Appendix 11

Meadowbank 2020 Water Management Report and Plan Version 9

MEADOWBANK GOLD MINE

2020 WATER MANAGEMENT REPORT AND PLAN

APRIL 2021

VERSION 9

EXECUTIVE SUMMARY

Agnico Eagle Mines Ltd. Meadowbank Division (Agnico) is operating the Meadowbank Gold Mine (the Mine), located on Inuit-owned surface lands in the Kivalliq region approximately 70 km north of the Hamlet of Baker Lake, Nunavut. The mine is subject to the terms and conditions of both the Project Certificate issued in accordance with the Nunavut Land Claims Agreement Article 12.5.12 on December 30, 2006, and the Nunavut Water Board Water Licence No. 2AM-MEA1530 issued in May 2020.

The Water Management Plan is updated on a yearly basis as required by the Nunavut Water Board Water License 2AM-MEA1530. This report presents an updated version of the Water Management Plan 2019 and provides a revised site-wide Water Balance. The revised Water Balance determines the demand and storage requirements of water over the life of the mine. The storage strategies and required transfers are presented. Certain concepts within the Water Balance, including pit flooding, remain at the conceptual stage for now and will be further detailed in the Final Mine Closure and Reclamation Plan to be submitted prior to final closure in accordance with the current Type A Water License.

This water management plan update considers changes in the observed natural pit water inflows, updated tailings deposition parameters, mine and milling life schedule and production rate, tailings management strategy and pit backfilling strategy.

The principal additions to this update are:

- The Central Dike seepage status update;
- Updated tailings deposition strategy, including In-Pit Deposition;
- Updated the pit flooding strategy.

The 2020 Water Management Plan also includes the 2020 Water Quality Forecast Update (Appendix C), the 2020 Freshet Action Plan (Appendix D) and the 2020 Ammonia Management Plan (Appendix E).

Recommendations obtained during the 2020 Meadowbank Annual Report Review have been included in the 2020 Water Management Plan.

The most significant update to the plans is the updated tailings deposition strategy including In-Pit Deposition. From January 2020 to August 2020, tailings deposition was ongoing in Goose Pit. In August 2020, tailing deposition was moved to Pit E for the rest of the year. In 2021, it is planned to continue tailings deposition in Pit E.

The site wide Water Balance has been optimized to ensure minimal freshwater consumption while operating a new tailing disposal system. In early 2021, to minimize freshwater consumption, an increase reclaim flow is expected starting March 2021 due to a reclaim system upgrade.

Central Dike seepage flow has varied between 6 and 313 m^3/h in 2020 and appears to be keep fluctuating around a base value of 50 m^3/h, which is the value at which it stabilized when the South Cell was emptied. The orange precipitate was observed again in 2020, as predicted. The flows observed closely follow the ones predicted by Golder in the latest seepage modelling and stability assessment performed in 2017. Pumping to the South Cell or the Pits has continued until present day and will continue until pit flooding occurs.

Pit flooding volumes and sequencing (including Portage, Goose and Vault Pits) is presented in this report. Once aggregates capping cover is completed in Goose and Portage Pits, active and passive reflooding can begin. In Goose Pit, reflooding is scheduled to begin in mid-2028 and completed in mid-2029. In Portage Pits, reflooding is scheduled to begin in summer-2030 and will be completed in-2034. For Vault Pit, active and passive reflooding is schedule to begin in early 2028. Active reflooding should be completed 2033. Once water quality in the flooded pits meet discharge criteria, dike reconnection of the surrounding structures will occur to reconnect the Portage and Goose areas to Second Portage Lake and Vault area to Wally Lake. Agnico plans three years of monitoring to assess the pit water quality prior to reconnection. It should be understood that the dikes will not be reconnected unless the water quality objective are met. The pit water quality will need to have stabilized and been consistently acceptable for discharge to the receiving environment.

A water quality forecasting model was completed by SNC Lavalin (SNC, 2021) for the life of mine and is included in this report. The mandate of this report is to analyze the water quality as we proceed through the operating life of the mine and the pit flooding operation in order to determine the needs for potential treatment of contaminants of concern. Based on current water quality, the most recent Water Balance and life of mine exercise, the report identifies certain contaminants, such as aluminum, arsenic, cadmium, chromium, copper, iron, lead, nickel, selenium, thallium, chloride, fluoride, sulphate, and total ammonia/total nitrogen equivalent, which may require removal treatment in order for the pit water quality to meet water quality objective. Agnico is committed to updating this forecast on a yearly basis.

The Freshet Action Plan (2021) is included in the 2020 Water Management Plan as Appendix D. The plan details the RSF seepage issue at ST-16 and the Assay Road seepage as well as providing revised monitoring. The 2021 Ammonia Management Plan is included in Appendix E.

DOCUMENT CONTROL

Version	Date (YM)	Section	Page	Revision
1	March 2014	ALL	-	Revision for the 2012 Water Management Plan (by SNC) according to the updated Life of Mine and water management strategies
2	March 2015	ALL	-	Revision for the 2013 Water Management Plan (by Agnico) according to the updated Life of Mine and water management strategies
3	October 2015	ALL	-	Update of sections according to Water License renewal conditions
4	March 2016	ALL	-	Revision of the 2014 Water Management Plan (by Agnico) according to the updated Life of Mine and water management strategies
5	March 2017	ALL	-	Revision of the 2015 Water Management Plan (by Agnico) according to the updated Life of Mine and water management strategies
6	March 2018	ALL	-	Revision of the 2016 Water Management Plan (by Agnico) according to the updated Life of Mine and water management strategies
7	March 2019	ALL	-	Revision of the 2017 Water Management Plan (by Agnico) according to the updated Life of Mine and water management strategies
8	March 2020	ALL	-	Revision of the 2018 Water Management Plan (by Agnico) according to the updated Life of Mine and water management strategies
9	April 2021	ALL	-	Revision of the 2019 Water Management Plan (by Agnico) according to the updated Life of Mine and water management strategies

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Approved by:

Alexandre Lavallee – Water & Tailings Superintendent

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

1 INTRODUCTION

Agnico Eagle Mines Ltd. (Agnico) has been operating the Meadowbank Gold Mine since 2008, officially beginning production in 2010. The mine is located approximately 70km north of the Hamlet of Baker Lake, Nunavut. The mine is subject to the terms and conditions of both the Project Certificate issued in accordance with the Nunavut Land Claims Agreement Article 12.5.12 on December 30, 2006, and the Nunavut Water Board Water License No. 2AM-MEA1530 issued on May 2020.

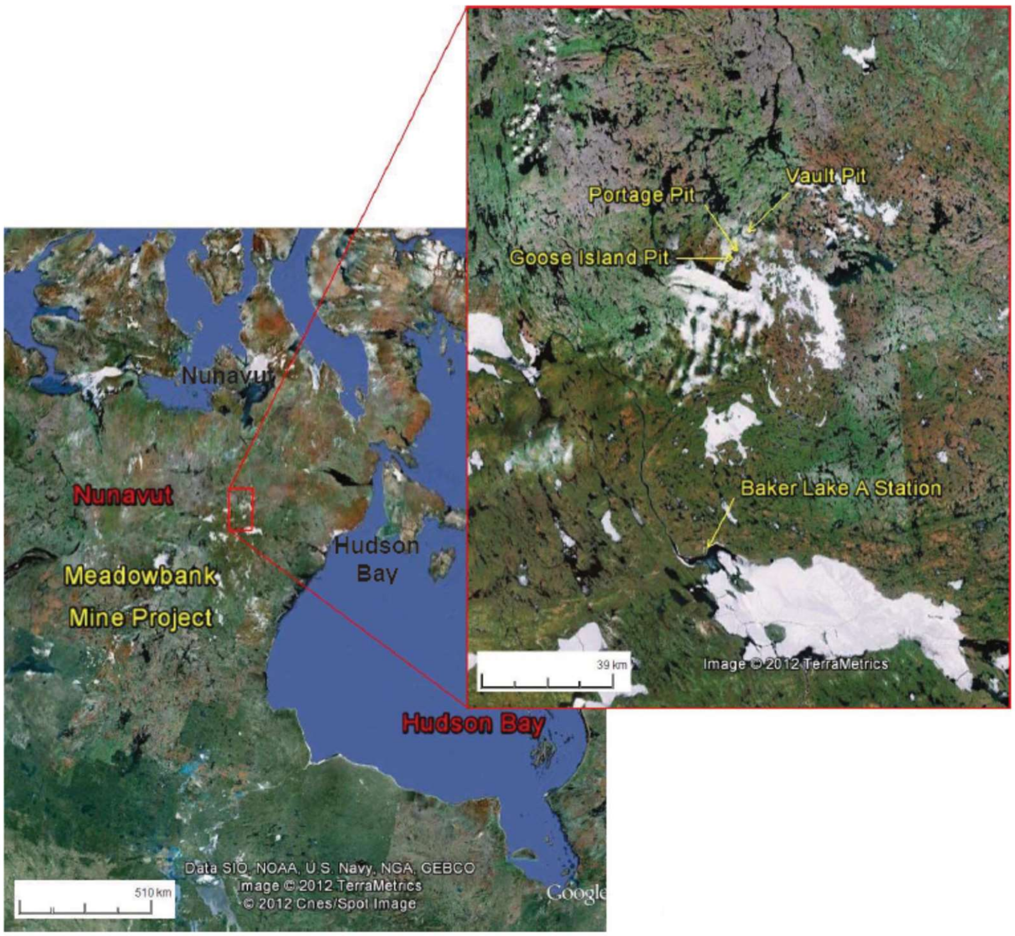
This report presents an updated version of the Water Management Plan 2019 and provides a revised site-wide water balance that determines the demand and storage requirements of water over the life of the mine (LOM). The storage strategies and required transfers are detailed in this document. Certain concepts within the water balance, including pit flooding, remain at the conceptual stage and will be further detailed in the Final Mine Closure and Reclamation Plan which is to be submitted prior to mine closure in accordance with the Type A Water License.

The necessity of this water management update follows changes in the observed natural pit water inflows, updated tailings deposition parameters, changes in the tailings management strategy including the start of in-pit tailings disposal, and pit backfilling strategy.

2 BACKGROUND INFORMATION

2.1 SITE CONDITIONS

The location of the Meadowbank mine site is shown below in Figure 2.1. A close-up is also provided to show the location of the Baker Lake A Station used to obtain meteorological data.



Source: Google Earth Pro, 2012

Figure 2.1: Meadowbank mine location

2.1.1 Climate

The Meadowbank mine is located within a low Arctic Eco climate described as one of the coldest and driest regions of Canada. Arctic winter conditions occur from October through May, with temperatures ranging from +5°C to -40°C. Summer temperatures range from -5°C to +25°C with isolated rainfall increasing through September (Table 2-1).

Table 2-1: Estimated average monthly climate data – Baker Lake

Month	Max. Air Temp. (°C)	Min. Air Temp. (°C)	Rainfall (mm)	Snowfall (mm)	Total Precip. (mm)	Lake Evap. (mm)	Min. Relative Humidity (%)	Max. Relative Humidity (%)	Wind Speed (km/h)	Soil Temp. (°C)
January	-29.1	-35.5	0	6.9	6.9	0	67.1	75.9	16.3	-25.5
February	-27.8	-35.2	0	6.0	6.1	0	66.6	76.5	16.0	-28.1
March	-22.3	-30.5	0.0	9.2	9.2	0	68.4	81.4	16.9	-24.9
April	-13.3	-22.5	0.4	13.6	14.0	0	71.3	90.1	17.3	-18.1
May	-3.1	-9.9	5.2	7.7	12.8	0	75.7	97.2	18.9	-8.0
June	7.6	0.0	18.6	3.1	21.7	8.8	62.6	97.2	16.4	2.0
July	16.8	7.2	38.6	0.0	38.6	99.2	47.5	94.3	15.1	10.5
August	13.3	6.4	42.8	0.6	43.4	100.4	59.2	97.7	18.4	9.3
September	5.7	0.9	35.2	6.7	41.9	39.5	70.8	98.6	19.3	3.6
October	-5.0	-10.6	6.5	22.6	29.1	0.1	83.1	97.4	21.4	-2.8
November	-14.8	-22.0	0.2	16.2	16.4	0	80.6	91.1	17.9	-11.7
December	-23.3	-29.9	0	9.4	9.5	0	73.3	82.7	17.7	-19.9

Note: Data from Baker Lake A station is available from 1946 to 2011. During this period, the data quality is good, with the exception of years 1946 to 1949, and 1993, which were removed from the compilation.

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

The prevailing winds at Meadowbank for both the winter and summer months are from the northwest. A maximum daily wind gust of 93 km/h was recorded on September 1, 2009. Light to moderate snowfall is accompanied by variable winds up to 70 km/h, creating large, deep drifts and occasional whiteout conditions. Skies tend to be more overcast in winter than in summer.

Table 2.1 presents monthly rainfall, snowfall and total precipitation values for the mine site. August is the wettest month, with a total precipitation of 43.4 mm, and February is the driest month, with a total precipitation of 6.1 mm. During an average year, the total precipitation is 249.6 mm, split between 147.5 mm of rainfall and 102.1 mm of snowfall precipitation.

2.1.2 Faults

Two main faults are inferred in the Portage deposit area and included in the groundwater model (Golder, 2011) used to estimate groundwater inflows and brackish water upwelling to the pits during mine life. These are the Bay Zone Fault and the Second Portage Fault shown in Figure 2.2 by clear blue lines.

The Second Portage fault trends to the northwest under Central Dike and the Tailings Storage Facilities (TSF), roughly parallel to the orientation of Second Portage Lake. This fault is a potential pathway for the Central Dike Seepage.

The Bay Zone Fault trends from South to North and crosses Third Portage Lake, Goose Pit and Portage Pit. This fault is a potential pathway for water infiltration from Third Portage Lake into Goose Pit.

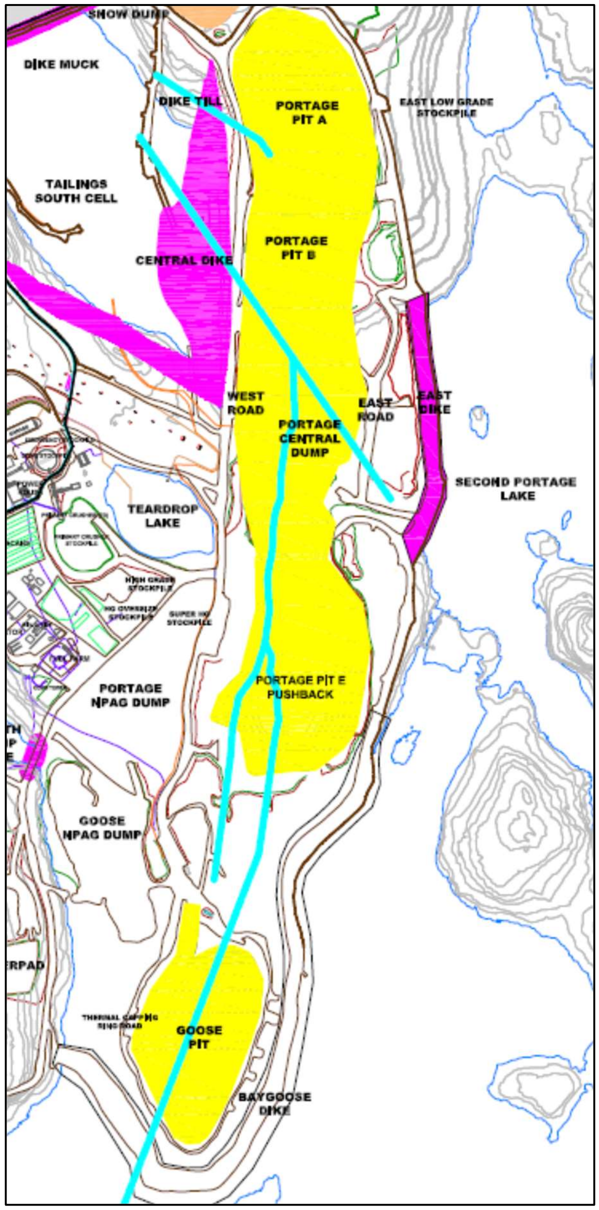


Figure 2.2: Portage Pit area – fault location

2.1.3 Permafrost

The Meadowbank Gold Mine is in an area of continuous permafrost. Lake ice thicknesses of between 1.5 m and 2.5 m have been encountered during geotechnical investigations performed mid to late spring. Taliks (areas of permanently unfrozen ground) could be expected where water depth is and/or has been greater than about 2 to 2.5 m. Based on thermal studies and measurements of ground temperatures (Golder, 2003), the depth of permafrost at site is estimated to be in the order of 450 to 550 m, depending on proximity to lakes. The depth of the active layer ranges from about 1 to 1.5 m based on depth of overburden, vegetation and organics, and proximity to lakes.

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

2.1.4 Hydrology

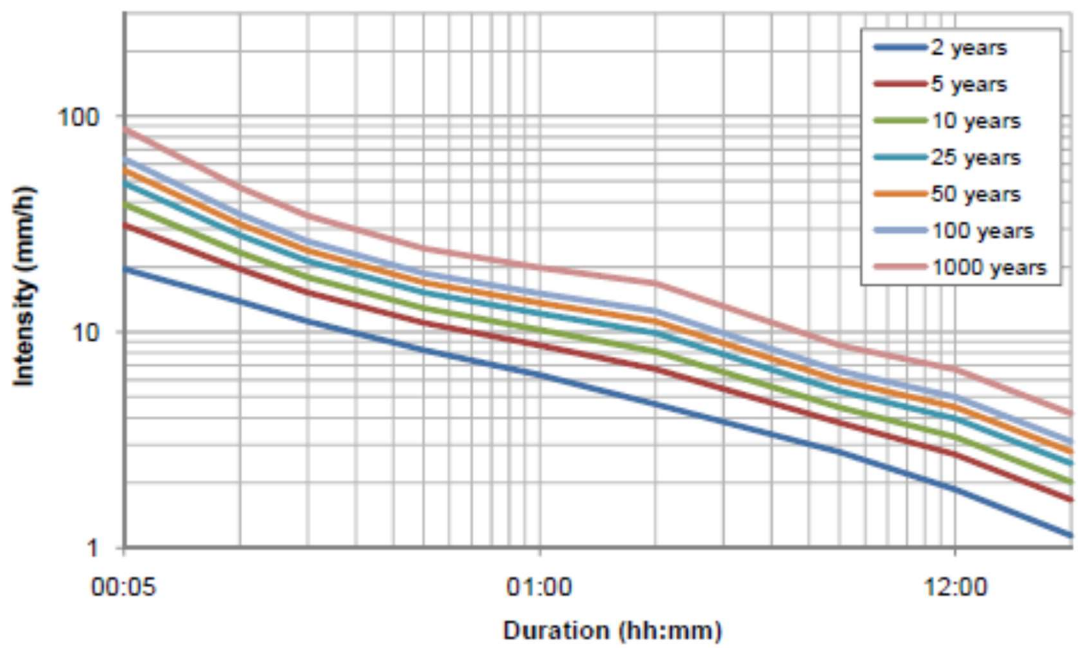
As shown above in Table 2.1, the Baker Lake A meteorological station was used to tabulate the monthly precipitation data. Using this data, SNC-Lavalin completed a Log-Pearson 3 probability distribution to determine the annual precipitation for different return periods. The results of this statistical analysis are presented in Table 2-2.

Table 2-2: Total annual precipitation for varying return periods

Return Period (years)	Precipitation (mm)
2	246
5	295
10	322
20	345
100	391

Source: SNC-Lavalin 2012 Water Management Plan (SNC, 2013)

Intensity duration frequency curves (IDF) computed by SNC-Lavalin (SNC, 2013) from the Baker Lake A meteorological station are presented in Figure 2.3. These IDF curves are for precipitations of short duration (5min-24hrs) based on data between 1987 and 2006.



Source: SNC-Lavalin Water Management Plan 2013 (SNC,2013)

Figure 2.3: Baker Lake A meteorological IDF curves

The beginning of freshet (spring period) varies from year to year however it has been observed that the winter snow accumulation (October to May) usually begins to melt at the beginning June and continues throughout the month.

2.2 MINING OPERATION DESCRIPTION

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

The South Portage deposit is located on a peninsula and extends northward under Second Portage Lake (2PL) and southward under Third Portage Lake (3PL). The North Portage deposit is located on the northern shore of 2PL. The South, Center and North Portage deposits are mined as a single pit, termed the Portage Pit, which extends approximately 2 km in a north-south direction. Portage Pit is isolated from the Second Portage Lake by the East Dike built in 2008-2009 and the Bay-Goose Dike (Pit E) built from 2009 to 2011.

The Goose deposit lies approximately 1 km to the south of the Portage deposit, and beneath 3PL. The pit is isolated from the Second Portage Lake and the Third Portage Lake by the Bay-Goose Dike and the South Camp Dike constructed in 2009-2010.

The Vault deposit is located adjacent to Vault Lake, approximately 6 km north of the Portage deposits. The deposit is isolated from the Wally Lake by the Vault Dike built in 2013.

No mining activity was done in 2020 at the Meadowbank site.

2.2.1 Portage Pit Area

The Portage area located between the Third Portage Lake (3PL) and Second Portage Lake (2PL) contains most of the infrastructure of the Meadowbank mine site including but not limited to the Portage Rock Storage Facility (RSF), the North and South Tailings Storage Facilities (NC & SC TSF), the mill, the camp and the Stormwater Management Pond. The East Dike was constructed to isolate the north portion of the Portage Pit from the 2PL. Subsequent renaming of the pits led to the nomenclature for each pit (A, B, C, D and E). Mining in Pits A, B, C, and D (representing the North and Central Portage area) is completed. In 2018, an expansion was done in pit E to extend mining and mill feed to bridge the gap between the end of mining activities in Meadowbank and the start of mining activities at the Amaruq project. Mining activities in the Portage area ended in October 2019. Figure 2.4 presents the evolution of the Portage Pit and Figure 2.5 shows the Portage Pit Area and surrounding infrastructures.

Seepage through the East Dike from Second Portage Lake (2PL), reaches the Portage Pit area. This seepage is controlled via two seepage collection points. From the collection points, the water is pumped to a common pipe and discharged back into 2PL since 2014. The discharge is subject to MDMER and Water License effluent criteria. The water is discharged through a diffuser located in 2PL. If the seepage does not meet criteria (mainly related to TSS), the pumping is redirected toward the Portage Pit, specifically in the Portage Central Waste Rock area, where the water flows in the rock backfill pores towards Pit B and Pit E in two sumps located at the northern and southern toe of the dump (sampling locations ST-17 and ST-19 respectively). Since mid-August 2017, the water collected in ST-17 and ST-19 is transferred into inactive portions of the Portage Pit. In 2020, water transfer was only from Goose Pit to Pit A to ensure sufficient volume for reclaim operations.

Inflow of water into the bottom benches of Pit C and D has been observed before these pits were backfilled. Several areas of these pits are in an inferred talik area and cross a regional fault (Golder, 2009). The water inflow is thus likely a combination of ground and surface water. Pits A and B are in the permafrost and a minimal amount of water has been observed historically. Some water inflow is observed from the Pit E south wall since 2015. This inflow is mixed with other water sources at the bottom of Pit E such as natural runoff.

On May 17th, 2019 Agnico received approval of amendment No.3 to the Meadowbank Type A water license 2AM-MEA1526 which permitted in-pit tailings disposal to take place within the Portage Pit. Tailings disposal occurred in Goose Pit starting in July 2019. Water was transferred from the active in-pit tailings disposal site in Goose Pit to Pit A from May to September 2020. For more information regarding in-pit tailings disposal please refer to the Waste Rock & Tailings Management Plan.

2.2.1.1 Tailings Storage Facility

The Tailings Storage Facility (TSF) is located with the Portage Pit Area and consists of the South Cell and the North Cell. These cells are delimited by tailings retaining dikes that were progressively built as capacity was required. More detailed information on the TSF can be found in the Waste Rock and Tailings Management Plan.

Stormwater Dike, constructed in 2009-2010, is an internal dike (El. 150m) that divides the TSF in the North and South Cell.

The peripheral structures of the North Cell are SD1, SD2, RF1 and RF2 built to El. 150 m from 2009 to 2010. In 2018, a North Cell Internal Structure (NCIS) was built in the northern part of the North Cell over the existing tailings (variable El. From 152 to 154 m) to increase the tailings storage capacity.

The peripheral structures of the South Cell are SD3, SD4, SD5 and Central Dike built to El. 145 m from 2012 to 2018.

The diversion ditches (East and West), located around the perimeter of the North Cell TSF and the Portage RSF, are designed to collect the non-contact water runoff from the surrounding watershed. The ditches are divided in two sections – the west and east sections, to divert non-contact water respectively to Third Portage Lake and to NP1 Lake. On the west end of the diversion ditches, an Interception Sump was constructed in 2014-2015. The objective of the interception sump is to collect runoff water from the west section of the diversion ditches and to retain it until the total suspended solids in the water have reached the criteria allowing discharge to the environment.

As part of the construction of the NCIS, a ditch was built during the summer of 2018 in the rockfill capping located downstream of the NCIS, but within the TSF footprint, in order to avoid ponding of water against the structure. One sump was also built in a natural topographic low point at the north of the cell and upstream of RF2, within the tailings footprint areas.

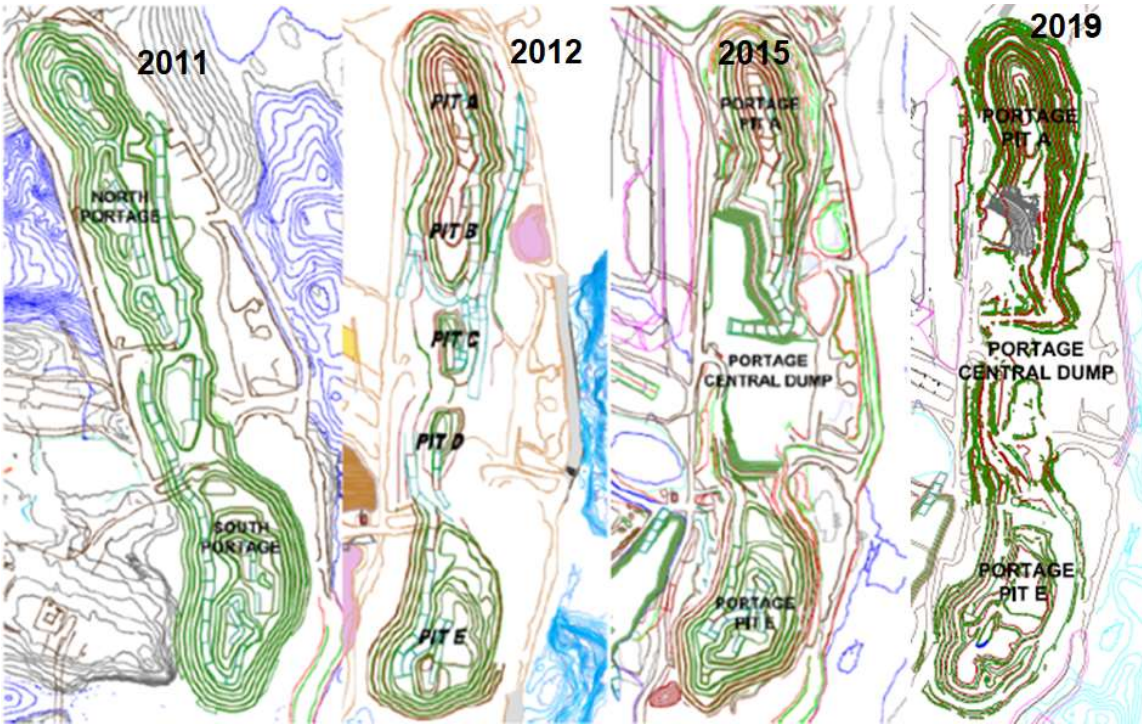


Figure 2.4: Portage Pit terminology

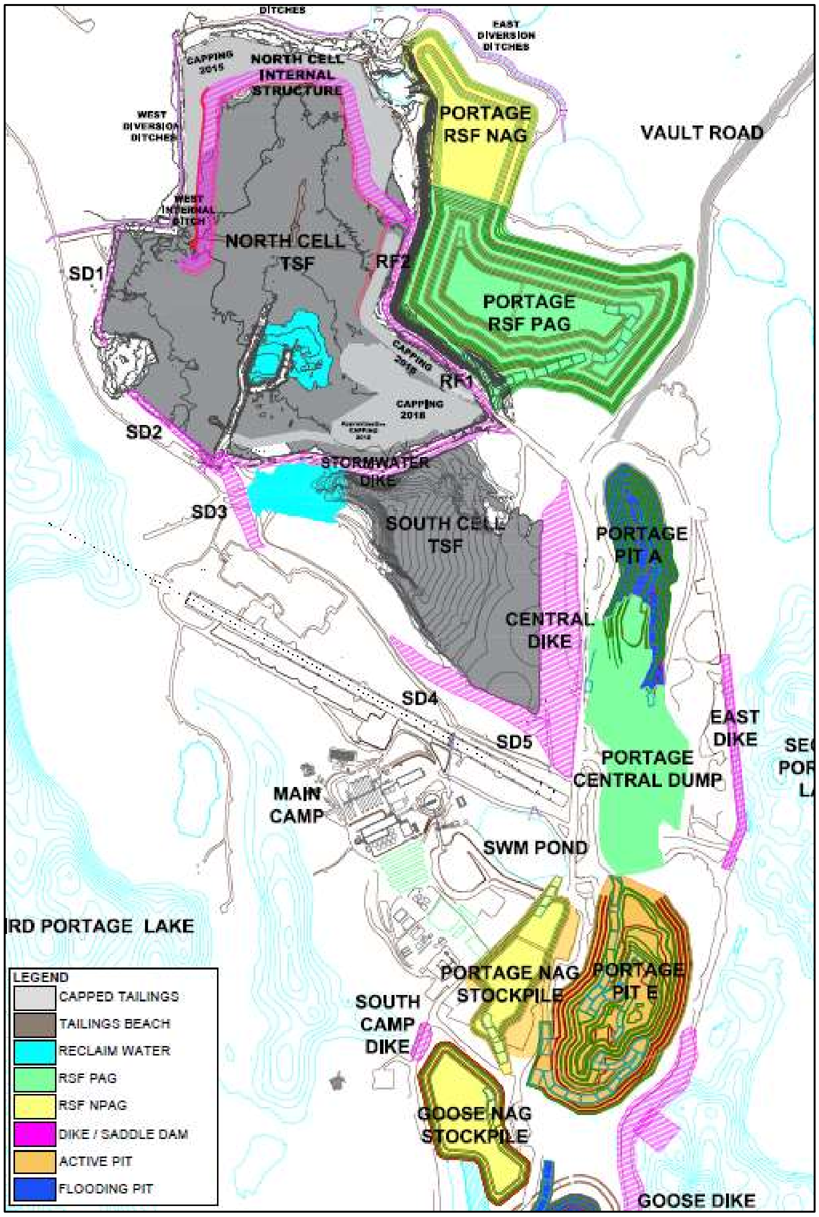


Figure 2.5: Portage Pit area map

2.2.2 Goose Pit Area

The Goose Pit area is located within the dewatered portion of 3PL. Mining in Goose pit began in 2012 and was completed in April 2015. As part of the Central Dike situation mitigation strategy, water transfers from Central Dike downstream toe to Goose Pit occurred in 2015, 2017, and 2019. On May 17th, 2019 Agnico received approval of amendment No.3 to the Meadowbank Type A water license 2AM-MEA1526 which permitted in-pit tailings disposal to take place within the Goose Pit. Tailings disposal began in the Goose Pit on July 5th, 2019 and has been ongoing since. The Goose Pit area and surrounding infrastructures are illustrated in Figure 2.6. For more information regarding in-pit tailings disposal please refer to the Waste Rock & tailings Management Plan.

The majority of Goose Pit is located within a talik zone. Historically, the main water inflow into Goose Pit has been observed from the fractured quartzite rock formation located in the South and West wall. No major water inflow has been observed from the eastern wall associated with the iron formation type rock with small volcanic lenses. Between the quartzite and iron formation, there is a large band of ultramafic rock (soapstone).

Since mining was completed in 2015, pumping of water out of the pit has ceased and the inflows are collected in the pit as part of the natural flooding process. Since July 5th, 2019 tailings have also been deposited in the pit. As previously mentioned, water is transferred from the active in-pit tailings disposal site in Goose Pit to Pit A. This water transfer was executed to ensure sufficient capacity in Goose pit for tailings deposition, which continued until August 2020 (refer to section 3.1.10 for further details). Pit water quality is being monitored during in-pit tailings disposal with tailings testing. Currently there is no safe access to sample pit water, but sampling will be investigated as a possibility during in-pit deposition water transfers. When deposition is completed in Goose Pit pore water sampling will occur. The beginning of the active flooding (water transferred from Third Portage Lake) of the Goose Pit is planned once in-pit tailings disposal is complete. Section 3.2.1 discusses the Goose Pit reflooding.

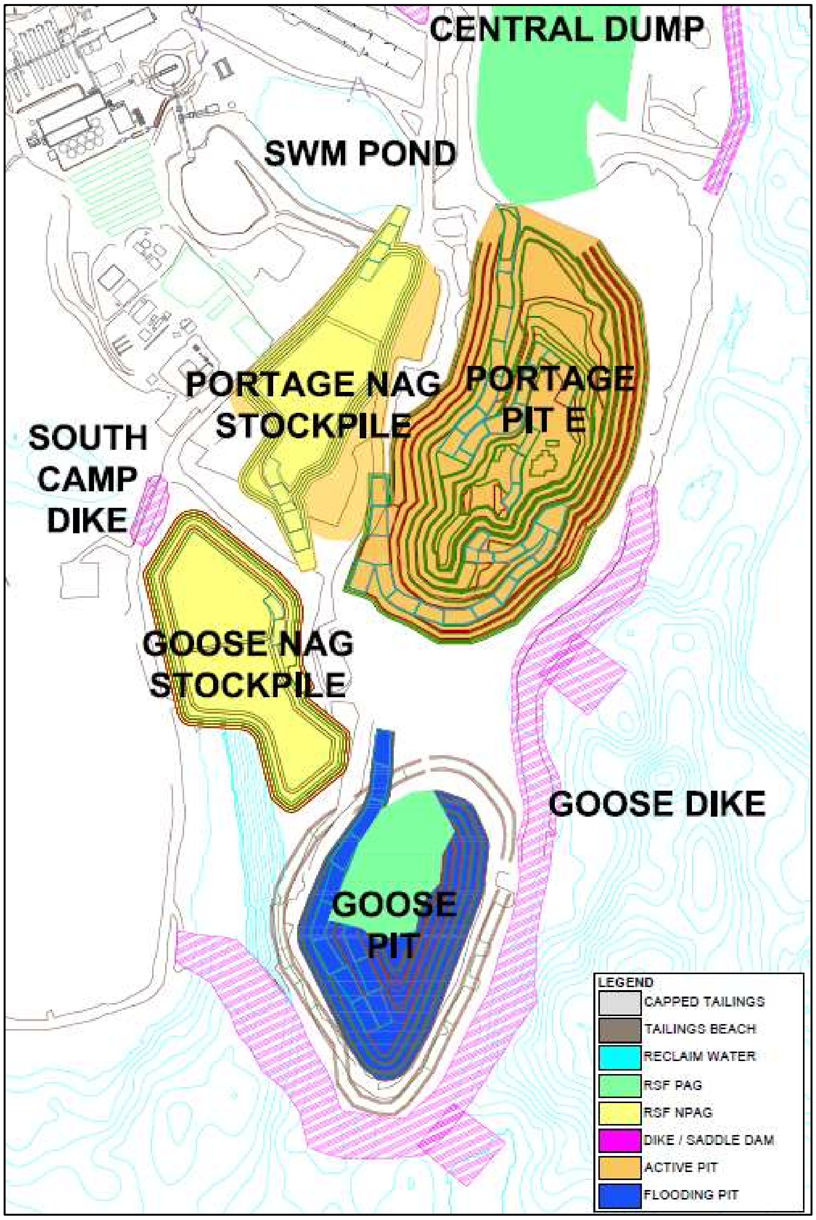


Figure 2.6: Goose Pit area map

2.2.3 Vault Pit Area

The infrastructure of the Vault Pit area includes the Vault RSF, ore and marginal pads, Vault dike, Vault pit, Phaser Pit, BB Phaser Pit, Vault attenuation pond and emergency shelter. Figure 2.7 illustrates the Vault Pit area and surrounding infrastructure.

The Vault Pit, which is located under the former Vault Lake, required the construction of Vault dike in order to isolate the mining area from Wally Lake and allow dewatering. Dewatering was undertaken in 2013 and 2014. This allowed for mining of Vault Pit and the creation of the Vault Attenuation Pond (ATP).

The Vault pit began pre-mining operations in 2013 with active mining starting in 2014 and completed in March 2019. The dewatering of Phaser Lake occurred during summer 2016 in preparation for mining activity in Phaser and BB Phaser Pit. Phaser Pit mining activities were completed in October 2018. BB Phaser mining began in early 2018 and was completed in June 2019.

The Vault Attenuation Pond is comprised of four internal ponds named Pond A, B C & D. These ponds promote natural settling of the suspended solids. Water levels of these ponds are measured by surveying with a GPS at the location indicated by the red crosses on Figure 2.7.

The majority of the water migrating into the pits of the Vault area has been observed to be runoff from the surrounding area during the freshet period. A localized water venue from the East wall of Vault Pit was historically above the 109 masl catch bench. During mining operations this inflow was collected in a sump located at the toe of the wall and then pumped into the Vault Attenuation pond. Agnico is currently monitoring water quality of the sump in sampling locations ST-23 in accordance with the Water License.

Water pumped from Vault Pit during mining operations was directed to the Vault Attenuation Pond (ATP). When required, the water was discharged into Wally Lake in accordance with the Water License and the MDMER. Agnico monitors the water quality of the Vault Attenuation Pond and discharge at sampling locations ST-25 and ST-10 respectively in accordance with the Water License. Water treatment for TSS has not been required to date to meet MDMER and Water license criteria prior to discharging in Wally Lake

Since mining operations in Vault area are completed there is no more active water management in that area. Passive reflooding is ongoing until active reflooding commence at the end of life of mine planned in 2026. As a result, no further discharges to Wally Lake are planned.

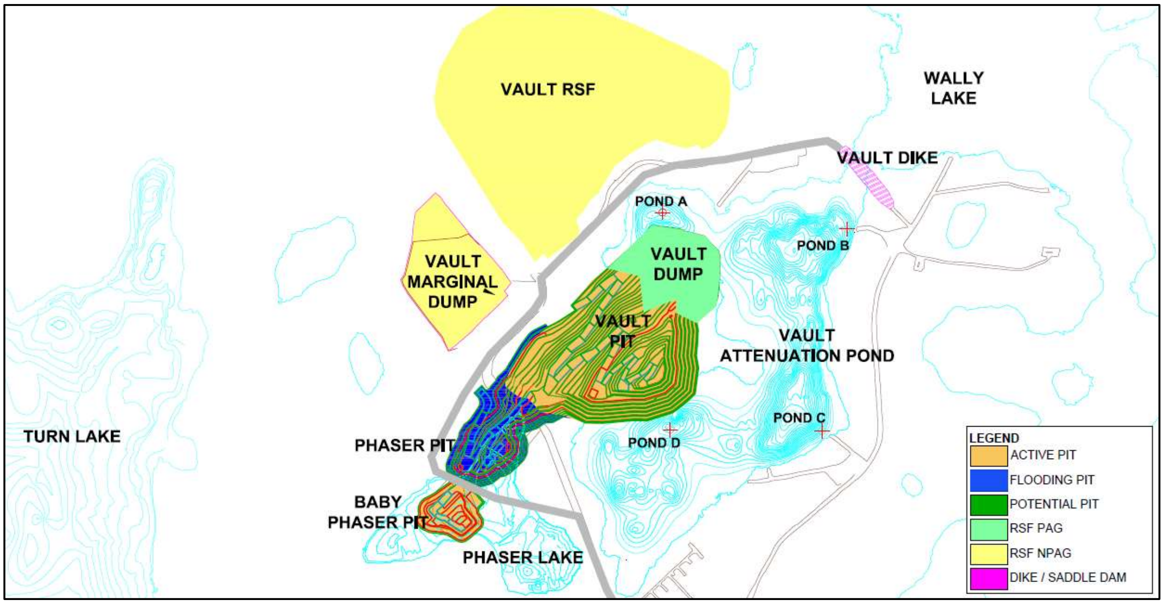


Figure 2.7: Vault Pit area map

2.3 LIFE OF MINE DESCRIPTION

The life-of-mine (LOM) presented in this report reflects an updated mining plan from the LOM summarized in the 2020 Whale Tail Project Waste Rock Management Plan, as it pertains to the activities within the current approved license for the Meadowbank mine, as well as the Whale Tail Pit. In this updated LOM, the Meadowbank mill processes Amaruq Ore until end-of-life of the mine in 2026.

The specifics of the expected milling tonnage are summarized in Table 3.1 of that report.

2.4 CHANGES FROM THE WATER MANAGEMENT PLAN 2019

In this Water Management Plan version, revisions/modifications were made to the Water Balance for optimization purposes including:

- Fresh water consumption revision;
- Total daily mill water requirements;
- Updated tailings deposition plan showing the deposition calendar for In-Pit Tailings Disposal;
- Flooding sequence and volumes updated to consider the updated run off inflows as well as the addition of in-pit deposition at Portage and Goose Pit;
- Increased reclaim flow from planned system modification in March 2021;
- Update to the seepage section.

Further details of the modifications/revisions and their effects on the overall water management strategy will be provided in subsequent sections of the Water Management Plan.

3 WATER MANAGEMENT PLAN AND WATER BALANCE

3.1 GENERAL WATER MANAGEMENT STRATEGY

At Meadowbank, four major sources of inflow water are considered in the site water management system:

- Freshwater pumped from Third Portage Lake (for camp and mill process)
- Natural runoff
- Natural pit groundwater inflow
- Seepage inflow from the East Dike

This water is either reclaimed for the milling process or removed from the system by the following means:

- Water treatment plant effluent (if treatment necessary to meet discharge criteria)
- Non-treated effluent from the Vault attenuation pond
- Water trapped in the capillary voids of the tailings fraction in the TSF and in the in-pit tailings disposal sites
- East Dike seepage discharge into Second Portage Lake

Water trapped within the rock storage facilities area voids The Water Balance is presented in Appendix A of this report. The Water Balance is subdivided into the following items, which are discussed in detail in this section.

- Fresh Water from Third Portage
- Reclaim Tailings Water
- Mill Water
- North and South Cell TSF
- Portage Pit (divided into Pit A and Pit E)
- Goose Pit
- Water Transfers
- Model Parameters
- East Dike Seepage
- Vault Pit
- Phaser Pits (including BB Phaser) and Phaser Lake

- Vault ATP

As per the requirements concerning the Water Balance in the Water License 2AM-MEA1530 (Part E, condition 7), the Water Management Plan is be updated on an annual basis. The Water Management Plan includes a yearly updated Water Balance according to the water management strategy and the applicable LOM.

The site wide Water Balance has been optimized to ensure minimal freshwater consumption while operating a new tailing disposal system.

3.1.1 2020 Tailings Deposition Strategy

In 2020 tailings deposition occurred in Goose Pit and Pit E. From January 2020 to August 2020, tailings deposition was ongoing in Goose Pit (total of 1,371,335t). From August 2020 onwards, tailings deposition was ongoing in Pit E (total of 2,335,933t). Reclaim was taken from Pit A in 2020 (total volume of 1,376,334 m^3). The objective of this tailings deposition strategy is to ensure tailings deposition and reclaim does not occur concurrently in the same pit. More information on tailings deposition can be found in the waste rock and tailings management plan.

3.1.2 Fresh Water from Third Portage Lake

Fresh water from Third Portage Lake is pumped from a fresh water barge. The two primary consumers of fresh water are the mill with an average of 173,857 m^3/month and the camp with an average of 2,803 m^3/month in 2020. The amount pumped from the barge is tracked and reported in the water balance as per the requirement of the Type A Water License.

The freshwater consumption at the process plant in 2020 is higher compared to previous years due to higher-than-projected mill water consumption per tonne of ore and challenges with the reclaim system at Pit A (specifically placement and accessibility of the submersible pumps for trouble-shooting). Despite these increases in water consumption, the limit prescribed in the Water License was respected.

The freshwater consumed at the process plant is used as part of the milling process and is then discharged in the TSF as slurry with the tailings. Depending on the time of year, 35 – 75% of the total water volume discharged into the pits is available to be recirculated back to the process plant.

The fresh water used in the camp includes laundry facilities, cleaning, cooking and drinking water consumption. Most of the camp fresh water is returned as sewage treatment effluent to the Stormwater Management Pond, which ultimately is transferred to the TSF or Portage Pit.

The monthly average fresh water consumption rate for 2020 varied between 111-367 m^3/hr. The wide range is directly related to the many operational challenges with the reclaim system in Pit A.

The mill reclaim volumes are optimized to ensure minimal water cover over tailings, while using as little fresh water as possible to maximize in-pit space for tailings deposition.

In 2020, Agnico used a total of 2,184,110 m^3 of freshwater. Freshwater consumption in 2020 is similar in magnitude to 2019 but is projected to be lower in subsequent years due to increasing optimization of the reclaim system and implementing methods at the mill to reduce water consumption. To minimize freshwater consumption, an increase reclaim flow is expected for March 2021 due to a reclaim system upgrade.

Table 3-1 presents the 2021 monthly water consumption forecast.

Table 3-2 presents the annual water consumption forecast for 2019 to 2030, which do not include pit reflooding volumes. Refer to Section 3.2 for the pit flooding activities description and freshwater needs. More details are included in the Water Balance presented in Appendix A.

Table 3-1: 2021 Targeted water hourly consumption per month – for Mill and Camp Usage

Month	Fresh Water Flow (m^3/h)	Reclaim Water Flow (m^3/h)	Total Water Flow (m^3/h)
January	147	300	443
February	148	298	442
March	100	347	443
April	13	344	353
May	87	342	425
June	106	340	442
July	101	345	443
August	74	350	420
September	94	352	442
October	38	302	335
November	73	351	420
December	98	349	443
Average	**90**	**335**	**421**

Table 3-2: Yearly water consumption summary – Mill and Camp Usage

Year	Average Fresh Water Flow (m^3/h)	Total Fresh Water (m^3)	Average Reclaim Water Flow (m^3/h)	Total Reclaim Water (m^3)
2020	238	2,086,286	156	1,3768,394
2021	90	784,310	335	2,963,576
2022	153	1,338,169	353	3,095,496
2023	170	1,483,037	360	3,154,926
2024	186	1,635,530	346	3,036,768
2025	200	1,749,912	335	2,932,988
2026	4	35,040	324	2,834,618
2027	4	34,675	0	0
2028-2038	4	34,770	0	0

3.1.3 Reclaim Tailings Water

Reclaim tailings water represents the water reclaimed from the TSF during mill operation (North Cell, South Cell) and the Goose Pit, Pit E, and Pit A reclaim ponds. In 2020, water was reclaimed from Pit A using submersible pumps and a booster pump. The submersible pumps are moved up and down the pit ramps as the water level changes. Water is reclaimed from inactive tailings disposal pits to reduce the amount of total suspended solids sent to the mill. For the remainder of mill operations, reclaim will continue to come from the in-pit disposal pits Pit A and Pit E. A summary of the annual forecast reclaim water that will be pumped to the mill is presented in Table 3.2.

3.1.4 Mill

The average ore moisture content of the mill feed ore is used as a source of water in the water balance. This parameter is established as a percentage of mill throughput. In 2021 a total mill throughput of 3,380,630 tonnes is expected, with an average 1.86% of moisture (see Table 3-3), representing 62,880 m^3 of water content in the ore. This average moisture content is significantly higher than previous years – due to higher moisture content of Amaruq ore.

Table 3-3 shows the average moisture content used over time until closure in the water balance. The forecast average moisture content of this table is based on historical averages. The moisture content calculation is another factor used to calculate the volume of water that enters the system.

Table 3-3: Monthly average moisture content at the mill for 2021

Month	Average Moisture Content (%)
January	1.84%
February	1.45%
March	1.28%
April	2.12%
May	2.54%
June	2.50%
July	2.20%
August	2.13%
September	1.15%
October	1.88%
November	1.44%
December	1.78%
Average	**1.86%**

3.1.5 North Cell

The North Cell TSF was in operation from 2010 to 2014. Tailings deposition resumed in the North Cell from June to October 2015, from August 2018 to October 2018, and from April 2019 until July 2019.

Water inflows in the North Cell include run-off and water from tailings deposition. As per the design specifications, the level of the North Cell reclaim pond must be maintained with a two-meter freeboard with the peripheral water retaining structures, which are at 150.0masl elevation. In 2020, transfers from the North Cell to the South Cell were required from May to October. Until the closure of the cell is completed, the strategy is to transfer the water accumulating in the North Cell to the South Cell.

Runoff water (non-contact water) from the surrounding North Cell TSF watershed area is captured in the diversion ditches located north of the North Cell TSF and conveyed to the Interception Sump. From there, it is pumped into the North Cell or redirected to Third Portage Lake via the West Diversion Ditch if water quality allows.

3.1.6 South Cell

The South Cell was commissioned in November 2014 with the beginning of tailings deposition. Prior to that, this area was referred as the Portage Attenuation Pond. From October 2018 to April 2019, tailings deposition was ongoing in the South Cell. The water management strategy is to keep the water level at a minimum.

As per the design specifications, the level of the South Cell reclaim pond must maintain a two-meter freeboard with the peripheral impermeable structures, which are at 145.0masl elevation. Therefore, the pond must respect an elevation of 143.0masl. In 2020, water was transferred from the South Cell to Pit A (see Section 3.1.1). Future water transfers are planned to comply with the freeboard requirement and are discussed in sections 3.1.10 and 3.2. Water management strategies within the Water Balance reflect the tailings deposition plan presented in the 2020 Mine Waste and Tailings management plan (Agnico, 2020).

Until the closure of the cell is completed, the strategy is to transfer the water accumulating in the South Cell to Pit A. The water transfers are included in the pit flooding process. The impact on final pit water quality is considered in the yearly water quality forecast model prepared by SNC-Lavalin (Appendix C).

3.1.7 Portage Pit

As of 2020, the Portage Pit is part of the in-pit tailings disposal facility. In-pit tailings disposal started in Pit E in August 2020. Water was transferred from the Goose Pit to Pit A from May to September 2020.

The water management strategy is to maximize the reclaim to the mill, while keeping the water level high enough to promote settling of total suspended solids where tailings are being deposited. This will minimize the turbidity of reclaim water sent to the mill. The goal of this strategy is to maximize the capacity in the pits to continue tailings deposition until end of milling operations in 2026.

In 2020, water was transferred from South Cell to Pit A in July and September. Water will continue to be transferred to the Portage Pit from the South Cell to minimize water accumulation until closure capping is completed. Portage Pit will be flooded with Third Portage Lake water during closure once the pit water quality meets discharge criteria. The pit flooding strategy will continue to be refined based on the Water Quality Forecast completed each year (Appendix C).

The Portage Pit natural inflow is modelled based on measured onsite data from 2013 to 2015. This inflow includes runoff water, groundwater and a part of the East Dike seepage water, which is pumped back to Second Portage Lake when discharge criteria are met.

Historical field observations revealed an inflow from the bottom benches of Pit C and D. Since these areas are completed and backfilled with rockfill, water can accumulate in the rockfill porosity voids. It is likely that the water inflow is filling up the porosity voids of the Portage Central Dump to some extent. It is anticipated that additional inflow could occur at the bottom of Pit A and E as there will be an increased hydraulic gradient compared to the surrounding water (from possible GW and surface water from Second Portage Lake). Water inflows are observed from the Pit E south wall since 2015.

3.1.8 Goose Pit

As of 2019 the Goose Pit is part of the in-pit tailings disposal facility. Tailings disposal continued until August 2020.

The water management strategy is to keep the water level in Goose Pit at a high enough level to promote settling to reduce the amount of total suspended solids that are sent to the Portage Pits during Goose Pit water transfer operations. This is balanced with the volume required to place the tailings expected during mining operations.

In 2020, no water was transferred to Goose Pit (see Section 3.1.1). Water was transferred out of Goose Pit to Pit A from May to September 2020. Water management strategies within the Water Balance reflect the tailings deposition plan presented in the 2020 Mine Waste Rock and Tailings management plan (Agnico, 2020).

The impact of the water transfers and in-pit tailings disposal on final pit water quality is considered in the yearly water quality forecast model prepared by SNC-Lavalin (Appendix C). In addition, Goose Pit will be flooded with Third Portage Lake water during closure once the pit water quality meets discharge criteria.

The Goose Pit natural inflow is modelled based on measured onsite data from 2013 to 2015. When referring back to the initial estimates originating from the 2012 SNC Water Management Plan (SNC 2013), an increase was observed in the water inflow during the mining of the bottom benches of Goose, which could be attributable to an increased hydraulic head as vertical mining progressed. It was historically observed that the pit inflow diminishes during the winter due to the freezing of the pit walls.

According to the inflow model, a total inflow of 389,350m^3 was accumulated in Goose pit in 2020, coming from runoff and groundwater inflows, excluding water transfers. This is higher than inflows in previous years, which reduces the requirement for mechanical flooding in closure. More details are presented in section 3.2.1.

3.1.9 Vault Pits Area

No water was discharged from the Vault area to Wally Lake in 2020, as passive flooding is ongoing. More details are presented in section 3.1.10 Water Transfers.

3.1.10 Water Transfers

Water transfers from various locations around the site are required to reduce freshwater consumption, optimize basin storage, optimize the Water Balance in general and maintain the good working order of the different facilities around the mine site. They are also required to prevent off site environmental impacts.

3.1.10.1 TSF Water Transfers

In order to maintain an adequate reclaim pond (operating volume and water quality), minimize freshwater consumption, and perform closure, water transfers within the tailings storage facilities and pits are required throughout their operating life and in closure. As shown in Table 3-4 water transfers from the North Cell to the South Cell are required for adequate operation and closure of the North Cell.

Until complete Cell closure, water reporting to the North Cell will be transferred to the South Cell, and then either sent to the mill for reclaim, or sent to Pit A, to maintain the cells dry. This represents an annual water transfer of approximately 450,000 m^3 from South Cell to Pit A. This volume includes Interception Sump, WEP, SD3-4-5, ST-16, as well the natural inflow to the cells, which are considered as transfers into the TSF.

In 2020, water was transferred from Goose Pit to Pit A (total volume of 1,376,334 m^3), and Central Dike Downstream pond to Pit A (total volume of 447,910 m^3). Water transfers from Goose Pit to Pit A are required to secure sufficient capacity in Goose pit while ensuring sufficient volume available in Pit A for reclaim operations. The projected water elevation in Goose Pit in June 2021 is 113.56masl. In 2021, it is planned to send 1,091,635 m^3 to Pit E from Goose Pit, to maintain a 3m tailings covering in Pit E and to ensure sufficient water volume for reclaim operations.

Water transfers from Saddle Dams SD3-4-5 downstream sump to the TSF are required to keep the dike downstream area free of water. These transfers totalized 86,089 m^3 in 2020.

Water transfers from the Stormwater Management Pond (SMP) are required each summer. In 2020, 91,040m^3 was transferred from SMP to the South Cell.

In 2020, 353,202 m^3 of water from the Western diversion ditches reporting to the Interception Sump was pumped to the North Cell. Agnico will promote natural drainage of the western diversion ditches non-contact water into Third Portage Lake if the water quality meets the required Water License criteria.

In 2020, 115,868 m^3 of water ponding in the Waste Extension Pool (WEP) and Waste Rock Seepage Pond (ST-16) was transferred into the North Cell. This strategy is planned to be used until closure.

The Central Dike seepage is included in the water balance with a 1:1 ratio (South Cell reclaim water to seep water) based on the conclusion of the steady flow test performed in October 2015.

Table 3-4: TSF Water Transfers

Year	TSF Water Transfers - During Operations (m³)														
	North Cell to South Cell	SMP to South Cell	SMP to Pit A	South Cell to Pit A	South Cell to Goose	Goose to Pit A	Goose to Pit E	Pit A to Pit E	SD 3, 4 & 5 to South Cell	SD 1, 2, NCA-D, NCIS to North Cell	Interception sump to North Cell	ST-16 & WEP to North Cell	CD D/S pond to Pit A	CD D/S pond to SC	CD D/S pond to Pit E
2020	327,667	91,040	0	253,452	0	1,376,334	0	0	45,117	79,258	353,202	91,877	447,910	54,734	237,631
2021	354,483	91,040	0	454,612	0	1,091,635	0	0	34,927	15,569	171,214	19,236	1,002,480	0	
2022	354,483	91,040	0	454,612	0	367,834	0	0	34,927	15,569	171,214	19,236	1,002,480	0	
2023	387,206	91,040	0	454,612	0	0	367,834	0	34,927	15,569	171,214	19,236	1,002,480	0	
2024	387,206	91,040	0	454,612	0	0	367,834	0	34,927	15,569	171,214	19,236	1,002,480	0	
2025	387,206	91,040	0	454,612	0	0	367,834	0	34,927	15,569	171,214	19,236	1,002,480	0	
2026	387,206	91,040	0	454,612	0	0	367,834	0	34,927	15,569	171,214	19,236	1,002,480	0	
Total	**2.585,454**	**637,280**	**0**	**2,981,124**	**0**	**2,835,803**	**1,471,334**	**0**	**254,679**	**172,672**	**1,380,486**	**207,293**	**6,462,790**	**0**	

3.1.10.2 Vault Treatment Plant

Table 3-5 presents the annual discharge into Wally Lake. No discharge from the Vault attenuation pond to Wally Lake was required in 2020 as passive reflooding is ongoing and the water stored in the Vault attenuation pond is draining to Vault Pit.

Table 3-5: Wally Lake annual discharge

Year	Wally Lake Annual Discharge (m³)
2016	1,008,457
2017	640,027
2018	0
2019	0

2020	0
Total	**1,648,484**

3.1.10.3 Stormwater Management Pond

The Stormwater Management Pond (SMP) is a small, shallow and fishless, water body adjacent to Portage Pit (Figure 2.2). Treated sewage effluent is discharged to this pond and is then transferred to the active area of the TSF or in-pit tailings disposal area. The pond also collects freshet flows within its catchment area, including most of the Primary Crusher area. The pond water is transferred two times per year during the warmer months – once in the spring and once in the fall with the total flow volume forecasted in the model as being 70,152 m^3. Table 3-6 presents the annual water volume transferred from the SMP. Since 2017, the SWP is used as a snow dump during wintertime. After the end of operations, this pond is planned to be transferred to the pits as part of the reflooding process, more details are outlined in section 3.1.10.1.

Table 3-6: SMP annual transfer

Year	SMP Annual Transfer (m^3)
2016	46,638
2017	103,894
2018	70,152
2019	81,981
2020	91,040

3.1.11 Seepage Collection Systems

3.1.11.1 Mill Seepage Collection system

In November 2013, Agnico observed seepage discharging west of the access road in front of the Assay lab shown on Figure 3.1. The source was determined to be leak from internal containment structures within the mill. Third Portage Lake (3PL), approximately 200 m to the west, was identified as a possible sensitive receptor. Remedial measures were undertaken immediately and this included construction of an impermeable interception/collection trench downstream of the seepage flow path. A comprehensive monitoring network and plan was implemented which included installation of monitoring wells, a recovery well (MW 203) and a water sampling program (including Third Portage Lake). To date, no contaminants have been detected in 3PL. Repairs (sealing) were completed within the mill (containment structures) in 2014 to eliminate the source of contaminants.

Seepage collected in the trench and recovery well is pumped back to the mill to be used as process water. The pumping occurs in the warmer months beginning when freshet starts. The recovery well is pumped year-round when water is available. In 2020, pumping of the mill seepage occurred from June to October. No flow of water has been pumped during winter months in the trench because of frozen conditions. Table 3.7 shows the pumped volumes from 2015 to 2020.

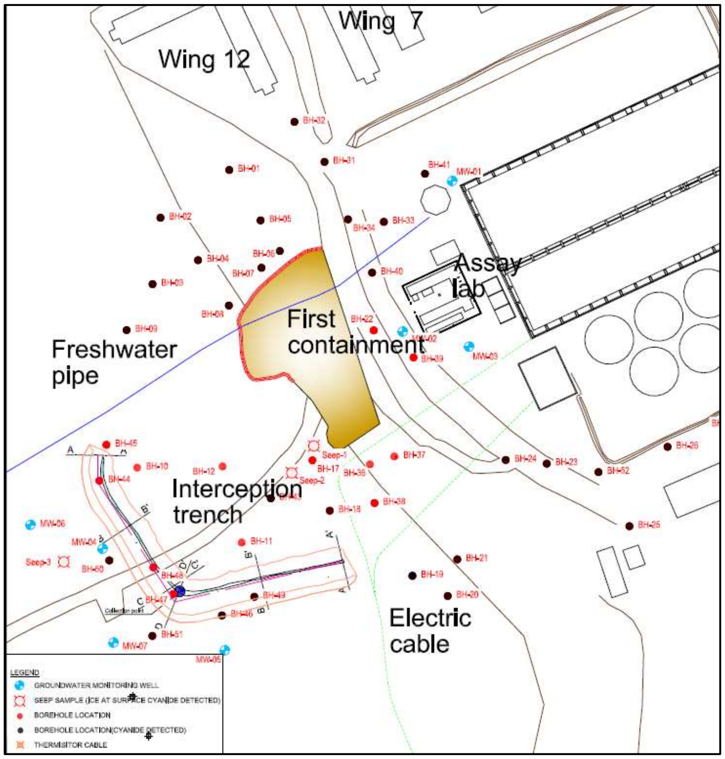


Figure 3.1: Mill Seepage Area

Table 3.7: Mill Seepage pumped volumes

Year	Mill seepage pumped volumes back to the mill (m^3)
2015	30,543
2016	11,078
2017	22,977
2018	13,645
2019	71,616
2020	32,792

3.1.11.2 ST-16 RSF Seepage management

Figure 3.2 presents the water management strategy to manage contact water from the Portage Rock Storage Facility, which consists of two sumps located behind the Portage waste dump (WEP-1 and WEP-2) to collect contact water. All water collected from these sumps is pumped back in the ST-16 sump system and then transferred to the North Cell reclaim pond.Figure **3.2: RSF seepage area**

Table 3-8 presents the volume of water pumped back to the North Cell TSF from the ST-16 location. 115,868m³ was pumped back to the North Cell TSF in 2020. Low contaminant levels are still observed by the sampling program. The Freshet Action Plan (Appendix D) presents more information on the history, long term monitoring plan and remedial actions for this location.

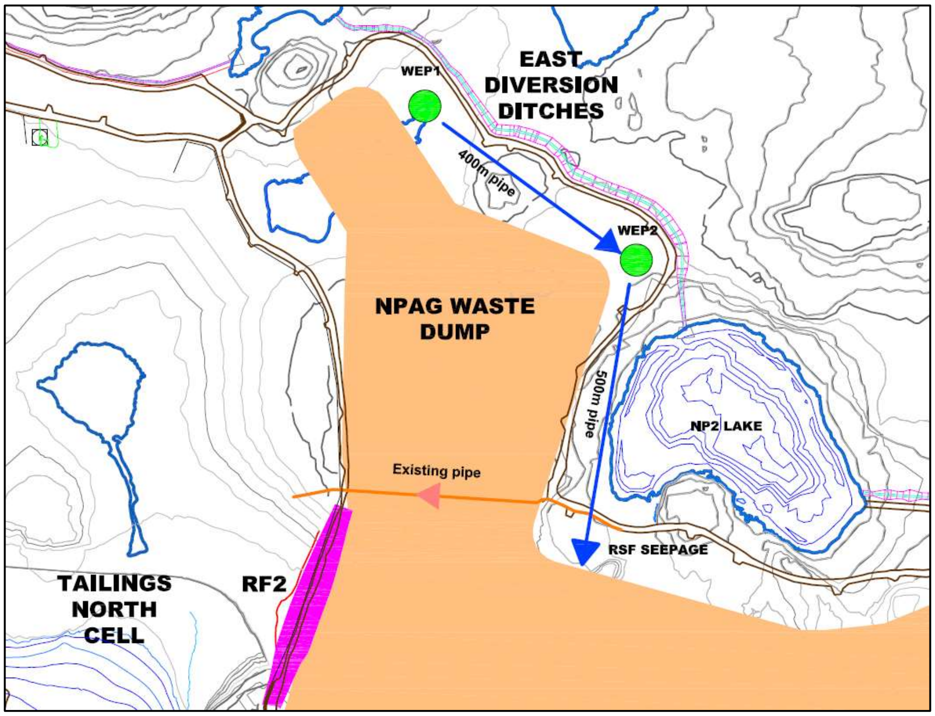


Figure 3.2: RSF seepage area

Table 3-8: ST-16 RSF Seepage 2020 pumped volumes

Month	2020 RSF seepage pumped volumes back to NC TSF (m^3)
January	0
February	0
March	0
April	0
May	0
June	57,013
July	20,033
August	15,123
September	23,699
October	0
November	0
December	0
Total	**115,868**

3.1.11.3 East Dike Seepage Collection

The East Dike Seepage system collects seepage from Second Portage Lake (2PL) as illustrated in Figure 3.3. Seepage from 2PL flows through the East Dike in two discrete locations and is collected and discharged back, as a combined flow, through a diffuser, to 2PL (in accordance with the Water License and the MDMER criteria). If water quality does not meet license or MDMER criteria, due to increased TSS during freshet period and large precipitation events in summer, the seepage water is pumped to the mined-out areas of the Portage Pit specifically in the Portage Central Waste Rock area, where the water flows through the deposited rock of the Portage Central Dump.

Table 3-9 presents the 2020 monthly volume discharged to 2PL. The total volume returned to Second Portage Lake in 2020 was 89,497m^3 and 73,470m^3 to the pit. The historical monthly average of 14,089m^3 has been applied in the water balance until 2030.

At closure, this seepage water will be an inflow for the natural reflooding process.

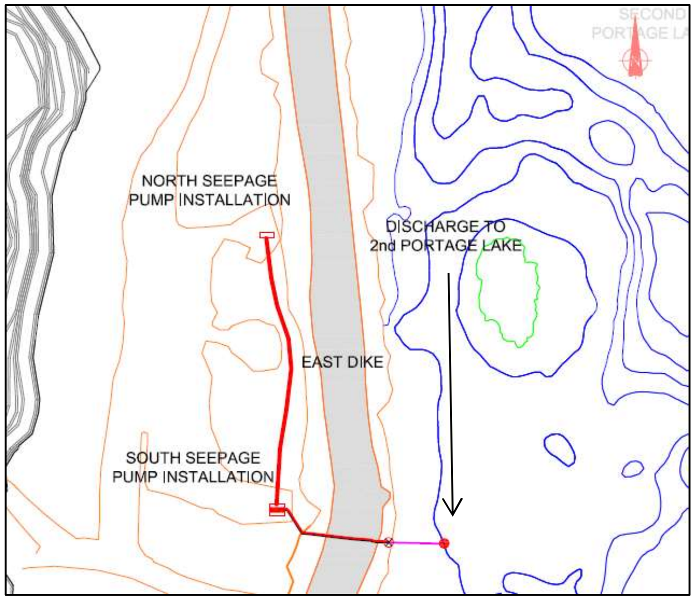


Figure 3.3: East dike pumping system

Table 3-9: East Dike Seepage 2020 pumped volumes

Month	2020 East Dike seepage pumped volumes back to 2PL (m^3)
January	13,410
February	12,537
March	13,949
April	12,548
May	14,632
June	2,040
July	0
August	0
September	0
October	2,927

November	8,401
December	9,053
Total	**89,497**

3.1.11.4 *Central Dike Seepage*

Since April 2015, the water from Central Dike downstream is pumped back in the South Cell continuously as to maintain the water level at El.115 m using the setup illustrated in Figure 3.4.

In 2020, the seepage rate continued its downward trend from 2019 and varied between 6-313 m3/h, generally fluctuating from a base value of around 50 m3/h in winter, consistently with the trend observed since the South Cell was emptied. The seepage trend is closely following the seepage flowrate modelled by Golder (2017). Table 3-10 presents the water pumped from the Central Dike D/S pond to the South Cell TSF in 2020. Figure 3.5 shows the Central Dike seepage pumping flow rate compared to the Golder seepage analysis revised in 2017. During the winter of 2020, water was pumped from the Central Dike Downstream Pond to Pit E and during summer the discharge has been switched to Pit A. This table and figure include those volumes. Pumping will continue until pit flooding occurs.

During the summer of 2020, the orange precipitate identified in 2017 reappeared in the Central Dike Downstream pond as predicted. The sampling program, established in the 2017 action plan, was stopped in 2020 but regular sampling was performed to confirm the precipitation mechanism. Results once again confirmed the presence of a bacteria driven biological process leading to an iron precipitate.

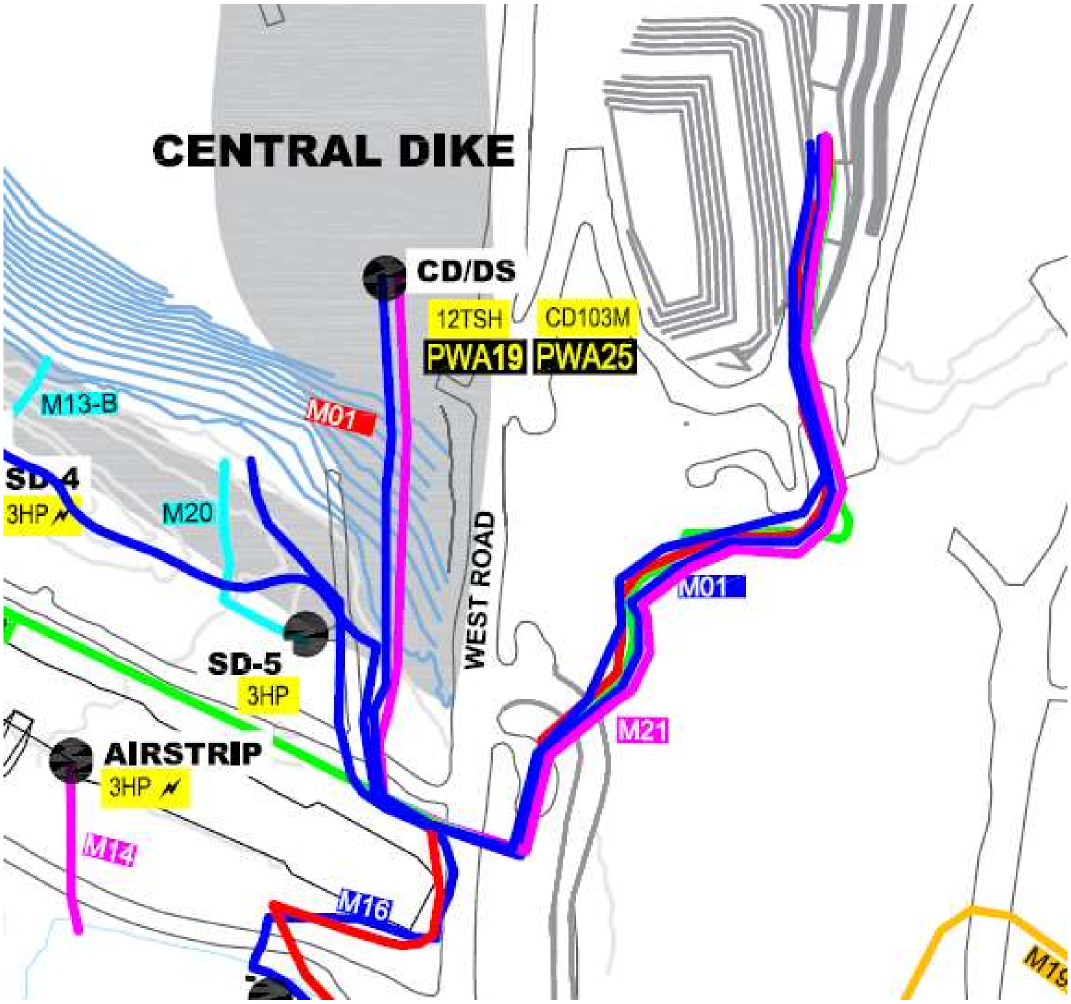


Figure 3.4: Central Dike seepage pumping system

Table 3-10: Central Dike Seepage 2020 pumped volumes

Year	Month	Central Dike Downstream Pond volumes pumped to SC TSF (m³)	Central Dike Downstream Pond volumes pumped to Pit A (m³)	Central Dike Downstream Pond volumes pumped to Pit E (m³)	Average Seepage Rate (m³/h)[1]
2020	January	38,029	0	0	51
	February	16,704	0	12,338	43
	March	0	0	36,347	47
	April	0	0	29,543	41

	May	0	0	28,065	38
	June	0	0	131,338	172
	July	0	136,921	0	203
	August	0	130,000	0	81
	September	0	59,329	0	92
	October	0	69,033	0	114
	November	0	30,903	0	86
	December	0	21,724	0	73
	Total	**54,734**	**447,910**	**237,631**	**88**

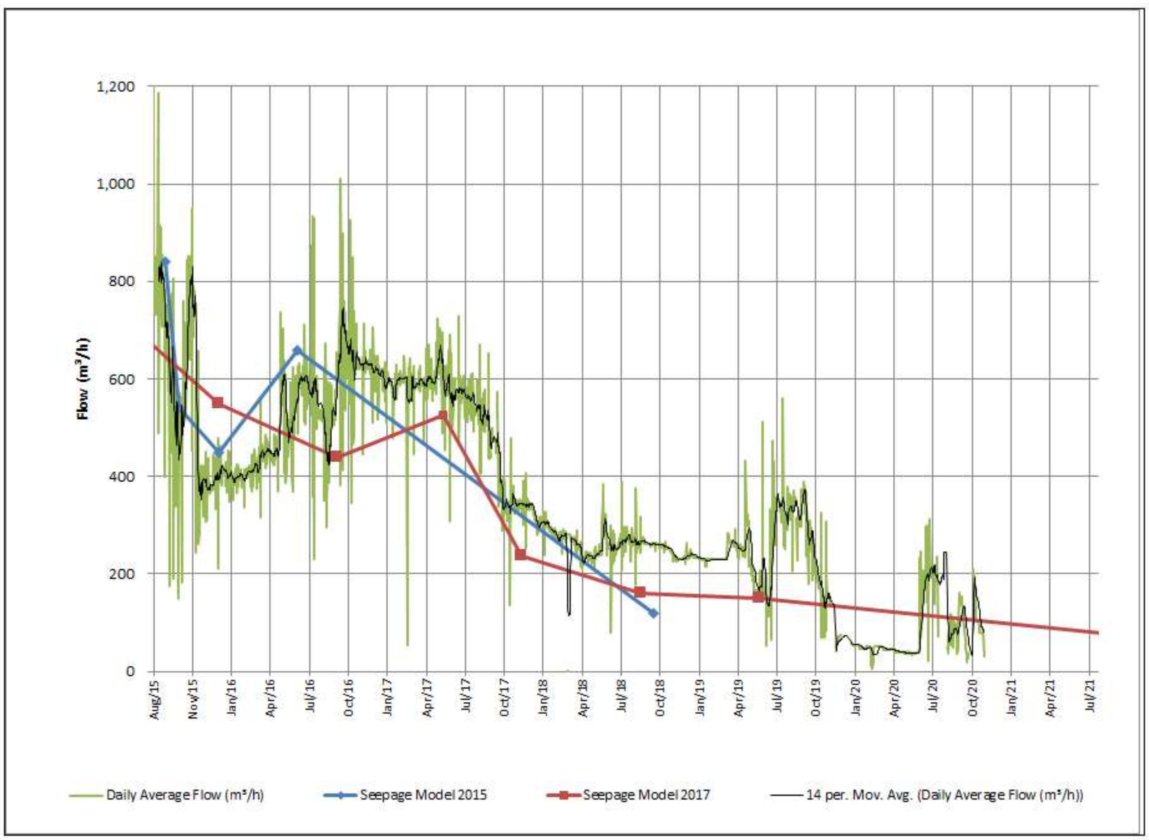


Figure 3.5: Central Dike seepage flow

3.2 PIT FLOODING

This section presents the pit flooding strategy meeting the requirements outlined in the Nunavut Water Board Water License No. 2AM-MEA1530. Agnico will provide at least 30 days' notice to the Nunavut Water Board and Inspector prior to starting the flooding of each pit from water obtained from Third Portage Lake and Wally Lake.

As prescribed in the Nunavut Water Board Water License No. 2AM-MEA1530 (Part E, Conditions 1 and 2), the use of water from Third Portage Lake, for all purposes, including flooding of the pits, shall not exceed […] a maximum of 4,935,000 m^3 starting in 2018 through to the expiry of the License 2AM-MEA1530. The use of water from Wally Lake shall not exceed a total 4,185,000 m^3 per year starting in 2018 through the expiry of the License 2AM-MEA1530.

More details on the treatment requirements of the pit water will be determined if required as per the Meadowbank Water Quality Forecasting Update Technical Note rev. 00 completed by SNC (March 2020 – See Appendix C).

Refer to Table 3-11, 3-12 and 3-13 for the pit water treatment schedule and pit reflooding sequence per year and sources for all pits.

Table 3-11: Pit flooding profile – Mechanical Transfer

Pit Flooding profile – Mechanical Transfer						
Year	Volumes pumped from 3rd Portage lakes		Volumes pumped from Wally lake			Total flooding water (m^3)
	To Portage pit (m^3)	To Goose pit (m^3)	To Vault pit (m^3)	To Vault Attenuation Pond (m^3)	To Phaser pit/lake (m^3)	
2020	0	0	0	0	0	0
2021	0	0	0	0	0	0
2022	0	0	0	0	0	0
2023	0	0	0	0	0	0
2024	0	0	0	0	0	0
2025	0	0	0	0	0	0
2026	0	1,202,400	0	0	0	1,202,400

2027	0	0	0	0	0	0
2028	1,104,000	0	4,154,832	0	0	5,258,832
2029	4,380,000	0	4,143,480	0	0	8,532,480
2030	4,380,000	0	4,143,480	0	0	8,532,480
2031	4,392,000	0	4,143,480	0	0	8,532,480
2032	4,380,000	0	4,154,832	0	0	8,534,832
2033	4,380,000	0	4,143,480	0	0	8,523,480
2034	4,380,000	0	1,021,680	0	0	5,401,680
2035	4,392,000	0	0	0	0	4,392,000
2036	3,660,000	0	0	0	0	3,660,000
Total	**35,448,000**	**1,202,400**	**25,905,264**	**0**	**0**	64,555,664

Table 3-12: Pit flooding profile – Natural inflow

Pit Flooding profile - Natural Inflow				
YEAR	To Portage pit (m^3)	To Goose pit (m^3)	To Vault pit (m^3)	To Phaser pit/lake (m^3)
2020	319,000	389,350	154,880	171,470
2021	347,264	389,350	154,880	171,470
2022	347,264	389,350	154,880	171,470
2023	347,264	389,350	154,880	171,470
2024	347,264	389,350	154,880	171,470

2025	347,264	389,350	154,880	171,470
2026	347,264	389,350	154,880	171,470
2027	347,264	389,350	154,880	171,470
2028	277,374	327,114	154,880	171,470
2029	277,374	327,114	154,880	171,470
2030	277,374	327,114	154,880	171,470
2031	277,374	327,114	154,880	171,470
2032	277,374	327,114	154,880	171,470
2033	277,374	327,114	154,880	171,470
2034	277,374	327,114	154,880	171,470
2035	277,374	327,114	154,880	171,470
2036	277,374	327,114	154,880	171,470
2037	277,374	327,114	154,880	171,470
Total	**5,523,588**	**6,385,940**	**2,787,840**	**3,086,460**

Table 3-13: Pit Water Treatment profile

Pit Water Treatment profile		
YEAR	Portage pits (m^3)	Goose pit (m^3)
2020	0	0
2021	0	0
2022	0	0
2023	0	0
2024	0	0
2025	0	0
2026	0	0
2027	10,821,800	3,232,512
2028	10,483,200	0
2029	0	0
2030	0	0
2031	0	0
2032	0	0
2033	0	0
2034	0	0
Total	**21,305,000**	**3,232,512**

3.2.1 Portage Area Flooding

The volumes of water needed for the Portage area pit flooding, which is part of the overall closure plan, is dependent on the water elevation of Third Portage Lake (3PL). The Goose dike will only be reconnected when the level of the flooded pits reaches the same elevation as 3PL and pit water quality meets water quality objective. The pit water quality will need to have stabilized and been consistently acceptable for discharge to the receiving environment. According to 3PL elevation data from 2013-2020, this elevation would be around 133.7masl. Figure 3.6 presents water level recorded for 3PL and 2PL between 2009 and 2020, while Figure 3.6: Distribution of 3PL elevation surveyed data

presents 2PL recorded elevations.

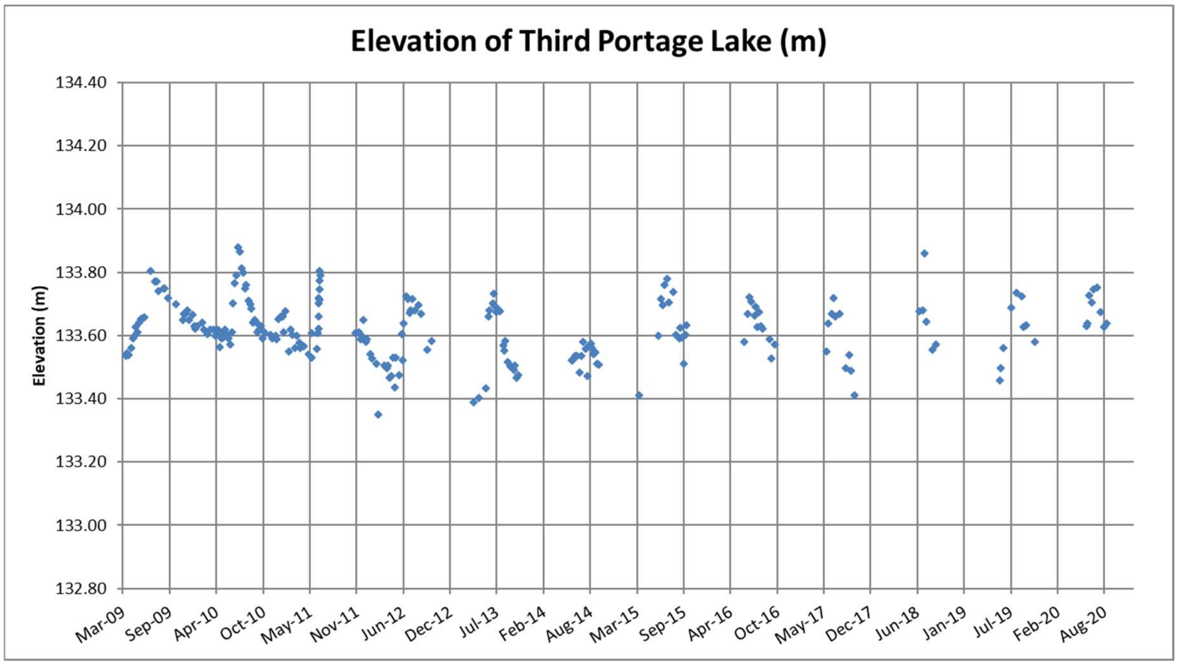


Figure 3.6: Distribution of 3PL elevation surveyed data

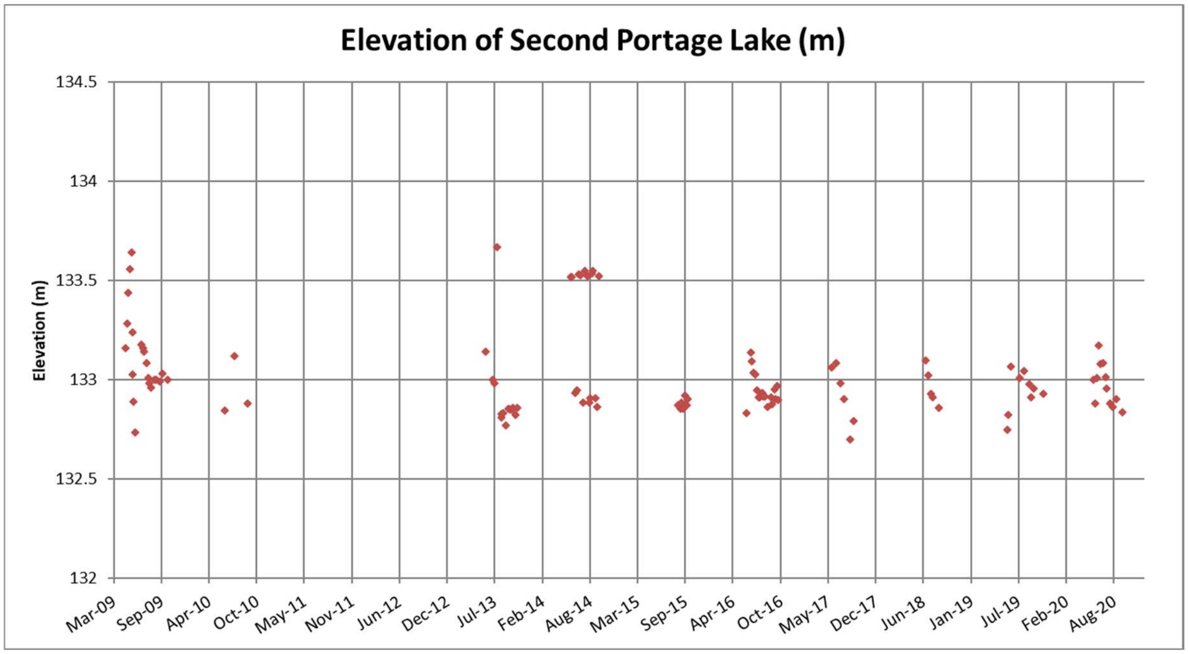


Figure 3.7: Distribution of 2PL elevation surveyed data

Current proposed closure plan for Portage and Goose Pits is to empty each pits by using a water treatment plan (WTP), then covering tailing with a layer of aggregate and finally use a combination of pumps and siphons to achieve the pumping rates prescribed by the Water Balance for pit reflooding, which conforms to the approved volume stipulated in the Water License. During the active reflooding period, natural run off will also contribute to the process. Details of the complete mechanical flooding system will be available in the Final Reclamation and Closure Plan. As of now, 40.2Mm^3 will need to be transferred form 3rd Portage Lake to accomplish the required pit flooding for Portage and Goose Pits. Pit flooding is scheduled to begin in 2028, starting in Goose Pit. At water elevation 131.0 masl, both Portage and Goose Pits will join to become one waterbody. Reflooding will continue to the natural Third Portage Lake water elevation at approximately 133.7masl. At this level, the dikes will be reconnected; however, this is dependent on pit water quality. The current objective is to ensure the water meets discharge criteria before the dike is reconnected. The pit water quality will need to have stabilized and been consistently acceptable for discharge to the receiving environment. The first phase of the flooding sequence is planned to be completed by the end of summer 2029 in Goose Pit, 2034 in Vault Pit, and2036 in Portage Pits. Three years of monitoring is planned at that point to evaluate the water quality in the pits. During this time, water runoff will contribute exclusively to the reflooding process of 3rd Portage lake elevation can be reached. Reconnection of the dike is planned for 2031 if the water quality meets criteria.

More details on the treatment requirements of the pit water will be determined if required as per the Meadowbank Water Quality Forecasting Update Technical Note rev. 00 completed by SNC

(March, 2021 – See Appendix C) (a summary of the findings is also the subject of Section 4 of this report). Pit water quality will meet license criteria as per closure plan criteria. For the Vault area, ammonia and nitrate are the parameters of concern, but no actual or forecasted concentration exceeds the Type A Water License discharge requirements for this area.

Agnico is committed to update the Water Quality Forecast Model, using up to date, year over year data, on a yearly basis until, and possibly after, the cessation of mine operations. The water split between Portage and Goose could also be revised in the future depending on water balance changes.

To reach water elevation 133.6m, 41.70Mm^3 of water will be required. This number is 10.5Mm^3 more than previously reported, mainly due to updated closure plan strategy. As previously stated, 39.50Mm^3 originates from Third Portage Lake, and the 1.90Mm^3 balance will be made up from the natural pit water inflows including runoff and precipitation.

3.2.1.1 Goose Pit Flooding

Goose pit flooding by natural inflow and mechanical transfer is planned to start in April 2028 (runoff, groundwater, precipitation, potential Bay Goose dike seepage and active pumping). Prior starting the flooding, a total of 3.2Mm3 of water will have to be pump out of Goose Pit by using a water treatment plant. A total of 5.2Mm^3 of 3rd Portage Lake volume will be required to reach elevation 127 masl and remaining volume of 1.6Mm3 from natural inflow will contribute to reach elevation 131 masl. In 2020, tailing disposal in Goose Pit was completed. A total tailing deposition volume, measured from bathymetry performed in August 2020 is 1,290,544m^3, with a tailing density of 1.8m^3/t. As the pit becomes filled, natural groundwater reporting to the pit is expected to reduce, due to reduced hydraulic gradient. This will continue to be monitored on a yearly basis and the Water Balance will be modified accordingly. As mentioned, mechanical transfers from 3PL to Goose Pit are planned to begin in May 2028. At elevation 131masl, the Goose water will join the Portage Pit water to form one water body. Goose Pit volumes between 131masl and 133.6masl are included as part of Portage flooding volumes.

Mechanical flooding of Goose Pit – from 3PL – will end in June 2029, after which natural pit inflow will allow the level to reach the 3PL lake elevation in 2032. If water quality meets all closure criteria, the Goose dike will then be reconnected. The pit water quality will need to have stabilized and been consistently acceptable for discharge to the receiving environment. Refer to Section 4 for the pit water quality forecast model.

3.2.1.2 Portage Pit Flooding

Similar strategy explained above will be used for Portage pit. Once water treatment is completed Portage Pit reflooding could begin in August 2030, until 2036, with an annual volume ranging between 3.6Mm^3 to 4,4 Mm^3 from 3rd Portage Lake to complete the flooding to elevation 133.6masl. Refer to Section 4 for the pit water quality forecast model.

3.2.3 Vault Pit Area Flooding

The Vault Pit area is composed of many basins in the former lake and different pit elevations that are all linked togheter. The flooding of the Vault Pit area is complex and requires water transfers from basin to basin. Reflooding from Wally Lake of the Vault Pit will commence in 2028 and will continue until the early 2034 using a siphon system similar to the one planned to be used in Goose and Portage. The volume of water transferred from Wally Lake to the Vault Pit will respect the limits prescribed in the Water License. This active flooding will occur at an annual rate of 4,1 Mm^3 and finally 1,0 Mm^3 in 2034. Until 2028, the natural inflow will contributes to pit reflooding prior using mechanical transfer (natural Wally Lake water level).

The final elevation of the reflooding will be 139.9masl for Phaser and Vault Lake. At this point, the Vault dike will be reconnected provided the water quality in the Vault area meets discharge criteria. The pit water quality will need to have stabilized and been consistently acceptable for discharge to the receiving environment. Refer to Table 3-11 for the yearly cumulative volumes required to complete the flooding process. Refer to section 4 for the pit water quality forecast model.

Phaser pit, BB Phaser Pit and Phaser Lake are planned to be flooded exclusively from their watershed run off inflows until the target elevation of Wally is reached in 2033. Those inflows will be used conjointly with the Vault ATP inflows to flood to the target elevation of the Vault ATP area – 139.9masl (Wally Lake level). The reflooding of Vault and Phaser area with natural inflow consists of approximatively 0.54Mm^3 yearly from freshet, precipitation, groundwater inflow.

3.3 WATER MANAGEMENT STRUCTURES

As per the Water License 2AM-MEA1530, (Part E, Condition 10) Agnico will conduct weekly inspections of all water management structures during periods of flow. This program commenced in 2016 and was added to the weekly inspections already undertaken as per the Freshet Action Plan (Appendix D) at water conveyance structures during flow periods. Records of the inspections will be available for review by an Inspector upon request.

4 MEADOWBANK WATER QUALITY FORECASTING UPDATE

The water quality forecast report was prepared by SNC Lavalin (SNC, 2021) and is a continuation of a series of yearly water quality modelling forecast reports, which began in 2012, and will continue until mine closure, as per the Water License part E item 7. The purposes of the report are to identify, through a mass balance approach, the contaminants of concern during the pit flooding process, and determine if water treatment will be required on site for closure activities when comparing the final contaminant levels to the discharge criteria. Each yearly update builds on the previous year as new monitoring data is added at the site. Forecasted model values of the prior years are compared with the actual sample results from the following years for model calibration purposes.

SNC identified that treatment may be required for aluminum, arsenic, cadmium, chromium, copper, iron, lead, nickel, selenium, thallium, chloride, fluoride, sulphate, and total ammonia/total nitrogen equivalent, as the pit water quality may exceed water quality objective , based on the completely mixed assumption. For the Vault area, ammonia and nitrate are the parameters of concern, but no actual or forecasted concentration exceeds the Type A Water License discharge requirements for this area.

As the aforementioned parameters may be of concern prior to dike reconnection, treatment options for their removal during, or after, the pit flooding process will need to be examined and will be assessed in greater detail during the preparation of the final closure and reclamation plan.

Agnico is committed to implementing the recommendations provided in the SNC Water Modelling Report in 2021 and beyond. These are:

1. Continue the current monthly monitoring program of all inflows and outflows of the North and South Cells TSF Pond for cyanide, a complete total and dissolved metal scan, ammonia, nitrate, fluoride, chloride, sulfates, total dissolved solids (TDS) and total suspended solids. This will provide an indication of the runoff quality that accumulated in these ponds following the end of tailings deposition in these areas.
2. Considering that deposition of the tailings are now occurring in the pits, regularly monitor pit water quality (Portage and Goose), when the site can be safely accessed, and analyzed for cyanide, total and dissolved metals, ammonia, nitrate, chloride, fluoride, sulfates, total dissolved solids (TDS) and total suspended solids. This information will be useful in developing and calibrating a water quality forecast model of the pit water quality based on loadings from the mill effluent, surface runoff and possible underground water seepage. Consider measuring the conductivity of water in the pits at different depths to detect if there is any stratification occurring in the pit lakes.
3. Once Portage and Goose Pits are hydraulically connected, it is recommended to sample the water at different points in the pit area in order to evaluate the mixing efficiency over

the entire area. The samples should be taken at different depths over the entire area of the flooded pits before and after the filling season.

4. Continue to sample and analyze, as per the Water License requirement, water from the Vault Pit, Vault Attenuation Pond, Phaser Pit and Phaser Attenuation.
5. Perform a bench scale water treatment test to evaluate the contaminant removal efficiency using treatment approaches such as lime neutralization, coagulation/flocculation with aluminum sulfate or ferric sulfate, and coagulation/flocculation with proprietary coagulants designed for metal removal, as well as alternative treatment options.

5 2020 INTEGRATED DEPOSITION PLAN

An updated Tailings Deposition Plan has been prepared by Agnico for the 2020 revision of the Water Management Plan. The updated deposition plan is presented in the 2020 version of the Mine Waste Rock and Tailings Management Plan where an update of the tailings deposition parameter is presented, based on SNC's design report, measured Mill water consumption and August 2020 bathymetric results of Goose Pit.

The latest life of mine exercise presented milling operations until 2026, compared to July 2022 in the previous update. This change is due to the approval of the Whale Tail Expansion Project. The pit deposition sequence was chosen in function of minimizing head gradient between Pit E and Pit A. In 2020, deposition occurred in Goose pit until August 2020 and then discharge has been moved to Pit E. From May 2020 to end of September 2020, while Goose Pit deposition occurred, water transfers from Goose Pit to Pit A were performed. This transfer is planned for subsequent summers to control water level in Goose. The objective of these water transfers are to ensure sufficient water volume in the pit being reclaimed to the mill from Pit A, as well as ensuring the 3m minimal tailing water cover, as recommended by SNC for operation. Mill reclaim is planned to occur in a pit where no tailings are being disposed, in order to minimize potential turbidity. Reclaim water from pit A to the mill has been reset in June 2020 and has been operating for the rest of the year.

Closure water management for the TSF was updated to optimize the pit water treatment and flooding process. Once capping construction is completed, water transfers will continue to be done until the final closure landform is achieved, however those transfers will originate from the capped TSF's run off which will differ in terms of quality (likely only TSS).

6 REFERENCES

1. Agnico (2020) – 2019 Mine Waste and Tailings management plan
2. Environment Canada (2011a) - National Climate Data and Information Archive, http://climat.meteo.gc.ca/advanceSearch/searchHistoricData_f.html.
   14. Nunavut Water Board, Water Licence NO: 2AM-MEA0815, June 9 2008 to May 3 2015.
3. Golder Associates Ltd. (Golder), 2003. Report on Permafrost Thermal Regime Baseline Studies, Meadowbank Project. December 18, 2003.
4. Golder (2009) – Meadowbank Gold Project Updated Water Management Plan. Golder Associates Limited. July 2009.
5. Golder (2017) – Central Dike Seepage and Performance Assessment Update
6. SNC (2013) – Water Management Plan 2012. SNC Lavalin. March 2013.
7. SNC (2018) In-Pit Tailings Deposition Detailed Engineering Study Final Report. October 2018.
8. SNC (2021) – Meadowbank Water Quality Forecasting Update for the 2020 Water Management Plan. March 2021.

APPENDIX A – WATER BALANCE

2020

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	ANNUAL TOTAL
	Year 2020												
No. of days	31	29	31	30	31	30	31	31	30	31	30	31	366
Tailings (tonnes):	220,316	198,217	160,266	0	30,296	281,982	300,850	292,719	313,712	219,600	275,307	309,563	2,602,828
Cumulative Tailings (tonnes):	31,922,511	32,120,728	32,280,994	32,280,994	32,311,290	32,593,272	32,894,122	33,186,841	33,500,553	33,720,153	33,995,460	34,305,023	
Cummulative Tailings (m3) - North Cell	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	
Cummulative Tailings (m3) - South Cell	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	
Cummulative Tailings (m3) - Goose Pit	594,793	716,398	814,721	814,721	833,307	1,006,302	1,190,873	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	
Cummulative Tailings (m3) - Pit E	0	0	0	0	0	0	0	62,950	237,235	359,235	512,183	684,163	
Cummulative Tailings (m3) - Pit A	0	0	0	0	0	0	0	0	0	0	0	0	
North Cell (TSF)													
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from SD1, SD2, SD6, Japan Sump, ST16, WEP & Interception sump	0	0	0	0	0	323,089	57,784	27,594	115,870	0	0	0	**524,336**
Runoff (m3)	0	0	0	0	0	76,665	7,700	42,862	21,238	0	0	0	**148,451**
Total Inflow (m^3)	0	0	0	0	0	399,754	65,484	70,455	137,107	0	0	0	**672,800**
Transfer to South Cell (m^3)	0	0	0	0	0	258,123	9,843	31,682	28,019	0	0	0	**327,667**
Total Outflow (m^3)	0	0	0	0	0	258,123	9,843	31,682	28,019	0	0	0	**327,667**
Net Inflow (m^3)	0	0	0	0	0	141,631	55,641	38,773	109,088	0	0	0	**345,133**
End-of-Month Volume (m^3)	**16,446**	**16,446**	**16,446**	**16,446**	**16,446**	**158,077**	**213,718**	**252,491**	**361,580**	**361,580**	**361,580**	**361,580**	**0**
South Cell (TSF)													
Pumped from SD3, SD4 & SD5 (m^3)	0	0	0	0	0	27,625	5,710	6,502	5,280	0	0	0	**45,117**
Runoff (m^3)	0	0	0	0	0	40,982	11,465	8,951	5,933	0	0	0	**67,330**
Transfer from North Cell (m^3)	0	0	0	0	0	258,123	9,843	31,682	28,019	0	0	0	**327,667**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	0	0	17,414	61,314	12,312	0	0	0	**91,040**
Transfer from Downstream Pond (m^3)	38,029	16,704	0	0	0	0	0	0	0	0	0	0	**54,734**
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	38,029	16,704	0	0	0	326,730	44,432	108,448	51,544	0	0	0	**585,888**
Reclaim water to the mill (m^3)	155	295	1,828	3,079	2,867	0	0	0	0	0	0	0	**8,224**
Seepage to Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer to Pit A (m^3)	0	0	0	0	0	0	217,358	0	36,094	0	0	0	**253,452**
Transfer to Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	155	295	1,828	3,079	2,867	0	217,358	0	36,094	0	0	0	**261,676**
Net Inflow (m^3)	37,874	16,409	-1,828	-3,079	-2,867	326,730	-172,926	108,448	15,450	0	0	0	**324,212**
End-of-Month Volume (m^3)	**37,874**	**54,284**	**52,456**	**49,377**	**46,510**	**373,239**	**200,313**	**308,761**	**324,212**	**324,212**	**324,212**	**324,212**	**0**
Mill/Camp													
Ore water (m^3)	4,492	3,547	1,549	0	68	5,641	4,763	3,688	3,137	2,196	3,304	3,715	**36,099**
Reclaim water (m^3)	155	295	1,828	3,079	3,584	186,887	152,059	161,476	203,040	164,427	240,836	250,728	**1,368,394**
Freshwater from Third Portage Lake (m^3)	223,697	233,213	273,383	222,153	233,818	132,935	185,995	89,828	144,040	145,024	79,589	122,611	**2,086,286**
Total Inflow (m^3)	228,344	237,055	276,759	225,233	237,470	325,463	342,817	254,992	350,217	311,647	323,729	377,054	**3,490,780**
Freshwater for camp purposes (m^3)	3,612	3,264	3,141	2,155	2,484	2,807	2,966	2,634	2,464	2,584	2,526	2,680	**33,317**
Slurry water (m^3)	224,732	233,791	273,618	223,078	234,986	322,656	339,851	252,358	347,753	309,063	321,203	374,374	**3,457,463**
Total Outflow (m^3)	228,344	237,055	276,759	225,233	237,470	325,463	342,817	254,992	350,217	311,647	323,729	377,054	**3,490,780**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water pumping rate (m^3/hr)	0	0	2	4	5	260	204	217	282	221	334	337	-
Freshwater pumping rate (m^3/hr)	301	335	367	309	314	185	250	121	200	195	111	165	-
TSF Water Balance													
Slurry water (m^3)	224,732	233,791	273,618	223,078	234,986	322,656	339,851	252,358	346,746	309,063	321,203	374,374	3,456,456
North Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
South Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Goose Pit Tailings Deposition (%)	100%	100%	100%	100%	100%	100%	100%	61%	0%	0%	0%	0%	**63%**
Pit A Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit E Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	39%	100%	100%	100%	100%	**37%**
North Cell Water/Ice Entrapment (%)	65%	65%	65%	65%	40%	25%	25%	25%	25%	40%	65%	65%	**48%**
South Cell Water/Ice Entrapment (%)	65%	65%	65%	65%	40%	25%	25%	25%	25%	40%	65%	65%	**48%**
IPD Water/Ice Entrapment (%)	25%	25%	25%	25%	25%	25%	25%	25%	25%	13%	13%	13%	**22%**
Water Entrapment (m^3)	56,183	58,448	68,405	55,769	58,746	80,664	84,963	63,090	86,687	40,178	41,756	48,669	**743,557**
South Cell Reclaim Water (%)	100%	100%	100%	100%	80%	0%	0%	0%	0%	0%	0%	0%	**1%**
Pit A Reclaim Water (%)	0%	0%	0%	0%	20%	100%	100%	100%	100%	100%	100%	100%	**99%**
Pit E Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**

	Year 2020												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	**31**	**29**	**31**	**30**	**31**	**30**	**31**	**31**	**30**	**31**	**30**	**31**	**366**
Goose Pit													
Runoff (m^3)	27,218	24,584	27,218	26,340	27,218	65,316	31,116	33,535	46,029	27,218	26,340	27,218	**389,350**
Transfer from South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Slurry water (m^3)	168,549	175,343	205,214	167,308	176,239	241,992	254,888	116,003	0	0	0	0	**1,505,537**
Total Inflow (m^3)	195,767	199,927	232,432	193,648	203,457	307,308	286,004	149,538	46,029	27,218	26,340	27,218	**1,894,887**
Pumped to Pit E (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	0	0	0	0	102,799	341,442	445,407	392,104	94,582	0	0	0	**1,376,334**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	102,799	341,442	445,407	392,104	94,582	0	0	0	**1,376,334**
Net Inflow (m^3)	195,767	199,927	232,432	193,648	100,658	-34,134	-159,403	-242,566	-48,553	27,218	26,340	27,218	**518,553**
End-of-Month Volume (m^3)	**3,427,307**	**3,627,234**	**3,859,666**	**4,053,314**	**4,153,972**	**4,119,838**	**3,960,435**	**3,717,870**	**3,669,317**	**3,696,535**	**3,722,875**	**3,750,093**	**0**
Pit E (Portage Pit)													
Runoff (m^3)	0	0	0	0	0	0	179,000	107,000	0	0	0	0	**286,000**
Pumped from East Dike Seepage (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Slurry water (m^3)	0	0	0	0	0	0	0	73,265	260,060	268,885	279,446	325,705	**1,207,362**
Inflow from Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Inflow from Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Central Dike Downstream Pond (m^3)	0	12,338	36,347	29,543	28,065	131,338	0	0	0	0	0	0	**237,631**
Total Inflow (m^3)	0	12,338	36,347	29,543	28,065	131,338	179,000	180,265	260,060	268,885	279,446	325,705	**1,730,993**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	0	0	0	0	0	0	179,000	107,000	0	0	0	0	**286,000**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	179,000	107,000	0	0	0	0	**286,000**
Net Inflow (m^3)	0	12,338	36,347	29,543	28,065	131,338	0	73,265	260,060	268,885	279,446	325,705	**1,444,993**
End-of-Month Volume (m^3)	**14,964**	**27,302**	**63,650**	**93,193**	**121,258**	**252,595**	**431,595**	**611,861**	**871,920**	**1,140,805**	**1,420,252**	**1,745,957**	**0**
Pit A													
Runoff (m^3)	0	0	0	0	0	1,500	0	0	0	0	15,000	0	**16,500**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer from South Cell (m^3)	0	0	0	0	0	0	217,358	0	36,094	0	0	0	**253,452**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	136,921	130,000	59,329	69,033	30,903	21,724	**447,910**
Pumped from Pit E (m^3)	0	0	0	0	0	0	179,000	107,000	0	0	0	0	**286,000**
East Dike Seepage (m^3)	0	0	0	0	0	14,789	17,027	16,476	16,476	8,702	0	0	**73,470**
Pumped from Goose (m^3)	0	0	0	0	102,799	341,442	445,407	392,104	94,582	0	0	0	**1,376,334**
Total Inflow (m^3)	0	0	0	0	102,799	357,731	995,713	645,580	206,481	77,735	45,903	21,724	**2,453,666**
Reclaim water to the mill (m^3)	0	0	0	0	717	186,887	152,059	161,476	203,040	164,427	240,836	250,728	**1,360,170**
Outflow to Pit E (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	717	186,887	152,059	161,476	203,040	164,427	240,836	250,728	**1,360,170**
Net Inflow (m^3)	0	0	0	0	102,082	170,844	843,654	484,104	3,441	-86,692	-194,933	-229,004	**1,093,496**
End-of-Month Volume (m^3)	**2,687,411**	**2,687,411**	**2,687,411**	**2,687,411**	**2,789,493**	**2,960,337**	**3,624,991**	**4,002,095**	**4,005,536**	**3,918,844**	**3,723,911**	**3,494,907**	**0**
Vault Attenuation Pond													
Runoff (m^3)	0	0	0	0	0	118,708	6,053	60,667	30,672	0	0	0	**216,100**
Pumped From Vault Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped From Phaser Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	118,708	6,053	60,667	30,672	0	0	0	**216,100**
Decant - TSS to Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	118,708	6,053	60,667	30,672	0	0	0	**216,100**
End-of-Month Volume (m^3)	**845,638**	**845,638**	**845,638**	**845,638**	**845,638**	**964,346**	**970,399**	**1,031,066**	**1,061,738**	**1,061,739**	**1,061,739**	**1,061,739**	**0**
Vault Open Pit													
Runoff (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
Transfer from Phaser Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
Transfer to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
End-of-Month Volume (m^3)	**366,560**	**366,560**	**366,560**	**366,560**	**366,560**	**433,086**	**450,861**	**498,828**	**521,439**	**521,439**	**521,439**	**521,439**	**0**
Phaser Open Pit (including Phaser Lake)													
Runoff (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Total Inflow (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Transfer to Vault Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
End-of-Month Volume (m^3)	**171,470**	**171,470**	**171,470**	**171,470**	**171,470**	**245,122**	**264,801**	**317,906**	**342,939**	**342,939**	**342,939**	**342,939**	**0**

2021

	Year 2021												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	31	28	31	30	31	30	31	31	30	31	30	31	365
Tailings (tonnes):	302,120	272,240	302,120	232,980	290,120	292,160	302,120	286,350	292,160	228,980	277,160	302,120	3,380,630
Cumulative Tailings (tonnes):	34,607,143	34,879,383	35,181,503	35,414,483	35,704,603	35,996,763	36,298,883	36,585,233	36,877,393	37,106,373	37,383,533	37,685,653	0
Cummulative Tailings (m3) - North Cell	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	0
Cummulative Tailings (m3) - South Cell	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	0
Cummulative Tailings (m3) - Goose Pit	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	0
Cummulative Tailings (m3) - Pit E	852,007	1,003,251	1,171,096	1,300,529	1,461,707	1,624,018	1,791,863	1,950,946	2,113,257	2,240,468	2,394,446	2,562,290	0
Cummulative Tailings (m3) - Pit A	0	0	0	0	0	0	0	0	0	0	0	0	0
North Cell (TSF)													
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from SD1, SD2, SD6, Japan Sump, ST16, WEP & Interception sump	0	0	0	0	1,625	142,535	34,581	9,815	17,463	0	0	0	**206,019**
Runoff (m3)	0	0	0	0	0	76,665	7,700	42,862	21,238	0	0	0	**148,451**
Total Inflow (m^3)	0	0	0	0	1,625	219,200	42,281	52,677	38,701	0	0	0	**354,483**
Transfer to South Cell (m^3)	0	0	0	0	0	220,825	42,281	52,677	38,701	0	0	0	**354,483**
Total Outflow (m^3)	0	0	0	0	0	220,825	42,281	52,677	38,701	0	0	0	**354,483**
Net Inflow (m^3)	0	0	0	0	1,625	-1,625	0	0	0	0	0	0	**0**
End-of-Month Volume (m^3)	**361,580**	**361,580**	**361,580**	**361,580**	**363,205**	**361,580**	**361,580**	**361,580**	**361,580**	**361,580**	**361,580**	**361,580**	**0**
South Cell (TSF)													
Pumped from SD3, SD4 & SD5 (m^3)	0	0	0	0	10,616	18,574	468	3,174	2,095	0	0	0	**34,927**
Runoff (m^3)	0	0	0	0	0	40,982	11,465	8,951	5,933	0	0	0	**67,330**
Transfer from North Cell (m^3)	0	0	0	0	0	220,825	42,281	52,677	38,701	0	0	0	**354,483**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	0	0	17,414	61,314	12,312	0	0	0	**91,040**
Transfer from Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	10,616	280,380	71,628	126,115	59,041	0	0	0	**547,780**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Seepage to Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer to Pit A (m^3)	0	0	0	0	24,717	96,443	217,358	80,000	36,094	0	0	0	**454,612**
Transfer to Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	24,717	96,443	217,358	80,000	36,094	0	0	0	**454,612**
Net Inflow (m^3)	0	0	0	0	-14,101	183,937	-145,730	46,115	22,947	0	0	0	**93,168**
End-of-Month Volume (m^3)	**324,212**	**324,212**	**324,212**	**324,212**	**310,111**	**494,048**	**348,317**	**394,432**	**417,380**	**417,380**	**417,380**	**417,380**	**0**
Mill/Camp													
Ore water (m^3)	5,553	3,939	3,863	4,947	7,372	7,300	6,659	6,099	3,352	4,312	3,988	5,390	**62,774**
Reclaim water (m^3)	222,929	200,338	257,876	247,916	254,490	245,477	257,395	260,674	254,002	224,901	252,891	260,157	**2,939,048**
Freshwater from Third Portage Lake (m^3)	109,382	99,404	74,435	9,032	64,740	75,978	74,916	54,447	67,452	27,687	52,213	72,154	**781,839**
Total Inflow (m^3)	337,863	303,681	336,174	261,895	326,602	328,755	338,970	321,220	324,806	256,900	309,093	337,700	**3,783,660**
Freshwater for camp purposes (m^3)	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	**36,000**
Slurry water (m^3)	334,863	300,681	333,174	258,895	323,602	325,755	335,970	318,220	321,806	253,900	306,093	334,700	**3,747,660**
Total Outflow (m^3)	337,863	303,681	336,174	261,895	326,602	328,755	338,970	321,220	324,806	256,900	309,093	337,700	**3,783,660**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water pumping rate (m^3/hr)	300	298	347	344	342	341	346	350	353	302	351	350	-
Freshwater pumping rate (m^3/hr)	147	148	100	13	87	106	101	73	94	37	73	97	-
TSF Water Balance													
Slurry water (m^3)	334,863	300,681	333,174	258,895	323,602	325,755	335,970	318,220	321,806	253,900	306,093	334,700	**3,747,660**
North Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
South Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Goose Pit Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit E Tailings Deposition (%)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	**100%**
North Cell Water/Ice Entrapment (%)	65%	65%	65%	65%	40%	25%	25%	25%	25%	40%	65%	65%	**48%**
South Cell Water/Ice Entrapment (%)	65%	65%	65%	65%	40%	25%	25%	25%	25%	40%	65%	65%	**48%**
IPD Water/Ice Entrapment (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	**13%**
Water Entrapment (m^3)	43,532	39,088	43,313	33,656	42,068	42,348	43,676	41,369	41,835	33,007	39,792	43,511	**487,196**
South Cell Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Reclaim Water (%)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	**100%**
Pit E Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**

	Year 2021												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	**31**	**28**	**31**	**30**	**31**	**30**	**31**	**31**	**30**	**31**	**30**	**31**	**365**
Goose Pit													
Runoff (m^3)	27,218	24,584	27,218	26,340	27,218	65,316	31,116	33,535	46,029	27,218	26,340	27,218	**389,350**
Transfer from South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	27,218	24,584	27,218	26,340	27,218	65,316	31,116	33,535	46,029	27,218	26,340	27,218	**389,350**
Pumped to Pit E (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	0	0	0	0	0	355,968	367,834	367,834	0	0	0	0	**1,091,635**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	355,968	367,834	367,834	0	0	0	0	**1,091,635**
Net Inflow (m^3)	27,218	24,584	27,218	26,340	27,218	-290,652	-336,718	-334,299	46,029	27,218	26,340	27,218	**-702,285**
End-of-Month Volume (m^3)	**3,777,311**	**3,801,895**	**3,829,113**	**3,855,453**	**3,882,671**	**3,592,019**	**3,255,301**	**2,921,003**	**2,967,032**	**2,994,250**	**3,020,590**	**3,047,808**	**0**
Pit E (Portage Pit)													
Runoff (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumped from East Dike Seepage (m^3)	0	0	0	0	14,880	16,560	17,112	17,112	14,400	0	0	0	**80,064**
Pumped from Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Slurry water (m^3)	291,331	261,592	289,862	225,239	281,534	283,407	292,294	276,852	279,971	220,893	266,301	291,189	**3,260,464**
Inflow from Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Inflow from Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	293,129	263,216	291,660	226,979	298,212	351,494	316,183	303,831	321,262	222,691	268,041	292,987	**3,449,684**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Net Inflow (m^3)	291,331	261,592	289,862	225,239	296,414	299,967	309,406	293,964	294,371	220,893	266,301	291,189	**3,340,528**
End-of-Month Volume (m^3)	**2,039,086**	**2,302,302**	**2,593,962**	**2,820,940**	**3,119,152**	**3,470,646**	**3,786,829**	**4,090,660**	**4,411,922**	**4,634,613**	**4,902,654**	**5,195,641**	**0**
Pit A													
Runoff (m^3)	2,480	2,240	2,480	2,400	2,480	53,245	7,564	10,720	28,085	2,480	2,400	2,480	**119,054**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer from South Cell (m^3)	0	0	0	0	24,717	96,443	217,358	80,000	36,094	0	0	0	**454,612**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	33,280	16,380	0	20,492	0	0	0	0	**70,152**
Pumped from Central Dike Downstream Pond (m^3)	52,080	47,040	52,080	64,800	111,600	129,600	133,920	133,920	108,000	66,960	50,400	52,080	**1,002,480**
Pumped from Pit E (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
East Dike Seepage (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Goose (m^3)	0	0	0	0	0	355,968	367,834	367,834	0	0	0	0	**1,091,635**
Total Inflow (m^3)	56,358	50,904	56,358	68,940	173,875	703,163	733,453	622,833	199,070	71,238	54,540	56,358	**2,847,089**
Reclaim water to the mill (m^3)	222,929	200,338	257,876	247,916	254,490	245,477	257,395	260,674	254,002	224,901	252,891	260,157	**2,939,048**
Outflow to Pit E (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	222,929	200,338	257,876	247,916	254,490	245,477	257,395	260,674	254,002	224,901	252,891	260,157	**2,939,048**
Net Inflow (m^3)	-166,571	-149,434	-201,518	-178,976	-80,615	457,686	476,057	362,158	-54,932	-153,663	-198,351	-203,799	**-91,959**
End-of-Month Volume (m^3)	**3,326,538**	**3,175,480**	**2,972,164**	**2,791,447**	**2,709,034**	**3,115,193**	**3,584,473**	**3,936,765**	**3,854,941**	**3,699,480**	**3,499,389**	**3,293,792**	**0**
Vault Attenuation Pond													
Runoff (m^3)	0	0	0	0	0	118,708	6,053	60,667	30,672	0	0	0	**216,100**
Pumped From Vault Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped From Phaser Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	118,708	6,053	60,667	30,672	0	0	0	**216,100**
Decant - TSS to Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	118,708	6,053	60,667	30,672	0	0	0	**216,100**
End-of-Month Volume (m^3)	**1,061,739**	**1,061,739**	**1,061,739**	**1,061,739**	**1,061,739**	**1,180,447**	**1,186,500**	**1,247,167**	**1,277,839**	**1,277,839**	**1,277,839**	**1,277,839**	**0**
Vault Open Pit													
Runoff (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
Transfer from Phaser Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
Transfer to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
End-of-Month Volume (m^3)	**521,439**	**521,439**	**521,439**	**521,439**	**521,439**	**587,965**	**605,741**	**653,707**	**676,319**	**676,319**	**676,319**	**676,319**	**0**
Phaser Open Pit (including Phaser Lake)													
Runoff (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Total Inflow (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Transfer to Vault Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
End-of-Month Volume (m^3)	**342,939**	**342,939**	**342,939**	**342,939**	**342,939**	**416,591**	**436,271**	**489,375**	**514,409**	**514,409**	**514,409**	**514,409**	**0**

