AGNICO EAGLE

Meadowbank Division

WHALE TAIL MINE

Water Management Plan

MARCH 2024
VERSION 12

EXECUTIVE SUMMARY

Agnico Eagle Mines Limited – Meadowbank Complex (Agnico Eagle) is developing the Whale Tail Mine (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 Mine 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.

In 2021, approvals were provided for pushbacks on the IVR and Whale Tail pits (Pushback Project). The Water Management Plan v11_NWB was updated to reflect the continuation of the Whale Tail Pushback, continuation of the IVR Pushback, and temporary storage of groundwater in IVR Pit (referred to as the 2023 Modification).

The open pit mine, mined by drill and blast operations, 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 mine will produce in total 24.5 million tonnes (Mt) of ore, 186.2 Mt of waste rock, and 5.4 Mt of overburden waste. The 2023 Modification is within the approved mine production and includes the generation of 0.8 Mt of ore and produces 3.0 Mt of additional waste material (rock and overburden) which will be stored in the existing Waste Rock Storage Facilities (WRSF). Non-leachable material will also be stored in the pits. The 2023 modification does not affect the life of mine, which will remain in operation until 2025.

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. The 2023 modification includes the temporary storage of groundwater in IVR Pit, per approved Adaptive Management Plan (Agnico Eagle 2021).

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 groundwater temporarily stored in IVR Pit will be pumped to the underground void space prior to actively filling IVR Pit. 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 Kangislulik 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 Aluminum, chromium, copper, iron, 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 mgmt 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 mgmt 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 mgmt and to comply with commitments and requests	Agnico Eagle Meadowbank Division
10	March 2023	3.1, 4	All	Section 3.1 water management targets, Section 4 water quality forecast update	Agnico Eagle Meadowbank Division
11_NWB	June 2023			Updated to include the 2023 Modification (Pushbacks and IVR Pit temporary storage) Updates are flagged in the right-hand margin using the following:	Agnico Eagle Permitting & Regulatory Affairs
12	March 2024	All	All	Updated to reflect current operations/water mgmt and to comply with commitments and requests.	Agnico Eagle Meadowbank Division

	Mammoth Lake called Kangislulik Lake Section 1: Removed mention of material in IVR pushback Table 3.1: Added target 2024 water objectives and removed 2021. 3.5.1 Infrastructure Summary and 3.10.1 Flooding sequence: Changed inlet of SWTC to 154.25 masl Removed section 3.7.6 Water Management for overburden storage: All overburden was co-disposed. 3.7.13 Water Management for Landfill: Updated information Section 3.7.17: Refined information. Section 3.8 Freshwater management and section 3.10.1 Flooding sequence: Updated duration for reflooding of Whale tail Pit Section 4: Water quality forecast: Updated information and add note for ongoing work

Approved by: 

Eric Haley – Environment & 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 Mine
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 Complex (Agnico Eagle) is currently operating the Whale Tail Mine (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, approvals were provided for pushbacks on the IVR and Whale Tail pits (Pushback Project). The Water Management Plan V11_NWB was updated to reflect the continuation of the Whale Tail Pushback, continuation of the IVR Pushback, and temporary storage of groundwater in IVR Pit (referred to as the 2023 Modification). 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, 17 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 will not change as part of the 2023 modification.

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. 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 might 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).

As per the Interim Closure and Reclamation Plan (ICRP), 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), minimal 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 25 (2043) onwards. The closure schedule for the overall Project is based on the preliminary closure methods and strategies discussed in the Whale Tail ICRP. It is anticipated that the schedule will be refined throughout the Project life as the designs are advanced, and the closure methods and strategies are further developed. 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 actions 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

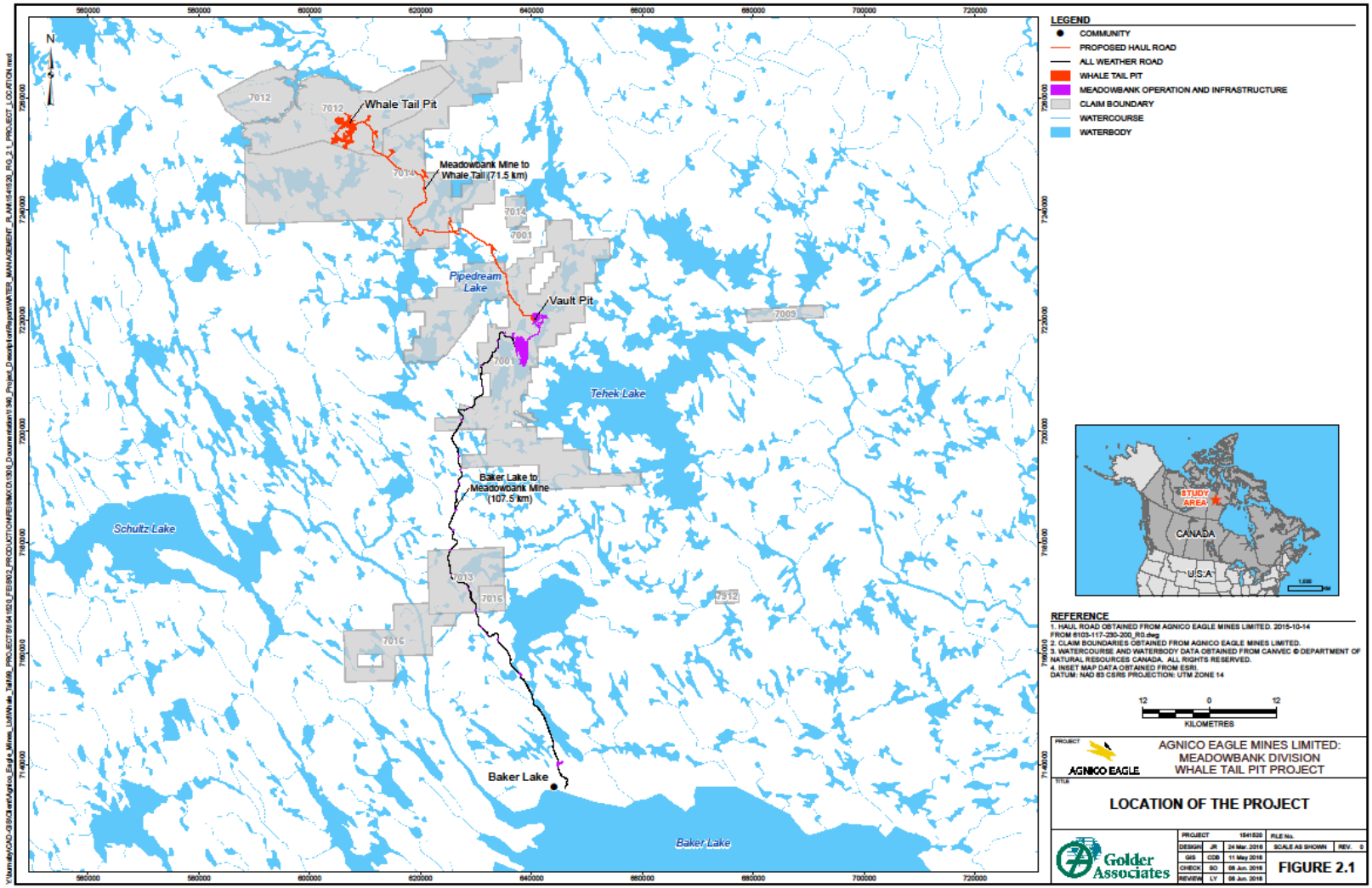


Table 2.1 Estimated Mine Site Monthly Mean Climate Characteristics

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

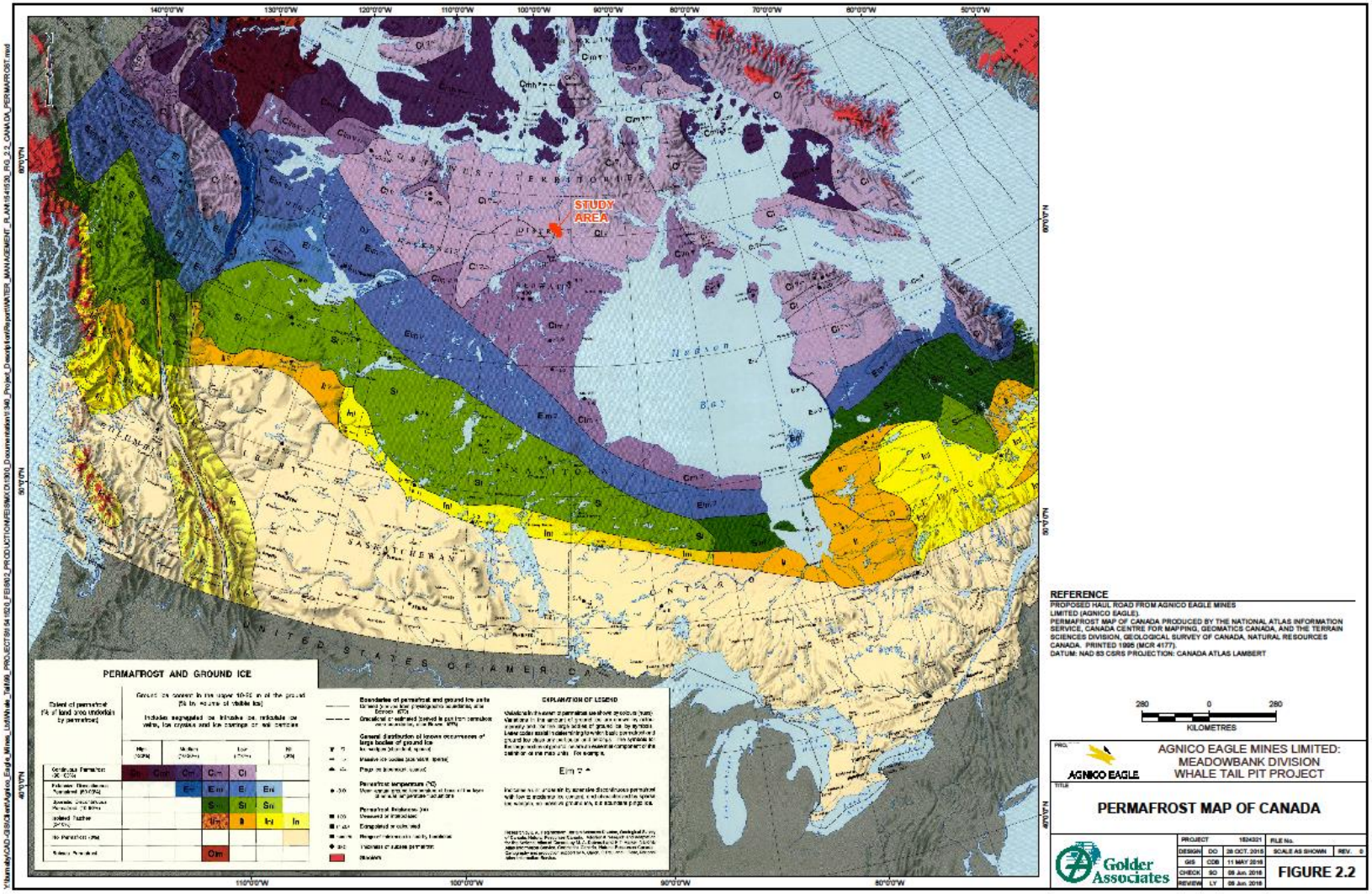
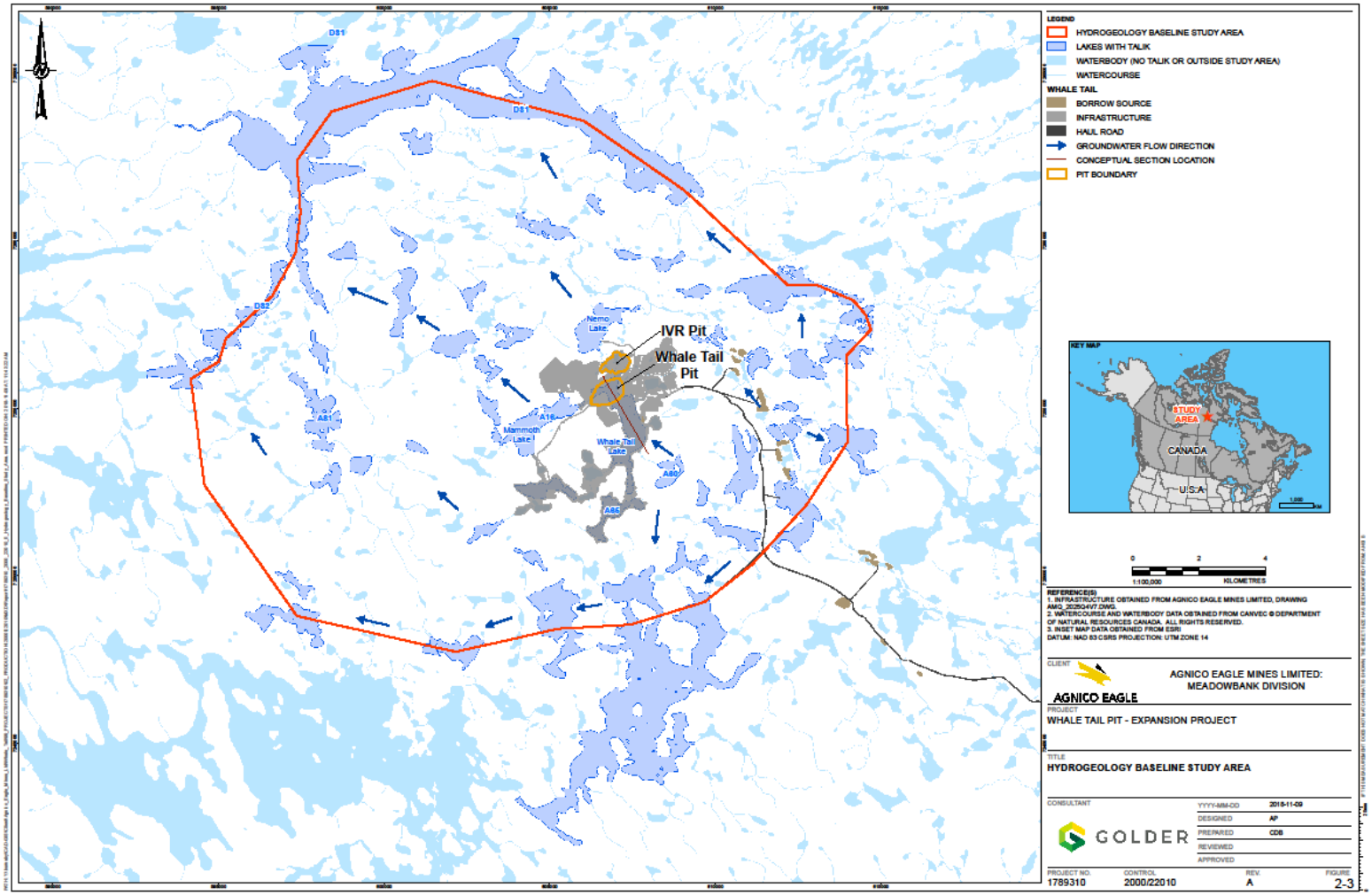


Figure 2.3 Hydrogeology Baseline Study Area



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 [Kangislulik 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 Mine – Waste Rock Management Plan, Agnico Eagle, 2024a). 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 Mine – Waste Rock Management Plan, Agnico Eagle, 2024a. 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.

Table 2.3 Summary of Mine Waste Destination

Mine Waste Stream	Waste Destination
Overburden	• 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, fish habitat compensation
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. The 2024 targets assume continued improvements in the amount of contact water withdrawn from the Pit. Higher production rates in 2024 will require slightly more fresh water withdrawn from Nemo Lake and more contact water withdrawn from Underground as the works expand. It is expected the same volume will be discharged from site than in 2023.

Table 3.1 2024 Targeted Water Hourly Consumption Per Month – for Mill and Camp Usage

WATER OBJECTIVE	TARGET 2022	TARGET 2023	TARGET 2024
Fresh Water Withdrawn from Nemo Lake (Mining and Camp)	75,000 m^3	80,000 m^3	88,000 m^3
Contact Water Withdrawn from Pit (pit inflow)	910,827 m^3	915,000 m^3	1,320,000 m^3
Contact Water Withdrawn from Underground (inflow)	3,000 m^3	16,000 m^3	19,600 m3
Water discharge from site (WTS / Kangislulik Lake)	2,488,068 m^3	2,500,000 m^3	2,500,000 m^3
Water in recirculation (water recycled / total water use)	0%	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 (Kangislulik 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) or managed as temporary storage in IVR Pit, starting in August 2025. The discharge is only allowed for five months per year and will have to be returned underground afterwards.

- 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 and IVR Pit 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 (as per the 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 (Kangislulik Lake), the Northeast Diversion to the C watershed, and the Whale Tail Lake (South Basin) Diversion to Lake A16 (Kangislulik 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 if required, based on water quality monitoring and results.

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 (Kangislulik Lake)	Receives discharge of treated effluent
		Lake A53	Used as the IVR Attenuation Pond
		Lake A50	Covered by a Groundwater Storage Pond
C	Water Intake	Lake A16 (Kangislulik 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 and IVR Pit for temporary storage of groundwater)
- Staging sump for Pit contact water management
- Sump for WRSF contact water management.
- Discharge diffusers located in Kangislulik 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 Kangislulik 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 Kangislulik 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 Kangislulik 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 Kangislulik 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, 2024c). 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. In 2023 a lesson learned exercise on the winter water management was performed to improve winter water management practices for future winters.

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 (Kangislulik 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 Kangislulik Lake.

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

The previous inlet of the SWTDC was at El. 155.3 m. This value has been corrected to 154.25 m following observations of settlement post construction. It explains the increase in volume recorded for 2023. 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 Kangislulik Lake. Kangislulik Lake receives water from Whale Tail Lake through the SWTDC and treated water from site discharge through the Kangislulik Lake diffuser. Water flows out of Kangislulik 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 Kangislulik 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 Kangislulik 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 lakebed sediments in Kangislulik Lake. The report concluded the seepage did not have a measurable impact on metal quantities of Kangislulik 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 (Kangislulik Lake). For this phase of dewatering, water from the North Basin was treated via the TSS removal unit of the WTP and discharged in Kangislulik 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 Kangislulik 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 (Kangislulik 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), Kangislulik 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 Kangislulik 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 (Kangislulik Lake) • Pump contact water from Quarry 1 to Kangislulik 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 Kangislulik 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 Kangislulik Lake

Mine Year	Water Management Activities and Sequence
	○ Whale Tail North to AP5 (Licence B) • Operation of the Whale Tail Dike seepage collection system by pumping seepage water to Whale Tail South Basin • Pump STP effluent to Whale Tail North
Year 2-3 (2020-2021)	• Completion of dewatering activity. WTN becomes an attenuation pond • Pump contact water from the open pit to the Whale Tail Attenuation Pond (to Quarry 1 until 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 (Kangislulik Lake) or Whale Tail Lake (South Basin) • Pump contact water from Quarry 1 to Kangislulik Lake (if water quality meets discharge criteria) until May 2020 • Whale Tail Lake (South Basin) flows to Lake A16 (Kangislulik 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 Kangislulik 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 (Kangislulik 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

Mine Year	Water Management Activities and Sequence
	• 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 • 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 (Kangislulik Lake) or Whale Tail Lake (South Basin) • Pump excess water from underground sump to GSP 1 when Underground Storage Stope is full • Pump excess water from underground sump to GSP 1 when Underground Storage Stope is full • Store excess groundwater in IVR Pit temporarily. • 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 (Kangislulik 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 Kangislulik 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, 2020).

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 pits collected by sumps can be pumped to the Whale Tail Attenuation Pond.

Excess water is transferred to the IVR Attenuation Pond, to IVR Pit (to IVR 1; if required until August 2025, and then in IVR West, east lobe) 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 (Kangislulik Lake) or Whale Tail South.

Monitoring of the effluent discharge to Kangislulik 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 pits collected by sump can be pumped to the IVR Attenuation Pond.

Excess water will either be transferred to the Whale Tail Attenuation Pond, to IVR Pit (to IVR 1; if required until August 2025, and then in IVR West, east lobe) 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 (Kangislulik 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 have been co-disposed with waste rock within the WRSF. More details about management of the Whale Tail WRSF are presented in the Whale Tail Mine – Waste Rock Management Plan (Agnico Eagle, 2024a).

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 is sent to the IVR Attenuation Pond. The total catchment of the IVR WRSF increases proportionally with the increase in waste rock footprint.

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 Ponds for further treatment. If deemed required channels will be constructed 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 Kangislulik Lake without treatment when the water quality met discharge criteria. The discharge was done via the permanent diffuser inKangislulik 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 270 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). Since 2023, water from Whale Tail Attenuation Pond and from IVR Attenuation Pond is transferred to IVR Pit for temporary storage, the aim being to minimize water load into both Attenuation Pond during winter and facilitate the operation of the Water treatment Plant.

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 developed within the Whale Tail Waste Rock Storage Facility (WRSF), which is located north of the Kangislulik Lake therefore, minimizing the disturbed area. This landfill consists of multiple sub landfills that are built and buried according to the evolution of the RSF. As the RSF evolves, the elevation and location of the sub landfills change. The landfill is located 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 Kangislulik 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.

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-1and IVR 1 Pit (; if required after August 2025).

- Excess water volumes may also be managed with GSP-3 (planned for contingency, operational flexibility, and adaptive management opportunity) or managed as temporary storage in IVR Pit.
- 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 and IVR Pit will be umped 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.

Whale Tail Dike Seepage Discharge to Whale Tail Attenuation Pond

The non-contact water seeping from Whale Tail Dike (WTD) is collected into the seepage collection system before reaching the Whale Tail Attenuation Pond. Water quality samples are taken from the seepage to monitor pH and turbidity. . The seepage collection system consists of a longitudinal collection trench that runs along the downstream toe of the dike and redirects the water towards the WT Attenuation Pond. In addition to the trench, pumping wells can be used to minimize the volume of water reporting to Whale Tail Attenuation Pond. Note that to date, it hasn't been considered necessary to use this system.

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.

When pumping system is in operation, 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 continue to closely 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) was completed in 2020 prior to the freshet. The SWTC connects Whale Tail South basin to Kangislulik 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 Kangislulik 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 Kangislulik 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 was completed, as explained in Section 3.6 of this report, A53 became the IVR Attenuation Pond.

Whale Tail South Discharge to Kangislulik Lake

The non-contact water from Whale Tail South Basin was pumped to Kangislulik 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 Kangislulik Lake. Since 2020, no mechanical transfer from Whale Tail South to Kangislulik 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), Kangislulik 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).

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 (Kangislulik 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
Kangislulik 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.

Following the end of operations, site contact water including contact water in the underground mine watershed (GSP ponds) will be pumped into the underground mine; the remaining voids will be filled with Whale Tail Lake (South Basin) water. The dewatered Whale Tail Pit and IVR Pit area will be filled with a combination of natural runoff and contact water from the entire site (i.e., the Whale Tail and IVR WRSF Contact Water Collection Systems and the Whale Tail and IVR Attenuation ponds), and water pumped from Whale Tail Lake (South Basin). Contact water in the underground mine watershed (GSP ponds) will not be used for this purpose because of their anticipated higher salinity. This water will be used only to flood underground workings. 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 sewage treatment plant (STP). The objective of the STP is to treat sewage to an acceptable level for discharge to the Whale Tail or IVR Attenuation Ponds 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

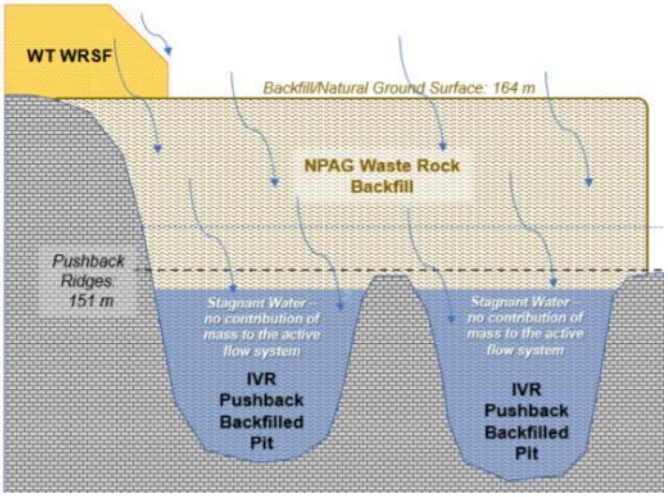
Mine closure is integral to the mine design and will be modified during operations. Planning for permanent closure is an active and iterative process. The intent of the process is to develop a final closure plan including specific water management components using adaptive management. This begins during 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 mine closure and reclamation activities are provided in the Whale Tail Pit Interim Closure and Reclamation Plan and will be detailed in the Final Closure and Reclamation Plan.

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 including water treatment plant 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 Kangislulik Lake were conducted to address NIRB project certificate Term and Condition no. 6a. The objectives were to assess Kangislulik Lake near-field water quality at the WRSF seepage outlet post-closure and to evaluate seasonal water circulation patterns in Kangislulik Lake resulting from effluent discharge. This analysis also aimed to predict and evaluate the water quality within Kangislulik 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 Kangislulik 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 need 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 may be required for IVR Pit Walls including re-sloping and cover placement, or adapted contact water management.

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, IVR Pit, 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 (Kangislulik 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 25 (2027 to 2043)	• 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 Kangislulik Lake to increase the water level by 1 m to 153.5 m.
Year 26 (2044)	• 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 to Lake A16 (Kangislulik 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 (Kangislulik Lake)

Mine Year	Key Water Management Activities and Sequence
	• Decommission the Whale Tail Dike, water quality permitting. • Remove site infrastructure
Post-Closure (2045+) (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.

Following completion of operations, site contact water including contact water in the underground mine watershed (GSP ponds) and temporarily stored in IVR Pit will be pumped into the underground mine; the remaining voids will be filled with Whale Tail Lake (South Basin) water. The dewatered Whale Tail Pit and IVR Pit area will be filled with a combination of natural runoff and contact water from the entire site (i.e., the Whale Tail and IVR WRSF Contact Water Collection Systems and the Whale Tail and IVR Attenuation ponds), and water pumped from Whale Tail Lake (South Basin).

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, following the Whale Tail Interim Closure and Reclamation Plan.

It is anticipated that approximately 75,000,000 m^3 over 16years 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). Pumping will be required during non winter months to fill the Whale Tail Lake (North Basin) by 2042. By pumping an additional 161,000 m3/year (approximately 55 m3/h during the non-winter months), the Whale Tail Lake (North Basin) can be filled by September 2042.

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 154.25 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 Kangislulik Lake over the Kangislulik Lake 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.

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 Kangislulik 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 Kangislulik Lake in post-closure.

Dike decommissioning will involve the removal (breach) of a portion of the dikes 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 Kangislulik Lake sill), and once the pit lake water quality is acceptable, the Whale Tail Dike, Mammoth Dike, and the Whale Tail WRSF Dike will be 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 (Kangislulik Lake) over the Mammoth Dike via spillway. Runoff from the Whale Tail WRSF contact water collection system area flows to Lake A16 (Kangislulik 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.

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 Kangislulik 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).

Kangislulik 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 Kangislulik 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 Kangislulik 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.

In the 2024 water quality forecast report (SNC 2024), AtkinsRéalis (Previously SNC Lavalin inc.) presents that the water quality forecast (WQF) model estimated conservatively the concentrations for Constituents of Concern (COCs) during operation, closure and post-closure when compared to the values presented in the FEIS assessment and last year's annual report. The water quality model is included in Appendix D of this plan. The WQF model also forecast similar concentration trends over time for the COCs when comparing to FEIS assessment values. Forecasted concentrations are generally higher or in the same range as the measured values on site.

All forecasted concentrations are below the Water Licence criteria and CCME guidelines for the COCs during operation in WT and IVR Attenuation Ponds, except for Total Arsenic. The water from these ponds are treated at the Water Treatment Plant (WTP) prior to discharge to Kangislulik or WTS Lakes. In 2023, the treated water met on average the Water Licence discharge criteria for Arsenic. At closure, all of the concentrations of COCs in Kangislulik Lake are forecasted to decrease over time since there is no longer any discharge of treated water to the lake. At post-closure, many COCs are forecasted to increase in Kangislulik Lake since WTN Basin shall be reconnected to Kangislulik Lake once the WT and Mammoth Dikes are breached. However, all COCs are expected to remain below the CCME guidelines, except for Total Phosphorus, Aluminium, Chromium, Copper and Iron.

The following recommendations were proposed to help improve the accuracy of the modelling in the future:

- Continue to monitor water quality in the Attenuation Ponds and Kangislulik and WTS Lakes
- Continue to monitor the water quality collected from the Whale Tail and IVR open pits.
- To better understand the loading of potential COCs from the exposed pit wall during operation and following closure, determine if it is possible to sample the pit wall runoff safely. Consider advancing the hydrogeological model and understanding of the pit wall lithology to assess the potential loading of COCs during operation and closure; and
- A robust water quality sampling plan shall need to be developed for closure and post-closure. Areas to sample include WT Pit, IVR Pit, WT Attenuation Pond and the WTN Basin once all of these ponds are hydraulically connected. Once the WTN Basin is formed, it is recommended to sample the surface water in different areas in the basin as well as different depths to gain a better understanding on the hydraulic behavior of this basin.

Alternatives water quality modelling methodologies are actively being assessed to further refine the understanding and forecasting of water quality on site. In addition, studies are on going to define the most optimal water management strategies to improve water quality on site for closure.

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, 2021) 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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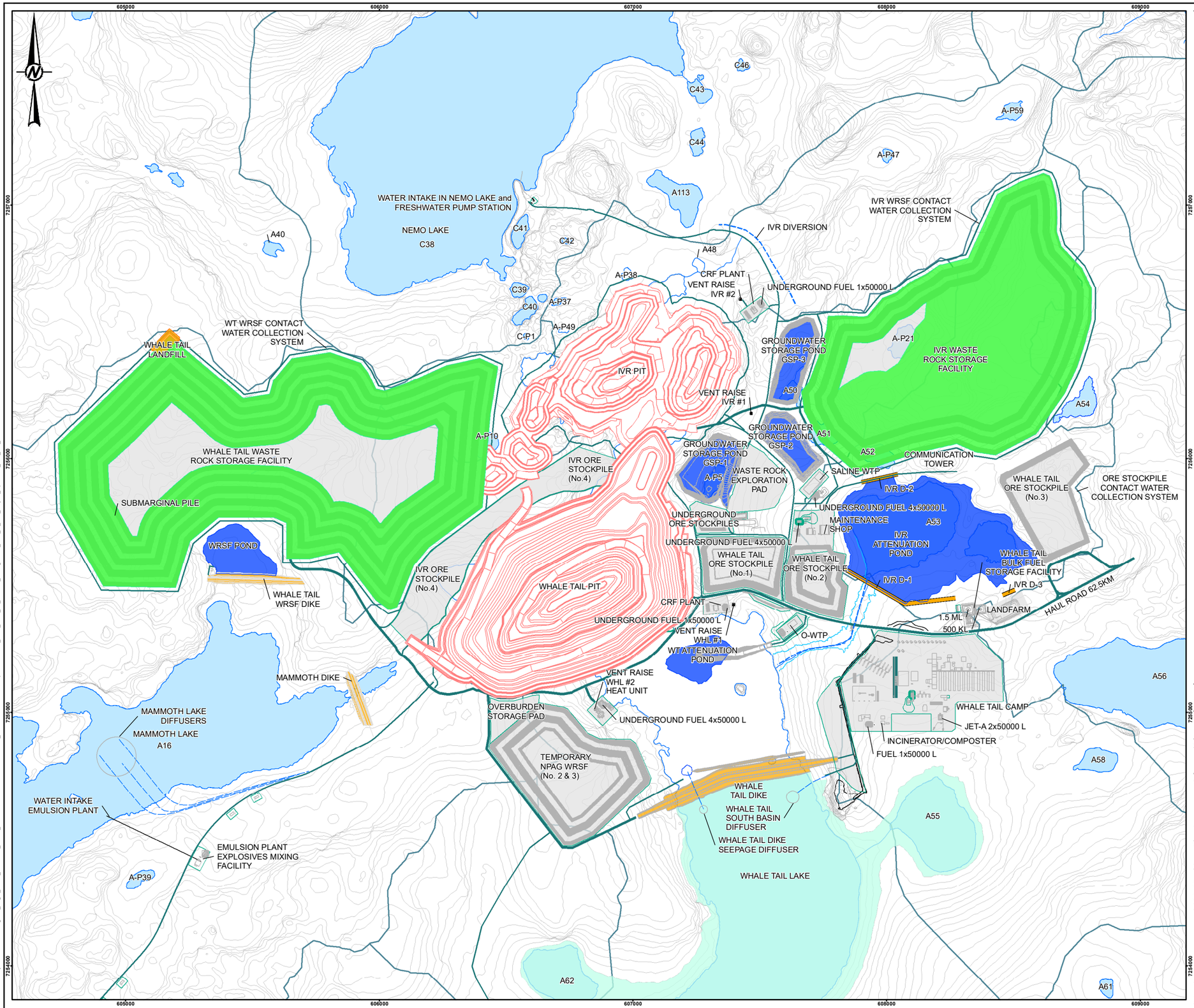
APPENDIX A • SITE LAYOUT PLANS

Figure A.1 Site Layout Plan (Closure Year 2026)

Figure A.2 Site Layout Plan (Post-Closure Year 2045+)



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
20136436	2000/2020	A	1

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

25mm

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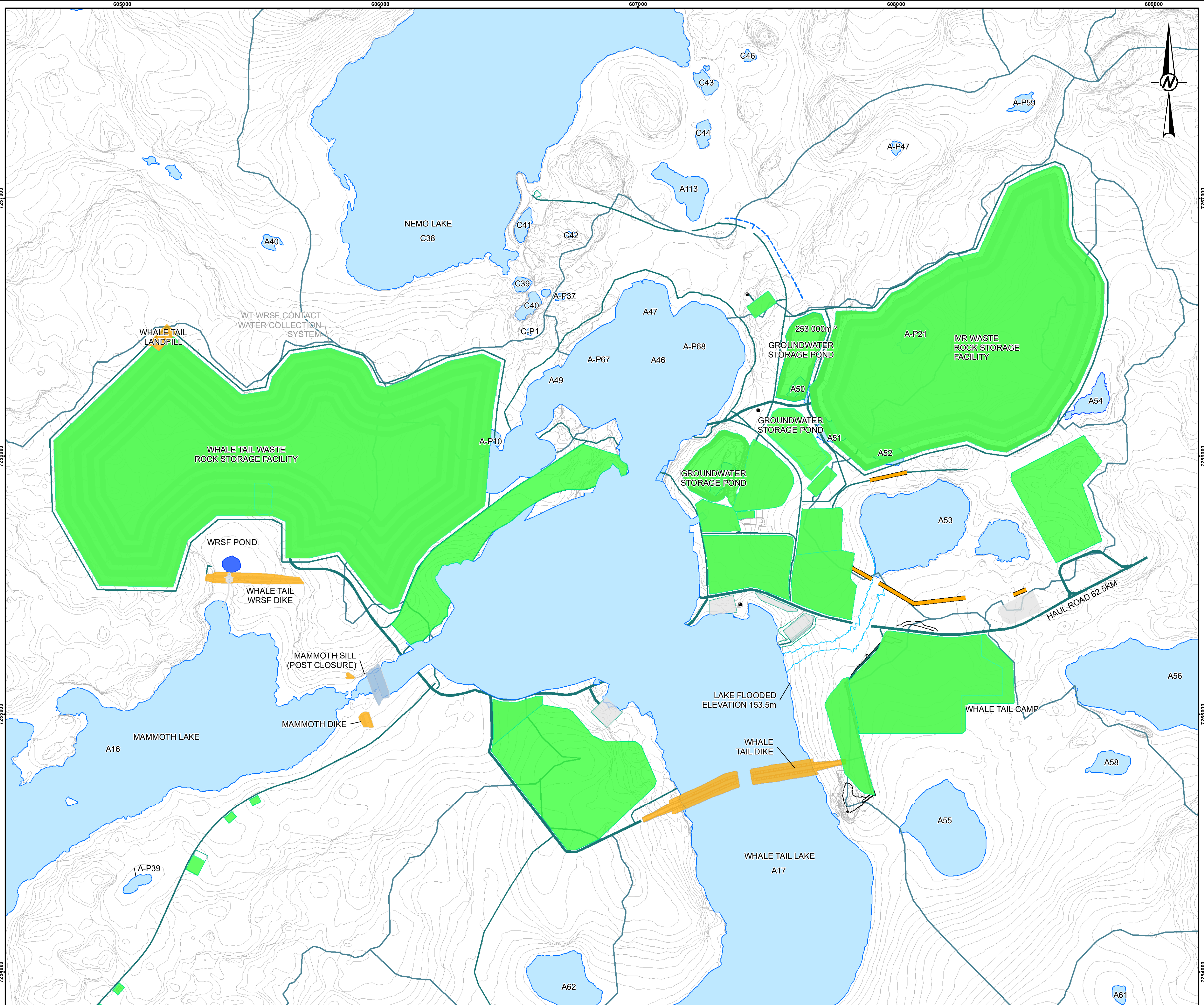

LEGEND

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

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

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

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

25mm

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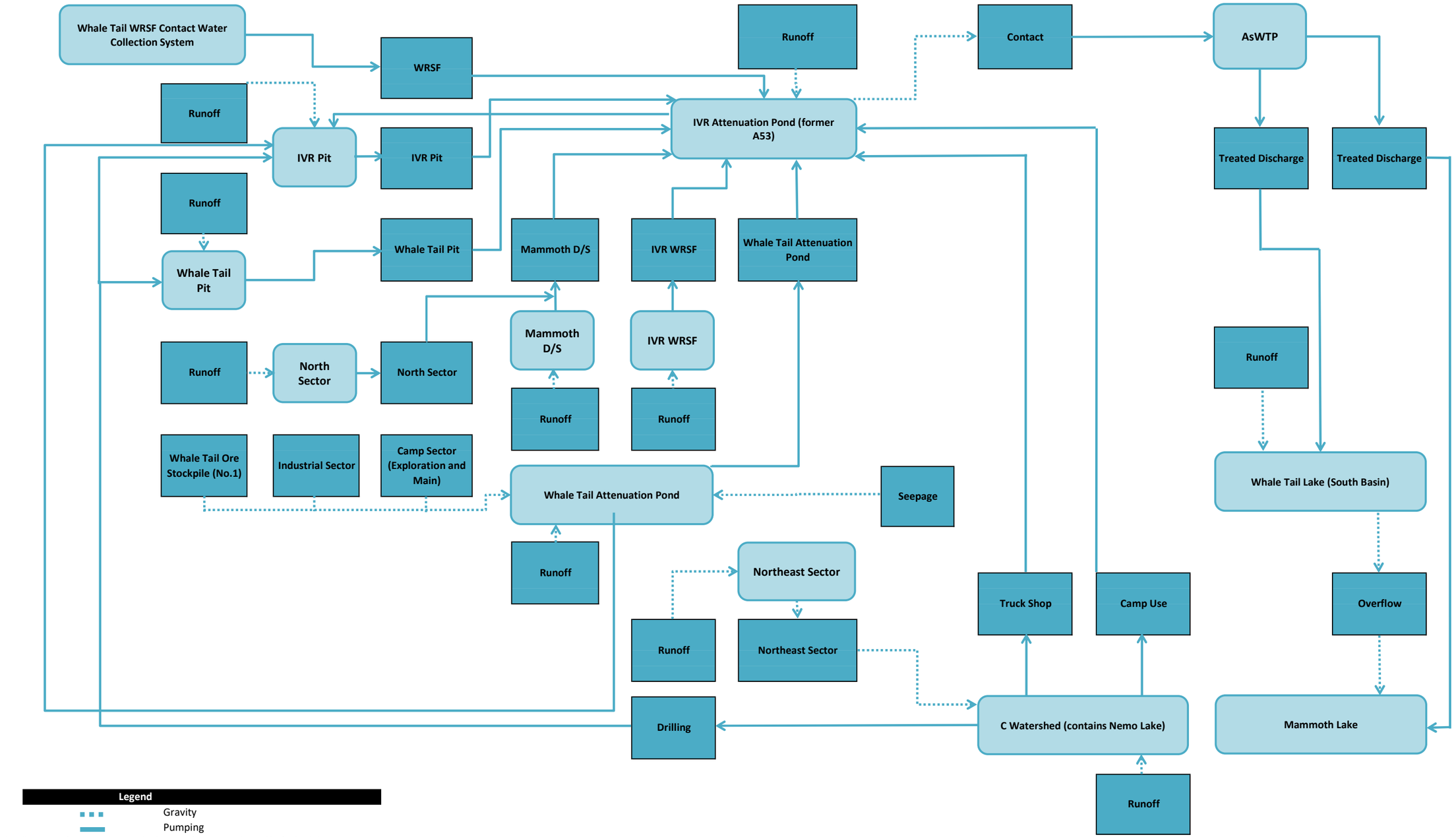
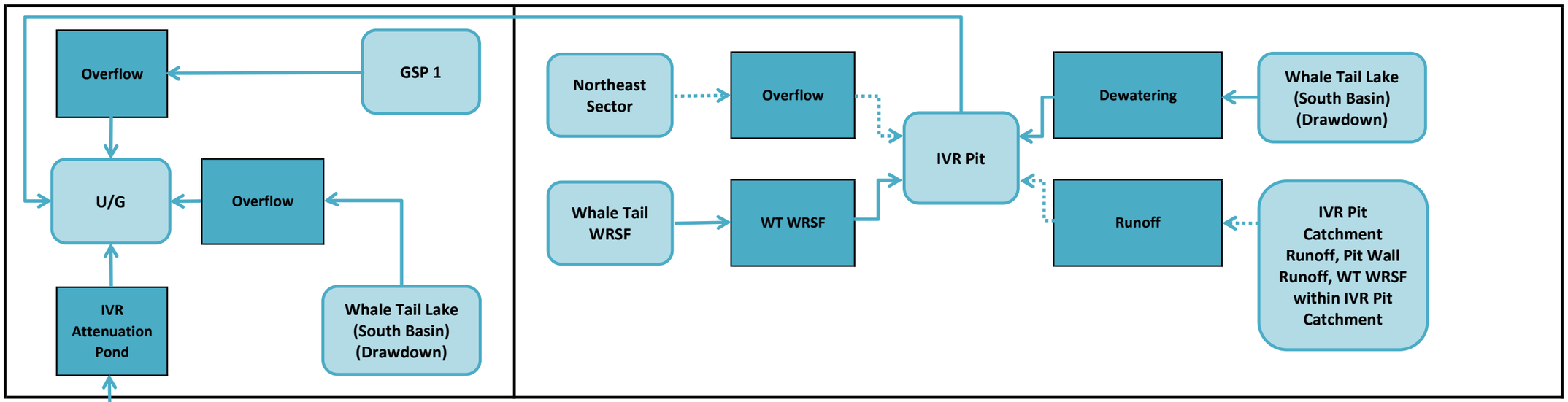
APPENDIX B • 2023 WATER MANAGEMENT SCHEMATIC FLOW SHEETS

