Appendix 13

Whale Tail 2021 Water Management Plan Version 9

AGNICO EAGLE

Meadowbank Division

WHALE TAIL PROJECT

Water Management Plan

MARCH 2022
VERSION 9

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. In 2021 a positive conformity determination application was issued by the Nunavut Planning Commission for pushbacks on the IVR and Whale Tail pits (Pushback Project).

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 is currently being mined as two open pits (i.e., Whale Tail Pit and IVR Pit) and underground operations, and ore is 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, 17 years of closure, and the post closure period. On September 30th, 2019 commercial production began at the Whale Tail Pit. The Pushback Project includes mining an additional 0.8 million tonne of ore from the Whale Tail Pit and the IVR pit pushbacks. It also produces an additional 7.5 Mt of waste rock. In total, the ore milling period for the Whale Tail project is over approximately an eight-year period from 2019 to 2026.

The water management objectives for the Project 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, diversion channels, water retention dikes, culverts, seepage collection systems, water treatment plants for effluent, a potable water treatment plant, a sewage treatment plant, and discharge diffusers.

This Water Management Plan for the Project describes the main objectives pertaining to water management, which are to limit 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 and IVR Attenuation Pond, where the contact water is treated by the Water Treatment Plant (WTP) (as required according to water quality) prior to discharge to the receiving environment or reused in the operations.

During operations, site contact water quality is predicted to exceed established effluent criteria (i.e. under the Whale Tail Water Licence (2AM-WTP1830)) in the Whale Tail Waste Rock Storage Facility (WRSF) Pond and in the Whale Tail Pit sump. Therefore, this water is controlled by the Whale Tail WRSF Dike and the Whale Tail WRSF Pond. The Whale Tail WRSF Pond water will report with all other contact water and will be mixed in the Whale Tail and IVR Attenuation Ponds 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. A site wide water balance will be updated yearly, and end pit water quality modelling will be updated yearly 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. The pushback in IVR pit will be backfilled with NPAG-non-ML rock material and filled by natural flow. 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 projected water quality in Mammoth Lake is predicted to meet guidelines in post-closure for all constituents of potential concern (including chloride, fluoride, nitrate, and total selenium, as identified in the 2018 FEIS), with the exception of arsenic and phosphorus.

The updated water quality data shows a stable trend in the water quality indicators. 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.

Dikes will not be breached until the water quality in the flooded area meets the approved 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, underground and Whale Tail Lake (North Basin) for re-flooding.

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
6	April 2021	All	All	Updated to reflect current operations/water management and to comply with commitments and requests	Agnico Eagle Meadowbank Division
7_NWB	June 2021	Summary 3.7.12 3.10 5.0 Appendices	i-ii 33 42 49 N.A.	Updated to include Pushback Project Added new section Figure on pushback in IVR Adaptive Mgmt Updated WQ models	AEM – Permitting & Regulatory Affairs (all changes)
8	December 2021	3.4 3.8	17 37	Clarification on wording for source of water use for emulsion plant	Agnico Eagle Meadowbank Division
9	March 2022	All	All	Updated to reflect current operations/water management and to comply with commitments and requests	Agnico Eagle Meadowbank Division

Approved by: _____

Alexandre Lavallee – Environnent & Critical Infrastructure Superintendent

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ACRONYMS

Agnico Eagle	Agnico Eagle Mines Limited – Meadowbank Complex
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
Pushback Project	Whale Tail and IVR Pit – Pushback Expansion Project
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	square kilometre(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
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 currently operating the Whale Tail Pit and Haul Road Project (Project), a satellite deposit located on the Amaruq property, and continues to feed the mill 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.

In 2021 a positive conformity determination application was issued by the Nunavut Planning Commission for pushbacks on the IVR and Whale Tail pits (Pushback Project). A pushback is a discrete zone of an open pit mining operation that can be mined continuously.

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 pits and underground mine, mined by truck-and-shovel operation, includes four development phases: 1 year of construction (complete), 7 years of mine operations, 16 years of closure, and the post closure period. The ore milling period for the Whale Tail project is planned over an eight-year period, from 2019 to 2026.

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.

Waste rock and overburden will be stored in the Waste Rock Storage Facility (Whale Tail WRSF and IVR WRSF) and ore will be stockpiled on the ore pads. Some NPAG-NML material will also be stored in the IVR pit pushback. The waste rock storage footprint, water management infrastructure, and camp have been designed and consider up to eight years of production to allow for expected resource growth. The underground WRSF (AP-5 location) that was permitted under the Type B will be expanded and became a facility regulated under the Type A Water Licence (2AM-WTP1830). Agnico Eagle will increase the footprint of the underground 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 milling and will include removal of the non-essential site infrastructure and filling 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 the 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 9 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 25 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 E Item 5 of the Nunavut Water Board (NWB) Water License 2AM – WTP1830 including modifications stemming from the Pushback Project. It is a requirement of the License that an updated Water Management Plan be submitted on an annual basis following the commencement of Operation. The Plan must include an updated Water Balance and action to be implemented if predicted re-flooded pits water quality indicate that water treatment is necessary.

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

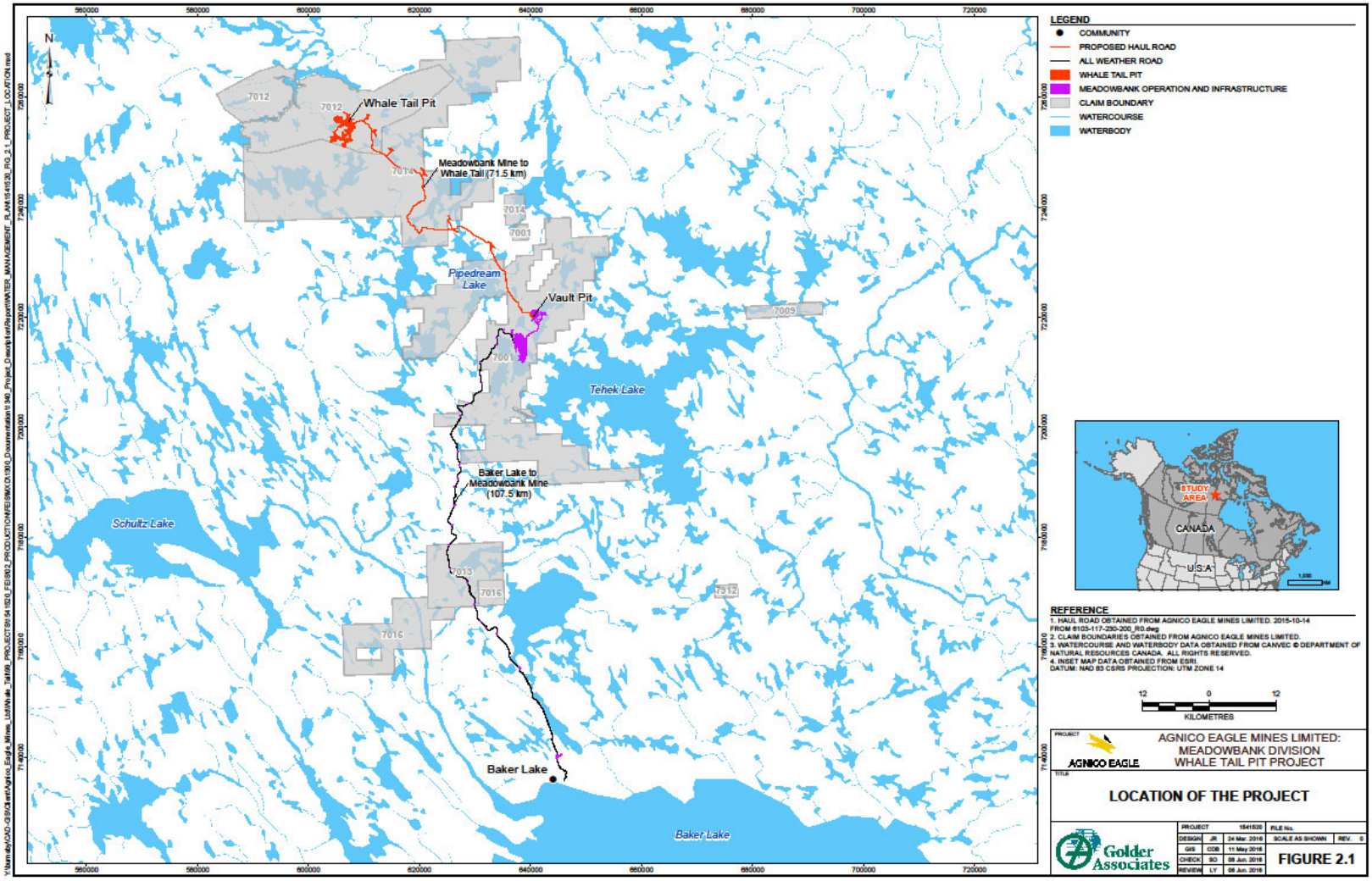


Table 2.1 Estimated Mine Site Monthly Mean Climate Characteristics

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

Thermal assessments have been completed that contribute to the understanding of the permafrost conditions near the Whale Tail Pit, IVR Pit, and Underground Mine. 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 well 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 Figure 2.2. 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).
- 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).
- 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 Whale Tail Pit are located within unfrozen rock, the IVR Pit and the Underground Project are fully contained within permafrost as per current planning. Groundwater inflow is therefore only expected during operations in the Whale Tail Pit.

Mining of the Whale Tail Pit occurs within the talik underlying Whale Tail Lake, whereas the latest version of the Underground Project is located in permafrost. The Underground is not directly connected to either Whale Tail Pit or IVR Pit.

During mining, the Whale Tail Pit will act as a sink for groundwater flow, with seepage faces developing along portions of the pit walls. In response to the deepening of the mine workings, groundwater will be induced to flow through bedrock to the Whale Tail Pit. Mine inflow will originate primarily from Whale Tail Lake (South Basin), the Whale Tail Attenuation Pond, and deep bedrock underlying the permafrost.

Figure 2.2 Permafrost Map of Canada

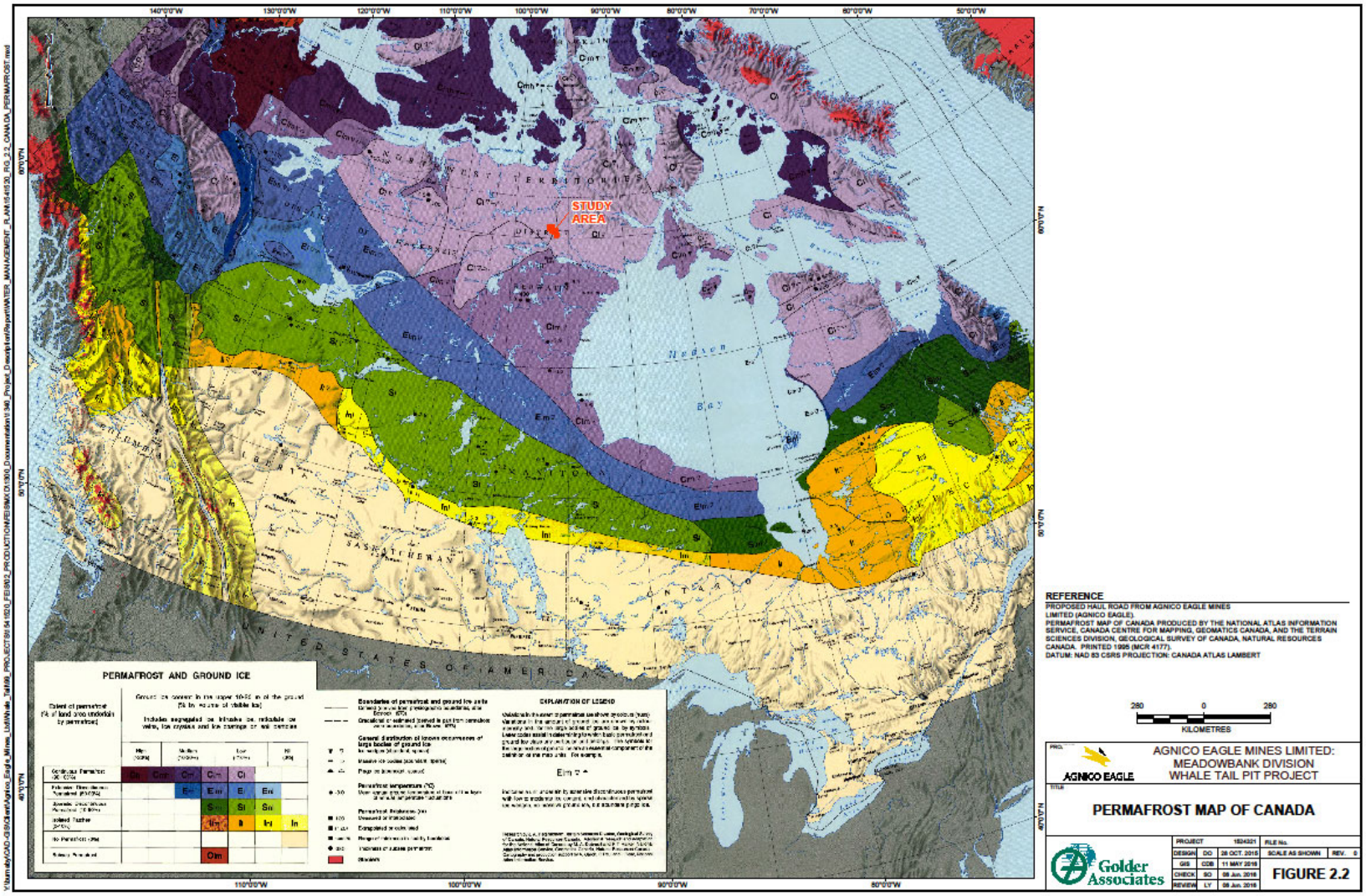
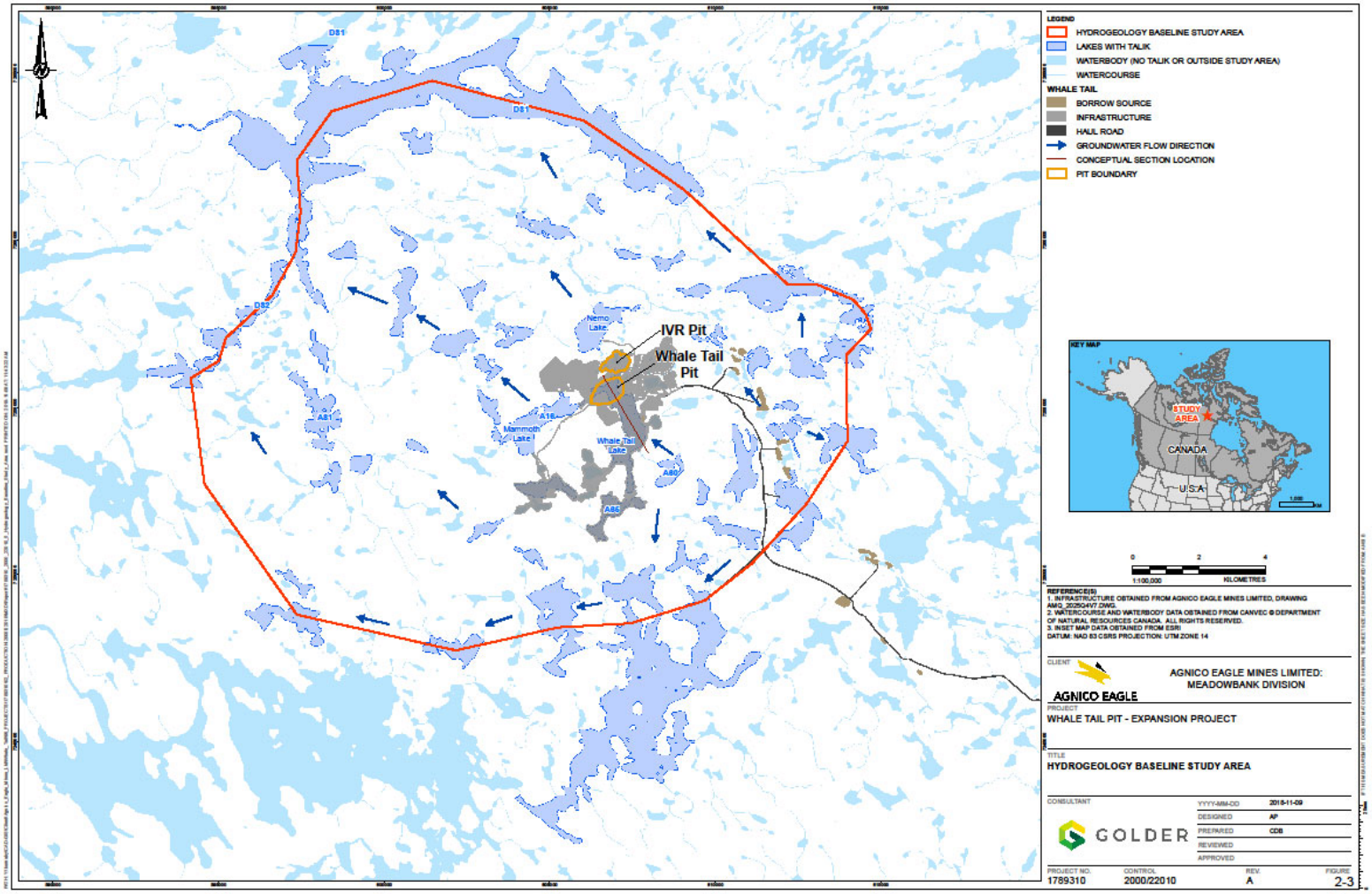


Figure 2.3 Hydrogeology Baseline Study Area



2.1.3 Hydrology and Watershed

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 similar to 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, and 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 the seismic hazard calculator from the 2010 National Building Code of Canada website (http://www.earthquakescanada.nrcan.gc.ca/hazard-alea/interpolat/index_2010-eng.php). The estimated PGA is 0.019 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 2025, while milling will continue through 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, 2022a). The operation, management, and monitoring of the Meadowbank TSF is regulated under the Agnico Eagle Type A water Licence 2AM-MEA1530.

The mine development includes the following 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 pits

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, 2022a. Water management associated with mine waste management is described in Section 3 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. Some material will also be stored in the IVR pit pushback.

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 • IVR Pit Pushback backfill material • Closure and site reclamation
Tailings	• As slurry tailings placed in the approved Meadowbank Mine tailings storage facility

WRSF = Waste Rock Storage Facility

SECTION 3 • WATER MANAGEMENT AND WATER BALANCE

3.1 Water Management Objectives and Targets

The main objectives pertaining to water management for the 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
- Meet discharge criteria before any site contact water is released to the downstream environment
- No events of non-compliance with regards to:
    - Regulatory/Water License water quality criteria (effluent loading limits)
    - Regulatory/Water License freshwater withdrawal criteria

The water management targets are summarized in Table 3.1. These targets are aligned with the water objectives of the Whale Tail Project and go beyond the License limit. These targets strive to minimize risk, conserve freshwater, and minimize water usage.

Table 3.1 2022 Targeted Water Hourly Consumption Per Month – for Mill and Camp Usage

WATER OBJECTIVE	TARGET 2021	TARGET 2022
Fresh Water Withdrawn from Nemo Lake (Mining and Camp)	85,284 m^3	75,000 m^3
Contact Water Withdrawn from Pit (pit inflow)	761,820 m^3	910,827 m^3
Contact Water Withdrawn from Underground (inflow)	0	3,000 m^3
Water discharge from site (WTS / Mammoth Lake)	2,244,538 m^3	2,488,068 m^3
Water in recirculation (water recycled / total water use)	0	0

3.2 Water Management Strategy

To achieve the above water management objectives and targets, the following key strategies were implemented to develop the 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.
- The IVR Attenuation Pond will contribute to reducing the operational water head in the Whale Tail Attenuation Pond.
- 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 for mining and site operations 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 (UG) development groundwater and contact water will be pumped to distinct surface infrastructure for water management. The underground water management infrastructure was defined based on the following underground water management guideline principles:

- It is not currently planned to mine below the permafrost. It is an opportunity that will be further studied
- Heating is required when mining below top of cryopeg
- Brine needed until cryopeg elevation is reached

- Contact and non-contact UG water not segregated – segregation is an opportunity
- Grouting is a mitigation measure during development (not included in hydrogeological model)
- UG storage stope (used to recycle UG water) – will delay treatment, needed early
- Recirculation of brine during mining operations
- Limit addition of freshwater (used only for CRF [cemented rockfill], promote use of natural groundwater for operation)
- Treatment of UG saline water is not required if mining stays in the permafrost

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

- A Groundwater Storage Pond system (GSP) to store captured TDS (salt) affected waters. Up to three GSPs are planned to provide operational flexibility and adaptive management opportunity
- Excess water volumes in the underground mine will be managed through the Underground Mine Stope and GSP-1 and GSP-2. Excess water volumes may also be managed with GSP-3 planned for contingency, operational flexibility, and adaptive management opportunity
- There is opportunity for water stored in the GSP to be reused for dust suppression on surface roads or to be re-circulated underground (i.e., for drilling or mixing in the cemented rockfill)
- 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

3.3 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).

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 water balance results are presented in Appendix C of this plan.

3.4 Waterbody Inventory

The A and C watersheds will 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 3.2 and shown in Appendix A. Discharge of treated effluent began in the second dewatering phase of the project in June 2019 and will continue throughout mine operations and into closure.

Table 3.2 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	Covered by IVR WRSF
		Lake A51	Covered by IVR WRSF
		Lake A52	Covered by IVR WRSF
		Pond A-P21	Covered by IVR WRSF
	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
		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

Watershed	Primary Disturbance	Waterbody	Note
C	Water Intake	Lake A16 (Mammoth Lake)	Sourced during operations for emulsion plant, if needed
		Lake C38 (Nemo Lake)	Sourced during operations, including emulsion plant
		Lake A17 (Whale Tail Lake)	Whale Tail Lake (South Basin) sourced during closure

3.5 Water Management System

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

- Water collection ponds (Whale Tail Attenuation, IVR Attenuation, Whale Tail WRSF, plus the GSP Ponds)
- Staging sump for Pit contact water management
- Sump for WRSF contact water management
- Discharge diffusers located in Mammoth Lake and Whale Tail South
- Two water diversion channels (South Whale Tail Channel and IVR diversion channel)
- Four water retention dikes (Whale Tail, Mammoth, Whale Tail WRSF, and the IVR dikes)
- Culverts
- Freshwater intake causeway and pump system
- WTP and associated intake causeway
- Sewage Treatment Plant (STP)
- Pipelines and associated pump systems
- Potable WTP
- Pumping system from Whale Tail South to Mammoth Lake
- Whale Tail Dike seepage collection system.

Additional water management system components can be put in place if required to adapt effectively to the site conditions, to manage non-contact water adequately, and to meet the water management objectives and target.

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 3.3 together with the 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 3.3.

Appendix A shows the location of the main structures at the different development stages of the mine life.

Table 3.3 Water Management Facilities

Mine Year	Water Management Facilities Constructed or Installed
Year -1 (2018) Construction	• Turbidity Curtains installation for dike construction • Start Whale Tail Dike • 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 2 (2019-2020) Operations – Phase 1	• 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, the dewatering system from North Basin to Mammoth Lake (and Water Treatment Plant). • Construction of the Whale Tail contact water intake causeway and construction of the WT attenuation pond infrastructure (diffuser, pipeline) • Installation of pumping system from the North-East Pond to C Watershed • Installation of pumping system from Whale Tail South to Mammoth Lake • Construction of the Whale Tail Dike seepage collection system • Installation of pumping system from A53 Lake to Whale Tail South • Installation of pumping system from Lake A49 to North-East Sector to maintain the water level • 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) • Underground WRSF saline ditch system
Year 2 to 7 (2020-2025) Operations – Expansion Project	• Construction of the dewatering system (ramps, pipes) for Lake A46, A47, A49, A50, A51, A52, A53, AP-21. Used to dewater the footprint of IVR Pit, IVR WRSF, and IVR Attenuation Pond • Dismantling of North-East Dike for IVR Pit mining activity • Construction of the contact water intake causeway and construction of the IVR attenuation pond infrastructure (diffuser, pipeline) • Installation of the IVR Attenuation Pond Pump Station • Installation of pumping system for contact water from the open pit to the IVR Attenuation Pond

Mine Year	Water Management Facilities Constructed or Installed
	• IVR WRSF Contact Water Collection System; Ore stockpile 3 Contact Water Collection System • IVR Diversion • IVR D-1 Dike • Underground Water Management System • Groundwater Storage Ponds

WRSF = Waste Rock Storage Facility.

3.5.1 Infrastructure Summary

The following sections briefly describe the various dikes and channels 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, 2021a). Additional information regarding construction of these infrastructures including design drawings and figures, can be found in the as-built reports submitted for each structure.

Agnico Eagle will continue to identify and assess the water infrastructure performance issues to ensure efficient water management. A lesson learned exercise on the 2019 freshet was performed in 2020 and was used to improve water management practices and plans for 2020 and beyond.

Whale Tail Dike

Whale Tail Dike (WTD) isolates the Whale Tail Pit and Whale Tail Attenuation Pond from Whale Tail Lake South. The WTD construction raised the 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). The South Whale Tail Channel is a diversion structure associated with this dike and diverts runoff downstream to the Lake A16 (Mammoth Lake).

WTD is approximately 835 m in length and was constructed within Whale Tail Lake on a shallow plateau of the lake floor. It consists of a wide rockfill shell, with downstream filters and a cement-bentonite cutoff wall built with secant piles that extend into the bedrock. The cutoff wall extends up to 12 m below lake level and is socketed an average 1.37 m in the bedrock. The dike has a 5 m grout blanket on the upstream side and a 10 m grout curtain on the downstream side from 0+180 to 0+516. The top of the secant piles are at El. 157 which is 1 m higher than the design IDF water level. A rockfill thermal cover 2.0 m thick was placed between the secant pile top elevation and the final crest elevation of the dike at 159 masl.

Whale Tail Dike was constructed in the fall of 2018 and its initial grout curtain was installed in the first quarter of 2019. During dewatering in 2019 it was observed that a high amount of seepage was coming from the structure. The amount was judged unsustainable to be managed by pumping (approximately 300 m^3/h). A detailed investigation including additional instrumentation and geophysics was conducted for a better understanding of the seepage phenomenon at the Whale Tail Dike. In 2020, a pumping system was installed to collect and manage the seepage water prior to

reaching the Whale Tail Attenuation Pond with the objective of returning water to the environment if water quality allows.

As a result, a remedial grouting campaign was performed between November 2019 and March 2020. The campaign was successful and met the objective of decreasing the seepage so it could be manageable by pumping. Following the dike grouting campaign, the seepage flow, measured using a v-notch weir, has significantly decreased to approximately 80 m^3/h and it was concluded that the seepage reduction objective of the grouting campaign was successfully reached. Agnico Eagle continues to closely monitor the situation.

South Whale Tail Diversion Channel

The South Whale Tail Diversion Channel (SWTDC) is a blasted channel in the south-western part of the Whale Tail Lake watershed. It allows non-contact water to be discharged by gravity from Whale Tail Lake to Mammoth Lake.

The construction of SWTDC occurred from January to April 2020 and it was commissioned during the 2020 freshet.

The inlet of the SWTDC is at El. 155.3 m. The channel has a trapezoidal shape with lateral slopes of 3H:1V, a base width of 5.0 m, and a bed-slope of 0.3%. The SWTDC was constructed using a protective riprap layer consisting of rockfill on the bottom and the sides of the channel to avoid erosion and limit TSS in the water. The riprap has a thickness of 0.5 m and consists of blasted rock with a diameter of 100 – 300 mm. Two transition materials consisting of fine and coarse filter with a 0.3 m thickness each were installed between the overburden and the riprap for particle retention between the foundation soil and the riprap. A layer of geotextile was placed between the coarse filter and the riprap to avoid migration of fine particles from the filters that could increase turbidity. The part of the access road crossing Lake A45 was modified to add a filtering element to prevent the A45 lakebed sediment to flow in the channel and create turbidity while ensuring that water from Lake A45 could reach the channel.

Mammoth Dike

Mammoth Dike is a water retaining infrastructure built to isolate the Whale Tail Pit from Mammoth Lake. Mammoth Lake receives water from Whale Tail Lake through the SWTDC and treated water from site discharge through the Mammoth Lake diffuser. Water flows out of Mammoth Lake through its natural outlet.

The construction of Mammoth Dike occurred from February 2019 to March 2019 to maintain the frozen condition of the foundation. Mammoth Dike has a length of about 330 m and a height of 2 m. This structure is a zoned rockfill dike with a filter system. The low permeability element of the dike consists of a bituminous geomembrane (BGM) installed on the upstream face anchored in a key trench with fine filter amended with bentonite (FFAB). The key trench is approximately 3 m deep and is founded on bedrock. Blasting was required during the construction of this infrastructure.

Whale Tail WRSF Dike

WRSF Dike is a water retention infrastructure designed to prevent contact water from the Whale Tail waste rock storage facility (WRSF) accumulating in the WRSF pond from reporting to Mammoth Lake. The water collected in the WRSF pond located upstream of the dike is pumped to the Attenuation Pond and treated prior to being discharged. An area of approximately 109 ha drains towards the WRSF pond. The WRSF Dike is located south of the Whale Tail WRSF.

The WRSF Dike is about 360 m long and 5 m high. This structure is a zoned rockfill dike with a filter system. Foundation excavation in the key trench area was done in the fall of 2018 to avoid blasting and aggrade frost penetration. The construction of WRSF Dike mainly occurred from January to February 2019 to maintain the frozen condition of the foundation. The low permeability element of the dike consists of a bituminous geomembrane (BGM) installed on the upstream face anchored in a key trench with fine filter amended with bentonite (FFAB). The key trench is approximately 3 m deep and founded on frozen glacial till or bedrock.

On August 2019, the key trench of the structure thawed inducing tension cracks on the crest of the structure and seepage from WRSF Pond reported through the structure to Mammoth Lake. 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 back into the WRSF Pond. Furthermore, WRSF Pond was emptied and maintained dry. Downstream pumping stopped on September 30th, when the reporting flow and surrounding area 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 were implemented by Agnico to minimize the risk of future similar events occurring in this location:

- Operational water levels were reviewed to keep water as low as possible in the WRSF pond as recommended by the Meadowbank Dike Review Board (MDRB)
- Aggradation of permafrost into the dikes foundation by construction of a thermal berm in 2020 on the upstream portion of the dike
- Access road to the downstream area was constructed to facilitate inspection
- A downstream water collection system was designed and constructed

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. No seepage was observed since the 2019 event which confirmed the adequacy of the mitigation measures implemented to ensure adequate performance of the structure.

Northeast Dike (dismantled)

The North East (NE) Dike was a temporary structure 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 was 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.

Following the fish out and dewatering of surrounding lakes (A46 & A47) in 2020, this structure was dismantled as part of the IVR pit development.

IVR Dike D-1

IVR Dike D-1 is a contact water retaining infrastructure built to contain the IVR Attenuation Pond. It is located East of the Whale Tail Pit. The structure includes an emergency spillway to release the water to the Whale Tail Attenuation Pond.

The construction of IVR Dike D-1 was part of the expansion project. It started in Q1 2021 and was completed in Q2 2021. The structure was constructed as a zoned rockfill dike with a filter system. The low permeability element of the dike consists of a bituminous geomembrane (BGM) installed on the upstream face anchored in a key trench located below the centerline of the structure with fine filter amended with bentonite (FFAB). The key trench is excavated in frozen glacial till or bedrock. To improve the thermal condition of the key trench a rockfill and esker thermal berm was placed on the upstream side.

IVR Diversion Channel

The IVR Diversion Channel (IVR DC) is an excavated channel in the north-east part of the Whale Tail Project site. It allows non-contact water to flow from the North-East watershed to Nemo Lake. Its objective is to reduce the amount of contact-water reporting to IVR Pit.

The construction of IVR DC was part of the expansion project. It occurred from September to October 2020 and the channel was commissioned during freshet 2021. The channel has a trapezoidal shape with lateral slopes of 2H:1V to 3H:1V, a base width of 3.0 m, and a bed-slope of 0.3%, in combination with a pervious rockfill perimeter berm that is delimiting the west boundary of the channel and also acts as an access road. The IVR DC was constructed with a layer of fine filter material placed on top of the excavated foundation followed by geotextile and overlain by riprap.

3.6 Dewatering

As per the Type A Water Licence 2AM-WTP1830, Agnico Eagle initiated the dewatering of Whale Tail Lake (North Basin) in 2019 following the construction of the Whale Tail and Mammoth dikes and the fish out.

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.

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 Whale Tail Attenuation Pond is since used to receive contact water from different sumps and ponds around site.

Waterbodies and ponds within the footprint of the IVR Pit, IVR WRSF, and IVR Attenuation Pond required dewatering in 2020. To allow the mining of the IVR Pit, lakes A46, A47 and A49 were dewatered in 2020. Following fish out completion, lakes inside the IVR pit mining footprint were dewatered and transferred into the Whale Tail Attenuation Pond representing a total approximate volume of 215,000 m^3.

A similar process to the one mentioned above was also used to dewater the waterbodies inside the IVR WRSF footprint (AP-21, A50, A51 and A52). The water was discharged into lake A53 once its fish out was completed for a total approximate volume of 38,000 m^3.

Similar to the Whale Tail (North Basin) dewatering process, approximately 2/3 of the dewatered water from Lake A53 was pumped and directly discharged to Whale Tail Lake (South Basin). The remaining 1/3 of the water was processed through the WTP during open water conditions. The complete dewatering of A53 represents a total approximate volume of 213,000 m^3. Once Lake A53 dewatering and fishout was completed it became the IVR Attenuation Pond. The IVR Attenuation Pond is intended to receive site contact water from different sumps and ponds around site.

3.7 Water Management Activity During Construction and Operations

An inventory of waterbodies impacted by mining activities is provided in Table 3.2 (Section 3.4) and the water management facilities required for the Plan are provided in Table 3.3 (Section 3.5). These tables should be read in conjunction with Table 3.4, 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 3.10.

Any water requiring treatment will be pumped to the water treatment plant(s) prior to discharge through the diffuser in Mammoth Lake or through the diffuser in Whale Tail Lake (South Basin) or other alternatives. The latter are outlined in the Whale Tail Pit Expansion Project Adaptive Management Plan. The other alternatives for discharge are Lakes D1 and D5 in the case that Level 3 is reached (high risk situation in the receiver water quality). Discharging in Lakes D1 or D5 would require a complete assessment of potential discharge, with approval from the NWB as per NIRB Project Certificate Conditions.

Water collected in the Whale Tail Attenuation Pond and/or IVR 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 or by using diversion channels and culverts.

Freshwater usage on site will be supplied from Lake C38 (Nemo Lake) and 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), Mammoth Lake (explosive mixing and associated use), 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), and 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 3.4 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) • 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

Mine Year	Water Management Activities and Sequence
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 May 2020) • Pump contact water from the Whale Tail WRSF Pond to the Whale Tail or IVR Attenuation Pond (to Quarry 1 until freshet 2020) • Treat through the WTP the Whale Tail and IVR Attenuation Ponds 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) until May 2020 • 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 when water quality meets discharge criteria • Pump STP effluent to the Whale Tail or IVR Attenuation Ponds • Maintain North-East Pond sector water level by pumping to Whale Tail North Basin (only for 2020) • Construct IVR Diversion and divert non-contact water from the Northeast Sector to Nemo Lake • Dewater waterbodies and ponds inside IVR pit footprint to Whale Tail Attenuation Pond • Dewater waterbodies and ponds inside IVR WRSF footprint to A53 • Dewater Lake A53 to Whale Tail Lake (South Basin) and remaining to Whale Tail Attenuation Pond • Pump GSP-1 contact water to Whale Tail or IVR Attenuation Ponds • 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 excess water from underground sump to GSP 1 when Underground Storage Stope is full • Pump contact water from the Whale Tail Pit to the IVR Attenuation Pond • Pump contact water from the Whale Tail Attenuation Pond to the IVR Attenuation Pond • Pumping of non-contact water from Whale Tail South Basin to Mammoth Lake • 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) and/or Lake A16 (Mammoth Lake)
Year 4 to 7 (2022 to 2025)	• Pump contact water from the Whale Tail WRSF Pond to the Whale Tail and IVR Attenuation Ponds • Pump contact water from the Pits to the IVR Attenuation Pond or Whale Tail Attenuation Pond • Pump contact water from the IVR WRSF Contact Water Collection System to the IVR Attenuation Pond • Pump STP effluent to the Whale Tail Attenuation Pond or IVR Attenuation Pond • Pump GSP-1 contact water to Whale Tail or IVR Attenuation Ponds. • Capture runoff from Whale Tail WRSF and NPAG WRSF; pump to WRSF Pond, Whale Tail Attenuation Pond or to the IVR Attenuation Pond

Mine Year	Water Management Activities and Sequence
	• Pump contact water from the WRSF Pond to Whale Tail Attenuation Pond or IVR Attenuation Pond • Pump contact water from the Whale Tail Attenuation Pond to the IVR Attenuation Pond • Pump contact water from the IVR Attenuation Pond to the Whale Tail Attenuation Pond • Treat through the WTP the Whale Tail and IVR Attenuation Ponds contact water and discharge in Lake A16 (Mammoth Lake) or Whale Tail Lake (South Basin) • Pump excess water from underground sump to GSP 1 when Underground Storage Stope is full • Construct GSP-2 and GSP-3 if additional capacity for contact water storage is required at surface. • 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 when water quality meets discharge criteria • Divert non-contact water from the Northeast Sector to Nemo Lake using IVR Diversion • Pumping of non-contact water from Whale Tail South Basin to Mammoth Lake

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

Table 3.5 presented below summarizes the overall contact water management plan for the major mine infrastructure with the initial water collection location and final water destination. 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 3.7.16. Water management flowsheets for the construction and operations phase are provided in Appendix B.

Table 3.5 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 (primary) Whale Tail Attenuation Pond (secondary)
Whale Tail and IVR WRSFs Sector	Whale Tail WRSF Ponds IVR WRSF collection system	
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.

3.7.1 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 detailed in the Water Quality and Flow Monitoring Plan (Agnico Eagle, 2019b), and dike construction sediment control and monitoring is presented in the Dike Construction and Dewatering Management Plan (Agnico Eagle, 2020b).

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

3.7.2 Whale Tail Attenuation Pond

The Whale Tail Attenuation Pond is located in a deep part of Whale Tail Lake (North Basin), following the dewatering of the North Basin.

Starting at freshet 2020, the Whale Tail Attenuation Pond is one of the main contact water ponds for the project. Contact water from the Whale Tail WRSF Pond and runoff water in the open pit collected by sumps can be pumped to the Whale Tail Attenuation Pond.

Excess water is transferred to the IVR Attenuation Pond or is 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.

Monitoring of the effluent discharge to Mammoth Lake or Whale Tail South is done as per the Water License requirement and MDMER regulation and is detailed in the Whale Tail Pit Water Quality and Flow Monitoring Plan (Agnico Eagle, 2019b).

3.7.3 IVR Attenuation Pond

The other main contact water pond of the Project (i.e., IVR Attenuation Pond) is located in the former Lake A53, following the A53 dewatering and IVR dike construction. Contact water from the IVR WRSF collection system, the Whale Tail WRSF Pond, and runoff water in the open pit collected by sump can be pumped to the IVR Attenuation Pond.

Excess water will either be transferred to the Whale Tail Attenuation Pond or 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.

3.7.4 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 is managed via the Whale Tail WRSF Pond, isolated by the Whale Tail WRSF Dike, where the contact water is pumped to the Whale Tail Attenuation Pond or to the IVR Attenuation Pond.

Runoff from the ultimate footprint of the Whale Tail WRSF will report to the Whale Tail WRSF Contact Water Collection System and the IVR Pit.

All overburden soils will be stabilized with waste rock berms to limit spreading and soil water separation. More details about management of the Whale Tail WRSF are presented in the Whale Tail Pit – Waste Rock Management Plan (Agnico Eagle, 2022a).

In April 2019, O'Kane Consultants developed a landform water balance model for the Whale Tail and IVR WRSFs (OKC, 2019). Information on the landform water balance model can be found in the report referenced in the waste management plan (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.

3.7.5 Water Management in IVR Waste Rock Storage Facility

The IVR WRSF is in operation since the IVR Pit was initiated. Runoff from the IVR WRSF are sent to the IVR Attenuation Pond. The total catchment of the IVR WRSF increases proportionally with the increase in waste rock footprint.

3.7.6 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.

3.7.7 Water Management for Ore Stockpile Areas

The ore stockpiles are located within the catchment of the Whale Tail Attenuation Pond or the IVR Attenuation Pond as shown in Appendix A. Based on the topographic information, contact water will naturally flow to the Whale Tail or IVR 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 runoff to the pond.

The Ore Stockpiles are designed based on the following considerations. A cover of overburden and/or waste rock was placed over original ground to reduce any thaw-induced differential settlements. Waste rock was then placed to follow the natural topography, thereby reducing the likelihood of water ponding on the surface of the pad requiring additional maintenance. Any surface run off from the ore stockpile or the pad will be directed to the Attenuation Pond containment area.

3.7.8 Water Management for Quarry 1

Until freshet 2020, Quarry 1 was used as the main contact water pond for the Whale Tail site. 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.

As of 2021 Quarry 1 is part of Whale Tail Pit and is no longer available to be used as a storage area for water management.

3.7.9 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 IVR Attenuation Pond and/or the Whale Tail Attenuation Pond for further treatment.

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 seepage from Whale Tail South and the Whale Tail Attenuation Pond.

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.

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.