2022

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	ANNUAL TOTAL
	Year 2022												
No. of days	31	28	31	30	31	30	31	31	30	31	30	31	365
Tailings (tonnes):	316,680	285,360	316,680	293,262	361,828	361,504	373,828	354,315	361,504	289,262	346,504	373,828	4,034,555
Cumulative Tailings (tonnes):	38,002,333	38,287,693	38,604,373	38,897,635	39,259,463	39,620,967	39,994,795	40,349,110	40,710,614	40,999,876	41,346,380	41,720,208	0
Cummulative Tailings (m3) - North Cell	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	0
Cummulative Tailings (m3) - South Cell	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	0
Cummulative Tailings (m3) - Goose Pit	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	0
Cummulative Tailings (m3) - Pit E	2,738,224	2,896,757	3,072,690	3,235,614	3,436,629	3,637,465	3,845,147	3,845,147	3,845,147	3,845,147	3,845,147	3,845,147	0
Cummulative Tailings (m3) - Pit A	0	0	0	0	0	0	0	196,842	397,677	558,378	750,881	958,563	0
North Cell (TSF)													
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from SD1, SD2, SD6, Japan Sump, ST16, WEP & Interception sump	0	0	0	0	1,625	142,535	34,581	9,815	17,463	0	0	0	**206,019**
Runoff (m3)	0	0	0	0	0	76,665	7,700	42,862	21,238	0	0	0	**148,451**
Total Inflow (m^3)	0	0	0	0	1,625	219,200	42,281	52,677	38,701	0	0	0	**354,483**
Transfer to South Cell (m^3)	0	0	0	0	0	220,825	42,281	52,677	38,701	0	0	0	**354,483**
Total Outflow (m^3)	0	0	0	0	0	220,825	42,281	52,677	38,701	0	0	0	**354,483**
Net Inflow (m^3)	0	0	0	0	1,625	-1,625	0	0	0	0	0	0	**0**
End-of-Month Volume (m^3)	**361,580**	**361,580**	**361,580**	**361,580**	**363,205**	**361,580**	**361,580**	**361,580**	**361,580**	**361,580**	**361,580**	**361,580**	**0**
South Cell (TSF)													
Pumped from SD3, SD4 & SD5 (m^3)	0	0	0	0	10,616	18,574	468	3,174	2,095	0	0	0	**34,927**
Runoff (m^3)	0	0	0	0	0	42,909	11,465	30,938	14,584	0	0	0	**99,896**
Transfer from North Cell (m^3)	0	0	0	0	0	220,825	42,281	52,677	38,701	0	0	0	**354,483**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	0	0	17,414	61,314	12,312	0	0	0	**91,040**
Transfer from Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	10,616	282,307	71,628	148,103	67,692	0	0	0	**580,345**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Seepage to Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer to Pit A (m^3)	0	0	0	0	24,717	96,443	217,358	80,000	36,094	0	0	0	**454,612**
Transfer to Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	24,717	96,443	217,358	80,000	36,094	0	0	0	**454,612**
Net Inflow (m^3)	0	0	0	0	-14,101	185,864	-145,730	68,103	31,598	0	0	0	**125,733**
End-of-Month Volume (m^3)	**417,380**	**417,380**	**417,380**	**417,380**	**403,279**	**589,143**	**443,413**	**511,515**	**543,113**	**543,113**	**543,113**	**543,113**	**0**
Mill/Camp													
Ore water (m^3)	5,820	4,129	4,050	6,227	9,194	9,033	8,240	7,547	4,147	5,447	4,986	6,669	**75,488**
Reclaim water (m^3)	258,768	232,297	255,588	245,442	256,069	251,425	263,148	269,785	261,786	271,052	262,520	271,522	**3,099,401**
Freshwater from Third Portage Lake (m^3)	89,413	81,746	92,594	77,214	141,324	145,615	147,324	119,418	135,253	47,244	118,169	138,950	**1,334,264**
Total Inflow (m^3)	354,001	318,171	352,231	328,882	406,586	406,072	418,713	396,750	401,186	323,743	385,675	417,141	**4,509,153**
Freshwater for camp purposes (m^3)	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	**36,000**
Slurry water (m^3)	351,001	315,171	349,231	325,882	403,586	403,072	415,713	393,750	398,186	320,743	382,675	414,141	**4,473,153**
Total Outflow (m^3)	354,001	318,171	352,231	328,882	406,586	406,072	418,713	396,750	401,186	323,743	385,675	417,141	**4,509,153**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water pumping rate (m^3/hr)	348	346	344	341	344	349	354	363	364	364	365	365	-
Freshwater pumping rate (m^3/hr)	120	122	124	107	190	202	198	161	188	63	164	187	-
TSF Water Balance													
Slurry water (m^3)	351,001	315,171	349,231	325,882	403,586	403,072	415,713	393,750	398,186	320,743	382,675	414,141	**4,473,153**
North Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
South Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Goose Pit Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	100%	100%	100%	100%	100%	**42%**
Pit E Tailings Deposition (%)	100%	100%	100%	100%	100%	100%	100%	0%	0%	0%	0%	0%	**58%**
North Cell Water/Ice Entrapment (%)	65%	65%	65%	65%	40%	25%	25%	25%	25%	40%	65%	65%	**48%**
South Cell Water/Ice Entrapment (%)	65%	65%	65%	65%	40%	25%	25%	25%	25%	40%	65%	65%	**48%**
IPD Water/Ice Entrapment (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	**13%**
Water Entrapment (m^3)	45,630	40,972	45,400	42,365	52,466	52,399	54,043	51,187	51,764	41,697	49,748	53,838	**581,510**
South Cell Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Reclaim Water (%)	100%	100%	100%	100%	100%	100%	100%	0%	0%	0%	0%	0%	**57%**
Pit E Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	100%	100%	100%	100%	100%	**43%**

	Year 2022												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	**31**	**28**	**31**	**30**	**31**	**30**	**31**	**31**	**30**	**31**	**30**	**31**	**365**
Goose Pit													
Runoff (m^3)	27,218	24,584	27,218	26,340	27,218	65,316	31,116	33,535	46,029	27,218	26,340	27,218	**389,350**
Transfer from South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	27,218	24,584	27,218	26,340	27,218	65,316	31,116	33,535	46,029	27,218	26,340	27,218	**389,350**
Pumped to Pit E (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	0	0	0	0	0	0	367,834	0	0	0	0	0	**367,834**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	367,834	0	0	0	0	0	**367,834**
Net Inflow (m^3)	27,218	24,584	27,218	26,340	27,218	65,316	-336,718	33,535	46,029	27,218	26,340	27,218	**21,516**
End-of-Month Volume (m^3)	**3,075,026**	**3,099,610**	**3,126,828**	**3,153,168**	**3,180,386**	**3,245,702**	**2,908,984**	**2,942,519**	**2,988,548**	**3,015,766**	**3,042,106**	**3,069,324**	**0**
Pit E (Portage Pit)													
Runoff (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumped from East Dike Seepage (m^3)	0	0	0	0	14,880	16,560	17,112	17,112	14,400	0	0	0	**80,064**
Pumped from Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Slurry water (m^3)	305,371	274,199	303,831	283,518	351,120	350,673	361,670	0	0	0	0	0	**2,230,382**
Inflow from Pit A (m^3)	0	0	0	0	0	0	255,212	784,536	719,437	509,187	578,230	622,545	**0**
Inflow from Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	307,169	275,823	305,629	285,258	367,798	418,760	640,771	811,515	760,728	510,985	579,970	624,343	**5,888,748**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	269,785	261,786	271,052	262,520	271,522	**1,336,666**
Pumped to Pit A (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	279,652	288,677	272,850	264,260	273,320	**1,445,822**
Net Inflow (m^3)	305,371	274,199	303,831	283,518	366,000	367,233	633,994	531,863	472,050	238,136	315,710	351,023	**4,442,927**
End-of-Month Volume (m^3)	**5,502,810**	**5,778,633**	**6,084,262**	**5,937,197**	**5,736,182**	**5,535,346**	**6,176,117**	**6,717,846**	**7,216,788**	**7,456,721**	**7,774,171**	**8,126,992**	**0**
Pit A													
Runoff (m^3)	2,480	2,240	2,480	2,400	2,480	53,245	7,564	10,720	28,085	2,480	2,400	2,480	**119,054**
Slurry water (m^3)	0	0	0	0	0	0	0	342,562	346,422	279,046	332,928	360,303	**1,661,261**
Transfer from South Cell (m^3)	0	0	0	0	24,717	96,443	217,358	80,000	36,094	0	0	0	**454,612**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	33,280	16,380	0	20,492	0	0	0	0	**70,152**
Pumped from Central Dike Downstream Pond (m^3)	52,080	47,040	52,080	64,800	111,600	129,600	133,920	133,920	108,000	66,960	50,400	52,080	**1,002,480**
Pumped from Pit E (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
East Dike Seepage (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Goose (m^3)	0	0	0	0	0	0	367,834	0	0	0	0	0	**367,834**
Total Inflow (m^3)	56,358	50,904	56,358	68,940	173,875	347,195	733,453	597,561	545,492	350,284	387,468	416,661	**3,784,549**
Reclaim water to the mill (m^3)	258,768	232,297	255,588	245,442	256,069	251,425	263,148	0	0	0	0	0	**1,762,735**
Outflow to Pit E (m^3)	0	0	0	0	0	0	255,212	784,536	719,437	509,187	578,230	622,545	**3,469,147**
Total Outflow (m^3)	258,768	232,297	255,588	245,442	256,069	251,425	518,360	784,536	719,437	509,187	578,230	622,545	**5,231,882**
Net Inflow (m^3)	-202,410	-181,393	-199,230	-176,502	-82,194	95,770	215,093	-186,975	-173,945	-158,903	-190,762	-205,884	**-1,447,333**
End-of-Month Volume (m^3)	**3,089,584**	**2,906,567**	**2,705,540**	**2,959,621**	**3,444,443**	**4,108,282**	**4,316,597**	**4,119,756**	**3,918,920**	**3,758,219**	**3,565,717**	**3,358,034**	**0**
Vault Attenuation Pond													
Runoff (m^3)	0	0	0	0	0	118,708	6,053	60,667	30,672	0	0	0	**216,100**
Pumped From Vault Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped From Phaser Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	118,708	6,053	60,667	30,672	0	0	0	**216,100**
Decant - TSS to Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	118,708	6,053	60,667	30,672	0	0	0	**216,100**
End-of-Month Volume (m^3)	**1,277,839**	**1,277,839**	**1,277,839**	**1,277,839**	**1,277,839**	**1,396,547**	**1,402,600**	**1,463,267**	**1,493,939**	**1,493,939**	**1,493,939**	**1,493,939**	**0**
Vault Open Pit													
Runoff (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
Transfer from Phaser Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
Transfer to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
End-of-Month Volume (m^3)	**676,319**	**676,319**	**676,319**	**676,319**	**676,319**	**742,845**	**760,620**	**808,587**	**831,198**	**831,198**	**831,198**	**831,198**	**0**
Phaser Open Pit (including Phaser Lake)													
Runoff (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Total Inflow (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Transfer to Vault Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
End-of-Month Volume (m^3)	**514,409**	**514,409**	**514,409**	**514,409**	**514,409**	**588,061**	**607,740**	**660,845**	**685,878**	**685,878**	**685,878**	**685,878**	**0**

2023

	Year 2023												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	31	28	31	30	31	30	31	31	30	31	30	31	365
Tailings (tonnes):	353,012	353,012	353,012	345,935	345,935	345,935	360,857	360,857	360,857	347,524	347,524	347,524	4,221,984
Cumulative Tailings (tonnes):	42,073,220	42,426,232	42,779,245	43,125,180	43,471,114	43,817,049	44,177,906	44,538,763	44,899,620	45,247,144	45,594,668	45,942,192	0
Cummulative Tailings (m3) - North Cell	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	0
Cummulative Tailings (m3) - South Cell	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	0
Cummulative Tailings (m3) - Goose Pit	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	0
Cummulative Tailings (m3) - Pit E	3,845,147	3,845,147	3,845,147	3,845,147	3,845,147	3,845,147	3,845,147	4,045,623	4,246,099	4,439,168	4,632,237	4,825,306	0
Cummulative Tailings (m3) - Pit A	1,154,681	1,350,799	1,546,917	1,739,103	1,931,289	2,123,475	2,323,951	2,323,951	2,323,951	2,323,951	2,323,951	2,323,951	0
North Cell (TSF)													
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from SD1, SD2, SD6, Japan Sump, ST16, WEP & Interception sump	0	0	0	0	1,625	142,535	34,581	9,815	17,463	0	0	0	**206,019**
Runoff (m3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
Total Inflow (m^3)	0	0	0	0	1,625	220,361	55,375	65,929	43,915	0	0	0	**387,206**
Transfer to South Cell (m^3)	0	0	0	0	0	221,986	55,375	65,929	43,915	0	0	0	**387,206**
Total Outflow (m^3)	0	0	0	0	0	221,986	55,375	65,929	43,915	0	0	0	**387,206**
Net Inflow (m^3)	0	0	0	0	1,625	-1,625	0	0	0	0	0	0	**0**
End-of-Month Volume (m^3)	**361,580**	**361,580**	**361,580**	**361,580**	**363,205**	**361,580**	**361,580**	**361,580**	**361,580**	**361,580**	**361,580**	**361,580**	**0**
South Cell (TSF)													
Pumped from SD3, SD4 & SD5 (m^3)	0	0	0	0	10,616	18,574	468	3,174	2,095	0	0	0	**34,927**
Runoff (m^3)	0	0	0	0	0	42,909	11,465	30,938	14,584	0	0	0	**99,896**
Transfer from North Cell (m^3)	0	0	0	0	0	221,986	55,375	65,929	43,915	0	0	0	**387,206**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	0	0	17,414	61,314	12,312	0	0	0	**91,040**
Transfer from Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	10,616	283,469	84,722	161,355	72,906	0	0	0	**613,068**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Seepage to Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer to Pit A (m^3)	0	0	0	0	24,717	96,443	217,358	80,000	36,094	0	0	0	**454,612**
Transfer to Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	24,717	96,443	217,358	80,000	36,094	0	0	0	**454,612**
Net Inflow (m^3)	0	0	0	0	-14,101	187,026	-132,636	81,355	36,812	0	0	0	**158,456**
End-of-Month Volume (m^3)	**543,113**	**543,113**	**543,113**	**543,113**	**529,012**	**716,038**	**583,402**	**664,757**	**701,569**	**701,569**	**701,569**	**701,569**	**0**
Mill/Camp													
Ore water (m^3)	6,488	5,108	4,514	7,345	8,790	8,644	7,954	7,686	4,140	6,544	5,001	6,200	**78,413**
Reclaim water (m^3)	271,751	245,601	272,044	263,345	272,165	263,378	272,024	263,239	254,232	262,167	253,334	261,380	**3,154,661**
Freshwater from Third Portage Lake (m^3)	116,032	142,183	115,740	116,723	107,904	116,691	124,310	133,095	142,103	119,634	128,467	120,421	**1,483,302**
Total Inflow (m^3)	394,271	392,891	392,298	387,414	388,859	388,713	404,288	404,020	400,474	388,345	386,802	388,000	**4,716,376**
Freshwater for camp purposes (m^3)	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	**36,000**
Slurry water (m^3)	391,271	389,891	389,298	384,414	385,859	385,713	401,288	401,020	397,474	385,345	383,802	385,000	**4,680,376**
Total Outflow (m^3)	394,271	392,891	392,298	387,414	388,859	388,713	404,288	404,020	400,474	388,345	386,802	388,000	**4,716,376**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water pumping rate (m^3/hr)	365	365	366	366	366	366	366	354	353	352	352	351	-
Freshwater pumping rate (m^3/hr)	156	212	156	162	145	162	167	179	197	161	178	162	-
TSF Water Balance													
Slurry water (m^3)	391,271	389,891	389,298	384,414	385,859	385,713	401,288	401,020	397,474	385,345	383,802	385,000	**4,680,376**
North Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
South Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Goose Pit Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Tailings Deposition (%)	100%	100%	100%	100%	100%	100%	100%	0%	0%	0%	0%	0%	**58%**
Pit E Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	100%	100%	100%	100%	100%	**42%**
North Cell Water/Ice Entrapment (%)	65%	65%	65%	65%	40%	25%	25%	25%	25%	40%	65%	65%	**48%**
South Cell Water/Ice Entrapment (%)	65%	65%	65%	65%	40%	25%	25%	25%	25%	40%	65%	65%	**48%**
IPD Water/Ice Entrapment (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	**13%**
Water Entrapment (m^3)	50,865	50,686	50,609	49,974	50,162	50,143	52,167	52,133	51,672	50,095	49,894	50,050	**608,449**
South Cell Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	100%	100%	100%	100%	100%	**41%**
Pit E Reclaim Water (%)	100%	100%	100%	100%	100%	100%	100%	0%	0%	0%	0%	0%	**59%**

	Year 2023												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	**31**	**28**	**31**	**30**	**31**	**30**	**31**	**31**	**30**	**31**	**30**	**31**	**365**
Goose Pit													
Runoff (m^3)	27,218	24,584	27,218	26,340	27,218	65,316	31,116	33,535	46,029	27,218	26,340	27,218	**389,350**
Transfer from South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	27,218	24,584	27,218	26,340	27,218	65,316	31,116	33,535	46,029	27,218	26,340	27,218	**389,350**
Pumped to Pit E (m^3)	0	0	0	0	0	0	367,834	0	0	0	0	0	**367,834**
Pumped to Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	367,834	0	0	0	0	0	**367,834**
Net Inflow (m^3)	27,218	24,584	27,218	26,340	27,218	65,316	-336,718	33,535	46,029	27,218	26,340	27,218	**21,516**
End-of-Month Volume (m^3)	**3,096,542**	**3,121,126**	**3,148,344**	**3,174,684**	**3,201,902**	**3,267,218**	**2,930,500**	**2,964,035**	**3,010,064**	**3,037,282**	**3,063,622**	**3,090,840**	**0**
Pit E (Portage Pit)													
Runoff (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumped from East Dike Seepage (m^3)	0	0	0	0	14,880	16,560	17,112	17,112	14,400	0	0	0	**80,064**
Pumped from Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Slurry water (m^3)	0	0	0	0	0	0	0	348,888	345,802	335,250	333,907	334,950	**1,698,798**
Inflow from Pit A (m^3)	591,084	584,603	589,367	593,826	699,960	823,424	908,439	0	0	0	0	0	**0**
Inflow from Goose Pit (m^3)	0	0	0	0	0	0	367,834	0	0	0	0	0	**367,834**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	592,882	586,227	591,165	595,566	716,638	891,511	1,300,162	375,867	387,093	337,048	335,647	336,748	**7,046,556**
Reclaim water to the mill (m^3)	271,751	245,601	272,044	263,345	272,165	263,378	272,024	0	0	0	0	0	**1,860,309**
Pumped to Pit A (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	273,549	247,225	273,842	265,085	273,963	314,905	278,801	9,867	26,891	1,798	1,740	1,798	**1,969,465**
Net Inflow (m^3)	319,333	339,003	317,323	330,481	442,675	576,606	1,021,360	366,000	360,202	335,250	333,907	334,950	**5,077,091**
End-of-Month Volume (m^3)	**8,448,123**	**8,788,750**	**9,107,871**	**9,440,091**	**9,884,564**	**10,512,697**	**11,540,835**	**11,898,594**	**12,203,635**	**12,347,956**	**12,483,070**	**12,612,998**	**0**
Pit A													
Runoff (m^3)	2,480	2,240	2,480	2,400	2,480	53,245	7,564	10,720	28,085	2,480	2,400	2,480	**119,054**
Slurry water (m^3)	340,406	339,205	338,689	334,440	335,697	335,570	349,121	0	0	0	0	0	**2,373,129**
Transfer from South Cell (m^3)	0	0	0	0	24,717	96,443	217,358	80,000	36,094	0	0	0	**454,612**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	33,280	16,380	0	20,492	0	0	0	0	**70,152**
Pumped from Central Dike Downstream Pond (m^3)	52,080	47,040	52,080	64,800	111,600	129,600	133,920	133,920	108,000	66,960	50,400	52,080	**1,002,480**
Pumped from Pit E (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
East Dike Seepage (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Goose (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	396,764	390,109	395,047	403,380	509,572	682,765	714,740	254,999	199,070	71,238	54,540	56,358	**4,128,583**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	263,239	254,232	262,167	253,334	261,380	**1,294,351**
Outflow to Pit E (m^3)	591,084	584,603	589,367	593,826	699,960	823,424	908,439	0	0	0	0	0	**4,790,704**
Total Outflow (m^3)	591,084	584,603	589,367	593,826	699,960	823,424	908,439	263,239	254,232	262,167	253,334	261,380	**6,085,055**
Net Inflow (m^3)	-194,320	-194,494	-194,320	-190,446	-190,388	-140,659	-193,699	-8,240	-55,162	-190,929	-198,794	-205,022	**-1,956,472**
End-of-Month Volume (m^3)	**3,161,916**	**2,965,798**	**2,769,680**	**2,577,494**	**2,385,308**	**2,193,123**	**1,992,646**	**1,992,646**	**1,992,646**	**1,992,646**	**1,992,646**	**1,992,646**	**0**
Vault Attenuation Pond													
Runoff (m^3)	0	0	0	0	0	118,708	6,053	60,667	30,672	0	0	0	**216,100**
Pumped From Vault Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped From Phaser Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	118,708	6,053	60,667	30,672	0	0	0	**216,100**
Decant - TSS to Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	118,708	6,053	60,667	30,672	0	0	0	**216,100**
End-of-Month Volume (m^3)	**1,493,939**	**1,493,939**	**1,493,939**	**1,493,939**	**1,493,939**	**1,612,647**	**1,618,700**	**1,679,367**	**1,710,039**	**1,710,040**	**1,710,040**	**1,710,040**	**0**
Vault Open Pit													
Runoff (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
Transfer from Phaser Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
Transfer to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
End-of-Month Volume (m^3)	**831,198**	**831,198**	**831,198**	**831,198**	**831,198**	**897,724**	**915,500**	**963,466**	**986,078**	**986,078**	**986,078**	**986,078**	**0**
Phaser Open Pit (including Phaser Lake)													
Runoff (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Total Inflow (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Transfer to Vault Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
End-of-Month Volume (m^3)	**685,878**	**685,878**	**685,878**	**685,878**	**685,878**	**759,530**	**779,210**	**832,314**	**857,348**	**857,348**	**857,348**	**857,348**	**0**

2024

	Year 2024												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	31	29	31	30	31	30	31	31	30	31	30	31	366
Tailings (tonnes):	358,664	358,664	358,664	347,664	347,664	347,664	362,605	362,605	362,605	349,272	349,272	349,272	4,254,613
Cumulative Tailings (tonnes):	46,300,856	46,659,519	47,018,183	47,365,847	47,713,511	48,061,174	48,423,779	48,786,385	49,148,990	49,498,262	49,847,533	50,196,805	0
Cummulative Tailings (m3) - North Cell	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	0
Cummulative Tailings (m3) - South Cell	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	0
Cummulative Tailings (m3) - Goose Pit	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	0
Cummulative Tailings (m3) - Pit E	5,024,563	5,223,821	5,423,079	5,616,225	5,809,372	6,002,518	6,203,965	6,405,413	6,606,860	6,800,900	6,994,940	7,188,980	0
Cummulative Tailings (m3) - Pit A	2,323,951	2,323,951	2,323,951	2,323,951	2,323,951	2,323,951	2,323,951	2,323,951	2,323,951	2,323,951	2,323,951	2,323,951	0
North Cell (TSF)													
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from SD1, SD2, SD6, Japan Sump, ST16, WEP & Interception sump	0	0	0	0	1,625	142,535	34,581	9,815	17,463	0	0	0	**206,019**
Runoff (m3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
Total Inflow (m^3)	0	0	0	0	1,625	220,361	55,375	65,929	43,915	0	0	0	**387,206**
Transfer to South Cell (m^3)	0	0	0	0	0	221,986	55,375	65,929	43,915	0	0	0	**387,206**
Total Outflow (m^3)	0	0	0	0	0	221,986	55,375	65,929	43,915	0	0	0	**387,206**
Net Inflow (m^3)	0	0	0	0	1,625	-1,625	0	0	0	0	0	0	**0**
End-of-Month Volume (m^3)	**361,580**	**361,580**	**361,580**	**361,580**	**363,205**	**361,580**	**361,580**	**361,580**	**361,580**	**361,580**	**361,580**	**361,580**	**0**
South Cell (TSF)													
Pumped from SD3, SD4 & SD5 (m^3)	0	0	0	0	10,616	18,574	468	3,174	2,095	0	0	0	**34,927**
Runoff (m^3)	0	0	0	0	0	42,909	11,465	30,938	14,584	0	0	0	**99,896**
Transfer from North Cell (m^3)	0	0	0	0	0	221,986	55,375	65,929	43,915	0	0	0	**387,206**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	0	0	17,414	61,314	12,312	0	0	0	**91,040**
Transfer from Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	10,616	283,469	84,722	161,355	72,906	0	0	0	**613,068**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Seepage to Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer to Pit A (m^3)	0	0	0	0	24,717	96,443	217,358	80,000	36,094	0	0	0	**454,612**
Transfer to Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	24,717	96,443	217,358	80,000	36,094	0	0	0	**454,612**
Net Inflow (m^3)	0	0	0	0	-14,101	187,026	-132,636	81,355	36,812	0	0	0	**158,456**
End-of-Month Volume (m^3)	**701,569**	**701,569**	**701,569**	**701,569**	**687,468**	**874,494**	**741,858**	**823,213**	**860,025**	**860,025**	**860,025**	**860,025**	**0**
Mill/Camp													
Ore water (m^3)	6,592	5,189	4,586	7,382	8,834	8,687	7,993	7,723	4,160	6,577	5,026	6,231	**78,980**
Reclaim water (m^3)	260,968	243,707	260,025	251,164	259,034	250,020	257,364	255,649	246,451	253,747	244,947	252,484	**3,035,560**
Freshwater from Third Portage Lake (m^3)	132,975	150,237	133,918	130,789	122,920	131,933	140,876	142,590	151,789	129,959	138,759	131,222	**1,637,968**
Total Inflow (m^3)	400,535	399,133	398,530	389,335	390,787	390,641	406,232	405,963	402,399	390,283	388,732	389,937	**4,752,508**
Freshwater for camp purposes (m^3)	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	**36,000**
Slurry water (m^3)	397,535	396,133	395,530	386,335	387,787	387,641	403,232	402,963	399,399	387,283	385,732	386,937	**4,716,508**
Total Outflow (m^3)	400,535	399,133	398,530	389,335	390,787	390,641	406,232	405,963	402,399	390,283	388,732	389,937	**4,752,508**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water pumping rate (m^3/hr)	351	350	349	349	348	347	346	344	342	341	340	339	-
Freshwater pumping rate (m^3/hr)	179	216	180	182	165	183	189	192	211	175	193	176	-
TSF Water Balance													
Slurry water (m^3)	397,535	396,133	395,530	386,335	387,787	387,641	403,232	402,963	399,399	387,283	385,732	386,937	**4,716,508**
North Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
South Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Goose Pit Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit E Tailings Deposition (%)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	**100%**
North Cell Water/Ice Entrapment (%)	65%	65%	65%	65%	40%	25%	25%	25%	25%	40%	65%	65%	**48%**
South Cell Water/Ice Entrapment (%)	65%	65%	65%	65%	40%	25%	25%	25%	25%	40%	65%	65%	**48%**
IPD Water/Ice Entrapment (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	**13%**
Water Entrapment (m^3)	51,680	51,497	51,419	50,224	50,412	50,393	52,420	52,385	51,922	50,347	50,145	50,302	**613,146**
South Cell Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Reclaim Water (%)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	**100%**
Pit E Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**

	Year 2024												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	**31**	**29**	**31**	**30**	**31**	**30**	**31**	**31**	**30**	**31**	**30**	**31**	**366**
Goose Pit													
Runoff (m^3)	27,218	24,584	27,218	26,340	27,218	65,316	31,116	33,535	46,029	27,218	26,340	27,218	**389,350**
Transfer from South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	27,218	24,584	27,218	26,340	27,218	65,316	31,116	33,535	46,029	27,218	26,340	27,218	**389,350**
Pumped to Pit E (m^3)	0	0	0	0	0	0	367,834	0	0	0	0	0	**367,834**
Pumped to Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	367,834	0	0	0	0	0	**367,834**
Net Inflow (m^3)	27,218	24,584	27,218	26,340	27,218	65,316	-336,718	33,535	46,029	27,218	26,340	27,218	**21,516**
End-of-Month Volume (m^3)	**3,118,058**	**3,142,642**	**3,169,860**	**3,196,200**	**3,223,418**	**3,288,734**	**2,952,017**	**2,985,552**	**3,031,581**	**3,058,799**	**3,085,139**	**3,112,357**	**0**
Pit E (Portage Pit)													
Runoff (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumped from East Dike Seepage (m^3)	0	0	0	0	14,880	16,560	17,112	17,112	14,400	0	0	0	**80,064**
Pumped from Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Slurry water (m^3)	345,856	344,636	344,111	336,112	337,375	337,247	350,812	350,578	347,477	336,937	335,587	336,635	**4,103,362**
Inflow from Pit A (m^3)	0	0	0	0	0	45,648	101,478	0	0	0	0	0	**0**
Inflow from Goose Pit (m^3)	0	0	0	0	0	0	367,834	0	0	0	0	0	**367,834**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	347,654	346,260	345,909	337,852	354,053	450,982	844,013	377,557	388,768	338,735	337,327	338,433	**4,807,542**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Net Inflow (m^3)	345,856	344,636	344,111	336,112	352,255	399,455	837,236	367,690	361,877	336,937	335,587	336,635	**4,698,386**
End-of-Month Volume (m^3)	**12,754,244**	**12,906,077**	**13,046,521**	**13,200,408**	**13,467,504**	**13,918,487**	**14,762,500**	**15,129,539**	**15,444,036**	**15,598,463**	**15,743,643**	**15,884,152**	**0**
Pit A													
Runoff (m^3)	2,480	2,240	2,480	2,400	2,480	53,245	7,564	10,720	28,085	2,480	2,400	2,480	**119,054**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer from South Cell (m^3)	0	0	0	0	24,717	96,443	217,358	80,000	36,094	0	0	0	**454,612**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	33,280	16,380	0	20,492	0	0	0	0	**70,152**
Pumped from Central Dike Downstream Pond (m^3)	52,080	47,040	52,080	64,800	111,600	129,600	133,920	133,920	108,000	66,960	50,400	52,080	**1,002,480**
Pumped from Pit E (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
East Dike Seepage (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Goose (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	56,358	50,904	56,358	68,940	173,875	347,195	365,619	254,999	199,070	71,238	54,540	56,358	**1,755,454**
Reclaim water to the mill (m^3)	260,968	243,707	260,025	251,164	259,034	250,020	257,364	255,649	246,451	253,747	244,947	252,484	**3,035,560**
Outflow to Pit E (m^3)	0	0	0	0	0	45,648	101,478	0	0	0	0	0	**147,126**
Total Outflow (m^3)	260,968	243,707	260,025	251,164	259,034	295,668	358,842	255,649	246,451	253,747	244,947	252,484	**3,182,686**
Net Inflow (m^3)	-204,610	-192,803	-203,667	-182,224	-85,159	51,527	6,777	-650	-47,381	-182,509	-190,407	-196,126	**-1,427,232**
End-of-Month Volume (m^3)	**1,992,646**	**1,992,646**	**1,992,646**	**1,992,646**	**1,992,646**	**1,992,646**	**1,992,646**	**1,992,646**	**1,992,646**	**1,992,646**	**1,992,646**	**1,992,646**	**0**
Vault Attenuation Pond													
Runoff (m^3)	0	0	0	0	0	118,708	6,053	60,667	30,672	0	0	0	**216,100**
Pumped From Vault Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped From Phaser Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	118,708	6,053	60,667	30,672	0	0	0	**216,100**
Decant - TSS to Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	118,708	6,053	60,667	30,672	0	0	0	**216,100**
End-of-Month Volume (m^3)	**1,710,040**	**1,710,040**	**1,710,040**	**1,710,040**	**1,710,040**	**1,828,748**	**1,834,801**	**1,895,468**	**1,926,140**	**1,926,140**	**1,926,140**	**1,926,140**	**0**
Vault Open Pit													
Runoff (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
Transfer from Phaser Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
Transfer to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
End-of-Month Volume (m^3)	**986,078**	**986,078**	**986,078**	**986,078**	**986,078**	**1,052,604**	**1,070,379**	**1,118,346**	**1,140,957**	**1,140,957**	**1,140,957**	**1,140,957**	**0**
Phaser Open Pit (including Phaser Lake)													
Runoff (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Total Inflow (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Transfer to Vault Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
End-of-Month Volume (m^3)	**857,348**	**857,348**	**857,348**	**857,348**	**857,348**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**0**

2025

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	ANNUAL TOTAL
	Year 2025												
No. of days	31	28	31	30	31	30	31	31	30	31	30	31	365
Tailings (tonnes):	356,501	356,501	356,501	349,462	349,462	349,462	364,423	364,423	364,423	351,090	351,090	351,090	4,264,426
Cumulative Tailings (tonnes):	50,553,306	50,909,806	51,266,307	51,615,769	51,965,231	52,314,693	52,679,116	53,043,539	53,407,962	53,759,052	54,110,141	54,461,231	0
Cummulative Tailings (m3) - North Cell	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	0
Cummulative Tailings (m3) - South Cell	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	0
Cummulative Tailings (m3) - Goose Pit	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	0
Cummulative Tailings (m3) - Pit E	7,387,036	7,585,092	7,783,147	7,977,293	8,171,439	8,365,584	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	0
Cummulative Tailings (m3) - Pit A	2,323,951	2,323,951	2,323,951	2,323,951	2,323,951	2,323,951	2,323,951	2,526,408	2,728,865	2,923,915	3,118,965	3,314,015	0
North Cell (TSF)													
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from SD1, SD2, SD6, Japan Sump, ST16, WEP & Interception sump	0	0	0	0	1,625	142,535	34,581	9,815	17,463	0	0	0	**206,019**
Runoff (m3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
Total Inflow (m^3)	0	0	0	0	1,625	220,361	55,375	65,929	43,915	0	0	0	**387,206**
Transfer to South Cell (m^3)	0	0	0	0	0	221,986	55,375	65,929	43,915	0	0	0	**387,206**
Total Outflow (m^3)	0	0	0	0	0	221,986	55,375	65,929	43,915	0	0	0	**387,206**
Net Inflow (m^3)	0	0	0	0	1,625	-1,625	0	0	0	0	0	0	**0**
End-of-Month Volume (m^3)	**361,580**	**361,580**	**361,580**	**361,580**	**363,205**	**361,580**	**361,580**	**361,580**	**361,580**	**361,580**	**361,580**	**361,580**	**0**
South Cell (TSF)													
Pumped from SD3, SD4 & SD5 (m^3)	0	0	0	0	10,616	18,574	468	3,174	2,095	0	0	0	**34,927**
Runoff (m^3)	0	0	0	0	0	42,909	11,465	30,938	14,584	0	0	0	**99,896**
Transfer from North Cell (m^3)	0	0	0	0	0	221,986	55,375	65,929	43,915	0	0	0	**387,206**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	0	0	17,414	61,314	12,312	0	0	0	**91,040**
Transfer from Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	10,616	283,469	84,722	161,355	72,906	0	0	0	**613,068**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Seepage to Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer to Pit A (m^3)	0	0	0	0	24,717	96,443	217,358	80,000	36,094	0	0	0	**454,612**
Transfer to Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	24,717	96,443	217,358	80,000	36,094	0	0	0	**454,612**
Net Inflow (m^3)	0	0	0	0	-14,101	187,026	-132,636	81,355	36,812	0	0	0	**158,456**
End-of-Month Volume (m^3)	**860,025**	**860,025**	**860,025**	**860,025**	**845,924**	**1,032,950**	**900,314**	**981,669**	**1,018,481**	**1,018,481**	**1,018,481**	**1,018,481**	**0**
Mill/Camp													
Ore water (m^3)	6,552	5,158	4,559	7,420	8,880	8,732	8,033	7,762	4,181	6,611	5,052	6,263	**79,202**
Reclaim water (m^3)	251,854	226,882	250,482	241,740	249,082	240,123	246,779	250,662	241,116	247,766	238,853	245,891	**2,931,231**
Freshwater from Third Portage Lake (m^3)	139,732	164,703	141,104	142,173	134,832	143,790	153,442	149,559	159,105	137,922	146,834	139,797	**1,752,994**
Total Inflow (m^3)	398,138	396,744	396,144	391,334	392,793	392,646	408,254	407,983	404,402	392,299	390,740	391,951	**4,763,427**
Freshwater for camp purposes (m^3)	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	**36,000**
Slurry water (m^3)	395,138	393,744	393,144	388,334	389,793	389,646	405,254	404,983	401,402	389,299	387,740	388,951	**4,727,427**
Total Outflow (m^3)	398,138	396,744	396,144	391,334	392,793	392,646	408,254	407,983	404,402	392,299	390,740	391,951	**4,763,427**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water pumping rate (m^3/hr)	339	338	337	336	335	334	332	337	335	333	332	330	-
Freshwater pumping rate (m^3/hr)	188	245	190	197	181	200	206	201	221	185	204	188	-
TSF Water Balance													
Slurry water (m^3)	395,138	393,744	393,144	388,334	389,793	389,646	405,254	404,983	401,402	389,299	387,740	388,951	**4,727,427**
North Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
South Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Goose Pit Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	100%	100%	100%	100%	100%	**42%**
Pit E Tailings Deposition (%)	100%	100%	100%	100%	100%	100%	100%	0%	0%	0%	0%	0%	**58%**
North Cell Water/Ice Entrapment (%)	65%	65%	65%	65%	40%	25%	25%	25%	25%	40%	65%	65%	**48%**
South Cell Water/Ice Entrapment (%)	65%	65%	65%	65%	40%	25%	25%	25%	25%	40%	65%	65%	**48%**
IPD Water/Ice Entrapment (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	**13%**
Water Entrapment (m^3)	51,368	51,187	51,109	50,483	50,673	50,654	52,683	52,648	52,182	50,609	50,406	50,564	**614,565**
South Cell Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Reclaim Water (%)	100%	100%	100%	100%	100%	100%	100%	0%	0%	0%	0%	0%	**58%**
Pit E Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	100%	100%	100%	100%	100%	**42%**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	ANNUAL TOTAL
	Year 2025												
No. of days	**31**	**28**	**31**	**30**	**31**	**30**	**31**	**31**	**30**	**31**	**30**	**31**	**365**
Goose Pit													
Runoff (m^3)	27,218	24,584	27,218	26,340	27,218	65,316	31,116	33,535	46,029	27,218	26,340	27,218	**389,350**
Transfer from South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	27,218	24,584	27,218	26,340	27,218	65,316	31,116	33,535	46,029	27,218	26,340	27,218	**389,350**
Pumped to Pit E (m^3)	0	0	0	0	0	0	367,834	0	0	0	0	0	**367,834**
Pumped to Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	367,834	0	0	0	0	0	**367,834**
Net Inflow (m^3)	27,218	24,584	27,218	26,340	27,218	65,316	-336,718	33,535	46,029	27,218	26,340	27,218	**21,516**
End-of-Month Volume (m^3)	**3,139,575**	**3,164,159**	**3,191,377**	**3,217,717**	**3,244,935**	**3,310,251**	**2,973,533**	**3,007,068**	**3,053,097**	**3,080,315**	**3,106,655**	**3,133,873**	**0**
Pit E (Portage Pit)													
Runoff (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumped from East Dike Seepage (m^3)	0	0	0	0	14,880	16,560	17,112	17,112	14,400	0	0	0	**80,064**
Pumped from Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Slurry water (m^3)	343,770	342,557	342,036	337,850	339,120	338,992	352,571	0	0	0	0	0	**2,396,896**
Inflow from Pit A (m^3)	0	0	0	0	0	55,545	112,063	799,924	723,856	603,180	585,183	587,997	**0**
Inflow from Goose Pit (m^3)	0	0	0	0	0	0	367,834	0	0	0	0	0	**367,834**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	345,568	344,181	343,834	339,590	355,798	462,624	856,356	826,903	765,147	604,978	586,923	589,795	2,953,949
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	250,662	241,116	247,766	238,853	245,891	**1,224,288**
Pumped to Pit A (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	260,529	268,007	249,564	240,593	247,689	**1,333,444**
Net Inflow (m^3)	343,770	342,557	342,036	337,850	354,000	411,097	849,579	566,374	497,140	355,414	346,330	342,106	**5,088,253**
End-of-Month Volume (m^3)	**16,032,426**	**16,199,005**	**16,346,917**	**16,511,967**	**16,790,760**	**17,253,384**	**18,109,740**	**18,685,981**	**19,210,012**	**19,567,224**	**19,915,294**	**20,259,198**	**0**
Pit A													
Runoff (m^3)	2,480	2,240	2,480	2,400	2,480	53,245	7,564	10,720	28,085	2,480	2,400	2,480	**119,054**
Slurry water (m^3)	0	0	0	0	0	0	0	352,335	349,219	338,690	337,334	338,387	**1,715,966**
Transfer from South Cell (m^3)	0	0	0	0	24,717	96,443	217,358	80,000	36,094	0	0	0	**454,612**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	33,280	16,380	0	20,492	0	0	0	0	**70,152**
Pumped from Central Dike Downstream Pond (m^3)	52,080	47,040	52,080	64,800	111,600	129,600	133,920	133,920	108,000	66,960	50,400	52,080	**1,002,480**
Pumped from Pit E (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
East Dike Seepage (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Goose (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	56,358	50,904	56,358	68,940	173,875	347,195	365,619	607,334	548,289	409,928	391,874	394,745	**3,471,420**
Reclaim water to the mill (m^3)	251,854	226,882	250,482	241,740	249,082	240,123	246,779	0	0	0	0	0	**1,706,942**
Outflow to Pit E (m^3)	0	0	0	0	0	55,545	112,063	799,924	723,856	603,180	585,183	587,997	**3,467,748**
Total Outflow (m^3)	251,854	226,882	250,482	241,740	249,082	295,668	358,842	799,924	723,856	603,180	585,183	587,997	**5,174,691**
Net Inflow (m^3)	-195,496	-175,978	-194,124	-172,800	-75,207	51,527	6,777	-192,590	-175,566	-193,252	-193,310	-193,252	**-1,703,271**
End-of-Month Volume (m^3)	**1,992,646**	**1,992,646**	**1,992,646**	**1,992,646**	**1,992,646**	**1,992,646**	**1,992,646**	**1,790,189**	**1,587,732**	**1,392,682**	**1,197,632**	**1,002,582**	**0**
Vault Attenuation Pond													
Runoff (m^3)	0	0	0	0	0	118,708	6,053	60,667	30,672	0	0	0	**216,100**
Pumped From Vault Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped From Phaser Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	118,708	6,053	60,667	30,672	0	0	0	**216,100**
Decant - TSS to Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	118,708	6,053	60,667	30,672	0	0	0	**216,100**
End-of-Month Volume (m^3)	**1,926,140**	**1,926,140**	**1,926,140**	**1,926,140**	**1,926,140**	**2,044,848**	**2,050,901**	**2,111,568**	**2,456,434**	**2,456,434**	**2,456,434**	**2,456,434**	**0**
Vault Open Pit													
Runoff (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
Transfer from Phaser Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
Transfer to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
End-of-Month Volume (m^3)	**1,140,957**	**1,140,957**	**1,140,957**	**1,140,957**	**1,140,957**	**1,207,483**	**1,225,259**	**1,273,225**	**1,295,837**	**1,295,837**	**1,295,837**	**1,295,837**	**0**
Phaser Open Pit (including Phaser Lake)													
Runoff (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Total Inflow (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Transfer to Vault Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
End-of-Month Volume (m^3)	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**0**

2026

	Year 2026												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	31	28	31	30	31	30	31	31	30	31	30	31	365
Tailings (tonnes):	270,000	270,000	270,000	270,000	270,000	270,000	0	0	0	0	0	0	1,620,000
Cumulative Tailings (tonnes):	54,731,231	55,001,231	55,271,231	55,541,231	55,811,231	56,081,231	56,081,231	56,081,231	56,081,231	56,081,231	56,081,231	56,081,231	0
Cummulative Tailings (m3) - North Cell	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	0
Cummulative Tailings (m3) - South Cell	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	0
Cummulative Tailings (m3) - Goose Pit	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	0
Cummulative Tailings (m3) - Pit E	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	0
Cummulative Tailings (m3) - Pit A	3,464,015	3,614,015	3,764,015	3,914,015	4,064,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	0
North Cell (TSF)													
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from SD1, SD2, SD6, Japan Sump, ST16, WEP & Interception sump	0	0	0	0	1,625	142,535	34,581	9,815	17,463	0	0	0	**206,019**
Runoff (m3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
Total Inflow (m^3)	0	0	0	0	1,625	220,361	55,375	65,929	43,915	0	0	0	**387,206**
Transfer to South Cell (m^3)	0	0	0	0	0	221,986	55,375	65,929	43,915	0	0	0	**387,206**
Total Outflow (m^3)	0	0	0	0	0	221,986	55,375	65,929	43,915	0	0	0	**387,206**
Net Inflow (m^3)	0	0	0	0	1,625	-1,625	0	0	0	0	0	0	**0**
End-of-Month Volume (m^3)	**361,580**	**361,580**	**361,580**	**361,580**	**363,205**	**361,580**	**361,580**	**361,580**	**361,580**	**361,580**	**361,580**	**361,580**	**0**
South Cell (TSF)													
Pumped from SD3, SD4 & SD5 (m^3)	0	0	0	0	10,616	18,574	468	3,174	2,095	0	0	0	**34,927**
Runoff (m^3)	0	0	0	0	0	42,909	11,465	30,938	14,584	0	0	0	**99,896**
Transfer from North Cell (m^3)	0	0	0	0	0	221,986	55,375	65,929	43,915	0	0	0	**387,206**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	0	0	17,414	61,314	12,312	0	0	0	**91,040**
Transfer from Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	10,616	283,469	84,722	161,355	72,906	0	0	0	**613,068**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Seepage to Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer to Pit A (m^3)	0	0	0	0	24,717	96,443	217,358	80,000	36,094	0	0	0	**454,612**
Transfer to Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	24,717	96,443	217,358	80,000	36,094	0	0	0	**454,612**
Net Inflow (m^3)	0	0	0	0	-14,101	187,026	-132,636	81,355	36,812	0	0	0	**158,456**
End-of-Month Volume (m^3)	**1,018,481**	**1,018,481**	**1,018,481**	**1,018,481**	**1,004,380**	**1,191,406**	**1,058,770**	**1,140,125**	**1,176,937**	**1,176,937**	**1,176,937**	**1,176,937**	**0**
Mill/Camp													
Ore water (m^3)	4,962	3,907	3,453	5,733	6,860	6,747	0	0	0	0	0	0	**31,661**
Reclaim water (m^3)	244,985	220,754	243,782	235,366	242,585	233,879	0	0	0	0	0	0	**1,421,349**
Freshwater from Third Portage Lake (m^3)	52,315	76,546	53,518	61,934	54,715	63,421	2,976	2,976	2,880	2,976	2,880	2,976	**380,115**
Total Inflow (m^3)	302,262	301,207	300,753	303,033	304,160	304,047	2,976	2,976	2,880	2,976	2,880	2,976	**1,833,125**
Freshwater for camp purposes (m^3)	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	**36,000**
Slurry water (m^3)	299,262	298,207	297,753	300,033	301,160	301,047	-24	-24	-120	-24	-120	-24	**1,797,125**
Total Outflow (m^3)	302,262	301,207	300,753	303,033	304,160	304,047	2,976	2,976	2,880	2,976	2,880	2,976	**1,833,125**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water pumping rate (m^3/hr)	329	329	328	327	326	325	0	0	0	0	0	0	-
Freshwater pumping rate (m^3/hr)	70	114	72	86	74	88	4	4	4	4	4	4	-
TSF Water Balance													
Slurry water (m^3)	299,262	298,207	297,753	300,033	301,160	301,047	(24)	(24)	(120)	(24)	(120)	(24)	**1,797,125**
North Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
South Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Goose Pit Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Tailings Deposition (%)	100%	100%	100%	100%	100%	100%	0%	0%	0%	0%	0%	0%	**50%**
Pit E Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
North Cell Water/Ice Entrapment (%)	65%	65%	65%	65%	40%	25%	25%	25%	25%	40%	65%	65%	**48%**
South Cell Water/Ice Entrapment (%)	65%	65%	65%	65%	40%	25%	25%	25%	25%	40%	65%	65%	**48%**
IPD Water/Ice Entrapment (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	**13%**
Water Entrapment (m^3)	38,904	38,767	38,708	39,004	39,151	39,136	-	-	-	-	-	-	**233,670**
South Cell Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	100%	100%	100%	100%	100%	**0%**
Pit E Reclaim Water (%)	100%	100%	100%	100%	100%	100%	100%	0%	0%	0%	0%	0%	**100%**

	Year 2026												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	**31**	**28**	**31**	**30**	**31**	**30**	**31**	**31**	**30**	**31**	**30**	**31**	**365**
Goose Pit													
Runoff (m^3)	27,218	24,584	27,218	26,340	27,218	65,316	31,116	33,535	46,029	27,218	26,340	27,218	**389,350**
Transfer from South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	111,600	100,800	111,600	108,000	111,600	108,000	111,600	111,600	108,000	111,600	108,000	0	**0**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	138,818	125,384	138,818	134,340	138,818	173,316	142,716	145,135	154,029	138,818	134,340	27,218	**1,591,750**
Pumped to Pit E (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	138,818	125,384	138,818	134,340	138,818	173,316	142,716	145,135	154,029	138,818	134,340	27,218	**1,591,750**
End-of-Month Volume (m^3)	**3,272,691**	**3,398,075**	**3,536,893**	**3,671,233**	**3,810,051**	**3,983,367**	**4,126,083**	**4,271,218**	**4,425,247**	**4,564,065**	**4,698,405**	**4,725,623**	**0**
Pit E (Portage Pit)													
Runoff (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumped from East Dike Seepage (m^3)	0	0	0	0	14,880	16,560	17,112	17,112	14,400	0	0	0	**80,064**
Pumped from Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Inflow from Pit A (m^3)	464,918	458,720	463,605	478,229	584,087	707,579	358,842	245,132	172,179	69,440	52,800	54,560	**0**
Inflow from Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	466,716	460,344	465,403	479,969	600,765	775,666	382,731	272,111	213,470	71,238	54,540	56,358	**4,299,309**
Reclaim water to the mill (m^3)	244,985	220,754	243,782	235,366	242,585	233,879	0	0	0	0	0	0	**1,421,349**
Pumped to Pit A (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	246,783	222,378	245,580	237,106	244,383	285,406	6,777	9,867	26,891	1,798	1,740	1,798	**1,530,505**
Net Inflow (m^3)	219,934	237,966	219,823	242,863	356,382	490,260	375,954	262,244	186,579	69,440	52,800	54,560	**2,768,804**
End-of-Month Volume (m^3)	**20,480,930**	**20,720,520**	**20,942,141**	**21,186,743**	**21,544,923**	**22,086,710**	**22,469,441**	**22,741,552**	**22,955,022**	**23,026,260**	**23,080,800**	**23,137,158**	**0**
Pit A													
Runoff (m^3)	2,480	2,240	2,480	2,400	2,480	53,245	7,564	10,720	28,085	2,480	2,400	2,480	**119,054**
Slurry water (m^3)	260,358	259,440	259,045	261,029	262,010	261,911	0	0	0	0	0	0	**1,563,791**
Transfer from South Cell (m^3)	0	0	0	0	24,717	96,443	217,358	80,000	36,094	0	0	0	**454,612**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	33,280	16,380	0	20,492	0	0	0	0	**70,152**
Pumped from Central Dike Downstream Pond (m^3)	52,080	47,040	52,080	64,800	111,600	129,600	133,920	133,920	108,000	66,960	50,400	52,080	**1,002,480**
Pumped from Pit E (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
East Dike Seepage (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Goose (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	316,716	310,344	315,403	329,969	435,885	609,106	365,619	254,999	199,070	71,238	54,540	56,358	**3,319,245**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Outflow to Pit E (m^3)	464,918	458,720	463,605	478,229	584,087	707,579	358,842	245,132	172,179	69,440	52,800	54,560	**4,110,089**
Total Outflow (m^3)	464,918	458,720	463,605	478,229	584,087	707,579	358,842	245,132	172,179	69,440	52,800	54,560	**4,110,089**
Net Inflow (m^3)	-148,202	-148,376	-148,202	-148,260	-148,202	-98,473	6,777	9,867	26,891	1,798	1,740	1,798	**-790,844**
End-of-Month Volume (m^3)	**852,582**	**702,582**	**552,582**	**402,582**	**252,582**	**102,582**	**102,582**	**102,582**	**102,582**	**102,582**	**102,582**	**102,582**	**0**
Vault Attenuation Pond													
Runoff (m^3)	0	0	0	0	0	118,708	6,053	60,667	30,672	0	0	0	**216,100**
Pumped From Vault Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped From Phaser Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	118,708	6,053	60,667	30,672	0	0	0	**216,100**
Decant - TSS to Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	118,708	6,053	60,667	30,672	0	0	0	**216,100**
End-of-Month Volume (m^3)	**2,456,434**	**2,456,434**	**2,456,434**	**2,456,434**	**2,456,434**	**2,575,142**	**2,581,195**	**2,641,862**	**2,672,534**	**2,672,534**	**2,672,534**	**2,672,534**	**0**
Vault Open Pit													
Runoff (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
Transfer from Phaser Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
Transfer to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
End-of-Month Volume (m^3)	**1,295,837**	**1,295,837**	**1,295,837**	**1,295,837**	**1,295,837**	**1,362,363**	**1,380,138**	**1,428,105**	**1,450,716**	**1,450,716**	**1,450,716**	**1,450,716**	**0**
Phaser Open Pit (including Phaser Lake)													
Runoff (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Total Inflow (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Transfer to Vault Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
End-of-Month Volume (m^3)	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**0**

2027

	Year 2027												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	31	28	31	30	31	30	31	31	30	31	30	31	365
Tailings (tonnes):	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative Tailings (tonnes):	56,081,231	56,081,231	56,081,231	56,081,231	56,081,231	56,081,231	56,081,231	56,081,231	56,081,231	56,081,231	56,081,231	56,081,231	0
Cummulative Tailings (m3) - North Cell	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	0
Cummulative Tailings (m3) - South Cell	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	0
Cummulative Tailings (m3) - Goose Pit	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	0
Cummulative Tailings (m3) - Pit E	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	0
Cummulative Tailings (m3) - Pit A	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	0
North Cell (TSF)													
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from SD1, SD2, SD6, Japan Sump, ST16, WEP & Interception sump	0	0	0	0	1,625	142,535	34,581	9,815	17,463	0	0	0	**206,019**
Runoff (m3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
Total Inflow (m^3)	0	0	0	0	1,625	220,361	55,375	65,929	43,915	0	0	0	**387,206**
Transfer to South Cell (m^3)	0	0	0	0	0	221,986	55,375	65,929	43,915	0	0	0	**387,206**
Total Outflow (m^3)	0	0	0	0	0	221,986	55,375	65,929	43,915	0	0	0	**387,206**
Net Inflow (m^3)	0	0	0	0	1,625	-1,625	0	0	0	0	0	0	**0**
End-of-Month Volume (m^3)	**361,580**	**361,580**	**361,580**	**361,580**	**363,205**	**361,580**	**361,580**	**361,580**	**361,580**	**361,580**	**361,580**	**361,580**	**0**
South Cell (TSF)													
Pumped from SD3, SD4 & SD5 (m^3)	0	0	0	0	10,616	18,574	468	3,174	2,095	0	0	0	**34,927**
Runoff (m^3)	0	0	0	0	0	42,909	11,465	30,938	14,584	0	0	0	**99,896**
Transfer from North Cell (m^3)	0	0	0	0	0	221,986	55,375	65,929	43,915	0	0	0	**387,206**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	0	0	17,414	61,314	12,312	0	0	0	**91,040**
Transfer from Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	10,616	283,469	84,722	161,355	72,906	0	0	0	**613,068**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Seepage to Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer to Pit A (m^3)	0	0	0	0	24,717	96,443	217,358	80,000	36,094	0	0	0	**454,612**
Transfer to Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	24,717	96,443	217,358	80,000	36,094	0	0	0	**454,612**
Net Inflow (m^3)	0	0	0	0	-14,101	187,026	-132,636	81,355	36,812	0	0	0	**158,456**
End-of-Month Volume (m^3)	**1,176,937**	**1,176,937**	**1,176,937**	**1,176,937**	**1,162,836**	**1,349,862**	**1,217,226**	**1,298,581**	**1,335,393**	**1,335,393**	**1,335,393**	**1,335,393**	**0**
Mill/Camp													
Ore water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Freshwater from Third Portage Lake (m^3)	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	**36,000**
Total Inflow (m^3)	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	**36,000**
Freshwater for camp purposes (m^3)	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	**36,000**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	**36,000**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water pumping rate (m^3/hr)	0	0	0	0	0	0	0	0	0	0	0	0	**-**
Freshwater pumping rate (m^3/hr)	4	4	4	4	4	4	4	4	4	4	4	4	**-**
TSF Water Balance													
Slurry water (m^3)	-	-	-	-	-	-	-	-	-	-	-	-	**-**
North Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
South Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Goose Pit Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit E Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
North Cell Water/Ice Entrapment (%)	90%	90%	90%	90%	90%	30%	30%	30%	30%	75%	80%	90%	**68%**
South Cell Water/Ice Entrapment (%)	46%	46%	46%	46%	40%	32%	32%	32%	32%	40%	46%	46%	**40%**
IPD Water/Ice Entrapment (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	**13%**
Water Entrapment (m^3)	-	-	-	-	-	-	-	-	-	-	-	-	**-**
South Cell Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Reclaim Water (%)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	**0%**
Pit E Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**

	Year 2027												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	**31**	**28**	**31**	**30**	**31**	**30**	**31**	**31**	**30**	**31**	**30**	**31**	**365**
Goose Pit													
Runoff (m^3)	27,218	24,584	27,218	26,340	27,218	65,316	31,116	33,535	46,029	27,218	26,340	27,218	**389,350**
Transfer from South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	27,218	24,584	27,218	26,340	27,218	65,316	31,116	33,535	46,029	27,218	26,340	27,218	**389,350**
Pumped to Pit E (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumpted to O-WTP to Third Portage Lake (m3)	1,190,400	1,113,600	928,512	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	1,190,400	1,113,600	928,512	0	0	0	0	0	0	0	0	0	**3,232,512**
Net Inflow (m^3)	-1,163,182	-1,089,016	-901,294	26,340	27,218	65,316	31,116	33,535	46,029	27,218	26,340	27,218	**-2,843,162**
End-of-Month Volume (m^3)	**4,752,841**	**4,777,425**	**4,804,643**	**4,830,983**	**4,858,201**	**4,923,517**	**4,954,633**	**4,988,168**	**5,034,197**	**5,061,415**	**5,087,755**	**5,114,973**	**0**
Pit E (Portage Pit)													
Runoff (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumped from East Dike Seepage (m^3)	0	0	0	0	14,880	16,560	17,112	17,112	14,400	0	0	0	**80,064**
Pumped from Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Inflow from Pit A (m^3)	2,480	2,240	2,480	2,400	60,477	166,068	224,922	111,212	64,179	2,480	2,400	2,480	**0**
Inflow from Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	4,278	3,864	4,278	4,140	77,155	234,155	248,811	138,191	105,470	4,278	4,140	4,278	**833,038**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	261,888	1,152,000	1,190,400	1,152,000	1,190,400	1,190,400	1,152,000	1,190,400	1,152,000	1,190,400	**0**
Total Outflow (m^3)	1,798	1,624	263,686	1,153,740	1,192,198	1,203,527	1,197,177	1,200,267	1,178,891	1,192,198	1,153,740	1,192,198	**10,931,044**
Net Inflow (m^3)	2,480	2,240	-259,408	-1,149,600	-1,115,043	-969,372	-948,366	-1,062,076	-1,073,421	-1,187,920	-1,149,600	-1,187,920	**-10,098,006**
End-of-Month Volume (m^3)	**23,141,436**	**23,145,300**	**22,887,690**	**21,739,830**	**20,626,585**	**19,708,740**	**18,767,151**	**17,714,942**	**16,668,412**	**15,482,290**	**14,334,430**	**13,148,308**	**0**
Pit A													
Runoff (m^3)	2,480	2,240	2,480	2,400	2,480	53,245	7,564	10,720	28,085	2,480	2,400	2,480	**119,054**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer from South Cell (m^3)	0	0	0	0	24,717	96,443	217,358	80,000	36,094	0	0	0	**454,612**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	33,280	16,380	0	20,492	0	0	0	0	**70,152**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Pit E (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
East Dike Seepage (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Goose (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	4,278	3,864	4,278	4,140	62,275	217,595	231,699	121,079	91,070	4,278	4,140	4,278	**752,974**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Outflow to Pit E (m^3)	2,480	2,240	2,480	2,400	60,477	166,068	224,922	111,212	64,179	2,480	2,400	2,480	**643,818**
Total Outflow (m^3)	2,480	2,240	2,480	2,400	60,477	166,068	224,922	111,212	64,179	2,480	2,400	2,480	**643,818**
Net Inflow (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
End-of-Month Volume (m^3)	**102,582**	**102,582**	**102,582**	**102,582**	**102,582**	**102,582**	**102,582**	**102,582**	**102,582**	**102,582**	**102,582**	**102,582**	**0**
Vault Attenuation Pond													
Runoff (m^3)	0	0	0	0	0	118,708	6,053	60,667	30,672	0	0	0	**216,100**
Pumped From Vault Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped From Phaser Pit (m^3)	0	0	0	0	0	21,551	19,679	53,105	25,033	0	0	0	**119,368**
Total Inflow (m^3)	0	0	0	0	0	140,259	25,732	113,772	55,705	0	0	0	**335,468**
Decant - TSS to Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	140,259	25,732	113,772	55,705	0	0	0	**335,468**
End-of-Month Volume (m^3)	**2,672,534**	**2,672,534**	**2,672,534**	**2,672,534**	**2,672,534**	**2,812,793**	**2,838,525**	**2,952,297**	**3,008,002**	**3,008,002**	**3,008,002**	**3,008,002**	**0**
Vault Open Pit													
Runoff (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
Transfer from Phaser Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
Transfer to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
End-of-Month Volume (m^3)	**1,450,716**	**1,450,716**	**1,450,716**	**1,450,716**	**1,450,716**	**1,517,242**	**1,535,018**	**1,582,984**	**1,605,596**	**1,605,596**	**1,605,596**	**1,605,596**	**0**
Phaser Open Pit (including Phaser Lake)													
Runoff (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Total Inflow (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Transfer to Vault Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Vault Attenuation Pond (m^3)	0	0	0	0	0	21,551	19,679	53,105	25,033	0	0	0	**119,368**
Total Outflow (m^3)	0	0	0	0	0	21550.66298	19679.2	53104.9	25033.1	0	0	0	**119,368**
Net Inflow (m^3)	0	0	0	0	0	52,102	0	0	0	0	0	0	**52,102**
End-of-Month Volume (m^3)	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**0**

2028

	Year 2028												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	31	29	31	30	31	30	31	31	30	31	30	31	366
Tailings (tonnes):	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative Tailings (tonnes):	0	0	0	0	0	0	0	0	0	0	0	0	0
Cummulative Tailings (m3) - North Cell	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	0
Cummulative Tailings (m3) - South Cell	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	0
Cummulative Tailings (m3) - Goose Pit	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	0
Cummulative Tailings (m3) - Pit E	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	0
Cummulative Tailings (m3) - Pit A	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	0
North Cell (TSF)													
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from SD1, SD2, SD6, Japan Sump, ST16, WEP & Interception sump	0	0	0	0	1,625	142,535	34,581	9,815	17,463	0	0	0	**206,019**
Runoff (m3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
Total Inflow (m^3)	0	0	0	0	1,625	220,361	55,375	65,929	43,915	0	0	0	**387,206**
Transfer to South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	1,625	220,361	55,375	65,929	43,915	0	0	0	**387,206**
End-of-Month Volume (m^3)	**361,580**	**361,580**	**361,580**	**361,580**	**363,205**	**583,566**	**638,941**	**704,871**	**748,785**	**748,785**	**748,785**	**748,785**	**0**
South Cell (TSF)													
Pumped from SD3, SD4 & SD5 (m^3)	0	0	0	0	10,616	18,574	468	3,174	2,095	0	0	0	**34,927**
Runoff (m^3)	0	0	0	0	0	42,909	11,465	30,938	14,584	0	0	0	**99,896**
Transfer from North Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	0	0	17,414	61,314	12,312	0	0	0	**91,040**
Transfer from Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	10,616	61,483	29,347	95,426	28,991	0	0	0	**225,863**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Seepage to Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer to Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer to Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	10,616	61,483	29,347	95,426	28,991	0	0	0	**225,863**
End-of-Month Volume (m^3)	**1,335,393**	**1,335,393**	**1,335,393**	**1,335,393**	**1,346,009**	**1,407,491**	**1,436,838**	**1,532,264**	**1,561,255**	**1,561,255**	**1,561,255**	**1,561,255**	**0**
Mill/Camp													
Ore water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Freshwater from Third Portage Lake (m^3)	2,945	2,755	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,770**
Total Inflow (m^3)	2,945	2,755	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,770**
Freshwater for camp purposes (m^3)	2,945	2,755	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,770**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	2,945	2,755	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,770**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water pumping rate (m^3/hr)	0	0	0	0	0	0	0	0	0	0	0	0	**-**
Freshwater pumping rate (m^3/hr)	4	4	4	4	4	4	4	4	4	4	4	4	**-**
TSF Water Balance													
Slurry water (m^3)	-	-	-	-	-	-	-	-	-	-	-	-	-
North Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
South Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Goose Pit Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit E Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
North Cell Water/Ice Entrapment (%)	90%	90%	90%	90%	90%	30%	30%	30%	30%	75%	80%	90%	**68%**
South Cell Water/Ice Entrapment (%)	46%	46%	46%	46%	40%	32%	32%	32%	32%	40%	46%	46%	**40%**
IPD Water/Ice Entrapment (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	**13%**
Water Entrapment (m^3)	-	-	-	-	-	-	-	-	-	-	-	-	-
South Cell Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit E Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**

	Year 2028												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	**31**	**29**	**31**	**30**	**31**	**30**	**31**	**31**	**30**	**31**	**30**	**31**	**366**
Goose Pit													
Runoff (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
Transfer from South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
Pumped to Pit E (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
End-of-Month Volume (m^3)	**5,134,104**	**5,153,417**	**5,172,548**	**5,191,679**	**5,210,992**	**5,271,708**	**5,301,950**	**5,351,247**	**5,384,512**	**5,403,643**	**5,422,956**	**5,442,087**	**0**
Pit E (Portage Pit)													
Runoff (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumped from East Dike Seepage (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	372,000	360,000	372,000	**0**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Inflow from Pit A (m^3)	0	14,964	14,964	14,964	48,244	67,472	24,617	61,505	27,243	14,964	14,964	14,964	**0**
Inflow from Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	1,798	16,588	16,762	16,704	50,042	118,999	31,394	71,372	54,134	388,762	376,704	388,762	**1,532,020**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumpted to O-WTP to Third Portage Lake (m3)	1,190,400	1,075,200	1,190,400	1,152,000	1,190,400	1,152,000	1,190,400	1,190,400	1,152,000	0	0	0	**0**
Total Outflow (m^3)	1,192,198	1,076,824	1,192,198	1,153,740	1,192,198	1,203,527	1,197,177	1,200,267	1,178,891	1,798	1,740	1,798	**10,592,356**
Net Inflow (m^3)	-1,190,400	-1,060,236	-1,175,436	-1,137,036	-1,142,156	-1,084,528	-1,165,783	-1,128,895	-1,124,757	386,964	374,964	386,964	**-9,060,336**
End-of-Month Volume (m^3)	**11,765,879**	**10,707,267**	**9,533,629**	**8,398,332**	**7,257,974**	**6,224,973**	**5,065,967**	**3,946,939**	**2,849,073**	**3,237,835**	**3,614,539**	**4,003,301**	**0**
Pit A													
Runoff (m^3)	0	0	0	0	0	36,128	9,653	26,049	12,279	0	0	0	**84,109**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer from South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	33,280	16,380	0	20,492	0	0	0	0	**70,152**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Pit E (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
East Dike Seepage (m^3)	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	**179,567**
Pumped from Goose (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	16,762	16,588	16,762	16,704	50,042	118,999	31,394	71,372	54,134	16,762	16,704	16,762	**442,984**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Outflow to Pit E (m^3)	0	14,964	14,964	14,964	48,244	67,472	24,617	61,505	27,243	14,964	14,964	14,964	**318,864**
Total Outflow (m^3)	0	14,964	14,964	14,964	48,244	67,472	24,617	61,505	27,243	14,964	14,964	14,964	**318,864**
Net Inflow (m^3)	16,762	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**124,120**
End-of-Month Volume (m^3)	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**0**
Vault Attenuation Pond													
Runoff (m^3)	0	0	0	0	0	118,708	6,053	60,667	30,672	0	0	0	**216,100**
Pumped From Vault Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped From Phaser Pit (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Total Inflow (m^3)	0	0	0	0	0	192,360	25,732	113,772	55,705	0	0	0	**387,570**
Decant - TSS to Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	192,360	25,732	113,772	55,705	0	0	0	**387,570**
End-of-Month Volume (m^3)	**3,008,002**	**3,008,002**	**3,008,002**	**3,008,002**	**3,008,002**	**3,200,363**	**3,226,095**	**3,339,867**	**3,395,572**	**3,395,572**	**3,395,572**	**3,395,572**	**0**
Vault Open Pit													
Runoff (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
Transfer from Phaser Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Wally Lake (m^3)	351,912	329,208	351,912	340,560	351,912	340,560	351,912	351,912	340,560	351,912	340,560	351,912	**4,154,832**
Total Inflow (m^3)	351,912	329,208	351,912	340,560	351,912	407,086	369,687	399,879	363,171	351,912	340,560	351,912	**4,309,712**
Transfer to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	351,912	329,208	351,912	340,560	351,912	407,086	369,687	399,879	363,171	351,912	340,560	351,912	**4,309,712**
End-of-Month Volume (m^3)	**1,957,508**	**2,286,716**	**2,638,628**	**2,979,188**	**3,331,100**	**3,738,186**	**4,107,873**	**4,507,752**	**4,870,923**	**5,222,835**	**5,563,395**	**5,915,307**	**0**
Phaser Open Pit (including Phaser Lake)													
Runoff (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Total Inflow (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Transfer to Vault Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Vault Attenuation Pond (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Total Outflow (m^3)	0	0	0	0	0	73652.3	19679.2	53104.9	25033.1	0	0	0	**171,470**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
End-of-Month Volume (m^3)	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**0**

2029

	Year 2029												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	31	28	31	30	31	30	31	31	30	31	30	31	365
Tailings (tonnes):	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative Tailings (tonnes):	0	0	0	0	0	0	0	0	0	0	0	0	0
Cummulative Tailings (m3) - North Cell	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	0
Cummulative Tailings (m3) - South Cell	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	0
Cummulative Tailings (m3) - Goose Pit	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	0
Cummulative Tailings (m3) - Pit E	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	0
Cummulative Tailings (m3) - Pit A	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	0
North Cell (TSF)													
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from SD1, SD2, SD6, Japan Sump, ST16, WEP & Interception sump	0	0	0	0	1,625	142,535	34,581	9,815	17,463	0	0	0	**206,019**
Runoff (m3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
Total Inflow (m^3)	0	0	0	0	1,625	220,361	55,375	65,929	43,915	0	0	0	**387,206**
Transfer to South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	1,625	220,361	55,375	65,929	43,915	0	0	0	**387,206**
End-of-Month Volume (m^3)	**748,785**	**748,785**	**748,785**	**748,785**	**750,410**	**970,771**	**1,026,147**	**1,092,076**	**1,135,991**	**1,135,991**	**1,135,991**	**1,135,991**	**0**
South Cell (TSF)													
Pumped from SD3, SD4 & SD5 (m^3)	0	0	0	0	10,616	18,574	468	3,174	2,095	0	0	0	**34,927**
Runoff (m^3)	0	0	0	0	0	42,909	11,465	30,938	14,584	0	0	0	**99,896**
Transfer from North Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	0	0	17,414	61,314	12,312	0	0	0	**91,040**
Transfer from Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	10,616	61,483	29,347	95,426	28,991	0	0	0	**225,863**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Seepage to Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer to Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer to Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	10,616	61,483	29,347	95,426	28,991	0	0	0	**225,863**
End-of-Month Volume (m^3)	**1,561,255**	**1,561,255**	**1,561,255**	**1,561,255**	**1,571,871**	**1,633,354**	**1,662,701**	**1,758,127**	**1,787,118**	**1,787,118**	**1,787,118**	**1,787,118**	**0**
Mill/Camp													
Ore water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Freshwater from Third Portage Lake (m^3)	2,945	2,660	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,675**
Total Inflow (m^3)	2,945	2,660	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,675**
Freshwater for camp purposes (m^3)	2,945	2,660	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,675**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	2,945	2,660	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,675**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water pumping rate (m^3/hr)	0	0	0	0	0	0	0	0	0	0	0	0	-
Freshwater pumping rate (m^3/hr)	4	4	4	4	4	4	4	4	4	4	4	4	-
TSF Water Balance													
Slurry water (m^3)	-	-	-	-	-	-	-	-	-	-	-	-	-
North Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
South Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Goose Pit Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit E Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
North Cell Water/Ice Entrapment (%)	90%	90%	90%	90%	90%	30%	30%	30%	30%	75%	80%	90%	**68%**
South Cell Water/Ice Entrapment (%)	46%	46%	46%	46%	40%	32%	32%	32%	32%	40%	46%	46%	**40%**
IPD Water/Ice Entrapment (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	**13%**
Water Entrapment (m^3)	-	-	-	-	-	-	-	-	-	-	-	-	-
South Cell Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit E Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**

	Year 2029												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	**31**	**28**	**31**	**30**	**31**	**30**	**31**	**31**	**30**	**31**	**30**	**31**	**365**
Goose Pit													
Runoff (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
Transfer from South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
Pumped to Pit E (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
End-of-Month Volume (m^3)	**5,461,218**	**5,480,531**	**5,499,662**	**5,518,793**	**5,538,106**	**5,598,822**	**5,629,064**	**5,678,361**	**5,711,626**	**5,730,757**	**5,750,070**	**5,769,201**	**0**
Pit E (Portage Pit)													
Runoff (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumped from East Dike Seepage (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	372,000	336,000	372,000	360,000	372,000	360,000	372,000	372,000	360,000	372,000	360,000	372,000	**0**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Inflow from Pit A (m^3)	25,276	14,964	14,964	14,964	48,244	67,472	24,617	61,505	27,243	14,964	14,964	14,964	**0**
Inflow from Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	399,074	352,588	388,762	376,704	422,042	478,999	403,394	443,372	414,134	388,762	376,704	388,762	**4,833,296**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Net Inflow (m^3)	397,276	350,964	386,964	374,964	420,244	427,472	396,617	433,505	387,243	386,964	374,964	386,964	**4,724,140**
End-of-Month Volume (m^3)	**4,392,063**	**4,744,651**	**5,133,413**	**5,510,117**	**5,932,158**	**6,411,157**	**6,814,551**	**7,257,923**	**7,672,057**	**8,060,819**	**8,437,523**	**8,826,285**	**0**
Pit A													
Runoff (m^3)	0	0	0	0	0	36,128	9,653	26,049	12,279	0	0	0	**84,109**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer from South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	33,280	16,380	0	20,492	0	0	0	0	**70,152**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Pit E (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
East Dike Seepage (m^3)	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	**179,567**
Pumped from Goose (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	16,762	16,588	16,762	16,704	50,042	118,999	31,394	71,372	54,134	16,762	16,704	16,762	**442,984**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Outflow to Pit E (m^3)	25,276	14,964	14,964	14,964	48,244	67,472	24,617	61,505	27,243	14,964	14,964	14,964	**344,140**
Total Outflow (m^3)	25,276	14,964	14,964	14,964	48,244	67,472	24,617	61,505	27,243	14,964	14,964	14,964	**344,140**
Net Inflow (m^3)	-8,514	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**98,844**
End-of-Month Volume (m^3)	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**0**
Vault Attenuation Pond													
Runoff (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped From Vault Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped From Phaser Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Decant - TSS to Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
End-of-Month Volume (m^3)	**3,395,572**	**3,395,572**	**3,395,572**	**3,395,572**	**3,395,572**	**3,395,572**	**3,395,572**	**3,395,572**	**3,395,572**	**3,395,572**	**3,395,572**	**3,395,572**	**0**
Vault Open Pit													
Runoff (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
Transfer from Phaser Pit (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Pumped from Wally Lake (m^3)	351,912	317,856	351,912	340,560	351,912	340,560	351,912	351,912	340,560	351,912	340,560	351,912	**4,143,480**
Total Inflow (m^3)	351,912	317,856	351,912	340,560	351,912	480,739	389,366	452,984	388,204	351,912	340,560	351,912	**4,469,829**
Transfer to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	351,912	317,856	351,912	340,560	351,912	480,739	389,366	452,984	388,204	351,912	340,560	351,912	**4,469,829**
End-of-Month Volume (m^3)	**6,267,219**	**6,585,075**	**6,936,987**	**7,277,547**	**7,629,459**	**8,110,198**	**8,499,564**	**8,952,548**	**9,340,752**	**9,692,664**	**10,033,224**	**10,385,136**	**0**
Phaser Open Pit (including Phaser Lake)													
Runoff (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Total Inflow (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Transfer to Vault Pit (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Pumped to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	73652.3	19679.2	53104.9	25033.1	0	0	0	**171,470**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
End-of-Month Volume (m^3)	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**0**

2030

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	ANNUAL TOTAL
	Year 2030												
No. of days	31	28	31	30	31	30	31	31	30	31	30	31	365
Tailings (tonnes):	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative Tailings (tonnes):	0	0	0	0	0	0	0	0	0	0	0	0	0
Cummulative Tailings (m3) - North Cell	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	0
Cummulative Tailings (m3) - South Cell	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	0
Cummulative Tailings (m3) - Goose Pit	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	0
Cummulative Tailings (m3) - Pit E	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	0
Cummulative Tailings (m3) - Pit A	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	0
North Cell (TSF)													
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from SD1, SD2, SD6, Japan Sump, ST16, WEP & Interception sump	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (m3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
Total Inflow (m^3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
Transfer to South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
End-of-Month Volume (m^3)	**1,135,991**	**1,135,991**	**1,135,991**	**1,135,991**	**1,135,991**	**1,213,817**	**1,234,611**	**1,290,726**	**1,317,177**	**1,317,177**	**1,317,177**	**1,317,177**	**0**
South Cell (TSF)													
Pumped from SD3, SD4 & SD5 (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (m^3)	0	0	0	0	0	42,909	11,465	30,938	14,584	0	0	0	**99,896**
Transfer from North Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	0	0	17,414	61,314	12,312	0	0	0	**91,040**
Transfer from Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	42,909	28,879	92,252	26,896	0	0	0	**190,936**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Seepage to Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer to Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer to Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	42,909	28,879	92,252	26,896	0	0	0	**190,936**
End-of-Month Volume (m^3)	**1,787,118**	**1,787,118**	**1,787,118**	**1,787,118**	**1,787,118**	**1,830,026**	**1,858,905**	**1,951,157**	**1,978,053**	**1,978,053**	**1,978,053**	**1,978,053**	**0**
Mill/Camp													
Ore water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Freshwater from Third Portage Lake (m^3)	2,945	2,660	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,675**
Total Inflow (m^3)	2,945	2,660	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,675**
Freshwater for camp purposes (m^3)	2,945	2,660	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,675**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	2,945	2,660	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,675**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water pumping rate (m^3/hr)	0	0	0	0	0	0	0	0	0	0	0	0	**-**
Freshwater pumping rate (m^3/hr)	4	4	4	4	4	4	4	4	4	4	4	4	**-**
TSF Water Balance													
Slurry water (m^3)	-	-	-	-	-	-	-	-	-	-	-	-	-
North Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
South Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Goose Pit Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit E Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
North Cell Water/Ice Entrapment (%)	90%	90%	90%	90%	90%	30%	30%	30%	30%	75%	80%	90%	**68%**
South Cell Water/Ice Entrapment (%)	46%	46%	46%	46%	40%	32%	32%	32%	32%	40%	46%	46%	**40%**
IPD Water/Ice Entrapment (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	**13%**
Water Entrapment (m^3)	-	-	-	-	-	-	-	-	-	-	-	-	-
South Cell Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit E Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**

	Year 2030												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	**31**	**28**	**31**	**30**	**31**	**30**	**31**	**31**	**30**	**31**	**30**	**31**	**365**
Goose Pit													
Runoff (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
Transfer from South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
Pumped to Pit E (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
End-of-Month Volume (m^3)	**5,788,332**	**5,807,645**	**5,826,776**	**5,845,907**	**5,865,220**	**5,925,936**	**5,956,178**	**6,005,475**	**6,038,740**	**6,057,871**	**6,077,184**	**6,096,315**	**0**
Pit E (Portage Pit)													
Runoff (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumped from East Dike Seepage (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	372,000	336,000	372,000	360,000	372,000	360,000	372,000	372,000	360,000	372,000	360,000	372,000	**0**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Inflow from Pit A (m^3)	14,964	14,964	14,964	14,964	48,244	0	0	0	0	0	0	0	**0**
Inflow from Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	388,762	352,588	388,762	376,704	422,042	411,527	378,777	381,867	386,891	373,798	361,740	373,798	**4,597,256**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Net Inflow (m^3)	386,964	350,964	386,964	374,964	420,244	360,000	372,000	372,000	360,000	372,000	360,000	372,000	**4,488,100**
End-of-Month Volume (m^3)	**9,215,047**	**9,567,635**	**9,956,397**	**10,333,101**	**10,755,143**	**11,166,670**	**11,545,447**	**11,927,314**	**12,314,205**	**12,688,003**	**13,049,743**	**13,423,541**	**0**
Pit A													
Runoff (m^3)	0	0	0	0	0	36,128	9,653	26,049	12,279	0	0	0	**84,109**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer from South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	33,280	16,380	0	20,492	0	0	0	0	**70,152**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Pit E (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
East Dike Seepage (m^3)	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	**179,567**
Pumped from Goose (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	16,762	16,588	16,762	16,704	50,042	118,999	31,394	71,372	54,134	16,762	16,704	16,762	**442,984**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Outflow to Pit E (m^3)	14,964	14,964	14,964	14,964	48,244	0	0	0	0	0	0	0	**108,100**
Total Outflow (m^3)	14,964	14,964	14,964	14,964	48,244	0	0	0	0	0	0	0	**108,100**
Net Inflow (m^3)	1,798	1,624	1,798	1,740	1,798	118,999	31,394	71,372	54,134	16,762	16,704	16,762	**334,884**
End-of-Month Volume (m^3)	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**0**
Vault Attenuation Pond													
Runoff (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped From Vault Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped From Phaser Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Decant - TSS to Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
End-of-Month Volume (m^3)	**3,395,572**	**3,395,572**	**3,395,572**	**3,395,572**	**3,395,572**	**3,395,572**	**3,395,572**	**3,395,572**	**3,395,572**	**3,395,573**	**3,395,573**	**3,395,573**	**0**
Vault Open Pit													
Runoff (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
Transfer from Phaser Pit (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Pumped from Wally Lake (m^3)	351,912	317,856	351,912	340,560	351,912	340,560	351,912	351,912	340,560	351,912	340,560	351,912	**4,143,480**
Total Inflow (m^3)	351,912	317,856	351,912	340,560	351,912	480,739	389,366	452,984	388,204	351,912	340,560	351,912	**4,469,829**
Transfer to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	351,912	317,856	351,912	340,560	351,912	480,739	389,366	452,984	388,204	351,912	340,560	351,912	**4,469,829**
End-of-Month Volume (m^3)	**10,737,048**	**11,054,904**	**11,406,816**	**11,747,376**	**12,099,288**	**12,580,027**	**12,969,393**	**13,422,377**	**13,810,581**	**14,162,493**	**14,503,053**	**14,854,965**	**0**
Phaser Open Pit (including Phaser Lake)													
Runoff (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Total Inflow (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Transfer to Vault Pit (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Pumped to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	73652.3	19679.2	53104.9	25033.1	0	0	0	**171,470**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
End-of-Month Volume (m^3)	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**0**

2031

	Year 2031												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	31	28	31	30	31	30	31	31	30	31	30	31	365
Tailings (tonnes):	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative Tailings (tonnes):	0	0	0	0	0	0	0	0	0	0	0	0	0
Cummulative Tailings (m3) - North Cell	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	0
Cummulative Tailings (m3) - South Cell	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	0
Cummulative Tailings (m3) - Goose Pit	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	0
Cummulative Tailings (m3) - Pit E	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	0
Cummulative Tailings (m3) - Pit A	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	0
North Cell (TSF)													
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from SD1, SD2, SD6, Japan Sump, ST16, WEP & Interception sump	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (m3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
Total Inflow (m^3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
Transfer to South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
End-of-Month Volume (m^3)	**1,317,177**	**1,317,177**	**1,317,177**	**1,317,177**	**1,317,177**	**1,395,003**	**1,415,798**	**1,471,912**	**1,498,364**	**1,498,364**	**1,498,364**	**1,498,364**	**0**
South Cell (TSF)													
Pumped from SD3, SD4 & SD5 (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (m^3)	0	0	0	0	0	42,909	11,465	30,938	14,584	0	0	0	**99,896**
Transfer from North Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	0	0	17,414	61,314	12,312	0	0	0	**91,040**
Transfer from Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	42,909	28,879	92,252	26,896	0	0	0	**190,936**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Seepage to Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer to Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer to Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	42,909	28,879	92,252	26,896	0	0	0	**190,936**
End-of-Month Volume (m^3)	**1,978,053**	**1,978,053**	**1,978,053**	**1,978,053**	**1,978,053**	**2,020,962**	**2,049,841**	**2,142,093**	**2,168,989**	**2,168,989**	**2,168,989**	**2,168,989**	**0**
Mill/Camp													
Ore water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Freshwater from Third Portage Lake (m^3)	2,945	2,660	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,675**
Total Inflow (m^3)	2,945	2,660	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,675**
Freshwater for camp purposes (m^3)	2,945	2,660	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,675**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	2,945	2,660	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,675**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water pumping rate (m^3/hr)	0	0	0	0	0	0	0	0	0	0	0	0	-
Freshwater pumping rate (m^3/hr)	4	4	4	4	4	4	4	4	4	4	4	4	-
TSF Water Balance													
Slurry water (m^3)	-	-	-	-	-	-	-	-	-	-	-	-	-
North Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
South Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Goose Pit Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit E Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
North Cell Water/Ice Entrapment (%)	90%	90%	90%	90%	90%	30%	30%	30%	30%	75%	80%	90%	**68%**
South Cell Water/Ice Entrapment (%)	46%	46%	46%	46%	40%	32%	32%	32%	32%	40%	46%	46%	**40%**
IPD Water/Ice Entrapment (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	**13%**
Water Entrapment (m^3)	-	-	-	-	-	-	-	-	-	-	-	-	-
South Cell Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit E Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**

	Year 2031												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	**31**	**28**	**31**	**30**	**31**	**30**	**31**	**31**	**30**	**31**	**30**	**31**	**365**
Goose Pit													
Runoff (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
Transfer from South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
Pumped to Pit E (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
End-of-Month Volume (m^3)	**6,115,446**	**6,134,759**	**6,153,890**	**6,173,021**	**6,192,334**	**6,253,050**	**6,283,292**	**6,332,589**	**6,365,854**	**6,384,985**	**6,404,298**	**6,423,429**	**0**
Pit E (Portage Pit)													
Runoff (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumped from East Dike Seepage (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	372,000	348,000	372,000	360,000	372,000	360,000	372,000	372,000	360,000	372,000	360,000	372,000	**4,380,000**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Inflow from Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Inflow from Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	373,798	349,624	373,798	361,740	373,798	411,527	378,777	381,867	386,891	373,798	361,740	373,798	**4,501,156**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Net Inflow (m^3)	372,000	348,000	372,000	360,000	372,000	360,000	372,000	372,000	360,000	372,000	360,000	372,000	**4,392,000**
End-of-Month Volume (m^3)	**13,797,339**	**14,146,963**	**14,520,761**	**14,882,501**	**15,256,299**	**15,667,826**	**16,046,603**	**16,428,470**	**16,815,361**	**17,189,159**	**17,550,899**	**17,924,697**	**0**
Pit A													
Runoff (m^3)	0	0	0	0	0	36,128	9,653	26,049	12,279	0	0	0	**84,109**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer from South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	33,280	16,380	0	20,492	0	0	0	0	**70,152**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Pit E (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
East Dike Seepage (m^3)	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	**179,567**
Pumped from Goose (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	16,762	16,588	16,762	16,704	50,042	118,999	31,394	71,372	54,134	16,762	16,704	16,762	**442,984**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Outflow to Pit E (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	16,762	16,588	16,762	16,704	50,042	118,999	31,394	71,372	54,134	16,762	16,704	16,762	**442,984**
End-of-Month Volume (m^3)	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**0**
Vault Attenuation Pond													
Runoff (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped From Vault Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped From Phaser Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Decant - TSS to Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
End-of-Month Volume (m^3)	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**0**
Vault Open Pit													
Runoff (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
Transfer from Phaser Pit (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Pumped from Wally Lake (m^3)	351,912	317,856	351,912	340,560	351,912	340,560	351,912	351,912	340,560	351,912	340,560	351,912	**4,143,480**
Total Inflow (m^3)	351,912	317,856	351,912	340,560	351,912	480,739	389,366	452,984	388,204	351,912	340,560	351,912	**4,469,829**
Transfer to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	351,912	317,856	351,912	340,560	351,912	480,739	389,366	452,984	388,204	351,912	340,560	351,912	**4,469,829**
End-of-Month Volume (m^3)	**15,206,877**	**15,524,733**	**15,876,645**	**16,217,205**	**16,569,117**	**17,049,856**	**17,439,222**	**17,892,206**	**18,280,410**	**18,632,322**	**18,972,882**	**19,324,794**	**0**
Phaser Open Pit (including Phaser Lake)													
Runoff (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Total Inflow (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Transfer to Vault Pit (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Pumped to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	73652.3	19679.2	53104.9	25033.1	0	0	0	**171,470**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
End-of-Month Volume (m^3)	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**0**

2032

	Year 2032												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	31	28	31	30	31	30	31	31	30	31	30	31	365
Tailings (tonnes):	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative Tailings (tonnes):	0	0	0	0	0	0	0	0	0	0	0	0	0
Cummulative Tailings (m3) - North Cell	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	0
Cummulative Tailings (m3) - South Cell	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	0
Cummulative Tailings (m3) - Goose Pit	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	0
Cummulative Tailings (m3) - Pit E	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	0
Cummulative Tailings (m3) - Pit A	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	0
North Cell (TSF)													
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from SD1, SD2, SD6, Japan Sump, ST16, WEP & Interception sump	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (m3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
Total Inflow (m^3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
Transfer to South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
End-of-Month Volume (m^3)	**1,498,364**	**1,498,364**	**1,498,364**	**1,498,364**	**1,498,364**	**1,576,190**	**1,596,984**	**1,653,099**	**1,679,550**	**1,679,550**	**1,679,550**	**1,679,550**	**0**
South Cell (TSF)													
Pumped from SD3, SD4 & SD5 (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (m^3)	0	0	0	0	0	42,909	11,465	30,938	14,584	0	0	0	**99,896**
Transfer from North Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer from Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	42,909	11,465	30,938	14,584	0	0	0	**99,896**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Seepage to Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer to Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer to Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	42,909	11,465	30,938	14,584	0	0	0	**99,896**
End-of-Month Volume (m^3)	**2,168,989**	**2,168,989**	**2,168,989**	**2,168,989**	**2,168,989**	**2,211,897**	**2,223,362**	**2,254,300**	**2,268,884**	**2,268,884**	**2,268,884**	**2,268,884**	**0**
Mill/Camp													
Ore water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Freshwater from Third Portage Lake (m^3)	2,945	2,755	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,770**
Total Inflow (m^3)	2,945	2,755	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,770**
Freshwater for camp purposes (m^3)	2,945	2,755	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,770**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	2,945	2,755	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,770**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water pumping rate (m^3/hr)	0	0	0	0	0	0	0	0	0	0	0	0	-
Freshwater pumping rate (m^3/hr)	4	4	4	4	4	4	4	4	4	4	4	4	-
TSF Water Balance													
Slurry water (m^3)	-	-	-	-	-	-	-	-	-	-	-	-	-
North Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
South Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Goose Pit Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit E Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
North Cell Water/Ice Entrapment (%)	90%	90%	90%	90%	90%	30%	30%	30%	30%	75%	80%	90%	**68%**
South Cell Water/Ice Entrapment (%)	46%	46%	46%	46%	40%	32%	32%	32%	32%	40%	46%	46%	**40%**
IPD Water/Ice Entrapment (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	**13%**
Water Entrapment (m^3)	-	-	-	-	-	-	-	-	-	-	-	-	-
South Cell Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit E Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**

	Year 2032												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	**31**	**28**	**31**	**30**	**31**	**30**	**31**	**31**	**30**	**31**	**30**	**31**	**365**
Goose Pit													
Runoff (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
Transfer from South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
Pumped to Pit E (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
End-of-Month Volume (m^3)	**6,442,560**	**6,461,873**	**6,481,004**	**6,500,135**	**6,519,448**	**6,580,164**	**6,610,406**	**6,659,703**	**6,692,968**	**6,712,099**	**6,731,412**	**6,750,543**	**0**
Pit E (Portage Pit)													
Runoff (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumped from East Dike Seepage (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	372,000	336,000	372,000	360,000	372,000	360,000	372,000	372,000	360,000	372,000	360,000	372,000	**4,392,000**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Inflow from Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Inflow from Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	373,798	337,624	373,798	361,740	373,798	411,527	378,777	381,867	386,891	373,798	361,740	373,798	**4,489,156**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Net Inflow (m^3)	372,000	336,000	372,000	360,000	372,000	360,000	372,000	372,000	360,000	372,000	360,000	372,000	**4,380,000**
End-of-Month Volume (m^3)	**18,298,495**	**18,636,119**	**19,009,917**	**19,371,657**	**19,745,455**	**20,156,982**	**20,535,759**	**20,917,626**	**21,304,517**	**21,678,315**	**22,040,055**	**22,413,853**	**0**
Pit A													
Runoff (m^3)	0	0	0	0	0	36,128	9,653	26,049	12,279	0	0	0	**84,109**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer from South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	33,280	16,380	0	20,492	0	0	0	0	**70,152**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Pit E (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
East Dike Seepage (m^3)	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	**179,567**
Pumped from Goose (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	16,762	16,588	16,762	16,704	50,042	118,999	31,394	71,372	54,134	16,762	16,704	16,762	**442,984**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Outflow to Pit E (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	16,762	16,588	16,762	16,704	50,042	118,999	31,394	71,372	54,134	16,762	16,704	16,762	**442,984**
End-of-Month Volume (m^3)	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**0**
Vault Attenuation Pond													
Runoff (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped From Vault Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped From Phaser Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Decant - TSS to Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
End-of-Month Volume (m^3)	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**0**
Vault Open Pit													
Runoff (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
Transfer from Phaser Pit (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Pumped from Wally Lake (m^3)	351,912	329,208	351,912	340,560	351,912	340,560	351,912	351,912	340,560	351,912	340,560	351,912	**4,154,832**
Total Inflow (m^3)	351,912	329,208	351,912	340,560	351,912	480,739	389,366	452,984	388,204	351,912	340,560	351,912	**4,481,181**
Transfer to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	351,912	329,208	351,912	340,560	351,912	480,739	389,366	452,984	388,204	351,912	340,560	351,912	**4,481,181**
End-of-Month Volume (m^3)	**19,676,706**	**20,005,914**	**20,357,826**	**20,698,386**	**21,050,298**	**21,531,037**	**21,920,403**	**22,373,387**	**22,761,591**	**23,113,503**	**23,454,063**	**23,805,975**	**0**
Phaser Open Pit (including Phaser Lake)													
Runoff (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Total Inflow (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Transfer to Vault Pit (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Pumped to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	73652.3	19679.2	53104.9	25033.1	0	0	0	**171,470**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
End-of-Month Volume (m^3)	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**0**

2033

	Year 2033												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	31	28	31	30	31	30	31	31	30	31	30	31	365
Tailings (tonnes):	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative Tailings (tonnes):	0	0	0	0	0	0	0	0	0	0	0	0	0
Cummulative Tailings (m3) - North Cell	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	0
Cummulative Tailings (m3) - South Cell	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	0
Cummulative Tailings (m3) - Goose Pit	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	0
Cummulative Tailings (m3) - Pit E	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	0
Cummulative Tailings (m3) - Pit A	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	0
North Cell (TSF)													
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from SD1, SD2, SD6, Japan Sump, ST16, WEP & Interception sump	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (m3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
Total Inflow (m^3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
Transfer to South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
End-of-Month Volume (m^3)	**1,679,550**	**1,679,550**	**1,679,550**	**1,679,550**	**1,679,550**	**1,757,376**	**1,778,171**	**1,834,285**	**1,860,737**	**1,860,737**	**1,860,737**	**1,860,737**	**0**
South Cell (TSF)													
Pumped from SD3, SD4 & SD5 (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (m^3)	0	0	0	0	0	42,909	11,465	30,938	14,584	0	0	0	**99,896**
Transfer from North Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer from Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	42,909	11,465	30,938	14,584	0	0	0	**99,896**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Seepage to Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer to Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer to Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	42,909	11,465	30,938	14,584	0	0	0	**99,896**
End-of-Month Volume (m^3)	**2,268,884**	**2,268,884**	**2,268,884**	**2,268,884**	**2,268,884**	**2,311,793**	**2,323,258**	**2,354,196**	**2,368,780**	**2,368,780**	**2,368,780**	**2,368,780**	**0**
Mill/Camp													
Ore water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Freshwater from Third Portage Lake (m^3)	2,945	2,660	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,675**
Total Inflow (m^3)	2,945	2,660	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,675**
Freshwater for camp purposes (m^3)	2,945	2,660	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,675**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	2,945	2,660	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,675**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water pumping rate (m^3/hr)	0	0	0	0	0	0	0	0	0	0	0	0	-
Freshwater pumping rate (m^3/hr)	4	4	4	4	4	4	4	4	4	4	4	4	-
TSF Water Balance													
Slurry water (m^3)	-	-	-	-	-	-	-	-	-	-	-	-	-
North Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
South Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Goose Pit Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit E Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
North Cell Water/Ice Entrapment (%)	90%	90%	90%	90%	90%	30%	30%	30%	30%	75%	80%	90%	**68%**
South Cell Water/Ice Entrapment (%)	46%	46%	46%	46%	40%	32%	32%	32%	32%	40%	46%	46%	**40%**
IPD Water/Ice Entrapment (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	**13%**
Water Entrapment (m^3)	-	-	-	-	-	-	-	-	-	-	-	-	-
South Cell Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit E Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**

	Year 2033												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	**31**	**28**	**31**	**30**	**31**	**30**	**31**	**31**	**30**	**31**	**30**	**31**	**365**
Goose Pit													
Runoff (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
Transfer from South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
Pumped to Pit E (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
End-of-Month Volume (m^3)	**6,769,674**	**6,788,987**	**6,808,118**	**6,827,249**	**6,846,562**	**6,907,278**	**6,937,520**	**6,986,817**	**7,020,082**	**7,039,213**	**7,058,526**	**7,077,657**	**0**
Pit E (Portage Pit)													
Runoff (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumped from East Dike Seepage (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	372,000	336,000	372,000	360,000	372,000	360,000	372,000	372,000	360,000	372,000	360,000	372,000	**4,380,000**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Inflow from Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Inflow from Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	373,798	337,624	373,798	361,740	373,798	411,527	378,777	381,867	386,891	373,798	361,740	373,798	**4,489,156**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Net Inflow (m^3)	372,000	336,000	372,000	360,000	372,000	360,000	372,000	372,000	360,000	372,000	360,000	372,000	**4,380,000**
End-of-Month Volume (m^3)	**22,787,651**	**23,125,275**	**23,499,073**	**23,860,813**	**24,234,611**	**24,646,138**	**25,024,915**	**25,406,782**	**25,793,673**	**26,167,471**	**26,529,211**	**26,903,009**	**0**
Pit A													
Runoff (m^3)	0	0	0	0	0	36,128	9,653	26,049	12,279	0	0	0	**84,109**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer from South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	33,280	16,380	0	20,492	0	0	0	0	**70,152**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Pit E (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
East Dike Seepage (m^3)	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	**179,567**
Pumped from Goose (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	16,762	16,588	16,762	16,704	50,042	118,999	31,394	71,372	54,134	16,762	16,704	16,762	**442,984**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Outflow to Pit E (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	16,762	16,588	16,762	16,704	50,042	118,999	31,394	71,372	54,134	16,762	16,704	16,762	**442,984**
End-of-Month Volume (m^3)	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**311,374**	**0**
Vault Attenuation Pond													
Runoff (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped From Vault Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped From Phaser Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Decant - TSS to Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
End-of-Month Volume (m^3)	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**0**
Vault Open Pit													
Runoff (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
Transfer from Phaser Pit (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Pumped from Wally Lake (m^3)	351,912	317,856	351,912	340,560	351,912	340,560	351,912	351,912	340,560	351,912	340,560	351,912	**4,143,480**
Total Inflow (m^3)	351,912	317,856	351,912	340,560	351,912	480,739	389,366	452,984	388,204	351,912	340,560	351,912	**4,469,829**
Transfer to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	351,912	317,856	351,912	340,560	351,912	480,739	389,366	452,984	388,204	351,912	340,560	351,912	**4,469,829**
End-of-Month Volume (m^3)	**24,157,887**	**24,475,743**	**24,827,655**	**25,168,215**	**25,520,127**	**26,000,866**	**26,390,232**	**26,843,216**	**27,231,420**	**27,583,332**	**27,923,892**	**28,275,804**	**0**
Phaser Open Pit (including Phaser Lake)													
Runoff (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Total Inflow (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Transfer to Vault Pit (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Pumped to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	73652.3	19679.2	53104.9	25033.1	0	0	0	**171,470**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
End-of-Month Volume (m^3)	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**0**

2034

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	ANNUAL TOTAL
	Year 2034												
No. of days	31	28	31	30	31	30	31	31	30	31	30	31	365
Tailings (tonnes):	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative Tailings (tonnes):	0	0	0	0	0	0	0	0	0	0	0	0	0
Cummulative Tailings (m3) - North Cell	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	0
Cummulative Tailings (m3) - South Cell	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	0
Cummulative Tailings (m3) - Goose Pit	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	0
Cummulative Tailings (m3) - Pit E	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	0
Cummulative Tailings (m3) - Pit A	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	0
North Cell (TSF)													
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from SD1, SD2, SD6, Japan Sump, ST16, WEP & Interception sump	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (m3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
Total Inflow (m^3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
Transfer to South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
End-of-Month Volume (m^3)	**1,860,737**	**1,860,737**	**1,860,737**	**1,860,737**	**1,860,737**	**1,938,563**	**1,959,357**	**2,015,472**	**2,041,923**	**2,041,923**	**2,041,923**	**2,041,923**	**0**
South Cell (TSF)													
Pumped from SD3, SD4 & SD5 (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (m^3)	0	0	0	0	0	42,909	11,465	30,938	14,584	0	0	0	**99,896**
Transfer from North Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer from Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	42,909	11,465	30,938	14,584	0	0	0	**99,896**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Seepage to Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer to Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer to Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	42,909	11,465	30,938	14,584	0	0	0	**99,896**
End-of-Month Volume (m^3)	**2,368,780**	**2,368,780**	**2,368,780**	**2,368,780**	**2,368,780**	**2,411,688**	**2,423,153**	**2,454,091**	**2,468,675**	**2,468,675**	**2,468,675**	**2,468,675**	**0**
Mill/Camp													
Ore water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Freshwater from Third Portage Lake (m^3)	2,945	2,660	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,675**
Total Inflow (m^3)	2,945	2,660	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,675**
Freshwater for camp purposes (m^3)	2,945	2,660	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,675**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	2,945	2,660	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,675**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water pumping rate (m^3/hr)	0	0	0	0	0	0	0	0	0	0	0	0	-
Freshwater pumping rate (m^3/hr)	4	4	4	4	4	4	4	4	4	4	4	4	-
TSF Water Balance													
Slurry water (m^3)	-	-	-	-	-	-	-	-	-	-	-	-	-
North Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
South Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Goose Pit Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit E Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
North Cell Water/Ice Entrapment (%)	90%	90%	90%	90%	90%	30%	30%	30%	30%	75%	80%	90%	**68%**
South Cell Water/Ice Entrapment (%)	46%	46%	46%	46%	40%	32%	32%	32%	32%	40%	46%	46%	**40%**
IPD Water/Ice Entrapment (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	**13%**
Water Entrapment (m^3)	-	-	-	-	-	-	-	-	-	-	-	-	-
South Cell Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit E Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**

	Year 2034												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	**31**	**28**	**31**	**30**	**31**	**30**	**31**	**31**	**30**	**31**	**30**	**31**	**365**
Goose Pit													
Runoff (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
Transfer from South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
Pumped to Pit E (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
End-of-Month Volume (m^3)	**7,096,788**	**7,116,101**	**7,135,232**	**7,154,363**	**7,173,676**	**7,234,392**	**7,264,634**	**7,313,931**	**7,347,196**	**7,366,327**	**7,385,640**	**7,404,771**	**0**
Pit E (Portage Pit)													
Runoff (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumped from East Dike Seepage (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	372,000	336,000	372,000	360,000	372,000	360,000	372,000	372,000	360,000	372,000	360,000	372,000	**4,380,000**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Inflow from Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Inflow from Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	373,798	337,624	373,798	361,740	373,798	411,527	378,777	381,867	386,891	373,798	361,740	373,798	**4,489,156**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Net Inflow (m^3)	372,000	336,000	372,000	360,000	372,000	360,000	372,000	372,000	360,000	372,000	360,000	372,000	**4,380,000**
End-of-Month Volume (m^3)	**27,276,807**	**27,614,431**	**27,988,229**	**28,349,969**	**28,723,767**	**29,135,294**	**29,514,071**	**29,895,938**	**30,282,829**	**30,656,627**	**31,018,367**	**31,392,165**	**0**
Pit A													
Runoff (m^3)	0	0	0	0	0	36,128	9,653	26,049	12,279	0	0	0	**84,109**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer from South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	33,280	16,380	0	20,492	0	0	0	0	**70,152**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Pit E (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
East Dike Seepage (m^3)	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	**179,567**
Pumped from Goose (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	16,762	16,588	16,762	16,704	50,042	118,999	31,394	71,372	54,134	16,762	16,704	16,762	**442,984**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Outflow to Pit E (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	16,762	16,588	16,762	16,704	50,042	118,999	31,394	71,372	54,134	16,762	16,704	16,762	**442,984**
End-of-Month Volume (m^3)	**14,964**	**29,928**	**44,892**	**59,856**	**108,100**	**175,571**	**200,188**	**261,693**	**288,936**	**303,900**	**311,374**	**311,374**	**0**
Vault Attenuation Pond													
Runoff (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped From Vault Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped From Phaser Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Decant - TSS to Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
End-of-Month Volume (m^3)	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**0**
Vault Open Pit													
Runoff (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
Transfer from Phaser Pit (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Pumped from Wally Lake (m^3)	351,912	317,856	351,912	0	0	0	0	0	0	0	0	0	**1,021,680**
Total Inflow (m^3)	351,912	317,856	351,912	0	0	140,179	37,454	101,072	47,644	0	0	0	**1,348,029**
Transfer to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	351,912	317,856	351,912	0	0	140,179	37,454	101,072	47,644	0	0	0	**1,348,029**
End-of-Month Volume (m^3)	**28,627,716**	**28,945,572**	**29,297,484**	**29,297,484**	**29,297,484**	**29,437,663**	**29,475,117**	**29,576,189**	**29,623,833**	**29,623,833**	**29,623,833**	**29,623,833**	**0**
Phaser Open Pit (including Phaser Lake)													
Runoff (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Total Inflow (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Transfer to Vault Pit (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Pumped to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	73652.3	19679.2	53104.9	25033.1	0	0	0	**171,470**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
End-of-Month Volume (m^3)	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**0**

2035

	Year 2035												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	31	28	31	30	31	30	31	31	30	31	30	31	365
Tailings (tonnes):	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative Tailings (tonnes):	0	0	0	0	0	0	0	0	0	0	0	0	0
Cummulative Tailings (m3) - North Cell	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	0
Cummulative Tailings (m3) - South Cell	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	0
Cummulative Tailings (m3) - Goose Pit	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	0
Cummulative Tailings (m3) - Pit E	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	0
Cummulative Tailings (m3) - Pit A	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	0
North Cell (TSF)													
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from SD1, SD2, SD6, Japan Sump, ST16, WEP & Interception sump	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (m3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
Total Inflow (m^3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
Transfer to South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
End-of-Month Volume (m^3)	**2,041,923**	**2,041,923**	**2,041,923**	**2,041,923**	**2,041,923**	**2,119,749**	**2,140,544**	**2,196,658**	**2,223,110**	**2,223,110**	**2,223,110**	**2,223,110**	**0**
South Cell (TSF)													
Pumped from SD3, SD4 & SD5 (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (m^3)	0	0	0	0	0	42,909	11,465	30,938	14,584	0	0	0	**99,896**
Transfer from North Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer from Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	42,909	11,465	30,938	14,584	0	0	0	**99,896**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Seepage to Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer to Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer to Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	42,909	11,465	30,938	14,584	0	0	0	**99,896**
End-of-Month Volume (m^3)	**2,468,675**	**2,468,675**	**2,468,675**	**2,468,675**	**2,468,675**	**2,511,584**	**2,523,049**	**2,553,987**	**2,568,571**	**2,568,571**	**2,568,571**	**2,568,571**	**0**
Mill/Camp													
Ore water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Freshwater from Third Portage Lake (m^3)	2,945	2,660	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,675**
Total Inflow (m^3)	2,945	2,660	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,675**
Freshwater for camp purposes (m^3)	2,945	2,660	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,675**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	2,945	2,660	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,675**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water pumping rate (m^3/hr)	0	0	0	0	0	0	0	0	0	0	0	0	-
Freshwater pumping rate (m^3/hr)	4	4	4	4	4	4	4	4	4	4	4	4	-
TSF Water Balance													
Slurry water (m^3)	-	-	-	-	-	-	-	-	-	-	-	-	-
North Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
South Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Goose Pit Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit E Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
North Cell Water/Ice Entrapment (%)	90%	90%	90%	90%	90%	30%	30%	30%	30%	75%	80%	90%	**68%**
South Cell Water/Ice Entrapment (%)	46%	46%	46%	46%	40%	32%	32%	32%	32%	40%	46%	46%	**40%**
IPD Water/Ice Entrapment (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	**13%**
Water Entrapment (m^3)	-	-	-	-	-	-	-	-	-	-	-	-	-
South Cell Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit E Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**

	Year 2035												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	**31**	**28**	**31**	**30**	**31**	**30**	**31**	**31**	**30**	**31**	**30**	**31**	**365**
Goose Pit													
Runoff (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
Transfer from South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
Pumped to Pit E (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
End-of-Month Volume (m^3)	**7,423,902**	**7,443,215**	**7,462,346**	**7,481,477**	**7,500,790**	**7,561,506**	**7,591,748**	**7,641,045**	**7,674,310**	**7,693,441**	**7,712,754**	**7,731,885**	**0**
Pit E (Portage Pit)													
Runoff (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumped from East Dike Seepage (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	372,000	348,000	372,000	360,000	372,000	360,000	372,000	372,000	360,000	372,000	360,000	372,000	**4,380,000**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Inflow from Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Inflow from Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	373,798	349,624	373,798	361,740	373,798	411,527	378,777	381,867	386,891	373,798	361,740	373,798	**4,501,156**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Net Inflow (m^3)	372,000	348,000	372,000	360,000	372,000	360,000	372,000	372,000	360,000	372,000	360,000	372,000	**4,392,000**
End-of-Month Volume (m^3)	**31,765,963**	**32,115,587**	**32,489,385**	**32,851,125**	**33,224,923**	**33,636,450**	**34,015,227**	**34,397,094**	**34,783,985**	**35,157,783**	**35,519,523**	**35,893,321**	**0**
Pit A													
Runoff (m^3)	0	0	0	0	0	36,128	9,653	26,049	12,279	0	0	0	**84,109**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer from South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	33,280	16,380	0	20,492	0	0	0	0	**70,152**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Pit E (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
East Dike Seepage (m^3)	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	**179,567**
Pumped from Goose (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	16,762	16,588	16,762	16,704	50,042	118,999	31,394	71,372	54,134	16,762	16,704	16,762	**442,984**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Outflow to Pit E (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	16,762	16,588	16,762	16,704	50,042	118,999	31,394	71,372	54,134	16,762	16,704	16,762	**442,984**
End-of-Month Volume (m^3)	**14,964**	**29,928**	**44,892**	**59,856**	**108,100**	**175,571**	**200,188**	**261,693**	**288,936**	**303,900**	**311,374**	**311,374**	**0**
Vault Attenuation Pond													
Runoff (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped From Vault Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped From Phaser Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Decant - TSS to Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
End-of-Month Volume (m^3)	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**0**
Vault Open Pit													
Runoff (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
Transfer from Phaser Pit (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Pumped from Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	140,179	37,454	101,072	47,644	0	0	0	**326,349**
Transfer to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	140,179	37,454	101,072	47,644	0	0	0	**326,349**
End-of-Month Volume (m^3)	**29,623,833**	**29,623,833**	**29,623,833**	**29,623,833**	**29,623,833**	**29,764,012**	**29,801,466**	**29,902,538**	**29,950,182**	**29,950,182**	**29,950,182**	**29,950,182**	**0**
Phaser Open Pit (including Phaser Lake)													
Runoff (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Total Inflow (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Transfer to Vault Pit (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Pumped to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	73652.3	19679.2	53104.9	25033.1	0	0	0	**171,470**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
End-of-Month Volume (m^3)	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**0**