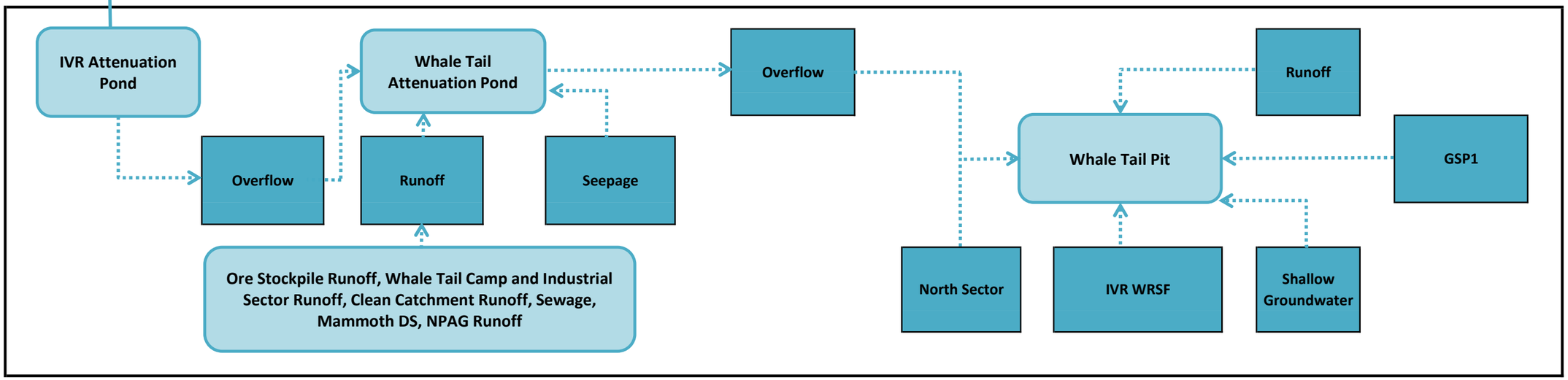
General Water Movement - 2022 to 2025



*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





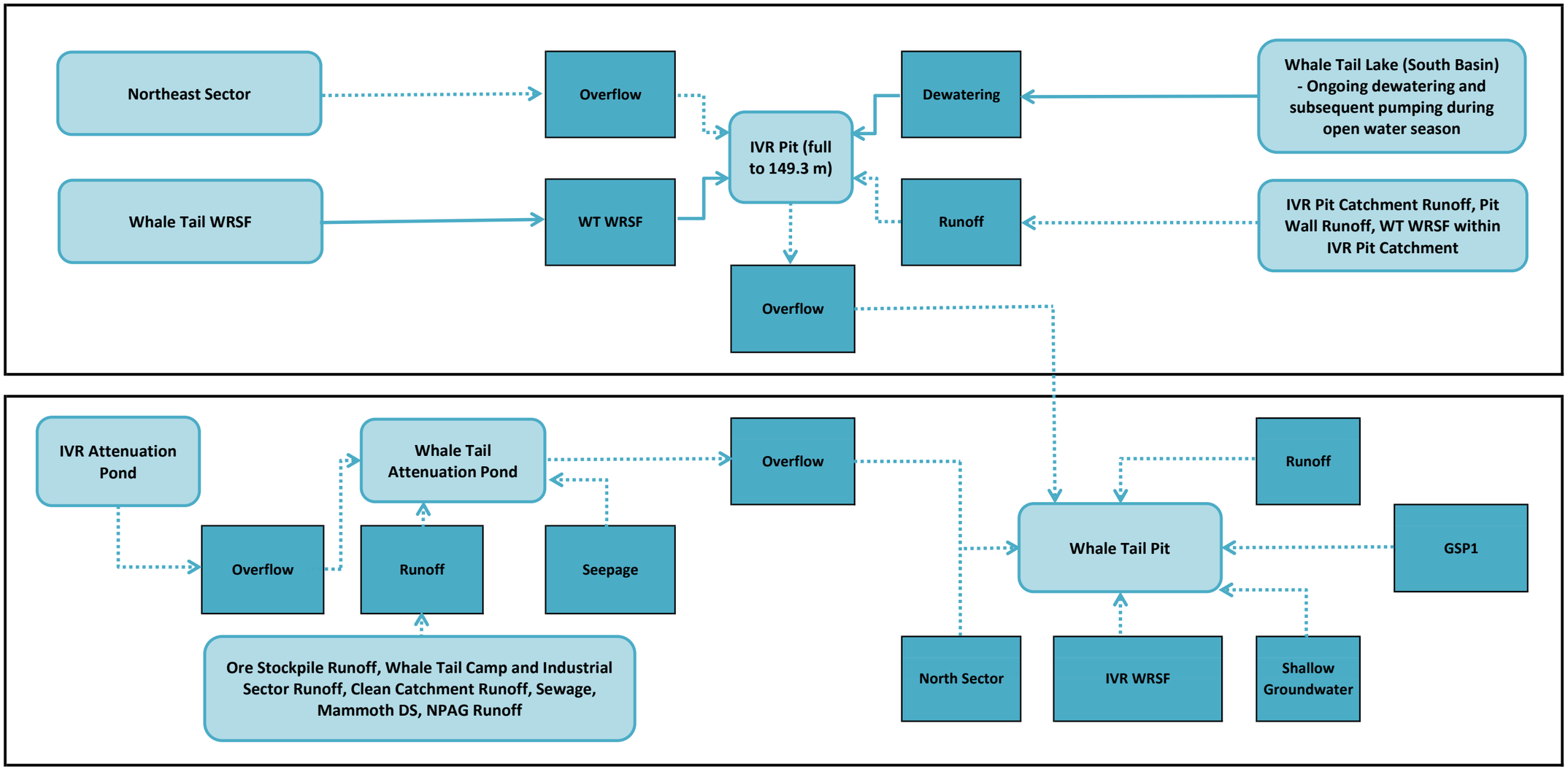
Legend

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 • 2023 WHALE TAIL WATER BALANCE

	1	2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
			Water Transfer - WTP Header					Water Transfer	WT Attn. Pond																
	Month	Nbr days	Total Water Volume (m3)	Enter 1 for the origin		Enter 1 for the destination			Inflows (m3)														Outflows (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	WTS Seepage	A49	WTS (via WTP)	MM (via WTP)	IVR Attn. Pond
2019 AVERAGES & TOTALS																									
2020 AVERAGES & TOTALS			**3 200 794**						**-64 759**	**496 137**	**120 199**	**0**	**146 017**	**206 138**	**29 016**	**111 172**	**24 362**	**115 632**	**134 342**	**0**	**1 730 231**	**69 016**	**1 495 274**	**1 705 519**	**0**
2021 AVERAGES & TOTALS			**2 688 743**						**-724884**	**828 195**	**37 221**	**0**	**0**	**422**	**31 489**	**43 194**	**0**	**9 383**	**0**	**0**	**1 079 896**	**0**	**598 263**	**0**	**632 029**
2022 AVERAGES & TOTALS			**1 988 073**						**-52474**	**525 087**	**0**	**6 646**	**0**	**0**	**35 947**	**0**	**0**	**0**	**0**	**0**	**1 174 706**	**0**	**0**	**0**	**1 749 409**
	January-23	31	116 077	1	0	1	0.00		-1636	31 759	0	0	0	0	3 291	0	0	0	0	0	159 857	0	0	0	151 472
Q1	February-23	28	105 464	1	0	1	0.00		-3484	53 139	0	0	0	0	3 331	0	0	0	0	0	49 384	0	0	0	98 533
	March-23	31	69 400	1	0	1	0.00		-70061	63 914	0	0	0	0	3 558	0	0	0	0	0	80 899	0	0	0	119 613
	April-23	30	131 721	1	0	1	0.00		-30639	59 079	0	0	0	0	3 209	0	0	0	0	0	46 257	0	0	0	121 926
Q2	May-23	31	333 102	1	0	1	0.00		7464	70 992	0	1 844	0	0	3 122	0	0	3 640	0	0	193 834	0	0	0	205 653
	June-23	30	539 350	1	0	0	1.00		-10009	95 468	0	9 569	0	0	2 828	0	0	0	0	0	79 653	0	0	0	249 275
	July-23	31	132 538	1	0	0	1.00		-11965	70 959	0	6 028	0	0	2 931	0	0	2 925	0	0	76 025	0	0	0	134 197
Q3	August-23	31	178 629	1	0	0	1.00		-11183	72 473	0	3 891	0	0	3 097	0	0	7 603	0	0	93 064	0	0	0	199 152
	September-23	30	319 714	1	0	0.16	0.84		4435	77 201	0	1 231	0	0	3 034	0	0	7 209	0	0	139 301	0	0	0	168 159
	October-23	31	39 009	1	0	1.00	0		-278772	72 666	0	0	0	0	3 320	0	0	1 508	90 935	90 935	78 301	0	0	0	93 292
Q4	November-23	30	0	1	0	1.00	0		-75562	70 979	0	0	0	0	4 192	0	0	0	31 672	31 672	71 528	0	0	0	70 747
	December-23	31	0	1	0	1.00	0		16303	85 453	0	0	0	0	5 215	0	0	0	0	0	45 325	0	0	0	108 036
2023 AVERAGES & TOTALS			**1 965 004**						**-465 108**	**824 082**	**0**	**22 563**	**0**	**0**	**41 130**	**0**	**0**	**22 885**	**122 607**	**122 607**	**1 113 428**	**0**	**0**	**0**	**1 720 055**
	January-24	31	100 000	1	0	1	0		69	0	0	0	0	0	2 418	0	0	0	0	0	85 560	0	0	0	100 000
Q1	February-24	29	100 000	1	0	1	0		0	0	0	0	0	0	2 418	0	0	0	0	0	80 040	0	0	0	100 000
	March-24	31	150 000	1	0	1	0		0	0	0	0	0	0	2 418	0	0	0	0	0	85 560	0	0	0	100 000
	April-24	30	150 000	1	0	1	0		7	0	0	0	0	0	2 418	0	0	0	0	0	82 800	0	0	0	80 000
Q2	May-24	31	150 000	1	0	1	0		302	0	0	0	0	0	2 418	0	0	0	0	0	85 560	0	0	0	80 000
	June-24	30	576 000	1	0	0	1		261	0	0	0	0	10 000	2 418	0	0	0	0	0	82 800	0	0	0	250 000
	July-24	31	350 000	1	0	0	1		49909	0	0	0	0	0	2 418	0	0	0	0	0	85 560	0	0	0	120 000
Q3	August-24	31	300 000	1	0	0	1		5247	0	0	0	0	0	2 418	0	0	0	0	0	85 560	0	0	0	100 000
	September-24	30	200 000	1	0	0	1		8848	0	0	0	0	0	2 418	0	0	0	0	0	82 800	0	0	0	100 000
	October-24	31	216 000	1	0	1	0		26216	0	0	0	0	0	2 418	0	0	0	0	0	85 560	0	0	0	60 000
Q4	November-24	30	100 000	1	0	1	0		1199	0	0	0	0	0	2 418	0	0	0	0	0	82 800	0	0	0	60 000
	December-24	31	100 000	1	0	1	0		501	0	0	0	0	0	2 418	0	0	0	0	0	85 560	0	0	0	60 000
2024 AVERAGES & TOTALS			**2 492 000**						**92 558**	**0**	**0**	**0**	**0**	**10 000**	**29 016**	**0**	**0**	**0**	**0**	**0**	**1 010 160**	**0**	**0**	**0**	**1 210 000**
	January-25	31	100 000	1	0	1	0		69	0	0	0	0	0	2 418	0	0	0	0	0	85 560	0	0	0	100 000
Q1	February-25	28	100 000	1	0	1	0		0	0	0	0	0	0	2 418	0	0	0	0	0	77 280	0	0	0	100 000
	March-25	31	150 000	1	0	1	0		0	0	0	0	0	0	2 418	0	0	0	0	0	85 560	0	0	0	100 000
	April-25	30	150 000	1	0	1	0		7	0	0	0	0	0	2 418	0	0	0	0	0	82 800	0	0	0	80 000
Q2	May-25	31	150 000	1	0	1	0		302	0	0	0	0	0	2 418	0	0	0	0	0	85 560	0	0	0	80 000
	June-25	30	576 000	1	0	0	1		261	0	0	0	0	10 000	2 418	0	0	0	0	0	82 800	0	0	0	250 000
	July-25	31	350 000	1	0	0	1		49909	0	0	0	0	0	2 418	0	0	0	0	0	85 560	0	0	0	120 000
Q3	August-25	31	300 000	1	0	0	1		5247	0	0	0	0	0	2 418	0	0	0	0	0	85 560	0	0	0	100 000
	September-25	30	200 000	1	0	0	1		8848	0	0	0	0	0	2 418	0	0	0	0	0	82 800	0	0	0	100 000
	October-25	31	216 000	1	0	1	0		26216	0	0	0	0	0	2 418	0	0	0	0	0	85 560	0	0	0	60 000
Q4	November-25	30	100 000	1	0	1	0		1199	0	0	0	0	0	2 418	0	0	0	0	0	82 800	0	0	0	60 000
	December-25	31	100 000	1	0	1	0		501	0	0	0	0	0	2 418	0	0	0	0	0	85 560	0	0	0	60 000
2025 AVERAGES & TOTALS			**2 492 000**						**92 558**	**0**	**0**	**0**	**0**	**10 000**	**29 016**	**0**	**0**	**0**	**0**	**0**	**1 007 400**	**0**	**0**	**0**	**1 210 000**
	January-26	31	100 000	1	0	1	0		69	0	0	0	0	0	2 418	0	0	0	0	0	85 560	0	0	0	100 000
Q1	February-26	28	100 000	1	0	1	0		0	0	0	0	0	0	2 418	0	0	0	0	0	77 280	0	0	0	100 000
	March-26	31	150 000	1	0	1	0		0	0	0	0	0	0	2 418	0	0	0	0	0	85 560	0	0	0	100 000
	April-26	30	150 000	1	0	1	0		7	0	0	0	0	0	2 418	0	0	0	0	0	82 800	0	0	0	80 000
Q2	May-26	31	150 000	1	0	1	0		302	0	0	0	0	0	2 418	0	0	0	0	0	85 560	0	0	0	80 000
	June-26	30	576 000	1	0	0	1		261	0	0	0	0	10 000	2 418	0	0	0	0	0	82 800	0	0	0	250 000
	July-26	31	0	1	0	0	1		49909	0	0	0	0	0	2 418	0	0	0	0	0	85 560	0	0	0	0
Q3	August-26	31	0	1	0	0	1		6472	0	0	0	0	0	2 418	0	0	0	0	0	85 560	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	82 800	0	0	0	0
	October-26	31	0	1	0	1	0		32339	0	0	0	0	0	2 418	0	0	0	0	0	85 560	0	0	0	0
Q4	November-26	30	0	1	0	1	0		1199	0	0	0	0	0	2 418	0	0	0	0	0	82 800	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	85 560	0	0	0	0
2026 AVERAGES & TOTALS			**1 226 000**						**101 974**	**0**	**0**	**0**	**0**	**10 000**	**29 016**	**0**	**0**	**0**	**0**	**0**	**1 007 400**	**0**	**0**	**0**	**710 000**
	January-27	31	0	1	0	1	0		69	0	0	0	0	0	2 418	0	0	0	0	0	85 560	0	0	0	0

Q1	February-27	28	0	1	0	1	0	0	0	0	0	0	0	0	2 418	0	0	0	0	0	77 280	0	0	0	0
	March-27	31	0	1	0	1	0	0	0	0	0	0	0	0	2 418	0	0	0	0	0	85 560	0	0	0	0
	April-27	30	0	1	0	1	0	7	0	0	0	0	0	0	2 418	0	0	0	0	0	82 800	0	0	0	0
Q2	May-27	31	0	1	0	1	0	302	0	0	0	0	0	0	2 418	0	0	0	0	0	85 560	0	0	0	0
	June-27	30	0	1	0	0	1	261	0	0	0	0	0	0	2 418	0	0	0	0	0	82 800	0	0	0	0
	July-27	31	0	1	0	0	1	62113	0	0	0	0	0	0	2 418	0	0	0	0	0	85 560	0	0	0	0
Q3	August-27	31	0	1	0	0	1	6472	0	0	0	0	0	0	2 418	0	0	0	0	0	85 560	0	0	0	0
	September-27	30	0	1	0	0	1	10915	0	0	0	0	0	0	2 418	0	0	0	0	0	82 800	0	0	0	0
	October-27	31	0	1	0	1	0	32339	0	0	0	0	0	0	2 418	0	0	0	0	0	85 560	0	0	0	0
Q4	November-27	30	0	1	0	1	0	1199	0	0	0	0	0	0	2 418	0	0	0	0	0	82 800	0	0	0	0
	December-27	31	0	1	0	1	0	501	0	0	0	0	0	0	2 418	0	0	0	0	0	85 560	0	0	0	0
2027 AVERAGES & TOTALS			**0**					**114 178**	**0**	**0**	**0**	**0**	**0**	**29 016**	**0**	**0**	**0**	**0**	**0**	**1 007 400**	**0**	**0**	**0**	**0**
	January-28	31	0	1	0	1.0	0.0	69	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q1	February-28	29	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	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	108 000	0	0	0	0
	April-28	30	0	1	0	1.0	0.0	7	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q2	May-28	31	0	1	0	1.0	0.0	302	0	0	0	0	0	2 418	0	0	0	0	0	108 000	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	108 000	0	0	0	0
	July-28	31	0	1	0	1.0	0.0	62113	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q3	August-28	31	0	1	0	1.0	0.0	6472	0	0	0	0	0	2 418	0	0	0	0	0	108 000	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	108 000	0	0	0	0
	October-28	31	0	1	0	1.0	0.0	32339	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q4	November-28	30	0	1	0	1.0	0.0	1199	0	0	0	0	0	2 418	0	0	0	0	0	108 000	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	108 000	0	0	0	0
2028 AVERAGES & TOTALS			**0**					**114 178**	**0**	**0**	**0**	**0**	**0**	**29 016**	**0**	**0**	**0**	**0**	**0**	**1 296 000**	**0**	**0**	**0**	**0**
	January-29	31	0	1	0	1.0	0.0	69	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q1	February-29	28	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	March-29	31	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	April-29	30	0	1	0	1.0	0.0	7	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q2	May-29	31	0	1	0	1.0	0.0	302	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	June-29	30	0	1	0	1.0	0.0	261	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	July-29	31	0	1	0	1.0	0.0	62113	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q3	August-29	31	0	1	0	1.0	0.0	6472	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	September-29	30	0	1	0	1.0	0.0	10915	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	October-29	31	0	1	0	1.0	0.0	32339	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q4	November-29	30	0	1	0	1.0	0.0	1199	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	December-29	31	0	1	0	1.0	0.0	501	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
2029 AVERAGES & TOTALS			**0**					**114 178**	**0**	**0**	**0**	**0**	**0**	**29 016**	**0**	**0**	**0**	**0**	**0**	**1 296 000**	**0**	**0**	**0**	**0**
	January-30	31	0	1	0	1.0	0.0	69	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q1	February-30	28	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	March-30	31	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	April-30	30	0	1	0	1.0	0.0	7	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q2	May-30	31	0	1	0	1.0	0.0	302	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	June-30	30	0	1	0	1.0	0.0	261	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	July-30	31	0	1	0	1.0	0.0	62113	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q3	August-30	31	0	1	0	1.0	0.0	6472	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	September-30	30	0	1	0	1.0	0.0	10915	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	October-30	31	0	1	0	1.0	0.0	32339	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q4	November-30	30	0	1	0	1.0	0.0	1199	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	December-30	31	0	1	0	1.0	0.0	501	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
2030 AVERAGES & TOTALS			**0**					**114 178**	**0**	**0**	**0**	**0**	**0**	**29 016**	**0**	**0**	**0**	**0**	**0**	**1 296 000**	**0**	**0**	**0**	**0**
	January-31	31	0	1	0	1.0	0.0	69	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q1	February-31	28	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	March-31	31	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	April-31	30	0	1	0	1.0	0.0	7	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q2	May-31	31	0	1	0	1.0	0.0	302	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	June-31	30	0	1	0	1.0	0.0	261	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	July-31	31	0	1	0	1.0	0.0	62113	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q3	August-31	31	0	1	0	1.0	0.0	6472	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	September-31	30	0	1	0	1.0	0.0	10915	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	October-31	31	0	1	0	1.0	0.0	32339	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q4	November-31	30	0	1	0	1.0	0.0	1199	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	December-31	31	0	1	0	1.0	0.0	501	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
2031 AVERAGES & TOTALS			**0**					**114 178**	**0**	**0**	**0**	**0**	**0**	**29 016**	**0**	**0**	**0**	**0**	**0**	**1 296 000**	**0**	**0**	**0**	**0**
	January-32	31	0	1	0	1.0	0.0	69	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0

Q1	February-32	29	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	March-32	31	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	April-32	30	0	1	0	1.0	0.0	7	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q2	May-32	31	0	1	0	1.0	0.0	302	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	June-32	30	0	1	0	1.0	0.0	261	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	July-32	31	0	1	0	1.0	0.0	62113	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q3	August-32	31	0	1	0	1.0	0.0	6472	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	September-32	30	0	1	0	1.0	0.0	10915	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	October-32	31	0	1	0	1.0	0.0	32339	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q4	November-32	30	0	1	0	1.0	0.0	1199	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	December-32	31	0	1	0	1.0	0.0	501	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
2032 AVERAGES & TOTALS			**0**					**114 178**	**0**	**0**	**0**	**0**	**0**	**29 016**	**0**	**0**	**0**	**0**	**0**	**1 296 000**	**0**	**0**	**0**	**0**
	January-33	31	0	1	0	1.0	0.0	69	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q1	February-33	28	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	March-33	31	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	April-33	30	0	1	0	1.0	0.0	7	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q2	May-33	31	0	1	0	1.0	0.0	302	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	June-33	30	0	1	0	1.0	0.0	261	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	July-33	31	0	1	0	1.0	0.0	62113	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q3	August-33	31	0	1	0	1.0	0.0	6472	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	September-33	30	0	1	0	1.0	0.0	10915	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	October-33	31	0	1	0	1.0	0.0	32339	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q4	November-33	30	0	1	0	1.0	0.0	1199	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	December-33	31	0	1	0	1.0	0.0	501	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
2033 AVERAGES & TOTALS			**0**					**114 178**	**0**	**0**	**0**	**0**	**0**	**29 016**	**0**	**0**	**0**	**0**	**0**	**1 296 000**	**0**	**0**	**0**	**0**
	January-34	31	0	1	0	1.0	0.0	69	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q1	February-34	28	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	March-34	31	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	April-34	30	0	1	0	1.0	0.0	7	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q2	May-34	31	0	1	0	1.0	0.0	302	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	June-34	30	0	1	0	1.0	0.0	261	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	July-34	31	0	1	0	1.0	0.0	62113	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q3	August-34	31	0	1	0	1.0	0.0	6472	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	September-34	30	0	1	0	1.0	0.0	10915	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	October-34	31	0	1	0	1.0	0.0	32339	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q4	November-34	30	0	1	0	1.0	0.0	1199	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	December-34	31	0	1	0	1.0	0.0	501	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
2034 AVERAGES & TOTALS			**0**					**114 178**	**0**	**0**	**0**	**0**	**0**	**29 016**	**0**	**0**	**0**	**0**	**0**	**1 296 000**	**0**	**0**	**0**	**0**
	January-35	31	0	1	0	1.0	0.0	69	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	**0**
Q1	February-35	28	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	**0**
	March-35	31	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	**0**
	April-35	30	0	1	0	1.0	0.0	7	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	**0**
Q2	May-35	31	0	1	0	1.0	0.0	302	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	**0**
	June-35	30	0	1	0	1.0	0.0	261	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	**0**
	July-35	31	0	1	0	1.0	0.0	62113	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	**0**
Q3	August-35	31	0	1	0	1.0	0.0	6472	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	**0**
	September-35	30	0	1	0	1.0	0.0	10915	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	**0**
	October-35	31	0	1	0	1.0	0.0	32339	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	**0**
Q4	November-35	30	0	1	0	1.0	0.0	1199	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	**0**
	December-35	31	0	1	0	1.0	0.0	501	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	**0**
2035 AVERAGES & TOTALS			**0**					**114 178**	**0**	**0**	**0**	**0**	**0**	**29 016**	**0**	**0**	**0**	**0**	**0**	**1 296 000**	**0**	**0**	**0**	**0**
	January-36	31	0	1	0	1.0	0.0	69	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q1	February-36	29	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	March-36	31	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	April-36	30	0	1	0	1.0	0.0	7	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q2	May-36	31	0	1	0	1.0	0.0	302	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	June-36	30	0	1	0	1.0	0.0	261	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	July-36	31	0	1	0	1.0	0.0	62113	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q3	August-36	31	0	1	0	1.0	0.0	6472	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	September-36	30	0	1	0	1.0	0.0	10915	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	October-36	31	0	1	0	1.0	0.0	32339	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q4	November-36	30	0	1	0	1.0	0.0	1199	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0

	December-36	31	0	1	0	1.0	0.0	501	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
2036 AVERAGES & TOTALS			**0**					**114 178**	**0**	**0**	**0**	**0**	**0**	**29 016**	**0**	**0**	**0**	**0**	**0**	**1 296 000**	**0**	**0**	**0**	**0**
	January-37	31	0	1	0	1.0	0.0	69	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q1	February-37	28	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	March-37	31	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	April-37	30	0	1	0	1.0	0.0	7	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q2	May-37	31	0	1	0	1.0	0.0	302	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	June-37	30	0	1	0	1.0	0.0	261	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	July-37	31	0	1	0	1.0	0.0	62113	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q3	August-37	31	0	1	0	1.0	0.0	6472	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	September-37	30	0	1	0	1.0	0.0	10915	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	October-37	31	0	1	0	1.0	0.0	32339	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q4	November-37	30	0	1	0	1.0	0.0	1199	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	December-37	31	0	1	0	1.0	0.0	501	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
2037 AVERAGES & TOTALS			**0**					**114 178**	**0**	**0**	**0**	**0**	**0**	**29 016**	**0**	**0**	**0**	**0**	**0**	**1 296 000**	**0**	**0**	**0**	**0**
	January-38	31	0	1	0	1.0	0.0	69	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q1	February-38	28	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	March-38	31	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	April-38	30	0	1	0	1.0	0.0	7	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q2	May-38	31	0	1	0	1.0	0.0	302	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	June-38	30	0	1	0	1.0	0.0	261	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	July-38	31	0	1	0	1.0	0.0	62113	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q3	August-38	31	0	1	0	1.0	0.0	6472	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	September-38	30	0	1	0	1.0	0.0	10915	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	October-38	31	0	1	0	1.0	0.0	32339	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q4	November-38	30	0	1	0	1.0	0.0	1199	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	December-38	31	0	1	0	1.0	0.0	501	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
2038 AVERAGES & TOTALS			**0**					**114 178**	**0**	**0**	**0**	**0**	**0**	**29 016**	**0**	**0**	**0**	**0**	**0**	**1 296 000**	**0**	**0**	**0**	**0**
	January-39	31	0	1	0	1.0	0.0	69	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q1	February-39	28	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	March-39	31	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	April-39	30	0	1	0	1.0	0.0	7	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q2	May-39	31	0	1	0	1.0	0.0	302	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	June-39	30	0	1	0	1.0	0.0	261	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	July-39	31	0	1	0	1.0	0.0	62113	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q3	August-39	31	0	1	0	1.0	0.0	6472	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	September-39	30	0	1	0	1.0	0.0	10915	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	October-39	31	0	1	0	1.0	0.0	32339	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q4	November-39	30	0	1	0	1.0	0.0	1199	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	December-39	31	0	1	0	1.0	0.0	501	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
2039 AVERAGES & TOTALS			**0**					**114 178**	**0**	**0**	**0**	**0**	**0**	**29 016**	**0**	**0**	**0**	**0**	**0**	**1 296 000**	**0**	**0**	**0**	**0**
	January-40	31	0	1	0	1.0	0.0	69	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q1	February-40	29	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	March-40	31	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	April-40	30	0	1	0	1.0	0.0	7	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q2	May-40	31	0	1	0	1.0	0.0	302	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	June-40	30	0	1	0	1.0	0.0	261	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	July-40	31	0	1	0	1.0	0.0	62113	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q3	August-40	31	0	1	0	1.0	0.0	6472	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	September-40	30	0	1	0	1.0	0.0	10915	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	October-40	31	0	1	0	1.0	0.0	32339	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q4	November-40	30	0	1	0	1.0	0.0	1199	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	December-40	31	0	1	0	1.0	0.0	501	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
2040 AVERAGES & TOTALS			**0**					**114 178**	**0**	**0**	**0**	**0**	**0**	**29 016**	**0**	**0**	**0**	**0**	**0**	**1 296 000**	**0**	**0**	**0**	**0**
	January-41	31	0	1	0	1.0	0.0	69	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q1	February-41	28	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	March-41	31	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	April-41	30	0	1	0	1.0	0.0	7	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q2	May-41	31	0	1	0	1.0	0.0	302	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	June-41	30	0	1	0	1.0	0.0	261	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	July-41	31	0	1	0	1.0	0.0	62113	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q3	August-41	31	0	1	0	1.0	0.0	6472	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0

	September-41	30	0	1	0	1.0	0.0	10915	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	October-41	31	0	1	0	1.0	0.0	32339	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q4	November-41	30	0	1	0	1.0	0.0	1199	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	December-41	31	0	1	0	1.0	0.0	501	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
2041 AVERAGES & TOTALS			**0**					**114 178**	**0**	**0**	**0**	**0**	**0**	**29 016**	**0**	**0**	**0**	**0**	**0**	**1 296 000**	**0**	**0**	**0**	**0**
	January-42	31	0	1	0	1.0	0.0	69	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q1	February-42	28	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	March-42	31	0	1	0	1.0	0.0	0	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	April-42	30	0	1	0	1.0	0.0	7	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q2	May-42	31	0	1	0	1.0	0.0	302	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	June-42	30	0	1	0	1.0	0.0	261	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	July-42	31	0	1	0	1.0	0.0	62113	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q3	August-42	31	0	1	0	1.0	0.0	6472	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	September-42	30	0	1	0	1.0	0.0	10915	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	October-42	31	0	1	0	1.0	0.0	32339	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
Q4	November-42	30	0	1	0	1.0	0.0	1199	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
	December-42	31	0	1	0	1.0	0.0	501	0	0	0	0	0	2 418	0	0	0	0	0	108 000	0	0	0	0
2042AVERAGES & TOTALS			**0**					**114 178**	**0**	**0**	**0**	**0**	**0**	**29 016**	**0**	**0**	**0**	**0**	**0**	**1 296 000**	**0**	**0**	**0**	**0**

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32	36	37	38	39	40	41	42	43	44	45	46	47		53	57	58	59	60	61	67	71
		IVR Attn. Pond														WT WRSF Pond					
	Theoretical (Flows)	Inflows (m3)								Outflows (m3)				Theoretical (Flows)		Inflows (m3)		Outflows (m3)		Theoretical (Flows)	
IVR Pit	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	IVR Pit	Total Pond Volume (Ice + Water) (m^3)		Precip / Runoff (m3)	WRSF	WT Attn. Pond	IVR Attn. Pond	Total Pond Volume (Ice + Water) (m^3)	
														0.000						16 611.000	
		427 336	0	0	0	0	0	0	0	0	0	558 235				75 923	26 488	115 632	0		
		967 791	632 029	58 938	43 068	275 738	23 554	47 249	45 488	656 288	1 434 192	0				23 935	32 697	9 383	47 249		
		-180 331	1 749 409	0	1 737	434 103	53 262	34 667	0	705 132	1 282 941	0				30 279	4 286	0	34 667		
	125 428	68 495	151 472	0	0	0	0	0	0	116 077	0	0		639 374		-209	0	0	0	3 079	
	129 265	-218 820	98 533	0	0	0	0	0	0	105 464	0	0		413 623		-417	0	0	0	2 662	
	87 963	122 044	119 613	0	0	0	0	0	0	69 400	0	0		585 880		-634	0	0	0	2 029	
	43 943	-168 836	121 926	0	0	0	0	0	0	131 721	0	0		407 250		-64	0	0	0	1 965	
	119 186	263 087	205 653	0	0	26 976	57 485	0	0	333 102	0	0		627 348		-10 818	15 318	3 640	0	2 825	
	47 420	72 742	249 275	0	0	58 689	23 330	0	0	0	539 350	0		492 035		9 062	445	0	0	12 331	
	60 126	3 197	134 197	0	0	6 595	9 893	0	0	0	132 538	0		513 379		392	100	2 925	0	9 899	
	29 920	14 022	199 152	0	0	4 807	9 651	0	0	0	178 629	0		562 382		8 446	1 981	7 603	0	12 722	
	94 172	64 880	168 159	0	0	9 579	5 288	0	0	49 723	269 991	0		490 573		5 371	0	7 209	0	10 885	
90 935	59 773	21 069	93 292	0	0	3 168	1 520	0	0	39 009	0	0	136 400	570 614		3 015	0	1 508	0	12 392	
31 672	91 836	-16 221	70 747	0	0	0	0	0	0	0	0	0	81 956	625 139		-9 737	0	0	0	2 654	
85 451	136 096	65 581	108 036	0	0	0	0	0	0	0	0	0	80 623	798 756		-568	0	0	0	2 086	
122 607		291 239	1 720 055	0	0	109 814	107 167	0	0	844 496	1 120 507	0	298 980			3 839	17 844	22 885	0		
207 658	-11 953	108	100 000	0	0	62 721	0	0	0	100 000	0	0	0	861 585		24	0	0	0	2 110	
0	-29 495	0	100 000	0	0	43 703	0	0	0	100 000	0	0	0	905 288		0	0	0	0	2 110	
0	-41 517	0	100 000	0	0	71 320	0	0	0	150 000	0	0	0	926 609		0	0	0	0	2 110	
0	-36 293	11	80 000	0	0	48 680	0	0	0	150 000	0	0	0	905 299		2	0	0	0	2 112	
0	-28 012	477	80 000	0	0	54 592	0	0	0	150 000	0	0	0	890 368		104	0	0	0	2 217	
0	-182 533	412	250 000	49 849	0	139 292	19 879	60 000	15 135	0	576 000	0	0	848 935		90	10 000	0	60 000	-47 693	
0	-164 646	32 467	120 000	5 095	0	100 189	1 996	25 000	1 520	0	350 000	0	0	785 202		25 869	9 000	0	25 000	-37 824	
0	-171 422	3 631	100 000	9 434	0	103 952	3 367	15 000	2 563	0	300 000	0	0	723 149		2 679	4 000	0	15 000	-46 145	
0	-177 355	6 123	100 000	25 008	0	118 492	9 975	15 000	7 594	0	200 000	0	0	805 341		4 518	3 500	0	15 000	-53 127	
0	-123 162	18 141	60 000	0	0	54 546	0	0	0	216 000	0	0	0	722 028		13 385	0	0	0	-39 742	
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0	-68 266	789	60 000	0	0	53 053	0	0	0	100 000	0	0	0	758 047		173	0	0	0	-39 155	
207 658		64 049	1 210 000	89 386	0	910 826	35 217	115 000	26 812	1 066 000	1 426 000	0	0			47 259	26 500	0	115 000		
0	-11 953	108	100 000	0	0	62 721	0	0	0	100 000	0	0	0	820 876		24	0	0	0	-39 131	
0	-32 255	0	100 000	0	0	43 703	0	0	0	100 000	0	0	0	864 579		0	0	0	0	-39 131	
0	-44 277	0	100 000	0	0	71 320	0	0	0	150 000	0	0	0	885 900		0	0	0	0	-39 131	
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0	-30 772	477	80 000	0	0	54 592	0	0	0	150 000	0	0	0	849 658		104	0	0	0	-39 025	
0	-185 293	412	250 000	49 849	0	139 292	19 879	60 000	15 135	0	576 000	0	0	808 226		90	10 000	0	60 000	-88 935	
0	-167 406	32 467	120 000	5 095	0	100 189	1 996	25 000	1 520	0	350 000	0	0	744 493		25 869	9 000	0	25 000	-79 066	
0	-174 182	3 631	100 000	9 434	0	103 952	3 367	15 000	2 563	0	300 000	0	0	682 440		2 679	4 000	0	15 000	-87 387	
0	-180 115	6 123	100 000	25 008	0	118 492	9 975	15 000	7 594	0	200 000	0	0	764 632		4 518	3 500	0	15 000	-94 369	
0	-125 922	18 141	60 000	0	0	54 546	0	0	0	216 000	0	0	0	681 319		13 385	0	0	0	-80 984	
0	-99 505	1 891	60 000	0	0	60 286	0	0	0	100 000	0	0	0	703 495		414	0	0	0	-80 569	
0	-71 026	789	60 000	0	0	53 053	0	0	0	100 000	0	0	0	717 337		173	0	0	0	-80 397	
		64 049	1 210 000	89 386	0	910 826	35 217	115 000	26 812	1 066 000	1 426 000	0	0			47 259	26 500	0	115 000		
0	-11 953	108	100 000	0	0	62 721	0	0	0	100 000	0	0	0	780 167		24	0	0	0	-80 373	
0	-32 255	0	100 000	0	0	43 703	0	0	0	100 000	0	0	0	823 870		0	0	0	0	-80 373	
0	-44 277	0	100 000	0	0	71 320	0	0	0	150 000	0	0	0	845 190		0	0	0	0	-80 373	
0	-39 053	11	80 000	0	0	48 680	0	0	0	150 000	0	0	0	823 881		2	0	0	0	-80 371	

0	-30 772	477	80 000	0	0	54 592	0	0	0	150 000	0	0	0	808 949	104	0	0	0	-80 266
0	-185 293	412	250 000	49 849	0	139 292	19 879	60 000	15 135	0	576 000	0	0	767 516	90	10 000	0	60 000	-130 176
0	-47 406	32 467	0	0	0	0	0	0	0	0	0	0	0	799 984	25 869	0	0	0	-104 307
0	47 044	3 631	0	0	0	0	0	0	0	0	0	0	0	803 615	2 679	0	0	0	-101 628
0	143 177	6 123	0	0	0	0	0	0	0	0	0	0	0	809 738	4 518	0	0	0	-97 110
0	263 494	18 141	0	0	0	0	0	0	0	0	0	0	0	827 879	13 385	0	0	0	-83 725
0	349 911	1 891	0	0	0	0	0	0	0	0	0	0	0	829 769	414	0	0	0	-83 311
0	438 390	789	0	0	0	0	0	0	0	0	0	0	0	830 559	173	0	0	0	-83 138
		64 049	**710 000**	**49 849**	**0**	**420 308**	**19 879**	**60 000**	**15 135**	**650 000**	**576 000**	**0**	**0**		**47 259**	**10 000**	**0**	**60 000**	
0	88 047	108	0	0	0	0	0	0	0	0	0	0	0	830 667	24	0	0	0	-83 114
0	167 745	0	0	0	0	0	0	0	0	0	0	0	0	830 667	0	0	0	0	-83 114
0	255 723	0	0	0	0	0	0	0	0	0	0	0	0	830 667	0	0	0	0	-83 114
0	340 947	11	0	0	0	0	0	0	0	0	0	0	0	830 678	2	0	0	0	-83 112
0	429 228	477	0	0	0	0	0	0	0	0	0	0	0	831 154	104	0	0	0	-83 008
0	514 707	412	0	0	0	0	0	0	0	0	0	0	0	831 566	90	0	0	0	-82 917
0	664 798	32 467	0	0	0	0	0	0	0	0	0	0	0	864 033	25 869	0	0	0	-57 048
0	759 248	3 631	0	0	0	0	0	0	0	0	0	0	0	867 664	2 679	0	0	0	-54 369
0	855 381	6 123	0	0	0	0	0	0	0	0	0	0	0	873 787	4 518	0	0	0	-49 852
0	975 698	18 141	0	0	0	0	0	0	0	0	0	0	0	891 928	13 385	0	0	0	-36 466
0	1 062 115	1 891	0	0	0	0	0	0	0	0	0	0	0	893 819	414	0	0	0	-36 052
0	1 150 594	789	0	0	0	0	0	0	0	0	0	0	0	894 608	173	0	0	0	-35 879
0		**64 049**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**47 259**	**0**	**0**	**0**	
0	110 487	108	0	0	0	0	0	0	0	0	0	0	0	894 716	24	0	0	0	-35 856
0	220 905	0	0	0	0	0	0	0	0	0	0	0	0	894 716	0	0	0	0	-35 856
0	331 323	0	0	0	0	0	0	0	0	0	0	0	0	894 716	0	0	0	0	-35 856
0	441 747	11	0	0	0	0	0	0	0	0	0	0	0	894 727	2	0	0	0	-35 853
0	552 468	477	0	0	0	0	0	0	0	0	0	0	0	895 204	104	0	0	0	-35 749
0	663 147	412	0	0	0	0	0	0	0	0	0	0	0	895 615	90	0	0	0	-35 659
0	835 678	32 467	0	0	0	0	0	0	0	0	0	0	0	928 083	25 869	0	0	0	-9 790
0	952 568	3 631	0	0	0	0	0	0	0	0	0	0	0	931 714	2 679	0	0	0	-7 111
0	1 073 901	6 123	0	0	0	0	0	0	0	0	0	0	0	937 837	4 518	0	0	0	-2 593
0	1 216 658	18 141	0	0	0	0	0	0	0	0	0	0	0	955 978	13 385	0	0	0	10 792
0	1 328 275	1 891	0	0	0	0	0	0	0	0	0	0	0	957 868	414	0	0	0	11 206
0	1 439 194	789	0	0	0	0	0	0	0	0	0	0	0	958 658	173	0	0	0	11 379
0		**64 049**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**47 259**	**0**	**0**	**0**	
0	110 487	108	0	0	0	0	0	0	0	0	0	0	0	958 766	24	0	0	0	11 403
0	220 905	0	0	0	0	0	0	0	0	0	0	0	0	958 766	0	0	0	0	11 403
0	331 323	0	0	0	0	0	0	0	0	0	0	0	0	958 766	0	0	0	0	11 403
0	441 747	11	0	0	0	0	0	0	0	0	0	0	0	958 777	2	0	0	0	11 405
0	552 468	477	0	0	0	0	0	0	0	0	0	0	0	959 253	104	0	0	0	11 510
0	663 147	412	0	0	0	0	0	0	0	0	0	0	0	959 665	90	0	0	0	11 600
0	835 678	32 467	0	0	0	0	0	0	0	0	0	0	0	992 132	25 869	0	0	0	37 469
0	952 568	3 631	0	0	0	0	0	0	0	0	0	0	0	995 763	2 679	0	0	0	40 148
0	1 073 901	6 123	0	0	0	0	0	0	0	0	0	0	0	1 001 886	4 518	0	0	0	44 666
0	1 216 658	18 141	0	0	0	0	0	0	0	0	0	0	0	1 020 027	13 385	0	0	0	58 051
0	1 328 275	1 891	0	0	0	0	0	0	0	0	0	0	0	1 021 918	414	0	0	0	58 465
0	1 439 194	789	0	0	0	0	0	0	0	0	0	0	0	1 022 707	173	0	0	0	58 638
0		**64 049**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**47 259**	**0**	**0**	**0**	
0	110 487	108	0	0	0	0	0	0	0	0	0	0	0	1 022 815	24	0	0	0	58 661
0	220 905	0	0	0	0	0	0	0	0	0	0	0	0	1 022 815	0	0	0	0	58 661
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0	552 468	477	0	0	0	0	0	0	0	0	0	0	0	1 023 303	104	0	0	0	58 768
0	663 147	412	0	0	0	0	0	0	0	0	0	0	0	1 023 714	90	0	0	0	58 858

0	835 678	32 467	0	0	0	0	0	0	0	0	0	0	0	1 056 182	25 869	0	0	0	84 727
0	952 568	3 631	0	0	0	0	0	0	0	0	0	0	0	1 059 813	2 679	0	0	0	87 406
0	1 073 901	6 123	0	0	0	0	0	0	0	0	0	0	0	1 065 936	4 518	0	0	0	91 924
0	1 216 658	18 141	0	0	0	0	0	0	0	0	0	0	0	1 084 077	13 385	0	0	0	105 309
0	1 328 275	1 891	0	0	0	0	0	0	0	0	0	0	0	1 085 967	414	0	0	0	105 723
0	1 439 194	789	0	0	0	0	0	0	0	0	0	0	0	1 086 757	173	0	0	0	105 896
0		**64 049**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**47 259**	**0**	**0**	**0**	
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0	220 905	0	0	0	0	0	0	0	0	0	0	0	0	1 086 865	0	0	0	0	105 920
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0	552 468	477	0	0	0	0	0	0	0	0	0	0	0	1 087 352	104	0	0	0	106 027
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0	835 678	32 467	0	0	0	0	0	0	0	0	0	0	0	1 120 231	25 869	0	0	0	131 986
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0	1 328 275	1 891	0	0	0	0	0	0	0	0	0	0	0	1 150 017	414	0	0	0	152 982
0	1 439 194	789	0	0	0	0	0	0	0	0	0	0	0	1 150 806	173	0	0	0	153 155
0		**64 049**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**47 259**	**0**	**0**	**0**	
0	110 487	108	0	0	0	0	0	0	0	0	0	0	0	1 150 914	24	0	0	0	153 179
0	220 905	0	0	0	0	0	0	0	0	0	0	0	0	1 150 914	0	0	0	0	153 179
0	331 323	0	0	0	0	0	0	0	0	0	0	0	0	1 150 914	0	0	0	0	153 179
0	441 747	11	0	0	0	0	0	0	0	0	0	0	0	1 150 925	2	0	0	0	153 181
0	552 468	477	0	0	0	0	0	0	0	0	0	0	0	1 151 402	104	0	0	0	153 285
0	663 147	412	0	0	0	0	0	0	0	0	0	0	0	1 151 813	90	0	0	0	153 375
0	835 678	32 467	0	0	0	0	0	0	0	0	0	0	0	1 184 281	25 869	0	0	0	179 244
0	952 568	3 631	0	0	0	0	0	0	0	0	0	0	0	1 187 912	2 679	0	0	0	181 923
0	1 073 901	6 123	0	0	0	0	0	0	0	0	0	0	0	1 194 035	4 518	0	0	0	186 441
0	1 216 658	18 141	0	0	0	0	0	0	0	0	0	0	0	1 212 176	13 385	0	0	0	199 826
0	1 328 275	1 891	0	0	0	0	0	0	0	0	0	0	0	1 214 066	414	0	0	0	200 241
0	1 439 194	789	0	0	0	0	0	0	0	0	0	0	0	1 214 856	173	0	0	0	200 413
0		**64 049**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**47 259**	**0**	**0**	**0**	
0	110 487	108	0	0	0	0	0	0	0	0	0	0	0	1 214 964	24	0	0	0	200 437
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0	331 323	0	0	0	0	0	0	0	0	0	0	0	0	1 214 964	0	0	0	0	200 437
0	441 747	11	0	0	0	0	0	0	0	0	0	0	0	1 214 975	2	0	0	0	200 439
0	552 468	477	0	0	0	0	0	0	0	0	0	0	0	1 215 451	104	0	0	0	200 544
0	663 147	412	0	0	0	0	0	0	0	0	0	0	0	1 215 863	90	0	0	0	200 634
0	835 678	32 467	0	0	0	0	0	0	0	0	0	0	0	1 248 330	25 869	0	0	0	226 503
0	952 568	3 631	0	0	0	0	0	0	0	0	0	0	0	1 251 961	2 679	0	0	0	229 182
0	1 073 901	6 123	0	0	0	0	0	0	0	0	0	0	0	1 258 084	4 518	0	0	0	233 700
0	1 216 658	18 141	0	0	0	0	0	0	0	0	0	0	0	1 276 225	13 385	0	0	0	247 085
0	1 328 275	1 891	0	0	0	0	0	0	0	0	0	0	0	1 278 116	414	0	0	0	247 499
0	1 439 194	789	0	0	0	0	0	0	0	0	0	0	0	1 278 905	173	0	0	0	247 672
0		**64 049**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**47 259**	**0**	**0**	**0**	
0	110 487	108	0	0	0	0	0	0	0	0	0	0	0	1 279 013	24	0	0	0	247 696
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0	331 323	0	0	0	0	0	0	0	0	0	0	0	0	1 279 013	0	0	0	0	247 696
0	441 747	11	0	0	0	0	0	0	0	0	0	0	0	1 279 024	2	0	0	0	247 698
0	552 468	477	0	0	0	0	0	0	0	0	0	0	0	1 279 501	104	0	0	0	247 802
0	663 147	412	0	0	0	0	0	0	0	0	0	0	0	1 279 912	90	0	0	0	247 893
0	835 678	32 467	0	0	0	0	0	0	0	0	0	0	0	1 312 380	25 869	0	0	0	273 762