3.7.10 Water Management for the IVR Open Pit Sector

The IVR Pit is located north of Whale Tail Lake, within the Northeast Sector in the permafrost environment, thus no groundwater inflows are predicted. Water management infrastructures are designed to only manage runoff water reporting to the pit during freshet. The IVR Pit runoff is conveyed to the active attenuation pond (i.e. IVR Attenuation Pond).

3.7.11 Water Management for the IVR and WT Pit Pushbacks

During operations, the water is managed within the pits as detailed in Sections 3.7.9 and 3.7.10. No additional water management infrastructure is required for this activity. The IVR Pushback may be used as a staging sump prior to being backfilled.

3.7.12 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 infrastructures. 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.

3.7.13 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, 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.

3.7.14 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 (WTP)

The arsenic and TSS water treatment plant (WTP) was commissioned at the beginning of May 2019, to treat the final dewatering volumes from Whale Tail Lake (North Basin). This plant is used to treat surface water for TSS and arsenic before discharging to an approved diffuser. The arsenic water treatment unit has not been required so far.

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).

TDS WATER TREATMENT PLANT (S-WTP)

The S-WTP is not needed according to the latest water balance as the current underground mining plan is designed to minimize the inflows requiring TDS treatment by staying in the permafrost. The S-WTP would include a TDS Treatment plant if required.

The concept for the TDS Treatment plant would be 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 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 be used at site and/or shipped off site, and the permeate would be combined with WTP effluent for discharge from site.

Agnico Eagle is currently developing an Underground Project limited into the permafrost only. This change results in no more treatment and discharge of saline water to Whale Tail Lake. The water management strategy for underground water would only be based on storing water in GSP-1 and GSP-2. High and low salinity water would not be segregated anymore.

3.7.15 Underground Water Management

Underground development groundwater and contact water will be managed in dedicated surface infrastructures for 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
- Excess water volumes in the underground mine will be managed through the Underground Mine Stope and GSP-1 and GSP-2. Excess water volumes may also be managed with GSP-3 planned for contingency, operational flexibility, and adaptive management opportunity
- Water stored in GSP-1 and GSP-2 could be used as a source for dust suppression on surface roads, as input into the cemented rockfill, or used for drilling activity underground
- At the end of underground mining, any remaining water in the GSP ponds will be pumped underground for flooding of the underground workings

3.7.16 Non-Contact Water Management

The non-contact water management systems are described below. These systems are required to meet the objective of avoiding mixing contact and non-contact water.

<u>Whale Tail Dike Seepage Discharge to Whale Tail South Basin</u>

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. The seepage collection system consists of 4 pumping wells that surface seepage is diverted into and that are deep enough to potentially collect most below surface seepage as well. This system allows to minimize the volume of water reporting to Whale Tail Attenuation Pond. Details of the installation and the system will be compiled in the as-built report, which is in progress and will be completed once the system is fully commissioned.

Seepage water, collected from this system, can be 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-

WTP1830. 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 for discharge.

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.

Since 2020, following the Whale Tail Dike grouting campaign, the seepage pH results indicated an increase above the acceptable limit indicated in the Water License 2AM-WTP1830. The seepage collected from the system was therefore pumped to the Whale Tail Attenuation Pond. Agnico Eagle will closely continue to monitor the situation.

IVR Diversion Channel

The IVR Diversion channel is intended to collect non-contact runoff water from the east side of the Nemo watershed and divert it by gravity to Nemo Lake. This infrastructure is 260 m long and allows minimizing the volume of non-contact runoff water reporting to the IVR pit area. The IVR Diversion Channel construction has been completed in 2020.

South Whale Tail Channel (SWTC)

Construction of the South Whale Tail Channel (SWTC) has been completed in 2020 prior to the freshet. The SWTC connects Whale Tail South basin to Mammoth Lake. The 900 m long channel is approximately 5m wide at the base with lateral slopes of 3H:1V. Once excavated, the channel was covered with multiple layers of coarse and fine materials, rip rap, and a layer of geotextiles to ensure minimal TSS in the flow reporting to Mammoth Lake and also preventing erosion. At the outlet of the channel, a turbidity barrier was installed and will remain in place as a supplementary protection to avoid TSS flowing into Mammoth Lake. The channel allows Agnico Eagle to naturally control the Whale Tail South water level without any mechanical transfer intervention. Details of the channel construction can be found in the as-built report (SNC, 2020).

3.7.16.1 Adaptive Management for Non-Contact Water

In order to adequately manage non-contact water on site, some passive flows have been in the past 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.

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 was 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 as per approval from NWB, adding pressure on dewatering activity. The water from the NE Pond was then pumped to the tundra within the Nemo watershed (Watershed C). This system for water level management was operational in 2019 and 2020 prior to the dewatering of the IVR footprint and was used to manage the water level in the NE Pond when required, until NE Dike was dismantled in late 2020.

North-East Sector Pond Management

During the summer of 2019 and 2020, significant water inflows from Lake A49 towards the Whale Tail Pit area were noticed. Maintaining the water elevation in Lake A49 throughout freshet was required to avoid the transformation of non-contact water (Lake A49 overflow) to contact water (pit water). The objective of this water transfer was to minimize contact water creation. Water was sent into the North-East Pond. Lakes A47 and A49 were dewatered in 2020 as part of the IVR Pit development.

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.

Prior to the dewatering phase, the water level in Lake A53 was maintained to the natural level by pumping the exceeded volume to Whale Tail South as per previous approval from NWB. Regular water level monitoring was conducted at this time. 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.

Once the dewatering phase completed, as explained in Section 3.6 of this report, A53 became the IVR Attenuation Pond.

Whale Tail South Discharge to Mammoth Lake

The non-contact water from Whale Tail South Basin was pumped to Mammoth Lake in 2019 as per approval from NWB. 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 the integrity of Whale Tail Dike. This system temporarily substituted 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 provided flexibility and added robustness to the water management strategy. Discharge was completed via a diffuser to avoid erosion into Mammoth Lake. Since 2020, no mechanical transfer from Whale Tail South to Mammoth Lake occurred but Agnico might re-use this system in the future to appropriately manage water on site.

3.8 Freshwater Management

The permitted freshwater sources as per the Water License 2AM-WTP1830 are Nemo Lake (all purpose), Mammoth Lake (explosive mixing and associated use), 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 (trucked from the Nemo Lake pumping station), 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 could also be pumped from Lake A16 (Mammoth Lake), as per Part E, condition 1 of the Water License 2AM-WTP1830. Agnico Eagle will endeavour to minimize the amount of freshwater required for the Project, where possible. Table 3.6 summarizes the authorized water use for domestic and industrial purposes during construction and operation.

Table 3.6 Water Use Authorized for Domestic and Industrial Purposes During Construction and Operation

Source	Volume (m^3/year)	Purpose
Nemo Lake	209,544	Domestic camp use, drilling dust suppression, Construction, and Operations and associated use or as otherwise approved by Board in writing
Mammoth Lake	2,500	Explosive mixing and associated use
Whale Tail Lake (North Basin) Lakes A-P38, A-46, A47, A49, A50, A51, A52, A53, A-P21, A-P10, A-P67 and A-P68	153,735	Dewatering
Source Proximal to drilling sites	109,135	Drillings
Source proximal to the Whale Tail Haul Road	109,135	Dust Suppression
Annual Subtotal	**584,049**	Above-described sources
Annual Contingency (20 %)	**116,810**	Above-described sources
Annual Total	**700,859**	

Freshwater is primarily 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-WTP1830. 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 is required 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 m^3 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 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 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, Lake D1 and Whale Tail Lake (South Basin). It is anticipated that approximately 75,000,000 m^3 over 16 years from Whale Tail Lake is required to fill the mined-out Whale Tail Pit (i.e., approximately 57,000,000 m^3), IVR Pit (i.e., approximately 11,000,000 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 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.

3.9 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]).

Previously, the sewage treatment plant at the Amaruq camp could accommodate 400 workers. With the addition of four wings to the Operations Camp for the project expansion, the total camp capacity was increased to 546 workers. An expansion of the sewage treatment systems was thus required. These systems are built with typical 40-foot containers.

No major change in operation or water quality happened as a result of this expansion. The upgraded sewage treatment system is designed based on a flow rate of 240 L per day per room for 546 people, for an average daily flow rate of 131 m^3/day (5.42 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 3.7 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). 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 3.7 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.

3.10 Water Management During Closure

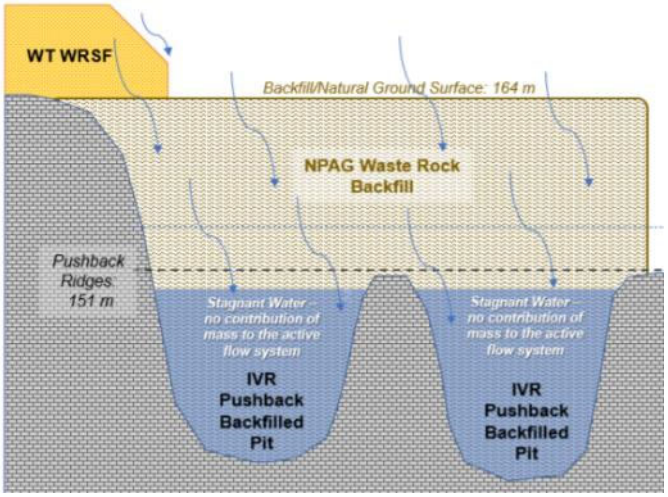
Mine closure is integral to the mine design and will be modified during operations. Planning for permanent closure is an active and iterative process. The intent of the process is to develop a final closure plan including specific water management components using adaptive management. This begins during 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, 2020).

Water management during closure and reclamation will involve actively filling the underground facilities, Whale Tail Pit, 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.

The pushback in the IVR pit will be filled with NPAG-NML waste rock and be naturally refilled by water inflows as described above. Figure 3.4 shows the conceptual approach to water flow in the upper portion of the pit which would eventually flow into Whale Tail Pit.

Figure 3.4 Conceptual Representation of Water Flow in IVR Pushback During 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 the 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 need to be passively directed to the Whale Tail Pit. 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 required 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 WRSFs 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 quality 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 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 3.8. Appendix B shows the water management flowsheets during mine closure phases.

Table 3.8 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 of 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 Ponds to the Whale Tail Pit • Start of site water quality monitoring of flooding open pit reservoirs
Year 9 to Year 23 (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 24 (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, including the pushbacks, 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 ongoing 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) • 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)

Mine Year	Key Water Management Activities and Sequence
	• 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

3.10.1 Flooding Sequence

The flooding sequence will be adapted to meet water quality closure objectives to allow for the reconnection of the lakes. The water balance and water quality forecast will be updated 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 75,000,000 m^3 over 16 years from Whale Tail Lake is required to fill the mined-out Whale Tail Pit (i.e., approximately 57,000,000 m^3), IVR Pit (i.e., approximately 11,000,000 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 approximately 2,900,000 m^3/year from Whale Tail Lake (South Basin). By pumping an additional 161,000 m^3/year (approximately 55 m^3/h during the non-winter months), the Whale Tail Lake (North Basin) can be filled by September 2042 (Golder, 2021).

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 water will then be diverted to the Whale Tail North Basin for filling. The elevation of the Mammoth sill will be 153.5 masl. The Diversion Channel inlet is at the elevation 155.3 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 2041. Flooding of the IVR West Pushback is expected in 2042 (151.0 masl).

3.10.2 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 Closure 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.

3.10.3 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.

SECTION 4 • WATER QUALITY FORECAST

Water quality forecast reports will be revisited on an annual basis until mine closure, as per the Water License part E item 6. 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.

For the 2022 water quality forecast SNC (SNC 2022) completed a water quality forecast for 2022 through the completion of operations and Golder (Golder 2022) completed a water quality forecast for closure through post-closure.

In the 2022 operations water quality forecast report (SNC 2022), SNC presents that based on the water samples collected in 2021 the treated water discharge to the lake consistently met the Water Licence discharge criteria. The following parameters measured in the untreated contact water collected in 2021 in the WT and IVR Attenuation Ponds were above the Water Licence discharge criteria: total suspended solids, total arsenic, total aluminum, total chromium and total iron. For the purpose of forecasting the concentrations in WT and IVR Attenuation Ponds and in WTS and Mammoth Lakes, the parameters of concern that are considered for the water quality forecast (WQF) model are the same constituents identified in the FEIS Assessment: dissolved phosphorus and dissolved arsenic. The forecasted values for dissolved phosphorus and dissolved arsenic are generally higher than the measured values in the Attenuation Ponds and the Lakes. The conservative WQF model also estimates concentrations that are generally similar than the predicted values presented for the FEIS Assessment. Based on the analysis of the water quality sampled at the Whale Tail site and the results from the WQF model, the following recommendations are proposed to help improve the modelling in the future: Continue the current monthly monitoring program of all inflows and outflows reporting to the WT and IVR Attenuation Ponds and at WTS and Mammoth Lakes, as well as the other source streams transferred to the Attenuation Ponds. This will help refine the model next year.

In the 2022 closure and post-closure water quality forecast report (Golder 2022), Golder presents that despite the additional mass loadings from the IVR Pushback backfill, all constituents of potential concern concentrations, including chloride, fluoride, nitrate, and selenium as identified by the 2018 FEIS, are predicted to decrease below their respective CEQG-PAL guidelines (and the site specific water quality objective for arsenic) prior to the completion of flooding and continue to decrease into post-closure. Total phosphorus concentrations decrease below the upper limit for the mesotrophic range and are anticipated to be within the oligotrophic range within short-term post-closure.

Golder also presented that concentrations of all water quality constituents in Whale Tail Lake (North Basin) are predicted to remain below receiving water quality objectives in post-closure. The projected water quality in Mammoth Lake is predicted to meet guidelines in post-closure for all constituents of

potential concern (including chloride, fluoride, nitrate, and total selenium, as identified in the 2018 FEIS), with the exception of arsenic and phosphorus. Arsenic exceeds the site-specific water quality objective for arsenic in the months of October through May, when ice formation on the lake creates a concentrating effect in the underlying water. This is predicted to occur three years in short-term post-closure, reaching a maximum predicted concentration of 0.027 mg/L under ice before dropping below guidelines again prior to 2050. Concentrations in summer months (June through September) are predicted to consistently meet the arsenic guideline in post-closure. Phosphorus exceeds the CEQG-PAL oligotrophic mesotrophic boundary of 0.01 mg/L for the first few years of closure but shows a decreasing trend that supports a quick recovery.

SECTION 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, 2021C) INCLUDES THE SPECIFIC ADAPTIVE MANAGEMENT STRATEGIES RELATED TO WATER MANAGEMENT. THREE INDICATORS RELATIVE TO WATER MANAGEMENT ARE TRACKED AS PART OF THE ADAPTIVE MANAGEMENT PLAN: WATER QUALITY FOR WHALE TAIL PROJECT WATERBODIES, WATER QUANTITY FOR SURFACE WATER MANAGEMENT, AND WATER QUANTITY FOR UNDERGROUND WATER MANAGEMENT.

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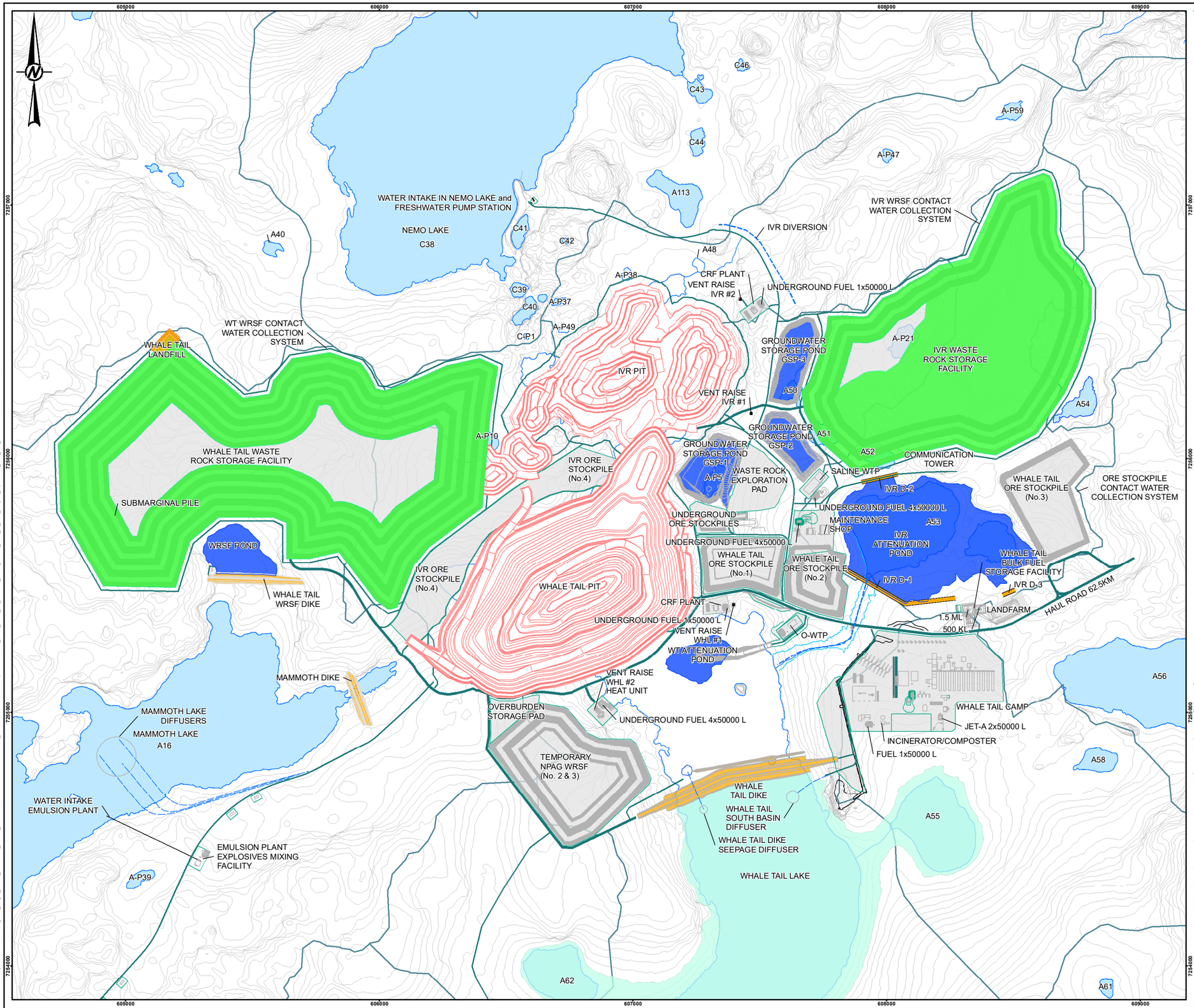
APPENDIX A • SITE LAYOUT PLANS



LEGEND

- CLOSED FACILITY
- WHALE TAIL WASTE ROCK STORAGE FACILITY
- WHALE TAIL LAKE (SOUTH BASIN) FLOODED LIMIT (WATER LEVEL 156.0m)
- NATURAL WATERSHED
- DIKE
- POND/SUMP
- ROAD
- WATERCOURSE
- WATERBODY

DRAFT

0 300 600

1:15,000 METRES

NOTE(S)

1. IVR PIT PUSHBACK BACKFILLED PRIOR TO WRSF CONSTRUCTION.

REFERENCE(S)

1. INFRASTRUCTURE OBTAINED FROM AGNICO EAGLE MINES LIMITED FROM AMQ_2025Q4V7.DWG
2. WATERCOURSE AND WATERBODY DATA OBTAINED FROM PHOTOSAT

DATUM: NAD 83 CSRS PROJECTION: UTM ZONE 14

CLIENT

AGNICO EAGLE MINES LIMITED: MEADOWBANK DIVISION

AGNICO EAGLE

PROJECT

WHALE TAIL PIT - EXPANSION PROJECT

TITLE

GENERAL ARRANGEMENT PLAN AT END OF PROJECT OPERATIONS

CONSULTANT

GOLDER
MEMBER OF WSP

YYYY-MM-DD	2021-06-09
DESIGNED	EP
PREPARED	CDB
REVIEWED	
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
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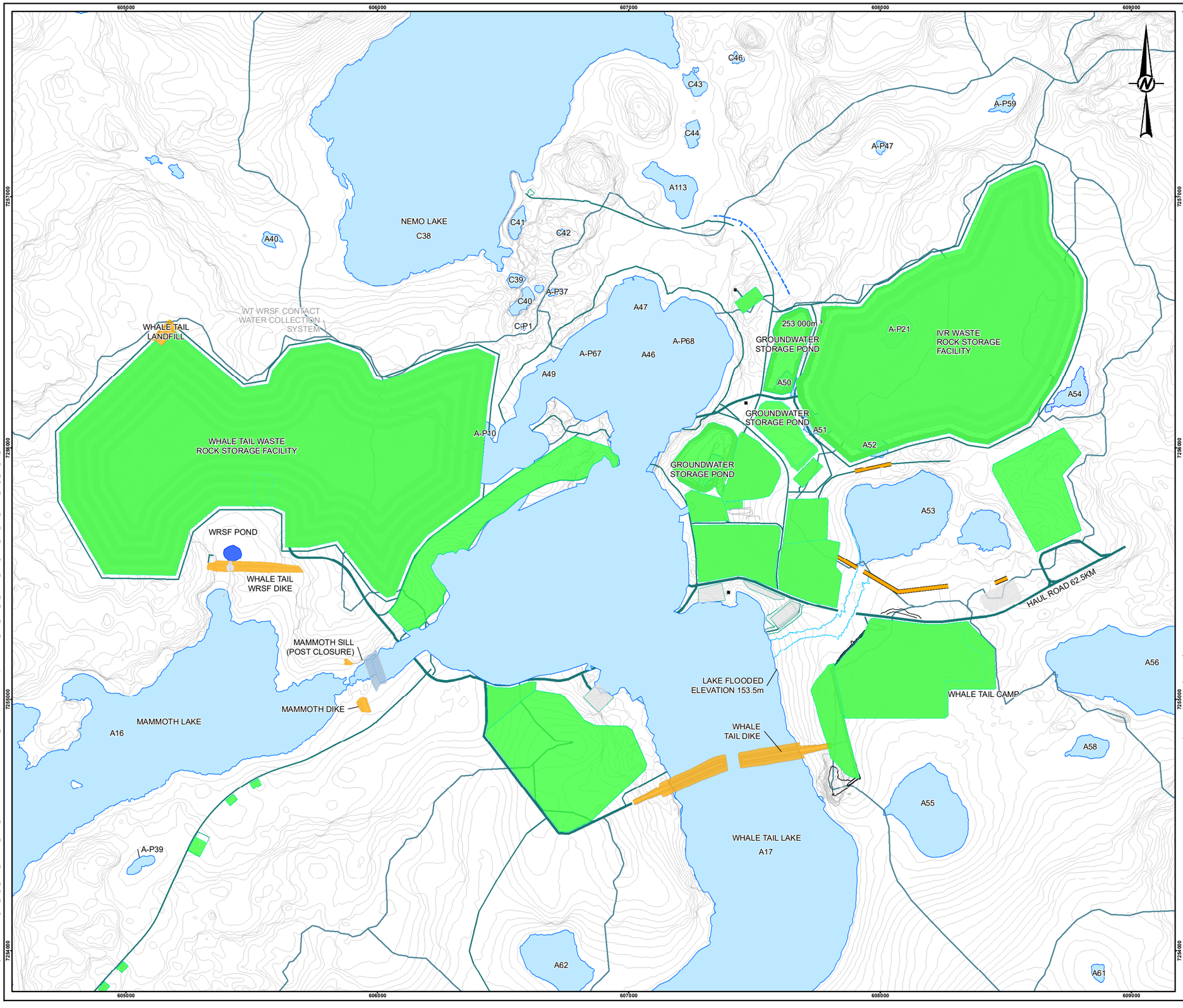


LEGEND

- CLOSED FACILITY
- WHALE TAIL LAKE (SOUTH BASIN) FLOODED LIMIT (WATER LEVEL 156.0m)
- NATURAL WATERSHED
- DIKE
- POND/SUMP
- ROAD
- WATERCOURSE

0 300 600

1:15,000 METRES

NOTE(S)

1. IVR PIT PUSHBACK BACKFILLED PRIOR TO WRSF CONSTRUCTION.

REFERENCE(S)

1. INFRASTRUCTURE OBTAINED FROM AGNICO EAGLE MINES LIMITED FROM AMQ_2029_AFTER MINEV7.DWG
2. WATERCOURSE AND WATERBODY DATA OBTAINED FROM PHOTOSAT

DATUM: NAD 83 CSRS PROJECTION: UTM ZONE 14

CLIENT

AGNICO EAGLE MINES LIMITED: MEADOWBANK DIVISION

PROJECT

WHALE TAIL PIT - EXPANSION PROJECT

TITLE

POST-CLOSURE GENERAL ARRANGEMENT PLAN

CONSULTANT

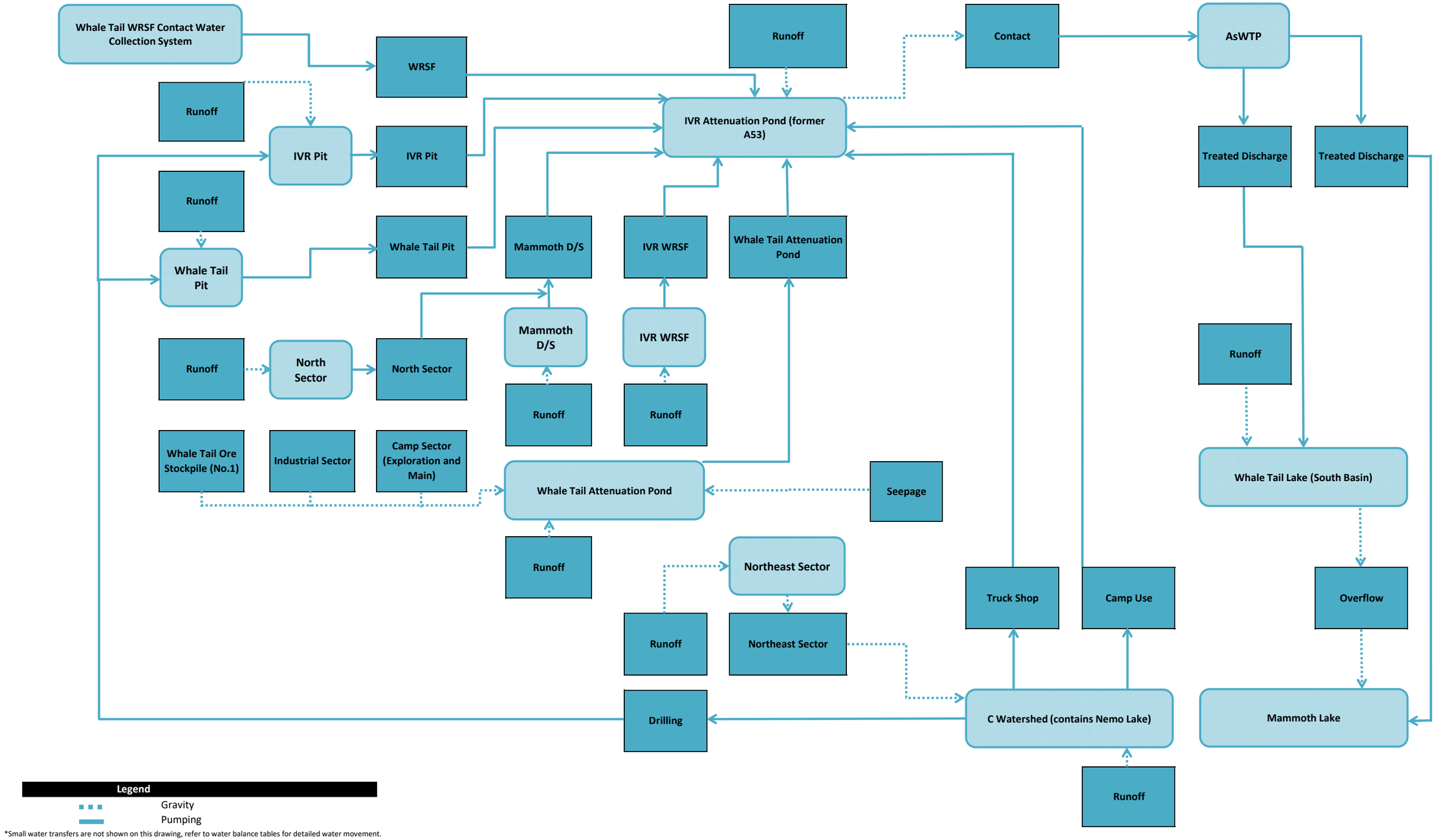
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2021-06-09
DESIGNED	EP
PREPARED	CDB
REVIEWED	
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
20136436	2000/2020	A	2

APPENDIX B • WATER MANAGEMENT SCHEMATIC FLOW SHEETS

General Water Movement - 2022 to 2025



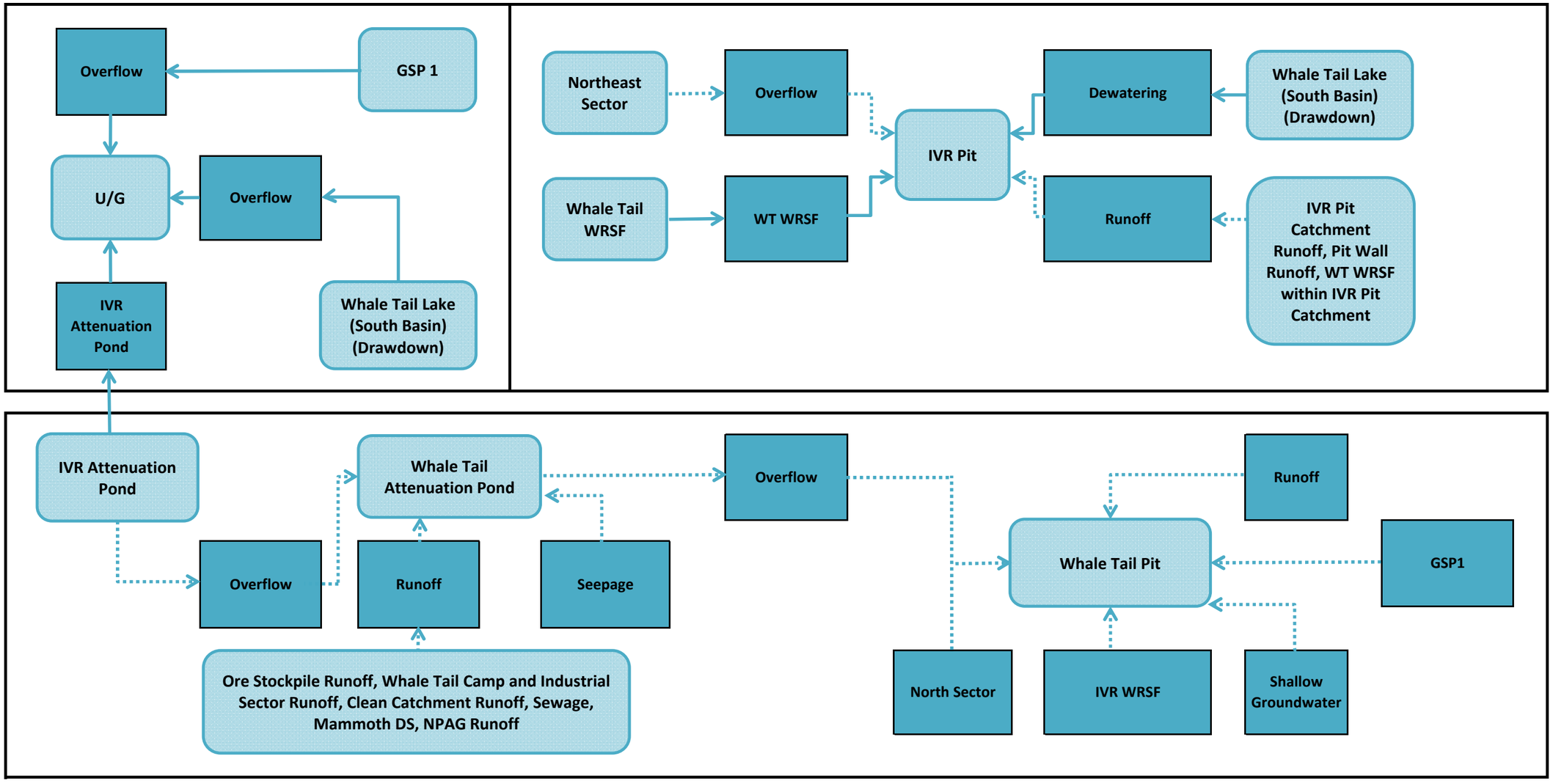
Legend

Gravity

Pumping

*Small water transfers are not shown on this drawing, refer to water balance tables for detailed water movement.

General Water Movement - Closure (Active Flooding): Underground Mine



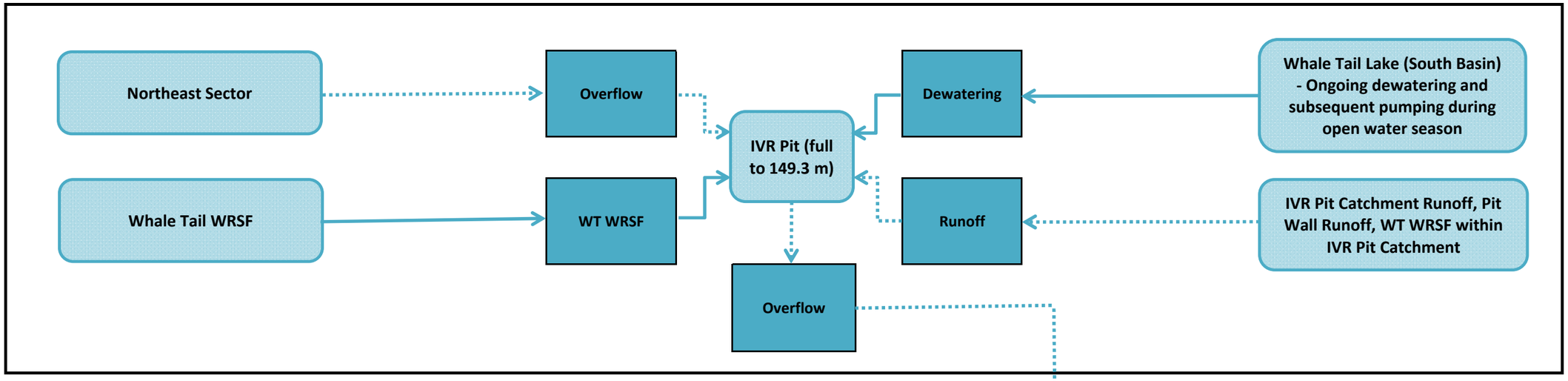
Legend

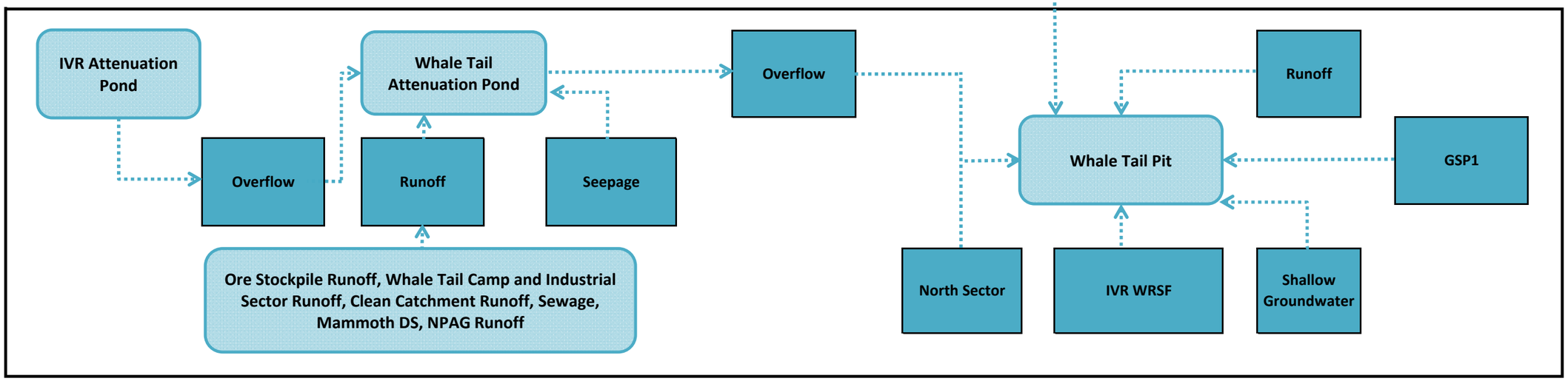
Gravity

Pumping

*Small water transfers are not shown on this drawing, refer to water balance tables for detailed water movement.

General Water Movement - Closure (Active Flooding): IVR and Whale Tail Pits





Legend

- Gravity
- Pumping

*Small water transfers are not shown on this drawing, refer to water balance tables for detailed water movement.