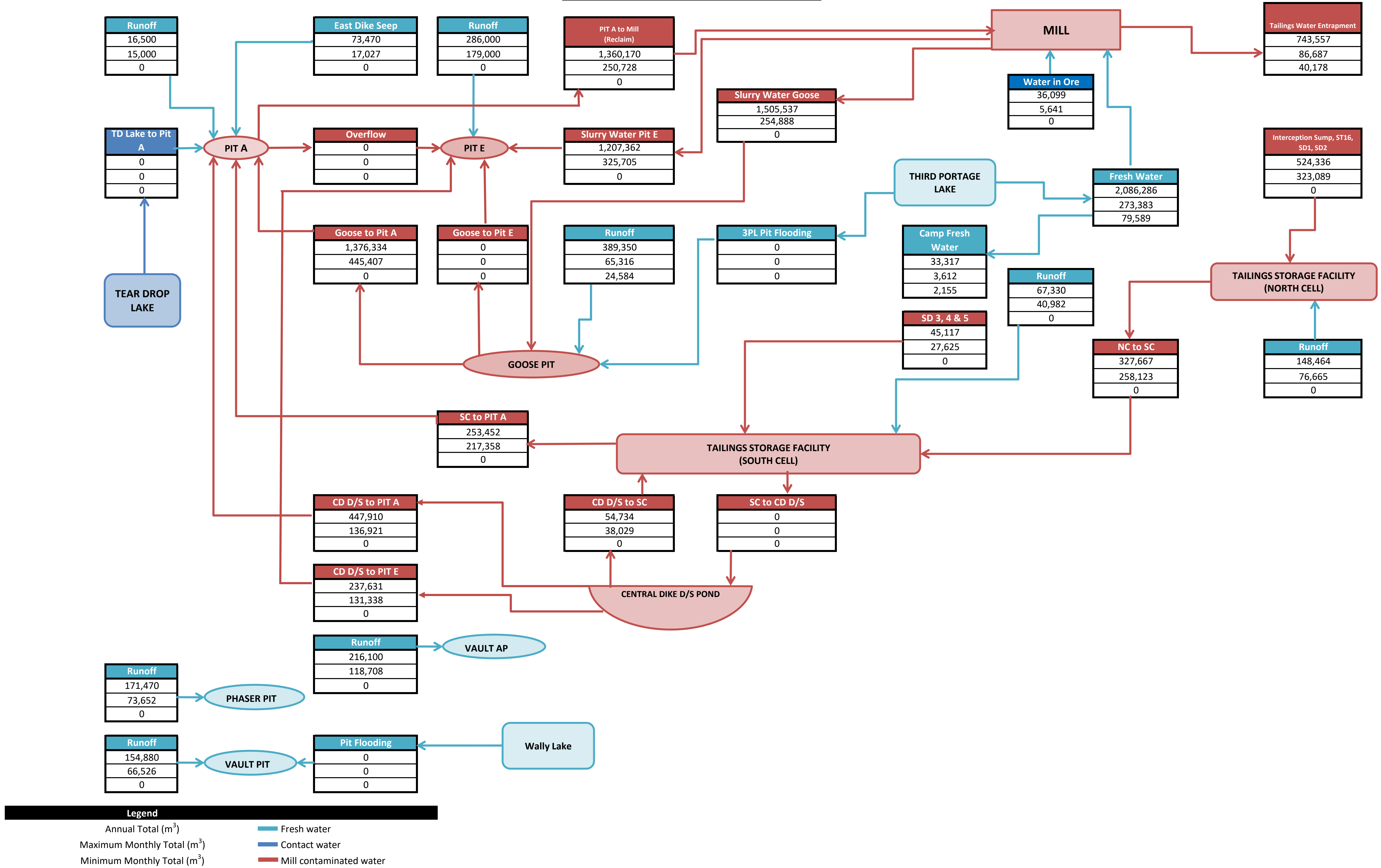
2036

	Year 2036												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	31	28	31	30	31	30	31	31	30	31	30	31	365
Tailings (tonnes):	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative Tailings (tonnes):	0	0	0	0	0	0	0	0	0	0	0	0	0
Cummulative Tailings (m3) - North Cell	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	14,909,319	0
Cummulative Tailings (m3) - South Cell	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	11,172,268	0
Cummulative Tailings (m3) - Goose Pit	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	1,290,544	0
Cummulative Tailings (m3) - Pit E	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	8,568,041	0
Cummulative Tailings (m3) - Pit A	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	4,214,015	0
North Cell (TSF)													
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from SD1, SD2, SD6, Japan Sump, ST16, WEP & Interception sump	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (m3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
Total Inflow (m^3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
Transfer to South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	77,826	20,794	56,114	26,452	0	0	0	**181,187**
End-of-Month Volume (m^3)	**2,223,110**	**2,223,110**	**2,223,110**	**2,223,110**	**2,223,110**	**2,300,936**	**2,321,730**	**2,377,845**	**2,404,296**	**2,404,296**	**2,404,296**	**2,404,296**	**0**
South Cell (TSF)													
Pumped from SD3, SD4 & SD5 (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (m^3)	0	0	0	0	0	42,909	11,465	30,938	14,584	0	0	0	**99,896**
Transfer from North Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer from Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water from tailings slurry (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	42,909	11,465	30,938	14,584	0	0	0	**99,896**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Seepage to Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer to Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer to Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	42,909	11,465	30,938	14,584	0	0	0	**99,896**
End-of-Month Volume (m^3)	**2,568,571**	**2,568,571**	**2,568,571**	**2,568,571**	**2,568,571**	**2,611,479**	**2,622,944**	**2,653,882**	**2,668,466**	**2,668,466**	**2,668,466**	**2,668,466**	**0**
Mill/Camp													
Ore water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Freshwater from Third Portage Lake (m^3)	2,945	2,755	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,770**
Total Inflow (m^3)	2,945	2,755	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,770**
Freshwater for camp purposes (m^3)	2,945	2,755	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,770**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	2,945	2,755	2,945	2,850	2,945	2,850	2,945	2,945	2,850	2,945	2,850	2,945	**34,770**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Reclaim water pumping rate (m^3/hr)	0	0	0	0	0	0	0	0	0	0	0	0	**-**
Freshwater pumping rate (m^3/hr)	4	4	4	4	4	4	4	4	4	4	4	4	**-**
TSF Water Balance													
Slurry water (m^3)	-	-	-	-	-	-	-	-	-	-	-	-	-
North Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
South Cell Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Goose Pit Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit E Tailings Deposition (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
North Cell Water/Ice Entrapment (%)	90%	90%	90%	90%	90%	30%	30%	30%	30%	75%	80%	90%	**68%**
South Cell Water/Ice Entrapment (%)	46%	46%	46%	46%	40%	32%	32%	32%	32%	40%	46%	46%	**40%**
IPD Water/Ice Entrapment (%)	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	**13%**
Water Entrapment (m^3)	-	-	-	-	-	-	-	-	-	-	-	-	-
South Cell Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit A Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**
Pit E Reclaim Water (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	**0%**

	Year 2036												ANNUAL TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
No. of days	**31**	**28**	**31**	**30**	**31**	**30**	**31**	**31**	**30**	**31**	**30**	**31**	**365**
Goose Pit													
Runoff (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
Transfer from South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
Pumped to Pit E (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	19,131	19,313	19,131	19,131	19,313	60,716	30,242	49,297	33,265	19,131	19,313	19,131	**327,114**
End-of-Month Volume (m^3)	**7,751,016**	**7,770,329**	**7,789,460**	**7,808,591**	**7,827,904**	**7,888,620**	**7,918,862**	**7,968,159**	**8,001,424**	**8,020,555**	**8,039,868**	**8,058,999**	**0**
Pit E (Portage Pit)													
Runoff (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumped from East Dike Seepage (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Third Portage Lake (m3)	372,000	348,000	372,000	360,000	372,000	360,000	372,000	372,000	360,000	0	0	0	**4,392,000**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Inflow from Pit A (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Inflow from Goose Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	373,798	349,624	373,798	361,740	373,798	411,527	378,777	381,867	386,891	1,798	1,740	1,798	**3,397,156**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped to Pit A (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Pumpted to O-WTP to Third Portage Lake (m3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
Net Inflow (m^3)	372,000	348,000	372,000	360,000	372,000	360,000	372,000	372,000	360,000	0	0	0	**3,288,000**
End-of-Month Volume (m^3)	**36,267,119**	**36,616,743**	**36,990,541**	**37,352,281**	**37,726,079**	**38,137,606**	**38,516,383**	**38,898,250**	**39,285,141**	**39,286,939**	**39,288,679**	**39,290,477**	**0**
Pit A													
Runoff (m^3)	0	0	0	0	0	36,128	9,653	26,049	12,279	0	0	0	**84,109**
Slurry water (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Transfer from South Cell (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Sewage water from Tear Drop Lake (m^3)	0	0	0	0	33,280	16,380	0	20,492	0	0	0	0	**70,152**
Pumped from Central Dike Downstream Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped from Pit E (m^3)	1,798	1,624	1,798	1,740	1,798	51,527	6,777	9,867	26,891	1,798	1,740	1,798	**109,156**
East Dike Seepage (m^3)	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	14,964	**179,567**
Pumped from Goose (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	16,762	16,588	16,762	16,704	50,042	118,999	31,394	71,372	54,134	16,762	16,704	16,762	**442,984**
Reclaim water to the mill (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Outflow to Pit E (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	16,762	16,588	16,762	16,704	50,042	118,999	31,394	71,372	54,134	16,762	16,704	16,762	**442,984**
End-of-Month Volume (m^3)	**14,964**	**29,928**	**44,892**	**59,856**	**108,100**	**175,571**	**200,188**	**261,693**	**288,936**	**303,900**	**311,374**	**311,374**	**0**
Vault Attenuation Pond													
Runoff (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped From Vault Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pumped From Phaser Pit (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Decant - TSS to Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
End-of-Month Volume (m^3)	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**3,395,573**	**0**
Vault Open Pit													
Runoff (m^3)	0	0	0	0	0	66,526	17,775	47,967	22,611	0	0	0	**154,880**
Transfer from Phaser Pit (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Pumped from Wally Lake (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Inflow (m^3)	0	0	0	0	0	140,179	37,454	101,072	47,644	0	0	0	**326,349**
Transfer to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Net Inflow (m^3)	0	0	0	0	0	140,179	37,454	101,072	47,644	0	0	0	**326,349**
End-of-Month Volume (m^3)	**29,950,182**	**29,950,182**	**29,950,182**	**29,950,182**	**29,950,182**	**30,090,361**	**30,127,815**	**30,228,887**	**30,276,531**	**30,276,531**	**30,276,531**	**30,276,531**	**0**
Phaser Open Pit (including Phaser Lake)													
Runoff (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Total Inflow (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Transfer to Vault Pit (m^3)	0	0	0	0	0	73,652	19,679	53,105	25,033	0	0	0	**171,470**
Pumped to Vault Attenuation Pond (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total Outflow (m^3)	0	0	0	0	0	73652.3	19679.2	53104.9	25033.1	0	0	0	**171,470**
Net Inflow (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
End-of-Month Volume (m^3)	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**905,435**	**0**

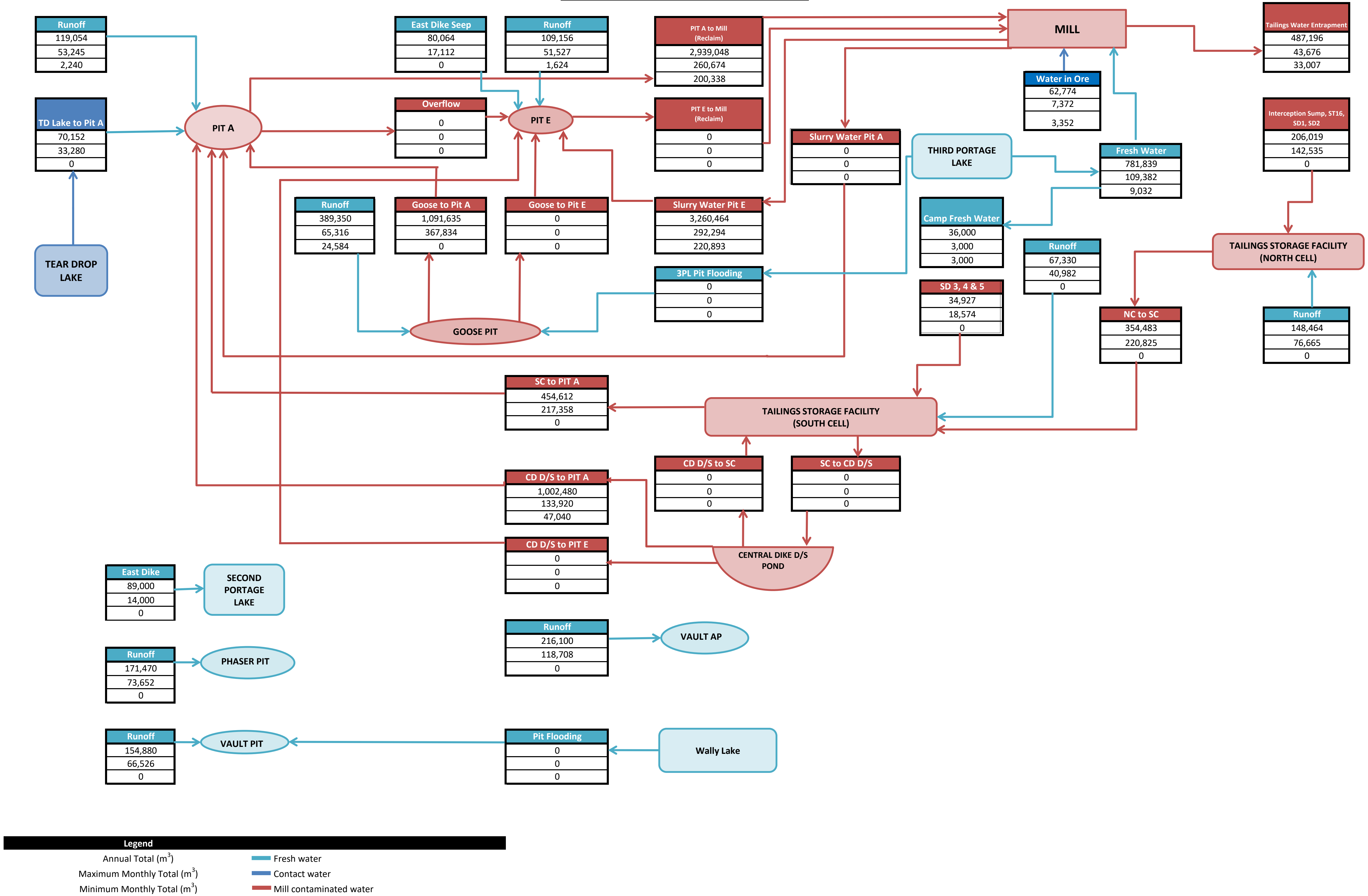
APPENDIX B – GENERAL WATER MOVEMENT

General Water Movement - 2020



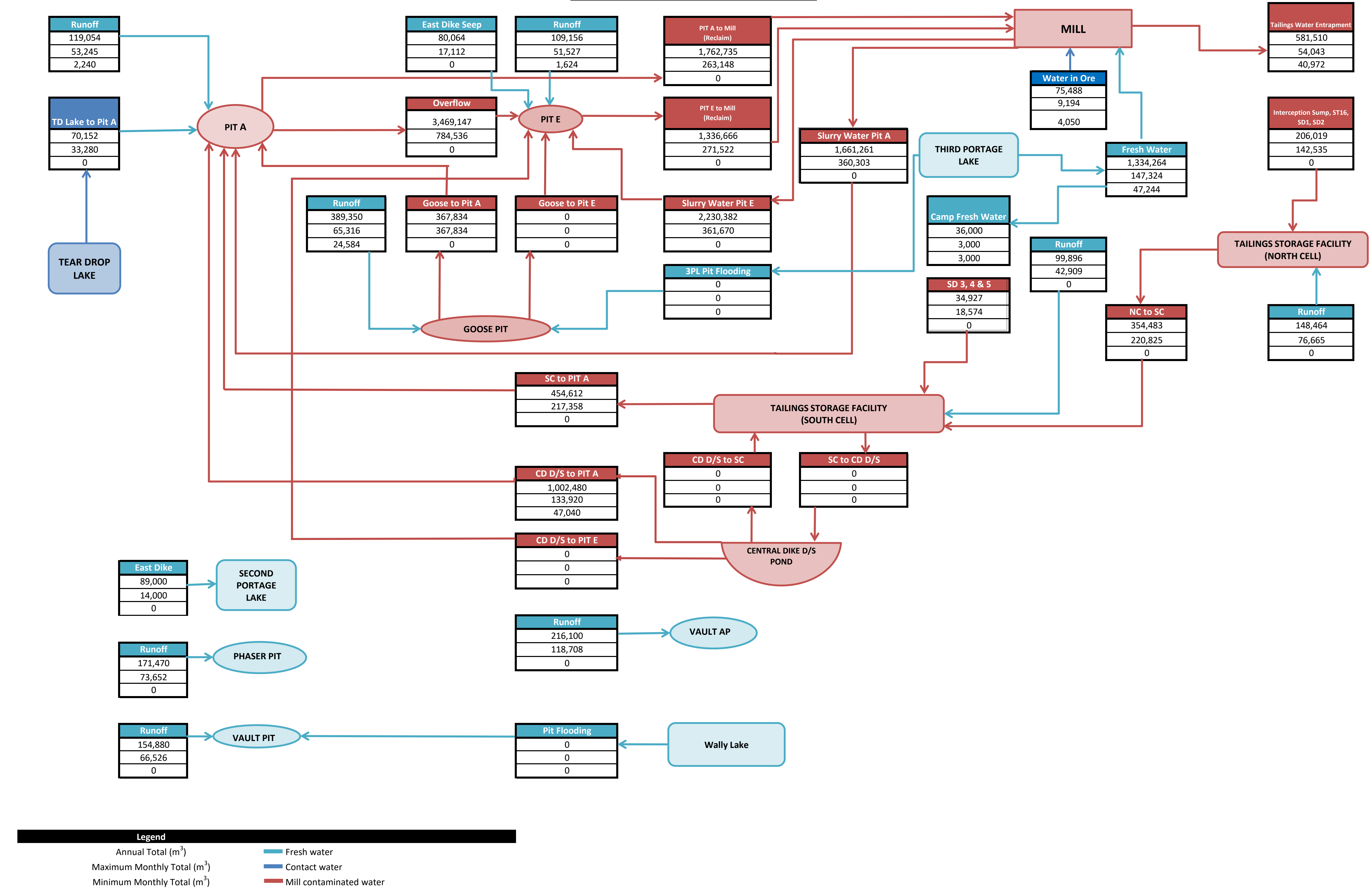
*Small water transfers are not shown on this drawing, refer to water balance tables for detailed water movement.

General Water Movement - 2021



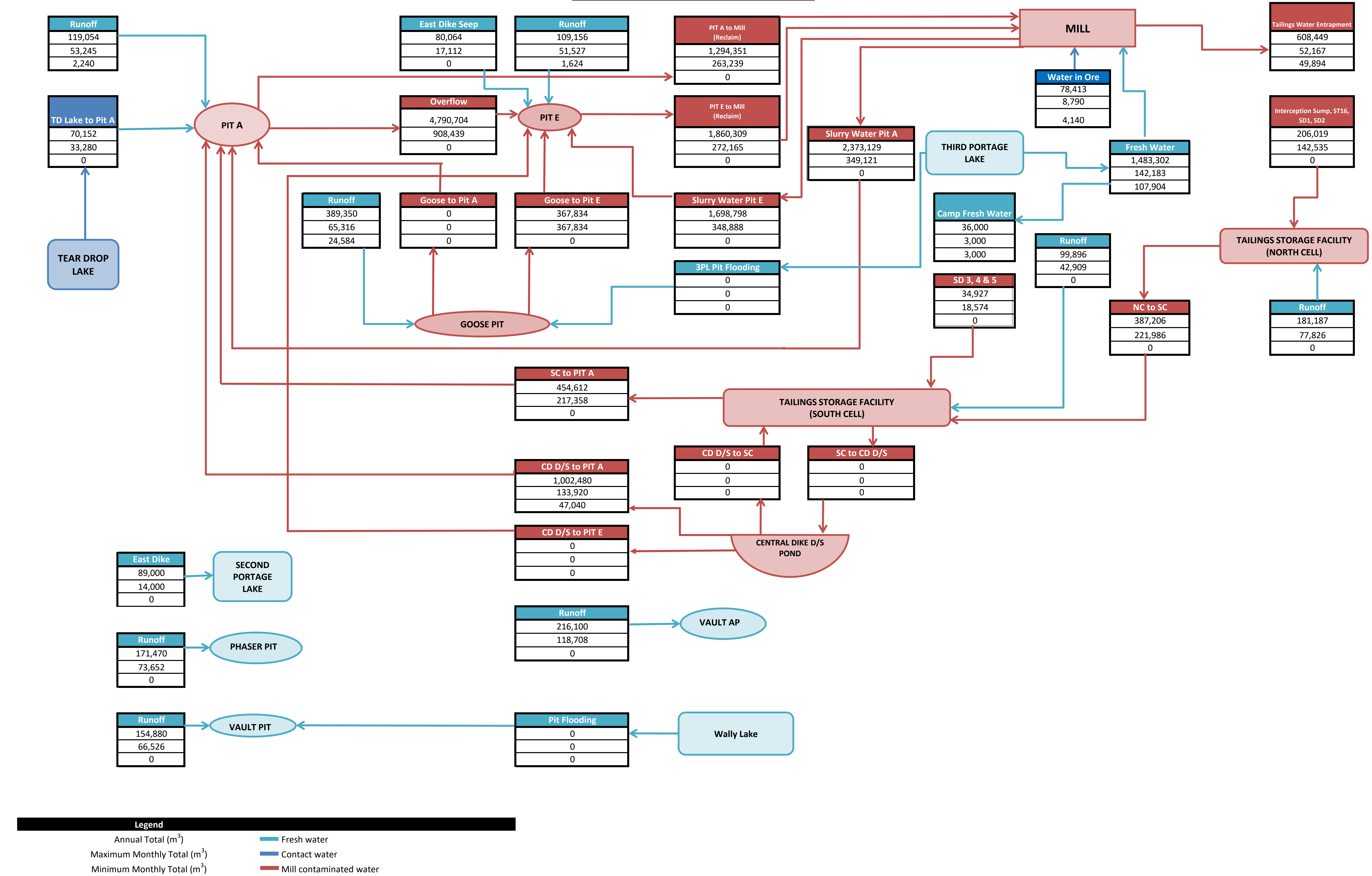
*Small water transfers are not shown on this drawing, refer to water balance tables for detailed water movement.

General Water Movement - 2022



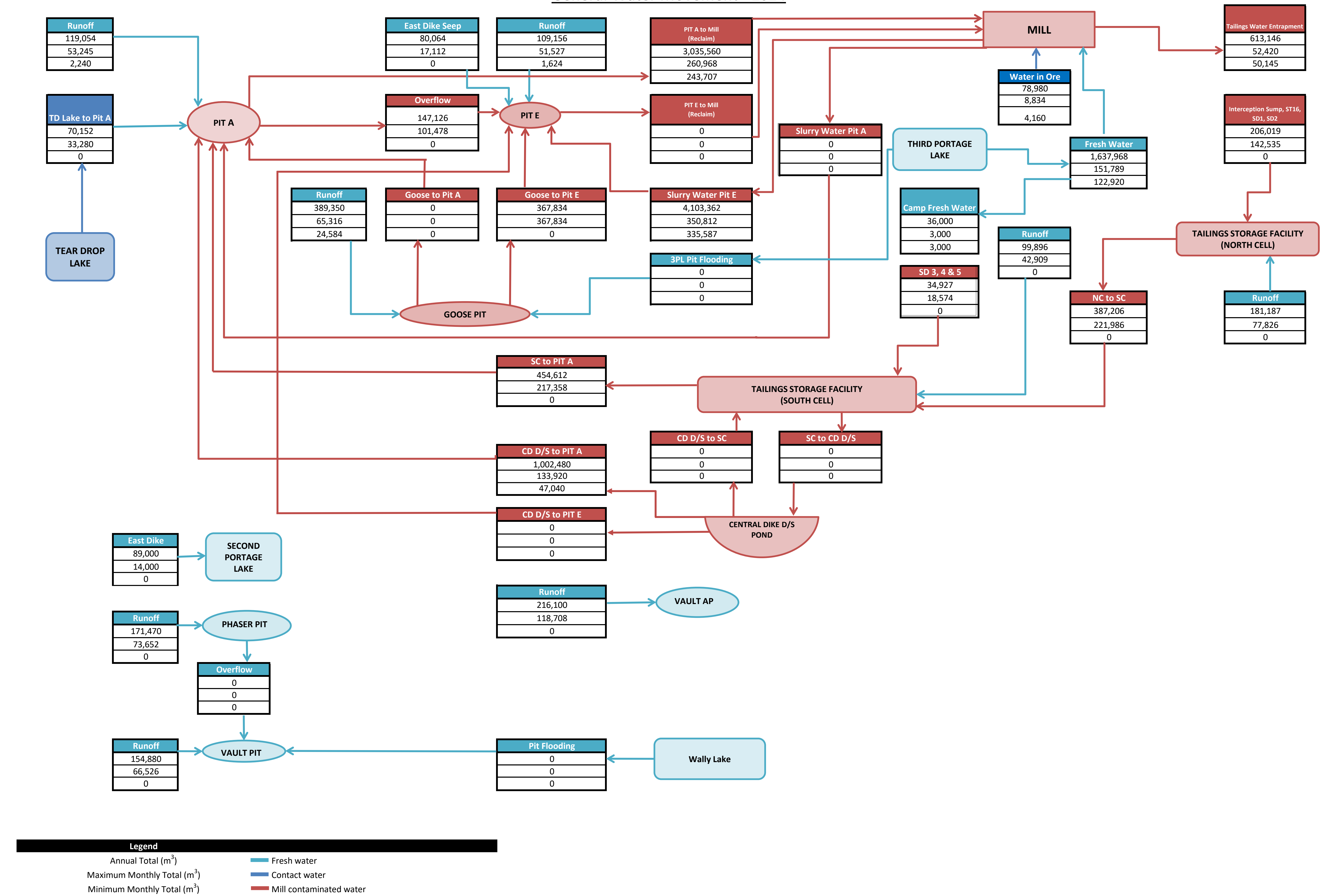
*Small water transfers are not shown on this drawing, refer to water balance tables for detailed water movement.

General Water Movement - 2023



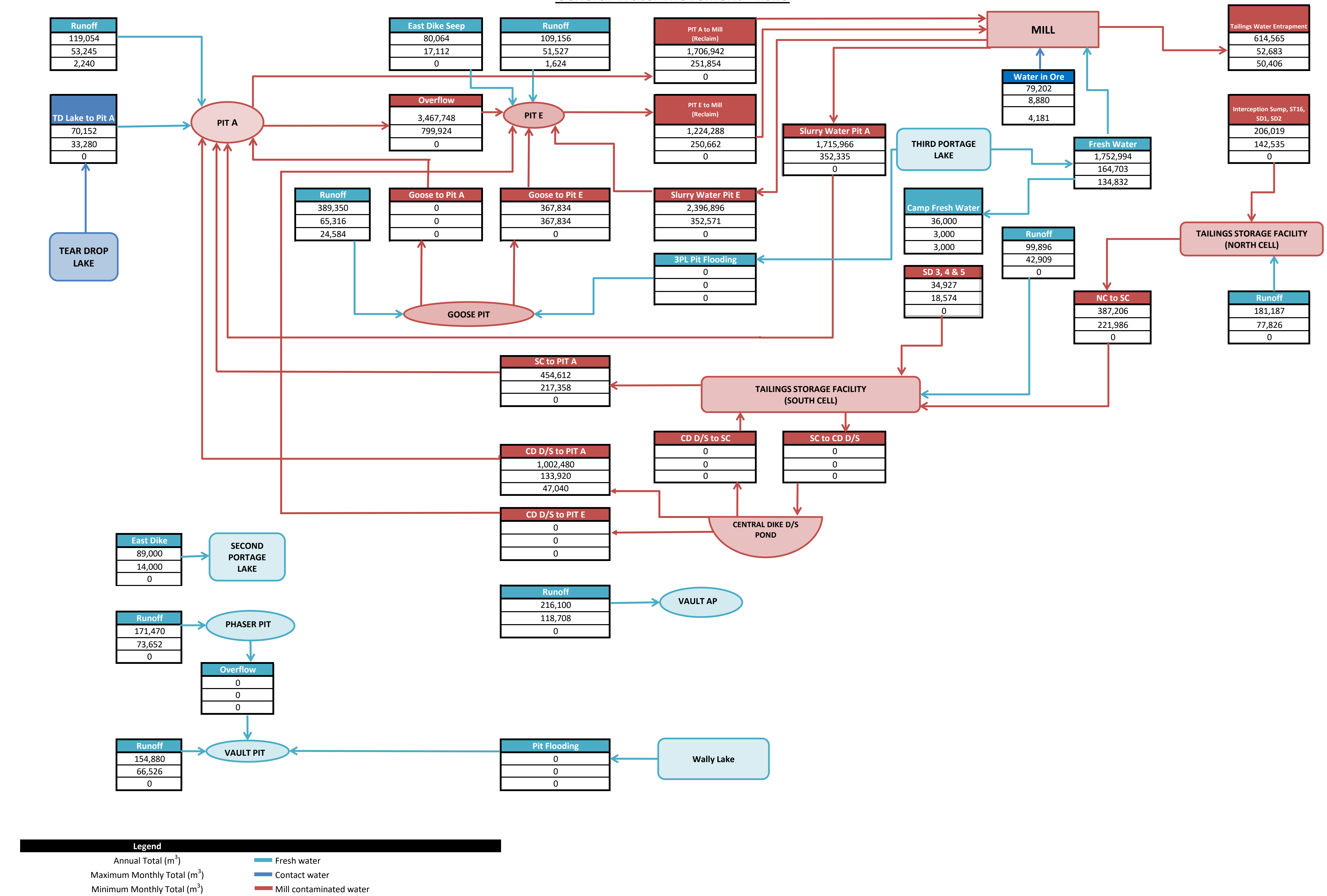
*Small water transfers are not shown on this drawing, refer to water balance tables for detailed water movement.

General Water Movement - 2024



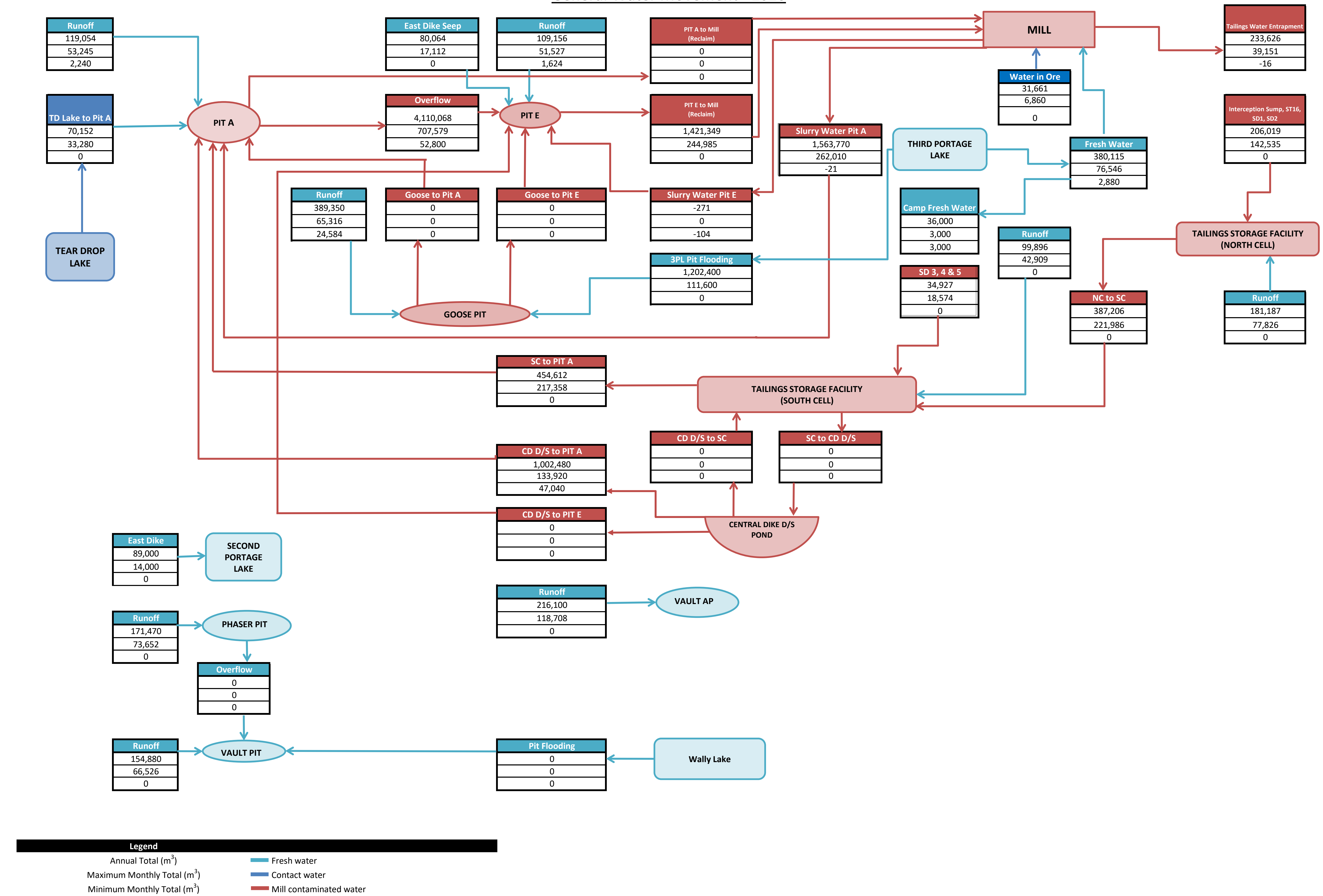
*Small water transfers are not shown on this drawing, refer to water balance tables for detailed water movement.

General Water Movement - 2025



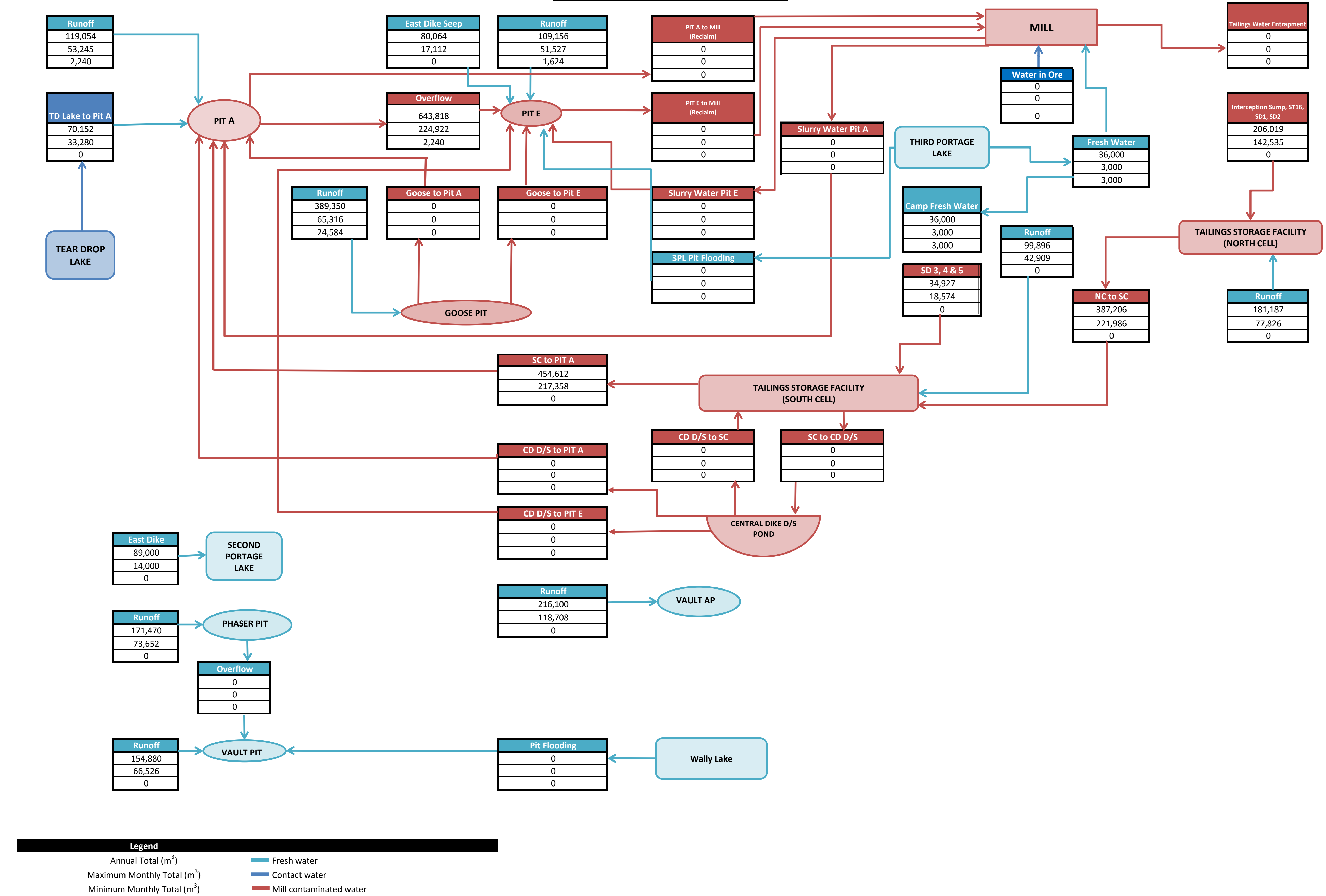
*Small water transfers are not shown on this drawing, refer to water balance tables for detailed water movement.

General Water Movement - 2026



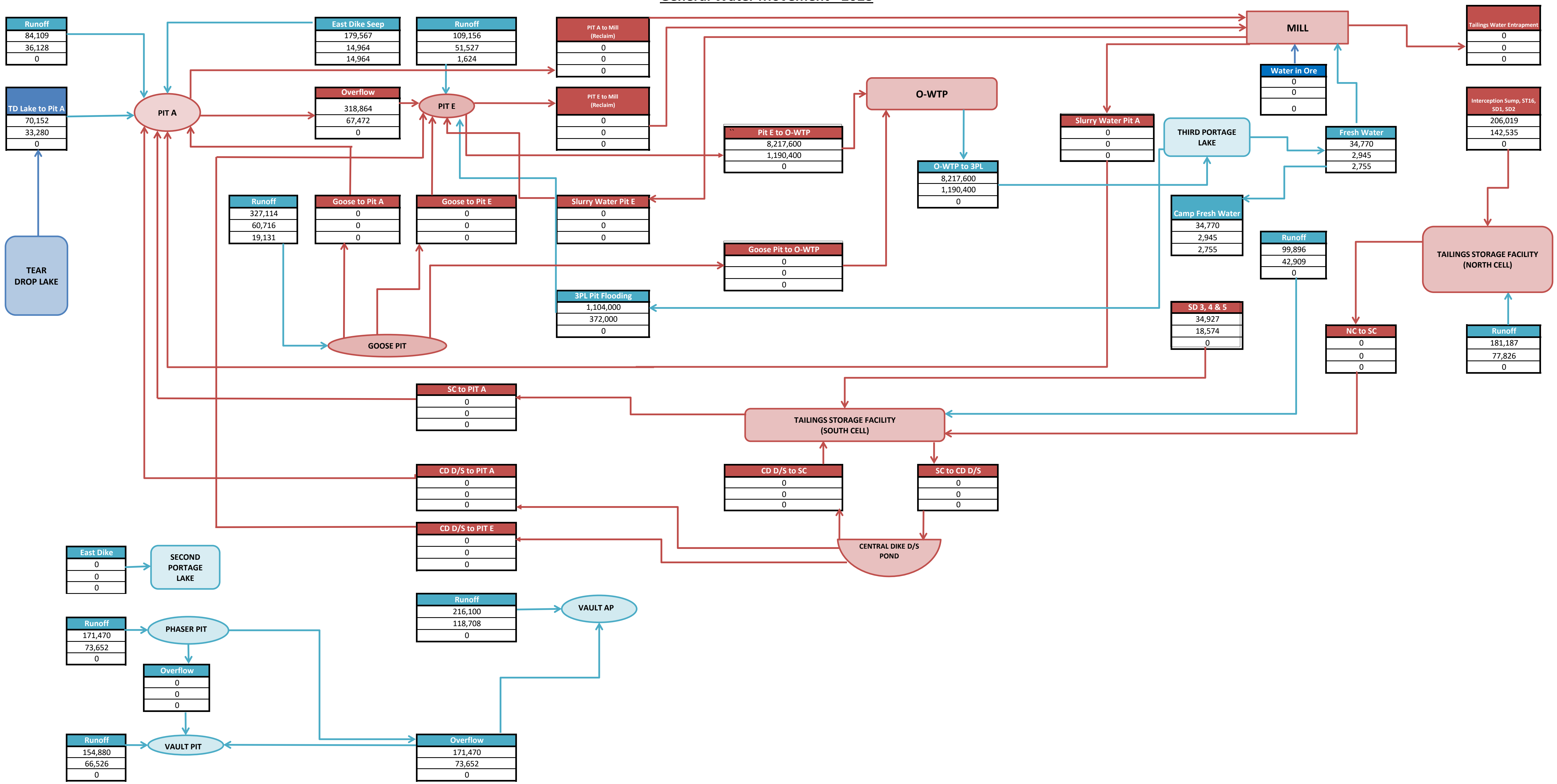
*Small water transfers are not shown on this drawing, refer to water balance tables for detailed water movement.

General Water Movement - 2027



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

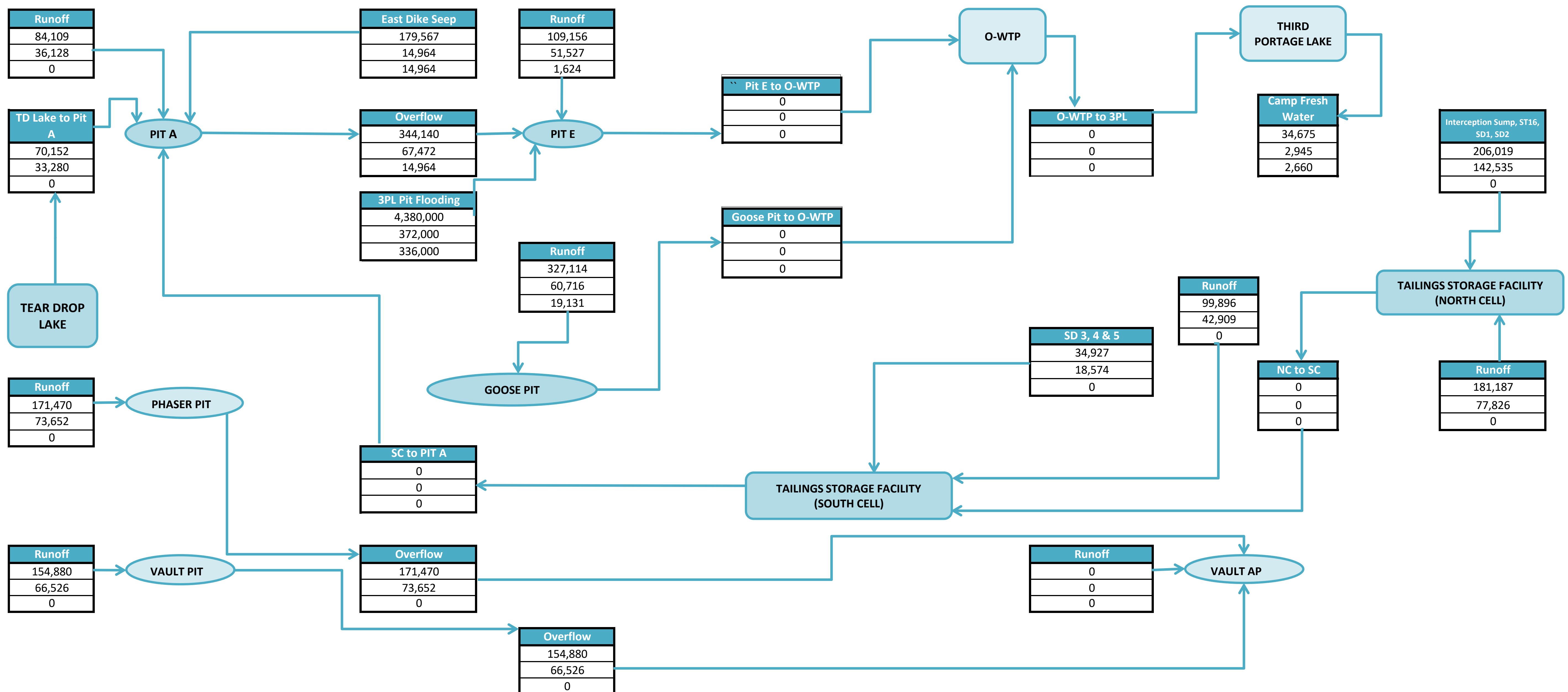
General Water Movement - 2028



Legend	
Annual Total (m^3)	Fresh water
Maximum Monthly Total (m^3)	Contact water
Minimum Monthly Total (m^3)	Mill contaminated water

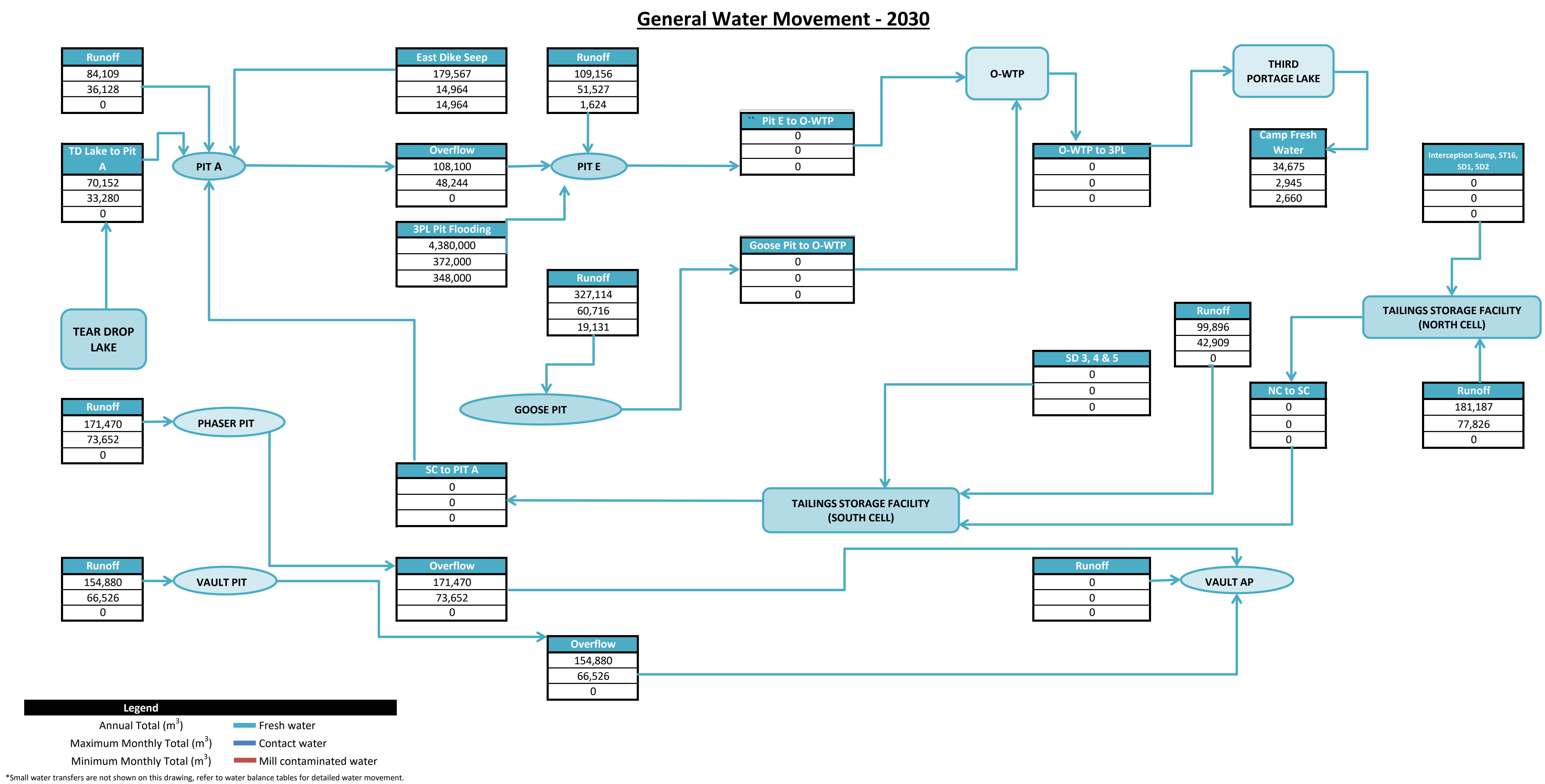
*Small water transfers are not shown on this drawing, refer to water balance tables for detailed water movement.

General Water Movement - 2029



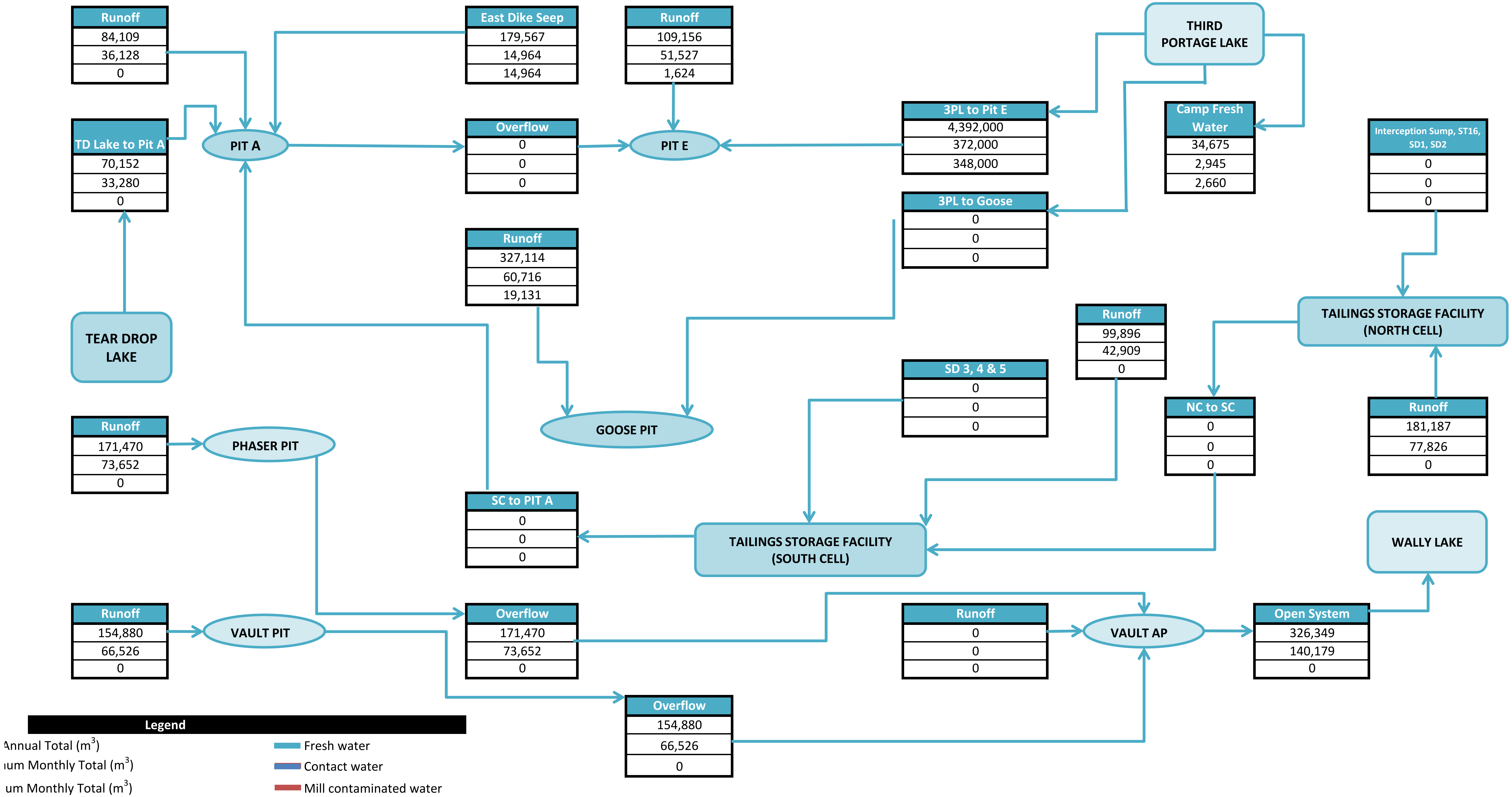
Legend	
Annual Total (m^3)	Fresh water
Maximum Monthly Total (m^3)	Contact water
Minimum Monthly Total (m^3)	Mill contaminated water

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



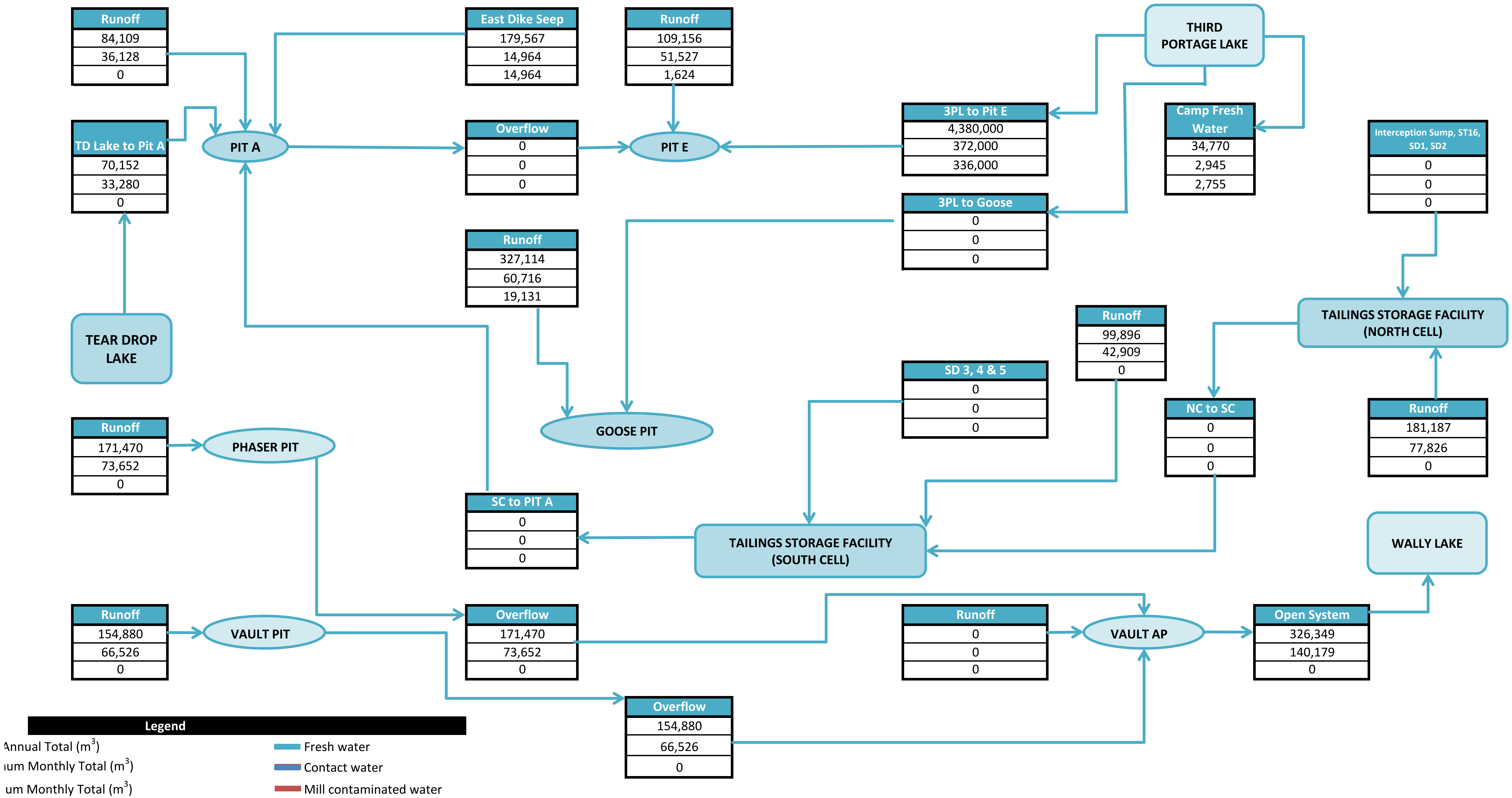
General Water Movement - 2030
Runoff
84,109
36,128
0
East Dike Seep
179,567
14,964
14,964
Runoff
109,156
51,527
1,624
O-WTP
THIRD PORTAGE LAKE
TD Lake to Pit A
70,152
33,280
0
PIT A
Overflow
108,100
48,244
0
PIT E
`` Pit E to O-WTP
0
0
0
O-WTP to 3PL
0
0
0
Camp Fresh Water
34,675
2,945
2,660
Interception Sump, ST16, SD1, SD2
0
0
0
3PL Pit Flooding
4,380,000
372,000
348,000
Goose Pit to O-WTP
0
0
0
Runoff
327,114
60,716
19,131
TEAR DROP LAKE
TAILINGS STORAGE FACILITY (NORTH CELL)
Runoff
99,896
42,909
0
SD 3, 4 & 5
0
0
0
GOOSE PIT
Runoff
171,470
73,652
0
PHASER PIT
NC to SC
0
0
0
Runoff
181,187
77,826
0
SC to PIT A
0
0
0
TAILINGS STORAGE FACILITY (SOUTH CELL)
Runoff
154,880
66,526
0
VAULT PIT
Overflow
171,470
73,652
0
Runoff
0
0
0
VAULT AP
Overflow
154,880
66,526
0
Legend
Annual Total (m3)
Maximum Monthly Total (m3)
Minimum Monthly Total (m3)
Fresh water
Contact water
Mill contaminated water
*Small water transfers are not shown on this drawing, refer to water balance tables for detailed water movement.

General Water Movement - 2031 - Open System



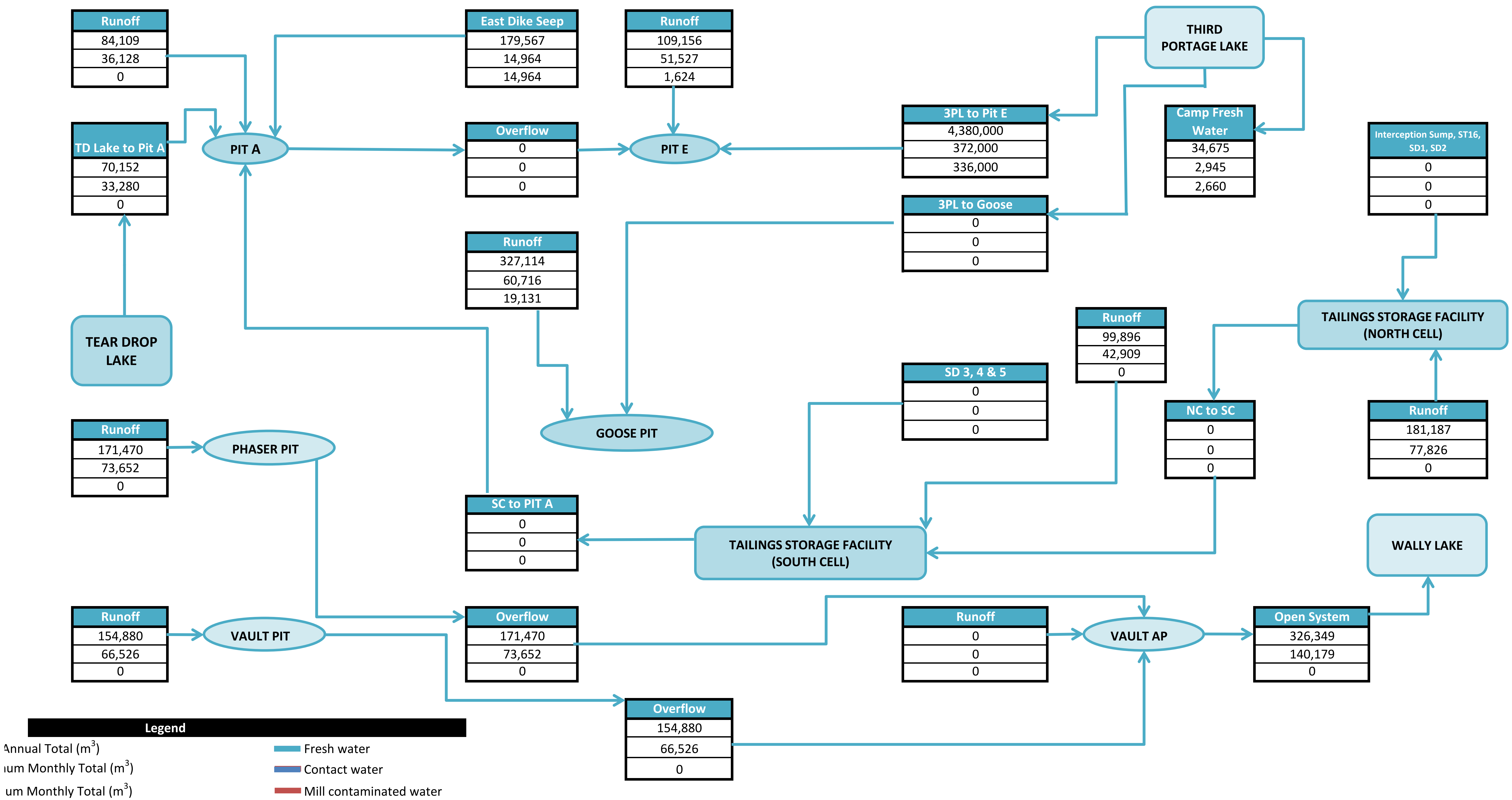
*Small water transfers are not shown on this drawing, refer to water balance tables for detailed water movement.

General Water Movement - 2032 - Open System



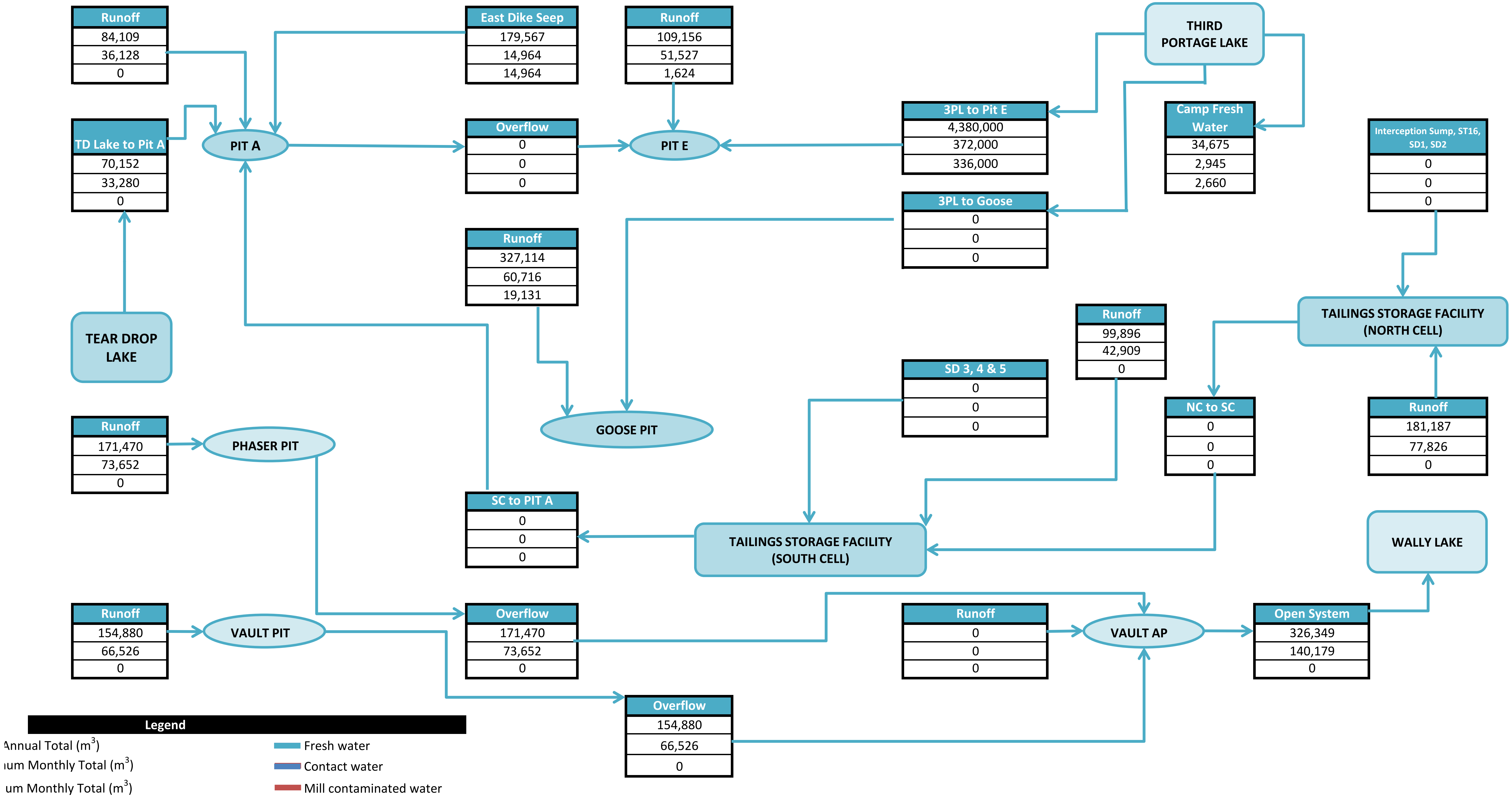
*Small water transfers are not shown on this drawing, refer to water balance tables for detailed water movement.

General Water Movement - 2033 - Open System



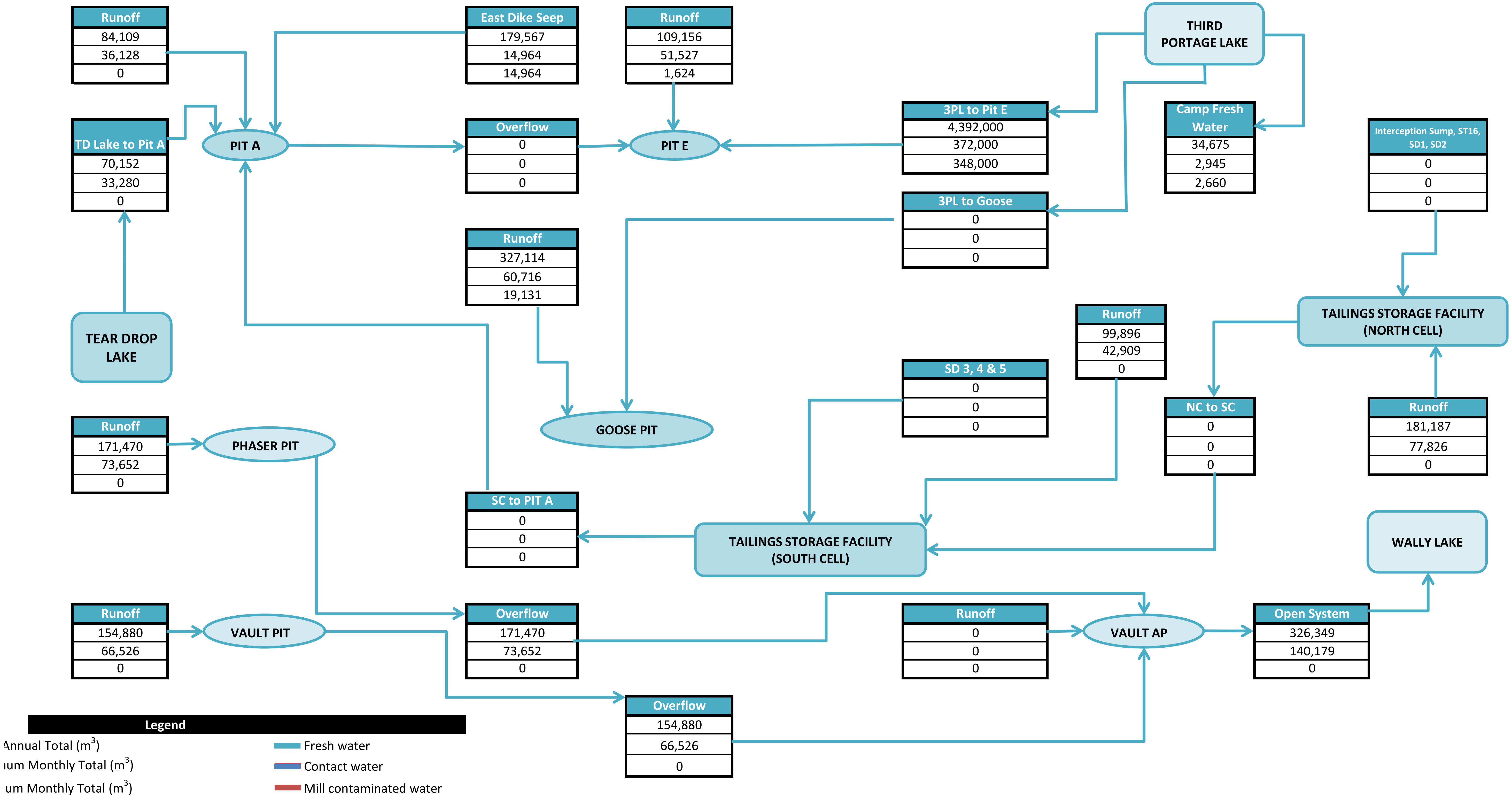
*Small water transfers are not shown on this drawing, refer to water balance tables for detailed water movement.

General Water Movement - 2034 - Open System



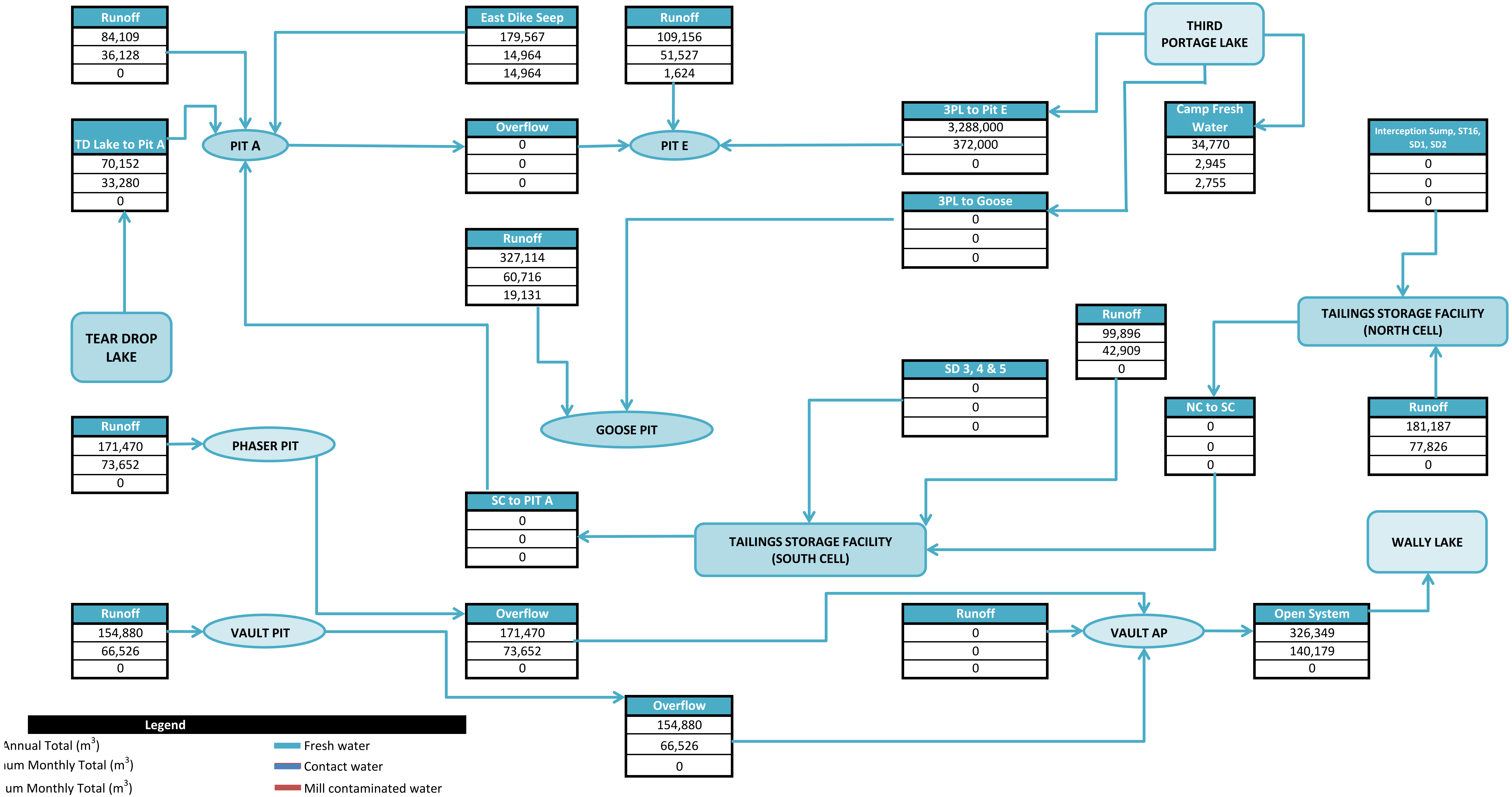
*Small water transfers are not shown on this drawing, refer to water balance tables for detailed water movement.

General Water Movement - 2035 - Open System



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

General Water Movement - 2036 - Open System



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

APPENDIX C – 2020 MEADOWBANK WATER QUALITY FORECASTING UPDATE

Title of document: **MEADOWBANK WATER QUALITY FORECASTING UPDATE FOR THE 2020 WATER MANAGEMENT PLAN**

Client: **AGNICO EAGLE**

Project: **MEADOWBANK GOLD PROJECT**

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

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

REVISION INDEX

Revision					Pages Revised	Remarks
#	Prep.	Rev.	App.	Date		
PA	ALN	DC	DC	Feb. 24, 2021		For internal review
PB	ALN	DC	DC	Mar. 1, 2021		For Client review
00	ALN	DC	ALN	Mar. 25, 2021		Final Version
01	ALN	DC	ALN	Mar. 29, 2021		Final Version

NOTICE TO READER

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDIX

1.0 Introduction

1.1 Mandate

SNC-Lavalin Inc (SNC-Lavalin) was mandated by Agnico Eagle (Agnico) to review and update the water quality forecasting model developed in 2012 and updated yearly using the Water Balance reported in the Appendix A of the 2020 Water Management Report and Plan (WMP 2020) to be submitted in March 2021 by Agnico.

1.2 Study Objectives and Content

This Technical Note presents the water quality forecast model updated for the Meadowbank Gold Project, based on the Water Balance 2020 (WB 2020) of Agnico (provided on January 20th, 2021). The WB 2020 was developed according to the updated Life of Mine (LOM) (21BUD_Case2B) and the mine development sequence provided by Agnico and summarized in Table 1-1. The updated water quality forecast model applies to the North and South Cell Tailings Storage Facility (TSF) Reclaim Ponds, Portage and Goose Pits and Vault Pit.

The objective of this Technical Note is to forecast the concentration of the selected parameters of concern within the North and South Cell TSF Reclaim Ponds and the Portage and Goose Pits from 2020 until the end of in-pit deposition, verify last year's assumptions and results, update the model if necessary, develop recommendations and assess water treatment requirements.

For the Vault Pit, no treatment is expected during re-flooding of the pit since there is no tailings disposal facility at the Vault site. The Vault Attenuation Pond only receives mine pit runoff water and fresh water. This will be confirmed through regular monitoring required by the Type A Water Licence 2AM-MEA1525 from 2014 to 2020. The first modelling of the Vault area was realized in 2016 based on the 2014 and 2015 data and updated on a yearly basis using sampling data collected for that year. For this year's report, the measurements taken in 2020 for this monitoring campaign were analyzed and are presented in section 5.0.

1.3 Water Balance

The Water Balance 2020 (WB 2020) was developed by Agnico. The water balance examined the water transfers required for the water management infrastructure during the active life of mine under average hydrologic conditions.

The WB 2020 was based on the revised mining schedule presented in Table 1-1 below for Meadowbank and Vault areas.

Table 1-1: Water Management Phases (based on 21BUD_Case2B)

ACTIVITY	UPDATED START DATE[1]	UPDATED END DATE[1]
Pits Mining		
Portage Pit	January 2010	June 2019
North (Pit A)	January 2010	June 2018
Central (Pit B, C D)	January 2010	April 2013
South (Pit E)	January 2010	June 2019
Goose Pit	April 2012	May 2015
Vault Pit	January 2014	September 2018
Phaser Pit	July 2018	September 2018
Amaruq Whale Tail Pit	July 2019	June 2026
Tailings Storage Facility Operations		
North Cell	January 2010	July 2019
South Cell	November 2014	April 2019
Goose pit (in pit tailings deposition)	July 2019	August 2020
Portage (in pit tailings deposition)	August 2020	June 2026
Rock Storage Facility (RSF) Operations		
Portage RSF	January 2009	October 2019
Vault RSF	January 2014	September 2018
Attenuation / Reclaim Pond Water Management		
Attenuation Pond (South Cell)[2]	January 2009	November 2014
Attenuation Pond Vault Lake	January 2014	September 2018
Other Key Activities		
Mill Operations	January 2010	June 2026
Dewatering of Vault Lake	June 2013	July 2014
Dewatering of Phaser Lake	July 2016	October 2016
Flooding of Vault Pit[3]	June 2019	August 2025
Flooding of Phaser Pit [3, 4]	-	-
Reclaim Water Treatment[5] – Goose Pit	2027	2027
Reclaim Water Treament[5] – Portage Pit	2027	2029
In-Pit Cover Construction[5] – Goose Pit	2027	2027
In-Pit Cover Construction[5] – Portage Pit	2029	2029
North and South Cell TSF Cover Construction	2027	2031
Flooding of Portage Pit[3, 5]	2029	2036
Flooding of Goose Pit[3, 5]	2027	2028
Breaching of dikes[5]	n/a	2037 only if water criteria are met

Notes:

1. Periods are given from the beginning of the starting month to the end of the ending month.
2. After October 2014, the Reclaim Pond is relocated to the South Cell TSF. After this date, there is no Attenuation Pond.
3. Artificial flooding only with a combination of pumps and siphons, natural run off inflow as part of re-flooding not accounted in this table.
4. Phaser pit and lake are expected to be flooded solely on a passive method (run offs) due to the small flooding volume required to re-establish initial elevation combined with its big watershed.
5. Tentative dates.

2.0 Review of Water Balance and Water Quality Data for 2020

2.1 Documents Reviewed

A review of the available water balance and water quality data measured in 2020 was undertaken by SNC-Lavalin and compiled with previous data measured since 2012. This includes a review of the following documents:

- Water balance model 2020 (WB 2020) based on the Life of Mine 21BUD_Case2B.
- Water quality chemical analysis results from the Portage Area for 2020. The chemical analysis results of interest for this Technical Note are presented in Appendix A and were integrated in the data previously obtained, specifically:
    - North Cell TSF Reclaim Pond (ST-21) from January 2013 to September 2020;
    - South Cell TSF Reclaim Pond (ST-21) (former South Cell TSF Attenuation Pond ST-18) from June 2013 to September 2020;
    - Mill effluent metal and cyanide concentrations from January 2013 to December 2020;
    - Seven (7) grab samples of Mill Effluent taken in 2020;
    - Portage North Pit (ST-17, Pit A) and Portage South Pit (ST-19, Pit E) from January 2013 to October 2020;
    - Goose Pit (samples taken in the sump pit and in the lake, ST-20) from January 2013 to October 2020;
    - Central Dike seepages collected in the downstream collection pond (ST-S-5) sampled in 2020;
    - East Dike (ST-8) seepage and Saddle Dam 3 (ST-32) sump sampled in 2020;
    - Saddle Dam 1 downstream sump (ST-S-2) and Portage Rock Storage Facility seepage (RSF) (ST-16) sampled from 2015 to 2020;
    - Tailing shake flask extraction tests results conducted in 2020 on the tailings.
- Water quality chemical analysis results for the Vault Area for 2020, specifically:
    - Vault Pit lake (ST-26) sampled in 2020;
    - Vault RSF (ST-24) sampled in 2020;
    - Vault Attenuation Pond (ST-25) from July 2014 to October 2020;
    - Phaser Pit (ST-41 and ST-42) from July 2018 to September 2019;
    - Phaser Attenuation Pond (ST-43) sampled in 2020

It is important to remember that the review of the Meadowbank water quality data was undertaken to gain a better understanding of the water quality in the Portage Area, particularly as it affects the TSF Reclaim Ponds and the tailings in-pit deposition, and to provide a basis for the development and update of the water quality forecast mass balance model.

Analysis of the Vault water quality data was undertaken to gain a better understanding of the water quality in this area.

2.2 Updates to the Water Balance

The initial Water Balance (WB) was developed in 2012. It has been 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 Life of Mine. Table 2-1 summarizes the main differences between the WB from 2012 to 2020.

The WB 2020 integrates the extension of the Life of Mine (LOM) of Meadowbank Mine by construction and operating the Whale Tail Pit, a satellite deposit located on the Amaruq property, and continuing mine operations and milling at Meadowbank. It also integrates in-pit deposition of tailings in Goose and Portage pits.

Table 2-1 Updates to the Water Balance

WB YEAR	FORECAST END OF DEPOSITION	MAIN DIFFERENCES
2012	February 2018	Initial water balance model based on the WMP 2012. Tailings deposition started in the North Cell TSF until March 2015 and was then transferred to South Cell TSF until February 2018. Reclaim water was then transferred to the pits. It was anticipated that there would be approximately 6 Mm^3 of non-contact water already accumulated in each pit at that time.
2013	September 2017	In this WB, the LOM included deposition of tailings in North and South Cell TSF in 2014 and 2015. Deposition in the North Cell TSF was planned to end on October 2015 and continue in the South Cell TSF until September 2017. Furthermore, it was anticipated that South Cell TSF Reclaim Water would be transferred as of 2015 to the pits when there would be very little water in the pits. This was done while tailings deposition in South Cell TSF was ongoing. Runoff water will then be allowed to flow into the pit and mix with the South Cell Reclaim Water.
2014	September 2017	In this WB, tailings were deposited in the North and South Cell TSF in 2014 and 2015. Deposition in the South Cell TSF started on November 2014. Deposition in the North Cell TSF was planned to end in September 2015 and continue in the South Cell TSF. Based on the volume of Reclaim Water in the North Cell TSF and South Cell TSF Ponds, it was anticipated that South Cell Reclaim Water would be transferred to Portage Pit starting August 2017. No Reclaim Water was to be transferred to Goose Pit. Furthermore, the percentage of tailings water/ice entrapment was also updated in the 2014 Water Management Plan (WMP) to better reflect what was currently observed on site.
2015	September 2018	From January to July 2015, tailings were deposited in the South Cell TSF. Deposition in the North Cell TSF continued from July to October 2015. As of October 2015, deposition of tailings continued only in the South Cell TSF until the end of the LOM. The LOM was extended compared to WB 2014, where tailings deposited was planned to end in September 2018. The transfer of Reclaim Water to the Portage Pit was postponed one year due to the longer LOM and is planned to start on September 2018. No Reclaim Water will be transferred to Goose Pit other than the 50,431 m^3 transferred from the Central Dike Downstream Pond, which has a similar water quality than the South Cell Reclaim Pond. Those transfers were proposed by the Meadowbank Dike Review Board (MDRB) to further assess the Central Dike seepage (ST-S-5) that was identified that same year.
2016	September 2018	The tailings deposition and water transfer schedule are similar to the WB 2015.

WB YEAR	FORECAST END OF DEPOSITION	MAIN DIFFERENCES
		Water in sumps from Saddle Dam 3-4-5 was added as a new input to the South Cell TSF Reclaim Pond. Furthermore, the transfer of seepages and runoff water from the North Cell interception sump, Rock Storage Facility (RSF) and Saddle Dam 1 to the North Cell TSF continued past 2018 until closure. Portage and Goose Pit filling rates were also adjusted in this WB.
2017	September 2018	The tailings deposition and water transfer schedule are similar to the WB 2016. The actual volumes of water transfers and tailings deposited in 2017 were entered into the model. About 332,177 m^3 of pond water was transferred to Goose Pit from the Central Dike Downstream Pond between August and October 2017 to reduce the hydraulic gradient between the South Cell and ST-S-5. This strategy was presented to the MDRB as part of an action plan on Central Dike. The updated water balance does not plan any other pond water transfer during tailings deposition in 2018. Portage and Goose Pit flooding rates were also adjusted. A different percentage of tailings water/ice entrapment for North and South Cell TSF was also used in the WB 2017 to better characterize the difference of ice entrapment cover between the two, partly due to the continuing water inflow from the mill effluent in the South Cell TSF.
2018	December 2021	The tailings deposition and water transfer schedule were extended until December 2021. Tailings will be deposited in the North Cell and South Cell TSF. The additional tailings come from the continuation of the milling of ore produced from the Whale Tail pit at the Amaruq site. The actual volumes of water transfers and tailings deposited in 2018 were entered into the model. In 2018, no Reclaim Water was transferred from Central Dike Downstream Pond or South Cell TSF to Goose Pit. In the Vault area, there was no discharge to Wally Lake as well.
2019	July 2022	The tailings deposition and water transfer schedule were extended until July 2022. Tailings will be deposited in the North Cell and South Cell TSF until July 2019 and April 2019 respectively. Tailings will then be deposited in Goose and Portage pits. In-pit deposition started in Goose Pit in July 2019. The additional tailings come from the continuation of the milling of ore produced from the Whale Tail pit operation. The actual volumes of water transfers and tailings deposited in 2019 were integrated into the model. In 2019, Reclaim Water was transferred from South Cell TSF Reclaim Pond to Goose Pit. Reclaim water from Central Dike Downstream Pond was transferred back to SC Reclaim Pond or to Portage North Pit (Pit A). In the Vault area, there was no discharge to Wally Lake in 2019. Natural pit flooding was allowed to begin in the Vault area.
2020	June 2026	The tailings deposition and water transfer schedule were extended until June 2026. In-pit deposition occurred in Goose Pit from July 2019 till August 2020. In-pit deposition continued in Portage Pit starting in August 2020 and is projected to end on June 2026. The additional tailings come from the continuation of the milling of ore produced from the Whale Tail pit, IVR pit and underground mine operation at the Amaruq site. The actual volumes and quantity of water transfer and tailings deposited in 2020 were integrated into the model. In 2020, Reclaim Water was transferred from South Cell TSF Reclaim Pond to Portage Pit. Reclaim water from Central Dike Downstream Pond was transferred back to SC Reclaim

WB YEAR	FORECAST END OF DEPOSITION	MAIN DIFFERENCES
		Pond or to Portage South Pit (Pit E). Reclaim water was pumped from South Cell TSF and Portage North Pit (Pit A) to the mill. In the Vault area, natural pit flooding was allowed to continue. Following in-pit deposition, the Interim Closure and Reclamation Plan (ICRP) includes the treatment of the Reclaim Water in Portage and Goose Pits. The treated effluent will be discharged to Third Portage Lake. Once treatment is completed, aggregate cover construction over the tailings in the pits will begin, followed by re-flooding of the pits with natural runoff and water transfer from Third Portage Lake.

2.3 North and South Cell TSF Reclaim Ponds (ST-21)

2.3.1 Measured vs Forecasted Concentrations

A review of the chemical analysis for water samples collected in the North Cell (now transferred to the South Cell) and South Cell TSF Reclaim Ponds (station ST-21) was undertaken by SNC-Lavalin to identify contaminants that were above discharge criteria as stipulated in the MDMER regulation, CCME guideline and the Water Licence, Part F.

It is understood that the MDMER, CCME and Water Licence criteria apply to mining effluents discharged to the environment and are as such not applicable to the TSF Reclaim Ponds since no effluent is discharged from this area to the environment. However, the MDMER, CCME and Water Licence criteria are used as a guide to identify potential parameters that may become a problem should they be discharged to the pit as part of reflooding and then the environment (once dikes are breached) without treatment.

It should be noted that the parameters of concern were only determined based on the chemical analyses provided by Agnico and summarized in Appendix A.

The parameters of concern reviewed in last year's water quality forecasting reports that may represent a potential long-term contamination risk following closure are the following:

- Total Aluminum
- Total Arsenic
- Total Cadmium
- Total Chromium
- Total Copper
- Total Iron
- Total Nickel
- Total Selenium
- Fluoride
- Total ammonia

Furthermore, the water quality review from past reports also identified the following parameters in the Reclaim Water that should be monitored since they could represent a potential long-term contamination risk:

- Cyanide (total)
- Chloride
- Nitrate
- Sulphate

Table 2-2 presents the MDMER, Water Licence 2AM-MEA1526 (Nunavut Water Board Licence, 2015) discharge criteria and CCME discharge guidelines for the parameters of concern that may represent a potential contamination risk in the Portage Area when filling Portage and Goose Pits after the mining sequence is complete. For the water quality forecast report, the British Columbia guideline for sulfate for the protection of aquatic life was used as a benchmark for reference only. However final site-specific closure limits will be developed through review of the final closure plan by regulatory agencies.

Figure 2-1 presents the concentration of these parameters measured in the North and South Cell TSF Reclaim Ponds from 2013 to 2020. Also shown in this figure are the forecasted concentrations from the Water Quality Forecasting Update based on the planned water transfer described in the 2019 Water Management Plan (SNC-Lavalin 2020). For the metal parameters, total concentration values are shown in the figures in this year's report since the discharge criteria and CCME water quality guidelines are based on total concentration measurements.

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

PARAMETER	DISCHARGE CRITERIA & WATER QUALITY GUIDELINES		
	MDMER (1)	***Water Licence (2) (Part F)***	***CCME (3) (guideline date)***
Cyanide (CN)	1.00 mg/L (as total CN)	0.5 mg/L (as total CN)	5 µg/L (as free CN) (1987)
Aluminum (Al)	*no criteria*	1.5 mg/L	100 µg/L(8) (1987)
Arsenic (As)	0.5 mg/L	0.3 mg/L	5 µg/L (1997)
Cadmium (Cd)	*no criteria*	0.002 mg/L	0.04 µg/(10) (2014)
Chromium (Cr)	*no criteria*	*no criteria*	1 µg/L (9) (1997)
Copper (Cu)	0.30 mg/L	0.1 mg/L	2 µg/L (4) (1987)
Iron (Fe)	*no criteria*	*no criteria*	0.3 mg/L (1987)
Nickel (Ni)	0.5 mg/L	0.2 mg/L	0.025 mg/L (10) (1987)
Zinc (Zn)	0.5 mg/L	0.4 mg/L	0.013 (10) (2018)
Selenium (Se)	*no criteria*	*no criteria*	1 µg/L (1987)
Total Ammonia (NH_3)	*no criteria*	16 mg N/L	1.83 mg N/L (5) (2001)
Nitrate (NO_3)	*no criteria*	20 mg N/L	2.94 mg N/L (7) (2012)
Chloride (Cl)	*no criteria*	1,000 mg/L	120 mg/L (6) (2011)
Fluoride (F)	*no criteria*	*no criteria*	0.12 (2002)
Sulfate (SO_4)	*no criteria*	*no criteria*	128(11)
Manganese (Mn)	*no criteria*	*no criteria*	0.23 (12) mg/L

PARAMETER	DISCHARGE CRITERIA & WATER QUALITY GUIDELINES		
	MDMER [(1)]	*Water Licence [(2)] (Part F)*	*CCME [(3)] (guideline date)*

Notes:

(1) Current MDMER criteria corresponding to the maximum average monthly concentration (schedule 4)

(2) Water Licence (Part F) criteria for Third Portage Lake corresponding to the maximum average concentration (2015)

(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 Feb. 2017.

(4) The copper discharge criterion depends on hardness. A Third Portage Lake hardness level is approx. 12 mg/L as $CaCO_3$. For hardness between 0 to 82 mg/L $CaCO_3$, the copper limit is set at 2 µg/L.

(5) The ammonia concentration limit depends on temperature and pH (an increase in temperatures and pH leads to a more stringent ammonia concentration limit). In this case, 2.22 mg/L of NH_3, or 1.83 mg N/L was determined based on an average pH of 7.5 in Third Portage Lake and a maximum measured temperature of approx. 15°C.

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

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

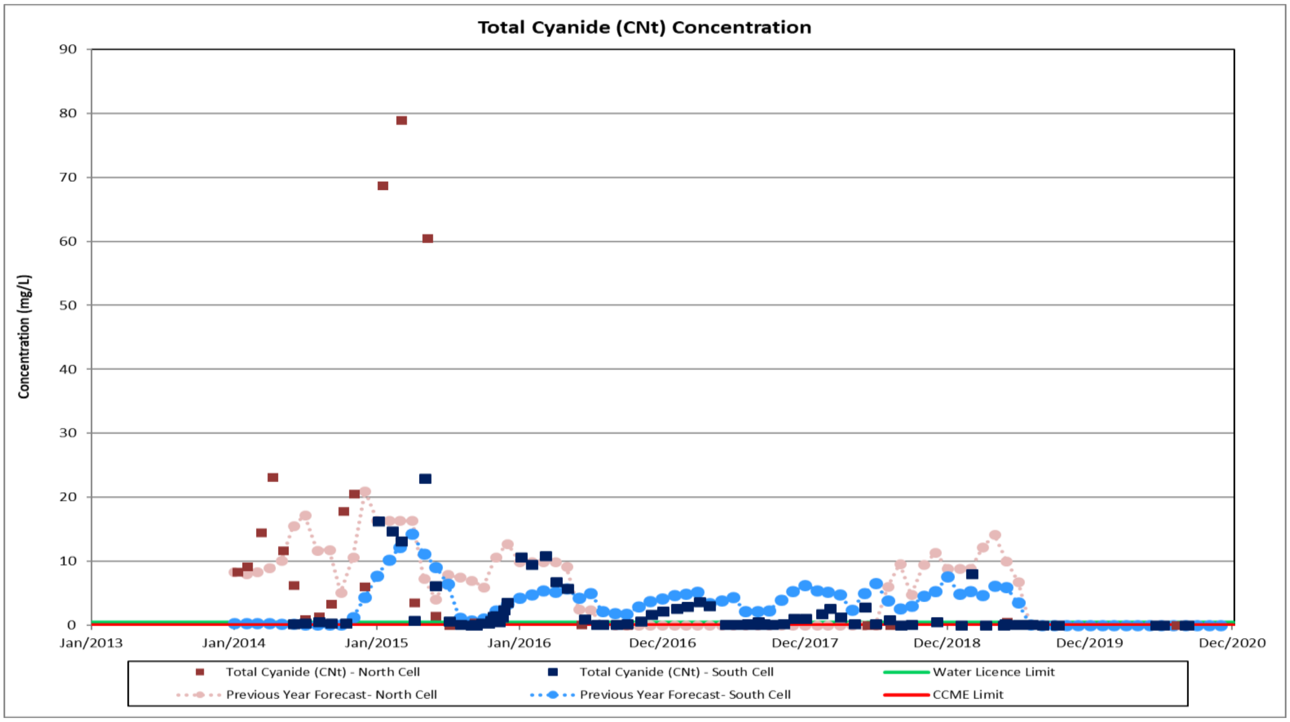
(8) Aluminum discharge criterion depends on the pH. Value shown is for a water pH > 6.5.

(9) Chromium value is based on hexavalent form (Cr(VI)).

(10) Cadmium, nickel, zinc and manganese discharge criteria depend on hardness. Third Portage Lake hardness level is approx. 12 mg/L as $CaCO_3$. For hardness between 0 to 17 mg/L $CaCO_3$, the limit is set at 0.04 µg/L for cadmium. For hardness between 0 to 60 mg/L $CaCO_3$, the limit is set at 0.025 mg/L for nickel. For hardness of 12 mg/L as $CaCO_3$, the limit for zinc is 0.013 mg/L and manganese is 0.23 mg/L.

(11) Threshold value for sulfate based on BC Environment guideline for the protection of aquatic life for very soft water (0-30 mg/L) (April 2013).

Figure 2-1: Concentration in the North and South Cell TSF Reclaim Ponds



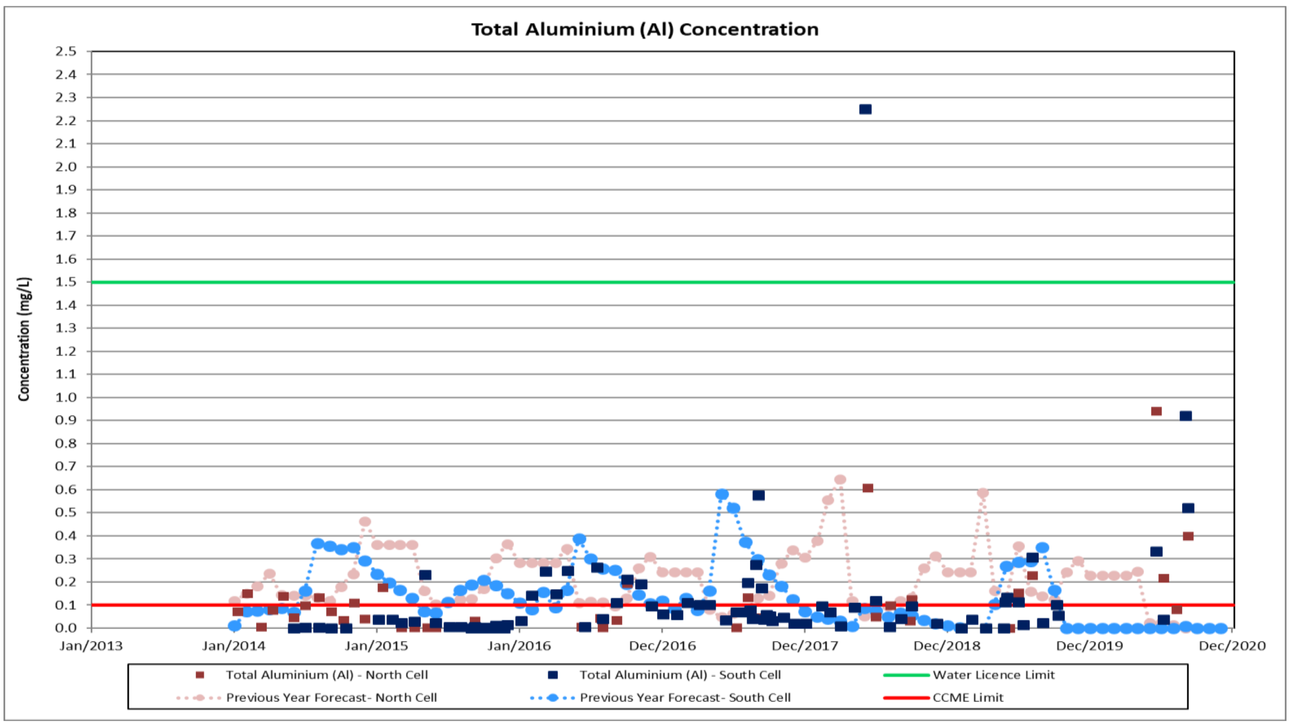
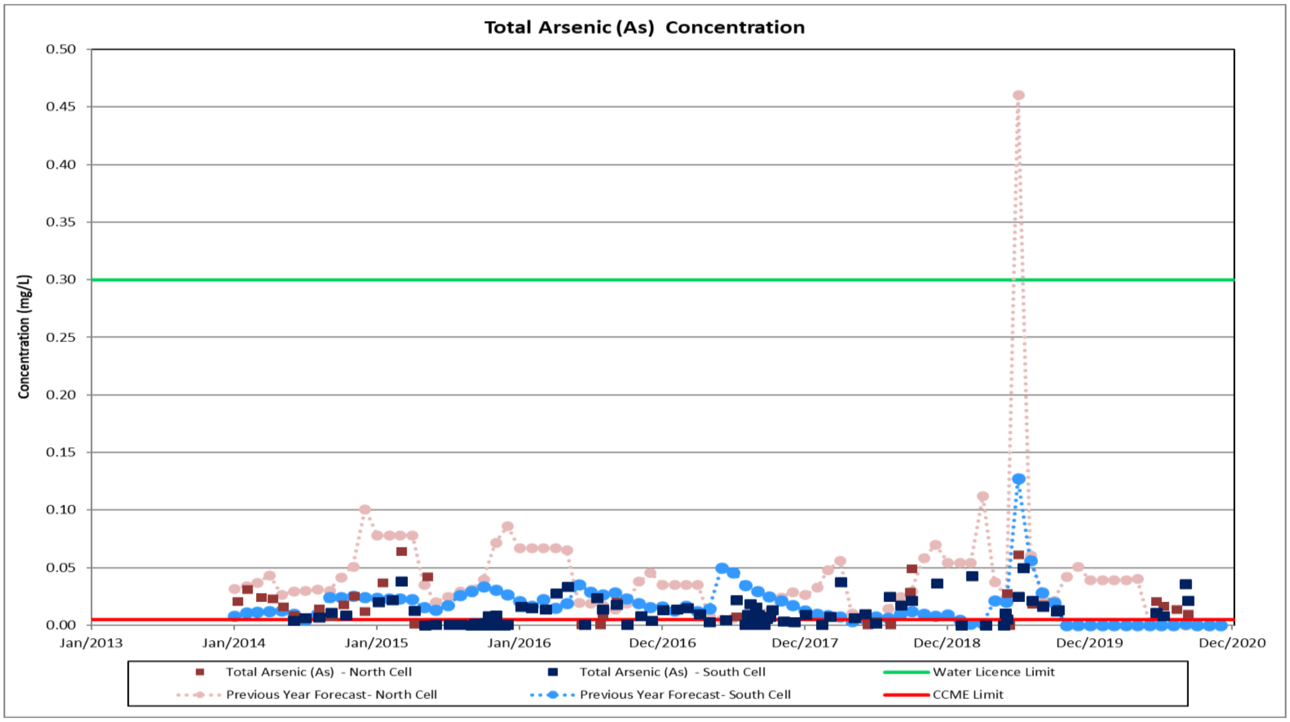


Figure 2-1: (continued) Concentration in the North and South Cell TSF Reclaim Ponds



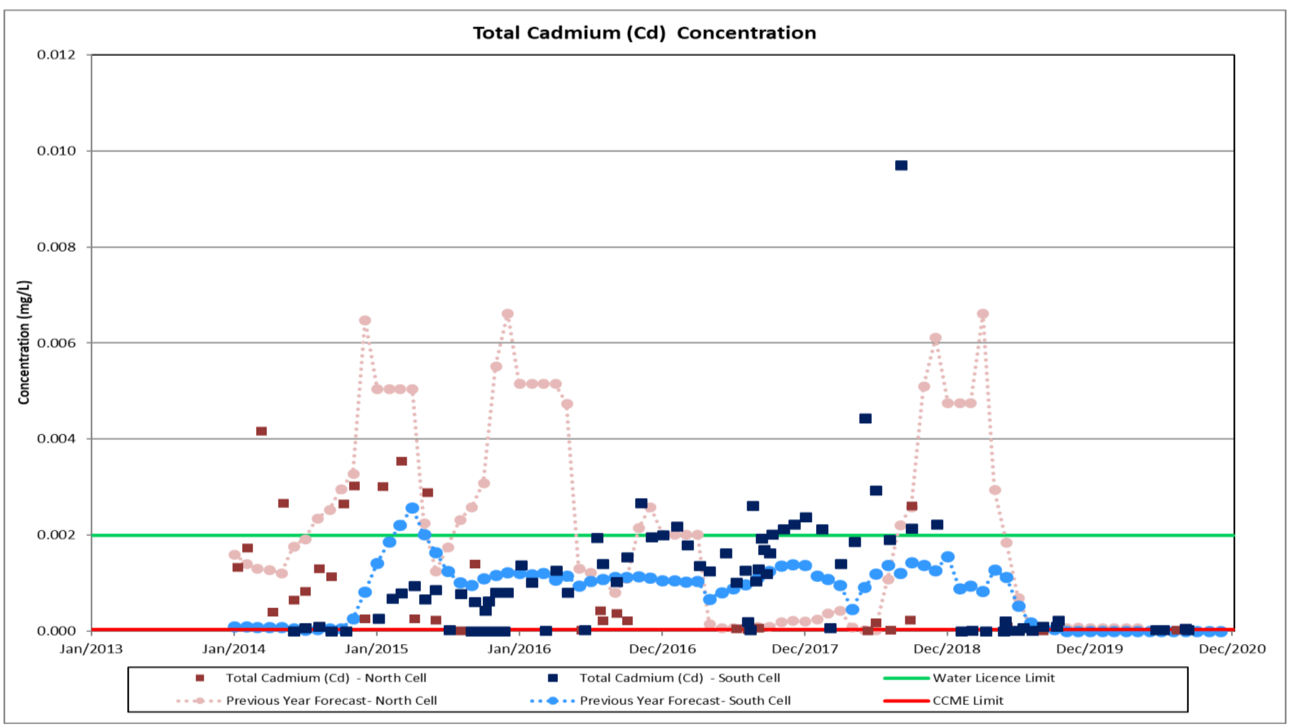
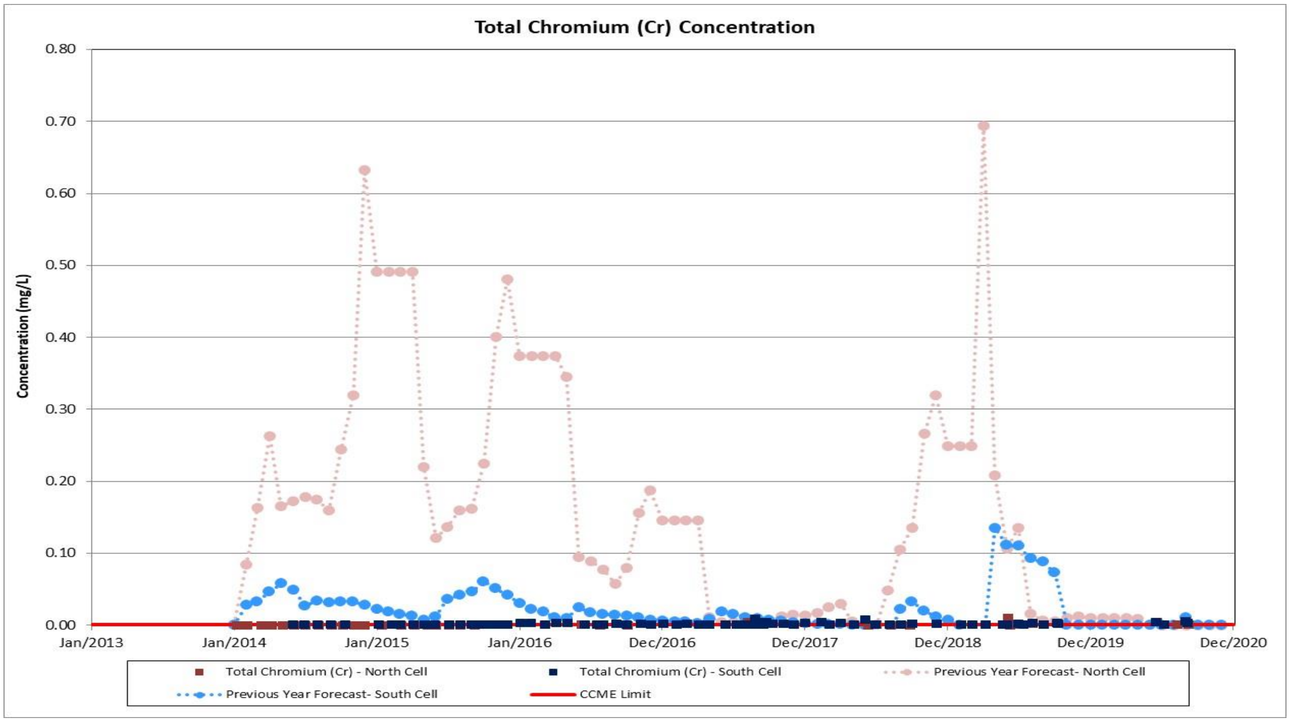


Figure 2-1: (continued) Concentration in the North and South Cell TSF Reclaim Ponds



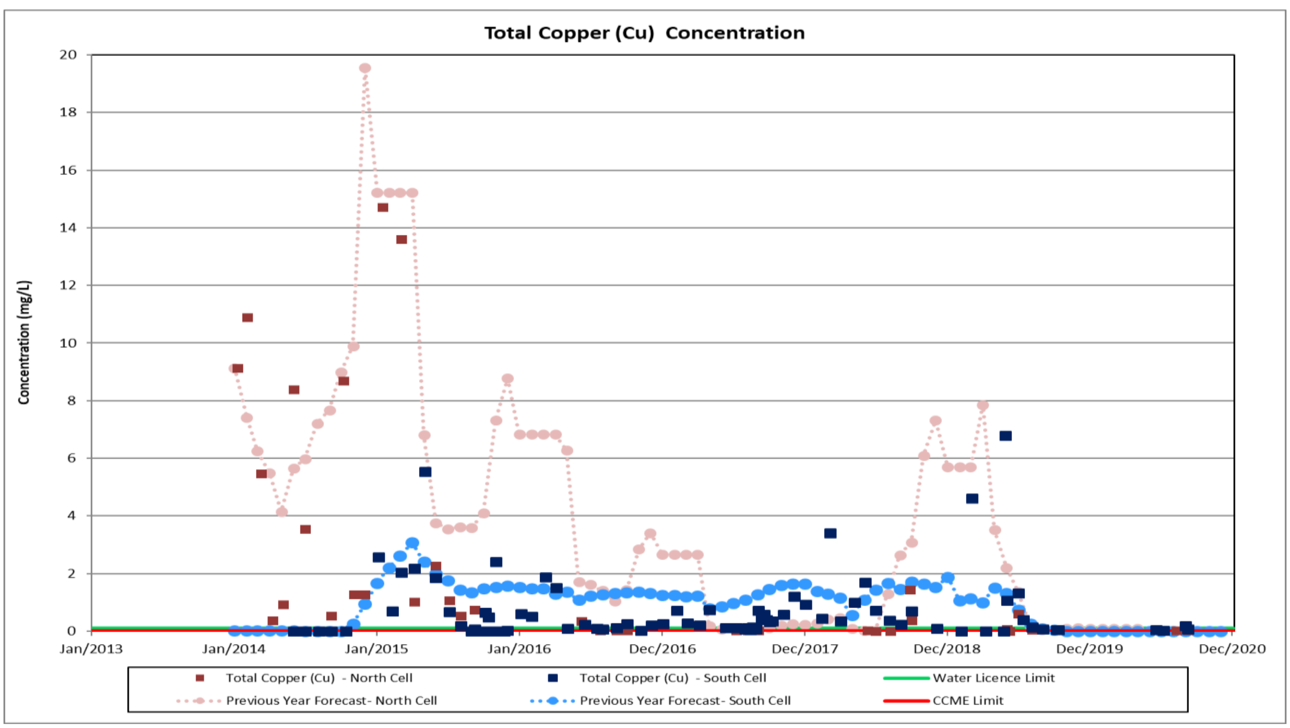
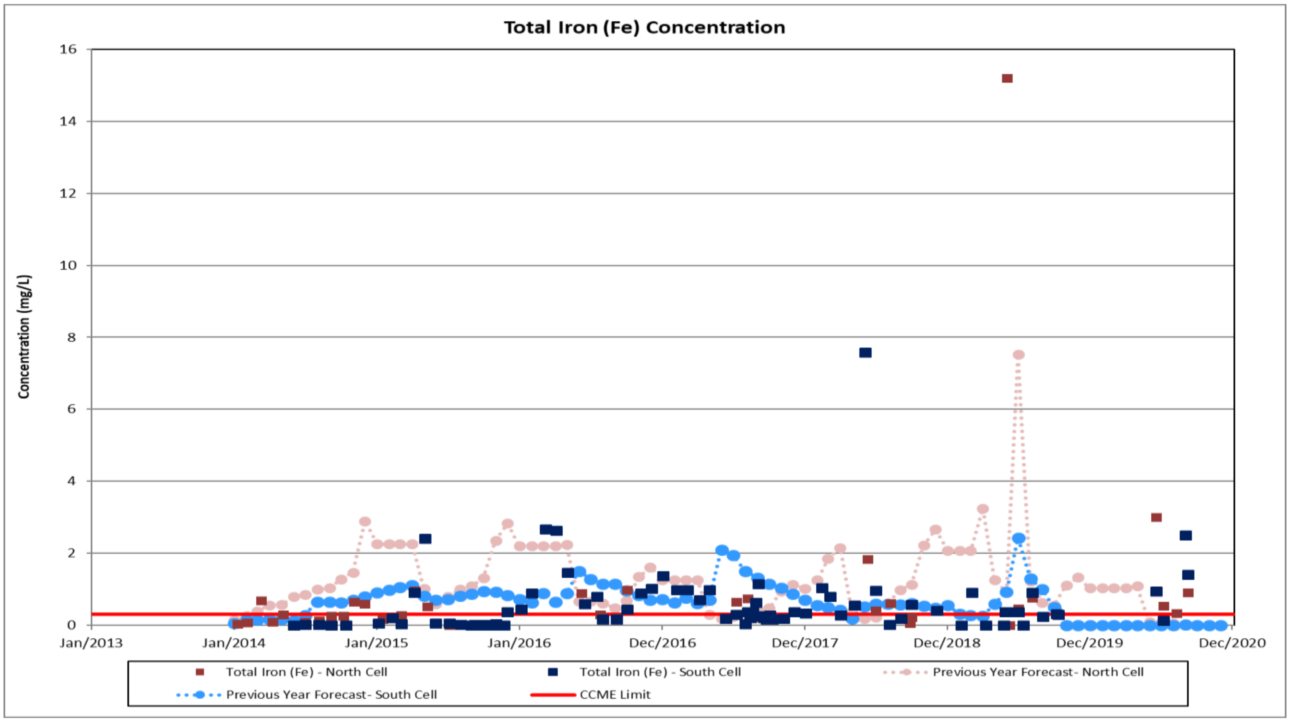


Figure 2-1: (continued) Concentration in the North and South Cell TSF Reclaim Ponds