0	952 568	3 631	0	0	0	0	0	0	0	0	0	0	0	1 316 011	2 679	0	0	0	276 441
0	1 073 901	6 123	0	0	0	0	0	0	0	0	0	0	0	1 322 134	4 518	0	0	0	280 958
0	1 216 658	18 141	0	0	0	0	0	0	0	0	0	0	0	1 340 275	13 385	0	0	0	294 344
0	1 328 275	1 891	0	0	0	0	0	0	0	0	0	0	0	1 342 165	414	0	0	0	294 758
0	1 439 194	789	0	0	0	0	0	0	0	0	0	0	0	1 342 955	173	0	0	0	294 931
0		**64 049**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**47 259**	**0**	**0**	**0**	
0	110 487	108	0	0	0	0	0	0	0	0	0	0	0	1 343 063	24	0	0	0	294 954
0	220 905	0	0	0	0	0	0	0	0	0	0	0	0	1 343 063	0	0	0	0	294 954
0	331 323	0	0	0	0	0	0	0	0	0	0	0	0	1 343 063	0	0	0	0	294 954
0	441 747	11	0	0	0	0	0	0	0	0	0	0	0	1 343 074	2	0	0	0	294 957
0	552 468	477	0	0	0	0	0	0	0	0	0	0	0	1 343 550	104	0	0	0	295 061
0	663 147	412	0	0	0	0	0	0	0	0	0	0	0	1 343 962	90	0	0	0	295 151
0	835 678	32 467	0	0	0	0	0	0	0	0	0	0	0	1 376 429	25 869	0	0	0	321 020
0	952 568	3 631	0	0	0	0	0	0	0	0	0	0	0	1 380 060	2 679	0	0	0	323 699
0	1 073 901	6 123	0	0	0	0	0	0	0	0	0	0	0	1 386 183	4 518	0	0	0	328 217
0	1 216 658	18 141	0	0	0	0	0	0	0	0	0	0	0	1 404 324	13 385	0	0	0	341 602
0	1 328 275	1 891	0	0	0	0	0	0	0	0	0	0	0	1 406 215	414	0	0	0	342 016
0	1 439 194	789	0	0	0	0	0	0	0	0	0	0	0	1 407 004	173	0	0	0	342 189
0		**64 049**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**47 259**	**0**	**0**	**0**	
0	110 487	108	0	0	0	0	0	0	0	0	0	0	0	1 407 112	24	0	0	0	342 213
0	220 905	0	0	0	0	0	0	0	0	0	0	0	0	1 407 112	0	0	0	0	342 213
0	331 323	0	0	0	0	0	0	0	0	0	0	0	0	1 407 112	0	0	0	0	342 213
0	441 747	11	0	0	0	0	0	0	0	0	0	0	0	1 407 123	2	0	0	0	342 215
0	552 468	477	0	0	0	0	0	0	0	0	0	0	0	1 407 600	104	0	0	0	342 320
0	663 147	412	0	0	0	0	0	0	0	0	0	0	0	1 408 011	90	0	0	0	342 410
0	835 678	32 467	0	0	0	0	0	0	0	0	0	0	0	1 440 479	25 869	0	0	0	368 279
0	952 568	3 631	0	0	0	0	0	0	0	0	0	0	0	1 444 110	2 679	0	0	0	370 958
0	1 073 901	6 123	0	0	0	0	0	0	0	0	0	0	0	1 450 233	4 518	0	0	0	375 476
0	1 216 658	18 141	0	0	0	0	0	0	0	0	0	0	0	1 468 374	13 385	0	0	0	388 861
0	1 328 275	1 891	0	0	0	0	0	0	0	0	0	0	0	1 470 264	414	0	0	0	389 275
0	1 439 194	789	0	0	0	0	0	0	0	0	0	0	0	1 471 054	173	0	0	0	389 448
0		**64 049**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**47 259**	**0**	**0**	**0**	
0	110 487	108	0	0	0	0	0	0	0	0	0	0	0	1 471 162	24	0	0	0	389 471
0	220 905	0	0	0	0	0	0	0	0	0	0	0	0	1 471 162	0	0	0	0	389 471
0	331 323	0	0	0	0	0	0	0	0	0	0	0	0	1 471 162	0	0	0	0	389 471
0	441 747	11	0	0	0	0	0	0	0	0	0	0	0	1 471 173	2	0	0	0	389 474
0	552 468	477	0	0	0	0	0	0	0	0	0	0	0	1 471 649	104	0	0	0	389 578
0	663 147	412	0	0	0	0	0	0	0	0	0	0	0	1 472 061	90	0	0	0	389 668
0	835 678	32 467	0	0	0	0	0	0	0	0	0	0	0	1 504 528	25 869	0	0	0	415 537
0	952 568	3 631	0	0	0	0	0	0	0	0	0	0	0	1 508 159	2 679	0	0	0	418 216
0	1 073 901	6 123	0	0	0	0	0	0	0	0	0	0	0	1 514 282	4 518	0	0	0	422 734
0	1 216 658	18 141	0	0	0	0	0	0	0	0	0	0	0	1 532 423	13 385	0	0	0	436 119
0	1 328 275	1 891	0	0	0	0	0	0	0	0	0	0	0	1 534 314	414	0	0	0	436 533
0	1 439 194	789	0	0	0	0	0	0	0	0	0	0	0	1 535 103	173	0	0	0	436 706
0		**64 049**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**47 259**	**0**	**0**	**0**	
0	110 487	108	0	0	0	0	0	0	0	0	0	0	0	1 535 211	24	0	0	0	436 730
0	220 905	0	0	0	0	0	0	0	0	0	0	0	0	1 535 211	0	0	0	0	436 730
0	331 323	0	0	0	0	0	0	0	0	0	0	0	0	1 535 211	0	0	0	0	436 730
0	441 747	11	0	0	0	0	0	0	0	0	0	0	0	1 535 222	2	0	0	0	436 732
0	552 468	477	0	0	0	0	0	0	0	0	0	0	0	1 535 699	104	0	0	0	436 837
0	663 147	412	0	0	0	0	0	0	0	0	0	0	0	1 536 110	90	0	0	0	436 927
0	835 678	32 467	0	0	0	0	0	0	0	0	0	0	0	1 568 578	25 869	0	0	0	462 796

0	952 568	3 631	0	0	0	0	0	0	0	0	0	0	0	1 572 209	2 679	0	0	0	465 475
0	1 073 901	6 123	0	0	0	0	0	0	0	0	0	0	0	1 578 332	4 518	0	0	0	469 993
0	1 216 658	18 141	0	0	0	0	0	0	0	0	0	0	0	1 596 473	13 385	0	0	0	483 378
0	1 328 275	1 891	0	0	0	0	0	0	0	0	0	0	0	1 598 363	414	0	0	0	483 792
0	1 439 194	789	0	0	0	0	0	0	0	0	0	0	0	1 599 153	173	0	0	0	483 965
0		**64 049**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**47 259**	**0**	**0**	**0**	
0	110 487	108	0	0	0	0	0	0	0	0	0	0	0	1 599 261	24	0	0	0	483 989
0	220 905	0	0	0	0	0	0	0	0	0	0	0	0	1 599 261	0	0	0	0	483 989
0	331 323	0	0	0	0	0	0	0	0	0	0	0	0	1 599 261	0	0	0	0	483 989
0	441 747	11	0	0	0	0	0	0	0	0	0	0	0	1 599 272	2	0	0	0	483 991
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0	663 147	412	0	0	0	0	0	0	0	0	0	0	0	1 600 160	90	0	0	0	484 185
0	835 678	32 467	0	0	0	0	0	0	0	0	0	0	0	1 632 627	25 869	0	0	0	510 054
0	952 568	3 631	0	0	0	0	0	0	0	0	0	0	0	1 636 258	2 679	0	0	0	512 733
0	1 073 901	6 123	0	0	0	0	0	0	0	0	0	0	0	1 642 381	4 518	0	0	0	517 251
0	1 216 658	18 141	0	0	0	0	0	0	0	0	0	0	0	1 660 522	13 385	0	0	0	530 636
0	1 328 275	1 891	0	0	0	0	0	0	0	0	0	0	0	1 662 413	414	0	0	0	531 051
0	1 439 194	789	0	0	0	0	0	0	0	0	0	0	0	1 663 202	173	0	0	0	531 223
0		**64 049**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**47 259**	**0**	**0**	**0**	
0	110 487	108	0	0	0	0	0	0	0	0	0	0	0	1 663 310	24	0	0	0	531 247
0	220 905	0	0	0	0	0	0	0	0	0	0	0	0	1 663 310	0	0	0	0	531 247
0	331 323	0	0	0	0	0	0	0	0	0	0	0	0	1 663 310	0	0	0	0	531 247
0	441 747	11	0	0	0	0	0	0	0	0	0	0	0	1 663 321	2	0	0	0	531 249
0	552 468	477	0	0	0	0	0	0	0	0	0	0	0	1 663 798	104	0	0	0	531 354
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0	835 678	32 467	0	0	0	0	0	0	0	0	0	0	0	1 696 677	25 869	0	0	0	557 313
0	952 568	3 631	0	0	0	0	0	0	0	0	0	0	0	1 700 308	2 679	0	0	0	559 992
0	1 073 901	6 123	0	0	0	0	0	0	0	0	0	0	0	1 706 431	4 518	0	0	0	564 510
0	1 216 658	18 141	0	0	0	0	0	0	0	0	0	0	0	1 724 572	13 385	0	0	0	577 895
0	1 328 275	1 891	0	0	0	0	0	0	0	0	0	0	0	1 726 462	414	0	0	0	578 309
0	1 439 194	789	0	0	0	0	0	0	0	0	0	0	0	1 727 252	173	0	0	0	578 482
0		**64 049**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**47 259**	**0**	**0**	**0**	
0	110 487	108	0	0	0	0	0	0	0	0	0	0	0	1 727 360	24	0	0	0	578 506
0	220 905	0	0	0	0	0	0	0	0	0	0	0	0	1 727 360	0	0	0	0	578 506
0	331 323	0	0	0	0	0	0	0	0	0	0	0	0	1 727 360	0	0	0	0	578 506
0	441 747	11	0	0	0	0	0	0	0	0	0	0	0	1 727 371	2	0	0	0	578 508
0	552 468	477	0	0	0	0	0	0	0	0	0	0	0	1 727 847	104	0	0	0	578 612
0	663 147	412	0	0	0	0	0	0	0	0	0	0	0	1 728 259	90	0	0	0	578 703
0	835 678	32 467	0	0	0	0	0	0	0	0	0	0	0	1 760 726	25 869	0	0	0	604 572
0	952 568	3 631	0	0	0	0	0	0	0	0	0	0	0	1 764 357	2 679	0	0	0	607 251
0	1 073 901	6 123	0	0	0	0	0	0	0	0	0	0	0	1 770 480	4 518	0	0	0	611 768
0	1 216 658	18 141	0	0	0	0	0	0	0	0	0	0	0	1 788 621	13 385	0	0	0	625 154
0	1 328 275	1 891	0	0	0	0	0	0	0	0	0	0	0	1 790 512	414	0	0	0	625 568
0	1 439 194	789	0	0	0	0	0	0	0	0	0	0	0	1 791 301	173	0	0	0	625 741
0		**64 049**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**47 259**	**0**	**0**	**0**	
0	110 487	108	0	0	0	0	0	0	0	0	0	0	0	1 791 409	24	0	0	0	625 764
0	220 905	0	0	0	0	0	0	0	0	0	0	0	0	1 791 409	0	0	0	0	625 764
0	331 323	0	0	0	0	0	0	0	0	0	0	0	0	1 791 409	0	0	0	0	625 764
0	441 747	11	0	0	0	0	0	0	0	0	0	0	0	1 791 420	2	0	0	0	625 767
0	552 468	477	0	0	0	0	0	0	0	0	0	0	0	1 791 897	104	0	0	0	625 871
0	663 147	412	0	0	0	0	0	0	0	0	0	0	0	1 792 308	90	0	0	0	625 961
0	835 678	32 467	0	0	0	0	0	0	0	0	0	0	0	1 824 776	25 869	0	0	0	651 830

0	952 568	3 631	0	0	0	0	0	0	0	0	0	0	0	1 828 407	2 679	0	0	0	654 509
0	1 073 901	6 123	0	0	0	0	0	0	0	0	0	0	0	1 834 530	4 518	0	0	0	659 027
0	1 216 658	18 141	0	0	0	0	0	0	0	0	0	0	0	1 852 671	13 385	0	0	0	672 412
0	1 328 275	1 891	0	0	0	0	0	0	0	0	0	0	0	1 854 561	414	0	0	0	672 826
0	1 439 194	789	0	0	0	0	0	0	0	0	0	0	0	1 855 351	173	0	0	0	672 999
0		**64 049**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**47 259**	**0**	**0**	**0**	

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81	85	86	87	88	89	90	96	##	101	102	105	106	109	115	##
	Mammoth Lake	WTS						WTS	AP5 / GSP-1						AP5 / GSP-1
Theoretical (Flows)		Inflows (m3)			Outflows (m3)		Theoretical (Flows)		Inflows (m3)			Outflows (m3)		Theoretical (Flows)	
Total Lake Volume (Ice+Water) (m3)		Precip / Runoff (m3)	WTD Seepage	WTP (Temp + Perm Diffusors)	SWTCH	MM Lake	Total Lake Volume (Ice+Water) (m3)		Runoff + direct precip (m3)	Under Ground Portal	WT Attn. Pond	WT Attn. Pond	GSP 2	Total Lake Volume (Ice+Water) (m3)	
6 178 592							**13 363 587**							**18 082**	
		2497757	**0**	**1495274**	**3961159**	**0**			**-25057**	**2297**	**39057**	**24362**	**0**		
		2718564	**0**	**1261391**	**4601464**	**0**			**32943**	**2806**	**0**	**0**	**0**		
		960651	**0**	**1115284**	**2075935**	**0**			**10536**	**2550**	**0**	**0**	**0**		
5 683 146		-179 060	0	116 077	0	0	12 710 966		21	0	0	0	0	61 886	
5 683 146		-168 447	0	105 464	0	0	12 647 983		0	0	0	0	0	62 222	
5 683 146		-287 906	0	69 400	0	0	12 429 477		0	0	0	0	0	62 594	
5 683 146		-131 721	0	131 721	0	0	12 429 477		2	0	0	0	0	62 956	
6 186 916		2 618 066	0	333 102	1 017 458	0	14 363 187		92	110	0	0	0	64 054	
5 907 649		217 054	0	0	951 518	0	13 628 723		79	0	0	0	0	64 841	
5 399 822		-308 882	0	0	297 296	0	13 022 545		5 238	0	0	0	0	68 307	
5 416 940		86 033	0	0	11 505	0	13 097 073		597	0	0	0	0	66 082	
5 588 753		645 745	0	25 915	330 053	0	13 438 681		1 007	0	0	0	0	67 386	
5 493 076		247 381	0	39 009	405 417	0	13 319 654		2 984	0	0	0	0	70 948	
5 495 764		-39 083	0	0	204 560	0	13 076 011		364	0	0	0	0	71 312	
5 548 172		-270 570	0	0	0	0	12 805 441		152	0	0	0	0	71 464	
		2428610	**0**	**820688**	**3217807**	**0**			**10536**	**110**	**0**	**0**	**0**		
5 339 254		556 513	0	100 000	0	0	13 461 954		21	0	0	0	0	71 485	
5 339 254		-100 000	0	100 000	0	0	13 461 954		0	0	0	0	0	71 485	
5 339 254		-150 000	0	150 000	0	0	13 461 954		0	0	0	0	0	71 485	
5 339 254		-150 000	0	150 000	0	0	13 461 954		2	0	0	0	0	71 487	
5 339 254		-150 000	0	150 000	0	0	13 461 954		92	0	0	0	0	69 302	
5 339 254		462 000	0	288 000	750 000	0	13 461 954		79	850	0	0	0	68 101	
5 339 254		750 000	0	0	750 000	0	13 461 954		5 238	850	0	0	0	70 858	
5 339 254		300 000	0	0	300 000	0	13 461 954		597	850	0	0	0	68 670	
5 339 254		300 000	0	0	300 000	0	13 461 954		1 007	0	0	0	0	67 344	
5 339 254		92 000	0	108 000	200 000	0	13 461 954		2 984	0	0	0	0	69 009	
5 339 254		-50 000	0	100 000	50 000	0	13 461 954		364	0	0	0	0	69 373	
5 339 254		-100 000	0	100 000	0	0	13 461 954		152	0	0	0	0	69 525	
		1760513	**0**	**1246000**	**2350000**	**0**			**10536**	**2550**	**0**	**0**	**0**		
5 339 254		-100 000	0	100 000	0	0	13 461 954		21	0	0	0	0	69 546	
5 339 254		-100 000	0	100 000	0	0	13 461 954		0	0	0	0	0	69 546	
5 339 254		-150 000	0	150 000	0	0	13 461 954		0	0	0	0	0	69 546	
5 339 254		-150 000	0	150 000	0	0	13 461 954		2	0	0	0	0	69 548	
5 339 254		-150 000	0	150 000	0	0	13 461 954		92	0	0	0	0	68 536	
5 339 254		462 000	0	288 000	750 000	0	13 461 954		79	850	0	0	0	70 164	
5 339 254		750 000	0	0	750 000	0	13 461 954		5 238	850	0	0	0	75 333	

5 339 254	300 000	0	0	300 000	0	13 461 954	597	850	0	0	0	75 844
5 339 254	300 000	0	0	300 000	0	13 461 954	1 007	0	0	0	0	76 994
5 339 254	92 000	0	108 000	200 000	0	13 461 954	2 984	0	0	0	0	80 838
5 339 254	-50 000	0	100 000	50 000	0	13 461 954	364	0	0	0	0	81 202
5 339 254	-100 000	0	100 000	0	0	13 461 954	152	0	0	0	0	81 354
	1104000	**0**	**1246000**	**2350000**	**0**		**10536**	**2550**	**0**	**0**	**0**	
5 339 254	-100 000	0	100 000	0	0	13 461 954	21	0	0	0	0	81 375
5 339 254	-100 000	0	100 000	0	0	13 461 954	0	0	0	0	0	81 375
5 339 254	-150 000	0	150 000	0	0	13 461 954	0	0	0	0	0	81 375
5 339 254	-150 000	0	150 000	0	0	13 461 954	2	0	0	0	0	81 377
5 339 254	-150 000	0	150 000	0	0	13 461 954	92	0	0	0	0	80 608
5 339 254	462 000	0	288 000	750 000	0	13 461 954	79	850	0	0	0	80 479
5 339 254	750 000	0	0	750 000	0	13 461 954	5 238	850	0	0	0	83 790
5 339 254	300 000	0	0	300 000	0	13 461 954	597	850	0	0	0	82 443
5 339 254	300 000	0	0	300 000	0	13 461 954	1 007	0	0	0	0	81 701
5 339 254	200 000	0	0	200 000	0	13 461 954	2 984	0	0	0	0	83 446
5 339 254	50 000	0	0	50 000	0	13 461 954	364	0	0	0	0	83 810
5 339 254	0	0	0	0	0	13 461 954	152	0	0	0	0	83 962
	1412000	**0**	**938000**	**2350000**	**0**		**10536**	**2550**	**0**	**0**	**0**	
5 339 254	0	0	0	0	0	13 461 954	21	0	0	0	0	83 983
5 339 254	0	0	0	0	0	13 461 954	0	0	0	0	0	83 983
5 339 254	0	0	0	0	0	13 461 954	0	0	0	0	0	83 983
5 339 254	0	0	0	0	0	13 461 954	2	0	0	0	0	83 985
5 339 254	0	0	0	0	0	13 461 954	92	0	0	0	0	82 831
5 339 254	747 028	0	0	747 028	0	13 461 954	79	850	0	0	0	82 322
5 339 254	317 682	0	0	317 682	0	13 461 954	5 238	850	0	0	0	87 285
5 339 254	360 300	0	0	360 300	0	13 461 954	597	850	0	0	0	87 410
5 339 254	251 587	0	0	251 587	0	13 461 954	1 007	0	0	0	0	88 145
5 339 254	218 411	0	0	218 411	0	13 461 954	2 984	0	0	0	0	92 124
5 339 254	46 062	0	0	46 062	0	13 461 954	364	0	0	0	0	93 388
5 339 254	0	0	0	0	0	13 461 954	152	0	0	0	0	94 470
	1941070	**0**	**0**	**1941070**	**0**		**10536**	**2550**	**0**	**0**	**0**	
5 339 254	0	0	0	0	0	13 461 954	21	0	0	0	0	94 491
5 339 254	0	0	0	0	0	13 461 954	0	0	0	0	0	94 491
5 339 254	0	0	0	0	0	13 461 954	0	0	0	0	0	94 491
5 339 254	0	0	0	0	0	13 461 954	2	0	0	0	0	94 493
5 339 254	0	0	0	0	0	13 461 954	92	0	0	0	0	94 585
5 339 254	0	0	0	0	0	13 461 954	79	0	0	0	0	94 664
5 339 254	0	0	0	0	0	13 461 954	5 238	0	0	0	0	99 902
5 339 254	0	0	0	0	0	13 461 954	597	0	0	0	0	100 499
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5 339 254	0	0	0	0	0	13 461 954	2 984	0	0	0	0	104 490
5 339 254	0	0	0	0	0	13 461 954	364	0	0	0	0	104 854
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	0	0	0	0	0		10536	0	0	0	0	
5 339 254	0	0	0	0	0	13 461 954	21	0	0	0	0	105 027
5 339 254	0	0	0	0	0	13 461 954	0	0	0	0	0	105 027
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5 339 254	0	0	0	0	0	13 461 954	2 984	0	0	0	0	115 027
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	0	0	0	0	0		10536	0	0	0	0	
5 339 254	0	0	0	0	0	13 461 954	21	0	0	0	0	115 563
5 339 254	0	0	0	0	0	13 461 954	0	0	0	0	0	115 563
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5 339 254	0	0	0	0	0	13 461 954	5 238	0	0	0	0	120 974
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5 339 254	0	0	0	0	0	13 461 954	2 984	0	0	0	0	125 563
5 339 254	0	0	0	0	0	13 461 954	364	0	0	0	0	125 927
5 339 254	0	0	0	0	0	13 461 954	152	0	0	0	0	126 079
	0	0	0	0	0		10536	0	0	0	0	
5 339 254	0	0	0	0	0	13 461 954	21	0	0	0	0	126 100
5 339 254	0	0	0	0	0	13 461 954	0	0	0	0	0	126 100
5 339 254	0	0	0	0	0	13 461 954	0	0	0	0	0	126 100
5 339 254	0	0	0	0	0	13 461 954	2	0	0	0	0	126 102
5 339 254	0	0	0	0	0	13 461 954	92	0	0	0	0	126 194
5 339 254	0	0	0	0	0	13 461 954	79	0	0	0	0	126 273
5 339 254	0	0	0	0	0	13 461 954	5 238	0	0	0	0	131 511
5 339 254	0	0	0	0	0	13 461 954	597	0	0	0	0	132 108
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5 339 254	0	0	0	0	0	13 461 954	2 984	0	0	0	0	136 099
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5 339 254	0	0	0	0	0	13 461 954	152	0	0	0	0	136 615
	0	0	0	0	0		10536	0	0	0	0	
5 339 254	0	0	0	0	0	13 461 954	21	0	0	0	0	136 636
5 339 254	0	0	0	0	0	13 461 954	0	0	0	0	0	136 636
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5 339 254	0	0	0	0	0	13 461 954	597	0	0	0	0	142 644
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5 339 254	0	0	0	0	0	13 461 954	92	0	0	0	0	147 266
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5 339 254	0	0	0	0	0	13 461 954	152	0	0	0	0	157 688
	0	**0**	**0**	**0**	**0**		**10536**	**0**	**0**	**0**	**0**	
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5 339 254	0	0	0	0	0	13 461 954	2 984	0	0	0	0	167 708
5 339 254	0	0	0	0	0	13 461 954	364	0	0	0	0	168 072
5 339 254	0	0	0	0	0	13 461 954	152	0	0	0	0	168 224
	0	**0**	**0**	**0**	**0**		**10536**	**0**	**0**	**0**	**0**	
5 339 254	0	0	0	0	0	13 461 954	21	0	0	0	0	168 245
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5 339 254	0	0	0	0	0	13 461 954	92	0	0	0	0	168 339
5 339 254	0	0	0	0	0	13 461 954	79	0	0	0	0	168 418
5 339 254	0	0	0	0	0	13 461 954	5 238	0	0	0	0	173 656

5 339 254	0	0	0	0	0	13 461 954	597	0	0	0	0	174 253
5 339 254	0	0	0	0	0	13 461 954	1 007	0	0	0	0	175 261
5 339 254	0	0	0	0	0	13 461 954	2 984	0	0	0	0	178 245
5 339 254	0	0	0	0	0	13 461 954	364	0	0	0	0	178 609
5 339 254	0	0	0	0	0	13 461 954	152	0	0	0	0	178 761
	0	**0**	**0**	**0**	**0**		**10536**	**0**	**0**	**0**	**0**	
5 339 254	0	0	0	0	0	13 461 954	21	0	0	0	0	178 781
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5 339 254	0	0	0	0	0	13 461 954	597	0	0	0	0	184 790
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5 339 254	0	0	0	0	0	13 461 954	364	0	0	0	0	189 145
5 339 254	0	0	0	0	0	13 461 954	152	0	0	0	0	189 297
	0	**0**	**0**	**0**	**0**		**10536**	**0**	**0**	**0**	**0**	
5 339 254	0	0	0	0	0	13 461 954	21	0	0	0	0	189 318
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5 339 254	0	0	0	0	0	13 461 954	2	0	0	0	0	189 320
5 339 254	0	0	0	0	0	13 461 954	92	0	0	0	0	189 412
5 339 254	0	0	0	0	0	13 461 954	79	0	0	0	0	189 491
5 339 254	0	0	0	0	0	13 461 954	5 238	0	0	0	0	194 729
5 339 254	0	0	0	0	0	13 461 954	597	0	0	0	0	195 326
5 339 254	0	0	0	0	0	13 461 954	1 007	0	0	0	0	196 333
5 339 254	0	0	0	0	0	13 461 954	2 984	0	0	0	0	199 317
5 339 254	0	0	0	0	0	13 461 954	364	0	0	0	0	199 681
5 339 254	0	0	0	0	0	13 461 954	152	0	0	0	0	199 833
	0	**0**	**0**	**0**	**0**		**10536**	**0**	**0**	**0**	**0**	
5 339 254	0	0	0	0	0	13 461 954	21	0	0	0	0	199 854
5 339 254	0	0	0	0	0	13 461 954	0	0	0	0	0	199 854
5 339 254	0	0	0	0	0	13 461 954	0	0	0	0	0	199 854
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5 339 254	0	0	0	0	0	13 461 954	92	0	0	0	0	199 948
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5 339 254	0	0	0	0	0	13 461 954	597	0	0	0	0	205 862
5 339 254	0	0	0	0	0	13 461 954	1 007	0	0	0	0	206 870
5 339 254	0	0	0	0	0	13 461 954	2 984	0	0	0	0	209 854

5 339 254	0	0	0	0	0	13 461 954	364	0	0	0	0	210 218
5 339 254	0	0	0	0	0	13 461 954	152	0	0	0	0	210 370
	0	**0**	**0**	**0**	**0**		**10536**	**0**	**0**	**0**	**0**	
5 339 254	0	0	0	0	0	13 461 954	21	0	0	0	0	210 390
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5 339 254	0	0	0	0	0	13 461 954	2 984	0	0	0	0	220 390
5 339 254	0	0	0	0	0	13 461 954	364	0	0	0	0	220 754
5 339 254	0	0	0	0	0	13 461 954	152	0	0	0	0	220 906
	0	**0**	**0**	**0**	**0**		**10536**	**0**	**0**	**0**	**0**	
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5 339 254	0	0	0	0	0	13 461 954	0	0	0	0	0	220 927
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5 339 254	0	0	0	0	0	13 461 954	5 238	0	0	0	0	226 338
5 339 254	0	0	0	0	0	13 461 954	597	0	0	0	0	226 935
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5 339 254	0	0	0	0	0	13 461 954	21	0	0	0	0	231 463
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5 339 254	0	0	0	0	0	13 461 954	597	0	0	0	0	237 471
5 339 254	0	0	0	0	0	13 461 954	1 007	0	0	0	0	238 478
5 339 254	0	0	0	0	0	13 461 954	2 984	0	0	0	0	241 463
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5 339 254	0	0	0	0	0	13 461 954	152	0	0	0	0	241 979
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5 339 254	0	0	0	0	0	13 461 954	21	0	0	0	0	241 999
5 339 254	0	0	0	0	0	13 461 954	0	0	0	0	0	241 999
5 339 254	0	0	0	0	0	13 461 954	0	0	0	0	0	241 999
5 339 254	0	0	0	0	0	13 461 954	2	0	0	0	0	242 001
5 339 254	0	0	0	0	0	13 461 954	92	0	0	0	0	242 093
5 339 254	0	0	0	0	0	13 461 954	79	0	0	0	0	242 172
5 339 254	0	0	0	0	0	13 461 954	5 238	0	0	0	0	247 410
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5 339 254	0	0	0	0	0	13 461 954	1 007	0	0	0	0	249 015
5 339 254	0	0	0	0	0	13 461 954	2 984	0	0	0	0	251 999
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5 339 254	0	0	0	0	0	13 461 954	152	0	0	0	0	252 515
	0	**0**	**0**	**0**	**0**		**10536**	**0**	**0**	**0**	**0**	

120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139
WTS	WTS	Estimated Runoff	Estimated Runoff	Estimated Runoff	Estimated Runoff			Nemo (HMI)	Camp	WTP	WTP	WTD Seepage	WTS	WTS	WRSF Runoff	WRSF Pond	WRSF Pond	WRSF Pond	WT Pit
WT Pit (Reflooding)	IVR Pit (Reflooding)	GSP-1	WT WRSF	WT Attn. Pond	IVR Attn. Pond			Freshwater Usage	WT Attn. Pond	WTS (Temp. + Perm. Diffusers)	MM Lake (East + West Diffusers)	WTS	MM Lake (SWTCH)	MM Lake (Line 140/148)	WRSF Pond	WT Attn. Pond	IVR Attn Pond	WT Pit	WT Attn. Pond
0	**0**	**0**	**0**	**0**	**108 710**	**0**	**0**	**0**	**29 016**	**1 495 274**	**1 705 519**	**0**	**3 961 159**	**0**	**26 488**	**115 632**	**0**	**0**	**496 137**
0	**0**	**10 536**	**47 259**	**92 558**	**64 594**	**0**	**0**	**0**	**31 489**	**1 261 391**	**1 427 352**	**0**	**4 601 464**	**0**	**32 697**	**9 383**	**47 249**	**0**	**828 195**
0	**0**	**10 536**	**47 259**	**92 558**	**64 049**	**0**	**0**	**75 183**	**35 947**	**1 115 284**	**872 789**	**0**	**2 075 935**	**0**	**4 286**	**0**	**34 667**	**0**	**525 087**
		21	24	69	108			7 369	3 291	116 077			0						31 759
		0	0	0	0			7 165	3 331	105 464			0						53 139
		0	0	0	0			7 013	3 558	69 400			0						63 914
		2	2	7	11			6 459	3 209	131 721			0						59 079
		92	104	302	477			5 711	3 122	333 102			1 017 458		15 318	3 640			70 992
		79	90	261	412			4 845	2 828	0	539 350		951 518		445				95 468
		5 238	25 869	49 909	32 467			5 661	2 931	0	132 538		297 296		100	2 925			70 959
		597	2 679	5 247	3 631			5 031	3 097	0	178 629		11 505		1 981	7 603			72 473
		1 007	4 518	8 848	6 123			5 667	3 034	25 915	293 799		330 053		0	7 209			77 201
		2 984	13 385	26 216	18 141			8 467	3 320	39 009	0		405 417		0	1 508			72 666
		364	414	1 199	1 891			8 831	4 192	0	0		204 560		0	0			70 979
		152	173	501	789			9 230	5 215	0	0		0		0	0			85 453
0	**0**	**10 536**	**47 259**	**92 558**	**64 049**	**0**	**0**	**81 449**	**41 130**	**820 688**	**1 144 316**	**0**	**3 217 807**	**0**	**17 844**	**22 885**	**0**	**0**	**824 082**
		21	24	69	108			3 832	2 418	100 000	0	0	0			0	0	0	0
		0	0	0	0			3 832	2 418	100 000	0	0	0			0	0	0	0
		0	0	0	0			3 832	2 418	150 000	0	0	0			0	0	0	0
		2	2	7	11			3 832	2 418	150 000	0	0	0			0	0	0	0
		92	104	302	477			3 832	2 418	150 000	0	0	0			0	0	0	0
		79	90	261	412			3 832	2 418	288 000	288 000	0	750 000		10 000	0	60 000	0	0
		5 238	25 869	49 909	32 467			3 832	2 418	0	350 000	0	750 000		9 000	0	25 000	0	0
		597	2 679	5 247	3 631			3 832	2 418	0	300 000	0	300 000		4 000	0	15 000	0	0
		1 007	4 518	8 848	6 123			3 832	2 418	0	200 000	0	300 000		3 500	0	15 000	0	0
		2 984	13 385	26 216	18 141			3 832	2 418	108 000	108 000	0	200 000			0	0	0	0
		364	414	1 199	1 891			3 832	2 418	100 000	0	0	50 000			0	0	0	0
		152	173	501	789			3 832	2 418	100 000	0	0	0			0	0	0	0
0	**0**	**10 536**	**47 259**	**92 558**	**64 049**	**0**	**0**	**45 984**	**29 016**	**1 246 000**	**1 246 000**	**0**	**2 350 000**	**0**	**26 500**	**0**	**115 000**	**0**	**0**
		21	24	69	108			3 832	2 418	100 000	0	0	0			0	0	0	0
		0	0	0	0			3 832	2 418	100 000	0	0	0			0	0	0	0
		0	0	0	0			3 832	2 418	150 000	0	0	0			0	0	0	0
		2	2	7	11			3 832	2 418	150 000	0	0	0			0	0	0	0
		92	104	302	477			3 832	2 418	150 000	0	0	0			0	0	0	0
		79	90	261	412			3 832	2 418	288 000	288 000	0	750 000		10 000	0	60 000	0	0
		5 238	25 869	49 909	32 467			3 832	2 418	0	350 000	0	750 000		9 000	0	25 000	0	0
		597	2 679	5 247	3 631			3 832	2 418	0	300 000	0	300 000		4 000	0	15 000	0	0
		1 007	4 518	8 848	6 123			3 832	2 418	0	200 000	0	300 000		3 500	0	15 000	0	0
		2 984	13 385	26 216	18 141			3 832	2 418	108 000	108 000	0	200 000			0	0	0	0
		364	414	1 199	1 891			3 832	2 418	100 000	0	0	50 000			0	0	0	0
		152	173	501	789			3 832	2 418	100 000	0	0	0			0	0	0	0
0	**0**	**10 536**	**47 259**	**92 558**	**64 049**	**0**	**0**	**45 984**	**29 016**	**1 246 000**	**1 246 000**	**0**	**2 350 000**	**0**	**26 500**	**0**	**115 000**	**0**	**0**
		21	24	69	108			3 832	2 418	100 000	0	0	0			0	0	0	0
		0	0	0	0			3 832	2 418	100 000	0	0	0			0	0	0	0
		0	0	0	0			3 832	2 418	150 000	0	0	0			0	0	0	0
		2	2	7	11			3 832	2 418	150 000	0	0	0			0	0	0	0
		92	104	302	477			3 832	2 418	150 000	0	0	0			0	0	0	0
		79	90	261	412			3 832	2 418	288 000	288 000	0	750 000		10 000	0	60 000	0	0
	1 395 000	5 238	25 869	49 909	32 467			3 832	2 418			0	750 000			0	0	0	0
	1 395 000	597	2 679	6 472	3 631			3 832	2 418			0	300 000			0	0	0	0

	1 350 000	1 007	4 518	10 915	6 123			3 832	2 418			0	300 000			0	0	0	0
	1 395 000	2 984	13 385	32 339	18 141			3 832	2 418			0	200 000			0	0	0	0
	45 000	364	414	1 199	1 891			3 832	2 418			0	50 000			0	0	0	0
		152	173	501	789			3 832	2 418			0	0			0	0	0	0
0	**5 580 000**	**10 536**	**47 259**	**101 974**	**64 049**	**0**	**0**	**45 984**	**29 016**	**938 000**	**288 000**	**0**	**2 350 000**	**0**	**10 000**	**0**	**60 000**	**0**	**0**
	0	21	24	69	108			3 832	2 418	0	0	0	0			0	0	0	0
	0	0	0	0	0			3 832	2 418	0	0	0	0			0	0	0	0
	0	0	0	0	0			3 832	2 418	0	0	0	0			0	0	0	0
	0	2	2	7	11			3 832	2 418	0	0	0	0			0	0	0	0
	0	92	104	302	477			3 832	2 418	0	0	0	0			0	0	0	0
	2 087 479	79	90	261	412			3 832	2 418	0	0	0	0			0	0	0	0
	54 907	5 238	25 869	62 113	32 467			3 832	2 418	0	0	0	0			0	0	0	0
	102 179	597	2 679	6 472	3 631			3 832	2 418	0	0	0	0			0	0	0	0
	621 391	1 007	4 518	10 915	6 123			3 832	2 418	0	0	0	0			0	0	0	0
	21 305	2 984	13 385	32 339	18 141			3 832	2 418	0	0	0	0			0	0	0	0
	0	364	414	1 199	1 891			3 832	2 418	0	0	0	0			0	0	0	0
	0	152	173	501	789			3 832	2 418	0	0	0	0			0	0	0	0
0	**2 887 260**	**10 536**	**47 259**	**114 178**	**64 049**	**0**	**0**	**45 984**	**29 016**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	0	21	24	69	108				2 418	0	0	0	0			0	0	0	0
	0	0	0	0	0				2 418	0	0	0	0			0	0	0	0
	0	0	0	0	0				2 418	0	0	0	0			0	0	0	0
	0	2	2	7	11				2 418	0	0	0	0			0	0	0	0
	0	92	104	302	477				2 418	0	0	0	0			0	0	0	0
	2 087 479	79	90	261	412				2 418	0	0	0	0			0	0	0	0
	54 907	5 238	25 869	62 113	32 467				2 418	0	0	0	0			0	0	0	0
	102 179	597	2 679	6 472	3 631				2 418	0	0	0	0			0	0	0	0
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	21 305	2 984	13 385	32 339	18 141				2 418	0	0	0	0			0	0	0	0
	0	364	414	1 199	1 891				2 418	0	0	0	0			0	0	0	0
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0	**2 887 260**	**10 536**	**47 259**	**114 178**	**64 049**	**0**	**0**	**0**	**29 016**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
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	0	0	0	0	0				2 418	0	0	0	0			0	0	0	0
	0	2	2	7	11				2 418	0	0	0	0			0	0	0	0
	0	92	104	302	477				2 418	0	0	0	0			0	0	0	0
	2 087 479	79	90	261	412				2 418	0	0	0	0			0	0	0	0
	54 907	5 238	25 869	62 113	32 467				2 418	0	0	0	0			0	0	0	0
	102 179	597	2 679	6 472	3 631				2 418	0	0	0	0			0	0	0	0
	621 391	1 007	4 518	10 915	6 123				2 418	0	0	0	0			0	0	0	0
	21 305	2 984	13 385	32 339	18 141				2 418	0	0	0	0			0	0	0	0
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0	**2 887 260**	**10 536**	**47 259**	**114 178**	**64 049**	**0**	**0**	**0**	**29 016**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	0	21	24	69	108				2 418	0	0	0	0			0	0	0	0
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	0	0	0	0	0				2 418	0	0	0	0			0	0	0	0
	0	2	2	7	11				2 418	0	0	0	0			0	0	0	0
	0	92	104	302	477				2 418	0	0	0	0			0	0	0	0
	2 087 479	79	90	261	412				2 418	0	0	0	0			0	0	0	0
	54 907	5 238	25 869	62 113	32 467				2 418	0	0	0	0			0	0	0	0
	102 179	597	2 679	6 472	3 631				2 418	0	0	0	0			0	0	0	0
	621 391	1 007	4 518	10 915	6 123				2 418	0	0	0	0			0	0	0	0
	21 305	2 984	13 385	32 339	18 141				2 418	0	0	0	0			0	0	0	0
	0	364	414	1 199	1 891				2 418	0	0	0	0			0	0	0	0
	0	152	173	501	789				2 418	0	0	0	0			0	0	0	0
0	**2 887 260**	**10 536**	**47 259**	**114 178**	**64 049**	**0**	**0**	**0**	**29 016**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	0	21	24	69	108				2 418	0	0	0	0			0	0	0	0
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	0	0	0	0	0				2 418	0	0	0	0			0	0	0	0
	0	2	2	7	11				2 418	0	0	0	0			0	0	0	0
	0	92	104	302	477				2 418	0	0	0	0			0	0	0	0
	2 087 479	79	90	261	412				2 418	0	0	0	0			0	0	0	0
	54 907	5 238	25 869	62 113	32 467				2 418	0	0	0	0			0	0	0	0
	102 179	597	2 679	6 472	3 631				2 418	0	0	0	0			0	0	0	0
	621 391	1 007	4 518	10 915	6 123				2 418	0	0	0	0			0	0	0	0
	21 305	2 984	13 385	32 339	18 141				2 418	0	0	0	0			0	0	0	0
	0	364	414	1 199	1 891				2 418	0	0	0	0			0	0	0	0
	0	152	173	501	789				2 418	0	0	0	0			0	0	0	0
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	0	21	24	69	108				2 418	0	0	0	0			0	0	0	0
	0	0	0	0	0				2 418	0	0	0	0			0	0	0	0
	0	0	0	0	0				2 418	0	0	0	0			0	0	0	0
	0	2	2	7	11				2 418	0	0	0	0			0	0	0	0
	0	92	104	302	477				2 418	0	0	0	0			0	0	0	0
	2 087 479	79	90	261	412				2 418	0	0	0	0			0	0	26 492	0
	54 907	5 238	25 869	62 113	32 467				2 418	0	0	0	0			0	0	651	0
	102 179	597	2 679	6 472	3 631				2 418	0	0	0	0			0	0	2 470	0
	621 391	1 007	4 518	10 915	6 123				2 418	0	0	0	0			0	0	12 566	0
	21 305	2 984	13 385	32 339	18 141				2 418	0	0	0	0			0	0	0	0
	0	364	414	1 199	1 891				2 418	0	0	0	0			0	0	0	0
	0	152	173	501	789				2 418	0	0	0	0			0	0	0	0
0	**2 887 260**	**10 536**	**47 259**	**114 178**	**64 049**	**0**	**0**	**0**	**29 016**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**42 179**	**0**
	0	21	24	69	108				2 418	0	0	0	0			0	0	0	0
	0	0	0	0	0				2 418	0	0	0	0			0	0	0	0
	0	0	0	0	0				2 418	0	0	0	0			0	0	0	0
	0	2	2	7	11				2 418	0	0	0	0			0	0	0	0
	0	92	104	302	477				2 418	0	0	0	0			0	0	0	0
	2 087 479	79	90	261	412				2 418	0	0	0	0			0	0	26 492	0
	54 907	5 238	25 869	62 113	32 467				2 418	0	0	0	0			0	0	651	0
	102 179	597	2 679	6 472	3 631				2 418	0	0	0	0			0	0	2 470	0
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	21 305	2 984	13 385	32 339	18 141				2 418	0	0	0	0			0	0	0	0
	0	364	414	1 199	1 891				2 418	0	0	0	0			0	0	0	0
	0	152	173	501	789				2 418	0	0	0	0			0	0	0	0
0	**2 887 260**	**10 536**	**47 259**	**114 178**	**64 049**	**0**	**0**	**0**	**29 016**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**42 179**	**0**
	0	21	24	69	108				2 418	0	0	0	0			0	0	0	0
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	0	0	0	0	0				2 418	0	0	0	0			0	0	0	0
	0	2	2	7	11				2 418	0	0	0	0			0	0	0	0
	0	92	104	302	477				2 418	0	0	0	0			0	0	0	0
	2 087 479	79	90	261	412				2 418	0	0	0	0			0	0	26 492	0
	54 907	5 238	25 869	62 113	32 467				2 418	0	0	0	0			0	0	651	0
	102 179	597	2 679	6 472	3 631				2 418	0	0	0	0			0	0	2 470	0
	621 391	1 007	4 518	10 915	6 123				2 418	0	0	0	0			0	0	12 566	0
	21 305	2 984	13 385	32 339	18 141				2 418	0	0	0	0			0	0	0	0
	0	364	414	1 199	1 891				2 418	0	0	0	0			0	0	0	0
	0	152	173	501	789				2 418	0	0	0	0			0	0	0	0
0	**2 887 260**	**10 536**	**47 259**	**114 178**	**64 049**	**0**	**0**	**0**	**29 016**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**42 179**	**0**
	0	21	24	69	108				2 418	0	0	0	0			0	0	0	0
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	0	0	0	0	0				2 418	0	0	0	0			0	0	0	0
	0	2	2	7	11				2 418	0	0	0	0			0	0	0	0
	0	92	104	302	477				2 418	0	0	0	0			0	0	0	0
	2 087 479	79	90	261	412				2 418	0	0	0	0			0	0	26 492	0
	54 907	5 238	25 869	62 113	32 467				2 418	0	0	0	0			0	0	651	0

