AGNICO EAGLE

Meadowbank Division

WHALE TAIL PROJECT

Water Management Plan

JULY 2020
VERSION 5

EXECUTIVE SUMMARY

Agnico Eagle Mines Limited – Meadowbank Division (Agnico Eagle) is developing the Whale Tail Pit and Haul Road Project (Project), a satellite deposit located on the Amaruq property, to extend mine operations and milling at Meadowbank Mine. In 2020 the Whale Tail Expansion Project (Expansion Project) was approved, permitting Agnico Eagle to expand and extend the Whale Tail Pit operations to include a larger Whale Tail open pit, development of the IVR open pit, and underground operations while continuing to operate and process ore at the Meadowbank Mine.

The Amaruq property is a 408 square kilometre (km^2) site located on Inuit Owned Land (IOL) 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 two open pits (i.e., Whale Tail Pit and IVR Pit) and underground operations, and ore will be hauled to the approved infrastructure at Meadowbank Mine for milling.

The open pit mine, mined by truck-and-shovel operation, includes four development phases: 1 year of construction (complete), 7 years of mine operations, 25 years of closure, and the post closure period. On September 30th, 2019 commercial production began at the Whale Tail Pit. The Expansion Project includes mining an additional 15.2 million tonnes of ore from the expanded Whale Tail Pit, the IVR open pit and underground operations. This expanded resource will be extracted over an approximately four-year period. In total, the resources for the Whale Tail project have been expanded and extended over approximately a seven-year period from 2019 to 2025.

The water management objectives are to minimize potential impacts to the quantity and quality of surface water at the mine site. Water management structures (water retention dikes/berms and diversion channels) have been and will be constructed, dependent on the potential presence and volume of water, to contain and manage the contact water from the areas affected by the mine or mining activities. The major water management infrastructure includes: contact water collection ponds, freshwater collection ponds, diversion channels, water retention dikes, dams, culverts, seepage collection systems, water treatment plants for effluent, a potable water treatment plant, a sewage treatment plant, and discharge diffusers. Non-contact water is managed in specific ponds with their own pumping systems.

This Water Management Plan for the Project describes the main objectives pertaining to water management, which are to limit and/or stop the flow of surface water runoff in the pit and to limit the impact on the local environment. In developing the water management plan, the following principles were followed:

- keep the different water types separated as much as possible;
- control and minimize contact water through diversion and containment;

- minimize freshwater consumption by recycling and reusing the contact and process water wherever feasible; and
- meet discharge criteria before any site contact water is released to the downstream environment.

During mine construction and operations, contact water originating from affected areas on surface is intercepted, diverted and collected within the various collection ponds. The collected water on the mine site is pumped and stored in the Whale Tail Attenuation Pond starting in the summer of 2020, where the contact water is treated by the WTP (as required according to water quality) prior to discharge to the receiving environment or reused in the operations. Prior to the summer of 2020 Whale Tail North Pond is used for non-contact water management and Quarry 1 is used for contact water management. Non-contact water will be rerouted or discharged directly into the environment without treatment.

During operations, site contact water quality is predicted to exceed established effluent criteria (i.e. under the Whale Tail Water Licence (2AM-WTP1830) for arsenic and total dissolved solids in the Whale Tail Waste Rock Storage Facility (WRSF) Pond and in the Whale Tail Pit sump. Therefore, this water will be controlled by constructing the Whale Tail WRSF Dike and the Whale Tail Attenuation Pond. The Whale Tail WRSF Pond water will report with all other contact water and will be mixed in the Whale Tail Attenuation Pond and treated during operations.

During operations when the mine is at its maximum footprint, the conservative predictions of future water quality indicate that most parameter concentrations in the downstream environment are below CEQG-AL except for arsenic. A site wide water balance will be updated on a regular basis and end pit water quality modelling will be conducted as needed to update predictions.

Water management during closure and reclamation will involve actively filling the underground facilities and IVR Pit, and passively allowing the Whale Tail Attenuation Pond and the Whale Tail Pit to flood. The Groundwater Storage Ponds, and IVR Attenuation Pond will be emptied at the start of closure and backfilled with NPAG/non-ML waste rock. The Whale Tail and IVR WRSFs will be progressively covered with NPAG/non-ML waste rock throughout operations and are expected to be completely covered at the beginning of closure. Contact water management systems will remain on site until monitoring results demonstrate that water quality is acceptable for discharge of all contact water to the environment without further treatment. Once water quality meets the discharge criteria, the water management systems will be decommissioned to allow the water to naturally flow to the receiving environment. Through best management practices and mitigation, the predicted water quality of Whale Tail Lake (North Basin) meets aquatic life guidelines post-closure.

The updated water quality model shows a positive effect on water quality through operations; constituent loads coming from the WRSF and the open pit, which report to the Attenuation Pond, are lower. At closure and post-closure, flooded pit water quality is predicted to meet receiving water quality criteria when flooding is complete, allowing reconnection with the downstream receiving

environment. Arsenic release from the submerged Whale Tail Pit walls is anticipated once pit-flooding commences but is expected to be a relatively short-lived source to the flooded pit lake. The site wide water balance is updated on a regular basis and end pit water quality modelling will be conducted as needed to update predictions. Note that the 2020 Water Quality Forecast that was submitted in March 2020 does not include any aspects related to the Expansion Project since at that time it was not yet approved.

Dikes will not be breached until the water quality in the flooded area meets the Canadian Council of Ministers of the Environment Water Quality Guidelines, baseline concentrations or appropriate site-specific water quality objectives. During mine closure, no mine discharges will occur to the downstream receiving environment since all contact waters are diverted to the open pit and Whale Tail Lake (North Basin) for re-flooding. The water quality in the open pit and Whale Tail Lake (North Basin) averaged over the closure period is predicted to be similar to that of the last year of operations, with similar maximum and average concentrations.

DOCUMENT CONTROL

Version	Date	Section	Page	Revision	Author
1	January 2017			Water Management Plan for the Whale Tail Pit	Agnico Eagle Meadowbank Division and Golder Associates Ltd.
2	September 2018	All	All	Water Management Plan for the Whale Tail Pit	Agnico Eagle Meadowbank Division and SNC-Lavalin Inc.
3	October 2018	3.1.4.11 3.3.1	23 32	Updated to align with recommendations issued by CIRNAC, ECCC and KIA in October 2018	Agnico Eagle Meadowbank Division
4	March 2020	All	All	Updated to reflect current operations/water management and to comply with commitments and requests	Agnico Eagle Meadowbank Division
5	July 2020	All	All	Water Management Plan for the Whale Tail Pit – including Expansion Project	Agnico Eagle Meadowbank Division

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ACRONYMS

Agnico Eagle	Agnico Eagle Mines Limited – Meadowbank Division
ARD	Acid Rock Deposition
CCME	Canadian Council of Ministers of the Environment
DFO	Department of Fisheries and Oceans Canada
Expansion Project	Whale Tail Pit – Expansion Project
FEIS	Final Environmental Impact Statement
IOL	Inuit Owned Land
LOM	Life of Mine
NIRB	Nunavut Impact Review Board
NWB	Nunavut Water Board
NE	North-East
OMS	Operation, Maintenance, and Surveillance
PGA	Peak Ground Acceleration
Plan	Water Management Plan
Project	Whale Tail Pit and Haul Road
STP	Sewage Treatment Plant
TSF	Tailings Storage Facility
TSS	total suspended solids
WRSF	Waste Rock Storage Facility
WSER	Wastewater System Effluent Regulations
WTP	Water Treatment Plant
WT	Whale Tail
WTSC	Whale Tail South Channel

UNITS

±	plus or minus
<	less than
%	percent
°C	degrees Celsius
°C/m	degrees Celsius per metre
km	kilometre(s)
km^2	kilo square metre(s)
L/day/person	litres per person per day
masl	metre(s) above sea level
mbgs	metre(s) below ground surface
mg/L	milligrams per litre
km	kilometre(s)
km^2	kilo square metre(s)
L/day/person	litres per person per day
m	metre
mm	millimetre
m^3	cubic metre(s)
m^3/day	cubic metres per day
m^3/hour	cubic metres per hour
m^3/year	cubic metres per year
Mm^3/year	million cubic metre(s) per year
Mm^3	million cubic metre(s)
t	tonne
Mt	million tonne(s)

SECTION 1 • INTRODUCTION

Agnico Eagle Mines Limited – Meadowbank Division (Agnico Eagle) is developing 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. In 2020 the Whale Tail Expansion Project (Expansion Project) was approved, allowing Agnico Eagle to expand and extend the Whale Tail Pit operations to include a larger Whale Tail open pit, development of the IVR open pit, and underground operations while continuing to operate and process ore at the 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 two open pits (i.e., Whale Tail Pit and IVR Pit) and underground operations, and ore will be hauled to the approved infrastructure at Meadowbank Mine for milling.

The open pit and underground mine, mined by truck-and-shovel operation, includes four development phases: 1 year of construction (complete), 7 years of mine operations, 25 years of closure, and the post closure period. In total, the resources for the Whale Tail project have been expanded and extended over approximately a seven-year period from 2019 to 2025.

The construction and preparation of material started in summer 2018 after all permits and authorizations were received and construction of the dikes started in the third quarter of Year -1 (2018). Focus on site preparation and construction of infrastructure, with the development of the open-pit to produce construction material continued in 2018 and 2019. On September 30th, 2019 commercial production began.

During the first phase of production, waste rock and overburden will be piled in the Whale Tail Waste Rock Storage Facility (Whale Tail WRSF) and ore stockpiled on the ore pads. The Whale Tail WRSF will then be expanded vertically and horizontally to the southeast. The IVR WRSF will be built to accommodate waste rock and overburden generated from the IVR Pit. The waste rock storage footprint, water management infrastructure and camp have been designed and considers up to eight years to allow for expected resource growth. The underground WRSF (AP-5 location) that is permitted under the Type B will be expanded and become a facility regulated under the Type A Water Licence (2AM-WTP1830). Agnico Eagle will increase the footprint of the underground exploration area to the north to accommodate additional waste storage. The existing tailings facility at Meadowbank Mine will continue to be used for tailings disposal. All tailings treatment and disposal will remain consistent with the current Project Certificate (No. 004).

Closure will occur from Year 8 (2026) to Year 24 (2042) after the completion of mining and will include removal of the non-essential site infrastructure and flooding of the mined-out open pits and underground mine as well as reestablishment of the natural Lake A17 (Whale Tail Lake) level. Only

essential infrastructure related to water treatment will remain on site during the closure and post-closure phases. Accordingly, in addition to the Water Treatment Plant (WTP), a part of the camp, including all infrastructure allowing camp autonomy and security, as well as site roads, will be maintained following the operational phase (see more information in Whale Tail Pit Interim Closure and Reclamation Plan). Post-closure is expected from Year 24 (2042) onwards. Site and surrounding environment monitoring started from the beginning of the construction and will be completed during the post-closure phase when it is shown that the site and water quality meets the regulatory closure objectives.

Table 1.1 summarizes the overview of the timeline and general activities.

Table 1.1 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 7	• Open pits operations • Underground operations • Transport ore to Meadowbank Mine • Stockpile ore • Discharge Tailings in Meadowbank TSF
	Year 8	• Complete transportation of ore to Meadowbank Mine • Complete discharge of tailings in Meadowbank TSF
Closure	Year 8 to 24	• Remove non-essential site infrastructure • Flood mined-out open pits and underground operations • Re-establish natural Whale Tail Lake level
Post-Closure	Year 24 onwards	• Site and surrounding environment monitoring

TSF = Tailings Storage Facility

This document presents the Water Management Plan (Plan) for the Project in accordance with Part B, conditions 14 and 15, and Part E, condition 5, of the Nunavut Water Board (NWB) Water License 2AM – WTP1830. It is also addressing Term and Condition n. 6 of the Nunavut Impact Review Board (NIRB) project certificate. Agnico Eagle has applied the same water management and water balance approach in this document as used for the annual Meadowbank Mine Water Management Report (Agnico Eagle, 2020). The purpose of this Plan is to provide consolidated information on water management, required water management infrastructure, and water balance for the operations of Whale Tail Pit and IVR Pit as satellite pits for the Meadowbank Mine. This plan also includes lessons learned on water management at site during the first year of the project. Finally, this plan includes the Whale Tail water quality forecast update (Appendix D).

This Plan will be updated as required to reflect any changes that occur in operations or economic feasibility, and to incorporate new information and the latest technology, where appropriate.

SECTION 2 • BACKGROUND INFORMATION

2.1 Site Conditions

The general mine site location for the Project is presented in Figure 2-1.

2.1.1 Climate

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

The Project is 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 2.1.

Short-duration rainfall, representative of the Project are presented in Table 2.2, based on intensity-duration-frequency curves available from the Baker Lake A meteorological station (Station ID 300500) operated by the Government of Canada (2015).