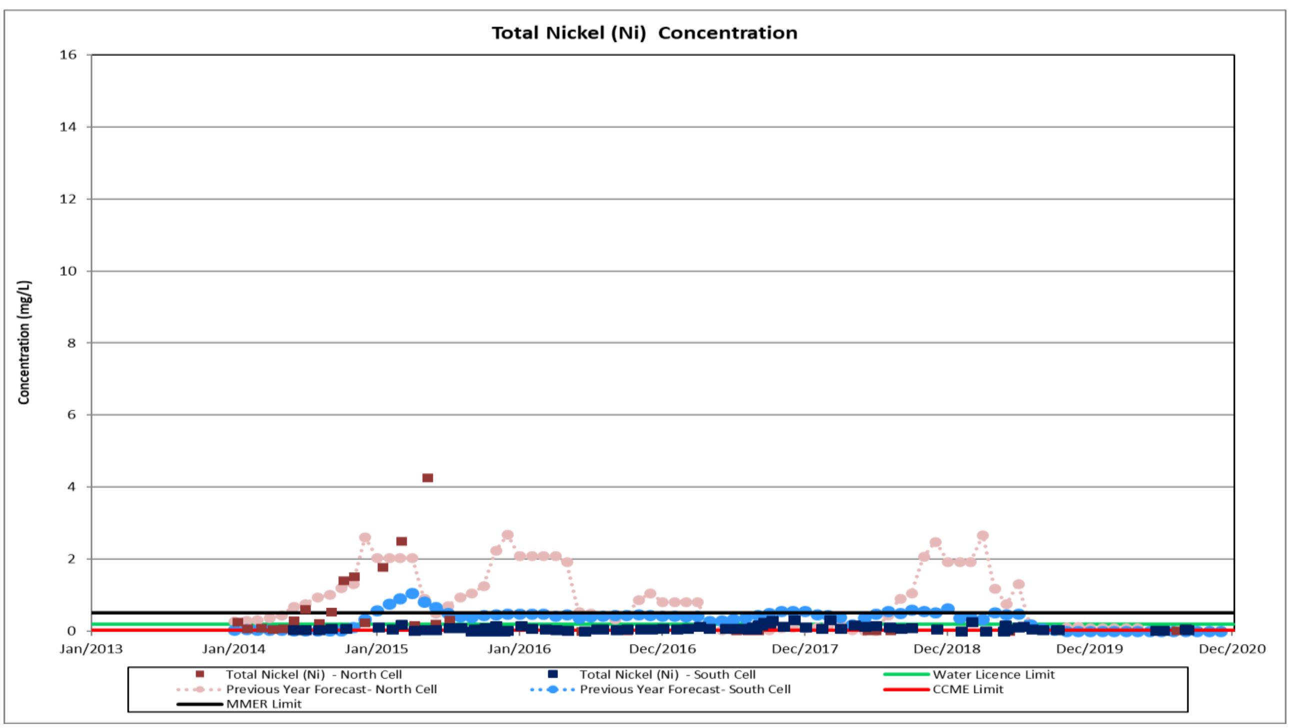
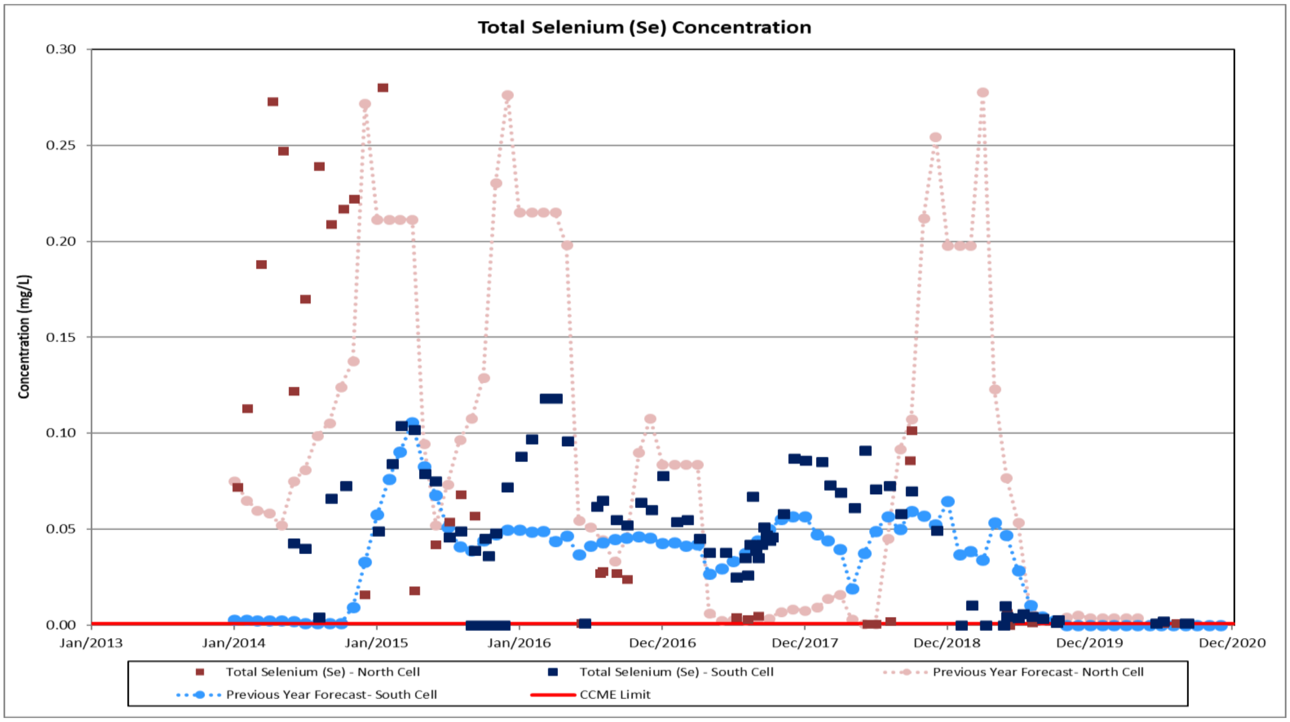


Figure 2-1: (continued) Concentration in the North and South Cell TSF Reclaim Ponds



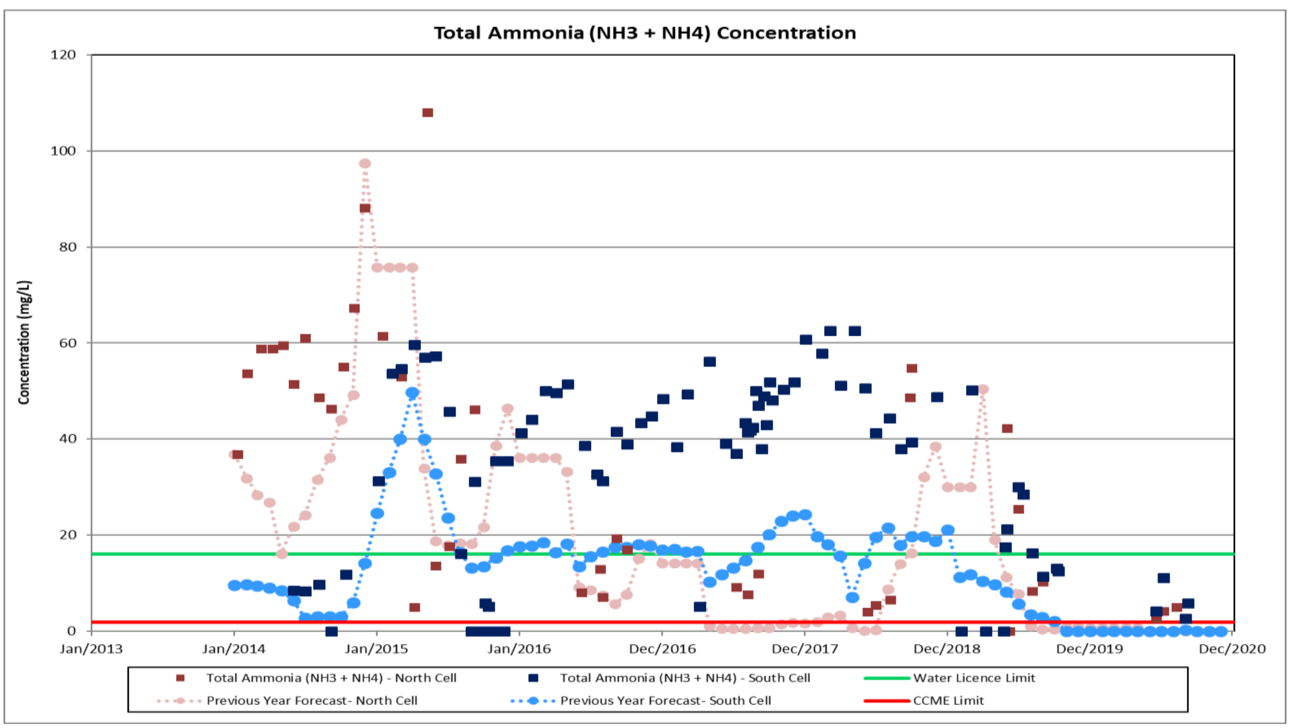
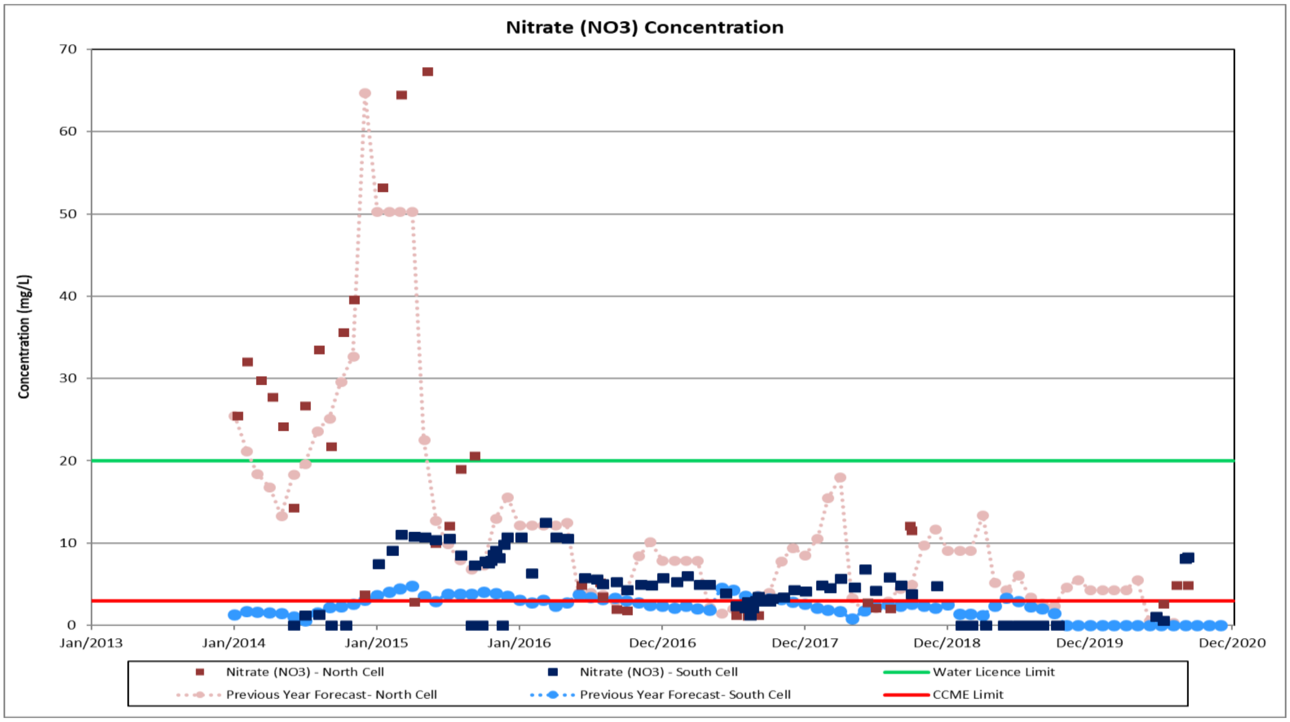


Figure 2-1: (continued) Concentration in the North and South Cell TSF Reclaim Ponds



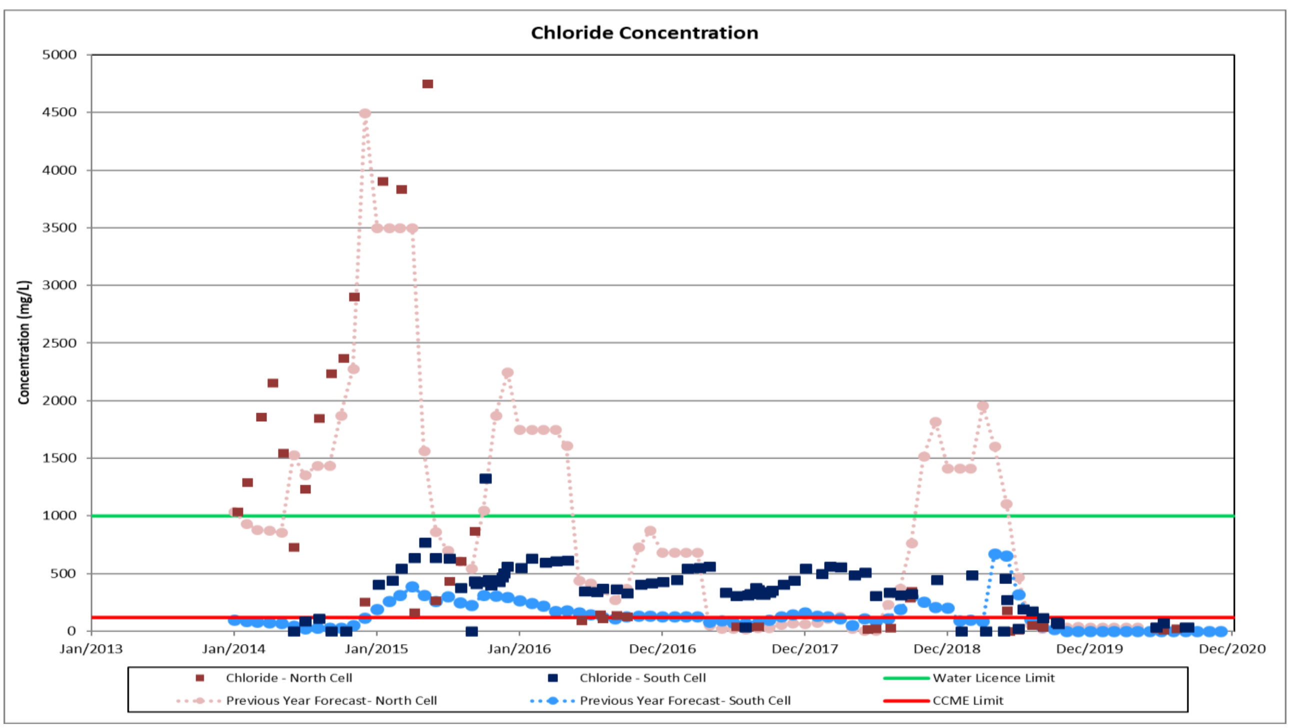
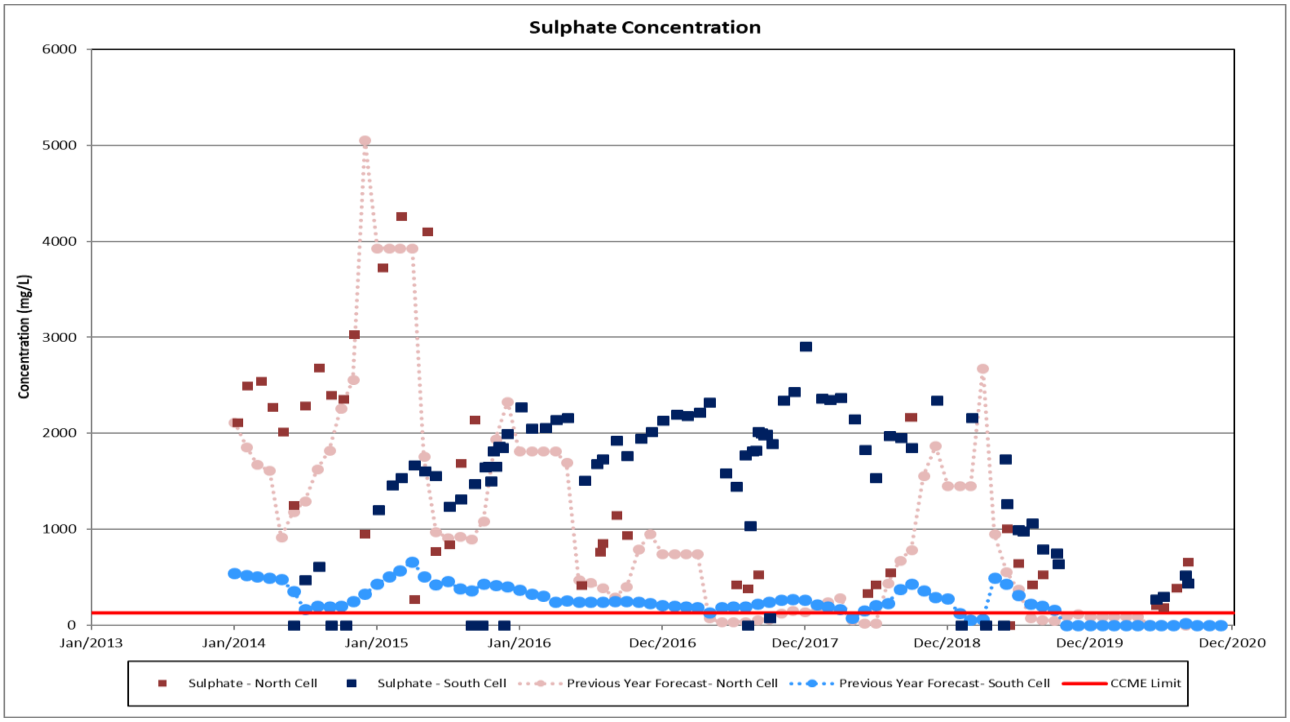


Figure 2-1: (continued) Concentration in the North and South Cell TSF Reclaim Ponds



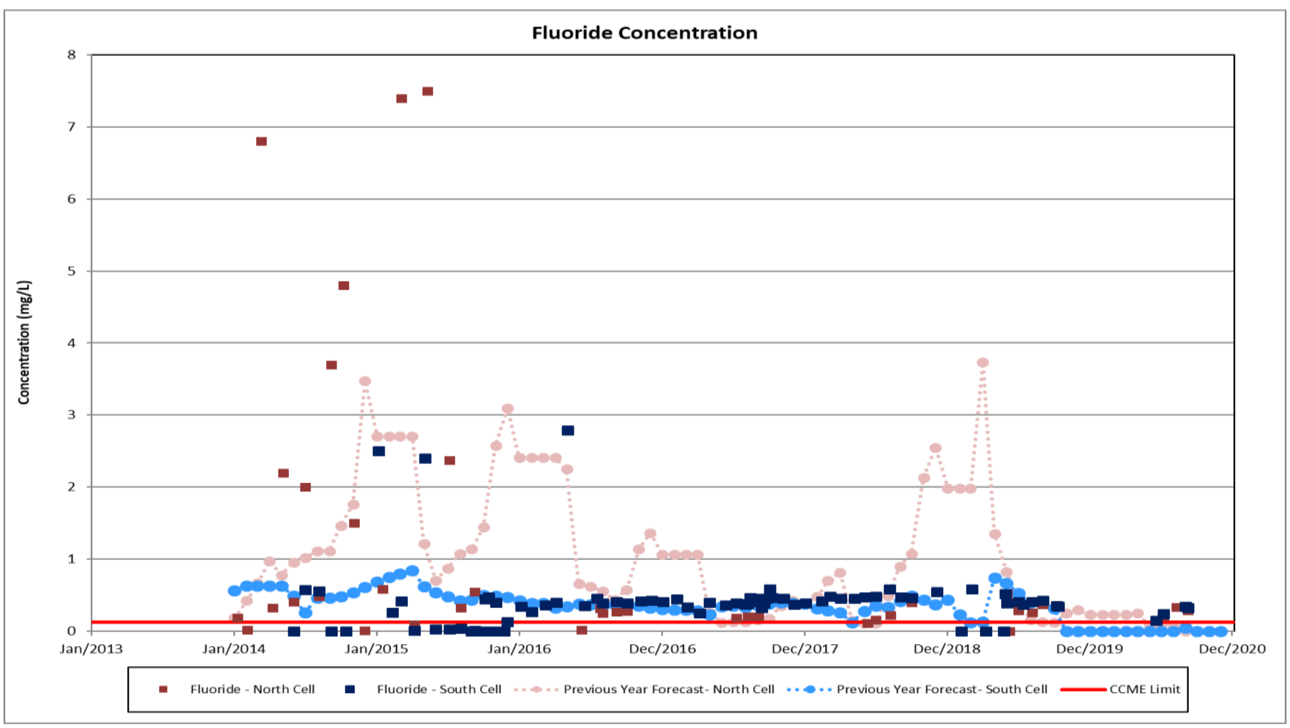


Table 2-3 summarizes the observations that can be made based on the measured values and forecasted concentrations as shown in Figure 2-1. For some parameters, the graphs observations have been divided into North Cell TSF Reclaim Pond (NC) and South Cell TSF Reclaim Pond (SC). The forecasted values are based on the previous model (SNC-Lavalin 2020).

Table 2-3: Observations from Measured and Forecasted Concentrations in the North and South Cell TSF Reclaim Ponds

PARAMETER	MEASURED VALUES OBSERVATIONS	FORECASTED VALUES OBSERVATIONS
Total Cyanide	**NC:** Measured concentrations were low for 2020 year. For comparison purposes only, concentrations were below MDMER and Water Licence criterion for all the analysed samples. The concentrations are generally above CCME limit. **SC:** Measured concentrations were low for most of the 2019 year. For comparison purposes only, concentrations in the South Cell are generally below MDMER and Water Licence criterion. The concentrations are generally above CCME limit. Since no tailings were deposited in NC and SC in 2020, the low concentration of CN was expected.	**NC:** As there was no tailings deposition in the North Cell since 2015, cyanide volatizes in the summer and its concentration slowly reduces in the cell with time. This was confirmed with the monitored data. **SC:** As there was no tailings deposition in the North Cell since 2019, cyanide volatizes in the summer and its concentration slowly reduces in the cell with time. This was confirmed with the monitored data.
Total Metals (general)	See specific parameters for details	The current forecasting model was based on a mass balance using the water balance around the site and does not consider possible geochemical reactions that could help precipitate the metals out of the water column phase at equilibrium. For this reason, some of the forecasted values can be higher than the measured values. See specific parameters for additional details.

PARAMETER	MEASURED VALUES OBSERVATIONS	FORECASTED VALUES OBSERVATIONS
Total Aluminum	**NC:** Measured values were relatively low. For comparison purposes only, the measured concentrations were generally below Water Licence discharge criteria, but higher than the CCME limit. **SC:** Measured values were relatively low. For comparison purposes only, the measured concentrations were generally below Water Licence discharge criteria, but higher than the CCME limit.	**NC and SC:** As there was no tailings deposition in the NC and SC TSF in 2020, forecasted concentrations were expected to decrease over time. However, the measured values were higher than the forecasted value. This indicates that natural runoff into the NC and SC were carrying suspended solids that contains metal particulates. The dissolved fraction concentration for this constituent was below CCME limit.
Total Arsenic	**NC & SC:** Measured concentrations were relatively low. For comparison purposes only, all the collected samples showed concentrations below MDMER and Water Licence criterion but above CCME limit.	**NC and SC:** As there was no tailings deposition in the NC and SC TSF in 2020, forecasted concentrations were expected to decrease over time. However, the measured values were higher than the forecasted value. This indicates that natural runoff into the NC and SC were carrying suspended solids that contains metal particulates. The dissolved fraction concentration for this constituent was close to the CCME limit.
Total Cadmium	**NC & SC:** Measured concentrations were relatively low. For comparison purposes only, all the collected samples showed concentrations below Water Licence criterion and generally below CCME limit.	**NC and SC:** As there was no tailings deposition in the NC and SC TSF in 2020, forecasted concentrations were expected to decrease over time. Measured values follows the forecasted trend.
Total Chromium	**NC & SC:** Measured concentrations were generally low. For comparison purposes only, the concentrations were generally close to the CCME limit.	**NC and SC:** As there was no tailings deposition in the NC and SC TSF in 2020, forecasted concentrations were expected to decrease over time. However, the measured values were higher than the forecasted value. This indicates that natural runoff into the NC and SC were carrying suspended solids that contains metal particulates. The dissolved fraction concentration for this constituent was below the CCME limit.

PARAMETER	MEASURED VALUES OBSERVATIONS	FORECASTED VALUES OBSERVATIONS
Total Copper	**NC:** Measured total copper concentrations were low in 2020. For comparison purposes only, measurements in 2020 were generally below the MDMER and Water Licence criterion and were generally close to CCME limit. **SC:** Measured total copper were low in 2020. For comparison purposes only, measurements were generally lower than Water Licence criterion and were above CCME limit.	**NC and SC:** As there was no tailings deposition in the NC and SC TSF in 2020, forecasted concentrations were expected to decrease over time. A decreasing trend was observed on site. However, the measured values were higher than the forecasted value. This indicates that natural runoff into the NC and SC were carrying suspended solids that contains metal particulates. The dissolved fraction concentration for this constituent was still slightly above CCME limit.
Total Iron	**NC:** Measured concentrations were generally low except for the sample collected in June. The concentrations seem to decrease through the year. For comparison purposes only, measurements were below MDMER and Water Licence criterion and generally above CCME limit. Measured concentrations were generally higher than the forecasted values. **SC:** Measured concentrations were generally low. For comparison purposes only, measurements were below MDMER and Water Licence criterion and generally above CCME limit. Measured concentrations were generally higher than the forecasted values.	**NC and SC:** As there was no tailings deposition in the NC and SC TSF in 2020, forecasted concentrations were expected to decrease over time. However, the measured values were higher than the forecasted value. This indicates that natural runoff into the NC and SC were carrying suspended solids that contains metal particulates. The dissolved fraction concentration for this constituent was below CCME limit.
Total Nickel	**NC & SC:** Measured concentrations were generally low. For comparison purposes only, the concentrations were generally below MMER and Water Licence criterion and close to or below the CCME limit.	**NC and SC:** As there was no tailings deposition in the NC and SC TSF in 2020, forecasted concentrations were expected to decrease over time. A decreasing trend was observed on site. Measured values were generaly below CCME limit, except for two sampling points taken in August and September. The dissolved fraction concentration for this constituent were below CCME limit.
Selenium	**NC & SC:** Measured concentrations were generally constant and low in 2020. For comparison purposes only, the concentrations were generally close to CCME limit.	**NC & SC:** Forecasted values were in general similar to the measured value.

PARAMETER	MEASURED VALUES OBSERVATIONS	FORECASTED VALUES OBSERVATIONS
Ammonia	**NC & SC:** Since there were no longer deposition of tailings in the NC and SC TSF, measured ammonia concentrations were generally low. For comparison purposes only, the concentrations were generally lower than the Water Licence criterion and were above the CCME limit.	**NC and SC:** As there was no tailings deposition in the NC and SC TSF in 2020, forecasted concentrations were expected to decrease over time. This trend was reflected in the measured values. However, ammonia concentration remains higher than the CCME limits. A peak was observed in the SC in July.
Nitrate	**NC & SC:** Since there were no longer deposition of tailings in the NC and SC TSF, measured concentrations were generally low. For comparison purposes only, the concentrations were generally lower than the Water Licence criterion and were above the CCME limit.	**NC and SC:** As there was no tailings deposition in the NC and SC TSF in 2020, forecasted concentrations were expected to decrease over time to levels below CCME limit. However, nitrate concentration remains higher than the CCME limits.
Chloride	The primary source of chloride found in the TSF Reclaim Ponds was most likely from the use of calcium chloride in the winter months as an anti-freeze solution on the ore and a dust suppressant in the Mill dome. **NC & SC:** Since there were no longer deposition of tailings in the NC and SC TSF, measured chloride concentrations were generally low. For comparison purposes only, the concentrations were generally lower than the Water Licence criterion and lower than the CCME limit.	**NC & SC:** As there was no tailings deposition in the NC and SC TSF in 2020, forecasted concentrations were expected to decrease over time to levels below CCME limit. The monitored data reflects the forecasted trend.
Sulphate	**NC & SC:** Since there were no longer deposition of tailings in the NC and SC TSF, measured sulphate concentrations were lower than the previous years when deposition was occurring in these areas.	**NC & SC:** As there was no tailings deposition in the NC and SC TSF in 2020, forecasted concentrations were expected to decrease over time. However, the measured values show an increase of sulphate over time in 2020 when compared to the forecasted values.
Fluoride	**NC & SC:** Fluoride concentrations were more or less constant and low during the year. For comparison purposes only, the concentrations were generally above CCME limit.	**NC & SC:** As there was no tailings deposition in the NC and SC TSF in 2020, forecasted concentrations were expected to decrease over time to levels below CCME limit. However, fluoride concentration remains slightly higher than the CCME limits.

2.4 Mill Effluent

A review of the chemical analysis for the Mill Effluent was undertaken by SNC-Lavalin to identify the impact of the Mill Effluent water quality on the water quality observed in the North and South Cell TSF Reclaim Ponds as well as in both Portage and Goose pits. The Mill Effluent is tested twice daily for gold (solid and dissolved), iron (dissolved), copper (dissolved) and cyanide (CN-WAD) using the on-site lab, which is not accredited for environmental water quality chemical analysis. These chemical analyses were provided to SNC-Lavalin between January 2013 and December 2020.

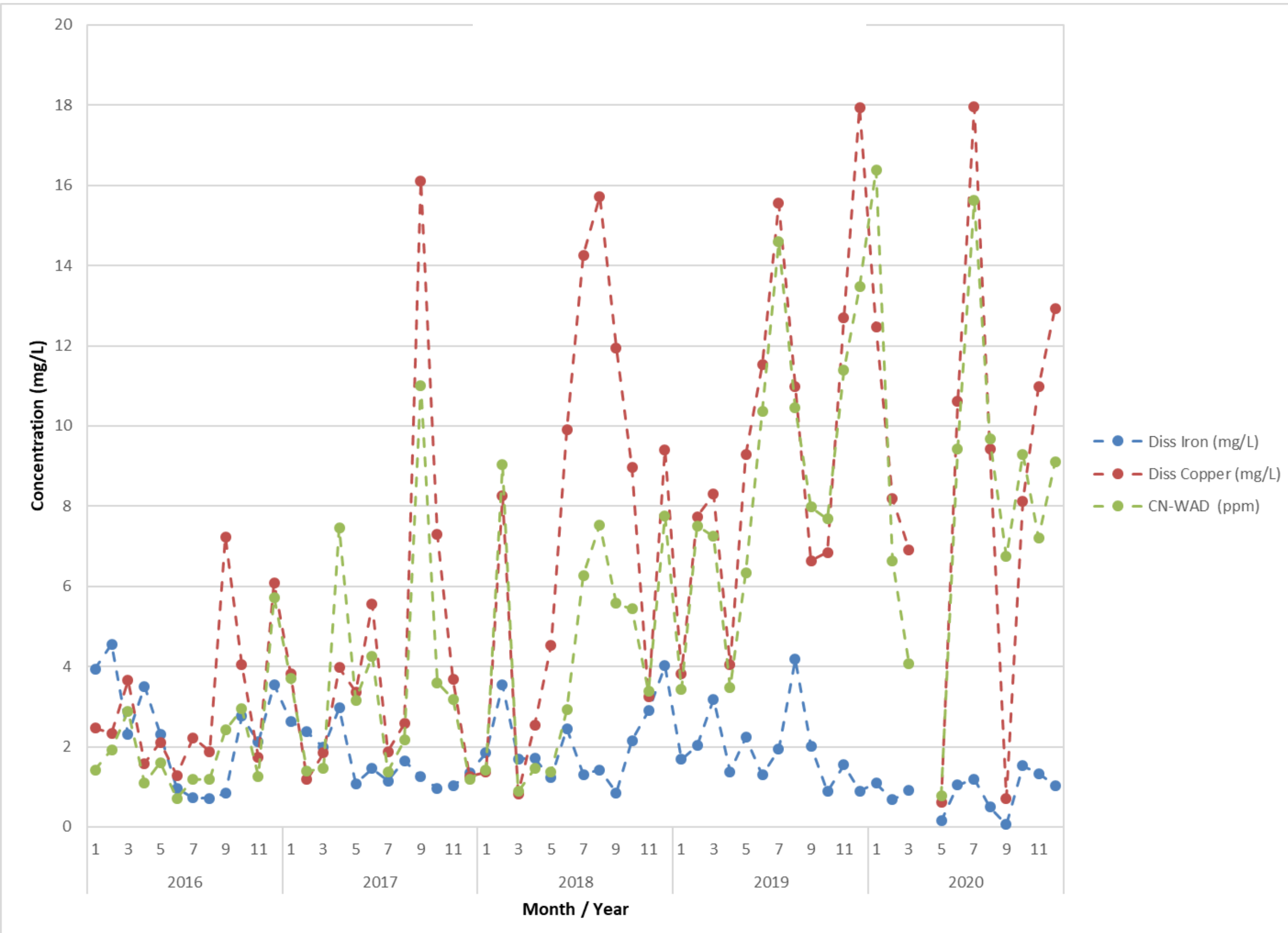
Figure 2-2 shows the monthly average dissolved metal concentrations and cyanide (CN-WAD) in the Mill Effluent sampled at the final tailings sampling point 360-SA-008. This figure illustrates the following:

> Dissolved iron and copper concentrations were present in the Mill Effluent. Thus, the main source of iron and copper in the Reclaim Water comes from the Mill Effluent.

> There was a relationship between copper and cyanide concentrations at the Mill Effluent. This was clearly represented in Figure 2-2 where the two trends behaved similarly in 2020. A low concentration of CN-WAD was generally associated with less cyanide required to extract the gold in certain ore type, resulting in less copper catalyst required in the cyanide destruction. Until 2016, iron concentrations also followed the trends of copper and cyanide.

Compared to the values of 2016, the peaks observed in 2017, 2018, 2019 and 2020 for copper and CN-WAD were generally higher, as shown in Figure 2-3. This figure also shows that the concentrations measured in 2020 were similar in 2019, and generally higher than the 2016 to 2018 concentrations.

Figure 2-2: Mill Effluent Monthly Average 2016 to 2019: Iron, Copper and Cyanide (CN-WAD)



2.4.1 Additional Mill Effluent Water Quality Results

Agnico analyzed seven (7) different samples of the water fraction of Mill Effluent after cyanide destruction to have representative data of the tailings water being discharged to the North and South Cell TSF and to Goose Pit in 2020. These samples were taken punctually throughout the year. The water quality analysis was completed by an external accredited laboratory.

The chemical analysis results of the quarterly Mill Effluent samples taken in 2020 are presented in Appendix A and concern parameters were plotted in Figure 2-4 and Figure 2-5.

Figure 2-3: Mill Effluent Concentrations Sampled in 2020 – Total Metals

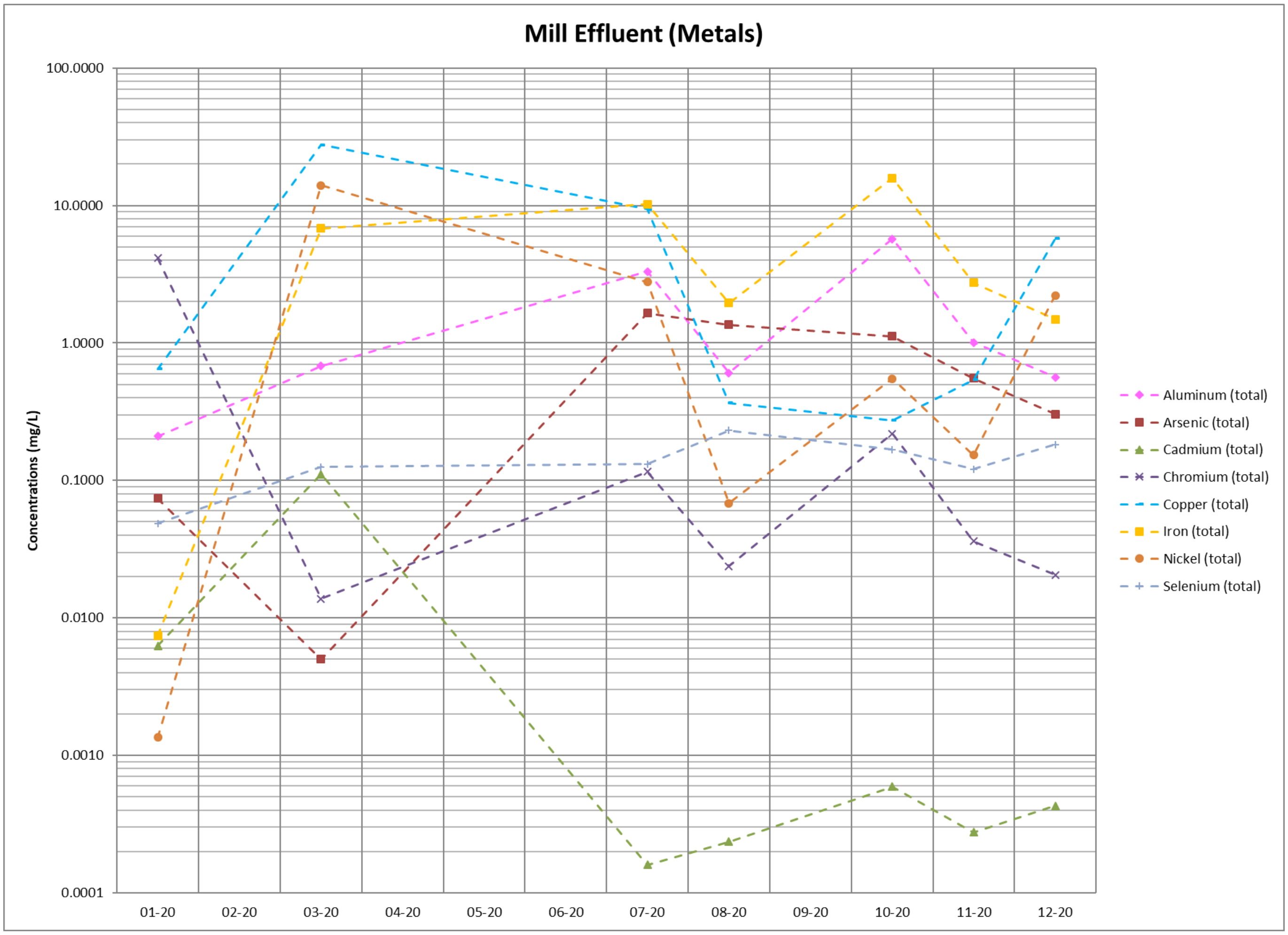
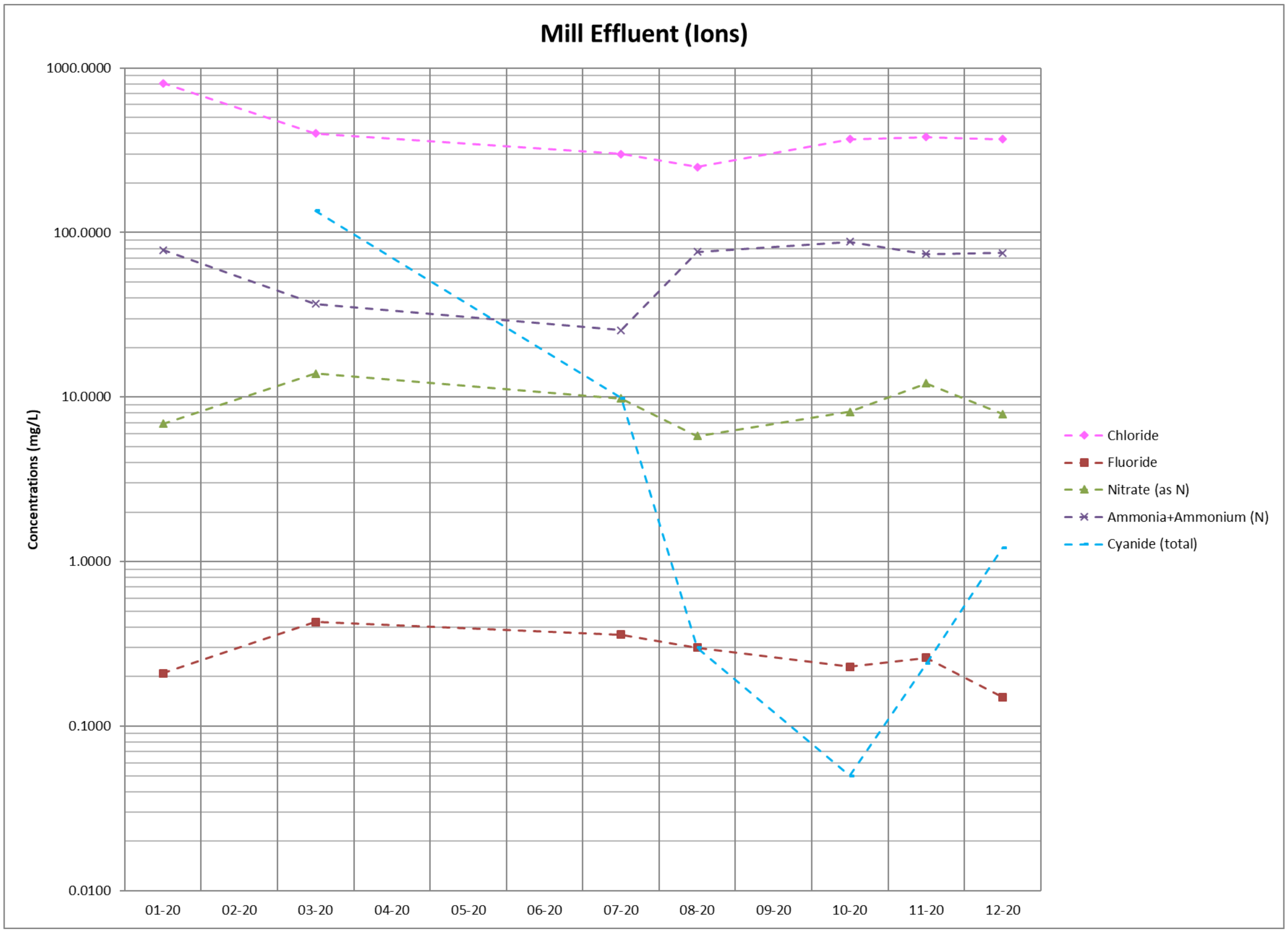


Figure 2-4: Mill Effluent Concentrations Sampled in 2020 – Ions



Samples of mill effluent were taken and analysed throughout the year to compare the concentration of key parameters. Table 2-4 compares the yearly average Mill Effluent samples between 2015 and 2020 and reclaim water sampled from Portage Pit E, where tailing deposition occurred in 2020, for some parameters of concern.

Table 2-4: Mill Effluent Concentrations Sampled in 2015 to 2020

PARAMETER	MILL EFFLUENT CONCENTRATION (mg/L)							PORTAGE PIT E (mg/L)
	Average 2015	*Average 2016*	*Average 2017*	*Average 2018*	*Average 2019 w/o Whale tail*	*Average 2019 Whale tail only*	*Average 2020 Whale Tail only*	*Average 2020*
Total Cyanide (CNt)	18.2	9.3	20.4	6.2	11.7	11.8	24.6	0.08
Total Aluminum (Al)	0.629	0.326	1.541	2.2	0.394	109.5	1.73	0.17
Total Arsenic (As)	0.036	0.026	0.018	0.025	0.034	9.0	0.72	0.62
Total Cadmium (Cd)	0.0020	0.0003	0.0072	0.0004	0.0002	0.0035	0.017	0.00001
Total Chromium (Cr)	0.002	0.001	0.009	0.005	0.002	3.5	0.654	0.0024
Total Copper (Cu)	11.0	3.6	5.3	0.161	3.925	9.1	6.4	0.18
Total Iron (Fe)	5.9	2.8	6.9	6.5	5.6	401.7	5.6	0.52
Total Nickel (Ni)	0.423	0.024	0.982	0.026	2.7	7.7	2.8	0.19
Total Selenium (Se)	0.131	0.166	0.076	0.131	0.007	0.143	0.144	0.06
Ammonia (NH_3-NH_4)	127	105	79	84	64	75	65	15
Nitrate (NO_3)	15.9	13.3	12.7	8.9	10.0	12.9	9.2	5.3
Chloride (Cl)	775	558	630	515	660	767	411	149
Fluoride (F)	0.545	0.645	0.335	0.680	0.565	0.297	0.28	0.34

In 2020, only ore from the Whale Tail pit was processed at the mill. When comparing to the measured values taken in 2019 when processing only Whale Tail ore, the concentrations of total metals were much lower, specifically for aluminum, arsenic, chromium, iron and nickel. The higher total concentration measured in 2019 for these parameters were likely caused by a higher concentrations of tailings suspended solids in the mill effluent sampled at that time.

The measured data collected in 2020 also confirm some of the difference observed in 2019 between the Mill Effluent quality produced when processing Portage/Vault ore versus Whale Tail ore. Concentrations of arsenic, cadmium, and chromium were an order of magnitude higher in the Mill Effluent when processing Whale Tail ore, while the concentration in fluoride was about 50% lower.

2.5 Central Dike Downstream Pond

2.5.1 General

Since December 2015, Agnico has been depositing tailings into the South Cell (formerly Attenuation Pond) as per their water management plan. As expected, the operating water level in the South Cell increased as tailings deposition progessed in the South Cell. Due in part to the higher hydraulic gradient, seepage flows were being observed downstream of Central Dike located to the east of the South Cell Tailings Storage Facility (TSF). The water was accumulating at the base of Central Dike and being mixed with snowmelt runoff water and possible underground water resurgence. In order to compensate for this unexpected accumulation, Agnico recirculated the accumulated water downstream of Central Dike back to the South Cell Reclaim Pond from 2015 to 2019 to control the pond of water accumulated at the base of Central Dike to an elevation of 115 masl, per the action plan on the Central Dike. Some seepage water accumulated downstream was also transferred to Goose and Portage Pits in 2019.

In 2020, no tailings deposition was occurring in the SC TSF. Only natural runoff coming from the NC TSF and SC TSF catchment area was collected in the SC Reclaim Pond and transferred to North Portage Pit (i.e. Pit A). Water accumulation downstream of the Central Dike was still observed in 2020 and transferred to South and North Portage Pit.

In September 2015, approximately 50,431 m^3 of pond water was transferred to Goose Pit as part of the water management plan around the Central Dike Downstream Pond. This steady state test proved the 1:1 used in the water balance meaning if the D/S pond was recirculated, there was globally no net loss of water in the South Cell. As of 2016, Agnico continued to recirculate the accumulated water downstream of Central Dike back to the South Cell TSF Reclaim Pond in order to maintain a constant water elevation at approximately 115 masl in the downstream pond. Water from the Central Dike Downstream Pond was also transferred to either Goose Pit, South Portage Pit (Pit E) or North Portage Pit (A):

- Between August and October 2017, about 332,177 m^3 of pond water was transferred to Goose Pit from the Central Dike Downstream Pond.
- In 2018, no reclaim water was transferred from Central Dike Downstream Pond to Goose Pit.
- Between May and November of 2019 water downstream of Central Dike was discharged to the Portage Pit (i.e. North Portage Pit (Pit A)). Additionally, 358,156 m^3 of reclaim water were transferred from the Central Dike Downstream Pond to Goose Pit between May and July 2019.
- Between February and June of 2020 water from the Central Dike Downstream Pond was discharged to the South Portage Pit (Pit E). From July to December of 2020, water was then discharged to North Portage Pit (Pit A).

Water samples from the Central Dike Downstream Pond were routinely collected during the year (sampling point ST-S-5) as per Water Licence requirement.

2.5.2 Water Balance

Table 2-5 presents the estimated monthly inflows and outflows around the Central Dike Downstream Pond for 2020 based on:

> the seepage volume from the South Cell TSF to the Central Dike Downstream Pond estimated by Agnico;

> the total volume pumped back to the South Cell TSF;

> total volume transferred to Portage Pits (Pit A and Pit E).

The volume of seepage estimated in 2020 from South Cell TSF to Central Dike Downstream Pond was much lower compared to the previous years since there was no tailing deposition occurring in the South Cell TSF.

Table 2-5: Estimated Monthly Inflows and Outflows to Central Dike D/S Pond for 2019

Date	Estimated Seepage Flow from South Cell TSF to Central Dike D/S Pond	Volume of Water Transferred from Central Dike D/S Pond to South Cell TSF	Volume of Water Transferred from Central Dike D/S Pond to Goose Pit or Portage Pit (Pit A or Pit E)
	m^3/month	m^3/month	m^3/month
Jan-20	38,029	38,029	0
Feb-20	29,042	16,704	12,338
Mar-20	36,347	0	36,347
Apr-20	29,543	0	29,543
May-20	24,717	0	28,065
Jun-20	96,443	0	131,338
Jul-20	136,921	0	136,921
Aug-20	130,000	0	130,000
Sep-20	59,329	0	59,329
Oct-20	69,033	0	69,033
Nov-20	30,903	0	30,903
Dec-20	21,724	0	21,724
Total 2020	702,031	54,734	685,541
		739,915	
Total 2019	2,294,063	754,347	1,368,676
		2,123,023	
Total 2018	2,171,246	2,300,416	
Total 2017	4,636,032	4,366,869	332,177

2.5.3 Water Quality

The water analysis taken from the Central Dike Downstream Pond are tabulated and presented in Appendix A. Table 2-6 summarizes the data for key parameters of concern and compares the measurements to the average values measured in the South Cell TSF Reclaim Pond in 2020.

The data confirm that one of the main influent streams to the Central Dike Downstream Pond was from the South Cell TSF Reclaim Pond. The water in the Central Dike Downstream Pond has detectable concentrations of all of the key parameters of concern found in the South Cell TSF Reclaim Pond.

The measured values in the South Cell TSF were higher than the values measured in the Central Dike Downstream Pond for all parameters but for total cyanide, arsenic, cadmium, iron, ammonia, chloride and fluoride.

The lower concentration detected for these parameters in the Central Dike Downstream Pond may indicate that either some of the parameters were subject to a natural degradation process, precipitating out of solution in the Central Dike D/S Pond or were being reduced through anaerobic microbial reaction as the water seeps through the Central Dike. Furthermore, under anaerobic condition, iron reducing bacteria could be reducing the ferric oxide in the soil to a soluble ferrous hydroxide, thus increasing the total iron concentration in the Central Dike D/S Pond.

The higher concentration measured in the pond for parameter such as ammonia, chloride and fluoride could originate from the pore water in the tailings flowing toward the pond.

Figure 2-5: Mill Effluent Monthly Average 2020: Iron, Copper and Cyanide (CN-WAD)

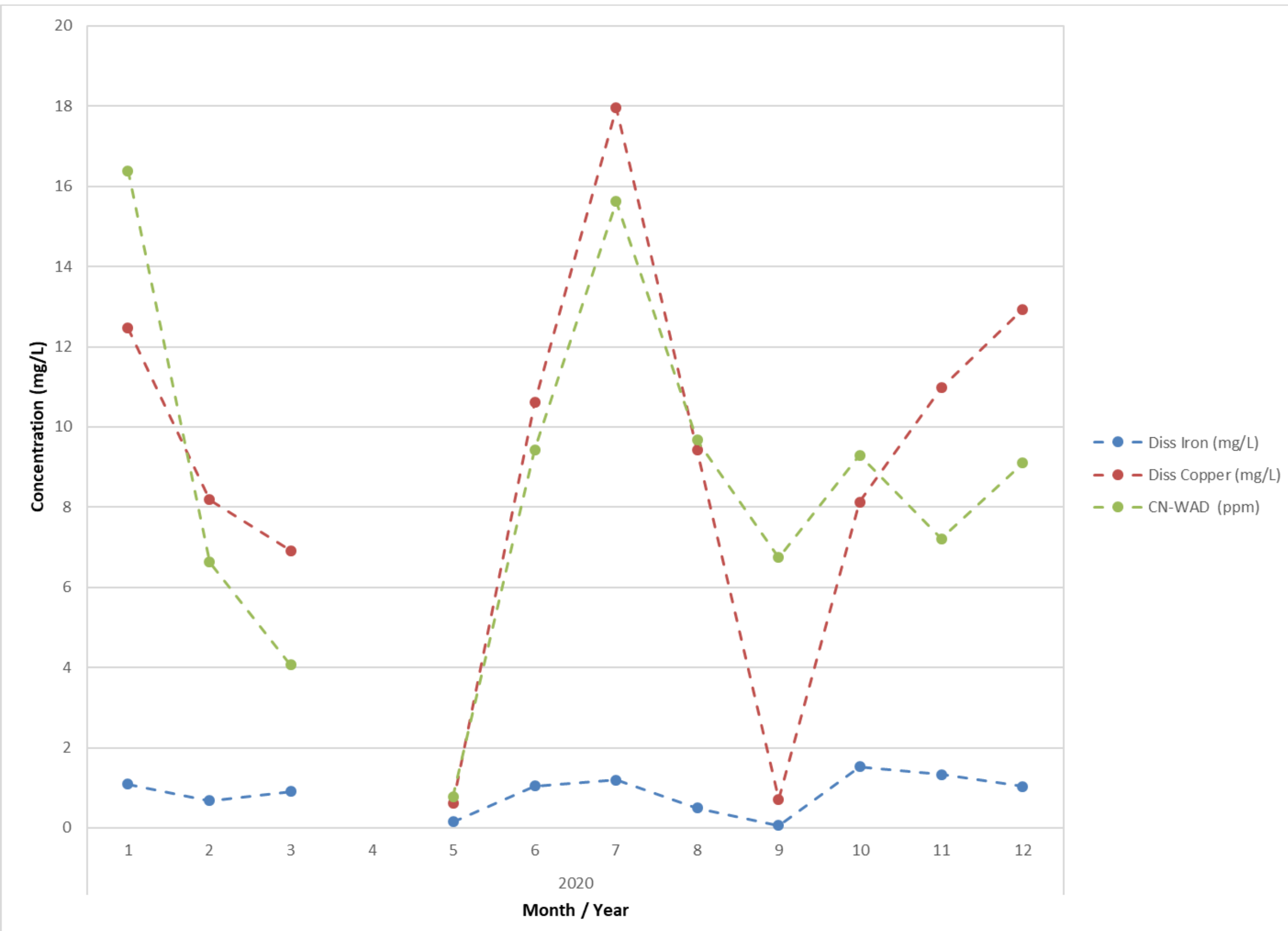


Table 2-6: Water Quality in Central Dike D/S Pond for 2020

PARAMETER	Central Dike Downstream Pond (ST-S-5) (mg/L)			South Cell TSF Reclaim Pond (ST-21) (mg/L)		
	Min	Mean	Max	Min	Mean	Max
Total Cyanide (CNt)	0.001	**0.058**	0.110	0.015	**0.024**	0.041
Aluminum (Al)	0.003	**0.037**	0.901	0.036	**0.453**	0.922
Arsenic (As)	0.012	**0.054**	0.118	0.008	**0.019**	0.036
Cadmium (Cd)	0.0000	**0.0001**	0.0029	0.00002	**0.00003**	0.0001
Chromium (Cr)	0.0003	**0.0010**	0.0067	0.0006	**0.0031**	0.0055
Copper (Cu)	0.0003	**0.002**	0.010	0.020	**0.079**	0.183
Iron (Fe)	0.84	**1.61**	3.90	0.13	**1.24**	2.50
Nickel (Ni)	0.006	**0.011**	0.029	0.016	**0.030**	0.049
Selenium (Se)	0.0003	**0.001**	0.004	0.001	**0.001**	0.002
Total Ammonia-Nitrogen (mg N/L)	0.02	**25.8**	36.2	2.6	**6.0**	11.2
Nitrate (NO_3) (mg N/L)	0.01	**0.1**	0.8	0.6	**4.5**	8.3
Chloride (Cl)	2	**285**	477	32	**44**	71
Fluoride (F)	0.06	**0.51**	0.77	0.15	**0.26**	0.34

2.6 Portage and Goose Pits

In 2020, in-pit tailings deposition continued in Goose Pit from January to August 2020 and then transferred to South Portage Pit (Pit E).

In Goose Pit, Reclaim Water and natural runoff from its sub-catchment area were allowed to accumulate in the pit. Water was then transferred to Portage Pit A between May to September 2020.

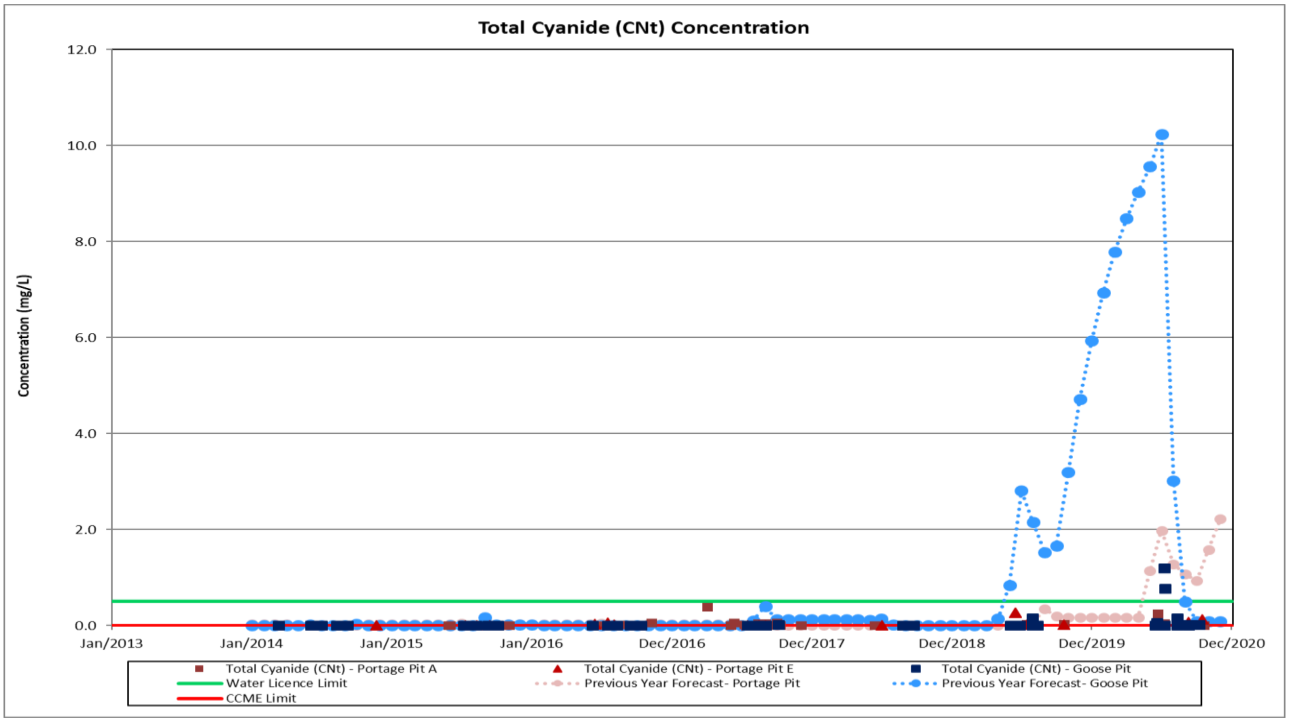
In Portage Pit E, reclaim water (as of August 2020) and natural runoff from its sub-catchment area also accumulated in the pit. No water transfer occurred out of this pit in 2020.

North Portage Pit (Pit A) continues to receive its natural runoff from its sub-catchment area, as well as water transfer from East Dike Seepage, South Cell TSF, Central Dike Downstream Pond, Goose Pit and Storm Water Management Pond. As of June 2020, water from Pit A was pumped to the Mill to be re-used as Reclaim Water.

Water quality analysis of samples taken from the pit lakes formed in Portage Pit A (ST-17) and Pit E (ST-19), and in Goose Pit (ST-20) in 2019 are tabulated in Appendix A.

Figure 2-6 presents the measured and forecasted concentration in Portage and Goose Pits for the concerned parameters that are being monitored in the North and South Cell TSF Reclaim Ponds and in the Mill Effluent.

Figure 2-6: Concentrations in Portage and Goose Pits



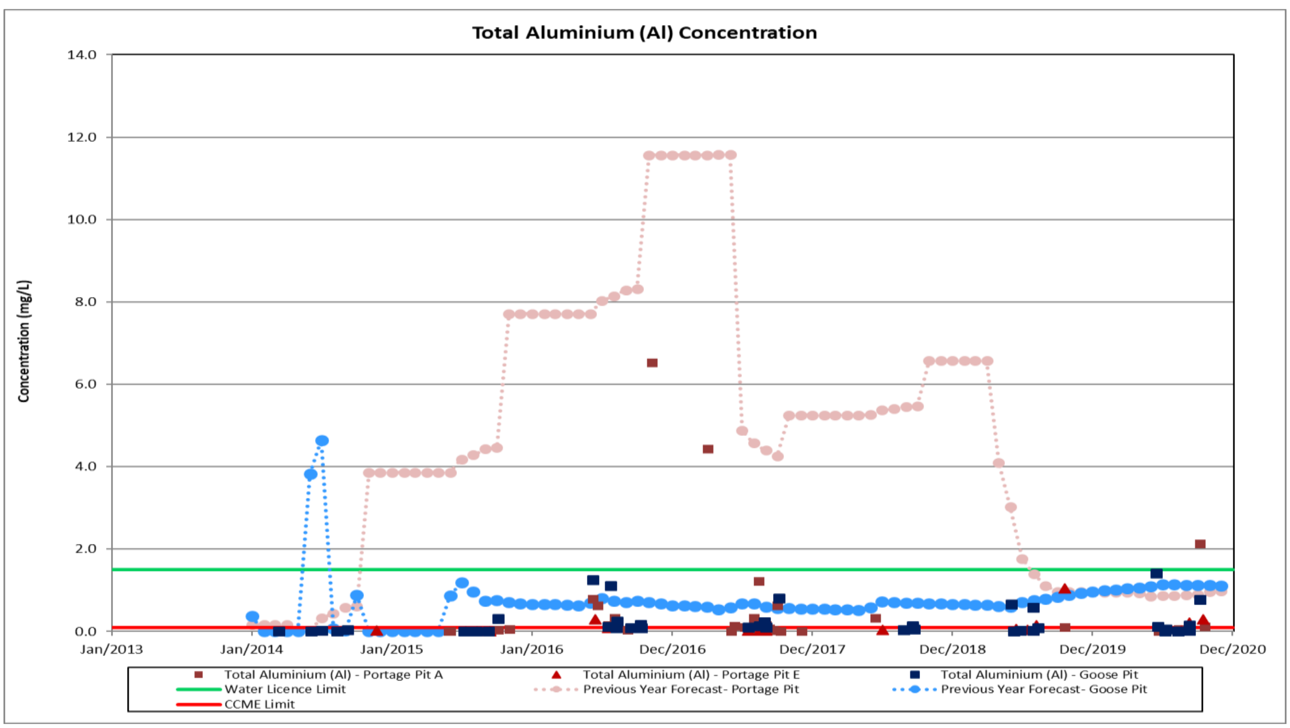
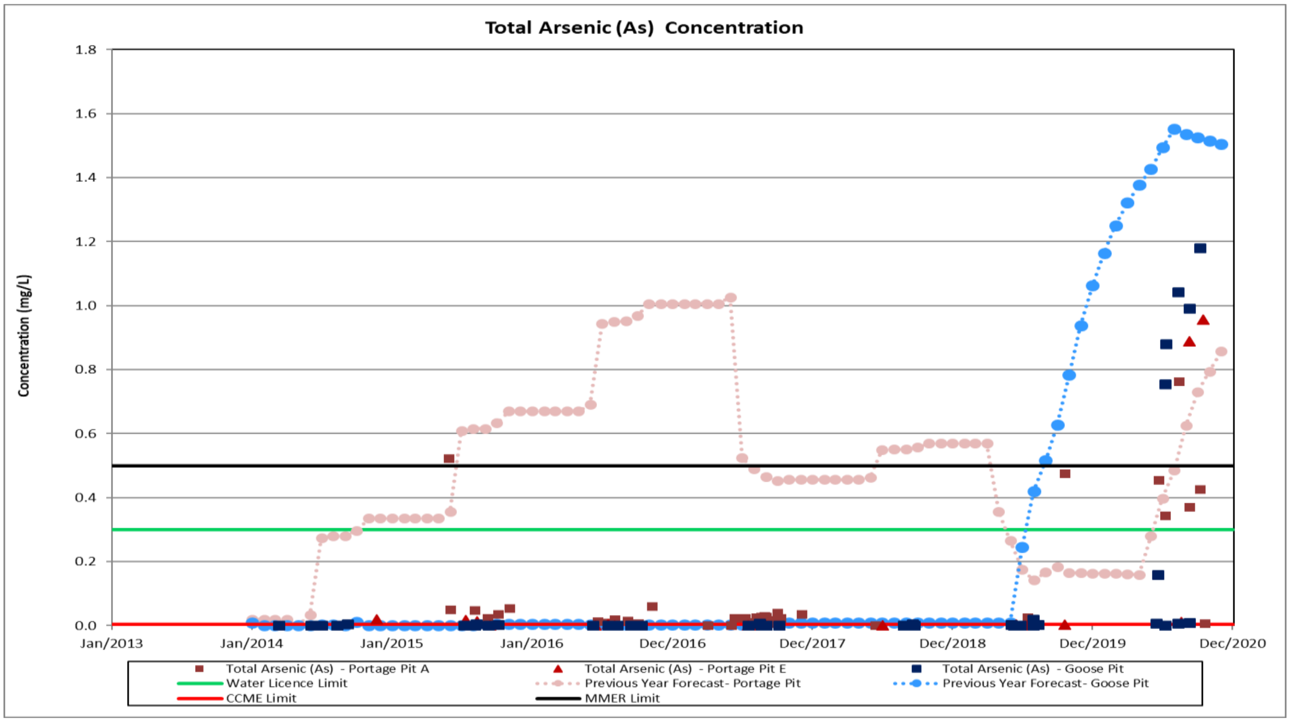


Figure 2-6: (continued) Concentrations in Portage and Goose Pits



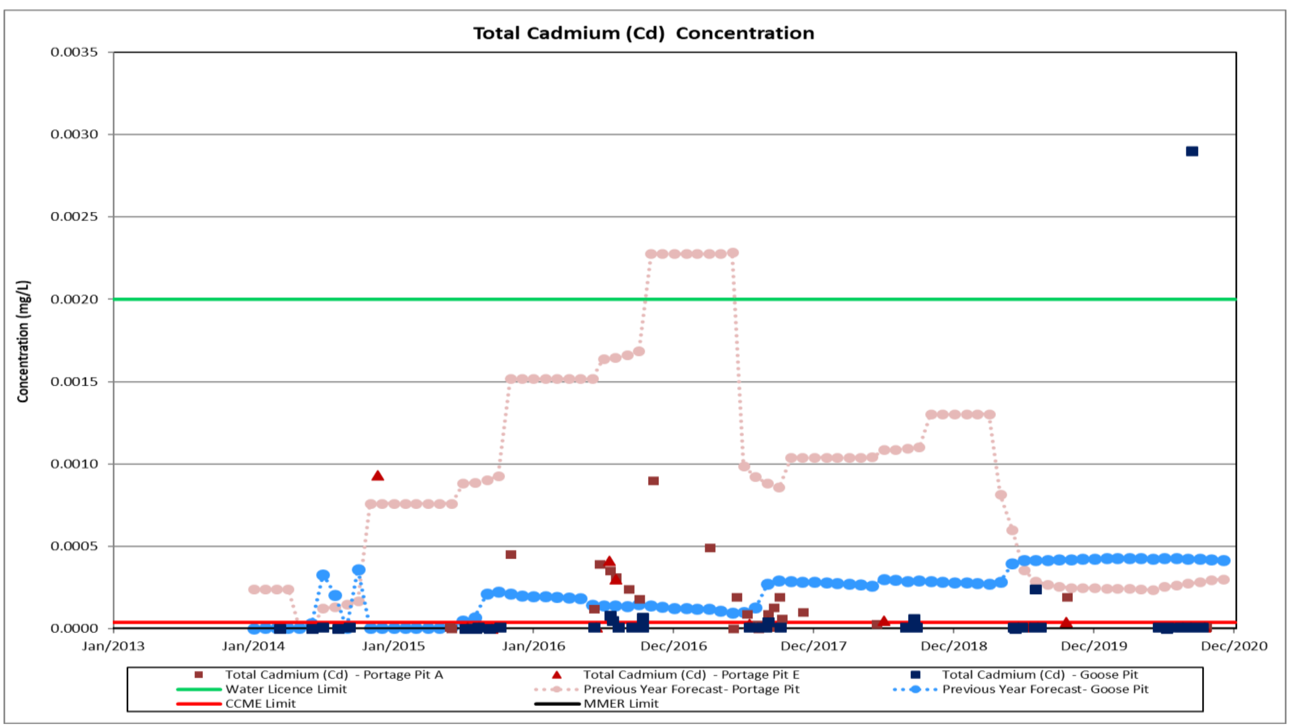
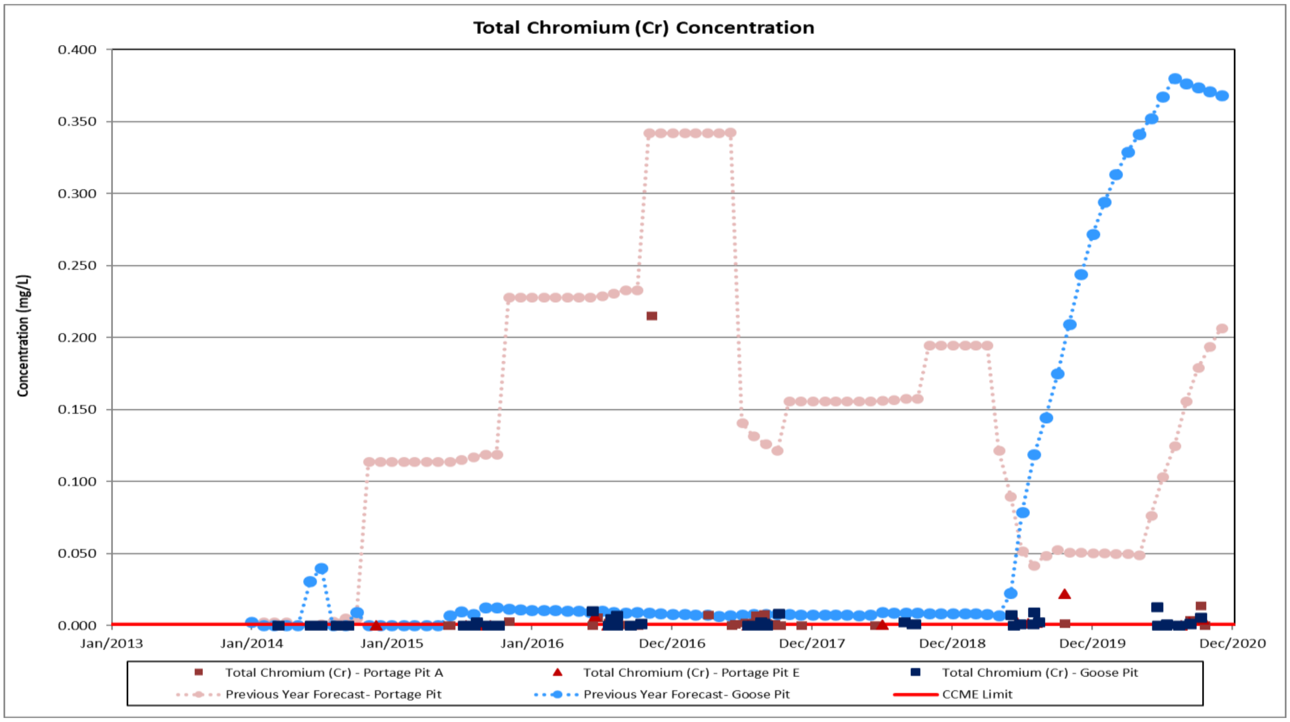


Figure 2-6: (continued) Concentrations in Portage and Goose Pits



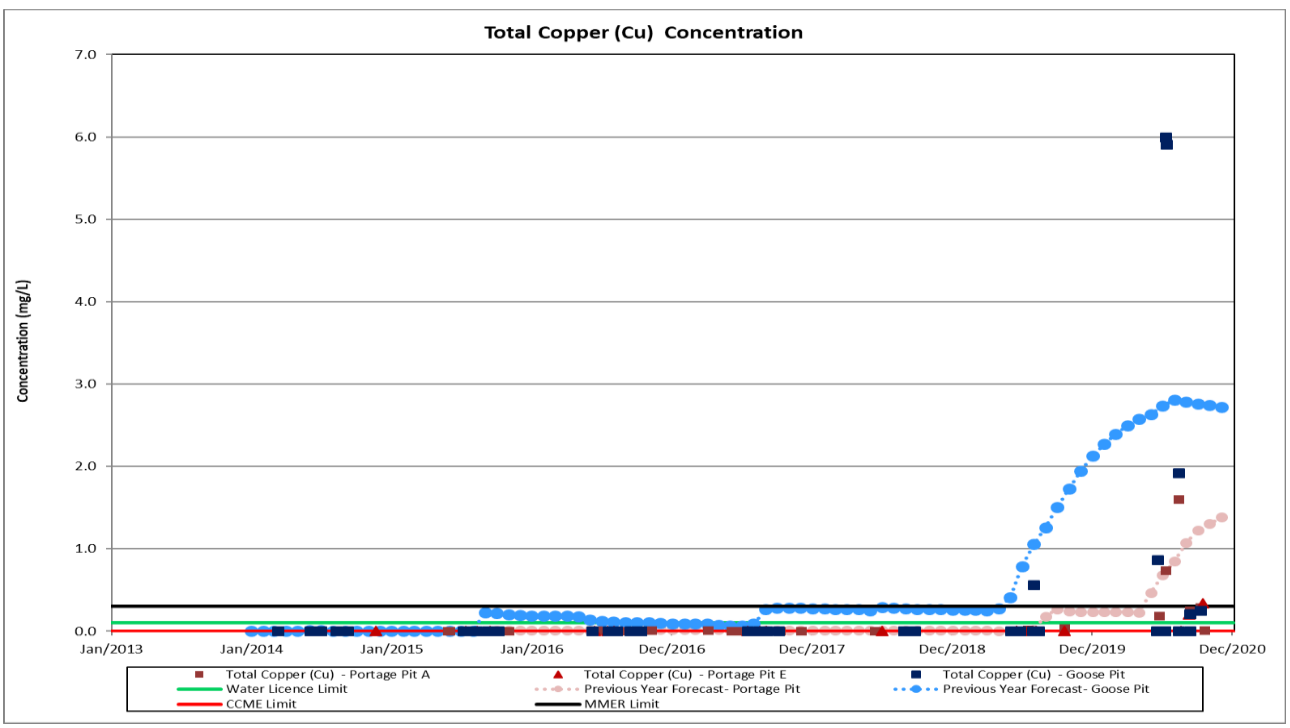
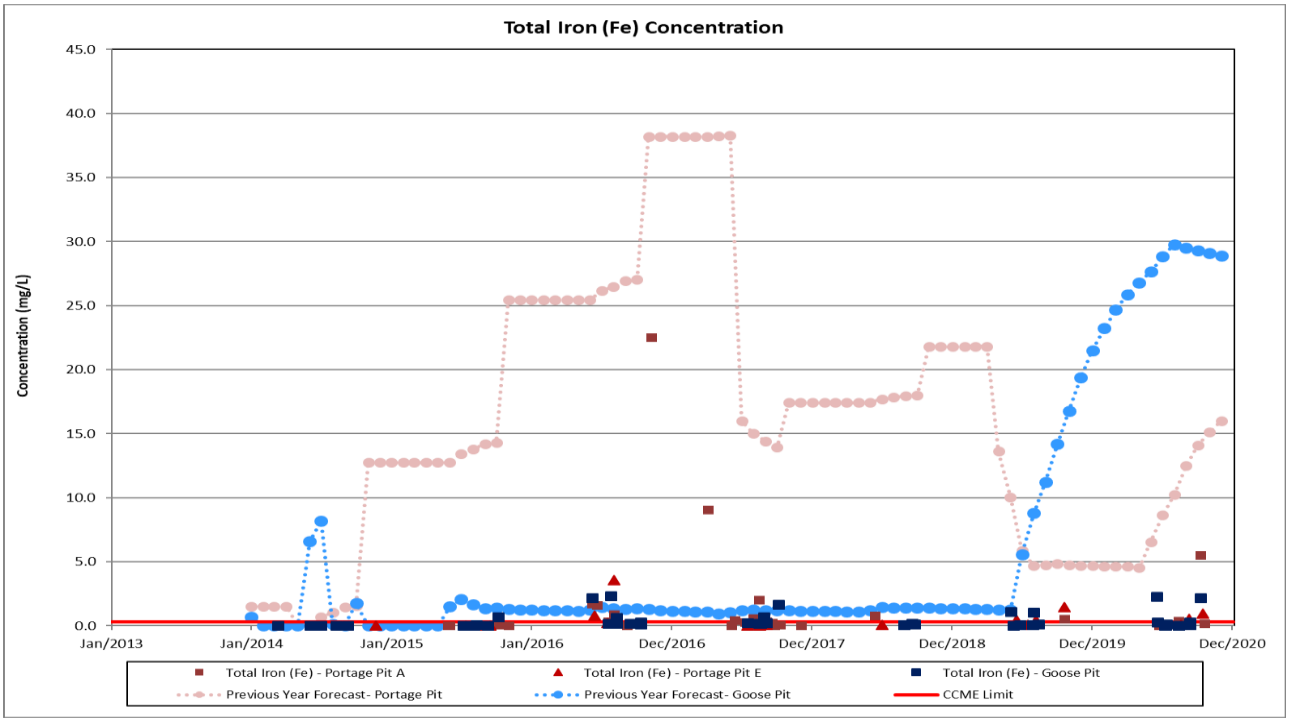


Figure 2-6: (continued) Concentrations in Portage and Goose Pits



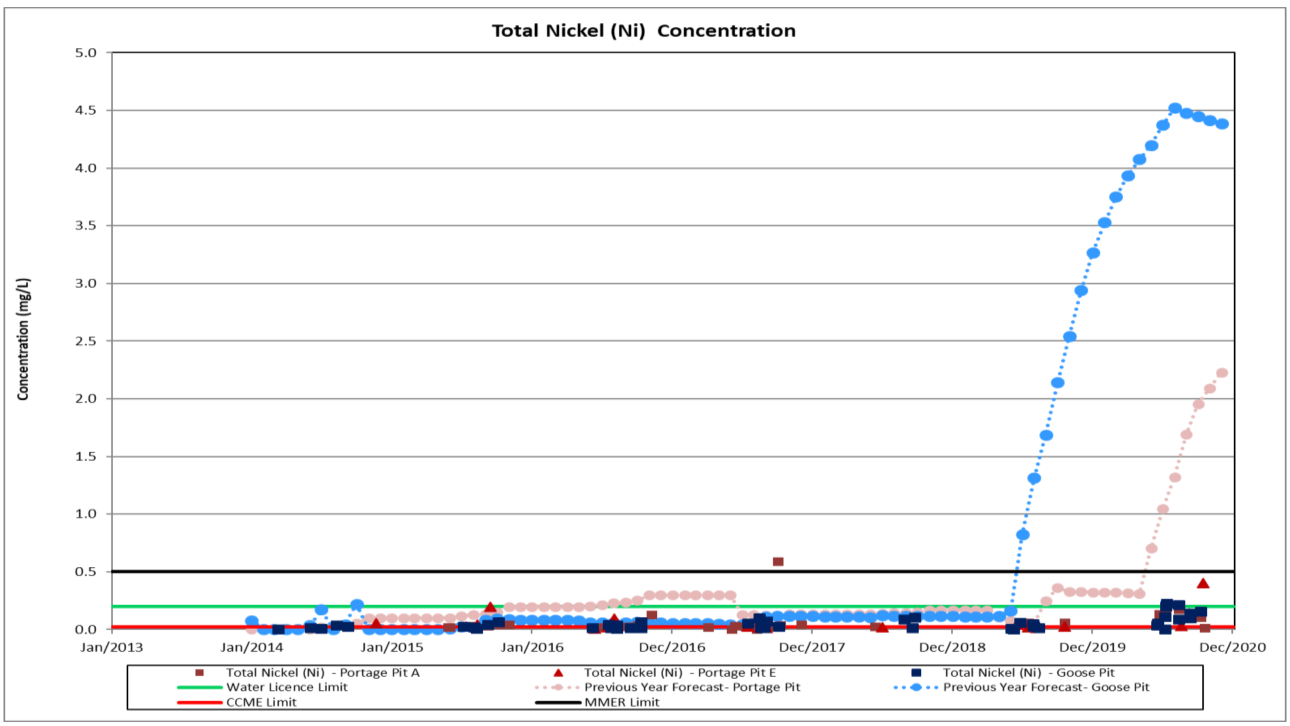
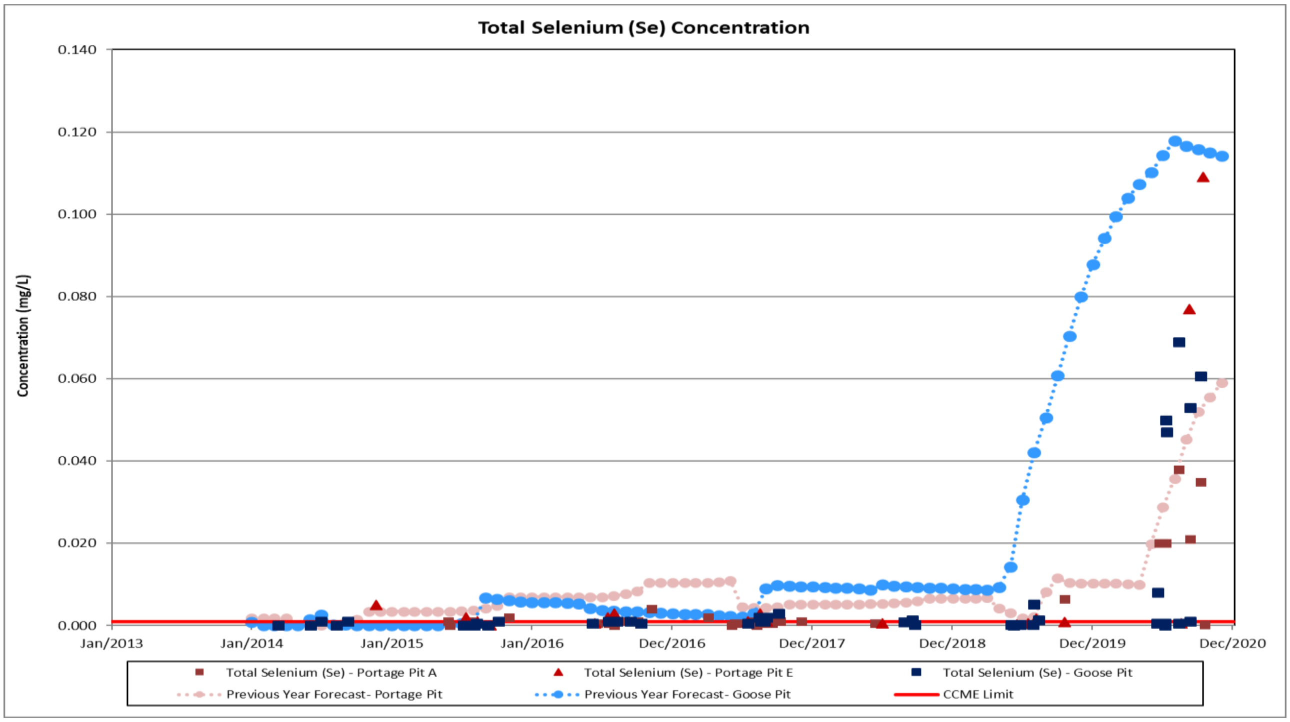


Figure 2-6: (continued) Concentrations in Portage and Goose Pits



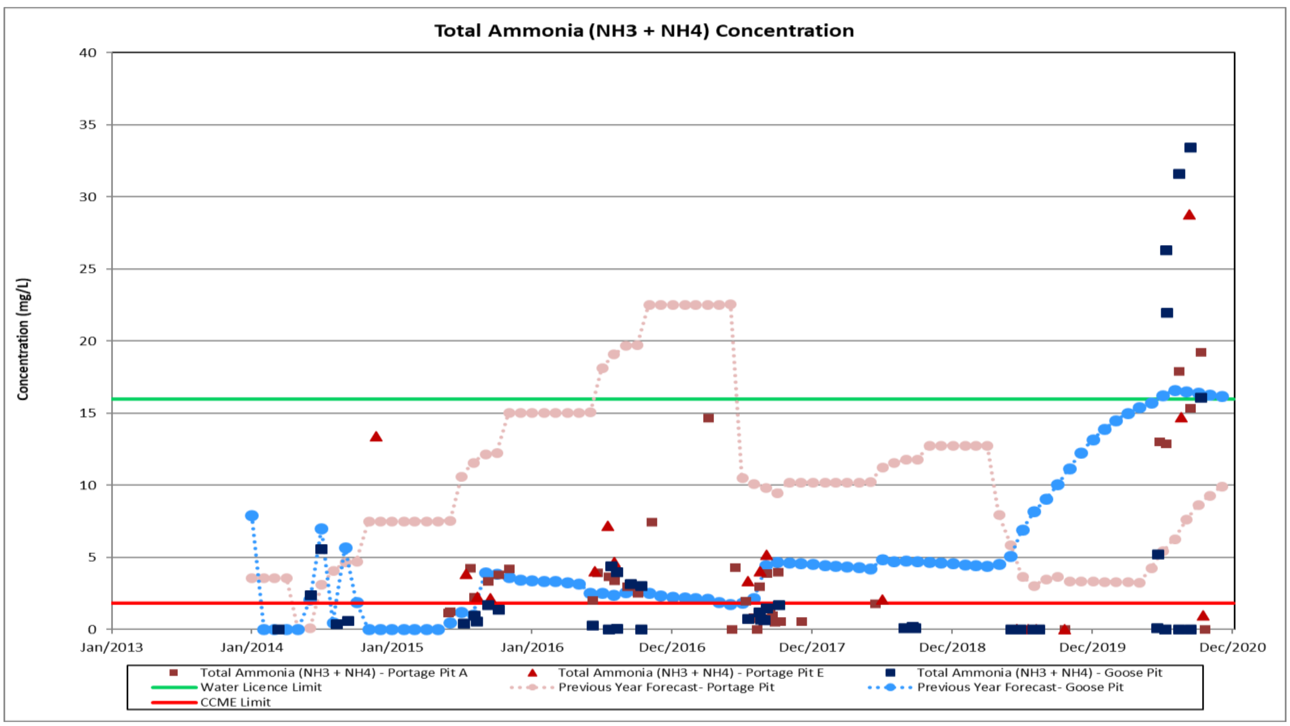
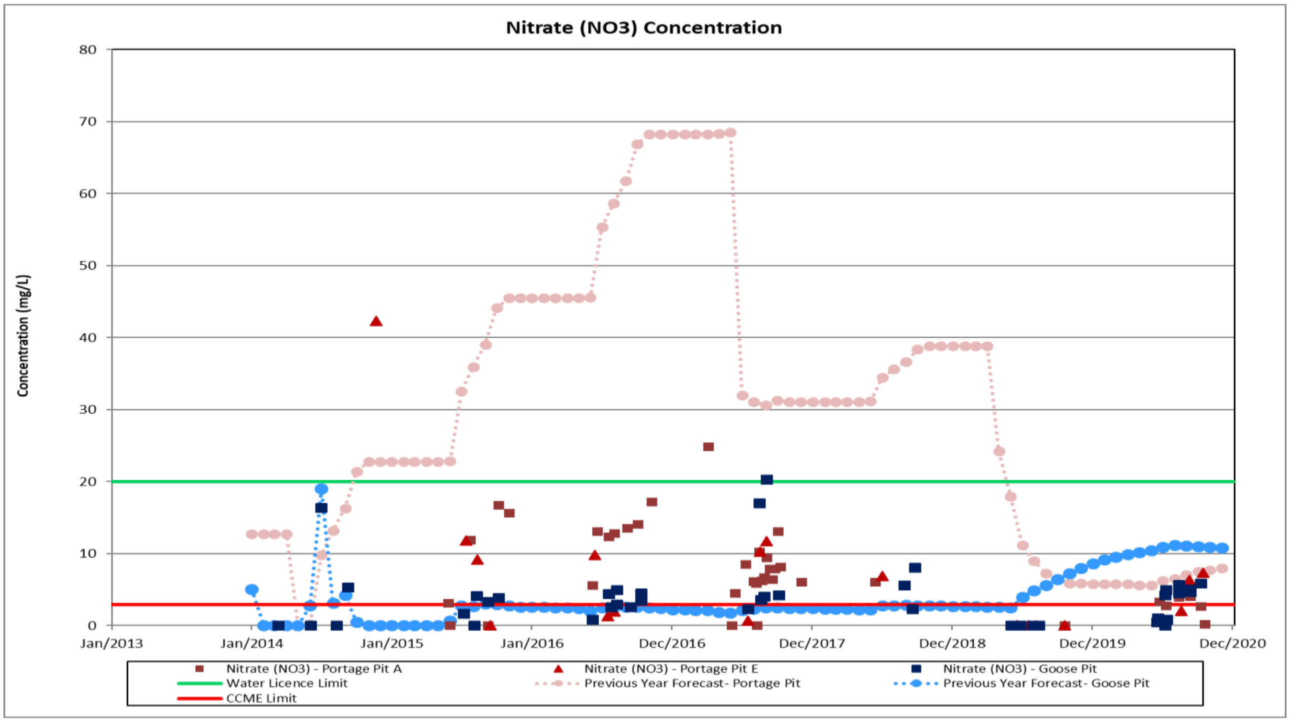


Figure 2-6: (continued) Concentrations in Portage and Goose Pits



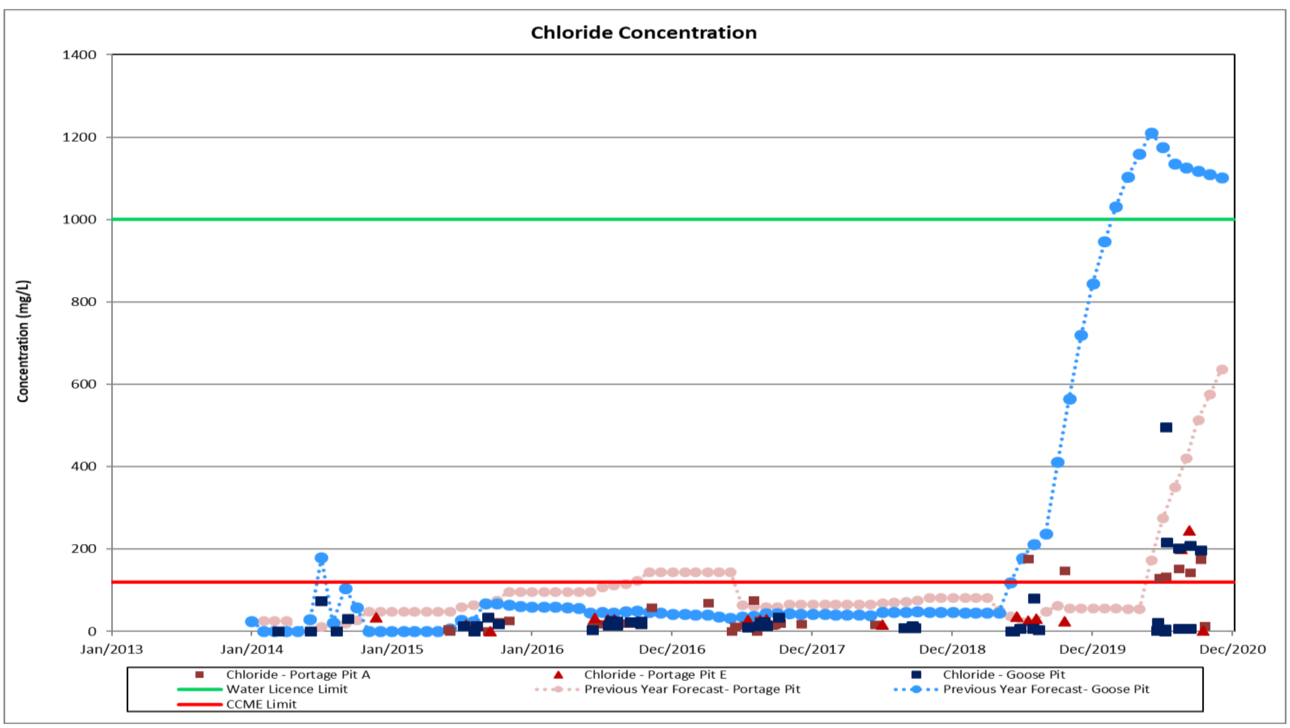
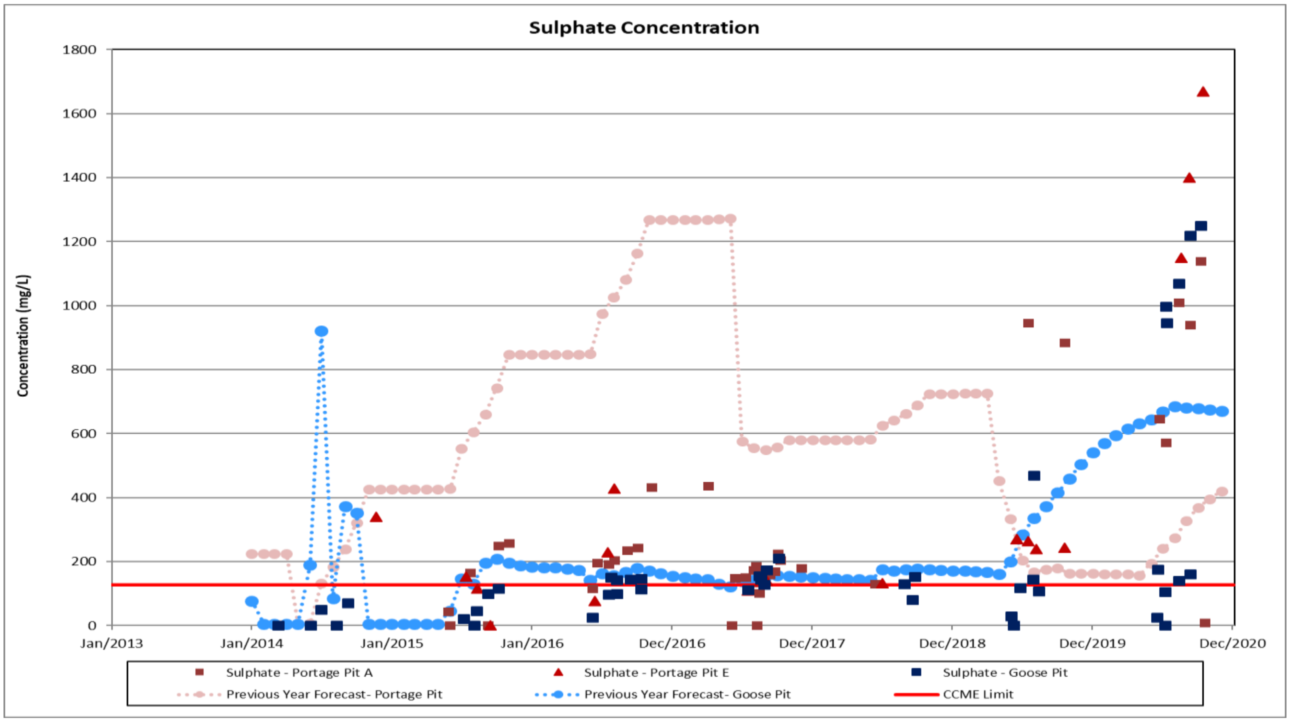
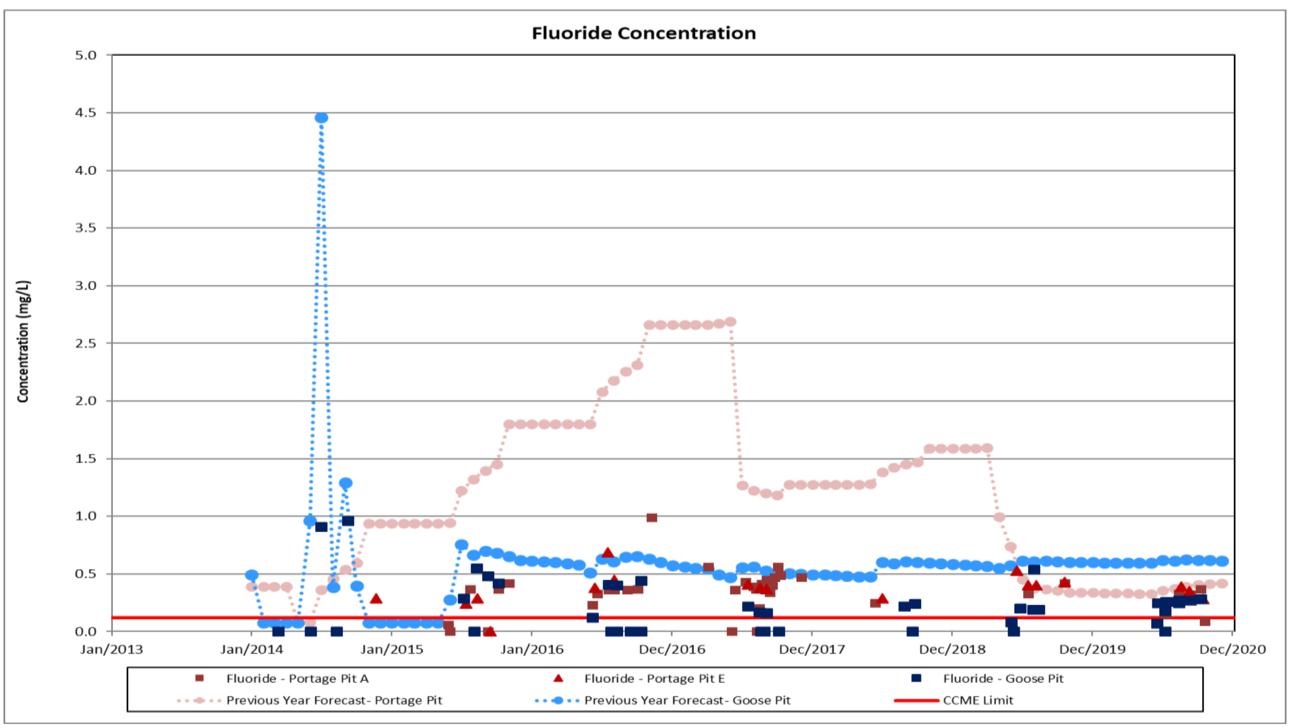


Figure 2-6: (continued) Concentrations in Portage and Goose Pits





Based on the graphs shown in Figure 2-6, observations from measured and forecasted concentrations in Portage and Goose Pits are summarized in Table 2-7. To facilitate the reading, Portage Pit has been abbreviated as PP and Goose Pit as GP.

Table 2-7: Observations from Measured and Forecasted Concentrations in Portage and Goose Pits

PARAMETER	MEASURED VALUES OBSERVATIONS	FORECASTED VALUES OBSERVATIONS
Total cyanide	**PP:** Measured values were slightly higher than the previous years. This was expected since Reclaim Water was transferred from Goose Pit to Pit A and tailings was deposited in Pit E. For comparison purposes only, the measured concentrations of Pit E and Pit A were generally below Water Licence and MDMER limits and were above the CCME limit. **GP**: Measured concentrations were higher compared to previous years since tailings was deposited in this pit. For comparison purpose only, the measured concentrations were generally below MDMER and Water Licence limits and were slightly above CCME limit.	**PP:** The forecast model predicted an increase in total cyanide values was tailings deposition started in this pit. The measured concentrations however did not increase that much when compared to the forecasted values. **GP:** Forecasted values were much higher than measured concentrations, suggesting some natural degradation was occurring in the pit lake.
Aluminum	**PP:** Measured values were similar to previous years. For comparison purposes only, aside from one sample from Pit A, all values were below the Water Licence limit and were above the CCME limit. The transfer of Reclaim Water to Pit A from GP nor the deposition of tailings in Pit E did not contribute to increase the concentration for this parameter. **GP**: Measured values were similar to previous years. For comparison purpose only, the concentrations were generally below Water Licence limit and above CCME limit. The deposition of tailings in GP did not contribute to increase the concentration for this parameter.	**PP:** The forecasted concentrations were generally higher than the measured concentrations, suggesting a good settling of suspended particles was occurring in this pit. **GP:** The forecasted concentrations were generally higher than the measured concentrations, suggesting a good settling of suspended particles was occurring in this pit

PARAMETER	MEASURED VALUES OBSERVATIONS	FORECASTED VALUES OBSERVATIONS
Arsenic	**PP:** In Pit A, measured concentrations increased due to the transfer of water received from GP. For comparison purposes only, the measured values were generally below MDMER limit only. In Pit E, concentration increased once deposition started in this pit. **GP**: Measured concentrations were increasing during tailings deposition and decreased significantly once it stopped. For comparison purpose only, the concentrations were generally above the MDMER, Water Licence limits and CCME limits during tailings deposition.	**PP:** Forecasted values indicated an increase in concentration during tailings deposition and water transfer from GP, which was observed based on the measured data. **GP:** Forecasted values indicated an increase in concentration during tailings deposition, which was observed based on the measured data.
Cadmium	**PP:** Measured concentrations were generally below the detection limit. For comparison purposes only, the concentrations were generally below CCME limit. **GP**: Measured concentrations were generally below the detection limit. For comparison purposes only, the concentrations were generally below CCME limit.	**PP:** Forecasted values were higher than the measured ones. **GP:** Forecasted values were higher than the measured ones.
Chromium	**PP:** Measured concentrations were generally low. For comparison purposes only, the concentrations were generally above CCME limit. **GP**: Measured concentrations were generally low. For comparison purposes only, the concentrations were generally above CCME limit.	**PP:** Forecasted values were higher than the measured values. **GP:** Forecasted values were higher than the measured values.

PARAMETER	MEASURED VALUES OBSERVATIONS	FORECASTED VALUES OBSERVATIONS
Copper	**PP:** Measured concentrations increased due to water transfer from GP and tailings deposition in Pit E. For comparison purpose only, some values were higher than the MDMER limits. **GP**: Measured concentrations increased due to tailings deposition but decreased once it stopped. For comparison purpose only, measured values were higher than MDMER limits during deposition, but dropped below the limits once deposition stopped.	**PP:** Forecasted values indicated an increase in concentration. The measured values do not follow this trend. Most measurer value remain below the forecasted values, suggesting a good settling of suspended particles was occurring in the pit. **GP:** Forecasted values indicated an increase in concentration. The measured values do follow this trend, but remain below the forecasted values, suggesting a good settling of suspended particles was occurring in the pit.
Iron	**PP:** Measured concentrations were relatively low. For comparison purpose only, in Pit A, most values were below or close to the CCME limits. However, an increase in concentration was observed in Pit E when tailing deposition started in this pit. **GP**: Measured concentrations were generally low. For comparison purposes only, two (2) measured values were above CCME limit, while the majority were below the limit.	**PP & GP:** Forecasted values were much higher than the measured values, suggesting a good settling of suspended particles was occurring in the pit.
Nickel	**PP & GP:** Measured concentrations were generally low, but were higher compared to the previous years, which was due to the deposition of tailings in these pits. For comparison purposes only, most measurements were below the Water Licence limits but were above CCME limit.	**PP & GP:** Forecasted values were much higher than the measured values, suggesting a good settling of suspended particles was occurring in the pit.
Selenium	**PP:** Measured concentrations increased due to water transfer from GP and tailings deposition in Pit E. For comparison purpose only, the measured values were above the CCME limit. **GP**: Measured concentrations increased due to tailings deposition. For comparison purpose only, the measured values were above the CCME limit	**PP:** Forecasted values projected an increasing trend and the measured data reflect this trend. Some the measured values were higher than the forecasted values. **GP:** Forecasted values were generally higher than measured ones.

PARAMETER	MEASURED VALUES OBSERVATIONS	FORECASTED VALUES OBSERVATIONS
Total ammonia	**PP:** Measured concentrations increased due to water transfer from GP and tailings deposition in Pit E. For comparison purpose only, there are some samples that exceeded the Water Licence Limits. Most measured values were above the CCME limit. **GP**: Measured concentrations increased due to tailings deposition. For comparison purpose only, there are some samples that exceeded the Water Licence Limits. However, once deposition stopped, concentration decreased below CCME limit.	**PP & GP:** Forecasted concentration in the previous model projected an increasing trend this year due to the deposition of tailings. The measured values reflect this trend. However, the measured values are higher than the forecasted values.
Nitrate	**PP & GP:** Measured concentrations increased in 2020 in Goose Pit and Portage Pit due to ongoing tailings deposition and transfer of water between pits. For comparison purpose only, measured values remained below Water Licence limits and were generally above CCME limit.	**PP & GP:** Forecasted values projected an increase in concentration due to ongoing tailings deposition in the pits. Monitored value follow that trend and were generally lower than the forecasted values.
Chloride	**PP & GP:** Measured concentrations increased in 2020 in Goose Pit and Portage Pit due to ongoing tailings deposition and transfer of water between pits. For comparison purpose only, measured values remained below Water Licence limits and were generally above CCME limit.	**PP & GP:** Forecasted values projected an increase in concentration due to ongoing tailings deposition in the pits. Monitored value follow that trend and were generally lower than the forecasted values.
Sulphate	**PP & GP:** Measured concentrations increased in 2020 in Goose Pit and Portage Pit due to ongoing tailings deposition and transfer of water between pits. For comparison purpose only, measured values were higher than the threshold value for sulfate based on BC Environment guideline for the protection of aquatic life for very soft water.	**PP & GP:** Forecasted values projected an increase in concentration due to ongoing tailings deposition in the pits. Monitored value follow that trend and were generally higher than the forecasted values.
Fluoride	**PP & GP:** Measured concentrations were generally constant at an order of magnitude of 0.4 mg/L. For comparison purposes only, all of the measured values were above CCME limit.	**PP:** Forecasted values were similar to the measured values. **GP:** Forecasted values were higher than the measured values.

2.7 Ammonia Loading to Environment at Meadowbank

Ammonia that is found in the TSF Reclaim Water at Meadowbank originates mainly from the hydrolysis of cyanate, the by-product produced following cyanide destruction. To a lesser extent, ammonia also comes from un-reacted ammonium nitrate based explosive used in Portage, Goose and Vault pits and from the treated effluent from the mine site sewage treatment plant which is discharged to the Stormwater Management Pond. The Stormwater Management Pond is pumped twice yearly to the South Cell TSF..

In 2020, approximately 253,452 m^3 of pond water from the South Cell TSF Reclaim Pond was transferred to North Portage Pit (Pit A). The average concentration measured in 2020 in the SC TSF Reclaim Pond was approximately 6 mg N/L. Thus, using this average concentration value of ammonia, the total load of ammonia transferred to Portage Pit A in 2020 is evaluated at approximately 1,520 kg of ammonia (expressed as N). This additional load of ammonia in Portage Pit A is taken into account in this year's forecasting model.

Furthermore, in 2020, approximately 685,541 m^3 of pond water from the Central Dike D/S Pond was transferred to North Portage Pit and South Portage Pit (Pit A and Pit E). The average concentration measured was approximately 25.8 mg N/L. Thus, using this average concentration value of ammonia, the total load of ammonia transferred to North and South Portage Pit in 2020 is evaluated at approximately 17,687 kg of ammonia (expressed as N). This additional load of ammonia in North and South Portage Pit is taken into account in this year's forecasting model.

3.0 Updated Mass Balance Model

3.1 Description

The water quality updated mass balance model presented in this Technical Note was developed to help forecast trends in water quality in the Portage Area of Meadowbank for different parameters of interest. The starting date for the model was arbitrarily set for January 2014 in order to keep in-line with the previous models.

For this year, the end date of the model is set at the end of in-pit tailings deposition, which is projected to be in June 2026. Per the Meadowbank Interim Closure and Reclamation Plan (ICRP) 2019 update, the Reclaim Water stored in the pits shall be treated and discharged to Third Portage Lake. Once the granular cover shall be installed on the tailings, pit flooding will commence with natural runoff and transfer of water from Third Portage Lake.

Thus, the main objective for this year's model is to forecast the Reclaim Water quality at the end of in-pit deposition to help define the water treatment system that shall be required at closure.

This mass balance model was based on the following:

- Flows and volumes provided in the Water Balance – 2021-IPD Plan (Agnico 2021);
- Assumptions presented below in section 3.2;
- Chemical analyses for ST-21 (North and South Cell TSF Reclaim Pond) (2014-2020);
- Chemical analyses for Third Portage Lake (2015);
- Chemical analyses for the Mill Effluent (samples taken in 2020);
- Chemical analyses for Portage North Pit (ST-17, Pit A) and Portage South Pit (ST-19, Pit E) (from January 2013 to October 2020);
- Chemical analysis for Goose Pit (samples taken in the sump pit and in the lake, ST-20) (from January 2013 to October 2020);

- East Dike (ST-8) seepage and Saddle Dam 3 (ST-32) sumps sampled in 2020;
- Stormwater management pond water sampled in 2018;
- Saddle Dam 1 seepage (ST-S-2) and Portage Rock Storage Facility (RSF) runoff (ST-16) (2015 to 2020);
- Portage Pit A and Pit E seepage water quality sampled from 2017 to 2020 and Goose Pit seepage water quality sampled from 2017 to 2019.

Furthermore, this year's water quality forecast mass balance model will also include the following changes:

- Deposition of Whale Tail pit tailings in Goose Pit and Portage Pit E;
- End of tailings deposition projected for June 2026.

3.2 Assumptions

Table 3-1 summarizes the assumptions used in the development of the water quality forecast model for the Meadowbank site.

Table 3-1: Water Quality Forecast Model Assumptions

PARAMETERS	ASSUMPTIONS
Water quality forecast model	• Mass balance model. • Assume completely mixed system. • Ponds to model: North and South Cell TSF Reclaim Pond, Goose Pit and Portage Pit. • Portage Pit E and Pit A are hydraulically connected through the waste rock deposited between both pits. For simplification, the model shall consider Portage Pit A and Pit E as one pit. • For simplification of the model, the parameters are assumed to be inert: they do not degrade or react with other elements in the system, with the exception of cyanide.
Model time period	• Start: January 2014 • End: June 2026 (end of in-pit deposition)

Input Source Terms:
Mill Effluent
	• Mill Effluent is the main source terms for metal contaminants, cyanide, sulphate, chloride, ammonia and nitrate in the Reclaim Pond.
	• Mill Effluent quality is assumed to be constant over time for all parameters.
	• Assume two different Mill Effluent quality:
	  ○ One when Portage/Vault ore is processed: 2014 to June 2019
	  ○ One when Whale Tail ore is processed: July 2019 to June 2026
	• As of April 2021, consider additional brine loading the pore water contained in the underground ore mined at the Amaruq site.
	• For the purpose of the model, assume that the Mill Effluent will meet at a minimum Agnico's CN-WAD operational target of 15 mg/L at all times, which is assumed to correspond to a total cyanide concentration of 18.2 mg/L.

PARAMETERS	ASSUMPTIONS
Other Input Source Terms	• Following source terms are considered in the model, based on measured water quality data: o Mill effluent o Portage Pit transfer o Goose Pit transfer o Stormwater Management Pond o Portage RSF o Saddle Dam 1 sump o Saddle Dam 3 sump o East Dike seepage • Precipitation runoff loading o Assumed negligible loading and have similar water characteristics as Third Portage Lake water. • Assumed constant water quality for each stream.
Input Source Terms: Pit seepage loading	• Seepage flow considered into Goose Pit and Portage Pit based on the hydrogeological modelling results conducted for the in-pit deposition project (SNC-Lavalin 2018b). • Seepage quality based on the average water quality measured from the seepages sampled in the pits. • Assumed constant water quality for each seepage stream.
Input Source Terms: North and South Cell TSF after Closure	• Assumed that the water accumulated in closed North and South Cell TSF is transferred to Portage Pit and will have a water quality similar to non-contact runoff water.
Cyanide modeling	• The total cyanide in the TSF Reclaim Pond is comprised of free cyanide and metal-cyanide complexes (weak and strong metal cyanide complexes). As per discussions with Agnico, most of the iron and metal-cyanide complexes are precipitated in the mill. However, since the reaction is not complete or perfect, some dissolved iron- and metal-cyanide complexes are expected to remain in the Mill Effluent. Therefore, it was assumed that 10% of the total cyanide concentration was bound as strong iron-cyanide complexes, and that another 10% of the total cyanide concentration was present as weak metal-cyanide complexes (cyanide bound with copper, zinc, and nickel). The balance is presented as free cyanide (i.e. HCN and CN^-). This agrees with values observed at other gold mine tailings sites (Simovic, 1984). These same proportions are assumed to apply to the cyanide at the Mill Effluent. • For this model, natural cyanide degradation is only considered for the summer months.
Water treatment	• For this analysis, it is assumed that no treatment will take place at the North or South Cell TSF Reclaim Pond or at the Portage or Goose Pits during operation.

3.3 Limitations

The limitations of the Meadowbank water quality mass balance model and ensuing results and conclusions presented in this Technical Note are listed below:

i. In order to simplify the model, the mass balance model assumes that the pond and pits are completely mixed systems. Consequently, the results from this model provide an indication of the concentrations in the ponds and pits and should not to 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.

ii. The mass balance model is based on the water quality analysis results provided by Agnico.

iii. The model does make some allowances for the impact that changes in the TSF that will have on the TSF Reclaim Pond water quality over time (i.e. water body surface area on natural cyanide degradation in the summer months, free water volume in the pond on the forecasted concentration measurements).

iv. The model is based on a monthly time-step and the resulting concentrations provided represent monthly values.

v. It should be noted at this point that the model should be used to evaluate at a high level the impact of Mill Effluent on the future water quality in the North and South Cell TSF Reclaim Pond and Portage and Goose Pits.

vi. Furthermore, this model is intended as a mass balance model for the Portage Area and should be updated and calibrated on a yearly basis as additional water quality data, pond volumes and flows in the Portage Area become available. Refer to section 6.3 for recommendations on improving the mass balance.

3.4 Input Parameters

3.4.1 General

The mass balance model for the Meadowbank site was developed originally in 2012 to forecast the long-term concentration of cyanide, copper, iron, ammonia, nitrate and chloride in the North and South Cell TSF Reclaim Pond and in Portage and Goose Pits. Since 2015, the report also evaluated a broader selection of parameters: alkalinity, hardness, aluminum, silver, arsenic, barium, cadmium, chromium, manganese, mercury, molybdenum, nickel, lead, selenium, zinc, fluoride, sulphate and total dissolved solids.

The mass balance model is based on the assumptions presented in section 3.2 and on the following input parameters:

- Mill effluent concentration (refer to section 3.4.2 for more details);
- Shake flask extraction leaching test results conducted in 2020 on tailings from ores from Vault, Portage and Whale Tail Pit (concentration in the liquid portion) were used to compute the loading coming from the leaching of the tailings.
- Initial concentration in the North and South Cells TSF Reclaim Pond;
- Initial concentration in the Portage and Goose Pits;
- Runoff from the Portage RSF;

- Sumps from Saddle Dam 1, Saddle Dam 3 and East Dike seepage;
- Runoff water quality similar to Third Portage Lake;
- Stormwater Management Pond concentration used to compute the influent loading to the TSF Reclaim Pond;
- Goose Pit and Portage Pit seepage estimated water flow and water quality data; and
- Agnico 2020 Water Balance which defines all of the input and output flows in the North and South Cell TSF, Central Dike downstream pond, Portage Pit and Goose Pit.

Mill Effluent Concentration Table 3-2 presents the Mill Effluent concentrations considered for the input parameters of the mass balance based on the ore produced from Portage/Goose/Vault pits. The average of the five samples taken in 2019 was used in the model since in 2020, only ore from Whale Tail pit was processed. For certain parameters, the concentration used for the model was increased or decreased so that the forecasted concentrations were closer to the measured values collected in the North and South Cell TSF Reclaim Pond.

The key parameters are also compared to the values used in the previous water quality forecast models based on the 2015 to 2019 WMP.