APPENDIX C • 2021 WHALE TAIL WATER BALANCE

	Month	Nbr days	Water Transfer - WTP Header					WT Attn. Pond											
			Total Water Volume (m3)	Enter 1 for the origin		Enter 1 for the destination		Inflows (m3)											
				IVR attn. pond	WT attn. pond	WTS	MM	Precip/Runoff	WT Pit	MM D/S	NW Sump	A47	Q1	Camp	Road 7 Runoff	AP5	WT WRSF Pond	IVR Pit	IVR Attn Pond
Q1	January-21	31	141,107	0	1	1.0	0.0	13855	62,721	0	0	0	0	2,639	0	0	0	0	0
	February-21	28	69,508	0	1	1.0	0.0	3563	43,703	0	0	0	0	2,334	0	0	0	0	0
	March-21	31	145,851	0	1	1.0	0.0	-61310	71,320	0	0	0	0	2,376	0	0	0	0	0
Q2	April-21	30	124,152	0	1	1.0	0.0	-33606	48,680	0	0	0	0	2,297	0	0	0	0	0
	May-21	31	117,645	0	1	1.0	0.0	21458	49,484	10,094	0	0	0	2,536	15,077	0	9,383	0	0
	June-21	30	582,195	1	0	0.4	0.6	-363559	126,825	27,127	0	0	0	2,418	28,117	0	0	0	0
Q3	July-21	31	304,654	1	0	0.0	1.0	-114806	121,399	0	0	0	0	2,836	0	0	0	0	0
	August-21	31	492,761	1	0	0.0	1.0	-157656	135,056	0	0	0	0	2,913	0	0	0	0	0
	September-21	30	287,460	1	0	0.0	1.0	14905	124,540	0	0	0	0	2,818	0	0	0	0	0
Q4	October-21	31	350,395	1	0	1.0	0.0	-55681	44,467	0	0	0	422	2,908	0	0	0	0	0
	November-21	30	73,015	1	0	1.0	0.0	21292	0	0	0	0	0	2,682	0	0	0	0	0
	December-21	31	0	1	0	1.0	0.0	518	0	0	0	0	0	2,732	0	0	0	0	0
2021 AVERAGES & TOTALS			**2,688,743**					**-724884**	**828,195**	**37,221**	**0**	**0**	**422**	**31,489**	**43,194**	**0**	**9,383**	**0**	**0**
Q1	January-22	31	96,068	1	0	1	0	-2575	0	0	0	0	0	2,022	0	0	0	0	0
	February-22	28	100,000	1	0	1	0	0	0	0	0	0	0	2,418	0	0	0	0	0
	March-22	31	150,000	1	0	1	0	0	0	0	0	0	0	2,418	0	0	0	0	0
Q2	April-22	30	150,000	1	0	1	0	7	0	0	0	0	0	2,418	0	0	0	0	0
	May-22	31	150,000	1	0	1	0	302	0	0	0	0	0	2,418	0	0	0	0	0
	June-22	30	576,000	1	0	0	1	261	0	0	0	0	10,000	2,418	0	0	0	0	0
Q3	July-22	31	350,000	1	0	0	1	49909	0	0	0	0	0	2,418	0	0	0	0	0
	August-22	31	300,000	1	0	0	1	5247	0	0	0	0	0	2,418	0	0	0	0	0
	September-22	30	200,000	1	0	0	1	8848	0	0	0	0	0	2,418	0	0	0	0	0
Q4	October-22	31	216,000	1	0	1	0	26216	0	0	0	0	0	2,418	0	0	0	0	0
	November-22	30	100,000	1	0	1	0	1199	0	0	0	0	0	2,418	0	0	0	0	0
	December-22	31	100,000	1	0	1	0	501	0	0	0	0	0	2,418	0	0	0	0	0
2022 AVERAGES & TOTALS			**2,488,068**					**92489**	**0**	**0**	**0**	**0**	**10,000**	**28,620**	**0**	**0**	**0**	**0**	**0**
Q1	January-23	31	100,000	1	0	1	0	69	0	0	0	0	0	2,418	0	0	0	0	0
	February-23	28	100,000	1	0	1	0	0	0	0	0	0	0	2,418	0	0	0	0	0
	March-23	31	150,000	1	0	1	0	0	0	0	0	0	0	2,418	0	0	0	0	0
Q2	April-23	30	150,000	1	0	1	0	7	0	0	0	0	0	2,418	0	0	0	0	0
	May-23	31	150,000	1	0	1	0	302	0	0	0	0	0	2,418	0	0	0	0	0
	June-23	30	576,000	1	0	0	1	261	0	0	0	0	10,000	2,418	0	0	0	0	0
Q3	July-23	31	350,000	1	0	0	1	49909	0	0	0	0	0	2,418	0	0	0	0	0
	August-23	31	300,000	1	0	0	1	5247	0	0	0	0	0	2,418	0	0	0	0	0
	September-23	30	200,000	1	0	0	1	8848	0	0	0	0	0	2,418	0	0	0	0	0
Q4	October-23	31	216,000	1	0	1	0	26216	0	0	0	0	0	2,418	0	0	0	0	0
	November-23	30	100,000	1	0	1	0	1199	0	0	0	0	0	2,418	0	0	0	0	0
	December-23	31	100,000	1	0	1	0	501	0	0	0	0	0	2,418	0	0	0	0	0
2023 AVERAGES & TOTALS			**2,492,000**					**92489**	**0**	**0**	**0**	**0**	**10,000**	**29,016**	**0**	**0**	**0**	**0**	**0**
	January-24	31	100,000	1	0	1	0	69	0	0	0	0	0	2,418	0	0	0	0	0

	Month	Nbr days	Water Transfer - WTP Header					WT Attn. Pond											
			Total Water Volume (m3)	Enter 1 for the origin		Enter 1 for the destination		Inflows (m3)											
				IVR attn. pond	WT attn. pond	WTS	MM	Precip/Runoff	WT Pit	MM D/S	NW Sump	A47	Q1	Camp	Road 7 Runoff	AP5	WT WRSF Pond	IVR Pit	IVR Attn Pond
Q1	February-24	29	100,000	1	0	1	0	0	0	0	0	0	0	2,418	0	0	0	0	0
	March-24	31	150,000	1	0	1	0	0	0	0	0	0	0	2,418	0	0	0	0	0
Q2	April-24	30	150,000	1	0	1	0	7	0	0	0	0	0	2,418	0	0	0	0	0
	May-24	31	150,000	1	0	1	0	302	0	0	0	0	0	2,418	0	0	0	0	0
	June-24	30	576,000	1	0	0	1	261	0	0	0	0	10,000	2,418	0	0	0	0	0
Q3	July-24	31	350,000	1	0	0	1	49909	0	0	0	0	0	2,418	0	0	0	0	0
	August-24	31	300,000	1	0	0	1	5247	0	0	0	0	0	2,418	0	0	0	0	0
	September-24	30	200,000	1	0	0	1	8848	0	0	0	0	0	2,418	0	0	0	0	0
Q4	October-24	31	216,000	1	0	1	0	26216	0	0	0	0	0	2,418	0	0	0	0	0
	November-24	30	100,000	1	0	1	0	1199	0	0	0	0	0	2,418	0	0	0	0	0
	December-24	31	100,000	1	0	1	0	501	0	0	0	0	0	2,418	0	0	0	0	0
2024 AVERAGES & TOTALS			**2,492,000**					**92489**	**0**	**0**	**0**	**0**	**10,000**	**29,016**	**0**	**0**	**0**	**0**	**0**
Q1	January-25	31	100,000	1	0	1	0	69	0	0	0	0	0	2,418	0	0	0	0	0
	February-25	28	100,000	1	0	1	0	0	0	0	0	0	0	2,418	0	0	0	0	0
	March-25	31	150,000	1	0	1	0	0	0	0	0	0	0	2,418	0	0	0	0	0
Q2	April-25	30	150,000	1	0	1	0	7	0	0	0	0	0	2,418	0	0	0	0	0
	May-25	31	150,000	1	0	1	0	302	0	0	0	0	0	2,418	0	0	0	0	0
	June-25	30	576,000	1	0	0	1	261	0	0	0	0	10,000	2,418	0	0	0	0	0
Q3	July-25	31	350,000	1	0	0	1	49909	0	0	0	0	0	2,418	0	0	0	0	0
	August-25	31	300,000	1	0	0	1	5247	0	0	0	0	0	2,418	0	0	0	0	0
	September-25	30	200,000	1	0	0	1	8848	0	0	0	0	0	2,418	0	0	0	0	0
Q4	October-25	31	216,000	1	0	1	0	26216	0	0	0	0	0	2,418	0	0	0	0	0
	November-25	30	100,000	1	0	1	0	1199	0	0	0	0	0	2,418	0	0	0	0	0
	December-25	31	100,000	1	0	1	0	501	0	0	0	0	0	2,418	0	0	0	0	0
2025 AVERAGES & TOTALS			**2,492,000**					**92489**	**0**	**0**	**0**	**0**	**10,000**	**29,016**	**0**	**0**	**0**	**0**	**0**
Q1	January-26	31	100,000	1	0	1	0	69	0	0	0	0	0	2,418	0	0	0	0	0
	February-26	28	100,000	1	0	1	0	0	0	0	0	0	0	2,418	0	0	0	0	0
	March-26	31	150,000	1	0	1	0	0	0	0	0	0	0	2,418	0	0	0	0	0
Q2	April-26	30	150,000	1	0	1	0	7	0	0	0	0	0	2,418	0	0	0	0	0
	May-26	31	150,000	1	0	1	0	302	0	0	0	0	0	2,418	0	0	0	0	0
	June-26	30	576,000	1	0	0	1	261	0	0	0	0	10,000	2,418	0	0	0	0	0
Q3	July-26	31	0	1	0	0	1	49909	0	0	0	0	0	2,418	0	0	0	0	0
	August-26	31	0	1	0	0	1	6472	0	0	0	0	0	2,418	0	0	0	0	0
	September-26	30	0	1	0	0	1	10915	0	0	0	0	0	2,418	0	0	0	0	0
Q4	October-26	31	0	1	0	1	0	32339	0	0	0	0	0	2,418	0	0	0	0	0
	November-26	30	0	1	0	1	0	1199	0	0	0	0	0	2,418	0	0	0	0	0
	December-26	31	0	1	0	1	0	501	0	0	0	0	0	2,418	0	0	0	0	0
2026 AVERAGES & TOTALS			**1,226,000**					**101905**	**0**	**0**	**0**	**0**	**10,000**	**29,016**	**0**	**0**	**0**	**0**	**0**
Q1	January-27	31	0	1	0	1	0	69	0	0	0	0	0	2,418	0	0	0	0	0
	February-27	28	0	1	0	1	0	0	0	0	0	0	0	2,418	0	0	0	0	0

	Month	Nbr days	Water Transfer - WTP Header					WT Attn. Pond											
			Total Water Volume (m3)	Enter 1 for the origin		Enter 1 for the destination		Inflows (m3)											
				IVR attn. pond	WT attn. pond	WTS	MM	Precip/Runoff	WT Pit	MM D/S	NW Sump	A47	Q1	Camp	Road 7 Runoff	AP5	WT WRSF Pond	IVR Pit	IVR Attn Pond
	March-27	31	0	1	0	1	0	0	0	0	0	0	0	2,418	0	0	0	0	0
Q2	April-27	30	0	1	0	1	0	7	0	0	0	0	0	2,418	0	0	0	0	0
	May-27	31	0	1	0	1	0	302	0	0	0	0	0	2,418	0	0	0	0	0
	June-27	30	0	1	0	0	1	261	0	0	0	0	0	2,418	0	0	0	0	0
Q3	July-27	31	0	1	0	0	1	62113	0	0	0	0	0	2,418	0	0	0	0	0
	August-27	31	0	1	0	0	1	6472	0	0	0	0	0	2,418	0	0	0	0	0
	September-27	30	0	1	0	0	1	10915	0	0	0	0	0	2,418	0	0	0	0	0
Q4	October-27	31	0	1	0	1	0	32339	0	0	0	0	0	2,418	0	0	0	0	0
	November-27	30	0	1	0	1	0	1199	0	0	0	0	0	2,418	0	0	0	0	0
	December-27	31	0	1	0	1	0	501	0	0	0	0	0	2,418	0	0	0	0	0
2027 AVERAGES & TOTALS			**0**					**114109**	**0**	**0**	**0**	**0**	**0**	**29,016**	**0**	**0**	**0**	**0**	**0**
Q1	January-28	31	0	1	0	1.0	0.0	69	0	0	0	0	0	2,418	0	0	0	0	0
	February-28	29	0	1	0	1.0	0.0	0	0	0	0	0	0	2,418	0	0	0	0	0
	March-28	31	0	1	0	1.0	0.0	0	0	0	0	0	0	2,418	0	0	0	0	0
Q2	April-28	30	0	1	0	1.0	0.0	7	0	0	0	0	0	2,418	0	0	0	0	0
	May-28	31	0	1	0	1.0	0.0	302	0	0	0	0	0	2,418	0	0	0	0	0
	June-28	30	0	1	0	1.0	0.0	261	0	0	0	0	0	2,418	0	0	0	0	0
Q3	July-28	31	0	1	0	1.0	0.0	62113	0	0	0	0	0	2,418	0	0	0	0	0
	August-28	31	0	1	0	1.0	0.0	6472	0	0	0	0	0	2,418	0	0	0	0	0
	September-28	30	0	1	0	1.0	0.0	10915	0	0	0	0	0	2,418	0	0	0	0	0
Q4	October-28	31	0	1	0	1.0	0.0	32339	0	0	0	0	0	2,418	0	0	0	0	0
	November-28	30	0	1	0	1.0	0.0	1199	0	0	0	0	0	2,418	0	0	0	0	0
	December-28	31	0	1	0	1.0	0.0	501	0	0	0	0	0	2,418	0	0	0	0	0
2028 AVERAGES & TOTALS			**0**					**114109**	**0**	**0**	**0**	**0**	**0**	**29,016**	**0**	**0**	**0**	**0**	**0**

	Month	Nbr days			Outflows (m3)			Theoretical (Flows)	IVR Attn. Pond											
									Inflows (m3)								Outflows (m3)			Theoretical (Flows)
			WTS Seepage	A49	WTS (via WTP)	MM (via WTP)	IVR Attn. Pond	Total Pond Volume (Ice + Water) (m^3)	Precip / Runoff (m3)	WT Attn. Pond	IVR Pit (South)	WT Pit	A47 / A49	IVR WRSF	WT WRSF	NWS	WTS (via WTP)	MM (via WTP)	Dewatering	Total Pond Volume (Ice + Water) (m^3)
Q1	January-21	31	90,000	0	141,107	0	0	85,344	114	0	0	0	0	0	0	0	0	0	0	427,450
	February-21	28	90,000	0	69,508	0	0	155,436	0	0	0	0	0	0	0	0	0	0	0	427,450
	March-21	31	90,000	0	145,851	0	0	111,971	0	0	0	0	0	0	0	0	0	0	0	427,450
Q2	April-21	30	90,000	0	124,152	0	0	95,189	0	0	0	0	0	0	0	0	0	0	0	427,450
	May-21	31	90,000	0	117,645	0	14,254	161,322	42,844	14,254	0	5,108	21,627	0	0	0	0	0	0	511,283
	June-21	30	90,000	0	0	0	37,868	34,382	362,333	37,868	0	24,271	46,179	17,001	21,730	0	232,878	349,317	0	438,471
Q3	July-21	31	90,000	0	0	0	120,530	13,280	157,725	120,530	18,034	910	15,085	5,525	16,771	17,753	0	304,654	0	486,149
	August-21	31	90,000	0	0	0	52,150	31,444	345,863	52,150	17,033	12,779	24,721	0	0	16,248	0	492,761	0	462,182
	September-21	30	90,000	0	0	0	240,325	23,381	29,326	240,325	14,093	0	14,569	1,028	6,223	10,520	0	287,460	0	490,806
Q4	October-21	31	90,000	0	0	0	78,280	27,217	152,510	78,280	9,778	0	29,568	0	2,525	967	350,395	0	0	414,039
	November-21	30	90,000	0	0	0	88,622	52,569	-74,763	88,622	0	0	75,828	0	0	0	73,015	0	0	430,711
	December-21	31	89,896	0	0	0	0	145,715	-48,161	0	0	0	48,161	0	0	0	0	0	0	430,711
2021 AVERAGES & TOTALS			**1,079,896**	**0**	**598,263**	**0**	**632,029**		**967,791**	**632,029**	**58,938**	**43,068**	**275,738**	**23,554**	**47,249**	**45,488**	**656,288**	**1,434,192**	**0**	
Q1	January-22	31	84,832	0	0	0	111,509	118,486	-106,653	111,509	0	0	86,250	0	0	0	96,068	0	0	425,749
	February-22	28	85,560	0	0	0	100,000	106,464	0	100,000	0	0	43,703	0	0	0	100,000	0	0	469,452
	March-22	31	77,280	0	0	0	100,000	86,162	0	100,000	0	0	71,320	0	0	0	150,000	0	0	490,773
Q2	April-22	30	85,560	0	0	0	80,000	94,146	11	80,000	0	0	48,680	0	0	0	150,000	0	0	469,463
	May-22	31	82,800	0	0	0	80,000	99,667	477	80,000	0	0	54,592	0	0	0	150,000	0	0	454,532
	June-22	30	85,560	0	0	0	200,000	-2,094	412	200,000	49,849	0	139,292	19,879	60,000	15,135	0	576,000	0	363,099
Q3	July-22	31	82,800	0	0	0	120,000	13,032	32,467	120,000	5,095	0	100,189	1,996	25,000	1,520	0	350,000	0	299,366
	August-22	31	85,560	0	0	0	100,000	6,257	3,631	100,000	9,434	0	103,952	3,367	15,000	2,563	0	300,000	0	237,313
	September-22	30	85,560	0	0	0	100,000	3,084	6,123	100,000	25,008	0	118,492	9,975	15,000	7,594	0	200,000	0	319,505
Q4	October-22	31	82,800	0	0	0	60,000	54,517	18,141	60,000	0	0	54,546	0	0	0	216,000	0	0	236,192
	November-22	30	85,560	0	0	0	60,000	83,694	1,891	60,000	0	0	60,286	0	0	0	100,000	0	0	258,369
	December-22	31	82,800	0	0	0	60,000	109,413	789	60,000	0	0	53,053	0	0	0	100,000	0	0	272,211
2022 AVERAGES & TOTALS			**1,006,672**	**0**	**0**	**0**	**1,171,509**		**-42,712**	**1,171,509**	**89,386**	**0**	**934,355**	**35,217**	**115,000**	**26,812**	**1,062,068**	**1,426,000**	**0**	
Q1	January-23	31	85,560	0	0	0	100,000	97,459	108	100,000	0	0	62,721	0	0	0	100,000	0	0	335,040
	February-23	28	77,280	0	0	0	100,000	77,157	0	100,000	0	0	43,703	0	0	0	100,000	0	0	378,743
	March-23	31	85,560	0	0	0	100,000	65,135	0	100,000	0	0	71,320	0	0	0	150,000	0	0	400,063
Q2	April-23	30	82,800	0	0	0	80,000	70,360	11	80,000	0	0	48,680	0	0	0	150,000	0	0	378,754
	May-23	31	85,560	0	0	0	80,000	78,640	477	80,000	0	0	54,592	0	0	0	150,000	0	0	363,822
	June-23	30	82,800	0	0	0	250,000	-75,881	412	250,000	49,849	0	139,292	19,879	60,000	15,135	0	576,000	0	322,390
Q3	July-23	31	85,560	0	0	0	120,000	-57,994	32,467	120,000	5,095	0	100,189	1,996	25,000	1,520	0	350,000	0	258,657
	August-23	31	85,560	0	0	0	100,000	-64,769	3,631	100,000	9,434	0	103,952	3,367	15,000	2,563	0	300,000	0	196,604
	September-23	30	82,800	0	0	0	100,000	-70,702	6,123	100,000	25,008	0	118,492	9,975	15,000	7,594	0	200,000	0	278,796
Q4	October-23	31	85,560	0	0	0	60,000	-16,509	18,141	60,000	0	0	54,546	0	0	0	216,000	0	0	195,483
	November-23	30	82,800	0	0	0	60,000	9,908	1,891	60,000	0	0	60,286	0	0	0	100,000	0	0	217,659
	December-23	31	85,560	0	0	0	60,000	38,387	789	60,000	0	0	53,053	0	0	0	100,000	0	0	231,501
2023 AVERAGES & TOTALS			**1,007,400**	**0**	**0**	**0**	**1,210,000**		**64,049**	**1,210,000**	**89,386**	**0**	**910,826**	**35,217**	**115,000**	**26,812**	**1,066,000**	**1,426,000**	**0**	
	January-24	31	85,560	0	0	0	100,000	26,433	108	100,000	0	0	62,721	0	0	0	100,000	0	0	294,331

	Month	Nbr days							IVR Attn. Pond												
					Outflows (m3)			Theoretical (Flows)	Inflows (m3)								Outflows (m3)			Theoretical (Flows)	
			WTS Seepage	A49	WTS (via WTP)	MM (via WTP)	IVR Attn. Pond	Total Pond Volume (Ice + Water) (m^3)	Precip / Runoff (m3)	WT Attn. Pond	IVR Pit (South)	WT Pit	A47 / A49	IVR WRSF	WT WRSF	NWS	WTS (via WTP)	MM (via WTP)	Dewatering	Total Pond Volume (Ice + Water) (m^3)
Q1	February-24	29	80,040	0	0	0	100,000	8,891	0	100,000	0	0	43,703	0	0	0	100,000	0	0	338,034	
	March-24	31	85,560	0	0	0	100,000	-3,131	0	100,000	0	0	71,320	0	0	0	150,000	0	0	359,354	
Q2	April-24	30	82,800	0	0	0	80,000	2,094	11	80,000	0	0	48,680	0	0	0	150,000	0	0	338,045	
	May-24	31	85,560	0	0	0	80,000	10,374	477	80,000	0	0	54,592	0	0	0	150,000	0	0	323,113	
	June-24	30	82,800	0	0	0	250,000	-144,147	412	250,000	49,849	0	139,292	19,879	60,000	15,135	0	576,000	0	281,680	
Q3	July-24	31	85,560	0	0	0	120,000	-126,260	32,467	120,000	5,095	0	100,189	1,996	25,000	1,520	0	350,000	0	217,948	
	August-24	31	85,560	0	0	0	100,000	-133,035	3,631	100,000	9,434	0	103,952	3,367	15,000	2,563	0	300,000	0	155,895	
	September-24	30	82,800	0	0	0	100,000	-138,969	6,123	100,000	25,008	0	118,492	9,975	15,000	7,594	0	200,000	0	238,087	
Q4	October-24	31	85,560	0	0	0	60,000	-84,775	18,141	60,000	0	0	54,546	0	0	0	216,000	0	0	154,773	
	November-24	30	82,800	0	0	0	60,000	-58,358	1,891	60,000	0	0	60,286	0	0	0	100,000	0	0	176,950	
	December-24	31	85,560	0	0	0	60,000	-29,880	789	60,000	0	0	53,053	0	0	0	100,000	0	0	190,792	
2024 AVERAGES & TOTALS			**1,010,160**	**0**	**0**	**0**	**1,210,000**		**64,049**	**1,210,000**	**89,386**	**0**	**910,826**	**35,217**	**115,000**	**26,812**	**1,066,000**	**1,426,000**	**0**		
Q1	January-25	31	85,560	0	0	0	100,000	-41,833	108	100,000	0	0	62,721	0	0	0	100,000	0	0	253,621	
	February-25	28	77,280	0	0	0	100,000	-62,135	0	100,000	0	0	43,703	0	0	0	100,000	0	0	297,325	
	March-25	31	85,560	0	0	0	100,000	-74,157	0	100,000	0	0	71,320	0	0	0	150,000	0	0	318,645	
Q2	April-25	30	82,800	0	0	0	80,000	-68,932	11	80,000	0	0	48,680	0	0	0	150,000	0	0	297,335	
	May-25	31	85,560	0	0	0	80,000	-60,652	477	80,000	0	0	54,592	0	0	0	150,000	0	0	282,404	
	June-25	30	82,800	0	0	0	250,000	-215,173	412	250,000	49,849	0	139,292	19,879	60,000	15,135	0	576,000	0	240,971	
Q3	July-25	31	85,560	0	0	0	120,000	-197,286	32,467	120,000	5,095	0	100,189	1,996	25,000	1,520	0	350,000	0	177,239	
	August-25	31	85,560	0	0	0	100,000	-204,061	3,631	100,000	9,434	0	103,952	3,367	15,000	2,563	0	300,000	0	115,186	
	September-25	30	82,800	0	0	0	100,000	-209,995	6,123	100,000	25,008	0	118,492	9,975	15,000	7,594	0	200,000	0	197,378	
Q4	October-25	31	85,560	0	0	0	60,000	-155,801	18,141	60,000	0	0	54,546	0	0	0	216,000	0	0	114,064	
	November-25	30	82,800	0	0	0	60,000	-129,384	1,891	60,000	0	0	60,286	0	0	0	100,000	0	0	136,241	
	December-25	31	85,560	0	0	0	60,000	-100,906	789	60,000	0	0	53,053	0	0	0	100,000	0	0	150,083	
2025 AVERAGES & TOTALS			**1,007,400**	**0**	**0**	**0**	**1,210,000**		**64,049**	**1,210,000**	**89,386**	**0**	**910,826**	**35,217**	**115,000**	**26,812**	**1,066,000**	**1,426,000**	**0**		
Q1	January-26	31	85,560	0	0	0	100,000	-112,859	108	100,000	0	0	62,721	0	0	0	100,000	0	0	212,912	
	February-26	28	77,280	0	0	0	100,000	-133,161	0	100,000	0	0	43,703	0	0	0	100,000	0	0	256,615	
	March-26	31	85,560	0	0	0	100,000	-145,183	0	100,000	0	0	71,320	0	0	0	150,000	0	0	277,936	
Q2	April-26	30	82,800	0	0	0	80,000	-139,958	11	80,000	0	0	48,680	0	0	0	150,000	0	0	256,626	
	May-26	31	85,560	0	0	0	80,000	-131,678	477	80,000	0	0	54,592	0	0	0	150,000	0	0	241,695	
	June-26	30	82,800	0	0	0	250,000	-286,199	412	250,000	49,849	0	139,292	19,879	60,000	15,135	0	576,000	0	200,262	
Q3	July-26	31	85,560	0	0	0	0	-148,312	32,467	0	0	0	0	0	0	0	0	0	0	232,729	
	August-26	31	85,560	0	0	0	0	-53,862	3,631	0	0	0	0	0	0	0	0	0	0	236,360	
	September-26	30	82,800	0	0	0	0	42,272	6,123	0	0	0	0	0	0	0	0	0	0	242,483	
Q4	October-26	31	85,560	0	0	0	0	162,589	18,141	0	0	0	0	0	0	0	0	0	0	260,624	
	November-26	30	82,800	0	0	0	0	249,005	1,891	0	0	0	0	0	0	0	0	0	0	262,515	
	December-26	31	85,560	0	0	0	0	337,484	789	0	0	0	0	0	0	0	0	0	0	263,304	
2026 AVERAGES & TOTALS			**1,007,400**	**0**	**0**	**0**	**710,000**		**64,049**	**710,000**	**49,849**	**0**	**420,308**	**19,879**	**60,000**	**15,135**	**650,000**	**576,000**	**0**		
Q1	January-27	31	85,560	0	0	0	0	425,531	108	0	0	0	0	0	0	0	0	0	0	263,413	
	February-27	28	77,280	0	0	0	0	505,229	0	0	0	0	0	0	0	0	0	0	0	263,413	

	Month	Nbr days							IVR Attn. Pond												
					Outflows (m3)			Theoretical (Flows)	Inflows (m3)								Outflows (m3)			Theoretical (Flows)	
			WTS Seepage	A49	WTS (via WTP)	MM (via WTP)	IVR Attn. Pond	Total Pond Volume (Ice + Water) (m^3)	Precip / Runoff (m3)	WT Attn. Pond	IVR Pit (South)	WT Pit	A47 / A49	IVR WRSF	WT WRSF	NWS	WTS (via WTP)	MM (via WTP)	Dewatering	Total Pond Volume (Ice + Water) (m^3)
	March-27	31	85,560	0	0	0	0	593,207	0	0	0	0	0	0	0	0	0	0	0	263,413
Q2	April-27	30	82,800	0	0	0	0	678,431	11	0	0	0	0	0	0	0	0	0	0	263,423
	May-27	31	85,560	0	0	0	0	766,712	477	0	0	0	0	0	0	0	0	0	0	263,900
	June-27	30	82,800	0	0	0	0	852,191	412	0	0	0	0	0	0	0	0	0	0	264,311
Q3	July-27	31	85,560	0	0	0	0	1,002,282	32,467	0	0	0	0	0	0	0	0	0	0	296,779
	August-27	31	85,560	0	0	0	0	1,096,732	3,631	0	0	0	0	0	0	0	0	0	0	300,410
	September-27	30	82,800	0	0	0	0	1,192,865	6,123	0	0	0	0	0	0	0	0	0	0	306,533
Q4	October-27	31	85,560	0	0	0	0	1,313,182	18,141	0	0	0	0	0	0	0	0	0	0	324,674
	November-27	30	82,800	0	0	0	0	1,399,599	1,891	0	0	0	0	0	0	0	0	0	0	326,564
	December-27	31	85,560	0	0	0	0	1,488,078	789	0	0	0	0	0	0	0	0	0	0	327,354
2027 AVERAGES & TOTALS			**1,007,400**	**0**	**0**	**0**	**0**		**64,049**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
Q1	January-28	31	108,000	0	0	0	0	1,598,564	108	0	0	0	0	0	0	0	0	0	0	327,462
	February-28	29	108,000	0	0	0	0	1,708,982	0	0	0	0	0	0	0	0	0	0	0	327,462
	March-28	31	108,000	0	0	0	0	1,819,400	0	0	0	0	0	0	0	0	0	0	0	327,462
Q2	April-28	30	108,000	0	0	0	0	1,929,825	11	0	0	0	0	0	0	0	0	0	0	327,473
	May-28	31	108,000	0	0	0	0	2,040,545	477	0	0	0	0	0	0	0	0	0	0	327,949
	June-28	30	108,000	0	0	0	0	2,151,224	412	0	0	0	0	0	0	0	0	0	0	328,361
Q3	July-28	31	108,000	0	0	0	0	2,323,755	32,467	0	0	0	0	0	0	0	0	0	0	360,828
	August-28	31	108,000	0	0	0	0	2,440,646	3,631	0	0	0	0	0	0	0	0	0	0	364,459
	September-28	30	108,000	0	0	0	0	2,561,979	6,123	0	0	0	0	0	0	0	0	0	0	370,582
Q4	October-28	31	108,000	0	0	0	0	2,704,736	18,141	0	0	0	0	0	0	0	0	0	0	388,723
	November-28	30	108,000	0	0	0	0	2,816,353	1,891	0	0	0	0	0	0	0	0	0	0	390,614
	December-28	31	108,000	0	0	0	0	2,927,271	789	0	0	0	0	0	0	0	0	0	0	391,403
2028 AVERAGES & TOTALS			**1,296,000**	**0**	**0**	**0**	**0**		**64,049**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

	Month	Nbr days	WT WRSF Pond					Mammoth Lake					WTS			
			Inflows (m3)		Outflows (m3)		Theoretical (Flows)	Inflows (m3)				Theoretical (Flows)	Inflows (m3)			Outflo
			Precip / Runoff (m3)	WRSF	WT Attn. Pond	IVR Attn. Pond	Total Pond Volume (Ice + Water) (m^3)	Runoff + direct precip (m3)	WTP (East + West Diffusors)	WTS	SWTCH	Total Lake Volume (Ice+Water) (m3)	Precip / Runoff (m3)	WTD Seepage	WTP (Temp + Perm Diffusors)	SWTCH
Q1	January-21	31	0	0	0	0	3,390	0	0	0	0	5,360,321	-174,355	0	141,107	0
	February-21	28	0	0	0	0	3,390	13,167	0	0	0	5,373,488	-268,994	0	69,508	0
	March-21	31	0	0	0	0	3,390	13,167	0	0	0	5,386,655	-112,603	0	145,851	0
Q2	April-21	30	0	0	0	0	3,390	66,106	0	0	0	5,452,762	-24,409	0	124,152	0
	May-21	31	24,400	0	9,383	0	18,407	-26,605	0	0	0	5,426,156	150,697	0	117,645	0
	June-21	30	-32	15,046	0	21,730	11,692	-679,411	342,477	0	747,028	5,836,250	-186,499	0	239,718	747,028
Q3	July-21	31	-528	7,636	0	16,771	2,029	-830,161	304,654	0	317,682	5,628,425	1,181,664	0	0	317,682
	August-21	31	-5,060	8,069	0	0	5,037	-628,394	492,761	0	360,300	5,853,093	360,300	0	0	360,300
	September-21	30	9,559	1,946	0	6,223	10,319	-818,435	287,460	0	251,587	5,573,704	115,449	0	0	251,587
Q4	October-21	31	-4,715	0	0	2,525	3,079	-312,478	0	0	218,411	5,479,638	-166,019	0	350,395	218,411
	November-21	30	311	0	0	0	3,390	-165,379	0	0	46,062	5,360,321	-428,286	0	73,015	46,062
	December-21	31	0	0	0	0	3,390	13,167	0	0	0	5,373,488	-388,775	0	0	0
2021 AVERAGES & TOTALS			**23,935**	**32,697**	**9,383**	**47,249**		**-3355255**	**1427352**	**0**	**1941070**		**58170**	**0**	**1261391**	**1941070**
Q1	January-22	31	0	0	0	0	3,390	0	0			5,373,488	-316,509	0	96,068	0
	February-22	28	0	0	0	0	3,390	-34,234	0			5,339,254	808,446	0	100,000	0
	March-22	31	0	0	0	0	3,390	0	0			5,339,254	-150,000	0	150,000	0
Q2	April-22	30	0	0	0	0	3,390	0	0			5,339,254	-150,000	0	150,000	0
	May-22	31	0	0	0	0	3,390	0	0			5,339,254	-150,000	0	150,000	0
	June-22	30	50,000	10,000	0	60,000	3,390	-288,000	288,000			5,339,254	-288,000	0	288,000	0
Q3	July-22	31	16,000	9,000	0	25,000	3,390	-350,000	350,000			5,339,254	0	0	0	0
	August-22	31	11,000	4,000	0	15,000	3,390	-300,000	300,000			5,339,254	0	0	0	0
	September-22	30	11,500	3,500	0	15,000	3,390	-200,000	200,000			5,339,254	0	0	0	0
Q4	October-22	31	0	0	0	0	3,390	-108,000	108,000			5,339,254	-108,000	0	108,000	0
	November-22	30	0	0	0	0	3,390	0	0			5,339,254	-100,000	0	100,000	0
	December-22	31	0	0	0	0	3,390	0	0			5,339,254	-100,000	0	100,000	0
2022 AVERAGES & TOTALS			**88,500**	**26,500**	**0**	**115,000**		**-1280234**	**1246000**	**0**	**0**		**-554064**	**0**	**1242068**	**0**
Q1	January-23	31	24	0	0	0	3,414	0	0			5,339,254	-100,000	0	100,000	0
	February-23	28	0	0	0	0	3,414	0	0			5,339,254	-100,000	0	100,000	0
	March-23	31	0	0	0	0	3,414	0	0			5,339,254	-150,000	0	150,000	0
Q2	April-23	30	2	0	0	0	3,416	0	0			5,339,254	-150,000	0	150,000	0
	May-23	31	104	0	0	0	3,521	0	0			5,339,254	-150,000	0	150,000	0
	June-23	30	90	10,000	0	60,000	-46,389	-288,000	288,000			5,339,254	-288,000	0	288,000	0
Q3	July-23	31	25,869	9,000	0	25,000	-36,520	-350,000	350,000			5,339,254	0	0	0	0
	August-23	31	2,679	4,000	0	15,000	-44,841	-300,000	300,000			5,339,254	0	0	0	0
	September-23	30	4,518	3,500	0	15,000	-51,823	-200,000	200,000			5,339,254	0	0	0	0
Q4	October-23	31	13,385	0	0	0	-38,438	-108,000	108,000			5,339,254	-108,000	0	108,000	0
	November-23	30	414	0	0	0	-38,024	0	0			5,339,254	-100,000	0	100,000	0
	December-23	31	173	0	0	0	-37,851	0	0			5,339,254	-100,000	0	100,000	0
2023 AVERAGES & TOTALS			**47,259**	**26,500**	**0**	**115,000**		**-1246000**	**1246000**	**0**	**0**		**-1246000**	**0**	**1246000**	**0**
	January-24	31	24	0	0	0	-37,828	0	0			5,339,254	-100,000	0	100,000	0

	Month	Nbr days	WT WRSF Pond					Mammoth Lake					WTS			
			Inflows (m3)		Outflows (m3)		Theoretical (Flows)	Inflows (m3)				Theoretical (Flows)	Inflows (m3)			Outflo
			Precip / Runoff (m3)	WRSF	WT Attn. Pond	IVR Attn. Pond	Total Pond Volume (Ice + Water) (m^3)	Runoff + direct precip (m3)	WTP (East + West Diffusors)	WTS	SWTCH	Total Lake Volume (Ice+Water) (m3)	Precip / Runoff (m3)	WTD Seepage	WTP (Temp + Perm Diffusors)	SWTCH
Q1	February-24	29	0	0	0	0	-37,828	0	0			5,339,254	-100,000	0	100,000	0
	March-24	31	0	0	0	0	-37,828	0	0			5,339,254	-150,000	0	150,000	0
Q2	April-24	30	2	0	0	0	-37,825	0	0			5,339,254	-150,000	0	150,000	0
	May-24	31	104	0	0	0	-37,721	0	0			5,339,254	-150,000	0	150,000	0
	June-24	30	90	10,000	0	60,000	-87,631	-288,000	288,000			5,339,254	-288,000	0	288,000	0
Q3	July-24	31	25,869	9,000	0	25,000	-77,762	-350,000	350,000			5,339,254	0	0	0	0
	August-24	31	2,679	4,000	0	15,000	-86,083	-300,000	300,000			5,339,254	0	0	0	0
	September-24	30	4,518	3,500	0	15,000	-93,065	-200,000	200,000			5,339,254	0	0	0	0
Q4	October-24	31	13,385	0	0	0	-79,680	-108,000	108,000			5,339,254	-108,000	0	108,000	0
	November-24	30	414	0	0	0	-79,266	0	0			5,339,254	-100,000	0	100,000	0
	December-24	31	173	0	0	0	-79,093	0	0			5,339,254	-100,000	0	100,000	0
2024 AVERAGES & TOTALS			**47,259**	**26,500**	**0**	**115,000**		**-1246000**	**1246000**	**0**	**0**		**-1246000**	**0**	**1246000**	**0**
Q1	January-25	31	24	0	0	0	-79,069	0	0			5,339,254	-100,000	0	100,000	0
	February-25	28	0	0	0	0	-79,069	0	0			5,339,254	-100,000	0	100,000	0
	March-25	31	0	0	0	0	-79,069	0	0			5,339,254	-150,000	0	150,000	0
Q2	April-25	30	2	0	0	0	-79,067	0	0			5,339,254	-150,000	0	150,000	0
	May-25	31	104	0	0	0	-78,962	0	0			5,339,254	-150,000	0	150,000	0
	June-25	30	90	10,000	0	60,000	-128,872	-288,000	288,000			5,339,254	-288,000	0	288,000	0
Q3	July-25	31	25,869	9,000	0	25,000	-119,003	-350,000	350,000			5,339,254	0	0	0	0
	August-25	31	2,679	4,000	0	15,000	-127,324	-300,000	300,000			5,339,254	0	0	0	0
	September-25	30	4,518	3,500	0	15,000	-134,306	-200,000	200,000			5,339,254	0	0	0	0
Q4	October-25	31	13,385	0	0	0	-120,921	-108,000	108,000			5,339,254	-108,000	0	108,000	0
	November-25	30	414	0	0	0	-120,507	0	0			5,339,254	-100,000	0	100,000	0
	December-25	31	173	0	0	0	-120,334	0	0			5,339,254	-100,000	0	100,000	0
2025 AVERAGES & TOTALS			**47,259**	**26,500**	**0**	**115,000**		**-1246000**	**1246000**	**0**	**0**		**-1246000**	**0**	**1246000**	**0**
Q1	January-26	31	24	0	0	0	-120,310	0	0			5,339,254	-100,000	0	100,000	0
	February-26	28	0	0	0	0	-120,310	0	0			5,339,254	-100,000	0	100,000	0
	March-26	31	0	0	0	0	-120,310	0	0			5,339,254	-150,000	0	150,000	0
Q2	April-26	30	2	0	0	0	-120,308	0	0			5,339,254	-150,000	0	150,000	0
	May-26	31	104	0	0	0	-120,204	0	0			5,339,254	-150,000	0	150,000	0
	June-26	30	90	10,000	0	60,000	-170,114	-288,000	288,000			5,339,254	-288,000	0	288,000	0
Q3	July-26	31	25,869	0	0	0	-144,245	0	0			5,339,254	0	0	0	0
	August-26	31	2,679	0	0	0	-141,566	0	0			5,339,254	0	0	0	0
	September-26	30	4,518	0	0	0	-137,048	0	0			5,339,254	0	0	0	0
Q4	October-26	31	13,385	0	0	0	-123,663	0	0			5,339,254	0	0	0	0
	November-26	30	414	0	0	0	-123,248	0	0			5,339,254	0	0	0	0
	December-26	31	173	0	0	0	-123,076	0	0			5,339,254	0	0	0	0
2026 AVERAGES & TOTALS			**47,259**	**10,000**	**0**	**60,000**		**-288000**	**288000**	**0**	**0**		**-938000**	**0**	**938000**	**0**
Q1	January-27	31	24	0	0	0	-123,052	0	0			5,339,254	0	0	0	0
	February-27	28	0	0	0	0	-123,052	0	0			5,339,254	0	0	0	0

	Month	Nbr days	WT WRSF Pond					Mammoth Lake					WTS			
			Inflows (m3)		Outflows (m3)		Theoretical (Flows)	Inflows (m3)				Theoretical (Flows)	Inflows (m3)			Outflow
			Precip / Runoff (m3)	WRSF	WT Attn. Pond	IVR Attn. Pond	Total Pond Volume (Ice + Water) (m^3)	Runoff + direct precip (m3)	WTP (East + West Diffusors)	WTS	SWTCH	Total Lake Volume (Ice+Water) (m3)	Precip / Runoff (m3)	WTD Seepage	WTP (Temp + Perm Diffusors)	SWTCH
	March-27	31	0	0	0	0	-123,052	0	0			5,339,254	0	0	0	0
Q2	April-27	30	2	0	0	0	-123,050	0	0			5,339,254	0	0	0	0
Q2	May-27	31	104	0	0	0	-122,945	0	0			5,339,254	0	0	0	0
Q2	June-27	30	90	0	0	0	-122,855	0	0			5,339,254	0	0	0	0
Q3	July-27	31	25,869	0	0	0	-96,986	0	0			5,339,254	0	0	0	0
Q3	August-27	31	2,679	0	0	0	-94,307	0	0			5,339,254	0	0	0	0
Q3	September-27	30	4,518	0	0	0	-89,789	0	0			5,339,254	0	0	0	0
Q4	October-27	31	13,385	0	0	0	-76,404	0	0			5,339,254	0	0	0	0
Q4	November-27	30	414	0	0	0	-75,990	0	0			5,339,254	0	0	0	0
Q4	December-27	31	173	0	0	0	-75,817	0	0			5,339,254	0	0	0	0
2027 AVERAGES & TOTALS			**47,259**	**0**	**0**	**0**		**0**	**0**	**0**	**0**		**0**	**0**	**0**	**0**
Q1	January-28	31	24	0	0	0	-75,793	0	0			5,339,254	0	0	0	0
Q1	February-28	29	0	0	0	0	-75,793	0	0			5,339,254	0	0	0	0
Q1	March-28	31	0	0	0	0	-75,793	0	0			5,339,254	0	0	0	0
Q2	April-28	30	2	0	0	0	-75,791	0	0			5,339,254	0	0	0	0
Q2	May-28	31	104	0	0	0	-75,687	0	0			5,339,254	0	0	0	0
Q2	June-28	30	90	0	0	0	-75,596	0	0			5,339,254	0	0	0	0
Q3	July-28	31	25,869	0	0	0	-49,727	0	0			5,339,254	0	0	0	0
Q3	August-28	31	2,679	0	0	0	-47,048	0	0			5,339,254	0	0	0	0
Q3	September-28	30	4,518	0	0	0	-42,531	0	0			5,339,254	0	0	0	0
Q4	October-28	31	13,385	0	0	0	-29,145	0	0			5,339,254	0	0	0	0
Q4	November-28	30	414	0	0	0	-28,731	0	0			5,339,254	0	0	0	0
Q4	December-28	31	173	0	0	0	-28,558	0	0			5,339,254	0	0	0	0
2028 AVERAGES & TOTALS			**47,259**	**0**	**0**	**0**		**0**	**0**	**0**	**0**		**0**	**0**	**0**	**0**