Figure 2.1 Location of the Project

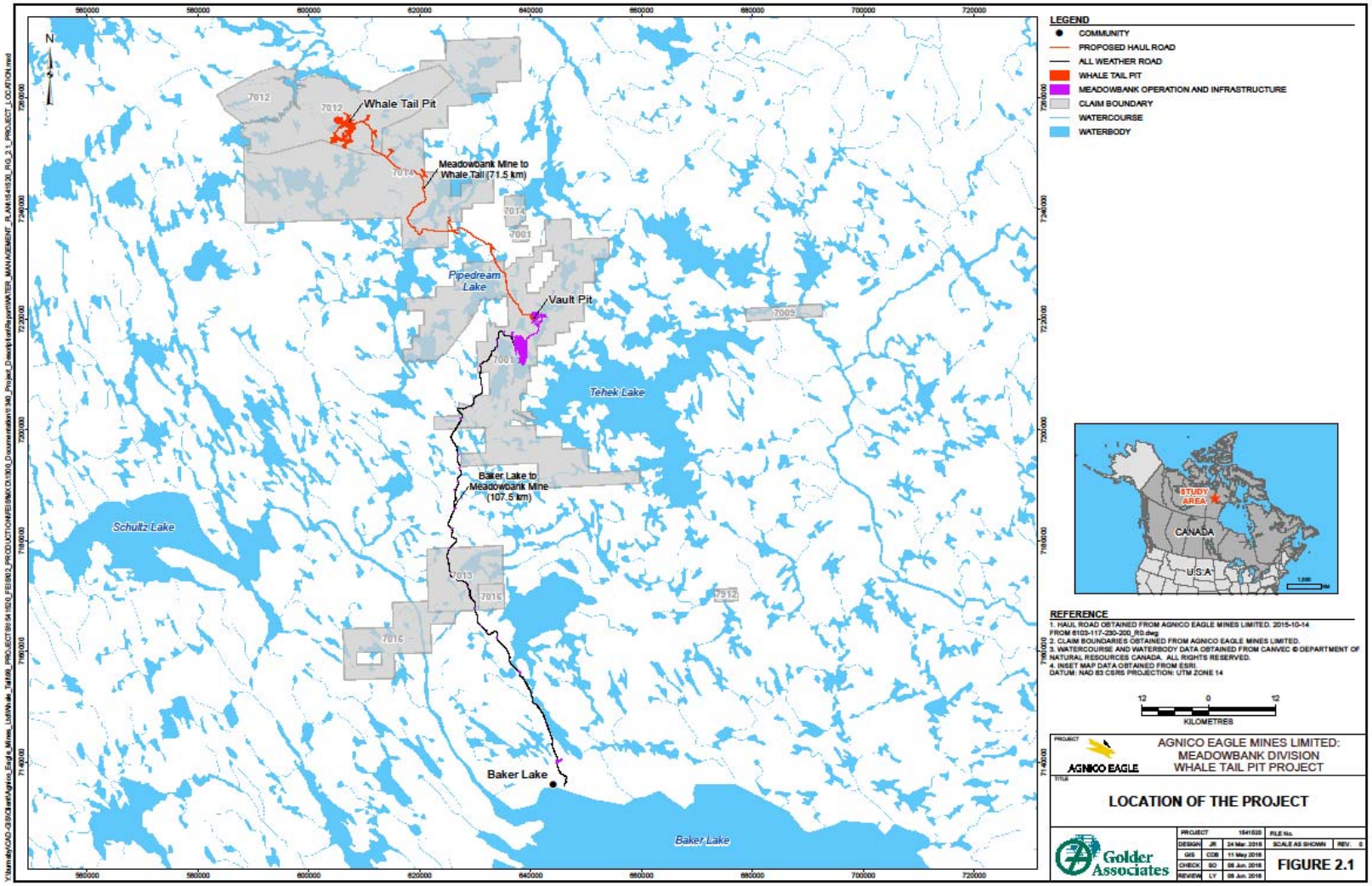


Table 2.1 Estimated Mine Site Monthly Mean Climate Characteristics

Month[a]	Mean Air Temp. (°C) [a]	Monthly Precipitation (mm) [a]			Losses [a]		
		Rainfall (mm)	Snowfall Water Equivalent (mm)	Total Precip. (mm)	Lake Evap. (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).

°C = degrees Celsius; mm = millimetre.

Table 2.2 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.

2.1.2 Permafrost and Hydrogeology

2.1.2.1 Permafrost Conditions and Assessment

During the Project thermal assessments have been completed that contribute to the understanding of the permafrost conditions near the Whale Tail Pit, IVR Pit and Underground. An update of the Whale Tail Thermal Assessment was conducted in April 2019 (Golder 2019b). The thermal assessment evaluated existing permafrost characteristics in the Whale Tail Lake and Project area and existing talik conditions under the Whale Tail Lake adjacent to the Project. The thermal assessment was completed based on available thermistor data to date, as well as the results of a thermal 2D modelling exercise and 3D block model prepared to assess permafrost conditions and the extent of talik formations beneath the Whale Tail Lake.

The updated thermal assessment of the project also took into consideration the groundwater monitoring program (Westbay sampling) that took place in November 2018 (Golder 2019b). The 2018 groundwater monitoring program indicates that water samples were collected from fixed ports along the Westbay system between 276 m and 499 m below the ground surface, which suggests that the Westbay system is installed in open talik, or water sampling would not have been possible at depth.

The mine site is located in an area of continuous permafrost, as shown on **Error! Reference source not found.**. 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 estimated depth of zero amplitude from the temperature profiles ranges from 18 m to 35 m. The temperatures at the depths of zero amplitude are in the range of -3.1 °C to -8.6 °C for on land thermistors and 2.7 °C for AMQ17-1265A. The geothermal gradient estimated based on the lowest 70 to 100 m of the thermistor strings is in the range of 0.004 °C/m (AMQ15-294) to 0.052 °C/m. 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.

The information presented in the following section is based on the updated report *Hydrogeological Assessment and Modelling Whale Tail Pit - Expansion Project* (Golder 2019e). The following summarizes the updated understanding of permafrost conditions in the Expansion Project Area:

- The depth of permafrost outside of the influence of lakes is estimated to be between 452 m and 522 m based on thermal gradients and ground temperatures at the lowest portions of the thermistor strings. The depth of permafrost increases with increasing distance from lakes with talik.
- Considering the 2D thermal modelling and 3D block model, the assessment indicated that:

- Under the northern portion of the lake below Whale Tail Pit, there is likely a closed talik formation (Section C of the thermal modelling report, reproduced on Figure 3 of this report).
- Open talik conditions are probable in the southern portion of the lake where the Whale Tail Lake becomes wider (Section G of the thermal modelling report, reproduced on Figure 4 of this report).
- Permafrost depth is between 480 m and 550 m for ground away from the Whale Tail Lake, and between 350 m and 450 m below surface in portions beneath the Whale Tail Lake where a closed talik is present.
- The cryopeg thickness is likely between 20 m to 30 m.

2.1.2.2 Groundwater Flow Regime

Groundwater characteristics at the mine site are detailed in the Expansion Project Final Environmental Impact Statement (FEIS), Addendum Volume 6, Section 6.3. The hydrogeological model was updated in May 2019 with hydrogeological modelling completed for the Expansion Project since submission of the FEIS addendum in December 2018 (Golder 2019e). The model was updated based on results of monitoring at the Westbay system in November 2018, supplemental packer testing in December 2018, and additional 2D and 3D thermal analysis in 2019. The updated hydrogeological model was then used to provide revised predictions of groundwater inflow and total dissolved solids (TDS) concentrations during dewatering, mining, pit and underground flooding, and long-term post-closure (reflooded) conditions.

Two groundwater flow regimes occur at the Expansion Project: a deep groundwater flow regime beneath permafrost and a shallow groundwater flow system located in the active (seasonally thawed) layer near the ground surface. Except for areas of taliks beneath lakes, the two groundwater regimes are isolated from one another by thick permafrost.

Groundwater flow within the deep groundwater flow regime is limited to the sub-permafrost zone. This deep groundwater flow regime is connected to ground surface by open taliks underlying larger lakes. The elevations of these lakes are the primary control of groundwater flow directions in the deep groundwater flow regime, with density gradients providing a potential secondary control. The elevations of these lakes in the baseline study area indicate that Whale Tail Lake is likely a groundwater discharge zone at the south end of the Lake, with flow from Lake A60 to Whale Tail Lake, and a groundwater recharge zone at the north end of the Lake, with flow from Whale Tail Lake to Lake DS1 (Figure 2-3).

While portions of both Whale Tail Pit and the Underground are located within unfrozen rock, the IVR Pit is fully contained within permafrost. Groundwater inflow is therefore only expected during operations in the Whale Tail Pit and Underground.

Mining of the Whale Tail Pit occurs within the talik underlying Whale Tail Lake, whereas the Underground starts in permafrost and then extends below the permafrost into the deeper bedrock flow system. The Underground is not directly connected to either Whale Tail Pit or IVR Pit.

During mining, the Whale Tail Pit and Underground will act as a sink for groundwater flow, with seepage faces developing along the portions of the pit walls and Underground located in unfrozen rock. In response to the deepening of the mine workings, groundwater will be induced to flow through bedrock to the Whale Tail Pit and the Underground. Mine inflow will originate primarily from Whale Tail Lake (South Basin), the Whale Tail Attenuation Pond, and deep bedrock underlying the permafrost. During mining, upward migration of brackish groundwater, with higher TDS concentrations from beneath the mine, will occur. The quality of mine inflow will be a result of the mixing of groundwater from each of these sources.

Figure 2.2 Permafrost Map of Canada

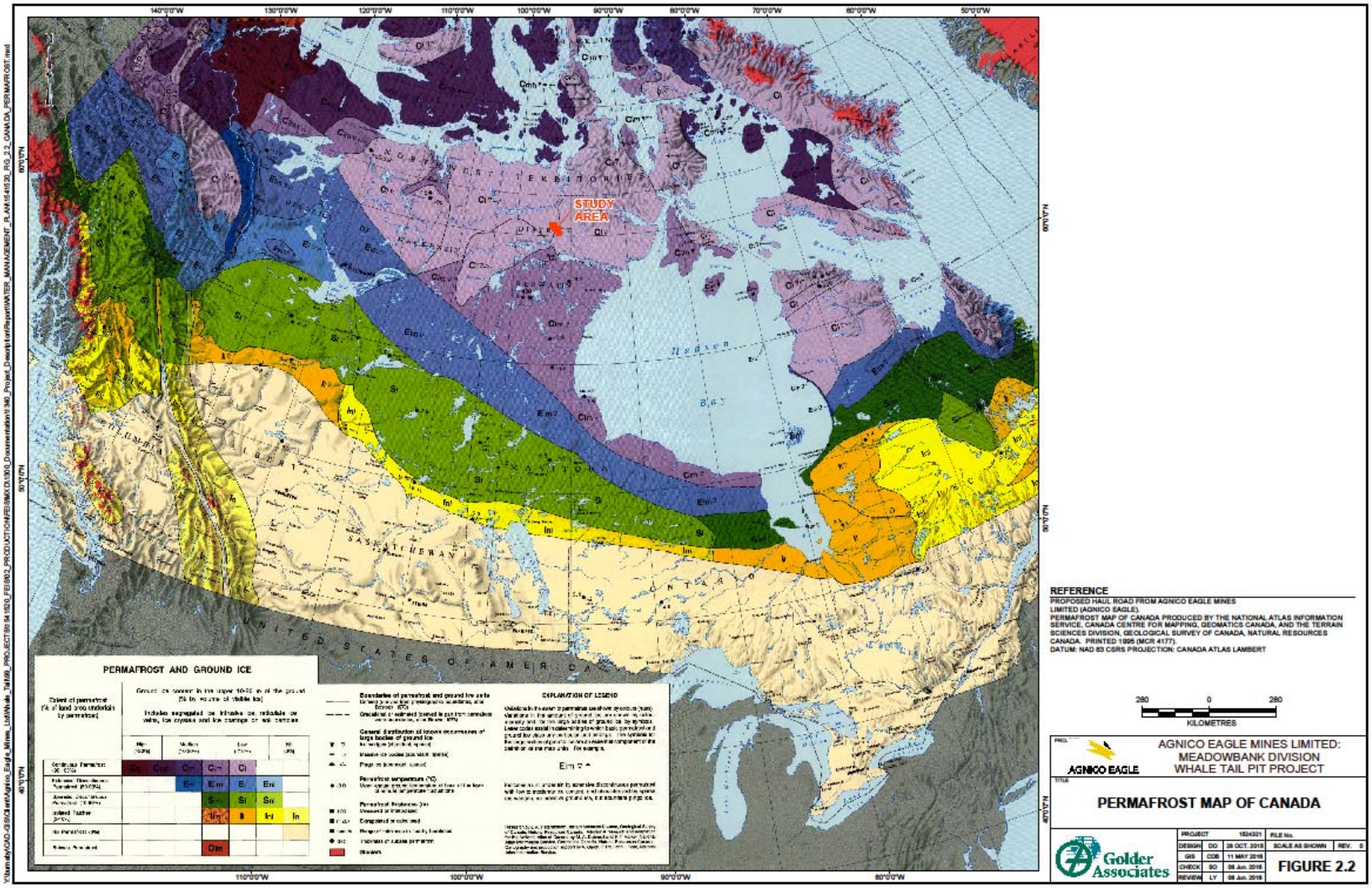
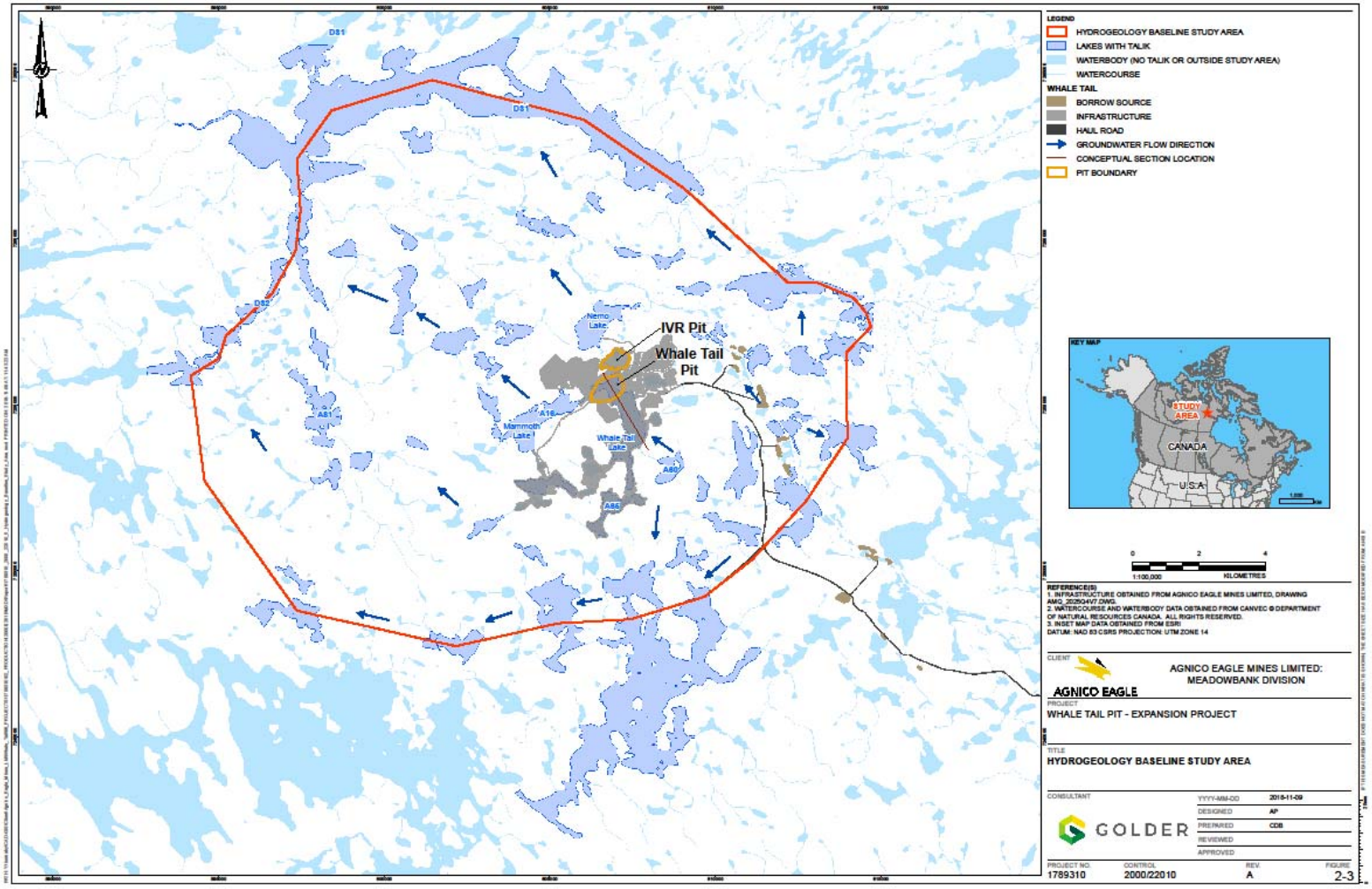


Figure 2.3 Hydrogeology Baseline Study Area



2.1.3 Hydrology

Hydrology characteristics were extracted from the surface water quantity impact assessment section (FEIS, Addendum Volume 6, Section 6.3; Volume 6, Appendix 6-C).

