARLY SITE LAYOUT PLAN (YEAR 4: 2022)

Golder Associates

PROJECT		1541520	FILE No.	
DESIGN	JR	24 Mar. 2016	SCALE AS SHOWN	REV. 0
GIS	MH	11 May 2016		
CHECK	SO	06 Jun. 2016		
REVIEW	LY	06 Jun. 2016		

FIGURE A.3

Y:\burnaby\CAD-GIS\Client\Agnico_Eagle_Mines_Ltd\Whale_Tail\99_PROJECTS\1541520_FEIS\02_PRODUCTION\FEIS\MXD\1300_Documentation\1340_Project_Description\ReportWATER_MANAGEMENT_PLAN\1541520_FIG_A.3_SITE_LAYOUT_2022.mxd

604000
606000
608000
7256000
7254000
N
A39
A11
A40
A-P31
A-P57
NEMO LAKE
C38
C-P2
C41
C42
A-P18
A-P51
A-P38
C39
A-P33
C-P37
C40
A-P49
C-P1
A47
A48
A-P67
A46
A49
A-P68
183
182
A50
A51
A52
A-P5
A-P10
A-P21
A54
A53
A-P44
A-P25
HAUL ROAD
A56
A58
A55
A-P3
A-P39
A-P29
A62
A61
A63
A64
A45
A18
A59
A60
A-P17
A-P16
A16
MAMMOTH LAKE
WHALE TAIL LAKE
(NORTH BASIN)
WHALE TAIL LAKE
(SOUTH BASIN)
A17
ROAD
AROUND
WRSF
SADDLE /
COFFER
DAM #1
CLOSED WHALE
TAIL WASTE
ROCK STORAGE
FACILITY
WASTE ROCK
STORAGE
FACILITY
WHALE TAIL
LANDFILL
185
WRSF POND
WRSF
DIKE
WATER
TREATMENT
PLANT
MAMMOTH CHANNEL
CULVERT
MAMMOTH
DIKE
MAMMOTH
LAKE
DIFFUSER
CLOSED
FACILITIES
WATER
TREATMENT
PLANT
181
ARCHAEOLOGICAL SITE
2015 - 14
C48
C50
C49
C46
C48
C44
C-P36
C26
A-P59
A-P47
A113

LEGEND

- CLOSED FACILITY
- ROAD
- TEMPORARY ROAD
- SCARIFIED ROAD AND ACCESS
- CULVERT
- FRESHWATER PIPE
- DIKE
- POND/SUMP
- ARCHAEOLOGICAL SITE
- NATURAL WATERSHED
- WATERBODY
- WATERCOURSE

REFERENCE

1. INFRASTRUCTURE OBTAINED FROM AGNICO EAGLE MINES LIMITED FROM 6108-600-210-004_R2(2029)s.dwg.
2. WATERCOURSE AND WATERBODY DATA OBTAINED FROM PHOTOSAT

DATUM: NAD 83 CSRS PROJECTION: UTM ZONE 14

400 0 400
METRES

PROJECT
AGNICO EAGLE

AGNICO EAGLE MINES LIMITED:
MEADOWBANK DIVISION
WHALE TAIL PIT PROJECT

TITLE

YEARLY SITE LAYOUT PLAN (YEAR 11: 2029)

Golder Associates

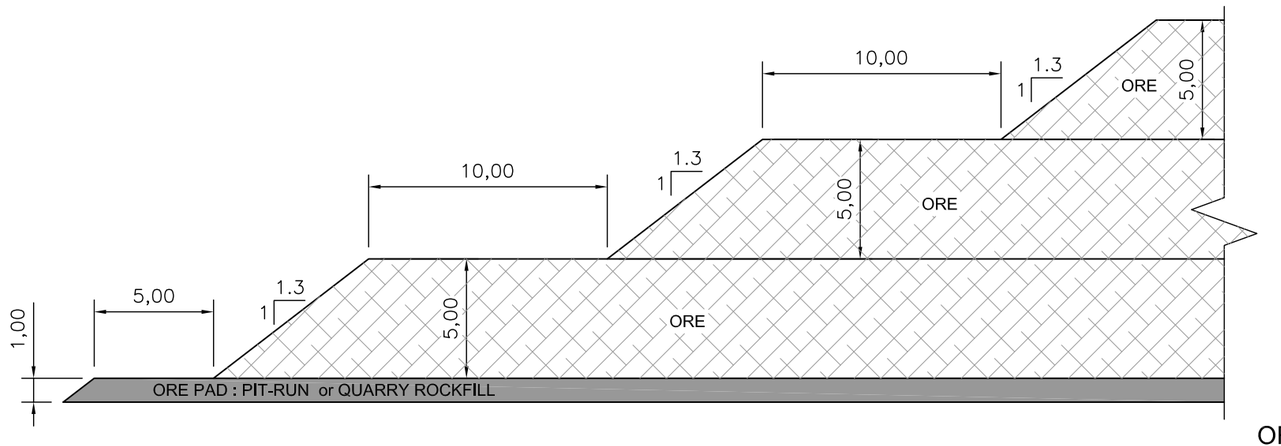
PROJECT	1541520		FILE No.	
DESIGN	JR	24 Mar. 2016	SCALE AS SHOWN	REV. 0
GIS	MH	11 May 2016		
CHECK	SO	06 Jun. 2016		
REVIEW	LY	06 Jun. 2016		