	Month	Nbr days	vs (m3)	Theoretical (Flows)	AP5 / GSP-1							Water Transfers			
					Inflows (m3)			Outflows (m3)			Theoretical (Flows)	WTS	WTS	Estimated Runoff	Estimated Runoff
			MM Lake	Total Lake Volume (Ice+Water) (m3)	Runoff + direct precip (m3)	UG Portal	WT Attn. Pond	WT Attn. Pond	U/G Portal	GSP 2	Total Lake Volume (Ice+Water) (m3)	WT Pit (Reflooding)	IVR Pit (Reflooding)	GSP-1	WT WRSF
Q1	January-21	31	0	13,362,211	0	0	0	0	0	0	10,017			*21*	*24*
	February-21	28	0	13,162,725	0	0	0	0	0	0	10,017			*0*	*0*
	March-21	31	0	13,195,972	0	0	0	0	0	0	10,017			*0*	*0*
Q2	April-21	30	0	13,295,716	4,836	0	0	0	0	0	14,853			*2*	*2*
	May-21	31	0	13,564,058	0	0	0	0	0	0	14,853			*92*	*104*
	June-21	30	0	12,870,248	2,044	935	0	0	0	0	17,832			*79*	*90*
Q3	July-21	31	0	13,734,230	9,048	935	0	0	0	0	27,815			*5,238*	*25,869*
	August-21	31	0	13,734,230	6,328	935	0	0	0	0	35,079			*597*	*2,679*
	September-21	30	0	13,598,092	5,650	0	0	0	0	0	40,729			*1,007*	*4,518*
Q4	October-21	31	0	13,564,058	2,990	0	0	0	0	0	43,718			*2,984*	*13,385*
	November-21	30	0	13,162,725	1,364	0	0	0	0	0	45,082			*364*	*414*
	December-21	31	0	12,773,950	683	0	0	0	0	0	45,766			*152*	*173*
2021 AVERAGES & TOTALS			**0**		**32943**	**2806**	**0**	**0**	**0**	**0**		**0**	**0**	**10,536**	**47,259**
Q1	January-22	31	0	12,553,508	0	0	0	0	0	0	45,766			*21*	*24*
	February-22	28	0	13,461,954	0	0	0	0	0	0	45,766			*0*	*0*
	March-22	31	0	13,461,954	0	0	0	0	0	0	45,766			*0*	*0*
Q2	April-22	30	0	13,461,954	2	0	0	0	0	0	45,768			*2*	*2*
	May-22	31	0	13,461,954	92	0	0	0	0	0	45,859			*92*	*104*
	June-22	30	0	13,461,954	79	1,000	0	0	697	0	46,242			*79*	*90*
Q3	July-22	31	0	13,461,954	5,238	1,000	0	0	1,055	0	51,425			*5,238*	*25,869*
	August-22	31	0	13,461,954	597	1,000	0	0	1,350	0	51,672			*597*	*2,679*
	September-22	30	0	13,461,954	1,007	0	0	0	1,363	0	51,316			*1,007*	*4,518*
Q4	October-22	31	0	13,461,954	2,984	0	0	0	1,357	0	52,943			*2,984*	*13,385*
	November-22	30	0	13,461,954	364	0	0	0	1,438	0	51,869			*364*	*414*
	December-22	31	0	13,461,954	152	0	0	0	3,271	0	48,750			*152*	*173*
2022 AVERAGES & TOTALS			**0**		**10516**	**3000**	**0**	**0**	**10531**	**0**		**0**	**0**	**10,536**	**47,259**
Q1	January-23	31	0	13,461,954	21	0	0	0	2,248	0	46,523			*21*	*24*
	February-23	28	0	13,461,954	0	0	0	0	2,022	0	44,501			*0*	*0*
	March-23	31	0	13,461,954	0	0	0	0	3,270	0	41,231			*0*	*0*
Q2	April-23	30	0	13,461,954	2	0	0	0	2,941	0	38,292			*2*	*2*
	May-23	31	0	13,461,954	92	0	0	0	3,197	0	35,187			*92*	*104*
	June-23	30	0	13,461,954	79	1,000	0	0	1,243	0	35,023			*79*	*90*
Q3	July-23	31	0	13,461,954	5,238	1,000	0	0	1,814	0	39,447			*5,238*	*25,869*
	August-23	31	0	13,461,954	597	1,000	0	0	1,566	0	39,478			*597*	*2,679*
	September-23	30	0	13,461,954	1,007	0	0	0	1,800	0	38,685			*1,007*	*4,518*
Q4	October-23	31	0	13,461,954	2,984	0	0	0	2,134	0	39,536			*2,984*	*13,385*
	November-23	30	0	13,461,954	364	0	0	0	1,920	0	37,980			*364*	*414*
	December-23	31	0	13,461,954	152	0	0	0	3,672	0	34,460			*152*	*173*
2023 AVERAGES & TOTALS			**0**		**10536**	**3000**	**0**	**0**	**27827**	**0**		**0**	**0**	**10,536**	**47,259**
	January-24	31	0	13,461,954	21	0	0	0	2,510	0	31,970			*21*	*24*

	Month	Nbr days	vs (m3)	Theoretical (Flows)	AP5 / GSP-1							Water Transfers			
					Inflows (m3)			Outflows (m3)			Theoretical (Flows)	WTS	WTS	Estimated Runoff	Estimated Runoff
			MM Lake	Total Lake Volume (Ice+Water) (m3)	Runoff + direct precip (m3)	UG Portal	WT Attn. Pond	WT Attn. Pond	U/G Portal	GSP 2	Total Lake Volume (Ice+Water) (m3)	WT Pit (Reflooding)	IVR Pit (Reflooding)	GSP-1	WT WRSF
Q1	February-24	29	0	13,461,954	0	0	0	0	2,510	0	29,460			*0*	*0*
	March-24	31	0	13,461,954	0	0	0	0	2,510	0	26,950			*0*	*0*
Q2	April-24	30	0	13,461,954	2	0	0	0	1,697	0	25,255			*2*	*2*
	May-24	31	0	13,461,954	92	0	0	0	1,697	0	23,650			*92*	*104*
	June-24	30	0	13,461,954	79	1,000	0	0	1,697	0	23,032			*79*	*90*
Q3	July-24	31	0	13,461,954	5,238	1,000	0	0	1,836	0	27,434			*5,238*	*25,869*
	August-24	31	0	13,461,954	597	1,000	0	0	1,836	0	27,196			*597*	*2,679*
	September-24	30	0	13,461,954	1,007	0	0	0	1,836	0	26,367			*1,007*	*4,518*
Q4	October-24	31	0	13,461,954	2,984	0	0	0	3,150	0	26,201			*2,984*	*13,385*
	November-24	30	0	13,461,954	364	0	0	0	3,150	0	23,415			*364*	*414*
	December-24	31	0	13,461,954	152	0	0	0	3,150	0	20,417			*152*	*173*
2024 AVERAGES & TOTALS			**0**		**10536**	**3000**	**0**	**0**	**27579**	**0**		**0**	**0**	**10,536**	**47,259**
Q1	January-25	31	0	13,461,954	21	0	0	0	3,175	0	17,263			*21*	*24*
	February-25	28	0	13,461,954	0	0	0	0	3,175	0	14,088			*0*	*0*
	March-25	31	0	13,461,954	0	0	0	0	3,175	0	10,913			*0*	*0*
Q2	April-25	30	0	13,461,954	2	0	0	0	1,636	0	9,279			*2*	*2*
	May-25	31	0	13,461,954	92	0	0	0	1,636	0	7,734			*92*	*104*
	June-25	30	0	13,461,954	79	1,000	0	0	1,636	0	7,178			*79*	*90*
Q3	July-25	31	0	13,461,954	5,238	1,000	0	0	1,615	0	11,801			*5,238*	*25,869*
	August-25	31	0	13,461,954	597	1,000	0	0	1,615	0	11,783			*597*	*2,679*
	September-25	30	0	13,461,954	1,007	0	0	0	1,615	0	11,175			*1,007*	*4,518*
Q4	October-25	31	0	13,461,954	2,984	0	0	0	2,070	0	12,089			*2,984*	*13,385*
	November-25	30	0	13,461,954	364	0	0	0	2,070	0	10,383			*364*	*414*
	December-25	31	0	13,461,954	152	0	0	0	2,070	0	8,465			*152*	*173*
2025 AVERAGES & TOTALS			**0**		**10536**	**3000**	**0**	**0**	**25488**	**0**		**0**	**0**	**10,536**	**47,259**
Q1	January-26	31	0	13,461,954	21	0	0	0	2,100	0	6,386			*21*	*24*
	February-26	28	0	13,461,954	0	0	0	0	2,100	0	4,286			*0*	*0*
	March-26	31	0	13,461,954	0	0	0	0	2,100	0	2,186			*0*	*0*
Q2	April-26	30	0	13,461,954	2	0	0	0	1,132	0	1,056			*2*	*2*
	May-26	31	0	13,461,954	92	0	0	0	1,132	0	16			*92*	*104*
	June-26	30	0	13,461,954	79	1,000	0	0	1,132	0	-37			*79*	*90*
Q3	July-26	31	0	13,461,954	5,238	0	0	0	930	0	4,271		*1,395,000*	*5,238*	*25,869*
	August-26	31	0	13,461,954	597	0	0	0	930	0	3,938		*1,395,000*	*597*	*2,679*
	September-26	30	0	13,461,954	1,007	0	0	0	930	0	4,015		*1,350,000*	*1,007*	*4,518*
Q4	October-26	31	0	13,461,954	2,984	0	0	0	740	0	6,260		*1,395,000*	*2,984*	*13,385*
	November-26	30	0	13,461,954	364	0	0	0	740	0	5,884		*45,000*	*364*	*414*
	December-26	31	0	13,461,954	152	0	0	0	740	0	5,296			*152*	*173*
2026 AVERAGES & TOTALS			**0**		**10536**	**1000**	**0**	**0**	**14706**	**0**		**0**	**5,580,000**	**10,536**	**47,259**
Q1	January-27	31	0	13,461,954	21	0	0	0	462	0	4,854		*0*	*21*	*24*
	February-27	28	0	13,461,954	0	0	0	0	462	0	4,392		*0*	*0*	*0*

	Month	Nbr days	vs (m3)	Theoretical (Flows)	AP5 / GSP-1							Water Transfers			
					Inflows (m3)			Outflows (m3)			Theoretical (Flows)	WTS	WTS	Estimated Runoff	Estimated Runoff
			MM Lake	Total Lake Volume (Ice+Water) (m3)	Runoff + direct precip (m3)	UG Portal	WT Attn. Pond	WT Attn. Pond	U/G Portal	GSP 2	Total Lake Volume (Ice+Water) (m3)	WT Pit (Reflooding)	IVR Pit (Reflooding)	GSP-1	WT WRSF
	March-27	31	0	13,461,954	0	0	0	0	462	0	3,930		*0*	*0*	*0*
Q2	April-27	30	0	13,461,954	2	0	0	0	0	0	3,932		*0*	*2*	*2*
	May-27	31	0	13,461,954	92	0	0	0	0	0	4,024		*0*	*92*	*104*
	June-27	30	0	13,461,954	79	0	0	0	0	0	4,103		*2,087,479*	*79*	*90*
Q3	July-27	31	0	13,461,954	5,238	0	0	0	0	0	9,341		*54,907*	*5,238*	*25,869*
	August-27	31	0	13,461,954	597	0	0	0	0	0	9,939		*102,179*	*597*	*2,679*
	September-27	30	0	13,461,954	1,007	0	0	0	0	0	10,946		*621,391*	*1,007*	*4,518*
Q4	October-27	31	0	13,461,954	2,984	0	0	0	0	0	13,930		*21,305*	*2,984*	*13,385*
	November-27	30	0	13,461,954	364	0	0	0	0	0	14,294		*0*	*364*	*414*
	December-27	31	0	13,461,954	152	0	0	0	0	0	14,446		*0*	*152*	*173*
2027 AVERAGES & TOTALS			**0**		**10536**	**0**	**0**	**0**	**1386**	**0**		**0**	**2,887,260**	**10,536**	**47,259**
Q1	January-28	31	0	13,461,954	21	0	0	0	0	0	14,467		*0*	*21*	*24*
	February-28	29	0	13,461,954	0	0	0	0	0	0	14,467		*0*	*0*	*0*
	March-28	31	0	13,461,954	0	0	0	0	0	0	14,467		*0*	*0*	*0*
Q2	April-28	30	0	13,461,954	2	0	0	0	0	0	14,469		*0*	*2*	*2*
	May-28	31	0	13,461,954	92	0	0	0	0	0	14,560		*0*	*92*	*104*
	June-28	30	0	13,461,954	79	0	0	0	0	0	14,640		*2,087,479*	*79*	*90*
Q3	July-28	31	0	13,461,954	5,238	0	0	0	0	0	19,878		*54,907*	*5,238*	*25,869*
	August-28	31	0	13,461,954	597	0	0	0	0	0	20,475		*102,179*	*597*	*2,679*
	September-28	30	0	13,461,954	1,007	0	0	0	0	0	21,482		*621,391*	*1,007*	*4,518*
Q4	October-28	31	0	13,461,954	2,984	0	0	0	0	0	24,466		*21,305*	*2,984*	*13,385*
	November-28	30	0	13,461,954	364	0	0	0	0	0	24,830		*0*	*364*	*414*
	December-28	31	0	13,461,954	152	0	0	0	0	0	24,982		*0*	*152*	*173*
2028 AVERAGES & TOTALS			**0**		**10536**	**0**	**0**	**0**	**0**	**0**		**0**	**2,887,260**	**10,536**	**47,259**

	Month	Nbr days	Estimated Runoff	Estimated Runoff	Nemo (HMI)	Camp	WTP	WTP	WTS	WRSF Runoff	WRSF Pond	WRSF Pond	WT Pit	WT Pit (Phase 1 Ramp)	Sump 6	Runoff Road 7	Road 7 Runoff
			WT Attn. Pond	IVR Attn. Pond	Freshwater Usage	WT Attn. Pond	WTS (Temp. + Perm. Diffusers)	MM Lake (East + West Diffusers)	MM Lake (SWTCH)	WRSF Pond	WT Attn. Pond	IVR Attn Pond	WT Attn. Pond	MM D/S	IVR Attn Pond	IVR Attn Pond	WT Attn. Pond
Q1	January-21	31	*69*	*108*		*2,639*	141,107	0	*0*	*0*	0	*0*	62,721	*0*	*0*	*0*	*0*
	February-21	28	*0*	*0*		*2,334*	69,508	0	*0*	*0*	0	*0*	43,703	*0*	*0*	*0*	*0*
	March-21	31	*0*	*0*		*2,376*	145,851	0	*0*	*0*	0	*0*	71,320	*0*	*0*	*0*	*0*
Q2	April-21	30	*7*	*11*		*2,297*	124,152	0	*0*	*0*	0	*0*	48,680	*0*	*0*	*0*	*0*
	May-21	31	*302*	*477*		*2,536*	117,645	0	*0*	*0*	*9383*	*0*	*49,484*		*5108*	*0*	*15,077*
	June-21	30	*261*	*412*		*2,418*	239,718	342,477	*747,028*	*15,046*	*0*	*21730*	126,825	*3,327*	*24271*	*0*	*28,117*
Q3	July-21	31	*49,909*	*32,775*		*2,836*	0	304,654	*317,682*	*7,636*	*0*	*16771*	121,399	*3,444*	*910*	*17,753*	*0*
	August-21	31	*5,247*	*3,662*		*2,913*	0	492,761	*360,300*	*8,069*	*0*	*0*	135,056	*12,776*	*12779*	*16,248*	*0*
	September-21	30	*8,848*	*6,175*		*2,818*	0	287,460	*251,587*	*1,946*	*0*	*6223*	124,540		*0*	*10,520*	
Q4	October-21	31	*26,216*	*18,295*		*2,908*	350,395	0	*218,411*	*0*	*0*	*2525*	44,467		*0*	*967*	*0*
	November-21	30	*1,199*	*1,891*		*2,682*	73,015	0	*46,062*	*0*	*0*	*0*	0		*0*	*0*	
	December-21	31	*501*	*789*		*2,732*	0	0	*0*	*0*	*0*	*0*	0		*0*	*0*	
2021 AVERAGES & TOTALS			**92,558**	**64,594**	**0**	**31,489**	**1,261,391**	**1,427,352**	**1,941,070**	**32,697**	**9,383**	**47,249**	**828,195**	**19,547**	**43,068**	**45,488**	**43,194**
Q1	January-22	31	*69*	*108*	*3,464*	*2,022*	96,068	0	*0*	*0*	*0*	*0*	**0**	*0*	*0*	*0*	*0*
	February-22	28	*0*	*0*	*3,832*	*2,418*	100,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
	March-22	31	*0*	*0*	*3,832*	*2,418*	150,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
Q2	April-22	30	*7*	*11*	*3,832*	*2,418*	150,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
	May-22	31	*302*	*477*	*3,832*	*2,418*	150,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
	June-22	30	*261*	*412*	*3,832*	*2,418*	288,000	288,000	*750,000*	*10,000*	*0*	*60,000*	**0**	*30,000*	*0*	*15,135*	
Q3	July-22	31	*49,909*	*32,467*	*3,832*	*2,418*	0	350,000	*750,000*	*9,000*	*0*	*25,000*	**0**		*0*	*1,520*	
	August-22	31	*5,247*	*3,631*	*3,832*	*2,418*	0	300,000	*300,000*	*4,000*	*0*	*15,000*	**0**		*0*	*2,563*	
	September-22	30	*8,848*	*6,123*	*3,832*	*2,418*	0	200,000	*300,000*	*3,500*	*0*	*15,000*	**0**		*0*	*7,594*	
Q4	October-22	31	*26,216*	*18,141*	*3,832*	*2,418*	108,000	108,000	*200,000*		*0*	*0*	**0**		*0*	*0*	
	November-22	30	*1,199*	*1,891*	*3,832*	*2,418*	100,000	0	*50,000*		*0*	*0*	**0**		*0*	*0*	
	December-22	31	*501*	*789*	*3,832*	*2,418*	100,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
2022 AVERAGES & TOTALS			**92,558**	**64,049**	**45,616**	**28,620**	**1,242,068**	**1,246,000**	**2,350,000**	**26,500**	**0**	**115,000**	**0**	**30,000**	**0**	**26,812**	**0**
Q1	January-23	31	*69*	*108*	*3,832*	*2,418*	100,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
	February-23	28	*0*	*0*	*3,832*	*2,418*	100,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
	March-23	31	*0*	*0*	*3,832*	*2,418*	150,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
Q2	April-23	30	*7*	*11*	*3,832*	*2,418*	150,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
	May-23	31	*302*	*477*	*3,832*	*2,418*	150,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
	June-23	30	*261*	*412*	*3,832*	*2,418*	288,000	288,000	*750,000*	*10,000*	*0*	*60,000*	**0**	*30,000*	*0*	*15,135*	
Q3	July-23	31	*49,909*	*32,467*	*3,832*	*2,418*	0	350,000	*750,000*	*9,000*	*0*	*25,000*	**0**		*0*	*1,520*	
	August-23	31	*5,247*	*3,631*	*3,832*	*2,418*	0	300,000	*300,000*	*4,000*	*0*	*15,000*	**0**		*0*	*2,563*	
	September-23	30	*8,848*	*6,123*	*3,832*	*2,418*	0	200,000	*300,000*	*3,500*	*0*	*15,000*	**0**		*0*	*7,594*	
Q4	October-23	31	*26,216*	*18,141*	*3,832*	*2,418*	108,000	108,000	*200,000*		*0*	*0*	**0**		*0*	*0*	
	November-23	30	*1,199*	*1,891*	*3,832*	*2,418*	100,000	0	*50,000*		*0*	*0*	**0**		*0*	*0*	
	December-23	31	*501*	*789*	*3,832*	*2,418*	100,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
2023 AVERAGES & TOTALS			**92,558**	**64,049**	**45,984**	**29,016**	**1,246,000**	**1,246,000**	**2,350,000**	**26,500**	**0**	**115,000**	**0**	**30,000**	**0**	**26,812**	**0**
	January-24	31	*69*	*108*	*3,832*	*2,418*	100,000	0	*0*		*0*	*0*	**0**		*0*	*0*	

	Month	Nbr days	Estimated Runoff	Estimated Runoff	Nemo (HMI)	Camp	WTP	WTP	WTS	WRSF Runoff	WRSF Pond	WRSF Pond	WT Pit	WT Pit (Phase 1 Ramp)	Sump 6	Runoff Road 7	Road 7 Runoff
			WT Attn. Pond	IVR Attn. Pond	Freshwater Usage	WT Attn. Pond	WTS (Temp. + Perm. Diffusers)	MM Lake (East + West Diffusers)	MM Lake (SWTCH)	WRSF Pond	WT Attn. Pond	IVR Attn Pond	WT Attn. Pond	MM D/S	IVR Attn Pond	IVR Attn Pond	WT Attn. Pond
Q1	February-24	29	*0*	*0*	*3,832*	*2,418*	100,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
	March-24	31	*0*	*0*	*3,832*	*2,418*	150,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
Q2	April-24	30	*7*	*11*	*3,832*	*2,418*	150,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
	May-24	31	*302*	*477*	*3,832*	*2,418*	150,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
	June-24	30	*261*	*412*	*3,832*	*2,418*	288,000	288,000	*750,000*	*10,000*	*0*	*60,000*	**0**	*30,000*	*0*	*15,135*	
Q3	July-24	31	*49,909*	*32,467*	*3,832*	*2,418*	0	350,000	*750,000*	*9,000*	*0*	*25,000*	**0**		*0*	*1,520*	
	August-24	31	*5,247*	*3,631*	*3,832*	*2,418*	0	300,000	*300,000*	*4,000*	*0*	*15,000*	**0**		*0*	*2,563*	
	September-24	30	*8,848*	*6,123*	*3,832*	*2,418*	0	200,000	*300,000*	*3,500*	*0*	*15,000*	**0**		*0*	*7,594*	
Q4	October-24	31	*26,216*	*18,141*	*3,832*	*2,418*	108,000	108,000	*200,000*		*0*	*0*	**0**		*0*	*0*	
	November-24	30	*1,199*	*1,891*	*3,832*	*2,418*	100,000	0	*50,000*		*0*	*0*	**0**		*0*	*0*	
	December-24	31	*501*	*789*	*3,832*	*2,418*	100,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
2024 AVERAGES & TOTALS			**92,558**	**64,049**	**45,984**	**29,016**	**1,246,000**	**1,246,000**	**2,350,000**	**26,500**	**0**	**115,000**	**0**	**30,000**	**0**	**26,812**	**0**
Q1	January-25	31	*69*	*108*	*3,832*	*2,418*	100,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
	February-25	28	*0*	*0*	*3,832*	*2,418*	100,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
	March-25	31	*0*	*0*	*3,832*	*2,418*	150,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
Q2	April-25	30	*7*	*11*	*3,832*	*2,418*	150,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
	May-25	31	*302*	*477*	*3,832*	*2,418*	150,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
	June-25	30	*261*	*412*	*3,832*	*2,418*	288,000	288,000	*750,000*	*10,000*	*0*	*60,000*	**0**	*30,000*	*0*	*15,135*	
Q3	July-25	31	*49,909*	*32,467*	*3,832*	*2,418*	0	350,000	*750,000*	*9,000*	*0*	*25,000*	**0**		*0*	*1,520*	
	August-25	31	*5,247*	*3,631*	*3,832*	*2,418*	0	300,000	*300,000*	*4,000*	*0*	*15,000*	**0**		*0*	*2,563*	
	September-25	30	*8,848*	*6,123*	*3,832*	*2,418*	0	200,000	*300,000*	*3,500*	*0*	*15,000*	**0**		*0*	*7,594*	
Q4	October-25	31	*26,216*	*18,141*	*3,832*	*2,418*	108,000	108,000	*200,000*		*0*	*0*	**0**		*0*	*0*	
	November-25	30	*1,199*	*1,891*	*3,832*	*2,418*	100,000	0	*50,000*		*0*	*0*	**0**		*0*	*0*	
	December-25	31	*501*	*789*	*3,832*	*2,418*	100,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
2025 AVERAGES & TOTALS			**92,558**	**64,049**	**45,984**	**29,016**	**1,246,000**	**1,246,000**	**2,350,000**	**26,500**	**0**	**115,000**	**0**	**30,000**	**0**	**26,812**	**0**
Q1	January-26	31	*69*	*108*	*3,832*	*2,418*	100,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
	February-26	28	*0*	*0*	*3,832*	*2,418*	100,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
	March-26	31	*0*	*0*	*3,832*	*2,418*	150,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
Q2	April-26	30	*7*	*11*	*3,832*	*2,418*	150,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
	May-26	31	*302*	*477*	*3,832*	*2,418*	150,000	0	*0*		*0*	*0*	**0**		*0*	*0*	
	June-26	30	*261*	*412*	*3,832*	*2,418*	288,000	288,000	*750,000*	*10,000*	*0*	*60,000*	**0**	*30,000*	*0*	*15,135*	
Q3	July-26	31	*49,909*	*32,467*	*3,832*	*2,418*			*750,000*		*0*	*0*	**0**		*0*		
	August-26	31	*6,472*	*3,631*	*3,832*	*2,418*			*300,000*		*0*	*0*	**0**		*0*		
	September-26	30	*10,915*	*6,123*	*3,832*	*2,418*			*300,000*		*0*	*0*	**0**		*0*		
Q4	October-26	31	*32,339*	*18,141*	*3,832*	*2,418*			*200,000*		*0*	*0*	**0**		*0*		
	November-26	30	*1,199*	*1,891*	*3,832*	*2,418*			*50,000*		*0*	*0*	**0**		*0*		
	December-26	31	*501*	*789*	*3,832*	*2,418*			*0*		*0*	*0*	**0**		*0*		
2026 AVERAGES & TOTALS			**101,974**	**64,049**	**45,984**	**29,016**	**938,000**	**288,000**	**2,350,000**	**10,000**	**0**	**60,000**	**0**	**30,000**	**0**	**15,135**	**0**
Q1	January-27	31	*69*	*108*	*3,832*	*2,418*	0	0	*0*		*0*	*0*	**0**		*0*	*0*	
	February-27	28	*0*	*0*	*3,832*	*2,418*	0	0	*0*		*0*	*0*	**0**		*0*	*0*	

	Month	Nbr days	Estimated Runoff	Estimated Runoff	Nemo (HMI)	Camp	WTP	WTP	WTS	WRSF Runoff	WRSF Pond	WRSF Pond	WT Pit	WT Pit (Phase 1 Ramp)	Sump 6	Runoff Road 7	Road 7 Runoff
			WT Attn. Pond	IVR Attn. Pond	Freshwater Usage	WT Attn. Pond	WTS (Temp. + Perm. Diffusers)	MM Lake (East + West Diffusers)	MM Lake (SWTCH)	WRSF Pond	WT Attn. Pond	IVR Attn Pond	WT Attn. Pond	MM D/S	IVR Attn Pond	IVR Attn Pond	WT Attn. Pond
	March-27	31	*0*	*0*	*3,832*	*2,418*	0	0	*0*		*0*	*0*	**0**		*0*	*0*	
Q2	April-27	30	*7*	*11*	*3,832*	*2,418*	0	0	*0*		*0*	*0*	**0**		*0*	*0*	
	May-27	31	*302*	*477*	*3,832*	*2,418*	0	0	*0*		*0*	*0*	**0**		*0*	*0*	
	June-27	30	*261*	*412*	*3,832*	*2,418*	0	0	*0*		*0*	*0*	**0**		*0*	*0*	
Q3	July-27	31	*62,113*	*32,467*	*3,832*	*2,418*	0	0	*0*		*0*	*0*	**0**		*0*	*0*	
	August-27	31	*6,472*	*3,631*	*3,832*	*2,418*	0	0	*0*		*0*	*0*	**0**		*0*	*0*	
	September-27	30	*10,915*	*6,123*	*3,832*	*2,418*	0	0	*0*		*0*	*0*	**0**		*0*	*0*	
Q4	October-27	31	*32,339*	*18,141*	*3,832*	*2,418*	0	0	*0*		*0*	*0*	**0**		*0*	*0*	
	November-27	30	*1,199*	*1,891*	*3,832*	*2,418*	0	0	*0*		*0*	*0*	**0**		*0*	*0*	
	December-27	31	*501*	*789*	*3,832*	*2,418*	0	0	*0*		*0*	*0*	**0**		*0*	*0*	
2027 AVERAGES & TOTALS			**114,178**	**64,049**	**45,984**	**29,016**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Q1	January-28	31	*69*	*108*		*2,418*	0	0	*0*		*0*	*0*	**0**		*0*	*0*	
	February-28	29	*0*	*0*		*2,418*	0	0	*0*		*0*	*0*	**0**		*0*	*0*	
	March-28	31	*0*	*0*		*2,418*	0	0	*0*		*0*	*0*	**0**		*0*	*0*	
Q2	April-28	30	*7*	*11*		*2,418*	0	0	*0*		*0*	*0*	**0**		*0*	*0*	
	May-28	31	*302*	*477*		*2,418*	0	0	*0*		*0*	*0*	**0**		*0*	*0*	
	June-28	30	*261*	*412*		*2,418*	0	0	*0*		*0*	*0*	**0**		*0*	*0*	
Q3	July-28	31	*62,113*	*32,467*		*2,418*	0	0	*0*		*0*	*0*	**0**		*0*	*0*	
	August-28	31	*6,472*	*3,631*		*2,418*	0	0	*0*		*0*	*0*	**0**		*0*	*0*	
	September-28	30	*10,915*	*6,123*		*2,418*	0	0	*0*		*0*	*0*	**0**		*0*	*0*	
Q4	October-28	31	*32,339*	*18,141*		*2,418*	0	0	*0*		*0*	*0*	**0**		*0*	*0*	
	November-28	30	*1,199*	*1,891*		*2,418*	0	0	*0*		*0*	*0*	**0**		*0*	*0*	
	December-28	31	*501*	*789*		*2,418*	0	0	*0*		*0*	*0*	**0**		*0*	*0*	
2028 AVERAGES & TOTALS			**114,178**	**64,049**	**0**	**29,016**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

	Month	Nbr days	MM D/S	Q1	WT Attn Pond	IVR Pit	WT Pit	IWA	IWB	IWC	IWD	UG Portal	AP5 / GSP-1	GSP-1 (AP-5)	Mammoth D/S	Inflow volume (m3)	W Discharg fo
			WT Attn. Pond	WT Attn. Pond	IVR Attn Pond	IVR Attn Pond	IVR Attn Pond	IVR Attn Pond	IVR Attn Pond	IVR Attn Pond	IVR Attn Pond	AP5 / GSP1	UG Portal	GSP2	IVR Attn. Pond		WTS
Q1	January-21	31	0	*0*	*0*	*0*	*0*	*0*			*0*	*0*			*0*	*90,000*	0
	February-21	28	0	*0*	*0*	*0*	*0*	*0*			*0*	*0*			*0*	*90,000*	0
	March-21	31	0	*0*	*0*	*0*	*0*	*0*			*0*	*0*			*0*	*90,000*	0
Q2	April-21	30	0	*0*	*0*	*0*	*0*	*0*			*0*	*0*			*0*	*90,000*	0
	May-21	31	*10,094*	*0*	*14254*	*0*	*21,627*	*0*	*0*	*0*	*0*	*0*	*0*		*0*	*90,000*	0
	June-21	30	*27,127*	*0*	*37868*	*0*	*46,179*	*7,743*	*9,029*	*229*	*0*	*935*	*0*		*0*	*90,000*	0
Q3	July-21	31	*0*	*0*	*120530*	*18,034*	*15,085*	*0*	*0*	*5,525*	*0*	*935*	*0*		*24,586*	*90,000*	0
	August-21	31	*0*	*0*	*52150*	*17,033*	*24,721*	*0*	*0*	*0*	*0*	*935*	*0*		*7,724*	*90,000*	0
	September-21	30	*0*	*0*	*240325*	*14,093*	*14,569*	*1,028*	*0*	*0*	*0*	*0*	*0*		*2,575*	*90,000*	0
Q4	October-21	31	***0***	*422*	*78280*	*9,778*	*29,568*	*0*	*0*	*0*	*0*	*0*	*0*		*0*	*90,000*	0
	November-21	30	***0***	*0*	*88622*	*0*	*75,828*	*0*	*0*	*0*	*0*	*0*	*0*		*0*	*90,000*	0
	December-21	31	***0***	*0*	*0*	*0*	*48,161*	*0*	*0*	*0*	*0*	*0*	*0*		*0*	*89,896*	0
2021 AVERAGES & TOTALS			**37,221**	**422**	**632,029**	**58,938**	**275,738**	**8,771**	**9,029**	**5,754**	**0**	**2,806**	**0**	**0**	**34,885**	**1,079,896**	
Q1	January-22	31	0	*0*	*111,509*	*0*	*86,250*	*0*	*0*	*0*	*0*	*0*	*0*		*0*	*84,832*	0
	February-22	28			*100,000*	*0*	43,703	*0*	*0*	*0*	*0*	*0*	*0*		*0*	*85,560*	0
	March-22	31			*100,000*	*0*	71,320	*0*	*0*	*0*	*0*	*0*	*0*		*0*	*77,280*	0
Q2	April-22	30			*80,000*	*0*	48,680	*0*	*0*	*0*	*0*	*0*	*0*		*0*	*85,560*	0
	May-22	31			*80,000*	*0*	54,592	*0*	*0*	*0*	*0*	*0*	*0*		*0*	*82,800*	0
	June-22	30		*10,000*	*200,000*	*49,849*	139,292	*2,754*	*11,340*	*5,786*	*0*	*1,000*	*697*		*10,000*	*85,560*	0
Q3	July-22	31			*120,000*	*5,095*	100,189	*277*	*1,139*	*581*	*0*	*1,000*	*1,055*		*20,000*	*82,800*	0
	August-22	31			*100,000*	*9,434*	103,952	*466*	*1,920*	*980*	*0*	*1,000*	*1,350*		*15,000*	*85,560*	0
	September-22	30			*100,000*	*25,008*	118,492	*1,382*	*5,690*	*2,903*	*0*	*0*	*1,363*		*0*	*85,560*	0
Q4	October-22	31			*60,000*	*0*	54,546	*0*	*0*	*0*	*0*	*0*	*1,357*		*0*	*82,800*	0
	November-22	30			*60,000*	*0*	60,286	*0*	*0*	*0*	*0*	*0*	*1,438*		*0*	*85,560*	0
	December-22	31			*60,000*	*0*	53,053	*0*	*0*	*0*	*0*	*0*	*3,271*		*0*	*82,800*	0
2022 AVERAGES & TOTALS			**0**	**10,000**	**1,171,509**	**89,386**	**934,355**	**4,879**	**20,089**	**10,249**	**0**	**3,000**	**10,531**	**0**	**45,000**	**1,006,672**	
Q1	January-23	31			*100,000*	*0*	*62,721*	*0*	*0*	*0*	*0*	*0*	*2,248*		*0*	*85,560*	0
	February-23	28			*100,000*	*0*	43,703	*0*	*0*	*0*	*0*	*0*	*2,022*		*0*	*77,280*	0
	March-23	31			*100,000*	*0*	71,320	*0*	*0*	*0*	*0*	*0*	*3,270*		*0*	*85,560*	0
Q2	April-23	30			*80,000*	*0*	48,680	*0*	*0*	*0*	*0*	*0*	*2,941*		*0*	*82,800*	0
	May-23	31			*80,000*	*0*	54,592	*0*	*0*	*0*	*0*	*0*	*3,197*		*0*	*85,560*	0
	June-23	30		*10,000*	*250,000*	*49,849*	139,292	*2,754*	*11,340*	*5,786*	*0*	*1,000*	*1,243*		*10,000*	*82,800*	0
Q3	July-23	31			*120,000*	*5,095*	100,189	*277*	*1,139*	*581*	*0*	*1,000*	*1,814*		*20,000*	*85,560*	0
	August-23	31			*100,000*	*9,434*	103,952	*466*	*1,920*	*980*	*0*	*1,000*	*1,566*		*15,000*	*85,560*	0
	September-23	30			*100,000*	*25,008*	118,492	*1,382*	*5,690*	*2,903*	*0*	*0*	*1,800*		*0*	*82,800*	0
Q4	October-23	31			*60,000*	*0*	54,546	*0*	*0*	*0*	*0*	*0*	*2,134*		*0*	*85,560*	0
	November-23	30			*60,000*	*0*	60,286	*0*	*0*	*0*	*0*	*0*	*1,920*		*0*	*82,800*	0
	December-23	31			*60,000*	*0*	53,053	*0*	*0*	*0*	*0*	*0*	*3,672*		*0*	*85,560*	0
2023 AVERAGES & TOTALS			**0**	**10,000**	**1,210,000**	**89,386**	**910,826**	**4,879**	**20,089**	**10,249**	**0**	**3,000**	**27,827**	**0**	**45,000**	**1,007,400**	
	January-24	31			*100,000*	*0*	*62,721*	*0*	*0*	*0*		*0*	*2,510*		*0*	*85,560*	0

	Month	Nbr days	MM D/S	Q1	WT Attn Pond	IVR Pit	WT Pit	IWA	IWB	IWC	IWD	UG Portal	AP5 / GSP-1	GSP-1 (AP-5)	Mammoth D/S	Inflow volume (m3)	W Discharg fo
			WT Attn. Pond	WT Attn. Pond	IVR Attn Pond	IVR Attn Pond	IVR Attn Pond	IVR Attn Pond	IVR Attn Pond	IVR Attn Pond	IVR Attn Pond	AP5 / GSP1	UG Portal	GSP2	IVR Attn. Pond		WTS
Q1	February-24	29			*100,000*	*0*	43,703	*0*	*0*	*0*		*0*	*2,510*		*0*	*80,040*	0
	March-24	31			*100,000*	*0*	71,320	*0*	*0*	*0*		*0*	*2,510*		*0*	*85,560*	0
Q2	April-24	30			*80,000*	*0*	48,680	*0*	*0*	*0*		*0*	*1,697*		*0*	*82,800*	0
	May-24	31			*80,000*	*0*	54,592	*0*	*0*	*0*		*0*	*1,697*		*0*	*85,560*	0
	June-24	30		*10,000*	*250,000*	*49,849*	139,292	*2,754*	*11,340*	*5,786*		*1,000*	*1,697*		*10,000*	*82,800*	0
Q3	July-24	31			*120,000*	*5,095*	100,189	*277*	*1,139*	*581*		*1,000*	*1,836*		*20,000*	*85,560*	0
	August-24	31			*100,000*	*9,434*	103,952	*466*	*1,920*	*980*		*1,000*	*1,836*		*15,000*	*85,560*	0
	September-24	30			*100,000*	*25,008*	118,492	*1,382*	*5,690*	*2,903*		*0*	*1,836*		*0*	*82,800*	0
Q4	October-24	31			*60,000*	*0*	54,546	*0*	*0*	*0*		*0*	*3,150*		*0*	*85,560*	0
	November-24	30			*60,000*	*0*	60,286	*0*	*0*	*0*		*0*	*3,150*		*0*	*82,800*	0
	December-24	31			*60,000*	*0*	53,053	*0*	*0*	*0*		*0*	*3,150*		*0*	*85,560*	0
2024 AVERAGES & TOTALS			**0**	**10,000**	**1,210,000**	**89,386**	**910,826**	**4,879**	**20,089**	**10,249**	**0**	**3,000**	**27,579**	**0**	**45,000**	**1,010,160**	
Q1	January-25	31			*100,000*	*0*	*62,721*	*0*	*0*	*0*		*0*	*3,175*		*0*	*85,560*	0
	February-25	28			*100,000*	*0*	43,703	*0*	*0*	*0*		*0*	*3,175*		*0*	*77,280*	0
	March-25	31			*100,000*	*0*	71,320	*0*	*0*	*0*		*0*	*3,175*		*0*	*85,560*	0
Q2	April-25	30			*80,000*	*0*	48,680	*0*	*0*	*0*		*0*	*1,636*		*0*	*82,800*	0
	May-25	31			*80,000*	*0*	54,592	*0*	*0*	*0*		*0*	*1,636*		*0*	*85,560*	0
	June-25	30		*10,000*	*250,000*	*49,849*	139,292	*2,754*	*11,340*	*5,786*		*1,000*	*1,636*		*10,000*	*82,800*	0
Q3	July-25	31			*120,000*	*5,095*	100,189	*277*	*1,139*	*581*		*1,000*	*1,615*		*20,000*	*85,560*	0
	August-25	31			*100,000*	*9,434*	103,952	*466*	*1,920*	*980*		*1,000*	*1,615*		*15,000*	*85,560*	0
	September-25	30			*100,000*	*25,008*	118,492	*1,382*	*5,690*	*2,903*		*0*	*1,615*		*0*	*82,800*	0
Q4	October-25	31			*60,000*	*0*	54,546	*0*	*0*	*0*		*0*	*2,070*		*0*	*85,560*	0
	November-25	30			*60,000*	*0*	60,286	*0*	*0*	*0*		*0*	*2,070*		*0*	*82,800*	0
	December-25	31			*60,000*	*0*	53,053	*0*	*0*	*0*		*0*	*2,070*		*0*	*85,560*	0
2025 AVERAGES & TOTALS			**0**	**10,000**	**1,210,000**	**89,386**	**910,826**	**4,879**	**20,089**	**10,249**	**0**	**3,000**	**25,488**	**0**	**45,000**	**1,007,400**	
Q1	January-26	31			*100,000*	*0*	*62,721*	*0*	*0*	*0*		*0*	*2,100*		*0*	*85,560*	0
	February-26	28			*100,000*	*0*	43,703	*0*	*0*	*0*		*0*	*2,100*		*0*	*77,280*	0
	March-26	31			*100,000*	*0*	71,320	*0*	*0*	*0*		*0*	*2,100*		*0*	*85,560*	0
Q2	April-26	30			*80,000*	*0*	48,680	*0*	*0*	*0*		*0*	*1,132*		*0*	*82,800*	0
	May-26	31			*80,000*	*0*	54,592	*0*	*0*	*0*		*0*	*1,132*		*0*	*85,560*	0
	June-26	30		*10,000*	*250,000*	*49,849*	139,292	*2,754*	*11,340*	*5,786*		*1,000*	*1,132*		*10,000*	*82,800*	0
Q3	July-26	31										*0*	*930*		*0*	*85,560*	0
	August-26	31										*0*	*930*		*0*	*85,560*	0
	September-26	30										*0*	*930*		*0*	*82,800*	0
Q4	October-26	31										*0*	*740*		*0*	*85,560*	0
	November-26	30										*0*	*740*		*0*	*82,800*	0
	December-26	31										*0*	*740*		*0*	*85,560*	0
2026 AVERAGES & TOTALS			**0**	**10,000**	**710,000**	**49,849**	**420,308**	**2,754**	**11,340**	**5,786**	**0**	**1,000**	**14,706**	**0**	**10,000**	**1,007,400**	
Q1	January-27	31			*0*	*0*	*0*					*0*	*462*	*0*		*85,560*	0
	February-27	28			*0*	*0*	*0*					*0*	*462*	*0*		*77,280*	0