The mine site is located in the A watershed (i.e., where Lake A17 [Whale Tail Lake] and Lake A16 [Mammoth Lake] are located), and water management activities are planned in the A watershed and the C watershed (i.e., where Lake C38 [Nemo Lake] is located); these two watersheds drain into Lake DS1, which drains north to the Meadowbank River. These watersheds comprise an extensive network of lakes, ponds, and interconnecting streams, and have lake water surface fractions (i.e., the ratio of lake area to watershed area) of 16% (A watershed) and 23% (C watershed).

Shorelines in the mine site area exhibit a consistent terrain type related to shorelines that have developed in morainal material. These morainal shorelines were observed at all lakes visited during the 2015 field survey. Limited areas of bedrock and shallowly sloped sandy shorelines were also observed. As a general characteristic for the surveyed shorelines, the predominant materials are boulder gardens mixed with cobble with very limited soils or organic materials on top. The outlet channels are relatively short with a low sinuosity (i.e., close to 1.0) and exhibit the same characteristics for streambed materials, which results in interstitial flow through large boulders or below the surface likely close to the bedrock, making flow difficult to observe and measure.

Discharges of watercourses in the mine site area typically peak in late-May to mid-June from snowmelt, rapidly decline in July, and low discharges prevail until frozen conditions in October to November, with a secondary peak in September from rainfall events. Watercourses in the Project area are frozen over the winter.

Derived long-term mean annual water yield for selected lakes in the mine site area vary between 86 mm at Lake C38 (Nemo Lake) to 230 mm at Lake A69. These water yields are like regional water yields reported at the Meadowbank Mine.

2.1.4 Surface Water Quality

Water quality characteristics were extracted from the water quality baseline report (FEIS, Volume 6, Appendix 6-G, Agnico Eagle, 2016) and the water quality impact assessment section (FEIS, Volume 6, Section 6.4, Agnico Eagle, 2016). Baseline water quality sampling was conducted at lakes and tributaries in various watersheds in the study area during open-water conditions in 2014 and 2015.

Surface water collected from lakes during the open water season was characteristic of low productivity headwater lakes in the Arctic; soft water, with low alkalinity, low turbidity (and corresponding high Secchi depth) and low total suspended solids (TSS). There was minor thermal stratification evident at some deeper lake stations. The water columns of lakes are well oxygenated, and pH was neutral to slightly acidic. The majority of water chemistry parameter concentrations were below the analytical detection limit and below the Canadian Council of Ministers of the Environment

water quality guidelines for the protection of aquatic life (CCME, 1999) and the Canadian drinking water guidelines (Health Canada, 2014).

Samples collected from the tributaries showed them to be well oxygenated, with low conductivity, and neutral to slightly alkaline pH. As with the lakes, most of the water chemistry parameter concentrations were below the aquatic life and drinking water quality guidelines.

2.1.5 Climate Change

Climate change information presented herein was extracted from the air quality impact assessment section (FEIS, Addendum 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^{o}C in late fall and +5^{o}C in late spring under the 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^{o}C in late fall and +3^{o}C in late spring (Overland et al., 2013). The effects of changes of this magnitude to terrestrial, aquatic and marine ecosystems, social and economic systems of the Arctic are an active area of research. However, the short duration of the proposed Project means that climate change related effects to the Project are likely negligible.

2.1.6 Seismic Zone

The mine site is in an area of relatively low seismic risk. The peak ground acceleration (PGA) for the area was estimated using 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 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.

2.2 Mine Operations Description

2.2.1 Mine Development Plan

Whale Tail Open Pit, IVR Open Pit and Underground mining will be mined using the traditional open pit method and long hole mining (95%) with some mechanized cut and fill in flat areas. The mining is planned from 2019 to 2026.

Two mine waste streams will be produced at Whale Tail Pit; waste rock and overburden. Ore will be stockpiled in a series of stockpiles located adjacent to the pits. As ore is transported to the Meadowbank Mine for processing, a third mine waste stream, tailings, will be produced at Meadowbank Mine (refer to the Whale Tail Pit – Waste Rock Management Plan, Agnico Eagle, 2020a). The operation, management, and monitoring of the TSF is regulated under the Agnico Eagle Type A water Licence 2AM-MEA1530.

The mine development will include the following major infrastructure:

- industrial area (camp, power plant, heli-pad, landfarm and garage)
- crusher
- ore stockpiles
- rock and overburden storage facilities
- landfill
- haul and access roads
- underground mine
- two open pit mines

In addition, the mine development will include construction of water management facilities, listed in Section 3.1.2.

2.2.2 Summary of Mine Waste Management

This section is a summary of the mine waste management plan. More detailed information on mine waste management is presented in the Whale Tail Pit – Waste Rock Management Plan, Agnico Eagle, 2020a. Water management associated with mine waste management is described in Section 3.1.4 of this document. Two areas of the site were identified as the Whale Tail WRSF and the IVR WRSF to store waste rock and overburden material, as shown in Appendix A. Table 2.3 presents a summary of the proposed usage or destination for the waste material.

Table 2.3 Summary of Mine Waste Destination

Mine Waste Stream	Waste Destination
Overburden	• Temporary storage West of Whale Tail Lake • Co-disposed with waste rock in Whale Tail WRSF
Waste Rock	• Construction material • Whale Tail WRSF and IVR WRSF • Underground backfill material • Closure and site reclamation
Tailings	• As slurry tailings placed in the approved Meadowbank Mine tailings storage facility

WRSF = Waste Rock Storage Facility; Mt = million tonne

SECTION 3 • WATER MANAGEMENT PLAN AND WATER BALANCE

3.1 General Water Management Strategy

3.1.1 Water Management Objectives and Strategies

The main objectives pertaining to water management for Project are to limit and/or stop the flow of surface water runoff in the pit and to limit the impact on the local environment. The key objectives for water management are:

- keep the different water types (i.e., contact, non-contact, and freshwater) separated to the extent practical;
- control and minimize contact water through diversion and containment;
- minimize freshwater usage by recycling and reusing the contact water to the extent practical; and
- meet discharge criteria before any site contact water is released to the downstream environment.

To achieve the above water management objectives, the following key strategies were implemented to develop the surface water Management Plan:

- Two levels of catchment disturbance have been defined for the area, namely undisturbed and disturbed. Areas that have been disturbed as part of the mine development are considered disturbed catchments, while the areas left unaffected are considered undisturbed catchments.
- For the purpose of mine water management, runoff from undisturbed areas is considered non-contact water, while runoff from disturbed catchment areas is considered contact water. Surface water that is diverted around the mine facilities, or groundwater that does not emerge into a mine facility, is considered non-contact water. Any non-contact water that mixes with contact water becomes contact water.
- Conveyance and storage of contact water will be controlled by channels and containment structures (i.e., sumps and ponds). Sumps will be installed in the open pits and in low points surrounding the open pits. Contact water will be diverted and collected in various sumps and water collection ponds and conveyed to an Attenuation Pond. Two attenuation ponds are planned for surface water and include the Whale Tail Pit Attenuation Pond and the IVR Attenuation Pond at Lake A53.
- The IVR Attenuation Pond will contribute in reducing the operational water head in the Whale Tail Attenuation Pond. This will allow:
    - decreased operational risks (i.e. ice build-up above ramp and pit wall stability)
    - decreased overall volume of contact water and decrease global Arsenic (As) loading (less groundwater will flow in the pit and get in contact with PAG/ML material)

    - improved operation efficiency (reduce ice build-up beside the ramp that could reduce operation ramp width – keep double lane instead of having a single lane to keep a safe distance from the seepage area during winter time – observed previously at Goose Pit)
- The collected water will be treated if the water quality does not meet the discharge criteria established in the Water Licence 2AM-WTP1830.
- The treated water will be reused as much as possible to minimize the freshwater requirements. The excess treated water will be discharged into Lake A16 (Mammoth Lake) through a submerged diffuser or through a diffuser in Whale Tail Lake (South Basin) or other alternatives.
- Non-contact water will be intercepted and directed away from disturbed areas by means of natural catchment boundaries and/or man-made diversion structures or pumping systems and will be allowed to flow or to be discharged to the neighbouring waterbodies.

Underground development groundwater and contact water will be managed separately from surface infrastructure contact water. For underground water management, water management infrastructure was defined based on the following underground water management guideline principles:

- Heating is required when mining below top of cryopeg
- Brine needed until cryopeg elevation is reached (-275m)
- Contact and non-contact UG water not segregated – segregation is an opportunity
- Separate mining in two water circuits: permafrost/under permafrost [upper/lower zone]
- Grouting is a mitigation measure during development (not included in hydrogeological model)
- UG storage stope (used to recycle UG water) – delay treatment, needed early
- Recirculation of brine during mining operation
- Limit addition of freshwater (used only for CRF, promote use of natural groundwater for operation)
- Treatment of UG saline water is required

The key strategies detailed below were implemented to support the underground water management:

- A Groundwater Storage Pond system (GSP) is designed to capture TDS (salt) affected waters. Up to three GSPs are planned to provide operational flexibility and adaptive management opportunity. GSP-1 is used to store high salinity water from early mining operations through the permafrost. GSP-2 is used to store low salinity water. A potential third pond (GSP-3) is planned for contingency
- Excess water volumes in the mine will be managed through the Underground Mine Stope and GSP-1 for high salinity water, and through GSP-2 for low salinity water. Excess water volumes

may also be managed with GSP-3 planned for contingency, operational flexibility, and adaptive management opportunity

- The Project has been planned with contingency water management storage to manage contact water during upset conditions. For example, GSP-3 could be used for temporary storage when not used for saline water management. This storage has sufficient capacity to manage the potential water quantity exceedances occurring during the freshet and can be used to hold excess contact water temporarily until it can be treated by the water treatment plant during the remaining open water season (July to September). During this time, at maximum capacity, the excess water can be treated and discharged within two weeks.
- At the end of underground mining, any remaining water in GSP ponds will be pumped underground for flooding of the underground workings

3.1.2 Water Management System

The water management system includes contact water collection ponds, freshwater collection ponds, diversion channels, retention dikes, culverts, water treatment plants for effluent, potable water treatment plant, sewage treatment plant, and discharge diffusers (as listed in Table 3.2). These various components are identified in Appendix A.

The water management system includes the following components (identified in Appendix A):

- two contact water collection ponds (Whale Tail Attenuation and Whale Tail WRSF, plus the IVR Attenuation and GSP Ponds once built);
- a temporary storage area for contact water (Quarry 1);
- three surface water collection ponds (Whale Tail Lake (South Basin), Mammoth Lake and Northeast Pond);
- two water diversion channels (South Whale Tail and North, if deemed necessary, plus the IVR diversion once built);
- four water retention dikes (Whale Tail, Mammoth, Whale Tail WRSF, and Northeast, plus the IVR dikes once built);
- Culverts
- a freshwater intake causeway and pump system;
- a WTP and associated intake causeway;
- a Sewage Treatment Plant (STP);
- pipelines and associated pump systems;
- a Potable WTP;
- discharge diffusers located in Lake A16 and Whale Tail South
- a dewatering system for the Whale Tail North Basin (to the South Basin and to Mammoth Lake including their respective diffusers, plus possibly dewatering systems for A53 and NE Pond).

Additional water management system components have been or will be put in place at the Whale Tail Project, in order to adapt effectively to the site conditions and to manage non contact water adequately. The following components are part of the to the global water management system:

- a pumping system from the North-East Pond to the C watershed;
- a pumping system from A53 Lake to Whale Tail South;
- a pumping system from Whale Tail South to Mammoth Lake;
- the Whale Tail Dike seepage collection system; and
- a water movement system from A49 to A47 / North-East Pond.

Additional details on the water management system components are presented in section 3.1.4 of this plan.

3.1.3 Waterbody Inventory

The A and C watersheds will potentially be impacted by mining activities, primarily by dewatering of Whale Tail Lake (North Basin) to Lake A16 (Mammoth Lake), the Northeast Diversion to the C watershed, and the Whale Tail Lake (South Basin) Diversion to Lake A16 (Mammoth Lake). Waterbodies directly impacted by mining activities are presented in Table 3.1 and shown in Appendix A.

Table 3.1 Inventory of Waterbodies Directly Impacted by Mining Activities

Watershed	Primary Disturbance	Waterbody	Note
A	Dewatering	Lake A17	Dewatering of Lake A17 (Whale Tail Lake) to Whale Tail Lake (South Basin)
	IVR Pit	Lake A46	Part of the IVR Pit footprint
		Lake A47	Part of the IVR Pit footprint
		Lake A49	Part of the IVR Pit footprint
		Pond AP-67	Part of the IVR Pit footprint
		Pond AP-68	Part of the IVR Pit footprint
	IVR WRSF Placement	Lake A50	Partially covered
		Lake A51	Covered
		Lake A52	Covered
		Pond A-P21	Covered
	Whale Tail Lake (South Basin) Diversion	Lake A18	Flooded
		Lake A19	Flooded
		Lake A20	Flooded
		Lake A21	Flooded
		Lake A22	Flooded
		Lake A45	Part of diversion channel
		Lake A55	Flooded
		Lake A62	Flooded
		Lake A63	Flooded
		Lake A65	Flooded

Watershed	Primary Disturbance	Waterbody	Note
		Pond A-P1	Flooded
		Pond A-P53	Flooded
	Various Water Management Activities	Lake A17 (Whale Tail Lake)	Whale Tail Lake (North Basin) used as the Whale Tail Attenuation Pond Whale Tail Lake (South Basin) receives dewatering flows during dewatering activities, and discharge of treated effluent
		Lake A16 (Mammoth Lake)	Receives discharge of treated effluent
		Lake A53	Used as the IVR Attenuation Pond
		Lake A50	Covered by a Groundwater Storage Pond
C	Water Intake	Lake A16 (Mammoth Lake)	Sourced during operations for emulsion plant
		Lake C38 (Nemo Lake)	Sourced during operations
		Lake A17 (Whale Tail Lake)	Whale Tail Lake (South Basin) sourced during closure

3.1.4 Water Management Plan During Construction and Operations

3.1.4.1 Infrastructure Required for Mine Site Water Management

During the mine construction, operational, and closure phases, a network of collection and interceptor channels and sumps will be constructed and maintained to facilitate mine site water management. A list of the water management control structures and facilities is presented in Table 3.2 together with the proposed construction schedule. These structures were designed according to design criteria presented in the Appendix K: Project Design Considerations of the Water Licence 2AM-WTP1826 amendment, submitted to the NWB in May 2019. Final design details of these structures will be provided to the regulators for approval at least 60 days prior to construction.