	102 179	597	2 679	6 472	3 631				2 418	0	0	0	0			0	0	2 470	0
	621 391	1 007	4 518	10 915	6 123				2 418	0	0	0	0			0	0	12 566	0
	21 305	2 984	13 385	32 339	18 141				2 418	0	0	0	0			0	0	0	0
	0	364	414	1 199	1 891				2 418	0	0	0	0			0	0	0	0
	0	152	173	501	789				2 418	0	0	0	0			0	0	0	0
0	2 887 260	10 536	47 259	114 178	64 049	0	0	0	29 016	0	0	0	0	0	0	0	0	42 179	0
	0	21	24	69	108				2 418	0	0	0	0			0	0	0	0
	0	0	0	0	0				2 418	0	0	0	0			0	0	0	0
	0	0	0	0	0				2 418	0	0	0	0			0	0	0	0
	0	2	2	7	11				2 418	0	0	0	0			0	0	0	0
	0	92	104	302	477				2 418	0	0	0	0			0	0	0	0
	2 087 479	79	90	261	412				2 418	0	0	0	0			0	0	26 492	0
	54 907	5 238	25 869	62 113	32 467				2 418	0	0	0	0			0	0	651	0
	102 179	597	2 679	6 472	3 631				2 418	0	0	0	0			0	0	2 470	0
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	0	364	414	1 199	1 891				2 418	0	0	0	0			0	0	0	0
	0	152	173	501	789				2 418	0	0	0	0			0	0	0	0
0	2 887 260	10 536	47 259	114 178	64 049	0	0	0	29 016	0	0	0	0	0	0	0	0	42 179	0
	0	21	24	69	108				2 418	0	0	0	0			0	0	0	0
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	2 087 479	79	90	261	412				2 418	0	0	0	0			0	0	26 492	0
	54 907	5 238	25 869	62 113	32 467				2 418	0	0	0	0			0	0	651	0
	102 179	597	2 679	6 472	3 631				2 418	0	0	0	0			0	0	2 470	0
	621 391	1 007	4 518	10 915	6 123				2 418	0	0	0	0			0	0	12 566	0
	21 305	2 984	13 385	32 339	18 141				2 418	0	0	0	0			0	0	0	0
	0	364	414	1 199	1 891				2 418	0	0	0	0			0	0	0	0
	0	152	173	501	789				2 418	0	0	0	0			0	0	0	0
0	2 887 260	10 536	47 259	114 178	64 049	0	0	0	29 016	0	0	0	0	0	0	0	0	42 179	0
	0	21	24	69	108				2 418	0	0	0	0			0	0	0	0
	0	0	0	0	0				2 418	0	0	0	0			0	0	0	0
	0	0	0	0	0				2 418	0	0	0	0			0	0	0	0
	0	2	2	7	11				2 418	0	0	0	0			0	0	0	0
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	2 087 479	79	90	261	412				2 418	0	0	0	0			0	0	26 492	0
	54 907	5 238	25 869	62 113	32 467				2 418	0	0	0	0			0	0	651	0
	102 179	597	2 679	6 472	3 631				2 418	0	0	0	0			0	0	2 470	0
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	0	364	414	1 199	1 891				2 418	0	0	0	0			0	0	0	0
	0	152	173	501	789				2 418	0	0	0	0			0	0	0	0
0	2 887 260	10 536	47 259	114 178	64 049	0	0	0	29 016	0	0	0	0	0	0	0	0	42 179	0
	0	21	24	69	108				2 418	0	0	0	0			0	0	0	0
	0	0	0	0	0				2 418	0	0	0	0			0	0	0	0
	0	0	0	0	0				2 418	0	0	0	0			0	0	0	0
	0	2	2	7	11				2 418	0	0	0	0			0	0	0	0
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	102 179	597	2 679	6 472	3 631				2 418	0	0	0	0			0	0	2 470	0
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	0	152	173	501	789				2 418	0	0	0	0			0	0	0	0
0	2 887 260	10 536	47 259	114 178	64 049	0	0	0	29 016	0	0	0	0	0	0	0	0	42 179	0
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	54 907	5 238	25 869	62 113	32 467				2 418	0	0	0	0			0	0	651	0
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	0	364	414	1 199	1 891				2 418	0	0	0	0			0	0	0	0
	0	152	173	501	789				2 418	0	0	0	0			0	0	0	0
0	2 887 260	10 536	47 259	114 178	64 049	0	0	0	29 016	0	0	0	0	0	0	0	0	42 179	0
	0	21	24	69	108				2 418	0	0	0	0			0	0	0	0
	0	0	0	0	0				2 418	0	0	0	0			0	0	0	0
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	0	2	2	7	11				2 418	0	0	0	0			0	0	0	0
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	2 087 479	79	90	261	412				2 418	0	0	0	0			0	0	26 492	0
	54 907	5 238	25 869	62 113	32 467				2 418	0	0	0	0			0	0	651	0
	102 179	597	2 679	6 472	3 631				2 418	0	0	0	0			0	0	2 470	0
	621 391	1 007	4 518	10 915	6 123				2 418	0	0	0	0			0	0	12 566	0
	21 305	2 984	13 385	32 339	18 141				2 418	0	0	0	0			0	0	0	0
	0	364	414	1 199	1 891				2 418	0	0	0	0			0	0	0	0
	0	152	173	501	789				2 418	0	0	0	0			0	0	0	0
0	2 887 260	10 536	47 259	114 178	64 049	0	0	0	29 016	0	0	0	0	0	0	0	0	42 179	0
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	0	92	104	302	477				2 418	0	0	0	0			0	0	0	0
	2 087 479	79	90	261	412				2 418	0	0	0	0			0	0	26 492	0
	54 907	5 238	25 869	62 113	32 467				2 418	0	0	0	0			0	0	651	0
	102 179	597	2 679	6 472	3 631				2 418	0	0	0	0			0	0	2 470	0
	621 391	1 007	4 518	10 915	6 123				2 418	0	0	0	0			0	0	12 566	0
	21 305	2 984	13 385	32 339	18 141				2 418	0	0	0	0			0	0	0	0
	0	364	414	1 199	1 891				2 418	0	0	0	0			0	0	0	0
	0	152	173	501	789				2 418	0	0	0	0			0	0	0	0
0	2 887 260	10 536	47 259	114 178	64 049	0	0	0	29 016	0	0	0	0	0	0	0	0	42 179	0

140	141	142	143	144	145	146	147	148	149	150	151	152		153		154	155	156	157
Water Transfers																			
WT Pit	WT Pit (Phase 1 Ramp)	Sump 6	NWS	Runoff Road 7	Kangislulik Dike Sump	Road 7 Runoff	AP5/GSP1	Mammoth D/S	Q1	WT Attn Pond	WT Attn. Pond	IVR Pit	WT Attn. Pond	IVR Pit	IVR Attn Pond	IVR Attn. Pond	A46	A47	A47
Q1	MM D/S	IVR Attn Pond	WT Attn Pond	IVR Attn Pond	NWS	WT Attn. Pond	WT Attn. Pond	WT Attn. Pond	WT Attn. Pond	IVR Attn Pond	AP5/GSP1	WT Attn. Pond	IVR Pit	IVR Attn Pond	IVR Pit	WT Attn. Pond	A47	Nemo Watershed	WT Attn. Pond
114 865	**33 575**	**0**	**0**	**0**	**0**	**111 172**	**24 362**	**120 199**	**206 138**	**0**	**39 057**	**134 342**		**0**		**0**	**28 942**	**175 034**	**146 017**
0	**19 547**	**43 068**	**0**	**45 488**	**0**	**43 194**	**0**	**37 221**	**422**	**632 029**	**0**	**0**		**58 938**		**0**	**0**	**0**	**0**
0	**0**	**1 737**	**6 646**	**0**	**0**	**0**	**0**	**0**	**0**	**1 749 409**	**0**	**0**		**0**		**0**	**0**	**0**	**0**
										151 472									
										98 533									
										119 613									
										121 926									
			1 844							205 653									
			9 569							249 275									
			6 028							134 197									
			3 891							199 152									
			1 231							168 159									
			0							93 292			90 935		136 400				
			0							70 747			31 672		81 956				
			0							108 036			85 051		80 623				
0	**0**	**0**	**22 563**	**0**	**0**	**0**		**0**	**0**	**1 720 055**		**0**	**207 658**	**0**	**298 980**	**0**	**0**	**0**	**0**
0		0	0	0						100 000		0		0		0	0		0
0		0	0	0						100 000		0		0		0	0		0
0		0	0	0						100 000		0		0		0	0		0
0		0	0	0						80 000		0		0		0	0		0
0		0	0	0						80 000		0		0		0	0		0
0	30 000	0	0	15 135					10 000	250 000		0		49 849		0	0		0
0		0	0	1 520						120 000		0		5 095		0	0		0
0		0	0	2 563						100 000		0		9 434		0	0		0
0		0	0	7 594						100 000		0		25 008		0	0		0
0		0	0	0						60 000		0		0		0	0		0
0		0	0	0						60 000		0		0		0	0		0
0		0	0	0						60 000		0		0		0	0		0
0	**30 000**	**0**	**0**	**26 812**	**0**	**0**		**0**	**10 000**	**1 210 000**		**0**		**89 386**		**0**	**0**	**0**	**0**
0		0	0	0						100 000		0		0		0	0		0
0		0	0	0						100 000		0		0		0	0		0
0		0	0	0						100 000		0		0		0	0		0
0		0	0	0						80 000		0		0		0	0		0
0		0	0	0						80 000		0		0		0	0		0
0	30 000	0	0	15 135					10 000	250 000		0		49 849		0	0		0
0		0	0	1 520						120 000		0		5 095		0	0		0
0		0	0	2 563						100 000		0		9 434		0	0		0
0		0	0	7 594						100 000		0		25 008		0	0		0
0		0	0	0						60 000		0		0		0	0		0
0		0	0	0						60 000		0		0		0	0		0
0		0	0	0						60 000		0		0		0	0		0
0	**30 000**	**0**	**0**	**26 812**	**0**	**0**		**0**	**10 000**	**1 210 000**		**0**		**89 386**		**0**	**0**	**0**	**0**
		0	0	0						100 000		0		0		0			0
		0	0	0						100 000		0		0		0			0
		0	0	0						100 000		0		0		0			0
		0	0	0						80 000		0		0		0			0
		0	0	0						80 000		0		0		0			0
	30 000	0	0	15 135					10 000	250 000		0		49 849		0			0
		0	0													0			0
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		0	0													0			0
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		0	0													0			0
0	30 000	0	0	15 135	0	0		0	10 000	710 000		0		49 849		0	0	0	0
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		0	0	0						0		0		0		0			0
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		0	0	0						0		0		0		0			0
		0	0	0						0		0		0		0			0
		0	0	0						0		0		0		0			0
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0	0	0	0	0	0	0		0	0	0	0	0		0		0	0	0	0
		0	0	0						0		0		0		0			0
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		0	0	0						0		0		0		0			0
		0	0	0						0		0		0		0			0
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		0	0	0						0		0		0		0			0
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		0	0	0						0		0		0		0			0
		0	0	0						0		0		0		0			0
0	0	0	0	0	0	0	0	0	0	0	0	0		0		0	0	0	0
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		0	0	0						0		0		0		0			0
		0	0	0						0		0		0		0			0
		0	0	0						0		0		0		0			0
		0	0	0						0		0		0		0			0
		0	0	0						0		0		0		0			0
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158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173
A47	A49	A49	WT Pit	A51	A50	A53	IWA	IWB	IWC	IWD	UG Portal	AP5 / GSP1	AP5 / GSP1	Mammoth D/S	WT Pit
IVR Attn Pond	A47	WT Attn. Pond	IVR Attn Pond	A53	A53	WTS (via WTP)	IVR Attn Pond	IVR Attn Pond	IVR Attn Pond	IVR Attn Pond	AP5 / GSP1	UG (for Brine)	GSP2	IVR Attn. Pond	IVR west
0	**87 380**	**69 016**	**0**	**21 595**	**16 142**	**558 235**	**0**	**0**	**0**	**0**	**2 297**	**0**	**0**	**0**	
0	**0**	**0**	**275 738**	**0**	**0**	**0**	**8 771**	**9 029**	**5 754**	**0**	**2 806**	**0**	**0**	**34 885**	
154 140	**20 922**	**0**	**0**	**0**	**0**	**0**	**5 838**	**41 857**	**2 535**	**3 032**	**2 550**	**0**	**0**	**44 047**	**60 400**
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26 976								37 462	10 693	9 330	110	0		4 430	
58 689								13 618	5 570	4 142	0	0		4 840	
6 595								6 903	1 877	1 113	0	930		6 130	
4 807								7 291	1 047	1 313	0	1 918		5 457	
9 579								1 652	1 463	2 173	0	0		5 847	
3 168							0	1 520	0	0	0	0		6 068	
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0		0	54 592	0		0	0	0	0		0	2 826		0	
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APPENDIX D • 2023 WHALE TAIL WATER QUALITY FORECAST UPDATE

AtkinsRéalis	TECHNICAL NOTE Water Quality Forecast Update Based on 2023 WMP for Whale Tail Mine		
	Document No :	**Rev.**	**Date :**
	699134-4000-40ER-0001	00	March 21, 2024

Title of document : **WATER QUALITY FORECAST UPDATE BASED ON 2023 WMP FOR WHALE TAIL MINE**

Client : **AGNICO EAGLE MINES**

Project : **2023 ANNUAL REPORT FOR WHALE TAIL MINE WATER BALANCE AND WATER QUALITY FORECAST**

Prepared by (under ICS[1]) : Ikram Elkhoumsi, M.Sc.

Revised by : Anh-Long Nguyen, Eng., M.Sc.
#OIQ : 122858, #NAPEG: L2716

Approved by : Anh-Long Nguyen, Eng., M.Sc.
#OIQ : 122858, #NAPEG: L2716

[1] *ICS: Immediate control and supervision.*
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List of Revisions

#	Prep.	Rev.	App.	Date	Pages	Remarks
PA	IE	ALN	ALN	Mar. 1, 2024	All	Issue for internal comments
PB	IE	ALN	ALN	Mar. 7, 2024	All	Issue for client's comments
00	IE	ALN	ALN	Mar. 21, 2024	All	Final

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Appendix A. Figures of Forecasted Concentration for Potential COCs during Operation

1. Introduction

1.1 Context

Agnico Eagle Mines (AEM) is operating the Meadowbank Mine site and its satellite deposit Whale Tail Mine. Presently, all contact water from the Whale Tail 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 Kangislulik Lake. At Closure, the IVR Attenuation Pond will be backfilled and the WT Attenuation Pond and the WT and IVR pits will be allowed to refill through active transfer of water from WTS Lake, natural runoff, and natural contact water.

1.2 Mandate

AtkinsRéalis was mandated by Agnico Eagle (Agnico) to review the water balance and update the water quality forecasting model yearly during Operation, Closure, and Post-Closure.

AtkinsRéalis was mandated to:

- Review water quality data measured in 2023 and compile data with previous field measurements to update the water quality forecast model.
- Review the AEM 2023 Water Balance (WB) developed for the 2023 Water Management Plan (WMP) for the Whale Tail Mine.
- Forecast of the water quality in terms of the concentration of selected parameters of concern (defined in previous studies as passing the discharge criteria outlined in the water license 2A M-WTP1830) within WT and IVR Attenuation Ponds and WTS and Kangislulik Lakes during Operation, Closure and Post-Closure based on the AEM 2023 WB.
- Produce a technical note for the Whale Tail Water Quality Forecast Update based on the 2023 WMP for the Whale Tail Mine.

2. Review of Water Balance and Water Quality Data

2.1 Documents Reviewed

A review of the AEM 2023 Water Balance (WB) and the available water quality data measured in 2023 was undertaken by AtkinsRéalis and compiled with previous data measured since 2020. This includes a review of the following documents:

- The 2023 Water Balance model provided by AEM;
- Water quality data results provided by AEM.

A compilation of the measured water quality data sampled at the Whale Tail Mine site in 2023 was performed by AtkinsRéalis for the following sectors:

- WT Attenuation Pond (sampling point ST-WT-1);
- IVR Attenuation Pond (sampling point ST-WT-23);
- IVR Pit-Sump (sampling point ST-WT-18);
- Kangislulik Lake (sampling points MAME-2, EEM-7);
- Whale Tail Dike Seepage (sampling point ST-WT-17);
- WRSF Pond (sampling point ST-WT-3);
- Whale Tail Pit Sump (sampling point ST-WT-4);
- WTS Lake (sampling point WTSE, WTSE-1);
- GSP-1 (ST-WT-20);
- Water from the underground mine.

The measured water quality of 2023 was added to measured data conducted at the WT site between 2020 and 2022 and used as a database for the updated Water Quality Forecast (WQF) model. The following reference documents were consulted:

- WB-WQF original model developed by AtkinsRéalis (AtkinsRéalis 2021);
- WB for Operation for 2023 (AEM, 2024);

Some previous analysis reports have been consulted mainly:

- Whale Tail Modification: Water Balance and Water Quality Model-Technical Report (Lorax, 2023)

It is important to remember that the review of the Whale Tail water quality data was undertaken to provide a basis for the development and update of the water quality forecast mass balance model.

2.2 Water Balance

2.2.1 Water Management Phases

The Water Balance 2023 (WB 2023) was developed by AEM (AEM 2024) and is based on the current and future water management plan (WMP). The water balance examined the water transfers required for the water management infrastructure during the active Life of Mine (LOM), the Closure and Post-Closure under average hydrologic conditions.

The WB is updated on a yearly basis based on actual water transfers conducted on site, field survey of the different pond levels and on updates to the LOM and the planned Closure and Post-Closure phases.

The WB 2023 integrates the planned streams of water within the Whale Tail Mine site including all inflows and outflows to and from the IVR Attenuation Pond, WT Attenuation Pond, Kangislulik Lake and WTS Lake.

The WB 2023 was based on the revised mining schedule presented in **Table 2-1** below for the Whale Tail Mine.

Table 2-1 : Water Management Phases (based on Whale Tail Mine 2023 Waste Management Plan)

ACTIVITY	START DATE[1]	END DATE[1]
Pits Mining		
Whale Tail Pit	July 2019	December 2025
IVR Pit	July 2021	December 2025
Rock Storage Facility (RSF) Operations		
Whale Tail RSF	July 2019	December 2025
IVR RSF	July 2021	December 2025
Attenuation / Reclaim Pond Water Management		
Whale Tail Attenuation Pond	July 2019	December 2025
IVR Attenuation Pond	May 2021	December 2025
Other Key Activities		
Dewatering of Whale Tail North Basin (future WT Pit and WT Attenuation Pond	March 2019	June 2020
Dewatering of Lake A53 (future IVR Attenuation Pond)	June 2020	September 2020

ACTIVITY	START DATE[1]	END DATE[1]
Closure Period	January 2026	December 2044
Active Flooding of Whale Tail Pit and IVR Pit	July 2026	October 2042
Breaching of dikes[2]	January 2045	January 2045 only if water criteria are met
Post-Closure Period[3,4]	January 2045	December 2049

Notes:

1. *Periods are given from the beginning of the starting month to the end of the ending month.*
2. *Tentative dates. Schedule dependent on monitoring results for water quality*
3. *A five year long Post-Closure period was selected for modelling purposes, taking a conservative approach.*
4. *It is noted that the Post-Closure period begins when the dikes are breached. Dike breach can only take place once upstream and downstream of the dikes reaches the same elevation. Dike breach can only take place once water quality in all three water bodies meets water quality criteria as per the Water License criteria. The Closure schedule for the overall Project is based on the preliminary Closure methods and strategies discussed in the Whale Tail ICRP (2020). It is anticipated that the schedule will be refined throughout the project life as the designs are advanced, and the Closure methods and strategies are further developed.*

2.2.2 Treated Water Volumes

During Operation, all contact water on the Whale Tail Mine site is collected and transferred to the WT and IVR Attenuation Ponds. It is then treated at the Water Treatment Plant (WTP) and discharged to WTS or Kangislulik Lakes. **Table 2-2** provides a summary of the treated volumes of water from 2020 to 2023.

Table 2-2 : Summary of Treated Volume from 2020 to 2023

Year	Treated Water to Kangislulik Lake (m^3 / year)	Treated Water to WTS (m^3 / year)	Total Volume of Treated Water (m^3 / year)
2020	1 705 519	1 495 274	**3 200 793**
2021	1 427 352	1 261 391	**2 688 743**
2022	872 789	1 115 284	**1 988 076**
2023	1 144 316	820 688	**1 965 004**

2.2.3 Pit Re-Flooding

At Closure, the WT and IVR pits shall be re-flooded by active transfer of water from the WTS Lake, by natural runoff flowing from the Whale Tail Mine site to the pits and by natural contact water. Once the IVR Pit is flooded, it overflows toward WT Pit. Once WT Pit is flooded, it overflows into WT Attenuation Pond and forms the Whale Tail North (WTN) Basin. Regarding IVR pit, it is divided into two sections: section 1 of IVR pit will be backfilled with NPAG rockfill in operations and at Closure (phase 1) while section 2 will be reflooded (phase 2).

Table 2-3 provides a summary of the volumes of water that is planned to be transferred from WTS Lake to the pits for active reflooding.

Based on AEM WB 2023, it is forecasted that the IVR Pit will be flooded by 2027 while the WT Pit / WTN Basin will reach a water elevation of approximately 153.5 m by the end of 2044.

Figure 2-1 provides the forecasted water elevation in WT and IVR pits at Closure and Post-Closure.

Table 2-3 : Forecasted Pit Re-Flooding Volumes

Year	Pit Reflooding Volume from WTS Lake to IVR and WT Pits (m^3 / year)	Year	Pit Reflooding Volume from WTS Lake to IVR and WT Pits (m^3 / year)
2026	5 580 000	**2036**	2 887 260
2027	2 887 260	**2037**	2 887 260
2028	2 887 260	**2038**	2 887 260
2029	2 887 260	**2039**	2 887 260
2030	2 887 260	**2040**	2 887 260
2031	2 887 260	**2041**	2 887 260
2032	2 887 260	**2042**	2 887 260
2033	2 887 260	**2043**	0
2034	2 887 260	**2044**	0
2035	2 887 260	**TOTAL**	**51 776 160**

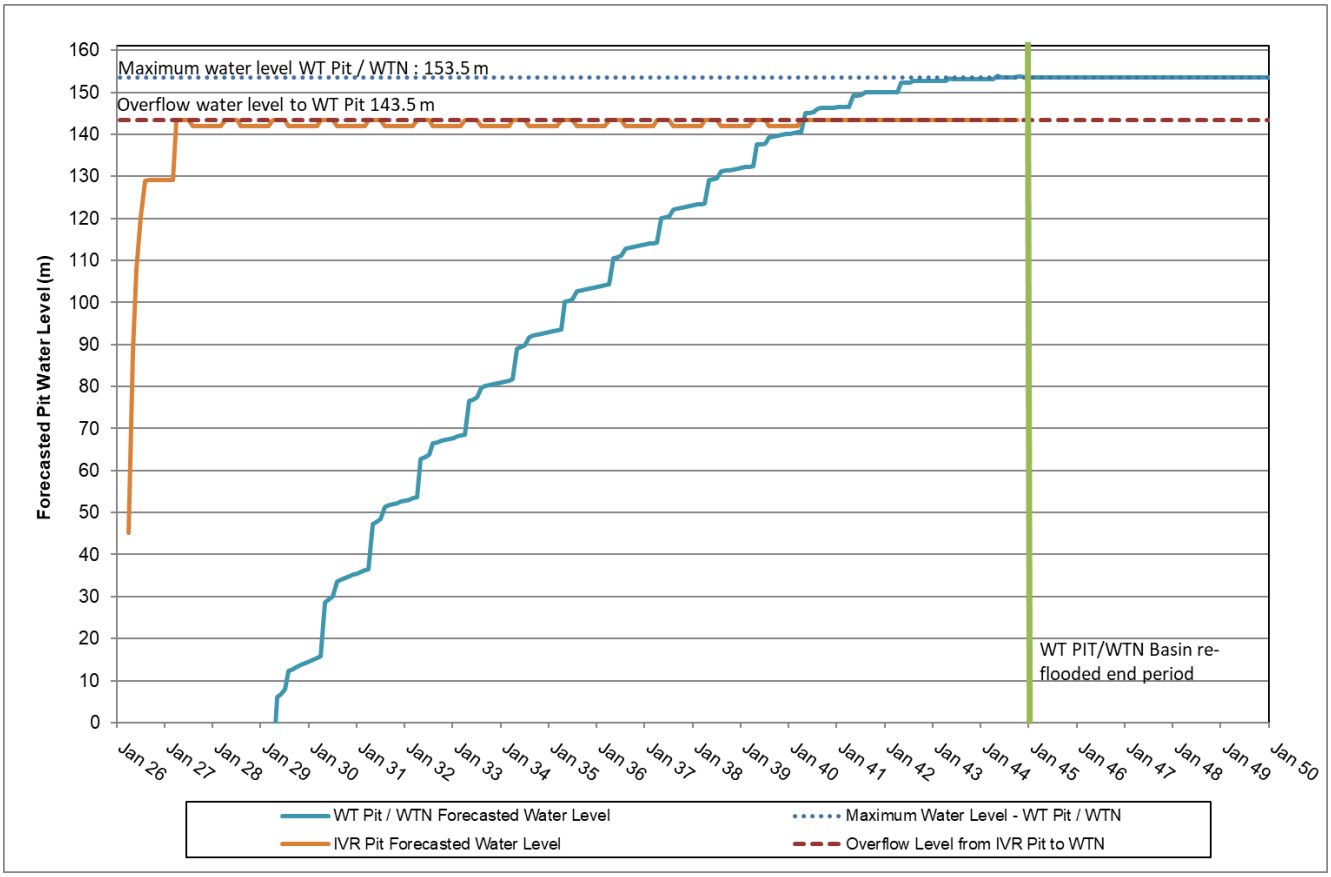


Figure 2-1 : Forecasted Water Elevation in WT Pit / WTN Basin and IVR Pit

2.3 Site Water Quality

In 2023, contact water collected from the Whale Tail Mine site, including the 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 2-4 summarizes the quality of water sampled at the Attenuation Ponds (WT Attenuation Pond and IVR Attenuation Pond) and the treated water discharged at either Kangislulik Lake or WTS Lake. The average and maximum total concentrations for key constituents that have a specific discharge criterion in the Water License 2AM-WTP1830, or a specific CCME (Canadian Council of Ministers of the Environment) guideline are also presented in the table. It is important to note that the CCME guidelines are not discharged criteria but rather receiving environment guidelines only.

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 2-4**, the following constituents measured in WT and IVR Attenuation Ponds were above the Water Licence monthly average discharge criteria:

- Total Suspended Solids (TSS);
- Total Phosphorous, only maximum value for WT Pond;
- Total Aluminum (Al);
- Total Arsenic (As), only maximum values;
- Total Chromium (Cr), only maximum values;
- Total Iron (Fe);
- Dissolved Arsenic (As), only maximum values.

When comparing the measured values in both Kangislulik Lake and WTS Lake to the Water Licence and CCME guidelines, only total Chromium presents a concentration above CCME guidelines in WTS lake.

2.4 Treated Water Quality

The treated effluent discharge to the WTS and Kangislulik Lakes met consistently the Water Licence discharge criteria (**Table 2-4**).

When comparing the measured values sampled in the treated effluent to the CCME guidelines for comparison purpose only, all of the constituents were on average below CCME guidelines, with the exception of the following: Nitrate and Total Chromium which is at the same concentration as the CCME limit. There were some samples with a maximum measured concentration that was above the CCME guidelines, specifically in the treated effluent to Kangislulik Lake (Nitrate, Chromium, Copper and Iron) and in the treated effluent to WTS Lake (Nitrate, Chromium and Iron).

Table 2-4 : Yearly Average and Maximum Concentrations Measured at Whale Tail Mine for 2023

		Water License 2AM-WTP1830			Whale Tail Attenuation Pond (ST-WT-1)		IVR Attenuation Pond (ST-WT-23)		Treated Effluent to Kangislulik Lake (ST-WT-2/-2A, ST-MDMER-8)		Treated Effluent to WTSL (ST-WT-24, ST-MDMER-11)		Kangislulik Lake (MAME-2)		Whale Tail South Lake (WTSE)	
Parameters	**Units**	**Monthly Average**	**Max. Allow. Conc.**	**CCME Guidelines**	**Yearly Avg.**	**Max. Value**	**Yearly Avg.**	**Max. Value**	**Yearly Avg.**	**Max. Value**	**Yearly Avg.**	**Max. Value**	**Yearly Avg.**	**Max. Value**	**Yearly Avg.**	**Max. Value**
Alkalinity	mg CaCO3/L	n/a	n/a	n/a	48	68	52	81	36	43	49	69	20	23	22	27
Hardness	mg CaCO3/L	n/a	n/a	n/a	126	315	147	246	141	215	138	223	58	76	50	59
pH		**6.0 to 9.5**	**6.0 to 9.5**	6.0 to 9.5	7.64	8.71	7.45	7.96	7.36	8.16	7.14	7.97	7.38	7.91	7.33	8.02
Temperature	deg. C	n/a	n/a	n/a	4.07	15.20	5.09	17.20	8.30	17.20	0.65	6.30	8.11	16.70	4.39	16.60
Total Ammonia (NH3 + NH4)	mg N/L	**16**	**32**	12.6	1.02	3.90	1.34	4.20	0.75	2.20	1.99	4.20	0.12	0.19	0.13	0.17
Un-ionized ammonia (as N)	mg N/L	n/a	n/a	0.019	0.008	0.038	0.003	0.016	0.003	0.008	0.002	0.011	0.001	0.001	0.000	0.001
Nitrate (NO3)	mg N/L	n/a	n/a	2.93	1.68	7.83	3.30	6.01	2.69	5.86	3.51	6.23	0.70	1.09	0.50	0.72
Chloride	mg/L	n/a	n/a	120	41	110	52	94	56	110	44	87	19	27	16	18
Fluoride	mg/L	n/a	n/a	0.12	0.13	0.17	0.13	0.18	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Sulphate	mg/L	n/a	n/a	128	44	160	49	110	56	100	55	92	23	31	17	19
TSS	mg/L	**15**	**30**	n/a	**94**	**920**	10	**46**	1	2	1	2	1	1	1	1
TDS	mg/L	**1400**	**1400**	n/a	239	610	266	450	313	445	230	410	n/a	n/a	n/a	n/a
Total Phosphorus (P)	mg/L	**0.3**	**0.6**	0.01	0.08	**0.61**	0.01	0.04	0.0002	0.005	0.002	0.005	0.0015	0.0040	0.0022	0.0037
Total Aluminum (Al)	mg/L	**0.5**	**1**	0.035	**1.085**	**7.010**	0.202	**0.855**	0.008	0.011	0.010	0.026	0.006	0.008	0.006	0.009
Total Arsenic (As)	mg/L	**0.1**	**0.2**	0.025	0.088	**0.488**	0.047	**0.160**	0.006	0.024	0.003	0.009	0.001	0.003	0.001	0.001
Total Barium (Ba)	mg/L	n/a	n/a	n/a	0.06	0.11	0.06	0.09	0.05	0.07	0.06	0.08	n/a	n/a	n/a	n/a
Total Cadmium (Cd)	mg/L	**0.002**	**0.004**	0.00011	0.00003	0.00009	0.00002	0.00004	0.00001	0.00002	0.00001	0.00002	0.00001	0.00001	0.00001	0.00001
Total Calcium (Ca)	mg/L	n/a	n/a	n/a	n/a	n/a	n/a	n/a	43	65	41	66	n/a	n/a	n/a	n/a
Total Chromium (Cr)	mg/L	**0.02**	**0.04**	0.001	0.012	**0.050**	0.005	**0.029**	0.001	0.001	0.001	0.001	0.0001	0.0002	0.004	0.013
Total Copper (Cu)	mg/L	**0.1**	**0.2**	0.002	0.003	0.016	0.002	0.008	0.001	0.004	0.001	0.002	0.0005	0.0005	0.001	0.001
Total Iron (Fe)	mg/L	**1**	**2**	0.3	**2.8**	**16.7**	0.7	**2.2**	0.3	0.4	0.3	0.4	0.03	0.04	0.03	0.04
Total Lead (Pb)	mg/L	**0.05**	**0.1**	0.0017	0.0017	0.0075	0.0009	0.0095	0.0002	0.0002	0.0002	0.0002	0.00003	0.00008	0.00003	0.00006
Total Magnesium (Mg)	mg/L	**n/a**	**n/a**	n/a	8	24	9	16	8	15	8	14	n/a	n/a	n/a	n/a
Total Manganese (Mn)	mg/L	**n/a**	**n/a**	0.49	0.29	0.80	0.21	0.38	0.18	0.26	0.29	0.40	n/a	n/a	0.01	0.01
Total Mercury (Hg)	mg/L	**0.004**	**0.008**	0.000026	0.000016	0.000100	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010
Total Molybdenum (Mo)	mg/L	**n/a**	**n/a**	0.073	0.013	0.023	0.017	0.049	0.008	0.011	0.017	0.041	0.002	0.002	0.005	0.014
Total Nickel (Ni)	mg/L	**0.25**	**0.5**	0.066	0.019	0.076	0.015	0.047	0.012	0.026	0.011	0.019	0.003	0.004	0.021	0.059
Total Selenium (Se)	mg/L	**n/a**	**n/a**	0.001	0.0002	0.0008	0.0002	0.0004	0.0002	0.0004	0.0001	0.0003	0.0001	0.0001	0.0001	0.0001
Total Silver (Ag)	mg/L	**n/a**	**n/a**	0.00025	0.00003	0.00006	0.00002	0.00002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total Thallium (Tl)	mg/L	**n/a**	**n/a**	0.0008	0.0003	0.00012	0.00002	0.00005	0.00002	0.00003	0.00001	0.00003	0.000003	0.000004	0.000003	0.000003
Total Zinc (Zn)	mg/L	**0.1**	**0.2**	0.028	0.009	0.042	0.010	0.099	0.007	0.010	0.004	0.011	0.001	0.001	0.001	0.003
Dissolved Arsenic (As)	mg/L	**0.1**	**0.2**	0.025	0.071	**0.504**	0.036	**0.185**	0.002	0.004	0.001	0.004	0.001	0.002	0.001	0.002
Dissolved Phosphorus (P)	mg/L	**0.3**	**0.6**	0.01	0.010	0.095	0.005	0.040	0.001	0.004	0.002	0.008	0.002	0.007	0.002	0.006

xxxx	Exceeds Water Licence monthly average criterion only
	Exceeds CCME guidelines only

3. Water Quality Forecast Model

3.1 Description

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 2023 Water Balance (AEM, 2024) developed for the 2023 Water Management Plan (WMP).

The WQF model uses the inflows and outflows to each basin and pond as presented in the water balance provided by AEM and uses the water quality measurements taken around the Whale Tail Mine site to forecast concentrations of key constituents of concern (COCs). The WQF assesses the forecasted concentrations of key COCs in the following ponds and basins:

- WT and IVR Attenuation Ponds;
- WT Pit / WTN Basin;
- IVR Pit;
- Kangislulik Lake;
- WTS Lake.

During Operation, the primary concern is the water quality around the WT and IVR Attenuation Ponds as it represents the environmental discharge to Kangislulik and WTS Lakes and impacts the receiving environmental assimilative capacities. At Closure and Post-Closure, the primary concern is the water quality around the flooded pits as it represents the water that shall reconnect to Kangislulik Lake and Whale Tail Lake (South Bassin) at Post-Closure, specifically WT Pit which shall become the WTN Basin. For this reason, the WQF model for the pits are included only in Closure and Post-Closure.

The WQF water/mass balance model was developed using the methodology and assumptions described in the section below (**Section 3.2**).

3.2 Methodology and Assumptions

Table 3-1 summarizes the methodology and assumptions used in the development of the water quality forecast (WQF) model for the Whale Tail Mine site.

Table 3-1 : Water Quality Forecast Model Methodology and Assumptions

PARAMETERS	METHODOLOGY AND ASSUMPTIONS
Water quality forecast model	▪ Mass balance model; ▪ Assume completely mixed system; ▪ Ponds/Lakes to model: WT and IVR Attenuation ponds, WT Pit/WTN Basin, IVR Pit, Kangislulik Lake, WTS Lake; ▪ WQF model results represent total constituent concentrations; ▪ Input streams for water quality are based on a yearly average measured value; ▪ For simplification of the model, ponds are assumed to be completely mixed systems; ▪ For simplification of the model, the parameters are assumed to be inert: they do not degrade or react with other elements in the system; ▪ During Operation, 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 Kangislulik Lake; ▪ At Closure and Post-Closure, the focus of the model shifts to the WT Pit which shall become the WT North Basin which then reconnects to Kangislulik Lake and WTS Lake at Post-Closure; ▪ A treatment removal efficiency for each of the parameters of concern is considered based on the observed treatment efficiency of the WTP.
Model time period	▪ Start: January 2020; ▪ End: December 2049 (projected end date of Post-Closure period for the model); ▪ Time step: Monthly.
Forecasted Constituents	▪ In the Final Environmental Impact Statement (FEIS), key COCs identified: Arsenic and Phosphorus; ▪ The following key COCs forecasted were identified in last year's annual report (SNC, 2023) and shall be considered in this year's model: o Anions: Chloride, Fluoride; o Metals: Arsenic, Chromium, Copper, Iron; o Others: Total Ammonia, Nitrate, Total Phosphorus.
Input Source Terms	▪ 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; ▪ The following source terms are considered in the model. The water quality for key COCs are based on measured water quality data: o WT WRSF; o North-West (NW) sump (assumed similar to WT WRSF); o Whale Tail Pit ; o Quarry 1;

	○ Runoff from Road 7 (assumed similar to Quarry 1); ○ WT Dike Seepage; ○ IVR Pit; ○ IVR WRSF sump IWA and IWB (assumed similar to WT WRSF); ○ Whale Tail Camp Sewage Treatment Plant treated effluent; ○ North East Pond (assumed similar to WT WRSF); ○ Former Lakes A47 and A49 (assumed like Lake A47); ○ Lakes A50, A51, A52 and A53 (assumed to be similar to average of lakes A50, A51, A52); ○ Kangislulik Lake (KL); ○ Whale Tail South Lake (WTS Lake). ▪ Precipitation runoff loading: ○ For runoff from the mine site, assumed to have a similar water quality as the water sampled at Lake A47; ○ For runoff from WRSF, assumed to have a similar water quality as the water sampled at WT WRSF; ○ For natural runoff to WTS and Kangislulik Lake, assume to have a similar water quality as the water sampled at WTS Lake.
Input Source Terms Adjustment during Operation	▪ The water quality associated with the Whale Tail Pit source term was adjusted to obtain forecasted concentration for the COCs like the measured values sampled at the WT and IVR Attenuation Ponds.
Input Source Terms from Exposed Pit Walls	▪ To account for potential leaching of COCs from the pit walls during reflooding, the following is assumed: ○ During pit re-flooding, the runoff water entering the pit is assumed to have the same water quality as the average values measured in the pits between 2021-2023 in Whale Tail Pit and 2022 to 2023 in IVR Pit. Contaminated source term loading from the Whale Tail and IVR Pit wall exposure is assumed active until complete flooding of pit walls; ○ Per the Interim Closure and Reclamation Plan (ICRP, 2020), the exposed pit walls in IVR Pit phase 2 that are prone to leach arsenic shall be sloped back and covered with overburden and rip rap. Note that the feasibility of sloping back and covering the exposed pit walls prone to arsenic leaching will be evaluated and updated in the final Closure plan; ○ For IVR Pit phase 2, once the water level reaches the pit crest (set at 143.5 m), all of the pit walls shall be submerged, and it is assumed that the Closure work on exposed pit walls prone to arsenic leaching shall be completed. At that time, the water quality from the runoff is assumed to be similar to natural runoff from the site; ○ For the Whale Tail Pit, once the water level reaches above the pit crest (set at 146.0 m), all of the pit walls shall be submerged, and it is assumed at that time that the water quality from the runoff is assumed to be similar to natural runoff from the site.

Water treatment	▪ Water treatment is required during Operation (2020 to 2025); ▪ Water quality in ST-WT-2/2A (discharged to WTS Lake) and ST-WT-24 (discharged to KL) represent the quality of the treated effluent in-situ; ▪ A treatment removal efficiency for each of the parameters of concern is considered based on the observed average treatment efficiency of the WTP between 2021 and 2023. The treatment efficiencies are also adjusted as needed to match measured values in WTS Lake and KL; ▪ At Closure, no water treatment is forecasted to be required,
Pit reflooding	▪ Pits shall be reflooded by natural runoff and contact water from the site and active transfer of water from WTS Lake.

3.3 Limitations

The limitations of the Whale Tail Mine site water quality forecast water/mass balance model and ensuing results and conclusions presented in this Technical Note are listed below:

1. To simplify the model, the mass balance model assumes that the ponds, pits and lakes are completely mixed systems. Consequently, the results from this model provide an indication of the concentrations in these areas and should not be considered as an absolute value at this time. Future monitoring results both for flows and water quality will provide for a better indication of concentrations of contaminants.
2. The mass balance model is based on the water quality analysis results provided by AEM.
3. The model is based on a monthly time-step and the resulting concentrations provided represent monthly values.
4. It should be noted at this point that the model should be used to evaluate at a high level the impact of Operation and Closure activities at the Whale Tail Mine site on the future water quality in the WT Pit / WTN Basin, the IVR Pit, Kangislulik Lake and WTS Lake. The forecasted concentration should be considered as an order of magnitude estimate only considering that the model uses monthly volumes that are transferred around the site and assumes a fixed water quality concentration for each input stream over time.
5. The present mass balance model cannot simulate the treated effluent plume discharged in Kangislulik Lake or Whale Tail South Lake. A hydrodynamic model is required to simulate the discharge of treated effluent in these lakes, which is beyond the scope of this study.
6. It should be noted at this point that the model provides an estimate of the re-flooding period of the pits based on the active volume of water transferred from WTS Lake and assuming a net average precipitation received on the site during Closure. This period shall vary based on the actual runoff received on site and the volume transferred shall be adjusted accordingly to meet the Closure schedule.
7. Furthermore, this model is intended as a mass balance model for the Whale Tail Mine site and should be updated and calibrated on a yearly basis as additional water quality data, pond volumes and flows in the area become available. Refer to **Section 5.2** for recommendations on improving the WQF model.

3.4 Input Parameters

A compilation of the measured water quality data sampled at the Whale Tail Mine site in 2023 was performed for the following sectors:

- WT Attenuation Pond (sampling point ST-WT-1);
- IVR Attenuation Pond (sampling point ST-WT-23);
- Whale Tail Pit Sump (sampling point ST-WT-4);
- IVR Pit-Sump (sampling point ST-WT-18);
- Whale Tail Dike Seepage (sampling point ST-WT-17);
- WRSF Pond (sampling point ST-WT-3);
- Kangislulik Lake (sampling point MAME-2);
- WTS Lake (sampling point WTSE);
- Whale Tail Camp STP Effluent (ST-WT-11);
- GSP-1 (ST-WT-20).

The measured water quality of 2023 was added to measured data conducted at the Whale Tail Mine site between 2019 and 2022 and used as a database to implement the water quality forecast model.

Table 3-2 summarizes the water quality characteristics for various input source streams used in the water quality forecast model.