	Month	Nbr days	MM D/S	Q1	WT Attn Pond	IVR Pit	WT Pit	IWA	IWB	IWC	IWD	UG Portal	AP5 / GSP-1	GSP-1 (AP-5)	Mammoth D/S	Inflow volume (m3)	W Discharg fo
			WT Attn. Pond	WT Attn. Pond	IVR Attn Pond	IVR Attn Pond	IVR Attn Pond	IVR Attn Pond	IVR Attn Pond	IVR Attn Pond	IVR Attn Pond	AP5 / GSP1	UG Portal	GSP2	IVR Attn. Pond		WTS
	March-27	31			*0*	*0*	*0*					*0*	*462*	*0*		*85,560*	0
Q2	April-27	30			*0*	*0*	*0*					*0*		*0*		*82,800*	0
	May-27	31			*0*	*0*	*0*					*0*		*0*		*85,560*	0
	June-27	30			*0*	*0*	*0*					*0*		*0*		*82,800*	0
Q3	July-27	31			*0*	*0*	*0*					*0*		*0*		*85,560*	0
	August-27	31			*0*	*0*	*0*					*0*		*0*		*85,560*	0
	September-27	30			*0*	*0*	*0*					*0*		*0*		*82,800*	0
Q4	October-27	31			*0*	*0*	*0*					*0*		*0*		*85,560*	0
	November-27	30			*0*	*0*	*0*					*0*		*0*		*82,800*	0
	December-27	31			*0*	*0*	*0*					*0*		*0*		*85,560*	0
2027 AVERAGES & TOTALS			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,386**	**0**	**0**	**1,007,400**	
Q1	January-28	31			*0*	*0*	*0*					*0*		*0*		*108,000*	0
	February-28	29			*0*	*0*	*0*					*0*		*0*		*108,000*	0
	March-28	31			*0*	*0*	*0*					*0*		*0*		*108,000*	0
Q2	April-28	30			*0*	*0*	*0*					*0*		*0*		*108,000*	0
	May-28	31			*0*	*0*	*0*					*0*		*0*		*108,000*	0
	June-28	30			*0*	*0*	*0*					*0*		*0*		*108,000*	0
Q3	July-28	31			*0*	*0*	*0*					*0*		*0*		*108,000*	0
	August-28	31			*0*	*0*	*0*					*0*		*0*		*108,000*	0
	September-28	30			*0*	*0*	*0*					*0*		*0*		*108,000*	0
Q4	October-28	31			*0*	*0*	*0*					*0*		*0*		*108,000*	0
	November-28	30			*0*	*0*	*0*					*0*		*0*		*108,000*	0
	December-28	31			*0*	*0*	*0*					*0*		*0*		*108,000*	0
2028 AVERAGES & TOTALS			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,296,000**	

	Month	Nbr days	TD Seepage	
			ge location: Enter 1 r destination	Volume pumped to WTS
			WTN attn. pond	
Q1	January-21	31	1	0
	February-21	28	1	0
	March-21	31	1	0
Q2	April-21	30	1	0
	May-21	31	1	0
	June-21	30	1	0
Q3	July-21	31	1	0
	August-21	31	1	0
	September-21	30	1	0
Q4	October-21	31	1	0
	November-21	30	1	0
	December-21	31	1	0
2021 AVERAGES & TOTALS				**0**
Q1	January-22	31	1	0
	February-22	28	1	0
	March-22	31	1	0
Q2	April-22	30	1	0
	May-22	31	1	0
	June-22	30	1	0
Q3	July-22	31	1	0
	August-22	31	1	0
	September-22	30	1	0
Q4	October-22	31	1	0
	November-22	30	1	0
	December-22	31	1	0
2022 AVERAGES & TOTALS				**0**
Q1	January-23	31	1	0
	February-23	28	1	0
	March-23	31	1	0
Q2	April-23	30	1	0
	May-23	31	1	0
	June-23	30	1	0
Q3	July-23	31	1	0
	August-23	31	1	0
	September-23	30	1	0
Q4	October-23	31	1	0
	November-23	30	1	0
	December-23	31	1	0
2023 AVERAGES & TOTALS				**0**
	January-24	31	1	0

	Month	Nbr days	TD Seepage	
			ge location: Enter 1 r destination	Volume pumped to WTS
			WTN attn. pond	
Q1	February-24	29	1	0
	March-24	31	1	0
Q2	April-24	30	1	0
	May-24	31	1	0
	June-24	30	1	0
Q3	July-24	31	1	0
	August-24	31	1	0
	September-24	30	1	0
Q4	October-24	31	1	0
	November-24	30	1	0
	December-24	31	1	0
2024 AVERAGES & TOTALS				**0**
Q1	January-25	31	1	0
	February-25	28	1	0
	March-25	31	1	0
Q2	April-25	30	1	0
	May-25	31	1	0
	June-25	30	1	0
Q3	July-25	31	1	0
	August-25	31	1	0
	September-25	30	1	0
Q4	October-25	31	1	0
	November-25	30	1	0
	December-25	31	1	0
2025 AVERAGES & TOTALS				**0**
Q1	January-26	31	1	0
	February-26	28	1	0
	March-26	31	1	0
Q2	April-26	30	1	0
	May-26	31	1	0
	June-26	30	1	0
Q3	July-26	31	1	0
	August-26	31	1	0
	September-26	30	1	0
Q4	October-26	31	1	0
	November-26	30	1	0
	December-26	31	1	0
2026 AVERAGES & TOTALS				**0**
Q1	January-27	31	1	0
	February-27	28	1	0

	Month	Nbr days	TD Seepage ge location: Enter 1 r destination WTN attn. pond	Volume pumped to WTS
	March-27	31	1	0
Q2	April-27	30	1	0
	May-27	31	1	0
	June-27	30	1	0
Q3	July-27	31	1	0
	August-27	31	1	0
	September-27	30	1	0
Q4	October-27	31	1	0
	November-27	30	1	0
	December-27	31	1	0
2027 AVERAGES & TOTALS				**0**
Q1	January-28	31	1	0
	February-28	29	1	0
	March-28	31	1	0
Q2	April-28	30	1	0
	May-28	31	1	0
	June-28	30	1	0
Q3	July-28	31	1	0
	August-28	31	1	0
	September-28	30	1	0
Q4	October-28	31	1	0
	November-28	30	1	0
	December-28	31	1	0
2028 AVERAGES & TOTALS				**0**

APPENDIX D • 2021 WHALE TAIL WATER QUALITY FORECAST UPDATES

SNC-LAVALIN INC.

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Technical Memorandum

TO :	Rebecca Cousineau, Marie-Pier Marcil, Frederick Bolduc, Eric Haley	**DATE :**	March 28, 2022
FROM :	Anh-Long Nguyen	**REF. :**	688368-1000-40ER-0001, rev. 00
OBJECT :	Water Quality Review and Forecast during Operation at Whale Tail Site		

1.0 Introduction

1.1 Context

Agnico Eagle Mines (AEM) is operating the Meadowbank Mine site and its satellite deposit Whale Tail Project Whale Tail.

Presently, all contact water from the site is pumped or directed toward the Whale Tail (WT) and IVR Attenuation Ponds. From there, it is treated at the Water Treatment Plant (WTP) and discharged to either Whale Tail South (WTS) Lake or Mammoth Lake.

1.2 Purpose

The purpose of this technical memorandum is to present the following :

- A compilation and review of the measured water quality data sampled at the WT and IVR Attenuation Ponds, the treated water and at WTS and Mammoth Lakes.
- Identification of parameters of concern when compared to the discharge criteria outlined in the Water Licence 2AM-WTP1830.
- Forecast of the water quality for the parameters of concern during operation at the WT and IVR Attenuation Ponds and WTS and Mammoth Lakes.

2.0 Review of Water Quality Data

A compilation of the measured water quality data sampled at the Whale Tail Site in 2021 was performed for the following sectors:

- WT Attenuation Pond (sampling point ST-WT-1);
- IVR Attenuation Pond (sampling point ST-WT-23);
- Treated water discharged to WTS Lake (sampling points WT-24/24A/24B and MDMER-5/11);
- Treated water discharge to Mammoth Lake (sampling points WT-2/2A and MDMER-7/8);
- Mammoth Lake (sampling point MAME-2, MAM, EEM-7-MAME-2and EEM-8-MAME-2);
- WTS Lake (sampling point WTSE, WTSE-1, ST-MDMER-11-EEM-WTSE, ST-MDMER-5-EEM-WTSE).

In 2021, contact water collected from the Whale Tail site, including the Whale Tail (WT) and IVR Waste Rock Storage Facilities (WRSF) and the WT and IVR pits, were transferred to the WT and IVR Attenuation Ponds and treated at the WTP. **Table 2-1** summarizes the volume pumped and treated from each of the Attenuation Ponds and the discharge location of the treated water.

Table 2-1: Water Treatment Operating Schedule - 2021

Period	Source of Contact Water to Treat	Treated Water Discharge Location	Cumulative Volume Treated (m^3)
January to May	Whale Tail Attenuation Pond	WTS Lake	598 263
June	IVR Attenuation Pond	40% at WTS Lake 60% Mammoth Lake	582 195
July to September	IVR Attenuation Pond	Mammoth Lake	1 084 875
October to December	IVR Attenuation Pond	WTSL	423 410
		Total	**2 688 743**

The average and maximum total concentrations for key constituents that have a specific discharge criterion in the Water Licence 2AM-WTP1830 or a specific CCME guideline is presented in **Table 2-2**. For measured values that were below the detection limit, a value equal to half of the detection limit was considered in the analysis. Values bolded and underlined and highlighted in grey indicated values above the Water Licence criteria. Cells highlighted in green indicate values higher than the CCME guidelines for Protection of Aquatic Life, which are used for comparison purpose only.

Per the data presented in **Table 2-2**, the following parameters measured in the untreated raw water stored in WT and IVR Attenuation Ponds were above the Water Licence discharge criteria:

- Total Suspended Solids (TSS);
- Total Arsenic;
- Total Aluminum;
- Total Chromium;
- Total Iron.

The treated effluent discharge to WTS Lake and Mammoth Lake on the other hand met the Water Licence discharge criteria at all times.

When comparing the measured values sampled in the treated effluent and the lakes to the CCME guidelines, all of the constituents were on average below CCME guidelines. There were some samples with a maximum measured concentration that was above the CCME guidelines, specifically:

- In the treated effluent to Mammoth Lake: nitrate, arsenic, chromium, copper, iron, manganese and nickel;
- In the treated effluent to WTS Lake: nitrate, phosphorus, aluminum, chromium, copper, iron, nickel, and selenium;
- In Mammoth Lake and WTS Lake: phosphorus.

Considering that the treated effluent discharge to the WTS and Mammoth Lakes met consistently the Water Licence discharge criteria, the parameters of concern that will be evaluated in the water quality forecast will be limited to the same constituents that were identified during the Final Environmental Impact Statement (FEIS) Assessment: arsenic and phosphorus.

Table 2-2: Average and Maximum Concentrations Measured at Whale Tail for 2021

Parameters	Units	Water Licence 2AM-WTP1830		CCME Guidelines	WT Attn. Pond		IVR Attn. Pond		Treated Effluent to Mammoth Lake		Treated Effluent to WTSL		Mammoth Lake		WTSL	
		Monthly Average	Maximum Allowable Conc.		Average	Maximum	Average	Maximum	Average	Maximum	Average	Maximum	Average	Maximum	Average	Maximum
Alkalinity	mg $CaCO_3$/L				49	68	44	55	37	44	41	60	18	26	16	21
Hardness	mg $CaCO_3$/L				107	191	127	180	128	188	98	154	66	117	43	59
pH		**6.0 to 9.5**	**6.0 to 9.5**	6.0 to 9.5	7.4	7.8	7.3	7.6	7.1	7.6	7.1	7.9	7.0	8.3	7.1	7.8
Temperature	deg. C				2.0	8.9	5.8	10.7	6.7	10.9	1.1	4.5	3.1	11.9	2.4	13.0
Total Ammonia (NH3 + NH4)	mg N/L	**16**	**32**	12.6	0.9	2.7	0.8	1.2	1.0	1.5	1.0	2.9	0.0	0.1	0.1	0.1
Un-ionized ammonia (as N)	mg N/L				0.003	0.023	0.003	0.009	0.002	0.008	0.001	0.005	0.000	0.001	0.000	0.000
Nitrate (NO3)	mg N/L			2.93	1.78	9.53	2.25	4.58	2.53	4.54	1.34	3.04	0.74	0.85	0.34	0.53
Chloride	mg/L			120	31	46	35	48	38	70	31	46	28	53	16	21
Fluoride	mg/L			0.12	0.13	0.20	0.10	0.17					0.06	0.07		
Sulphate	mg/L			128	34	110	50	98	60	110	36	87	20	30	9	11
Total Suspended Solids	mg/L	**15**	**30**		**66**	**308**	**28**	**120**	2	5	3	28	0.5	0.5	0.5	0.5
Total Dissolved Solids	mg/L				174	375	231	400	231	420	167	310	151	312	73	132
Total Phosphorus (P)	mg/L	**0.3**	**0.6**	0.01	0.06	0.48	0.02	0.14	0.002	0.01	0.006	0.05	0.003	0.030	0.006	0.040
Total Aluminium (Al)	mg/L	**0.5**	**1**	0.1	**1.1**	**5.5**	**0.8**	**4.0**	0.01	0.09	0.01	0.11	0.006	0.013	0.009	0.018
Total Arsenic (As)	mg/L	**0.1**	**0.2**	0.025	0.040	**0.213**	0.071	**0.253**	0.008	0.028	0.003	0.012	0.001	0.003	0.001	0.004
Total Barium (Ba)	mg/L				0.065	0.156	0.055	0.103	0.049	0.076	0.050	0.069	0.032	0.056		
Total Cadmium (Cd)	mg/L	**0.002**	**0.004**	0.00011	0.00002	0.00011	0.00003	0.00007	0.00002	0.00005	0.00001	0.00005	0.00000	0.00001	0.00000	0.00001
Total Calcium (Ca)	mg/L				29	47	35	51	35	54	29	43	20	35	14	20
Total Chromium (Cr)	mg/L	**0.02**	**0.04**	0.001	0.017	**0.061**	0.013	**0.072**	0.001	0.002	0.001	0.002	0.000	0.001	0.000	0.000
Total Copper (Cu)	mg/L	**0.1**	**0.2**	0.002	0.003	0.017	0.003	0.008	0.002	0.006	0.002	0.005	0.001	0.001	0.001	0.002
Total Iron (Fe)	mg/L	**1**	**2**	0.3	**3**	**16**	**2**	**9**	0.2	0.5	0.2	0.5	0.03	0.10	0.10	0.11
Total Lead (Pb)	mg/L	**0.05**	**0.1**	0.0017	0.0020	0.0073	0.0012	0.0036	0.0001	0.0006	0.0001	0.0008	0.00003	0.00003	0.00004	0.00009
Total Magnesium (Mg)	mg/L				8	18	10	16	10	15	7	12	5	7	3	3
Total Manganese (Mn)	mg/L			0.49	0.33	1.50	0.27	0.51	0.26	0.52	0.25	0.40	0.01	0.02	0.03	0.05
Total Mercury (Hg)	mg/L	**0.004**	**0.008**	0.000026	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000003	0.000005	0.000005	0.000005
Total Molybdenum (Mo)	mg/L			0.073	0.005	0.008	0.003	0.005	0.003	0.004	0.004	0.008	0.001	0.001	0.001	0.001
Total Nickel (Ni)	mg/L	**0.25**	**0.5**	0.066	0.015	0.041	0.028	0.074	0.020	0.072	0.010	0.061	0.002	0.004	0.003	0.003
Total Selenium (Se)	mg/L			0.001	0.00027	0.00096	0.00036	0.00085	0.00041	0.00082	0.00021	0.00170	0.00010	0.00014	0.00007	0.00025
Total Silver (Ag)	mg/L			0.00025	0.00001	0.00008	0.00002	0.00005			0.00001	0.00001	0.00001	0.00001		
Total Thallium (Ti)	mg/L			0.0008	0.00003	0.00011	0.00003	0.00010	0.00002	0.00003	0.00002	0.00010	0.00000	0.00001	0.00008	0.00040
Total Zinc (Zn)	mg/L	**0.1**	**0.2**	0.028	0.006	0.030	0.006	0.021	0.007	0.016	0.006	0.022	0.001	0.002	0.001	0.002
Dissolved Arsenic (As)	mg/L	**0.1**[1]	**0.2**[1]	0.025	0.023	0.158	0.045	0.187	0.006	0.022	0.002	0.004	0.001	0.003	0.001	0.002
Dissolved Phosphorus (P)	mg/L	**0.3**[1]	**0.6**[1]	0.01	0.005	0.064	0.003	0.020	0.001	0.002	0.003	0.030	0.002	0.020	0.005	0.040

Exceeds Water Licence criterion

Exceeds CCME guideline

Note 1: Water Licence criteria for arsenic and phosphorus apply to total constituent concentration but for the are applied to the dissolved fraction for the purpose of this exercise.

3.0 Water Quality Forecast During Operations

3.1 Model Description

3.1.1 General

The water quality forecast (WQF) model is based on a water/mass balance developed for the site to track the water movements during operation. The model was developed based on AEM 2020 Water Management Plan.

3.1.2 Assumptions

The assumptions used in the development of the water/mass balance model for the Whale Tail site were the following:

i. Start date of the model: January 2020.

ii. End date of the model: December 2026.

iii. Time step: Monthly.

iv. WQF model results represent dissolved constituent concentrations, similar to the model presented for the FEIS Assessment.

v. The water quality for the different input streams to the model is based on the yearly average measured values and are assumed to be constant over a given year.

vi. The water/mass balance is performed around the WT and IVR Attenuation Ponds. The volume of water transferred out of these ponds are sent to the WTP for treatment prior to discharge to WTS Lake or Mammoth Lake.

vii. A treatment removal efficiency for each of the parameter of concern is considered based on the observed treatment efficiency of the WTP.

viii. For simplification of the model, ponds are assumed to be completely mixed systems.

ix. For simplification of the model, the parameters are assumed to be inert: they do not degrade or react with other elements in the system.

3.1.3 Inputs to Model

Table 3-1 presents the water quality assumed for the different input streams to manage on the Whale Tail Site. The values presented in the table are based on water quality data sampled on the site.

Table 3-1: Input Source Stream Concentrations used in the WQF Model

Input Streams	Units	Dissolved Phosphorus (P)	Dissolved Arsenic (As)	Notes
WT WRSF	mg/L	0.0182	0.0057	Average from 2018 to 2021
NW Sump1	mg/L	0.0182	0.0057	Assume same as WT WRSF
Whale Tail Pit	mg/L	0.0206	0.0775	Average 2021
Quarry 1	mg/L	0.0050	0.0061	Average from 2019 to 2021
Runoff Road 7	mg/L	0.0050	0.0061	Assume same as Quarry 1
AP-5, future GSP1	mg/L	0.0118	0.0026	Average from 2018 to 2021
WT Seepage	mg/L	0.0044	0.0069	Average from 2019 to 2021
IVR Pit	mg/L	1.6561	3.3729	Average 2021
IVR WRSF IWB	mg/L	0.0182	0.0057	Assume same as WT WRSF
IVR WRSF IWA	mg/L	0.0182	0.0057	Assume same as WT WRSF
Whale Tail Camp STP Effluent	mg/L	2.8285	0.0031	Average from 2019 to 2021
NE Pond	mg/L	0.0050	0.0061	Assume same as Lake A47
Lake A47	mg/L	0.0050	0.0048	Average 2020
Lake A49	mg/L	0.0050	0.0048	Assume same as Lake A47
Lake A50	mg/L	0.0050	0.0003	Average from 2019 to 2020 sampled at A50, A51 A52
Lake A51	mg/L	0.0050	0.0003	
Lake A52	mg/L	0.0050	0.0003	
Lake A53	mg/L	0.0050	0.0003	Same as average A50, A51, A52
Mammoth D/S	mg/L	0.0073	0.0007	Average 2020
Underground	mg/L		0.0346	Average 2021
Runoff (natural terrain)	mg/L	0.0050	0.0003	Assumed to be similar to natural A53 quality
Runoff (rock area)	mg/L	0.0182	0.0057	Same as WT WRSF
Initial Concentration at WT Attenuation Pond	mg/L	0.0075	0.010	Average May 2020
Initial Concentration at Lake A53 (future IVR Attenuation Pond)	mg/L	0.0050	0.0003	Average of A50 to A53 from 2019 to 2020
WTP Percent Removal Efficiency	%	75%	89%	Average % removal from 2021 measured at WTP (raw water vs treated water)

3.2 Results

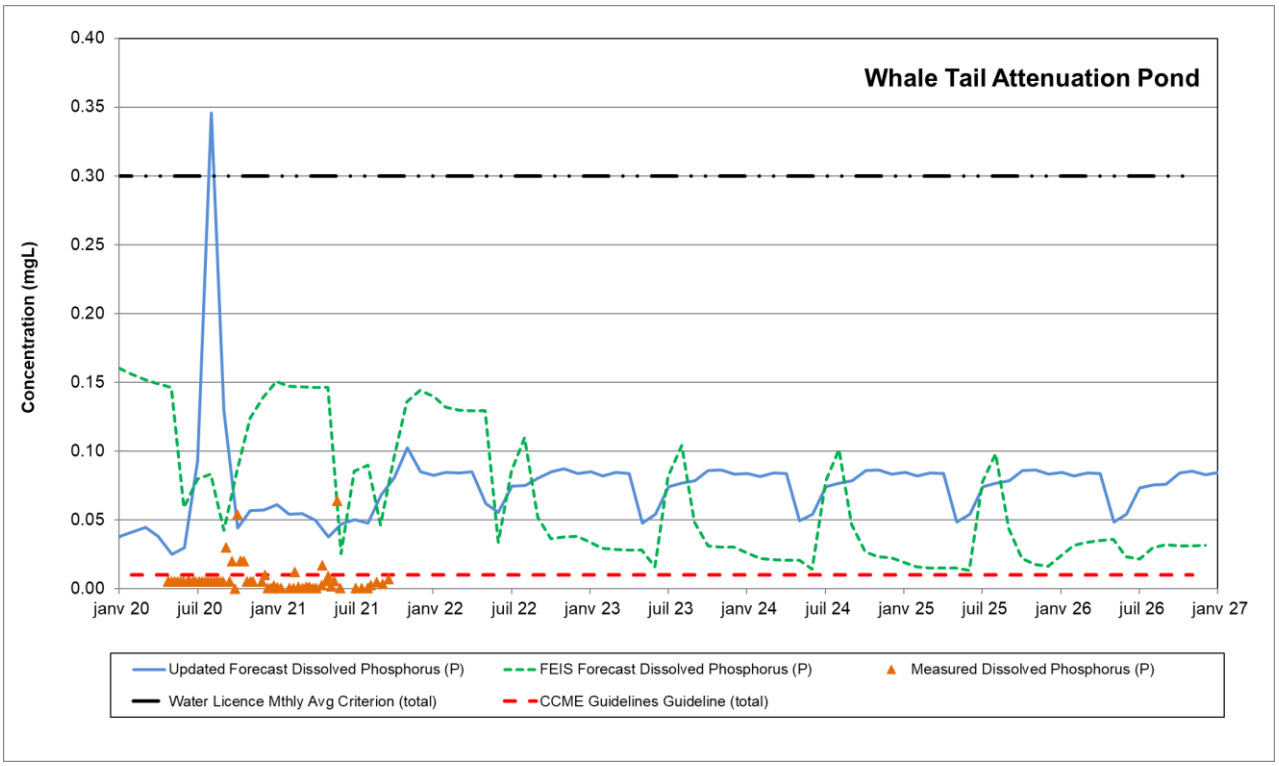
As described in section 2.0, forecasted concentrations for the following parameters of concern were evaluated in the WT and IVR Attenuation Ponds, in WTSL and in Mammoth Lake:

- Dissolved Phosphorus;
- Dissolved Arsenic;

The results are presented in **Figures 3-1** to **3.4**. For each parameter, two figures are produced to present the forecasted concentration in the WT and IVR Attenuation Ponds and in WTS and Mammoth Lakes. Each figure also presents the forecasted dissolved concentrations presented for FEIS Assessment, the measured dissolved concentration data and the Water Licence criterion and/or CCME guideline which applies to total constituent concentrations but are presented for comparison purpose only.

Based on the water quality forecast modelling results, the following key observations can be made:

1. Attenuation Ponds
    a. The WQF model forecasts concentrations are generally higher than the measured values, indicating that the model is conservative.
    b. For arsenic, some of the higher concentrations measured in WT Attenuation Pond were not forecasted in the model.
    c. When comparing to the predicted values presented for the FEIS Assessment:
        i. The WQF model yields results that trend similarly to the results presented for the FEIS Assessment
        ii. The values predicted for the FEIS Assessment were generally higher than the measured values for phosphorus and arsenic.
2. Lakes
    a. The WQF model conservatively estimates an increasing trend in dissolved phosphorus that stabilizes slightly above the CCME guidelines, similar to the results presented for the FEIS Assessment. The WQF model shows a decreasing trend for dissolved arsenic.
    b. The measured values for phosphorus and arsenic are generally lower than the forecasted values and also lower than the predicted values presented for the FEIS Assessment.



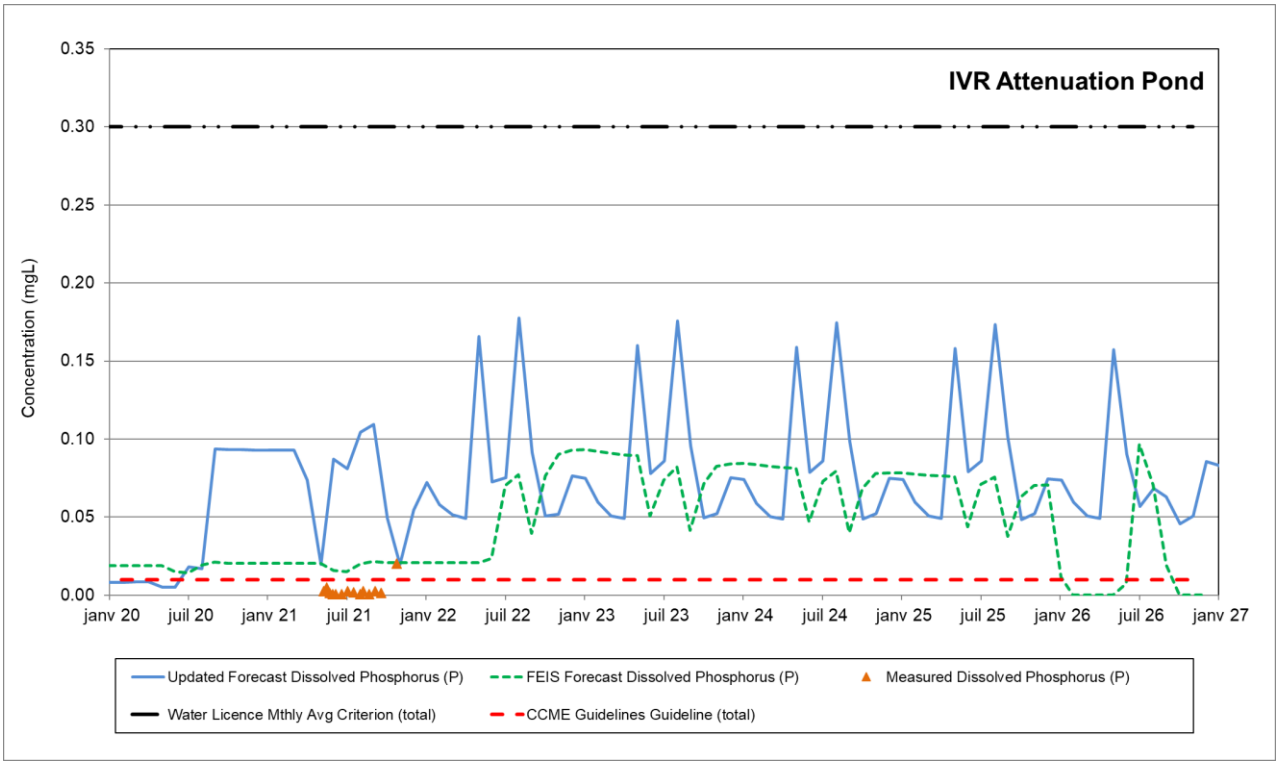


Figure 3-1: Dissolved Phosphorus Forecasted Concentration – Attenuation Ponds

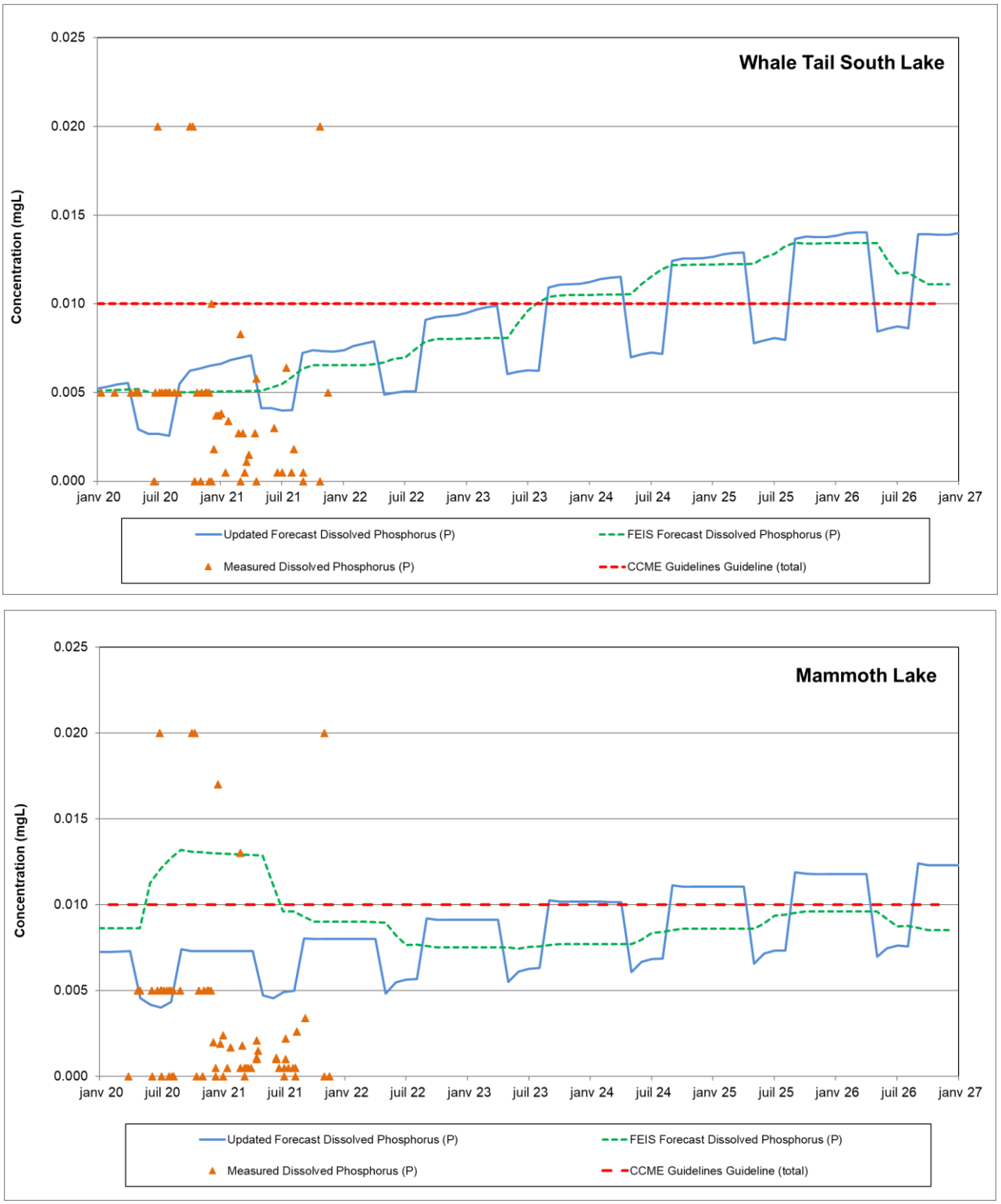


Figure 3-2: Dissolved Phosphorus Forecasted Concentration – Lakes

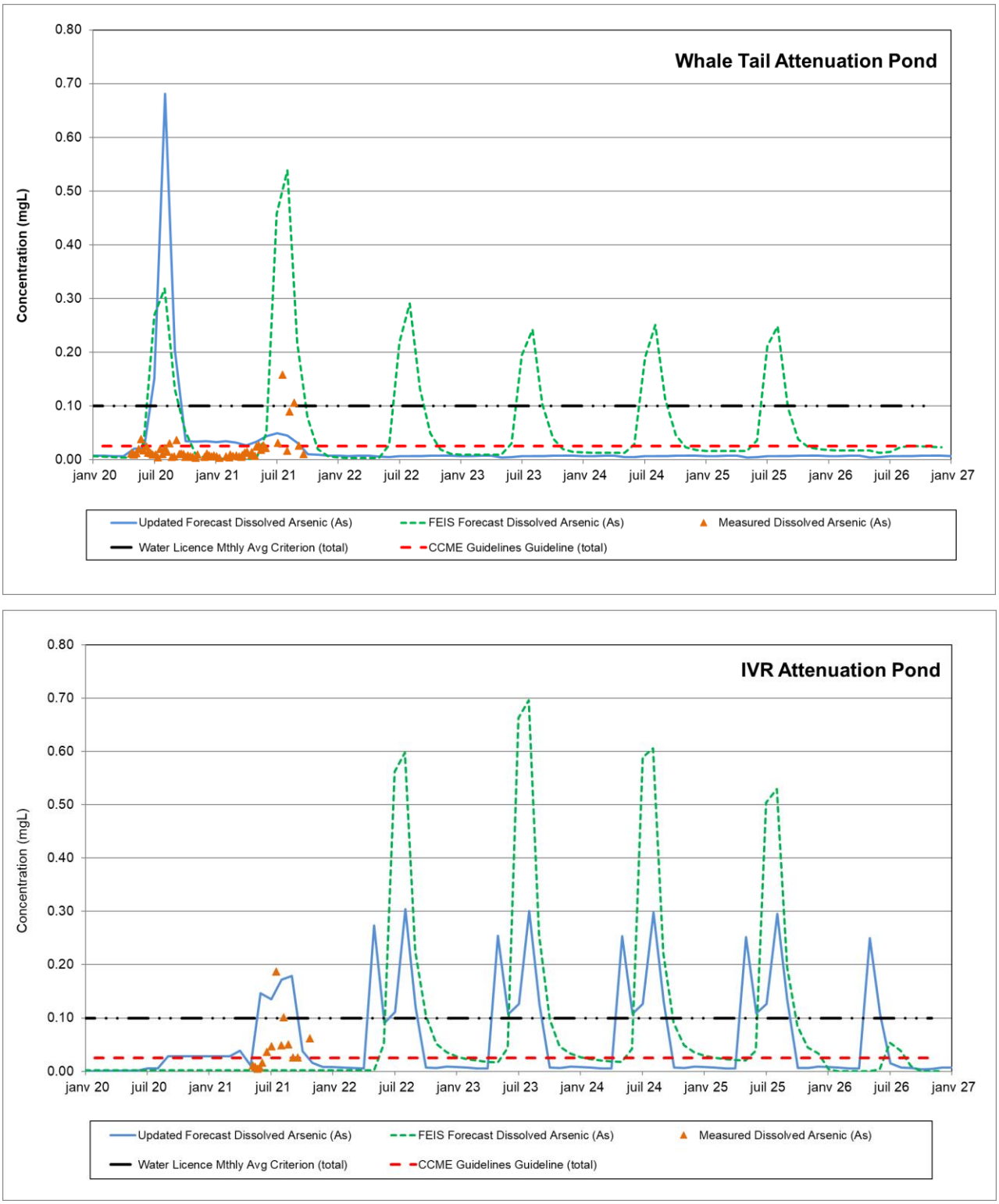


Figure 3-3: Dissolved Arsenic Forecasted Concentration – Attenuation Ponds

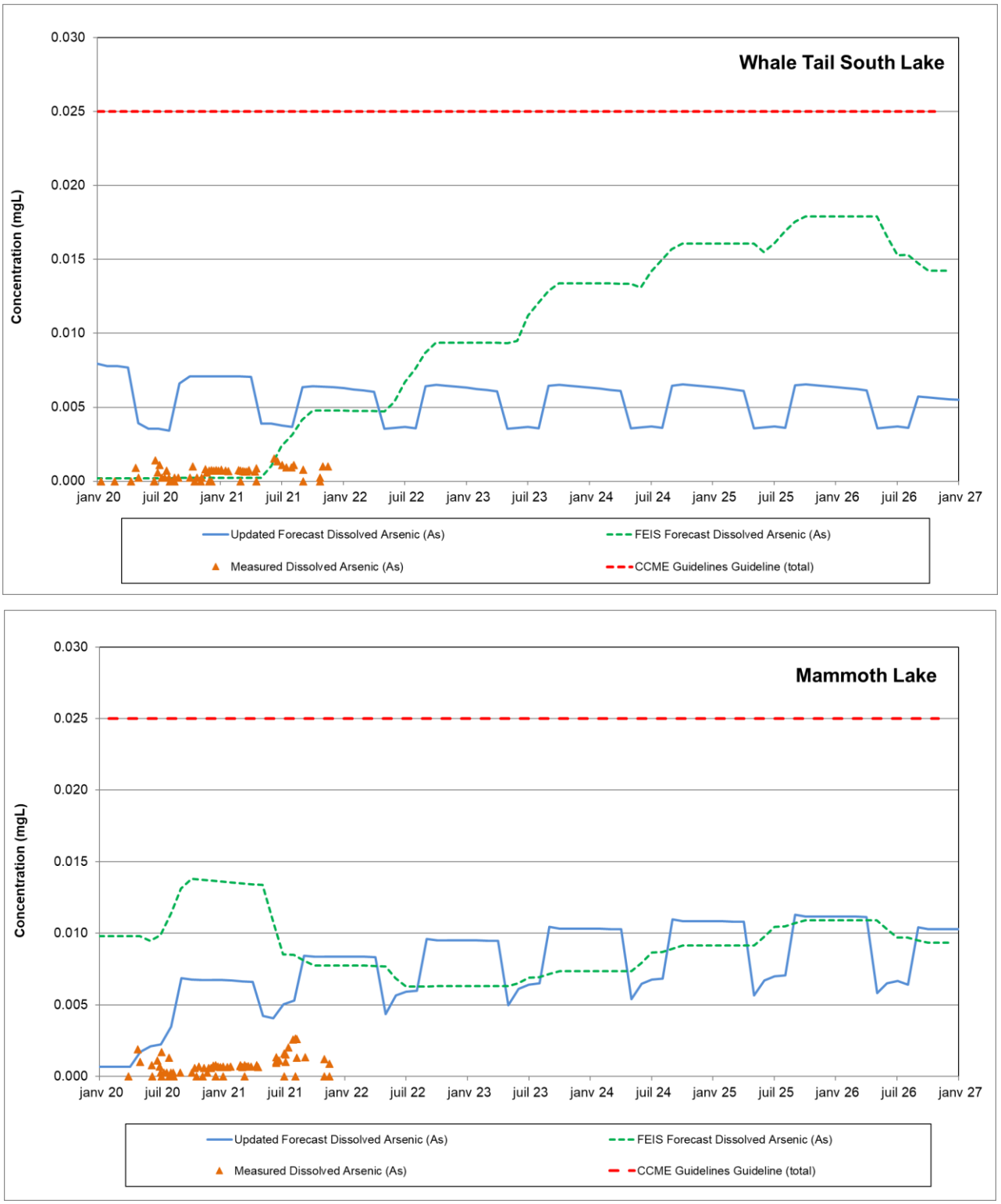


Figure 3-4: Dissolved Arsenic Forecasted Concentration – Lakes

4.0 Conclusion

AEM is operating the Meadowbank Mine site and its satellite deposit Whale Tail Project located on the Whale Tail Exploration Property. All contact water from the site is pumped or directed toward the Whale Tail (WT) and IVR Attenuation Ponds. From there, it is treated at the Water Treatment Plant (WTP) and discharged to either Whale Tail South (WTS) Lake or Mammoth Lake.

Based on the water samples collected in 2021, the following parameters measured in the untreated contact water collected in the WT and IVR Attenuation Ponds were above the Water Licence discharge criteria: total suspended solids, total arsenic, total aluminum, total chromium and total iron. The treated water discharge to the lake consistently met the Water Licence discharge criteria.

For the purpose of forecasting the concentrations in WT and IVR Attenuation Ponds and in WTS and Mammoth Lakes, the parameters of concern that are considered for the water quality forecast (WQF) model are the same constituents identified in the FEIA Assessment: dissolved phosphorus and dissolved arsenic.

The forecasted values are generally higher than the measured values in the Attenuation Ponds and the Lakes. The conservative WQF model also estimates concentrations that are generally similar than the predicted values presented for the FEIS Assessment.