Water management strategy updates were also communicated in August and September 2019 to the Nunavut Water Board regarding changes to the management of non-contact water for specific areas of the project. Those changes are reflected in Table 3.2.

Appendix A shows the location of the main structures at the different development stages of the mine life. Information on operation, maintenance, and surveillance (OMS) of Project dikes is provided in the following sub-sections.

Table 3.2 Water Management Facilities and Construction Schedule

Mine Year	Figure	Water Management Facilities Constructed or Installed
Year -1 (2018) Construction	A.1	• Turbidity Curtains installation for dike construction • Start Whale Tail Dike

Mine Year	Figure	Water Management Facilities Constructed or Installed
		• Construction of the low-permeability access road built of overburden and collection sump for Stage 1 WRSF • Freshwater intake causeway in Nemo Lake • Water Treatment Plant and Construction Water Treatment Plant • Pipelines and associated pump systems for water management and dewatering • Sewage Treatment Plant • Potable Water Treatment Plant • Discharge diffuser in Mammoth Lake • Culverts 184, 186, and Mammoth Channel
Year 1 to 7 (2019-2025) Operations	A.2 to A.8	• Completion of Whale Tail Dike • Construction of Mammoth Dike • Construction of the Whale Tail WRSF Dike • Construction of the Northeast Dike • Construction of the South Whale Tail Diversion Channel • Construction of the dewatering system (ramp, pipe, diffuser) for the Whale Tail North Basin to the Whale Tail South Basin, dewatering system from North Basin to Mammoth Lake (and Water Treatment Plant), plus possibly dewatering systems for A53 and NE Pond • Construction of the Whale Tail contact water intake causeway and construction of the attenuation pond infrastructure (diffuser, pipeline) • Installation of pumping system from the North-East Pond to C Watershed (tundra) • Installation of pumping system from Whale Tail South to Mammoth Lake • Construction of the of the Whale Tail Dike seepage collection system • Installation of pumping system from A53 Lake to Whale Tail South, postponing the construction of the Whale Tail East Channel and Saddle/Coffer Dam • Installation of pumping system from lake A49 to North-East Sector to maintain the water level • Installation of pumping system from North-East Sector to the C-watershed • Installation of pumping system for contact water from the open pit to the Whale Tail Attenuation Pond (to Quarry 1 until freshet 2020) • Installation of pumping system for contact water from the Whale Tail WRSF Pond to the Whale Tail Attenuation Pond (to Quarry 1 until freshet 2020) • Groundwater Storage Ponds • IVR Attenuation Pond Pump Station • IVR WRSF Contact Water Collection System ; Ore stockpile 3 Contact Water Collection System • IVR Diversion • IVR D-1, D-2, and D-3 dikes

Mine Year	Figure	Water Management Facilities Constructed or Installed
		• Underground Water Management System

WRSF = Waste Rock Storage Facility.

3.1.4.2 Dike Construction

Infrastructures Under Whale Tail Pit Project

The following sections briefly describe the various dikes constructed for the Project. Information regarding the operation, surveillance, and maintenance of these structures is contained in the OMS Manual – Whale Tail Water Management Infrastructures (Agnico Eagle, 2019b). Additional information regarding construction of the dikes including all design drawings and figures, can be found in the As-built reports created and submitted for each structure.

Whale Tail Dike

The WTD was constructed to raise Whale Tail Lake (South Basin), Lake A18, Lake A19, Lake A20, Lake A21, Lake A22, Lake A55, Lake A62, Lake A63, Lake A65, Pond A-P1, and Pond A-P53, to an elevation of 156.0 metres above sea level (masl), and divert runoff downstream to the Lake A16 (Mammoth Lake) watershed through the Whale Tail Lake (South Basin) diversion channel (SWTDC). Whale Tail Dike is a zoned rockfill dike constructed on the lakebed foundation with a core composed of a fine filter dynamically compacted. A coarse filter was placed between the rockfill and the fine filter. A cement-bentonite cut-off wall consisting mainly of secant piles was constructed through this dense core and acts as a seepage barrier.

Additional information including all design drawings and figures can be found in the Whale Tail Dike Detailed Design Report (SNC, 2018a).

Whale Tail Dike Seepage

The Whale Tail Dike was commissioned on March 5, 2019 with the beginning of the dewatering activity of the North Basin. During the construction of the dewatering ramp extension in April 2019, the pumping was interrupted. During that time, a decrease of the water level was observed in the South Basin (upstream) and an increase of the water level on the North Basin (downstream). Seepage was identified as a probable cause for these observations.

In July 2019, the seepage flow was measured using v-notch weirs at approximately 300 m^3/h which is higher than what was anticipated in the water balance. A detailed investigation including additional instrumentation and geophysics was conducted for a better understanding of the seepage phenomenon at the Whale Tail Dike. A pumping system was installed to manage the seepage water, as presented in section 3.1.4.15 of this report. Agnico Eagle continues to closely monitor the situation and has conducted an intensive grouting campaign to further reduce the seepage flow.

Mammoth Dike

The Mammoth Dike was constructed to protect the mine site area from potential backwatering from Lake A16 (Mammoth Lake) during the operational and closure phases. Mammoth Dike has a length of about 330 m and a height of 2 m. The Mammoth Dike is a rockfill dike lined with bituminous geomembrane on its upstream face encapsulated at the toe in a layer of fine filter amended with bentonite (FFAB) liner in turn constructed in a key trench. The key trench extends down to the bedrock on most of the dike length. A thermal berm of rockfill was placed on top of the key trench during the winter season to prevent the FFAB from thawing.

Whale Tail WRSF Dike

The WRSF Dike confines contact water in the Whale Tail WRSF Pond before it is pumped to the Whale Tail Attenuation Pond. The WRSF dike is about 360 m long and 5 m high. The Whale Tail WRSF Dike is a rockfill dike with a bituminous liner on its upstream face encapsulated at the toe in a layer of FFAB liner in turn constructed in a key trench. The FFAB liner takes advantage of frozen soil conditions to integrate the permafrost into its foundation (and key trench).

On August 2019, seepage from WRSF Pond reported through this structure to Mammoth Lake inducing tension cracks on the crest of the structure. Immediate actions taken were to build an access road to the downstream portion of the dike, in order to excavate a small sump and pump the seepage water into WRSF pond. Furthermore, WRSF Pond was emptied and maintained dry. Downstream pumping stopped on September 30th, when the reporting flow and surrounding had frozen. In October 2019, the KIA conducted a sample analysis of the lake bed sediments in Mammoth Lake. The report concluded the seepage did not have a measurable impact on metal quantities of the Mammoth Lake sediments (McDougall et al. 2019).

A series of measures are currently being implemented by Agnico to minimize the risk of future similar events occurring in this location:

- Water level will be kept as low as possible in the WRSF pond throughout 2020, as recommended by the MDRB;
- Promotion of permafrost penetration into the dikes foundation by:
    - Snow removal at the toe of the structure;
    - Addition of thermal cover on the upstream portion of the dike;
    - Assessment of freeze back performance with periodic instrumentation review;
- A downstream water collection system will be designed and constructed;
- Various environmental monitoring programs:
    - Monthly limnology profile of Mammoth Lake during winter and open water conditions;
    - Mammoth Lake to be included in a Core receiving environmental monitoring program; and

- A sediment sampling campaign to be executed at Mammoth Lake.

Additional details on this event can be found in the letter submitted on December 20, 2019 to Environment and Climate Change Canada. Agnico Eagle continues to closely monitor the situation and is working on mitigation measures to ensure adequate performance of the structure.

Northeast Dike

The North East (NE) Dike is a temporary structure with an estimated service life of about two (2) years (planned to be dismantled in 2020) and is designed to prevent runoff from the Northeast watershed reporting to the Whale Tail Pit and to divert them to Nemo Lake. The upstream slope of the NE Dike is lined with bituminous geomembrane encapsulated at the toe in a layer of FFAB liner in turn constructed in a key trench to an ice-poor till foundation.

In the summer of 2019, it was observed that the topography toward Nemo Lake would not allow water to overflow naturally before overtopping the dike liner. The conveyance system was changed to a pumping system as documented in the letter sent to the Nunavut Water Board (2AM-WTP1826). This change in conveyance was required in order to comply with the original intent of the approved water management plan. During an inspection in July 2019, the topography towards Nemo Lake would not allow water to flow naturally from the North-East Pond, as was originally planned. Prior to sending the change in conveyance, Agnico managed the excess water internally, until significant rainfall added too much pressure on the site's dewatering system. Before this system was operational some water overtopped the liner resulting in minor settlement and tension cracks.

Infrastructures Under Expansion Project

During the Expansion Project, flow of surface water into the Whale Tail Pit will continue to be controlled by Whale Tail Dike and Mammoth Dike. Flow of surface water into IVR Pit will be controlled by the IVR Diversion and IVR Attenuation Pond Dikes. Construction mitigation measures and construction methods of the A53 Dikes are consistent with measures and methods for dike construction of approved infrastructure (above). The Lake A53 catchment remains at baseline conditions until 2020 when it becomes the IVR Attenuation Pond following fishout once the IVR Attenuation Pond dike is constructed and dewatering of Lake A53 is complete; however, its outlet only drains naturally to Whale Tail Lake (North Basin) in 2018, prior to its diversion to Whale Tail Lake (South Basin) from 2019 to 2020 The IVR Attenuation Pond is operational by freshet 2021. Detailed engineering for water management infrastructures under the Expansion Project will be complete in 2020 and the design report will be submitted to regulators for approval via 60-day Construction Notice, per the Water License condition.

The discharge diffuser at Whale Tail Lake (South Basin) will be like the diffuser designed and authorized for Mammoth Lake discharge and authorized under the current Type A Water Licence.

3.1.4.3 Dewatering

As per Type A Water Licence 2AM-WTP1830, Agnico Eagle initiated the dewatering of Whale Tail Lake (North Basin) in 2019 following the construction of the dike and the fish out. To allow the mining of the Whale Tail Pit, Lake A17 (Whale Tail Lake) was partly dewatered following the Whale Tail Dike construction.

The dewatering system consists of two systems. The first system consisted of transferring water from the North to the South Basin via a submerged dewatering diffuser. The second dewatering system from North Basin to Mammoth Lake consisted of pumping water from the North Basin to the WTP and then discharging it into Mammoth Lake via a submerged dewatering diffuser.

The estimated total volume of Whale Tail Lake (Lake A17) is 8.5 million m^3 (Mm^3). The dewatering started early March 2019. A total of 2,148,542 m^3 of water was discharged directly to Whale Tail Lake South Basin without requiring treatment. The second phase of dewatering started in mid June 2019 discharging to Lake A16 (Mammoth Lake). For this phase of dewatering, water from the North Basin was treated via the TSS removal unit of the WTP and discharged in Mammoth Lake through the diffuser. No arsenic treatment was required to date.

The complete dewatering systems design is available in the Whale Tail North Basin dewatering, 60-Day Notice to Nunavut Water Board (Agnico Eagle, 2018).

As per the Water Quality Monitoring and Management Plan for Dike Construction and Dewatering, TSS/turbidity is measured in the receiving environment on a weekly basis; monitoring is completed when safely possible, approximately 30 - 100 meters from end-of pipe, dependent on stable ice conditions during ice-up. This monitoring allows Agnico to follow the receiving environment water quality, detect any problem associated with the dewatering and put mitigation measures in place when required. In addition to the monitoring and management of suspended sediments, a hydraulic monitoring plan has been developed to monitor the water levels in Mammoth Lake and the South Basin. Outlet erosion inspections are completed to monitor outlet stability. Mammoth Lake and South Basin water levels are surveyed at a location of sufficient distance from the outlets to limit potential lake level drawdown effects. Results of the monitoring are reported in the Annual Report.

Once the dewatering phase was completed in Q2 2020, part of the North Basin located outside the Whale Tail Pit footprint became the Whale Tail Attenuation Pond. The Attenuation Pond will receive contact water from different sumps and ponds around site.

Waterbodies and ponds within the footprint of the IVR Pit and IVR Attenuation Pond will require dewatering in 2020. Indeed, to allow the mining of the IVR Pit, lakes A47 and A49 would need to be dewatered in 2020. Like the Whale Tail (North Basin), approximately 2/3 of the dewatered water from Lake A53 would be pumped and directly discharged to Whale Tail Lake (South Basin), prior to operations of the IVR Attenuation Pond before the 2021 freshet. The remaining 1/3 of the water will be processed through the O-WTP during open water conditions. The IVR Attenuation Pond is intended

to manage all contact water from 2021 to closure while discharging through the O- WTP during open water conditions.

3.1.4.4 Key Water Management Activities during Construction and Operations

An inventory of waterbodies impacted by mining activities is provided in Table 3.1 (Section 3.1.3) and the water management facilities required for the Plan is provided in Table 3.2 (Section 3.1.4.1). These tables should be read in conjunction with Table 3.3, which presents the yearly major water management activities during the construction and operational phases. Water management activities during the closure phase are described in Section 3.2.

Any water requiring treatment will be pumped to the water treatment plant(s) prior to discharge through the diffuser in Mammoth Lake or through a diffuser in Whale Tail Lake (South Basin) or other alternatives.

Water collected in the Whale Tail Attenuation Pond will be reused to the extent practical in the open pit and dust control operations, and the excess water will be treated by the WTP prior to discharge to the receiving environment.

Non-contact water will be diverted away from the mine site infrastructure by reversing natural flows and/or using diversion channels.

Freshwater usage on site will be supplied from Lake C38 (Nemo Lake) and from Lake A16 (Mammoth Lake) during operations, and from Whale Tail Lake (South Basin) during closure.

In the amended Water Licence the permitted freshwater sources are Nemo Lake (all purpose), Lake D1 (Re-flooding of Whale Tail Pit, IVR Pit, Underground mine, and Whale Tail (North Basin) and associated use, or as otherwise approved by the Board in writing), Whale Tail South (Re-flooding of Whale Tail Pit, IVR Pit, Underground mine, and Whale Tail (North Basin) and associated use, or as otherwise approved by the Board in writing).