Table 3-2: Mill Effluent Concentrations Selected for the Mass Balance Model (Meadowbank Site Ore)

Parameter	2020 WMP Forecast (w/o Whale Tail)	2019 WMP Forecast (w/o Whale Tail)	2018 WMP Forecast	2017 WMP Forecast	2016 WMP Forecast	2015 WMP Forecast
Alkalinity	87 (as $CaCO_3$)	305 (as $CaCO_3$)	88 (as $CaCO_3$)	94 (as $CaCO_3$)	66 (as $CaCO_3$)	74.75 (as $CaCO_3$)
Hardness	1568 (as $CaCO_3$)	3266 (as $CaCO_3$)	1167 (as $CaCO_3$)	1538 (as $CaCO_3$)	1313 (as $CaCO_3$)	1690 (as $CaCO_3$)
Aluminum (Al)	0.0004	0.0004	0.022	0.154	0.326	0.116 (dissolved)
Silver (Ag)	0.001	0.001	0.0004	0.0039	0.005	0.028 (dissolved)
Arsenic (As)	0.017	0.017	0.013	0.018	0.026	0.0337 (dissolved)
Barium (Ba)	0.191	0.191	0.109	0.127	0.128	0.1245 (dissolved)
Cadmium (Cd)	0.0033	0.0033	0.004	0.002	0.00031	0.00197 (dissolved)
Chromium (Cr)	0.0004	0.0004	0.001	0.002	0.001	0.0005 (dissolved)
Copper (Cu)	3.925	3.925	2.409	1.582 (for North Cell in 2014: 9.9)	3.569(for North Cell in 2014: 9.9)	10.503 (dissolved)

Parameter	2020 WMP Forecast (w/o Whale Tail)	2019 WMP Forecast (w/o Whale Tail)	2018 WMP Forecast	2017 WMP Forecast	2016 WMP Forecast	2015 WMP Forecast
Iron (Fe)	1.115	1.115	1.307	1.387	0.832(30% of 2.772)	0.43 (dissolved)
Manganese (Mn)	0.331	0.331	0.009	0.523	0.013	0.00714 (dissolved)
Mercury (Hg)	0.0008	0.00002	0.000005	0.000625	0.0005	0.000016 (dissolved)
Molybdenum (Mo)	0.572	1.430	0.941	0.695	0.966	0.8555 (dissolved)
Nickel (Ni)	0.266	1.331	0.077	0.295	0.024	0.423 (dissolved)
Lead (Pb)	0.00005	0.00005	0.00016	0.006	0.002	0.00037 (dissolved)
Selenium (Se)	0.135	0.135	0.118	0.076	0.166	0.202 (dissolved)
Strontium (Sr)	2.08	2.08	2.350	2.775	2.13	
Thallium (Tl)	0.00001	0.00001	0.00005	0.00022	0.00003	
Uranium (U)	0.008	0.008	0.008	0.019	0.013	
Zinc (Zn)	0.00002	0.00002	0.0002	0.012	0.003	0.139 (dissolved)
Fluoride (F)	0.85	0.85	0.34	0.34	0.645	0.545
Nitrate (NO3)	5	5	4	6 (mg N/L) (for North Cell in 2014: 32)	13 (mg N/L) (for North Cell in 2014: 32)	15.925 (mg N/L)
Total Cyanide (CNt)	18	9	18.2	15 (for North Cell in 2014: 30)	18	18.1675
Total Ammonia (NH_3-NH_4)	64	North Cell: + 15 South Cell: + 39 (mg N/L/month)	North Cell: + 15 South Cell: + 39 (mg N/L/month)	North Cell: + 15 South Cell: + 39 (mg N/L/month)	North Cell: + 15 South Cell: + 40 (mg N/L/month)	+ 50 (mg N/L/month)

Parameter	2020 WMP Forecast (w/o Whale Tail)	2019 WMP Forecast (w/o Whale Tail)	2018 WMP Forecast	2017 WMP Forecast	2016 WMP Forecast	2015 WMP Forecast
Chloride	660	North Cell: Winter: +2000 Summer: +500 South Cell: Winter: +300 Summer: +75 (in mg/L/month)	North Cell: Winter: +2000 Summer: +500 South Cell: Winter: +300 Summer: +75 (in mg/L/month)	North Cell: Winter: +2000 Summer: +500 South Cell: Winter: +300 Summer: +75 (in mg/L/month)	North Cell: Winter: +2000 Summer: +500 South Cell: Winter: +300 Summer: +75 (in mg/L/month)	North Cell: Winter: +2000 Summer: +1000 South Cell: Winter: +700 Summer: +350 (in mg/L/month)
Sulphate (SO_4)	2190	North Cell: +600 South Cell: + 400 (mg/L/month)	North Cell: +600 South Cell: + 400 (mg/L/month)	North Cell: +600 South Cell: + 400 (mg/L/month)	North Cell: +600 South Cell: + 1400 (mg/L/month)	+ 1600 (mg/L/month)
Total dissolved solids	3948	North Cell: Winter: +3929 Summer: +1444 South Cell: Winter: +1854 Summer: +1481 (in mg/L/month)	North Cell: Winter: +3929 Summer: +1444 South Cell: Winter: +1854 Summer: +1481 (in mg/L/month)	North Cell: Winter: +3929 Summer: +1444 South Cell: Winter: +1854 Summer: +1481 (in mg/L/month)	North Cell: Winter: +3929 Summer: +1444 South Cell: Winter: +1937 Summer: +1564 (in mg/L/month)	North Cell: Winter: +4964 Summer: +3307 South Cell: Winter: +2810 Summer: +2230 (in mg/L/month)

Please note the items below on the parameters used for the Mill Effluent when processing Meadowbank Mine site ore for the updated water quality forecast model based on the 2020 WMP:

- **General adjustments**: In order to obtain the forecasted concentrations that are in the same order of magnitude as the measured values found in the North and South Cell TSF from 2014 to 2020, an adjustment factor was applied to the average measurements taken of the Mill Effluent in 2019 when processing Portage/Vault ore at the mill. The values presented in Table 3-2 shall be used in the Water Quality Forecast Model.
- **Ammonia, Chloride, Sulfate and Total Dissolved Solids:** Ammonia, chloride, sulfate and total dissolved solids are present in the Mill Effluent due to the following processes in the mill:
  - Ammonia is present due to the hydrolysis of cyanate to ammonia. The concentration of cyanate is proportional to the concentration of cyanide removed in the cyanide destruction system;
  - Chloride is present due to the continued use of calcium chloride as a dust suppressant in the mill and crusher;
  - Sulphates is present due to the oxidation of sulphide produced in the ore; and

  - The overall Total Dissolved Solids (TDS) of the Mill Effluent will continue to increase due to the increase in ammonia, chloride and sulphate.
  - In the past water quality analysis, different concentrations were considered for summer and winter months. However, for this year's model, the concentration of ammonia, chloride, sulphate and total dissolved solids in the Mill Effluent is assumed constant over time, similar to the other parameters. This adjustment was made to provide a more stable mass balance model while obtaining a forecasting trend similar to the measured values.
- **Copper, Nitrate, Total Cyanide and Chloride in the North Cell:** A higher concentrations of the listed parameters are considered for the Mill Effluent when tailings were deposited in the North Cell TSF in 2014. These values were selected based on the measured values from the North Cell TSF Reclaim Pond.

As of July 2019, ore from Whale Tail Pit located at the Amaruq site has been processed at Meadowbank and the tailings will be deposited in Goose Pit and Portage Pit. The geochemical behavior of the ore body from Whale Tail Pit is different from the ore produced from Portage, Goose and Vault pits. Table 3-3 presents the 2020 average Mill Effluent concentrations when ore produced from Whale Tail Pit was being processed. In order to obtain the forecasted concentrations that are in the same order of magnitude as the measured values found in the Goose Pit and Portage Pit in 2019 and 2020, an adjustment factor was applied to the average measurements taken of the Mill Effluent in 2020 when processing Whale Tail ore at the mill. The Mill Effluent quality retained for the model is also shown in Table 3-3.

Table 3-3: Mill Effluent Concentrations When Processing Whale Tail Pit Ore

Parameters	Mill Effluent 2020 Average Concentration (mg/L)	Mill Effluent Quality Retained for Model (mg/L)
Alkalinity	86 (as $CaCO_3$)	172 (as $CaCO_3$)
Hardness	1511 (as $CaCO_3$)	1511 (as $CaCO_3$)
Aluminum (Al)	1.727	2.59
Silver (Ag)	0.002	0.004
Arsenic (As)	0.724	0.724
Barium (Ba)	0.099	0.099
Cadmium (Cd)	0.01699	0.00170
Chromium (Cr)	0.654	0.000654
Copper (Cu)	6.369	6.369
Iron (Fe)	5.572	8.359
Manganese (Mn)	0.235	1.646
Mercury (Hg)	0.000005	0.0005

Parameters	Mill Effluent 2020 Average Concentration (mg/L)	Mill Effluent Quality Retained for Model (mg/L)
Molybdenum (Mo)	1.013	0.253
Nickel (Ni)	2.822	0.564
Lead (Pb)	0.021	0.021
Selenium (Se)	0.144	0.144
Strontium (Sr)	1.51	1.21
Thallium (Tl)	0.00005	0.00005
Uranium (U)	0.011	0.011
Zinc (Zn)	0.143	0.05726
Fluoride (F)	0.28	0.28
Nitrate (NO3)	0.45	11
Total Cyanide (CNt)	25	18.2
Total Ammonia (NH_3-NH_4)	65	52
Chloride	411	781
Sulphate (SO_4)	1800	2340
Total dissolved solids	3544	2835

3.4.2 Concentrations used in the Model

As noted previously, the mass balance model arbitrarily begins in January 2014 to fit the previous models. The initial concentrations selected for the following streams are based on the following:

- North Cell TSF Reclaim Pond corresponds to the January 8th, 2014 chemical analysis results from station ST-21.
- Concentrations selected for the South Cell TSF Reclaim Pond (former Attenuation Pond) correspond to the 12-month (2014) average concentration results from station ST-18 (current Attenuation Pond). When there was no or little data available, the average values from 2010 to 2014 were used. In general, the concentrations observed in the Attenuation Pond had little variation from one month to the other.
- The initial concentrations of all parameters in the Portage and Goose Pits were assumed to be the average of 2013. For Portage Pit, the average concentrations measured in 2013 in Pit E (ST-19) were used. For Goose Pit, the average concentrations measured in 2013 in the Goose Pit sump (ST-20) were used.

For the other water inputs, the water quality was based on the following:

- Runoff from the Portage RSF is based on the average concentration measured in 2015 and 2020 at sampling station ST-16.
- Saddle Dam 1 sump that is transferred to the North Cell is based on the average concentration measured from 2015 to 2020 at sampling station ST-S-2.
- Saddle Dam 3 sump that is transferred to the South Cell is based on the average concentration measured in 2016 and 2020 at sampling station ST-32.
- East dike seepage quality is based on the average concentrations measured in 2016 to 2020 at sampling station ST-8.
- Stormwater Management Pond quality is based on the value measured in July 2018.
- Surface runoff water is assumed to be of similar quality as Third Portage Lake. The water quality for Third Portage Lake is based on the average concentration obtained in summer 2015 in the East Basin.

The average leaching rate inferred from the results obtained from the Shake Flask Extraction (SFE) Leach Tests conducted on the tailings produced from Portage and Vault ore bodies in 2019 were used to account for possible leaching of contaminants from the tailings. The SFE Leach Tests conducted on the tailings produced from the Whale Tail ore bodies in 2020 were used to account for possible leaching of contaminants from this type of tailings.

Table 3-4 summarizes the leaching rates used in the model while Table 3-5 summarizes the water quality characteristics for various input source streams used in the water quality forecast model based on total metals. Measurements that are higher than CCME guidelines for Protection of Aquatic Life are also highlighted in the Table 3-5, which are used for comparison purpose only.

Table 3-4: Leaching Rate Used in Water Quality Forecast Model

PARAMETERS	UNITS	LEACHING OF TAILS FROM PORTAGE / VAULT (kg/ton)	LEACHING OF TAILS FROM WHALE TAIL PIT (kg/ton)
		From SFE Leach Test- Avg 2019 tests	From SFE Leach Test- Avg 2019 tests
Alkalinity	mg $CaCO_3$/L	3.90E-02	4.24E-02
Hardness	mg $CaCO_3$/L	1.89E-01	3.23E-01
Total dissolved solids	mg/L	0 (1)	0 (1)
Total Aluminum (Al)	mg/L	8.67E-05	4.14E-05
Total Silver (Ag)	mg/L	2.50E-08	9.38E-08
Total Arsenic (As)	mg/L	1.26E-05	1.53E-03
Total Barium (Ba)	mg/L	1.13E-05	3.94E-05
Total Cadmium (Cd)	mg/L	0 (1)	2.63E-08
Total Chromium (Cr)	mg/L	1.20E-04	1.88E-07
Total Copper (Cu)	mg/L	1.54E-06	1.19E-06
Total Iron (Fe)	mg/L	1.34E-04	6.45E-05
Total Manganese (Mn)	mg/L	1.57E-05	2.91E-05
Total Mercury (Hg)	mg/L	6.67E-09	5.00E-09
Total Molybdenum (Mo)	mg/L	4.63E-05	3.48E-05

PARAMETERS	UNITS	LEACHING OF TAILS FROM PORTAGE / VAULT (kg/ton)	LEACHING OF TAILS FROM WHALE TAIL PIT (kg/ton)
		From SFE Leach Test- Avg 2019 tests	From SFE Leach Test- Avg 2019 tests
Total Nickel (Ni)	mg/L	1.13E-06	7.20E-05
Total Lead (Pb)	mg/L	6.67E-08	1.06E-07
Total Selenium (Se)	mg/L	1.43E-06	7.55E-06
Total Strontium (Sr)	mg/L	2.44E-04	2.73E-04
Total Thallium (Tl)	mg/L	9.00E-09	1.39E-08
Total Uranium (U)	mg/L	9.30E-07	1.38E-06
Total Zinc (Zn)	mg/L	1.00E-06	1.00E-06
Chloride	mg/L	0 (1)	0 (1)
Fluoride (F)	mg/L	3.40E-04	1.79E-04
Sulfate (SO_4)	mg SO_4/L	2.30E-01	3.14E-01
Total Cyanide (CNt)	mg/L	0 (1)	0 (1)
Total Ammonia (NH_3 + NH_4)	mg N/L	3.10E-03	3.49E-03
Nitrate (NO_3)	mg N/L	3.00E-04	7.15E-04

Notes:

(1) No data available. Assume negligible.

Table 3-5: Input Source Stream Concentrations used in the Water Quality Forecast Model

PARAMETERS	UNITS	RECLAIM ST-21 NORTH CELL	ATTEN. POND / SOUTH CELL	PORTAGE RSF TO NORTH CELL	SADDLE DAM 1 SUMP TO NORTH CELL	SADDLE DAM 3 SUMP TO SOUTH CELL	EAST DIKE SEEPAGE TO PORTAGE	STORM WATER MGMT POND	THIRD PORTAGE LAKE	PORTAGE PIT ST-19	GOOSE PIT ST-20	CCME GUIDELINES	WATER LICENCE MEADOWBANK MAX. AVG. CONC.
		Initial condition for model January-08-14	Initial condition for model Average 2014	Average 2015 to 2020 sampled at ST-16	Average 2015 to 2020 sampled at ST-S-2	Average 2016 to 2020 sampled at ST-32	Average 2016 to 2020 sampled at ST-8	July 2018	Average- East Basin Summer 2015	Initial Condition for Model Average 2013	Initial Condition for Model Average 2013	Long Term Based on 3PL quality	Part F of Licence
Alkalinity	mg $CaCO_3$/L	135	106	69	55	189	29	129	9.1	72.2	129.8	n/a	n/a
Hardness	mg $CaCO_3$/L	1329	362	168	248	255	36	134	12	274	130	n/a	n/a
Total dissolved solids	mg/L	1329	1437	267	242	412	90	293	22	320	326	n/a	1400
Total Aluminum (Al)	mg/L	0.119 (1)	0.010 (1)	0.275	0.466	2.796	0.04309	0.229	0.0075	0.1720	0.3708	0.1	1.5
Total Silver (Ag)	mg/L	0.0001 (1)	0.0001 (1)	0.000	0.000	0.000	0.00010	0.000	0.000005	0.00005	0.00005	0.00025	n/a
Total Arsenic (As)	mg/L	0.032 (1)	0.008 (1)	0.022	0.025	0.020	0.00108	0.004	0.0005	0.0202	0.0099	0.005	0.3
Total Barium (Ba)	mg/L	0.094 (1)	0.051 (1)	0.018	0.038	0.083	0.00768	0.020	0.0037	0.0110	0.0219	n/a	n/a
Total Cadmium (Cd)	mg/L	0.00160	0.00010	0.00004	0.00003	0.00006	0.00003	0.00001	0.000003	0.000240	0.000000	0.00004	0.002
Total Chromium (Cr)	mg/L	0.0008	0 (4)	0.003	0.004	0.016	0.00210	0.002	0.0001	0.0027	0.0026	0.001	n/a
Total Copper (Cu)	mg/L	9.135	0.033 (1)	0.018	0.008	0.024	0.00131	0.003	0.0006	0.0042	0.0069	0.002	0.1
Total Iron (Fe)	mg/L	0.140 (1)	0.047 (1)	0.770	1.204	5.877	0.34500	0.880	0.017	1.5	0.7	0.3	n/a
Total Manganese (Mn)	mg/L	0.065 (1)	2.898 (1)	1.432	0.221	1.001	0.01483	0.410	0.002	0.257	0.108	n/a	n/a
Total Mercury (Hg)	mg/L	0.000000	0.000117	0.000097	0.000152	0.000022	0.00001	0.000005	0.000003	0.000080	0.000005	0.000026	0.0004
Total Molybdenum (Mo)	mg/L	0.596 (1)	0.026 (1)	0.014	0.011	0.006	0.00053	0.004	0.0002	0.0664	0.0082	0.073	n/a
Total Nickel (Ni)	mg/L	0.277 (1)	0.041 (1)	0.021	0.031	0.102	0.00092	0.011	0.00059	0.00394	0.07973	0.025	0.2
Total Lead (Pb)	mg/L	0.002 (2)	0.000 (1)	0.001	0.003	0.006	0.00057	0.000	0.00003	0.00131	0.00192	0.001	0.1
Total Selenium (Se)	mg/L	0.075 (1)	0.003 (1)	0.001	0.002	0.002	0.00140	0.003	0.00003	0.00183	0.00080	0.001	n/a
Total Strontium (Sr)	mg/L	0.743 (3)	0 (4)	0.162	0 (4)	0 (4)	0.00000	0.29	0.0132	0 (4)	0 (4)	n/a	n/a
Total Thallium (Tl)	mg/L	0.005 (3)	0 (4)	0.001	0.002	0 (4)	0.00260	0.0004	0.000005	0.0020	0.0016	0.0008	n/a
Total Uranium (U)	mg/L	0.010 (3)	0 (4)	0.006	0 (4)	0 (4)	0.00000	0.002	0.000049	0 (4)	0 (4)	0.015	n/a
Total Zinc (Zn)	mg/L	0.010 (1)	0.010 (1)	0.002	0.065	0.026	0.00322	0.005	0.002	0.016	0.015	0.03	0.4
Chloride	mg/L	1035	98	7	7	18	0.96667	52	0.793	26.117	24.978	120	1000
Fluoride (F)	mg/L	0.180	0.565	0.187	0.198	0.317	0.09167	0.860	0.0793	0.3900	0.4922	0.12	n/a
Sulfate (SO_4)	mg SO_4/L	2115	542	82	173	145	9.58864	30	5	224	77	128 (5)	n/a
Total Cyanide (CNt)	mg/L	8	0.346	0.002	0.010	0.018	0.0029	0.002	0.0005	0.0393	0.0033	0.005	0.5
Total Ammonia ($NH_3 + NH_4$)	mg N/L	37	10	0.338	0.388	3.098	0.01000	1.320	0.015	3.6	7.9	1.83	16
Nitrate (NO_3)	mg N/L	26	1	69	55	189	29	0.06	0.0331	12.7	5.1	2.94 (6)	20

Notes:

(1) No total concentration value measured. Estimated using dissolved concentration value divided by the ratio of dissolved/total concentration values from sample taken in July 1, 2014 from the North Cell.

(2) Used dissolved concentration value when the value is higher than the total concentration measured.

(3) No data available for sample taken on Jan 8, 2014. Use data sampled on July 1, 2014.

(4) No data. Assume negligible.

(5) Threshold value for sulfate based on BC Environment guideline for the protection of aquatic life for very soft water (0-30 mg/L) (April 2013).

(6) Value based on the threshold concentration for classification of an oligotrophic lake in terms of nutrient concentrations (Nurnberg 1996).

(7) Indicate values higher than CCME Guidelines (Long Term), or other criterion, based on Third Portage Lake water quality. Provided as a guide to help identify potential parameters of concern.

3.5 Cyanide Decay

The water quality model developed during this study takes natural cyanide degradation into account: the most important mechanism in the natural degradation of cyanide is the volatilization of hydrogen cyanide (HCN). In fact, tests carried out in Canada found that volatilization of HCN accounted for 90% of cyanide removed from solution in a tailing's impoundment (Botz and Mudder, 2000).

Oxidation of cyanide ions (CN-) to orthocyanate (OCN) with atmospheric oxygen is possible but extremely slow when compared to HCN volatilization. Similarly, the probability of microbial degradation of cyanide to carbon dioxide, ammonia, nitrite and nitrate is low due to the limited presence of microorganisms and low nutrient levels in tailings water.

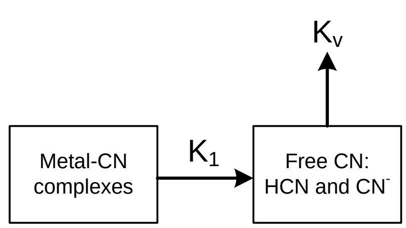
Cyanide volatilization can be summarized as a two (2) step process presented in Figure 3-1 below:

i. First, metal-cyanide complexes dissociate to free cyanide (HCN and CN^-) based on a first-order decay constant (k_1). Note that: (1) equilibrium between HCN and CN- is based on pH; (2) a first order decay constant signifies that the final concentration (Cf) can be estimated as, Cf=Cie-kt, where k is the first order decay constant).

i. It is then followed by HCN volatilization based on a first-order decay constant (k_v).

ii. Both decay constants k_1 and k_v depend on the presence of UV light (sun) and air (wind), and water temperature and pH. The volatilization decay constant, k_v, also depends on the surface area to volume ratio of the pond.

Figure 3-1: Cyanide Volatilization Process



Since both constants depend to a great extent on temperature, UV light and air, separate constants were determined for summer (May to October) and winter (November to April) conditions. The decay constants were based on laboratory values recorded by Simovic (1984). The assumptions made for the development of the cyanide decay constants were the following:

- Summer conditions: an average water temperature of 10°C, presence of air and UV light. Furthermore, since metal-CN dissociation and HCN volatilization by air and UV is particularly important in the summer months, the decay constant factors in the physical property of the tailing's impoundment, represented by the open surface area to volume ratio. Multiplying the decay constant by this ratio takes into account the accelerated reaction due to a large exposed surface area of the Reclaim Pond.
- Winter conditions: no natural cyanide degradation occurs.

- The pH in the Reclaim Pond is maintained constant at 8.0, which means that most (94%)[1] of the free cyanide will be present as HCN. Note that as the pH decreases, the proportion of free cyanide as HCN increases, which increases cyanide degradation through volatilization.
- As stated in section 3.2, it was assumed that 10% of the total cyanide concentration was bound as iron-cyanide complexes, another 10% as metal (copper, nickel and zinc) cyanide complexes, and 80% as free cyanide. This agrees with values observed at other gold mine tailings impoundments.

It should be noted that these decay constants (referred to as k_0) were established based on an hourly time step and were not deemed reliable for longer time-periods (i.e. months). Therefore, the summer and winter decay constants obtained based on volatilization conditions and assumptions, were calibrated to represent more accurately and conservatively the expected cyanide concentrations on a monthly time-step.

Table 3-6 presents the assumptions and cyanide decay constants used in the water quality model.

Table 3-6: Natural Cyanide Degradation – Assumptions and Constants

DECAY CONSTANT	DESCRIPTION	WINTER CONDITIONS[2]			SUMMER CONDITIONS		
		Conditions	k_0	Calibrated value (k)	Conditions	k_0	Calibrated value (k)
K_1	Metal-CN dissociation	4° No air No UV	n/a	n/a	10° Air (wind) UV (sunlight)	0.01443/hr	2.11/month
K_V [3]	HCN volatilization		n/a	n/a		2.382 cm/hr	58.0 m/month

3.6 Portage and Goose Pit Groundwater Seepage Loading

In previous water quality forecast model, to account for the contaminant loads originating from underground water seepages and surface runoff on PAG rock surface area into the pits, a contaminant loading rate per month reporting to the pits were estimated based on a monthly mass balance around the pit using the following information:

- Runoff volume flowing into and pumped out of Portage and Goose Pits in 2015 and 2016;
- Estimated water volume in Portage and Goose Pits in 2015 and 2016; and,
- Concentration measurements from samples taken in Portage Pit (Pit A, ST-17) and Goose Pit (sump, ST-20) in 2015 and 2016 on a monthly basis. The measurements made in the pit sump implicitly measure the impact on groundwater seepage and surface water contact on PAG rock on the pit sumps water quality.

For this year's model, loadings from groundwater seepages to Portage Pit and Goose Pit shall be estimated based on the following information:

[1] The dissociation constant for HCN is pKa = $10^{-9.2}$.
[2] During the winter, most of the Reclaim Pond is covered in ice and/or snow. Assume no natural degradation of cyanide is occurring.
[3] In the summer k_v strongly depends on the presence of air and UV, and thus it also depends on the surface area to volume ratio (A/V). Therefore, the k_v value for the summer season has units of cm/h or m/month and should be multiplied by A/V.

- In the hydrogeological modelling of the groundwater flow in Goose Pit and Portage Pit, the seepage flow entering each pit was estimated at: 196 m^3/day in Portage Pit and 423 m^3/day in Goose Pit (SNC-Lavalin 2018b).
- The average concentration measured from samples taken of the pit seepages in each pit between 2017 to 2019 shall be used to estimate the loadings to each pit assuming a constant seepage flow rate.

Table 3-7 presents the average concentration considered for seepages reporting to Goose Pit and Portage Pit in the water qualify forecast model.

Table 3-7: Pit Seepage Water Quality Considered in the Model

Parameters	Units	Portage Pit Seepage	Goose Pit Seepage
		Average Data from 2017-2020	Average Data from 2017-2019
Alkalinity	mg $CaCO_3$/L	69.8	80.3
Hardness	mg $CaCO_3$/L	523	81
Total dissolved solids	mg/L	813	175
Total Aluminum (Al)	mg/L	0.63	0.127
Total Silver (Ag)	mg/L	0.0000355	0.00005
Total Arsenic (As)	mg/L	0.0217	0.0022
Total Barium (Ba)	mg/L	0.0318	0.0417
Total Cadmium (Cd)	mg/L	0.000251	0.000013
Total Chromium (Cr)	mg/L	0.0002	0.0001
Total Copper (Cu)	mg/L	0.0011	0.0020
Total Iron (Fe)	mg/L	1.6	5.1
Total Manganese (Mn)	mg/L	0.357	0.043
Total Mercury (Hg)	mg/L	0.000005	0.000171
Total Molybdenum (Mo)	mg/L	0.0801	0.0093
Total Nickel (Ni)	mg/L	0.05101	0.00682
Total Lead (Pb)	mg/L	0.0114	0.00015
Total Selenium (Se)	mg/L	0.00257	0.00071
Total Strontium (Sr)	mg/L	0.74650	0.22333
Total Thallium (Tl)	mg/L	0.00023	0.00035
Total Uranium (U)	mg/L	0.06960	0.00333
Total Zinc (Zn)	mg/L	0.003	0.007
Chloride (Cl)	mg/L	45.5	16.2
Fluoride (F)	mg/L	0.2720	0.8333
Sulphate (SO4)	mg SO_4/L	48	0
Total Cyanide (CNt)	mg/L	0.0119	0.0023
Total Ammonia ($NH_3 + NH_4$)	mg N/L	1.1	0.3
Nitrate (NO_3)	mg N/L	17.9	0.1

4.0 Water Quality Forecast Results

4.1 Results

This year's water quality forecast model ends at the end of in-pit deposition, which is projected for June 2026 based on the 2020 WMP. Reclaim Water stored in Goose Pit and Portage Pit shall then be treated and discharge to Third Portage Lake during closure. For the purpose of this study, parameters of concern were identified using the current Water Licence limits. However, final site-specific treated effluent discharge limits for closure will be developed through review of the final closure plan by regulatory agencies.

The results of the mass balance model around the North and South Cell TSF Reclaim Ponds, Portage Pit and Goose Pit are presented in the Figure 4-1 to Figure 4-13 for the parameters of concern that were detected in this year's forecast:

- Total Aluminum
- Total Ammonia
- Total Arsenic
- Cyanide (total)
- Total Copper
- Total dissolved solids
- Total Nickel

The following parameters are also presented in the figures since they were identified as elements that could represent a potential long-term contamination risk:

- Total Selenium
- Sulphate
- Total Iron
- Chloride
- Nitrate
- Fluoride

The graphs show the forecasted monthly concentrations of the parameters from 2014 to end of in-pit tailings deposition in 2026. A total of two (2) graphs are presented per parameter: the first shows the forecasted concentration in the North and South Cells TSF Reclaim Ponds and the second shows the forecasted concentration in the Portage and Goose Pits, assuming that there is no water treatment during in-pit tailings deposition.

For comparison purpose only, the Water Licence, MDMER and Canadian Council of Ministers of the Environment (CCME) limits (refer to Table 2-1) were also included in the figures, where applicable.

Again, it is important to remember that the results presented in the figures in section 4 of this report are based on the input parameters presented in section 3. It is also important to note that the results from this model assume that no treatment of Reclaim Pond effluent is undertaken during operations and provide only a forecast of the concentrations for selected parameters. These results must be reviewed while keeping in mind the assumptions and limitations described in sections 3.2 and 3.3.

4.2 Discussions

4.2.1 Key Dates

The mass balance model presented in this Technical Note is based on the WB 2020. The following key dates are important to keep in mind while reviewing the forecasted concentration data presented in Figure 4-1 to Figure 4-13:

- November 2014: The former Attenuation Pond becomes the South Cell and TSF Reclaim Pond;
- May 2015: Start of natural re-flooding of Goose Pit with surface runoff water only;
- September 2015: Transfer of 50,431 m^3 of Central Dike Downstream Pond water to Goose Pit;
- October 2015: End of deposition in the North Cell TSF;
- July 2017: Allow runoff water and ground water to accumulate in the North Portage Pit (Pit A);

- August to October 2017: Approximately 332,177 m^3 of pond water is transferred from Central Dike Downstream Pond to Goose Pit;
- August to October 2018: Deposition in North and South Cell TSF;
- April 2019: Deposition end in South Cell TSF;
- April to July 2019: Deposition resumes in North Cell TSF;
- May to July 2019: Approximately 358,156 m^3 of pond water is transferred from Central Dike Downstream Pond to Goose Pit;
- July 2019: End of processing ore from Portage/Goose/Vault pits at the mill. Start of processing of ore from Whale Tail;
- July 2019: Start of deposition of tailings from Whale Tail Pit;
- July 2019 to August 2020: Deposition of tailings in Goose Pit;
- August 2020 to July 2022, August 2023 to July 2025: Deposition of tailings in Portage Pit E;
- August 2022 to July 2023 and August 2025 to June 2026: Deposition of tailings in Portage Pit A;
- Allow East Dike Seepage to discharge to Second Portage Lake as long as discharge criteria are met. If not, East Dike Seepage is transferred to Portage Pit A or Pit E;
- July 2020: Start of water transfer from South Cell TSF Reclaim Pond to Portage Pit A;
- As of 2020: North Cell TSF Reclaim Pond is almost completely empty. The pond is maintained empty in the subsequent years by transferring the accumulated runoff water to the South Cell TSF Reclaim Pond;
- September 2020: South Cell TSF Reclaim Pond is almost completely empty. The pond is maintained empty in the subsequent years by transferring the accumulated runoff water to Portage Pit A;
- April 2021: Start processing at the mill some ore that comes from underground mine at Amaruq. Only a fraction of the ore shall come from the underground mine while the balance shall come from the pit operation at Amaruq.
- June 2026: End of in-pit tailings deposition.

4.2.2 Volumes Transferred

Based on the WB 2020, the following approximate volume of runoff water and Reclaim Water from North and South Cell TSF and Central Dike Downstream Pond was transferred to Portage and Goose Pits between 2014 to the end of in-pit deposition projected for June 2026:

- South Cell TSF to Goose Pit (2015 to 2019): approx. 740,764 m^3
- South Cell TSF to Portage Pit A:
  - In 2020: approx. 253,452 m^3
  - Projected annual transfer from 2021 to 2026: approx. 454,612 m^3
  - Estimated total from 2014 to 2026: approx. 2,981,124 m^3
- From Central Dike Downstream Pond (CDDP) to Portage Pit:

- Portage Pit A:
  - In 2019: approx. 1,368,676 m^3
  - In 2020: approx. 447,910 m^3
  - Projected annual transfer from 2021 to 2026: approx. 1,002,480 m^3 (conservative estimate)
  - Estimated total: approx. 7,831,466 m^3
- Portage Pit E: in 2020 approx. 237,631 m^3
- Estimated total from 2014 to 2026: approx. 8,069,097 m^3

The volume projected from Central Dikes Downstream Pond to Portage Pit A are a conservative estimate only that will be adjusted in future update of the model based on actual pumped volumes.

4.2.3 Forecasted Concentrations in the North and South Cell TSF Reclaim Pond

The forecasted concentrations in the North and South Cell TSF Reclaim Pond are presented in Figure 4-1 to Figure 4-13.

Based on the model for forecasting concentrations in the North and South Cell TSF Reclaim Pond, the following notes and observations can be made:

i. For the metal parameters, the fluctuations observed from 2014 to 2019 are primarily due to seasonal variability (runoff from nearby areas, snow and ice melt, temperature, etc.). Furthermore, the forecasted concentrations are generally more conservative than the field measurements.

ii. Natural degradation of cyanide during summer plays a significant role in reducing the measured concentration of total cyanide in the TSF Reclaim Ponds and it is considered in the forecasting model.

iii. For ammonia, it is important to note that:

   a. the mass balance model developed here does not include seasonal variability (sunlight, microbial or algae degradation of ammonia, etc.), and

   b. ammonia concentrations can vary significantly depending on temperature, pH, sunlight, algae activity, etc. Ammonia concentrations may be lower in the summer and higher in the winter. The forecasted concentrations in the South Cell TSF Reclaim Pond between 2014 and 2019 are more conservative than the measured values.

iv. Similarly, for nitrate, it is important to remember that:

   a. the mass balance model developed here does not include seasonal variability, and

   b. ammonia decomposes to nitrate, therefore nitrate concentrations can vary significantly depending on temperature, pH, sunlight, algae activity, etc. Nitrate concentrations may be lower in the winter and higher in the summer. The forecasted values from 2014 to 2019 are in the same range as the measured values in the North Cell. For the South Cell, the forecasted values are in the same range as the measured value. However, between 2014 to mid-2016, measured values were higher than forecasted concentrations. After this, the model is conservative.

v. Guidelines:

   a. For comparison purposes, the forecasted concentrations in the North and South Cells TSF Reclaim Ponds for almost all the parameters are above the Water Licence discharge criteria when tailings depositions were occurring in this area, except for aluminum, arsenic. Following the end of tailings deposition, the forecasted values drop below the Water Licence limits.

b. For comparison purposes, almost all forecasted concentrations in the North and South Cells TSF Reclaim Ponds for the parameters of concern are also above the CCME guidelines for the protection of aquatic life during tailings depositions. Following deposition, the forecasted concentration drops close to or below the CCME guidelines.

c. However, it is important to note that no water in the TSF Reclaim Pond during tailings deposition is discharged to the environment. Thus, the Water Licence discharge criteria are not applicable but are rather used as a comparison herein. Also, the dikes around Portage and Goose Pits will only be breached once the water quality in the pits meets the CCME guidelines or site-specific closure criteria.

4.2.4 Forecasted Concentration in Portage and Goose Pits

Table 4-1 presents the forecasted concentration of all parameters for Portage and Goose Pits at the end of in-pit deposition (IPD) projected to be in June 2026. Based on the model for forecasting of the concentrations in Portage and Goose Pits, the following notes and observations can be made:

i. This year's water quality forecast considers the extension of the Life of Mine at Meadowbank which adds the processing of ore body coming from the Whale Tail Pit at the Amaruq site. The ore body from Whale Tail Pit has a different geochemical behavior when compared to the Portage/Goose/Vault ore bodies. It has a higher potential to leach certain metals, such as arsenic, mercury and lead.

ii. For this year's water quality forecast, only total concentrations are considered since, for comparison purposes only, the current Water Licence discharge criteria apply to total concentrations. The following observations can be made for the following parameters:

   a. **Total Cyanide:** Higher forecasted total concentration than the Water Licence limits is projected in Portage Pit since tailings deposition is forecasted to end at the start of summer 2026. Since the water treatment of the reclaim water in Portage Pit is forecasted to start in 2027, it is expected the cyanide shall naturally degrade over the summer months.

   b. **Total Aluminum:** Higher forecasted total concentration than the Water Licence limits is projected in Portage Pit since tailings deposition is mainly occurring in this pit from 2020 to 2026. In that same period, reclaim water from Goose Pit shall be transferred to Portage Pit and natural runoff is allowed to accumulate in the pit, explaining the decrease in concentration. The main source terms for this constituent are from the mill effluent and the pit seepages reporting to the pits.

   c. **Total Arsenic**: Higher forecasted total concentration than the Water Licence limits is projected in Portage Pit and slidthly higher in Goose Pit at the end of IPD. The main source terms for this constituent are from the mill effluent and the pit seepages reporting to the pits. Concentration of arsenic is forecasted to decrease over time in Goose Pit due to water transfer to Portage Pit.

   d. **Total Copper**: Higher forecasted total concentration than the Water Licence limits is projected in Portage Pit and Goose Pit at the end of IPD. The main source term for this constituent is from the mill effluent reporting to the pits. Concentration of copper is forecasted to decrease over time in Goose Pit due to water transfer to Portage Pit.

   e. **Total Iron**: Higher forecasted total concentration than the Water Licence limits is projected in Portage Pit and Goose Pit. The main source terms for this constituent are from the mill effluent and the pit seepages reporting to the pits.

f. **Total Nickel:** Higher forecasted total concentration than the Water Licence limits is projected in Portage Pit at the end of IPD. In that same period, reclaim water from Goose Pit is transferred to Portage Pit and natural runoff is allowed to accumulate in the pit, leading to a concentration lower than the Water Licence limit. The main source term for this constituent is from the mill effluent reporting to the pits.

g. **Total Selenium**: There is no specific Water Licence limit for this constituent. However, total forecasted concentration remains higher than the CCME guidelines in Portage Pit and Goose Pit. An increase is observed once IPD has started, suggesting that the main source term for this constituent is from the mill effluent reporting to the pits.

h. **Total Ammonia**: Ammonia forecasted concentrations are higher than the Water Licence limit in Portage Pit and slightly lower in Goose Pit at the end of IPD. A higher load of ammonia is forecasted in the pits due to the additional ammonia load coming from the mill effluent reporting to the pits.

i. **Total Nitrate:** Forecasted concentration in Portage Pit and Goose Pit at the end of IPD is projected to be lower than the Water Licence limit for this constituent.

j. **Chloride**: Forecasted concentration in Portage Pit and Goose Pit at the end of IPD is projected to be lower than the Water Licence limit for this constituent.

k. **Fluoride**: There is no specific Water Licence limit for this constituent. However, total forecasted concentration remains higher than the CCME guidelines in Portage Pit and Goose Pit. The fluoride load to the pits comes from the mill effluent and from pit seepages.

l. **Sulphate**: Since 2019, the sulfate forecasted concentrations are compared against a threshold value based on BC Environment guideline for the protection of aquatic life for very soft water (0-30 mg/L) (April 2013). There is no specific Water Licence limit for this constituent. At the end of IPD, sulphate concentration is higher than the threshold value in Portage Pit and Goose Pit. An increase in sulphate concentration is observed once IPD has started, suggesting that the main load for this constituent comes from the mill effluent. Concentration of sulphate is expected to increase in Portage Pit due to continued deposition of tailings and decrease in Goose Pit due to water transfer to Portage Pit.

m. **Total Dissolved Solids (TDS)**: Higher forecasted total concentration than the Water Licence limits is projected in Portage Pit since tailings deposition is mainly occurring in this pit from 2020 to 2026. In that same period, reclaim water from Goose Pit shall be transferred to Portage Pit and natural runoff is allowed to accumulate in the pit, explaining the decrease in concentration. An increase in TDS is observed in the pit once IPD started, suggesting that the main source term for this constituent is from the mill effluent reporting to the pits.

iii. It is important to note that the treated effluent discharge water quality criteria shall need to be assessed based on the assimilative capacity of the receiving water body, Third Portage Lake.

iv. It is also important to note that once the water elevation in the pits reaches a level above 130 m, both Portage and Goose Pits will be hydraulically connected. This should help in attenuating some of the concentrations in Portage Pit. As shown in Table 4-1, when assuming complete mixing of both pits, the concentrations of the parameters listed in item ii. are reduced, but not sufficiently to meet the CCME guidelines.

v. For comparative purpose only, the total nitrogen equivalent concentration (i.e. sum of ammonia and nitrate) is higher than the threshold concentration for classification of an oligotrophic lake (i.e. a lake characterized by a low accumulation of dissolved nutrient salts, supporting but a sparse growth of algae and other organisms, and having a high oxygen content owing to the low organic content) in terms of nutrient concentration (Nurnberg 1996). However, the mass balance model does not consider any natural nitrogen degradation cycle that could occur over the summer months. However, if an increase in ammonia and nitrate concentrations is observed in the TSF Reclaim Ponds and in the pit water at the end of IPD, the total nitrogen issue will have to be re-assessed. Natural degradation could be enough to reduce the total nitrogen concentration, or active treatment solutions such as mechanical aeration could be implemented. Note that there is no specific CCME guideline for total nitrogen equivalent.

In summary, the forecasted values presented in this section provide an indication of the type of effluent that shall be managed and treated at the end of in-pit deposition. This information can be used to initiate the assessment of the type of water treatment system required for closure and initiate planning for water treatability testing. All of the parameters listed in Table 4-1 shall be monitored in the pits and used to re-evaluate next year's water quality forecast model.

4.2.5 Comparison of Forecasted Values

As of 2019, in-pit tailings deposition has started in Goose Pit and Portage Pit instead of the North and South Cell TSF. For this reason, comparison of the model results shall focus on the trends forecasted in Portage and Goose Pits.

Chloride and sulphate shall be used to compare the model results since these constituents are likely to accumulate over time in the reclaim water and not precipitate out of solutions.

Figure 4-14 and 4-15 compare the forecasted value based on the Water Balance (WB) 2019 and WB 2020. Measured values for chloride and sulphate sampled in the pits are also presented.

Based on these figures, the following notes and observations can be made:

i. The water quality forecast model based on WB2019 overestimated the forecasted concentration for chloride in Goose and Portage Pits. The current model corrects the forecast to be more in line with the measured values.

ii. The water quality forecast model based on WB2019 underestimated the forecasted concentration for sulphate in Goose and Portage Pits. The current model corrects the forecast to be more in line with the measured values.

The site Water Balance and Water Quality Forecast model will continue to be updated on a yearly basis, using the actual volumes and measured concentrations to calibrate the models.

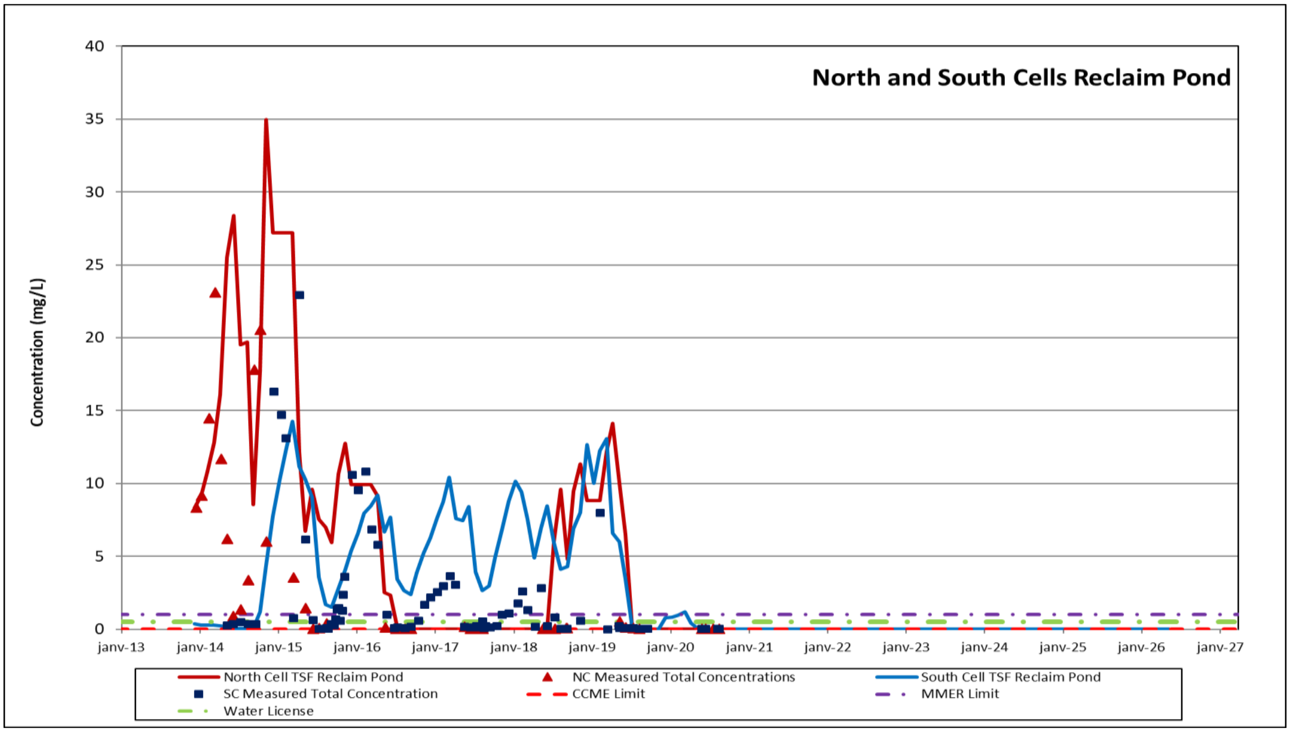
Table 4-1: Summary of Forecasted Concentrations in Portage and Goose Pits at End of In-Pit Tailings Deposition

PARAMETERS	UNITS	WATER LICENCE at ST-9 (3)	CCME GUIDELINES	3rd PORTAGE LAKE	AT THE END OF IN-PIT DEPOSITION, JUNE 2026 PORTAGE PIT Mass Balance Conc.	AT THE END OF IN-PIT DEPOSITION, JUNE 2026 GOOSE PIT Mass Balance Conc.
pH (assumed)					7.5	7.5
Alkalinity	mg $CaCO_3$/L	**n/a**	n/a	9.1	150	79
Hardness	mg $CaCO_3$/L	**n/a**	n/a	12.05	1568	506
Total dissolved solids	mg/L	**1400**	n/a	22.1	2286	832
Total Aluminium (Al)	mg/L	**1.5**	0.10	0.0075	1.73	0.66
Total Silver (Ag)	mg/L	**n/a**	0.00025	0.000005	0.00239	0.00091
Total Arsenic (As)	mg/L	**0.3**	0.005	0.0005	1.487	0.505
Total Barium (Ba)	mg/L	**n/a**	n/a	0.0037	0.096	0.050
Total Cadmium (Cd)	mg/L	**0.002**	0.00004	0.000003	0.00117	0.00050
Total Chromium (Cr)	mg/L	**n/a**	0.001	0.0001	0.004	0.007
Total Copper (Cu)	mg/L	**0.1**	0.002	0.0006	4.167	1.607
Total Iron (Fe)	mg/L	**n/a**	0.30	0.0173	5.62	3.18
Total Manganese (Mn)	mg/L	**n/a**	0.23	0.0016	1.116	0.417
Total Mercury (Hg)	mg/L	**0.0004**	0.000026	0.000003	0.000343	0.000180
Total Molybdenum (Mo)	mg/L	**n/a**	0.073	0.0002	0.198	0.087
Total Nickel (Ni)	mg/L	**0.2**	0.025	0.0006	0.418	0.158
Total Lead (Pb)	mg/L	**0.1**	0.001	0.0000	0.014	0.005
Total Selenium (Se)	mg/L	**n/a**	0.001	0.0000	0.0998	0.0393
Total Strontium (Sr)	mg/L	**n/a**	n/a	0.0132	1.021	0.473
Total Thallium (Ti)	mg/L	**n/a**	0.0008	0.000005	0.00012	0.00010
Total Uranium (U)	mg/L	**n/a**	0.015	0.000049	0.0095	0.0042
Total Zinc (Zn)	mg/L	**0.4**	0.013	0.0015	0.039	0.016
Chloride	mg/L	**1000**	120	0.7925	750	206
Fluoride (F)	mg/L	**n/a**	0.12	0.07925	0.38	0.39
Sulphate (SO4)	mg SO_4/L	**n/a**	128 (2)	5.1	1762	694
Total Cyanide (CNt)	mg/L	**0.5**	0.005	0.0005	2.1	0.0
Total Ammonia	mg N/L	**16.0**	1.83	0.0145	37.0	15.0
Nitrate (NO3)	mg N/L	**20.0**	2.94	0.03305	8.3	3.1
Total N equivalent	mg N/L	**n/a**	0.35 (1)	0.04755	45.3	18.1

Notes:

1) Value based on the threshold concentration for classification of an oligotrophic lake in terms of nutrient concentrations (Nurnberg 1996).
2) Threshold value for sulfate based on BC Environment guideline for the protection of aquatic life for very soft water (0-30 mg/L) (April 2013).
3) Mass balance forecasted concentration higher than current Water Licence limits at ST-9. For comparison purpose only.

Figure 4-1: Total Cyanide Forecasted Concentration



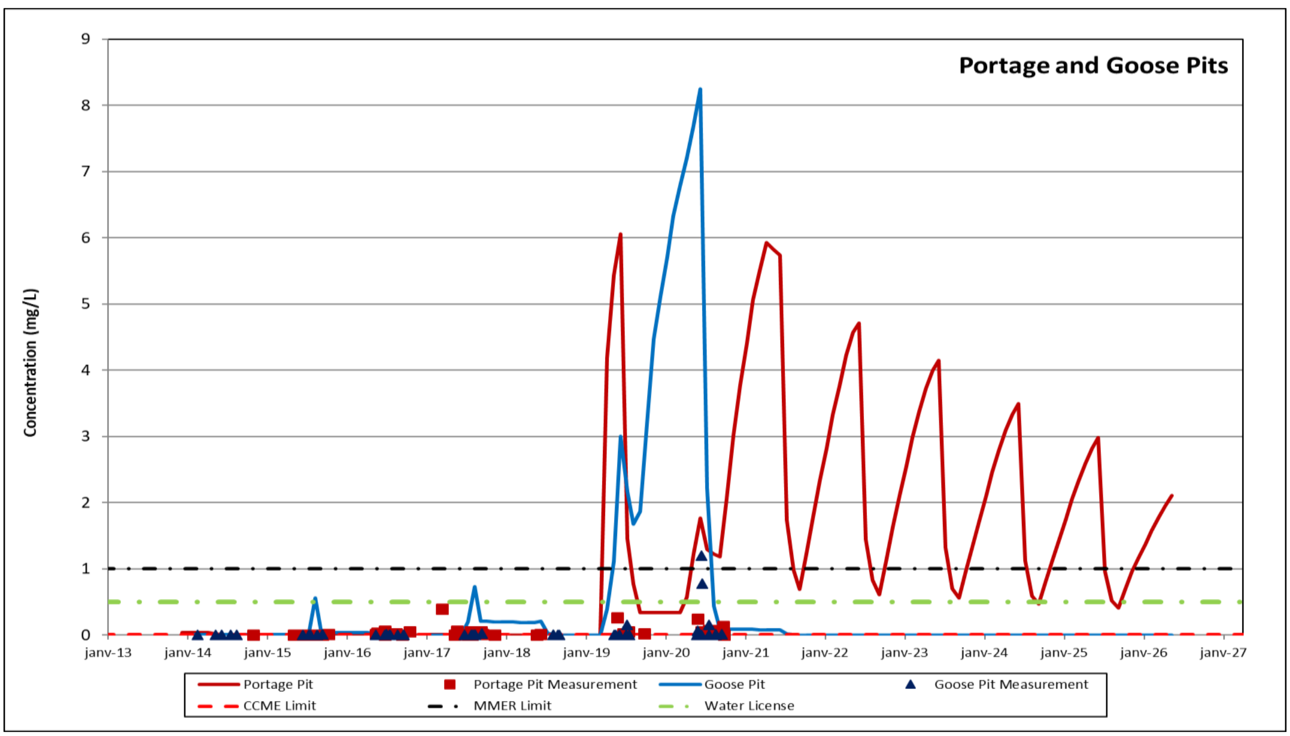
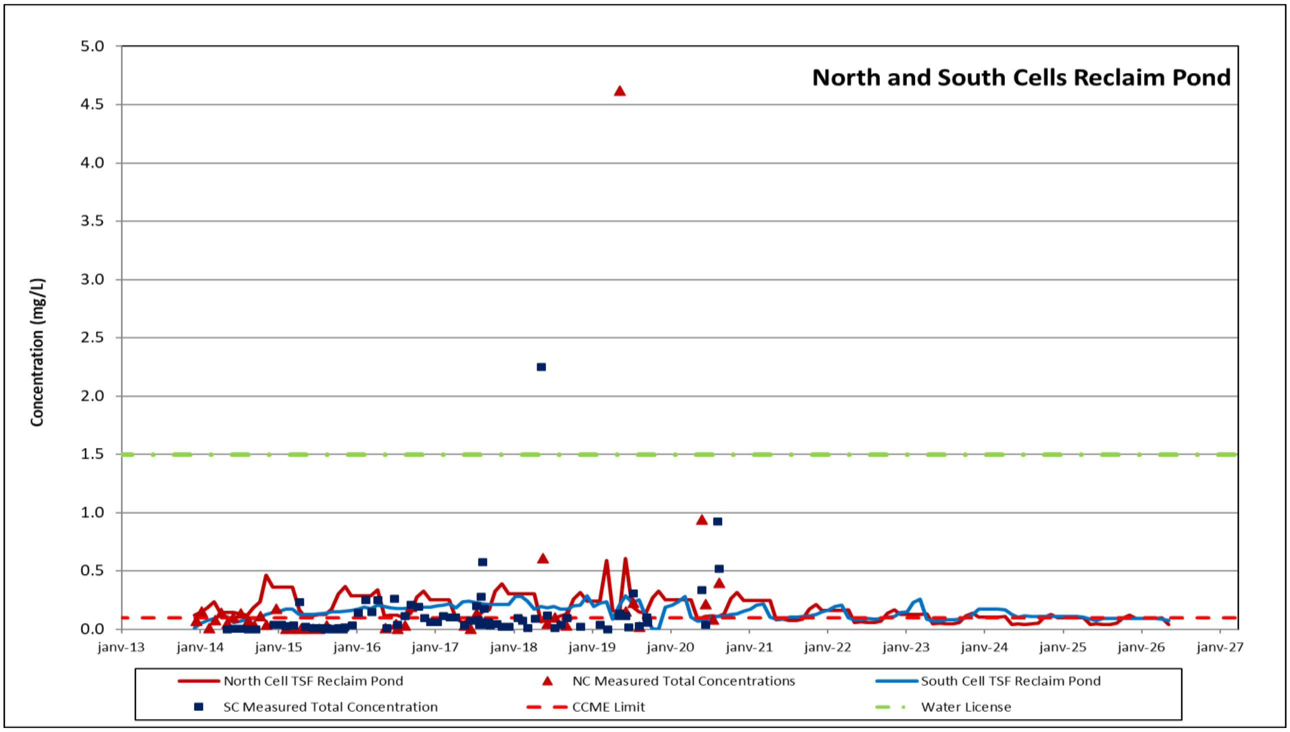


Figure 4-2: Total Aluminum Forecasted Concentration



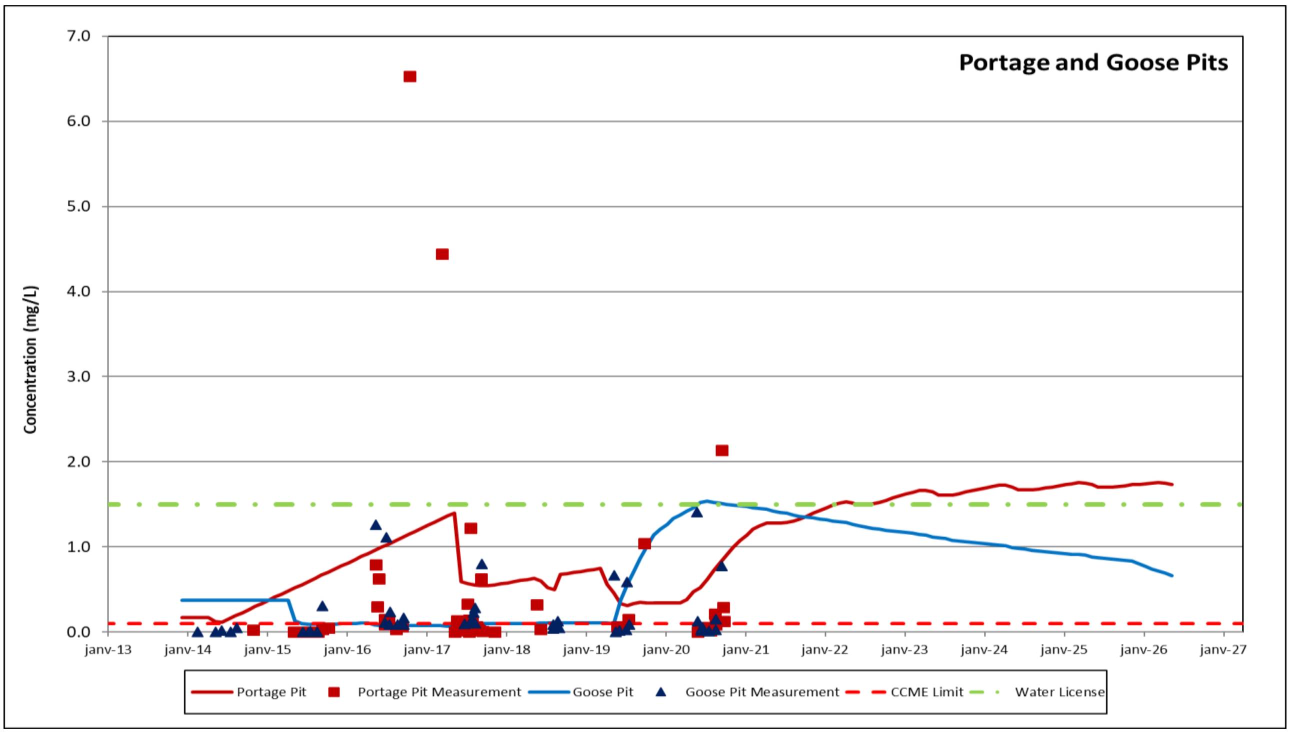
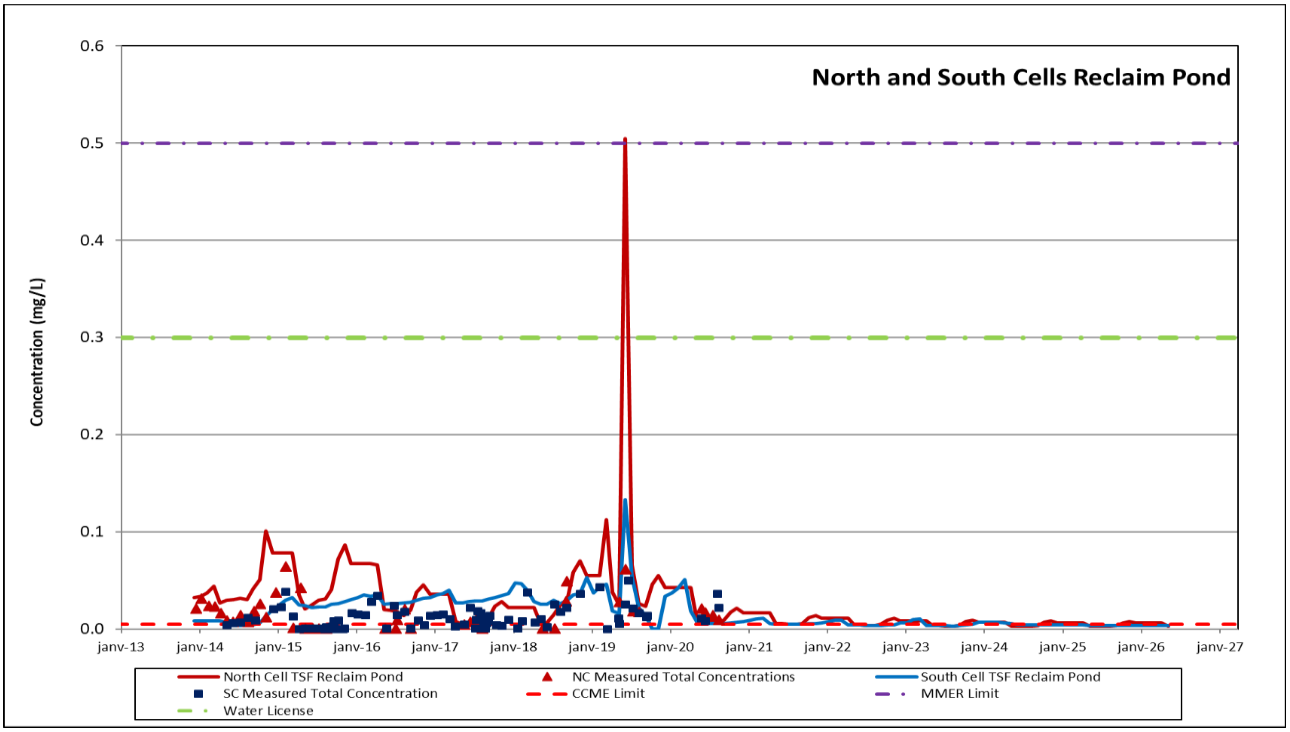


Figure 4-3: Total Arsenic Forecasted Concentration



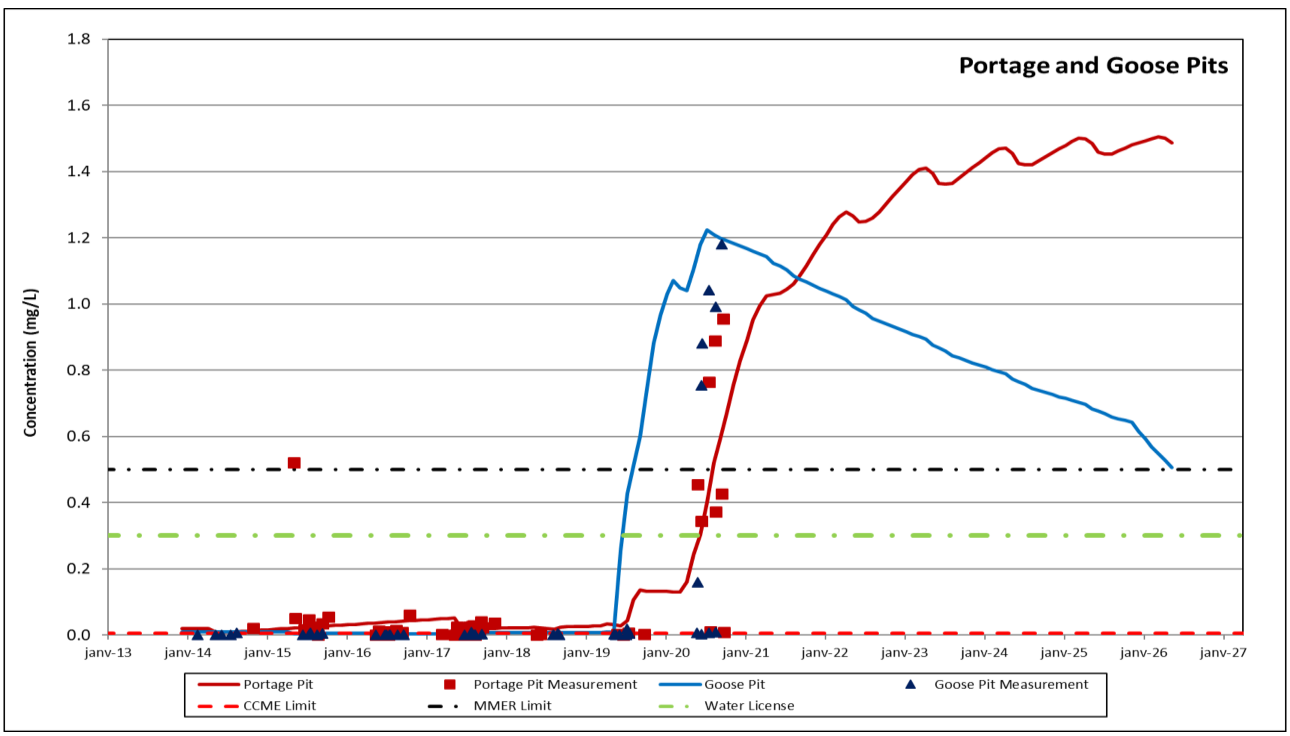
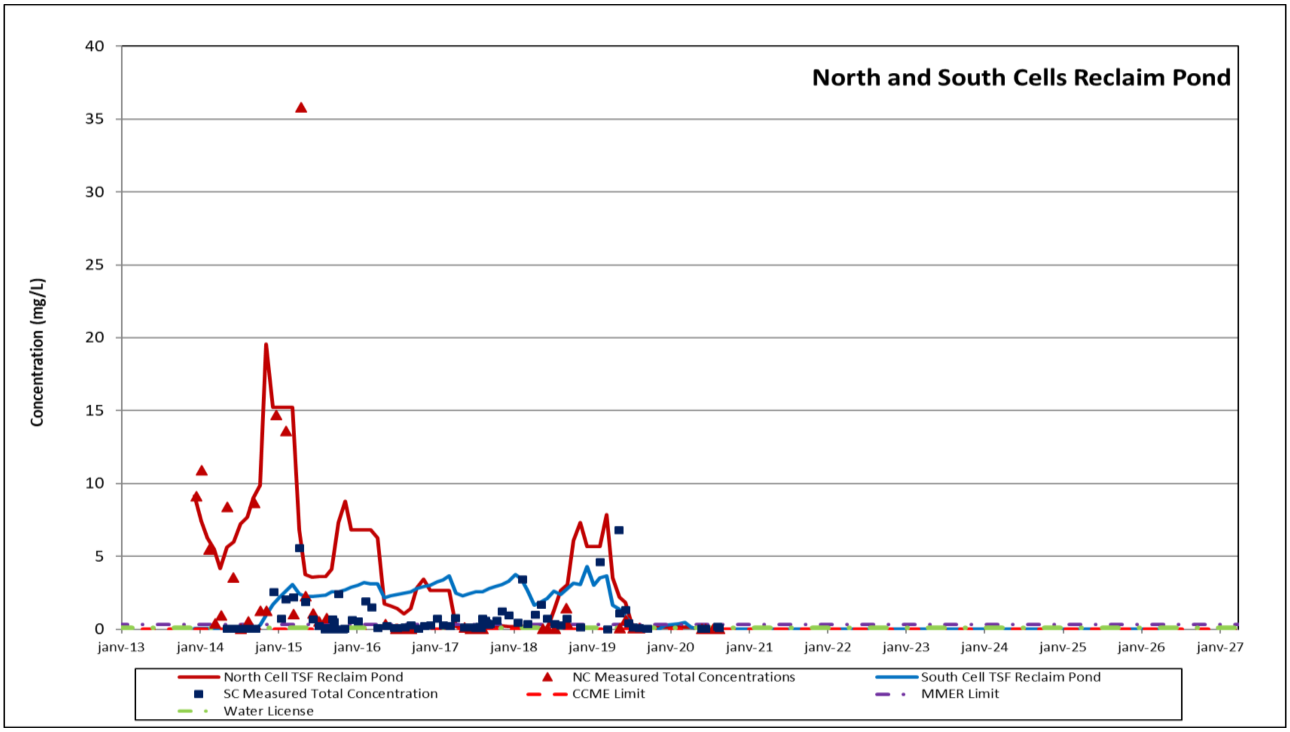


Figure 4-4: Total Copper Forecasted Concentration



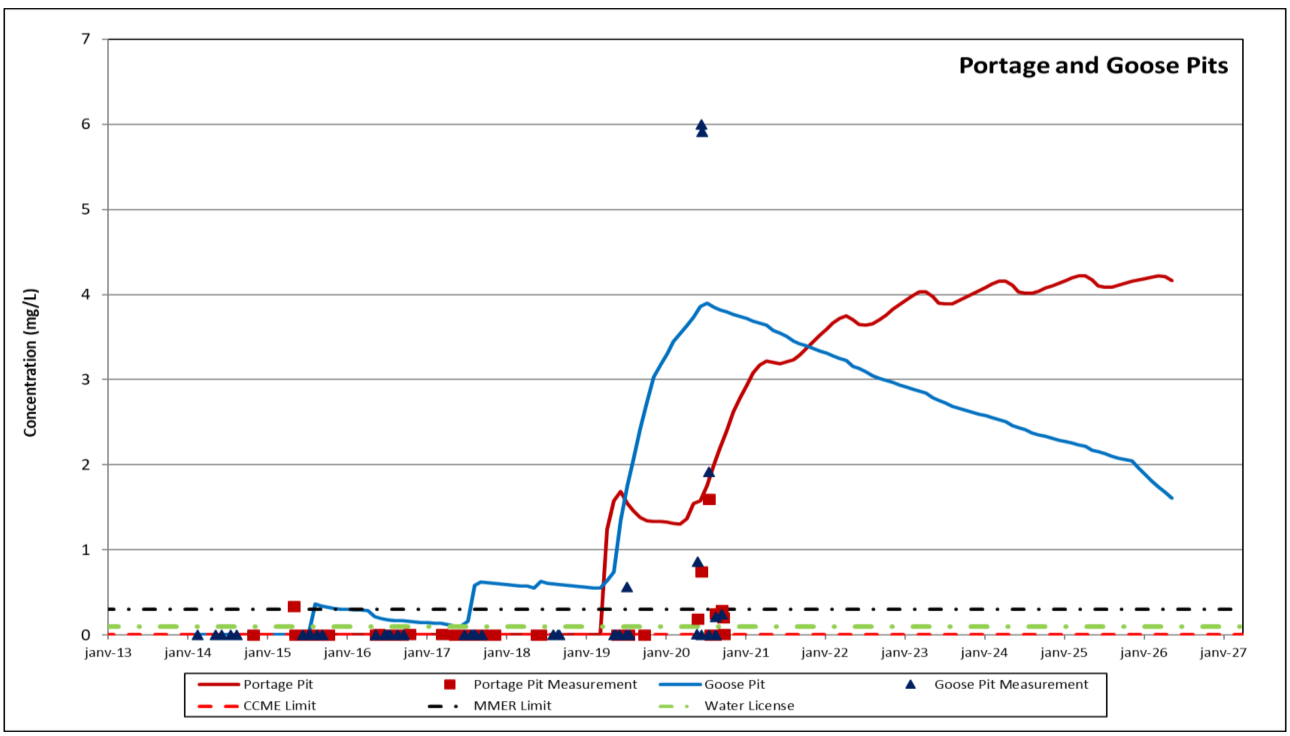
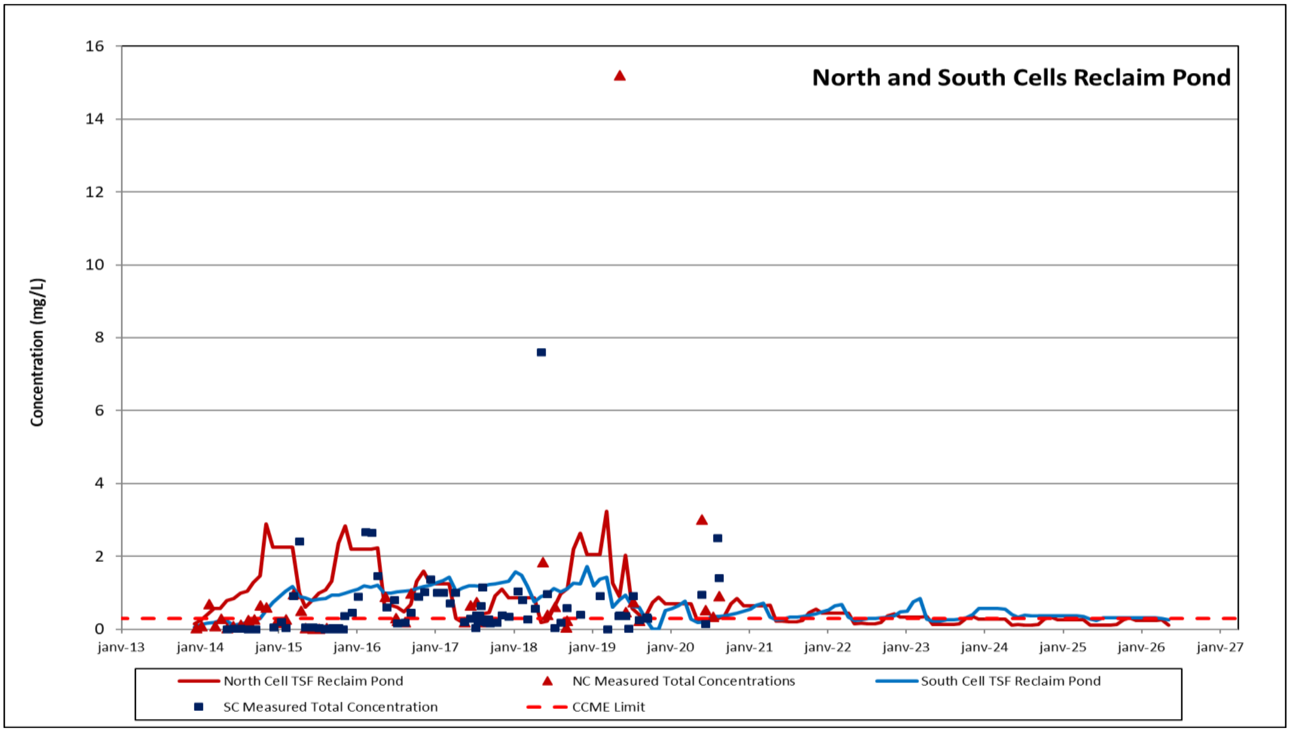


Figure 4-5: Total Iron Forecasted Concentration



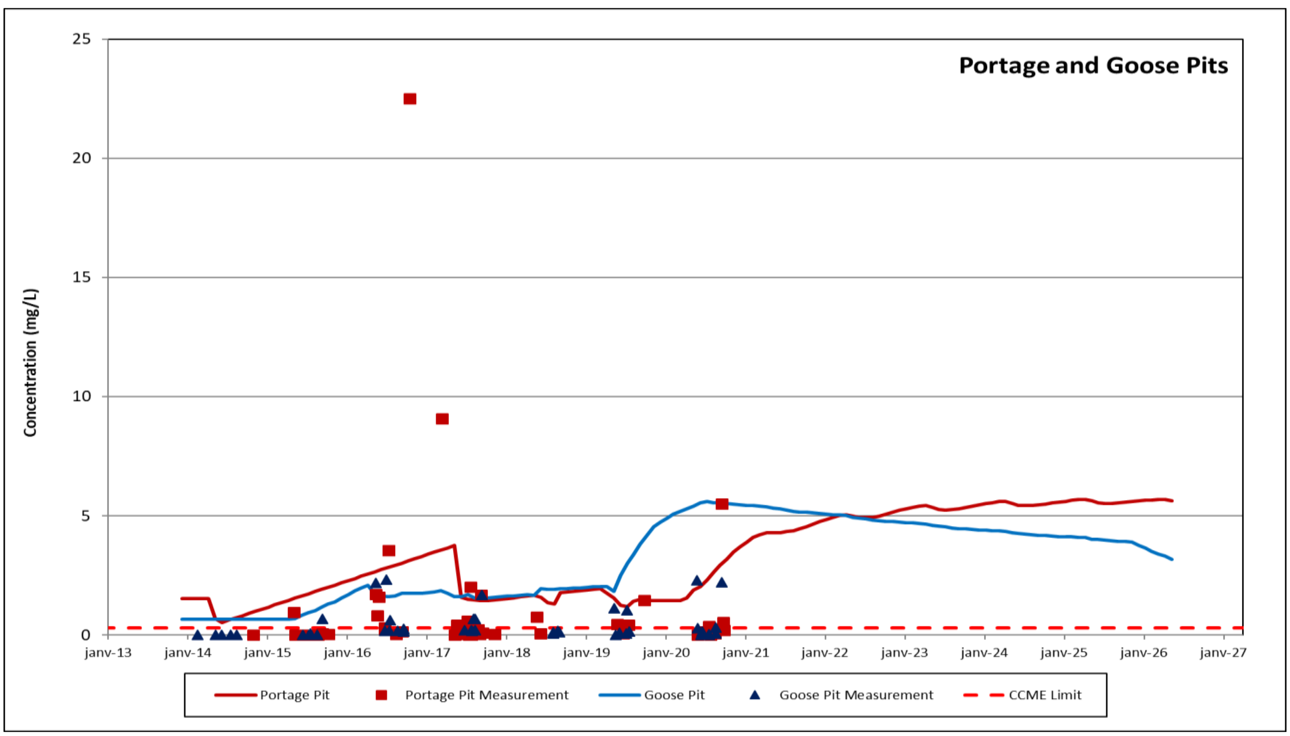
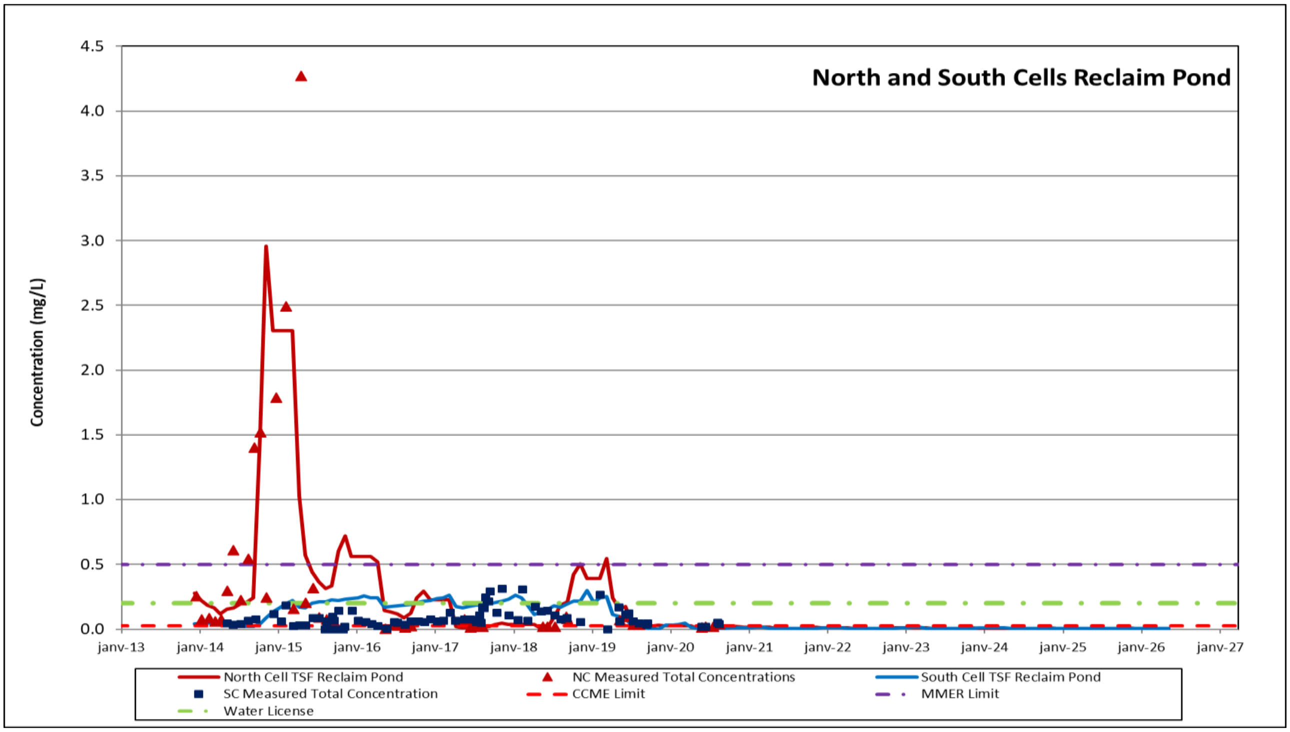


Figure 4-6: Total Nickel Forecasted Concentration



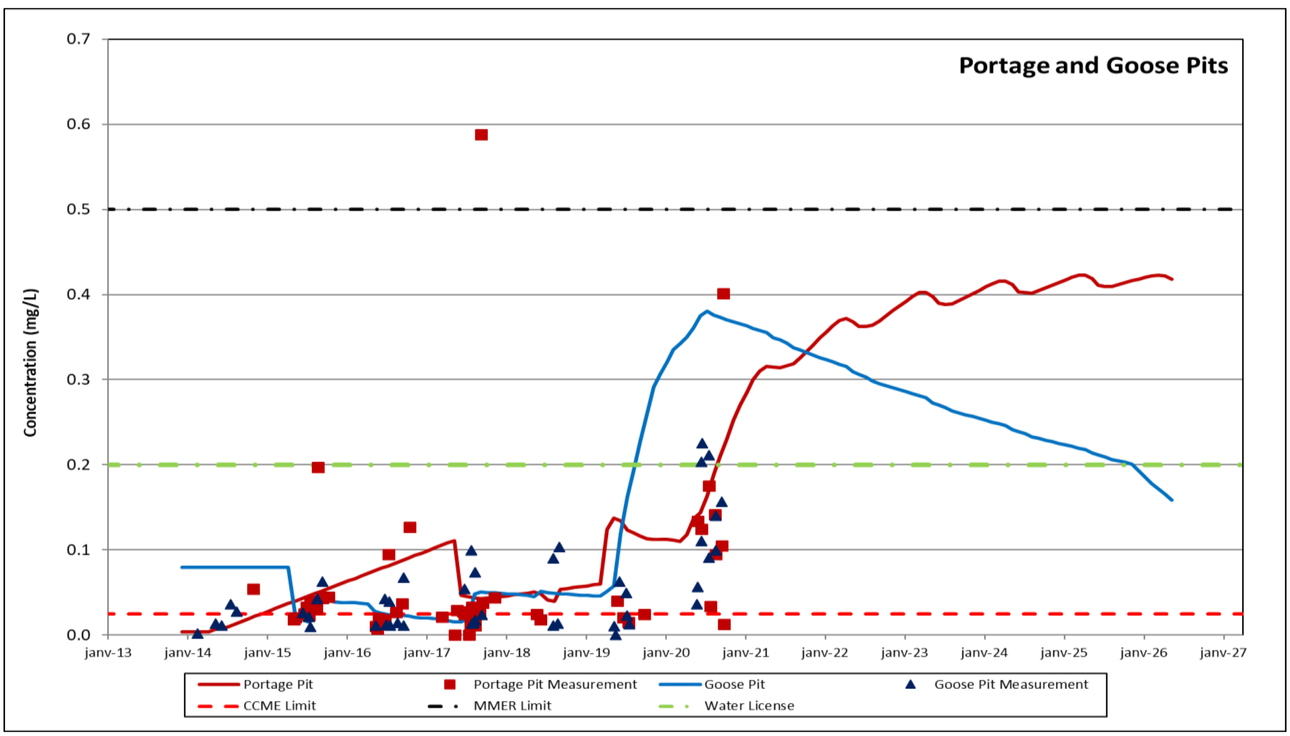
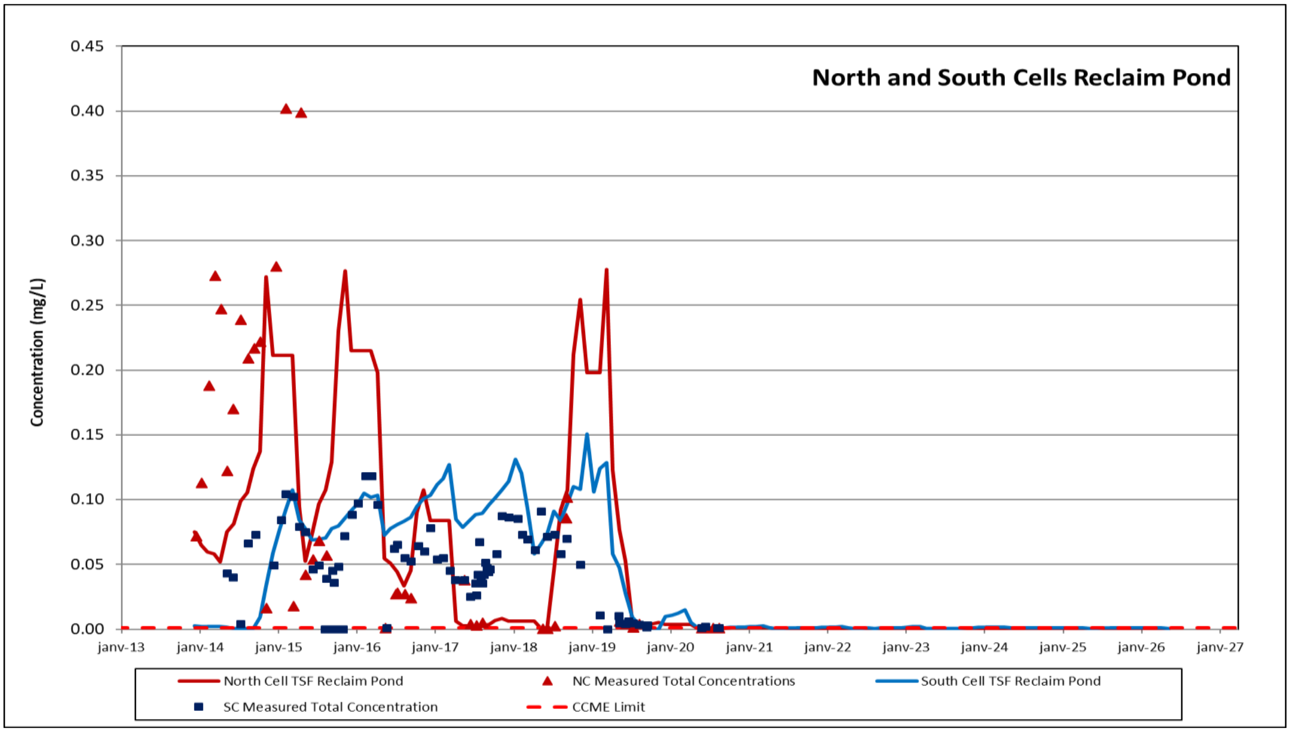


Figure 4-7: Total Selenium Forecasted Concentration



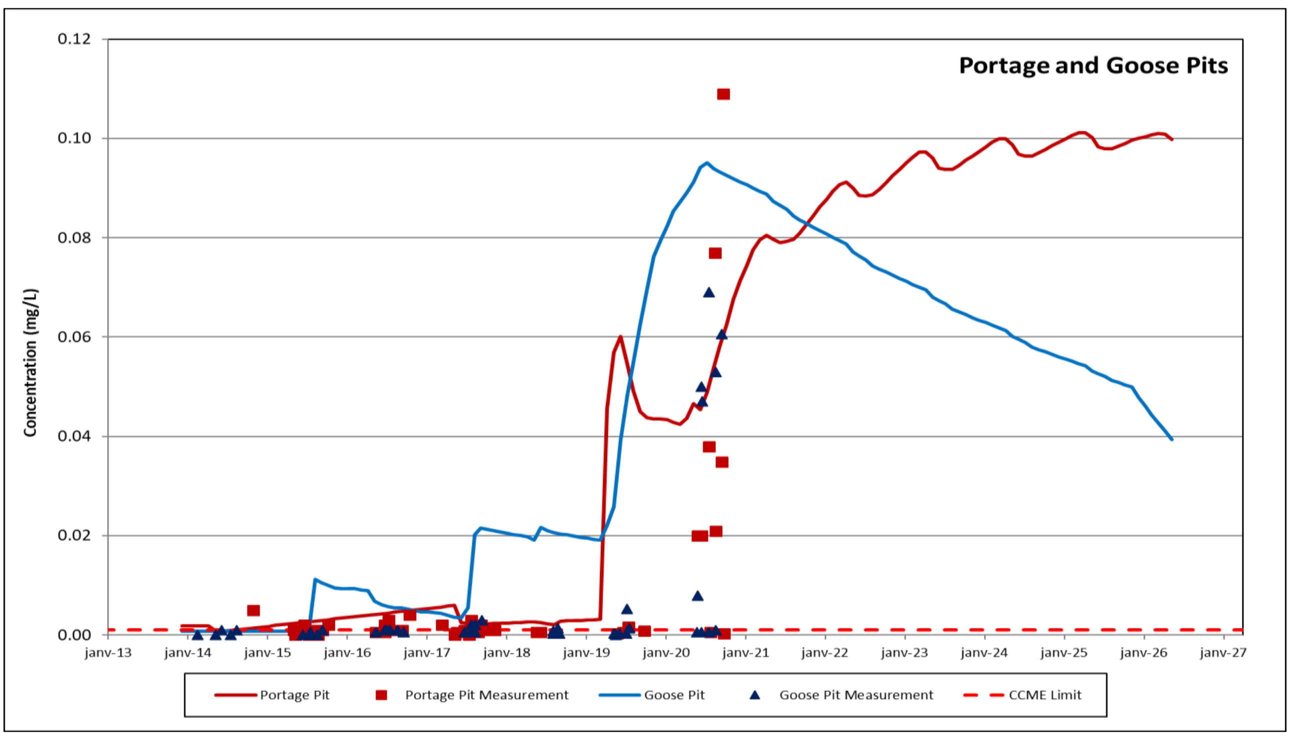
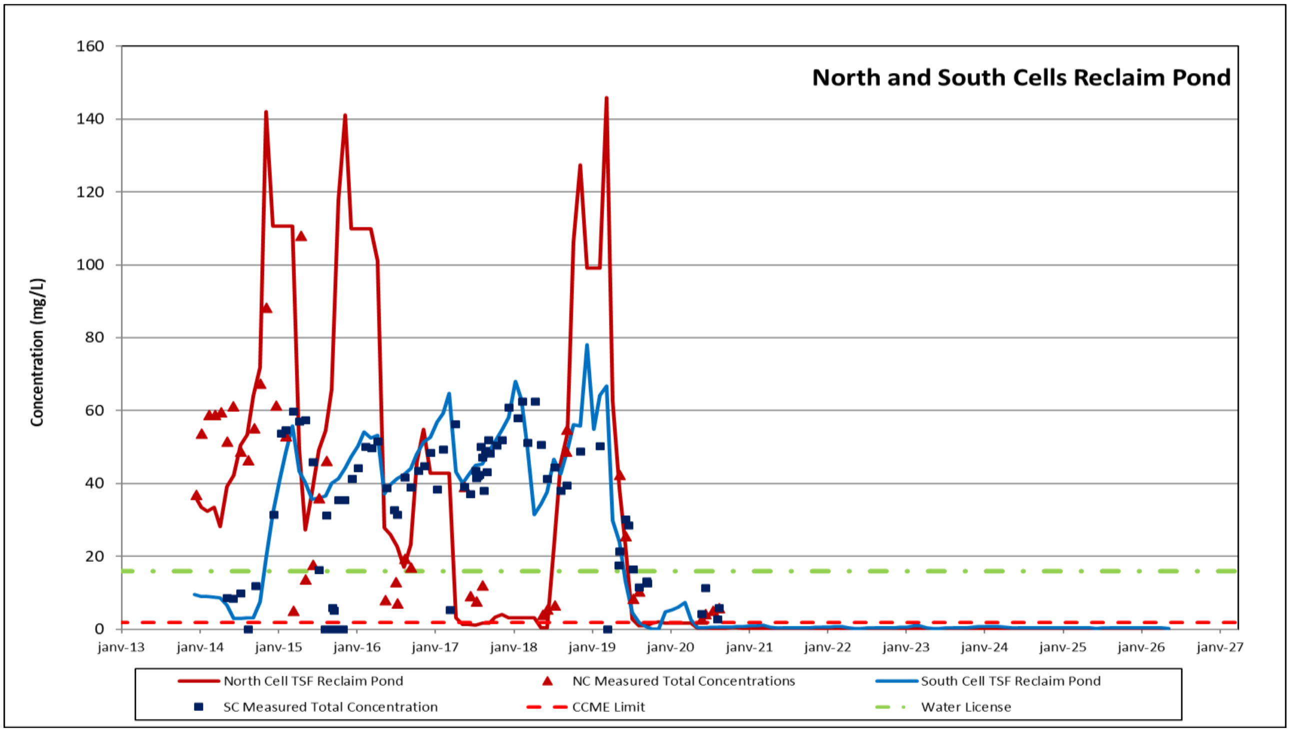


Figure 4-8: Total Ammonia Forecasted Concentration



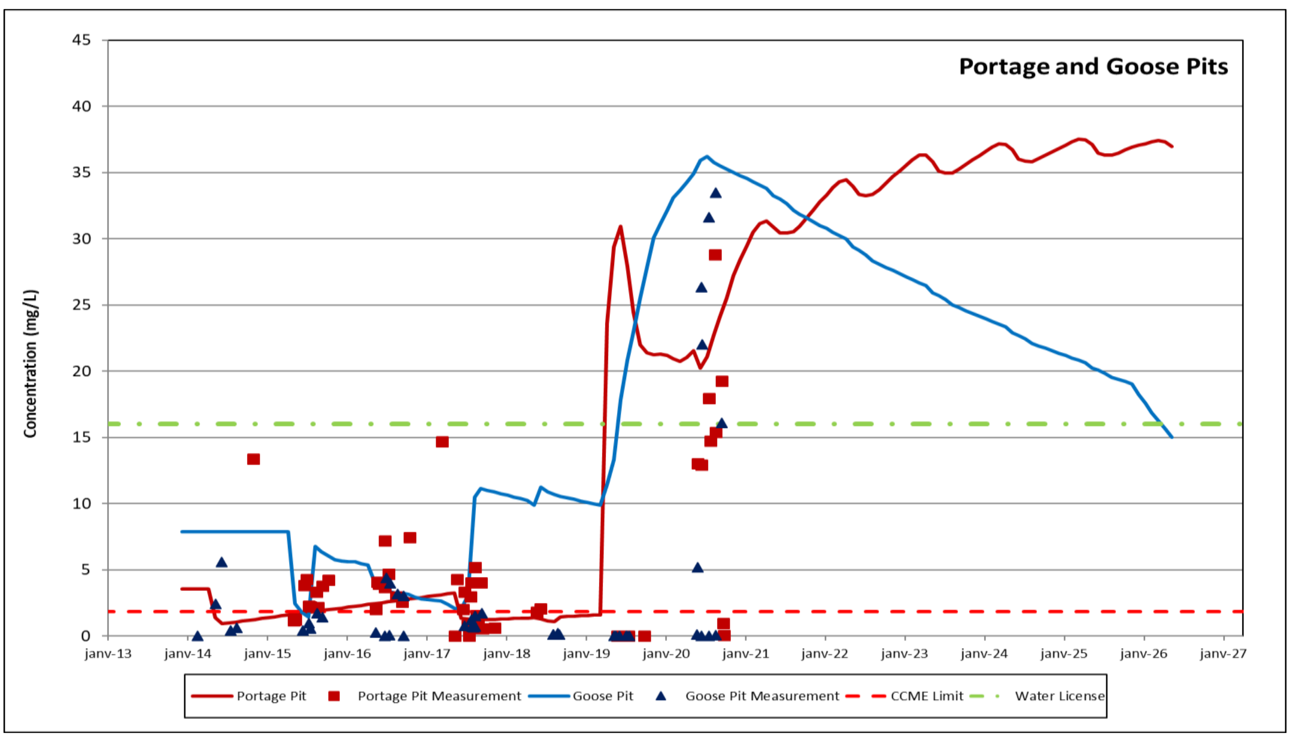
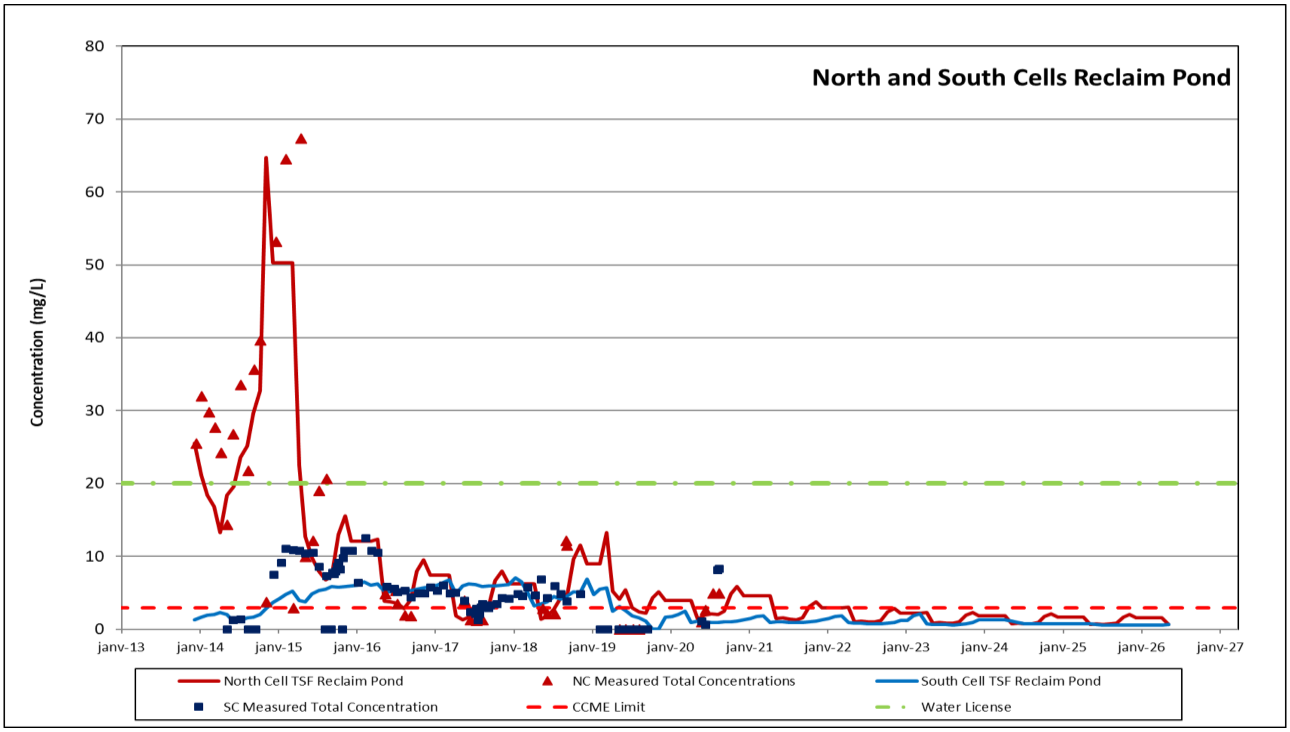


Figure 4-9: Nitrate Forecasted Concentration



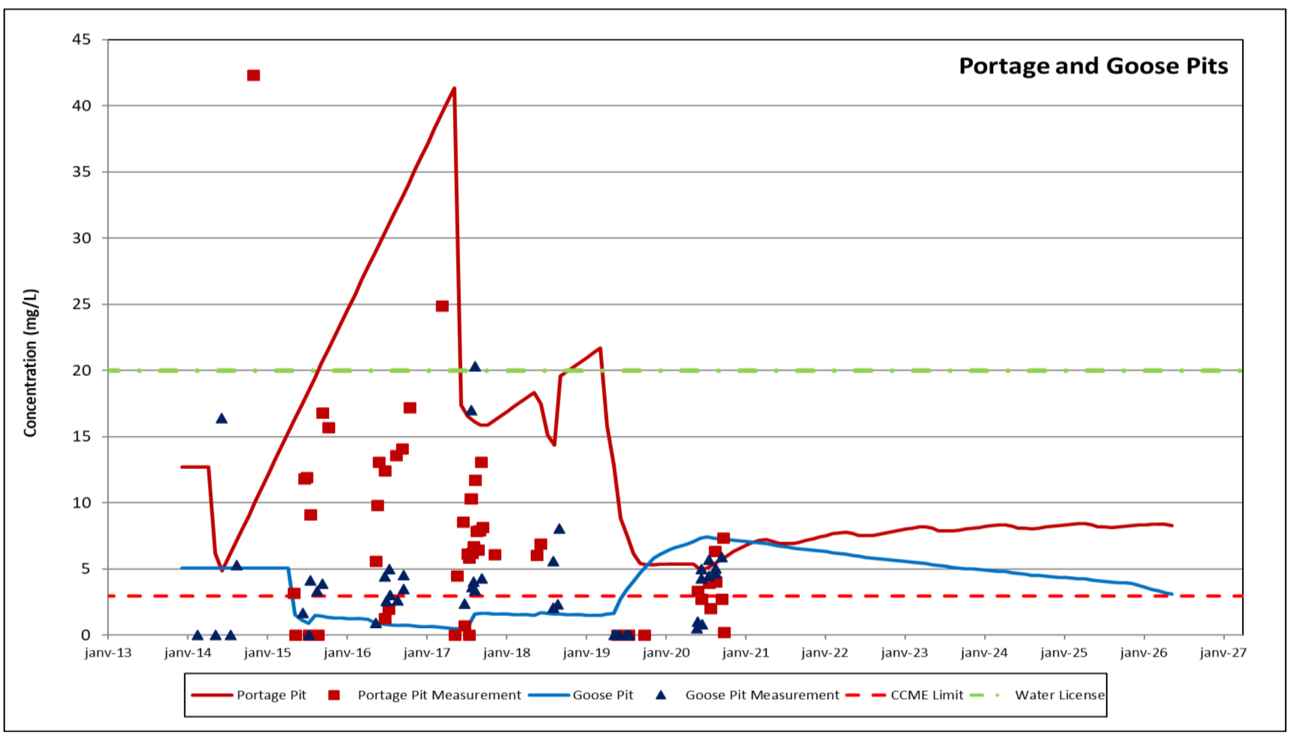
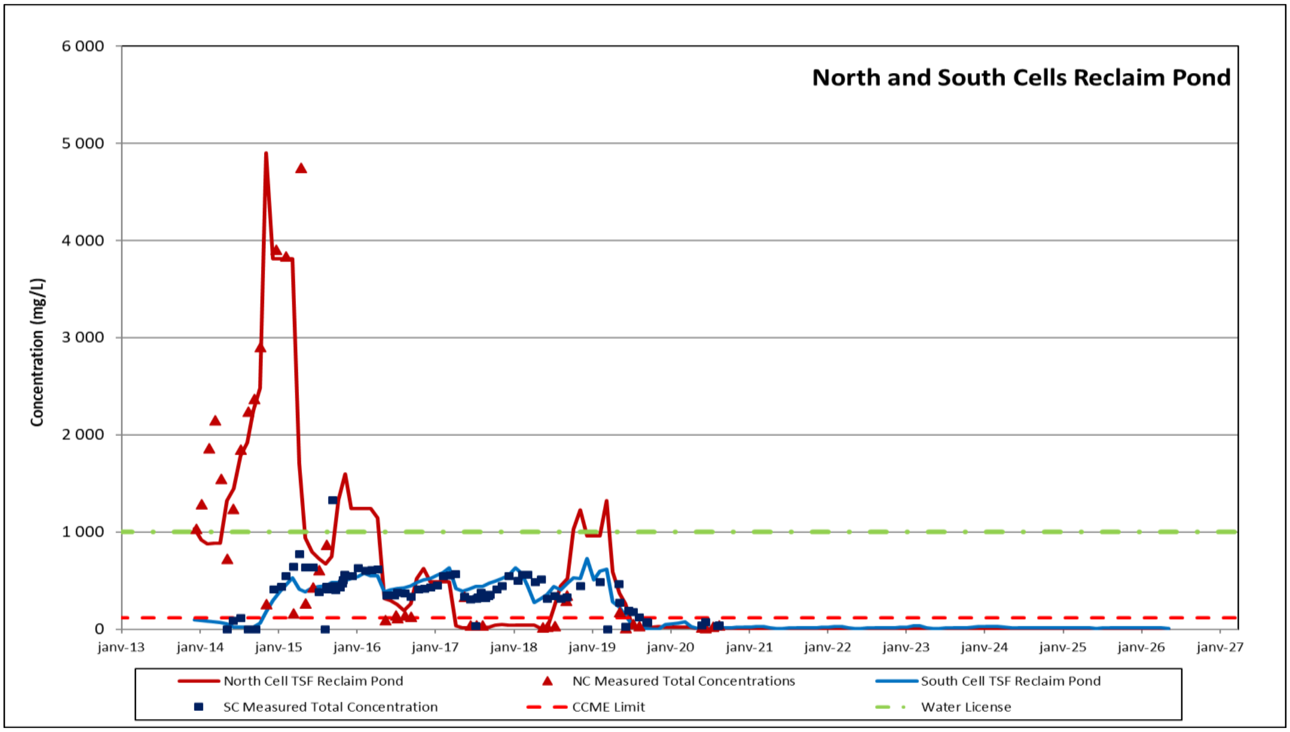


Figure 4-10: Chloride Forecasted Concentration



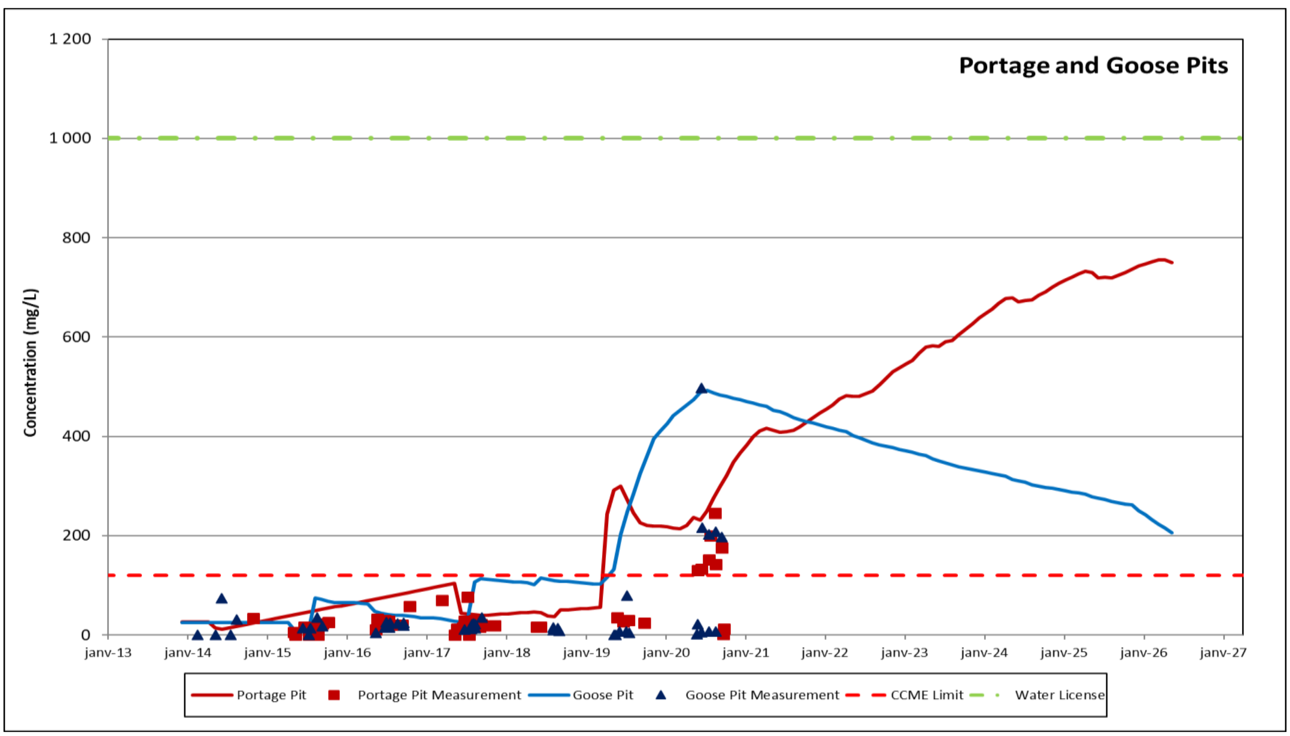
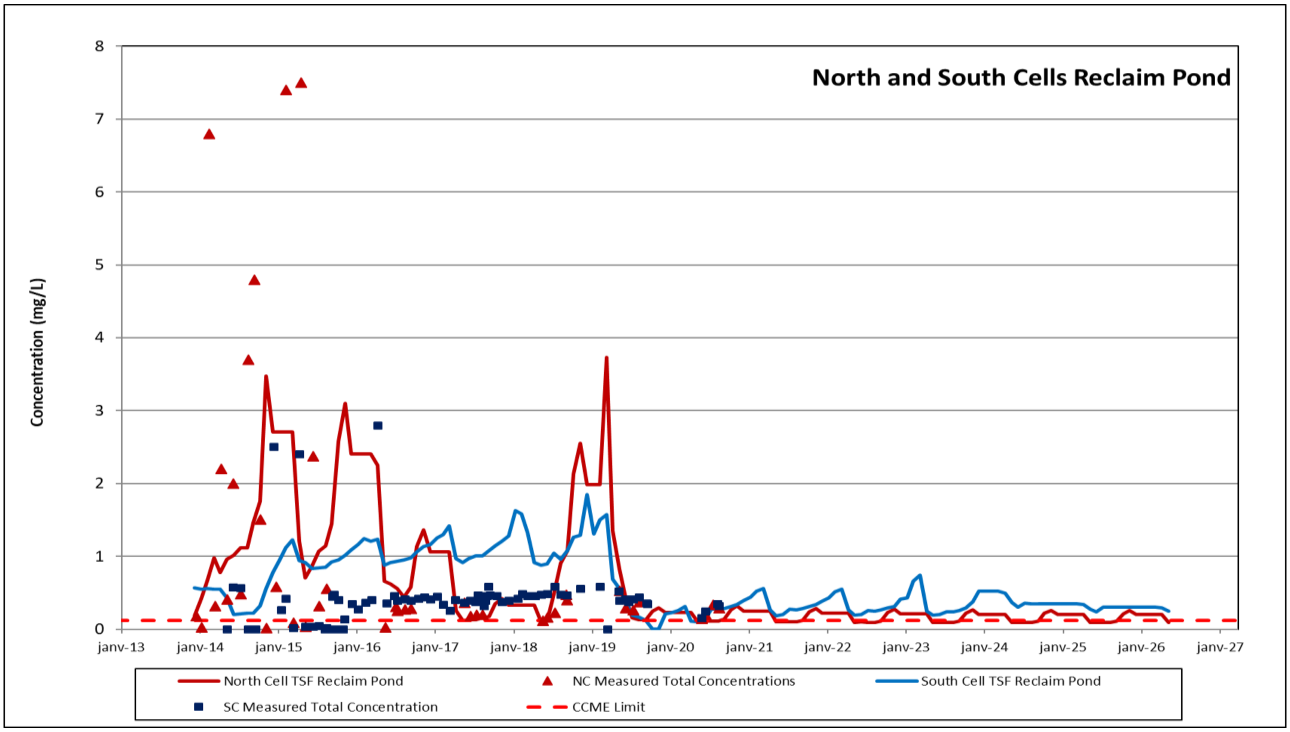


Figure 4-11: Fluoride Forecasted Concentration



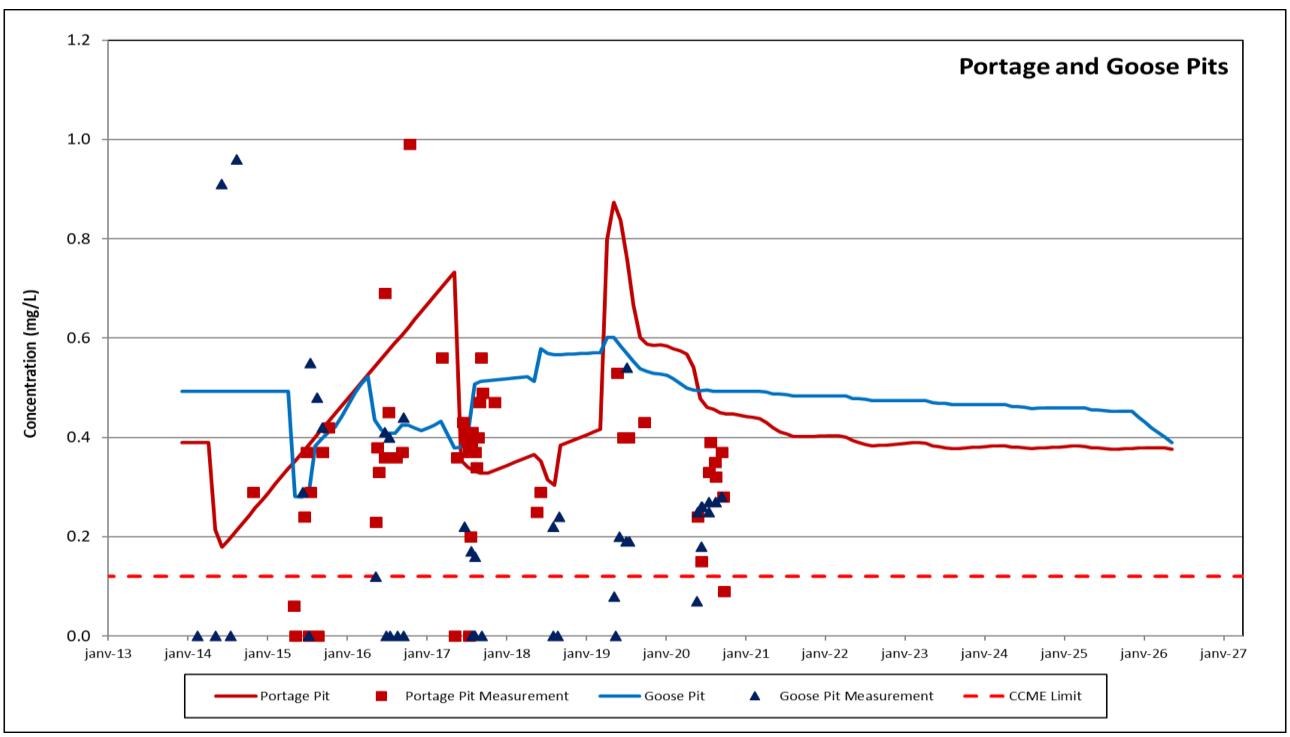
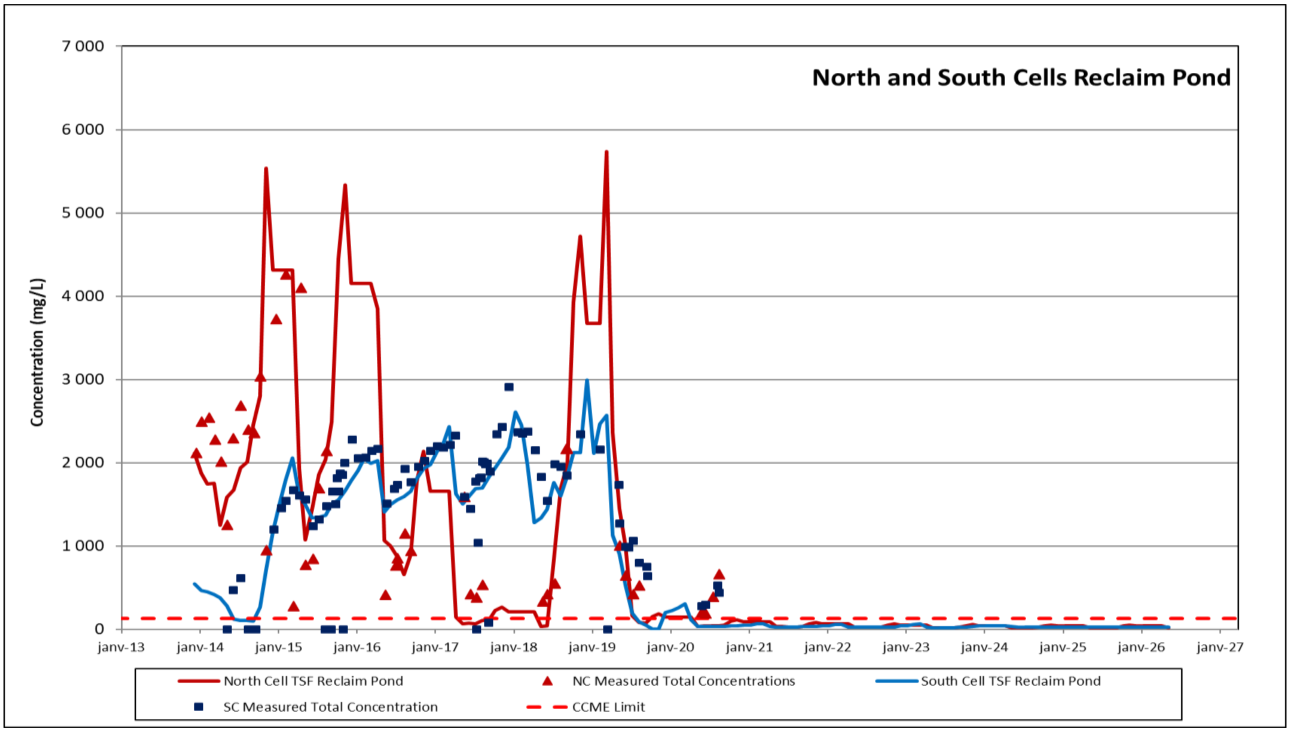


Figure 4-12: Sulphate Forecasted Concentration



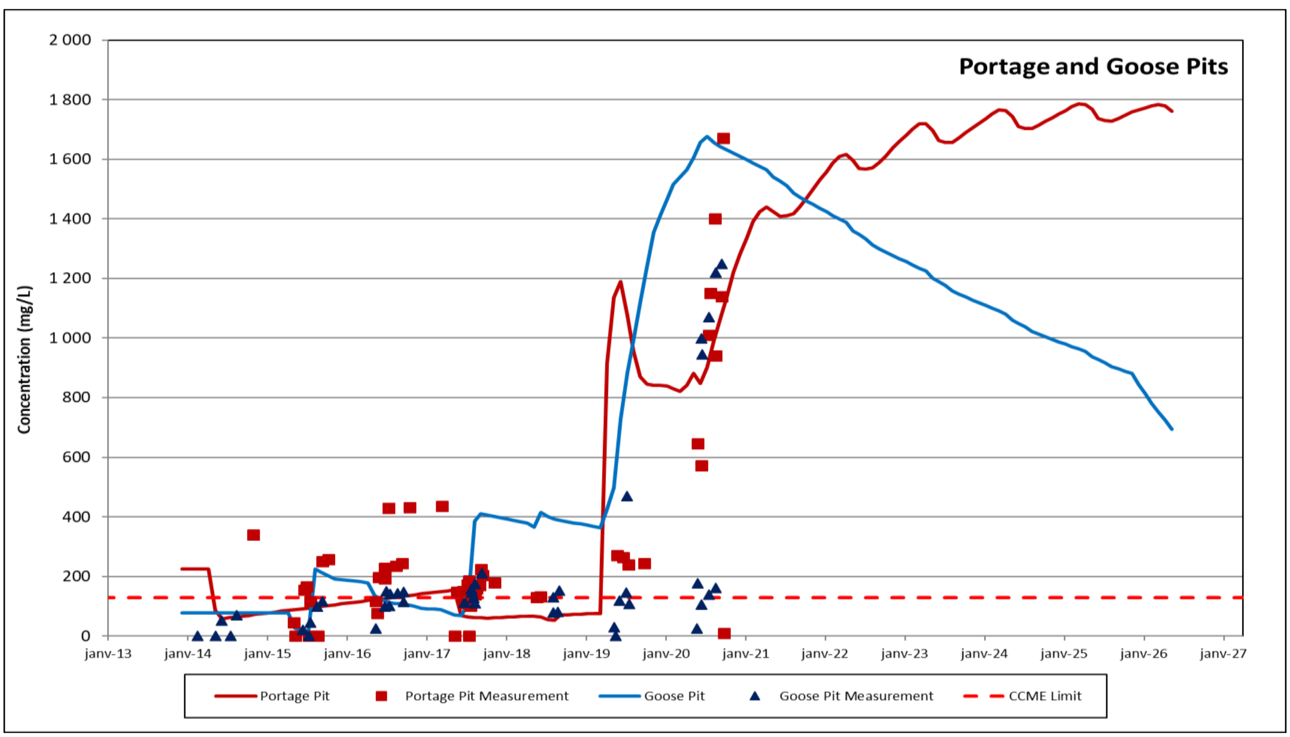
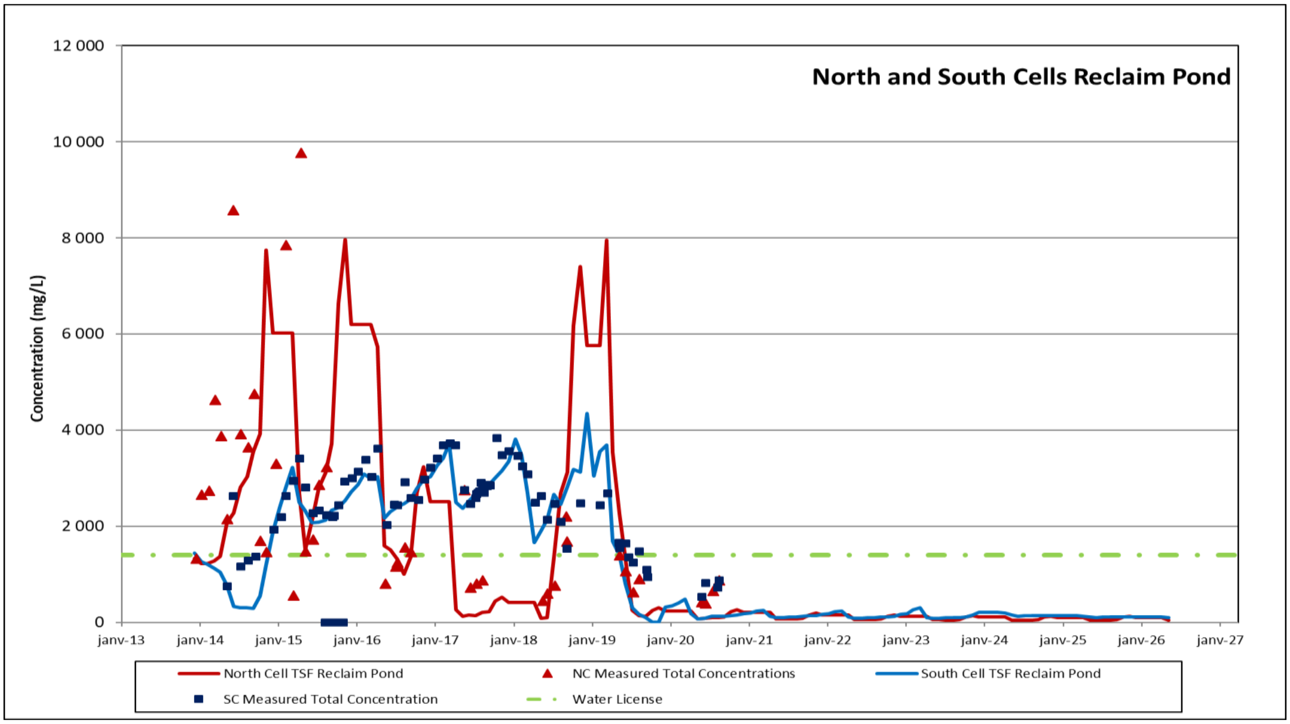


Figure 4-13: Total Dissolved Solids Forecasted Concentration



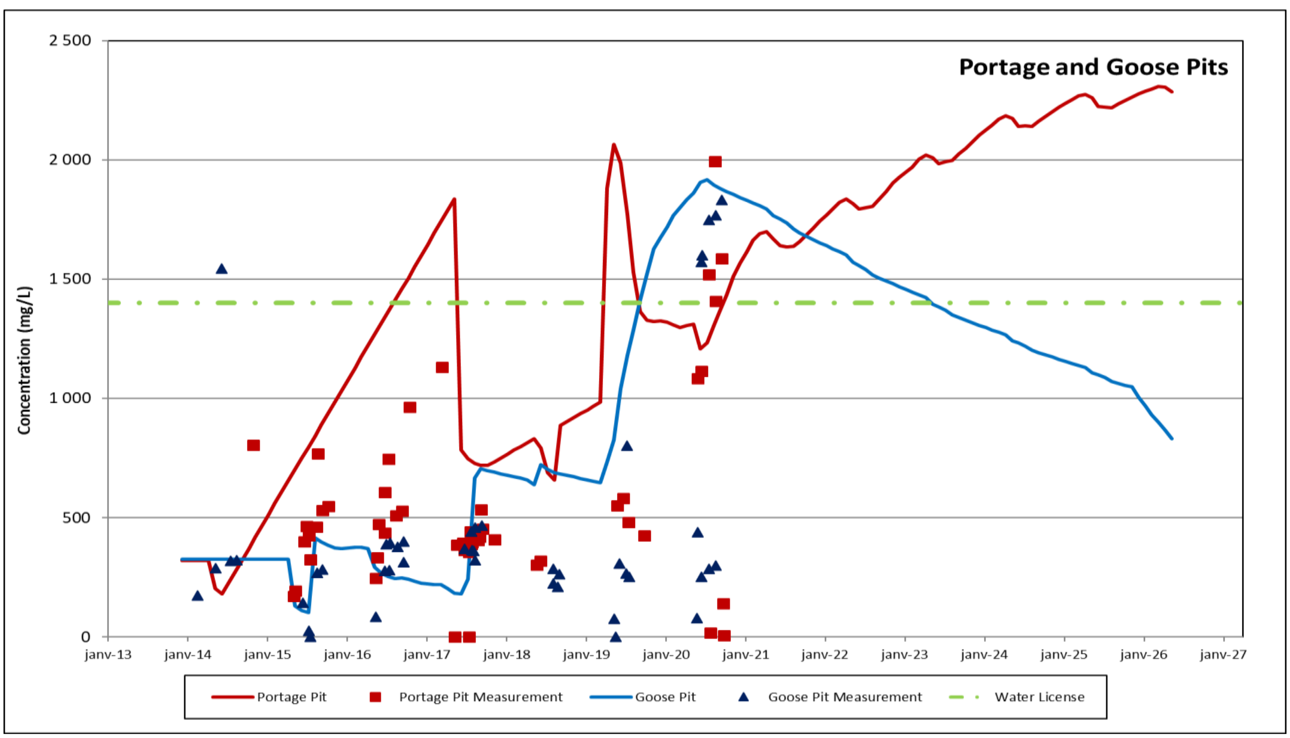


Figure 4-14: Comparison of Forecasted Chloride Concentration in Portage and Goose Pits

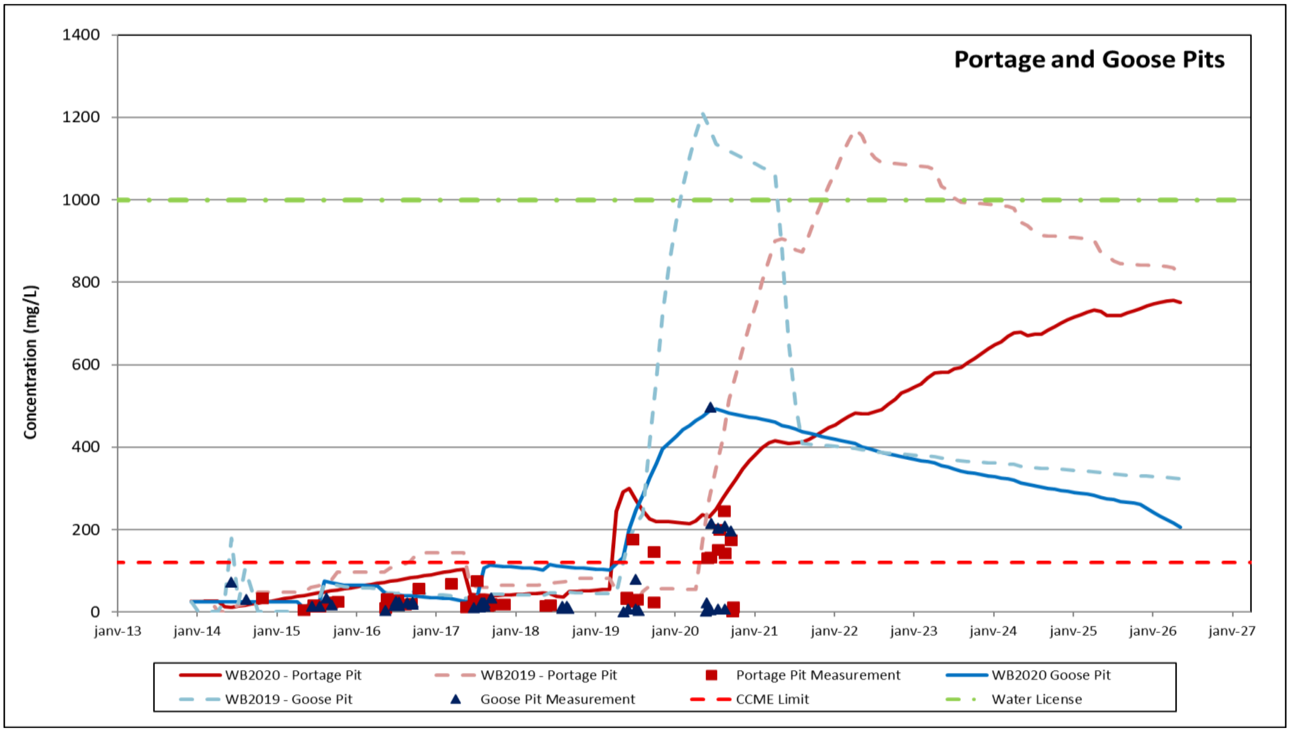
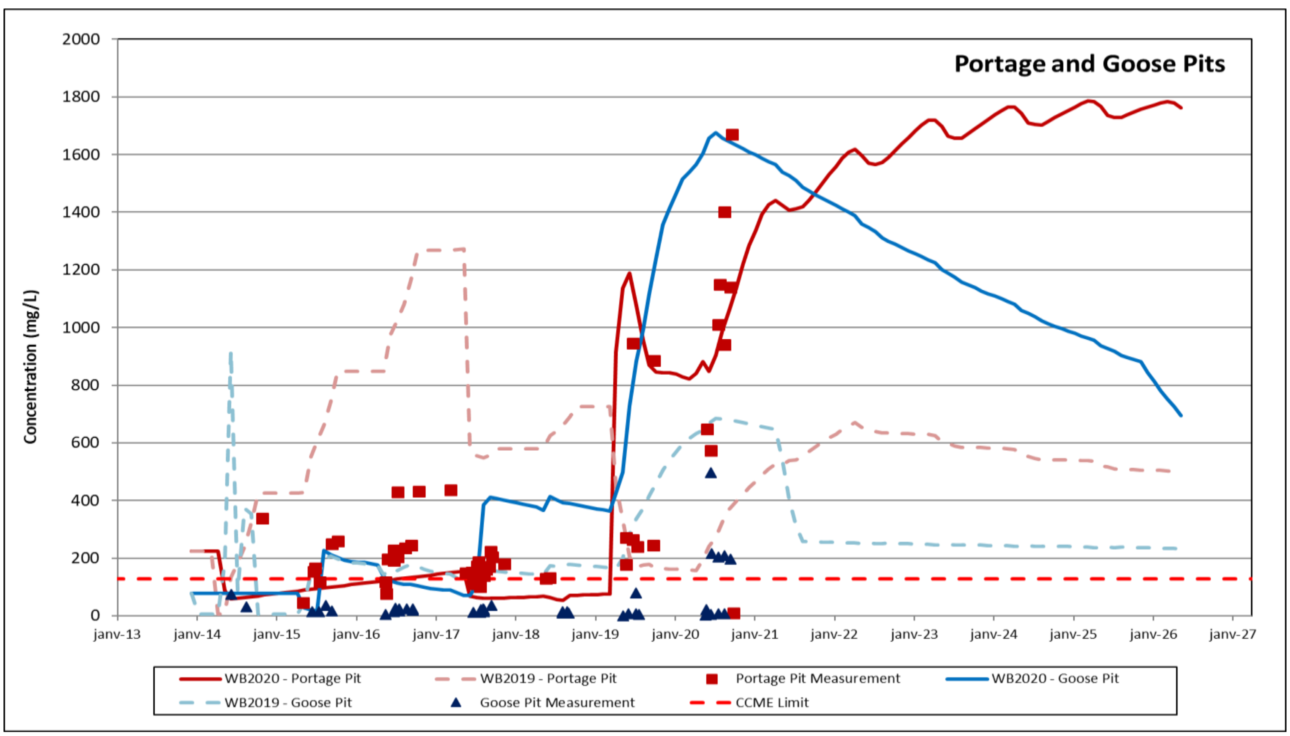


Figure 4-15: Comparison of Forecasted Sulphate Concentration in Portage and Goose Pits



4.3 Water Treatment Requirements

Based on the results of the water quality forecast mass balance presented in section 4.2, following the end of in-pit tailings deposition, the reclaim water will need to be treated and discharged to Third Portage Lake to be in-line with the Interim Closure and Reclamation Plan updated in 2019. Assuming a treated effluent discharge criteria similar to the current Water Licence discharge limits at ST-9, treatment may be required for the following parameters:

- Total metals, such as aluminum, arsenic, copper, nickel and iron.
- Total ammonia
- Total cyanide possibly (forecast value is very close to the discharge criterion)
- Total dissolved solids; and
- Total suspended solids.