Based on the analysis of the water quality sampled at the Whale Tail site and the results from the WQF model, the following recommendations are proposed to help improve the modelling in the future:

1. Continue the current monthly monitoring program of all inflows and outflows reporting to the WT and IVR Attenuation Ponds and at WTS and Mammoth Lakes, as well as the other source streams transferred to the Attenuation Ponds. This will help refine the model next year.

GOLDER
MEMBER OF WSP

REPORT

Whale Tail Project

2021 Annual Report - Closure and Post-Closure Water Quality Predictions

Submitted to:

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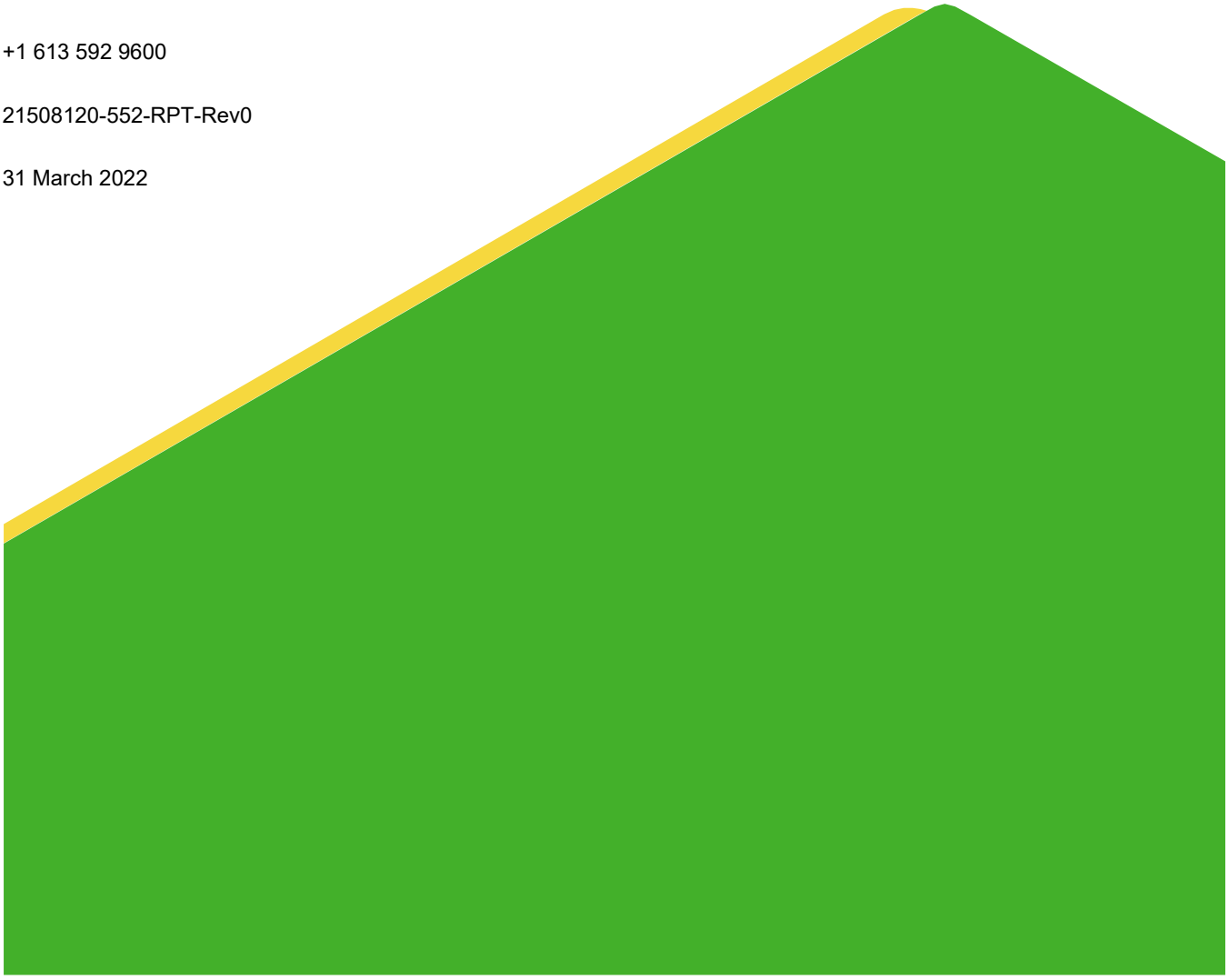
21508120-552-RPT-Rev0

31 March 2022



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List of Acronyms

Agnico Eagle	Agnico Eagle Mines Limited – Meadowbank Complex
Approved Project	Whale Tail Pit and Haul Road
CEQG-PAL	Canadian Environmental Quality Guidelines for the Protection of Aquatic Life
CCME	Canadian Council of Ministers of the Environment
EA	Environmental Assessment
EQC	Effluent Quality Criteria
Expansion Project	Whale Tail Pit – Expansion Project
FEIS	Final Environmental Impact Statement
Golder	Golder Associates Ltd.
GSP	Groundwater Storage Pond
NML	Non-Metal Leaching
NPAG	Non-potentially Acid Generating
NWB	Nunavut Water Board
AsWTP	Arsenic Water Treatment Plant
PAG	Potentially Acid Generating
SSWQO	Site Specific Water Quality Objective
STP	Sewage Treatment Plant
TDS	Total Dissolved Solids
TSS	Total Suspended Solids
WQF	Water Quality Forecast
WRSF	Waste Rock Storage Facility

1.0 INTRODUCTION

Agnico Eagle Mines Limited Meadowbank Complex (Agnico Eagle) is currently operating the Whale Tail satellite deposit on the Amaruq exploration property, which 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 the Meadowbank Mine, in the Kivalliq region of Nunavut. The property was acquired by Agnico Eagle in April 2013 subject to a mineral exploration agreement with Nunavut Tunngavik Incorporated.

The Expansion Project (Figure 1) supports ore extraction from two open pits (i.e., Whale Tail Pit and IVR Pit), with underground mine development, over an eight-year mine life. Waste rock and overburden will be stored in the Whale Tail Waste Rock Storage Facility (WRSF), IVR WRSF, and Exploration Pad WRSF; excess non potentially acid generating or non-metal leaching (NPAG/NML) waste rock will be segregated and stockpiled separately (Agnico Eagle 2022a). The ore is being trucked to the existing mill in the Portage area of the Meadowbank Mine for processing, and tailings are being deposited in the existing Meadowbank Mine tailings storage facility.

Models completed by Golder Associates Ltd. (Golder) are summarized in Table 1.

Table 1: Summary of Water Quality Models completed by Golder for the Whale Tail Project

Model	Year	Comments	In-text Reference	Report Reference
Approved Project	2016, updated in 2017	In support of the Environmental Assessment (EA) and Water Licence Type A Application for the Whale Tail Pit	Approved Project FEIS	Golder 2016b Golder 2017a
Water Licence B Application	2016	Water Licence B Application for the Advanced Exploration and Bulk Sampling of the Amaruq Exploration Site	No reference	Golder 2016a
Expansion EA	2018	Completed using the same modelling platform as the Approved Project, but informed by additional purpose-built and more detailed models to address issues raised during the Approved Project FEIS	Expansion Project FEIS	Golder 2018a
Water Licence Type A Amendment Application	2019	Water Licence Type A Amendment Application for the Expansion Project	2019 NWB Model	Golder 2019a
2019 Annual Report	2020	Completed in support of the 2019 Annual Report; represents Approved Project	2019 WQF	Golder 2020
2020 Annual Report	2021	Completed in support of the 2020 Annual Report; represents Expansion Project	2020 WQF	Golder 2021a (water balance) Golder 2021b (water quality)
IVR and Whale Tail Pushback EA	2021	Completed in support of the IVR and Whale Tail Pushback EA	IVR and Whale Tail Pushback Model	Golder 2021c

Agnico Eagle retained Golder to forecast the probable quality of mine contact water to support the 2021 Annual Report, as mandated in Part E, Items 5 and 6 of the Type A Water Licence 2AM-WTP1830:

"The Licensee shall submit a Water Quality Model for pit re-flooding and for WRSF Contact water mixing into Mammoth Lake post-closure as part of the water management which shall be re-calibrated as necessary and updated annually following commencement of Operations. The results and implications of the predictive model shall be reported to the Board."

To support the Annual Reporting required by the Water Licence, this report summarizes predictions of site and downstream water quality for the Project starting at closure and ending five years into post-closure (2050). The report documents a brief discussion the modelling approach, a summary of the water quality forecasts of the flooded Whale Tail Pit lake and runoff from the Whale Tail WRSF, and a quantitative comparison to previous model results, in particular, the 2019 NWB Model predictions.

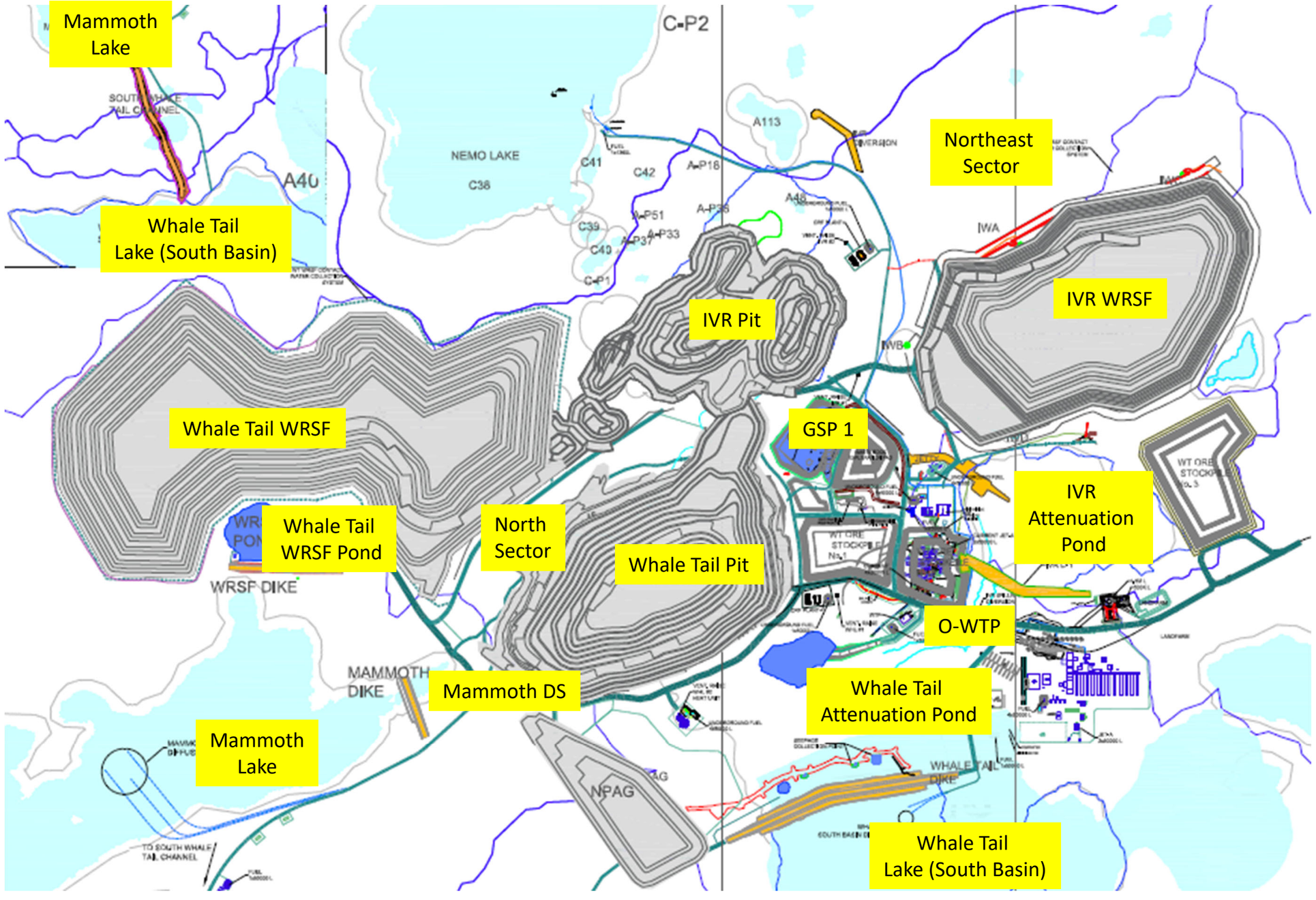

Figure 1: Project Location

2.0 CLOSURE WATER MANAGEMENT

Mine closure will be initiated after cessation of mining activities, in January 2026, with active flooding of the pits beginning as of January 2027. Flooding continues until water levels in Whale Tail Lake (North Basin) reach a water surface elevation of 153.5 masl (i.e., 1 m over the baseline elevation). This water level will be maintained through the construction of a sill at the Mammoth Dike to promote aquatic habitat in the Project site post operations. A sill will also be constructed at the A18 outlet as a part of the fish habitat offsetting plan (Agnico Eagle 2020) that will raise the water levels in A18 by 1.3 m from baseline conditions.

The refilling duration of Whale Tail Lake (North Basin) was estimated using the mean annual water balance based on the following assumptions:

- The Whale Tail Pit, IVR Pit, and Underground Mine are not hydraulically connected below the surface during the refilling period.
- Refilling of mining development is prioritized as follows:
  - Underground Mine;
  - IVR Pit (including pushback); and
  - Whale Tail Pit (including pushback).
- The Underground Mine is refilled by local catchment runoff, drawdown of GSP 1, IVR Attenuation Pond and partial drawdown of Whale Tail Lake (South Basin) to complete its flooding.
- The IVR Pit is refilled by local catchment runoff, runoff collected in the Whale Tail WRSF Contact Water Collection System, partial drawdown of Whale Tail Lake (South Basin), and diversion of runoff from Whale Tail Lake (South Basin) to maintain its closure water surface elevation (i.e., 153.5 masl).
- The Whale Tail Pit is refilled by local catchment runoff, runoff from the IVR WRSF Contact Water Management System, and overflow of the Whale Tail Attenuation Pond and of the IVR Pit. Once Whale Tail Pit is refilled, the water surface elevation increases until Whale Tail Lake (North Basin) reaches the water surface elevation of 153.5 masl.

Once the Whale Tail Lake (North Basin) reaches a water surface elevation of 153.5 masl, the Whale Tail WRSF dike will be breached and the runoff from the Whale Tail WRSF will discharge directly to Mammoth Lake.

Reconnection of the South Basin and North Basin and Mammoth Lake will occur once water quality objectives are met within Whale Tail Lake (North Basin). The water management activities for the closure period are illustrated in the form of a flow diagram in Figure 2.

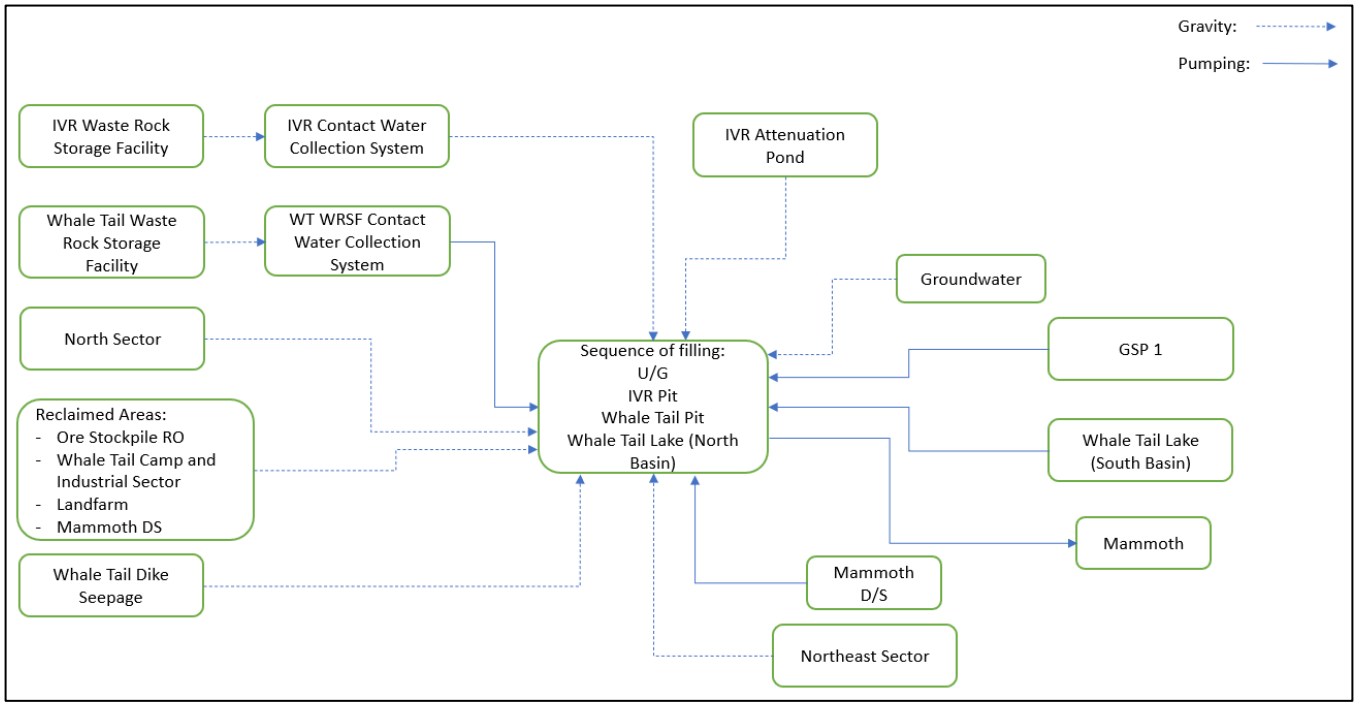

Figure 2: Conceptual Flow Diagram for Closure

3.0 MODELLING APPROACH

The water quality model was completed using GoldSim software version 12.1 (GoldSim 2018). GoldSim is a graphical, object-oriented mathematical model where all input constituents and functions are defined by the user and are built as individual objects or elements linked together by mathematical expressions. The object-based nature of the model is designed to facilitate understanding of the various factors, which control an engineered or natural system and predict the future performance of the system. The water quality model integrates a mass balance model with the water balance model for closure and post-closure. Each flow that could influence site discharge water quality for the Expansion Project was itemized and assigned a source term chemical profile based on geochemical testing of waste rock materials, observed mine site facility water quality at the Meadowbank Mine surface operations (informed by existing explosives management practices), baseline surface water quality monitoring data, and site groundwater monitoring data.

In the water quality model, Expansion Project facilities that accumulate water (e.g., water management ponds, pits, and sumps) are treated as distinct collection ponds within the model. Inflow volumes and concentrations or mass loads are included as inputs to each collection pond to account for chemical loadings from natural areas, developed areas, waste rock runoff and seepage, pit wall rock runoff, and groundwater inflows, to project the chemistry of contact water quality that is sourced from each of these mine facilities.

The water quality model is designed to estimate these chemistries as a monthly average concentration, from closure (active flooding occurs from January 2027 to September 2044) into post-closure (September 2044+). It simulates the concentrations of the following water quality:

- Major ions: chloride, fluoride, calcium, potassium, sodium, magnesium, sulphate
- Nutrients: total ammonia, nitrate, and total phosphorus

- Dissolved metals: aluminum, antimony, arsenic, barium, beryllium, bismuth, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, strontium, thallium, tin, uranium, vanadium, and zinc.

Total constituent concentrations are calculated based on modelled dissolved concentrations for on-site facilities, accounting for a particulate fraction for each constituent based on a total suspended solids (TSS) concentration and associated geochemical testing, which is added to the modelled dissolved concentrations. In the model completed to support the 2020 Annual Report (Golder 2021b), calibration was done to align modelled TSS, and total concentrations, to monitoring data, where both total and dissolved concentrations were available.

This report focuses on those constituents that are regulated in the effluent discharge as per the water license #2AM-WTP1830 (NWB 2020), which are:

- Nutrients: total ammonia, total phosphorus
- Total metals: aluminum, arsenic, cadmium, chromium, copper, iron, lead, mercury, nickel, and zinc.

3.1 Model Setup

The closure and post-closure mine site water balance that was completed for the IVR and Whale Tail Pit Pushback EA (Golder 2021c) was updated for consistency with the model updated for the 2020 Annual Report.

In general, at closure, water management on site can be separated into:

- Surface contact water flows, which are directed to the open pits (via gravity or by pumping) to accelerate flooding:
  - Runoff from reclaimed constructed pads
  - Pit wall runoff in the Whale Tail Pit, IVR Pit, Whale Tail Pushback and IVR Pushback
  - Groundwater inflows to the Whale Tail Pit and to the Whale Tail Attenuation Pond
  - Runoff from the covered Whale Tail WRSF, IVR WRSF, NPAG WRSF, and the material backfilled into the IVR Pushback
  - Landfarm runoff
- The volume in GSP-1 is pumped underground at the start of closure. The pond is then backfilled with NPAG material.
- Non-contact flows:
  - Previously diverted natural catchment runoff (i.e., Northeast Sector) is now permitted to drain towards Whale Tail Lake (North Basin)
  - Dike seepage, which is permitted to discharge and collect in Whale Tail Lake (North Basin).
  - Pumping of water from Whale Tail Lake (South Basin) to the flooding pit lake throughout freshet and the summer months. This maintains the baseline elevation in Whale Tail Lake (South Basin) while accelerating the flooding of the pits.

The effect on water quality from materials present in ditches, dikes, berms, and other water retaining structures is expected to be insignificant compared to contact water sources based on the water balance; as such, loading from these sources was considered negligible and not accounted for in the site water quality model.

In post-closure, the Whale Tail Mammoth, and Whale Tail WRSF dikes are breached to allow the baseline flow pathways to be re-established. At this point in time, runoff from the Whale Tail WRSF areas within the Mammoth Lake catchment area will begin reporting directly to Mammoth Lake.

3.1.1 Updates Applied for 2021

General site water quality and chemical loading rate inputs and assumptions have been maintained from the 2020 IVR and Whale Tail Pit Pushback Model, with the following updates:

- Incorporation of up-to-date IVR WRSF and Whale Tail WRSF 2D and 3D areas.
- Update of catchment areas based on the updated Whale Tail and IVR WRSF footprints;
- Update of Whale Tail Attenuation Pond volume curve (AEM, 2022b)
- Measured groundwater flows on site indicate seepage rates higher than what was previously predicted (i.e., to the pits and through the Whale Tail Dike). This may have an impact on seepage rates during closure as well. Based on a preliminary assessment of the 2021 monitoring data, closure groundwater rates were therefore increased by the following factors:
  - Groundwater seepage to the Whale Tail Pit: 1.5
  - Groundwater seepage from Whale Tail Lake (South Basin): 2.9
  - Seepage through Whale Tail Dike: 4.1
- Update of the assumed TSS concentrations in the runoff from the Whale Tail WRSF to Mammoth Lake, which are used to calculate total concentrations in the runoff. These are based on a calibration done in the 2020 WQF to account for seasonal variation in TSS concentrations (i.e., increased during high flow periods such as freshet and lower during low flow periods);
- Sewage treatment plant effluent concentrations for phosphorus, nitrate, and ammonia, based on site monitoring data, and applied as per the 2020 WQF;
- An assumed initial water quality and volume for Whale Tail Lake (South Basin), Mammoth Lake, and the Whale Tail Attenuation Pond at the start of closure, based on previous operations model results in the 2020 WQF.

4.0 CONSTITUENTS OF POTENTIAL CONCERN

Model results are presented for constituents that are listed in the water licence (NWB 2020), and comprise:

- Nutrients: Total ammonia, total phosphorus
- Total metals: Aluminum, arsenic, cadmium, chromium, copper, iron, lead, mercury, nickel, and zinc

Additionally, in the 2018 Expansion FEIS, the following constituents were identified as being of potential concern (Golder 2018b):

- Nutrients: Nitrate
- Major ions: Chloride, fluoride
- Total metals: Selenium

In post-closure, the natural drainage pattern will be re-established. The flooded pit lake (Whale Tail Lake [North Basin]) will become part of the receiving environment, and the flow from the flooded pit lake to Mammoth Lake will not be considered as site effluent. As such, the Canadian Environmental Quality Guidelines for the Protection of Aquatic Life (CEQG-PAL) (chronic) (CCME 2007) are used for comparative purposes in Whale Tail Lake (North Basin), rather than the Environmental Quality Criteria as prescribed in the water licence. Projected concentrations in Mammoth Lake are also compared to the CEQG-PAL. It should be noted that a Site Specific Water Quality Objective (SSWQO) for arsenic was developed and approved for the 2016 Approved Project FEIS (Golder 2016c), and was also appended to the 2018 Expansion FEIS as Appendix 6-N. This SSWQO of 0.025 mg/L supersedes the CEQG-PAL guideline. Table 2 provides the chronic CEQG-PAL for constituents of potential concern (COPCs).

Table 2: Effluent Quality Guidelines and Receiving Environment Guidelines for COPCs.

Constituent	Units	Effluent Quality Guideline (2AM-WTP1830) Maximum Authorized Monthly Mean Concentration	Canadian Water Quality Guideline for the Protection of Aquatic Life (Chronic) (CCME)
Major Ions			
Chloride	mg/L	-	120 (2011)
Fluoride	mg/L	-	0.12 (2002)
Nutrients			
Total Ammonia (NH_3-N)	mg/L	16	-
Nitrate (NO_3-N)	mg/l	-	2.9 (2012)
Total Phosphorus (P)	mg/L	0.3	0.01 [1] (2007)
Total Metals			
Aluminum (Al)	mg/L	0.5	0.1 [2] (1987)
Arsenic (As)	mg/L	0.1	0.025 [3]
Cadmium (Cd)	mg/L	0.002	0.00004 [4] (2014)
Chromium (Cr)	mg/L	0.02	Total Cr: none Cr (VI): 0.001 (1997) Cr (III): 0.0089 (1997)
Copper (Cu)	mg/L	0.1	0.002 [4] (1987)
Iron (Fe)	mg/L	1.0	0.3 (1987)
Lead (Pb)	mg/L	0.05	0.0017 (1987)
Manganese (Mn)	mg/L	-	0.49 [5] (2019)
Mercury (Hg)	mg/L	0.004	0.000026 (2003)
Nickel (Ni)	mg/L	0.25	0.066 [4] (1987)
Selenium (Se)	mg/L	-	0.001 (1987)
Zinc (Zn)	mg/L	0.1	0.028 [6] (2018)

Notes:

1. Represents the oligotrophic-mesotrophic boundary.
2. Applicable at pH ≥ 6.5.
3. The Site Specific Water Quality Objective (SSWQO) (Golder 2016c) replaces the CEQG-PAL for arsenic.
4. Hardness dependent, assumed hardness of 61 mg/L $CaCO_3$, based on Mammoth 2020 CREMP monitoring data.
5. Hardness and pH dependent. Assumed hardness of 61 mg/L $CaCO_3$, and pH of 6.85
6. Hardness, pH, and DOC dependent. Assumed hardness of 61 mg/L $CaCO_3$, pH of 6.85, and DOC of 2.7 mg/L.

5.0 WATER BALANCE RESULTS

Based on the water management strategy described in Section 2.0, refilling of the pits to 153.5 masl is estimated to occur by 2044 (Figure 3), at which point it is considered Whale Tail Lake (North Basin). Reconnection of the South Basin and North Basin and Mammoth Lake will occur once water quality objectives are met within Whale Tail Lake (North Basin), predicted to be prior to the completion of the flooding of the pit (see Section 5.0).

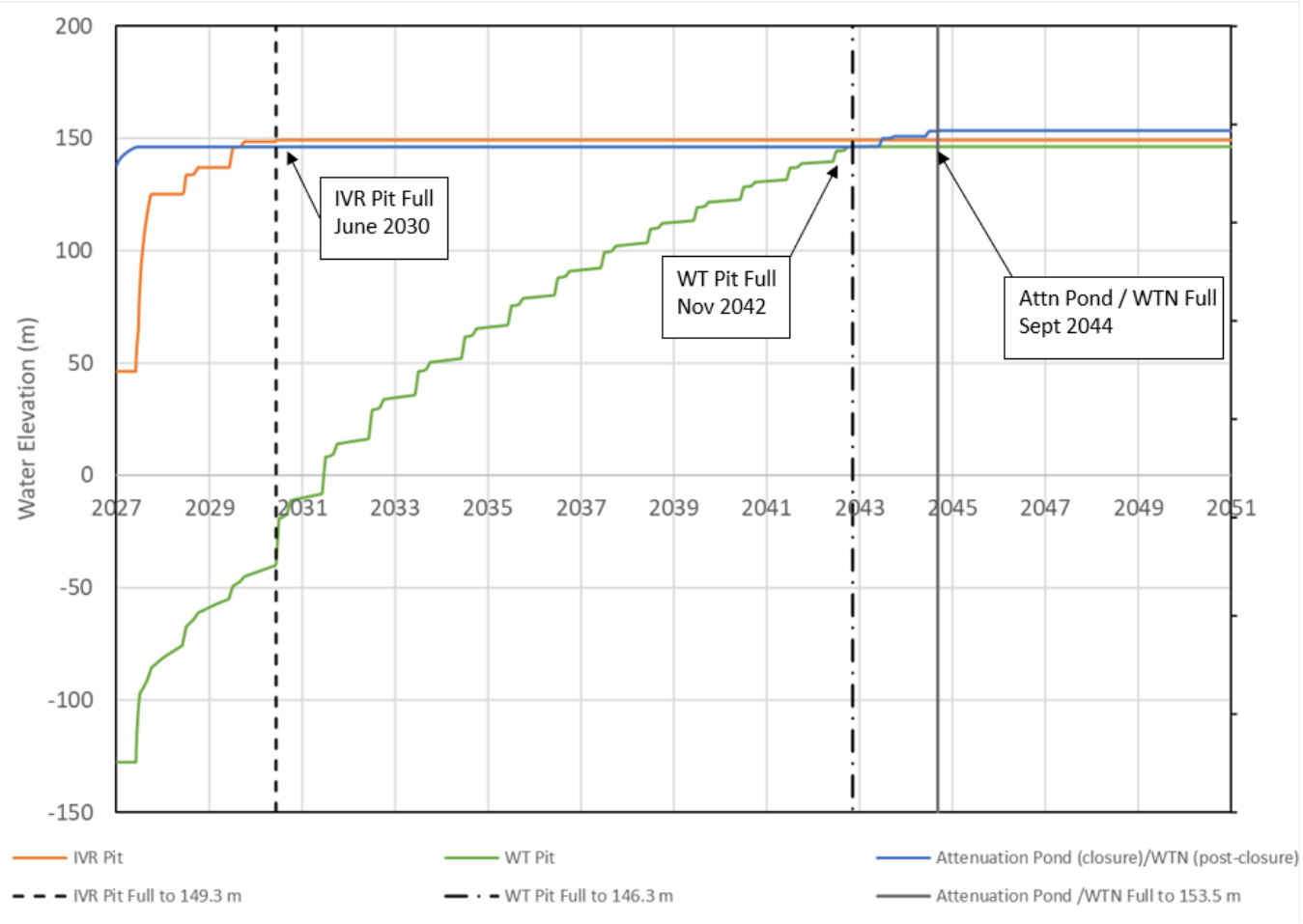

Figure 3: Filling Schedule and Water Levels in the Pits and Whale Tail Lake (North Basin) in Closure

Once Whale Tail Lake (North Basin) reaches a water level of 153.5 masl, the Whale Tail WRSF runoff will no longer be pumped to the IVR Pit. Runoff will be permitted to drain naturally to Mammoth Lake. Under average climate conditions, approximately 46,000 m^3 will be discharged to Mammoth Lake annually (Figure 4).

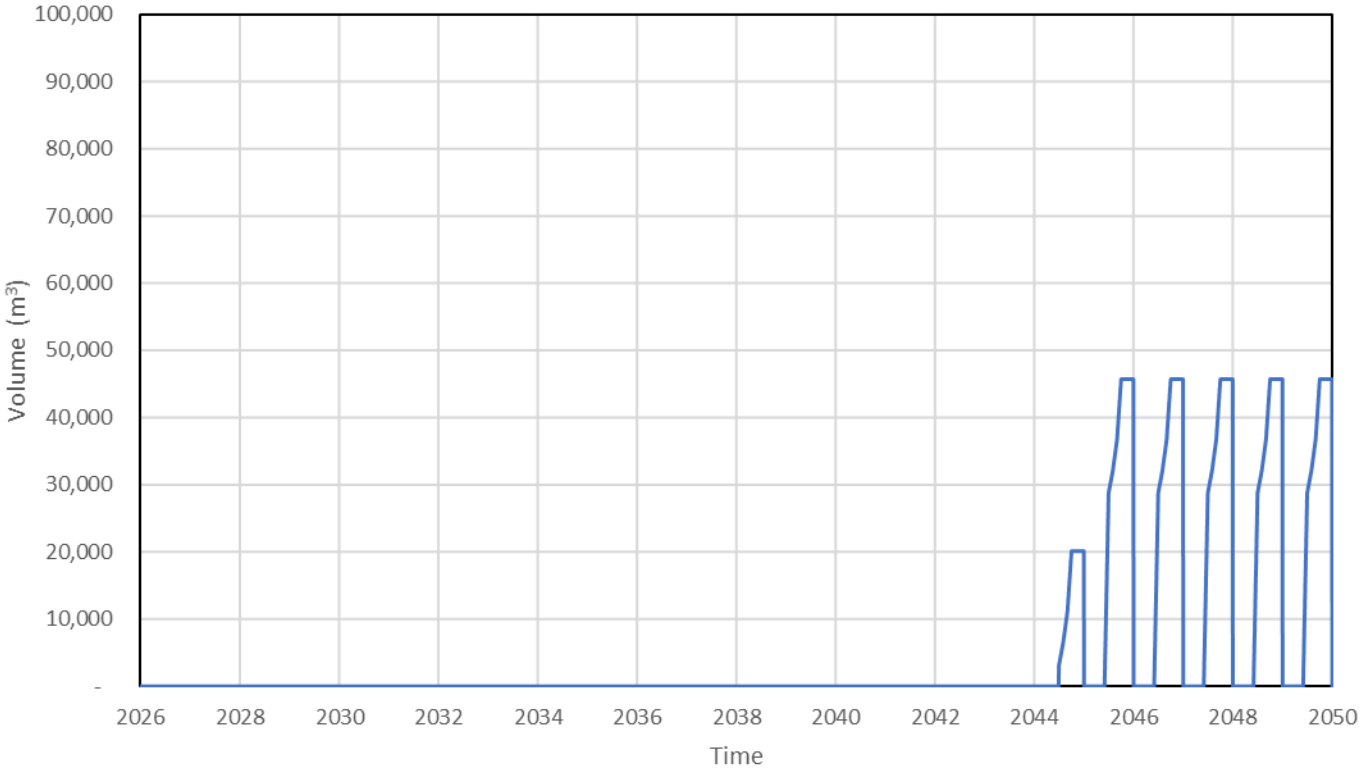

Figure 4: Annual Discharge from Whale Tail WRSF to Mammoth Lake

6.0 WATER QUALITY PREDICTIONS

Water quality predictions of average monthly values for COPCs in closure and post-closure are presented in Figure 5 for the flooded Whale Tail Pit (Whale Tail Lake [North Basin]), Figure 6 for the Whale Tail WRSF Pond and Figure 7 for Mammoth Lake. Both dissolved and total constituent predictions are presented. The Whale Tail Pit Lake and Mammoth Lake predictions are compared to the CEQG-PAL (Chronic), with the exception of arsenic which is compared to the Site Specific Water Quality Objective (SSWQO).

Predicted concentrations are considered to be order-of-magnitude estimates. Actual water quality will largely depend on the mine plan and management practices followed during mining, and on-site conditions related to water movement and chemical loading. In that respect, the extent to which site water quality conditions are influenced by each of the source terms during operations and closure is bound by some uncertainty. Site water quality conditions will be influenced by the degree of contact between water and rock and dissolution kinetics. This will depend largely on climate, particularly the amount of precipitation and evaporation, and the ambient air temperature.

The modelling has assumed that site contact water streams will not be influenced by acid rock drainage inputs. It is assumed that PAG rock management is effective at preventing the development of acid rock drainage by segregating and progressively covering the Whale Tail and IVR WRSFs with a cover of NPAG/NML waste rock that encompasses the full depth of the anticipated active thaw layer (4.7 m; Golder 2018c), allowing the centre of the pile to freeze. The pH of most contact water streams is therefore expected to be circum-neutral given the low sulphide content and ample carbonate mineral buffering capacity of mine wastes. The rock types that have been identified as PAG demonstrate slow reaction rates in kinetic testing (Golder 2018d).

The input of explosives by-products (i.e., ammonia and nitrate) to site contact water streams has been included in the modelling. The concentration of these nitrogen residuals in site contact water is sensitive to the management of blasting agents during their use. Given the proximity and similarity both in setting and operation of the site to the Meadowbank Mine (similar mining rate, explosives type and explosives usage rate), it was assumed that similar nitrogen and ammonia contents would occur in the waste rock, and open pit drainages. These concentrations decrease in the closure and post-closure periods under the assumption that they are in large part washed out and treated throughout operations; however, they are never zero.

6.1 Whale Tail Pit

6.1.1 Closure

In closure, all water on site, as well as pumped flows from Whale Tail Lake (South Basin), are directed to the IVR Pit, which fills and then begins to flow into the Whale Tail Pit. The Whale Tail Attenuation Pond also is allowed to flow by gravity to the Whale Tail Pit. The Whale Tail Pit is predicted to have some elevated constituent concentrations initially during flooding, due to an initial mass load from the pit benches and floors compared to the small volume of water present. Throughout closure, however, the flooding results in an improvement to water quality in the pit as it continues to be actively flooded using excess water from Whale Tail Lake (South Basin). The Whale Tail Attenuation Pond is a source of some elevated concentrations to the Whale Tail Pit during the flooding period.

As the current model accounts for the Whale Tail and IVR Pushbacks as modelled for the Nunavut Review Board permit in 2021, there are additional mass loadings entering the pit lake in closure due the backfilling, and subsequent flooding, of backfilled NPAG/NML material in the IVR Pushback. This material is not expected to be fully submerged and as such, may: 1) be prone to more highly weathered horizons where the water fluctuates

within the backfill, and 2) provide additional mass loading from the runoff over, and infiltration through, the non-submerged backfill, similar to a waste rock pile. Despite the additional mass loadings from the IVR Pushback backfill, all COPC concentrations, including chloride, fluoride, nitrate, and selenium as identified by the 2018 FEIS, are predicted to decrease below their respective CEQG-PAL guidelines (and SSWQO for arsenic) prior to the completion of flooding and continue to decrease into post-closure. Total phosphorus concentrations decrease below the upper limit for the mesotrophic range, and are anticipated to be within the oligotrophic range within short-term post-closure.

6.1.2 Post-Closure

Post-closure occurs when the Whale Tail Pit Lake is fully flooded and water meets closure water quality objectives, which is predicted to occur prior the completion of flooding. At that time, both the Mammoth Dike and the Whale Tail Dike are decommissioned, the Whale Tail Lake North and South Basins are reconnected, and water naturally flows over the Mammoth sill into Mammoth Lake from the Whale Tail Lake (North Basin). Mammoth Lake also receives runoff directly from the Whale Tail WRSF.

Concentrations of all water quality constituents in Whale Tail Lake (North Basin) are predicted to remain below receiving water quality objectives in post-closure.

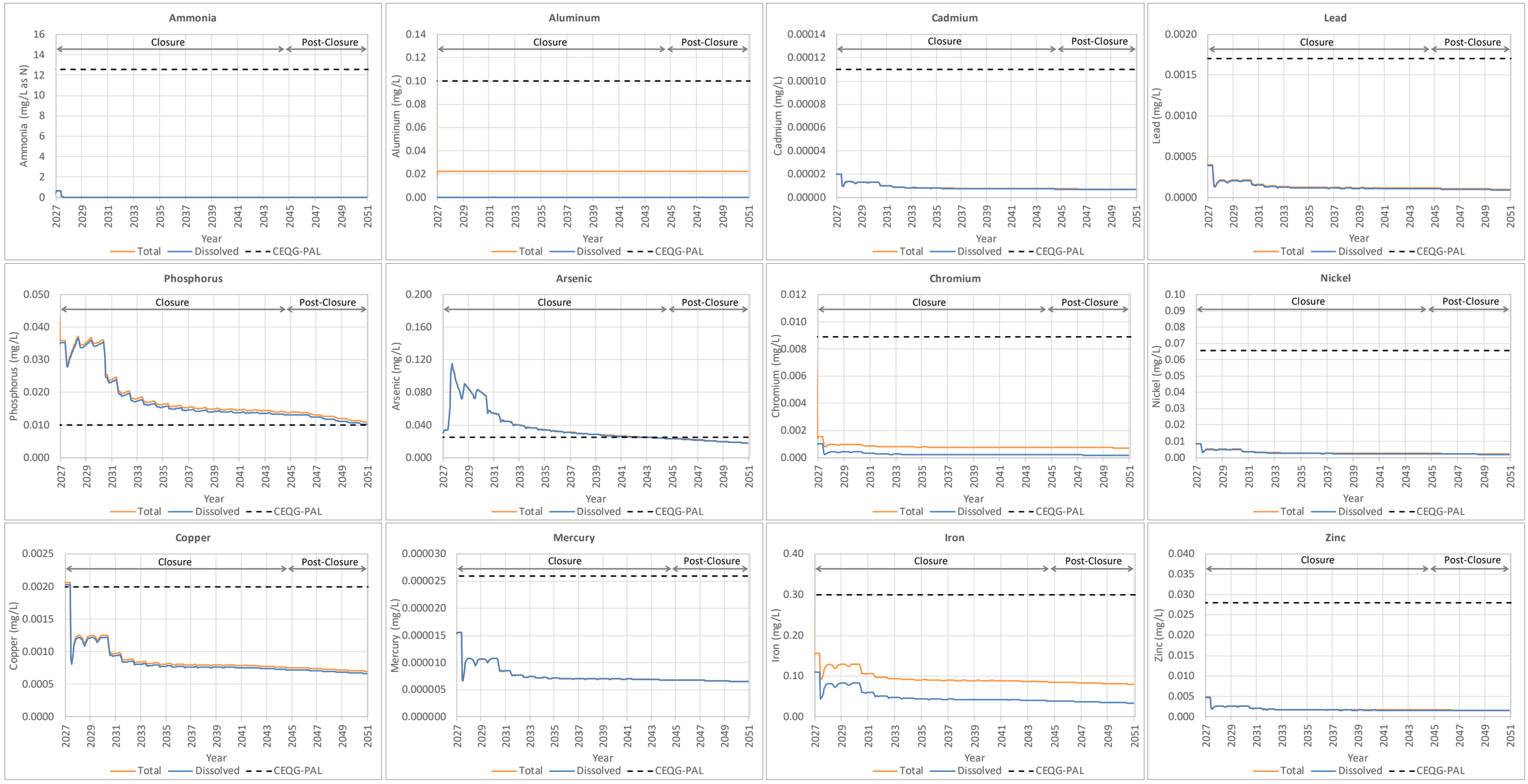

Figure 5: Predicted concentrations of COPCs for the Whale Tail Pit Lake in closure and post-closure. Results are compared to the CEQG-PAL (chronic) and SSWQO (arsenic only).