Table 3.3 Water Management Activities During Construction and Operations

Mine Year	Water Management Activities and Sequence
Year -1 (2018)	• Temporarily pump contact water from the Stage 1 WRSF sump to Quarry 1 • Temporarily pump contact water from the starter pit, construction, ore stockpiles, industrial sector, and main camp sector to Quarry 1 • Treat turbid water from construction using the construction WTP and discharge in Whale Tail North • Pump STP effluent to Whale Tail Lake (North Basin) • Freshwater intake initially located in Whale Tail Lake (South Basin); moved to Lake C38 (Nemo Lake)
Year 1 (2019)	• Dewatering of Whale Tail Lake (North Basin) to Whale Tail South Basin and Mammoth Lake (through the WTP)

Mine Year	Water Management Activities and Sequence
	• Pump contact water from the open pit to Quarry 1 • Pump contact water from the Whale Tail WRSF Pond to Quarry 1 • Treat through the WTP the Whale Tail North Water above discharge limit and discharge in Lake A16 (Mammoth Lake) • Pump contact water from Quarry 1 to Mammoth Lake (when water quality meets discharge criteria, treat as needed at WTP) (following authorization) • Pumping of non-contact water from: o North-East Pond to the C-watershed o North-East Pond to Whale Tail North o North-East Pond to AP5 (Licence B) o A53 Lake to Whale Tail North o Whale Tail South Basin to Mammoth Lake o AP5 to the C-watershed (Licence B) o Whale Tail North to Whale Tail South in the summer months o Whale Tail North to Mammoth o Whale Tail North to AP5 (Licence B) • Operation of the Whale Tail Dike seepage collection system by pumping seepage water to Whale Tail South Basin • Pump STP effluent to Whale Tail North
Year 2-3 (2020-2021)	• Completion of dewatering activity. WTN becomes an attenuation pond • Pump contact water from the open pit to the Whale Tail Attenuation Pond (to Quarry 1 until freshet 2020) • Pump contact water from the Whale Tail WRSF Pond to the Whale Tail Attenuation Pond (to Quarry 1 until freshet 2020) • Treat through the WTP the Whale Tail Attenuation Pond contact water and discharge in Lake A16 (Mammoth Lake) or Whale Tail Lake (South Basin) • Pump contact water from Quarry 1 to Mammoth Lake (if water quality meets discharge criteria) • Continue to pump non-contact water as per 2019 locations when required • Pumping of non-contact water from A53 to Whale Tail South • Whale Tail Lake (South Basin) flows to Lake A16 (Mammoth Lake) through the Whale Tail Lake (South Basin) Diversion Channel • Operation of the Whale Tail Dike seepage collection system by pumping seepage water to Whale Tail South • Pump STP effluent to the Whale Tail Attenuation Pond • Maintain North-East Pond sector water level by pumping to Whale Tail North Basin (C-watershed, when water quality allows) • Construct IVR Diversion and divert non-contact water from the Northeast Sector to Nemo Lake • Treat GSP 2 contact water through the TSS and arsenic removal units of the Operation WTP and discharge to Lake A16 (Mammoth Lake) in summer months • Pump contact water from the IVR Pit to the Whale Tail Attenuation Pond

Mine Year	Water Management Activities and Sequence
	• Pump contact water from the IVR WRSF Contact Water Collection System to the Whale Tail Attenuation Pond • Pump excess water from underground sump to GSP 1 when Underground Storage Stope is full • Pump Underground Storage Stope high salinity water to GSP 1 • Dewater Lake A53 to Whale Tail Lake (South Basin) • Pump contact water from the Whale Tail Pit to the IVR Attenuation Pond • Pump contact water from the WRSF Pond to the IVR Attenuation Pond • Pump contact water from the IVR Pit to the IVR Attenuation Pond • Pump contact water from the IVR WRSF Contact Water Collection System to the IVR Attenuation Pond • Pump contact water from the Whale Tail Attenuation Pond to the IVR Attenuation Pond • Capture runoff from Whale Tail WRSF and NPAG WRSF; pump to the IVR Attenuation Pond • Treat the IVR Attenuation Pond contact water through the WTP and discharge in Whale Tail Lake (South Basin)
Year 4 (2022)	• Pump excess underground sump water to the GSP once underground operations cease brining of drilling waters • Treat GSP 2 water with WTP in summer months; discharge to Whale Tail Lake (South Basin) • Treat GSP 1 water with WTP; discharge to Whale Tail Lake (South Basin)
Year 5 to Year 7 (2023 to 2025)	• Treat GSP 2 water with WTP; discharge to Whale Tail Lake (South Basin)

WRSF = Waste Rock Storage Facility; WTP = Water Treatment Plant.

Table 3-4 presented below summarizes the overall contact water management plan for the major mine infrastructure with the initial water collection location and final water destination. Note that no contact water was sent to the Whale Tail North Basin in 2019; contact water is sent to Quarry 1 until the 2020 freshet. Detailed water management information for major mine infrastructure areas is described in the following sub-sections. Water management of the non-contact water on site is also presented in section 3.1.4.18. Water management flowsheets for the construction and operations phase are provided in Appendix B.

Table 3.4 Overall Site Surface Contact Water Management Plan

Contact Water Source	Initial Contact Water Collection Location	Final Contact Water Collection Location
Industrial Sector	Whale Tail Attenuation Pond	IVR Attenuation Pond
Whale Tail and IVR WRSFs Sector	Whale Tail WRSF Pond	

	(Quarry 1 for the temporary Stage 1 WRSF sump)	
Ore Stockpiles	Whale Tail Attenuation Pond	
Landfill	Whale Tail WRSF Pond	
Open Pits (Whale Tail and IVR)	Open pit sumps	

WRSFs = Waste Rock Storage Facilities.

3.1.4.5 Erosion and Sediment Control Plan

As described in the previous sections, Project site infrastructure, channels, sumps, and associated water management activities are designed with consideration of site wide erosion and sediment control. In addition to design controls, best management practices (BMPs) will furthermore ensure that activities, practices, devices or a combination thereof will prevent or reduce the release of sediments and will control erosion. The selection of permanent or temporary BMPs will be specific to the site and timing and may require regulatory approval prior to installation or construction.

Temporary BMPs for Whale Tail and IVR Pits may include:

- Silt fences and fabric installation
- Turbidity curtains
- Sediment control basins to detain sediment-laden water
- Diversion of flows away from the construction area

Permanent BMPs at the Whale Tail and IVR Pits may include:

- Infiltration basins and trenches
- Sedimentation basins or ponds
- Construction of swales in ditches

Monitoring of erosion and sedimentation associated with construction and operations are discussed in Section 3.2 of this plan and are detailed in the Water Quality and Flow Monitoring Plan (Agnico Eagle, 2019), and dike construction sediment control and monitoring is presented in the Dike Construction and Dewatering Management Plan (Agnico Eagle, 2020).

For specific details on sediment control guidelines and license requirements, on erosion monitoring and mitigation during freshet and the rise of water level in the South Basin of Whale Tail Lake, refer to the Whale Tail Project - Erosion Management Plan (Agnico Eagle, 2018b).

3.1.4.6 Whale Tail Attenuation Pond

The main contact water pond of the Project (i.e., Whale Tail Attenuation Pond) will be in a deep part of Whale Tail Lake (North Basin), following the dewatering of the North Basin. Until freshet 2020, Quarry 1 remains the main contact water pond for the Whale Tail site. Contact water from the major

mine infrastructure will be diverted and/or collected in the Whale Tail Attenuation Pond. Contact water from the Whale Tail WRSF Pond will be pumped to the Whale Tail Attenuation Pond. Runoff water in the open pit will be collected by the sumps and then pumped to the Whale Tail Attenuation Pond.

Water collected in the Whale Tail Attenuation Pond will be reused to the extent practical in the open pit and dust control operations, and the excess water will be treated by the WTP for TSS and arsenic if required prior to discharge to the receiving environment via the diffuser into Lake A16 (Mammoth Lake) or Whale Tail South. Water quality objectives for arsenic and phosphorous will be met via the diffusor design: 10 ports at 12.6 m spacing, 75mm diameter diffusor ports, and effluent mixing (mixing zone).

Monitoring of the effluent discharge to Mammoth Lake or Whale Tail South is done as per the Water License requirement and is detailed in the Whale Tail Pit Water Quality and Flow Monitoring Plan.

3.1.4.7 Water Management in Whale Tail Waste Rock Storage Facility

The Whale Tail WRSF will be used to permanently store all waste rock and overburden from mining activities.

Seepage and runoff from the Whale Tail WRSF during the construction and operational phases will be managed via the Whale Tail WRSF Pond, isolated by the Whale Tail WRSF dike, where the contact water will be pumped to the Whale Tail Attenuation Pond for further treatment until 2020 (i.e., when the IVR Attenuation Pond becomes operational), and to the IVR Attenuation Pond from 2020 to closure. The ultimate footprint of the Whale Tail WRSF will span three catchment areas, and runoff from the Whale Tail WRSF will therefore report to the Whale Tail WRSF Contact Water Collection System, the North Channel Collection area, and the IVR Pit. During operations, the Whale Tail WRSF Contact Water Collection Systems and the IVR Diversion area will receive runoff from WRSF within their catchment areas, natural runoff from the surrounding area, and direct precipitation.

All overburden soils will be stabilized with waste rock berms in order to limit spreading and soil water separation. More details about management of the Whale Tail WRSF are presented in the Mine Waste Rock and Tailings Management Plan.

In April 2019, O'Kane Consultants developed a landform water balance model for the Whale Tail and IVR WRSFs (OKC, 2019). The objective of the landform water balance was to estimate the runoff, interflow, and basal seepage rates for different slopes and aspects of the Whale Tail and IVR WRSFs. The results of the WRSF landform water balance were used as inputs for the 2019 Mean Annual Water Balance Update for the project expansion (Golder 2019d).

3.1.4.8 Water Management in IVR Waste Rock Storage Facility

The IVR WSRF becomes operational once the IVR Pit is initiated. Prior to its operation, the natural catchment forms a portion of the Northeast Sector. Runoff from the IVR WRSF is pumped to the active

attenuation pond (i.e., either the Whale Tail Attenuation Pond or the IVR Attenuation Pond). The total catchment of the IVR WRSF increases proportionally with the increase in waste rock footprint which encroaches on the natural catchment of the IVR Attenuation Pond over time.

3.1.4.9 Water Management for Overburden Storage

The overburden storage is located within the catchment of the Whale Tail Attenuation Pond as shown in Appendix A. Based on the topographic information, contact water will naturally flow to the Whale Tail Attenuation Pond for further treatment. Channels will be constructed if deemed required.

3.1.4.10 Water Management for Ore Stockpile Areas

The ore stockpiles are located within the catchment of the Whale Tail Attenuation Pond as shown in Appendix A. Based on the topographic information, contact water will naturally flow to the Whale Tail Attenuation Pond for further treatment. Channels will be constructed if deemed required and water management systems (i.e. pump, piping, etc) will be installed to direct the seepage and runoff to the pond.

The Ore Stockpiles are designed based on the following considerations. A minimum 1.0 m of overburden and/or waste rock will be placed over original ground to reduce any thaw-induced differential settlements. Waste rock will then be placed to follow the natural topography, thereby reducing the likelihood of water ponding on the surface of the pad requiring additional maintenance. A final grade of about 0.5% sloping towards the Whale Tail Attenuation Pond will be achieved. Any surface run off from the ore stockpile or the pad will therefore be directed to the Attenuation Pond containment area.

3.1.4.11 Water Management for Quarry 1

Prior to commissioning of the Whale Tail Attenuation Pond contact water collected from the Stage 1 WRSF sump, from the starter pit, construction, and industrial sectors was pumped to Quarry 1.

The contact water from Quarry 1 was pumped to Mammoth Lake without treatment when the water quality met discharge criteria. The discharge was done via the permanent diffuser in Mammoth Lake. If needed, water was treated via the Water Treatment Plant to meet discharge criteria.

Water quality monitoring follows the requirements of the Water License 2AM-WTP1830.

3.1.4.12 Water Management for the Whale Tail Open Pit Sector

The Whale Tail open pit is planned to extend to approximately 300 m below the ground surface. The open pit will be mined mostly within permafrost except for the north-central portion of the pit which will be within the closed talik at the northern end of Lake A17 (Whale Tail Lake). The pit does not extend through the bottom of the closed talik; however, the open pit acts as a sink for groundwater flow during operations, with water induced to flow up through the open talik beneath the central portion of Lake A17 (Whale Tail Lake) and into the open pit. Accordingly, groundwater inflows into

the open pit are expected; this water will be mixed with the open pit contact water and pumped to the Whale Tail Attenuation Pond for further treatment.

Once mining intersects the closed talik, the groundwater inflow to the pit is predicted to be 1,140 m^3/day. The overall inflow to the pit is not expected to decrease significantly as the pit deepens because the flow of water is primarily through the permeable weathered bedrock and because the lower portion of the pit is in permafrost. It is important to note that most of the volume is expected to be due to residual water that remained and lakebed sediment drainage as the pit expanded into dewatered section of the Whale Tail North Basin. In 2020, the pit will continue to expand eastward towards Quarry 1. While most of the expansion is projected to be excavated in winter time, some sediment drainage is expected during the 2020 summer.

Groundwater inflow predictions during operations conservatively assume that no freeze-back will occur in the pit walls during mining. This assumption was adopted for Whale Tail Pit to be conservative and because during the first few years of mining, the pit will be both widened and deepened, resulting in the continual exposure of unfrozen bedrock. During the later years of mining; however, the pit development will be entirely within the permafrost and significant freeze back in the pit walls is considered possible and has been observed at Meadowbank. Although not simulated, if freeze back does occur as is the case at Meadowbank, actual groundwater inflow to the pit could be significantly lower.

Additional details on the most recent site water balance are presented in Section 3.3 of this plan.

TDS concentration in the groundwater inflow to the pit was predicted to decrease during mining. The relatively low TDS concentration and decrease in TDS over time reflects the minimal upwelling of higher salinity waters at depth due to the presence of the permafrost at the base of the pit and the high contribution of lake water and Whale Tail Attenuation Pond water.

3.1.4.13 Water Management for the IVR Open Pit Sector

The IVR Pit is located just north of Whale Tail Lake, within the Northeast Sector in the permafrost environment, thus no groundwater inflows are predicted. Water management infrastructures will be designed to only manage runoff water reporting to the pit. The IVR Pit is initiated in Q3 2020. Its operational runoff is conveyed to the active attenuation pond (i.e., either the Whale Tail Attenuation Pond or the IVR Attenuation Pond).

3.1.4.14 Water Management for Haul Roads

A network of access and haul roads will connect the ore body to the Whale Tail and IVR WRSF Sector and the Industrial Sector. Most of the roadways servicing the mining area will drain directed towards the proposed contact water management infrastructure. Detailed information on roads is described in the Whale Tail Pit Haul Road Management Plan.

The approach to water management for these roads will involve the implementation of local best management practices during the construction, operational, and closure phases. The roads are constructed of non-potential for acid generating and non-leaching waste rock from mining operations. Other best management practices will strive to minimize the amount of runoff originating from the roadways and to prevent the migration of surfacing material from the roadways and crossings. Any areas identified as point sources of runoff originating from the roadways or crossings can be managed locally with silt fences, straw booms, turbidity curtains, interceptor channels, rock check dams, and/or small sedimentation ponds.