Table 3-2 : Input Source Stream Concentrations used in the Water Quality Forecast Model

Input Streams	Notes	Units	NH3-NH4	NO3	CL	F	Total P	Total Al	Total As	Total Cd	Total Cr	Total Cu	Total Fe	Total Pb	Total Mn	Total Hg	Total Ni	Total Se	Total Zn
WT WRSF	Average 2018-2023	mg/L	0.1	2.8	8	0.095	0.019	0.484	0.007	0.000	0.006	0.003	1.359	0.001	0.160930	0.000	0.017	0.001	0.005
NW Sump	Assume same as WT WRSF	mg/L	0.1	2.8	8	0.095	0.019	0.484	0.007	0.00002	0.0055	0.003	1.359	0.00051	0.161	0.000013	0.017	0.0013	0.005
Whale Tail Pit	Average 2021-2023	mg/L	2.5	2.7	53	0.216	0.043	2.872	0.346	0.00004	0.0909	0.006	5.441	0.00424	0.345	0.000009	0.091	0.0005	0.012
Whale Tail Pit - Adjusted	Adjusted to obtain WQF similar to measured values in Attenuation Ponds	mg/L	17.4	26.9	107.0	0.4	0.043	14.4	1.4	0.00033	0.1	0.018	10.9	0.02122	1.724	0.000009	0.228	0.0018	0.1
Quarry 1	Average from 2019 to 2020, Ca, Cl and TDS assume same as Whale Tail Pit	mg/L	0.9	0.0	53	0.000	0.010	0.052	0.010	0.00002	0.0012	0.007	0.130	0.00031		0.000010	0.016		
Runoff Road 7	Same as Quarry 1	mg/L	0.9	0.0	53	0.000	0.010	0.052	0.010	0.00002	0.0012	0.007	0.130	0.00031	0.000	0.000010	0.016	0.000	0.000
WT Dike Seepage	Average from 2019 to 2023	mg/L	0.047	0.3	15	0.101	0.016	0.226	0.009	0.00002	0.0042	0.005	0.486	0.00033	0.085	0.000009	0.002	0.0004	0.004
IVR Pit	Average from 2021-2023	mg/L	7.4	11.4	135	0.174	0.263	2.551	2.913	0.00005	0.1494	0.004	4.134	0.00143	0.134	0.000010	0.181	0.0018	0.029
IVR WRSF IWB	Assume same as WT WRSF	mg/L	0.1	2.8	8	0.095	0.019	0.484	0.007	0.00002	0.0055	0.003	1.359	0.00051	0.161	0.000013	0.017	0.0013	0.005
IVR WRSF IWA	Assume same as WT WRSF	mg/L	0.1	2.8	8	0.095	0.019	0.484	0.007	0.00002	0.0055	0.003	1.359	0.00051	0.161	0.000013	0.017	0.0013	0.005
Whale Tail Camp STP Effluent	Average 2023	mg/L	0.1	6.9	36	0.056	1.487	0.021	0.007	0.00001	0.0005	0.003	0.021	0.00036	0.015	0.000003	0.007	0.0001	0.046
NE Pond	Assume same as Lake A47	mg/L	0.2	0.0	104	0.060	0.010	0.164	0.008	0.00004	0.0036	0.001	0.740	0.00027	0.365	0.000010	0.008	0.0008	0.004
Lake A47	Average 2020, assume TP and TAs equal to dissolved measurements	mg/L	0.2	0.0	104	0.060	0.010	0.164	0.008	0.00004	0.0036	0.001	0.740	0.00027	0.365	0.000010	0.008	0.0008	0.004
Lake A49	Assume same as A47	mg/L	0.2	0.0	104	0.060	0.010	0.164	0.008	0.00004	0.0036	0.001	0.740	0.00027	0.365	0.000010	0.008	0.0008	0.004
Lake A50	Average from sample taken in August 2019 for lakes A50, A51 and A52	mg/L	0.1	0.0	346	0.060	0.010	0.045	0.0005	0.00022	0.0008	0.0005	0.193	0.00030	1.067	0.000010	0.029	0.0006	0.017
Lake A51		mg/L	0.1	0.0	346	0.060	0.010	0.045	0.0005	0.00022	0.0008	0.0005	0.193	0.00030	1.067	0.000010	0.029	0.0006	0.017
Lake A52		mg/L	0.1	0.0	346	0.060	0.010	0.045	0.0005	0.00022	0.0008	0.0005	0.193	0.00030	1.067	0.000010	0.029	0.0006	0.017
Lake A53	Average from 2019 to 2020 data	mg/L	0.1	0.0	346.0	0.060	0.0	0.006	0.001	0.0	0.0	0.011	0.2	0.00030	1.1	0.0	0.004	0.0	0.003
Kangislulik D/S	Average 2020-2023	mg/L	0.07	1.33	25	0.057	0.004	0.006	0.001	0.00001	0.0004	0.001	0.030	0.00006	0.017	0.000005	0.002	0.0002	0.003
Underground	Average 2021		n/a		898			0.137	0.035		0.0041		0.219						
Runoff (natural terrain)	Assumed to be similar to natural lake A47 quality	mg/L	0.2	0.0	104.1	0.1	0.0	0.164	0.0	0.0	0.0	0.0	0.7	0.0	0.4	0.0	0.0	0.0	0.0
Runoff (rock area)	Assume same as WT WRSF	mg/L	0.1	2.8	8	0.095	0.019	0.484	0.007	0.00002	0.0055	0.003	1.359	0.00051	0.161	0.000013	0.017	0.0013	0.005
Initial Concentration at WT Attenuation Pond	Average 2020 May data	mg/L	2.3	4.1	84	0.14	0.015	0.128	0.02	0.00001	0.0037	0.004	0.63	0.00040	0.23	0.000005	0.01	0.0005	0.00
Initial Concentration at Lake A53 (future IVR Attenuation Pond)	Average from 2019 to 2020 data	mg/L	0.1	0.01	346.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	1.1	0.0	0.0	0.0	0.0
Initial Concentration at WTS Lake	January 2020. When no data available, take average of 2020 data.	mg/L	0.1	0.1	17	0	0.020	0.010	0.001	0.00001	0.0003	0.000	0.120	0.00015	0.069	0.000005	0.002	0.0005	0.002

Input Streams	Notes	Units	NH3-NH4	NO3	CL	F	Total P	Total Al	Total As	Total Cd	Total Cr	Total Cu	Total Fe	Total Pb	Total Mn	Total Hg	Total Ni	Total Se	Total Zn
Initial Concentration at Kangislulik Lake	April 2020 data. When no data available, take average of 2020 data.	mg/L	0.2	3.1	45	0.057	0.005	0.003	0.002	0.00001	0.0017	0.001	0.020	0.00015	0.072	0.000005	0.003	0.0005	0.001
Natural runoff to Lakes	Assume to be similar to WTSL water.	mg/L	0.9	1.5	26	0.0	0.005	0.009	0.0011	0.00001	0.0010	0.001	0.2	0.00012	0.1	0.000008	0.0077	0.0002	0.0007
WTSL	Average 2022-2023	mg/L	0.9	1.5	26	0.000	0.005	0.009	0.001	0.00001	0.00097	0.00087	0.18632	0.00012	0.12876	0.00001	0.008	0.000	0.001
IVR attenuation Pond	Average 2021-2023	mg/L	0.9	3.0	47	0.129	0.026	0.434	0.137	0.00002	0.00720	0.00222	1.10078	0.00093	0.22823	0.00001	0.030	0.000	0.008
GSP1	Average 2022-2023	mg/L	26.2	77.6	2483	0.098		0.065	0.007	0.00165	0.00873	0.00407	0.13109	0.00163	3.32674	0.00001	0.147	0.001	0.041
WTP Percent Removal Efficiency	Average % removal from 2021 to 2023 measured at WTP (raw water vs treated water).	%	0%	0%	0%	0%	99%**	97%	95%**	39%	99%**	99%**	99%**	84%	13%	0%	52%**	90%**	90%**

Note:

*** indicate value adjusted to match measured values in the WTS Lake and KL*

3.5 Guidelines

The forecasted concentrations are compared in this Technical Note to the discharge criteria outlined in the Water Licence and to the CCME guidelines. These guidelines are used as a guide only to identify potential COCs during Operation, Closure and Post-Closure**. Table 3-2** summarizes the guidelines used in the model.

Table 3-2 : Discharge Criteria and CCME Guidelines for the Constituents Evaluated

PARAMETER	DISCHARGE CRITERIA & WATER QUALITY GUIDELINES	
	Water Licence [1] (Part F)	CCME (issue date)
Arsenic (As)	0.1 mg/L	0.025 mg/L[2]
Aluminium	0.5 mg/L	0.035 mg/L[7]
Cadmium (Cd)	0.002 mg/L	0.00011 mg/L[2]
Chromium (Cr)	0.02 mg/L	0.001 mg/L[2]
Copper (Cu)	0.1 mg/L	0.002 mg/L[3, 4] (1987)
Iron (Fe)	1.0 mg/L	0.3 mg/L[3] (1987)
Lead (Pb)	0.05 mg/L	0.0017 mg/L[3, 8] (1987)
Manganese (Mn)	no criteria	0.49 mg/L[2]
Mercury (Hg)	0.004 mg/L	0.000026 mg/L[3] (2003)
Nickel (Ni)	0.25 mg/L	0.00657 mg/L[2]
Selenium (Se)	no criteria	0.001 mg/L[3] (1987)
Zinc (Zn)	0.1 mg/L	0.028 mg/L[2]
Total Ammonia (NH_3)	16 mg N/L	12.60 mg N/L[2]
Nitrate (NO_3)	no criteria	2.93 mg N/L[3, 6] (2012)
Chloride (Cl)	1,000 mg/L	120 mg/L[3, 5] (2011)
Fluoride (F)	no criteria	0.12 mg/L[3] (2002)
Total Phosphorus (P)	0.3 mg/L	0.01 mg/L [2]

Notes:

(1) Water Licence 2AM-WTP1830 (Part F) discharge criteria.

(2) Criteria presented in the FEIS.

(3) CCME criteria as per the Water Quality Guidelines for the Protection of Aquatic Life for freshwater and long-term exposure. Criteria referenced from www.ccme.ca in 2021.

(4) The copper discharge criterion depends on hardness. For hardness between 0 to 82 mg/L $CaCO_3$, the copper limit is set at 2 µg/L.

(5) This is the long-term chloride concentration limit. The short-term concentration limit is 640 mg/L.

(6) This is the long-term nitrate concentration limit (13 mg/L as NO_3). The short-term concentration limit is 550 mg/L.

(7) Aluminum discharge criterion based on the FWQG, 2022.

(8) Lead discharge criterion depend on hardness. For hardness between 0 to 60 mg/L $CaCO_3$, the limit is set at 0.0017 mg/L.

4. Water Quality Forecast Results

The constituents of concern (COCs) evaluated in the WQF model are limited to the same constituents that were identified during the Final Environmental Impact Statement (FEIS) Assessment during Operation: Arsenic and Phosphorus. Furthermore, additional COCs are considered in the WQF model during Closure and Post-Closure based on the water quality data collected on site.

Water quality forecasted concentrations are respectively presented in **Figure 4-1** to **Figure 4-7**. In each figure, the following information are presented:

- Updated Forecast total concentration of the COC;
- FEIS Forecasted total concentration for the COC;
- Last year Forecasted total concentration for the COC;
- Measured concentrations of the COC;
- Water Licence monthly average criterion (2AM-WTP1830) for the COC;
- CCME guideline (total concentration) for the COC.

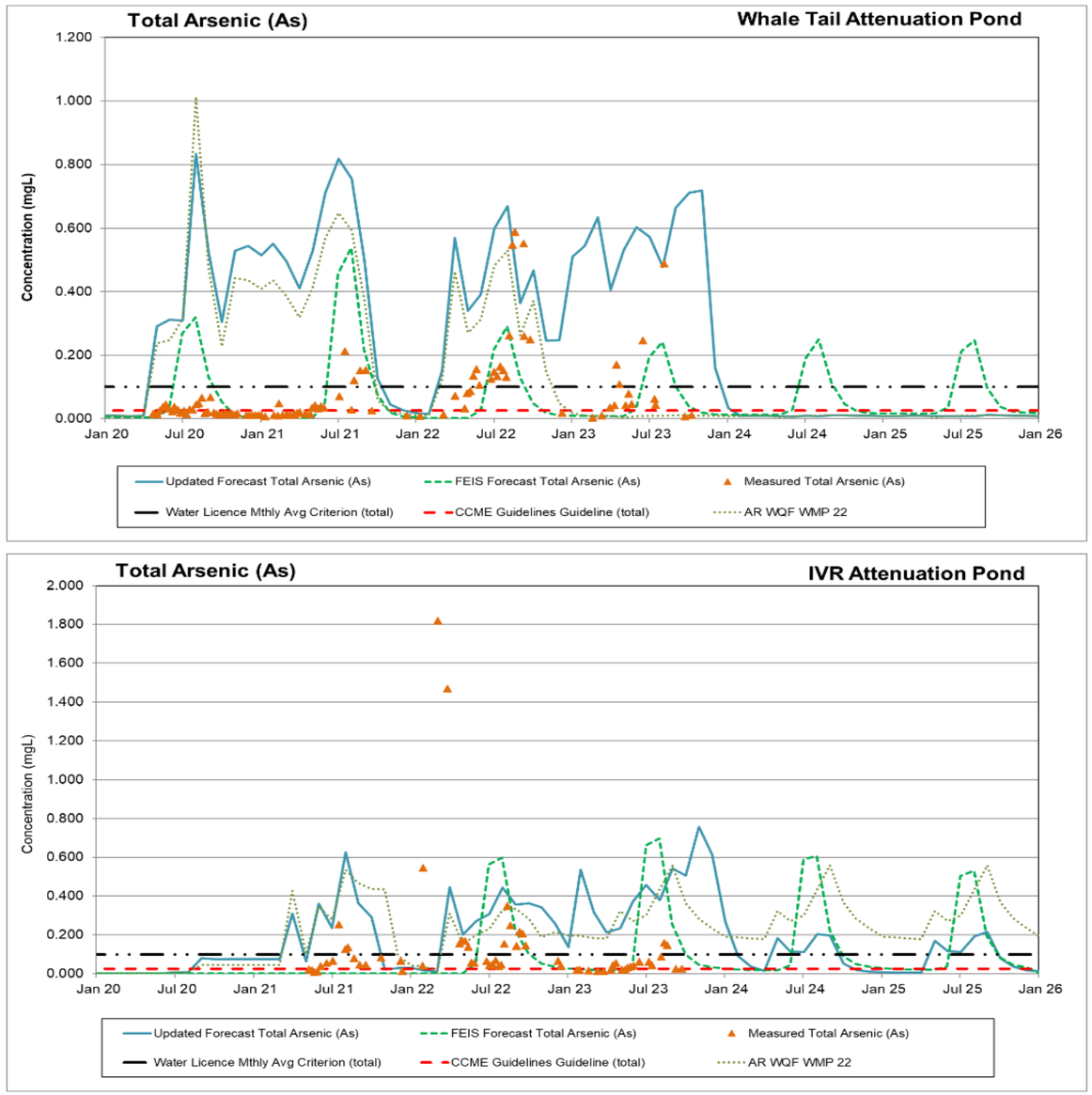
4.1 During Operation

Figure 4-1 and **Figure 4-2** present the forecasted concentration for Total Arsenic and Total Phosphorous in the WT and IVR Attenuation Ponds, Kangislulik Lake and WTS Lake. These two parameters were identified as potential COCs in the FEIS.

Additional figures are presented in **Appendix A** for the potential COCs that are considered during Operation based on the site water quality measured in WT and IVR Attenuation Ponds measured in 2023: Aluminium, Chromium and Iron.

The following parameters were also identified as potential COCs in last year's annual report (SNC, 2023) and are also provided in **Appendix A** : Copper, Ammonia, Nitrate, Chloride and Fluoride.

Cadmium, Lead, Manganese, Mercury, Nickel, Selenium and Zinc were also identified as COCs in previous year's annual report (SNC, 2023 and Golder 2022). However, the measured values for Cadmium, Lead, Mercury, Nickel and Zinc are well below the Water Licence limits, while Manganese and Selenium are slightly above or generally below the CCME limits. For this reason, the forecast concentration for these parameters are not presented.



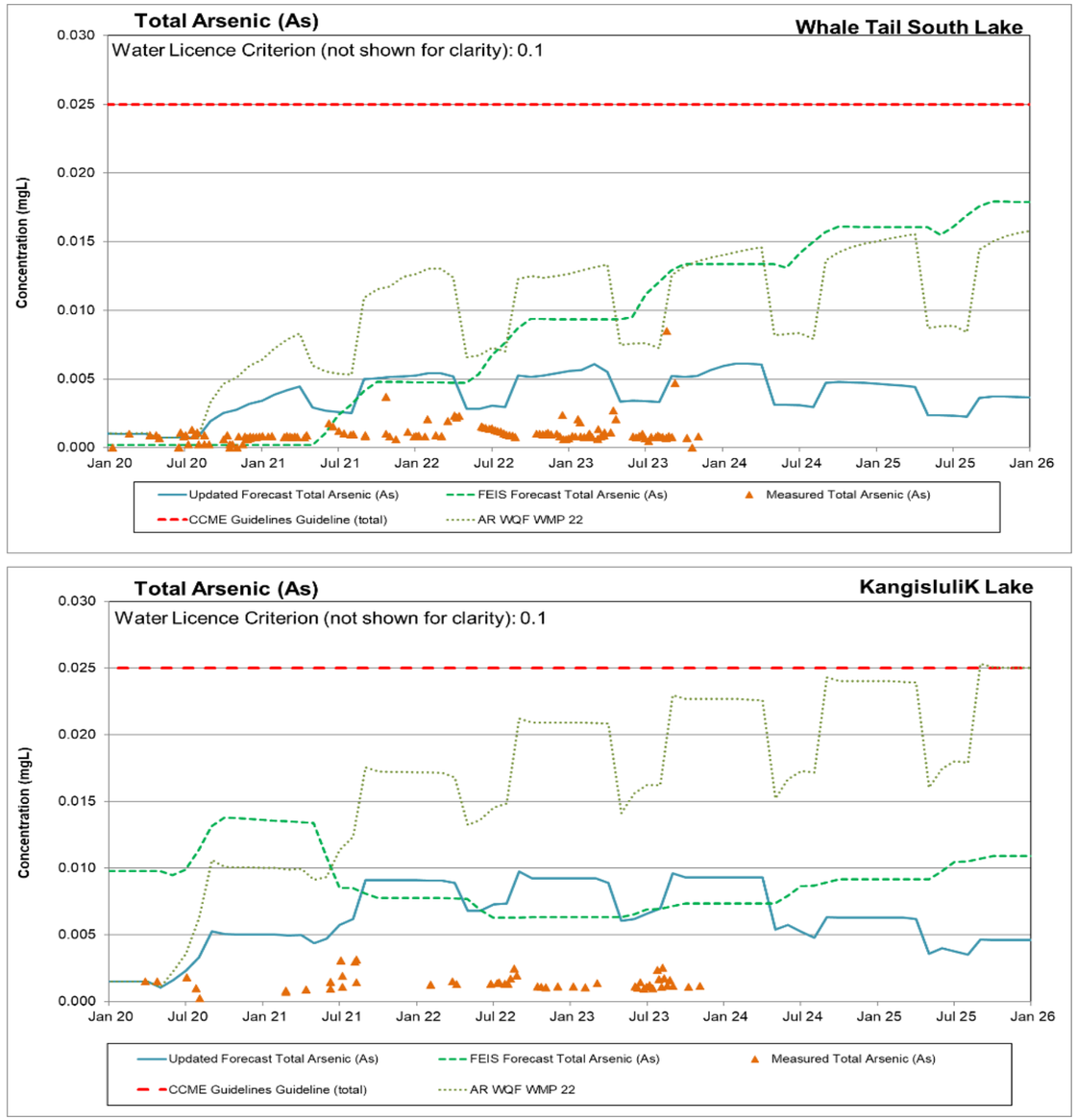
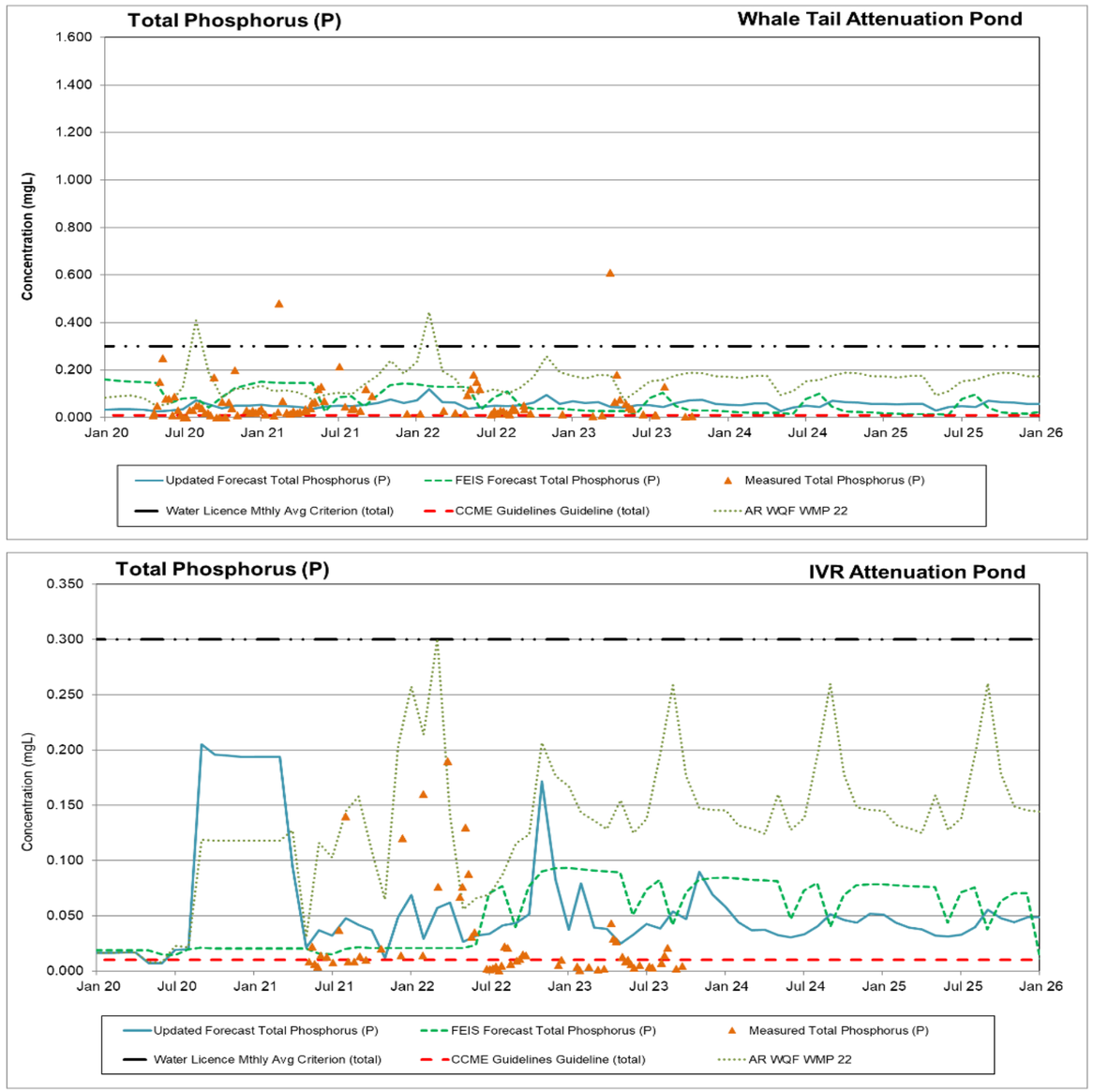


Figure 4-1 : Total Arsenic Forecasted Concentrations during Operation



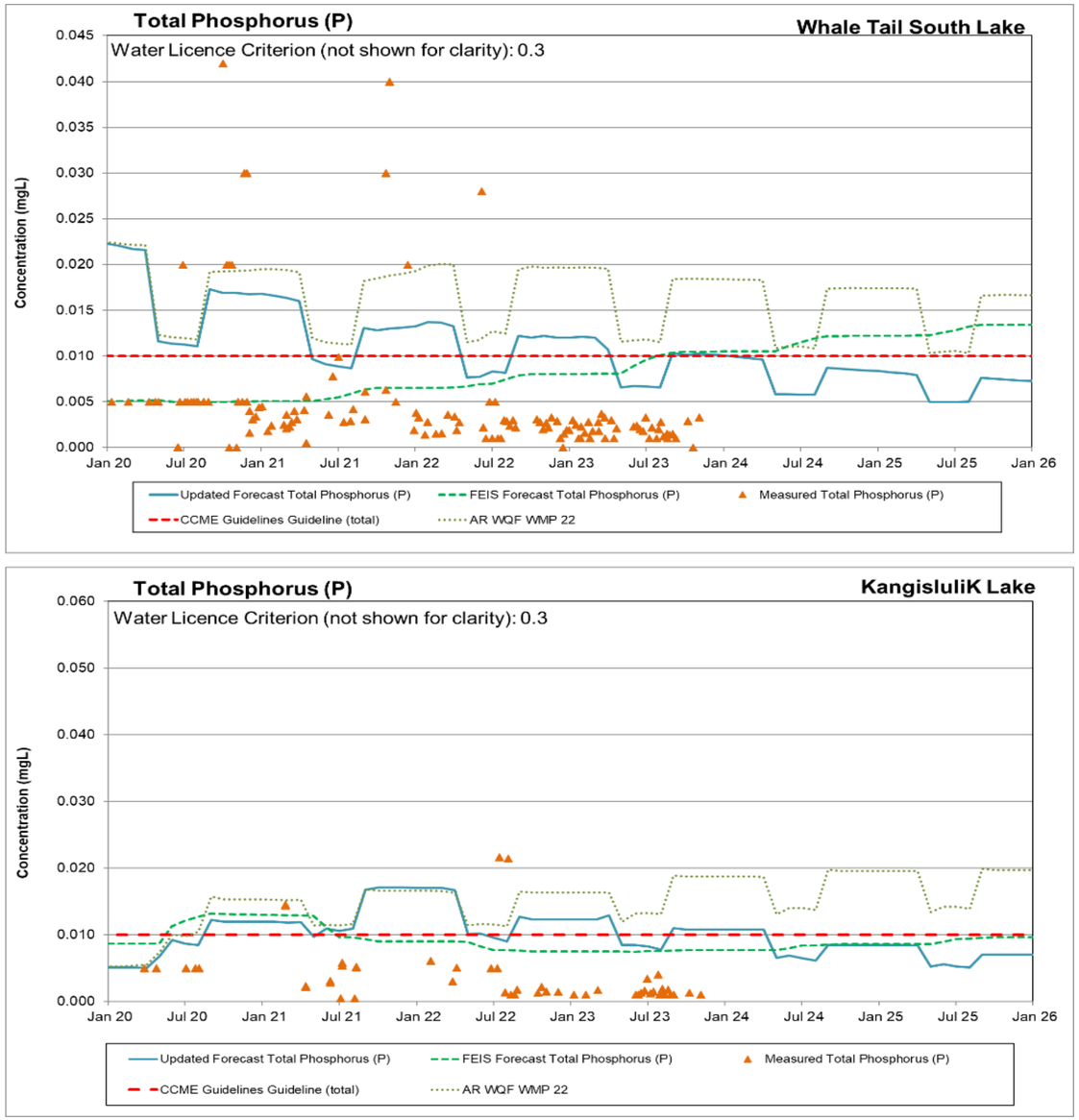


Figure 4-2 : Total Phosphorous Forecasted Concentrations during Operation

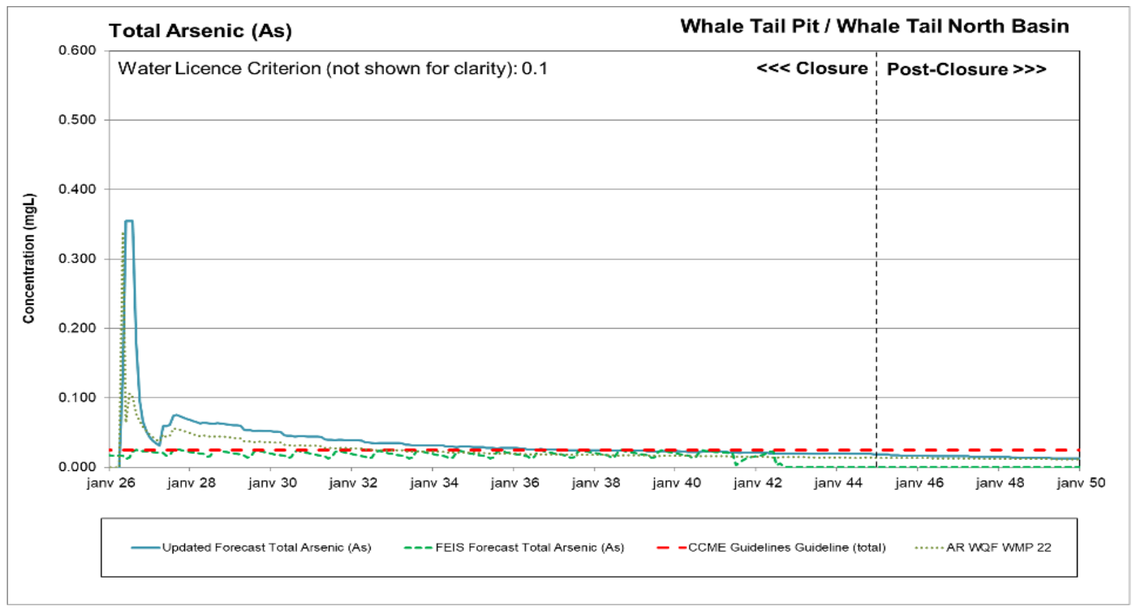
4.2 During Closure and Post-Closure

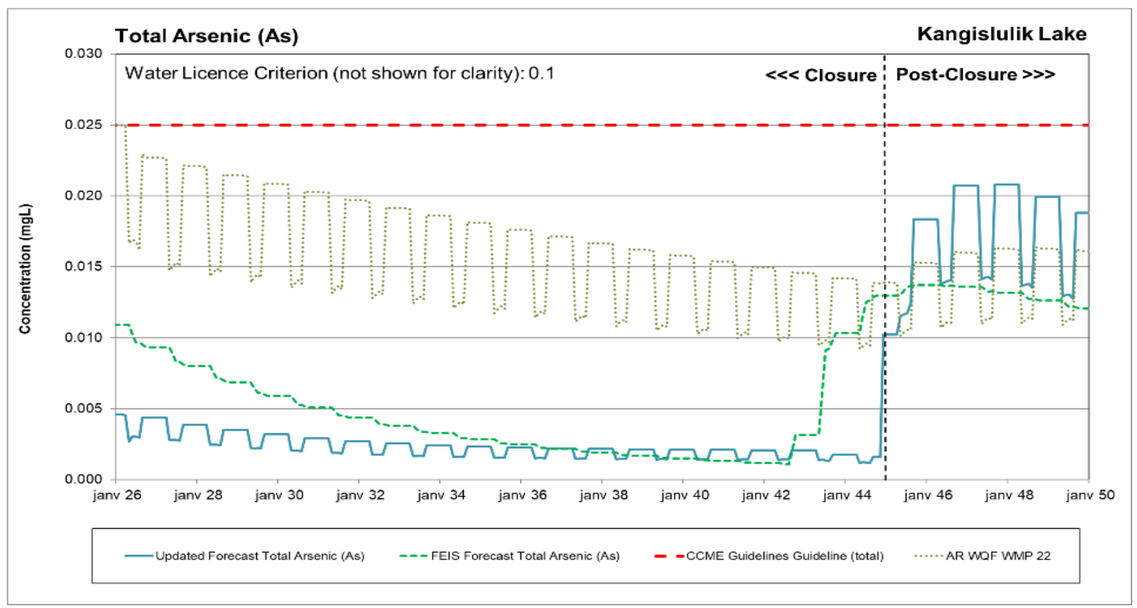
Figure 4-3 to **Figure 4-7** present the forecast concentrations for the following elements that were identified as potential COCs in last year's annual report (SNC, 2023) and based on the site water quality data collected in 2023, specifically:

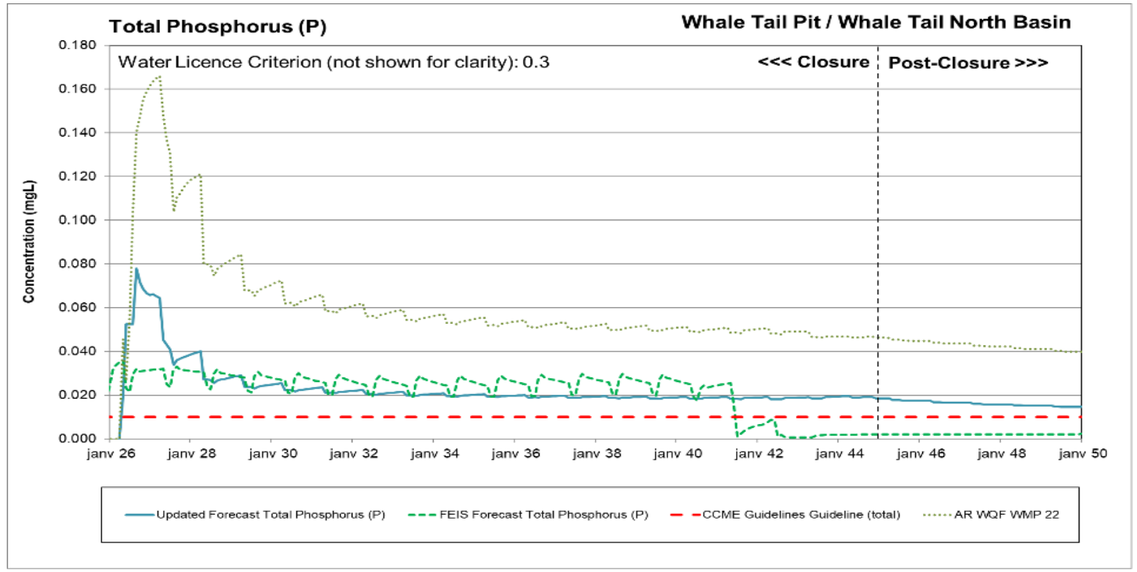
- Total Arsenic, Total Phosphorous;
- Total Aluminium, Total Chromium;
- Total Copper, Total Iron;
- Total Ammonia, Nitrate; and
- Chloride, Fluoride.

For each potential COC, two figures were generated to present the forecasted concentration in the WT Pit (which become the Whale Tail North (WTN) Basin at Closure and Post-Closure and Kangislulik Lake. These two locations were selected since:

- At Closure, all the runoff from the Whale Tail Mine site shall report to the WTN Basin;
- At Post-Closure, once the WT Dike and Kangislulik Dike are breached, water shall flow from WTS Lake to WTN Basin and finally to Kangislulik Lake.







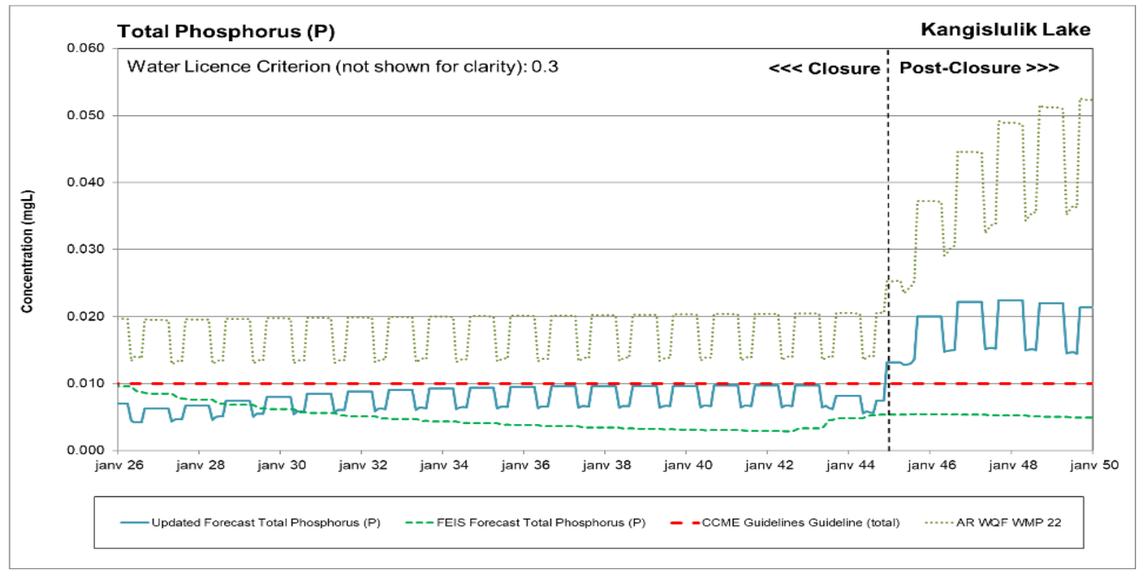
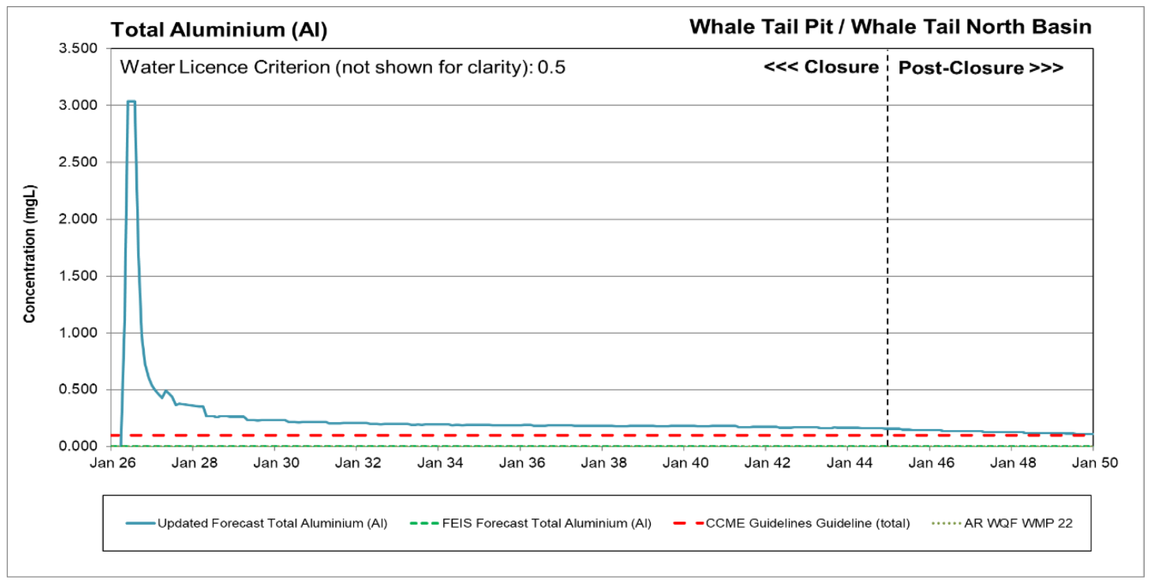
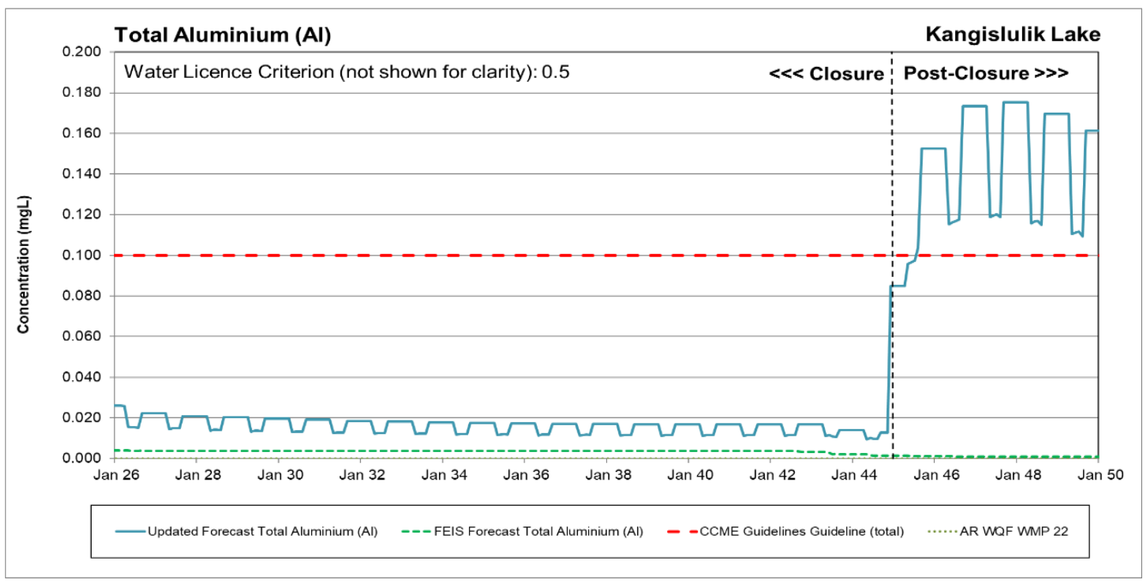
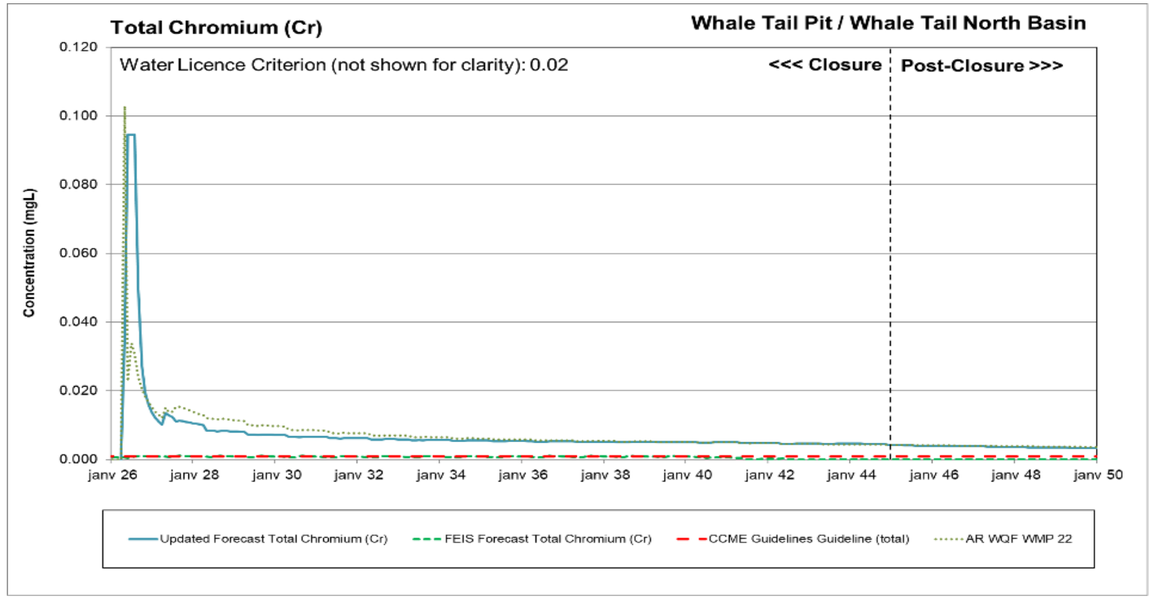


Figure 4-3 : Total Arsenic and Phosphorus Forecasted Concentrations During Closure and Post-Closure