6.2 Downstream

The water quality in Mammoth Lake begins to recover at the onset of closure, as it stops receiving discharge from the site. Once water quality in the Whale Tail Pit Lake is acceptable, the dikes will be breached and water will flow from the flooded pit and from the Whale Tail WRSF to Mammoth Lake. Water quality in Mammoth Lake is reported below, along with water quality predicted from the Whale WRSF in closure as it will flow directly to Mammoth in post-closure.

6.2.1 Whale Tail WRSF

Throughout operations, the Whale Tail WRSF will be progressively covered, such that by closure, a cover will have been placed over the entire footprint. By design, only the slope of the first bench of the landform is anticipated to provide runoff that reports to the receiving environment, based on modelling done in support of the Expansion FEIS (Okane 2019). Therefore, the mass load released to the runoff is calculated using only the area of the slope of the first bench.

As previously presented in the 2020 WQF (Golder 2021b), predicted constituent concentrations show seasonal variation corresponding to TSS concentrations and calibration, based on observed trends in the monitoring data. Due to this calibration, the model incorporates increased loadings of many of the COPCs within the Whale Tail WRSF runoff; this is further exacerbated by the increased areas of the slopes of the first benches as per the most recent design.

6.2.2 Mammoth Lake

The projected water quality in Mammoth Lake is predicted to meet guidelines in post-closure for all COPCs (including chloride, fluoride, nitrate, and total selenium, as identified in the 2018 FEIS), with the exception of arsenic and phosphorus. Arsenic exceeds the SSWQO (0.025 mg/L) in the months of October through May, when ice formation on the lake creates a concentrating effect in the underlying water. This is predicted to occur three years in short-term post-closure, reaching a maximum predicted concentration of 0.027 mg/L under ice before dropping below guidelines again prior to 2050. Concentrations in summer months (June through September) are predicted to consistently meet the arsenic guideline in post-closure. Phosphorus exceeds the CEQG-PAL oligotrophic-mesotrophic boundary of 0.01 mg/L for the first few years of closure, but shows a decreasing trend that supports a quick recovery.

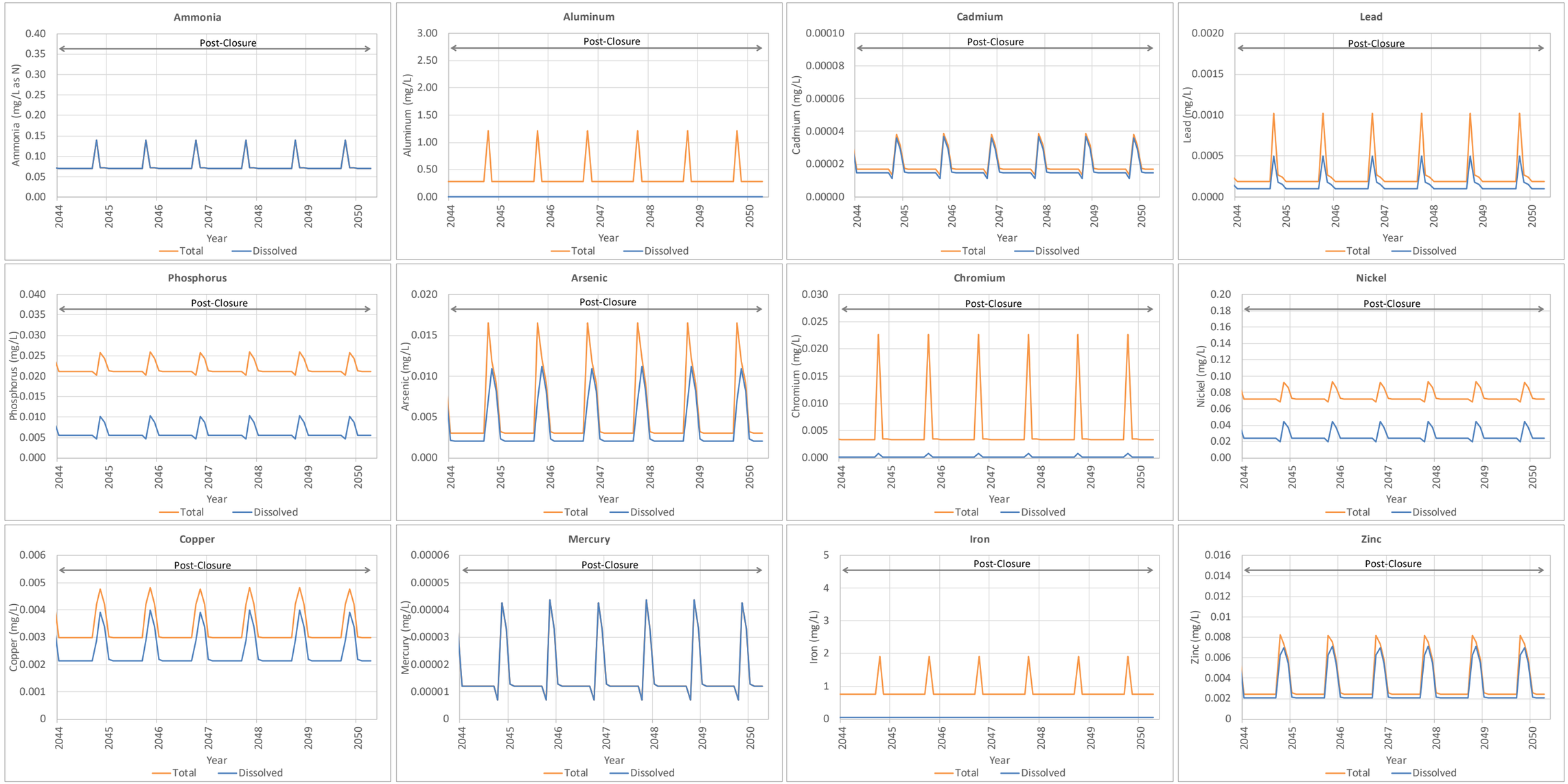

Figure 6: Predicted concentrations of COPCs for the Whale Tail WRSF runoff to Mammoth Lake in post-closure.

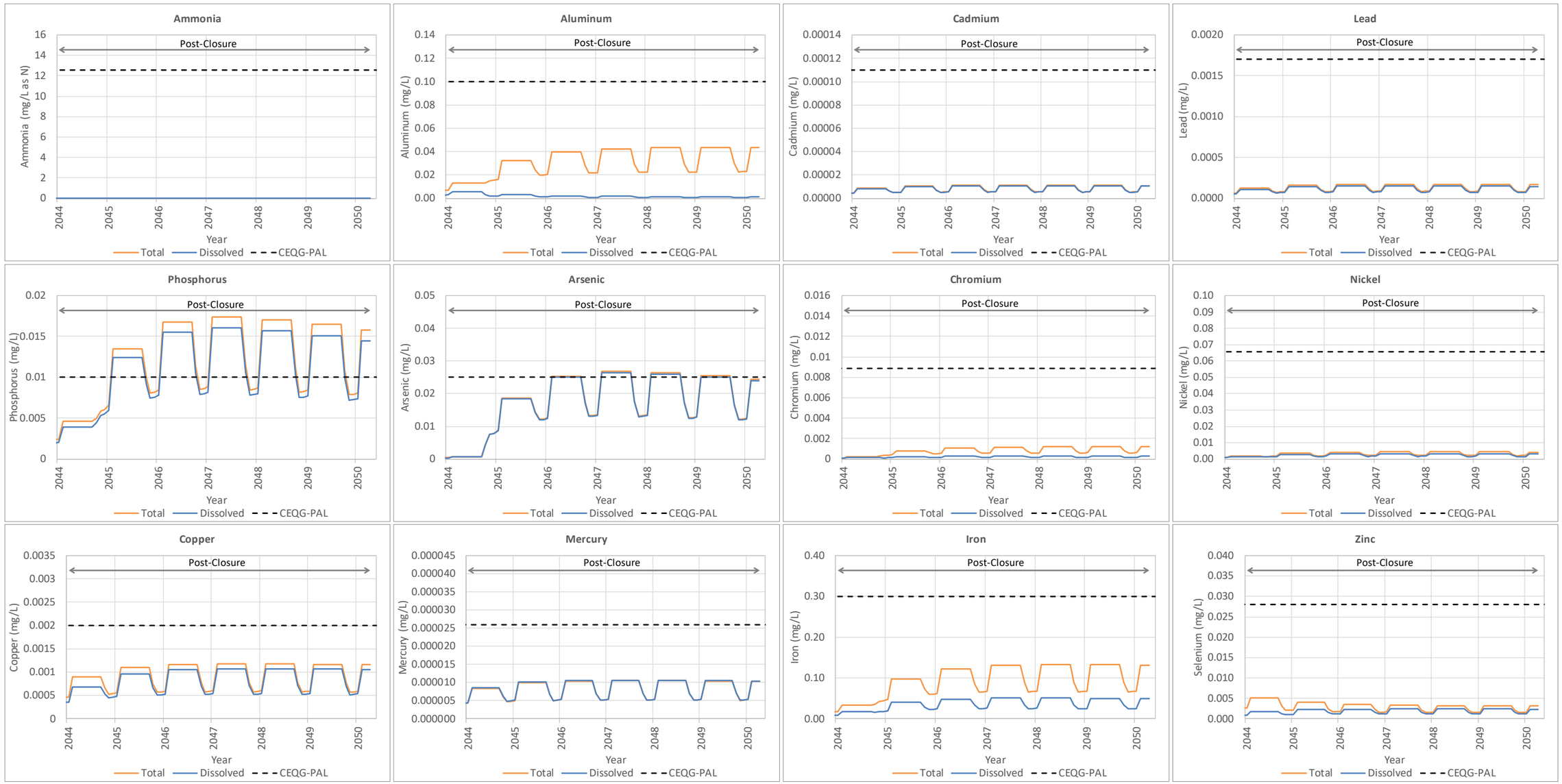

Figure 7: Predicted concentrations of COPCs for Mammoth Lake in post-closure. Results are compared to the CEQG-PAL (chronic) and SSWQO (arsenic only).

6.3 Comparison to Previous Model Results

As the site water quality has been modelled over the various stages of permitting and licencing, refinements and updates have been included that affect water quality predictions. Generally, such refinements and updates result in a reduction in conservatism and lower concentrations; however some updates, such as calibration to site data (as was done for the 2020 Annual Report) and updates to designs of facilities (for example, larger or pushed-back pits, larger WRSFs) result in higher concentrations. Tables A.1, A.2 and A.3 show a summary of post-closure water quality predictions from the 2019 NWB Model, as well as each subsequent update to support the Annual Reports (2019, 2020, and 2021). An analysis of model results relative to the 2019 NWB Model was completed using a trigger value of ±20%, which is consistent with the trigger value used to calculate the upper threshold of the range of Level 0 in the Adaptive Management Plan (AEM 2021).

6.3.1 Whale Tail Pit Lake

Differences in the predictions of the Whale Tail Pit Lake throughout past models are primarily a function of assumed TSS levels. In the 2019 NWB Model, the preliminary assumption was that there would be 15 mg/L of TSS remaining in the pit lake in perpetuity. Through the regulatory process, this was refined to an assumption of 1 mg/L, due to the deep water column, which would promote settling of particulate matter; it is also consistent with monitoring data from surrounding lakes. For some constituents that have a large assumed particulate component, this results in a notable decrease in projected total concentrations.

Some constituents show an increase in concentration with the current model, relative to previous Annual Report models and the FEIS. This is a function of the calibration done for the 2020 WQF, updated mine plans with the Whale Tail and IVR Pushbacks, updates to the relative proportions of lithologies of exposed material, and additional mass loadings from the partially submerged backfill within the IVR Pushback.

All COPCs are below the CEQG-PAL prior to completion of the flooding of the pit, and total phosphorus is predicted to be within the mesotrophic range, but decreasing steadily, and is anticipated to become oligotrophic within short-term post-closure. Further, all COPCs are either within the range of the 2019 NWB Model, or below. Differences greater than 20% are highlighted in Table A.2.

6.3.2 Mammoth

As previously presented in the 2020 WQF (Golder 2021b), water quality in Mammoth Lake shows an initial increase in some predicted concentrations at the start of post-closure; this is due to a large volume of water flowing from the flooded pit lake, which has higher concentrations than Mammoth Lake at that point in time (for example, total arsenic). The predicted short-term post-closure exceedances of arsenic concentrations under ice in Mammoth Lake varies from the 2020 WQF where arsenic concentrations were predicted to meet guidelines (Golder 2021b). This change can be explained by the inclusion of the IVR and Whale Tail Pushbacks in this year's model update, which resulted in additional loading coming from the backfill of the pushbacks into Mammoth Lake, as well as an update to the lithological proportions in the pit walls, which contribute mass load during filling, compared to the loading in the 2020 WQF (Golder 2021b).

Relative to the 2019 NWB Model, arsenic, cadmium, mercury and zinc show an increase of greater than 20% long term in Mammoth Lake. This level of increase can be attributed to increased load from the pushback additions, and is only observed from October to May while the lake is still under ice,

7.0 STUDY LIMITATIONS

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8.0 CLOSURE

Should you have any questions regarding this report, please do not hesitate to contact the undersigned.

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https://golderassociates.sharepoint.com/sites/157365/project files/5 technical work/01_wb_wq/reporting/rev 0/21508120-552-r-whaletail-2021annualrpt-waterquality_rev0_march2022.docx

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Golder. 2016c. Agnico Eagle Mines Whale Tail Pit Project, Meadowbank Division FEIS, Appendix 6-N. Site-specific Water Quality Objective – Arsenic.

Golder. 2017a. Addendum to Agnico Eagle Mines Whale Tail FEIS Appendix 6-H. Sensitivity Analyses on Water Quality Modelling in Support of Responses to Technical Commitments 30, 36, 37, and 42 and Intervenor Comment ECCC#15 and INAC-TRC #3 and #5, on the Water Licence Application to the Nunavut Water Board. Reference No 015 1658927/6100/6120 Revision 3. August 2017.

Golder. 2018a. Agnico Eagle Mines Whale Tail Expansion FEIS Appendix 6-H. Mine Site and Downstream Receiving Water Quality Predictions Whale Tail Pit – Expansion Project. Reference No. 1789310-237-RPT-Rev0. November 2018.

Golder. 2018b. Agnico Eagle Mines Whale Tail Pit – Expansion Project FEIS. Section 6.0 – Freshwater Environment. December 2018.

Golder. 2018c. Whale Tail Pit Project Waste Rock Storage Facility Cover Thermal Assessment. June 2018.

Golder. 2018d. Evaluation of the Geochemical Properties of Waste Rock, Ore, Tailings, Overburden and Sediment, Whale Tail Pit Project. Reference No. 1789310-182-RPT-Rev1. November 2018.

Golder. 2019a. Mine Site Downstream Receiving Water Quality Predictions. Whale Tail Pit – Expansion Project. Reference No. 18108905-308-RPT-Rev0. May 2019.

Golder. 2019b. 2019 Mean Annual Water Balance Update Whale Tail Pit – Expansion Project. Reference 18108905-294-RPT-Rev0. May 2019.

Golder. 2019c. Amaruq Mine - Hydrodynamic Modelling of Mammoth Lake, Whale Tail Approved Project. Reference No. 1789310-246-TM-Rev0. March 2019.

Golder. 2020. Whale Tail Pit – Approved Project, Mine Site and Downstream Receiving Water Quality Predictions – 2019 Annual Report. Reference No. 20136950-480-RPT-RevA. March 2020.

Golder. 2021a. Whale Tail Project. 2020 Annual Report – Water Balance. Reference No. 20442330-514-RPT-RevA. April 2021.

Golder. 2021b. Whale Tail Project: 2020 Annual Report – Site and Downstream Receiving Water Quality Predictions – 2020 Annual Report. Reference No. 20442330-517-RPT-Rev0. April 2021.

Golder. 2021c. IVR and Whale Tail Pit Pushback. Reference No. 21459323-521-RPT-Rev0. June 2021.

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APPENDIX A

Quantitative Comparison of Current and Previous Water Quality Results for Post-Closure

Table 1. Whale Tail WRSF Runoff Water Quality
Long-term Post-Closure Model Results Comparison

Parameter	Source	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
NH3	Expansion WL Amendment Model (2019) [2]	0.0055	0.0055	0.0055	0.0055	0.0055	0.0056	0.0056	0.0055	0.0055	0.0055	0.0055	0.0055
	Annual Report Update 2019 (Approved Project) [3]	0.0056	0.0056	0.0056	0.0056	0.0056	0.0073	0.006	0.0059	0.0056	0.0056	0.0056	0.0056
	Annual Report Update 2020 (Expansion Project) [4]	0.073	0.073	0.073	0.073	0.073	0.17	0.078	0.077	0.073	0.073	0.073	0.073
	Annual Report Update 2021 (Expansion Project with Pushback) [4]	0.071	0.071	0.071	0.071	0.071	0.14	0.072	0.072	0.071	0.071	0.071	0.071
P	Expansion WL Amendment Model (2019) [2]	0.016	0.016	0.016	0.016	0.016	0.014	0.024	0.022	0.016	0.016	0.016	0.016
	Annual Report Update 2019 (Approved Project) [3]	0.0096	0.0096	0.0096	0.0096	0.0096	0.0081	0.01	0.01	0.0096	0.0096	0.0096	0.0096
	Annual Report Update 2020 (Expansion Project) [4]	0.02	0.02	0.02	0.02	0.02	0.019	0.021	0.021	0.02	0.02	0.02	0.02
	Annual Report Update 2021 (Expansion Project with Pushback) [4]	0.021	0.021	0.021	0.021	0.021	0.02	0.026	0.024	0.021	0.021	0.021	0.021
Al	Expansion WL Amendment Model (2019) [2]	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
	Annual Report Update 2019 (Approved Project) [3]	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
	Annual Report Update 2020 (Expansion Project) [4]	0.29	0.29	0.29	0.29	0.29	1.2	0.29	0.29	0.29	0.29	0.29	0.29
	Annual Report Update 2021 (Expansion Project with Pushback) [4]	0.29	0.29	0.29	0.29	0.29	1.2	0.29	0.29	0.29	0.29	0.29	0.29
As	Expansion WL Amendment Model (2019) [2]	0.022	0.022	0.022	0.022	0.022	0.0095	0.099	0.076	0.023	0.022	0.022	0.022
	Annual Report Update 2019 (Approved Project) [3]	0.012	0.012	0.012	0.012	0.012	0.0054	0.021	0.02	0.013	0.012	0.012	0.012
	Annual Report Update 2020 (Expansion Project) [4]	0.0018	0.0018	0.0018	0.0018	0.0018	0.012	0.0035	0.0032	0.0019	0.0018	0.0018	0.0018
	Annual Report Update 2021 (Expansion Project with Pushback) [4]	0.003	0.003	0.003	0.003	0.003	0.016	0.012	0.0091	0.0032	0.003	0.003	0.003
Cr	Expansion WL Amendment Model (2019) [2]	0.0085	0.0085	0.0085	0.0085	0.0085	0.0084	0.0088	0.0087	0.0085	0.0085	0.0085	0.0085
	Annual Report Update 2019 (Approved Project) [3]	0.006	0.006	0.006	0.006	0.006	0.0059	0.006	0.006	0.006	0.006	0.006	0.006
	Annual Report Update 2020 (Expansion Project) [4]	0.0034	0.0034	0.0034	0.0034	0.0034	0.022	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034
	Annual Report Update 2021 (Expansion Project with Pushback) [4]	0.0034	0.0034	0.0034	0.0034	0.0034	0.023	0.0035	0.0034	0.0034	0.0034	0.0034	0.0034
Cd	Expansion WL Amendment Model (2019) [2]	0.000015	0.000015	0.000015	0.000015	0.000015	0.0000093	0.000053	0.000041	0.000016	0.000015	0.000015	0.000015
	Annual Report Update 2019 (Approved Project) [3]	0.0000092	0.0000092	0.0000092	0.0000092	0.0000092	0.000005	0.000012	0.000012	0.0000093	0.0000092	0.0000092	0.0000092
	Annual Report Update 2020 (Expansion Project) [4]	0.000013	0.000013	0.000013	0.000013	0.000013	0.0000098	0.000015	0.000015	0.000013	0.000013	0.000013	0.000013
	Annual Report Update 2021 (Expansion Project with Pushback) [4]	0.000017	0.000017	0.000017	0.000017	0.000017	0.000013	0.000038	0.000032	0.000018	0.000017	0.000017	0.000017
Cu	Expansion WL Amendment Model (2019) [2]	0.0018	0.0018	0.0018	0.0018	0.0018	0.0014	0.0043	0.0036	0.0018	0.0018	0.0018	0.0018
	Annual Report Update 2019 (Approved Project) [3]	0.0012	0.0012	0.0012	0.0012	0.0012	0.0008	0.0014	0.0013	0.0012	0.0012	0.0012	0.0012
	Annual Report Update 2020 (Expansion Project) [4]	0.0026	0.0026	0.0026	0.0026	0.0026	0.0034	0.0027	0.0027	0.0026	0.0026	0.0026	0.0026
	Annual Report Update 2021 (Expansion Project with Pushback) [4]	0.003	0.003	0.003	0.003	0.003	0.0042	0.0048	0.0042	0.003	0.003	0.003	0.003
Fe	Expansion WL Amendment Model (2019) [2]	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
	Annual Report Update 2019 (Approved Project) [3]	0.51	0.51	0.51	0.51	0.51	0.49	0.51	0.51	0.51	0.51	0.51	0.51
	Annual Report Update 2020 (Expansion Project) [4]	0.76	0.76	0.76	0.76	0.76	1.9	0.76	0.76	0.76	0.76	0.76	0.76
	Annual Report Update 2021 (Expansion Project with Pushback) [4]	0.76	0.76	0.76	0.76	0.76	1.9	0.76	0.76	0.76	0.76	0.76	0.76
Hg	Expansion WL Amendment Model (2019) [2]	0.00003	0.00003	0.00003	0.00003	0.00003	0.000013	0.00014	0.00011	0.000032	0.00003	0.00003	0.00003
	Annual Report Update 2019 (Approved Project) [3]	0.000012	0.000012	0.000012	0.000012	0.000012	0.000005	0.000019	0.000018	0.000012	0.000012	0.000012	0.000012
	Annual Report Update 2020 (Expansion Project) [4]	0.0000065	0.0000065	0.0000065	0.0000065	0.0000065	0.0000041	0.0000094	0.0000089	0.0000066	0.0000065	0.0000065	0.0000065
	Annual Report Update 2021 (Expansion Project with Pushback) [4]	0.000012	0.000012	0.000012	0.000012	0.000012	0.0000071	0.000043	0.000033	0.000013	0.000012	0.000012	0.000012
Ni	Expansion WL Amendment Model (2019) [2]	0.0054	0.0054	0.0054	0.0054	0.0054	0.0048	0.009	0.0079	0.0055	0.0054	0.0054	0.0054
	Annual Report Update 2019 (Approved Project) [3]	0.0039	0.0039	0.0039	0.0039	0.0039	0.0033	0.0041	0.0041	0.0039	0.0039	0.0039	0.0039
	Annual Report Update 2020 (Expansion Project) [4]	0.068	0.068	0.068	0.068	0.068	0.063	0.069	0.069	0.068	0.068	0.068	0.068
	Annual Report Update 2021 (Expansion Project with Pushback) [4]	0.072	0.072	0.072	0.072	0.072	0.068	0.092	0.086	0.073	0.072	0.072	0.072
Pb	Expansion WL Amendment Model (2019) [2]	0.00028	0.00028	0.00028	0.00028	0.00028	0.00023	0.00055	0.00047	0.00028	0.00028	0.00028	0.00028
	Annual Report Update 2019 (Approved Project) [3]	0.00019	0.00019	0.00019	0.00019	0.00019	0.00014	0.00021	0.00021	0.00019	0.00019	0.00019	0.00019
	Annual Report Update 2020 (Expansion Project) [4]	0.00017	0.00017	0.00017	0.00017	0.00017	0.00088	0.00018	0.00018	0.00017	0.00017	0.00017	0.00017
	Annual Report Update 2021 (Expansion Project with Pushback) [4]	0.00019	0.00019	0.00019	0.00019	0.00019	0.001	0.00026	0.00024	0.00019	0.00019	0.00019	0.00019
Zn	Expansion WL Amendment Model (2019) [2]	0.0069	0.0069	0.0069	0.0069	0.0069	0.0035	0.029	0.022	0.0074	0.0069	0.0069	0.0069
	Annual Report Update 2019 (Approved Project) [3]	0.0031	0.0031	0.0031	0.0031	0.0031	0.0016	0.0044	0.0043	0.0031	0.0031	0.0031	0.0031
	Annual Report Update 2020 (Expansion Project) [4]	0.0016	0.0016	0.0016	0.0016	0.0016	0.0057	0.002	0.0019	0.0016	0.0016	0.0016	0.0016
	Annual Report Update 2021 (Expansion Project with Pushback) [4]	0.0024	0.0024	0.0024	0.0024	0.0024	0.0082	0.0074	0.0058	0.0026	0.0024	0.0024	0.0024

Notes:

1. Type A Amended Water licence #2AM-WTP1830
2. Total concentrations calculated based on an assumed 15 mg/L of TSS.
3. Total concentrations calculated based on an assumed 10 mg/L of TSS.
4. Total concentrations calculated based on an assumed 10 mg/L of TSS, and further calibrated to seasonal variation seen in monitoring data.

Indicates an increase of 20% or greater relative to the Expansion WL Amendment Model (2019)

Indicates a decrease of 20% or greater relative to the Expansion WL Amendment Model (2019)

Parameter	Source	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
NH3	CEQG-PAL (Chronic) [1]	-											
	Expansion WL Amendment Model (2019) [2, 3]	0.041	0.041	0.041	0.041	0.041	0.04	0.039	0.039	0.039	0.039	0.039	0.039
	Annual Report Update 2019 (Approved Project) [4, 5]	0.0081	0.0081	0.0081	0.0081	0.0081	0.008	0.0079	0.0079	0.0078	0.0078	0.0078	0.0078
	Annual Report Update 2020 (Expansion Project) [3, 4]	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013
	Annual Report Update 2021 (Expansion Project with Pushback) [3, 4]	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.011	0.011	0.011	0.011
P	CEQG-PAL (Chronic) [1]	0.01											
	Expansion WL Amendment Model (2019) [2, 3]	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017
	Annual Report Update 2019 (Approved Project) [4, 5]	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.0034	0.0033	0.0033	0.0033
	Annual Report Update 2020 (Expansion Project) [3, 4]	0.0083	0.0083	0.0083	0.0083	0.0083	0.0082	0.008	0.008	0.008	0.0079	0.0079	0.0079
	Annual Report Update 2021 (Expansion Project with Pushback) [3, 4]	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011
Al	CEQG-PAL (Chronic) [1]	0.1											
	Expansion WL Amendment Model (2019) [2, 3]	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
	Annual Report Update 2019 (Approved Project) [4, 5]	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022
	Annual Report Update 2020 (Expansion Project) [3, 4]	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022
	Annual Report Update 2021 (Expansion Project with Pushback) [3, 4]	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022
As	Site-Specific Water Quality Objective	0.025											
	Expansion WL Amendment Model (2019) [2, 3]	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017
	Annual Report Update 2019 (Approved Project) [4, 5]	0.0021	0.0021	0.0021	0.0021	0.0021	0.002	0.0019	0.002	0.002	0.002	0.002	0.002
	Annual Report Update 2020 (Expansion Project) [3, 4]	0.0077	0.0077	0.0077	0.0077	0.0077	0.0075	0.0074	0.0074	0.0073	0.0073	0.0073	0.0073
	Annual Report Update 2021 (Expansion Project with Pushback) [3, 4]	0.019	0.019	0.019	0.019	0.019	0.018	0.018	0.018	0.018	0.018	0.018	0.018
Cr	CEQG-PAL (Chronic) (Cr [VI]) [6]	0.001											
	CEQG-PAL (Chronic) (Cr [III]) [6]	0.0089											
	Expansion WL Amendment Model (2019) [2, 3]	0.0084	0.0084	0.0084	0.0084	0.0084	0.0084	0.0084	0.0084	0.0084	0.0084	0.0084	0.0084
	Annual Report Update 2019 (Approved Project) [4, 5]	0.00072	0.00072	0.00072	0.00072	0.00072	0.00071	0.00071	0.00071	0.00071	0.00071	0.00071	0.00071
	Annual Report Update 2020 (Expansion Project) [3, 4]	0.00071	0.00071	0.00071	0.00071	0.00071	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007
	Annual Report Update 2021 (Expansion Project with Pushback) [3, 4]	0.00073	0.00073	0.00073	0.00073	0.00073	0.00073	0.00072	0.00072	0.00072	0.00072	0.00072	0.00072
Cd	CEQG-PAL (Chronic) [1]	0.00004											
	Expansion WL Amendment Model (2019) [2, 3]	0.0000082	0.0000082	0.0000082	0.0000082	0.0000082	0.0000082	0.0000081	0.0000081	0.0000081	0.0000081	0.0000081	0.0000081
	Annual Report Update 2019 (Approved Project) [4, 5]	0.0000058	0.0000058	0.0000058	0.0000058	0.0000058	0.0000058	0.0000058	0.0000058	0.0000058	0.0000058	0.0000058	0.0000058
	Annual Report Update 2020 (Expansion Project) [3, 4]	0.0000059	0.0000059	0.0000059	0.0000059	0.0000059	0.0000058	0.0000058	0.0000058	0.0000058	0.0000058	0.0000058	0.0000058
	Annual Report Update 2021 (Expansion Project with Pushback) [3, 4]	0.0000069	0.0000069	0.0000069	0.0000069	0.0000069	0.0000069	0.0000068	0.0000068	0.0000068	0.0000068	0.0000068	0.0000068
Cu	CEQG-PAL (Chronic) [1]	0.002											
	Expansion WL Amendment Model (2019) [2, 3]	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012
	Annual Report Update 2019 (Approved Project) [4, 5]	0.00062	0.00062	0.00062	0.00062	0.00062	0.00062	0.00062	0.00062	0.00062	0.00062	0.00062	0.00062
	Annual Report Update 2020 (Expansion Project) [3, 4]	0.00065	0.00065	0.00065	0.00065	0.00065	0.00064	0.00064	0.00064	0.00064	0.00064	0.00064	0.00064
	Annual Report Update 2021 (Expansion Project with Pushback) [3, 4]	0.00071	0.00071	0.00071	0.00071	0.00071	0.00071	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007
Fe	CEQG-PAL (Chronic) [1]	0.3											
	Expansion WL Amendment Model (2019) [2, 3]	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
	Annual Report Update 2019 (Approved Project) [4, 5]	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075
	Annual Report Update 2020 (Expansion Project) [3, 4]	0.078	0.078	0.078	0.078	0.078	0.078	0.077	0.077	0.077	0.077	0.077	0.077
	Annual Report Update 2021 (Expansion Project with Pushback) [3, 4]	0.081	0.081	0.081	0.081	0.081	0.081	0.08	0.08	0.08	0.08	0.08	0.08
Hg	CEQG-PAL (Chronic) [1]	0.000026											
	Expansion WL Amendment Model (2019) [2, 3]	0.0000073	0.0000073	0.0000073	0.0000073	0.0000073	0.0000073	0.0000072	0.0000072	0.0000072	0.0000072	0.0000072	0.0000072
	Annual Report Update 2019 (Approved Project) [4, 5]	0.0000054	0.0000054	0.0000054	0.0000054	0.0000054	0.0000054	0.0000054	0.0000054	0.0000054	0.0000054	0.0000054	0.0000054
	Annual Report Update 2020 (Expansion Project) [3, 4]	0.0000055	0.0000055	0.0000055	0.0000055	0.0000055	0.0000055	0.0000055	0.0000055	0.0000055	0.0000055	0.0000055	0.0000055
	Annual Report Update 2021 (Expansion Project with Pushback) [3, 4]	0.0000066	0.0000066	0.0000066	0.0000066	0.0000066	0.0000065	0.0000065	0.0000065	0.0000065	0.0000065	0.0000065	0.0000065
Ni	CEQG-PAL (Chronic) [1]	0.066											
	Expansion WL Amendment Model (2019) [2, 3]	0.0054	0.0054	0.0054	0.0054	0.0054	0.0054	0.0054	0.0054	0.0054	0.0054	0.0054	0.0054
	Annual Report Update 2019 (Approved Project) [4, 5]	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011
	Annual Report Update 2020 (Expansion Project) [3, 4]	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017
	Annual Report Update 2021 (Expansion Project with Pushback) [3, 4]	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0021	0.0021	0.0021	0.0021	0.0021	0.0021
Pb	CEQG-PAL (Chronic) [1]	0.0017											
	Expansion WL Amendment Model (2019) [2, 3]	0.00023	0.00023	0.00023	0.00023	0.00023	0.00023	0.00023	0.00023	0.00023	0.00023	0.00023	0.00023
	Annual Report Update 2019 (Approved Project) [4, 5]	0.000078	0.000078	0.000078	0.000078	0.000078	0.000078	0.000078	0.000078	0.000078	0.000078	0.000078	0.000078
	Annual Report Update 2020 (Expansion Project) [3, 4]	0.000088	0.000088	0.000088	0.000088	0.000088	0.000088	0.000087	0.000087	0.000087	0.000087	0.000087	0.000087
	Annual Report Update 2021 (Expansion Project with Pushback) [3, 4]	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.00010	0.00010	0.00010	0.00010
Zn	CEQG-PAL (Chronic) [1,6]	0.028											
	Expansion WL Amendment Model (2019) [2, 3]	0.0024	0.0024	0.0024	0.0024	0.0024	0.0024	0.0024	0.0024	0.0024	0.0024	0.0024	0.0024
	Annual Report Update 2019 (Approved Project) [4, 5]	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013
	Annual Report Update 2020 (Expansion Project) [3, 4]	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013
	Annual Report Update 2021 (Expansion Project with Pushback) [3, 4]	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0015	0.0015	0.0015

Notes:
1. CCME Canadian Environmental Quality Guidelines for the Protection of Aquatic Life, Freshwater, Chronic.
2. Total concentrations calculated based on an assumed 15 mg/L of TSS.
3. Results extracted from the year 2050 (Expansion Project). Post-closure dates were predicted to be as follows:
Expansion WL Amendment Model (2019): September 2042
Annual Report Update 2020 (Expansion Project): June 2041
Annual Report Update 2021 (Expansion Project with Pushback): June 2044
4. Total concentrations calculated based on an assumed 1 mg/L of TSS.
5. Results extracted from the year 2039 (Approved [i.e., non-Expansion] Project). Post-closure was predicted to be June 2027.
6. Guideline is based on dissolved concentrations, whereas the table is presented in total concentrations

0.1	Indicates exceedance of the EQC.
	Indicates an increase of 20% or greater relative to the 2019 NWB Model
	Indicates a decrease of 20% or greater relative to the 2019 NWB Model