FIGURE A.4

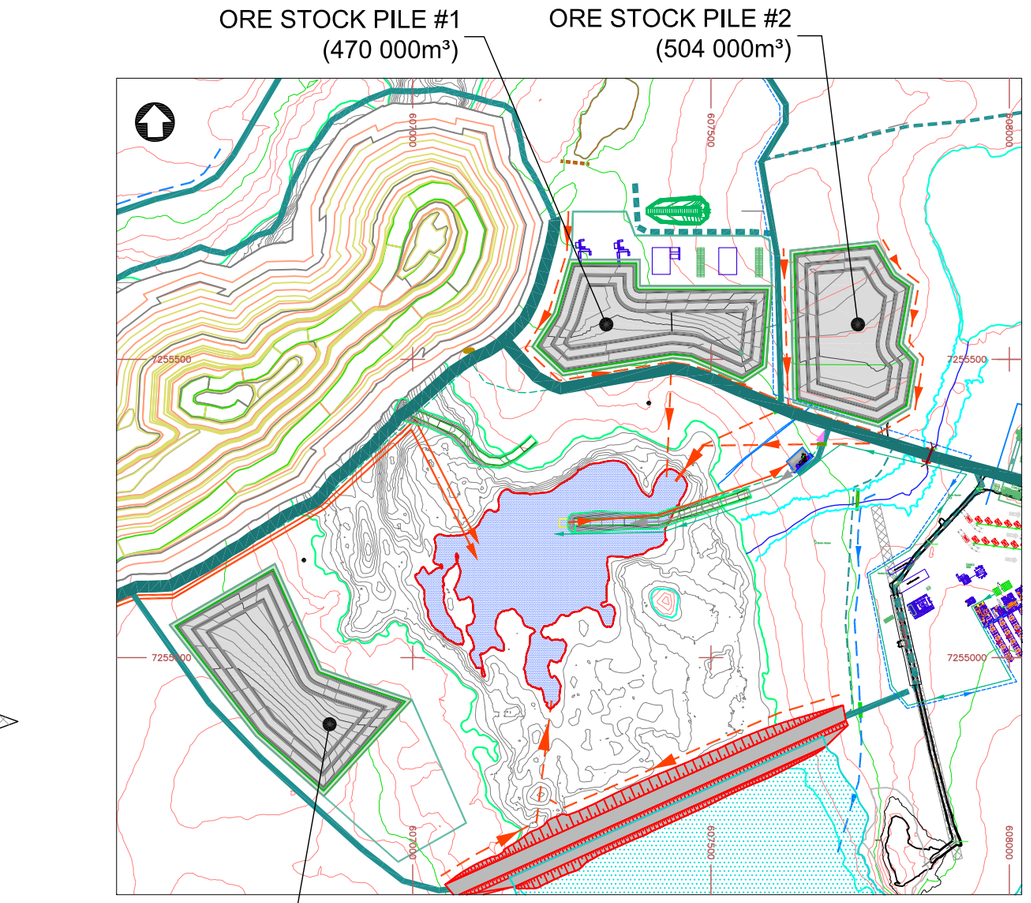
Y:\burnaby\CAD-GIS\Client\Agnico_Eagle_Mines_Ltd\Whale_Tail\99_PROJECTS\1541520_FEIS\02_PRODUCTION\FEIS\MXD\1300_Documentation\1340_Project_Description\ReportWATER_MANAGEMENT_PLAN\1541520_FIG_A.4_SITE_LAYOUT_2029.mxd

NO. DESSIN
DRAWING NO.

FORMAT ANSI B–11x17



TYPICAL SECTION
SCL 1:250 (1H:1V)



PLAN VIEW
SCL 1:10000

ISSUED FOR PERMITTING
DATE : 2016-05-03
AGNICO EAGLE

_	_				
_	_				
_	_				
_	_				
_	_	0	ISSUED FOR PERMITTING	2016-05-03	J.C.
TITRE / TITLE	# DWG	REV	DESCRIPTION	DATE	PAR BY
DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS		REVISIONS			

AGNICO EAGLE

Golder Associates

DESSINÉ PAR DRAWN BY	J.CRETE	DATE 2016-05-02
VÉRIFIÉ PAR CHECKED BY	F.PETRUCCI	2016-05-03
APPROUVÉ PAR APPROVED BY	S. OUELLET	2016-05-03
No. PROJET PROJECT No.	6108	
DATE	2016-05-02	

TITRE / TITLE
AGNICO–EAGLE – MEADOWBANK DIVISION
WHALE TAIL PIT PROJECT
ORE STOCK PILE #1, #2, #3
ORE PAD MAXIMUM CAPACITY
PLAN VIEW & TYPICAL SECTION

ÉCHELLE/ SCALE A/S	FICHIER FILE .DWG		
No. DESSIN/ DRAWING NO. 6108-687-210-001	REVISION 0	FEUILLE/SHT 1 / 1	

AE–CART–ANSI B

N:\Projet\Amaruq\050 Studies\6108 Permitting Concepts\010 Info by area\687 Ore Stockpile\00 Drawings\6108–687–210–001_R0(OreStockPiles).dwg, 03 Mai 2016