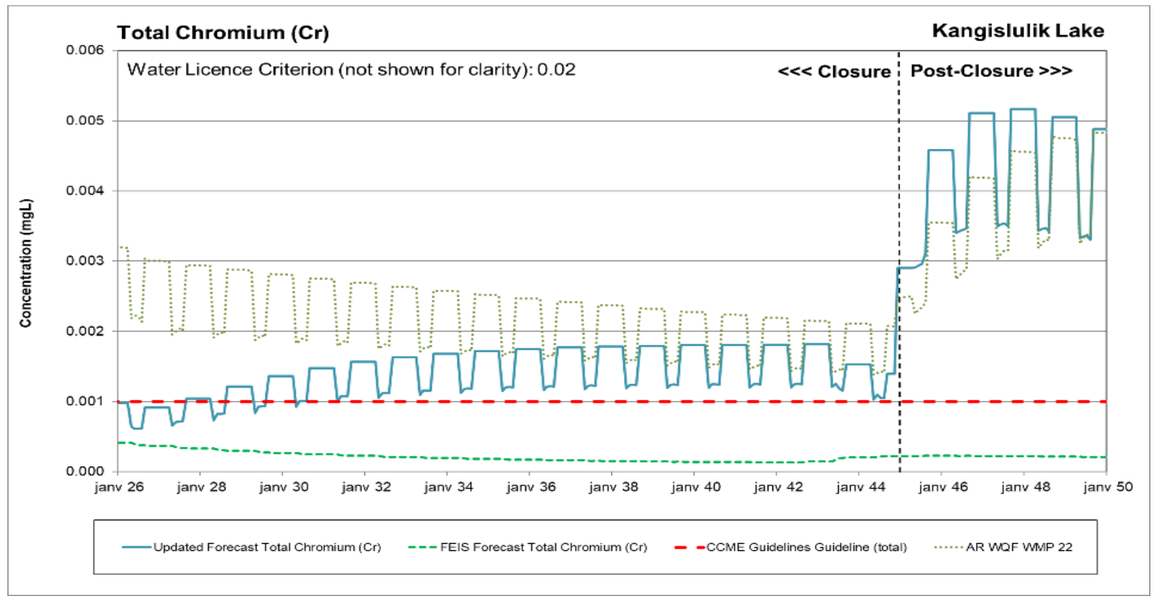
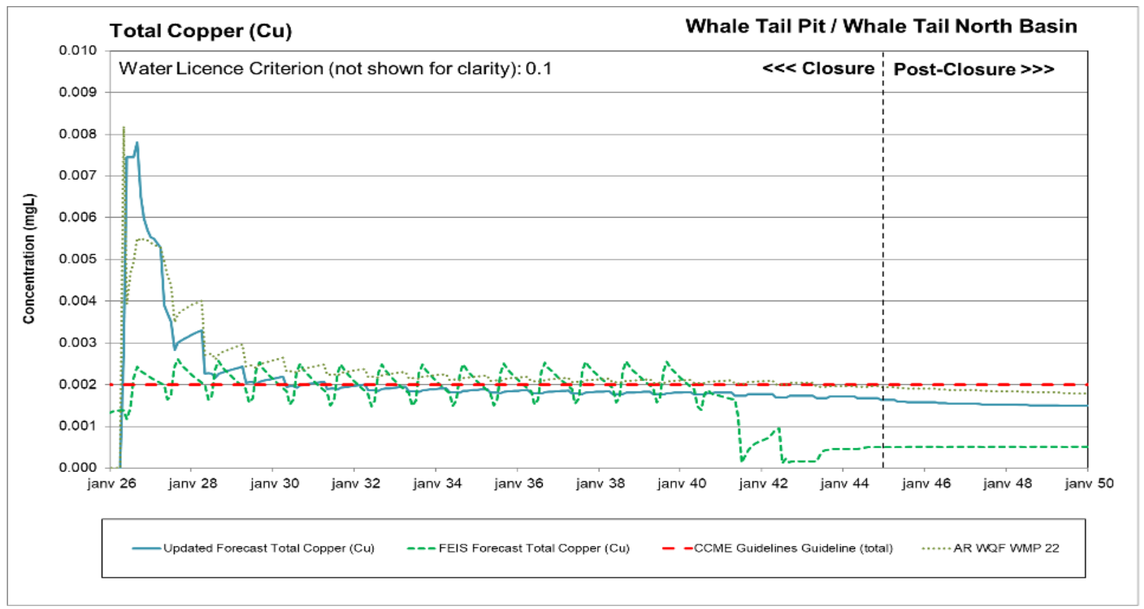
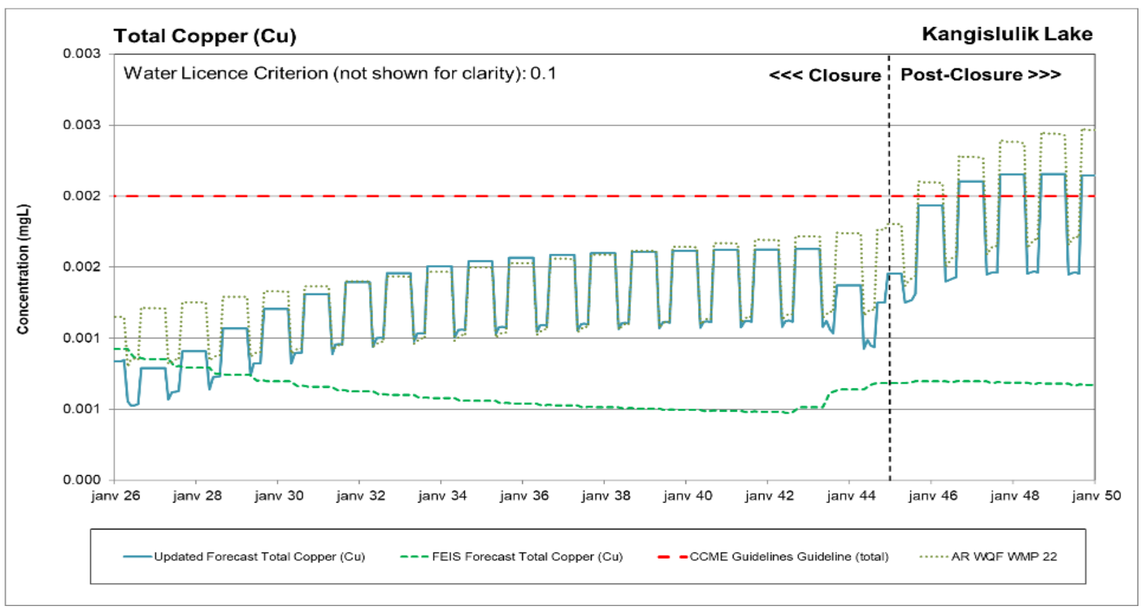
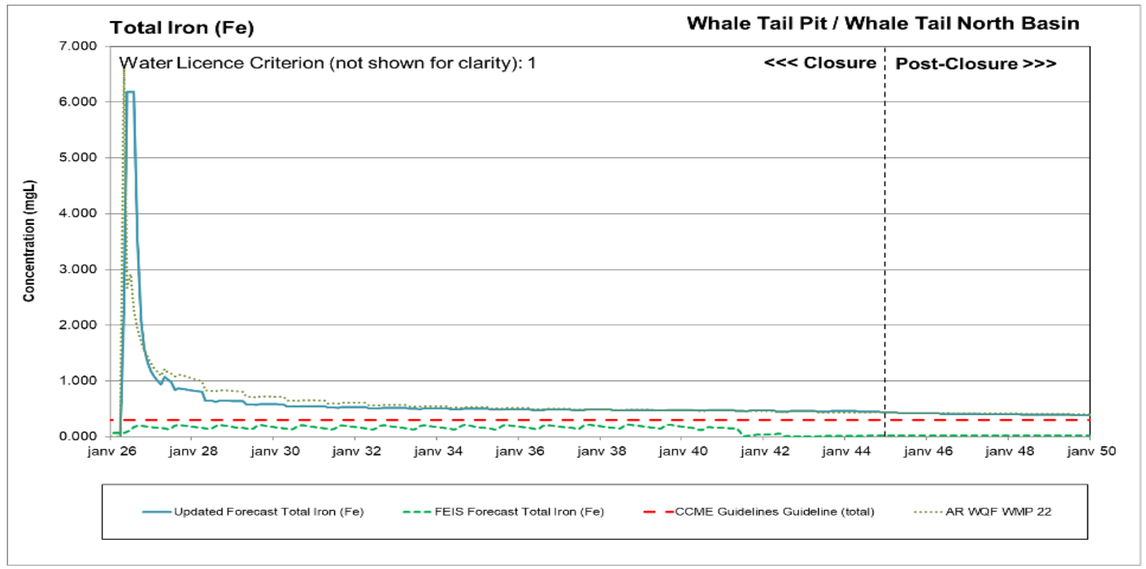


Figure 4-4 : Total Aluminium and Total Chromium Forecasted Concentrations During Closure and Post-Closure







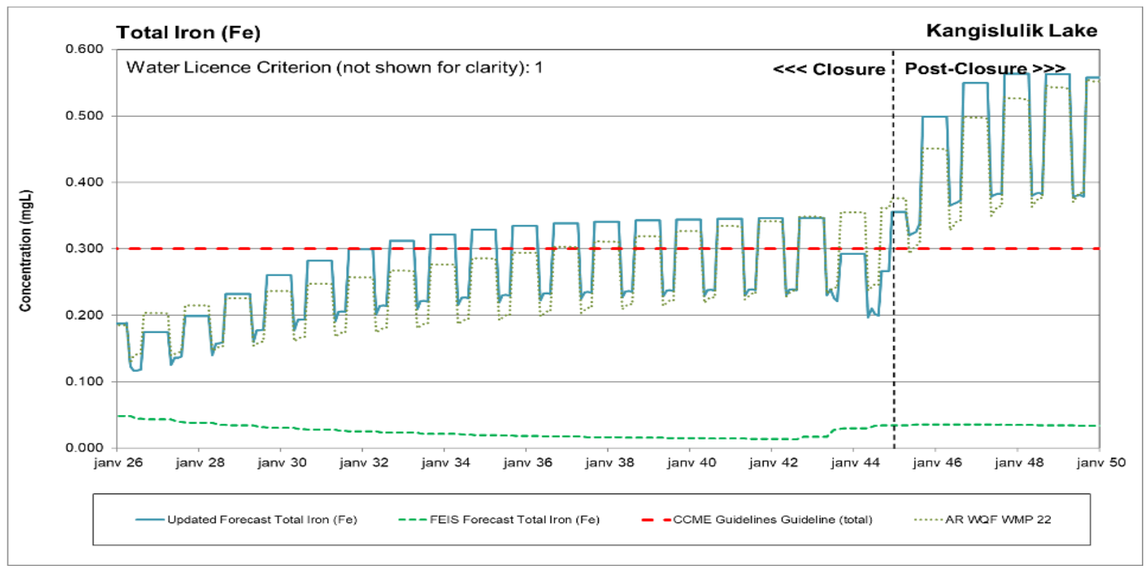
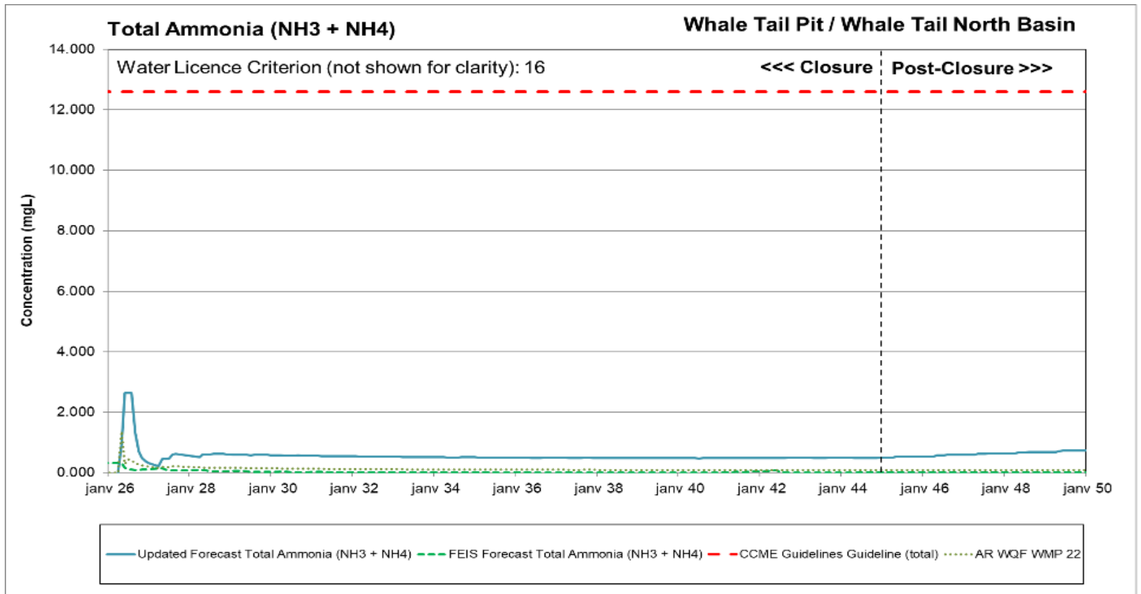
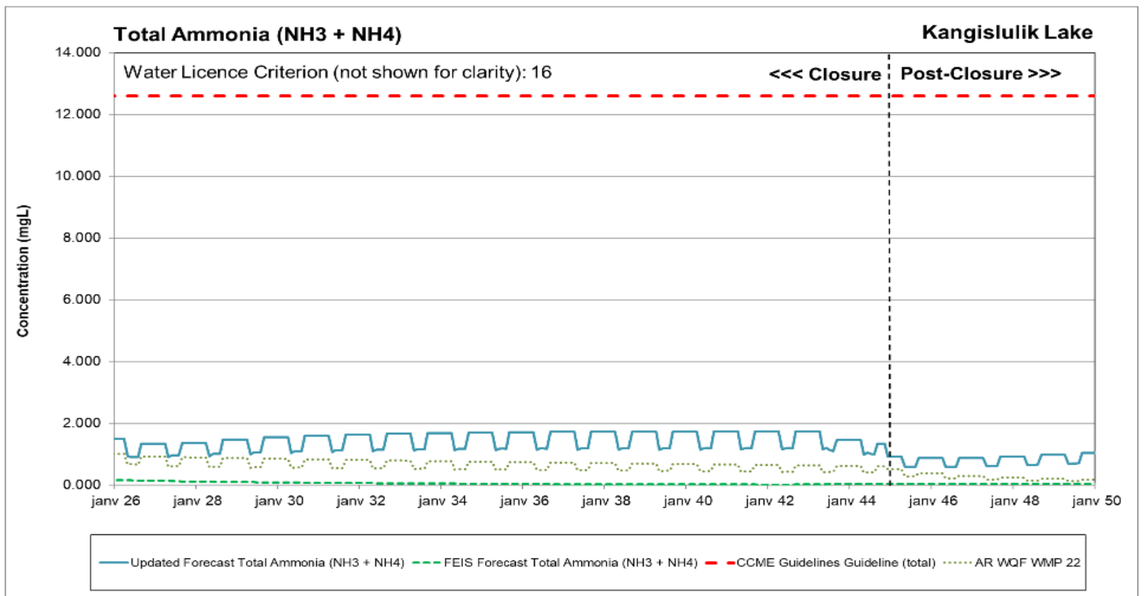
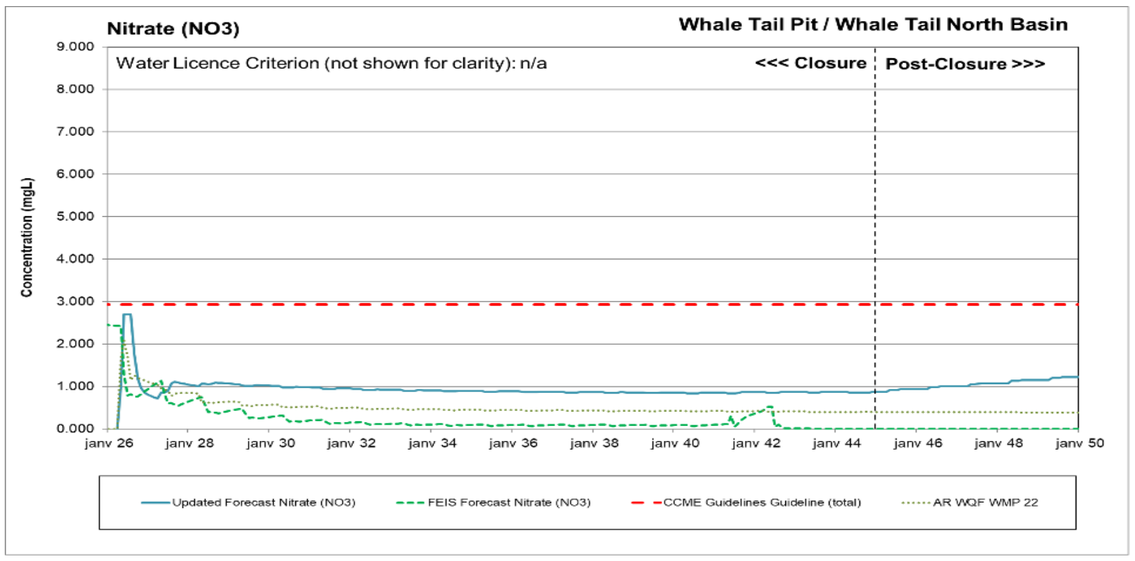


Figure 4-5 : Total Copper and Iron Forecasted Concentrations During Closure and Post-Closure







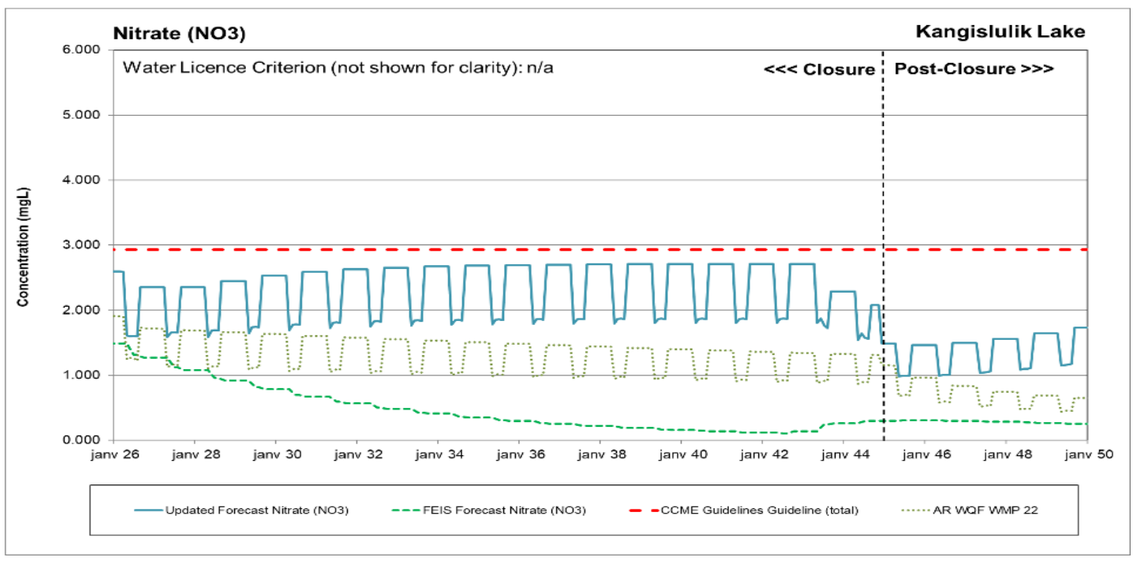
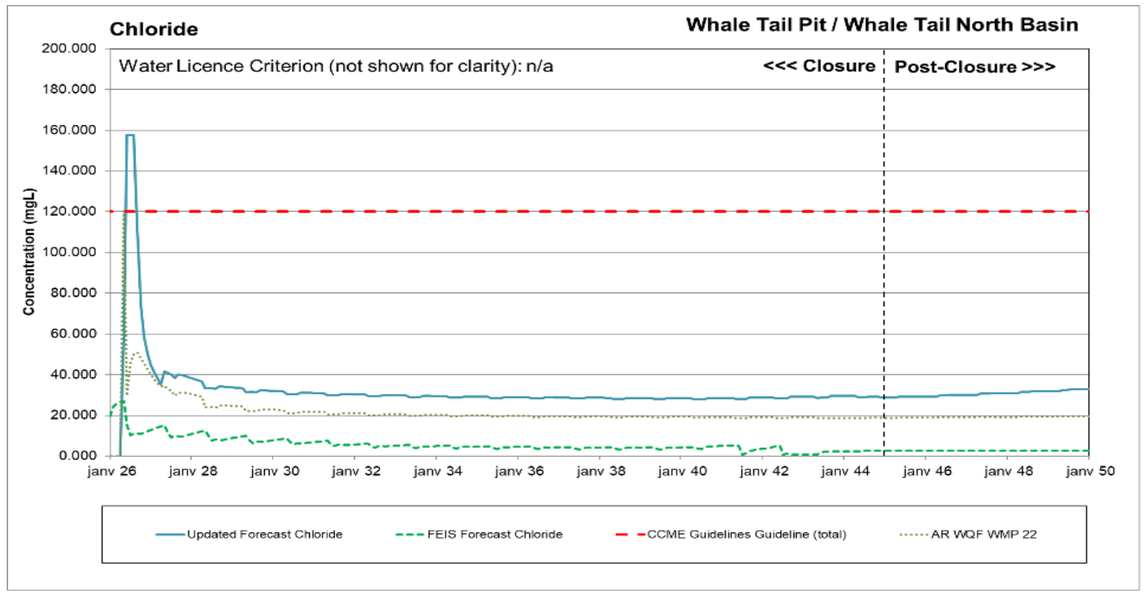
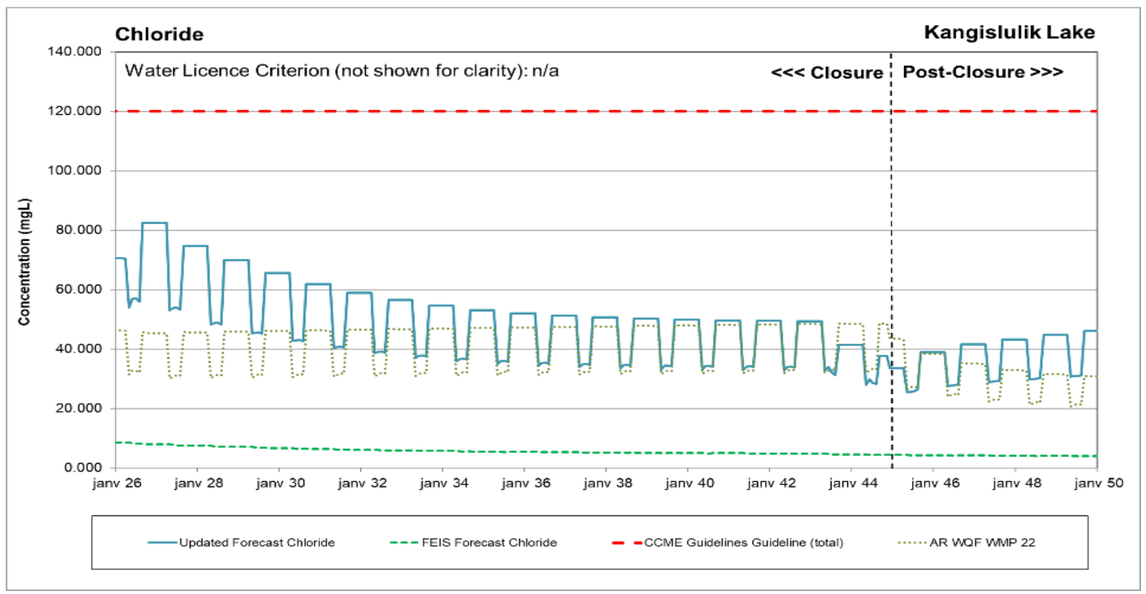
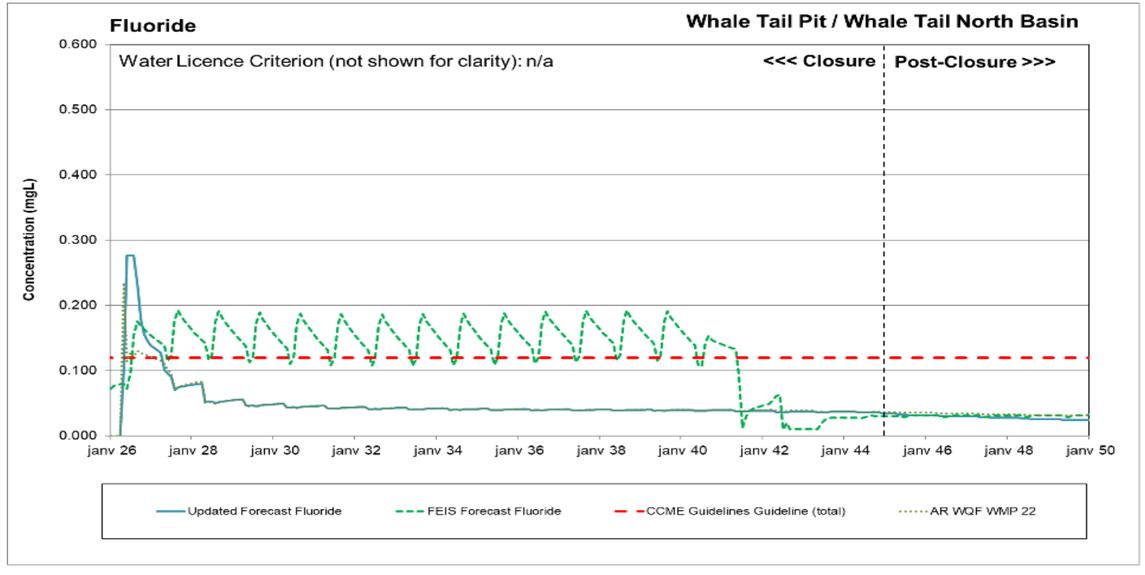


Figure 4-6 : Total Ammonia and Nitrate Forecasted Concentrations During Closure and Post-Closure







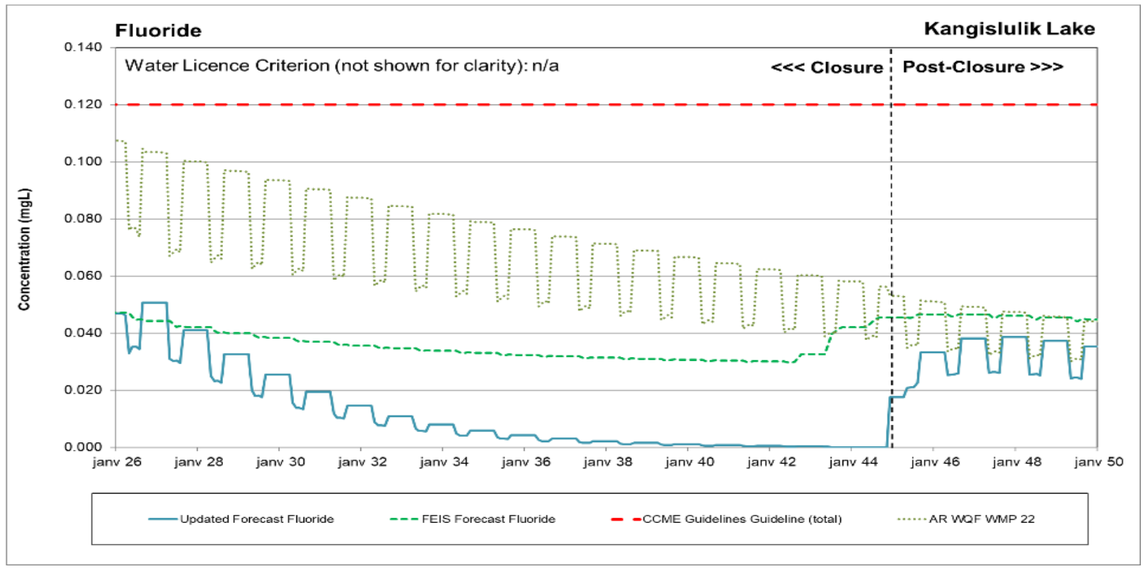


Figure 4-7 : Chloride and Fluoride Forecasted Concentrations During Closure and Post-Closure

4.3 Discussions

4.3.1 During Operation

Based on the 2023 water quality forecast modelling results during Operation, the following key observations can be made:

- The WQF model forecasted concentrations are generally higher than the measured values, indicating that the model is conservative in its assessment.
- Water quality forecasted concentrations show general conformity to the forecasted values presented in the FEIS and the measured concentrations on site in both the Attenuation Ponds and Lakes.
- The WQF model forecasted concentrations are generally in the same range or higher than the FEIS forecasted values.
- In both Attenuation Ponds (Whale Tail and IVR):
  - Total Arsenic concentrations measured and forecasted are higher than the Water Licence discharge criterion; the water from these ponds is treated at the Water Treatment Plant (WTP) prior to discharge to Kangislulik or WTS Lakes.
  - Total Phosphorous concentrations forecasted were expected to be in general lower than the Water Licence criterion. Aside from one sample in Whale Tail Attenuation Pond, most of the measured values remain below the Water Licence criterion;
- In both lakes (Kangislulik and Whale Tail South Lake):
  - As shown in section 2.4 the treated effluent discharged to these lakes meets the Water Licence criteria for Arsenic and Phosphorus;
  - Total Arsenic concentrations are forecasted to remain steady during Operation and remain below the Water Licence criterion for this constituent based on the field measurements taken in these lakes. This follows a similar trend presented in the FEIS assessment for Kangislulik Lake, but not so regarding Whale Tail South Lake which predicted a gradual increase. Forecasted concentrations for this constituent are higher than the measured concentrations on site;
  - Total Phosphorus concentrations are forecasted to decrease during Operation and trend below the CCME guidelines. This trend is different from the FEIS forecast which showed an increasing trend during Operation. Measured concentration for this constituent is generally below the CCME guidelines in 2023.
- In general, the WQF model provides a conservative assessment of the water quality during Operation by assuming a fixed constant loading for each source term that does not decrease over time. Furthermore, a fixed water treatment efficiency is used based on average treatment efficiency observed at the WTP and adjusted to obtain a forecasted concentration in the lakes in the same range as the measured values.
- When comparing the forecasted values assessed last year (based on the 2022 WMP):

  For Total Arsenic, the latest forecasted values are higher in the WT Attenuation Pond, lower in IVR Attenuation Pond and lower in Whale Tail South Lake and Kangislulik Lake. The higher concentrations in 2023 WQF model are due to the additional load measured in the field from both WRSF pond and the Whale Tail pit to WT Attenuation Pond. The lower concentration forecasted in the lakes are due to the adjustment

in the model of the treatment efficiency at the WTP to obtain forecasted values that are in the same range as the measured values;

- For Total Phosphorous, the latest forecasted values are lower than last year's forecast but trends more closely with the measured values in the Attenuation Ponds and the lakes.

4.3.2 During Closure

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

Comparison to CCME guidelines:

- In WT Pit / WTN Basin, concentrations of most parameters are forecasted to decrease over the Closure period and reach CCME limits, except for the following parameters: Phosphorus, Aluminium, Chromium and Iron. Note that:
  - The metal concentrations exceedances at Closure remain slightly above the CCME criterion;
  - Total Phosphorus loading to WT Pit / WTN Basin comes mainly from the discharge of treated camp sewage water during this period. The loading applied during this period was assumed to be the same as the loading applied during Operation even if the camp size is expected to decrease, which provides a certain level of conservatism to the WQF model;
  - Aluminium, Chromium and Iron loading to WT Pit / WTN Basin comes mainly from the runoff encountering the pit walls in WT and IVR Pit.
- In Kangislulik Lake, forecasted concentrations are expected to decrease over this period since there is no longer any release of treated water from the Whale Tail Mine site. Kangislulik Lake shall only receive natural runoff water and water from the WTS Lake.
- In Kangislulik Lake, the forecasted concentrations show generally a decreasing trend below the CCME guidelines. This trend is generalized for all COCs, except for the following constituents: Chromium and Iron:
  - Iron forecasted concentration is trending to stabilize below CCME at the end of Closure (2044);
  - Chromium forecasted concentration is trending to stabilize around the CCME limit at the end of Closure.

Comparison with last year's forecast:

- The WQF model forecasted concentrations are generally lower or in the same range as the forecasted values in last year's 2022 annual report. This is mainly due to the lower concentration forecasted in the Kangislulik Lake at the end of Operation.
- Forecasted concentrations generally present a similar trend to the 2022 forecast.

Comparison with FEIS assessment:

- The WQF model forecasted concentrations are generally higher or in the same range as the forecasted values in the FEIS assessment values, indicating that the model is conservative in its assessment.

- The WQF model forecasted concentrations have in general a similar trend than the forecasted values in the FEIS in both WTN Basin and Kangislulik Lake. Exceptions are noticed for Chromium and Iron in Kangislulik Lake which show an increasing trend during Closure when compared to the FEIS forecast.

4.3.3 During Post-Closure

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

Comparison to CCME guidelines:

- The forecasted concentrations show generally a stable trend below the CCME guideline in both WTN Basin and Kangislulik Lake. This trend is generalized except for Phosphorus, Aluminium, Chromium, Copper and Iron which are trending higher than the CCME guidelines in Kangislulik Lake and slightly above CCME in WTN Basin (except for Copper).
- The WQF model forecast a continued decreasing trend in the WTN Basin. This is to be expected since it shall continue to receive natural runoff, as well as water from the WTS Lake once the WT Dike is breached. Furthermore, water from WTN Basin shall be allowed to gravity flow toward Kangislulik Lake.
- The WQF model forecast an increasing trend in Kangislulik Lake at Post-Closure. This is expected since at Post-Closure, it shall start to receive water from WTN Basin which contains higher loads of potential COCs once Kangislulik Dike is breached.

Comparison with last year's forecast

- Forecasted concentrations generally present a similar trend to the 2022 forecast.
- However, some potential COCs showed a different trend than the 2022 forecast in Kangislulik Lake. The forecasted concentration for Fluoride showed a decreasing trend in post-Closure in 2022 forecast model, while this year's forecasted values showed slight increasing trend. The same observation can be made for Arsenic.
- In this year's WQF model, the model used to estimate the volume discharged from WTS Lake to Kangislulik Lake was updated based on actual field measurements. This change caused an increase in volume discharged from WTS Lake to Kangislulik Lake during Closure. Due to the higher volume of water flowing through Kangislulik Lake during this period, the total volume water in the lake is replaced more rapidly. Consequently, at the start of Post-Closure, the forecasted concentrations for certain COCs are lower in the lake. Once the dike is breached, the higher loads of potential COCs from WTN Basin increases the concentration in Kangislulik Lake.
- Forecasted Phosphorous concentrations are lower in this year's model when compared to last year's.

Comparison with FEIS assessment:

- The WQF model forecasted concentrations have in general a similar trend than the FEIS forecasted values in the WTN Basin and Kangislulik Lake;
- All of the forecasted concentrations showed higher concentrations than FEIS forecasted values in Kangislulik Lake, with the exception of Fluoride, indicating that the model is generally conservative in its assessment.

4.3.4 Adaptive Management Plan

As per the Water License **2AM-WTP1830, Part E, condition 9,** the dikes shall not be breached until the water quality in the re-flooded area meets *CCME Water Quality Guidelines for the Protection of Aquatic Life*, baseline concentrations, or appropriate site-specific water quality objectives. Water quality analysis shall continue to be taken during the Operation and Closure periods and the WQF model shall be updated accordingly.

If the results from the WQF model are forecasting trends that are deviating from what is anticipated, the adaptive management plan shall be activated. The adaptive measures that could be put in place include an increase in sampling frequency, identification of root cause of the deviation and implementation of a mitigation plan and maintaining the existing WTP available during Closure for treatment if required.

4.3.5 Sensitivity Analysis

The water balance model provides an estimate of the re-flooding period of the pits based on the active volume of water transferred from WTS Lake and assuming a net average precipitation received on the site during Closure (base case scenario). Based on this assumption, the WT Pit / WTN Basin is projected to be filled by the end of 2044.

For demonstration purposes only, if it is assumed that a dry year occurred for year 2025, 2027, 2029 and 2031 (alternative case), the WT Pit / WTN Basin will not be reflooded by the end of 2044, as illustrated in **Figure 4-8**. Consequently, to achieve a tentative reflooding date of end of 2044, the volume of water pumped from WTS Lake could be adjusted based on the actual runoff received on the site during Closure. A modification to the authorized water use in the Water License could be required. The reflooding period could also just be extended until final elevation of 153.5m is reached.

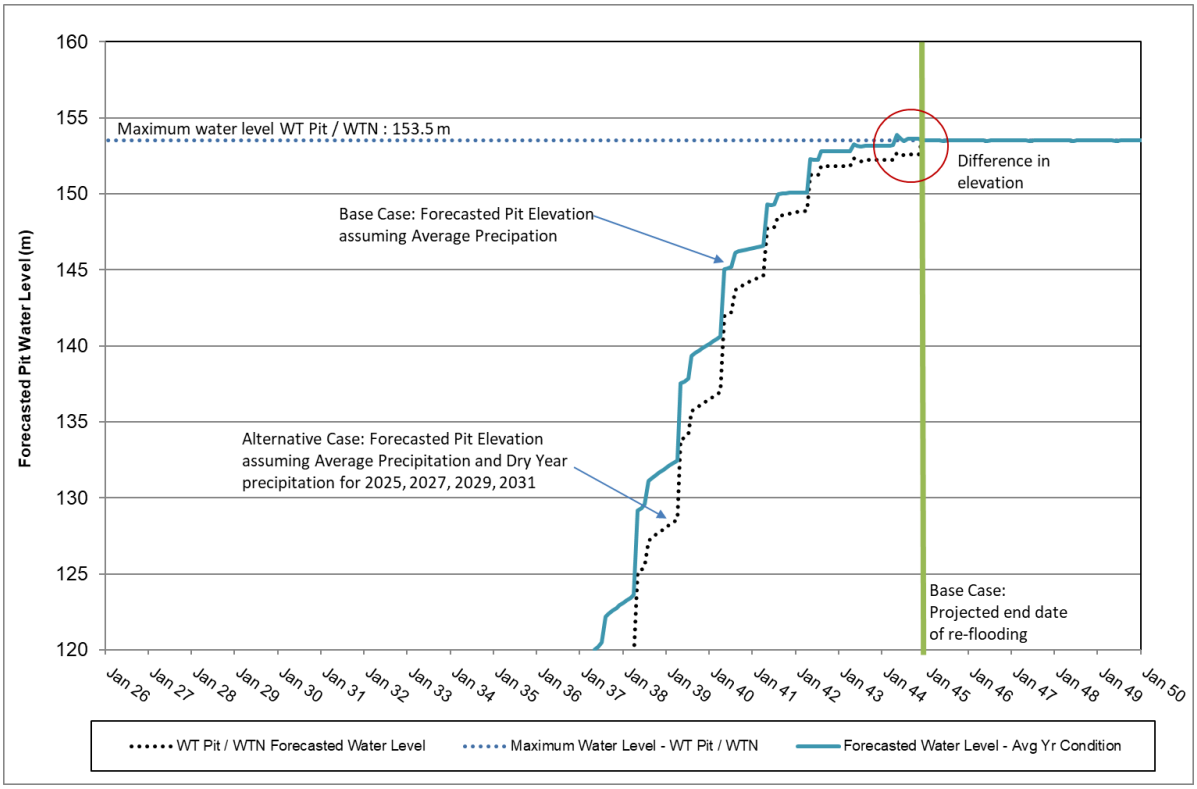
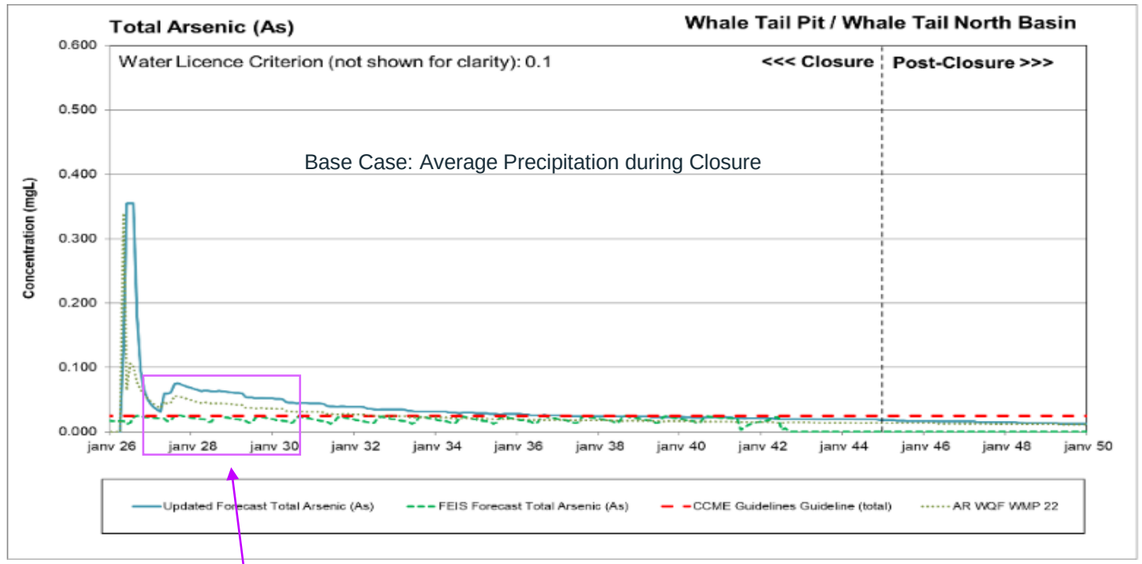
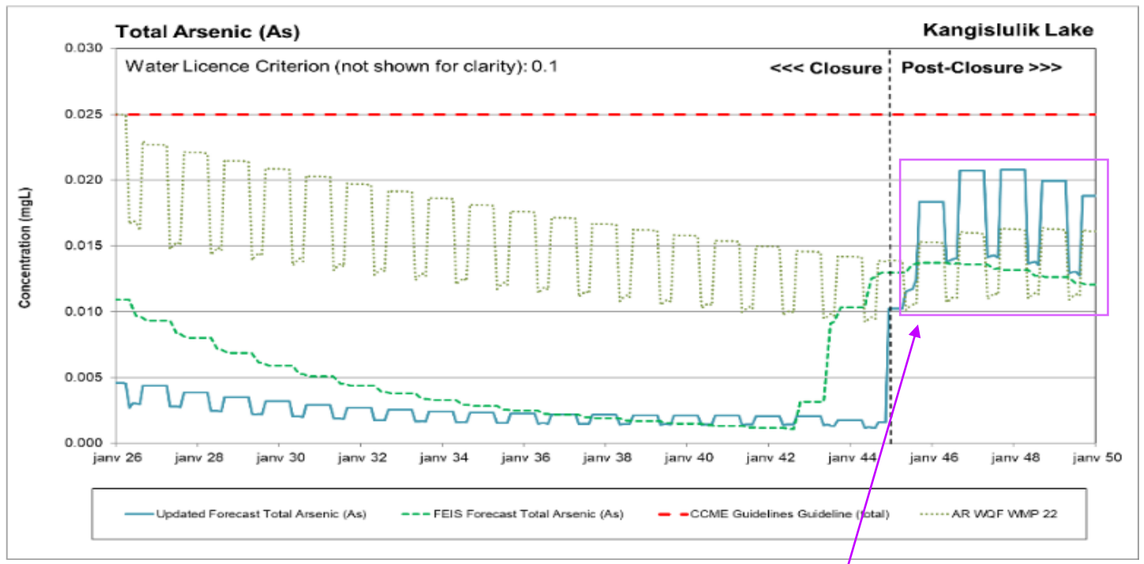
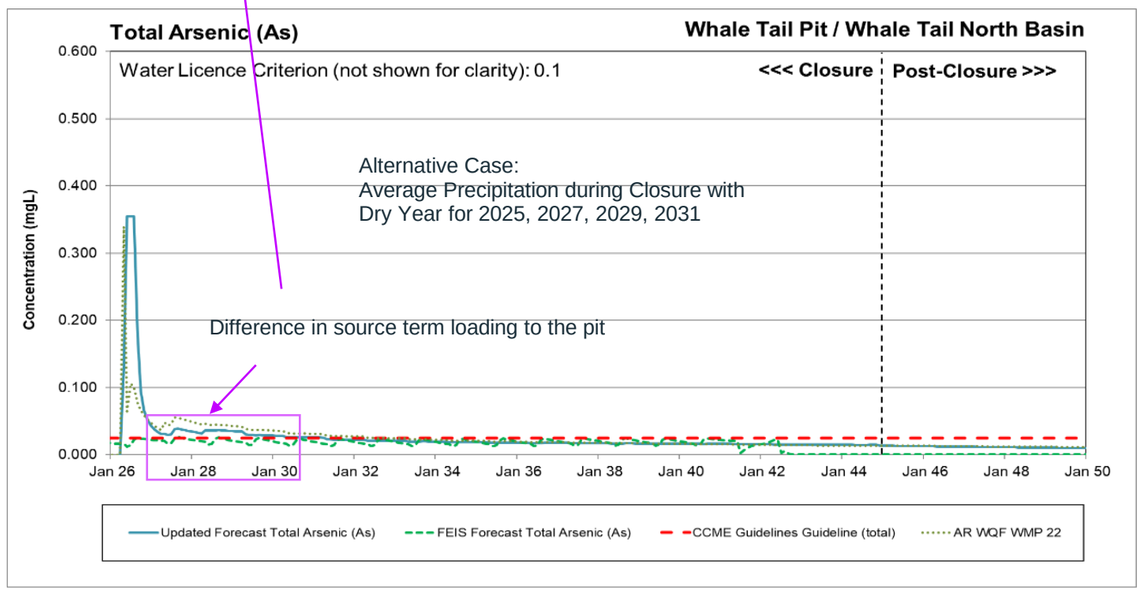


Figure 4-8 : Sensitivity Analysis of Forecasted Water Elevation in WT Pit / WTN Basin

The forecasted concentrations will also vary based on the runoff reporting to the site during Closure. For example, based on the same dry year assumption presented above, **Figure 4-9** illustrates the difference in forecasted Total Arsenic concentration between the Base Case (average precipitation) and Alternative Case (average precipitation with dry years). The lower concentrations observed in the Alternative Case is due to the lower runoff volumes coming into contact with the pit walls which results in a lower Arsenic load reporting to the WTN Basin.







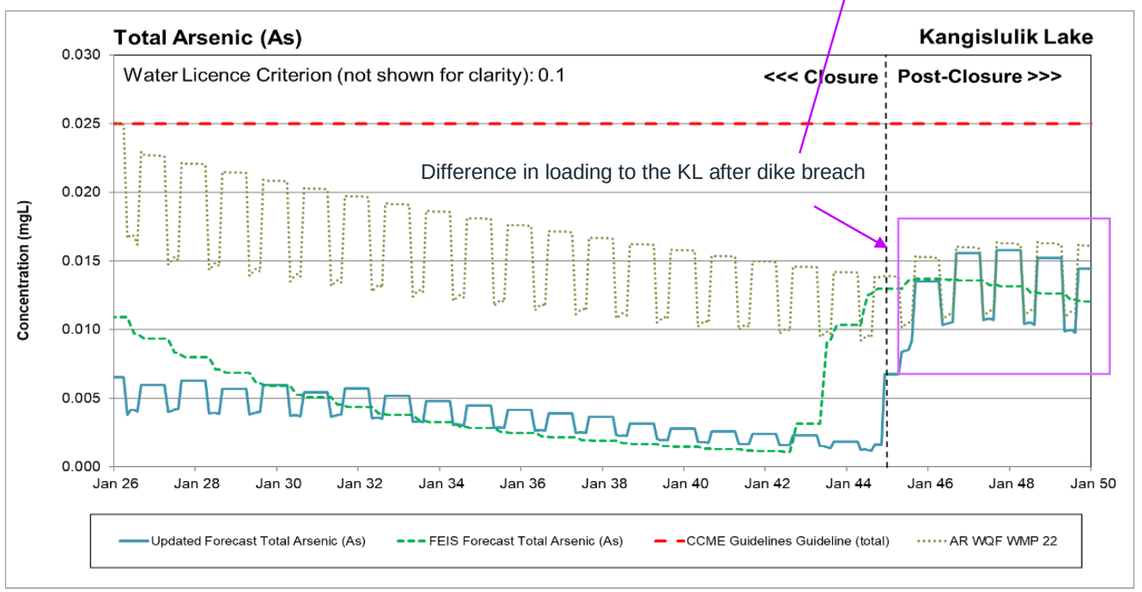


Figure 4-9 : Sensitivity Analysis of Forecasted Total Arsenic

5. Conclusions

5.1 Results Summary

A Water Quality Forecast (WQF) model was developed based on the AEM 2023 Water Balance for the Whale Tail Mine site. The WQF model includes Operation, Closure and Post-Closure phases. The WQF model focused on providing forecasted concentration in Whale Tail and IVR Attenuation Ponds, Kangislulik and Whale Tail South (WTS) Lakes and, at Closure/Post-Closure, Whale Tail Pit (which becomes the Whale Tail North (WTN) basin at Closure).