The water treatment plant will be designed to treat the specific parameters of concern and could consist of one or a combination of the following treatment approaches:

- If high metal concentrations persist, such as iron, copper, aluminum and chromium, they can be removed through pH adjustment: caustic or lime can be added to the effluent to increase the pH to 9, causing the formation of metal hydroxide precipitates, which settle out. The different treatment options that may be considered to implement the precipitation of heavy metals are listed below:
- A water treatment plant (WTP) will need to be installed at Meadowbank and it will be designed for metal precipitation with the addition of lime or caustic dosing system. The water from the pits can be pumped to the WTP for treatment. Alternatively, the pH of the mill effluent could be raised prior to discharge to the pits.
    - Treatment in-situ in Goose and/or Portage Pit.
    - pH adjustment of the treated water will be required prior to its discharge to Third Portage Lake.
    - TSS removal will be an important part of the treatment system.
- If required, additional pre-treatment steps can be added, depending on the actual water quality to be treated, such as an oxidation step to help oxidize any metal complexes, or post-treatment such as media filter and ion exchange for final polishing.
    - If arsenic is an issue, one of the most efficient techniques to reduce its concentration is by coagulation-clarification/filtration process. Possible treatment options include the following:
        - A WTP can be used to coagulate and clarify the Reclaim Water. The water from the pits can be pumped to the WTP for treatment.
        - For arsenic, it can be co-precipitated using an iron-based coagulant, such as ferric sulphate, to form a ferric-arsenate precipitate.
- Further polishing of the treated water could be realized if required to reduce the total dissolved salts, such as chloride and sulphate, by nanofiltration or reverse osmosis.
    - If high total nitrogen concentrations persist, even after simulating or testing during one summer the effects of natural degradation in the pits at Meadowbank, more active treatment solutions could be implemented, such as:
    - Mechanical aerations could be installed in Portage pit.

  - "in-situ" by either stripping or biological treatment process.
  - Alternative treatment technology like snow making could be considered.
  - pH adjustment of the treated water, near neutral pH, in order to ensure that most of the ammonia present is as ammonium (NH_4+) instead of un-ionized ammonia (NH_3).
- Sludge generated from the treatment process could be thickened and/or dewatered and stored in the North Cell or South Cell tailings storage facilities and capped with NPAG rockfill at closure.

A high-level closure water treatment strategy for the Meadowbank site was developed with the objectives to identify conceptual treatment options to meet possible closure discharge criteria, identify activities required for the development and implementation of the closure water treatment system and establish a preliminary schedule to develop and implement the closure water treatment system. The results of this study are presented in the technical note "Meadowbank Closure Water Treatment Strategy", document 679254-7000-4KER-0001 (SNC Lavalin 2021).

5.0 Vault Water Quality Forecasting

The Vault area is located around 10 km Northeast of the facilities of the Portage Area of Meadowbank, including among others a mining pit, an attenuation pond, a waste rock storage facility and a water treatment plant.

Water was transferred from Vault Pit to the Vault Attenuation Pond until the end of 2018. Since the water quality in the Vault Attenuation Pond was meeting the Water Licence discharge criteria, it was discharged each summer directly to Wally Lake and no treatment for total suspended solid was required. The water treatment plant, which was designed for total suspended solids removal, was transferred in 2018 to the Amaruq site. In 2019 and 2020, no water was discharged to Wally Lake.

As of 2019, natural reflooding of the Vault Pit is expected to occur from 2019 to 2026/2027 and Vault Dike will be breached in 2030/2031, if water quality criteria are met.

A review of the chemical analysis for water samples collected in the Vault area was undertaken by SNC-Lavalin in order to identify contaminants that were currently either above the discharge criteria or present in significant concentration. The discharge criteria applied to mining effluents discharged to the environment in this case is the Water Licence (Nunavut Water Board Licence, 2015). The CCME guidelines were also used as a guide to identify potential parameters that may become a problem, should they be discharged to the environment without appropriate treatment and dispersion in the receiving environment.

5.1 Review of Vault Water Quality Data

5.1.1 Review of Water Quality Discharged to Environment

A compilation of actual measured water quality data from the Vault Area sampled in 2020 was performed. The Vault Area includes Vault Pit, Vault Attenuation Pond, Vault Waste Rock Storage Facility, Phaser Pits (Phaser Pit and BB Phaser Pit), Phaser Attenuation Pond, Discharge to Wally Lake and Exposure Area in Wally Lake. The average and maximum for each parameter monitored for the Meadowbank Water Quality Forecast Model is presented in Table 5-1. Total metals were used in this analysis. For measured values that were below the detection limit, a value equal to half of the detection limit was considered in the analysis.

The yellow cells represent the concentrations that are higher than CCME guidelines for Protection of Aquatic Life, which are used for comparison purpose only. The water discharge to Wally Lake is governed by the Water Licence requirements only, including MDMER. Any parameters measured at the discharge to Wally Lake (ST-10) that have concentrations above the Water Licence discharge criteria would be highlighted in red, which is not the case based on the samples taken in 2020.

In 2020, no water was discharged to Wally Lake. All of the water was contained within the Vault Attenuation Pond and surrounding pits. No sample collected was above Water Licence criteria. Furthermore, the concentrations of metals and chloride in the water sampled in the Vault Pit, the Vault Attenuation Pond, the Vault Waste Rock Storage Facility (WRSF), the Phaser Pits and the Phaser Attenuation Pond are relatively low compared to the Water Licence requirements.

Some elements were above CCME limit in the water sampled in the Vault Pit, the Vault Attenuation Pond, the Vault Waste Rock Storage Facility, the Phaser Pits and the Phaser Attenuation Pond. More precisely the average value of the following elements was above CCME limit:

- total aluminum : average value in the Vault Attenuation Pond is slightly higher than CCME limit;
- total copper: average value higher than CCME limit in Vault Attenuation Pond, Vault WRSF, Phaser Pits and Phaser Attenuation Pond;

- total iron: average value higher than CCME limit in Vault and Phaser Attenuation Pond;

In 2020, ammonia nitrogen and un-ionized ammonia in Vault Pit and Phaser Pit were below CCME limit, as well as nitrate concentrations. In 2020, nitrate concentrations, specifically in the Vault and Phaser Pits, are relatively elevated when compared to CCME guidelines and are discussed further in section 5.2.4.

5.1.2 Ammonia Loading to Environment

In 2020, no water was discharged to Wally Lake. Thus, for 2020, there is no ammonia loading discharged to the environment.

Table 5-1: Average and Maximum Concentrations Measured in the Vault Area for 2020

Parameters	Units	Vault Pit		Vault Attenuation Pond		Vault Waste Rock Storage Facility		Phaser Pits		Phaser Attenuation Pond		Discharge to Wally Lake	CCME Guidelines	Water License Vault, Max. Avg Conc.
		(ST-26)		(ST-25)		(ST-24)		(ST-41/42)		(ST-43)		(ST-10)		
		Avg 2020	Max. 2020	Avg 2020	Max. 2020	Avg 2020	Max. 2020	Avg 2020	Max. 2020	Avg 2020	Max. 2020	No Discharge in 2020		Part F of License
Alkalinity	mg $CaCO_3$/L	55	74	41	53	53	91	45	49	28	49		n/a	n/a
Hardness	mg $CaCO_3$/L	119	149	88	123	133	223	87	100	70	96		n/a	n/a
Total Aluminum (Al)	mg/L	0.03	0.04	0.17	0.69	0.09	0.31	0.10	0.15	0.06	0.07		0.1	1.5
Dissolved Aluminum (Al)	mg/L	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.02	0.01	0.01		0.1	1
Total Silver (Ag)	mg/L	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010		0.00025	n/a
Total Arsenic (As)	mg/L	0.005	0.006	0.001	0.002	0.003	0.005	0.002	0.002	0.001	0.001		0.005	0.1
Total Barium (Ba)	mg/L	0.0120	0.0186	0.0179	0.0242	0.0141	0.0224	0.0151	0.0169	0.0112	0.0175		n/a	n/a
Total Cadmium (Cd)	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002		0.00004	0.002
Total Chromium (Cr)	mg/L	0.001	0.001	0.001	0.003	0.001	0.001	0.001	0.001	0.001	0.002		0.001	n/a
Total Copper (Cu)	mg/L	0.002	0.004	0.004	0.007	0.004	0.005	0.004	0.004	0.005	0.008		0.002	0.1
Total Iron (Fe)	mg/L	0.1	0.1	0.3	1.0	0.2	0.4	0.1	0.2	0.3	0.6		0.3	n/a
Total Manganese (Mn)	mg/L	0.0212	0.0452	0.0387	0.0848	0.0418	0.0697	0.0323	0.0460	0.0581	0.0882		n/a	n/a
Total Mercury (Hg)	mg/L	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010	0.000010		0.000026	0.004
Total Molybdenum (Mo)	mg/L	0.022	0.031	0.005	0.009	0.016	0.028	0.006	0.008	0.001	0.001		0.073	n/a
Total Nickel (Ni)	mg/L	0.002	0.003	0.004	0.007	0.005	0.006	0.005	0.006	0.011	0.012		0.025	0.2
Total Lead (Pb)	mg/L	0.0002	0.0003	0.0002	0.0003	0.0002	0.0003	0.0005	0.0011	0.0002	0.0003		0.0010	0.1
Total Selenium (Se)	mg/L	0.0009	0.0010	0.0009	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010		0.0010	n/a
Total Thallium (Ti)	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002		0.0008	n/a
Total Zinc	mg/L	0.0010	0.0010	0.0018	0.0040	0.0013	0.0020	0.0053	0.0130	0.0038	0.0080		0.03	0.2
Ammonia (unionized NH3)	mg N/L	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010		0.016	n/a
Total Ammonia Nitrogen (NH_3-NH_4)	mg N/L	0.15	0.21	0.15	0.30	0.03	0.05	0.06	0.09	0.08	0.12		1.83	20
Chloride	mg/L	8	12	5	9	5	12	2	2	2	2		120	500
Fluoride (F)	mg/L	0.10	0.13	0.10	0.16	0.09	0.13	0.09	0.10	0.07	0.09		0.12	n/a
Nitrate (NO_3)	mg N/L	2.23	2.96	0.97	1.68	2.29	3.79	1.73	2.08	0.95	1.31		2.94	50
Total Cyanide (CNt)	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001		0.005	n/a
Sulphate (SO4)	mg SO_4/L	62	99	44	61	74	134	36	41	45	63		128 (1)	n/a
Total dissolved solids	mg/L	125	188	114	150	175	287	92	113	91	120		n/a	1400

Notes:

Measured concentration higher than Water License requirement,

Measured concentration higher than CCME guidelines. Value highlighted for comparison purpose only.

1) Threshold value for sulfate based on BC Environment guideline for the protection of aquatic life for very soft water (0-30 mg/L) (April 2013).

5.2 Vault Water Quality Forecast

5.2.1 Model Description

A mass balance model was developed to assess the water quality forecast trends in the Vault Attenuation Pond (ATP) for ammonia and nitrate. The starting date for the model was set for June 2014. The end date of the model was set when the dike at Vault will be breached in 2030/2031.

5.2.2 Assumptions

The assumptions used in the development of the mass balance model for the Vault ATP of Meadowbank were the following:

i. The Vault ATP is a combination of Pond A, B, C and D. The model does not take into consideration the transfers between Pond A, B, C and D, only transfers inside and outside the Vault Attenuation Pond.

ii. The model considers water transfers to the Vault ATP from Vault Pit, Phaser Pit, Phaser Lake and runoff from its catchment area.

iii. The model does not take into consideration the variations of volume due to ice (no free volume, as well as ice ratio and water/ice entrapment).

iv. The water quality from Vault Pit, Phaser Pit and Phase Lake is based on the yearly average measured values and are assumed to be constant over a given year for ammonia and nitrate.

v. The water mass balance is performed around the Vault ATP. The volume of water transferred out of the Vault ATP to the water treatment plant or Wally Lake is assumed to be completely discharged to the lake.

vi. It is assumed that the primary source of ammonia and nitrate loading is from Vault Pit and Phaser Pit. All other inflow contaminant concentrations (Phaser Lake, runoffs, etc.) are assumed to have a negligible impact on ammonia and nitrate loadings.

vii. For simplification of the model, ponds and pits are assumed to be completely mixed systems.

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

ix. For this analysis, it is assumed that the water treatment plant between the Attenuation Pond and Wally Lake does not reduce the concentration of ammonia and nitrate.

5.2.3 Input to Model

The mass balance model is based on the assumptions above and on the following water quality sampled at:

- Vault Pit (ST-23 / ST-26);
- Phaser Pit (ST-41 / ST-42);
- Vault Attenuation Pond (ST-25);
- Final Effluent to Wally Lake (ST-10).

The initial concentration of parameters in the Vault Attenuation Pond is assumed to be the average of 2014-2015 measurements (i.e. ammonia = 2.2 mg N/L; nitrate = 4.7 mg N/L).

Table 5-2 presents the average concentrations used to estimate the loadings from Vault Pit and Phase Pit to Vault ATP. Transfer of runoff from the Vault Pit area occurred from 2014 to 2018, while runoff transfer from Phaser Pit occurred from 2017 to 2018. As of 2019, surface runoff was allowed to accumulate in the pits.

Table 5-2: Average Concentrations to Estimate Loading to Vault ATP

Year	General Basis	Vault Pit		Phaser Pit	
		Ammonia (mg N/L)	Nitrate (mg N/L)	Ammonia (mg N/L)	Nitrate (mg N/L)
2014	Avg. 2014-15 measured data	18	46	--	--
2015		18	46	--	--
2016	Average 2016 measured data	5	20	--	--
2017	Average 2017 measured data	3.8	4.2	4	30 (note: value adjusted so forecasted value in Vault ATP is similar to monitored data)
2018	Average 2018 measured data	3.1	4.9	7.96	15.8

Measurements taken at the final effluent to Wally Lake and in the Vault Attenuation Pond (ATP) were used to compare the forecasted results.

5.2.4 Forecasting Results

5.2.4.1 Ammonia

Ammonia concentrations sampled in Vault Pit and Phaser Pit are elevated because of the use of ammonium-nitrate explosives during the mining process. Figure 5-1 presents the concentrations monitored in Vault Pit, Phaser Pit, Vault Attenuation Pond and at the final effluent to Wally Lake.

Two monitored values in Vault Pit exceeded the Water Licence limit in 2014 and 2015 and all values measured from 2016 to 2020 were below the limit. For Phaser Pit, there was one value higher than the limit in 2018. All of the samples taken in the Vault Attenuation Pond (ATP) and the final effluent towards Wally Lake were below the Water Licence discharge requirements.

When forecasting the concentration of the water in the Vault ATP until closure, the forecasted concentration of ammonia reached a peak of about 3.7 mg-N/L in 2015 and then decreased to a concentration below 1 mg-N/L before closure.

Agnico is required to meet the criteria for discharge to Wally Lake as stated in the Type A Water Licence which is set at 20 mg N/L. No exceedance occurred and is foreseen with the current Vault water quality forecasting model.

Figure 5-2 shows the forecasted concentration, the monthly loadings and the cumulative loadings of ammonia in the treated effluent discharged to Wally Lake.

5.2.4.2 Nitrate

Nitrate concentrations sampled in the Vault Pit and Phaser Pit are also found to be elevated because of the use of ammonium-nitrate explosives for the pit development. Figure 5-3 presents the concentrations monitored in Vault Pit, Phaser Pit, Vault Attenuation Pond and at the final effluent towards Wally Lake.

Measured nitrate concentrations in the Vault Pit and Phaser Pit were below the Water Licence limit of 50 mg N/L. The monitored values in Vault Attenuation Pond and in the final effluent are also well below the Water Licence requirements.

The forecasted trend of nitrate concentration in the effluent discharged to Wally Lake until closure is similar to ammonia. There is a rise of nitrate to about 8.6 mg-N/L in 2015 and then decreased to a concentration of approximately 1 mg-N/L before closure.

Since the Water Licence discharge limit for nitrate is 50 mg N/L, no exceedance is foreseen.

Figure 5-4 shows the forecasted concentration, the forecasted monthly loadings and the cumulative loadings of nitrate in the treated effluent discharged to Wally Lake.

5.2.4.3 Final Remarks

In conclusion, the forecasted concentrations for ammonia and nitrate in the Vault ATP are expected to remain below the discharge requirements as defined in the Type A Water Licence. The primary source of ammonia and nitrate in the water comes from the use of ammonium-nitrate based explosive in the development of the Vault Pit and Phaser Pit. Note that the model results are quite conservative when compared to the monitored data since the end of mining operations at Vault and Phaser pits.

Figure 5-1: Measured Ammonia Concentration in Vault Area

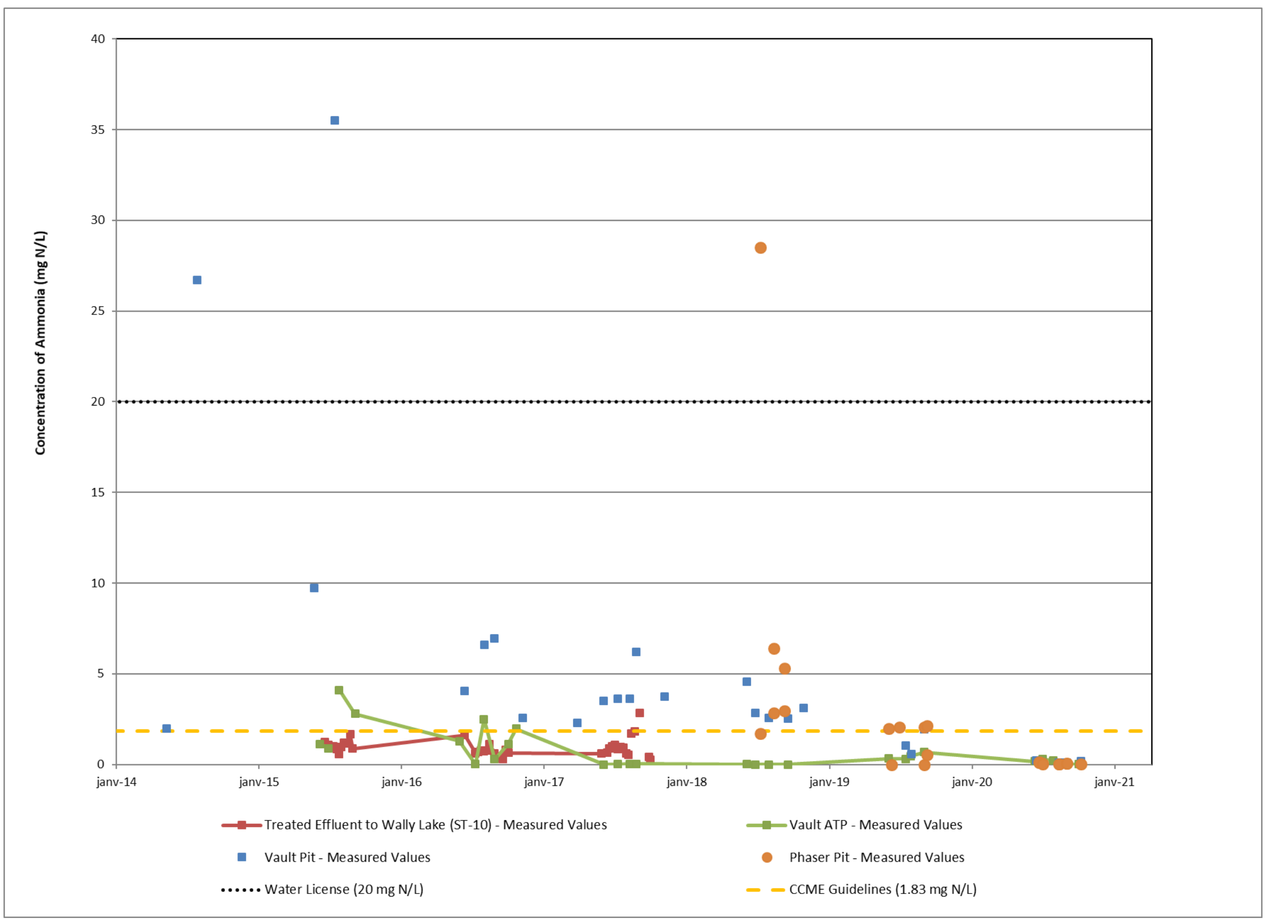


Figure 5-2: Forecasted Ammonia Concentration in Vault Area

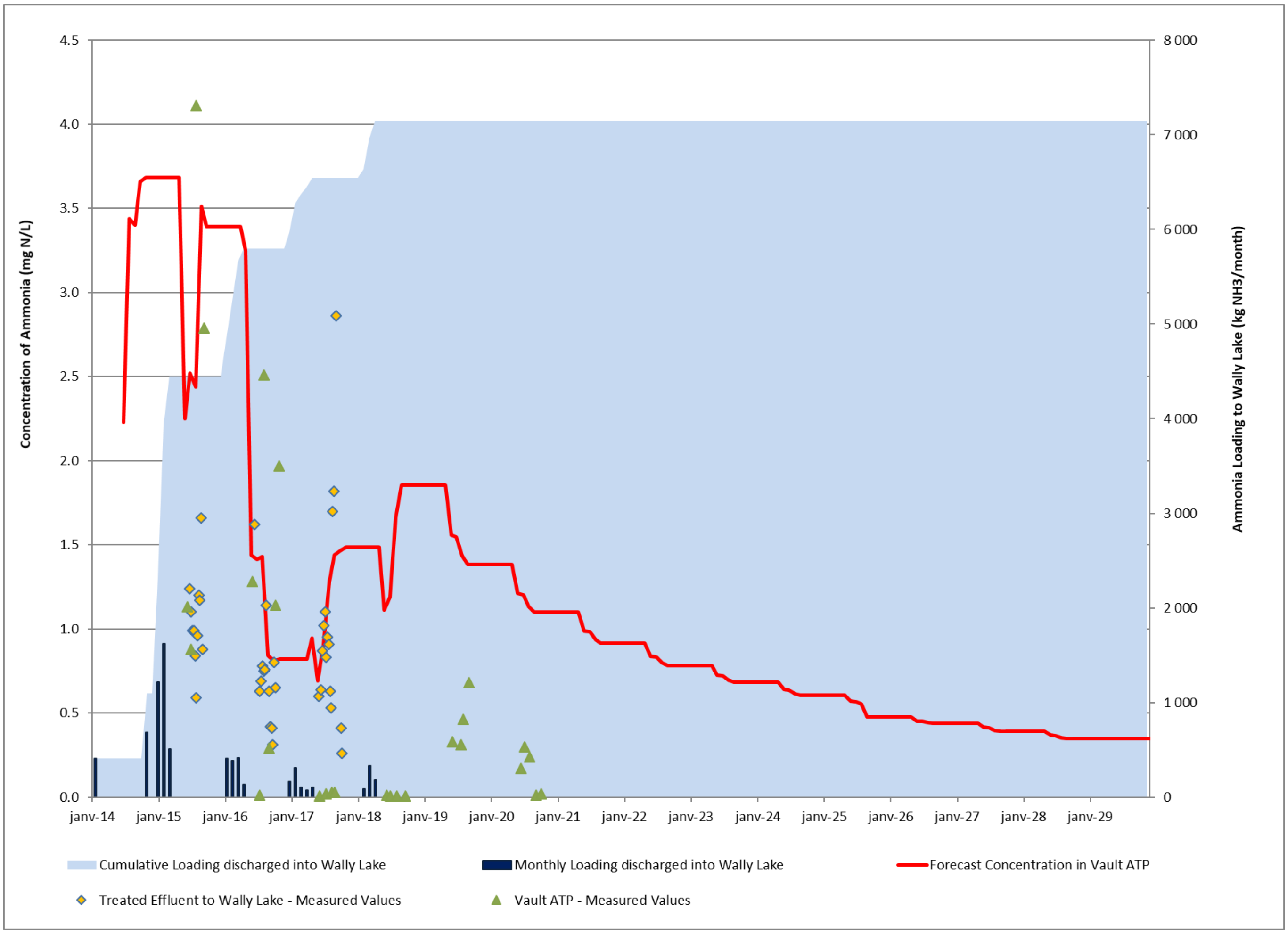


Figure 5-3: Measured Nitrate Concentration in Vault Area

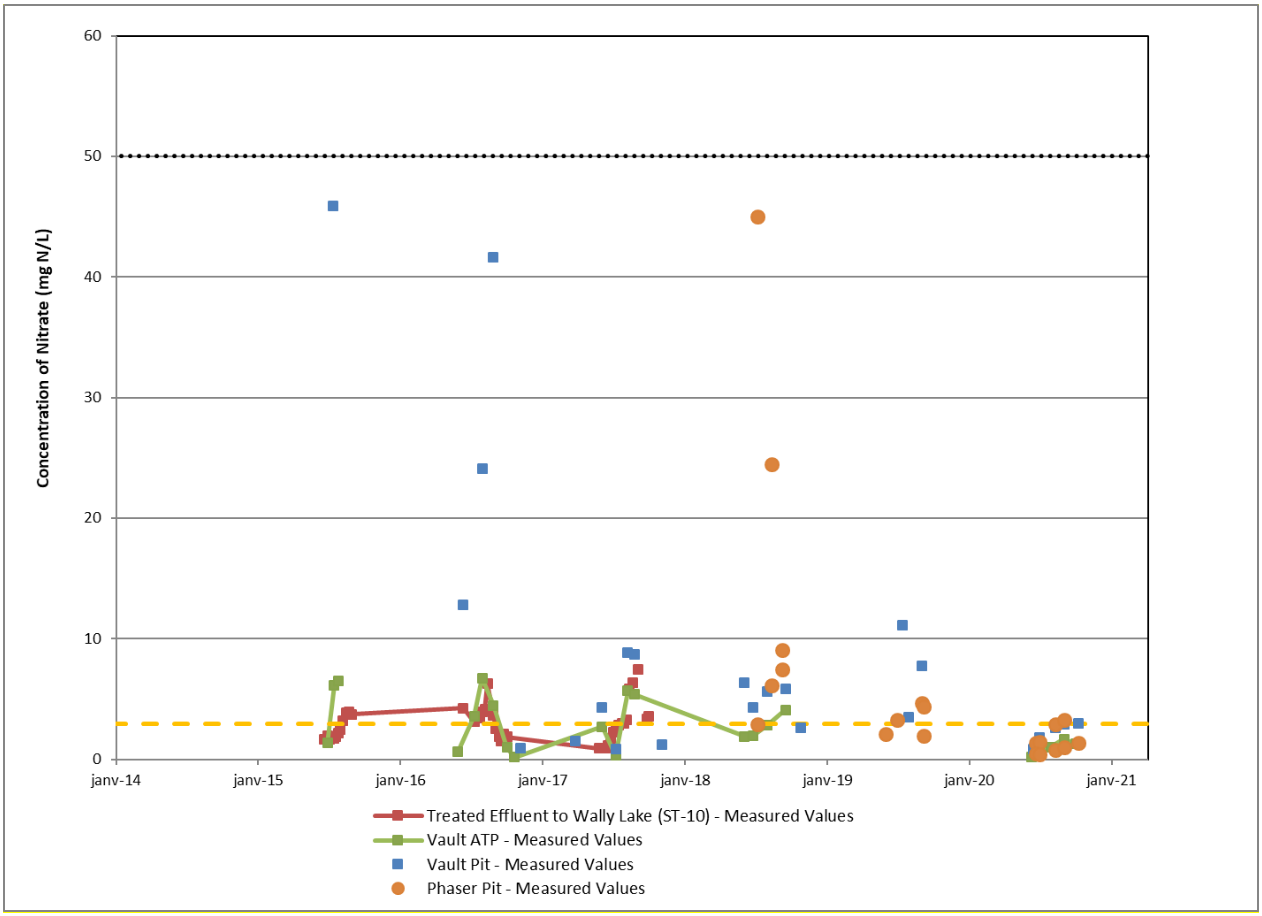
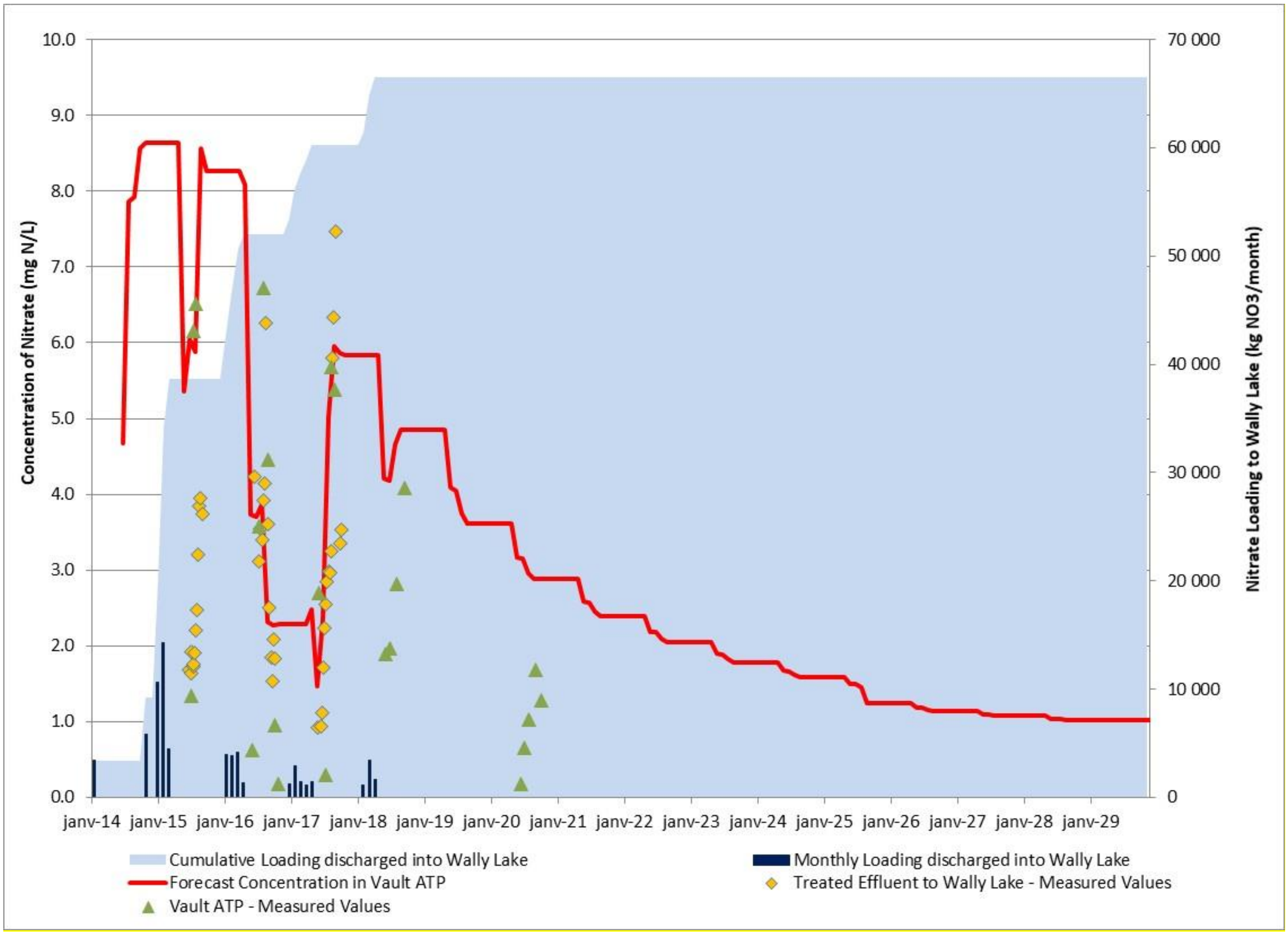


Figure 5-4: Forecasted Nitrate Concentration in Vault Area



6.0 Conclusion

Based on the water balance 2020 developed by Agnico, the objective of this Technical Note was to forecast the long-term concentration of different contaminants in the North and South Cells TSF Reclaim Pond and in the Portage and Goose Pits from 2014 until end of in-pit tailings deposition in June 2026. The water quality mass balance model was updated to forecast these long-term concentrations.

The water balance 2020 integrates the extension of the Life of Mine (LOM) of Meadowbank Mine by construction and operating the Whale Tail Pit, a satellite deposit located on the Amaruq property, and continuing mine operations and milling at Meadowbank.

6.1 Limitations

It is important to understand the limitations of the mass balance model and of this Technical Note. The limitations are presented in section 3.3 and are briefly summarized below:

- In order to simplify the model, the mass balance model assumes the following:
  - Pond and pits are completely mixed systems;
  - No change in the water quality of the Mill Effluent;
  - A monthly time-step.
- The mass balance model is based on a set of water quality analysis results provided by Agnico:
  - Water quality data collected at the surface of the North and South Cell TSF Reclaim Pond;
  - Water quality data available for the Mill Effluent;
  - Water quality data of various inflows and outflows of the North and South Cell TSF Reclaim Ponds;
  - Water quality data collected in Goose and Portage Pits;
  - Water quality data collected from pit seepages.

6.2 Results Summary and Treatment

This year's water quality forecast model ends at the end of in-pit deposition, which is projected for June 2026 based on the 2020 WMP. Reclaim Water stored in Goose Pit and Portage Pit shall then be treated and discharged to Third Portage Lake during closure. For the purpose of this study, parameters of concern were identified using the current Water Licence limits. However, final site-specific treated effluent discharge limits for closure will be developed through review of the final closure plan by regulatory agencies.

Based on the results of the water quality forecast mass balance presented in section 4.2, the following parameters of concerns were detected:

- Total Aluminum
- Total Ammonia
- Total Arsenic
- Cyanide (total)
- Total Copper
- Total dissolved solids
- Total Nickel

The following parameters should also be followed since they were identified as elements that could represent a potential long-term contamination risk:

- Total Selenium
- Sulphate
- Total Iron
- Chloride
- Nitrate
- Fluoride

All of the parameters listed above were identified in last year's water quality forecast report. The increasing trend observed in Goose Pit and Portage Pit can be mainly attributed to the following:

1. As of 2019, tailings are now being deposited in Goose Pit and Portage Pit. Reclaim water is allowed to accumulate in the pits and pumped back to the mill for re-use.
2. As of 2019, the main ore body processed at the Meadowbank site originates from the Whale Tail Pit ore body. The ore body from Whale Tail Pit has a different geochemical behavior than the ore extracted from Portage/Goose/Vault pits. This leads to higher forecasted concentration of certain elements at the end of in-pit deposition, such as arsenic.
3. The water quality forecast model was also adjusted based on the mill effluent sampled during 2020. The quality of the mill effluent varies from year to year. As of 2019, Whale Tail ore is being processed and the mill effluent it produces has different geochemical characteristics when compared to the mill effluent quality produced when processing Portage/Vault Pit ore. For example, arsenic concentration is higher in the mill effluent when processing Whale Tail ore.
4. Furthermore, additional loads from the pit seepages was taken into account in this year's model. The seepages provide additional loads for certain parameters, such as aluminum, iron, manganese, lead and fluoride.

Water treatment shall be undertaken at the end of in-pit tailings deposition. A potential treatment option for the removal of the metals in Reclaim Water prior to discharge is caustic or lime precipitation, while aeration is recommended for total nitrogen reduction via ammonia volatilization. Coagulation with ferric sulfate could be used to co-precipitate the arsenic as a ferric arsenate precipitate. Additional treatment steps could be considered once the actual nature of the water to treat is known, such as the addition of an oxidation step to help oxidize metal complexes, or additional polishing steps, like filtration or membrane treatment.

For the Vault area, in 2020, the entire area is undergoing natural reflooding. No discharge to Wally Lake was reported in 2020. All of the water sampled in the area did not exceed any of the Water Licence discharge limits. For comparison purpose only, aluminum, iron and copper concentrations were slightly higher than CCME guidelines. Ammonia and nitrate are showing a decreasing trend as natural reflooding is progressing over time.

6.3 Recommendations

In order to improve the accuracy of the model so that it can better forecast the concentration of certain parameters in the Reclaim Pond or Portage and Goose Pits, the following studies, tests and monitoring are recommended:

1. Continue the current monthly monitoring program of all inflows and outflows of the North and South Cells TSF Pond for cyanide, a complete total and dissolved metal scan, ammonia, nitrate, fluoride, chloride, sulphates, total dissolved solids (TDS) and total suspended solids. This will provide an indication of the runoff quality that is accumulated in these ponds following the end of tailings deposition in these areas.
2. Considering that deposition of the tailings are now occurring in the pits, regularly monitor pit water quality (Portage and Goose), when the site can be safely accessed, and analyze for cyanide, total and dissolved metals, ammonia, nitrate, chloride, fluoride, sulphates, total dissolved solids (TDS) and total suspended solids. This information will be useful in developing and calibrating a water quality forecast model of the pit water quality based on loadings from the mill effluent, surface runoff and possible pit seepages. Consider measuring the conductivity of water in the pits at different depths to detect if there is any stratification occurring in the pit lakes.

3. Once Portage and Goose Pits are hydraulically connected, it is recommended to sample the water at different points in the pit area in order to evaluate the mixing efficiency over the entire area. The samples should be taken at different depths over the entire area of the flooded pits before and after the filling season.
4. Continue to sample and analyze, as per the Water Licence requirement, water from the Vault Pit, Vault Attenuation Pond, Phaser Pit and Phaser Attenuation Pond.
5. Perform a bench scale water treatment test to evaluate the contaminant removal efficiency using treatment approaches such as lime neutralization, coagulation/flocculation with aluminum sulfate or ferric sulfate, and coagulation/flocculation with proprietary coagulants designed for metal removal, as well as alternative treatment options.

7.0 References

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Appendix A

WATER QUALITY DATA

1. Attenuation Pond (ST-18) / South Cell TSF Reclaim Pond (ST-21)
2. North Cell TSF Reclaim Pond (ST-21)
3. Central Dike Downstream Pond (ST-S-5)
4. Portage Pit, Pit A (ST-17)
5. Portage Pit, Pit E (ST-19)
6. Goose Pit Sump and Goose Pit Lake (ST-20)
7. Portage Pit and Goose Pit Seepage
8. Vault Pit Sump (ST-23 and ST-26)
9. Vault Attenuation Pond (ST-25(a))
10. Vault WRSF (ST-24)
11. Phaser Pit (ST-41 and ST-42)
12. Phaser Attenuation Pond (ST-43)
13. Mill Effluent Quarterly Samples

ATTENUATION POND / SOUTH CELL TSF RECLAIM POND (ST-18 AND SOUTH CELL ST-21)

Parametre	Alkalinity	Hardness	Total Ammonia (NH3 + NH4)	Nitrate (NO_3)	Chloride	Fluoride	Sulphate	TDS	Total Cyanide (CNt)	Total Aluminium (Al)	Total Arsenic (As)	Total Barium (Ba)	Total Cadmium (Cd)	Total Chromium (Cr)	Total Copper (Cu)	Total Iron (Fe)	Total Lead (Pb)	Total Manganese (Mn)	Total Mercury (Hg)	Total Molybdenum (Mo)	Total Nickel (Ni)	Total Selenium (Se)	Total Silver (Ag)	Total Thallium (Ti)	Total Strontium (Sr)	Total Uranium (U)	Total Zinc (Zn)	Dissolved Aluminium (Al)
Date	mg CaCO3/L	mg CaCO3/L	mg N/L	mgN/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
3-Jun-14	113		8.5					754	0.247		0.0041				0.0076		0.0003	0.0003			0.0427	0.0427					0.002	
1-Jul-14	96	318	8.4	1.2	84.4	0.57	471	2628	0.34	0.003	0.0061	0.0447	0.00007		0.0064	0.01	0.0003	0.0003	0.00005	0.0237	0.0346	0.0398	0.0001	0.005			0.04	0.006
5-Aug-14	103	406	9.7	1.3	112	0.56	612	1155	0.462	0.003	0.0068	0.0462	0.0001		0.0052	0.01	0.0003	0.0003	0.00005	0.0269	0.041	0.004	0.0001	0.005			0.0005	0.006
7-Sep-14	114							1283	0.346		0.0111				0.0054		0.0003	0.0003			0.0659	0.0659					0.006	
13-Oct-14	106		11.8					1363.0	0.336		0.0084				0.0065		0.0017	0.0017			0.0727	0.0727					0.012	
6-Jan-15	117	893.5444	31.3	7.45	406	2.5	1200	1924	16.29	0.037	0.0203	0.0827	0.00026		2.561	0.05	0.00015	0.02	0.00038	0.1849	0.1146	0.049		0.0025			0.001	0.037
10-Feb-15	116	1099	53.7	9.08	439	0.26	1456	2190	14.71	0.036	0.022	0.1157	0.00068		0.6986	0.2	0.00015	0.003	0.00061	0.2755	0.0571	0.084		0.0025			0.0005	0.036
4-Mar-15	126	1224	54.6	11	543	0.42	1537	2628	13.08	0.024	0.0379	0.1208	0.00079		2.045	0.03	0.00015	0.0254	0.00077	0.3331	0.1832	0.104		0.0025			0.002	0.024
7-Apr-15	113	1325	59.7	10.8	638	0.01	1670	2946	0.762	0.029	0.0126	0.1296	0.00094		2.165	0.9	0.00015	0.014	0.00058	0.3948	0.0258	0.102		0.0025			0.004	0.029
5-May-15	80	1395	57	10.7	770	2.4	1604	3411	22.93	0.232	<0.0005	0.1062	0.00066		5.541	2.4	0.00015	0.0084	0.00057	0.4086	0.0304	0.079		0.0025			0.0005	0.232
1-Jun-15	76	1329	57.3	10.4	637	0.03	1557	2801	6.13	0.022	0.0005	0.107	0.00086		1.857	0.05	0.00015	0.057	0.00037	0.3877	0.0287	0.075		0.0025			0.003	0.022
6-Jul-15	107	1315	45.8	10.5	633	0.03	1235	2270	0.638	0.006	0.0005	0.0772	0.00002		0.6646	0.05	0.00015	0.1811	0.00031	0.3019	0.0853	0.046		0.0025			0.0005	0.006
3-Aug-15	157	1029	16.1	8.51	378	0.04	1316	2328	0.047	0.006	0.0005	0.0581	0.00078		0.1869	0.02	0.00015	0.6803	0.00015	0.25	0.0834	0.049		0.0025			0.005	0.006
1-Sep-15									0.0025																			
8-Sep-15	150	1176	31.2	7.29	436	0.01	1473	2230	0.078	0.006	0.0015	0.0485	0.00061		0.0618	0.01	0.00015	1.018	0.00009	0.244	0.0578	0.039		0.0025			0.0005	0.006
13-Sep-15					411				0.024								0.00015											
28-Sep-15					427				0.34																			
6-Oct-15	135	1222	5.79	7.77	1329	0.44	1650	2184	0.307	0.003	0.0025	0.0585	0.00043		0.6453	0.02	0.0003	1.254	0.00007	0.3034	0.0962	0.045		0.0025			0.0005	0.003
13-Oct-15	137	1100	5.09	7.53	445	0.47	1656	2210	0.272	0.003	0.0081	0.0453	0.00063		0.485	0.02	0.0003	1.129	0.00005	0.2468	0.0668	0.036		0.0025			0.0005	0.003
20-Oct-15				7.88	399		1500		0.676								0.0003											
26-Oct-15				8.56	429		1811		1.37								0.0015											
2-Nov-15	137	1263	35.4	9.09	445	0.4	1651	2433	1.45	0.01	0.0088	0.0535	0.00081		2.403	0.03	0.0003	0.9792	0.00024	0.3123	0.1404	0.048		0.0025			0.001	0.01
10-Nov-15				8.17	431		1866		0.56								0.0003											
19-Nov-15					471		1852		1.28								0.0003											
23-Nov-15				9.77	505				2.37								0.0003											
1-Dec-15	144	1461	35.4	10.7	562	0.13	1998	2926	3.58	0.014	0.00025	0.076	0.0008		0.0155	0.36	0.0003	0.1727	0.00028	0.3233	0.018	0.072	0.0003	0.0025			0.0005	0.014
5-Jan-16	141	1303	41.3	10.7	548	0.34	2274	2992	10.6	0.033	0.0162	0.0908	0.00138	0.0025	0.610	0.44	0.00015	0.080	0.00036	0.337	0.1396	0.088	0.0002	0.0025			0.007	0.055
1-Feb-16	126	1567	44.1	6.34	630	0.27	2052	3136	9.51	0.142	0.0149	0.1305	0.00102	0.0023	0.508	0.89	0.00015	0.081	0.00027	0.400	0.0659	0.097	0.0007	0.001			0.002	0.018
8-Mar-16	132	1497	50.0	12.5	599	0.36	2060	3386	10.79	0.247	0.0138	0.1359	0.00001	0.0003	1.882	2.67	0.00015	0.114	0.00021	0.482	0.0553	0.118	0.0003	0.001			0.001	0.024
5-Apr-16	129	1561	49.7	10.7	608	0.4	2142	3030	6.82	0.147	0.028	0.1237	0.00127	0.0021	1.501	2.64	0.0015	0.195	0.0003	0.464	0.0408	0.118	0.0041	0.001			0.004	0.02
3-May-16	117	1237	51.4	10.5	614	2.79	2161	3611	5.77	0.249	0.0338	0.1207	0.0008	0.0027	0.082	1.46	0.00015	0.137	0.00056	0.504	0.021	0.096	0.0007	0.001			0.007	0.04
16-Jun-16	93	916	38.6	5.79	348	0.35	1511	2017	0.977	0.006	0.0005	0.0005	0.00002	0.0006	0.223	0.6	0.0003	0.001	0.00001	0.001	0.0005	0.001	0.0017	0.002			0.001	0.022
18-Jul-16	126	1073	32.7	5.55	344	0.45	1683	2452	0.08	0.263	0.0236	0.0846	0.00195	0.0003	0.086	0.79	0.00015	0.418	0.00044	0.454	0.0531	0.062	0.0019	0.0004			0.001	0.047
2-Aug-16	133	1273	31.3	5.04	372	0.39	1730	2430	0.094	0.039	0.014	0.087	0.00141	0.0003	0.069	0.16	0.0037	0.355	0.00042	0.478	0.0491	0.065	0.0005	0.0004			0.005	0.015
6-Sep-16	132	1210	41.6	5.28	364	0.41	1926	2914	0.072	0.11	0.0177	0.0963	0.00103	0.0011	0.109	0.17	0.00015	0.317	0.00017	0.518	0.0312	0.055	0.00005	0.0004			0.001	0.053
3-Oct-16	122	1301	38.9	4.32	332	0.39	1768	2580	0.161	0.21	0.00025	0.0741	0.00154	0.0003	0.263	0.44	0.00015	0.368	0.00032	0.465	0.0572	0.052	0.0001	0.0004			0.0005	0.078
8-Nov-16	120	1272	43.4	4.91	407	0.42	1945	2542	0.586	0.192	0.0083	0.0901	0.00267	0.0015	0.023	0.89	0.0006	0.159	0.00065	0.450	0.0588	0.064	0.00005	0.0004			0.006	0.056
5-Dec-16	127	962	44.8	4.89	417	0.43	2018	2968	1.66	0.096	0.004	0.0852	0.00196	0.0003	0.206	1.01	0.00015	0.271	0.00049	0.537	0.0566	0.06	0.00005	0.0004			0.006	0.059
3-Jan-17	134	1284	48.4	5.76	430	0.41	2137	3213	2.19	0.062	0.0134	0.1133	0.002	0.0012	0.249	1.37	0.0007	0.174	0.00042	0.537	0.0742	0.078	0.00005	0.0004			0.005	0.037
6-Feb-17	135	1404	38.3	5.26	447	0.44	2199	3414	2.56	0.059	0.0138	0.1098	0.00218	0.0003	0.709	0.99	0.00015	0.231	0.00042	0.571	0.0573	0.054	0.00005	0.0004			0.001	0.003
6-Mar-17	132	1261	49.3	6.01	545	0.33	2180	3681	2.96	0.111	0.0151	0.0988	0.00179	0.001	0.274	0.99	0.00015	0.138	0.00056	0.543	0.0657	0.055	0.00005	0.0004			0.001	0.039
6-Apr-17	128	1333	5.2	4.93	550.9	0.25	2216	3730	3.62	0.102	0.0098	0.1077	0.00136	0.0006	0.214	0.71	0.0045	0.286	0.0005	0.538	0.124	0.045	0.0003	0.0004			0.166	0.072
1-May-17	125		56.2	4.98	563.4	0.4	2322	3680	3.02	0.1	0.0027	0.0874	0.00125	0.0003	0.750	0.99	0.00015	0.254	0.00027	0.509	0.0654	0.038	0.00005	0.0004			0.0005	0.025
12-Jun-17	104	980	39.0	3.86	333	0.36	1585	2750	0.143	0.034	0.0043	0.053	0.00162	0.0003	0.110	0.19	0.00015	0.450	0.00032	0.359	0.0752	0.038	0.00005	0.0004			0.0005	0.008
10-Jul-17	123	828	37.0	2.36	307	0.39	1445	2460	0.1	0.07	0.0218	0.0408	0.00102	0.0009	0.105	0.29	0.00015	0.406	0.000005	0.359	0.0739	0.025	0.0002	0.0004			0.0005	0.003
1-Aug-17	138	1192	43.4	2.08	34	0.37	1772	2584	0.112	0.069	0.00025	0.0639	0.00127	0.0006	0.071	0.03	0.0018	0.426	0.000005	0.426	0.0714	0.035	0.00005	0.0004			0.002	0.047
7-Aug-17	133	1740	41.4	2.83	310	0.38		2664	0.228	0.198	0.0095	0.0918	0.0002	0.0003	0.110	0.37	0.00025	0.423	0.000005	0.420	0.055	0.026	0.00025	0.0004			0.005	0.111
14-Aug-17	144	1238	41.9	1.21	323	0.46	1037	2691	0.105	0.078	0.0184	0.0753	0.00002	0.0003	0.055	0.21	0.00015	0.412	0.00016	0.521	0.0558	0.042	0.00005	0.0004			0.0005	0.078
21-Aug-17	139	2228	42.4	2.09	323	0.421	1813	2717	0.139	0.04	0.00025	0.1558	0.00261	0.0003	0.147	0.37	0.00015	0.622	0.00015	0.977	0.1055	0.067	0.00005	0.0004			0.0005	0.003
28-Aug-17	127	1175	50.0	3	377	0.41	1823	2896	0.213	0.276	0.0158	0.0955	0.00104	0.0081	0.073	0.63	0.0095	0.308	0.000005	0.494	0.0498	0.039	0.00005	0.0004			0.003	0.047
3-Sep-17	128	1350	47.0	3.46	356	0.45	2014	2776	0.538	0.577	0.0092	0.0865	0.00129	0.0035	0.716	1.14	0.0024	0.220	0.000005	0.563	0.1684	0.035	0.0025	0.0004			0.003	0.543
11-Sep-17	124	1178	38.0	2.94	320	0.32	2001	2702	0.08	0.173	0.0027	0.0931	0.00193	0.0003	0.420	0.26	0.00015	0.160	0.00044	0.537	0.1622	0.042	0.0007	0.0004			0.0005	0.074
18-Sep-17	122	1026	49.0	3.13	321	0.39	1982	2835	0.195	0.037	0.00025	0.0879	0.0017	0.0003	0.581	0.2	0.0041	0.115	0.0003	0.590	0.2446	0.051	0.0013	0.0004			0.004	0.037
25-Sep-17	121	952	43.0	2.97	340	0.45	1991	2832	0.113	0.058	0.0058	0.0689	0.00119	0.0043	0.400	0.17	0.00015	0.156	0.000005	0.488	0.2147	0.047	0.0006	0.0004			0.0005	0.202
2-Oct-17	112	918	51.8	2.92	338	0.58	74.2	2864	0.096	0.052	0.0076	0.0592	0.00162	0.0013	0.315	0.27	0.00015	0.234	0.00028	0.427	0.2159	0.044	0.00005	0.0004			0.0005	0.018
9-Oct-17	123	959	48.1	3.21	351	0.46	1889	2852	0.123	0.033	0.0131	0.0703	0.00201	0.0018	0.340	0.16	0.00015	0.223	0.00044	0.510	0.2911	0.046		0.0004			0.0005	0.003
7-Nov-17	123	991	50.3	3.41	407	0.45	2343	3837	0.194	0.045	0.0035	0.0716	0.00212	0.0011	0.568	0.18	0.00015	0.224	0.000618	0.555	0.1241	0.058	0.00005	0.0004			0.001	0.189
4-Dec-17	122	1214	51.8	4.26	440	0.37	2430	3483	1	0.02	0.003	0.0915	0.00222	0.0003	1.192	0.37	0.00015	0.218	0.00054	0.686	0.31	0.087	0.00005	0.0004			0.001	0.033
2-Jan-18	127	1343	60.8	4.13	543	0.39	2909	3560	1.08	0.021	0.0094	0.0865	0.00237	0.0031	0.9318	0.339	0.00015	0.2085	0.00045	0.7219	0.1052	0.086	0.00005	0.0004			0.002	0.015
13-Feb-18	112	1516	57.8	4.82	499	0.42	2365	3464	1.76	0.095	0.00025	0.1532	0.00213	0.0038	0.4288	1.03	0.00015	0.4385	0.00064	0.7054	0.068	0.085	0.00005	0.0004			0.005	0.031
6-Mar-18	117	1620	62.5	4.51	560	0.48	2348	3247	2.57	0.07	0.0076	0.2004	0.00007	0.0008	3.409	0.799	0.00015	0.3445	0.000005	0.6229	0.3051	0.073	0.0006	0.0004			0.002	0.003
2-Apr-18	113	1164	51.1	5.68	556	0.45	2372	3085	1.29	0.008	0.0377	0.08	0.0014	0.0023	0.3385	0.27	0.00015	0.3162	0.00067	0.5221	0.0668	0.069	0.00005	0.0004			0.004	0.014
7-May-18	104	1034	62.5	4.6	484	0.45	2148	2488	0.172	0.089	0.0065	0.1196	0.00186	0.0003	0.9857	0.56	0.00015	0.3818	0.00002	0.6365	0.1738	0.061	0.00005	0.0004			0.0005	0.032
4-Jun-18	87	959	50.6	6.77	511	0.47	1825	2628	2.82	2.25	0.0099	0.0806	0.00444	0.0074	1.682	7.59	0.0235	0.2235	0.000005	0.5224	0.1361	0.091	0.00005	0.0004			0.007	0.039
2-Jul-18	104	818	41.3	4.24	309	0.48	1538	2131	0.204	0.118	0.0015	0.0704	0.00293	0.0008	0.7239	0.96	0.0009	0.487	0.00003	0.3821	0.1436	0.071	0.0002	0.0004			0.02	0.035
6-Aug-18	121	712	44.4	5.86	338	0.58	1977	2466	0.797	0.006	0.0248	0.0599	0.0019	0.0003	0.3659	0.02	0.0007	0.298	0.00018	0.4087	0.1061	0.0727	0.0001	0.0001			0.003	0.0025
3-Sep-18	120	887	38	4.83	313	0.47	1950	2096	0.023	0.039	0.0173	0.0475	0.0097	0.0006	0.2344	0.18	0.0015	0.6312	0.00005	0.3779	0.0755	0.0581	0.00005	0.0001			0.003	0.0025
2-Oct-18	117	1092	39.4	3.79	324	0.46	1847	1524	0.044	0.096	0.0216	0.0624	0.00214	0.0016	0.7016	0.57	0.0037	0.8848	0.00005	0.4065	0.0863	0.0699	0.00005	0.0001			0.006	0.0025
4-Dec-18	152	1291	48.8	4.78	445	0.55	2344	2482	0.558	0.021	0.0363	0.0574	0.00222	0.0016	0.0972	0.4	0.0015	0.8694	0.000005	0.4844	0.0544	0.0495	0.0001	0.0002			0.003	0.0025
5-Feb-19			-																									
5-Mar-19	105	1112	50.2		484	0.58	2159	2428	8	0.036	0.0429	0.0946	0.00001	0.0003	4.602	0.91	0.00015	0.4161	0.000005	0.3968	0.2635	0.0103	0.00005	0.0022			0.0005	0.032
9-Apr-19	124		-					2681																				
24-May-19			-																									
29-May-19	58	1053	17.5		460	0.52	1733	1658	0.189	0.114	0.0104	0.0632	0.00021	0.0003	6.778	0.36	0.0012	0.2281	0.000005	0.3862	0.1648	0.0102	0.0007	0.0001			0.0005	0.00025
3-Jun-19	44	0	21.3		271	0.39	1266	1548	0.087	0.133	0.0051	0.0279	0.00001	0.0003	1.061	0.37	0.00015	0.7965	0.000005	0.2057	0.0581	0.0046	0.00005	0.0001			0.0005	0.0025
2-Jul-19	61	0	30		21.2	0.41	991	1642	0.091	0.112	0.0249	0.0367	0.00001	0.0018	1.317	0.36	0.00015	0.3474	0.000005	0.2592	0.1104	0.0037	0.0009	0.0001			0.0005	0.00025
14-Jul-19	71	552	28.5		191	0.37	983	1356	0.048	0.013	0.05	0.0361	0.00007	0.0009	0.4018	0.005	0.00015	0.2035	0.000005	0.2271	0.1197	0.006	0.0009	0.0001	0.799	0.008	0.007	0.011
6-Aug-19	137	0	16.3		174	0.41	1063	1245	0.077	0.307	0.0211	0.0357	0.00001	0.0022	0.1351	0.9	0.0069	0.1965	0.000005	0.2237	0.0582	0.0046	0.00005	0.0001			0.005	0.0025
3-Sep-19	44	0	11.4		117	0.43	793	1474	0.027	0.024	0.0162	0.0316	0.00009	0.0003	0.0662	0.24	0.0034	0.2319	0.000005	0.1859	0.0432	0.0035	0.00005	0.0001			0.009	0.00025
7-Oct-19	67	0	13.1		73.1	0.35	750	1088	0.027	0.1	0.012	0.028	0.0001	0.0025	0.039	0.32	0.0036	0.29	0.00005	0.14	0.033	0.0015	0.0005	0.001			0.0071	0.01
12-Oct-19	79	523	12.5		65.4	0.34	639	936	0.02	0.055	0.0135	0.0247	0.00022	0.0011	0.0462	0.29	0.0028	0.3684	0.000005	0.1112	0.0429	0.0027	0.00005	0.0001	0.772	0.008	0.009	0.00025
18-Jun-20	38	0	4.21	1.02	35.7	0.15	274	530	0.015	0.333	0.0107	0.0154	0.00002	0.0035	0.04	0.94	0.0033	0.2711	0.00001	0.0476	0.0158	0.001	0.0001	0.0002			0.006	0.006
7-Jul-20	67	0	11.16	0.59	71.1	0.24	296	821	0.024	0.036	0.008	0.024	0.00002	0.0006	0.0196	0.13	0.0003	0.3752	0.00001	0.0683	0.0166	0.002	0.0001	0.0002			0.001	0.006
31-Aug-20	90	0	2.6	8.08	32.1	0.34	524	714	0.041	0.922	0.0359	0.0345	0.00006	0.0055	0.183	2.5	0.0124	0.6707	0.00001	0.0605	0.0493	0.001	0.0001	0.0002			0.001	0.006
7-Sep-20	105	0	5.83	8.25	35.9	0.32	439	873	0.017	0.52	0.0215	0.041	0.00002	0.0029	0.0727	1.4	0.0041	1.011	0.00001	0.0594	0.0401	0.001	0.0001	0.0002			0.008	0.006

ATTENUATION POND / SOUTH CELL TSF RECLAIM POND (ST-18 AND SOUTH CELL ST-21)

Parametre	Dissolved Arsenic (As)	Dissolved Barium (Ba)	Dissolved Cadmium (Cd)	Dissolved Chromium (Cr)	Dissolved Copper (Cu)	Dissolved Iron (Fe)	Dissolved Lead (Pb)	Dissolved Manganese (Mn)	Dissolved Mercury (Hg)	Dissolved Molybdenum (Mo)	Dissolved Nickel (Ni)	Dissolved Thallium (Ti)	Dissolved Strontium (Sr)	Dissolved Uranium (U)	Dissolved Selenium (Se)	Dissolved Silver (Ag)	Dissolved Zinc (Zn)	Sodium (Na)	Potassium (K)
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
3-Jun-14																			
1-Jul-14	0.0041	0.0447	0.00007		0.0041	0.01	0.0003	2.43	0.0001	0.0237	0.0346	0.005			0.001	0.0001	0.001		
5-Aug-14	0.0068	0.0462	0.0001		0.0052	0.01	0.0003	2.858	0.0001	0.0269	0.041	0.005			0.004	0.0001	0.001		
7-Sep-14																			
13-Oct-14																			
6-Jan-15	0.0203	0.0827	0.00026		2.561	0.05	0.00015	0.02	0.00038	0.1849	0.1146	0.0025			0.049		0.001		
10-Feb-15	0.022	0.1157	0.00068		0.6986	0.2	0.00015	0.003	0.00061	0.2755	0.0571	0.0025			0.084		0.0005		
4-Mar-15	0.0379	0.1208	0.00079		2.045	0.03	0.00015	0.0254	0.00077	0.3331	0.1832	0.0025			0.104		0.002		
7-Apr-15	0.0126	0.1296	0.00094		2.165	0.9	0.00015	0.014	0.00058	0.3948	0.0258	0.0025			0.102		0.004		
5-May-15	<0.0005	0.1062	0.00066		5.541	2.4	0.00015	0.0084	0.00057	0.4086	0.0304	0.0025			0.079		0.0005		
1-Jun-15	0.0005	0.107	0.00086		1.857	0.05	0.00015	0.057	0.00037	0.3877	0.0287	0.0025			0.075		0.003		
6-Jul-15	0.0005	0.0772	0.00002		0.6646	0.05	0.00015	0.1811	0.00031	0.3019	0.0853	0.0025			0.046		0.0005		
3-Aug-15	0.0005	0.0581	0.00078		0.1869	0.02	0.00015	0.6803	0.00015	0.25	0.0834	0.0025			0.049		0.005		
1-Sep-15																			
8-Sep-15	0.0015	0.0485	0.00061		0.0618	0.01	0.00015	1.018	0.00009	0.244	0.0578	0.0025			0.039		0.0005		
13-Sep-15							0.00015												
28-Sep-15																			
6-Oct-15	0.0025	0.0585	0.00043		0.6453	0.02	0.0003	1.254	0.00007	0.3034	0.0962	0.0025			0.045		0.0005		
13-Oct-15	0.0081	0.0453	0.00063		0.485	0.02	0.0003	1.129	0.00005	0.2468	0.0668	0.0025			0.036		0.0005		
20-Oct-15							0.0003												
26-Oct-15							0.0015												
2-Nov-15	0.0088	0.0535	0.00081		2.403	0.03	0.0003	0.9792	0.00024	0.3123	0.1404	0.0025			0.048		0.001		
10-Nov-15							0.0003												
19-Nov-15							0.0003												
23-Nov-15							0.0003												
1-Dec-15	0.00025	0.076	0.0008		0.0155	0.36	0.0003	0.1727	0.00028	0.3233	0.018	0.0025			0.072	0.0003	0.0005		
5-Jan-16	0.012	0.0908	0.00138	0.0025	0.291	0.14	0.00015	0.080	0.00007	0.357	0.0231	0.0025			0.088	0.00005	0.007		
1-Feb-16	0.0164	0.1099	0.0011	0.0023	0.041	0.77	0.00015	0.058	0.00025	0.427	0.0165	0.001			0.097	0.001	0.001		
8-Mar-16	0.0112	0.1367	0.00001	0.0003	0.072	1.22	0.00015	0.074	0.00021	0.482	0.013	0.001			0.113	0.0003	0.0005		
5-Apr-16	0.0218	0.1046	0.00107	0.0021	0.053	0.7	0.00015	0.138	0.0003	0.461	0.0133	0.001			0.125	0.0037	0.001		
3-May-16	0.0363	0.1096	0.00095	0.0027	0.013	1.31	0.00015	0.112	0.00077	0.598	0.0113	0.001			0.103	0.0009	0.001		
16-Jun-16	0.0096	0.0776	0.00044	0.0006	0.165	0.02	0.0003	0.001	0.00001	0.001	0.0005	0.002			0.001	0.0006	0.001		
18-Jul-16	0.0192	0.0844	0.00182	0.0003	0.079	0.06	0.00015	0.418	0.00047	0.451	0.0539	0.0004			0.067	0.0016	0.0005		
2-Aug-16	0.0097	0.0879	0.00154	0.0003	0.075	0.05	0.00015	0.343	0.0004	0.481	0.0502	0.0004			0.066	0.0006	0.0005		
6-Sep-16	0.00025	0.0891	0.00112	0.0011	0.089	0.03	0.00015	0.278	0.000005	0.496	0.03	0.0004			0.057	0.00005	0.001		
3-Oct-16	0.00025	0.0688	0.00118	0.0003	0.216	0.04	0.00015	0.322	0.00036	0.431	0.0498	0.0004			0.052	0.0002	0.0005		
8-Nov-16	0.0089	0.0873	0.00235	0.0015	0.011	0.35	0.00015	0.159	0.00055	0.470	0.0471	0.0004			0.067	0.0001	0.005		
5-Dec-16	0.0046	0.0938	0.00191	0.0003	0.019	0.66	0.00015	0.271	0.00044	0.550	0.0326	0.0004			0.06	0.00005	0.002		
3-Jan-17	0.0142	0.111	0.00217		0.0250	0.31	0.00015	0.154	0.00044	0.5385	0.0189	0.0004			0.022	0.00005	0.003		
6-Feb-17	0.0116	0.095	0.00189		0.0094	0.56	0.00015	0.187	0.00045	0.5317	0.0209	0.0004			0.06	0.0003	0.001		
6-Mar-17	0.0153	0.095	0.00181		0.0157	1.12	0.00015	0.120	0.0006	0.5714	0.0305	0.0004			0.059	0.0001	0.0005		
6-Apr-17	0.0098	0.108	0.00152		0.0226	0.43	0.0047	0.229	0.00059	0.5735	0.018	0.0004			0.047	0.0003	0.003		
1-May-17	0.0057	0.085	0.00117		0.0229	0.33	0.00015	0.222	0.00027	0.5222	0.0117	0.0004			0.038	0.00005	0.0005		
12-Jun-17	0.0057	0.044	0.00085		0.0838	0.05	0.00015	0.407	0.00043	0.2808	0.0641	0.0004			0.032	0.00005	0.0005		
10-Jul-17	0.0282	0.040	0.00092		0.0730	0.02	0.00015	0.398	0.000005	0.355	0.0738	0.0004			0.029	0.00005	0.0005		
1-Aug-17	0.00025	0.053	0.00121		0.0673	0.03	0.00015	0.421	0.00005	0.3883	0.0699	0.0004			0.031	0.00015	0.001		
7-Aug-17	0.0086	0.090	0.000025		0.1055	0.02	0.00025	0.407	0.000005	0.4215	0.0567	0.0004			0.019	0.00025	0.00025		
14-Aug-17	0.0128	0.064	0.00001		0.0473	0.03	0.00015	0.374	0.00015	0.4723	0.0558	0.0004			0.036	0.00005	0.0005		
21-Aug-17	0.0011	0.084	0.00146		0.0772	0.03	0.00015	0.338	0.00019	0.5305	0.1055	0.0004			0.038	0.00005	0.0005		
28-Aug-17	0.0099	0.104	0.00041		0.0525	0.03	0.0038	0.291	0.000005	0.5382	0.0441	0.0004			0.039	0.00005	0.002		
3-Sep-17	0.0077	0.082	0.00125		0.6841	1.06	0.00015	0.220	0.0002	0.5563	0.1644	0.0004			0.036	0.0025	0.0005		
11-Sep-17	0.0041	0.086	0.00195		0.3656	0.02	0.00015	0.143	0.0004	0.5201	0.1518	0.0004			0.041	0.00005	0.0005		
18-Sep-17	0.00025	0.079	0.00158		0.5192	0.02	0.00015	0.102	0.00031	0.5566	0.2258	0.0004			0.047	0.0007	0.001		
25-Sep-17	0.009	0.072	0.00115		0.4074	0.02	0.00015	0.160	0.00004	0.5163	0.2213	0.0004			0.049	0.0006	0.0005		
2-Oct-17	0.0091	0.063	0.00191		0.2982	0.02	0.00015	0.234	0.00027	0.4562	0.2232	0.0004			0.043	0.00005	0.0005		
9-Oct-17	0.0166	0.012	0.00001		0.0010	0.005	0.0077	0.223	0.00044	0.063	0.0352	0.0004			0.001	0.00005	0.0005		
7-Nov-17	0.0062	0.083	0.00234		0.3560	0.04	0.00015	0.273	0.00054	0.7052	0.1387	0.0004			0.074	0.00005	0.002		
4-Dec-17	0.0067	0.080	0.00171		0.2401	0.03	0.00015	0.193	0.00057	0.6202	0.16	0.0004			0.081	0.00005	0.004		
2-Jan-18	0.0104	0.0819	0.00212		0.3781	0.018	0.00015	0.1977	0.00054	0.7035	0.0699	0.0004			0.086	0.00005	0.001		
13-Feb-18	0.00025	0.1376	0.00143		0.0149	0.59	0.00015	0.4013	0.00067	0.6232	0.0392	0.0004			0.078	0.00005	0.002		
6-Mar-18	0.0083	0.1895	0.00006		0.8201	0.01	0.00015	0.315	0.000005	0.6277	0.1381	0.0004			0.077	0.00005	0.0005		
2-Apr-18	0.0272	0.0847	0.00144		0.0271	0.08	0.00015	0.3105	0.0006	0.5523	0.0456	0.0004			0.069	0.00005	0.003		
7-May-18	0.00025	0.103	0.000189		0.1122	0.02	0.00015	0.3245	0.00001	0.5675	0.0928	0.0004			0.055	0.00005	0.0005		
4-Jun-18	0.0087	0.0797	0.00454		0.6625	0.02	0.00015	0.1485	0.000005	0.5224	0.0922	0.0004			0.1	0.00005	0.002		
2-Jul-18	0.0015	0.0625	0.00263		0.5136	0.05	0.00015	0.487	0.00002	0.4249	0.1368	0.0004			0.066	0.00005	0.006	96.6	
6-Aug-18	0.0276	0.0651	0.00194		0.3854	0.01	0.00015	0.3685	0.000005	0.4502	0.1113	0.0001			0.0799	0.0002	0.003	599	82
3-Sep-18	0.012	0.0455	0.00107		0.2054	0.01	0.00015	0.6096	0.000005	0.3694	0.0738	0.0001			0.0591	0.00005	0.002	575	87.2
2-Oct-18	0.0214	0.633	0.00225		0.6379	0.005	0.00015	0.9665	0.000005	0.4334	0.0814	0.0001			0.0773	0.00005	0.004	759	105
4-Dec-18	0.033	0.0599	0.00217		0.0662	0.06	0.00015	0.8173	0.000005	0.4938	0.0484	0.0001			0.0511	0.00005	0.002	758	130
5-Feb-19																			
5-Mar-19	0.0351	0.1035	0.00001	0.0003	4.352	0.41	0.00015	0.3592	0.000005	0.4127	0.2727	0.0024			0.0083	0.00005	0.0005	648	115
9-Apr-19																			
24-May-19																			
29-May-19	0.0068	0.0618	0.00001	0.0003	4.125	0.005	0.00015	0.2187	0.000005	0.4044	0.159	0.0001			0.0191	0.00005	0.0005	647	104
3-Jun-19	0.0061	0.0284	0.00001	0.0003	0.9719	0.01	0.00015	0.6585	0.000005	0.2016		0.0001			0.0055	0.00005	0.0005	389	67.1
2-Jul-19	0.024	0.0363	0.00001	0.0003	1.179	0.02	0.00015	0.3496	0.000005	0.2837		0.0001			0.009	0.0013	0.0005	288	70.2
14-Jul-19	0.0479	0.0351	0.00004	0.0003	0.3937	0.005	0.00015	0.2079	0.0001	0.2305	0.1225	0.0001	0.831	0.008	0.0045	0.0007	0.004	247	62.1
6-Aug-19	0.0171	0.0296	0.00001	0.0003	0.0658	0.03	0.00015	0.1479	0.000005	0.217		0.0001			0.0026	0.00005	0.001	293	64.8
3-Sep-19	0.0119	0.0283	0.00001	0.0003	0.0379	0.02	0.0008	0.1752	0.000005	0.1596		0.0001			0.0029	0.00005	0.003	285	59.4
7-Oct-19	0.0086	0.028	0.0001	0.00025	0.021	0.03	0.00055	0.28	0.00005	0.13		0.001			0.0023	0.00005	0.0025	180	45
12-Oct-19	0.0103	0.0262	0.0002	0.0003	0.0281	0.07	0.00015	0.3607	0.000005	0.1131	0.0418	0.0001	0.779	0.008	0.0026	0.00005	0.006	183	44.7
18-Jun-20	0.0051	0.0119	0.00002		0.0163	0.01	0.0003	0.2205	0.00001	0.0394		0.0002			0.001	0.0001	0.002	89.8	22.06
7-Jul-20	0.0078	0.0253	0.00002		0.0178	0.01	0.0003	0.3788	0.00001	0.0797		0.0002			0.002	0.0001	0.001	156	34.58
31-Aug-20	0.015	0.0238	0.00002		0.0261	0.01	0.00017	0.5096	0.00001	0.054		0.0002			0.001	0.0001	0.001	99.9	30.55
7-Sep-20	0.0102	0.0425	0.00002		0.0055	0.01	0.00017	0.9095	0.00001	0.0556		0.0002			0.001	0.0001	0.005	132	37.6

Tailings Reclaim Pond (NORTH CELL ST-21)

Parametre	Alkalinity	Hardness	Total Ammonia (NH3 + NH4)	Nitrate (NO_3)	Chloride	Fluoride	Sulphate	TDS	Total Cyanide (CNt)	Total Aluminium (Al)	Total Arsenic (As)	Total Barium (Ba)	Total Cadmium (Cd)	Total Chromium (Cr)	Total Copper (Cu)	Total Iron (Fe)
Date	mg CaCO3/L	mg CaCO3/L	mg N/L	mgN/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
8-Jan-14	135	1329	36.8	25.5	1035	0.18	2115	1329	8.33	0.072	0.021	0.0838	0.00134		9.135	0.03
4-Feb-14	120	1428	53.6	32	1289	0.02	2496	2660	9.17	0.15	0.031	0.0914	0.00173		10.9	0.08
11-Mar-14	95	1286	58.8	29.8	1860	6.8	2542	2740	14.49	0.006	0.024	0.1096	0.00417		5.466	0.69
8-Apr-14	110	1721	58.8	27.7	2153	0.32	2275	4633	23.1	0.079	0.0229	0.1219	0.0004		0.37	0.09
6-May-14	73	949	59.5	24.2	1549	2.2	2015	3878	11.69	0.139	0.0162	0.0826	0.00267		0.9237	0.29
3-Jun-14	67	674	51.5	14.3	727	0.41	1251	2142	6.21	0.046	0.0085	0.0512	0.00065		8.398	0.02
1-Jul-14	90	1265	61.1	26.7	1235	2	2289	8573	0.913	0.099	0.007	0.0691	0.00084		3.538	0.09
5-Aug-14	89	1246	48.7	33.5	1847	0.48	2683	3909	1.33	0.134	0.0143	0.0791	0.0013		0.015	0.12
7-Sep-14	84	1390	46.3	21.7	2236	3.7	2400	3636	3.36	0.072	0.0075	0.0893	0.00114		0.5292	0.25
7-Oct-14	93	1387	55.1	35.6	2372	4.8	2359	4746	17.79	0.034	0.018	0.1068	0.00266		8.68	0.26
4-Nov-14	120	1693	67.3	39.6	2902	1.5	3033	1694	20.54	0.109	0.0254	0.1048	0.00303		1.261	0.65
1-Dec-14	127	659	88.2	3.7	256	0.01	951	1461	6.02	0.04	0.0122	0.0439	0.00026		1.267	0.6
15-Jan-15	197	1961	61.4	53.2	3907	0.58	3724	3304	68.67	0.176	0.0372	0.1626	0.00302		14.71	0.17
4-Mar-15	296	1803	52.9	64.5	3838	7.4	4261	7846	78.98	0.003	0.0643	0.1226	0.00354		13.6	0.27
7-Apr-15	24	123	4.99	2.85	159	0.09	274	559	3.54	0.003	0.0011	0.0085	0.00026		1.008	0.96
11-May-15	374	1447	108	67.3	4751	7.5	4103	9773	60.47	0.003	0.0424	0.0507	0.00289		35.8	0.51
1-Jun-15	43	385	13.6	9.93	267	0.03	770	1474	1.45	0.003	0.00025	0.0233	0.00024		2.258	0.03
6-Jul-15	62	559	17.6	12.1	432	2.37	843	1720	0.009	0.003	0.00025	0.0289	0.00001		1.06	0.005
3-Aug-15	97	1005	35.9	19	608	0.32	1692	2863	0.079	0.003	0.00025	0.0809	0.00001		0.5371	0.005
8-Sep-15	99	1880	46.1	20.6	868	0.55	2140	3232	0.396	0.033	0.00025	0.0874	0.00141		0.7407	0.02
7-Jun-16	31	328	8.05	4.82	94.9	0.02	416	800	0.112	0.006	0.0005	0.001	0.00002	0.0006	0.3547	0.88
26-Jul-16	54	564	12.9	5.22	144	0.31	765	1166	0.03	0.043	0.00025	0.028	0.00043	0.0003	0.0326	0.3
2-Aug-16	55	514	7.03	3.46	112	0.25	854	1244	0.038	0.003	0.0091	0.026	0.00022	0.0006	0.047	0.22
6-Sep-16	56	597	19.3	1.9	138	0.27	1145	1558	0.033	0.034	0.0204	0.031	0.00038	0.002	0.0144	0.2
3-Oct-16	61	699	16.9	1.81	127	0.28	937	1457	0.031	0.193	0.00025	0.021	0.00022	0.0003	0.0161	0.98
12-Jun-17	104	980	39	3.86	333	0.36	1585	2750	0.143	0.034	0.0043	0.053	0.00162	0.0006	0.1097	0.19
10-Jul-17	66	294	9.1	1.24	39.4	0.18	422	719	0.042	0.003	0.0075	0.017	0.00005	0.0011	0.0096	0.65
7-Aug-17	78	392	7.58	1.16	36.4	0.2	382	802	0.009	0.134	0.01	0.022	0.00004	0.0041	0.0121	0.74
3-Sep-17	73	340	12	1.22	39.3	0.2	529	878	0.009	0.046	0.00025	0.027	0.00007	0.0006	0.0137	0.2
11-Jun-18	42	251	3.98	2.76	15.6	0.11	331	445	0.004	0.608	0.00025	0.0111	0.00001	0.0003	0.0098	1.83
2-Jul-18	50	307	5.42	2.08	24.2	0.16	421	592	0.012	0.049	0.0033	0.0202	0.00018	0.0009	0.0067	0.4
7-Aug-18	72	376	6.47	2.06	28.6	0.22	549	764	0.012	0.098	0.00025	0.0176	0.00003	0.0003	0.0052	0.61
26-Sep-18	99	993	48.7	12.1	292	0.47	2167	2197	0.061	0.032	0.0287	0.0716	0.00023	0.0003	1.444	0.05
2-Oct-18	93	1260	54.8	11.5	347	0.4	2169	1678	0.085	0.125	0.0492	0.1218	0.00261	0.0021	0.3697	0.23
3-Jun-19	54		42.3		178	0.53	1005	1393	0.528	4.62	0.028	0.0814	0.00009	0.0106	0.0745	15.2
9-Jun-19			-										-	-	-	-
2-Jul-19	58		25.5		9.6	0.29	645	1059	0.106	0.154	0.0616	0.0282	0.00001	0.001	0.597	0.47
6-Aug-19	140		8.32		53.3	0.26	423	626	0.052	0.228	0.0183	0.0208	0.00001	0.0025	0.0552	0.75
3-Sep-19	60		10.3		34.3	0.37	527	896	0.014	0.022	0.0178	0.0286	0.00001	0.0013	0.0652	0.23
18-Jun-20	39		2.64	0.95	19.8	0.14	208	416	0.016	0.940	0.0207	0.0149	0.00002	0.0042	0.0172	3
7-Jul-20	73		4.19	2.61	12.4	0.2	187	388	0.009	0.217	0.0169	0.0229	0.00002	0.0007	0.0296	0.53
10-Aug-20	97		5.04	4.9	24.1	0.33	386	649	0.020	0.082	0.014	0.0005	0.00002	0.0006	0.0213	0.34
7-Sep-20	98		5.68	4.86	39.9	0.29	657	872	0.014	0.399	0.0096	0.0292	0.00002	0.0014	0.0258	0.9

Tailings Reclaim Pond (NORTH CELL ST-21)

Parametre	Total Lead (Pb)	Total Manganese (Mn)	Total Mercury (Hg)	Total Molybdenum (Mo)	Total Nickel (Ni)	Total Selenium (Se)	Total Silver (Ag)	Total Thallium (Ti)	Total Strontium (Sr)	Total Uranium (U)	Total Zinc (Zn)	Dissolved Aluminium (Al)	Dissolved Arsenic (As)	Dissolved Barium (Ba)	Dissolved Cadmium (Cd)	Dissolved Chromium (Cr)
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
8-Jan-14	0.0003	0.0595	0.0002	0.5826	0.2525	0.072	0.0001				0.001	0.072	0.021	0.0838	0.00134	
4-Feb-14	0.0011	0.0141	0.0004	0.7348	0.0754	0.113	0.0107				0.001	0.15	0.031	0.0914	0.00173	
11-Mar-14	0.0009	0.0035	0.0004	0.6747	0.0871	0.188	0.0036				0.002	0.006	0.024	0.1096	0.00417	
8-Apr-14	0.0003	0.0005	0.0003	0.1866	0.0578	0.273	0.0041				0.001	0.079	0.0229	0.1219	0.0004	
6-May-14	0.0003	0.003	0.0005	0.3037	0.0756	0.247	0.0016				0.007	0.139	0.0162	0.0826	0.00267	
3-Jun-14	0.0003	0.0447	0.0002	0.2232	0.2941	0.122	0.0042				0.001	0.046	0.0085	0.0512	0.00065	
1-Jul-14	0.0003	0.0615	0.0003	0.359	0.6107	0.17	0.0001	0.005	0.743	0.01	0.001	0.099	0.007	0.0691	0.00084	
5-Aug-14	0.0003	0.0212	0.0006	0.5202	0.2237	0.239	0.0001				0.001	0.134	0.0143	0.0791	0.0013	
7-Sep-14	0.0003	0.0269	0.0004	0.5631	0.5444	0.209	0.0222				0.001	0.072	0.0075	0.0893	0.00114	
7-Oct-14	0.0003	0.0285	0.0006	0.65	1.399	0.217	0.0333				0.001	0.034	0.018	0.1068	0.00266	
4-Nov-14	0.0003	0.0261	0.0009	0.721	1.518	0.222	0.1837				0.011	0.109	0.0254	0.1048	0.00303	
1-Dec-14	<0.0003	1.355	<0.0001	0.0641	0.2428	0.016	0.0032				0.001	0.04	0.0122	0.0439	0.00026	
15-Jan-15	0.00015	0.0236	0.00151	0.9494	1.787	0.28	0.00005				0.0005	0.176	0.0372	0.1626	0.00302	
4-Mar-15	0.001	0.0217	0.00102	1.14	2.494	0.402	0.00005				0.006	0.003	0.0643	0.1226	0.00354	
7-Apr-15	0.00015	0.0032	0.00002	0.0668	0.1586	0.018	0.0056				0.0005	0.003	0.0011	0.0085	0.00026	
11-May-15	0.00015	0.0075	0.00359	1.308	4.271	0.399	0.0069				0.009	0.003	0.0424	0.0507	0.00289	
1-Jun-15	0.0008	0.035	0.035	0.1116	0.2058	0.042	0.0098				0.0005	0.003	0.00025	0.0233	0.00024	
6-Jul-15	0.00015	0.0529	0.00011	0.1765	0.3169	0.054	0.005				0.0005	0.003	0.00025	0.0289	0.00001	
3-Aug-15	0.00015	0.0229	0.00036	0.38	0.0883	0.068	0.0068				0.0005	0.003	0.00025	0.0809	0.00001	
8-Sep-15	0.00015	0.029	0.00053	0.5175	0.0758	0.057	0.00005				0.0005	0.033	0.00025	0.0874	0.00141	
7-Jun-16	0.0003	0.001	0.00001	0.001	0.001	0.001		0.002			0.001	0.006	0.0005	0.011	0.00008	0.0006
26-Jul-16	0.0021	0.198	0.00053	0.116	0.031	0.027	0.00005	0.0004			0.0005	0.003	0.00025	0.027	0.00037	0.0003
2-Aug-16	0.0032	0.169	0.00005	0.110	0.029	0.028	0.00005	0.0004			0.001	0.003	0.0068	0.027	0.00023	0.0006
6-Sep-16	0.0011	0.204	0.000005	0.135	0.015	0.027	0.00005	0.0004			0.015	0.011	0.00025	0.031	0.0003	0.002
3-Oct-16	0.0053	0.271	0.000005	0.114	0.023	0.024	0.00005	0.0004			0.005	0.003	0.00025	0.022	0.00021	0.0003
12-Jun-17	0.0002	0.450	0.00032	0.359	0.075	0.038	0.00005	0.0004			0.001	0.008	0.0057	0.0443	0.00085	
10-Jul-17	0.0002	0.205	0.000005	0.043	0.013	0.004	0.00005	0.0004			0.005	0.003	0.0075	0.0158	0.0001	
7-Aug-17	0.0096	0.234	0.000005	0.051	0.017	0.003	0.00005	0.0004			0.002	0.003	0.00025	0.0212	0.00004	
3-Sep-17	0.0002	0.175	0.00009	0.049	0.016	0.005	0.00005	0.0004			0.001	0.003	0.00025	0.023	0.00015	
11-Jun-18	0.0135	0.1502	0.000005	0.0116	0.019	0.0005	0.00005	0.0004			0.0005	0.006	0.0005	0.0111	0.00002	
2-Jul-18	0.00015	0.2564	0.000005	0.0202	0.0182	0.0005	0.00005	0.0004			0.003	0.006	0.0005	0.0202	0.00018	
7-Aug-18	0.00015	0.2573	0.000005	0.0284	0.0175	0.0022	0.00005	0.0001			0.0005	0.005	0.0005	0.0179	0.00007	
26-Sep-18	0.00015	0.1092	0.000005	0.5302	0.0975	0.0858	0.00005	0.0001			0.0005	0.011	0.0272	0.0669	0.00002	
2-Oct-18	0.0003	0.687	0.00001	0.6018	0.0816	0.1014	0.00005	0.0001			0.004	0.037	0.0448	0.1035	0.00234	
3-Jun-19	0.0776	0.3606	0.000005	0.4963	0.0714	0.0061	0.00005	0.0001			0.021	0.019	0.018	0.0466	0.00012	0.0003
9-Jun-19	-	-	-	-	-	-	-	-			-	-	-	-	-	-
2-Jul-19	0.00015	0.0876	0.000005	0.2004	0.0943	0.0039	0.0008	0.0001			0.0005	0.009	0.0541	0.0307	0.00001	0.0003
6-Aug-19	0.0041	0.1451	0.000005	0.0998	0.0325	0.0014	0.00005	0.0001			0.0005	0.005	0.0145	0.0166	0.00001	0.0003
3-Sep-19	0.0017	0.2177	0.000005	0.1095	0.0356	0.0037	0.00005	0.0001			0.0005	0.00025	0.0115	0.0199	0.00001	0.0003
18-Jun-20	0.0109	0.1772	0.00001	0.0474	0.0138	0.0010	0.0001	0.0002			0.004	0.006	0.0088	0.0119	0.00002	0.0006
7-Jul-20	0.0031	0.1421	0.00001	0.0433	0.0202	0.0010	0.0001	0.0002			0.001	0.006	0.0101	0.0154	0.00002	0.0006
10-Aug-20	0.00017	0.1852	0.00001	0.0537	0.0189	0.0010	0.0001	0.0002			0.001	0.006	0.0084	0.0005	0.00002	0.0006
7-Sep-20	0.0027	0.4042	0.00001	0.0533	0.0397	0.0010	0.0001	0.0002			0.001	0.006	0.0072	0.0286	0.00007	0.0006

Tailings Reclaim Pond (NORTH CELL ST-21)

Parametre	Dissolved Copper (Cu)	Dissolved Iron (Fe)	Dissolved Lead (Pb)	Dissolved Manganese (Mn)	Dissolved Mercury (Hg)	Dissolved Molybdenum (Mo)	Dissolved Nickel (Ni)	Dissolved Thallium (Ti)	Dissolved Strontium (Sr)	Dissolved Uranium (U)	Dissolved Selenium (Se)	Dissolved Silver (Ag)	Dissolved Zinc (Zn)
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
8-Jan-14	9.053	0.03	0.0016	0.0595	0.0002	0.5826	0.2525				0.072	0.0001	0.001
4-Feb-14	10.9	0.08	0.0003	0.0141	0.0004	0.7348	0.0754				0.113	0.0107	0.001
11-Mar-14	2.189	0.69	0.0003	0.0035	0.0004	0.6747	0.0871				0.188	0.0036	0.002
8-Apr-14	0.2578	0.09	0.0003	0.0005	0.0003	0.1866	0.0578				0.273	0.0041	0.001
6-May-14	0.7796	0.29	0.0003	0.003	0.0005	0.3037	0.0756				0.247	0.0016	0.007
3-Jun-14	8.398	0.02	0.0003	0.0447	0.0002	0.2232	0.2941				0.122	0.0042	0.001
1-Jul-14	0.7023	0.09	0.0003	0.0615	0.0003	0.359	0.6107		0.743	0.01	0.17	0.0001	0.001
5-Aug-14	0.8784	0.12	0.0003	0.0212	0.0006	0.5202	0.2237				0.239	0.0001	0.001
7-Sep-14	2.139	0.25	0.0003	0.0269	0.0004	0.5631	0.5444				0.209	0.0222	0.001
7-Oct-14	8.68	0.26	0.0003	0.0285	0.0006	0.65	1.399				0.217	0.0333	0.001
4-Nov-14	1.261	0.65	0.0003	0.0261	0.0009	0.721	1.518				0.222	0.1837	0.011
1-Dec-14	1.267	0.6	0.0003	1.355	<0.0001	0.0641	0.2428				0.016	0.0032	0.001
15-Jan-15	14.71	0.17	0.00015	0.0236	0.00151	0.9494	1.787	0.0025			0.28	0.00005	0.0005
4-Mar-15	13.6	0.27	0.001	0.0217	0.00102	1.14	2.494	0.0025			0.402	0.00005	0.006
7-Apr-15	1.008	0.96	0.00015	0.0032	0.00002	0.0668	0.1586	0.0025			0.018	0.0056	0.0005
11-May-15	35.8	0.51	0.00015	0.0075	0.00359	1.308	4.271	0.0025			0.399	0.0069	0.009
1-Jun-15	2.258	0.03	0.0008	0.035	0.035	0.1116	0.2058	0.0025			0.042	0.0098	0.0005
6-Jul-15	1.06	0.005	0.00015	0.0529	0.00011	0.1765	0.3169	0.0025			0.054	0.005	0.0005
3-Aug-15	0.5371	0.005	0.00015	0.0229	0.00036	0.38	0.0883	0.0025			0.068	0.0068	0.0005
8-Sep-15	0.7407	0.02	0.00015	0.029	0.00053	0.5175	0.0758	0.0025			0.057	0.00005	0.0005
7-Jun-16	0.2621	0.01	0.0003	0.039	0.00003	0.060	0.040	0.002			0.017	0.0001	0.001
26-Jul-16	0.0237	0.01	0.0002	0.186	0.0004	0.109	0.028	0.0004			0.026	0.00005	0.0005
2-Aug-16	0.0301	0.01	0.0002	0.186	0.00005	0.121	0.030	0.0004			0.029	0.00005	0.001
6-Sep-16	0.0139	0.03	0.0002	0.204	0.00005	0.134	0.014	0.0004			0.03	0.00005	0.016
3-Oct-16	0.0122	0.01	0.0002	0.239	0.000005	0.112	0.021	0.0004			0.023	0.00005	0.003
12-Jun-17	0.0838	0.05	0.00015	0.4074	0.00043	0.2808	0.0641				0.032	0.00005	0.0005
10-Jul-17	0.0085	0.005	0.00015	0.2008	0.000005	0.0431	0.0132				0.004	0.00005	0.0005
7-Aug-17	0.0059	0.005	0.00015	0.2337	0.000005	0.0503	0.0136				0.003	0.00005	0.002
3-Sep-17	0.0061	0.005	0.0009	0.1248	0.000005	0.049	0.0137				0.003	0.00005	0.001
11-Jun-18	0.0045	0.02	0.00015	0.1296	0.00003	0.0114	0.0171	0.0004			0.002	0.0001	0.0005
2-Jul-18	0.0087	0.01	0.00015	0.2616	0.000005	0.0216	0.0161	0.0004			0.0005	0.0001	0.005
7-Aug-18	0.0028	0.005	0.00015	0.2529	0.000005	0.0303	0.0169	0.0001			0.0021	0.0001	0.0005
26-Sep-18	1.231	0.005	0.00015	0.1017	0.000005	0.4922	0.0845	0.0001			0.0681	0.0001	0.0005
2-Oct-18	0.2755	0.005	0.00015	0.0569	0.00001	0.555	0.0594	0.0001			0.0909	0.0001	0.001
3-Jun-19	0.0341	0.08	0.00015	0.0019	0.000005	0.5176	0.0207	0.0001			0.0029	0.00005	0.0005
9-Jun-19	-	-	-	-	-	-	-	-			-	-	-
2-Jul-19	0.5175	0.005	0.00015	0.0952	0.000005	0.2091	0.0869	0.0001			0.0041	0.0007	0.0005
6-Aug-19	0.0403	0.01	0.0023	0.1418	0.000005	0.1012	0.0317	0.0001			0.0014	0.00005	0.0005
3-Sep-19	0.0362	0.005	0.00015	0.1709	0.000005	0.0876	0.0282	0.0001			0.0037	0.00005	0.0005
18-Jun-20	0.0033	0.01	0.0003	0.1317	0.00001	0.0465	0.0092	0.0002			0.001	0.0001	0.001
7-Jul-20	0.0147	0.01	0.0003	0.0956	0.00001	0.0332	0.0142	0.0002			0.001	0.0001	0.001
10-Aug-20	0.0096	0.01	0.00017	0.1263	0.00001	0.0445	0.0158	0.0002			0.001	0.0001	0.001
7-Sep-20	0.0088	0.01	0.00017	0.4552	0.00001	0.0496	0.0396	0.0002			0.001	0.0001	0.001

Central Dike Seepage (ST-S-5)