3.1.4.15 Water Management for Landfill

The landfill is located southeast of the Whale Tail WRSF, within the catchment of the Whale Tail WRSF Pond, as shown in Appendix A. Based on the topographical information (PhotoSat 2015), runoff and any seepage from the landfill will naturally flow to the Whale Tail WRSF Pond and then be pumped to the Whale Tail Attenuation Pond for further treatment before discharge.

Further information on the management of this facility is described in the Whale Tail Pit Landfill and Waste Management Plan.

3.1.4.16 Sludge and Brine Management from Water Treatment Plants

This section summarizes water treatment requirements and is extracted from the Mean Annual Water Balance and the Mine Site and Downstream Receiving Water Quality Predictions, from Golder Associates, both dated May 2019. Any water requiring treatment will be pumped to the water treatment plant(s) prior to discharge through the diffuser in Mammoth Lake or through a diffuser in Whale Tail Lake (South Basin) or other alternative discharges.

Sludge disposal will be done in the Whale Tail WRSF.

OPERATION WATER TREATMENT PLANT (O-WTP)

From April to May 2019, the last third of volume of water from the Whale Tail Lake (North Basin) was treated via the TSS removal unit of the O-WTP. It did not require attenuation of arsenic. The first two-thirds of the volume was free of suspended solids and discharged directly to Whale Tail Lake (South Basin).

The arsenic and TSS water treatment plant (O-WTP) was active as of the beginning of May 2019, to treat the final dewatering volumes from Whale Tail Lake (North Basin), which was discharged to Whale Tail Lake (South Basin). The arsenic water treatment unit has not been required so far. Subsequently, the O-WTP treats flows from Quarry 1 dewatering (June 2019), Whale Tail Attenuation Pond (2020 until closure), dewatering of the IVR Pit sector (summer 2020), the final dewatering volumes of Lake A53 (which becomes the IVR Attenuation Pond), and the IVR Attenuation Pond (summer 2020 until closure).

Sludge water from the Operation Water Treatment Plant (OWTP) is dewatered with a centrifuge to produce a cake having a density with 20% of solid content. This cake will be stored in the Whale Tail WRSF. The maximum predicted annual volume of cake from the OWTP is approximately 5,760 cubic metres (m^3). The OWTP is designed to treat total suspended solids and arsenic during the Operations Phase.

TDS WATER TREATMENT PLANT (S-WTP)

The S-WTP will include a TDS Treatment plant if required; it has not been commissioned at this time. Currently the S-WTP is not needed according to the latest water balance. The current underground mining plan is designed to minimize the inflows requiring TDS treatment. If required, the TDS Treatment plant will be used to treat low salinity water that is stored in the GSP-2 until closure. The TDS Treatment plant would be active only from June through September. The permeate would be combined with the O-WTP effluent for discharge from site.

The brine produced from the TDS Treatment plant would be stored in GSP-1. The S-WTP could also include two Desalination units, which would treat water stored in GSP-1. The salt solid produced from treatment would either used at site and/or shipped off site, and the permeate would be combined with O-WTP effluent for discharge from site.

3.1.4.17 Underground Water Management

Underground development groundwater and contact water will be managed separately from surface infrastructure contact water. For underground water management, the following key strategies were implemented to develop the underground water Management Plan:

- A Groundwater Storage Pond system (GSP) is designed to capture TDS (salt) affected waters. Up to three GSPs are planned to provide operational flexibility and adaptive management opportunity. GSP-1 is used to store high salinity water from early mining operations through the permafrost. GSP-2 is used to store low salinity water. A potential third pond is planned as contingency.
- Excess water volumes in the underground mine will be managed through the Underground Mine Stope and GSP-1 for high salinity water, and through GSP-2 for low salinity water. Excess water volumes may also be managed with GSP-3 planned for contingency, operational flexibility, and adaptive management opportunity
- At the end of underground mining, any remaining water in the GSP ponds will be pumped underground for flooding of the underground workings

3.1.4.18 Non-Contact Water Management

In order to adequately manage non-contact water on site, some passive flows have been substituted with a pumping alternative that complies with the original intent of the approved water balance and Water License 2AM-WTP1830 (same origin and destination of water). Those systems were proposed as adaptive management methods, in response to the encountered site conditions during open water

season and the high volume of precipitation received, resulting in additional volume of water to manage.

The actual non-contact water management systems put in place in summer 2019 are described below. These systems were implemented after discussion between Agnico Eagle and the Nunavut Water Board (August and September 2019).

North-East Pond to C-watershed

The non-contact water from the North-East (NE) Pond watershed was initially planned to overflow by gravity toward Nemo Lake once the North-East Dike is operational. During a routine inspection in July 2019, it was observed that the topography toward Nemo Lake would not allow water to overflow naturally before overtopping the dike liner. Following this observation, water was pumped from NE Pond toward the project site, adding pressure on dewatering activity. The water from the NE Pond is therefore pumped to the tundra within the Nemo watershed (Water shed C). This system for water level management was operational in 2019 and is will be used in 2020 to empty the NE Pond when required. This system is expected to be operational until NE Dike is dismantled (which is planned in 2020).

Diesel pumps are used and their intake into the NE pond is positioned in an area where there is sufficient water depth. Due to the shallowness of North-East Pond, in order to successfully manage the water ponding against the North-East Dike, additional pumping from Lake A47 (lake within the flooded North-East sector) may be required until Lake A47 is disconnected from North-East Pond. In order to do so, an access extension may be required in Lake A47.

The piping used for the line is HDPE piping and flexible mine hose (Mineflex). To minimize impact on the receiving environment, the discharge line was installed in the tundra and is made of flexible hose. The discharge location was selected to avoid erosion. Existing accesses are used to position the pump, intake and discharge. Some access extensions within the dewatered portion of NE Pond might be required to reposition the pump intake as the water level is drawn down. If needed, these access extensions will be made in accordance with the current requirement of the Water License 2AM-WTP1830.

Water quality is not considered at risk as this is non-contact water from NE Pond. To ensure compliance with the Water License 2AM-WTP1830, the effluent of the NE Pond will be monitored for TSS as per Part F Item 7.

North-East Sector Pond Management

During the summer of 2019, significant water inflows from Lake A49 towards the Whale Tail Pit area were noticed. Maintaining the water elevation in Lake A49 throughout freshet will avoid the transformation of non-contact water (Lake A49 overflow) to contact water (pit water). The objective

of this water transfer is to minimize contact water creation. Water will be sent into the North-East Pond.

A53 Lake to Whale Tail South

The non-contact water from the A53 watershed was planned to be redirected to Whale Tail South through the East Channel. Water from the A53 watershed could be pumped if required to Whale Tail South.

It is expected to pump the non-contact water from A53 Lake to Whale Tail South from 2019 to 2020, securing the dewatering schedule in 2019. Postponing the East Channel construction also considers the potential pathway for contact water in the environment, as Lake A53 will become the IVR Attenuation Pond in 2020.

The pumping strategy used is the same one as approved to manage the water level of A53 Lake using diesel pumps and flexible hose. The main modification will be to extend this strategy until 2020 and to move the discharge points from Whale Tail North to Whale Tail South. For additional operational flexibility extending an access ramp into Lake A53 might be required.

The water level in Lake A53 will be maintained to the natural level and regular water level monitoring will be conducted. The monitoring aligns with the Water License 2AM-WTP1830 requirements, Schedule I Table 2 for ST-WT-7 and as per Part F Item 7 for TSS limits.

In order to successfully manage the A53 water elevation, an access extension may be required. If needed, the details of the extension to be installed will be submitted to the NWB prior to construction, as per requirement of the Water License 2AM-WTP1830.

Once in the dewatering phase Agnico will follow the Water Licence requirement and the Dike Construction and Dewatering Plan (as per the design report approved by NWB).

Whale Tail South Discharge to Mammoth Lake

The non-contact water from Whale Tail South Basin was pumped to Mammoth Lake in 2019. This pumping activity was required to manage and then maintain the water level in Whale Tail South Basin, in order to allow for the construction of the Whale Tail South Channel (SWTC) and preserve Whale Tail Dike integrity. This system temporarily substitutes passive flow via the SWTC with a pumping alternative that complies with the original intent of the approved water balance and Water License 2AM-WTP1830 (same origin and destination of water). This pumping activity also provides flexibility and adds robustness to the water management strategy. Discharge is completed via a diffuser to avoid erosion into Mammoth Lake.

Water quality monitoring will follow the Water License 2AM-WTP1830 Part F Item 7 and Schedule I Table 1 - Group 3, same as the one required for water flowing though the Whale Tail South Channel.

Whale Tail Dike Seepage Discharge to Whale Tail South Basin

The non-contact water seeping from Whale Tail Dike (WTD) is collected into the seepage collection system before reaching the Whale Tail Attenuation Pond and then discharged to Whale Tail South Basin. This secures the operations at site.

Seepage water is discharged into the Whale Tail South Basin via a diffuser without treatment if the water quality meets the discharge criteria of the Water License 2AM-WTP1826. If discharge criteria are not met, water will overflow from the pump stations to the Whale Tail Attenuation Pond, and then will be pumped through the WTP and discharged via an approved diffuser.

Routine monitoring of the seepage water quality from each pump station will be as per the Water Licence 2AM-WTP1830 and the Metal and Diamond Mining Effluent Regulation (MDMER). This monitoring will allow Agnico Eagle to put mitigation measures (for example, treating the water via the WTP) in place if needed. Turbidity and pH will also be monitored.

3.1.5 Freshwater and Sewage Water Management

3.1.5.1 Freshwater Management

The permitted freshwater sources as per the Water License 2AM-WTP1830 are Nemo Lake (all purpose), Lake D1 (Re-flooding of Whale Tail Pit, IVR Pit, Underground mine, and Whale Tail (North Basin) and associated use, or as otherwise approved by the Board in writing), Whale Tail South (Re-flooding of Whale Tail Pit, IVR Pit, Underground mine, and Whale Tail (North Basin) and associated use, or as otherwise approved by the Board in writing).

Freshwater usage includes potable use, fire suppression, dust suppression, drilling water (if contact water is not available), water for the emulsion plant, and water for the truck shop. The freshwater source is Lake C38 (Nemo Lake), and Lake A17 (Whale Tail Lake) during closure. For explosives mixing and associated use, the water is pumped from Lake A16 (Mammoth Lake), as per Part E, condition 1 of the Water License 2AM-WTP1830. Freshwater will also be required to refill Whale Tail Lake (North Basin) at closure and will be sourced from Lake D1 and inflows to Whale Tail Lake (North Basin). Agnico Eagle will endeavour to minimize the amount of freshwater required for the Project, where possible.

Freshwater is sourced through a freshwater intake and pump system. The intake consists of vertical filtration wells fitted with vertical turbine pumps that supply water on demand. The intake is connected to the pump house with piping buried under a rockfill causeway. The intake pipe exits at the bottom of the causeway and is fitted with a stainless-steel screen, as per Part E, condition 4 of the Water License 2AM-WTP1826. The rockfill causeway acts as a secondary screen to prevent fish from becoming entrained.

The stainless-steel screens design for the water intake is consistent with the Fisheries and Oceans Canada (DFO) “Freshwater Intake End-Of-Pipe Fish Screen Guideline” (DFO 1995). As per the DFO

policy intake screens will be cleaned every 2 years. The freshwater intake will be moved to Whale Tail Lake (South Basin) at closure.

Freshwater is pumped to an insulated main storage tank located at the Whale Tail Camp. The freshwater pipeline is made of a high density polyethylene pipe and insulated and heat traced. The Whale Tail Camp has a Freshwater Treatment Plant (potable). In the Potable WTP, the freshwater first goes through sand filters and then is pumped through ultraviolet units, and finally treated with chlorine. The treated water is stored within a potable water tank. Potable water is monitored according to the Nunavut health regulations for total and residual chlorine and microbiological parameters. Treated potable water is piped to other facilities requiring potable water. Detailed plant operation specifications were provided in FEIS Volume 1, Section 1. 2.4.1.

Freshwater and potable water use will extend for an additional three to six years (during operations) and additional freshwater will be required from Whale Tail Lake at closure. The current Type A Water Licence Part E Item 1 and 2 provides for a maximum quantity of water use not to be exceeded at 700,859 m^3 annually during construction and operation as well as 14,855,606 m^3 annually during closure. The freshwater usage from Nemo Lake needs to respect the license limit of 209,544 cubic meter per year.

It is important to note that total annual withdrawals of water from Nemo Lake (209,554 m^3/year) will remain well below i) the lake's annual inflow volume of approximately 476,000 m^3 (based on the mean annual water balance of the lake under baseline conditions), and ii) DFO's guideline of 10% of the under ice volume for the duration of operations (i.e., under-ice volume of 6,170,000 m^3 derived from FEIS Addendum Appendix 6-M submitted with the Whale Tail Pit - Expansion Project). Residual effects to fish and fish habitat are therefore expected to be negligible.

During closure, the Whale Tail and IVR Pits, the underground mine, and Whale Tail Lake (North Basin) will be allowed to flood naturally with non-contact water, treated water, freshwater from direct precipitation, runoff from adjacent land, and Whale Tail Lake (South Basin). It is anticipated that approximately 47,000,000 m^3 over 16 years from Whale Tail Lake is required to fill the mined-out Whale Tail Pit (i.e., approximately 55,000,000 m^3), IVR Pit (i.e., approximately 10,000,000 m^3), underground mine (i.e., approximately 1,000,000 m^3) and Whale Tail Lake (North Basin) (i.e., approximately 6,000,000 m^3) to its original level, representing approximately 2,900,000 m^3/year from Whale Tail Lake (South Basin).

As per part E, condition 2 of the Water License 2AM-WTP1830, the use of water from Whale Tail Lake shall not exceed a total of 10,655,000 m^3/year commencing when notification of closure is received by the NWB through to the expiry of the Licence. The limit for Nemo Lake is 14,672 m^3/year and the limit for Lake D1 is 1,710,000 m^3/year, both commencing when notification of closure is received by the NWB through to the expiry of the Licence.

3.1.5.2 Sewage Water Management

Sewage is collected from the camp and change-room facilities and pumped to a STP. The objective of the STP is to treat sewage to an acceptable level for discharge to the Whale Tail or IVR Attenuation Pond via a sewage water discharge pipeline. The STP is housed in a prefabricated (modular) structure located in the Whale Tail Camp. The sewage treatment system is designed based on the occupation maximum of the camp for 400 persons (240L per day and per person). The design average daily flow is 96 m^3/day (4 cubic metres per hour [m^3/hour]).

Currently, the sewage treatment plant at the Amaruq camp can accommodate 400 workers as presented previously. With the addition of four wings to the Operations Camp for potential project expansion, the total camp capacity will increase to 600 workers. An expansion of the sewage treatment systems is thus required. These systems are built with typical 40-foot containers.

No major change in operation and water quality are expected with this expansion. The sewage treatment system will be designed based on a flow rate of 240 L per day per room for 544 people, for an average daily flow rate of 131 m^3/day (5.45 cubic metres per hour [m^3/hour]).