Based on the FEIS Assessment, last year's 2022 annual report, as well as the site water quality data collected in 2023, the following Constituents of Concern (COCs) were considered in this year's WQF model:

- Total Arsenic;
- Total Phosphorus;
- The following total metals: Aluminium, Chromium, Copper, and Iron;
- Total Ammonia;
- Nitrate;
- Chloride; and;
- Fluoride.

The key observations from this year's WQF model can be summarized as follows:

- The WQF model modelling parameters, specifically the treatment performance of the WTP to remove certain COCs, were adjusted to forecast concentrations that are in the same range as the measured values sampled in WTS and Kangislulik Lakes during Operation;
- The WQF model estimated concentrations for COCs during Operation, Closure and Post-Closure in the same range or higher when compared to the values presented in the FEIS assessment, except for Arsenic during Operation and Fluoride at Closure;
- The WQF model generally forecast similar or increasing concentration trends over time for the COCs when comparing to FEIS assessment values, except for Arsenic during Operation and Fluoride during Closure;
- Forecasted concentrations are generally higher or in the same range as the measured values on site;
- All forecasted concentrations are below the Water Licence criterion for the COCs during Operation in WT and IVR Attenuation Ponds.The water from these ponds is treated at the Water Treatment Plant (WTP) prior to discharge to Kangislulik or WTS Lakes;
- At Closure, all of the concentration of COCs in Kangislulik Lake are forecasted to decrease over time since there is no longer any discharge of treated water to the lake; and
- At Post-Closure, many COCs are forecasted to increase in Kangislulik Lake since WTN Basin shall be reconnected to Kangislulik Lake once the WT and Kangislulik Dikes are breached. However, most COCs are expected to remain below the CCME guidelines, except for the following: Phosphorus, Aluminium, Chromium, Copper and Iron.

5.2 Recommendations

Based on the results of the WQF model, the model provides a conservative estimate of the evolution of COCs concentrations over time.

To improve the accuracy of the model so that it can better forecast the concentration of the COCs in the WT and IVR Attenuation Ponds, WT Pit and in Kangislulik and WTS Lakes, the following studies, tests and monitoring are recommended:

- Continue to monitor water quality in the Attenuation Ponds and Kangislulik and WTS Lakes;
- Continue to monitor the water quality collected from the Whale Tail and IVR open pits;
- To better understand the loading of potential COCs from the exposed pit wall during Operation and following Closure, determine if it is possible to sample the pit wall runoff safely. Consider advancing the hydrogeological model and understanding of the pit wall lithology to assess the potential loading of COCs during Operation and Closure; and
- A robust water quality sampling plan shall need to be developed for Closure and Post-Closure. Areas to sample include WT Pit, IVR Pit, WT Attenuation Pond and the WTN Basin once all these ponds are hydraulically connected. Once the WTN Basin is formed, it is recommended to sample the surface water in different areas in the basin as well as different depths to gain a better understanding of the hydraulic behavior of this basin.

6. References

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AEM, 2020. Whale tail Interim Closure and Reclamation Plan. July 2020.

Golder 2022. Whale Tail Project 2021 Annual Report – Closure and Post-Closure Water Quality Predictions, 21508120-552-RPT-Rev0, Mar. 31, 2022.

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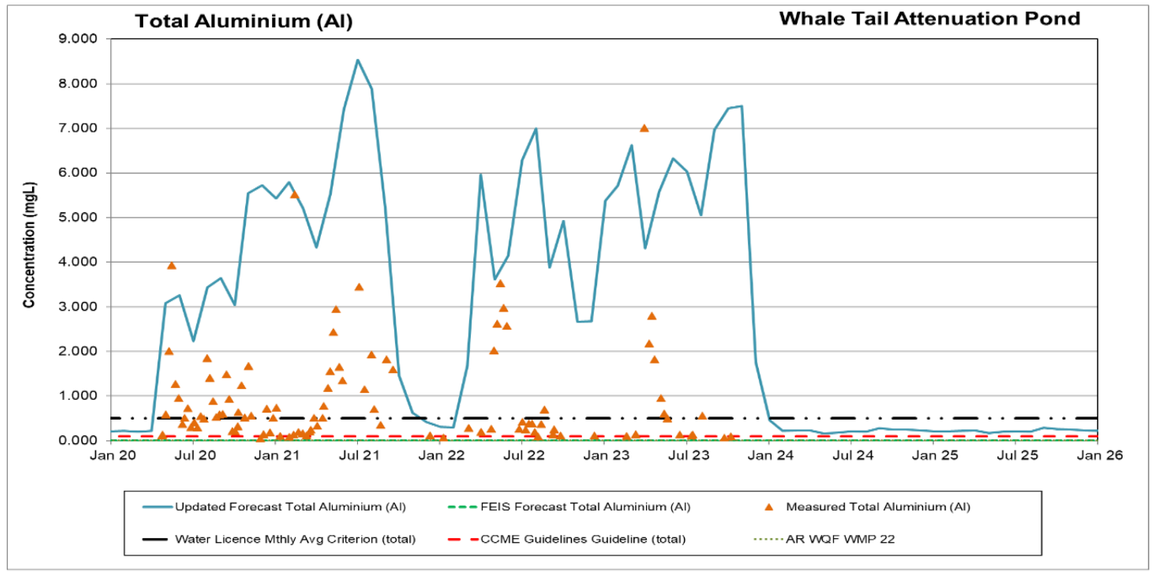
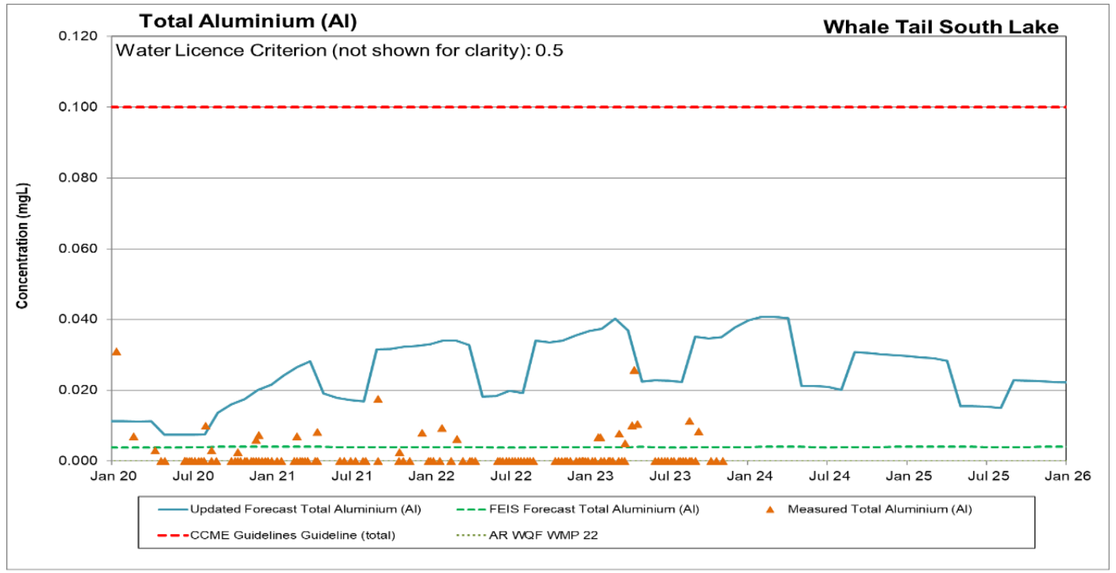
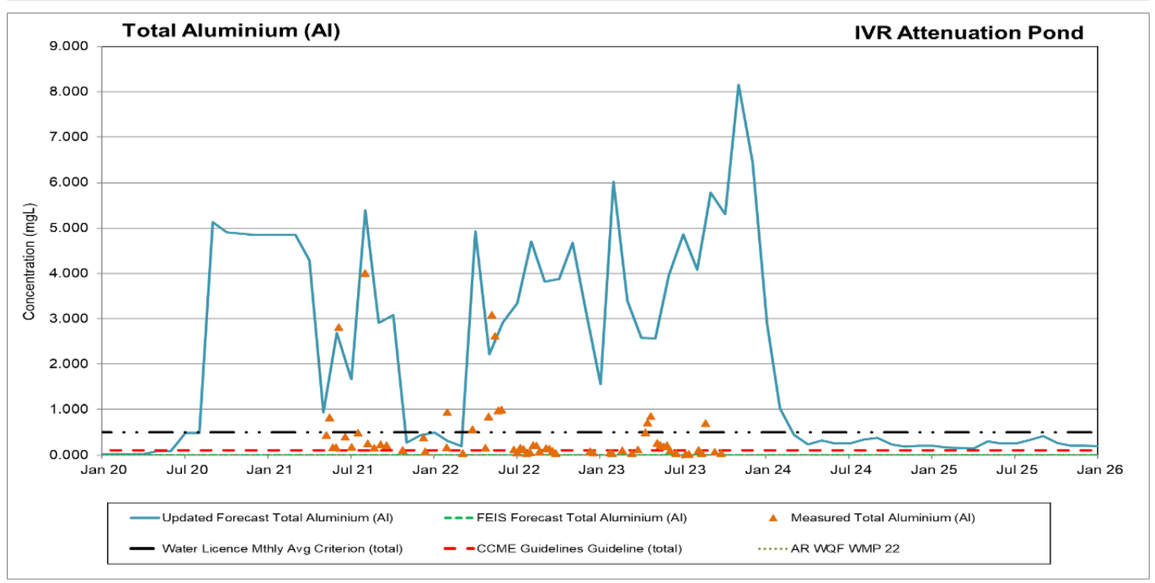
APPENDIX

APPENDIX A.

Forecasted Concentration for Potential Constituents of Concern during Operation







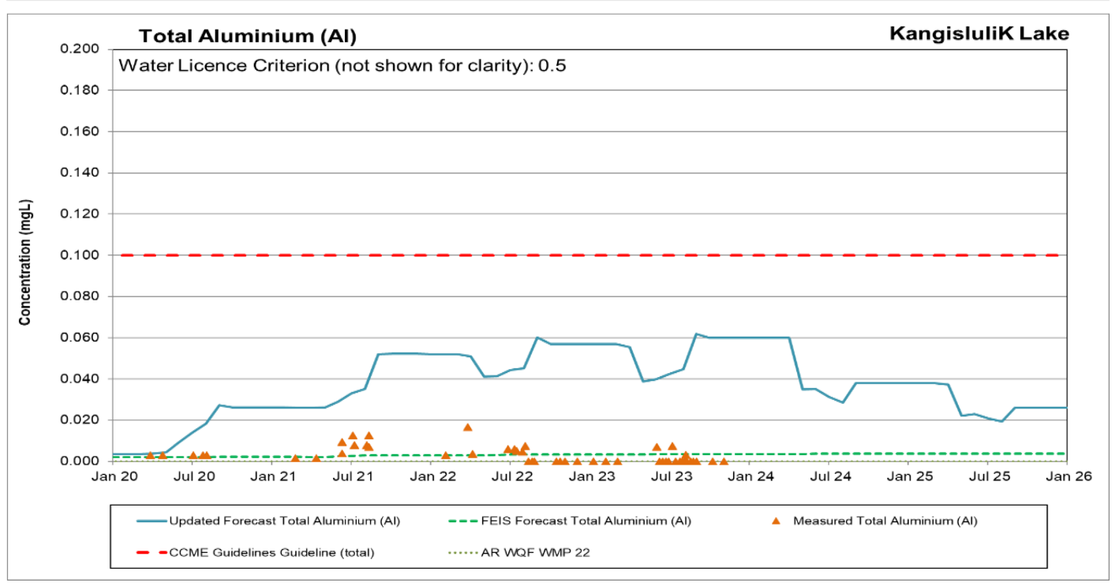
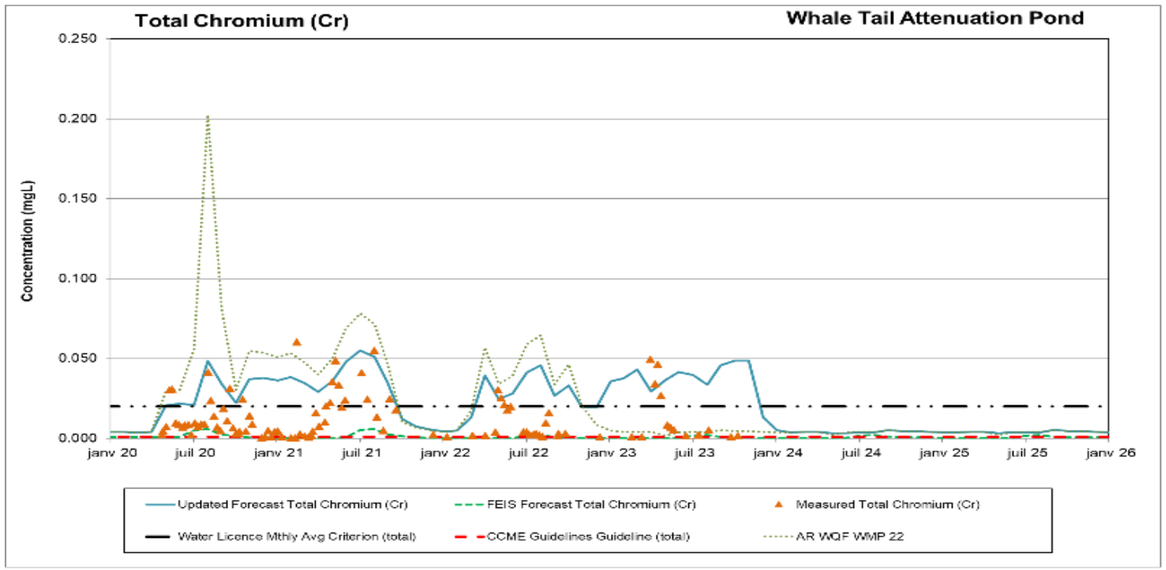
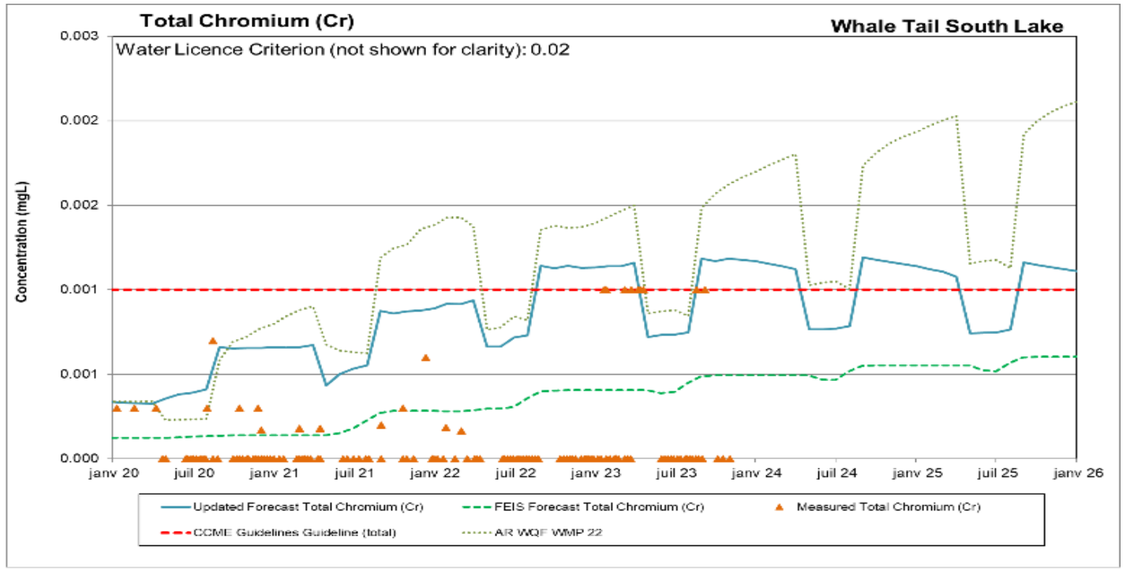
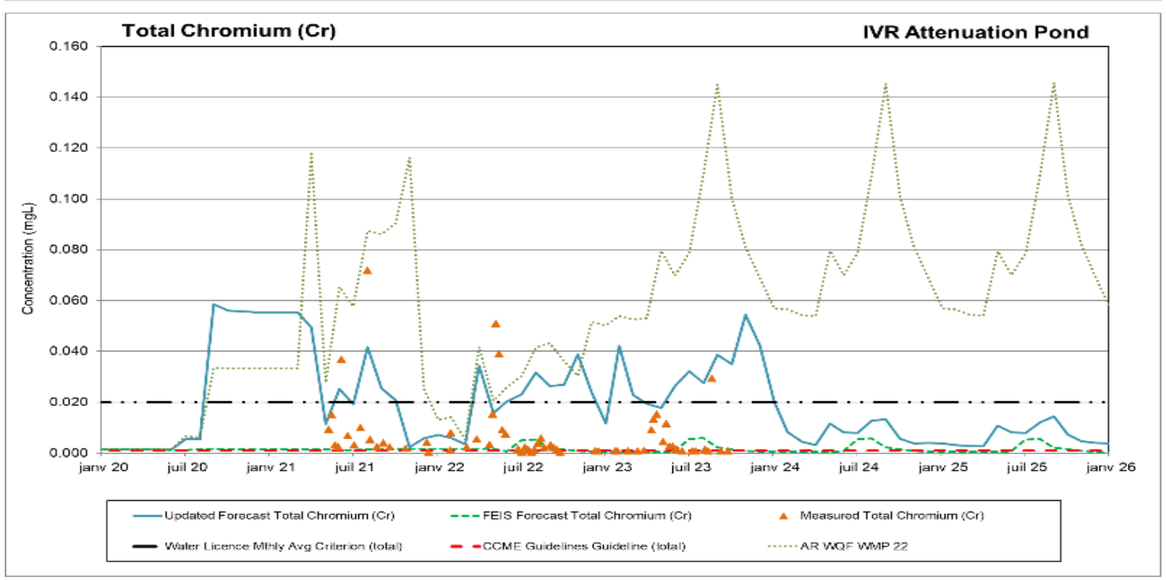


Figure A-1 : Total Aluminium (Al) Forecasted Concentrations during Operation







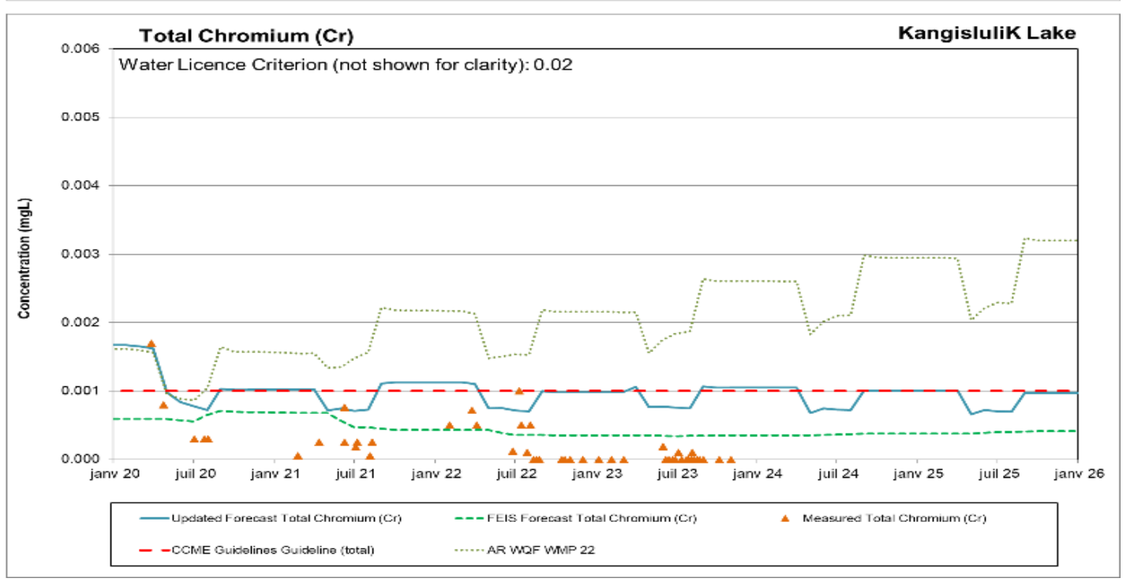
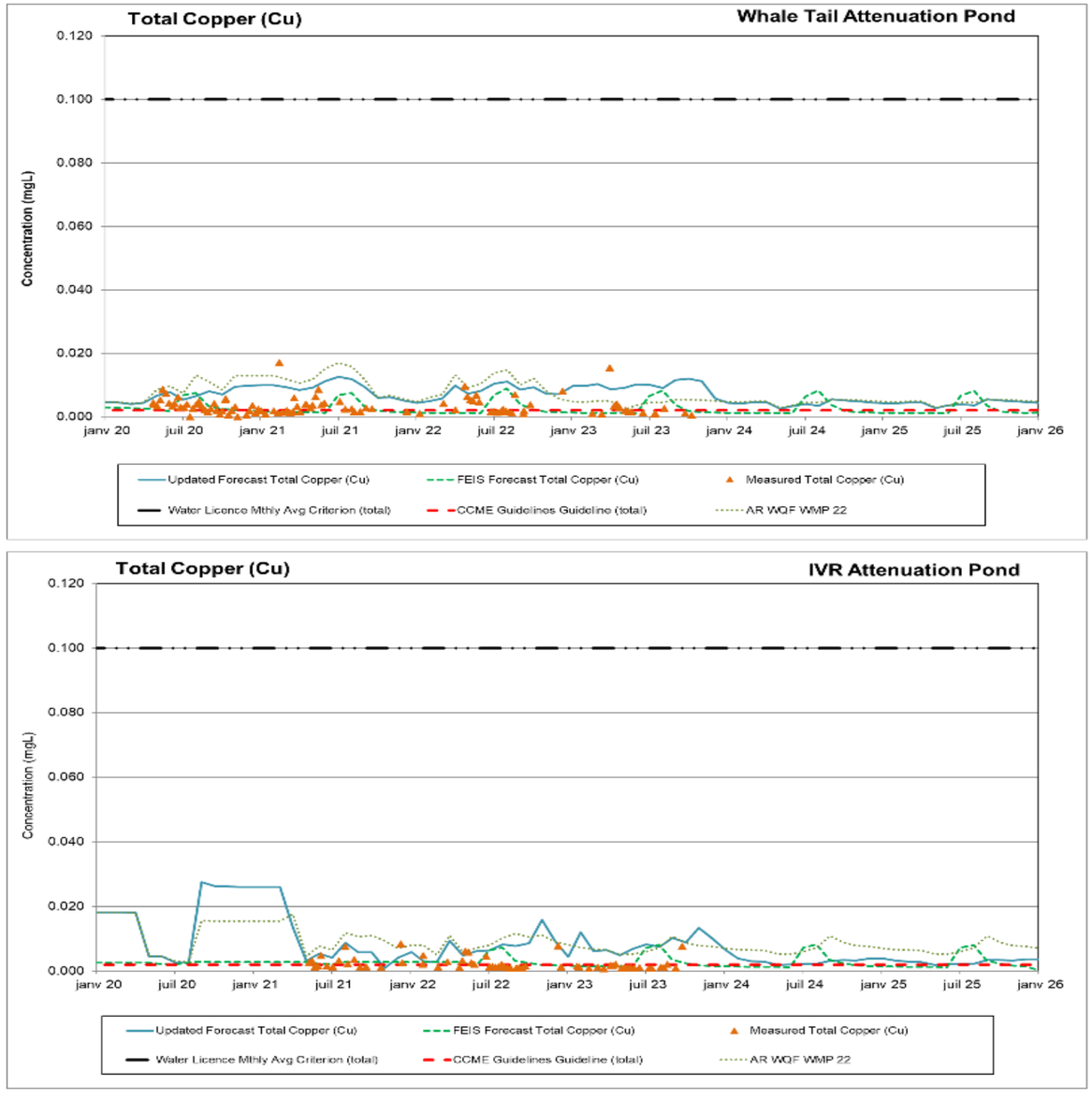


Figure A-2 : Total Chromium (Cr) Forecasted Concentrations during Operation



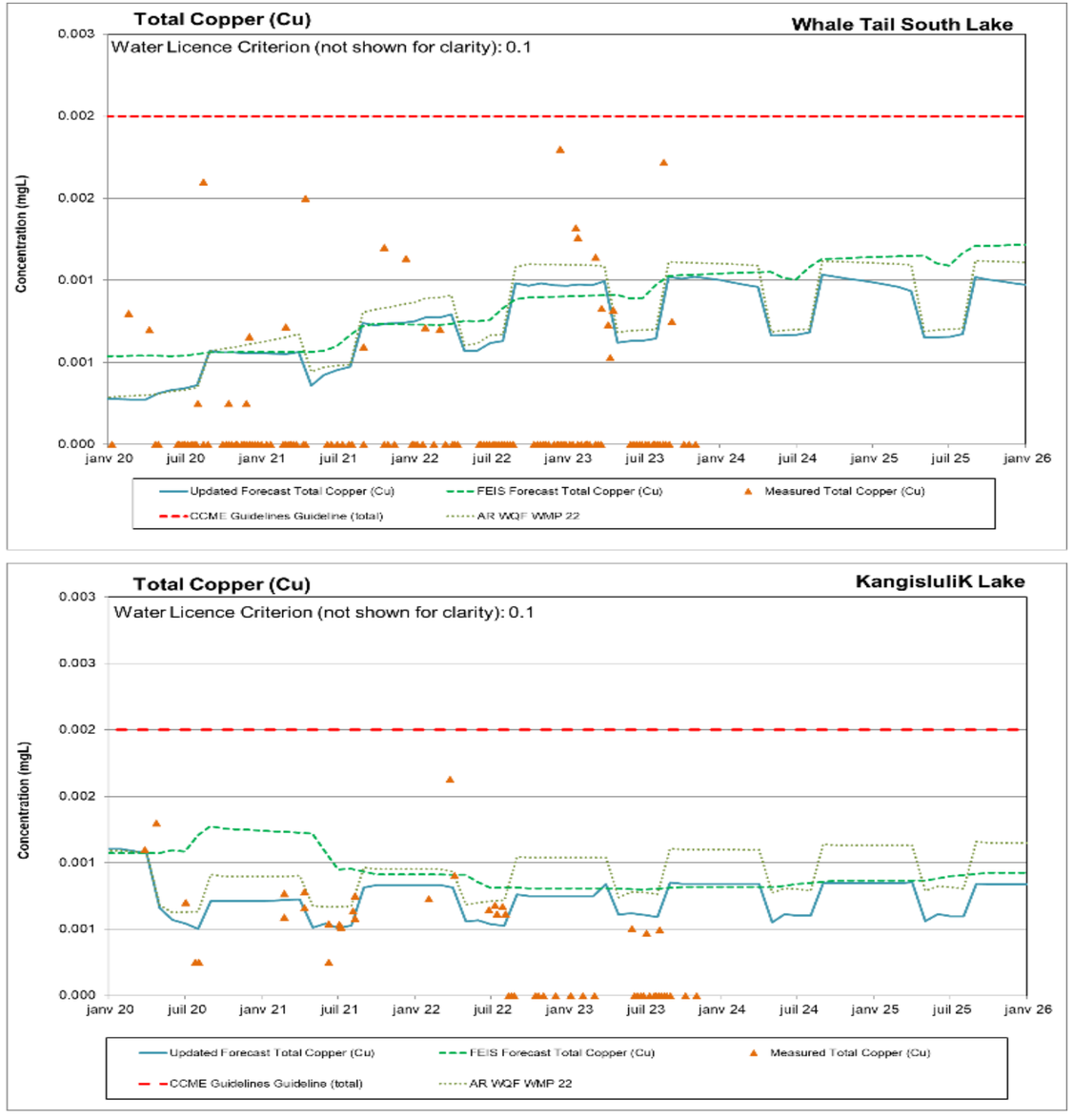
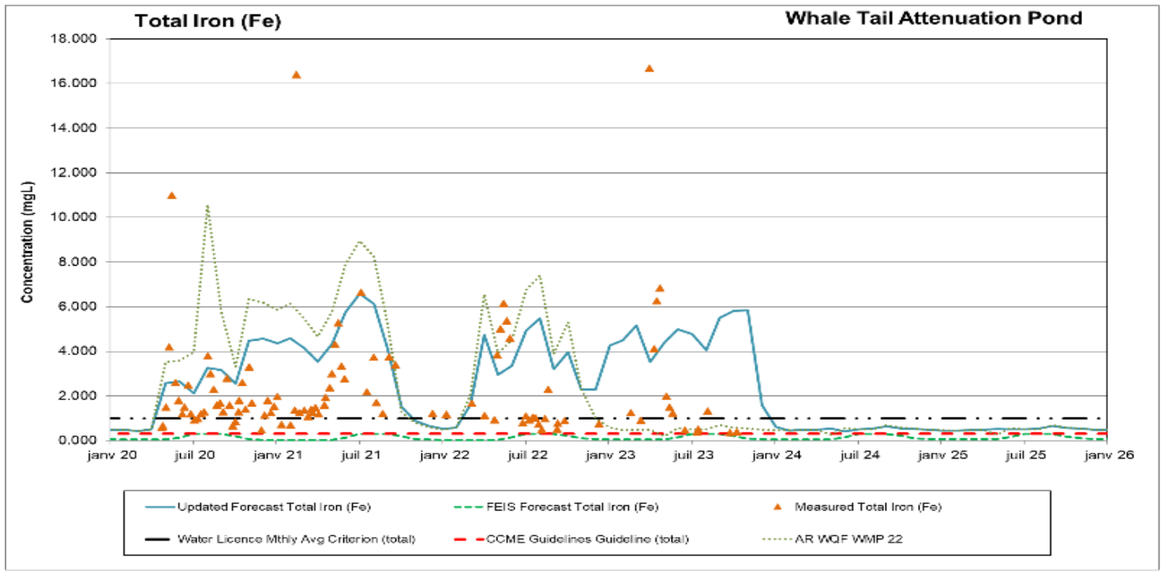
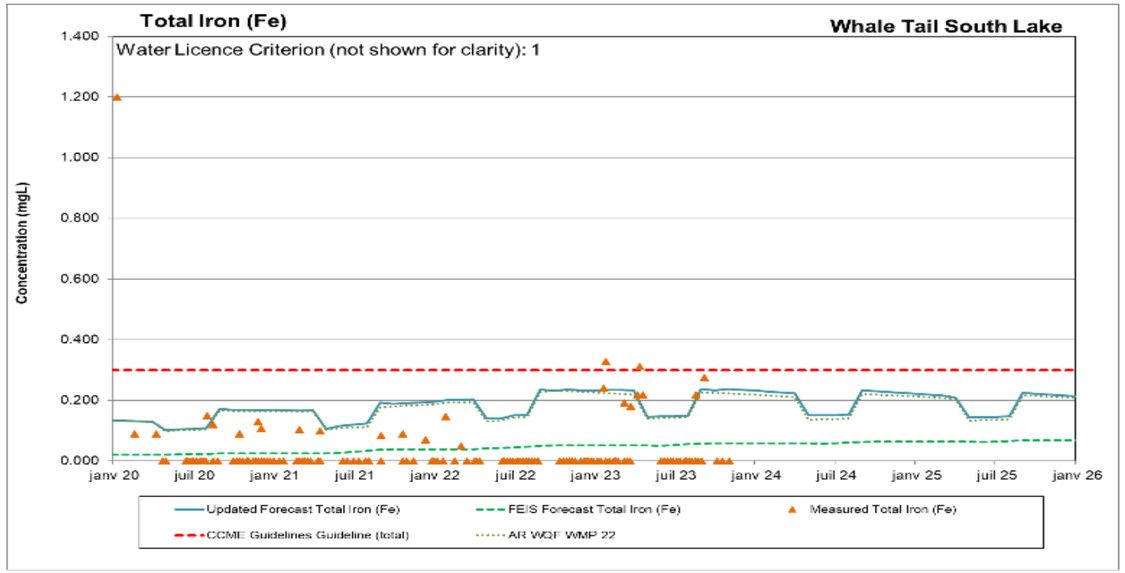
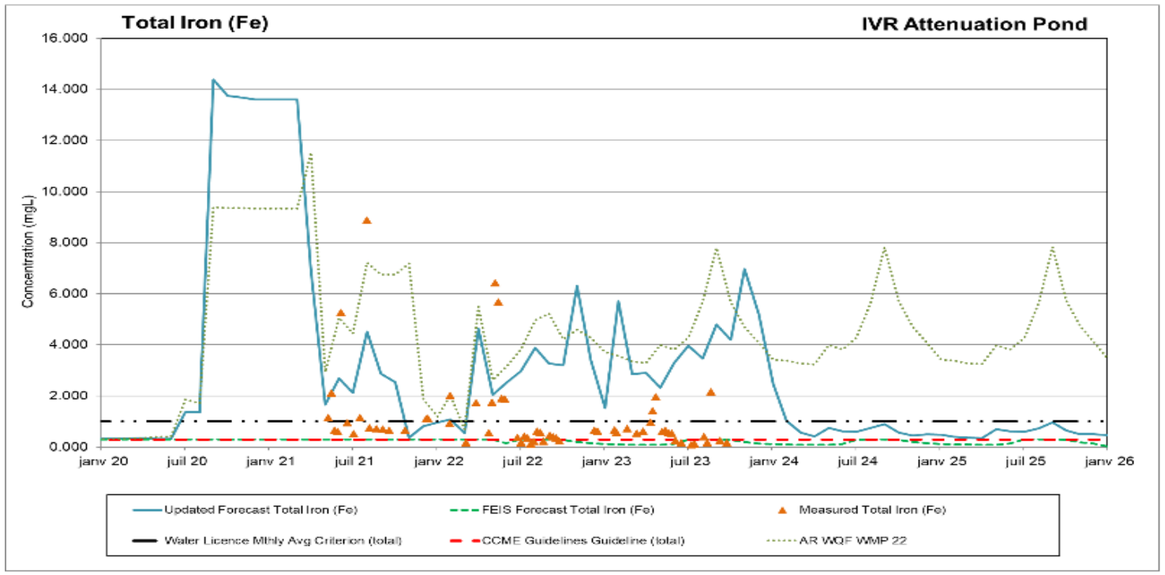


Figure A-3 : Total Copper (Cu) Forecasted Concentrations during Operation







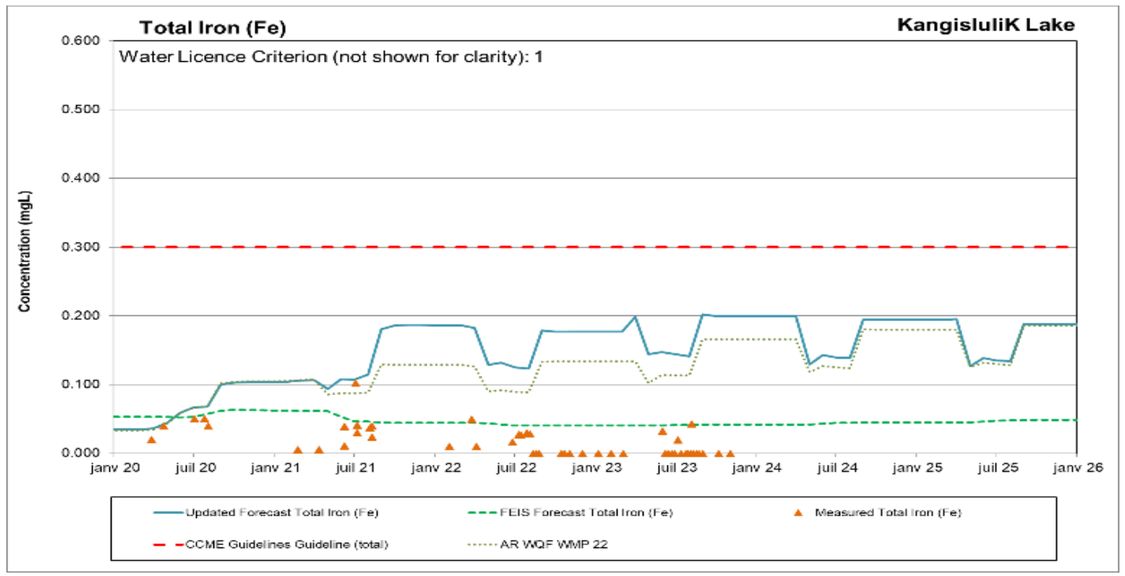
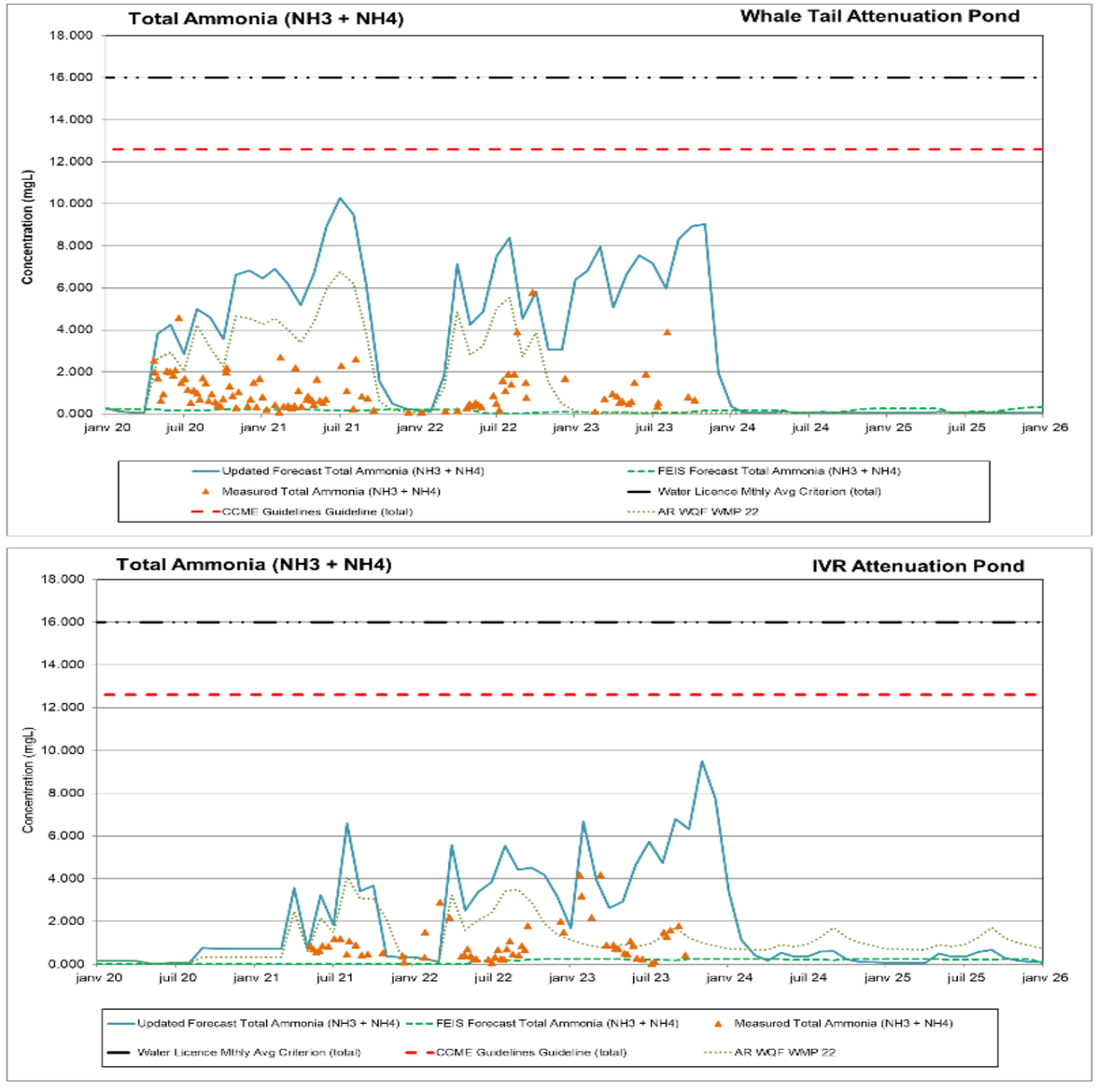


Figure A-4 : Total Iron (Fe) Forecasted Concentrations during Operation



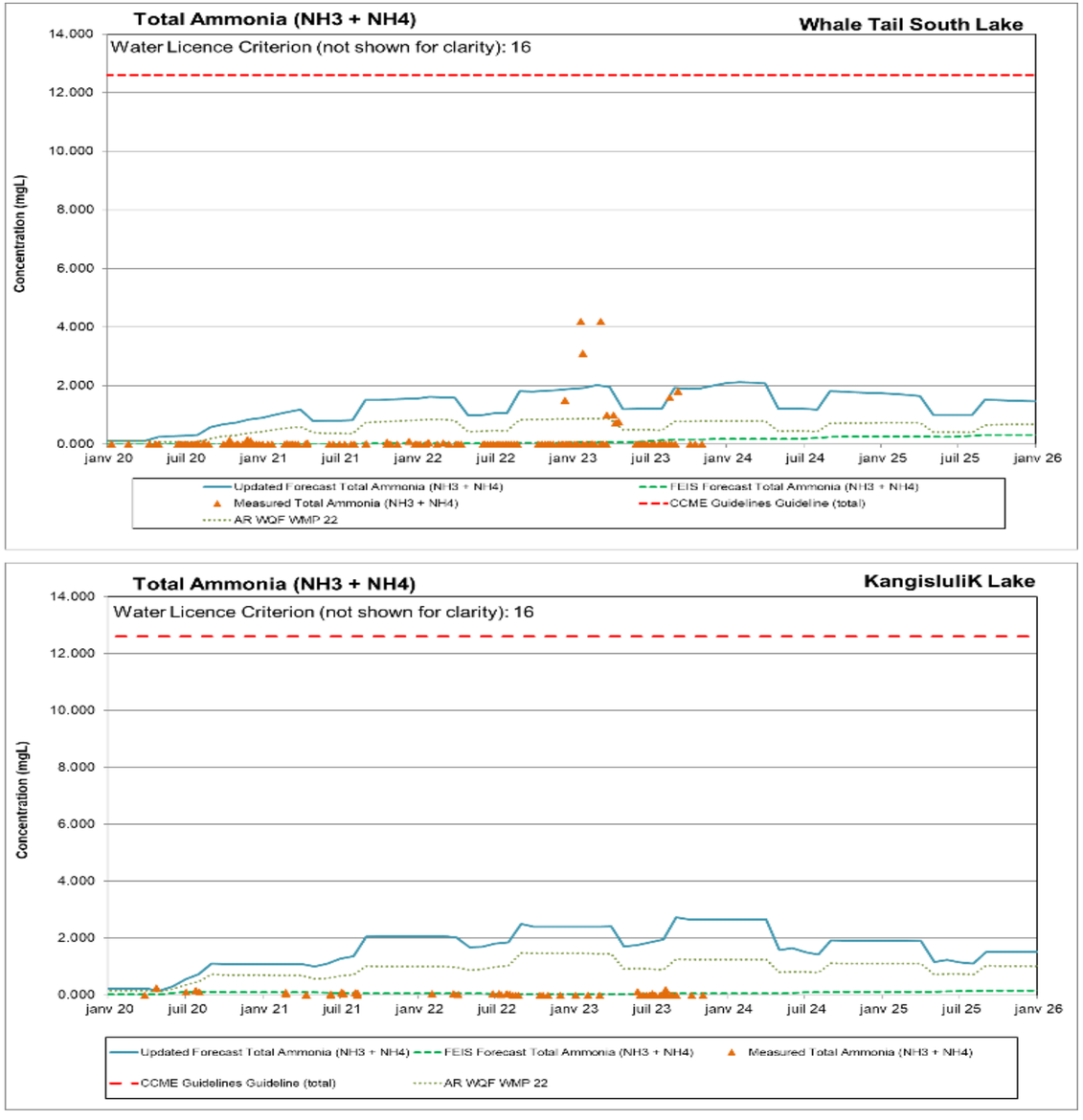
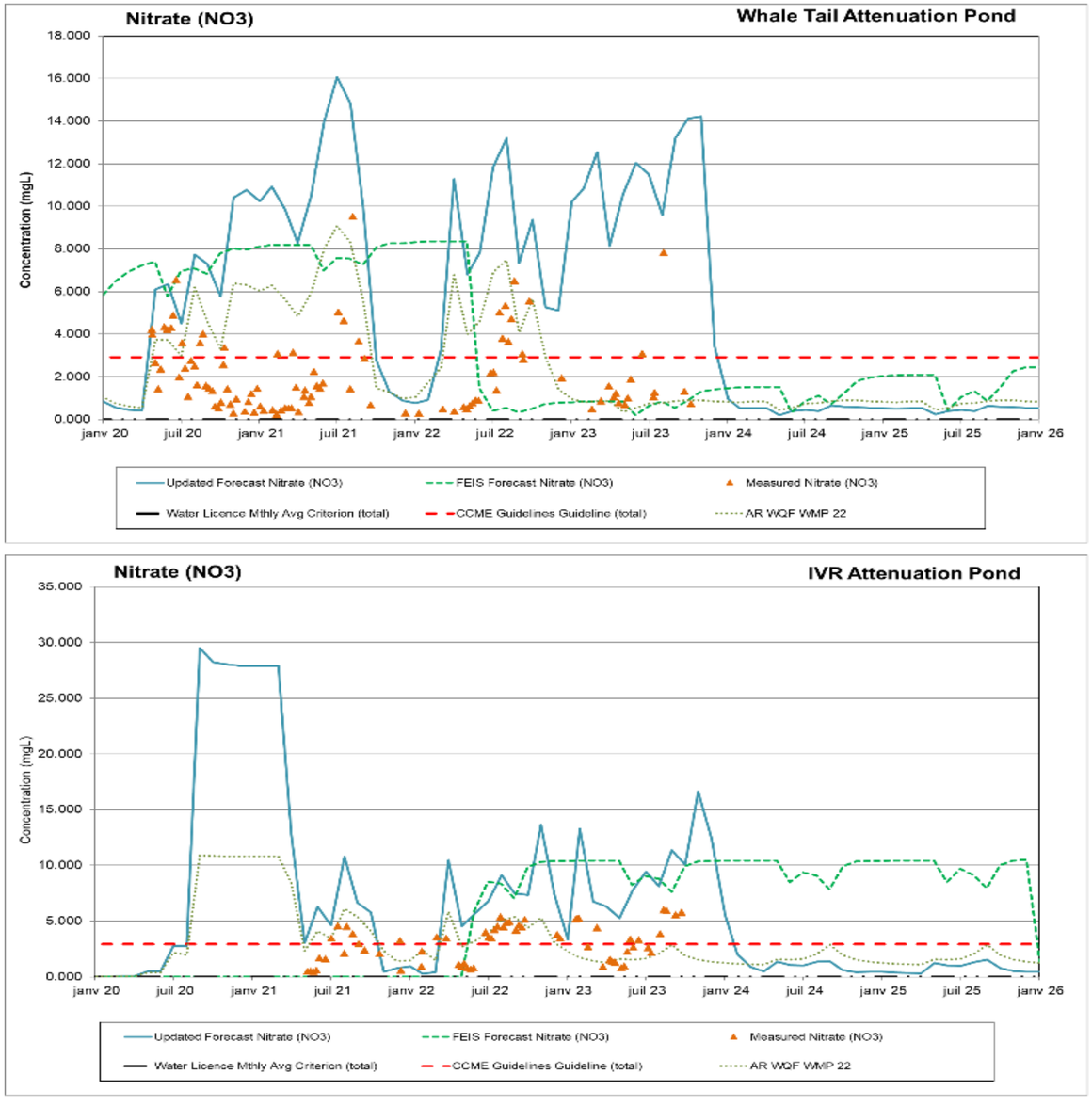