Parametre	Alkalinity	Hardness	Total Ammonia (NH3 + NH4)	Nitrate (NO_3)	Chloride	Fluoride	Sulphate	TDS	Total Cyanide (CNt)	Total Aluminium (Al)	Total Arsenic (As)	Total Barium (Ba)	Total Cadmium (Cd)	Total Chromium (Cr)	Total Copper (Cu)	Total Iron (Fe)	Total Lead (Pb)	Total Manganese (Mn)	Total Mercury (Hg)	Total Molybdenum (Mo)	Total Nickel (Ni)	Total Selenium (Se)	Total Silver (Ag)	Total Thallium (Tl)	Total Strontium (Sr)	Total Uranium (U)	Total Zinc (Zn)	Dissolved Aluminium (Al)	Dissolved Arsenic (As)	Dissolved Barium (Ba)	Dissolved Cadmium (Cd)	Dissolved Chromium (Cr)	Dissolved Copper (Cu)	Dissolved Iron (Fe)	Dissolved Lead (Pb)	Dissolved Manganese (Mn)	Dissolved Mercury (Hg)	Dissolved Molybdenum (Mo)	Dissolved Nickel (Ni)
Date	mg CaCO3/L	mg CaCO3/L	mg N/L	mgN/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
5-Jan-16	157	1108	25.3	0.63	500	0.49	1845	2558	0.531	0.011	0.0368	0.0274	0.00079	0.0022	0.0566	1.32	0.0003	2.435	0.00008	0.1882	0.0991	0.048	0.0001	0.005			0.009	0.006	0.0223	0.0274	0.00079	0.0021	0.052	0.1	0.0003	2.664	0.00001	0.187	0.1077
1-Feb-16	160	1123	25.9	2.06	491	0.43	1786	2772	0.821	0.046	0.0434	0.0347	0.00057	0.0006	0.2502	1.52	0.0003	2.078	0.00024	0.2584	0.1515	0.039	0.0001	0.002			0.003	0.006	0.0296	0.0347	0.00054	0.0062	0.2288	0.13	0.0003	2.252	0.00013	0.2525	0.1246
8-Mar-16	160	1309	26.9	1.88	532	0.52	1836	2854	0.573	0.006	0.0457	0.036	0.00002	0.0006	0.1463	1.58	0.0003	2.38	0.00004	0.2846	0.079	0.058	0.0001	0.002			0.001		0.0225	0.036	0.00002	0.0006	0.1435	0.07	0.0003	2.303	0.00001	0.2719	0.0759
5-Apr-16	161	1316	30	1.62	520	0.53	1939	2547	0.476	0.01	0.0452	0.0353	0.0007	0.0011	0.0785	1.85	0.0003	2.187	0.00006	0.2767	0.0478	0.056	0.0015	0.002			0.007	0.006	0.0267	0.0353	0.00062	0.0006	0.072	0.06	0.0003	2.153	0.00006	0.282	0.0506
3-May-16	156	1358	29	0.75	511	1.47	2028	3081	0.248	0.006	0.045	0.0413	0.00059	0.0046	0.0236	1.34	0.0003	2.316	0.00014	0.3273	0.0287	0.043	0.0001	0.002			0.003	0.006	0.0328	0.0413	0.00055	0.0029	0.0184	0.04	0.0003	2.239	0.00014	0.326	0.0313
7-Jun-16	148	1368	27.6	0.05	533	0.07	2079	2287	0.282	0.039	0.0407	0.0409	0.00063	0.0059	0.0171	1.68	0.0003	2.072	0.00004	0.3268	0.0237	0.035	0.0001	0.002			0.009	0.006	0.0136	0.0409	0.00037	0.0027	0.0134	0.05	0.0003	2.121	0.00005	0.3367	0.022
18-Jul-16	133	1074	25.9	0.01	392	0.49	1565	2349	0.134	0.011	0.048	0.0295	0.00135	0.0006	0.0054	1.85	0.0003	2.002	0.0001	0.3131	0.0299	0.034	0.0001	0.0008			0.001	0.006	0.0204	0.0295	0.00135	0.0006	0.0045	0.05	0.0003	2.006	0.0001	0.3167	0.0298
3-Aug-16	137	1104	22.1	0.04	391	0.49		2296	0.103	0.006	0.0383	0.0284	0.00099	0.0006	0.0091	1.64	0.0003	2.065	0.0001	0.3257	0.0254	0.028	0.0001	0.0008			0.004	0.006	0.0145	0.0284	0.00084	0.0006	0.0055	0.06	0.0003	1.953	0.0001	0.299	0.228
6-Sep-16	137	1106	28.8	0.02	370	0.47	1664	2716	0.097	0.046	0.0072	0.0324	0.00054	0.0007	0.0061	2.75	0.0003	2.339	0.00001	0.3347	0.0105	0.017	0.0001	0.0008			0.001	0.006	0.0072	0.0324	0.00054	0.0006	0.0061	0.04	0.0003	2.339	0.00001	0.3153	0.0099
3-Oct-16	133	1217	27.5	0.1	359	0.49	1657	2493	0.146	0.015	0.0426	0.0273	0.00065	0.0006	0.031	2.2	0.0003	2.159	0.00001	0.2982	0.0187	0.012	0.0001	0.0008			0.002	0.006	0.0271	0.0273	0.00065	0.0006	0.0047	0.04	0.0003	2.032	0.00001	0.2998	0.0187
8-Nov-16	132	1140	29.3	0.01	357	0.48	1689	2351	0.129	0.008	0.0427	0.0268	0.00168	0.001	0.0112	2.01	0.0066	2.414	0.0001	0.3144	0.0273	0.02	0.0001	0.0008			0.016	0.006	0.019	0.0268	0.00151	0.0006	0.0103	1.38	0.0052	2.308	0.0001	0.2984	0.0244
5-Dec-16	129	887	29.5	0.01	458	0.48	1777	2685	0.134	0.047	0.1082	0.0274	0.00161	0.0006	0.0077	5.07	0.0003	1.975	0.0001	0.3586	0.0217	0.02	0.0001	0.0008			0.019	0.006	0.0237	0.0274	0.00123	0.0006	0.0044	0.04	0.0003	1.785	0.0001	0.3479	0.0145
3-Jan-17	130	1222	28.8	0.005	482	0.46	1913	2814	0.1	0.023	0.0563	0.0314	0.00134	0.0015	0.0074	2.68	0.00015	2.358	0.00005	0.3593	0.0209	0.026	0.00005	0.0008			0.007	0.006	0.0233	0	0.00131	0.0006	0.0092	0.07	0.00015	2.261	0.00005	0.3338	0.0211
6-Feb-17	135	1229	27.5	0.005	523	0.55	1838	2976	0.136	0.003	0.0472	0.0216	0.00129	0.0003	0.0056	2.18	0.00015	2.448	0.00005	0.3346	0.0214	0.015	0.00005	0.0008			0.013	0.006	0.0181	0	0.0014	0.0006	0.0042	0.09	0.00015	2.544	0.00014	0.3611	0.0209
6-Mar-17	138	1009	26	0.005	508	0.45	1950	3102	0.239	0.003	0.048	0.0256	0.00119	0.0003	0.0087	2.42	0.0011	2.44	0.00009	0.3369	0.0249	0.015	0.00005	0.0008			0.003	0.006	0.0216	0	0.00103	0.0006	0.0066	0.05	0.00015	2.248	0.00009	0.3225	0.0226
3-Apr-17	130	1027	29.41	0.005	571.7	0.51	1968	3131	0.179	0.003	0.0307	0.0174	0.00073	0.0003	0.0041	1.89	0.00015	2.074	0.000005	0.3024	0.0115	0.009	0.00005	0.0008			0.0005	0.006	0.0128	0	0.00069	0.0006	0.0051	0.005	0.00015	2.215	0.000005	0.3333	0.0126
1-May-17	126	1248	29.39	0.005	532.3	0.46	1881	3161	0.207	0.003	0.0395	0.0212	0.00081	0.0003	0.0053	2.36	0.00015	2.326	0.000005	0.3659	0.0155	0.015	0.00005	0.0008			0.0005	0.006	0.0253	0	0.00069	0	0.0047	0.03	0.00015	2.34	0.000005	0.3414	0.014
12-Jun-17	117	925	34	0.19	98.9	0.47	1596	2838	0.325	0.003	0.0325	0.0147	0.00109	0.0003	0.0041	1.74	0.00015	2.155	0.000005	0.2527	0.0216	0.015	0.00005	0.0004			0.0005	0.006	0.0167	0	0.00065	0	0.0041	0.06	0.00015	2.022	0.0001	0.2357	0.0217
10-Jul-17	120	1006	33	0.11	438	0.52	1468	2729	0.247	0.003	0.0329	0.0202	0.00077	0.0009	0.0063	1.29	0.0003	2.041	0.00001	0.3052	0.0174	0.01	0.00005	0.0004			0.001	<0.006	0.0291	0	0.00082	0	0.0081	0.04	0.0265	2.071	0.000005	0.3108	0.0162
19-Jul-17	122	1026	29.6	0.13	83.2	0.46	1731	2664	0.246	0.018	0.0174	0.0225	0.00105	0.0003	0.008	1.02	0.00015	1.821	0.00006	0.2753	0.0201	0.011	0.00005	0.0004			0.003	0.006	0.0083	0	0.00133	0.0006	0.0073	0.15	0.00015	1.773	0.0001	0.3174	0.0201
22-Jul-17	125	900	24.5	0.15	396	0.48	1656	2717	0.115	0.003	0.451	0.00025	0.00043	0.0003	0.0061	2.05	0.0408	2.091	0.00065	0.2364	0.0196	0.014	0.00005	0.0004			0.0005	0.006	0.01	0	0.00089	0.0006	0.0061	0.03	0.0408	2.357	0.00057	0.2551	0.0215
22-Jul-17	120	876	26.1	0.62	349	0.45	1514	2552	0.102	0.074	0.021	0.00025	0.00083	0.0008	0.0066	0.79	0.00015	1.542	0.0008	0.302	0.028	0.016	0.00005	0.0004			0.025	0.006	0.0086	0	0.00083	0	0.0066	0.02	0.00015	1.407	0.00076	0.2639	0.0257
1-Aug-17	128	1211	29.7	0.005	13.5	0.43	1450	2676	0.343	0.01	0.00025	0.021	0.00074	0.0003	0.0057	0.09	0.00015	0	0.000005	0.2799	0.0196	0.021	0.00005	0.0004			0.0005	0.006	0.00025	0.018	0.00069	0	0.0069	0.04	0.00015	0	0.000005	0.2601	0.02
7-Aug-17	125	1841	29.8	0.2	377	0.41	1654	2592	0.196	0.0015	0.0292	0.0243	0.0002	0.00005	0.0005	0.89	0.00025	2.152	0.000005	0.3258	0.0097	0.005	0.00025	0.0004			0.002	0.008	0.013	0.0226	0.000025	0	0.0005	0.1	0.00025	1.932	0.000005	0.2991	0.0089
14-Aug-17	133	1168	28.1	0.02	389	0.52	1159	2642	0.141	0.011	0.0474	0.0257	0.00001	0.0003	0.0058	2.04	0.00015	2.2433	0.00008	0.3138	0.0162	0.018	0.000005	0.0004			0.003	0.006	0.0118	0.0236	0.00001	0	0.0068	0.04	0.00015	2.243	0.000005	0.3181	0.0184
21-Aug-17	132	1184	29.4	0.15	358	0.477	1626	2602	0.232	0.03	0.0344	0.023	0.00075	0.0003	0.0072	2.24	0.00015	2.444	0.00047	0.3149	0.0169	0.013	0.00005	0.0008			0.0005	0.006	0.018	0.0205	0.00066	0	0.0068	0.04	0.00015	2.205	0.00009	0.2979	0.0153
28-Aug-17	115	1089	37	0.4	355	0.44	1513	2652	0.252	0.0015	0.032	0.0334	0.00057	0.0078	0.005	1.19	0.0035	1.893	0.000005	0.2777	0.0214	0.021	0.0005	0.0004			0.005	0.003	0.0126	0.0245	0.00001	0.0003	0.0065	0.07	0.0041	1.803	0.000005	0.297	0.0214
3-Sep-17	120	1327	33	0.17	582	0.5	1743	2594	0.185	0.065	0.0399	0.0279	0.00062	0.003	0.0047	1.96	0.0026	2.384	0.000005	0.2974	0.0145	0.008	0.00005	0.0004			0.007	0.006	0.0081	0.0215	0.00064	0.0003	0.0035	0.03	0.00015	2.342	0.00002	0.2977	0.0145
11-Sep-17	122	1163	27	0.15	362	0.4	1892	2593	0.262	0.003	0.0248	0.0269	0.00088	0.0003	0.0056	1.65	0.00015	2.247	0.00008	0.2892	0.0187	0.011	0.00005	0.0004			0.0005	0.006	0.0069	0.022	0.00076	0.0003	0.0052	0.04	0.00015	2.201	0.00004	0.2863	0.0182
18-Sep-17	123	976	35	0.08	366	0.45	1836	2690	0.279	0.003	0.026	0.0213	0.0008	0.0003	0.0046	2.24	0.00015	1.921	0.00003	0.2901	0.015	0.011	0.00005	0.0004			0.001	0.006	0.011	0.0201	0.00077	0	0.0044	0.06	0.00015	2.076	0.00018	0.3089	0.0159
25-Sep-17	122	1003	31.6	0.05	375	0.51	1728	2689	0.049	0.0016	0.03	0.0209	0.00052	0.0008	0.00025	1.53	0.00015	2.048	0.000005	0.2942	0.0147	0.013	0.00005	0.0004			0.0005	0.013	0.0102	0.0207	0.00053	0	0.0005	0.05	0.00015	2.075	0.0003	0.2983	0.0148
2-Oct-17	117	980	30.8	0.35	382	0.71	168	2623	0.18	0.031	0.0236	0.0163	0.00089	0.0015	0.0039	1.39	0.00015	1.958	0.000005	0.243	0.0181	0.013	0.00005	0.0004			0.0005	0.006	0.0085	0.0163	0.00088	0	0.0033	0.02	0.00015	1.951	0.00005	0.2466	0.0181
9-Oct-17	124	1016	30.1	0.14	363	0.54	1726	2602	0.084	0.003	0.0332	0.0192	0.00094	0.0014	0.0071	1.29	0.00015	1.94	0.00005	0.2817	0.0264	0.013	0.00005	0.0004			0.0005	0.006	0.0125	0.0192	0.00073	0.0003	0.0066	0.05	0.00015	2.14	0.00009	0.2954	0.0268
6-Nov-17	119	1021	27.7	0.005	417	0.54	1947	2714	0.253	0.014	0.0434	0.0264	0.00096	0.0009	0.0051	2.27	0.00015	2.084	0.000169	0.296	0.0187	0.013	0.00005	0.0004			0.001	0.006	0.017	0.0229	0.00124	0	0.0042	0.06	0.00015	2.054	0.000129	0.2903	0.0191
4-Dec-17	121	1208	24.9	0.005	376	0.48	0	0	0	0.003	0.0528	0.0269	0.00097	0.0003	0.0056	3.24	0.00015	2.601	0.00009	0.3267	0.0232	0.019	0.00005	0			0	0	0	0	0	0.0021	0	0	0	0	0	0	0
2-Jan-18	125	1175	31.4	0.05	520	0.5	2290	2792	0.106	0.003	0.0587	0.0259	0.001	0.0018	0.0063	1.97	0.00015	2.362	0.00006	0.3197	0.0239	0.017	0.00005	0.0004			0.002	0.006	0.0167	0.0259	0.00092	0.0013	0.0067	0.086	0.00015	2.4	0.00006	0.3292	0.0233
6-Feb-18	118	926	31.3	0.01	428	0.61	2033	2900	0.127	0.009	0.0292	0.0189	0.00065	0.0003	0.0066	2	0.00015	1.913	0.00004	0.2601	0.0184	0.012	0.00005	0.0004			0.0005	0.006	0.017	0.0305	0.0008	0.0003	0.0098	0.14	0.00015	2.514	0.00003	0.2601	0.0237
5-Mar-18	117	1489	29	0.005	579	0.55	2066	2886	0.114	0.01	0.0577	0.0313	0.00003	0.0003	0.0005	1.73	0.00015	2.58	0.00003	0.378	0.0137	0.002	0.00005	0.0004			0.0005	0.01	0.0267	0.0295	0.00012	0.0017	0.0005	0.017	0.00015	2.687	0.000005	0.39	0.0131
2-Apr-18	118	1099	33.5	0.005	599	0.59	1928	2614	0.279	0.003	0.0485	0.025	0.00076	0.003	0.0041	2.04	0.00015	2.34	0.00008	0.29	0.0172	0.006	0.00005	0.0004			0.002	0.006	0.0221	0.0242	0.00079	0.0003	0.004	0.1	0.00015	2.208	0.00008	0.2902	0.0177
7-May-18	116	877	32.5	0.005	496	0.54	2293	2372	0.138	0.011	0.0443	0.0243	0.00071	0.0003	0.0048	2.26	0.00015	2.127	0.000005	0.2627	0.0161	0.005	0.00005	0.0004			0.0005	0.011	0.013	0.0243	0.00071	0.0003	0.0034	0.05	0.00015	2.127	0.000005	0.2627	0.0161
4-Jun-18	108	997	25	0.39	426	0.47	1867	2309	0.141	0.017	0.0365	0.0204	0.00189	0.0003	0.003	2.29	0.00015	1.617	0.00023	0.2561	0.0262	0.014	0.00005	0.0004			0.0005	0.006	0.0178	0.0213	0.00224	0.0003	0.0035	0.07	0.00015	1.772	0.000005	0.2778	0.0295
2-Jul-18	109	1114	34.4	0.07	362	0.57	1956	2434	0.108	0.003	0.0357	0.0308	0.00165	0.0003	0.0034	1.74	0.00015	2.231	0.00001	0.2922	0.0327	0.018	0.00005	0.0004			0.006	0.006	0.0042	0.0244	0.00165	0.0007	0.0111	1.74	0.00015	2.231	0.000005	0.2922	0.0327
6-Aug-18	117	1059	37.7	0.13	427	0.66	1979	2479	0.257	0.0025	0.0102	0.0248	0.00125	0.0003	0.0069	0.03	0.00015	2.406	0.00022	0.3091	0.0359	0.0223	0.00005	0.0001			0.0005	0.005	0.0099	0.0248	0.00117	0.0008	0.0064	0.03	0.00015	2.232	0.000005	0.2857	0.0334
3-Sep-18	109	1034	34.3	0.11	421	0.51	1949	2131	0.07	0.0025	0.0397	0.022	0.00058	0.0003	0.0055	1.79	0.00015	2.261	0.000005	0.2911	0.031	0.0128	0.00005	0.0001			0.0005	0.005	0.0067	0.0199	0.00058	0.0009	0.0063	0.04	0.00015	2.154	0.000005	0.287	0.0307
1-Oct-18	108	1109	29.1	0.01	420	0.5	2005	1654	0.064	0.0025	0.0441	0.0256	0.00107	0.0003	0.006	0.05	0.00015	1.995	0.000005	0.2606	0.0264	0.0143	0.00005	0.0001			0.0005	0.005	0.0123	0.0256	0.00113	0.0003	0.006	0.05	0.00015	2.277	0.000005	0.2997	0.029
5-Nov-18	113	1122	27.4	0.02	404	0.51	1985	1875	0.151	0.0025	0.0532	0.0219	0.00005	0.0003	0.00025	1.81	0.00015	2.211	0.000005	0.3016	0.0088	0.00025	0.00005	0.0001			0.0005	0.0005	0.0115	0.0265	0.00003	0.0016	0.0005	0.02	0.00015	2.527	0.000005	0.3438	0.0099
4-Dec-18	134	1132	32.3	0.005	433	0.58	1878	2062	0.13	0.0025	0.0466	0.0233	0.00107	0.0009	0.0079	2.5	0.00015	2.399	0.000005	0.2618	0.0273	0.0084	0.00005	0.0001			0.002	0.005	0.0058	0.0215	0.00115	0.0003	0.0074	0.05	0.00015	2.14	0.000005	0.2594	0.0265
9-Jan-19	105	1522	26.7	0	396	0.54	2003	2292	0.212	0.0025	0.0712	0.0292	0.00001	0.0003	0.00025	3.3	0.00015	2.952	0.000005	0.1549	0.0231	0.00025	0.00005	0.0001			0.0005	0.00025	0.0076	0.0272	0.00001	0.0003	0.00025	0.01	0.00015	2.765	0.000005	0.1237	0.0205
6-Feb-19	109	1280	27.3	0	430	0.48	2172	2202	0.213	0.0025	0.0659	0.0197	0.00002	0.0003	0.0088	3.01	0.00015	2.43	0.000005	0.2565	0.0173	0.003	0.00005	0.0001			0.0005	0.00025	0.0109	0.0162	0.00009	0.0003	0.0027	0.02	0.00015	2.284	0.000005	0.2163	0.0169
5-Mar-19	109	1464	31.4	0	449	0.56	2028	2208	0.063	0.023	0.0683	0.025	0.00001	0.0003	0.00025	2.83	0.00015	2.504	0.000005	0.2683	0.0133	0.009	0.00005	0.0029			0.0005	0.0025	0.0084	0.0224	0.00001	0.0003	0.00025	0.005	0.00015	2.347	0.000005	0.258	0.0133
9-Apr-19	101	1177	32	0	453	0.53	1943	2194	0.073	0.0025	0.0656	0.0202	0.00001	0.0003	0.00025	3.67	0.00015	2.397	0.000005	0.2358	0.0369	0.0009	0.00005	0.0001			0.0005	0.00025	0.0203	0.0182	0.00004	0.0012	0.00025	0.02	0.00015	2.686	0.000005	0.2605	0.0405
6-May-19	104	1275	23.1	0	79.4	0.52	1907	2034	0.043	0.0025	0.0802	0.0267	0.0007	0.0003	0.00025	3.27	0.00015	2.708	0.00001	0.2836	0.0747	0.00025	0.00005	0.0001			0.0005	0.00025	0.0072	0.0167	0.00051	0.0003	0.00025	0.1	0.00015	2.489	0.00016	0.2504	0.0645
3-Jun-19	81	951	20.6	0	378	0.53	1652	2009	0.061	0.023	0.0657	0.0214	0.00001	0.0003	0.0013	2.34	0.00015	2.026	0.00012	0.2119	0.0719	0.00025	0.00005	0.0001			0.0005	0.00025	0.0137	0.0212	0.00004	0.0003	0.00025	0.005	0.00015	1.79	0.00066	0.2229	0.0707
24-Jun-19	79	989	29.3	0	419	0.5	1734	2615	0.05	0.0025	0.0097	0.025	0.00001	0.0003	0.00025	0.12	0.00015	1.853	0.000005	0.2123	0.0565	0.0049	0.00005	0.0001			0.0005	0.00025	0.0079	0.0168	0.00001	0.0003	0.00025	0.005	0.00015	1.859	0.000005	0.199	0.0599
1-Jul-19	61	887	27.5	0	337	0.45	1548	2116	0.056	0.043	0.0408	0.0265	0.00001	0.0007	0.4811	1.38	0.00015	1.435	0.000005	0.2428	0.0794	0.00025	0.00005	0.0001			0.0005	0.00025	0.0171	0.0261	0.00001	0.0003	0.3579	0.005	0.00015	1.52	0.000005	0.2477	0.0833
11-Jul-19	67	767	27.1	0	300	0.42	1568	1786	0.075	0.0025	0.0168	0.0247	0.00001	0.0016	0.0946	0.02	0.00015	1.092	0.000005	0.213	0.064	0.0028	0.00005	0.0001			0.0005	0.007	0.0144	0.0251	0.00009	0.0003	0.0794	0.005	0.00015	1.141	0.00009	0.2244	0.0656
22-Jul-19	63	824	25.7	0	61.9	0.43	1388	1884	0.024	0.0025	0.0458	0.029	0.00001	0.0009	0.0987	1.21	0.00015	1.166	0.000005	0.231	0.058	0.001	0.0014	0.0001			0.004	0.00025	0.0102	0.0291	0.00001	0.0003	0.0333	0.01	0.00015	1.142	0.000005	0.2229	0.056
29-Jul-19	78	923	31	0	316	0.45	1798	1880	0.028	0.088	0.0627	0.025	0.00001	0.0011	0.0282	2.11	0.00015	1.783	0.000005	0.2456	0.0449	0.00025	0.00005	0.0001			0.008	0.00025	0.0095	0.0239	0.00001	0.0003	0.0008	0.02	0.00015	1.516	0.000005	0.2081	0.0365
6-Aug-19	132	989	31.3	0	316	0.5	1631	1982	0.032	0.036	0.0733	0.0283	0.00001	0.0012	0.0067	2.82	0.00015	2.027	0.000005	0.2412	0.0412	0.0037	0.00005	0.0001			0.0005	0.00025	0.0274	0.0232	0.00001	0.0003	0.0021	0.01	0.00015	2.153	0.000005	0.2466	0.0408
19-Aug-19	87	923	28.6	0	346	0.52	1792	2890	0.026	0.0025	0.0657	0.0159	0.00001	0.0003	0.00025	2.3	0.00015	1.909	0.000005	0.2044	0.0294	0.0024	0.00005	0.0021			0.02	0.00025	0.0156	0.0157	0.00009	0.0003	0.00025	0.005	0.00015	1.94	0.000005	0.2125	0.0271
3-Sep-19	71	1103	32.2	0	317	0.54	1794	2791	0.043	0.0025	0.0352	0.0281	0.00001	0.0003	0.003	1.05	0.00015	2.254	0.000005	0.24	0.0293	0.0055	0.00005	0.0001			0.0005	0.00025	0.0166	0.0266	0.00001	0.0003	0.0007	0.005	0.00015	2.336	0.000005	0.2498	0.0307
16-Sep-19	83	914	20.2	0	306	0.46	1471	2382	0.027	0.086	0.0628	0.033	0.00001	0.001	0.0247	2.14	0.0016	1.652	0.000005	0.2396	0.0254	0.00025	0.00005	0.0001			0.002	0.00025	0.009	0.0185	0.00001	0.0003	0.0034	0.05	0.00015	1.465	0.000005	0.2088	0.0201
23-Sep-19	107	995	21.3	0	322	0.48	1634	2558	0.03	0.08	0.0507	0.0323	0.00007	0.0015	0.0054	2.47	0.00015	2.012	0.000005	0.2404	0.0224	0.0008	0.00005	0.0001			0.012	0.00025	0.0039	0.0196	0.00005	0.0003	0.0015	0.005	0.00015	1.711	0.000005	0.2033	0.0182
30-Sep-19	108	1083	21.2	0	348	0.51	1674	2642	0.04	0.03	0.0386	0.0255	0.00006	0.0008	0.002	1.35	0.00015	2.195	0.000005	0.2406	0.0294	0.0015	0.00005	0.0001			0.0005	0.0086	0.0112	0.0226	0.00001	0.0003	0.00025	0.005	0.00015	2.102	0.000005	0.2343	0.0278
7-Oct-19	93	1025	19.9	0	341	0.49	1647	2134	0.036	0.01	0.058	0.021	0.0001	0.0025	0.0005	2	0.00025	1.9	0.00005	0.23	0.018	0.0015	0.0005	0.001			0.0035	0.005	0.015	0.021	0.0001	0.0003	-	0.03	0.00005	2	0.00005	0.23	0.017
10-Oct-19	71	951	22.4	0	330	0.5	1489	1984	0.037	0.028	0.0623	0.0214	0.00037	0.0014	0.0036	1.95	0.0003	2.046	0.000005	0.2361	0.0233	0.0022	0.00005	0.0001			0.006	0.0141	0.0169	0.0221	0.00039	0.0003	0.003	0.13	0.00015	2.392	0.000005	0.2871	0.0262
21-Oct-19	58	1054	21.2	0	338	0.52	1670	2265	0.051	0.0025	0.0828	0.0146	0.0003	0.0008	0.0041	2.72	0.00015	2.204	0.000005	0.2476	0.0224	0.0023	0.00005	0.0001			0.0005	0.0025	0.0223	0.0168	0.00027	0.0003	0.0037	0.17	0.00015	2.111	0.000005	0.2328	0.0216
29-Oct-19	66	876	20.6	0	331	0.52	1654	2105	0.036	0.041	0.0714	0.0175	0.00015	0.0008	0.0049	2.39	0.00015	1.881	0.000005	0.1996	0.0226	0.0031	0.00005	0.0001			0.0005	0.005	0.0238	0.0182	0.00027	0.0003	0.0042	0.22	0.00015	1.841	0.000005	0.1951	0.0217
4-Nov-19	84	932	21.6	0	319	0.52	1683	2218	0.038	0.006	0.0673	0.0192	0.00032	0.0007	0.0026	2.22	0.00015	1.942	0.000005	0.2224	0.0142	0.0035	0.00005	0.0001			0.0005	0.0025	0.0186	0.0212	0.0003	0.0003	0.0023	0.1	0.00015	2.005	0.000005	0.2372	0.0146
18-Nov-19	88	807	21.9	0	351	0.54	1638	2391	0.038	0.0025	0.0617	0.0112	0.00029	0.0003	0.0038	1.64	0.00015	1.621	0.000005	0.184	0.015	0.0055	0.00005	0.0001			0.0005	0.0025	0.0091	0.0054	0.00029	0.0003	0.005	0.09	0.00015	1.64	0.000005	0.1848	0.0155
25-Nov-19	94	1328	23.7	0	387	0.53	1548	2488	0.053	0.008	0.0846	0.0257	0.00058	0.001	0.0076	2.61	0.0019	2.658	0.000005	0.309	0.0262	0.0018	0.00005	0.0001			0.002	0.0025	0.0093	0.0204	0.00046	0.0003	0.0072	0.22	0.00015	2.477	0.000005	0.2837	0.0237
2-Dec-19	108	1041	23.2	0	375	0.54	1791	24	0.057	0.0025	0.0603	0.0176	0.00036	0.0017	0.0069	2.02	0.00015	1.889	0.000005	0.1942	0.0148	0.0021	0.00005	0.0001			0.0005	0.0025	0.0045	0.0139	0.00033	0.0003	0.0073	0.1	0.00015	1.654	0.000005	0.1709	0.0148
9-Dec-19	99	916	22.7	0	352	0.62	1751	2459	0.052	0.0025	0.0592	0.0157	0.00023	0.0007	0.0059	1.87	0.00015	1.935	0.000005	0.2033	0.017	0.00025	0.00005	0.0001			0.0005	0.0025	0.0035	0.0165	0.00026	0	0.0048	0.08	0.00015	1.898	0.000005	0.1973	0.0158
6-Jan-20	87	1186	23.85	0.01	347	0.06	1700	-	0.062	0.003	0.0533	0.0242	0.00042	0.0026	0.0103	1.7	0.00015	2.3405	0.000005	0.2506	0.023	0.004	0.00005	0.0004	-	-	0.003	0.003	0.01	0.0222	0.0002	0.0003	0.0037	0.07	0.00015	2.0377	0.000005	0.2197	0.0162
13-Jan-20	120	1128	24.89	0.005	348.2	0.62	1670	-	0.069	0.111	0.062	0.0227	0.00054	0.0017	0.0095	1.8	0.0017	2.2277	0.000005	0.2266	0.0213	0.003	0.00005	0.0004	-	-	0.007	0.003	0.0126	0.025	0.00044	0.0003	0.0073	0.1	0.00025	1.8465	0.000005	0.1851	0.0199
20-Jan-20	123	936	25.02	0.005	369.9	0.54	1630	-	0.065	0.003	0.0398	0.0203	0.00017	0.0017	0.0036	1.2	0.00015	2.4823	0.00001	0.255	0.0114	0.0005	0.00005	0.0004	-	-	0.003	0.003	0.0081	0.021	0.00015	0.0003	0.0024	0.005	0.00015	2.036	0.00004	0.2074	0.0106
27-Jan-20	123	951	21.97	0.005	352	0.58	1870	-	0.074	0.006	0.0421	0.0194	0.00027	0.0003	0.0033	1.4	0.00015	1.931	0.000005	0.2039	0.0118	0.001	0.00005	0.0001	-	-	0.012	0.003	0.0077	0.0145	0.00025	0.0003	0.003	0.1	0.00015	1.8094	0.000005	0.1889	0.0111
4-Feb-20	122	973	25.47	0.005	347.5	0.55	1710	-	0.055	0.003	0.0447	0.026	0.00025	0.0017	0.005	1.3	0.00015	2.3372	0.000005	0.2536	0.013	0.0005	0.0001	0.0019	-	-	0.003	0.003	0.0071	0.0258	0.00034	0.0003	0.0048	0.04	0.00015	2.3439	0.000005	0.2527	0.0146
11-Feb-20	129	955	26.35	0.005	370.1	0.59	1720	-	0.07	0.003	0.0449	0.0225	0.00021	0.0003	0.0025	1.2	0.00015	2.0697	0.000005	0.2209	0.01	0.0005	0.00005	0.0001	-	-	0.006	0.003	0.0134	0.0231	0.00018	0.0003	0.0031	0.04	0.00015	1.9695	0.00001	0.2136	0.0103
17-Feb-20	112	1091	25.63	0.005	374.9	0.61	1600	-	0.057	0.011	0.0411	0.0245	0.00042	0.001	0.0051	1.4	0.00015	2.2831	0.000005	0.2579	0.0285	0.004	0.00005	0.0001	-	-	0.006	0.003	0.0051	0.0251	0.00046	0.0003	0.0024	0.07	0.00015	2.055	0.000005	0.2304	0.0174
24-Feb-20	136	989	24.93	0.005	382.4	0.77	1720	-	0.055	0.007	0.0375	0.0248	0.00001	0.0003	0.0007	1.5	0.00015	1.943	0.000005	0.2406	0.0097	0.002	0.00005	0.0001	-	-	0.003	0.003	0.0028	0.0214	0.00001	0.0003	0.00025	0.03	0.00015	2.0209	0.000005	0.2137	0.0097
2-Mar-20	140	1100	22.37	0.005	380.2	0.59	1790	-	0.056	0.007	0.0444	0.029	0.00001	0.0003	0.00025	1.6	0.00015	2.2553	0.000005	0.2749	0.0099	0.002	0.00005	0.0001	-	-	0.002	0.003	0.0036	0.0272	0.00001	0.0003	0.00025	0.03	0.00015	2.1937	0.000005	0.2243	0.0093
9-Mar-20	140	1088	23.42	0.09	389.7	0.56	1770	-	0.056	0.003	0.0429	0.0265	0.00005	0.0018	0.00025	1.6	0.00015	2.413	0.000005	0.2443	0.0122	0.0005	0.00005	0.0001	-	-	0.002	0.003	0.0034	0.0252	0.00006	0.0003	0.00025	0.02	0.00015	2.1911	0.000005	0.2275	0.0107
17-Mar-20	139	1093	25.37	0.005	390.4	0.55	1770	-	0.056	0.003	0.0364	0.0247	0.00001	0.0003	0.00025	1.3	0.00015	2.0966	0.000005	0.2269	0.0085	0.0005	0.00005	0.0001	-	-	0.0005	0.003	0.0033	0.0212	0.00004	0.0003	0.00025	0.04	0.00015	1.8728	0.000005	0.1989	0.0079
29-Mar-20	100	881	32.29	0.14	400	0.58	1910	-	0.053	0.01	0.0446	0.0187	0.00005	0.0003	0.00025	1.6	0.00015	2.5061	0.000005	0.1821	0.008	0.0005	0.00005	0.0001	-	-	0.0005	0.003	0.0026	0.0195	0.00005	0.0003	0.00025	0.02	0.00015	2.0587	0.000005	0.1741	0.0076
6-Apr-20	112	1111	36.2	0.005	379.1	0.55	1770	-	0.06	0.003	0.051	0.027	0.00001	0.0003	0.00025	1.6	0.00015	2.2825	0.000005	0.2434	0.0094	0.002	0.00005	0.0001	-	-	0.0005	0.003	0.0063	0.0248	0.00014	0.0003	0.0008	0.02	0.00015	2.1484	0.000005	0.2402	0.0087
20-Apr-20	107	1163	26.69	0.005	386.5	0.57	1720	-	0.072	0.03	0.0545	0.0234	0.00001	0.0013	0.0016	2.1	0.00015	2.2102	0.00002	0.2248	0.0093	0.0005	0.00005	0.0001	-	-	0.002	0.003	0.0062	0.0221	0.00002	0.0003	0.00025	0.02	0.00015	2.2528	0.00005	0.2302	0.0083
4-May-20	100	1022	29.9	0.005	369.9	0.56	1740	-	0.108	0.003	0.0483	0.0214	0.00001	0.0011	0.0006	1.6	0.00015	1.8892	0.000005	0.2096	0.0064	0.0005	0.00005	0.0001	-	-	0.0005	0.003	0.0068	0.0232	0.00001	0.0003	0.0025	0.02	0.00015	1.9404	0.000005	0.2156	0.0064
18-May-20	92	1032	32.94	0.005	394.7	0.52	1770	-	0.11	0.003	0.0508	0.023	0.00011	0.0007	0.0005	1.6	0.00015	1.8795	0.000005	0.2173	0.006	0.002	0.00005	0.0001	-	-	0.002	0.003	0.0063	0.0208	0.00004	0.0003	0.00025	0.02	0.00015	1.9417	0.000005	0.2192	0.0058
1-Jun-20	91	775	30.31	0.11	286.6	0.53	1620	-	0.075	0.146	0.0271	0.0183	0.00001	0.0017	0.0007	1.1	0.00015	1.8501	0.000005	0.2048	0.0063	0.0005	0.00005	0.0001	-	-	0.0005	0.003	0.0056	0.0224	0.00001	0.0003	0.00025	0.005	0.00015	1.6493	0.000005	0.1931	0.0052
15-Jun-20	74	658	12.61	0.35	232.2	0.38	1000	-	0.08	0.047	0.0578	0.0158	0.00001	0.0007	0.0009	1.8	0.00015	1.2516	0.000005	0.1403	0.0124	0.001	0.00005	0.0001	-	-	0.0005	0.003	0.0141	0.0121	0.00001	0.0003	0.00025	0.02	0.00015	1.0237	0.000005	0.1131	0.0098
7-Jul-20	108	1107	25.19	0.005	477.4	0.48	1560	-	0.067	0.003	0.0876	0.0195	0.00001	0.0003	0.0011	3	0.00015	1.9314	0.000005	0.1782	0.0081	0.0005	0.00005	0.0001	-	-	0.0005	0.003	0.0454	0.0207	0.00001	0.0003	0.00025	0.04	0.00015	2.113	0.000005	0.19	0.0096
13-Jul-20	113	1368	21	0.005	349	0.48	1580	-	0.067	0.003	0.1182	0.0291	0.00001	0.0003	0.00025	3.9	0.00015	2.6259	0.000005	0.2565	0.0077	0.0005	0.00005	0.0001	-	-	0.0005	0.003	0.0577	0.0201	0.00001	0.0003	0.00025	0.01	0.00015	2.1052	0.000005	0.1931	0.0063
20-Jul-20	88	689	21.26	0.37	158.7	0.38	935	-	0.033	0.032	0.0466	0.0199	0.00001	0.0003	0.0013	1.2	0.00015	1.2047	0.000005	0.1215	0.0164	0.0005	0.00005	0.0001	-	-	0.002	0.003	0.0109	0.0205	0.00001	0.0003	0.00025	0.005	0.00015	1.1859	0.000005	0.1227	0.0168
27-Jul-20	93	718	22	0.23	35.8	0.43	1150	-	0.035	0.003	0.0408	0.0228	0.00001	0.0003	0.00025	0.9	0.00015	1.3516	0.000005	0.1298	0.0143	0.0005	0.0003	0.0001	-	-	0.0005	0.003	0.0087	0.0198	0.00001	0.0003	0.00025	0.005	0.00015	1.2308	0.000005	0.1199	0.0115
3-Aug-20	102	1007	26.94	0.005	232.2	0.48	1350	-	0.071	0.003	0.0678	0.0277	0.00007	0.0003	0.00025	1.6	0.00015	1.8095	0.000005	0.1692	0.0144	0.0005	0.0001	0.0001	-	-	0.0005	0.003	0.0104	0.022	0.00001	0.0003	0.00025	0.005	0.00015	1.5141	0.000005	0.1398	0.0115
10-Aug-20	102	972	28.29	0.28	232.1	0.46	2490	-	0.045	0.028	0.057	0.00025	0.00001	0.0003	0.00025	1.4	0.000085	1.9961	0.000005	0.163	0.0169	0.0005	0.00005	0.0001	-	-	0.0005	0.003	0.0096	0.0017	0.00001	0.0003	0.00025	0.005	0.000085	1.3228	0.000005	0.1246	0.0116
17-Aug-20	117	941	29.22	0.12	276.2	0.5	1470	-	0.056	0.05	0.0746	0.0244	0.00001	0.0003	0.00025	2.4	0.0003	1.9199	0.000005	0.1678	0.0095	0.002	0.00005	0.0001	-	-	0.009	0.003	0.0113	0.0222	0.00001	0.0003	0.00025	0.01	0.000085	1.9556	0.000005	0.168	0.0095
24-Aug-20	119	1244	27.41	0.14	265.1	0.52	1380	-	0.057	0.016	0.0955	0.0221	0.00001	0.0003	0.00025	2.6	0.000085	2.2677	0.000005	0.1972	0.0117	0.001	0.00005	0.0001	-	-	0.002	0.003	0.0095	0.0216	0.00001	0.0003	0.00025	0.005	0.000085	1.9012	0.000005	0.175	0.0089
31-Aug-20	55	147	0.02	0.84	1.6	0.12	69.1	-	0.0005	0.901	0.0115	0.0227	0.00001	0.0067	0.0051	1.6	0.0091	0.0659	0.000005	0.003	0.0117	0.0005	0.00005	0.0001	-	-	0.004	0.003	0.0024	0.0169	0.00001	0.0003	0.00025	0.005	0.000085	0.0186	0.000005	0.00025	0.0025
7-Sep-20	126	1170	27.98	0.23	264.1	0.5	1650	-	0.048	0.024	0.0982	0.029	0.00001	0.0003	0.0012	2.4	0.000085	2.4524	0.000005	0.2045	0.0149	0.0005	0.00005	0.0001	-	-	0.004	0.003	0.0102	0.0259	0.00001	0.0003	0.00025	0.01	0.000085	2.1186	0.000005	0.177	0.0116
14-Sep-20	133	1032	26.46	0.35	268.5	0.54	1450	-	0.05	0.008	0.0795	0.0224	0.00001	0.0015	0.00025	2.4	0.000085	2.048	0.000005	0.1778	0.0076	0.0005	0.00005	0.0001	-	-	0.004	0.003	0.011	0.0214	0.00001	0.0003	0.00025	0.02	0.000085	1.853	0.000005	0.172	0.006
21-Sep-20	132	996	26.26	0.16	238.4	0.54	1490	-	0.048	0.054	0.0777	0.0261	0.0029	0.0045	0.0057	1.8	0.0008	2.0237	0.000005	0.1803	0.0119	0.002	0.00005	0.0005	-	-	0.007	0.003	0.0135	0.0225	0.00001	0.0003	0.00025	0.005	0.000085	2.0976	0.00001	0.1869	0.0089
28-Sep-20	132	953	26.25	0.18	247.5	0.53	1320	-	0.049	0.003	0.0608	0.0215	0.00001	0.0003	0.00025	1.4	0.000085	1.9979	0.000005	0.183	0.01	0.0005	0.00005	0.0001	-	-	0.0005	0.003	0.0086	0.0197	0.00001	0.0003	0.00025	0.005	0.000085	1.706	0.000005	0.1559	0.0071
5-Oct-20	133	1121	27.79	0.17	261.2	0.58	1420	-	0.04	0.016	0.0625	0.0247	0.00001	0.0003	0.00025	1.6	0.000085	2.386	0.000005	0.1824	0.0119	0.00025	0.00005	0.0001	-	-	0.0005	0.006	0.0092	0.0175	0.00001	0.0003	0.00025	0.005	0.000085	1.7564	0.000005	0.147	0.0092
13-Oct-20	139	885	27.82	0.07	269.9	0.51	1400	-	0.055	0.0025	0.0491	0.024	0.00001	0.0003	0.0005	1.2	0.0006	2.0982	0.000005	0.1538	0.0113	0.00025	0.00005	0.0001	-	-	0.002	0.0025	0.0095	0.0202	0.00001	0.0003	0.00025	0.005	0.000085	1.8363	0.000005	0.1515	0.0118
19-Oct-20	137	1095	27	0.12	264.3	0.54	1450	-	0.049	0.0025	0.0639	0.0222	0.00001	0.0003	0.0014	1.7	0.000085	2.2891	0.000005	0.1768	0.0117	0.0015	0.00005	0.0001	-	-	0.027	0.0025	0.01	0.0189	0.00001	0.0003	0.00025	0.005	0.000085	1.8866	0.000005	0.1641	0.0104
27-Oct-20	148	1273	29	0.19	180	0.51	1500	-	0.062	0.008	0.0568	0.0263	0.00003	0.0003	0.0009	1.6	0.000085	2.3554	0.000005	0.2004	0.0087	0.0008	0.00005	0.0001	-	-	0.003	0.011	0.0093	0.0238	0.00001	0.0003	0.0006	0.13	0.000085	2.2481	0.000005	0.196	0.0082
4-Nov-20	139	1024	29	0.11	180	0.52	1700	-	0.059	0.006	0.062	0.0234	0.00001	0.0003	0.00025	1.3	0.000085	2.1134	0.00001	0.1776	0.0068	0.00025	0.00005	0.0001	-	-	0.0005	0.0025	0.0101	0.0244	0.00001	0.0003	0.00025	0.005	0.000085	2.0897	0.00004	0.1683	0.0059
9-Nov-20	143	1015	31	0.15	190	0.54	1410	-	0.055	0.0025	0.0426	0.0215	0.00003	0.0003	0.00025	1.1	0.000085	2.406	0.000005	0.1722	0.0093	0.00025	0.0006	0.0001	-	-	0.002	0.0025	0.0056	0.0238	0.00007	0.0003	0.00025	0.02	0.000085	2.1557	0.000005	0.1688	0.0075
16-Nov-20	130	891	-	0.21	200	0.49	1400	2680	0.05	0.003	0.0311	0.0217	0.00001	0.001	0.0005	0.893	0.0002	1.74	-	0.162	0.0065	0.00078	0.00002	0.00001	1.24	0.0251	0.005		0.00472	0.0203	0.00001	0.001	0.0002	0.005	0.0002	1.65	-	0.152	0.006
23-Nov-20	130	874	-	0.31	240	0.59	1400	2620	0.045	0.003	0.032	0.0219	0.00001	0.001	0.0005	0.841	0.0002	1.74	-	0.164	0.0062	0.00046	0.00002	0.00001	-	-	0.005		0.00918	0.0209	0.00001	0.001	0.0002	0.096	0.0002	1.72	-	0.155	0.0066
1-Dec-20	130	990	-	0.31	220	0.49	1400	2700	0.049	0.003	0.034	0.0222	0.00001	0.001	0.0005	1.01	0.0002	1.65	0.000005	0.168	0.0059	0.00027	0.00002	0.00001	-	-	0.005		0.00544	0.0219	0.00001	0.001	0.0002	0.013	0.0002	1.73	-	0.172	0.0061
7-Dec-20	130	899	-	0.21	220	0.51	1400	2540	0.054	0.0093	0.0477	0.0219	0.00001	0.001	0.0005	1.45	0.0002	1.8	0.000005	0.173	0.0063	-	0.00002	0.00001	-	-	0.005		0.0208	0.0214	0.00001	0.001	0.0002	0.739	0.0002	1.68	0.000005	0.168	0.006
7-Dec-20	130	900	-	0.21	220	0.5	1400	2580	0.052	0.003	0.048	0.0223	0.00001	0.001	0.0005	1.44	0.0002	1.81	0.000005	0.179	0.0063	-	0.00002	0.00001	-	-	0.005		0.0208	0.0213	0.00001	0.001	0.0002	0.748	0.0002	1.69	0.000005	0.168	0.0061
14-Dec-20	149	969	28.5	0.14	276.9	0.56	1450	-	0.069	0.0025	0.0388	0.0198	0.00001	0.0003	0.00025	1.1	0.000085	1.8911	0.000005	0.1635	0.007	0.00025	0.00005	0.0001	-	-	0.0005	0.0025	0.008	0.0205	0.00001	0.0003	0.00025	0.02	0.000085	2.0049	0.00003	0.167	0.0072

Central Dike Seepage (ST-S-5)

Parametre	Dissolved Thallium (Ti)	Dissolved Strontium (Sr)	Dissolved Uranium (U)	Dissolved Selenium (Se)	Dissolved Silver (Ag)	Dissolved Zinc (Zn)
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
5-Jan-16	0.005			0.052	0.0001	0.003
1-Feb-16	0.002			0.051	0.0001	0.002
8-Mar-16	0.002			0.056	0.0001	0.001
5-Apr-16	0.002			0.063	0.0013	0.001
3-May-16	0.002			0.044	0.0001	0.001
7-Jun-16	0.002			0.037	0.0001	0.003
18-Jul-16	0.0008			0.036	0.0001	0.001
3-Aug-16	0.0008			0.026	0.0001	0.001
6-Sep-16	0.0008			0.022	0.0001	0.002
3-Oct-16	0.0008			0.014	0.0001	0.001
8-Nov-16	0.0008			0.018	0.0001	0.011
5-Dec-16	0.0008			0.022	0.0001	0.001
3-Jan-17	0.0004			0.037	0.0001	0.008
6-Feb-17	0.0004			0.037	0.0001	0.0005
6-Mar-17	0.0004			0.024	0.0001	0.0005
3-Apr-17	0.0004			0.024	0.0001	0.0005
1-May-17	0.0004			0.014	0.0001	0.0005
12-Jun-17	0.0004			0.018	0.0001	0.0005
10-Jul-17	0.0004			0.015	0.0001	0.0005
19-Jul-17	0.0004			0.014	0.0001	0.0005
22-Jul-17	0.0004			0.017	0.0001	0.0005
22-Jul-17	0.0004			0.013	0.0001	0.0005
1-Aug-17	0.0004			0.017	0.0003	0.0005
7-Aug-17	0.0004			0.001	0.0005	0.0005
14-Aug-17	0.0004			0.023	0.0001	0.0005
21-Aug-17	0.0004			0.013	0.0001	0.0005
28-Aug-17	0.0004			0.015	0.0001	0.001
3-Sep-17	0.0004			0.011	0.0001	0.0005
11-Sep-17	0.0004			0.016	0.0001	0.0005
18-Sep-17	0.0004			0.015	0.0001	0.0005
25-Sep-17	0.0004			0.017	0.0001	0.0005
2-Oct-17	0.0004			0.014	0.0001	0.0005
9-Oct-17	0.0004			0.015	0.0001	0.0005
6-Nov-17	0.0004			0.017	0.0001	0.004
4-Dec-17	0			0	0	0
2-Jan-18	0.0004			0.026	0.0001	0.0005
6-Feb-18	0.0004			0.027	0.0001	0.0005
5-Mar-18	0.0004			0.008	0.0001	0.0005
2-Apr-18	0.0004			0.01	0.0001	0.0005
7-May-18	0.0004			0.005	0.0001	0.0005
4-Jun-18	0.0004			0.024	0.0001	0.0005
2-Jul-18	0.0004			0.027	0.0001	0.001
6-Aug-18	0.0001			0.0216	0.0001	0.001
3-Sep-18	0.0001			0.0159	0.0001	0.0005
1-Oct-18	0.0001			0.0227	0.0001	0.0005
5-Nov-18	0.0001			0.008	0.0001	0.002
4-Dec-18	0.0001			0.0125	0.0001	0.001
9-Jan-19	0.0001			0.00025	0.00005	0.002
6-Feb-19	0.0001			0.0031	0.00005	0.0005
5-Mar-19	0.0024			0.006	0.00005	0.0005
9-Apr-19	0.0001			0.0007	0.00005	0.0005
6-May-19	0.0001			0.00025	0.00005	0.0005
3-Jun-19	0.0001			0.004	0.00005	0.0005
24-Jun-19	0.0001			0.0037	0.00005	0.0005
1-Jul-19	0.0001			0.0028	0.00005	0.0005
11-Jul-19	0.0001			0.0014	0.00005	0.002
22-Jul-19	0.0001			0.0016	0.0002	0.004
29-Jul-19	0.0001			0.0038	0.00005	0.002
6-Aug-19	0.0001			0.0035	0.00005	0.0005
19-Aug-19	0.0001			0.0037	0.00005	0.0005
3-Sep-19	0.0001			0.0038	0.00005	0.0005
16-Sep-19	0.0001			0.0023	0.00005	0.0005
23-Sep-19	0.0001			0.0028	0.00005	0.003
30-Sep-19	0.0004			0.0037	0.00005	0.0005
7-Oct-19	0.001			0.0034	0.00005	0.0025
10-Oct-19	0.0001			0.0055	0.00005	0.002
21-Oct-19	0.0001			0.0053	0.00005	0.0005
29-Oct-19	0.0001			0.0046	0.00005	0.0005
4-Nov-19	0.0001			0.0043	0.00005	0.0005
18-Nov-19	0.0001			0.0065	0.00005	0.0005
25-Nov-19	0.0001			0.0039	0.00005	0.0005
2-Dec-19	0.0001			0.003	0.00005	0.0005
9-Dec-19	0.0001			0.00025	0.00005	0.002
6-Jan-20	0.0004	-	-	0.004	0.00005	0.0005
13-Jan-20	0.0004	-	-	0.002	0.00005	0.002
20-Jan-20	0.0004	-	-	0.0005	0.00005	0.003
27-Jan-20	0.0001	-	-	0.004	0.00005	0.003
4-Feb-20	0.0028	-	-	0.0005	0.00005	0.005
11-Feb-20	0.0001	-	-	0.001	0.00005	0.004
17-Feb-20	0.0001	-	-	0.006	0.00005	0.005
24-Feb-20	0.0001	-	-	0.0005	0.00005	0.001
2-Mar-20	0.0001	-	-	0.0005	0.00005	0.0005
9-Mar-20	0.0001	-	-	0.002	0.00005	0.002
17-Mar-20	0.0001	-	-	0.002	0.00005	0.0005
29-Mar-20	0.0001	-	-	0.001	0.00005	0.0005
6-Apr-20	0.0001	-	-	0.002	0.00005	0.003
20-Apr-20	0.0001	-	-	0.002	0.00005	0.001
4-May-20	0.0001	-	-	0.002	0.00005	0.0005
18-May-20	0.0001	-	-	0.002	0.00005	0.0005
1-Jun-20	0.0001	-	-	0.001	0.00005	0.0005
15-Jun-20	0.0001	-	-	0.001	0.00005	0.002
7-Jul-20	0.0001	-	-	0.0005	0.00005	0.0005
13-Jul-20	0.0001	-	-	0.0005	0.00005	0.0005
20-Jul-20	0.0001	-	-	0.001	0.00005	0.0005
27-Jul-20	0.0001	-	-	0.002	0.00005	0.0005
3-Aug-20	0.0001	-	-	0.001	0.00005	0.0005
10-Aug-20	0.0001	-	-	0.0005	0.00005	0.0005
17-Aug-20	0.0001	-	-	0.003	0.00005	0.015
24-Aug-20	0.0001	-	-	0.0005	0.00005	0.005
31-Aug-20	0.0001	-	-	0.0005	0.00005	0.0005
7-Sep-20	0.0001	-	-	0.0005	0.00005	0.005
14-Sep-20	0.0001	-	-	0.0005	0.00005	0.0005
21-Sep-20	0.0001	-	-	0.001	0.00005	0.005
28-Sep-20	0.0001	-	-	0.0005	0.00005	0.0005
5-Oct-20	0.0001	-	-	0.00025	0.00005	0.0005
13-Oct-20	0.0001	-	-	0.0028	0.00005	0.0005
19-Oct-20	0.0001	-	-	0.0018	0.00005	0.0005
27-Oct-20	0.0001	-	-	0.00025	0.00005	0.032
4-Nov-20	0.001	-	-	0.0007	0.00005	0.0005
9-Nov-20	0.0001	-	-	0.0021	0.0001	0.004
16-Nov-20	0.00001	1.2	0.023	0.00125	0.00002	0.005
23-Nov-20	0.00001	-	-	0.00082	0.00002	0.005
1-Dec-20	0.00001	1.37	0.0252	-	0.00002	0.005
7-Dec-20	0.00001	-	-	0.00073	0.00002	0.005
7-Dec-20	0.00001	-	-	0.00086	0.00002	0.005
14-Dec-20	0.00001	-	-	0.0018	0.00005	0.0005

Portage Pit (ST-17 - PIT A = North Portage Pit)

Parametre	Alkalinity	Hardness	Total Ammonia (NH3 + NH4)	Nitrate (NO_3)	Chloride	Fluoride	Sulphate	TDS	Total Cyanide (CNt)	Total Aluminium (Al)	Total Arsenic (As)	Total Barium (Ba)	Total Cadmium (Cd)	Total Chromium (Cr)	Total Copper (Cu)	Total Iron (Fe)
Date	mg CaCO3/L	**mg CaCO3/L**	mg N/L	mgN/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
28-May-15	60	82	1.1700	3.19	5.1000	0.06	44.6	171	0.005	0.0030	0.522	0.0047	0.0000		0.0014	0.0050
1-Jun-15	55		1.2400					192			0.0512				0.0022	
23-Jul-15	76	227	4.2700	11.9	14.6000	0.37	165	464		0.0030	0.0039	0.0136	0.0000		0.0012	0.0100
4-Aug-15	75		2.2600					426			0.0476				0.0003	
8-Sep-15	86		3.3500					461			0.0237				0.0006	
5-Oct-15	86	306	3.8000	16.8	23.6000	0.37	250	532	0.006	0.034	0.0349	0.0171	0.0000	0.0003	0.0006	0.0500
2-Nov-15	100	340	4.2200	15.7	25.6000	0.42	258	548	0.01	0.05	0.055	0.0156	0.0005	0.0029	0.0003	0.0400
7-Jun-16	45	127	2.02	5.57	11	0.23	117	245	0.016	0.794	0.00019	0.0086	0.0001	0.0003	0.0008	1.7100
20-Jun-16	79	264	3.94	13.1	19	0.33	197	473	0.013	0.625	0.0132	0.014	0.0004	0.0059	0.0120	1.6000
18-Jul-16	79	222	3.69	12.4	18.6	0.36	193	436		0.148	0.0102	0.013	0.0004	0.0021	0.0010	0.3200
3-Aug-16	80	259	3.42	12.8	19.2	0.36	205	473	0.011	0.332	0.0188	0.015	0.0003	0.0053	0.0011	0.9200
6-Sep-16	84	250	2.99	13.6	19.9	0.36	235	510	0.018	0.034	0.0148	0.018	0.0002	0.0007	0.0008	0.0400
3-Oct-16	86	329	2.55	14.1	20.3	0.37	244	528	0.004	0.064	0.0077	0.015	0.0002	0.0003	0.0007	0.1500
8-Nov-16	227	690	7.46	17.2	57.7	0.99	432	964	0.056	6.53	0.0603	0.0561	0.0009	0.2155	0.0118	22.5000
4-Apr-17	279	55	14.680	24.9	70	0.56	436	1131	0.392	4.440	0.002	0.058	0.00049	0.008	0.0083	9.070
4-Jun-17																
12-Jun-17	83	193	4.300	4.5	13	0.36	148	387	0.062	0.134	0.024	0.006	0.00019	0.001	0.0006	0.420
10-Jul-17	84	205	2.000	8.6	14	0.43	150	395	0.014	0.108	0.023	0.010	0.00009	0.002	0.0003	0.300
1-Aug-17	86	221	0.830	6.2	77	0.39	173	372	0.005	0.333	0.011	0.014	0.00001	0.001	0.0008	0.600
7-Aug-17	87	275	0.730	5.9	14	0.37	186	356	0.003	0.143	0.026	0.015	0.00003	0.007	0.0003	0.190
8-Aug-17																
14-Aug-17	112	313	2.970	10.3	26	0.20	101	442	0.048	1.220	0.010	0.032	0.00001	0.001	0.0025	2.010
21-Aug-17	89	19	0.670	6.2	16	0.41	163	397	0.003	0.123	0.027	0.019	0.00001	0.005	0.0009	0.240
28-Aug-17	77	242	0.780	6.7	18	0.40	158	419	0.013	0.045	0.029	0.026	0.00001	0.008	0.0003	0.140
3-Sep-17	83	275	3.900	9.4	19	0.45	168	430	0.042	0.157	0.027	0.018	0.00009	0.002	0.0010	0.330
11-Sep-17	80	255	1.500	7.9	17	0.34	160	405	0.010	0.064	0.017	0.018	0.00001	0.0003	0.0005	0.080
18-Sep-17	79	197	1.000	6.5	16	0.40	170	405	0.009	0.034	0.008	0.015	0.00013	0.0003	0.0003	0.240
25-Sep-17	82	212	0.540	7.9	17	0.47	170	419	0.009	0.019	0.018	0.014	0.00001	0.001	0.0003	0.040
2-Oct-17	79	270	4.010	13.1	21	0.56	224	533	0.057	0.627	0.040	0.016	0.00019	0.009	0.0013	1.690
9-Oct-17	85	250	0.550	8.2	19	0.49	204	453	0.012	0.013	0.023	0.015	0.00006	0.0003	0.0016	0.080
3-Dec-17	91	232	0.590	6.1	19	0.47	179	408	0.005	0.003	0.036	0.018	0.00010	0.0003	0.0005	0.040
13-Jun-18	61	166	1.820	6.0	17	0.25	130	303	0.007	0.321	0.00025	0.0099	0.00003	0.0003	0.0019	0.77
16-Jul-19	73	576	7.41	6.31	176	0.33	946	1409	0.037	0.038	0.0261	0.023	0.00001	0.001	0.0204	0.11
20-Oct-19	67	685	6.07	2.86	147	0.42	885	1372	0.033	0.108	0.4753	0.0229	0.00019	0.0015	0.0331	0.53
21-Jun-20	62	607	13.02	3.33	130.8	0.24	647	1085	0.248	0.003	0.4554	0.0537	0.00001	0.0003	0.186	0.005
8-Jul-20	66	610	12.92	2.74	132.9	0.15	573	1115	0.053	0.054	0.3449	0.0535	0.00001	0.0007	0.741	0.15
12-Aug-20	99	894	17.93	3.94	152.2	0.33	1010	1519	0.07	0.051	0.7639	0.0628	0.00001	0.0003	1.6	0.37
10-Sep-20	126	644	15.37	4.04	142.4	0.32	941	1408	0.014	0.085	0.3715	0.0417	0.00001	0.0037	0.25	0.27
7-Oct-20	132	845	19.26	2.7	175.4	0.37	1140	1585	0.017	2.139	0.4267	0.0506	0.00001	0.0139	0.294	5.5
18-Oct-20	62	57	0.04	0.19	13	0.09	8.5	5	0.0005	0.124	0.0078	0.0216	0.00001	0.0003	0.0129	0.2

Portage Pit (ST-17 - PIT A = North Portage Pit)

Parametre	Total Lead (Pb)	Total Manganese (Mn)	Total Mercury (Hg)	Total Molybdenum (Mo)	Total Nickel (Ni)	Total Selenium (Se)	Total Silver (Ag)	Total Thallium (Ti)	Total Strontium (Sr)	Total Uranium (U)	Total Zinc (Zn)	Dissolved Aluminium (Al)	Dissolved Arsenic (As)	Dissolved Barium (Ba)	Dissolved Cadmium (Cd)	Dissolved Chromium (Cr)
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
28-May-15	0.00015	0.0433	0.0000	0.0359	0.0185	0.0010	0.0001	0.0025			0.006	0.0030	0.0318	0.0047	0.0000	
1-Jun-15	0.0057				0.0207						0.004					
23-Jul-15	0.00015	0.0979	0.0000	0.0005	0.0328	0.0010	0.0001	0.0050			0.0005	0.0030	0.0091	0.0136	0.0000	
4-Aug-15	0.00015				0.0229						0.0005					
8-Sep-15	0.00015				0.0305						0.0005					
5-Oct-15	0.00015	0.1091	0.0000	0.1950	0.043	0.0010	0.00005	0.0025			0.0005					0.0003
2-Nov-15	0.00015	0.1179	0.0002	0.1616	0.045	0.0020	0.00005	0.0025			0.002					0.0029
7-Jun-16	0.00015	0.0760	0.0000	0.0383	0.0107	0.0005	0.00005	0.0010			0.0005					0.0003
20-Jun-16	0.00015	0.1167	0.0000	0.1302	0.0195	0.0005	0.00005	0.0010			0.0005					0.0059
18-Jul-16	0.00015	0.0934	0.0000	0.1116	0.0177	0.0005	0.00005	0.0004			0.001					0.0021
3-Aug-16	0.00015	0.1311	0.0001	0.1280	0.0283	0.0001	0.00005	0.0004			0.0005	0.003	0.0166	0.0129	0.0003	0.0053
6-Sep-16	0.0038	0.1346	0.0000	0.1365	0.027	0.0010	0.00005	0.0004			0.001	0.003	0.00025	0.0178	0.0002	0.0007
3-Oct-16	0.00015	0.1484	0.0000	0.1128	0.0373	0.0010	0.00005	0.0004			0.001	0.014	0.008	0.0157	0.0001	0.0003
8-Nov-16	0.0082	0.8373	0.0001	0.1616	0.1267	0.0040	0.00005	0.0004			0.028	0.011	0.031	0.0365	0.0009	0.2155
4-Apr-17	0.0002	0.283	0.00009	0.214	0.022	0.002	0.00005	0.0004			0.016	0.029	0.0005	0.038	0.00044	0.0009
4-Jun-17																
12-Jun-17	0.0165	0.071	0.00001	0.059	0.029	0.001	0.00005	0.0004			0.001	0.003	0.0146	0.004	0.00001	0.0013
10-Jul-17	0.0002	0.142	0.00001	0.043	0.027	0.001	0.00005	0.0004			0.001	0.003	0.0403	0.009	0.00007	0.0015
1-Aug-17	0.0005	0.118	0.00001	0.037	0.027	0.001	0.00005	0.0004			0.001	0.016	0.0115	0.013	0.00001	0.0009
7-Aug-17	0.0002	0.125	0.00001	0.038	0.026	0.0003	0.00025	0.0004			0.001	0.023	0.0267	0.015	0.00003	0.00030
8-Aug-17																
14-Aug-17	0.0002	0.312	0.00002	0.039	0.011	0.001	0.00005	0.0004			0.001	0.038	0.0024	0.025	0.00001	0.00030
21-Aug-17	0.0056	0.131	0.00026	0.042	0.033	0.001	0.00005	0.0004			0.004	0.011	0.0268	0.017	0.00001	0.0041
28-Aug-17	0.0021	0.128	0.00001	0.043	0.030	0.001	0.00005	0.0004			0.003	0.002	0.0281	0.022	0.00001	0.00030
3-Sep-17	0.0006	0.122	0.00001	0.049	0.039	0.001	0.00005	0.0004			0.008	0.003	0.0238	0.015	0.00009	0.00030
11-Sep-17	0.0002	0.121	0.00002	0.046	0.029	0.001	0.00005	0.0004			0.001	0.011	0.0178	0.015	0.00001	0.00030
18-Sep-17	0.0002	0.113	0.00001	0.046	0.026	0.001	0.00005	0.0004			0.001	0.003	0.0077	0.014	0.00015	0.00030
25-Sep-17	0.0002	0.121	0.00001	0.046	0.026	0.001	0.00005	0.0004			0.001	0.111	0.0120	0.014	0.00001	0.00030
2-Oct-17	0.0002	0.140	0.00001	0.081	0.588	0.002	0.00005	0.0004			0.001	0.003	0.0343	0.013	0.00023	0.0013
9-Oct-17	0.0002	0.124	0.00004	0.064	0.038	0.001	0.00005	0.0004			0.001	0.003	0.0181	0.013	0.00001	0.00025
3-Dec-17	0.0002	0.128	0.00002	0.037	0.044	0.001	0.00005	0.0004			0.001	0.024	0.0394	0.013	0.00011	0.00030
13-Jun-18	0.0016	0.1261	0.000005	0.0231	0.0242	0.0005	0.00005	0.0004			0.0005	0.023	0.00025	0.0093	0.00005	0.0003
16-Jul-19	0.00015	0.8285	0.000005	0.1372	0.0608	0.00025	0.00005	0.0001			0.0005	0.011	0.0255	0.0238	0.00001	0.0003
20-Oct-19	0.00015	0.8009	0.000005	0.1427	0.0585	0.0065	0.00005	0.0001			0.0005	0.0025	0.5187	0.0308	0.00021	0.0003
21-Jun-20	0.00015	0.0893	0.000005	0.0681	0.1341	0.02	0.00005	0.0001			0.0005	0.003	0.4554	0.0537	0.00001	0.0003
8-Jul-20	0.00015	0.188	0.000005	0.092	0.1245	0.02	0.00005	0.0001			0.0005	0.003	0.3763	0.0612	0.00001	0.0003
12-Aug-20	0.000085	0.3107	0.00001	0.1182	0.1754	0.038	0.0012	0.0001			0.0005	0.003	0.5606	0.0589	0.00001	0.0003
10-Sep-20	0.0016	0.2819	0.000005	0.1592	0.0944	0.021	0.0005	0.0003			0.0005	0.042	0.3335	0.0412	0.00001	0.003
7-Oct-20	0.000085	0.6247	0.000005	0.1321	0.1048	0.0349	0.00005	0.0001			0.002	0.006	0.3388	0.0489	0.00001	0.0003
18-Oct-20	0.000085	0.0498	0.000005	0.0014	0.0126	0.00025	0.00005	0.0001			0.037	0.0025	0.0077	0.0258	0.00001	0.0003

Portage Pit (ST-17 - PIT A = North Portage Pit)

Parametre	Dissolved Copper (Cu)	Dissolved Iron (Fe)	Dissolved Lead (Pb)	Dissolved Manganese (Mn)	Dissolved Mercury (Hg)	Dissolved Molybdenum (Mo)	Dissolved Nickel (Ni)	Dissolved Thallium (Ti)	Dissolved Strontium (Sr)	Dissolved Uranium (U)	Dissolved Selenium (Se)	Dissolved Silver (Ag)	Dissolved Zinc (Zn)	Sodium (Na)	Potassium (K)	Calcium
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
28-May-15	0.0003	0.0050	0.00015	0.0433	0.0000	0.0359	0.0137	0.0025			0.0010	0.0001	0.0005			
1-Jun-15																
23-Jul-15	0.0011	0.0100	0.0003	0.0979	0.0000	0.0005	0.0005	0.005			0.0010	0.0001	0.001			
4-Aug-15																
8-Sep-15																
5-Oct-15																
2-Nov-15																
7-Jun-16																
20-Jun-16																
18-Jul-16																
3-Aug-16	0.0008	0.0050	0.00015	0.1046	0.0001	0.1213	0.0242	0.0004			0.0010	0.00005	0.0005			
6-Sep-16	0.0007	0.0050	0.00015	0.1284	0.0000	0.1302	0.0256	0.0004			0.0010	0.00005	0.001			
3-Oct-16	0.0006	0.0050	0.00015	0.1420	0.0000	0.1128	0.033	0.0004			0.0020	0.00005	0.001			
8-Nov-16	0.0029	0.0100	0.00015	0.1742	0.0001	0.1632	0.0472	0.0004			0.0040	0.00005	0.006			
4-Apr-17	0.00320	0.140	0.0002	0.093	0.00009	0.231	0.015	0.0004			0.0020	0.00005	0.0005			
4-Jun-17																
12-Jun-17	0.00025	0.010	0.0060	0.071	0.00003	0.050	0.029	0.0004			0.0005	0.00005	0.0005			
10-Jul-17	0.00920	0.005	0.0002	0.136	0.00001	0.043	0.026	0.0004			0.0005	0.00005	0.0005			
1-Aug-17	0.00050	0.005	0.0002	0.118	0.00001	0.035	0.026	0.0004			0.0005	0.00015	0.0005			
7-Aug-17	0.00025	0.005	0.0003	0.109	0.00001	0.034	0.024	0.0004			0.0003	0.0007	0.0003			
8-Aug-17																
14-Aug-17	0.00160	0.010	0.0002	0.285	0.00001	0.039	0.009	0.0004			0.0010	0.00005	0.0005			
21-Aug-17	0.00080	0.005	0.0002	0.132	0.00011	0.042	0.033	0.0004			0.0010	0.00005	0.001			
28-Aug-17	0.00050	0.005	0.0050	0.109	0.00001	0.047	0.024	0.0004			0.0010	0.00005	0.0005			
3-Sep-17	0.00080	0.020	0.0002	0.117	0.00002	0.053	0.038	0.0004			0.0005	0.00005	0.001			
11-Sep-17	0.00360	0.005	0.0002	0.119	0.00001	0.044	0.029	0.0004			0.0005	0.00005	0.0005			
18-Sep-17	0.00025	0.005	0.0002	0.113	0.00001	0.049	0.026	0.0004			0.0010	0.00005	0.0005			
25-Sep-17	0.00025	0.005	0.0002	0.121	0.00001	0.046	0.026	0.0004			0.0020	0.00005	0.0005			
2-Oct-17	0.00025	0.005	0.0005	0.119	0.00001	0.081	0.053	0.0004			0.0010	0.00005	0.0005			
9-Oct-17	0.00160	0.070	0.0002	0.120	0.00001	0.062	0.035	0.0004			0.0010	0.00005	0.0005			
3-Dec-17	0.00025	0.005	0.0002	0.121	0.00002	0.034	0.041	0.0004			0.0010	0.00005	0.0005			
13-Jun-18	0.0014	0.01	0.00015	0.125	0.000005	0.023	0.0222	0.0008			0.001	0.00005	0.001			
16-Jul-19	0.0202	0.005	0.00015	0.8366	0.000005	0.1387	0.0605	0.0001	0.792		0.0067	0.00005	0.0005	241	42.5	171
20-Oct-19	0.0295	0.12	0.00015	0.9267	0.000005	0.1678	0.0675	0.0001	1.01		0.0083	0.00005	0.0005	318	58.7	210
21-Jun-20	0.1857	0.005	0.00015	0.0893	0.000005	0.0681	0.1341	0.0001	0.572		0.02	0.00005	0.0005	174	75.88	223
8-Jul-20	0.5507	0.005	0.00015	0.1462	0.000005	0.0814	0.1153	0.0001	0.537		0.012	0.00005	0.0005	198	81.39	216
12-Aug-20	0.9296	0.005	0.000085	0.2606	0.000005	0.1085	0.1479	0.0001	0.711		0.034	0.0005	0.0005	322	129.26	323
10-Sep-20	0.1812	0.06	0.0018	0.2303	0.000005	0.1504	0.0744	0.0011	0.546		0.023	0.0002	0.0005	206	80.3	222
7-Oct-20	0.1161	0.005	0.000085	0.4792	0.000005	0.1284	0.0787	0.0001	0.758		0.0235	0.00005	0.0005	321	103.98	285
18-Oct-20	0.001	0.02	0.000085	0.0176	0.000005	0.0017	0.0007	0.0001	0.315		0.00025	0.00005	0.0005	2.68	4.51	18.8

Portage Pit (ST-17 - PIT A = North Portage Pit)

Parametre	Magnesium	Hardness Calculated	pH	Unionized Ammonia
Date	mg/L	mg CaCO3/L		mg N/L
28-May-15			8.52	
1-Jun-15			8.47	
23-Jul-15			6.99	
4-Aug-15			6.51	
8-Sep-15			8.44	
5-Oct-15			8.26	
2-Nov-15			7.90	
7-Jun-16			8.08	
20-Jun-16			8.13	
18-Jul-16			8.03	
3-Aug-16			7.91	
6-Sep-16				
3-Oct-16			7.34	
8-Nov-16			7.93	
4-Apr-17			8.14	
4-Jun-17			7.43	
12-Jun-17			8.08	
10-Jul-17			8.00	
1-Aug-17			8.15	
7-Aug-17				
8-Aug-17			7.80	
14-Aug-17			8.00	
21-Aug-17			7.56	
28-Aug-17				
3-Sep-17			8.23	
11-Sep-17			7.22	
18-Sep-17			7.65	
25-Sep-17			7.21	
2-Oct-17			8.01	
9-Oct-17			7.93	
3-Dec-17			8.28	
13-Jun-18				
16-Jul-19	36.4	579	7.74	0.11
20-Oct-19	39.1	688	7.93	0.10
21-Jun-20	12.6	610	7.97	0.33
8-Jul-20	17.67	614	7.89	0.27
12-Aug-20	21.6	898	8.03	0.51
10-Sep-20	24.54	657	7.80	0.26
7-Oct-20	32.74	849	7.94	0.45
18-Oct-20	2.42	57	10.10	0.03

Portage Pit (ST-19 - Pit E = South Portage Pit)

Parametre	**Alkalinity**	**Hardness**	**Total Ammonia (NH3 + NH4)**	**Nitrate (NO_3)**	**Chloride**	**Fluoride**	**Sulphate**	**TDS**	**Total Cyanide (CNt)**	**Total Aluminium (Al)**	**Total Arsenic (As)**	**Total Barium (Ba)**	**Total Cadmium (Cd)**	**Total Chromium (Cr)**	**Total Copper (Cu)**
Date	mg CaCO3/L	**mg CaCO3/L**	mg N/L	mgN/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
21-Nov-14	90.0000	432.0000	13.4000	42.3000	34.4000	0.2900	339	806.0000		0.026	0.0203	0.0291	0.00093		0.002
13-Jul-15	72.0000	198.0000	3.8500	11.8000	16.7000	0.2400	154	401.0000		0.003	0.0172	0.0124	0.00001		0.00025
11-Aug-15	70.0000	193.0000	2.2400	9.1300	14.1000	0.2900	117	324.0000		0.003	0.0138	0.0098	0.00001		0.00025
14-Sep-15	49.0000		2.1700					768			0.00025				0.00025
13-Jun-16	65.0000	130	4.0600	9.79	33.1	0.38	77.4	333	0.031	0.296	0.00025	0.008	0.00001	0.0064	0.002
17-Jul-16	84.0000	267	7.1900	1.28	29.3	0.69	229	607	0.065	0.084	0.0053	0.0078	0.00041	0.0003	0.002
3-Aug-16	42.0000	422	4.6700	1.96	29.1	0.45	429	747	0.022	0.136	0.00025	0.0173	0.0003	0.0013	0.002
17-Jul-17	74	185	3.35	0.69	28	0.41	110	363	0.012	0.019	0.00025	0.0141	0.00003	0.0003	0.0015
17-Aug-17	82	217	4.05	10.3	28	0.38	137	388	0.007	0.016	0.00025	0.0136	0.00001	0.0003	0.00025
3-Sep-17	74	173	5.2	11.7	30.1	0.37	140	413	0.013	0.02	0.00025	0.0143	0.00004	0.0003	0.0005
2-Jul-18	55	193	2.08	6.88	16.7	0.29	133	318	0.011	0.035	0.0015	0.0097	0.00005	0.0007	0.0008
17-Jun-19	77	280	14.3	22.7	35.8	0.53	270	550	0.266	0.062	0.0031	0.0142	0.00001	0.0023	0.0021
16-Jul-19	45	320	4.86	17.5	26.6	0.4	263	580	0.025	0.033	0.00025	0.0167	0.00001	0.0016	0.0008
17-Jun-19	46	226	0.4	2.65	33.3	0.18	178	368	0.008	0.264	0.0039	0.0174	0.00001	0.0024	0.003
7-Aug-19	76	283	5.22	13.5	30.4	0.4	240	481	0.051	0.152	0.0058	0.0205	0.00001	0.0022	0.0035
20-Oct-19	57	289	2.44	8.9	24.6	0.43	244	424	0.019	1.04	0.003	0.0088	0.00004	0.022	0.0011
18-Aug-20	90	871	14.72	2.04	200	0.39	1150	17	0.049	0.019	0.0108	0.0292	0.00001	0.0003	0.0028
8-Sep-20	83	1026	28.78	6.33	245.3	0.35	1400	1993	0.069	0.211	0.8886	0.0992	0.00001	0.0024	0.206
14-Oct-20	87	1070	0.97	7.37	1.8	0.28	1670	141	0.132	0.293	0.9561	0.0676	0.00001	0.0045	0.34

Portage Pit (ST-19 - Pit E = South Portage Pit)

Parametre	Total Iron (Fe)	Total Lead (Pb)	Total Manganese (Mn)	Total Mercury (Hg)	Total Molybdenum (Mo)	Total Nickel (Ni)	Total Selenium (Se)	Total Silver (Ag)	Total Thallium (Ti)	Total Strontium (Sr)	Total Uranium (U)	Total Zinc (Zn)	Dissolved Aluminium (Al)	Dissolved Arsenic (As)	Dissolved Barium (Ba)
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
21-Nov-14	0.005	0.00015	0.1502	0.00005	0.3088	0.0539	0.005	0.00005	0.0025			0.005	0.026	0.0203	0.0291
13-Jul-15	0.005	0.00015	0.0788	0.00002	0.1074	0.025	0.002	0.00005	0.0025			0.0005	0.003	0.0182	0.0124
11-Aug-15	0.005	0.00015	0.1054	0.000005	0.0181	0.0402	0.001	0.00005	0.0025			0.0005	0.003	0.0138	0.0098
14-Sep-15		0.00015				0.1968						0.2010			
13-Jun-16	0.82	0.00015	0.0474	0.00012	0.0121	0.0072	0.0005	0.00005				0.0040			
17-Jul-16	0.24	0.00015	0.0744	0.00007	0.0906	0.0179	0.002	0.00005				0.0005			
3-Aug-16	3.55	0.00015	0.6503	0.00005	0.0966	0.0945	0.003	0.00005				0.0070	0.003	0.00025	0.0173
17-Jul-17	0.03	0.00015	0.1198	0.00001	0.0267	0.0244	0.001	0.00005	0.0004			0.001	0.003	0.00025	0.0086
17-Aug-17	0.005	0.00015	0.0852	0.00005	0.0315	0.0199	0.003	0.00005	0.0004			0.0005	0.008	0.00025	0.0093
3-Sep-17	0.05	0.0266	0.0593	0.00006	0.028	0.0115	0.001	0.00005	0.0004			0.0005	0.003	0.00025	0.0124
2-Jul-18	0.07	0.00015	0.1209	0.000005	0.0202	0.0182	0.0005	0.00005	0.0004			0.001	0.016	0.0015	0.0107
17-Jun-19	0.45	0.00015	0.192	0.00011	0.0642	0.0404	0.00025	0.00005	0.0001	0.511		0.0005	0.00025	0.002	0.0126
16-Jul-19	0.06	0.00015	0.1295	0.000005	0.0398	0.0206	0.0005	0.00005	0.0001	0.505		0.0005	0.018	0.00025	0.0147
17-Jun-19	0.46	0.00015	0.1023	0.000005	0.0267	0.0102	0.00025	0.00005	0.0001	0.389		0.0005	0.00025	0.0033	0.0142
7-Aug-19	0.42	0.00015	0.0493	0.000005	0.0342	0.0154	0.0016	0.00005	0.0001	0.559		0.005	0.00025	0.0046	0.0132
20-Oct-19	1.46	0.0003	0.0675	0.000005	0.0405	0.0243	0.0009	0.00005	0.0001	0.476		0.0005	0.0025	0.002	0.011
18-Aug-20	0.07	0.000085	1.351	0.000005	0.1804	0.0338	0.0005	0.00005	0.0001	0.924		0.0005	0.003	0.0012	0.0201
8-Sep-20	0.53	0.000085	0.0863	0.00001	0.1881	0.1416	0.077	0.00005	0.0001	0.952		0.0005	0.012	0.7202	0.091
14-Oct-20	0.95	0.0004	0.0699	0.000005	0.1558	0.4009	0.109	0.00005	0.0001			0.001	0.0025	0.9562	0.0677

Portage Pit (ST-19 - Pit E = South Portage Pit)

Parametre	Dissolved Cadmium (Cd)	Dissolved Chromium (Cr)	Dissolved Copper (Cu)	Dissolved Iron (Fe)	Dissolved Lead (Pb)	Dissolved Manganese (Mn)	Dissolved Mercury (Hg)	Dissolved Molybdenum (Mo)	Dissolved Nickel (Ni)	Dissolved Thallium (Ti)	Dissolved Strontium (Sr)	Dissolved Uranium (U)	Dissolved Selenium (Se)	Dissolved Silver (Ag)	Dissolved Zinc (Zn)
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
21-Nov-14	0.00093		0.002	0.005	0.00015	0.1502	0.00005	0.3088	0.0539	0.0025			0.005	0.00005	0.005
13-Jul-15	0.00001		0.00025	0.005	0.00015	0.0788	0.00002	0.1074	0.0243	0.0025			0.002	0.00005	0.0005
11-Aug-15	0.00001		0.00025	0.005	0.00015	0.1054	0.000005	0.0181	0.0402	0.0025			0.001	0.00005	0.0005
14-Sep-15															
13-Jun-16		0.0064													
17-Jul-16		0.0003													
3-Aug-16	0.00024	0.0013	0.001	0.02	0.00015	0.5854	0.00005	0.0867	0.0072	0.0004			0.002	0.00005	0.0040
17-Jul-17	0.00001		0.00025	0.005	0.00015	0.1051	0.000020	0.0268	0.0251	0.0004			0.001	0.00005	0.0005
17-Aug-17	0.00001		0.0006	0.005	0.00015	0.0639	0.000050	0.0296	0.0166	0.0004			0.003	0.00005	0.0005
3-Sep-17	0.00007		0.00025	0.005	0.00015	0.0515	0.000060	0.0274	0.0108	0.0004			0.001	0.00005	0.0005
2-Jul-18	0.00006		0.0007	0.005	0.00015	0.1187	0.000005	0.0202	0.0187	0.0004			0.001	0.00005	0.0005
17-Jun-19	0.00001	0.0003	0.0022	0.08	0.00015	0.1835	0.000005	0.0654		0.0001	0.504		0.00025	0.00005	0.0005
16-Jul-19	0.00001	0.0003	0.0008	0.005	0.00015	0.117	0.000005	0.0387		0.0001	0.49		0.00025	0.00005	0.0005
17-Jun-19	0.00001	0.0003	0.0022	0.005	0.00015	0.0886	0.000005	0.0272		0.0001	0.38		0.00025	0.00005	0.0005
7-Aug-19	0.00001	0.0003	0.0033	0.02	0.00015	0.0433	0.000005	0.0327		0.0001	0.527		0.00025	0.00005	0.0005
20-Oct-19	0.00001	0.0003	0.0008	0.05	0.00015	0.0464	0.000005	0.0339		0.0001	0.45		0.001	0.00005	0.0005
18-Aug-20	0.00001	0.0003	0.00025	0.005	0.000085	1.2296	0.000005	0.1618		0.0001	0.995		0.0005	0.00005	0.0005
8-Sep-20	0.00001	0.0003	0.199	0.005	0.000085	0.0713	0.000005	0.1702		0.0001	0.832		0.072	0.00005	0.0005
14-Oct-20	0.00002	0.0003	0.3232	0.005	0.000085	0.0604	0.00001	0.1588	0.3899	0.0001	1.099		0.109	0.00005	0.0005

Portage Pit (ST-19 - Pit E = South Portage Pit)

Parametre	Sodium (Na)	Potassium (K)	Calcium	Magnesium	Hardness Calculated	pH	Unionized Ammonia
Date	mg/L	mg/L	mg/L	mg/L	mg CaCO3/L		mg N/L
21-Nov-14							
13-Jul-15						6.81	
11-Aug-15						5.90	
14-Sep-15						7.28	
13-Jun-16						7.95	
17-Jul-16							
3-Aug-16						7.45	
17-Jul-17						8.32	
17-Aug-17						8.01	
3-Sep-17						8.08	
2-Jul-18						7.67	
17-Jun-19	51.5	24.6	64.8	28.9	282	7.10	0.26
16-Jul-19	36.2	17.3	70.4	35.3	323	7.79	0.10
17-Jun-19	18.8	16.4	60.8	18	227		0.01
7-Aug-19	30.5	19.6	64.1	29.9	285	7.85	0.13
20-Oct-19	38.3	13.6	60	34	292	8.00	0.06
18-Aug-20	391	66.55	267	50.1	876	7.85	0.28
8-Sep-20	370	145.04	358	32.54	1031	8.18	1.15
14-Oct-20	411	191.3	390	23.97	1075	8.30	0.05

Goose Pit (ST-20)

Parametre	Alkalinity	Hardness	Total Ammonia (NH3 + NH4)	Nitrate (NO_3)	Chloride	Fluoride	Sulphate	TDS	Total Cyanide (CNt)	Total Aluminium (Al)	Total Arsenic (As)	Total Barium (Ba)	Total Cadmium (Cd)	Total Chromium (Cr)	Total Copper (Cu)
Date	mg CaCO3/L	mg CaCO3/L	mg N/L	mgN/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
11-Mar-14	93.0000		0.0170					175.0000							0.0005
3-Jun-14	90.0000		2.4000					288.0000							0.0022
1-Jul-14	94.0000	111.0000	5.6000	16.4000	73.6000	0.9100	50.9	1544.0000		0.016	0.0013	0.0163	0.00001		0.0005
10-Aug-14	83.0000		0.4000					319							0.0022
8-Sep-14	88.0000	151	0.6100	5.3	31.3	0.96	70.6	322		0.046	0.0059	0.0387	0.00001		0.002
7-Jul-15	71.0000	72	0.4100	1.67	13.8	0.29	21.3	144			0.00025				0.004
4-Aug-15	50.0000		0.9900					25			0.00025				0.000
9-Sep-15	52	171	1.72	3.33	34.8	0.48	98.6	270			0.00025				0.0023
5-Oct-15	53	159	1.4	3.89	17.9	0.42	117	282	0.008	0.305	0.0039	0.0276	0.00001	0.0003	0.0026
7-Jun-16	23	50	0.28	0.9	3.8	0.12	25	83	0.0025	1.26	0.00025	0.0121	0.00001	0.0101	0.0025
18-Jul-16	52	145	0.03	4.43	15.1	0.41	97.8	277	0.0025	0.114	0.001	0.0241	0.00008	0.0003	0.0047
8-Aug-16	53	134	0.06	5	15.7	0.4	100	281	0.0025	0.084	0.00025	0.021	0.00001	0.0003	0.0027
11-Oct-16	60	179	0.03	4.54	18.8	0.44	114	312	0.001	0.091	0.00025	0.0249	0.00007	0.0018	0.0021
17-Jul-17	85	202	0.76	2.35	11.1	0.22	112	369	0.0005	0.096	0.00025	0.0308	0.00001	0.0003	0.0024
16-Aug-17	91	262	1.22	17	12.9	0.17	156	443	0.001	0.134	0.0076	0.0449	0.00001	0.0003	0.0016
3-Sep-17	81	214	1.5	20.3	14.1	0.16	174	458	0.004	0.107	0.00025	0.0479	0.00004	0.0003	0.0021
27-Aug-18	55	161	0.11	5.58	9.1	0.22	130	284	0.0005	0.043	0.00025	0.024	0.00001	0.0025	0.0013
24-Sep-18	43	182	0.11	8.05	8.7	0.24	153	262	0.001	0.052	0.001	0.0276	0.00001	0.0013	0.0016
3-Jun-19					0.5	0.08	29.6	75	0.0005	0.663	0.0024	0.008	0.00001	0.0073	0.0023
9-Jun-19															
26-Jun-19					7.3	0.2	118	307	0.0005	0.018	0.00025	0.0287	0.00001	0.0009	0.0007
29-Jul-19					7.6	0.19	145	266	0.002	0.028	0.001	0.024	0.00001	0.0009	0.0015
12-Aug-19					4.7	0.19	108	251	0.001	0.089	0.0036	0.0197	0.00001	0.0023	0.003
15-Jun-20			0.12	0.5	2	0.07	24.8	78	0.0005	1.408	0.0074	0.0131	0.00001	0.0129	0.0069
7-Jul-20															
11-Aug-20			0.005	4.49	6.8	0.25	140	284	0.001	0.006	0.0065	0.0048	0.00001	0.0003	0.0042
10-Sep-20			0.04	4.66	7.6	0.27	161	298	0.0005	0.152	0.0094	0.0219	0.00001	0.0017	0.0029
9-Aug-15	75	104	0.57	4.11	13.7	0.55	45.8		0.0025	0.011	0.0061	0.0166	0.00001	0.0025	0.0007
24-Jul-16	80	190	4.4	2.57	25.9		151	388	0.01	1.11	0.00025	0.054	0.00005	0.0049	0.0034
9-Aug-16	80	154	3.98	3.01	24.9		142	394	0.0025	0.24	0.00025	0.0534	0.00001	0.0072	0.0018
14-Sep-16	82	165	3.17	2.61	22.7		144	378	0.0005	0.085	0.00025	0.0425	0.00001	0.0003	0.0016
10-Oct-16	83	183	3.04	3.5	24.8		147	399	0.003	0.164	0.00025	0.0429	0.00001	0.0013	0.0016
20-Aug-17	92	175	0.7	3.65	21.9		145	364	0.0005	0.131	0.00025	0.0553	0.00001	0.0023	0.0011
28-Aug-17	78	182	0.68	4.02	22.7		128	362	0.0005	0.228	0.00025	0.0503	0.00001	0.0014	0.0006
3-Sep-17	86	135	0.7	3.38	21.7		111	323	0.003	0.283	0.00025	0.0519	0.00001	0.0021	0.0008
5-Oct-17	82	197	1.7	4.27	34.7		210	468	0.019	0.802	0.0017	0.0574	0.00001	0.0086	0.002
27-Aug-18	55	100	0.12	2.05	14.7		79.4	225	0.001	0.085	0.0005	0.0258	0.00002	0.002	0.001
18-Sep-18	68	129	0.2	2.33	14.1		81	211	0.001	0.128	0.0054	0.0361	0.00006	0.0011	0.0015
31-Jul-19	61	405	10.5	1.9	80	0.54	469	803	0.152	0.588	0.0191	0.0383	0.00024	0.0094	0.5609
18-Jun-20	26	164	5.21	1.04	22	0.25	176	439	0.065	0.124	0.1587	0.026	0.00001	0.0003	0.865
8-Jul-20			0.005	4.27	5.8	0.18	106	252	0.002	0.032	0.0016	0.0276	0.00001	0.0003	0.0005
8-Jul-20	63	931	26.33	4.97	496.9	0.26	998	1572	1.2	0.02	0.7545	0.076	0.00001	0.0003	6
10-Jul-20	63	975	22	0.83	216.1	0.26	946	1600	0.777	0.059	0.8799	0.0798	0.00001	0.001	5.91
11-Aug-20	68	956	31.62	5.68	202.8	0.27	1070	1748	0.152	0.01	1.0421	0.0465	0.00001	0.0003	1.92
10-Sep-20	120	801	33.46	5.03	207.9	0.27	1220	1769	0.014	0.029	0.9907	0.0699	0.0029	0.0012	0.212
7-Oct-20	148	1077	16.09	5.89	196.7	0.28	1250	1831	0.014	0.774	1.1805	0.0838	0.00001	0.0057	0.248

Goose Pit (ST-20)

Parametre	Total Iron (Fe)	Total Lead (Pb)	Total Manganese (Mn)	Total Mercury (Hg)	Total Molybdenum (Mo)	Total Nickel (Ni)	Total Selenium (Se)	Total Silver (Ag)	Total Thallium (Ti)	Total Strontium (Sr)	Total Uranium (U)	Total Zinc (Zn)	Dissolved Aluminium (Al)	Dissolved Arsenic (As)	Dissolved Barium (Ba)
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
11-Mar-14		0.0006				0.0018						0.001			
3-Jun-14		0.00015				0.0137						0.001			
1-Jul-14	0.005	0.00015	0.0115	0.0001	0.0191	0.0109	0.001	0.00005				0.0005	0.016	0.0013	0.0163
10-Aug-14		0.00090				0.036						0.0030			
8-Sep-14	0.005	0.00030	0.1072	0.0001	0.0166	0.0277	0.001	0.00005				0.0090	0.046	0.0059	0.0387
7-Jul-15		0.00015				0.0263						0.0005	0.003	0.00025	0.0104
4-Aug-15		0.00100				0.0209						0.0005			
9-Sep-15		0.00015				0.0423						0.0005	0.003	0.00025	0.0198
5-Oct-15	0.69	0.00015	0.2682	0.000005	0.0138	0.0629	0.001	0.00005	0.0025			0.0005	0.003	0.00025	0.0216
7-Jun-16	2.17	0.00015	0.1095	0.000005	0.0026	0.0113	0.0005	0.00005	0.0010			0.007	0.003	0.00025	0.0012
18-Jul-16	0.16	0.00015	0.0894	0.000005	0.0081	0.0424	0.001	0.00005	0.0004			0.0005	0.003	0.00025	0.0214
8-Aug-16	0.18	0.00015	0.0502	0.000005	0.008	0.039	0.001	0.00005	0.0004			0.0005	0.003	0.00025	0.0185
11-Oct-16	0.15	0.00015	0.0241	0.000005	0.0083	0.0673	0.0005	0.00005	0.0004			0.003	0.003	0.00025	0.0235
17-Jul-17	0.21	0.00015	0.1028	0.000005	0.0069	0.0538	0.0005	0.00005	0.0004			0.005	0.013	0.00025	0.0303
16-Aug-17	0.2	0.00015	0.1231	0.000005	0.0069	0.0995	0.002	0.00005	0.0004			0.0005	0.003	0.00025	0.0378
3-Sep-17	0.21	0.00015	0.0716	0.00004	0.006	0.0737	0.002	0.00005	0.0004			0.001	0.003	0.00025	0.0454
27-Aug-18	0.07	0.00015	0.1359	0.000005	0.0054	0.0902	0.0009	0.00005	0.0001			0.0005	0.0025	0.00025	0.024
24-Sep-18	0.11	0.00015	0.0971	0.000005	0.0047	0.1036	0.00025	0.00005	0.0001			0.0005	0.064	0.0008	0.035
3-Jun-19	1.12	0.00015	0.0697	0.000005	0.0043	0.0105	0.00025	0.00005	0.0001			0.003	0.00025	0.0005	0.0037
9-Jun-19															
26-Jun-19	0.1	0.00015	0.0603	0.000005	0.0053	0.0624	0.00025	0.00005	0.0001			0.0005	0.00025	0.00025	0.0237
29-Jul-19	0.05	0.00015	0.0455	0.000005	0.0058	0.0498	0.00025	0.00005	0.0001			0.0005	0.00025	0.0009	0.026
12-Aug-19	0.15	0.00015	0.0359	0.000005	0.0038	0.0125	0.0014	0.00005	0.0001			0.0005	0.00025	0.0028	0.014
15-Jun-20	2.3	0.0009	0.1004	0.000005	0.001	0.036	0.0005	0.00005	0.0001			0.007	0.003	0.0017	0.004
7-Jul-20															
11-Aug-20	0.03	0.000085	0.0088	0.000005	0.0042	0.0905	0.0005	0.00005	0.0001			0.0005	0.003	0.0039	0.00025
10-Sep-20	0.3	0.000085	0.0368	0.000005	0.0042	0.0993	0.001	0.00005	0.0001			0.0005	0.003	0.009	0.0211
9-Aug-15	0.07	0.00015	0.0175	0.00005	0.0145	0.0097	0.0005		0.0025	0.177	0.003	0.002	0.003	0.00025	0.0163
24-Jul-16	2.33	0.0015	0.1763	0.00051	0.0225	0.0121	0.001		0.0004	0.286	0.008	0.008	0.003	0.00025	0.0453
9-Aug-16	0.63	0.00015	0.1666	0.00007	0.0276	0.0111	0.001		0.0004	0.28	0.009	0.001	0.003	0.00025	0.0534
14-Sep-16	0.16	0.00015	0.1177	0.00004	0.024	0.0139	0.001		0.0004	0.28	0.008	0.001	0.003	0.00025	0.0397
10-Oct-16	0.27	0.00015	0.1208	0.000005	0.0217	0.0113	0.0005		0.0004	0.251	0.01	0.002	0.003	0.00025	0.0422
20-Aug-17	0.16	0.00015	0.0617	0.000005	0.0201	0.0136	0.001		0.0004	0.303	0.011	0.0005	0.003	0.0016	0.0434
28-Aug-17	0.68		0.0514	0.000005	0.0195	0.0143	0.001		0.0004	0.341	0.011	0.0005	0.003	0.00025	0.0482
3-Sep-17	0.67	0.021	0.0719	0.00006	0.017	0.0176	0.0005		0.0004	0.26	0.01	0.001	0.003	0.00025	0.053
5-Oct-17	1.67	0.00015	0.2089	0.00015	0.0262	0.0239	0.003		0.0004	0.406	0.013	0.003	0.003	0.00025	0.0461
27-Aug-18	0.12	0.00015	0.0086	0.000005	0.0124	0.0108	0.00025		0.0001	0.183	0.005	0.0005	0.0025	0.00025	0.024
18-Sep-18	0.18	0.00015	0.0155	0.000005	0.0171	0.0133	0.0014		0.0001	0.213	0.008	0.003	0.054	0.0053	0.0312
31-Jul-19	1.03	0.00015	0.0509	0.00002	0.1281	0.0232	0.0052	0.0023	0.0001	0.62	0.013	0.003	0.024	0.0146	0.0303
18-Jun-20	0.28	0.00015	0.0635	0.000005	0.0235	0.0565	0.008	0.00005	0.0001	0.2	0.002	0.0005	0.003	0.1055	0.0166
8-Jul-20	0.08	0.00015	0.0378	0.00001	0.0039	0.1103	0.0005	0.00005	0.0001			0.0005	0.003	0.0012	0.0194
8-Jul-20	0.03	0.00015	0.0259	0.00002	0.1163	0.2038	0.05	0.001	0.0001	0.916	0.01	0.0005	0.003	0.7555	0.0762
10-Jul-20	0.15	0.00015	0.0243	0.000005	0.1225	0.2251	0.047	0.0021	0.0001	0.799	0.011	0.0005	0.003	0.8072	0.0585
11-Aug-20	0.02	0.000085	0.0232	0.00001	0.1159	0.2111	0.069	0.0016	0.0001	0.75	0.008	0.003	0.003	0.8823	0.0389
10-Sep-20	0.07	0.000085	0.0686	0.00001	0.1046	0.1401	0.053	0.0003	0.0001	0.607	0.007	0.01	0.003	0.9793	0.0645
7-Oct-20	2.2	0.000085	0.0788	0.000005	0.1321	0.1567	0.0606	0.00005	0.0001	0.884	0.01	0.0005	0.023	1.1694	0.0766

Goose Pit (ST-20)

Parametre	Dissolved Cadmium (Cd)	Dissolved Chromium (Cr)	Dissolved Copper (Cu)	Dissolved Iron (Fe)	Dissolved Lead (Pb)	Dissolved Manganese (Mn)	Dissolved Mercury (Hg)	Dissolved Molybdenum (Mo)	Dissolved Nickel (Ni)	Dissolved Thallium (Ti)	Dissolved Strontium (Sr)	Dissolved Uranium (U)	Dissolved Selenium (Se)	Dissolved Silver (Ag)	Dissolved Zinc (Zn)
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
11-Mar-14															
3-Jun-14															
1-Jul-14	0.00002		0.0005	0.01	0.00030	0.0115	0.0001	0.0191	0.0043	0.0025			0.001	0.0001	0.001
10-Aug-14															
8-Sep-14	0.00002		0.001	0.01	0.00030	0.1072	0.0001	0.0166	0.0253	0.0025			0.001	0.0001	0.0010
7-Jul-15	0.00001		0.000	0.005	0.00015	0.1258	0.00002	0.0062	0.0145	0.0025			0.0005	0.00005	0.0005
4-Aug-15															
9-Sep-15	0.00002		0.001	0.005	0.00015	0.2043	0.000005	0.0116	0.0319	0.0025			0.002	0.00005	0.0005
5-Oct-15	0.00001	0.0003	0.0026	0.005	0.0003	0.2026	0.000005	0.012	0.0515	0.0025			0.002	0.00005	0.0005
7-Jun-16	0.00001	0.0101	0.0005	0.005	0.00015	0.0839	0.000010	0.0022	0.0045	0.001			0.0005	0.00005	0.0005
18-Jul-16	0.00002	0.0003	0.0009	0.005	0.00015	0.0635	0.000005	0.0085	0.0405	0.0004			0.001	0.00005	0.0005
8-Aug-16	0.00001	0.0003	0.0019	0.005	0.00015	0.0266	0.000005	0.0073	0.0332	0.0004			0.001	0.00005	0.0005
11-Oct-16	0.00001	0.0018	0.00025	0.005	0.00015	0.0178	0.000005	0.0077	0.0626	0.0004			0.0005	0.00005	0.0005
17-Jul-17	0.00001		0.0005	0.005	0.00015	0.095	0.00001	0.0079	0.0569	0.0004			0.0005	0.00005	0.004
16-Aug-17	0.00001		0.0009	0.005	0.00015	0.0859	0.000005	0.0066	0.0831	0.0004			0.002	0.00005	0.0005
3-Sep-17	0.00001		0.0012	0.005	0.00015	0.0716	0.00003	0.0064	0.0706	0.0004			0.002	0.00005	0.001
27-Aug-18	0.00011		0.0011	0.005	0.00015	0.1245	0.000005	0.0059	0.0888	0.0001			0.0005	0.00005	0.0005
24-Sep-18	0.00001		0.0018	0.005	0.0012	0.1244	0.000005	0.0065	0.1311	0.0001			0.0045	0.00005	0.0005
3-Jun-19	0.00001	0.0003	0.00025	0.005	0.00015	0.0501	0.000005	0.0046	0.0033	0.0001			0.00025	0.00005	0.0005
9-Jun-19															
26-Jun-19	0.00001	0.0003	0.00025	0.005	0.00015	0.0499	0.000005	0.0044	0.0639	0.0001			0.00025	0.00005	0.003
29-Jul-19	0.00001	0.0003	0.0005	0.005	0.00015	0.0311	0.000005	0.0053	0.0456	0.0001			0.0006	0.00005	0.0005
12-Aug-19	0.00001	0.0003	0.0018	0.005	0.00015	0.0225	0.000005	0.0026	0.0094	0.0001			0.00025	0.00005	0.0005
15-Jun-20	0.00004	0.0003	0.00025	0.005	0.00015	0.0632	0.000005	0.0017	0.0211	0.0001			0.0005	0.00005	0.0005
7-Jul-20										-					
11-Aug-20	0.00001	0.0003	0.0016	0.005	0.000085	0.0024	0.000005	0.0028	0.075	0.0001			0.0005	0.00005	0.0005
10-Sep-20	0.0001	0.0003	0.0016	0.005	0.000085	0.0015	0.000005	0.0043	0.0851	0.0001			0.002	0.00005	0.0005
9-Aug-15	0.00001	0.0025	0.00025	0.01	0.00015	0.0058	0.00006	0.0148	0.0097	0.0025	0.193	0.003	0.001		0.0005
24-Jul-16	0.00006	0.0049	0.0007	0.005	0.0011	0.1336	0.00036	0.0219	0.0085	0.0004	0.299	0.008	0.0005		0.001
9-Aug-16	0.00003	0.0072	0.0007	0.005	0.00015	0.15	0.00006	0.0237	0.0096	0.0004	0.285	0.009	0.0005		0.0005
14-Sep-16	0.00001	0.0003	0.0005	0.005	0.00015	0.1046	0.00001	0.0236	0.0129	0.0004	0.249	0.008	0.0005		0.0005
10-Oct-16	0.00001	0.0013	0.00025	0.005	0.00015	0.1105	0.000005	0.0214	0.0098	0.0004	0.293	0.008	0.0005		0.0005
20-Aug-17	0.00001	0.0003	0.0011	0.01	0.00015	0.0308	0.000005	0.0197	0.0114	0.0004	0.271	0.012	0.001		0.001
28-Aug-17	0.00001	0.0003	0.0005	0.005	0.00015	0.0197	0.00001	0.0195	0.0125	0.0004	0.284	0.011	0.0005		0.002
3-Sep-17	0.00001	0.0003	0.00025	0.005	0.0207	0.0561	0.00005	0.0181	0.0115	0.0004	0.351	0.011	0.0005		0.0005
5-Oct-17	0.00001	0.0003	0.0015	0.03	0.00015	0.1822	0.00008	0.0275	0.0149	0.0004	0.387	0.013	0.002		0.0005
27-Aug-18	0.0001	0.003	0.0007	0.005	0.00015	0.0086	0.000005	0.0124	0.0097	0.0001	0.202	0.006	0.0006		0.0005
18-Sep-18	0.00001	0.0003	0.001	0.005	0.00015	0.00025	0.000005	0.0123	0.0107	0.0001	0.189	0.008	0.0008		0.0005
31-Jul-19	0.00001	0.0003	0.3543	0.005	0.00015	0.0309	0.000005	0.1025	0.015	0.0001	0.514	0.011	0.0015	0.002	0.0005
18-Jun-20	0.00001	0.0003	0.1403	0.005	0.00015	0.0412	0.000005	0.0172	0.0398		0.147	0.002	0.004	0.00005	0.0005
8-Jul-20	0.00001	0.0003	0.00025	0.005	0.00015	0.0125	0.000005	0.0029	0.0804	0.0001			0.0005	0.00005	0.0005
8-Jul-20	0.00001	0.0003	2.269	0.005	0.00015	0.0227	0.00001	0.1175	0.1868		0.856	0.01	0.039	0.00005	0.0005
10-Jul-20	0.00001	0.0003	0.3645	0.005	0.00015	0.0185	0.00001	0.0981	0.1908		0.654	0.007	0.037	0.00005	0.0005
11-Aug-20	0.00001	0.0003	1.0352	0.005	0.000085	0.018	0.000005	0.0931	0.1674		0.592	0.007	0.044	0.00005	0.0005
10-Sep-20	0.00001	0.0003	0.2037	0.005	0.000085	0.0155	0.000005	0.1028	0.119		0.622	0.006	0.056	0.00005	0.0005
7-Oct-20	0.00001	0.0003	0.0948	0.005	0.000085	0.0432	0.00002	0.1337	0.1561		0.902	0.01	0.048	0.00005	0.0005

Goose Pit (ST-20)

Parametre	Sodium (Na)	Potassium (K)	Calcium	Magnesium	Hardness Calculated	pH	Unionized Ammonia
Date	mg/L	mg/L	mg/L	mg/L	mg CaCO3/L		mg N/L
11-Mar-14						8.38	
3-Jun-14						6.82	
1-Jul-14						8.21	
10-Aug-14						8.22	
8-Sep-14						8.24	
7-Jul-15						7.23	
4-Aug-15						6.88	
9-Sep-15							
5-Oct-15						7.99	
7-Jun-16						7.75	
18-Jul-16						8.15	
8-Aug-16						7.28	
11-Oct-16						7.74	
17-Jul-17						7.48	
16-Aug-17						8.13	
3-Sep-17						8.16	
27-Aug-18						7.32	
24-Sep-18						7.51	
3-Jun-19						7.79	0.01
9-Jun-19						7.80	
26-Jun-19						9.72	0.01
29-Jul-19						7.97	0.01
12-Aug-19							
15-Jun-20						7.39	0.01
7-Jul-20							
11-Aug-20						8.03	0.01
10-Sep-20						7.86	0.01
9-Aug-15							
24-Jul-16						7.81	
9-Aug-16						8.10	
14-Sep-16						7.23	
10-Oct-16						7.90	
20-Aug-17						7.35	
28-Aug-17						7.37	
3-Sep-17						8.19	
5-Oct-17						7.21	
27-Aug-18						7.32	
18-Sep-18							
31-Jul-19	149	35.9	127	21.1	405		0.32
18-Jun-20	54.3	26	59.2	3.93	164	7.54	0.05
8-Jul-20						7.99	0.01
8-Jul-20	307	159.28	348	15.57	935	8.13	0.94
10-Jul-20	317	160.1	366	15.81	981	7.89	0.46
11-Aug-20	309	148.82	362	13.62	962	8.06	0.97
10-Sep-20	282	144	316	12.98	844	7.96	0.82
7-Oct-20	376	187.03	403	17.79	1082	8.33	0.89

PORTAGE PIT E, PIT A AND GOOSE PIT - PIT SEEPAGE WATER QUALITY DATA

	Sample ID	BG-21M	BG-SEEP-21m	BG-42M	BG-SEEP-42m	Goose seep	BG-80M	Average GP Seepage 2017-2019	Pit A Seep E	Pit-A-East-Wall	Pit-A-Seep-East	Pit A-SEEP-North	Average Pit A Seepage 2017-2019	Pit E seep	Pit E-SEEP-f	Pit-E
	Sample Date	09/03/2017	07/16/2018	09/03/2017	07/16/2018	07/14/2019	09/03/2017		09/05/2017	07/16/2019	07/16/2019	07/18/2018		09/05/2017	07/18/2018	07/15/2019
Parameters	**Units**															
Alkalinity	mg CaCO3/L	61	68	104	108	44	97	80.33	86	24	0	83	48.25	152	90	0
Hardness	mg CaCO3/L	46	54	75	101	113	95	80.67	557	464	0	692	428.25	1214	775	0
Total dissolved solids	mg/L	105	102.725	189.95	203.825	216.55	231	174.84	603.25	546	630.5	1049.75	707.38	1479.5	755.5	877.57
Total Aluminium (Al)	mg/L	0.003	0.011	0.01	0.013	0.008	0.031	0.01	0.095	0.021	0	0.084	0.05	0.041	0.081	0
Total Silver (Ag)	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00	0.00005	0.00005	0	0.00005	0.00	0.00005	0.00005	0
Total Arsenic (As)	mg/L	0.0083	0.0023	0.00025	0.00025	0.0021	0.00025	0.00	0.00025	0.00025	0	0.00025	0.00	0.0296	0.0008	0
Total Barium (Ba)	mg/L	0.0262	0.0215	0.0742	0.0756	0.0233	0.0295	0.04	0.0215	0.0108	0	0.0677	0.03	0.0285	0.0207	0
Total Cadmium (Cd)	mg/L	0.00001	0.00003	0.00001	0.00001	0.00001	0.00001	0.00	0.00037	0.00001	0	0.00135	0.00	0.00035	0.00029	0
Total Chromium (Cr)	mg/L	0	0	0	0	0.0008	0	0.00	0	0.0009	0	0	0.00	0	0	0
Total Copper (Cu)	mg/L	0.00025	0.0013	0.00025	0.0023	0.0019	0.0058	0.00	0.00025	0.0008	0	0.0008	0.00	0.0015	0.0012	0
Total Iron (Fe)	mg/L	0.76	0.83	0.58	0.84	0.005	0.07	0.51	0.27	0.005	0	0.18	0.11	0.24	0.39	0
Total Manganese (Mn)	mg/L	0.0609	0.067	0.0462	0.0733	0.0019	0.0081	0.04	0.0253	0.1601	0	0.0925	0.07	0.2891	0.091	0
Total Mercury (Hg)	mg/L	0.00027	0.00018	0.00032	0.00023	0.000005	0.00002	0.00	0.000005	0.000005	0	0.000005	0.00	0.000005	0.000005	0
Total Molybdenum (Mo)	mg/L	0.0103	0.0108	0.0084	0.0109	0.0054	0.0101	0.01	0.1336	0.0782	0	0.3287	0.14	0.1158	0.078	0
Total Nickel (Ni)	mg/L	0.00025	0.0006	0.00025	0.002	0.0036	0.0342	0.01	0.0113	0.0379	0	0.008	0.01	0.1993	0.0643	0
Total Lead (Pb)	mg/L	0.00015	0.00015	0.00015	0.00015	0.00015	0.00015	0.00	0.00015	0.00015	0	0.00015	0.00	0.00015	0.00015	0
Total Selenium (Se)	mg/L	0.0005	0.0005	0.001	0.001	0.00025	0.001	0.00	0.0005	0.0033	0	0.006	0.00	0.001	0.013	0
Total Strontium (Sr)	mg/L	0.133	0.151	0.286	0.337	0.184	0.249	0.22	0.424	0.521	0	0.816	0.44	1.49	1.56	0
Total Thallium (Ti)	mg/L	0.0004	0.0004	0.0004	0.0004	0.0001	0.0004	0.00	0.0004	0.0001	0	0.0004	0.00	0.0004	0.0004	0
Total Uranium (U)	mg/L	0.0005	0.0005	0.0005	0.0005	0.005	0.013	0.00	0.084	0.01	0	0.156	0.06	0.229	0.08	0
Total Zinc (Zn)	mg/L	0.0005	0.0005	0.003	0.008	0.03	0.0005	0.01	0.0005	0.008	0	0.0005	0.00	0.001	0.0005	0
Chloride	mg/L	2.7	2.9	23	32	3.5	33.3	16.23	12	5.8	0	60.1	19.48	175	90.8	0
Fluoride (F)	mg/L	0.86	1	0.93	1.06	0.36	0.79	0.83	0.29	0.21	0	0.24	0.19	0.48	0.79	0
Sulphate (SO4)	mg SO4/L	0.65	0.51	0.46	0.34	0	0.025	0.33	0.05	0	0	1.88	0.48	6.45	1.63	0
Total Cyanide (CNt)	mg/L	0.003	0.0005	0.002	0.003	0.002	0.003	0.00	0.003	0.001	0	0.025	0.01	0.044	0.021	0
Total Ammonia (NH3 + NH4)	mg N/L	0.67	0.52	0.46	0.35	0.005	0.025	0.34	0.05	0.025	0	1.92	0.50	6.5	1.66	0
Nitrate (NO3)	mg N/L	0.005	0.04	0.005	0.16	0	0.14	0.06	38.5	0	0	20.6	14.78	43.8	46.4	0
Sodium (Na)	mg/L	7.1	7.89	17.7	20	8.72	18.9	13.39	27.7	10.9	0	37.2	18.95	110	58.3	0
Potassium (K)	mg/L	2.72	3.02	2.09	2.71	5.33	4.06	3.32	14.7	11.6	0	12.1	9.60	56.6	26.5	0
Dissolved Aluminium (Al)	mg/L	0.006	0.006	0.003	0.003	0.009	0.003	0.01	0.003	0.011	0	0.003	0.00	0.003	0.003	0
Dissolved Silver (Ag)	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00	0.00005	0.00005	0	0.00005	0.00	0.00005	0.00005	0
Dissolved Arsenic (As)	mg/L	0.00025	0.0018	0.00025	0.00025	0.0033	0.00025	0.00	0.00025	0.00025	0	0.00025	0.00	0.023	0.00025	0
Dissolved Barium (Ba)	mg/L	0.0203	0.0209	0.0707	0.0746	0.0279	0.0305	0.04	0.0193	0.0115	0	0.0585	0.02	0.0254	0.013	0
Dissolved Cadmium (Cd)	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00037	0.00003	0	0.00119	0.00	0.0003	0.00022	0
Dissolved Chromium (Cr)	mg/L	0.0003	0.0003	0.00065	0.0003	0.0003	0.00105	0.00	0.00075	0.0003	0	0.0007	0.00	0.0003	0.0003	0
Dissolved Copper (Cu)	mg/L	0.00025	0.00025	0.00025	0.00025	0.0014	0.0047	0.00	0.0006	0.0008	0	0.0009	0.00	0.0013	0.0011	0
Dissolved Iron (Fe)	mg/L	0.27	0.81	0.03	0.69	0.005	0.005	0.30	0.01	0.005	0	0.02	0.01	0.1	0.05	0
Dissolved Manganese (Mn)	mg/L	0.0569	0.0729	0.0458	0.0712	0.00025	0.0059	0.04	0.0151	0.1365	0	0.075	0.06	0.2469	0.0607	0
Dissolved Mercury (Hg)	mg/L	0.00029	0.00017	0.0003	0.00029	0.000005	0.00007	0.00	0.000005	0.000005	0	0.000005	0.00	0.000005	0.00001	0
Dissolved Molybdenum (Mo)	mg/L	0.011	0.0119	0.0089	0.0116	0.0056	0.0104	0.01	0.1089	0.0638	0	0.2837	0.11	0.1027	0.0544	0
Dissolved Nickel (Ni)	mg/L	0.001	0.0006	0.00025	0.002	0.0041	0.0334	0.01	0.0087	0.0303	0	0.0054	0.01	0.1699	0.0444	0
Dissolved Lead (Pb)	mg/L	0.00015	0.00015	0.00015	0.00015	0.00015	0.00015	0.00	0.00015	0.00015	0	0.00015	0.00	0.00015	0.00015	0
Dissolved Selenium (Se)	mg/L	0.0005	0.0005	0.0005	0.001	0.0008	0.001	0.00	0.002	0.0028	0	0.004	0.00	0.002	0.008	0
Dissolved Strontium (Sr)	mg/L	0.138	0.149	0.305	0.307	0.198	0.248	0.22	0.446	0.427	0	0.768	0.41	1.55	1.39	0
Dissolved Thallium (Ti)	mg/L	0.0004	0.0004	0.0004	0.0004	0.0001	0.0004	0.00	0.0004	0.0001	0	0.0004	0.00	0.0004	0.0004	0
Dissolved Uranium (U)	mg/L	0.0005	0.0005	0.0005	0.0005	0.005	0.013	0.00	0.068	0.009	0	0.134	0.05	0.196	0.058	0
Dissolved Zinc (Zn)	mg/L	0.002	0.0005	0.0005	0.008	0.0005	0.0005	0.00	0.003	0.004	0	0.0005	0.00	0.0005	0.0005	0

PORTAGE PIT E, PIT A AND GOOSE PIT - PIT SEEPAGE WATER QUALITY DATA

	Pit-E-Seep-North 07/15/2019	Pit E seep 40m 09/05/2017	Piit-E seep-27 m 09/17/2020	Average Pit E Seepage 2017-2020	Average Pit A+E Seepage 2017-2020
Parameters					
Alkalinity	73	94	96.4	84.23	69.84
Hardness	586	324	619	586.33	523.10
Total dissolved solids	786	410	988	882.76	812.61
Total Aluminium (Al)	0.013	0.245	0.0502	0.07	0.06
Total Silver (Ag)	0.00005	0.00005	0.000005	0.00	0.00
Total Arsenic (As)	0.0047	0.00025	0.181	0.04	0.02
Total Barium (Ba)	0.0401	0.1065	0.0221	0.04	0.03
Total Cadmium (Cd)	0.00003	0.00001	0.0000961	0.00	0.00
Total Chromium (Cr)	0.0007	0	0.00085	0.00	0.00
Total Copper (Cu)	0.0057	0.00025	0.00056	0.00	0.00
Total Iron (Fe)	0.02	0.37	0.108	0.19	0.16
Total Manganese (Mn)	0.1658	0.2214	0.145	0.15	0.12
Total Mercury (Hg)	0.000005	0.00002	0.0000025	0.00	0.00
Total Molybdenum (Mo)	0.0245	0.0163	0.0255	0.04	0.08
Total Nickel (Ni)	0.0336	0.0337	0.122	0.08	0.05
Total Lead (Pb)	0.00015	0.00015	0.00009	0.00	0.00
Total Selenium (Se)	0.00025	0.0005	0.00112	0.00	0.00
Total Strontium (Sr)	1.29	0.334	1.03	0.95	0.75
Total Thallium (Ti)	0.0001	0.0004	0.000059	0.00	0.00
Total Uranium (U)	0.059	0.028	0.05	0.07	0.07
Total Zinc (Zn)	0.012	0.004	0.0015	0.00	0.00
Chloride	0.25	26.8	84.3	62.86	45.51
Fluoride (F)	0.02	0.42	0.27	0.33	0.27
Sulphate (SO4)	0	0.13	465	78.87	47.51
Total Cyanide (CNt)	0.008	0.013	0.0037	0.01	0.01
Total Ammonia (NH3 + NH4)	0.8	0.13	0.37	1.58	1.15
Nitrate (NO3)	0	11.9	18	20.02	17.92
Sodium (Na)	20.3	17.4	42.7	41.45	32.45
Potassium (K)	23.2	11.8	24.9	23.83	18.14
Dissolved Aluminium (Al)	0.007	0.003	0.0032	0.00	0.00
Dissolved Silver (Ag)	0.00005	0.00005	0.000005	0.00	0.00
Dissolved Arsenic (As)	0.0045	0.008	0.18	0.04	0.02
Dissolved Barium (Ba)	0.0401	0.0906	0.0216	0.03	0.03
Dissolved Cadmium (Cd)	0.00001	0.00001	0.0000996	0.00	0.00
Dissolved Chromium (Cr)	0.0003	0.00095	0.00005	0.00	0.00
Dissolved Copper (Cu)	0.0045	0.0017	0.00051	0.00	0.00
Dissolved Iron (Fe)	0.005	0.01	0.005	0.03	0.02
Dissolved Manganese (Mn)	0.1519	0.1595	0.133	0.13	0.10
Dissolved Mercury (Hg)	0.000005	0.00009	0.0000025	0.00	0.00
Dissolved Molybdenum (Mo)	0.0213	0.0149	0.0234	0.04	0.07
Dissolved Nickel (Ni)	0.0315	0.0332	0.109	0.06	0.04
Dissolved Lead (Pb)	0.00015	0.00015	0.000025	0.00	0.00
Dissolved Selenium (Se)	0.00025	0.001	0.00129	0.00	0.00
Dissolved Strontium (Sr)	1.19	0.371	0.926	0.90	0.71
Dissolved Thallium (Ti)	0.0001	0.0004	0.000053	0.00	0.00
Dissolved Uranium (U)	0.056	0.024	0.0471	0.06	0.06
Dissolved Zinc (Zn)	0.008	0.002	0.001	0.00	0.00