The sewage treatment plant receives two streams of sewage. The first source is domestic sewage, which is fed directly to the fine screening process to remove any fibers or debris that might damage the membranes. The second source is kitchen sewage which is pre-treated in the oil and grease tanks to remove oil and grease prior to being fed into the fine screen.

The STP for the camp facilities is designed to meet appropriate guidelines for wastewater discharge (for example, NWT Water Board 1992). Wastewater System Effluent Regulations (WSER) criteria are not currently applicable to systems located in Nunavut and is unlikely to apply to the Project effluent quality.

Table 3.5 provides the anticipated performance of the system compared to the WSER criteria. Further information on the management of this facility is described in the Whale Tail Sewage Treatment Plant Operation and Maintenance Manual (Agnico Eagle, 2019a). Sewage treatment facilities will continue to be managed in accordance with the approved Amaruq Gold Wastewater Treatment System Operation and Maintenance Plan dated 2019 approved by the NWB as provided in Part B, Item 14 of Type A Water Licence 2AM-WTP1526. As stipulated in Part B, Item 17, Agnico Eagle will review the Plans as required by changes in operation and/or technology and modify the Plans accordingly in the form of an addendum to be included in the Annual Report.

Table 3.5 Effluent Quality and Wastewater Characteristics

Parameter	Units	Regulatory Limit	Design Value
Wastewater			
• Biochemical Oxygen Demand	mg/L	-	952

• Total Suspended Solids	mg/L	-	300
• Total Kjeldahl Nitrogen	mg/L	-	130
• Ammonia Nitrogen	mg/L	-	130
• Fat, Oil and Grease	mg/L	-	30
• pH	-	-	6 to 9.5
• Water Temperature	°C	-	10 to 25
• Alkalinity	mg/L as $CaCO_3$	-	471.1
• Prohibited Chemicals/Compounds	Not present		
• Grinder Pumps	Not present Upstream of MBR		
Effluent			
• pH	-	6-9.5	6.5 to 8.5
• Carbonaceous Biochemical Oxygen Demand	mg/L	<25	<5
• Total Suspended Solids	mg/L	<25	<1
• Un-ionized Ammonia	mg/L	<1.25	<0.08
• $N0_3$-N	mg/L	<5	4
• TP	mg/L	<0.5	0.5
• Fat, Oil and Grease	mg/L	<5	<1
• Fecal Coliform	CFU/100mL	<200	Non-Detect
• Total Residual Chlorine	mg/L	<0.02	0

1. Noted values are assumed blended between kitchen and dormitory wastewater after the grease trap.
2. A complete list of prohibited chemicals is included in the membrane maintenance manual.

3.2 Water Management During Closure

Mine closure is integral to the mine design and will be modified during operations. Planning for permanent closure is an active and iterative process. The intent of the process is to develop a final closure plan including specific water management components using adaptive management. This begins during the mine design phase and continues through to closure implementation. Adaptive management enables the plan to evolve as new information becomes available through analysis, testing, monitoring, and progressive reclamation. The detailed mine closure and reclamation activities are provided in the Whale Tail Pit Interim Closure and Reclamation Plan (Golder, 2019a). The 2020 version will be submitted with this Plan.

Water management during closure and reclamation will involve actively filling the underground facilities and IVR Pit, and passively allowing the Whale Tail Attenuation Pond and the Whale Tail Pit to flood. The Groundwater Storage Ponds and IVR Attenuation Pond will be emptied at the start of closure and backfilled with NPAG/NML waste rock. The Whale Tail and IVR WRSFs will be progressively covered with NPAG/NML waste rock throughout operations and are expected to be completely covered at the beginning of closure.

Water management during closure and reclamation will involve maintaining contact water management systems on site until monitoring results demonstrate that water quality is acceptable for discharge of all contact water to the environment without further treatment. Once pit lake water quality meets the discharge criteria, the water management systems will be decommissioned to allow the water to naturally flow to the receiving environment. In 2018, a Whale Tail WRSF seepage analysis and hydrodynamic modelling of Mammoth Lake were conducted to address NIRB project certificate Term and Condition no. 6a. The objectives were to assess Mammoth Lake near-field water quality at the WRSF seepage outlet post-closure and to evaluate seasonal water circulation patterns in Mammoth Lake resulting from effluent discharge. This analysis also aimed to predict and evaluate the water quality within Mammoth Lake during operations and post-closure (Golder, 2019c). Results show that no modification to the water management strategy is needed concerning closure activities and sequence.

Runoff from the Whale Tail WRSF and discharge from Whale Tail Lake (North Basin) (IVR runoff flows to Whale Tail Lake (North Basin)) will enter and mix in Mammoth Lake. Concentrations outside the mixing zone of the Whale Tail WRSF contact water plume are predicted to meet receiving water quality criteria. Results of the studies showed that baseline drainage patterns of East Sector needs to be re-established to direct runoff towards the Whale Tail Attenuation Pond, including runoff over the backfilled IVR Attenuation Pond. Runoff from the IVR WRSF and the backfilled Groundwater Storage Ponds needs to be passively directed to the Whale Tail Pit. Exposed pit walls in the IVR Pit will need to be resloped and capped with NPAG/NML material to avoid potential constituent release from IVR Pit walls. The IVR Pit walls are composed primarily of south komatiite and basalt with some north greywacke rock. Based on these predictions, a control mechanism will be implemented for IVR Pit Walls including re-sloping and cover placement.

The dewatered Whale Tail Pit and IVR Pit area will be filled with a combination of natural runoff and contact water from the entire site (i.e., the Whale Tail and IVR WRSF Contact Water Collection Systems and the Whale Tail and IVR Attenuation Ponds), and water pumped from Whale Tail Lake (South Basin). The runoff and seepage from the Whale Tail WRSF and IVR WRSF will continue to be collected in the designated collection ponds and pumped to Whale Tail Lake (North Basin) during active closure (re-filling). Water will be monitored during flooding and until results demonstrate that water quality conditions from the WRSFs are acceptable for direct discharge. Based on the cover thermal model results, the Whale Tail WRSF and IVR WRSF will be covered with a cover of 4.7 m thick to be constructed with NPAG/NML waste rock. The intent of the cover is to contain the yearly active layer inside the thickness of the cover and to maintain a temperature below 0° Celsius for the underlying rock. The objective of the cover is the control of acid generating reactions and of migration of contaminants by freezing. Consistent with the Approved Project, the segregation of the PAG/NPAG and ML/NML waste rock will occur during the operation of the mine.

The key water management activities during mine closure are summarized in Table 3-6. Appendix B shows the water management flowsheets during mine closure phases.

Table 3.6 Key Water Management Activities During Mine Closure

Mine Year	Key Water Management Activities and Sequence
Year 8 (2026)	• Dewater the Groundwater Storage Ponds and the IVR Attenuation Pond to the underground mine • Backfill the Groundwater Storage Ponds and the IVR Attenuation Pond with NPAG/NML waste rock • Draw-down of the raised Whale Tail Lake (South Basin) to 153.5 masl, pumping to the underground until refilled and then to the IVR Pit. Lake A55, Lake A65, Lake A62, Lake A63, Lake A18, Pond A-P23, Lake A20, Lake A21, Lake A22, and Lake A45 return to baseline elevations. • Water from Whale Tail Lake (South Basin) ceases flow through Whale Tail Lake Diversion Channel and to Lake A16 (Mammoth Lake) • Decommission IVR Diversion to re-establish baseline drainage patterns of the Northeast Sector catchment towards the IVR Pit • Pump WRSF Pond water to the IVR Pit • Pump Whale Tail Lake (South Basin) to the IVR Pit during summer months to maintain its elevation at 153.5 masl • Re-establish baseline drainage patterns of East Sector runoff towards the Whale Tail Attenuation Pond, including runoff over the backfilled IVR Attenuation Pond • The Whale Tail Attenuation Pond overflows (once full) into the Whale Tail Pit • Passively direct runoff from the IVR WRSF and the backfilled Groundwater Storage Pond to the Whale Tail Pit • Runoff from the backfilled Groundwater Storage Ponds flow to the Whale Tail Pit • Start of site water quality monitoring of flooding open pit reservoirs
Year 9 to Year 21 (2027 to 2041)	• Refilling of the IVR Pit to 149.3 masl (i.e., the spill elevation of the IVR Pit onto the bed of Whale Tail Lake [North Basin]) expected in 2027 • The IVR Pit reaches the spill elevation to the Whale Tail Pit and begins overflowing to the Whale Tail Pit • A sill will be constructed at closure on the upstream of Mammoth Lake to increase the water level by 1 m to 153.5 m.
Year 22 (2042)	• The Whale Tail Pit reaches the spill elevation that connects it with the Whale Tail Attenuation Pond and both water bodies fill simultaneously • The Whale Tail Pit and the Whale Tail Attenuation Pond reach the spill elevation that connects the Whale Tail Pit with the IVR Pit, and all three reservoirs fill simultaneously to 153.5 masl, forming Whale Tail Lake (North Basin) • Once Whale Tail Lake (North Basin) is flooded to 153.5 masl, pumping of the Whale Tail Lake (South Basin) to Whale Tail Lake (North Basin) during summer months will be on-going to maintain the elevation of Whale Tail Lake (South Basin) to 153.5 masl until water quality allows to decommission the dikes and reconnect the North and South Basins of Whale Tail Lake • Once Whale Tail Lake (North Basin) is flooded to 153.5 masl, remove STP • Once Whale Tail Lake (North Basin) is flooded to 153.5 masl, decommission the Whale Tail WRSF Dike and re-establish natural drainage patterns of the Whale Tail WRSF Sector Lake A16 (Mammoth Lake)

Mine Year	Key Water Management Activities and Sequence
	• Once Whale Tail Lake (North Basin) is flooded to 153.5 masl, create spillway in Mammoth Dike to re-establish baseline flow patterns to Lake A16 (Mammoth Lake) • Decommission the Whale Tail Dike, water quality permitting • Remove site infrastructure
Post-Closure (2043+) (triggered when water quality in all three water bodies meets the appropriate water quality criteria)	• Monitoring

WRSF = Waste Rock Storage Facility; N/A = not applicable.

3.2.1 Flooding Sequence

The flooding sequence will be adapted to meet water quality closure objectives to allow for the reconnection of the lakes. Both the water balance and water quality forecast will be updated during operations and closure phases in order to optimize the flooding sequence.

The Whale Tail Open Pit will be filled with a combination of natural runoff and contact water from the entire site. The Underground mine and the IVR Open Pit will be filled with a combination of natural runoff and contact water from the entire site and water pumped from Whale Tail Lake (South Basin). Flooding will begin following the end of operations.

Beginning in 2026, the water accumulated in Whale Tail Lake (South Basin) over the years of operations will be pumped into the underground mine until it is filled and into the IVR Pit thereafter. Active closure will be consistent with the Approved Project and current Type A Water Licence 2AM-WTP1830. Whale Tail Pit active closure will be followed by passive closure measures until the pits and underground have flooded, Whale Tail Lake and IVR Pit water levels are restored, and runoff from the WRSFs are shown to be suitable for uncontrolled release.

The Whale Tail Pit operations will be closed and reclaimed in a manner consistent with the Approved Project and as required under Project Certificate No. 008 and Type A Water Licence 2AM-WTP1830.

It is anticipated that approximately 47,000,000 m^3 over 16 years from Whale Tail Lake is required to fill the mined-out Whale Tail Pit (i.e., approximately 55,000,000 m^3), IVR Pit (i.e., approximately 10,000,000 m^3), underground mine (i.e., approximately 1,000,000 m^3) and Whale Tail Lake (North Basin) (i.e., approximately 6,000,000 m^3), including representing approximately 2,900,000 m^3/year from Whale Tail Lake (South Basin).

Following the first pumping summer, the water elevation in Whale Tail Lake (South Basin) will be back to the baseline value (153.5 masl) and no outlets will be available for this basin as the Whale Tail Lake (South Basin). The elevation of the Mammoth sill will be 153.5 masl. The Diversion Channel is at the elevation 156 masl and the Whale Tail Dike is maintained in place. Refilling of the IVR Pit to 149.3 masl (i.e., the spill elevation of the IVR Pit onto Whale Tail Lake (North Basin) is expected in 2027. Refilling of Whale Tail Pit to 146.3 masl (i.e., the spill elevation of the Whale Tail Pit onto the bed of Whale Tail Lake (North Basin) is expected in 2039.

3.2.2 Contact Water Collection System

The contact water collection system will remain in place to collect surface runoff water and seepage from the mine site until the open pits are flooded. During this period, the Industrial Sector and the Whale Tail Camp will be reclaimed, and the non-essential site infrastructure will be removed. Thereafter, water in these sectors will no longer be collected and will contribute to the reestablishment of the natural elevation of Whale Tail Lake (North Basin). The Mammoth Dike and Whale Tail Dike will remain in place until pit lake water quality meets receiving environment water quality objectives. If this occurs after full flooding as is predicted at this time, the pit lake water elevation will be maintained at 153.5 masl by pumping from Whale Tail (South Basin)to the North Basin, and through controlled discharge from Whale Tail (North Basin) to Mammoth Lake over the Mammoth sill.

In the Whale Tail WRSF Sector, the contact water collection system will remain in place. Dikes will not be reconnected until the water quality in the flooded area meets Canadian Council of Ministers of the Environment (CCME) Water Quality Guidelines, baseline concentrations or appropriate site-specific water quality objectives. Contingency for water treatment if required in closure is also accounted for in the closure plan.

In closure, water from the Whale Tail WRSF Contact Water Collection System is used to actively flood IVR Pit, and the IVR WRSF water is directed to Whale Tail Pit. In post-closure, water from the Whale Tail WRSF Contact Water Collection System is allowed to flow passively to Mammoth Lake as baseline drainage patterns are re-established. Lower volumes and chemical loading of water originating from either of the WRSFs would improve water quality throughout closure in the Whale Tail and IVR Pits, and in Mammoth Lake in post-closure.

Dike decommissioning will involve the removal (breach) of a portion of the dike to original ground levels whenever possible. Consideration will be given to breach staging, with the above water portions of the dike/berm in the breach area removed during winter periods, when there will be little surface water flow, thereby minimizing the potential release of sediments to the neighbouring waterbodies. The remainder of the breach would be completed during the open water season following freshet to allow for the deployment of turbidity curtains to control potential releases of sediment.

For water collection and management systems closure the infrastructure will be re-contoured and/or surface treated according to site-specific conditions to minimize wind-blown dust and erosion from surface runoff, if required. This closure activity is intended to enhance site area development for re-colonization by native plants and wildlife habitat.