Figure A-5 : Total Ammonia (NH3+NH4) Forecasted Concentrations during Operation



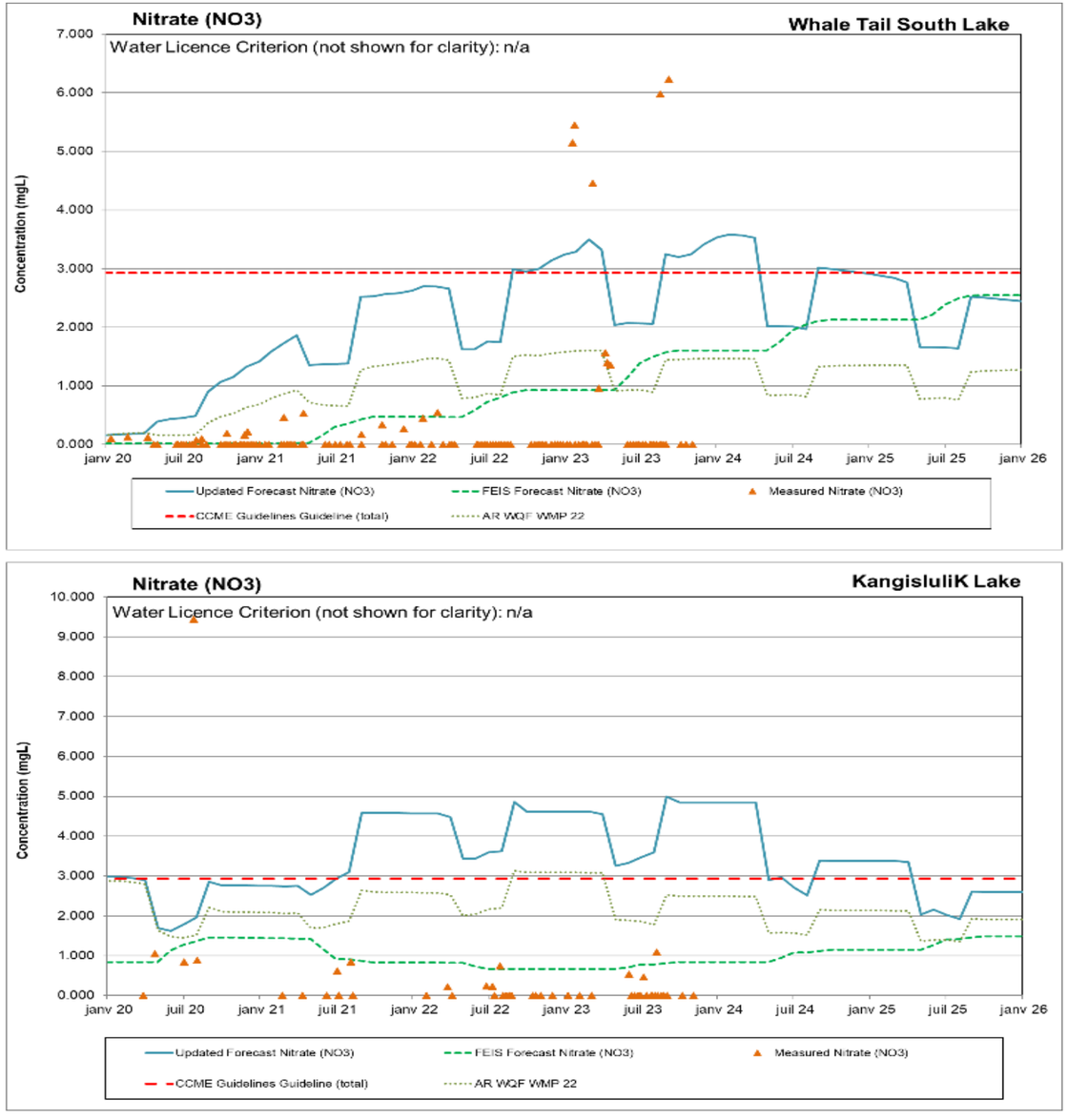
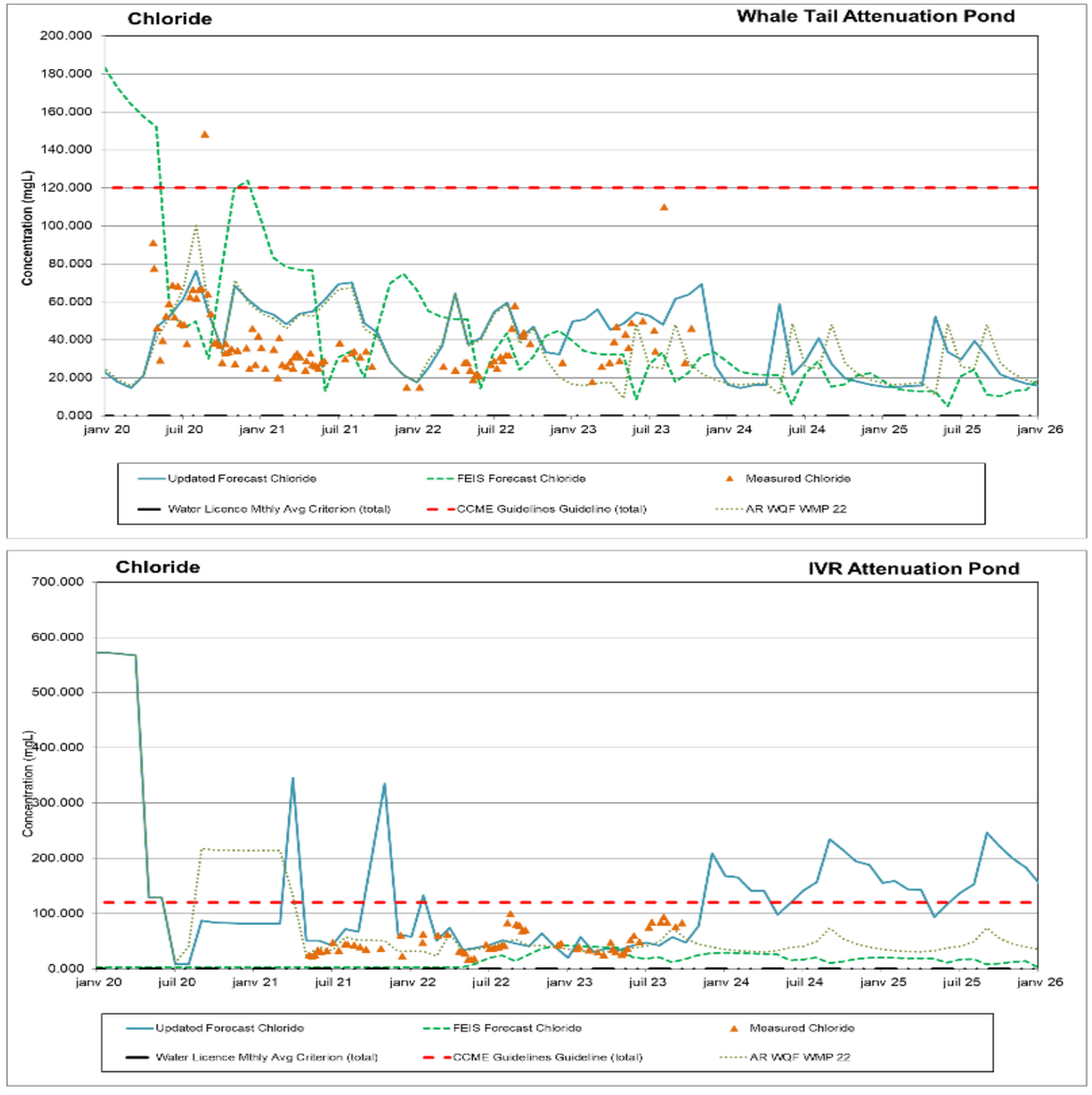


Figure A-5 : Nitrate (NO3) Forecasted Concentrations during Operation



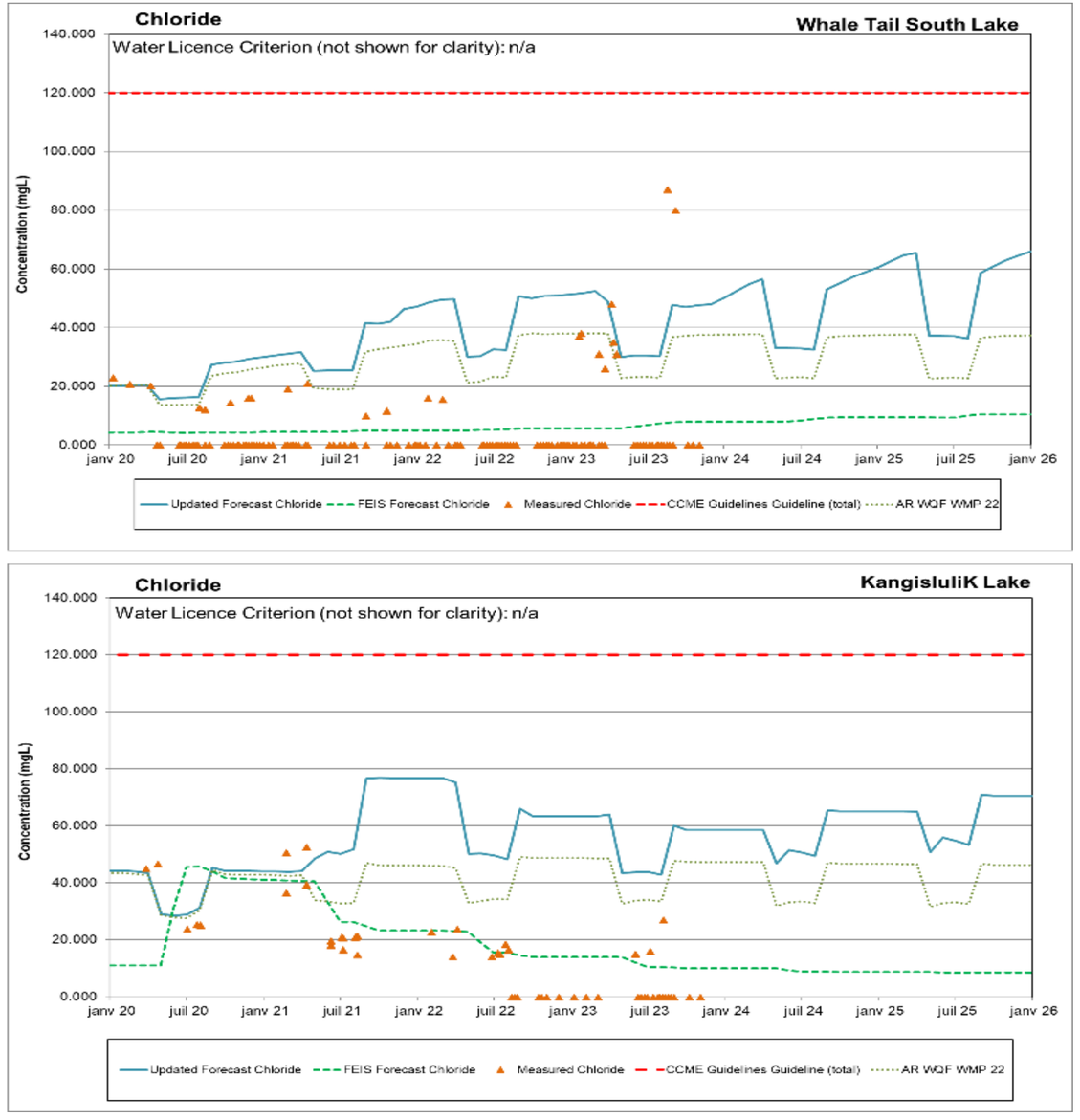
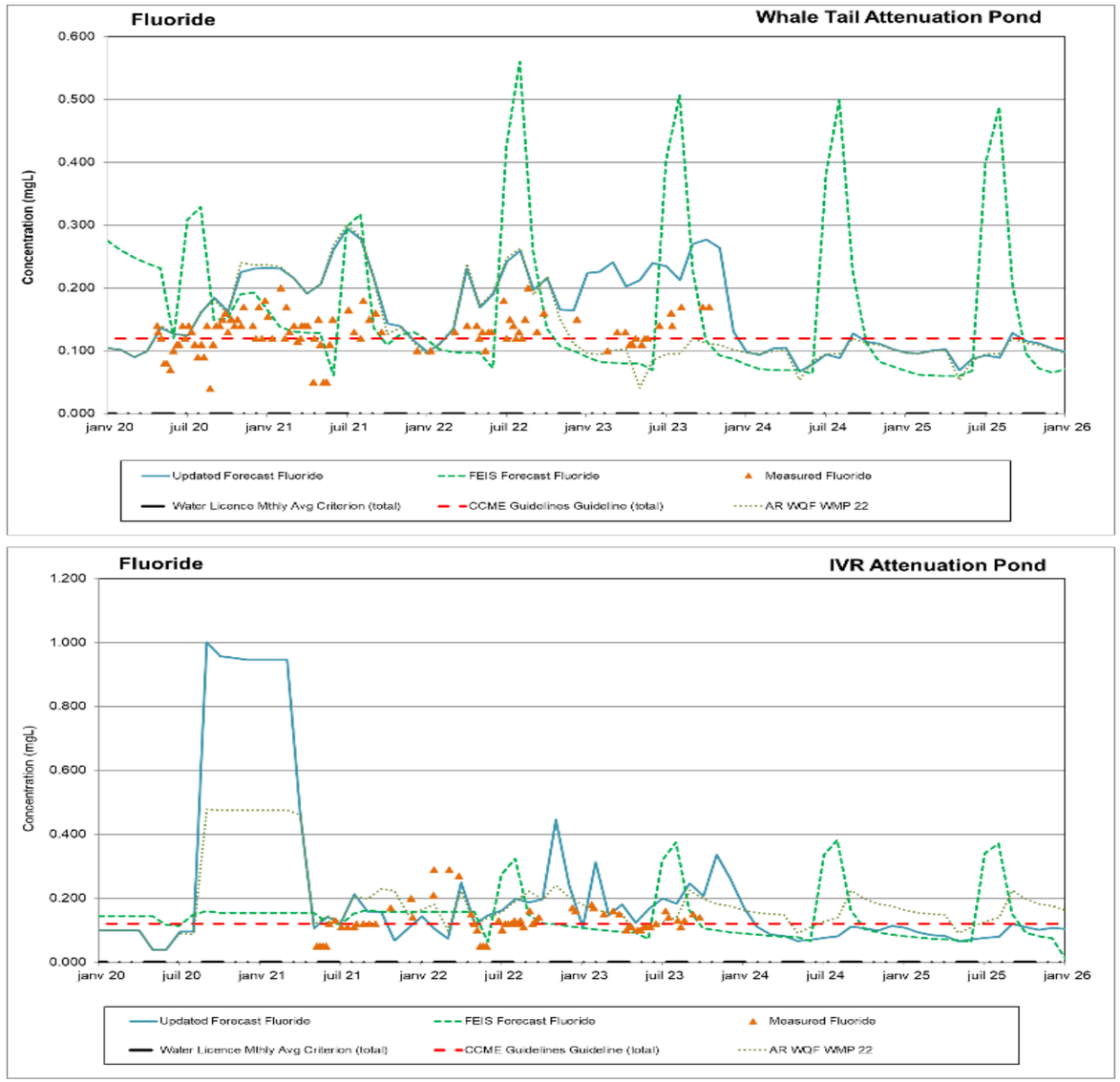


Figure A-6 : Chloride (Cl) Forecasted Concentrations during Operation



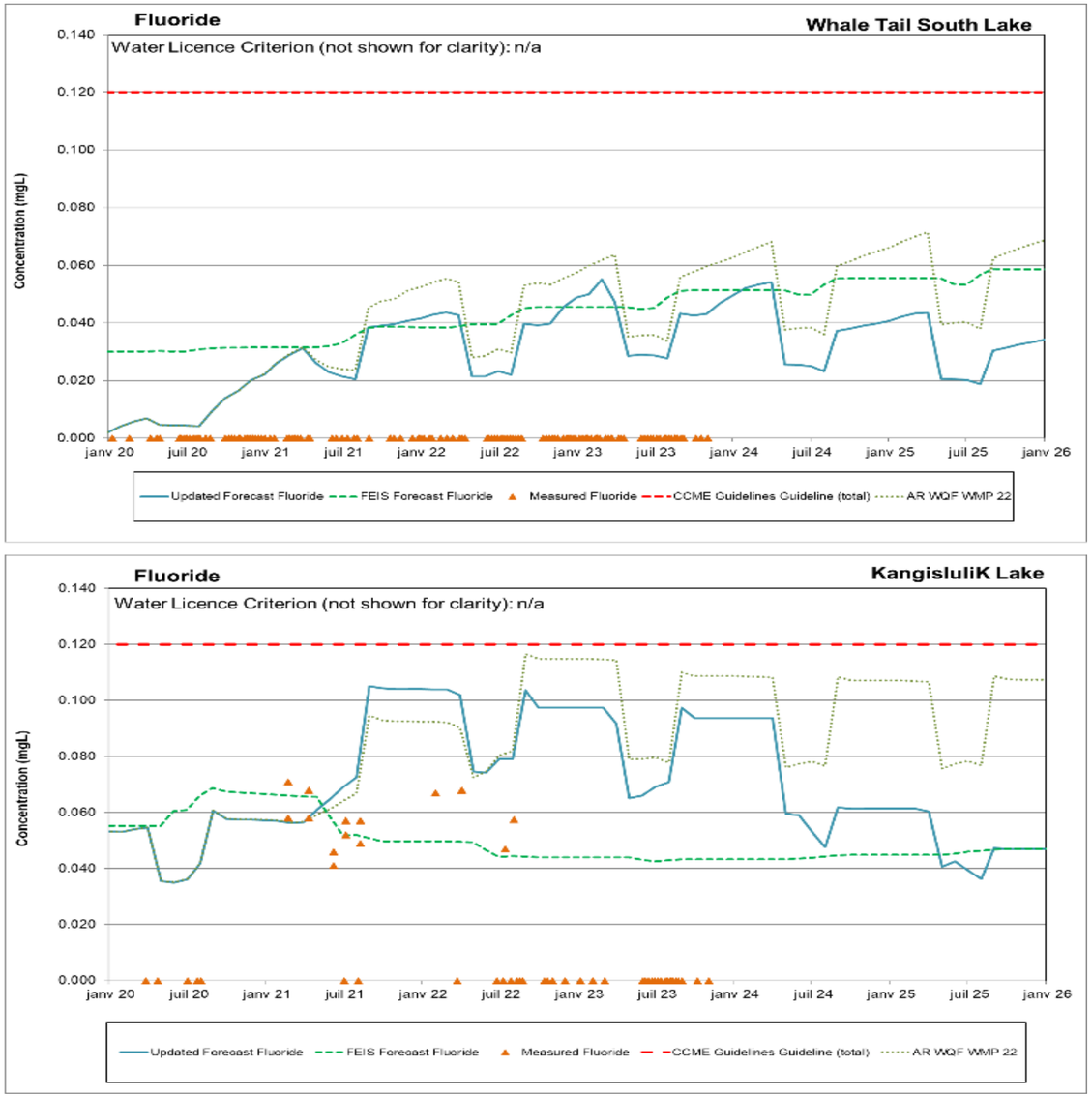


Figure A-7 : Fluoride (F) Forecasted Concentrations during Operation

APPENDIX E • 2023 FRESHET ACTION PLAN

AGNICO EAGLE

MEADOWBANK COMPLEX

WHALE TAIL FRESHET ACTION PLAN

MARCH 2024

VERSION 6

EXECUTIVE SUMMARY

The purpose of this Freshet Action Plan is to identify areas of concern around the Whale Tail Mine 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 South Whale Tail Diversion Channel, and the IVR Diversion Channel.

It is important for all water management and associated infrastructure to 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 2024 preparation works and roles and responsibilities is presented in the attached Appendix 1 (2024 Freshet Action Plan Procedures). Appendix 1 will be updated yearly to reflect changes in conditions at the Whale Tail site.

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
05	Agnico	Internal	March 2023	2	Figure 2-1 was updated
				5	Included the new pads that were built in 2022
				6	Section 2.13 was added to include the east and west abutment
				Appendix 2	Included a 2023 version
				Appendix 3	Included a 2023 version - Modifications with the pit transfers
06	Agnico	Internal	March 2024	4	Section 2.4 was updated
				6	Section 2.13 was removed
				Appendix 1	Freshet action plan procedure was updated
				Appendix 2	Snow management map was updated
				Appendix 3	Freshet flowchart and plan view were updated

Prepared By: Meadowbank Environment

Approved by:

Eric Haley

Environment & Critical Infrastructure Superintendant

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2.3 IVR Waste Rock Storage Facility 3
2.4 South Whale Tail Diversion Channel 4
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2.10 Haul road Culverts and bridges 5
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Appendix 1 - 2024 Freshet Action Plan Procedure

Appendix 2 – 2023-2024 Snow Management Map

Appendix 3 – 2024 Freshet flowchart and plan view

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 offsite 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 2024 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.

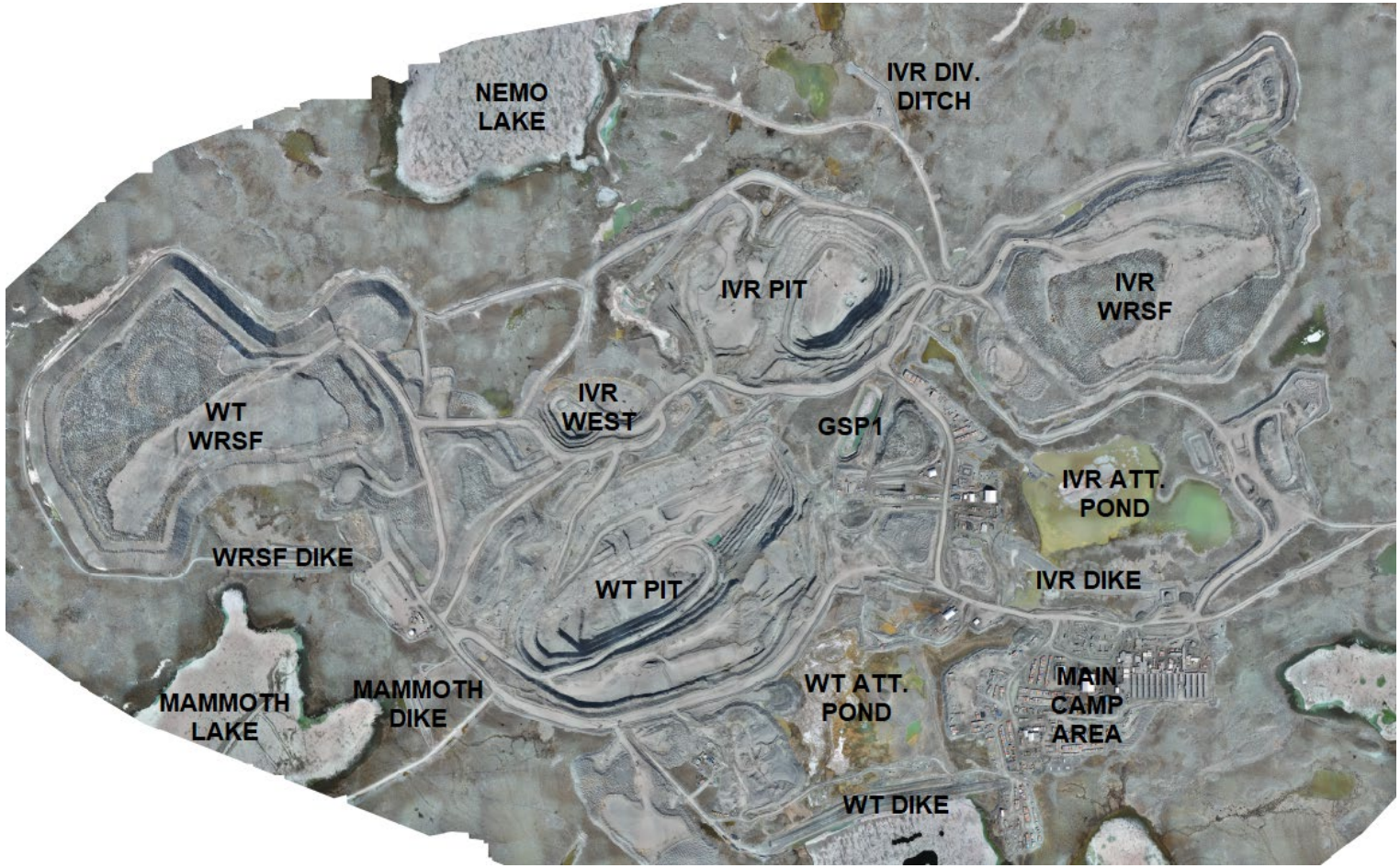
The main areas of concern are:

- Mining pits and pit walls;
- Whale Tail WRSF and WRSF pond;
- IVR WRSF;
- South Whale Tail Diversion Channel;
- IVR Diversion Channel;
- Whale Tail Attenuation pond;
- Whale Tail Dike Seepage;
- IVR Attenuation Pond;
- WT Fuel Tank farms;
- Haul road culverts and bridges;
- Pads and roads built since 2022;
- Underground WRSF; and
- Whale Tail Dike East and West Abutment.

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

Table 2-1 View of Whale Tail Areas



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 the North-West sump;
    - At IVR Pit this include the sump located in former Lake A47 (A47-S sump) and in the Northern area of IVR Pit (A47-N sump).

2.2 WHALE TAIL WASTE ROCK STORAGE FACILITY

Runoff from the Whale Tail Waste Rock Storage Facility (WT WRSF) is collected by 5 sumps (WT WRSF 1,2,3,4 & 5) 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 or IVR 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 Kangislulik 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 Attenuation Pond either by pumping or by gravity.

The IVR Waste 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 fie[1]ld 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 SOUTH WHALE TAIL 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 Kangislulik Lake.

2.5 IVI DIVERSION CHANNEL

The IVR Diversion Channel was constructed during the fall of 2020. The IVR Diversion Channel 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 Kangislulik Lake. A 10-day notice prior to changing effluent discharge locations must be submitted to CIRNAC. 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 Kangislulik Lake, or may be sent to the AsWTP, for treatment, if required, prior to discharge. A 10-day notice prior to changing effluent discharge locations must be submitted to CIRNAC. 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 BULK FUEL STORAGE FACILITIES

The main fuel farm containments were built in 2019, and the underground genset secondary containment was built in 2021. All fuel tank farms 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 CIRNAC 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. The volume of water pumped from secondary containment(s) will be track by the Energy and Infrastructure Department and/or Environment Department. 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 2023-2024 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 pads;
- Nemo Lake pad;
- Kangislulik Lake road; and

- Qamanittuaq SANA crusher pad.

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 control equipment 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.

3 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.

4 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.

APPENDIX 1

2024 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 WRSF 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	**Perform daily inspections or inspections as required, and keep records.**	Env. Department	May - until freshet complete and after rain events
		1) Maintain WRSF Pond as dry as possible	E&I	May - until freeze up
		2) Pump any water reporting to the WRSF downstream water collection system – Volumes required to be documented	E&I/Engineering	May - until freeze up
		3) Sample upstream and downstream	Env. Department	May - until freeze up
		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
2.3	**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	**SOUTH WHALE TAIL DIVERSION CHANNEL**			
2.4	South Whale Tail Diversion Channel	1) Perform daily inspections or inspections as required, and keep records.	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 CHANNEL**			
2.5	IVR Diversion Channel	1) Perform daily inspections or inspections as required, and keep records.	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	Bulk Fuel Storage Facilities (Main Tank Farm, Power House,	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

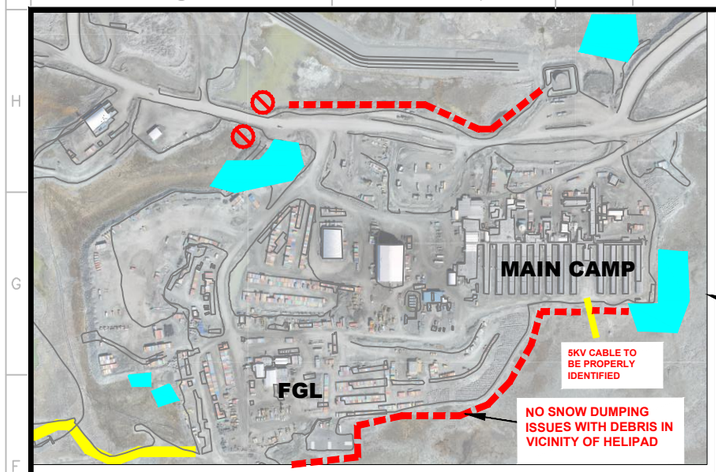
	Underground Gensets and Dyno)	2) Sample water in accordance with Water License to ensure compliance with limits prior to release.	Env. Department	Probably mid-June and September
		3) Provide notice to Inspector 10 days prior to pumping.	Env. Department	Probably mid-June and September
		4) Advise Energy 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) Perform daily inspections or inspections as required, and keep records	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**			

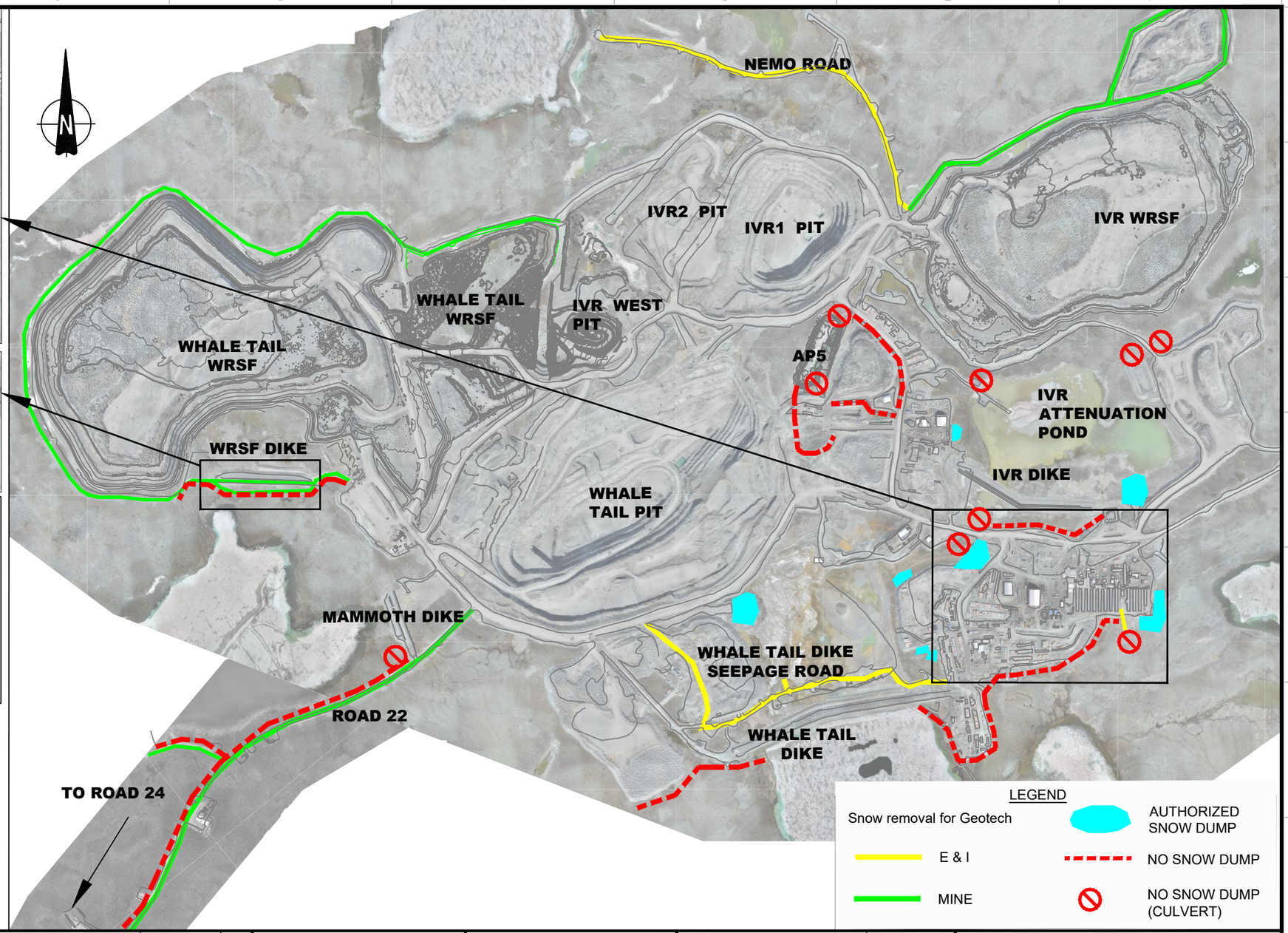
2.11	Recent pad and road constructions	1) Perform daily inspections or inspections as required, and keep records	Env. Department	May and after rain events
		2) Weekly inspection of toes of constructions built in the last year.	Env. Department	May and after rain events
		3) Sample for TSS and Turbidity 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

2023-2024 Snow Management Map

FORMAT ANSI B – LANDSCAPE





TITLE	# DWG
REFERENCE DRAWINGS	

REV	DESCRIPTION	DATE	BY
1	Snow Management 2023–2024	10–30	GB/TD
REVISIONS			

AGNICO EAGLE
MEADOWBANK

DRAWN BY	C. Pelletier	DATE 10–13–23
CHECKED BY	P. Gagnon	2023–10–19
APPROVED BY	P. Gagnon	2023–10–19
PROJECT NO.		
DATE		

TITLE
AGNICO–EAGLE – MEADOWBANK DIVISION
GEOTECHNICAL REQUIREMENTS
SNOW CLEARING MAP
2023–2024

SCALE	FILE
N.T.S.	.DWG

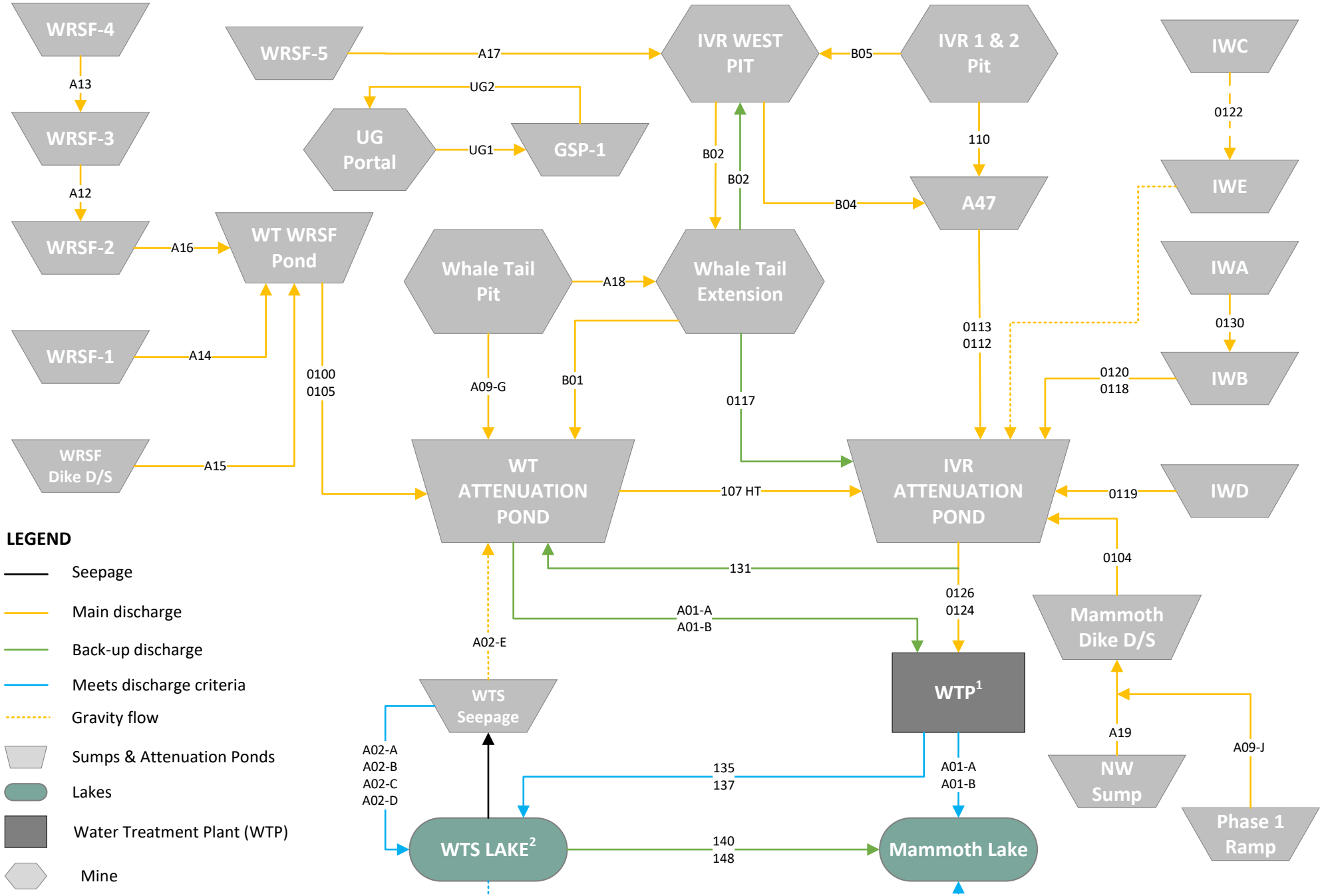
DRAWING NO.	REVISION	SHEET
		1 / 1

\\CAMBFS01\Groups\Engineering\05–Geotechnic\14– Amaruq\04– Water Management\3– Operation\7 – Snow Management\2023–2024\AMQ Snow Clearing Map 2023_PG.dwg, 19 Oct 2023

APPENDIX 3

2024 Freshet flowchart and plan view

Whale Tail Mine Freshet Detailed Flowsheet - 2024



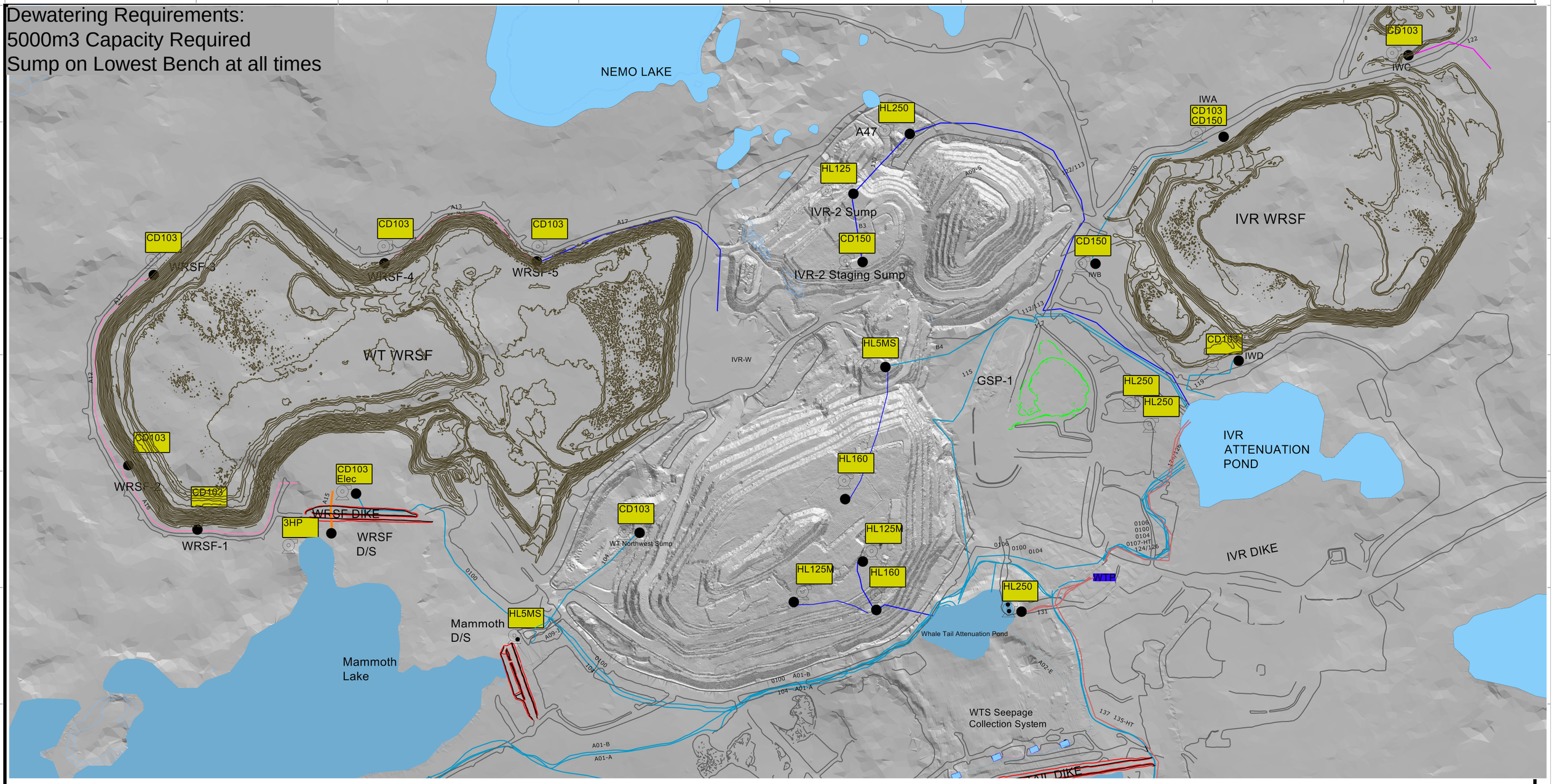
[1] WTP can be by-passed if water quality in pond meet discharge criteria.

[2] Winter discharge (End of October to End of May).

Updated by : C. Pelletier
Date: 2024-02-28

FORMAT ANSI B – LANDSCAPE

Dewatering Requirements:
5000m3 Capacity Required
Sump on Lowest Bench at all times



LEGEND	Description	Color
	4" HDPE DR11	
	4" HDPE DR17	
	4" Layflat	
	8" HDPE DR9	
	8" HDPE DR11	
	8" HDPE DR17	
	12" MineFlex	
	14" HDPE DR11	
	14" HDPE DR17	

Sump

AGNICO EAGLE
MEADOWBANK

DRAWN BY	John Gage	DATE	2023-03-11
MODIFY BY	CP	DATE	2024-03-06

TITLE
Whale Tail Mine
Freshet 2024 Plan

SCALE	DATE	FILE
1:10000	3/6/2024	

DEPARTMENT	REVISION	SHEET
ENVIRONMENT		1 / 1