Parameter	Source	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
NH3	CEQG-PAL (Chronic) [1]	-											
	Expansion WL Amendment Model (2019) [2, 3]	0.036	0.036	0.036	0.036	0.036	0.036	0.035	0.035	0.035	0.035	0.035	0.035
	Annual Report Update 2019 (Approved Project) [4, 5]	0.013	0.013	0.013	0.013	0.013	0.009	0.0069	0.0071	0.0072	0.012	0.012	0.012
	Annual Report Update 2020 (Expansion Project) [3, 4]	0.021	0.021	0.021	0.021	0.021	0.015	0.012	0.012	0.012	0.02	0.02	0.02
	Annual Report Update 2021 (Expansion Project with Pushback) [3, 4]	0.02	0.02	0.02	0.02	0.02	0.013	0.0095	0.0096	0.0098	0.019	0.019	0.019
P	CEQG-PAL (Chronic) [1]	0.01											
	Expansion WL Amendment Model (2019) [2, 3]	0.017	0.017	0.017	0.017	0.017	0.017	0.016	0.017	0.017	0.016	0.016	0.016
	Annual Report Update 2019 (Approved Project) [4, 5]	0.0054	0.0054	0.0054	0.0054	0.0054	0.0038	0.0029	0.003	0.0031	0.0053	0.0053	0.0053
	Annual Report Update 2020 (Expansion Project) [3, 4]	0.012	0.012	0.012	0.012	0.012	0.0082	0.0063	0.0064	0.0065	0.011	0.011	0.011
	Annual Report Update 2021 (Expansion Project with Pushback) [3, 4]	0.016	0.016	0.016	0.016	0.016	0.011	0.0079	0.0079	0.0081	0.016	0.016	0.016
Al	CEQG-PAL (Chronic) [1]	0.1											
	Expansion WL Amendment Model (2019) [2, 3]	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
	Annual Report Update 2019 (Approved Project) [4, 5]	0.035	0.035	0.035	0.035	0.035	0.025	0.019	0.02	0.02	0.035	0.035	0.035
	Annual Report Update 2020 (Expansion Project) [3, 4]	0.034	0.034	0.034	0.034	0.034	0.024	0.019	0.019	0.02	0.034	0.034	0.034
	Annual Report Update 2021 (Expansion Project with Pushback) [3, 4]	0.044	0.044	0.044	0.044	0.044	0.03	0.023	0.023	0.023	0.044	0.044	0.044
As	Site-Specific Water Quality Objective	0.025											
	Expansion WL Amendment Model (2019) [2, 3]	0.016	0.016	0.016	0.016	0.016	0.015	0.015	0.015	0.015	0.015	0.015	0.015
	Annual Report Update 2019 (Approved Project) [4, 5]	0.0031	0.0031	0.0031	0.0031	0.0031	0.0022	0.0016	0.0017	0.0018	0.003	0.003	0.003
	Annual Report Update 2020 (Expansion Project) [3, 4]	0.01	0.01	0.01	0.01	0.01	0.0071	0.0054	0.0055	0.0056	0.0096	0.0096	0.0096
	Annual Report Update 2021 (Expansion Project with Pushback) [3, 4]	0.025	0.025	0.025	0.025	0.025	0.017	0.012	0.012	0.012	0.024	0.024	0.024
Cr	CEQG-PAL (Chronic) (Cr [VI]) [6]	0.001											
	CEQG-PAL (Chronic) (Cr [III]) [6]	0.0089											
	Expansion WL Amendment Model (2019) [2, 3]	0.0084	0.0084	0.0084	0.0084	0.0084	0.0084	0.0084	0.0084	0.0084	0.0084	0.0084	0.0084
	Annual Report Update 2019 (Approved Project) [4, 5]	0.0011	0.0011	0.0011	0.0011	0.0011	0.00076	0.00059	0.00062	0.00064	0.0011	0.0011	0.0011
	Annual Report Update 2020 (Expansion Project) [3, 4]	0.001	0.001	0.001	0.001	0.001	0.00072	0.00056	0.00058	0.00059	0.001	0.001	0.001
	Annual Report Update 2021 (Expansion Project with Pushback) [3, 4]	0.0012	0.0012	0.0012	0.0012	0.0012	0.00081	0.00061	0.00061	0.00062	0.0012	0.0012	0.0012
Cd	CEQG-PAL (Chronic) [1]	0.00004											
	Expansion WL Amendment Model (2019) [2, 3]	0.0000082	0.0000082	0.0000082	0.0000082	0.0000082	0.0000081	0.0000081	0.0000082	0.0000082	0.0000081	0.0000081	0.0000081
	Annual Report Update 2019 (Approved Project) [4, 5]	0.0000091	0.0000091	0.0000091	0.0000091	0.0000091	0.0000064	0.000005	0.0000052	0.0000053	0.0000091	0.0000091	0.0000091
	Annual Report Update 2020 (Expansion Project) [3, 4]	0.0000089	0.0000089	0.0000089	0.0000089	0.0000089	0.0000063	0.0000049	0.000005	0.0000051	0.0000088	0.0000088	0.0000088
	Annual Report Update 2021 (Expansion Project with Pushback) [3, 4]	0.000011	0.000011	0.000011	0.000011	0.000011	0.0000072	0.0000053	0.0000054	0.0000056	0.000011	0.000011	0.000011
Cu	CEQG-PAL (Chronic) [1]	0.002											
	Expansion WL Amendment Model (2019) [2, 3]	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012
	Annual Report Update 2019 (Approved Project) [4, 5]	0.00097	0.00097	0.00097	0.00097	0.00097	0.00068	0.00053	0.00055	0.00056	0.00096	0.00096	0.00096
	Annual Report Update 2020 (Expansion Project) [3, 4]	0.00099	0.00099	0.00099	0.00099	0.00099	0.00071	0.00055	0.00056	0.00057	0.00098	0.00098	0.00098
	Annual Report Update 2021 (Expansion Project with Pushback) [3, 4]	0.0012	0.0012	0.0012	0.0012	0.0012	0.00077	0.00057	0.00058	0.00059	0.0012	0.0012	0.0012
Fe	CEQG-PAL (Chronic) [1]	0.3											
	Expansion WL Amendment Model (2019) [2, 3]	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
	Annual Report Update 2019 (Approved Project) [4, 5]	0.11	0.11	0.11	0.11	0.11	0.079	0.061	0.064	0.066	0.11	0.11	0.11
	Annual Report Update 2020 (Expansion Project) [3, 4]	0.11	0.11	0.11	0.11	0.11	0.079	0.061	0.063	0.064	0.11	0.11	0.11
	Annual Report Update 2021 (Expansion Project with Pushback) [3, 4]	0.13	0.13	0.13	0.13	0.13	0.088	0.066	0.067	0.068	0.13	0.13	0.13
Hg	CEQG-PAL (Chronic) [1]	0.000026											
	Expansion WL Amendment Model (2019) [2, 3]	0.0000074	0.0000074	0.0000074	0.0000074	0.0000074	0.0000072	0.0000072	0.0000073	0.0000074	0.0000073	0.0000073	0.0000073
	Annual Report Update 2019 (Approved Project) [4, 5]	0.0000086	0.0000086	0.0000086	0.0000086	0.0000086	0.000006	0.0000047	0.0000049	0.000005	0.0000086	0.0000086	0.0000086
	Annual Report Update 2020 (Expansion Project) [3, 4]	0.0000083	0.0000083	0.0000083	0.0000083	0.0000083	0.0000059	0.0000046	0.0000047	0.0000048	0.0000082	0.0000082	0.0000082
	Annual Report Update 2021 (Expansion Project with Pushback) [3, 4]	0.00001	0.00001	0.00001	0.00001	0.00001	0.0000069	0.0000051	0.0000052	0.0000053	0.00001	0.00001	0.00001
Ni	CEQG-PAL (Chronic) [1]	0.066											
	Expansion WL Amendment Model (2019) [2, 3]	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
	Annual Report Update 2019 (Approved Project) [4, 5]	0.0017	0.0017	0.0017	0.0017	0.0017	0.0012	0.00094	0.00098	0.001	0.0017	0.0017	0.0017
	Annual Report Update 2020 (Expansion Project) [3, 4]	0.0028	0.0028	0.0028	0.0028	0.0028	0.002	0.0015	0.0016	0.0016	0.0027	0.0027	0.0027
	Annual Report Update 2021 (Expansion Project with Pushback) [3, 4]	0.0043	0.0043	0.0043	0.0043	0.0043	0.0028	0.0021	0.0021	0.0022	0.0043	0.0043	0.0043
Pb	CEQG-PAL (Chronic) [1]	0.0017											
	Expansion WL Amendment Model (2019) [2, 3]	0.00023	0.00023	0.00023	0.00023	0.00023	0.00023	0.00023	0.00023	0.00023	0.00023	0.00023	0.00023
	Annual Report Update 2019 (Approved Project) [4, 5]	0.00012	0.00012	0.00012	0.00012	0.00012	0.000088	0.000068	0.000071	0.000072	0.00012	0.00012	0.00012
	Annual Report Update 2020 (Expansion Project) [3, 4]	0.00014	0.00014	0.00014	0.00014	0.00014	0.000098	0.000076	0.000078	0.000079	0.00013	0.00013	0.00013
	Annual Report Update 2021 (Expansion Project with Pushback) [3, 4]	0.00017	0.00017	0.00017	0.00017	0.00017	0.00011	0.000083	0.000084	0.000086	0.00017	0.00017	0.00017
Zn	CEQG-PAL (Chronic) [1,6]	0.028											
	Expansion WL Amendment Model (2019) [2, 3]	0.0024	0.0024	0.0024	0.0024	0.0024	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023
	Annual Report Update 2019 (Approved Project) [4, 5]	0.0024	0.0024	0.0024	0.0024	0.0024	0.0017	0.0014	0.0014	0.0014	0.0024	0.0024	0.0024
	Annual Report Update 2020 (Expansion Project) [3, 4]	0.0025	0.0025	0.0025	0.0025	0.0025	0.0018	0.0014	0.0014	0.0015	0.0025	0.0025	0.0025
	Annual Report Update 2021 (Expansion Project with Pushback) [3, 4]	0.0032	0.0032	0.0032	0.0032	0.0032	0.0021	0.0015	0.0016	0.0016	0.0032	0.0032	0.0032

Notes:
1. CCME Canadian Environmental Quality Guidelines for the Protection of Aquatic Life, Freshwater, Chronic.
2. Total concentrations calculated based on an assumed 15 mg/L of TSS.
3. Results extracted from the year 2050 (Expansion Project). Post-closure dates were predicted to be as follows:
Expansion WL Amendment Model (2019): September 2042
Annual Report Update 2020 (Expansion Project): June 2041
Annual Report Update 2021 (Expansion Project with Pushback): June 2044
4. Total concentrations calculated based on an assumed 1 mg/L of TSS.
5. Results extracted from the year 2039 (Approved [i.e., non-Expansion] Project). Post-closure was predicted to be June 2027.
6. Guideline is based on dissolved concentrations, whereas the table is presented in total concentrations

0.1	Indicates exceedance of the EQC.
	Indicates an increase of 20% or greater relative to the 2019 NWB Model
	Indicates a decrease of 20% or greater relative to the 2019 NWB Model

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APPENDIX E • 2021 FRESHET ACTION PLAN

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WHALE TAIL FRESHET ACTION PLAN

MARCH 2022

VERSION 4

AGNICO EAGLE
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EXECUTIVE SUMMARY

The purpose of this Freshet Action Plan is to identify areas of concern around the Whale Tail Expansion Project and the associated Hauling road needing to be managed in an organized and timely manner during the annual freshet period to prevent adverse environmental and operational impacts. The Plan outlines specified actions that will be taken by Agnico to manage and mitigate areas where environmental incidents could occur, as well as addressing historical incidents, specifically the WRSF dike seepage.

The freshet period is typically initiated during the annual snow and ice melt sometime around mid-May. During this period excess water is created and must be managed through additional pumping and management practices at vulnerable areas around the site. Mitigation techniques, timeframes and specified roles and responsibilities are outlined in this document for each area of concern.

The main areas of concern are the mining pit, the WT WRSF surrounding and pond, the IVR WRSF, the Whale Tail Attenuation Pond, the IVR attenuation Pond, the Whale Tail South Channel, and the IVR Diversion Ditch.

It is important for all water management and associated infrastructure be in good working order and adequate to manage the expected water flows associated with the freshet period; this includes but is not limited to pumps, ditch, culvert and sump maintenance, critical piping system installation and inspection, as well as adequate resource allocation for preparative work. A summary of the 2022 preparation works and roles and responsibilities is presented in the attached Appendix 1 (2022 Freshet Action Plan Procedures). Appendix 1 will be updated yearly to reflect changes in conditions at the Whale Tail site.

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DOCUMENT CONTROL

Revision				Pages Revised	Remarks
#	Prep.	Rev.	Date		
01	Agnico	Internal	March 2019	All	Initial Version
02	Agnico	Internal	March 2020	All	Comprehensive update from 2019 plan
03	Agnico	Internal	March 2021	All	Comprehensive update from 2020 plan to include IVR infrastructures
04	Agnico	Internal	March 2022	All	Comprehensive update from 2021 plan

Prepared By: Meadowbank Environment

Approved by:

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1 INTRODUCTION

The purpose of the Whale Tail (WT) Freshet Action Plan is to ensure that Agnico can address and manage excess water associated with the freshet season at the Whale Tail site, and to ensure Agnico has implemented specific management and mitigation measures in response to environmental incidents with potential for off site impacts to water or land.

The freshet season is loosely defined as starting approximately May 15th, and in some cases, actions and mitigation measures can extend up to early fall when freezing re-occurs. There are many areas around the site that are vulnerable to excess water; the goal is to identify these areas and develop a clear plan with defined roles and responsibilities (amongst Agnico departments), and to manage the freshet flows.

In addition, several guiding principles are applicable to the formation of this plan. The highest priority principles are:

1) to ensure that the health and safety of Agnico employees is protected, especially with respect to mining operations when excess water is present;
2) to ensure that mine contact water from runoff or seepage is managed to prevent adverse environmental impacts; and
3) to make sure the site is in compliance with the Nunavut Water Board (NWB) License, Part D, Item 21 and Part E, Item 11.

The plan will identify the areas of concern and discuss the potential risks as well as mitigation measures necessary to address the identified issues. The overall site footprint has increased, and experience needs to be gained in identifying key location; lessons learned from the Meadowbank site will provide the necessary guidance. Appendix 1 contains the defined 2022 procedures, the roles and responsibilities and associated timelines. Agnico's intent is to update the Procedural Appendix on a yearly basis. There may be additional mitigation measures for a defined problem area or in some cases a previously defined issue may be permanently rectified.

The main areas of concern are:

- Mining pits and pit walls;
- WRSF pond;
- IVR WRSF;
- Whale Tail South channel;
- IVR Diversion Ditch;
- Whale Tail Attenuation pond;
- IVR Attenuation Pond;
- WT Tank farm;
- Haul road culverts and bridges;
- Pads and roads built since 2021;
- Underground WRSF;
- Culverts.

Each area identified above will be discussed in detail below. All areas of concern are considered priorities based on the guiding principles.

2 AREAS OF CONCERN

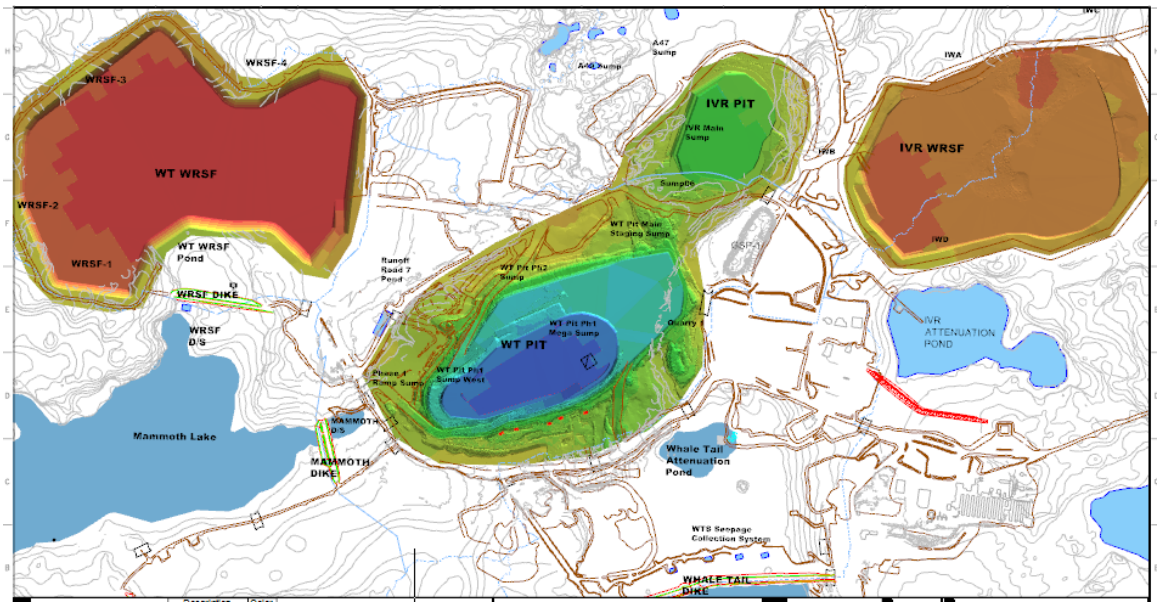

Figure 2-1: View of Whale Tail area

2.1 MINING PITS AND PIT WALLS

All ramps, jump ramps, ditches and sumps must be cleaned of all ice and snow before May in order to contain any water resulting from the snow melt. All allocated pumps must be checked and serviced before the month of May. In addition, a check must be completed confirming that all piping systems starting from the different pits leading to the Whale Tail attenuation pond are free of ice, or any obstruction.

The water management strategy for the pits will be to send water from the WT Pit and IVR Pit area to either the WT Attenuation Pond or the IVR Attenuation Pond.

- A sump and ditch system is used to manage runoff water within the pit footprints. The infrastructures location will be modified or added as required based on the mining sequence.
- Sumps outside of the pit footprint are planned to prevent runoff from reporting to the Pit and to prevent water from ponding against the pit crest;
    - At WT Pit this includes the sumps located at the downstream area of Mammoth Dike and at Road 7;
    - At IVR Pit this include the sump located in former Lake A49 and in the Northern area of IVR Pit.

2.2 WHALE TAIL WASTE ROCK STORAGE FACILITY

Runoff from the Whale Tail Waste Rock Storage Facility (WT WRSF) is collected by 4 sumps (WT WRSF 1,2,3 & 4) as well as the WRSF pond delimited by WRSF Dike. Water from these sumps is pumped to the WRSF Pond and the WRSF Pond water is pumped to the WT Attenuation Pond.

The WT WRSF will require weekly inspections around the perimeter beginning as soon as the freshet starts (May) until freeze up to identify any seepage. In the event that seepage is observed from the WT WRSF, it must be reported to the Environment Departments and samples must be taken to determine the water quality and source. A mitigation plan will be prepared and implemented if necessary. Based on field observation, it may be deemed necessary to remove snow accumulation in the sumps around the WT WRSF to mitigate risk of snowmelt reporting to the surrounding environment. Runoff originating from the WT WRSF ultimately ends up in the WT WRSF pond. In August 2019, seepage from this pond was found to have reported through the WRSF Dike to the Mammoth lake. Remediation measures put in place in 2020 demonstrated to be successful. Daily inspections of the WRSF Downstream Pond will be required to confirm no seepage is occurring. A pump must be available in this location to pump any water potentially seeping through the structure back into the WRSF Pond.

2.3 IVR WASTE ROCK STORAGE FACILITY

Runoff from the IVR Waste Rock Storage Facility (WRSF) is collected by 5 sumps (IW A,B,C,D,E). Water from these sumps is sent to the IVR Pond either by pumping or by gravity.

The IVR Rock Storage Facility (IVR WRSF) will require weekly inspections around the perimeter beginning as soon as the freshet starts (May) until freeze up to identify any seepage and ensure that the gravity flow to the IVR Attenuation Pond are occurring as planned. In the event that seepage is observed from the IVR WRSF, it must be reported to the Environment Departments and samples must be taken to determine the water quality and source. A mitigation plan will be prepared and implemented if necessary. Based on field observation, it may be deemed necessary to remove snow accumulation in key locations around the IVR WRSF to mitigate risk of snowmelt reporting to the surrounding environment.

2.4 WHALE TAIL SOUTH DIVERSION CHANNEL

The South Whale Tail Diversion Channel was constructed in 2020. In early May, partial snow removal will be required in this infrastructure to form a preferential water path and prevent snow blockage. Daily inspection at the start of freshet will be required until freshet is completed and following rain events, to ensure no contaminant is transported into Mammoth Lake. Turbidity barriers were left in place at the end of the previous summer to secure subsequent freshets. Barrier inspection will be required to ensure they perform as intended.

2.5 IVR DIVERSION DITCH

The IVR Diversion Ditch was constructed during the fall of 2020. The IVR Diversion Ditch serves to divert the watershed reporting to the IVR Pit towards the C-Watershed. This will reduce the amount of contact water to manage on site. In early May, partial snow removal will be required in this infrastructure to form a preferential water path and prevent snow blockage. Daily inspection at the start of freshet will be required until freshet is completed and following rain events, to ensure

no contaminant is transported into the surrounding environment. Additional mitigation measures may be required, based on field observations.

2.6 WHALE TAIL ATTENUATION POND

The Whale Tail Attenuation Pond is the secondary contact water management basin on site. Contact water from surrounding infrastructure is pumped to the pond. From there, Whale Tail Attenuation Pond water can be pumped to either the IVR Attenuation Pond or the AsWTP, for treatment, if required, and discharge to approved final effluent locations within Whale Tail South or Mammoth lake. The plant's treatment abilities were designed to remove TSS and arsenic. All piping and the discharge diffuser must be inspected prior to freshet, in order to have all installations in place to proceed with pumping and/or treatment activities during freshet. The pond water levels will be managed closely and inspected regularly.

2.7 WHALE TAIL DIKE SEEPAGE

Water from the Whale Tail Dike seepage is reporting to the WT Attenuation Pond through either a pumping system or by gravity. If water quality criteria are met, it is possible for the system to discharge directly to WTS, a 10-day notice to ECCC would be required. The system is not expected to be put in operation due to the current water quality.

2.8 IVR ATTENUATION POND

The IVR Attenuation Pond is the main contact water management basin on site. Contact water from surrounding infrastructure is pumped to the pond. From there, water can be discharged to approved final effluent locations within Whale Tail South or Mammoth lake, or may be sent to the AsWTP, for treatment, if required, prior to discharge. The plant's treatment abilities were designed to remove TSS and arsenic. All piping and the discharge diffuser must be inspected prior to freshet, in order to have all installations in place to proceed with pumping and/or treatment activities during freshet. The pond water levels will be managed closely and inspected regularly.

2.9 WHALE TAIL FUEL TANK FARMS

The main fuel farm containments were built in 2019, and will be monitored throughout freshet. Snow and ice accumulation within the fuel tank farms must be adequately managed to prevent overflow to the environment and/or damage to the fuel handling systems. The Energy and Infrastructure Department will advise the Environmental Department of their intent to pump the containment area once ice/snow begins to melt. Water samples will be taken in accordance with the Water License to ensure compliance prior to its release. A notice must be provided to the Inspector 10 days prior to this pumping activity. Once sample results have been obtained, the Environmental Department will advise the Energy and Infrastructure Department. If sample results permit, the pumping may begin to direct water to the tundra/ground in a way to prevent erosion. In the event that the water sample results do not meet discharge criteria the water could be trucked in a tanker and transported to the Meadowbank site to be disposed of in the TSF.

2.10 HAUL ROAD CULVERTS AND BRIDGES

Daily inspections will be undertaken starting in May at all culverts and bridges along the Haul road to ensure that water during freshet is flowing freely and no erosion is occurring. If elevated

TSS/Turbidity levels are observed sampling will occur and the results assessed. Turbidity barrier will be installed if required. The Mine department will also be advised if severe erosion/scouring is observed. In addition, snow and ice removal may be required to allow the water to flow as per design specifications. Daily inspections will be performed during the freshet period by the Environment department.

2.11 2021-2022 PAD CONSTRUCTIONS AND ROAD CULVERTS

Weekly inspections at the start of snowmelt will be required to monitor for potential erosion and sediment transport. Mitigation measures may be required to minimize transport of sediments towards water bodies. See below for a list of such constructions:

- Underground Emulsion transfer pad;
- Main tower pad extension.

In addition to the pads, some culverts around site drain towards water bodies. Daily inspections will be undertaken by the Environment Department starting in May for all culverts around the mine site to ensure the water during freshet is flowing freely and no erosion is occurring. If elevated TSS/Turbidity levels are observed sampling will occur and the results assessed. Turbidity barrier will be installed if required. Snow and ice removal may be required to allow the water to flow as per design specifications.

2.12 UNDERGROUND WRSF WATER COLLECTION SYSTEM

The Underground WRSF Water Collection System was built in 2019 to collect any water running off the underground infrastructure, and direct runoff water into GSP1. Steaming of culverts may be necessary if snow or ice blockage are identified prior to the start of freshet. Weekly inspection will be required during freshet to validate operationality and liner integrity of collection system.

2.13 ADAPTIVE WATER MANAGEMENT STRATEGY

An Adaptive Water Management Plan was developed to document specific mitigation measures and associated management actions to be taken when specified thresholds are exceeded. Mitigation measures may include special studies, operational changes, revised or new water and waste management systems, structures and/or facilities, or implementing mitigation activities to prevent, stabilize or reverse a change in environmental conditions or to otherwise protect the receiving environment. The Adaptive Management Plan is to be reviewed periodically to account for the dynamics of mine construction and operation, and adjusted as needed.

Various level thresholds were identified for surface water management, based on the capacity of different water management infrastructure to retain water on site. The objective is to trigger management strategy actions based on the capacity of these structures. The main management response is based on increasing the discharge rate especially when water is meeting effluent discharge criteria.

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3 SNOW MANAGEMENT

A snow management procedure has been developed internally in 2020 and will be updated annually. Refer to Appendix 2 for the snow management map. Temporary snow storage dumps and snow accumulation areas of concern were identified on a map. Removal will be managed accordingly.

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APPENDIX 1

2021 Freshet Action Plan Procedure

Section	Area of Concern	Role/Action	Responsibilities	Dates
2.1	**MINING PITS AND PIT WALLS**			
2.1	Mining Pit and Pit walls - General	1) Clean all ice, mud and snow on all permanent ramps, jump ramps, etc.	Mine Operations	Before May
		2) Check and service all pumps.	E&I (Energy and Infrastructure) and Maintenance	Before May
		3) Check that all piping systems starting from the pit leading to the Attenuation ponds are free of ice by validating pumping values (if pumping systems active) and/or performing an air test in the pipe with a compressor.	E&I/Mine Operations	Before May
2.2	**WHALE TAIL WASTE ROCK STORAGE FACILITY**			
2.2.	WT WRSF Inspection	1) Weekly inspection around the RSF perimeter to identify any seepage.	Env. Department	May - as soon as freshet starts until freeze up
		2) Pump if required from the WRSF periphery to WRSF Pond	E&I	May - as soon as freshet starts until freeze up
		3) If seepage observed notify Env Department AND sample for Water License Parameters.	Env. Department	May - as soon as freshet starts until freeze up
	WRSF Pond	1) Daily inspection - keep record	Env. Department	May - until freshet complete

				and after rain events
		2) Maintain WRSF Pond as dry as possible	E&I	May - until freeze up
		3) Pump any water reporting to the WRSF downstream water collection system – Volumes required to be documented	E&I/Engineering	May - until freeze up
		4) Sample upstream and downstream	Env. Department	May - until freeze up
		5) Report any discharge of TSS to Mammoth Lake to ECCC/NWB (if grab > 30 mg/L).	Env. Department	May - until freshet complete and after rain events
2.3	**IVR WASTE ROCK STORAGE FACILITY**			
2.3.	IVR WRSF Inspection	1) Weekly inspection around the IVR WRSF perimeter to identify any seepage.	Env. Department	May - as soon as freshet starts until freeze up
		2) Pump if required from the IVR WRSF periphery to IVR attenuation pond	E&I	May - as soon as freshet starts until freeze up
		3) If seepage observed notify Env Department AND sample for Water License Parameters.	Env. Department	May - as soon as freshet starts until freeze up

2.4	**WHALE TAIL SOUTH DIVERSION CHANNEL**			
2.4	Whale Tail South Diversion Channel	1) Daily inspection - keep record	Env. Department	May - until freshet complete and after rain events
		2) Install mitigation measures, if needed (elevated TSS observed), and maintain	Env. Department	May - until freshet complete and after rain events
		3) Sample monitoring for TSS, if excess turbidity observed - use external lab.	Env. Department	May - until freshet complete and after rain events
		4) Report any discharge of TSS to Mammoth Lake to ECCC/NWB (if grab > 30 mg/L).	Env. Department	May - until freshet complete and after rain events
2.5	**IVR DIVERSION DITCH**			
2.5	IVR Diversion Ditch	1) Daily inspection - keep record	Env. Department	May - until freshet complete and after rain events
		2) Install mitigation measures, if needed (elevated TSS observed), and maintain	Env. Department	May - until freshet complete and after rain events
		3) Sample monitoring for TSS, if excess turbidity observed - use external lab.	Env. Department	May - until freshet complete and after rain events

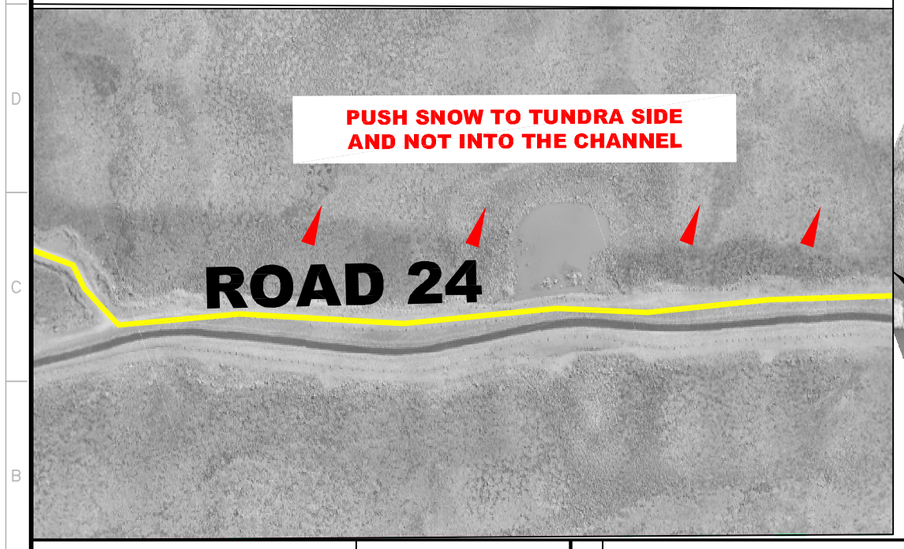
		4) Report any discharge of TSS to Mammoth Lake to ECCC/NWB (if grab > 30 mg/L).	Env. Department	May - until freshet complete and after rain events
2.6	**WHALE TAIL ATTENUATION POND**			
2.6	Whale Tail Attenuation Pond	1) Set-up pumping of the WT Attenuation Pond to prevent water from flowing into the pit area, keeping track of all daily volumes	E&I	At all time
		2) Notify Environmental Department before any environmental discharge.	E&I	At all time
		3) Inspect all piping and discharge diffuser	E&I	May
2.8	**IVR ATTENUATION POND**			
2.8	IVR Attenuation Pond	1) Set-up pumping of IVR Attenuation Pond through the AsWTP, keeping track of all daily volumes	E&I	At all time
		2) Notify Environmental Department before any environmental discharge.	E&I	At all time
		3) Inspect all piping and discharge diffuser	E&I	May
2.9	**FUEL TANK FARMS**			
2.9	WT Tank Farm	1) E&I Dept to advise Env Dept in advance of intent to pump once ice melts in containment area.	E&I and Env. Department	Probably mid-June and September

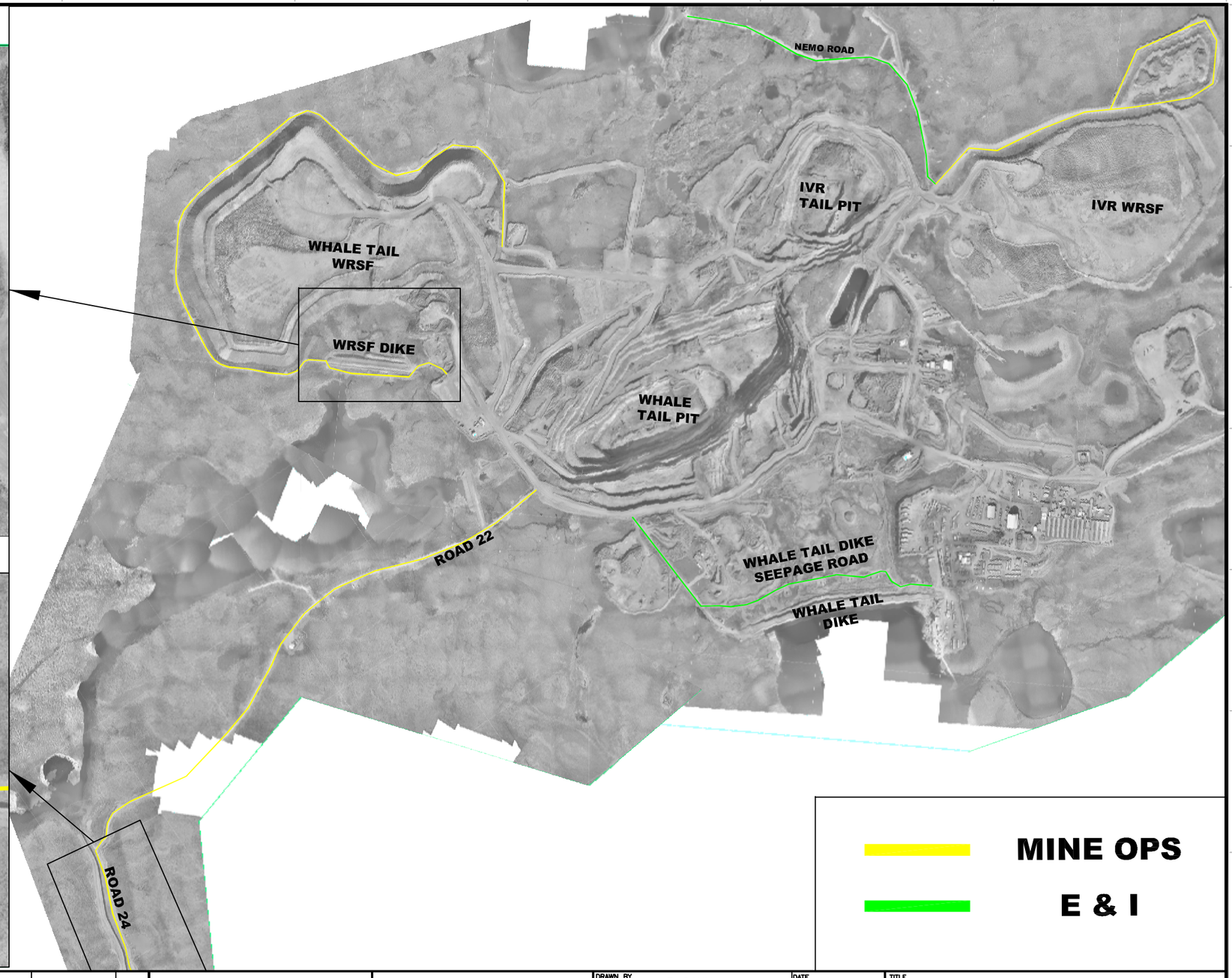
		2) Sample water in accordance with Water License to ensure compliance with limits prior to release.	Env. Department	Probably mid-June and September
		3) Provide notice to Inspector 10 days prior to pumping.	Env. Department	Probably mid-June and September
		4) Advise Energy and Infrastructure Dept if pumping can begin based on sample results.	Env. Department	Probably mid-June and September
		5) Pump to tundra/ground or Meadowbank TSF. **NOTE: The water cannot be pumped out to the tundra if it does not meet the Water License criteria.**	E&I	Probably mid-June and September
2.10	**WHALE TAIL HAUL ROAD CULVERTS AND BRIDGES**			
2.10	Recent pad and road constructions	1) Daily inspection of and bridges on the Whale Tail Haul Road	Env. Department	May and after rain events
		2) Sample for TSS and Turbidity if elevated TSS observed.	Env. Department	May - until freeze up
		3) Notify E&I Dept & the mine department if severe erosion/scouring observed - for repair action.	Env. Department	May - until freeze up
		4) Install mitigation measures if required.	Env. Department	May - until freeze up
2.11	**RECENT PAD AND ROAD CONSTRUCTIONS**			

2.11	Recent pad and road constructions	1)	Daily inspection of culverts around site (Road to emulsion plant, IVR access road)	Env. Department	May and after rain events
		2)	Weekly inspection of toes of constructions built in the last year.	Env. Department	May and after rain events
		3)	Sample for TSS and Turbidity if elevated TSS observed.	Env. Department	May - until freeze up
		4)	Notify E&I Dept if severe erosion/scouring observed - for repair action.	Env. Department	May - until freeze up
		5)	Install mitigation measures if required.	Env. Department	May - until freeze up

APPENDIX 2

2022 Snow Management Map





TITLE	# DWG

REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	BY

REVISIONS

AGNICO EAGLE
MEADOWBANK

DRAWN BY	T. DAHM
DATE	2021–11–04
CHECKED BY	
APPROVED BY	
PROJECT NO.	
DATE	

TITLE
AGNICO–EAGLE – MEADOWBANK DIVISION
SNOW CLEARING MAP
2021

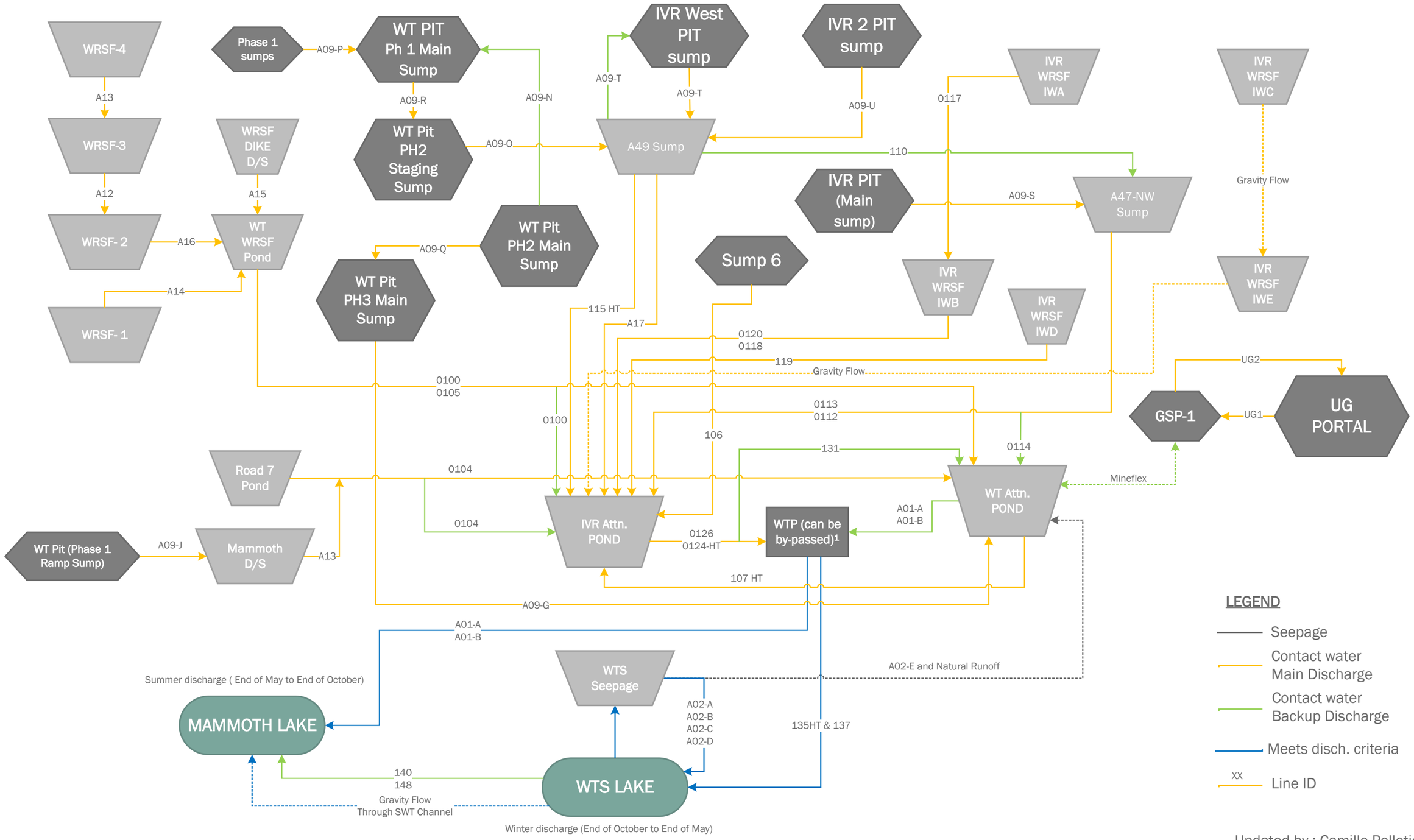
SCALE	FILE
N.T.S.	.DWG

DRAWING NO.	REVISION	SHEET
		1 / 1

APPENDIX 3

2022 Freshet flowchart and plan view

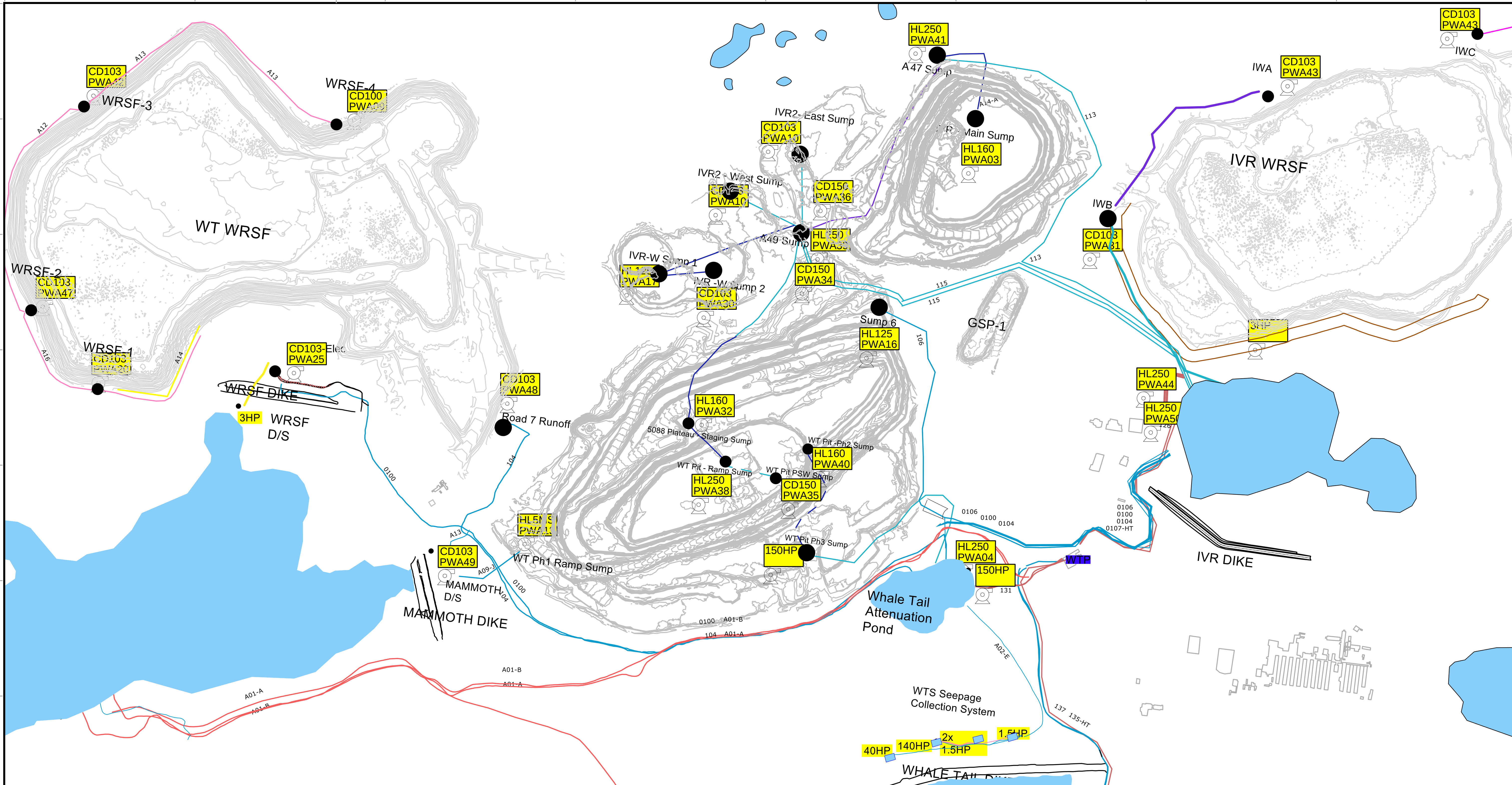
Amaruq 2022 Detailed Freshet Flowsheet



Updated by : Camille Pelletier
Date: 2022-03-06

[1] WTP can be by-passed if water quality in pond meet discharge criteria

FORMAT ANSI B – LANDSCAPE



LEGEND Survey Lines - March 2022	Description	Color
	4" HDPE DR11	
	4" HDPE DR17	
	4" Layflat	
	8" HDPE DR11	
	8" HDPE DR17	
	12" MineFlex	
	14" HDPE DR11	
	14" HDPE DR17	
	6" HDPE DR17	

AGNICO EAGLE
MEADOWBANK

DRAWN BY	Nicole.Brisson	DATE	2021-01-12
MODIFY BY	Nicole Brisson	DATE	2022-03-08

TITLE
AMARUQ
FRESHET 2022 PLAN

SCALE	DATE	FILE
1:10000	3/8/2022	AMQ–Freshet2022–Map

DEPARTMENT	REVISION	SHEET
ENGINEERING		1 / 1

C:\ Users\ nicole.brisson\ Desktop\ AMQ-Freshet2022-Map.dcf