3.2.3 Post-Closure Modeling Results Summary

Following refilling of Whale Tail Lake (North Basin) to 153.5 masl (i.e., to overtop the Mammoth Lake sill), and once the pit lake water quality is acceptable (full flooding predicted to occur in 2042; adequate water quality in 2042; Golder 2019c), the Whale Tail Dike, Mammoth Dike, and the Whale Tail WRSF Dike are decommissioned. Whale Tail Lake (North Basin) and Whale Tail Lake (South Basin) form Whale Tail Lake with a water surface area of 2.34 km^2, or a 41% increase from baseline, which flows to Lake A16 (Mammoth Lake) over the Mammoth Lake Dike via spillway. Runoff from the Whale Tail WRSF Contact Water Collection System area flows to Lake A16 (Mammoth Lake).

The reflooding strategy will be adapted during closure based on future water quality predictions validated with site monitoring data. The objective will be for pit lake water to meet quality objectives concurrently with completed reflooding such that lake reconnection can happen as soon as possible after thereafter.

Steady-state untreated WRSF contact water released is predicted to meet SSWQO for arsenic at the edge of the mixing zone in the long-term, under the anticipated cover performance scenario (from the 4.7 meters cover of low arsenic leaching waste rock).

The mixing zone in the Lake is predicted to range from 5 meters (under calm conditions in July when 6% of the seasonal seepage flow occurs), to 60 meters (under medium current conditions in June when 65% of the seasonal flow is predicted to occur at a more dilute arsenic concentration) from the entry point of this seepage into the Lake and along the plume centre line.

Other inflows to Mammoth Lake include natural runoff and overflow from Whale Tail Lake; both are predicted to meet SSWQO as described in FEIS Appendix 6H (Agnico Eagle, 2016).

Mammoth Lake is sensitive to cover material seepage quality, which is in turn sensitive to cover composition and WRSF pile contact water volume. Observational data at the Meadowbank WRSF suggests that pile contact water volumes are substantially lower than originally predicted (Portage is 20 to 40% lower, Vault WRSF contact water is minimal compared to 178,000m^3 predicted at maximum footprint year) using similar modelling assumptions. Recent modelling results of the WRSF landform reflect a significant reduction in the volume of seepage from the WRSF and conservative chemical load estimate to Mammoth Lake which will be verified with monitoring. As per Type A Water Licence 2AM-WTP1830 Part E, conditions 5 and 6, Agnico Eagle completes a site wide water balance and pit water quality model update for the Whale Tail Pit Site as part of the annual water management plan.

3.3 Water Balance

As per the Type A Water Licence 2AM-WTP1830, Part E, Item 5, a Project water balance will be updated and presented on an annual basis, integrated into the water management plan update. The developed water balance will assist in evaluating future water management infrastructure, including under closure conditions (Whale Tail Interim Closure and Reclamation Plan).

In 2020 prior to Expansion Project approval Golder was retained to develop a mean annual water balance for the original Approved Whale Tail Pit project, updated based on collected 2019 site data (Golder 2020b). It presented the results from operations into site post-closure, starting in 2019. It did not include any aspects related to the IVR Pit, Whale Tail Pit expansion, or the Underground mine.

As part of the Expansion Project approval process a water balance model was developed to assist in the evaluation of the proposed water management infrastructure, and estimation of the pumping requirements over the longer life of the mine (Addendum Volume 6, Appendix 6-O) and under closure conditions (Whale Tail Interim Closure and Reclamation Plan, 2019). The 2020 version will be submitted with this Plan.

The water balance was computed on a monthly time step based on mean annual climate conditions (Section 2.1.1). The water management flow sheets are presented in Appendix B, and the full water balance report is presented in Appendix C (Whale Tail Pit – Expansion Project Mean Annual Water Balance (Golder 2019d).

3.4 Water Quality Forecast

Water quality forecast reports were prepared by Golder Associates Ltd. and will be revisited on an annual basis until mine closure, as per the Water License part E item 8. The purposes of the report are to identify, through a mass balance approach, the contaminants of concern during the pit flooding process and WRSF contact water mixing into Mammoth Lake post-closure, 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.

Note that the 2020 Water Quality Forecast does not include any aspects related to the Expansion Project since at that time it was not yet approved. In the 2020 report (Golder 2020a), Golder presents a positive update on water quality through operations; constituent loads coming from the WRSF and the open pit, which report to the attenuation pond, are lower than in previous reports. A decrease in arsenic and phosphorus loads to the receiving environment throughout mine life is also shown. At closure and post-closure, flooded pit water quality is predicted to meet receiving water quality criteria when flooding is complete, allowing reconnection with the downstream receiving environment. Arsenic release from the submerged Whale Tail Pit walls is anticipated once pit-flooding commences but is expected to be a relatively short-lived source to the flooded pit lake.

As part of the Expansion Project approval process in May 2019 Golder Associates Ltd. prepared a water quality forecast update including the aspects related to the Expansion Project (Golder 2019c).

3.5 Adaptive Management

Adaptive management will be achieved through performance monitoring and management actions that will be implemented, should they be triggered. Action level responses taken during the year will be documented in Agnico Eagle's annual report submitted to the NWB. The Whale Tail Pit Expansion Project – Adaptive Management Plan (Agnico Eagle, 2020c) includes the specific adaptive management strategies that will be implemented in the WRSF to meet water quality objectives, and chemical and physical stability of the WRSFs during operations, closure, and post-closure phases. The Adaptive Management Plan is still under approval by the Nunavut Water Board but once approved this plan will fully cover the adaptive management strategy.

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APPENDIX A • YEARLY SITE LAYOUT PLANS

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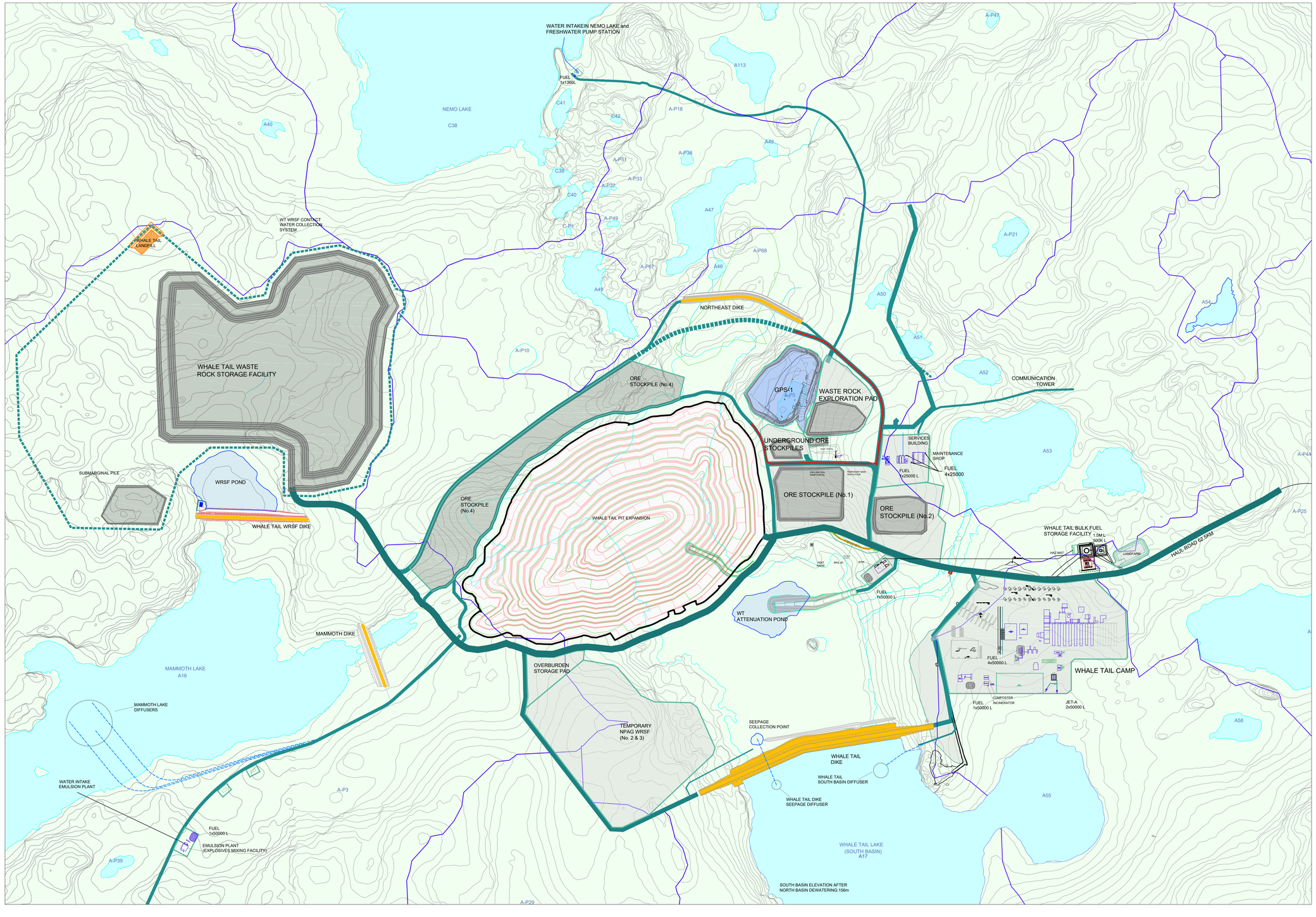

PLAN CLÉ
KEY PLAN

ISSUED FOR PERMITTING
DATE : 2019-05-06

NOTES GÉNÉRALES / GENERAL NOTES

LEGEND

- WATERSHED
- ATTENUATION POND
- WATER PIPE
- LAKE WATER
- OPEN PIT
- HAUL ROAD, LARGE WIDE
- HAUL ROAD, SINGLE LANE
- SERVICE ROAD
- ROAD, SALT PROTECTION
- ROCK PILE
- WATER POND
- PAD
- BUILDING

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT

REVISIONS

AMARUQ PROJECT

TITRE / TITLE

AGNICO EAGLE – MEADOWBANK DIVISION
AMARUQ MINE PROJECT
005 – SITE PREPARATION
210 GENERAL ARRANGEMENT
AMARUQ MINE SITE ARRANGEMENT
PERMITTING

DESSINÉ PAR DRAWN BY	JOCELYN CRETE	DATE 2019-05-02
VÉRIFIÉ PAR CHECKED BY	J.MOSQUERA	2019-05-02
APPROUVÉ PAR APPROVED BY		
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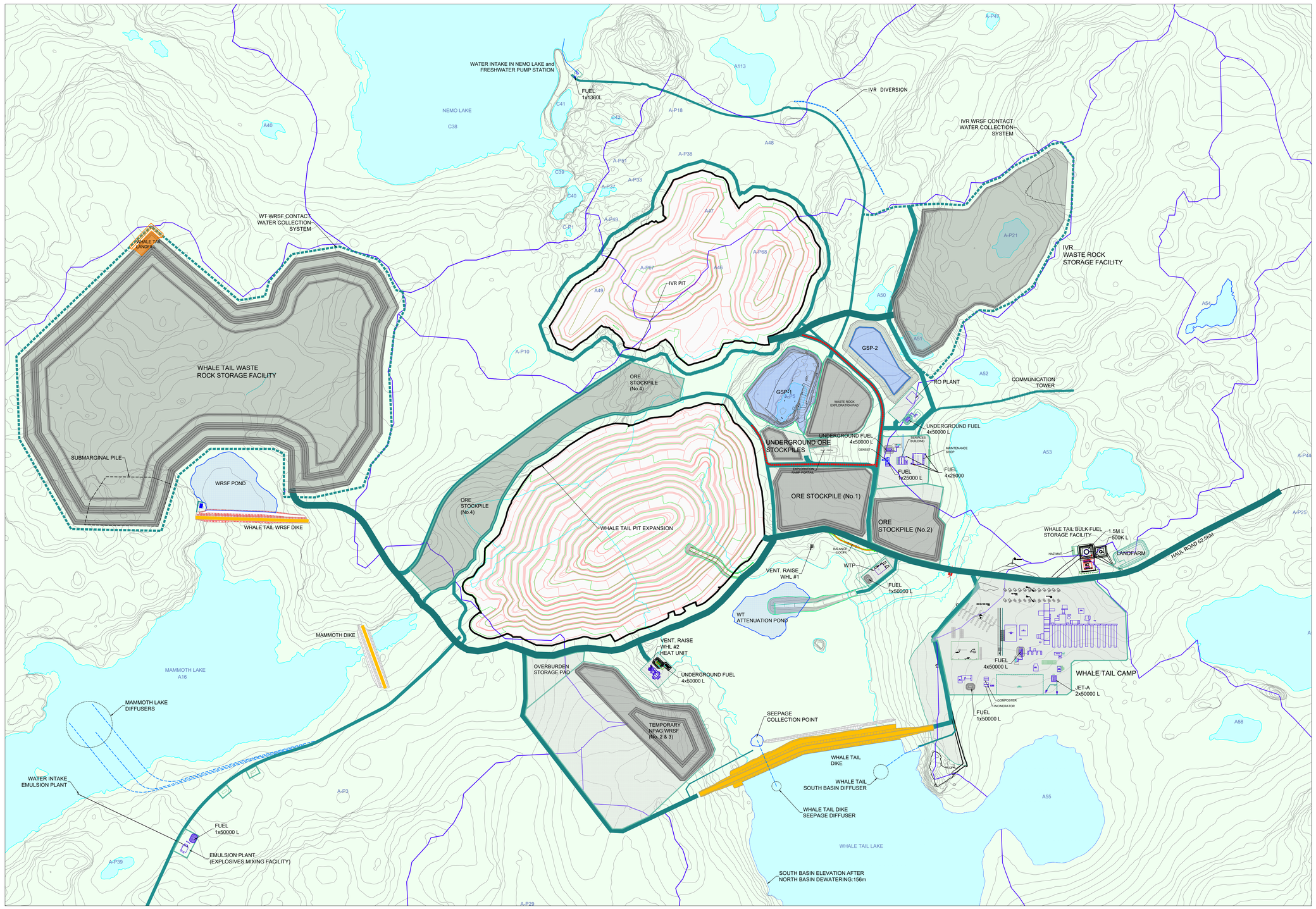

PLAN CLÉ
KEY PLAN

ISSUED FOR PERMITTING
AGNICO EAGLE DATE : 2019-05-06

NOTES GÉNÉRALES / GENERAL NOTES

LEGEND

- WATERSHED
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AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT

REVISIONS

AMARUQ PROJECT

TITRE / TITLE
AGNICO EAGLE – MEADOWBANK DIVISION
AMARUQ MINE PROJECT
005 – SITE PREPARATION
210 GENERAL ARRANGEMENT
AMARUQ MINE SITE ARRANGEMENT
PERMITTING

DESSINÉ PAR / DRAWN BY	J. CRETE	DATE 2019-05-02
VÉRIFIÉ PAR / CHECKED BY	J. MOSQUERA	2019-05-02
APPROUVÉ PAR / APPROVED BY		
ÉCHELLE / SCALE	1:6000	DATE 2019-05-02
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