Vault Pit Sump ST-23 and ST-26

Parametre	Alkalinity	Hardness	Total Ammonia (NH3 + NH4)	Ammonia (unionized NH3)	Nitrate (NO_3)	Chloride	Fluoride	Sulphate	TDS	Total Cyanide (CNt)	Total Aluminium (Al)	Dissolved Aluminium (Al)	Total Arsenic (As)	Total Barium (Ba)	Total Cadmium (Cd)	Total Chromium (Cr)
Date	mg CaCO3/L	mg CaCO3/L	mg N/L	mg N/L	mgN/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
27-Oct-13																
19-May-14	50		2.0000						175				0.0023			
6-Aug-14	127	378	26.7000		46.4000	31	0.2600	148	736			0.003	0.0395			
2-Jun-15	85		9.7300						337				0.00025			
23-Jul-15	167	340	35.5000		45.9000	33	0.2500	124	799			0.003	0.00025			
20-Jun-16	88	250	4.0600		12.8000	45		98	425	0.0440	0.547	0.037	0.0056	0.0201	0.00023	0.0008
9-Aug-16	84	315	6.6000		24.1000	9	0.1800	161	522	0.1370	0.038	0.003	0.00025	0.042	0.00022	0.003
5-Sep-16	91	504	6.9400		41.6000	20	0.1900	159	723	0.0830	0.088	0.003	0.00025	0.0472	0.0002	0.0003
15-Nov-16	116	260	2.5700		0.9100	44	0.2000	158	446	0.0460	0.181	0.003	0.0042	0.018	0.00008	0.0007
4-Apr-17	122	217	2.3100		1.4800	70	0.2400	69	404	0.0080	0.091	0.003	0.0068	0.036	0.00001	0.0003
11-Jun-17	96	248	3.4900		4.3100	32	0.1800	94	358	0.0620	0.605	0.605	0.0066	0.0208	0.0001	0.0028
17-Jul-17	115	265	3.6100		0.8200	26	0.2000	125	432	0.0610	1.15	0.003	0.00025	0.0232	0.00001	0.0017
16-Aug-17	114	298	3.6400		8.8600	25	0.1600	61	453	0.0670	0.16	0.015	0.0116	0.0346	0.00001	0.0031
3-Sep-17	109	250	6.2000		8.6700	26	0.1300	190	467	0.1130	0.936	0.008	0.00025	0.0319	0.00005	0.002
13-Nov-17	161	461	3.7500		1.2100	36	0.2100	339	670	0.0210	0.133	0.654	0.0143	0.061	0.00005	0.0006
12-Jun-18	100	138	4.5600		6.3400	19	0.2000	74	283	0.1050	0.414	0.003	0.00025	0.0198	0.00005	0.0003
4-Jul-18	101	263	2.8600		4.2900	28	0.1900	144	373	0.0570	0.091	0.003	0.0045	0.0247	0.00028	0.0009
8-Aug-18	74	176	2.5700		5.6100	11		101	271	0.0340	0.048	0.031	0.00025	0.0224	0.00012	0.0003
25-Sep-18	104	332	2.5500		5.8600	25	0.2000	242	436	0.0210	0.202	0.027	0.0023	0.028	0.00001	0.0008
4-Nov-18	156	525	3.1300		2.6400	44	0.2200	356	488	0.0280	0.083	0.0025	0.0064	0.0505	0.00001	0.0003
8-Jul-19	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-
23-Jul-19	57	277	1.0300	0.0300	11.1000	16	0.1600	193	391	0.0080	0.013	0.00025	0.0047	0.0307	0.00001	0.0003
7-Aug-19	75	168	0.5800	0.0100	3.5100	11	0.2000	114	255	0.0010	0.116	0.00025	0.0061	0.0218	0.00001	0.0011
9-Sep-19	57	147	1.9300	0.0500	7.7400	6	0.1600	94	291	0.0080	0.028	0.00025	0.0041	0.0356	0.00002	0.0017
21-Jun-20	34	53	0.2100	0.0100	0.8400	3	0.0700	30	101	0.0010	0.006	0.006	0.0055	0.0006	0.00002	0.0006
7-Jul-20	46	111	0.1200	0.0100	1.8000	12	0.0900	45	137	0.0010	0.043	0.006	0.0033	0.0131	0.00002	0.0006
18-Aug-20	56	140	0.1100	0.0100	2.6300	9	0.1100	67	187	0.0010	0.036	0.006	0.004	0.0138	0.00002	0.0006
8-Sep-20	65	149	0.1200	0.0100	2.9100	9	0.1200	68	188	0.0010	0.037	0.008	0.0052	0.0186	0.00002	0.0006
14-Oct-20	74	141	0.1800	0.0100	2.9600	8	0.1300	99	12	0.0010	0.013	0.005	0.0045	0.0141	0.00002	0.0006

Vault Pit Sump ST-23 and ST-26

Parametre	Total Copper (Cu)	Total Iron (Fe)	Total Lead (Pb)	Total Manganese (Mn)	Total Mercury (Hg)	Total Molybdenum (Mo)	Total Nickel (Ni)	Total Selenium (Se)	Total Silver (Ag)	Total Thallium (Ti)	Total Zinc (Zn)	pH	Dissolved Arsenic (As)	Dissolved Barium (Ba)	Dissolved Cadmium (Cd)	Dissolved Chromium (Cr)
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L		mg/L	mg/L	mg/L	mg/L
27-Oct-13												7.64				
19-May-14	0.002		0.00030				0.0035				0.002	6.53				
6-Aug-14	0.0229		0.03780				0.049				0.026	7.73	0.0127	0.0588	0.0003	
2-Jun-15	0.0102		0.04600				0.021				0.028	6.93				
23-Jul-15	0.0054		0.00015				0.0244				0.0005	7.28	0.00025	0.0703	0.00001	
20-Jun-16	0.0012	1.3	0.00015	0.0489	0.000005	0.0838	0.0041	0.003		0.001	0.0005	8.28	0.0058	0.0198	0.00015	
9-Aug-16	0.0124	0.38	0.00015	0.1769	0.00005	0.0635	0.0093	0.003		0.0004	0.0005	7.3	0.00025	0.0394	0.00022	
5-Sep-16	0.0012	0.35	0.00015	0.1145	0.000005	0.0964	0.00025	0.009		0.0004	0.001	7.82	0.00025	0.0452	0.00007	
15-Nov-16	0.00025	0.57	0.00015	0.243	0.000005	0.0222	0.0135	0.001		0.0004	0.001	7.64	0.0027	0.0178	0.00008	
4-Apr-17	0.00025	0.31	0.00015	0.2339	0.00003	0.0106	0.0018	0.001		0.0004	0.0005	8.21	0.0093	0.0299	0.00001	0.0003
11-Jun-17	0.00025	1.24	0.00015	0.2472	0.00003	0.0419	0.0098	0.002		0.0004	0.004	6.64	0.0053	0.0208	0.0001	0.0028
17-Jul-17	0.00025	2.37	0.00200	0.2094	0.000005	0.0474	0.0115	0.001		0.0004	0.009	8.11	0.00025	0.00025	0.00001	0.0003
16-Aug-17	0.0017	0.26	0.00015	0.2239	0.000005	0.0504	0.0079	0.002		0.0004	0.0005	7.31	0.00025	0.0291	0.00001	0.0003
3-Sep-17	0.0022	2.33	0.00015	0.2149	0.00001	0.0477	0.0107	0.003		0.0004	0.004	8.21	0.00025	0.0229	0.00003	0.0003
13-Nov-17	0.0007	0.46	0.00015	0.7399	0.000005	0.023	0.0184	0.002		0.0004	0.002	7.82	0.0121	0.0599	0.00007	0.0009
12-Jun-18	0.0023	0.78	0.00015	0.0479	0.000005	0.052	0.0053	0.0005		0.0004	0.0005	7.26	0.00025	0.0163	0.00029	0.0003
4-Jul-18	0.0007	0.2	0.00015	0.159	0.000005	0.0536	0.0065	0.002		0.0004	0.001	7.34	0.0031	0.0247	0.0003	0.0008
8-Aug-18	0.0014	0.08	0.00015	0.0762	0.000005	0.0503	0.0043	0.0016		0.0001	0.0005	7.76	0.00025	0.0184	0.00018	0.0003
25-Sep-18	0.0009	0.44	0.00150	0.0856	0.000005	0.0981	0.0063	0.00025		0.0001	0.0005	7.41	0.0033	0.0373	0.00001	0.0003
4-Nov-18	0.0007	0.18	0.00410	0.454	0.000005	0.0435	0.0083	0.0009		0.0001	0.002	7.81	0.0043	0.0293	0.00003	0.0003
8-Jul-19	-	-	-	-	-	-	-	-	-	-	-	8.02	-	-	-	-
23-Jul-19	0.0022	0.04	0.00015	0.041	0.000005	0.0709	0.0036	0.00025	0.00005	0.0001	0.003	8.06	0.0044	0.0287	0.00001	0.0003
7-Aug-19	0.0025	0.29	0.00060	0.0746	0.000005	0.043	0.0048	0.00025	0.00005	0.0001	0.003	-	0.0045	0.0216	0.00001	0.0003
9-Sep-19	0.0034	0.13	0.00015	0.064	0.000005	0.0312	0.0025	0.0022	0.00005	0.0001	0.004	7.92	0.0029	0.0248	0.00001	0.0003
21-Jun-20	0.0043	0.01	0.00030	0.0178	0.00001	0.0117	0.0018	0.001	0.0001	0.0002	0.001	7.79	0.0055	0.0006	0.00002	0.0006
7-Jul-20	0.001	0.14	0.00030	0.0452	0.00001	0.0146	0.0024	0.001	0.0001	0.0002	0.001	8.09	0.003	0.0098	0.00002	0.0006
18-Aug-20	0.0008	0.02	0.00017	0.0194	0.00001	0.022	0.0019	0.001	0.0001	0.0002	0.001	7.92	0.0005	0.0132	0.00002	0.0006
8-Sep-20	0.0011	0.06	0.00017	0.0136	0.00001	0.0313	0.0021	0.001	0.0001	0.0002	0.001	8.09	0.0038	0.0164	0.00002	0.0006
14-Oct-20	0.0013	0.05	0.00017	0.0102	0.00001	0.0299	0.0025	0.0005	0.0001	0.0002	0.001	7.98	0.0041	0.0149	0.00002	0.0006

Vault Pit Sump ST-23 and ST-26

Parametre	Dissolved Copper (Cu)	Dissolved Iron (Fe)	Dissolved Lead (Pb)	Dissolved Manganese (Mn)	Dissolved Mercury (Hg)	Dissolved Molybdenum (Mo)	Dissolved Nickel (Ni)	Dissolved Selenium (Se)	Dissolved Silver (Ag)	Dissolved Thallium (Ti)	Dissolved Zinc (Zn)
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
27-Oct-13											
19-May-14											
6-Aug-14	0.0116	0.22	0.00015	0.1328	0.0001	0.1089	0.0254	0.007	0.00005	0.0025	0.002
2-Jun-15											
23-Jul-15	0.001	0.59	0.00015	0.0863	0.000005	0.1111	0.0218	0.004	0.00005	0.0025	0.0005
20-Jun-16	0.001	0.01	0.00015	0.0373	0.000005	0.0874	0.0031	0.003		0.001	0.0005
9-Aug-16	0.0075	0.07	0.00015	0.1704	0.00005	0.0641	0.0093	0.003	0.00005	0.0004	0.001
5-Sep-16	0.0006	0.03	0.00015	0.1145	0.000005	0.0911	0.00025	0.009	0.0003	0.0004	0.0005
15-Nov-16	0.00025	0.03	0.00015	0.237	0.00001	0.0208	0.0135	0.0005	0.00005	0.0004	0.001
4-Apr-17	0.00025	0.005	0.00015	0.239	0.00003	0.0115	0.0018	0.002		0.0004	0.0005
11-Jun-17	0.00025	1.24	0.00015	0.2472	0.00004	0.0419	0.0098	0.002		0.0004	0.001
17-Jul-17	0.00025	2.37	0.00015	0.0015	0.000005	0.00025	0.00025	0.0005		0.0004	0.0005
16-Aug-17	0.0019	0.005	0.0021	0.2105	0.000005	0.0477	0.0079	0.002		0.0004	0.0005
3-Sep-17	0.0017	0.03	0.00015	0.1761	0.000005	0.0456	0.0076	0.001		0.0004	0.0005
13-Nov-17	0.0033	0.07	0.00015	0.7307	0.000005	0.0229	0.0186	0.002		0.0004	0.002
12-Jun-18	0.0015	0.03	0.00015	0.0413	0.000005	0.0516	0.0044	0.0005		0.0004	0.0005
4-Jul-18	0.0005	0.01	0.00015	0.1552	0.000005	0.05	0.0066	0.0005		0.0004	0.001
8-Aug-18	0.0034	0.01	0.00015	0.0722	0.000005	0.048	0.0041	0.0014		0.0001	0.0005
25-Sep-18	0.0012	0.005	0.0003	0.0862	0.000005	0.1212	0.0069	0.002		0.0001	0.001
4-Nov-18	0.0005	0.01	0.00015	0.3099	0.000005	0.0301	0.0056	0.00025		0.0001	0.001
8-Jul-19	-	-	-	-	-	-	-	-	-	-	-
23-Jul-19	0.0023	0.005	0.00015	0.0376	0.000005	0.0683	0.004	0.00025	0.00005	0.0001	0.002
7-Aug-19	0.0016	0.005	0.00015	0.0653	0.000005	0.0402	0.0042	0.00025	0.00005	0.0001	0.001
9-Sep-19	0.0031	0.005	0.00015	0.0606	0.000005	0.0316	0.0026	0.00025	0.00005	0.0001	0.0005
21-Jun-20	0.0043	0.01	0.0003	0.0178	0.00001	0.0117	0.0018	0.001	0.0001	0.0002	0.001
7-Jul-20	0.0005	0.01	0.0003	0.0294	0.00001	0.0128	0.0018	0.001	0.0001	0.0002	0.001
18-Aug-20	0.0005	0.01	0.00017	0.0034	0.00001	0.0158	0.0005	0.001	0.0001	0.0002	0.001
8-Sep-20	0.0005	0.01	0.00017	0.0026	0.00001	0.0252	0.0014	0.001	0.0001	0.0002	0.001
14-Oct-20	0.001	0.01	0.00017	0.0026	0.00001	0.0286	0.0022	0.0014	0.0001	0.0002	0.001

Vault Attenuation Pond ST-25

Parametre	Alkalinity	Hardness	Total Ammonia (NH3 + NH4)	Ammonia (unionized NH3)	Nitrate (NO_3)	Chloride	Fluoride	Sulphate	TDS	Total Cyanide (CNt)	Total Aluminium (Al)	Dissolved Aluminium (Al)	Total Arsenic (As)	Total Barium (Ba)	Total Cadmium (Cd)	Total Chromium (Cr)
Date	mg CaCO3/L	mg CaCO3/L	mg N/L	mg N/L	mgN/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
8-Jul-14	33								80							
6-Aug-14	41								144							
9-Sep-14	52								229							
16-Jun-15	23		1.1300						73	0.0070			0.00025			
8-Jul-15	52	48	0.8800		1.3400	4	0.0600	14	90	0.0025	0.023		0.00025	0.0106	0.0000	0.0003
25-Jul-15	41	80			6.1600	8	0.1100		155		0.031		0.00025	0.0175	0.0000	0.0016
4-Aug-15	47	82	4.1100		6.5100	8	0.0900	1	168	0.0140			0.00025			
14-Sep-15	45		2.7900						198	0.0025			0.00025			
7-Jun-16	25	39	1.28		0.6300	5	0.06	21	74	0.0025	0.94		0.00025	0.0213	0.00003	0.0003
18-Jul-16	41	91	0.01		3.5700	11	0.11	53	171	0.0025	0.07		0.00025	0.022	0.00003	0.0003
8-Aug-16	39	134	2.51		6.7200	12	0.13	97	252	0.0270	0.101		0.00025	0.0297	0.00004	0.0003
5-Sep-16	32	108	0.29		4.4600	7	0.11	56	172	0.0340	0.003		0.00025	0.024	0.00001	0.0003
10-Oct-16	48	141	1.14		0.9600	11	0.17	17	247	0.0005	0.051		0.0023	0.0392	0.00001	0.0003
30-Oct-16	102	227	1.97		0.1800	13	0.24	149	377	0.0030	0.003		0.00025	0.0286	0.00007	0.0019
11-Jun-17	53	86	1.90		2.7000	10	0.12	26	142	0.0050	0.916		0.0006	0.0145	0.00003	0.0021
17-Jul-17	54	85	1.55		0.3000	7		44	156	0.0040	0.135		0.00025	0.0162	0.00001	0.0003
16-Aug-17	58	129	1.77		5.6800	11	0.11	206	215	0.0040	0.083		0.0149	0.0251	0.00001	0.0036
3-Sep-17	52	170	2.20		5.3800	12	0.07	77	237	0.0060	1.4		0.00025	0.0381	0.00001	0.0026
12-Jun-18	34	88	1.28		1.9000	6	0.10	13	109	0.0005	0.712		0.00025	0.0208	0.00001	0.003
4-Jul-18	31	118	0.87		1.9600	8	0.16	105	211	0.0060	0.189		0.00025	0.0226	0.00017	0.0003
8-Aug-18	46	94	0.32		2.8100	9	0.20	92	210	0.0010	0.091		0.00025	0.0196	0.00002	0.0003
25-Sep-18	32	109	1.04		4.0800	6	0.13	89	193	0.0005	0.025		0.0007	0.0315	0.00005	0.0003
9-Jun-19	19	61	0.33	0.0050		2	0.11	36	79	0.0005	0.361		0.0014	0.0145	0.0001	0.0011
24-Jul-19	21	86	0.31	0.0050		7	0.07	64	145	0.0010	0.0025		0.0014	0.0095	0.00001	0.0003
29-Jul-19	-	-	-	-		-	-	-	-	-	-		-	-	-	-
6-Aug-19	77	104	0.46	0.0050		7	0.20	71	150	0.0005	0.238		0.0021	0.0115	0.00011	0.001
9-Sep-19	26	83	0.68	0.0050		8	0.17	62	185	0.0005	0.027		0.0019	0.0319	0.00014	0.0012
17-Jun-20	16	35	0.17	0.0100	0.1800	2	0.06	12	50	0.0010	0.685		0.0015	0.0104	0.00002	0.0025
8-Jul-20	32	73	0.30	0.0100	0.6600	7	0.11	31	96	0.0010	0.058		0.0012	0.0136	0.00002	0.0006
5-Aug-20	53	108	0.24	0.0100	1.0300	9	0.16	56	150	0.0010	0.069		0.0017	0.0197	0.00002	0.0011
9-Sep-20	53	101	0.01	0.0100	1.6800	5	0.07	61	135	0.0010	0.014		0.0005	0.0218	0.0000	0.0006
8-Oct-20	53	123	0.02	0.0100	1.2800	5	0.12	60	138	0.0010	0.015		0.0005	0.0242	0.0000	0.0006

Vault Attenuation Pond ST-25

Parametre	Total Copper (Cu)	Total Iron (Fe)	Total Lead (Pb)	Total Manganese (Mn)	Total Mercury (Hg)	Total Molybdenum (Mo)	Total Nickel (Ni)	Total Selenium (Se)	Total Silver (Ag)	Total Thallium (Ti)	Total Zinc (Zn)
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
8-Jul-14											
6-Aug-14											
9-Sep-14											
16-Jun-15	0.0014		0.00015				0.0031				0.0005
8-Jul-15	0.0017	0.1100	0.00015	0.0283	0.0000	0.0045	0.0027	0.0005		0.0025	0.0005
25-Jul-15	0.0026	0.2200	0.00015	0.0300	0.0000	0.0179	0.0041	0.0005		0.0025	0.0005
4-Aug-15	0.0034		0.00180				0.004				0.0005
14-Sep-15	0.0079		0.00015				0.0042				0.0070
7-Jun-16	0.0026	1.71	0.00015	0.0935	0.000005	0.0044	0.0035	0.0005	0.00005	0.001	0.003
18-Jul-16	0.002	0.33	0.00015	0.037	0.01	0.011	0.003	0.0005	0.00005	0.0004	0.011
8-Aug-16	0.0076	0.44	0.00015	0.1155	0.00005	0.0276	0.0093	0.0005	0.00005	0.0004	0.005
5-Sep-16	0.0017	0.12	0.00015	0.0283	0.000005	0.0106	0.00025	0.0005	0.0004	0.0004	0.0005
10-Oct-16	0.0008	0.86	0.00015	0.3089	0.000005	0.0036	0.0045	0.001	0.00005	0.0004	0.007
30-Oct-16	0.00025	0.16	0.00015	0.5612	0.00005	0.0103	0.0128	0.0005	0.00005	0.0004	0.0005
11-Jun-17	0.0032	1.69	0.00015	0.0919	0.000005	0.019	0.008	0.0005	0.00005	0.0004	0.002
17-Jul-17	0.0024	0.27	0.00015	0.0443	0.000005	0.0108	0.0039	0.0005	0.00005	0.0004	0.001
16-Aug-17	0.0029	0.07	0.00015	0.0558	0.000005	0.0211	0.0036	0.002	0.00005	0.0004	0.0005
3-Sep-17	0.0062	1.91	0.00015	0.0845	0.00002	0.0178	0.0053	0.0005	0.00005	0.0004	0.003
12-Jun-18	0.0087	0.93	0.00015	0.1769	0.000005	0.0042	0.0153	0.0005	0.00005	0.0004	0.011
4-Jul-18	0.0094	0.57	0.00030	0.2326	0.000005	0.0038	0.0186	0.0005	0.00005	0.0004	0.017
8-Aug-18	0.0045	0.4	0.00030	0.0657	0.000005	0.0042	0.007	0.00025	0.00005	0.0001	0.0005
25-Sep-18	0.0038	0.1	0.00030	0.0395	0.000005	0.0124	0.008	0.0007	0.00005	0.0001	0.006
9-Jun-19	0.0055	0.5	0.00015	0.1192	0.000005	0.0027	0.0078	0.00025	0.00005	0.0001	0.004
24-Jul-19	0.005	0.27	0.00015	0.0886	0.000005	0.0029	0.0082	0.0008	0.00005	0.0001	0.004
29-Jul-19	-	-	-	-	-	-	-	-	-	-	-
6-Aug-19	0.0142	0.38	0.00015	0.1324	0.000005	0.0038	0.0157	0.0016	0.0007	0.0001	0.011
9-Sep-19	0.0044	0.34	0.00015	0.063	0.000005	0.0037	0.0054	0.0014	0.00005	0.0001	0.009
17-Jun-20	0.0033	1	0.0003	0.0848	0.00001	0.0009	0.007	0.001	0.0001	0.0002	0.004
8-Jul-20	0.0063	0.24	0.00030	0.0669	0.00001	0.0016	0.006	0.001	0.0001	0.0002	0.001
5-Aug-20	0.0073	0.29	0.00017	0.0303	0.00001	0.0032	0.004	0.001	0.0001	0.0002	0.002
9-Sep-20	0.001	0.0200	0.00017	0.0050	0.00001	0.0083	0.0022	0.0010	0.0001	0.0002	0.0010
8-Oct-20	0.0017	0.0200	0.00017	0.0063	0.00001	0.0085	0.0023	0.0005	0.0001	0.0002	0.0010

Vault Waste Rock Storage Facility ST-24

Parametre	Alkalinity	Hardness	Total Ammonia (NH3 + NH4)	Ammonia (unionized NH3)	Nitrate (NO_3)	Chloride	Fluoride	Sulphate	TDS	Total Cyanide (CNt)	Total Aluminium (Al)	Dissolved Aluminium (Al)	Total Arsenic (As)	Total Barium (Ba)	Total Cadmium (Cd)	Total Chromium (Cr)
Date	mg CaCO3/L	mg CaCO3/L	mg N/L	mg N/L	mgN/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
9-Jun-19	18	56	0.15	0.0050		1	1.8	40	85	0.0005	0.419		0.0014	0.0138	0.0002	0.0012
23-Jul-19	23	74	0.16	0.0050		1	1.8	60	122	0.0020	0.0025		0.0046	0.0078	0.0000	0.0011
29-Jul-19	31	78	0.24	0.0050		2	7.4	67	122	0.0005	0.08		0.005	0.0086	0.0001	0.0006
6-Aug-19	83	101	0.20	0.0050		2	7.3	67	143	0.0005	0.11		0.0055	0.0052	0.0000	0.0012
9-Sep-19	42	114	0.19	0.0050		3	7.7	98	244	0.0005	0.0025		0.0062	0.0396	0.0001	0.0003
17-Jun-20	20	42	0.04	0.0100	0.6600	1	0.0	18	65	0.0010	0.31		0.0022	0.0046	0.00002	0.0006
8-Jul-20	26	58	0.02	0.0100	1.0600	12	0.1	32	88	0.0010	0.018		0.0015	0.0082	0.00002	0.0006
5-Aug-20	74	223	0.01	0.0100	3.7900	3	0.1	111	260	0.0010	0.008		0.005	0.0224	0.00002	0.0006
9-Sep-20	91	207	0.05	0.0100	3.6300	3	0.1	134	287	0.0010	0.022		0.0027	0.0213	0.0000	0.0006

Vault Waste Rock Storage Facility ST-24

Parametre	Total Copper (Cu)	Total Iron (Fe)	Total Lead (Pb)	Total Manganese (Mn)	Total Mercury (Hg)	Total Molybdenum (Mo)	Total Nickel (Ni)	Total Selenium (Se)	Total Silver (Ag)	Total Thallium (Ti)	Total Zinc (Zn)
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
9-Jun-19	0.005	0.8500	0.00015	0.1007	0.000005	0.0054	0.007	0.0003	0.00005	0.0001	0.0040
23-Jul-19	0.0048	0.1100	0.00015	0.0318	0.000005	0.0108	0.0045	0.0003	0.00005	0.0001	0.0005
29-Jul-19	0.0049	0.1200	0.00015	0.0322	0.000005	0.0130	0.0038	0.0003	0.00005	0.0001	0.0005
6-Aug-19	0.0118	0.1500	0.00015	0.0462	0.000005	0.0164	0.0057	0.0011	0.0013	0.0001	0.0005
9-Sep-19	0.0044	0.0400	0.00015	0.0455	0.000005	0.0236	0.0041	0.0003	0.00005	0.0001	0.0220
17-Jun-20	0.0029	0.35	0.0003	0.0375	0.00001	0.0064	0.0031	0.001	0.0001	0.0002	0.001
8-Jul-20	0.0025	0.06	0.00030	0.0294	0.00001	0.0074	0.0046	0.001	0.0001	0.0002	0.001
5-Aug-20	0.0041	0.03	0.00017	0.0304	0.00001	0.0275	0.0047	0.001	0.0001	0.0002	0.001
9-Sep-20	0.0049	0.2300	0.00017	0.0697	0.00001	0.0210	0.0057	0.0010	0.0001	0.0002	0.0020

PHASE PIT ST-41 AND ST-42

Parametre	Alkalinity	Hardness	Total Ammonia (NH3 + NH4)	Ammonia (unionized NH3)	Nitrate (NO_3)	Chloride	Fluoride	Sulphate	TDS	Total Cyanide (CNt)	Total Aluminium (Al)	Dissolved Aluminium (Al)	Total Arsenic (As)	Total Barium (Ba)	Total Cadmium (Cd)	Total Chromium (Cr)
Date	mg CaCO3/L	mg CaCO3/L	mg N/L	mg N/L	mgN/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
16-Jul-18	174	198	28.5000		45.0000	16	0.1900	65	530	0.5060	0.195	0.003	0.00025	0.1446	0.0002	0.0003
21-Aug-18	91	275	6.4200		24.5000	9	0.2200	109	322	0.0450	0.188	0.0025	0.0006	0.0833	0.0001	0.0021
17-Sep-18	86	197	2.9800		9.0400	5	0.1600	77	260	0.0190	0.208	0.087	0.0037	0.0582	0.0000	0.0009
16-Jul-18	64	165	1.7000		2.8700	3	0.1400	103	233	0.0030	0.064	0.003	0.0034	0.0512	0.0000	0.0003
21-Aug-18	85	384	2.8400		6.1000	7	0.1900	239	347	0.0090	0.112	0.0025	0.00025	0.128	0.0000	0.0011
17-Sep-18	83	279	5.3000		7.4600	7	0.1600	193	371	0.0680	0.085	0.09	0.0024	0.0777	0.0001	0.0003
17-Jun-19	-	-	-	-												
8-Jul-19	25	91	2.0700	0.0200	3.2600	3	0.1100	61	174	0.0010	0.351	0.039	0.0022	0.0197	0.0001	0.0003
9-Sep-19	43	106	2.07	0.0400	4.6900	3	0.15	75	226	0.0020	0.064	0.0025	0.003	0.0216	0.00001	0.0018
15-Sep-19	48	131	2.13	0.0400	4.3800	4	0.14	70	206	0.0030	0.065	0.0152	0.003	0.0327	0.00005	0.0003
9-Jun-19	71	58	1.97	0.0300	2.1200	2	0.09	22	93	0.0200	0.515	0.054	0.0034	0.0223	0.00005	0.0012
9-Sep-19	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-
15-Sep-19	45	115	0.52	0.0100	1.9500	3	0.14	64	172	0.0010	0.124	0.0133	0.0033	0.0292	0.00001	0.0008
29-Jun-20	29	66	0.14	0.0100	1.3800	1	0.04	32	89	0.0010	0.188	0.006	0.0021	0.0082	0.00002	0.0006
7-Jul-20	30	73	0.07	0.0100	1.4300	3	0.07	31	89	0.0010	0.11	0.013	0.0015	0.0111	0.00002	0.0006
18-Aug-20	25	110	0.02	0.0100	2.8700	2	0.09	41	128	0.0010	0.032	0.006	0.0026	0.0159	0.00002	0.0006
8-Sep-20	67	133	0.05	0.0100	3.3000	2	0.12	50	154	0.0010	0.045	0.018	0.0026	0.0245	0.0000	0.0006
29-Jun-20	25	42	0.10	0.0100	0.4600	1	0.05	18	55	0.0010	0.282	0.006	0.0022	0.006	0.0000	0.0009
7-Jul-20	28	42	0.02	0.0100	0.4400	2	0.06	18	59	0.0010	0.14	0.006	0.0011	0.0096	0.0000	0.0006
18-Aug-20	42	70	0.04	0.0100	0.7800	2	0.07	26	84	0.0010	0.078	0.006	0.0018	0.0083	0.0000	0.0006
8-Sep-20	53	72	0.07	0.0100	0.9800	1	0.09	29	85	0.0010	0.079	0.033	0.0014	0.015	0.0000	0.0006
14-Oct-20	57	87	0.04	0.0100	1.3700	2	0.11	49	7	0.0010	0.041	0.005	0.0022	0.0174	0.0000	0.0006

PHASE PIT ST-41 AND ST-42

Parametre	Total Copper (Cu)	Total Iron (Fe)	Total Lead (Pb)	Total Manganese (Mn)	Total Mercury (Hg)	Total Molybdenum (Mo)	Total Nickel (Ni)	Total Selenium (Se)	Total Silver (Ag)	Total Thallium (Ti)	Total Zinc (Zn)	pH	Dissolved Arsenic (As)	Dissolved Barium (Ba)	Dissolved Cadmium (Cd)	Dissolved Chromium (Cr)
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L		mg/L	mg/L	mg/L	mg/L
16-Jul-18	0.0227	0.6900	0.00015	0.1430	0.0000	0.0432	0.0104	0.0020	0.00005	0.0001	0.0070	7.71	0.00025	0.1377	0.0002	0.0003
21-Aug-18	0.0047	0.4900	0.00015	0.0784	0.0000	0.0304	0.005	0.0018	0.00005	0.0003	0.0010		0.00025	0.0733	0.00004	0.0024
17-Sep-18	0.0055	0.3900	0.00120	0.0384	0.0000	0.0145	0.0023	0.0009	0.00005	0.0001	0.0020	7.66	0.0025	0.0471	0.00002	0.0003
16-Jul-18	0.0093	0.0900	0.00015	0.2332	0.0000	0.0078	0.0124	0.0005	0.00005	0.0001	0.0070	8	0.0028	0.0549	0.00001	0.0003
21-Aug-18	0.0071	0.1400	0.00015	0.5182	0.0000	0.0108	0.0226	0.0024	0.00005	0.0001	0.0110		0.00025	0.097	0.00004	0.0023
17-Sep-18	0.0108	0.2100	0.00460	0.3217	0.0000	0.0077	0.0147	0.0003	0.00005	0.0001	0.0100	7.67	0.0022	0.0763	0.00001	0.0003
17-Jun-19												6.75				
8-Jul-19	0.0093	0.6000	0.00040	0.1454	0.0000	0.0082	0.0121	0.0003	0.00005	0.0001	0.0050	6.91	0.0013	0.0195	0.00002	0.0003
9-Sep-19	0.0057	0.14	0.00015	0.0923	0.000005	0.0191	0.0063	0.0005	0.00005	0.0001	0.009	-	0.0018	0.0174	0.00001	0.0003
15-Sep-19	0.0059	0.15	0.00015	0.1093	0.000005	0.0136	0.0068	0.0008	0.00005	0.0001	0.0005	7.9	0.002	0.0241	0.00001	0.0003
9-Jun-19	0.0067	0.59	0.00015	0.0581	0.000005	0.0079	0.0031	0.0016	0.00005	0.0001	0.0005	7.68	0.003	0.0172	0.00001	0.0003
9-Sep-19	-	-	-	-	-	-	-	-	-	-	-	7.95	-	-	-	-
15-Sep-19	0.0095	0.19	0.00015	0.1024	0.000005	0.0078	0.0065	0.00025	0.00005	0.0001	0.0005	7.69	0.0026	0.0232	0.00001	0.0003
29-Jun-20	0.003	0.34	0.0003	0.0904	0.00001	0.0046	0.0079	0.001	0.0001	0.0002	0.047	7.56	0.001	0.0049	0.00002	0.0006
7-Jul-20	0.0032	0.21	0.00030	0.0698	0.00001	0.0041	0.0072	0.001	0.0001	0.0002	0.001	7.88	0.0007	0.0083	0.00002	0.0006
18-Aug-20	0.0024	0.01	0.00017	0.0134	0.00001	0.0091	0.0027	0.001	0.0001	0.0002	0.001	7.9	0.0005	0.0083	0.00002	0.0006
8-Sep-20	0.0029	0.0500	0.00017	0.0216	0.00001	0.0131	0.0031	0.0010	0.0001	0.0002	0.0010	8.0200	0.0019	0.0238	0.0000	0.0006
29-Jun-20	0.0041	0.4100	0.00030	0.0495	0.00001	0.0025	0.0042	0.0010	0.0001	0.0002	0.0030	7.3800	0.0013	0.0034	0.0000	0.0006
7-Jul-20	0.0048	0.2400	0.00370	0.0410	0.00001	0.0013	0.0048	0.0010	0.0001	0.0002	0.0030	7.8900	0.0009	0.0059	0.0000	0.0006
18-Aug-20	0.0041	0.1100	0.00017	0.0130	0.00001	0.0040	0.0045	0.0010	0.0001	0.0002	0.0020	7.5600	0.0005	0.0057	0.0000	0.0006
8-Sep-20	0.0048	0.1000	0.00017	0.0225	0.00001	0.0037	0.0066	0.0010	0.0001	0.0002	0.0010	7.6900	0.0010	0.0112	0.0000	0.0006
14-Oct-20	0.005	0.0500	0.00017	0.0082	0.00001	0.0050	0.005	0.0010	0.0001	0.0002	0.0010	7.8500	0.0015	0.0136	0.0000	0.0006

PHASE PIT ST-41 AND ST-42

Parametre	Dissolved Copper (Cu)	Dissolved Iron (Fe)	Dissolved Lead (Pb)	Dissolved Manganese (Mn)	Dissolved Mercury (Hg)	Dissolved Molybdenum (Mo)	Dissolved Nickel (Ni)	Dissolved Selenium (Se)	Dissolved Silver (Ag)	Dissolved Thallium (Ti)	Dissolved Zinc (Zn)
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
16-Jul-18	0.0208	0.21	0.00015	0.1477	0.000005	0.0423	0.0105	0.0005	0.00005	0.0001	0.004
21-Aug-18	0.0045	0.005	0.00015	0.0618	0.000005	0.0266	0.0041	0.0011	0.00005	0.0001	0.0005
17-Sep-18	0.0053	0.005	0.00015	0.0277	0.000005	0.0112	0.0014	0.00025	0.00005	0.0001	0.0005
16-Jul-18	0.007	0.005	0.00015	0.2135	0.000005	0.0082	0.0119	0.0005	0.00005	0.0001	0.005
21-Aug-18	0.0062	0.005	0.00015	0.4195	0.000005	0.0108	0.0171	0.00025	0.00005	0.0001	0.007
17-Sep-18	0.0091	0.03	0.0009	0.2887	0.000005	0.0077	0.0134	0.0008	0.00005	0.0001	0.005
17-Jun-19									-		
8-Jul-19	0.0023	0.04	0.00015	0.1353	0.000005	0.0078	0.0088	0.00025	0.00005	0.0001	0.0005
9-Sep-19	0.0051	0.005	0.00015	0.0888	0.000005	0.02	0.0056	0.00025	0.00005	0.0001	0.0005
15-Sep-19	0.0039	0.005	0.00015	0.0797	0.000005	0.0113	0.005	0.0012	0.00005	0.0001	0.0005
9-Jun-19	0.0045	0.02	0.00015	0.0429	0.000005	0.0081	0.0019	0.00025	0.00005	0.0001	0.0005
9-Sep-19	-	-	-	-	-	-	-	-	-	-	-
15-Sep-19	0.0068	0.005	0.00015	0.0726	0.000005	0.0061	0.005	0.00025	0.00005	0.0001	0.0005
29-Jun-20	0.0009	0.01	0.0003	0.0655	0.00001	0.0036	0.0046	0.001	0.0001	0.0002	0.001
7-Jul-20	0.0012	0.02	0.0003	0.0489	0.00001	0.0033	0.006	0.001	0.0001	0.0002	0.001
18-Aug-20	0.0005	0.01	0.00017	0.0005	0.00001	0.0005	0.0005	0.001	0.0001	0.0002	0.001
8-Sep-20	0.0019	0.0100	0.0002	0.0115	0.0000	0.0115	0.0023	0.0010	0.0001	0.0002	0.0010
29-Jun-20	0.0018	0.0100	0.0003	0.0341	0.0000	0.0020	0.0034	0.0010	0.0001	0.0002	0.0010
7-Jul-20	0.0023	0.0100	0.0003	0.0295	0.0000	0.0018	0.0036	0.0010	0.0001	0.0002	0.0010
18-Aug-20	0.0005	0.0100	0.0002	0.0005	0.0000	0.0005	0.0005	0.0010	0.0001	0.0002	0.0010
8-Sep-20	0.0032	0.0100	0.0002	0.0005	0.0000	0.0033	0.0053	0.0010	0.0001	0.0002	0.0010
14-Oct-20	0.0038	0.0100	0.0002	0.0005	0.0000	0.0048	0.0041	0.0005	0.0001	0.0002	0.0010

PHASER ATTENUATION POND ST-43

Parametre	Alkalinity	Hardness	Total Ammonia (NH3 + NH4)	Ammonia (unionized NH3)	Nitrate (NO_3)	Chloride	Fluoride	Sulphate	TDS	Total Cyanide (CNt)	Total Aluminium (Al)	Dissolved Aluminium (Al)	Total Arsenic (As)	Total Barium (Ba)	Total Cadmium (Cd)	Total Chromium (Cr)
Date	mg CaCO3/L	mg CaCO3/L	mg N/L	mg N/L	mgN/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
9-Jun-19	12	66	3.11	0.0100		2	0.1	52	110	0.0110	1.32		0.0019	0.0157	0.0002	0.002
8-Jul-19	40	68	2.05	0.0050		2	0.1	67	73	0.0005	0.767		0.002	0.016	0.0004	0.0007
6-Aug-19	73	85	1.56	0.0100		2	0.1	67	135	0.0005	0.525		0.0013	0.0178	0.0002	0.0007
9-Sep-19	14	75	0.93	0.0050		2	0.1	74	171	0.0005	0.22		0.0016	0.032	0.0001	0.0003
29-Jun-20	15	42	0.12	0.0100	0.7400	1	0.0	29	61	0.0010	0.062	0.006	0.0005	0.0048	0.00002	0.0006
7-Jul-20	16	48	0.07	0.0100	0.7700	1	0.1	29	65	0.0010	0.074	0.006	0.0005	0.008	0.00002	0.0006
5-Aug-20	30	96	0.07	0.0100	1.3100	2	0.1	63	118	0.0010	0.06	0.006	0.0011	0.0175	0.00002	0.0016
9-Sep-20	49	93	0.05	0.0100	0.9700	2	0.1	61	120	0.0010	0.036	0.006	0.0005	0.0143	0.0000	0.0006

PHASER ATTENUATION POND ST-43

Parametre	Total Copper (Cu)	Total Iron (Fe)	Total Lead (Pb)	Total Manganese (Mn)	Total Mercury (Hg)	Total Molybdenum (Mo)	Total Nickel (Ni)	Total Selenium (Se)	Total Silver (Ag)	Total Thallium (Ti)	Total Zinc (Zn)
Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
9-Jun-19	0.023	1.7100	0.00015	0.2225	0.000005	0.0027	0.0322	0.0068	0.00005	0.0001	0.0290
8-Jul-19	0.0179	1.3800	0.00030	0.1789	0.000005	0.0028	0.0268	0.0043	0.00005	0.0001	0.0250
6-Aug-19	0.0136	1.3600	0.00015	0.1901	0.000005	0.0029	0.0294	0.0036	0.00005	0.0001	0.0220
9-Sep-19	0.009	0.9100	0.00015	0.1066	0.000005	0.0104	0.0202	0.0029	0.00005	0.0001	0.0270
29-Jun-20	0.0025	0.21	0.0003	0.0845	0.00001	0.0005	0.0106	0.001	0.0001	0.0002	0.001
7-Jul-20	0.004	0.37	0.00030	0.0882	0.00001	0.0005	0.0119	0.001	0.0001	0.0002	0.005
5-Aug-20	0.0076	0.55	0.00017	0.0469	0.00001	0.0014	0.012	0.001	0.0001	0.0002	0.008
9-Sep-20	0.0051	0.2300	0.00017	0.0128	0.00001	0.0007	0.0084	0.0010	0.0001	0.0002	0.0010

MILL EFFLUENT (ADDITIONAL TESTS)

SAMPLING DATE		01/05/2020	16-Mar-20	07/09/2020	11-Aug-20 10:00	12-Oct-20 14:00	07-Nov-20 07:15	13-Dec-20 07:00	Average 2020	Median 2020
LAB CERTIFICATE		CA15186-JAN20	CA13677-MAR20	CA15339-JUL20	CA14418-AUG20	CA12685-OCT20	CA14291-NOV20	CA14537-DEC20		
SAMPLE NAME		Tailings-Liquid	Water Tail	Water Tail	Water Tail	Water Tail	Water Tail	Water Tail	Tailings Liquid	Tailings Liquid
Dissolved Oxygen	mg/L		9.5	7	8.1	9.6	7.2	10.1	8.6	8.8
pH	no unit		8.12	7.94	8.17	7.88	7.78	7.8	7.9	7.9
Conductivity	uS/cm		3590	3300	3810	5180	4900	4060	4140	3935
Alkalinity	mg/L as CaCO3	60	123	85	66	107	80	80	85.9	80
Bicarbonate	mg/L as CaCO3		123	85	66	107	80	80	90	83
Carbonate	mg/L as CaCO3		1	1	1	1	1	1	1	1
Total Suspended Solids	mg/L		18	815	23	83	21	21	164	22
Total Dissolved Solids	mg/L	3820	3040	2740	3320	4570	4430	2890	3544.3	3320
Turbidity	NTU		14.2	781	24.4	89.7	15	26	158	25
Fluoride	mg/L	0.21	0.43	0.36	0.3	0.23	0.26	0.15	0.3	0
Chloride	mg/L	810	400	300	250	370	380	370	411.4	370
Sulphate	mg/L	1500	1500	1400	1400	2600	2600	1600	1800.0	1500
Bromide	mg/L		2.5	0.7	1.5	1.5	3	2.9	2	2
Nitrite (as N)	as N mg/L	0.37	1.3	0.15	0.15	0.15	0.6	0.44	0.45	0
Nitrate (as N)	as N mg/L	6.88	13.9	9.81	5.81	8.13	12.1	7.88	9.2	8
Nitrate + Nitrite (as N)	as N mg/L	7.25	15.2	9.81	5.81	8.13	12.7	8.32	10	8
Phosphorus (total reactive)	mg/L		0.42	0.32	0.11	0.24	0.06	0.09	0	0
Total Organic Carbon	mg/L		105	63	67	86	65	50	73	66
Dissolved Organic Carbon	mg/L		94	57	68	88	65	54	71	67
Reactive Silica	mg/L		12.6	7.55	9.48	10.8	10	7.92	10	10
Salinity	none		2	1.8	2.1	2.9	2.8	2.2	2	2
Redox Potential	mV		77	155	158	163	163	192	151	161
Phosphorus (total)	mg/L		0.5	0.7	0.1	0.05	0.05	0.3	0	0
Total Kjeldahl Nitrogen	as N mg/L		103	97.4	110	132	101	88.2	105	102
Ammonia+Ammonium (N)	as N mg/L	78.4	36.9	25.5	76.4	88	74.2	75.2	64.9	75
Cyanide (total)	mg/L	**	136	9.87	0.3	0.05	0.24	1.21	24.6	1
Cyanide (free)	mg/L		79.9	0.0025	0.007	0.05	0.017	0.05	13	0
Cyanide (WAD)	mg/L	**	144	4.39	0.005	0.05	0.04	0.05	24.8	0
Mercury (total)	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.0	0
Mercury (dissolved)	mg/L	0.00001	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.0	0
Hardness	mg/L as CaCO3	1350	1266	1200	1290	2110	2030	1330	1511	1330
Hardness (dissolved)	mg/L as CaCO3	1340	1230	1041	1200	2000	157	1340	1187	1230
Calcium (total)	mg/L		488	463	500	791	772	501	586	501
Potassium (total)	mg/L		176	189	192	292	272	169	215	191
Magnesium (total)	mg/L		11.2	10.9	9.76	33.3	24.6	19.3	18	15
Sodium (total)	mg/L		340	339	427	451	416	316	382	378
Silver (total)	mg/L	0.00041	0.0122	0.00129	0.00033	0.00208	0.000025	0.00031	0.0024	0.0004
Silver (dissolved)	mg/L	0.00061	0.0283	0.00168	0.0003	0.00167	0.000025	0.00028	0.0047	0.0006
Aluminum (total)	mg/L	0.209	0.68	3.3	0.607	5.72	1.01	0.563	1.7270	0.6800
Aluminum (dissolved)	mg/L	0.018	0.13	0.359	0.104	0.301	0.119	0.008	0.1484	0.1190
Antimony (total)	mg/L	0.315	0.028	0.038	0.037	0.0303	0.0205	0.025	0.0705	0.0303
Antimony (dissolved)	mg/L	0.312	0.0045	0.033	0.0348	0.0267	0.0162	0.0254	0.0647	0.0267
Arsenic (total)	mg/L	0.0737	0.005	1.65	1.36	1.12	0.554	0.304	0.7238	0.5540
Arsenic (dissolved)	mg/L	0.0694	1.15	1.47	1.26	0.889	0.508	0.297	0.8062	0.8890
Barium (total)	mg/L	0.000007	0.177	0.111	0.0882	0.118	0.0964	0.1	0.0987	0.1000
Barium (dissolved)	mg/L	0.0000035	0.169	0.0919	0.0845	0.0891	0.0922	0.104	0.0901	0.0919
Beryllium (total)	mg/L	0.059	0.000035	0.00008	0.000015	0.000165	0.000037	0.000019	0.0085	0.0000
Beryllium (dissolved)	mg/L	0.057	0.000035	0.000035	0.000035	0.000019	0.000009	0.000035	0.0082	0.0000
Boron (total)	mg/L	0.000044	0.21	0.12	2.71	1.39	1.18	0.13	0.8200	0.2100
Boron (dissolved)	mg/L	0.000039	0.17	0.12	2.76	1.5	1.24	0.135	0.8464	0.1700
Cadmium (total)	mg/L	0.00624	0.111	0.00016	0.000236	0.000591	0.000276	0.000429	0.0170	0.0004
Cadmium (dissolved)	mg/L	0.00014	0.108	0.00017	0.000215	0.000382	0.000235	0.000361	0.0156	0.0002
Chromium (total)	mg/L	4.15	0.0138	0.116	0.0237	0.218	0.0362	0.0206	0.6540	0.0362
Chromium (dissolved)	mg/L	4.11	0.0016	0.0115	0.00377	0.00973	0.00265	0.00019	0.5913	0.0038
Copper (total)	mg/L	0.648	27.6	9.4	0.365	0.273	0.539	5.76	6.3693	0.6480
Copper (dissolved)	mg/L	0.046	16	9.18	0.307	0.194	0.504	4.7	4.4187	0.5040
Iron (total)	mg/L	0.0074	6.82	10.2	1.95	15.8	2.74	1.49	5.5725	2.7400
Iron (dissolved)	mg/L	0.007	0.9	1.21	0.779	1.08	0.355	0.028	0.6227	0.7790
Lithium (total)	mg/L	0.061	0.0055	0.006	0.0068	0.019	0.0139	0.0077	0.0171	0.0077
Lithium (dissolved)	mg/L	0.0415	0.005	0.004	0.0064	0.0165	0.0134	0.0076	0.0135	0.0076
Manganese (total)	mg/L	0.059	0.094	0.321	0.1	0.77	0.178	0.124	0.2351	0.1240
Manganese (dissolved)	mg/L	0.0582	0.0484	0.0632	0.0524	0.272	0.118	0.0747	0.0981	0.0632
Molybdenum (total)	mg/L	6.06	0.13	0.142	0.22	0.232	0.182	0.128	1.0134	0.1820
Molybdenum (dissolved)	mg/L	6.11	0.126	0.136	0.206	0.227	0.183	0.137	1.0179	0.1830
Nickel (total)	mg/L	0.00135	14	2.77	0.0683	0.549	0.153	2.21	2.8217	0.5490
Nickel (dissolved)	mg/L	0.000005	15.3	2.49	0.0537	0.44	0.139	2.17	2.9418	0.4400
Lead (total)	mg/L	0.0191	0.0125	0.0263	0.00694	0.0611	0.0109	0.00666	0.0205	0.0125
Lead (dissolved)	mg/L	0.017	0.0019	0.0062	0.00209	0.00772	0.00213	0.00024	0.0053	0.0021
Selenium (total)	mg/L	0.0485	0.125	0.131	0.231	0.167	0.121	0.182	0.1436	0.1310
Selenium (dissolved)	mg/L	0.0486	0.127	0.123	0.218	0.166	0.111	0.189	0.1404	0.1270
Tin (total)	mg/L	0.00007	0.0003	0.0003	0.0003	0.00019	0.00008	0.00008	0.0002	0.0002
Tin (dissolved)	mg/L	0.00003	0.00003	0.00003	0.00003	0.00009	0.00007	0.00003	0.0000	0.0000
Strontium (total)	mg/L	1.58	1.46	0.842	0.915	1.74	2.14	1.88	1.5081	1.5800
Strontium (dissolved)	mg/L	1.54	1.42	0.788	0.853	1.69	2.04	1.91	1.4630	1.5400
Titanium (total)	mg/L	0.0116	0.0359	0.191	0.0327	0.339	0.0503	0.0267	0.0982	0.0359
Titanium (dissolved)	mg/L	0.00045	0.0031	0.0167	0.00588	0.0157	0.0052	0.00015	0.0067	0.0052
Thallium (total)	mg/L	0.000017	0.000025	0.00006	0.000049	0.000134	0.000074	0.000019	0.0001	0.0000
Thallium (dissolved)	mg/L	0.000015	0.000025	0.000025	0.000037	0.000049	0.000058	0.000013	0.0000	0.0000
Uranium (total)	mg/L	0.00574	0.0217	0.00574	0.00274	0.0197	0.0159	0.00732	0.0113	0.0073
Uranium (dissolved)	mg/L	0.00551	0.0217	0.00541	0.00266	0.0184	0.0152	0.0045	0.0105	0.0055
Vanadium (total)	mg/L	0.00088	0.0022	0.0114	0.0035	0.0164	0.00348	0.00173	0.0057	0.0035
Vanadium (dissolved)	mg/L	0.00032	0.001	0.0023	0.0019	0.00133	0.00078	0.0002	0.0011	0.0010
Zinc (total)	mg/L	0.002	0.95	0.03	0.003	0.013	0.003	0.001	0.1431	0.0030
Zinc (dissolved)	mg/L	0.001	0.94	0.03	0.002	0.001	0.001	0.001	0.1394	0.0010

Value below detection limit. Use 1/2 of detection limit

APPENDIX D – 2020 FRESHET ACTION PLAN

MEADOWBANK GOLD MINE

FRESHET ACTION AND INCIDENT RESPONSE PLAN

MARCH 2021

EXECUTIVE SUMMARY

The purpose of this Action and Response Plan is to identify areas of concern around the Meadowbank mine site and the AWAR that need to be managed in an organized and timely manner during the annual freshet period to prevent adverse environmental and operational impacts. The Incident Response section of the Plan outlines specified actions that will be taken by Agnico to manage and mitigate areas where environmental incidents have occurred, specifically seepage on the north-east side of the Portage Waste Rock Storage area, known as sampling location ST-16 (2013) and seepage from the mill (inside) containment structures through the Assay Road southwest of the mill (Mill Seepage - 2013). The Central Dike seepage, ST-S-5, is also included in this plan. Any future incidents that have the potential to affect off site water or land will be added and would include any specific mitigation and monitoring actions.

The freshet period typically occurs during the annual snow and ice melt sometime around mid-May and extends until the end of July. 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 in-pit deposition (IPD) pits, Vault Pit and pit walls, the North and South Cell TSF surroundings, such as, East and West diversion ditches, Northwest corner of the North Cell TSF, Saddle Dam 1 corner, Saddle Dam 2 sump, Saddle Dam 3 sump, Saddle Dam 4-5 downstream, the areas around the Portage Waste Rock Storage Facility (RSF) including the northern portions of the NAG waste rock extension, which includes the two collection ponds known as WEP1 and WEP2, Vault Road culverts, Vault Waste Rock Storage Facility, AWAR culverts near the site and along the road to Baker Lake, RSF – ST-16 Seepage, Assay Road (Mill) Seepage, and Central Dike seepage station STS-5.

It is important that all dewatering and associated infrastructure be in good working order and adequate to manage the expected water flows associated with the freshet period; this includes but is not limited to pumps, ditch, culvert and sump maintenance, critical piping system installation and inspection, adequate resource allocation for preparative work and establishing a viable monitoring program for the areas of concern and incident response locations. A concise summary of the 2021 preparation works and roles and responsibilities is presented in the attached Appendix 1 (2021 Freshet Action Plan Procedures). Appendix 1 will be updated yearly to reflect changes in conditions at the Meadowbank site. Appendix 2 contains diagrams depicting the areas of concern and incident response locations. Schedules 1 and 2 describe the monitoring programs for incident responses.

DOCUMENT CONTROL

Revision				Pages Revised	Remarks
#	Prep.	Rev.	Date		
01	Agnico	Internal	April 2014	All	
02	Agnico	Internal	May 2015	All	Comprehensive update from 2014 Plan
03	Agnico	Internal	October 2015	All	Comprehensive update from May 2015 Plan
04	Agnico	Internal	March 2016	All	2016 Comprehensive review
05	Agnico	Internal	March 2017	All	Comprehensive update from May 2016 Plan
06	Agnico	Internal	March 2018	All	Comprehensive update from 2017 Plan
07	Agnico	Internal	March 2019	All	Comprehensive update from 2018 Plan
08	Agnico	Internal	March 2020	All	Comprehensive update from 2019 Plan
09	Agnico	Internal	March 2021	All	Comprehensive update from 2020 Plan

Prepared By: Meadowbank Environment

Approved by:

Alexandre Lavallee, Interim Environment Superintendent

TABLE OF CONTENTS

LIST OF FIGURES

List of Appendix

1 INTRODUCTION

The purpose of this Freshet Action and Incident Response Plan is to ensure that Agnico can address and manage excess water associated with the freshet season at the Meadowbank 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 being a period of time from approximately May 15 – July 30; in some cases this period of time can extend up to early fall when freezing re-occurs (October 15). There are many areas around the site that are vulnerable to this excess water; the goal is to identify these areas and develop a clear plan with defined roles and responsibilities (among Agnico Eagle 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 mine contact water from runoff or seepage is managed to prevent adverse environmental impacts;
2) to ensure that the health and safety of Agnico employees is protected, especially with respect to mining operations when excess water is present; and
3) to make sure the site is in compliance with the Nunavut Water Board (NWB) License, Part D, Item 19 and Part E, Item 10.

The plan will identify the areas of concern and discuss the potential risks as well as mitigation measures necessary to address the identified issues. Appendix 1 contains the actual defined 2021 procedures, the roles and responsibilities and associated timelines. Agnico's intent is to update the Procedural Appendix on a yearly basis. For example, 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:

- IPD pits, Vault Pit and pit walls;
- Area around the Portage Waste Rock Storage Facility (RSF) including the northern portions of the NAG waste rock extension, which include the collection ponds known as WEP 1 and WEP 2;
- Vault Waste Rock Storage Facility;
- North and South Cell TSF surrounding areas:
    - East and West diversion ditches;
    - Northwest corner of the North Cell TSF;
    - Saddle Dam 1 corner;
    - Saddle Dam 2 sump;
    - Saddle Dam 3 sump;
    - Saddle Dam 4-5 downstream;

    - North Cell Internal Structure
- East Dike Seepage
- Vault Road culverts;
- Stormwater Management Pond;
- Fuel Tank Farms;
- AWAR culverts near the site and along the road to Baker Lake;
- RSF – ST-16 Seepage;
- Assay Road (Mill) Seepage;
- Central Dike Seepage.

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

2.1 IPD Pits, Vault Pit and Pit Walls

All active ramps, and ditches must be cleared of all ice and snow before May in order to access the shoreline of the filling pits. All pumps must be checked and serviced to be in working order prior to May. In addition, a check must be completed confirming that all piping systems starting from the different pits are free of ice by validating pumping values (if pumping systems are active) and/or performing an air test in the pipe with a compressor.

2.1.1 *Goose Pit*

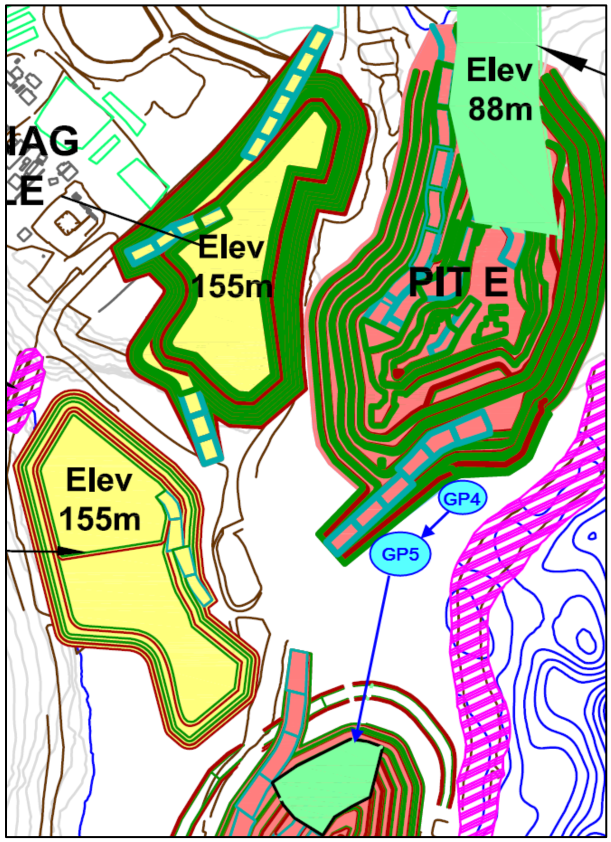
Mining in Goose Pit was completed in 2015. Tailings deposition began in July 2019. Between 2015 and 2019, Goose Pit was being passively reflooded. Due to the increased inflows from tailing deposition, water transfers from Goose Pit towards either Pit E or Pit A are expected to be needed on an annual basis, as part of the deposition plan.

Water accumulating in the surface area around Goose Pit (Bay Goose Dike ring road, NPAG stockpile, Goose sump) will be pumped to Goose Pit as required.

2.1.2 *Pit E*

Mining in Pit E was completed in 2019. The pit is now part of the in-pit deposition plan. Runoff water accumulated at the crest of the pit will be pumped into Pit E as required.

The Pit E3 ramp requires proper trenching and snow clearing to ensure safe condition for the planned installation of the tailing deposition and mill reclaim systems.


Elev
88m
Elev
155m
PIT E
Elev
155m
GP4
GP5

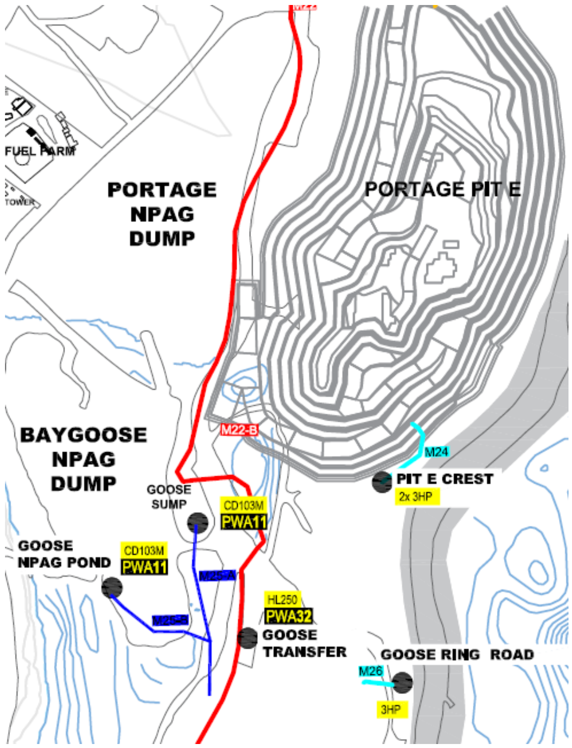


Figure 2-1: View of Portage Pit E area with the associated sumps and trenches

2.1.3 *Pit A*

Mining in Pit A was completed in 2018. The pit is now part of the in-pit deposition plan. The Pit A ramp and North Ramp require proper trenching and snow clearing to ensure safe operations of the tailing deposition and mill reclaim systems.

Water from the South Cell, Central Dike seepage, East Dike seepage and Stormwater Pond will be directed to Portage Pit A during freshet.

2.1.4 *Vault & Phase Pits*

Between 2014 (completion of Vault Lake dewatering) and 2019 Vault Lake was being used as an Attenuation pond. The light blue surfaces in Figure 2-2 represent four isolated ponds that formed the Attenuation pond (A, B, C & D) used to collect contact water from Vault Pit. Runoff from the pit area and the waste rock storage area flowing into the active mining areas were pumped to the Attenuation pond. Vault Pit mining activities (including Phaser and BB Phaser) were completed in 2019. No further discharge to Wally Lake is expected.

As a result of all mining activity of Vault area being completed, passive pit reflooding has begun, with natural runoff being the only inflow. No active water management is planned in that area at freshet. For safety concern the area is restricted. Procedures are in place to safely access the area for sampling purposes.

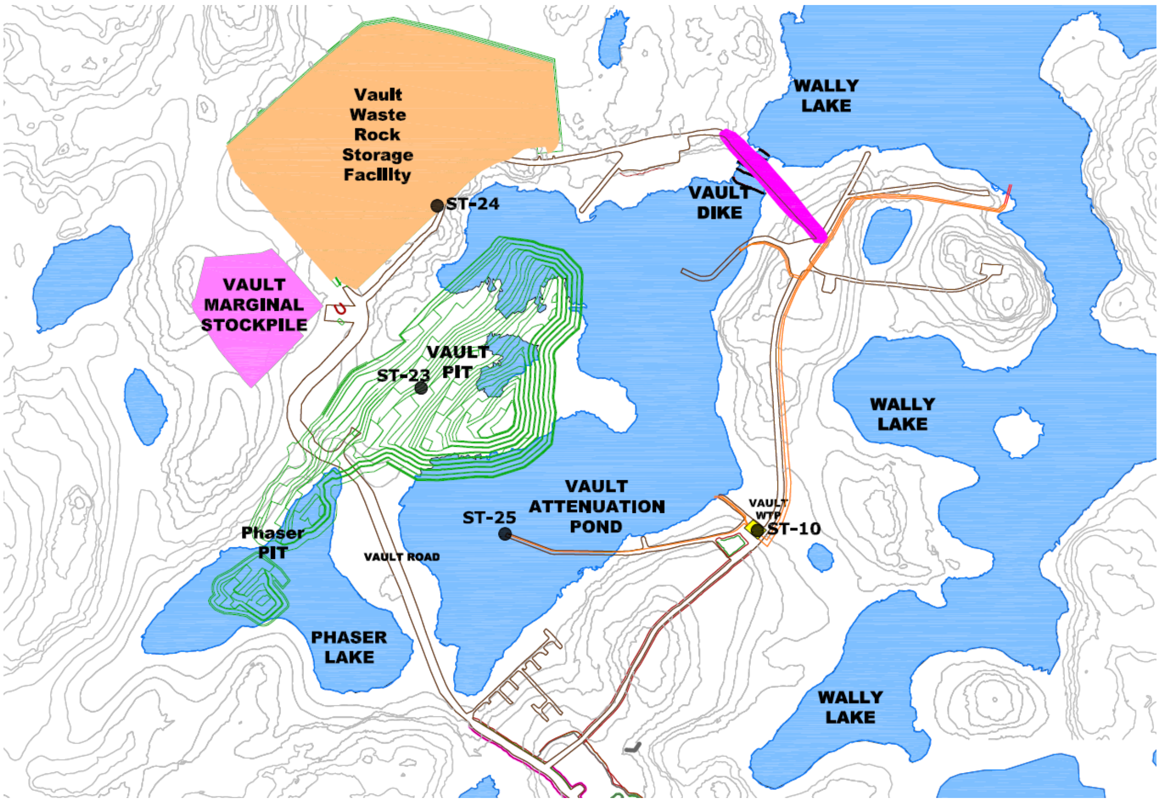


Figure 2-2: View of Vault area and the associated management ponds

2.2 Waste Rock Storage Area

2.2.1 *Portage RSF*

The Portage Rock Storage Facility (RSF) will require weekly inspections around the perimeter beginning as soon as the freshet starts (May) until freeze up to identify any seepage. As will be noted in the following section, seepage was identified in 2013 at location ST-16. In the event that additional seepage is observed from the RSF, it must be reported to the Environment Department and samples must be taken to determine the water quality and source. A mitigation plan will be prepared and implemented if necessary.

Active pumping at the Portage RSF toward the North Cell is required at WEP1 (Section 2.3.1.4), WEP 2 (Section 2.3.1.4) and ST-16 (Section 3).

2.2.2 *Vault RSF*

Much like the RSF located near Portage pit, the Vault RSF will require some monitoring during the freshet period to ensure adequate water management. Weekly inspections around the RSF perimeter will be conducted to identify any seepage as soon as the freshet starts (May) until freeze. In the event that seepage is observed, the Environment Department must be notified and samples taken to determine water quality. The sample monitoring will be in accordance with the Water License requirements. It is anticipated that there will be no water quality issues as primary drainage is towards the Vault Pit and the waste rock stored in the RSF is primarily NAG. No active pumping system is planned for that area.

2.3 North and South Cell Tailings Storage Facility

Water management around both the North and South Cell Tailings Storage Facility (TSF) is required to maintain integrity of the tailings management infrastructure and to prevent any adverse environmental impacts. This section describes the infrastructure in place to control runoff water and reduce possible impact on both the tailings storage facility and the receiving environment.

The water management strategy for the TSF is to pump the runoff and seepage from the North area in the North Cell. Seepage and runoff from the South area will be pumped in the South Cell. Water from the North Cell will be transferred to the South Cell to ensure the respect of water level criteria. Water from the South Cell will be pumped toward Portage Pit A to respect the water level criteria.

2.3.1 *Diversion Ditches*

The East and West Diversion ditches were constructed in 2012 around the North Cell TSF and the Portage RSF. The diversion ditches are designed to redirect the fresh water from the northern area watershed away from the tailings pond and RSF and direct it to Second and Third Portage Lakes. As seen in Figure 2-3, seven zones associated with the diversion ditches have been identified where actions will be taken during or before freshet:

1. AWAR culvert – Discharge to Third Portage Lake;
2. West Diversion Ditch elbow;
3. Northwest corner of North Cell TSF;
4. Waste Extension Pool sumps (WEP 1 and WEP 2);
5. East Diversion Ditch Outlet to NP-2 Lake;
6. North portion of NAG waste rock expansion; and
7. Vault road culvert – NP-2 Lake exit to NP-1 Lake.

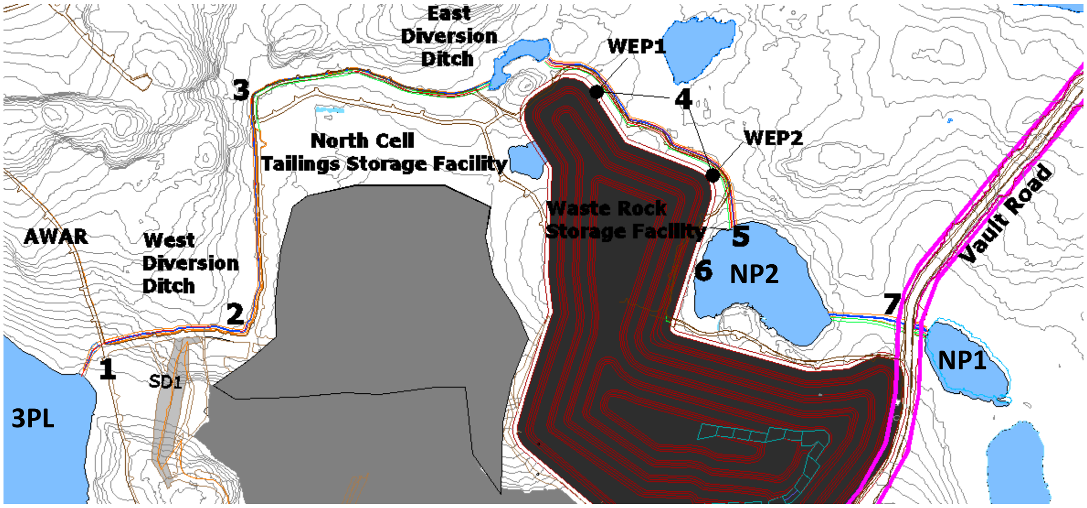


Figure 2-3: Location of the areas of interest for the 2021 Freshet Action Plan

2.3.1.1 AWAR culvert – discharge to Third Portage Lake

Ditch outflows are important to ensure proper flow of freshet drainage. The culvert under the AWAR (Figure 2-3 #1) is a critical section of the West Diversion Ditch. Snow removal must be performed to avoid ponding and damage to the ditch/trench structure as well as to maintain the integrity of the AWAR which, in turn, is critical to transportation at the Meadowbank mine site.

Figure 2-4 illustrates this culvert. Snow and/or ice must be removed using an excavator on each side of the culvert to allow water to flow through to prevent upstream ponding. The culvert may need to be steamed if blocked by ice. Before starting the cleaning operation, it is important to ensure that the electrical cable (5kV) location has been visually identified.

After flowing through the culvert the water discharges across the tundra into Third Portage Lake – see Figure 2-4 below. Snow and ice are to be removed before May 20 to prevent any back up in the West Diversion ditch. If not completed, this could increase water levels upstream in the ditch causing problems discussed in Section 2.3.1.2.

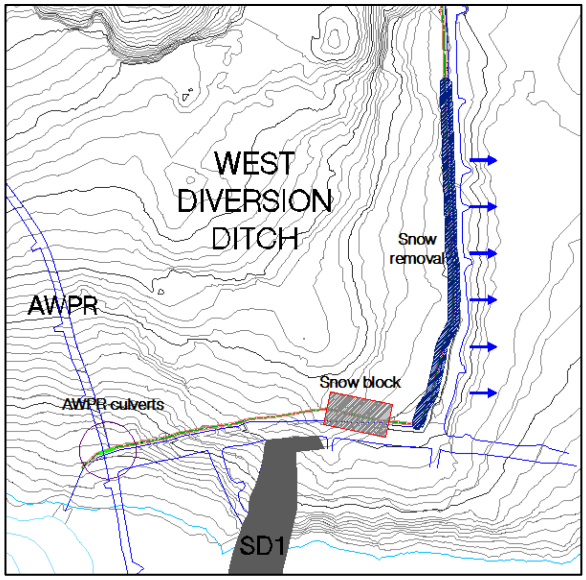


Figure 2-4: West diversion ditches area of interest

A turbidity barrier has been installed in Third Portage Lake as a precautionary measure. This barrier will remain in place over winter and will be replaced if damaged in the future. Additional barriers can be installed after ice melt as a contingency. Daily inspections will be conducted starting in May until Freshet is complete and after rain events. Sample monitoring will commence when open water is present in accordance with the Water License (ST-6). Sampling frequency of ST-6 may be increased if TSS results are near 30 mg/L (grab) and 15 mg/L (monthly average), which are the license limits, or visually elevated. If a discharge of TSS occurs, the Environment Department will notify ECCC and NWB (CIRNAC Water Inspector).

2.3.1.2 **West Diversion Ditch Elbow**

One of the deepest sections of the West Diversion ditch is located in the corner next to the Saddle Dam 1 – see Figure 2-4 and Figure 2-3 #2 above. In early May of each year, Agnico will remove the snow accumulation to allow the water to flow freely, preventing the water upstream from increasing in level and hydraulic head pressure. In addition, large flows can scour the ditch system causing sediment migration through the ditches which could impact Third Portage Lake. To prevent this, snow must be removed from the corner area with a long reach excavator in early May.

As a further precaution, Agnico constructed an interception sump located at the west diversion ditch elbow location in 2014. The sump has a capacity of 3,000 m³. The sump is designed to intercept water coming from the most critical parts of the West Ditch. Water is pumped back, if needed, on a regular basis to the North Cell TSF. These measures will prevent any contaminated water from reaching Third Portage Lake. Eventually, this sump will also act as a settling pond to prevent water with elevated TSS from reaching Third Portage Lake. Daily inspections will be conducted from May until freshet is complete and after rain events. Sample monitoring will also be conducted. Figure 2-5 shows the North Cell interception/settling sump after the completion of the construction. Elevated TSS should not be an issue as a result of rock armour work conducted in 2015 on the banks of the West diversion ditch preventing sediment migration. It is planned to let natural overflow to Third Portage Lake, if results are compliant. If needed, the water would be pumped back to the North Cell TSF to avoid any non-compliance. A pump will be installed preventively and ready to operate.

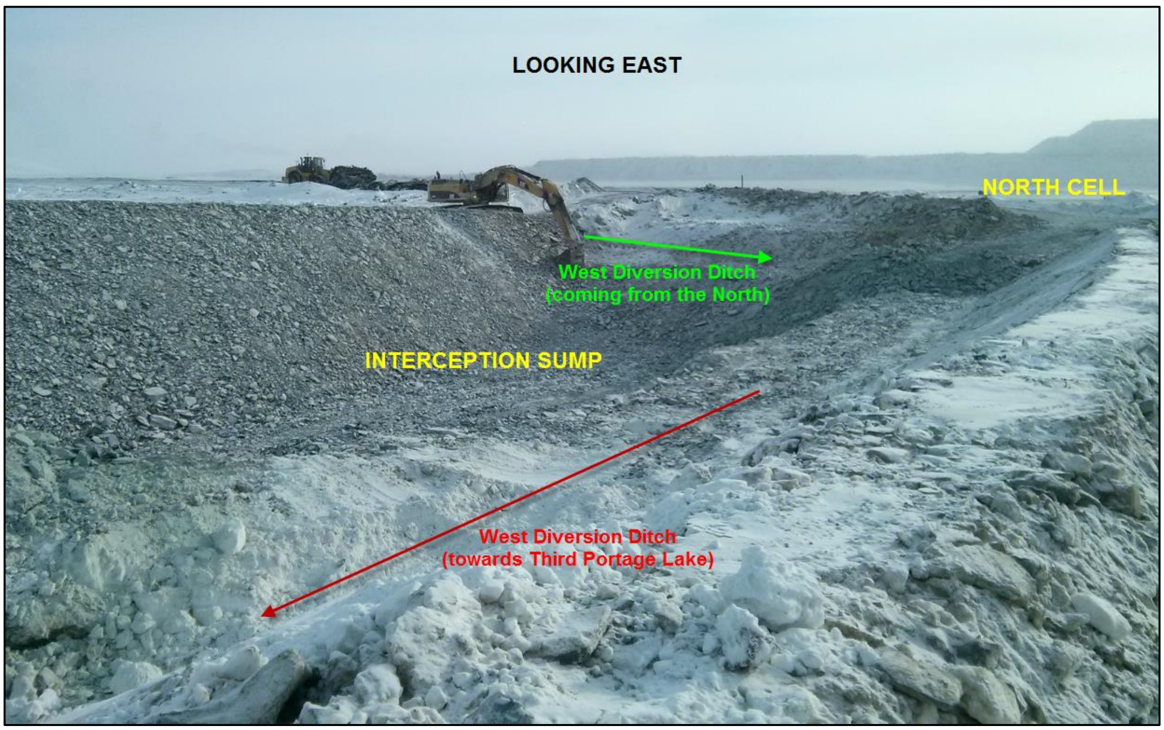


Figure 2-5: North Cell West Diversion ditch interception sump

2.3.1.3 **Northwest Corner of North Cell TSF**

The construction access road at the Northwest corner of the North Cell TSF (see Figure 2-6 and Figure 2-3 #3) was vulnerable to damage from the freshet water flow from the northern watershed (see watercourse flow in Figure 2-6 denoted by blue line). The start of the West Diversion ditch is also located in this area and is designed to collect the freshet flow – note arrows in Figure 2-6. Water was observed ponding during the 2013 and 2014 freshet. Ponding is limited in this area once the freshet is done.

Tailings deposition was completed in the North Cell in October 2015, returning for punctual deposition in the summers of 2018 and 2019. Water was removed in the North Cell TSF and capping was completed in the northern and eastern section along RF1 and RF2 outlined in (Figure 2-6) by the light grey areas. In 2021, Agnico will continue to monitor and conduct visual inspections of this area in May until freshet is complete and after rain events.

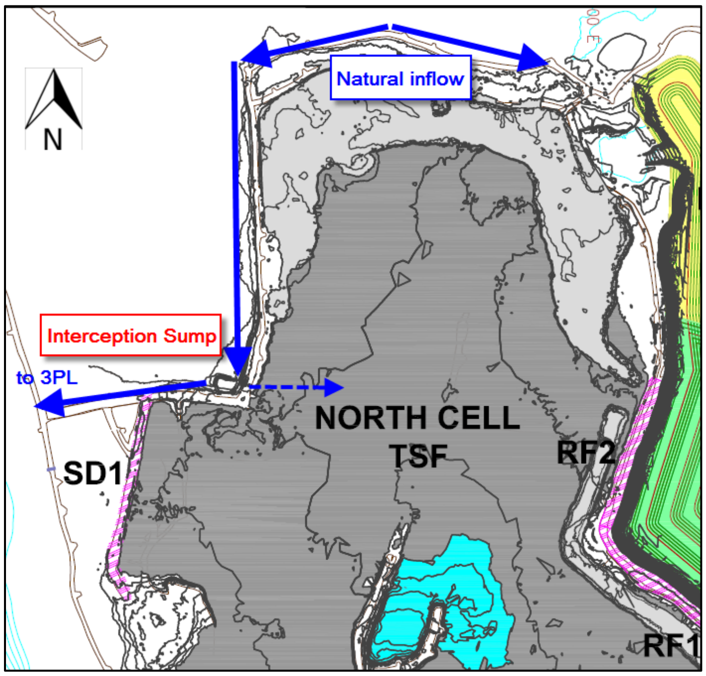


Figure 2-6. View of the northwest corner of the ditches

2.3.1.4 **Waste Extension Pool (WEP) sumps**

In 2014, as per inspections conducted within the framework of the Freshet Action Plan, run off was noted at the northeast side of the NAG waste rock extension pile in a natural depression forming a collection system (WEP). WEP1 and WEP2 sumps were constructed in September 2015 to manage water around the northeast side of the RSF and to ensure that all water ponding behind the RSF is transferred back to the North Cell TSF – see Figure 2-7 below. The WEP1 and WEP 2 sumps were replaced in 2016 with the WEP collection system. Water collected at WEP1 will continue to be pumped to WEP2 which will in turn be pumped to ST-16 (RSF seepage pumping system). Water collected at the latter will be pumped back into the North Cell TSF. Daily inspections will be undertaken in May until freshet is complete and after rain events to ensure water remains contained within WEP1 and WEP2 and does not enter the East Diversion Ditch. Both sumps WEP1 (ST-30) and WEP2 (ST-31) will be sampled monthly as per the Water License during the open water period.

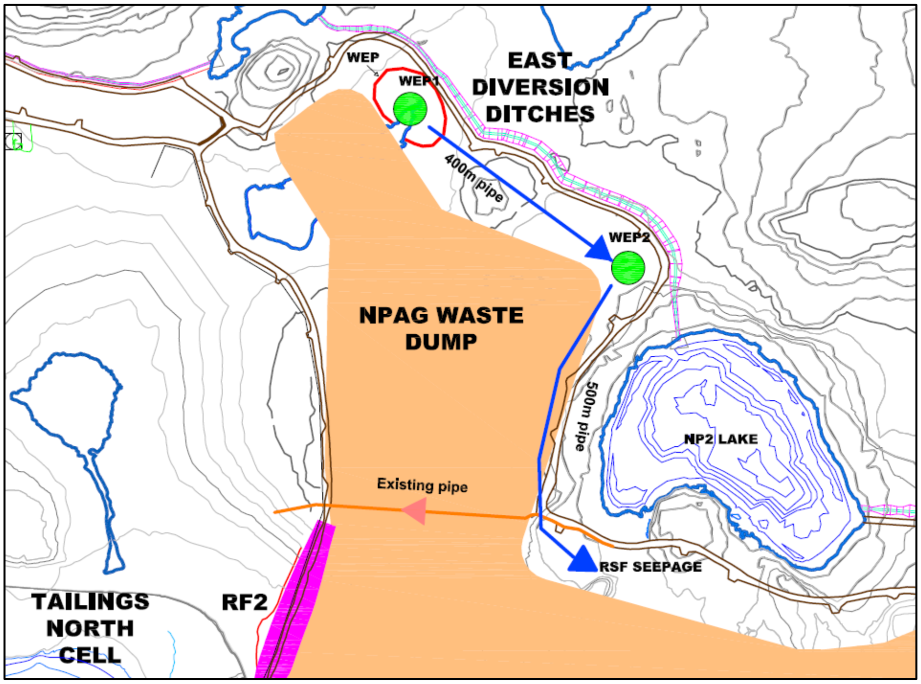


Figure 2-7. WEP1 and WEP2 sumps locations

2.3.1.5 **East Diversion ditch outlet to NP-2 Lake**

This area of the East Diversion ditch, seen in Figure 2-8 and Figure 2-3 #5, is critical as it acts as the outflow of the North part of the East Diversion ditch into NP-2 Lake. This outlet must be cleared of obstructions – snow and ice – in early May to promote drainage through the ditch and into NP-2 Lake. The presence of ice blocks could be mitigated using the steam machine to melt away the obstruction. Daily inspections will be conducted starting in May until freshet is complete and after rain events. Sample monitoring will be conducted monthly during open water in accordance with the Water License (location ST-5). Sampling frequency of ST-5 may be increased if TSS results are near 30 mg/L (grab) and 15 mg/L (monthly average), or visually elevated. Turbidity barriers have been installed at the ditch outlet into NP-2 in 2013 to mitigate elevated TSS. This barrier will remain in place over winter and will be replaced if damaged in the future. Additional barriers can be installed after ice melt as a contingency. If a discharge of TSS occurs, the Environmental Department will notify ECCC and NWB (CIRNAC water Inspector).

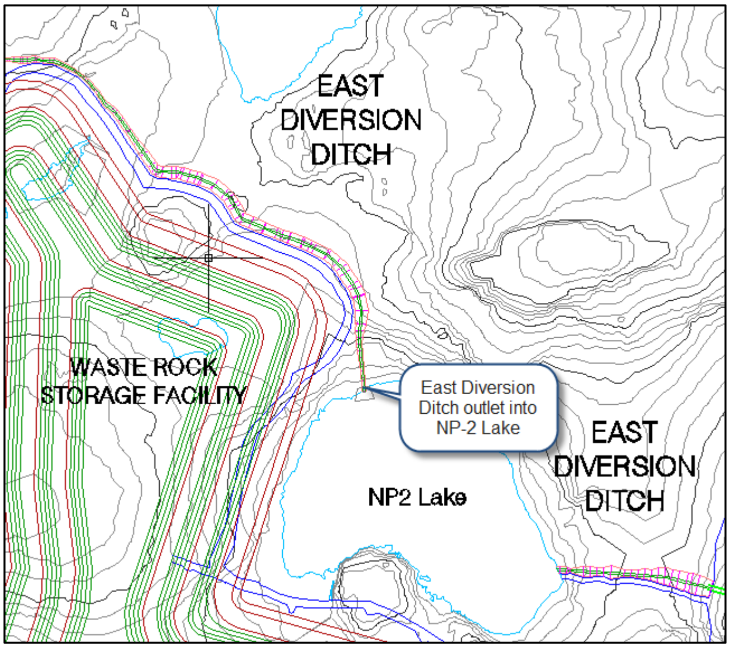


Figure 2-8: View of the East Diversion ditch outlet into NP-2 Lake

2.3.1.6 North Portion of NAG Waste Rock Expansion

The northwestern area of the RSF, which consists entirely of NAG material, extends towards the East Diversion ditch as shown in Figure 2-3 #6. Runoff from this area, while not anticipated to be contaminated, could, if significant, discharge to NP-2 lake after crossing the tundra. No issue occurred in this area in recent years, and it is no longer considered as a primary area of concern during freshet. However, the Environmental Department will continue to conduct daily visual inspections during freshet. Sample monitoring will be undertaken when water is observed in order to determine water quality. Contaminated water must be kept from reaching NP-2 Lake; and if required, water will be pumped or diverted.

2.3.1.7 NP-2 Outlet, Vault Road Culvert and NP1

This area of the East Diversion ditch is critical as it acts as the outflow of NP-2 Lake through the Vault Road culvert (see Figure 2-3 #7). The culvert seen in Figure 2-9 connects the East Diversion ditch from Lake NP-2 to NP-1. Snow and ice must be removed from the culvert area, including upstream at the exit of NP-2 Lake, in early May, to ensure that the outlet of NP-2 flows freely to NP-1 and ultimately to Dogleg Lake. Back up could cause an upstream water raise in Lake NP-2, which could cause overflow into the RSF ST-16 sump. First, snow from the ditch between NP1 and the road (1) will be removed in early May. Next, the culvert will be steamed, if necessary, to remove any ice/snow. If needed snow/ice around the outlet of NP2 Lake (4) would be removed to allow free flow of melt water. Daily inspections will commence in May until freshet is complete and after rain events. TSS sample monitoring will be conducted monthly and as needed for turbidity. Sampling frequency may be increased if TSS results are near 30 mg/L (grab) and 15 mg/L (monthly average), or visually elevated. If a discharge of TSS occurs, the Environmental Department will notify ECCC and NWB (CIRNAC Water Inspector).

A turbidity barrier (orange barrier #1) was installed in 2014 at the ditch outlet into NP-1 to mitigate the risk of elevated TSS (Figure 2-10). As a result of an incident of elevated TSS observed in water running under the Vault Road Culvert in June 2015 (reported to authorities and KIA), Agnico installed, in addition to a permanent turbidity and silt barrier, additional turbidity barriers (2) in and at the exit of NP-1 (non fish bearing) (Figure 2-10) and one at the inlet of Dogleg (Figure 2-11). The incident was of short duration and the turbidity barriers prevented migration of TSS to Dogleg Lake which is fish bearing. Agnico also proceeded to raise the Vault road near NP-1 culverts. A different source of aggregate – NAG from Vault was used (harder material) for the road raise which will prevent an accumulation of fine material and allow for water to runoff instead of accumulating or percolating through the road. Also, a snow management plan has been implemented, ensuring no large accumulations of stored snow in this area, to minimize runoff. The additional turbidity barriers (4) were removed from NP-1 in the fall of 2015. Another barrier was put in place in May 2016 on the ice to ensure protection during melting conditions and again in 2017. These barriers are stored on site for rapid deployment in case they are needed in the future. This barrier is left on location over winter and will already be in place at the start of freshet. Barrier inspections will occur throughout freshet to ensure proper functionality.

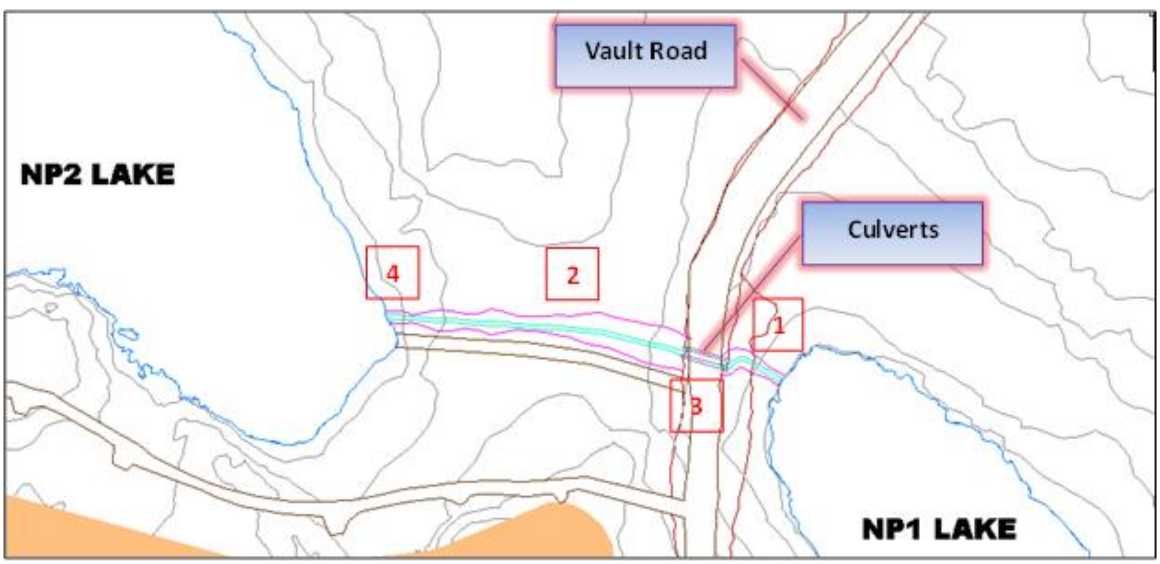


Figure 2-9: View of the diversion ditches at the Vault road area

Figure 2-10: Turbidity barriers at inlet of NP1 installed in July 2016

Figure 2-11: Turbidity barriers at the inlet of Dogleg Lake

2.3.2 *TSF Dikes*

2.3.2.1 Saddle Dam 1

This peripheral dike of the North Cell TSF is required for tailings containment. Daily inspections, starting May until water freezes, will be required for Saddle Dam 1 (SD1) to ensure that runoff water does not pool against the toe of the dike due to low topography. A pumping station located along the toe of the dike is installed to pump back water in the North Cell. This pumping station must be operational once water is observed at the toe to pump the water to the TSF. The pumping system will be checked in early May to ensure proper operation. Monthly sampling will be conducted at this station (ST-S-2) during open water conditions in accordance with the Water License.

2.3.2.2 Saddle Dam 2

This peripheral dike is located South of SD1, is required for tailings containment. Historically, this structure has not had any issues with water pooling at the toe, therefore monthly inspections starting May until water freezes will be required for Saddle Dam 2 (SD2) to ensure that water does not pool against the toe of the dike. If water is observed at the toe it will be pumped back in the North Cell and a water sample could be taken.

2.3.2.3 Saddle Dam 3

This peripheral dike of the South Cell was built in 2015 for water and tailings contaiment. A permanent sump was established in 2017 at a low spot that facilitates water management at freshet. The downstream area of the SD3 embankment will be pumped to the South Cell TSF to avoid water ponding against the structure. This pumping station must be operational once water is observed at the toe to pump the water to the TSF. The pumping system will be checked in early May to ensure proper operation. Monthly sampling will be conducted at this station (ST-32) during open water conditions in accordance with the Water License.

2.3.2.4 Saddle Dam 4-5

Since their initial construction in 2015, ponding in the downstream area is minimal due to the geometry where the downstream slopes downward and away from the embankment. Localized was pooling are sometimes present during the freshet period and will be pumped into the South Cell TSF footprint on their upstream side.

2.3.2.5 North Cell Internal Structure (NCIS)

This internal structure was built as an upstream raise in the North Cell in 2018 and allowed for increased tailings storage capacity. Additional sump (NC-A, NC-B, NC-C, NC-D, NC-E) were implemented within the North Cell in strategic point at the downstream of this structure to ensure proper water management. Water reporting to these sumps is pump back in the North Cell so that the water reach the main water management station in the North Cell.

2.3.2.6 Central Dike

Central Dike is a peripheral structure of the South Cell used for tailings retention. Seepage from that structure is pumped to Portage Pit A. Refer to Section 3.3 for more information.

2.3.2.7 Stormwater Dike

The Stormwater dike separates the North Cell from the South Cell, and is required for tailings containment. A small pump is installed on the Eastern edge of the dike to collect water and pump it back to the North Cell. This will prevent pooling of water against the toe of the dike. The pumping system will be installed and checked in early May to ensure proper operation.

2.4 Vault Road Culvert

The Vault road crosses over a connection between two water bodies, Turn Lake and Drill Tail Lake, at approximately km 113. A system of culverts was installed to allow flow to occur between the two waterbodies. Beginning in May, until freshet is complete and after rain events, it will be important to complete daily inspections. In the case that excessive TSS is observed, samples will be taken and analyzed. In the case, where the TSS levels go beyond 30 mg/L (grab) and 15 mg/L (monthly average), a report will be made to the ECCC and NWB (CIRNAC Water Inspector). Turbidity barriers will be installed as a mitigation measure if needed.

2.5 Stormwater Management Pond

The Stormwater Management Pond (SWMP) is a small shallow and fishless water body that can be seen in Figure 2-12 adjacent to Portage Pit. Treated sewage is discharged into this pond before being transferred to one of the tailing storage facility. The quantity of water transferred each year is recorded. Weekly inspections in the spring and fall are undertaken to determine the commencement of pumping. From 2016 onward, the western part of the pond is used for snow storage (refer to the Snow Management Plan for more details) leading to bigger volumes being pumped.

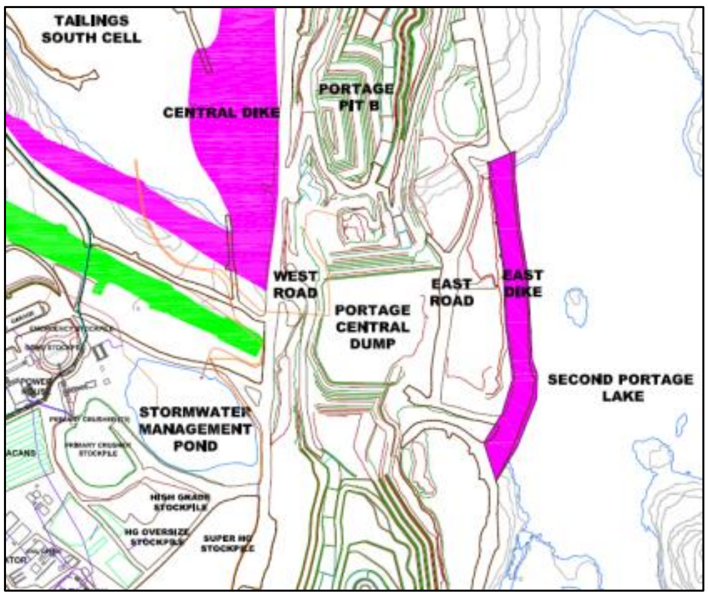


Figure 2-12: Portage Pit area with the Stormwater Management Pond

2.6 Fuel Tank Farms

2.6.1 *Meadowbank Tank Farm*

Snow and ice accumulation within the fuel tank farm must be adequately managed to prevent overflow to the environment and/or damage to the fuel handling systems. The Energy and Infrastructure Department will advise the Environmental Department of their intent to pump the containment area once ice/snow begins to melt. Water samples will be taken in accordance with the Water License to ensure compliance prior to its release. A notice must be provided to the Inspector 10 days prior to this pumping activity. Once sample results have been obtained, the Environmental Department will advise the Energy and Infrastructure Department if pumping can begin. If sample results permit, the pumping may begin; to direct water to the tundra/ground in a way to prevent erosion. In the event that the water sample results do not meet discharge criteria the water shall be sent to the Stormwater Management Pond.

2.6.2 *Baker Lake Tank Farms*

Snow and ice accumulation within the fuel tank farms at Baker Lake must be adequately managed to prevent overflow to the environment and/or damage to the fuel handling systems. The Energy and Infrastructure Department will advise the Environmental Department of their intent to pump the containment area once ice/snow begins to melt. Water samples will be taken in accordance with the Water License to ensure compliance prior to its release. A notice must be provided to the Inspector 10 days prior to this pumping activity. Once sample results have been obtained, the Environmental Department will advise the Energy and Infrastructure Department if pumping can begin. If sample results permit, water can be directed to the tundra but the flow rate shall be such to avoid erosion or damage to the tundra. In the event that the water sample results do not meet discharge criteria the water cannot be pumped to the tundra. If this occurs the water will be pumped to a tanker and transported to the Meadowbank site to be disposed of in the TSF or placed in containers for shipment south as hazmat.

2.7 AWAR Culverts on the Baker Lake Portion

Weekly inspections will be undertaken starting in May at all culverts along the AWAR 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 Energy and Infrastructure 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. Inspections will be performed during the freshet period by the Environment department.

2.8 East Dike

The water quality of the East Dike seepage is monitored. When the criteria for discharge are met the water is send to Second Portage lake, otherwise it is sent to Portage Pit A. Historically at freshet the water quality of the East Dike seepage does not meet TSS requirement.

3 INCIDENT RESPONSE

3.1 ST-16 Seepage

In July 2013, it was noted that seepage from the Rock Storage Facility (RSF) had migrated through a rockfill road at a seepage sump located on the north-east side of the RSF (see ST-16 on Figure 3-1). The seepage, which contained elevated copper, nickel, ammonia and cyanide, entered NP-2 Lake. It was determined through investigation that the likely source of the contaminants was reclaiming water from the North Cell TSF. This water migrated underneath the RSF through a former watercourse into the seepage sump area (ST-16). Agnico took immediate measures to stop the seepage and implemented corrective measures to prevent a recurrence. This included, keeping the sump area pumped to a low level, installation of a low permeability barrier (till plug) in the rockfill road, implementation of a comprehensive monitoring program and ensuring tailings deposition was enhanced in the North Cell to create beaches that would stop any water egress (this activity was continuous as part of Agnico's Tailings Deposition Plan in 2014). A permanent pumping system was installed in 2014 in order to direct seepage back to the North Cell TSF. A filter was also installed at RF-1 and RF-2 to assist the beaches in preventing tailings water migration. In addition, as mentioned previously (Section 2.3.1.7), snow will be removed from the ditches and culvert at the outlet of NP- 2 to NP-1 Lake to ensure freshet flows do not back up and overflow into the ST-16 seep location and that the north watershed non-contact runoff flows freely through to NP-1 Lake and further downstream (Dogleg Lake). Pumped volumes will be documented and daily inspections of the area will be undertaken. Take note that last year's pumped volumes are reported in the Agnico Annual Report within the Water Management Report and Plan. All evidence further indicates that mitigation efforts (completion of tailings beaches and filter material against RF-1 and RF-2) were successful in minimizing any North Cell reclaim water from migrating to the ST-16 sump area.

During the renewal process for the Meadowbank Type A Water License (2014 – 2015) the KIA requested additional monitoring related to this incident. The KIA requested that Agnico continue monitoring until there is a 5 year period of non-detect cyanide results. Since 2014, the monitoring has indicated no CN levels in NP-2, NP-1 and further downstream lakes, Dogleg and Second Portage. Despite 6 consecutive years of acceptable water quality, Agnico will continue monitoring water quality of NP2.

A discussion and analysis of the monitoring results can be found in the Agnico Annual Report (Section 8.5.3.1.7). The water quality in NP-2 Lake has improved significantly to the point that water quality for all parameters, including the main parameters of concern (Cn Total, Free and WAD as well as copper, nickel and ammonia) in NP-2 Lake are all below CCME criteria for the Protection of Aquatic Life. A valid case can be made that the action plan implemented by Agnico has been very successful in preventing any further seepage into NP-2 Lake and into the ST-16 sump itself. The MDRB has commented on the success of this action plan. The till plug, pumping system, installation of filters and effective tailings beaches at RF-1 and RF-2, progressive tailings capping at RF- 1 and RF- 2. In addition, thermistors installed in the RSF indicate freezing in the former seep path is occurring. If these sample events detect any concerns or elevated levels Agnico will increase the monitoring immediately and include all sampling stations (including downstream lakes).

As soon as the Lake and seep area are ice free, the sample monitoring program will commence. Agnico also conducts winter sampling in NP-2 Lake as part of the monitoring program.

In the event that seepage water flows through the rockfill road reaching NP-2 Lake, the Environmental Department will notify authorities.

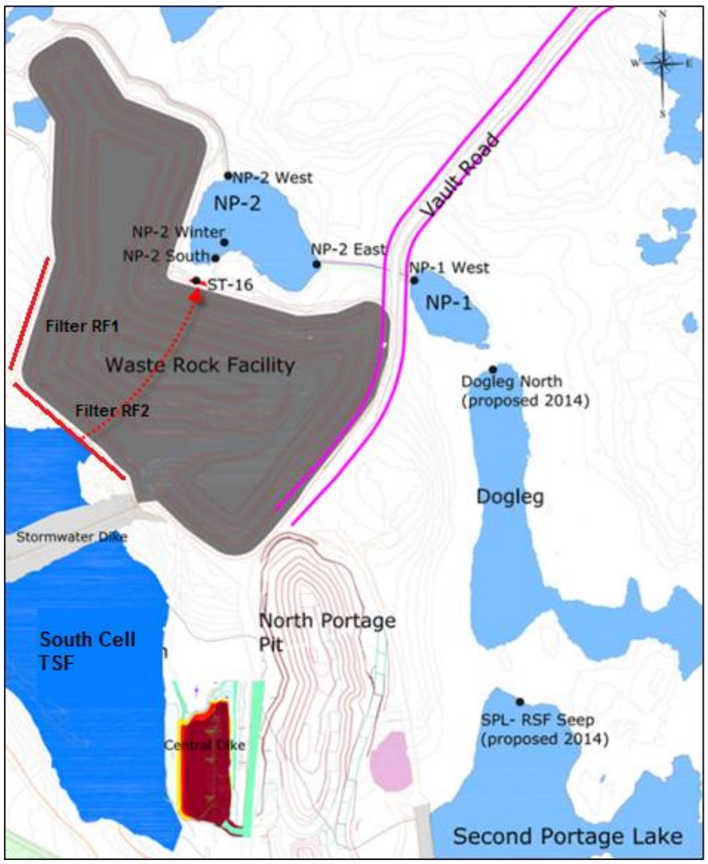


Figure 3-1. View of the RSF seepage observed at the ST-16 station.

Footnote: The dotted red arrow represents the assumed seepage flow. Red Lines represent installed filters and areas where tailings beaches were built up to minimize flow through.

3.2 Mill Seepage

In November 2013, Agnico observed seepage discharging at a location west of the site access road in front of the Assay Lab (see Figure 3-2). Initial sample results revealed elevated cyanide and copper which is indicative of mill processes. After an investigation, which included sampling, the source was determined to be seepage from several containment areas within the mill; the worst being the CIP tank overflow collection sump. Repairs to seal all the mill sumps and containment areas were completed in 2014 thus stopping the source of the seep. Agnico hired Tetra Tech in December 2013 to propose a drilling delineation program and further steps necessary to control the seepage and prevent offsite migration to Third Portage Lake – see Figure 3-2 for the seep location. Agnico completed the drilling program and based on the results constructed an interception/collection trench prior to the 2014 freshet (completed early May 2014).

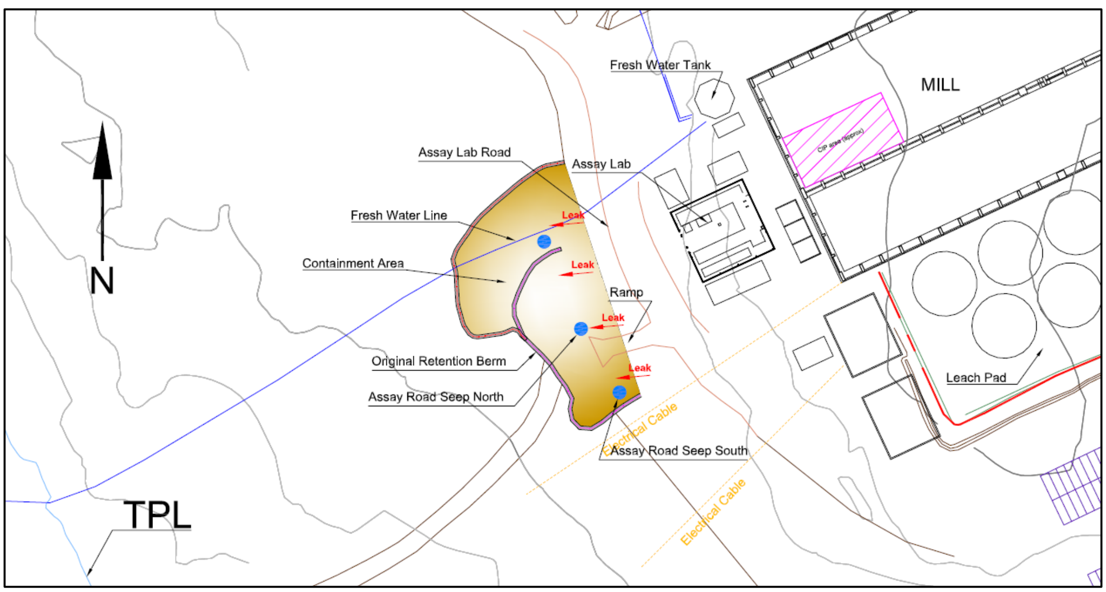


Figure 3-2. View of the mill seepage area and initial retention berm construction

The design of the trench can be seen in Figure 3-3. A pumping system was installed and all water collected is pumped back to the mill. Pumping begins as soon as water is evident and volumes are recorded monthly. Take note that pumped volumes are reported in the Agnico Annual Report within the Water Management Report and Plan.

In addition, a recovery/monitoring well, MW-203, located beside the Assay Lab upstream of the trench is pumped back to the mill to intercept the seepage when water is present. Volumes pumped from interception/collection trenches are reported in the Agnico Annual Report. More details are provided in Section 8.5.8.1.6.

CN WAD (on site uncertified lab) levels in MW-203 have diminished significantly. This well will remain in operation. MW-203 can be considered as an interception well.

As soon as the trench, monitoring wells and Third Portage Lake are unfrozen a comprehensive monitoring program is implemented. A discussion of the monitoring results for 2019 is included in Agnico's 2019 Annual Report. In summary, the results of monitoring indicate that the interception trench and initial containment berm were substantially successful in preventing any contaminants from reaching Third Portage Lake. The seepage appears to have been effectively contained and the source area has been repaired.

Regular inspections will be conducted of the pumping, collection systems and perimeter area and the pumped volumes will continue to be recorded.

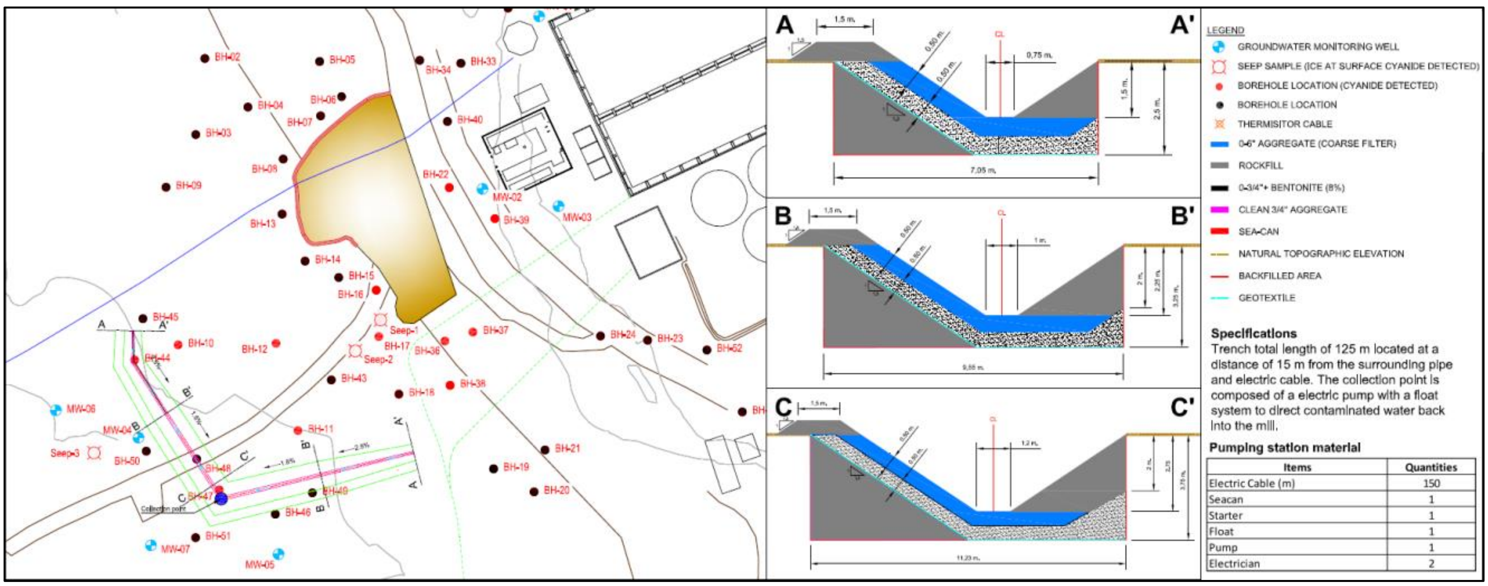


Figure 3-3. View of the mill seepage area and interception trench design

3.3 Central Dike ST-S-5

Central Dike seepage is located at the downstream area of the Central Dike embankment. A permanent pumping system is in place to manage the seeping water beneath the dike by keeping the downstream pond at a constant elevation of 115masl as recommended by Golder in 2015. More details to be found in the Water Management Plan 2020. The pumping system in place has contingency to handle a significant snowmelt or rain event at freshet that would drain and eventually mix in the downstream pumping area. The downstream pond acts as a drain for the water percolating to the pond but only accounts for roughly 17 ha of drainage area. Weekly inspections of the area will be held by by environment. Environment department will also conduct monthly sample as per the Water License.

4 SNOW MANAGEMENT

The snow management procedure developed internally in 2015 and updated annually is illustrated in Appendix 3. Temporary snow storage dumps and snow accumulation areas of concern are identified on the map.

APPENDIX 1

2021 Freshet Action Plan Procedure

Section	Area of Concern	Role/Action	Responsibilities	Dates
2.1	**IPD Pits, Vault Pit and Pit Walls**			
2.1	IPD Pits, Vault Pit and Pit Walls – General	1) Clean all ice, mud and snow on all ramps, etc.	E&I	Before May
2.1.1	**Goose Pit**			
2.1.1	Goose Pit	1) Ensure pipes and pumps are serviced and ready to operate. 2) Give guidance as to when and where (Pit E or Pit A) water is to be pumped.	E&I Geotech	Early May Early May
2.1.2	**Pit E**			
2.1.2	Pit E	1) Runoff water accumulated in ponds GP-4 and GP-5 will be pumped into Goose pit or Pit E;	E&I	During Freshet Early May
2.1.2	**Pit A**			
2.1.2	Pit A	1) Ensure pipes and pumps are serviced and ready to operate.	E&I	Early May

2.1.3 Vault Pit Area			
2.1.3 Vault & Phaser Pits	1) 1) No further action in this area during the freshet period as mining is complete in Goose Pit. Water and/or ice will remain as part of the pit reflooding activity.	Engineering	N/A
2.2 WASTE ROCK STORAGE FACILITY			
2.2.1 Portage RSF Inspection	1) Weekly inspection around the RSF perimeter to identify any seepage.	Env. Department	May - as soon as freshet starts until freeze up
	2) If seepage observed notify Eng and Env Department AND sample for CN and Water License Parameters – ST-16.	Env. Department	May - as soon as freshet starts until freeze up
2.2.2 Vault RSF Inspection	1) Weekly inspection around the RSF perimeter to identify any seepage.	Env. Department	May - as soon as freshet starts until freeze up
	2) If seepage observed notify Eng and Env Department AND sample for Water License Parameters – ST-24.	Env. Department	May - as soon as freshet starts until freeze up

2.3	**NORTH AND SOUTH CELL TAILINGS STORAGE FACILITY**			
2.3.1	**Diversion Ditch**			
2.3.1.1	AWAR Culvert - West Diversion ditch exit to TPL	1) Snow and/or ice must be removed with an excavator on each side of the culvert to allow water flow.	Geotech to coordinate with E&I	Before May 20
		2) If needed, steam to free any ice blockage.	Geotech to coordinate with E&I	Before May 20
		3) Before starting snow clearing operation, make sure the electrical cable location has been visually identified in the field.	Geotech to coordinate with E&I	Before May 20
		4) Daily inspection - keep record under freshet file.	Env. Department	May - until Freshet complete and after rain events
		5) ST-6 sampling as per Water License and TSF weekly inspection (keep record).	Env. Department	Monthly as soon as freshet starts (open water) and continue until freeze

	6) Increase frequency of ST-6 sampling if TSS near 30 mg/L (grab) and 15 mg/L (monthly average), or visually elevated. Any extra samples to external lab.	Env. Department	TSS result dependent
	7) Have turbidity and silt barriers in place at TPL (2) and maintain.	Env. Department	May - before freshet starts and until water freezes
	8) Report any discharge of TSS to ECCC/NWB (grab > 30 mg/L).	Env. Department	May - as soon as freshet starts and until water freezes
2.3.1.2 West Diversion Ditch elbow near SD1	1) Snow and/or ice must be removed with an excavator to allow water flow and prevent ponding upstream.	Geotech to coordinate with E&I	Early May
	2) Daily inspection - keep record.	Env. Department	May - until Freshet complete and after rain events
	3) Sample for TSS monthly (external Lab) and as needed for Turbidity	Env. Department	May - until Freshet complete and after rain events

2.3.1.3	Northwest corner of North Cell TSF (West Diversion ditch)	1) Daily inspection - keep record.	Env. Department	May - until Freshet complete and after rain events
2.3.1.4 Waste Extension Pool sumps		1) Snow removal to allow free water flow.	Geotech to coordinate with E&I	Early May
		2) Daily inspection - keep record.	Env. Department	May - until Freshet complete and after rain events
		3) Sample monthly during open water as per Water License ST-30 (WEP1) and ST-31(WEP2)	Env. Department	May - until Freshet complete and after rain events
2.3.1.5	East Diversion ditch outlet to NP-2 Lake	1) Snow and/or ice must be removed with an excavator on each side of the culvert to allow water flow.	Geotech to coordinate with E&I	Early May
		2) If needed, steam to free any ice blockage.	Geotech to coordinate with E&I	Before May 20
		3) Daily inspection - keep record.	Env. Department	May - until Freshet complete and after rain events

	4) ST-5 sampling as per Water License and TSF Weekly inspection (keep record).	Env. Department	Monthly as soon as freshet starts and until water freezes
	5) Increase frequency of ST-5 sampling if TSS near 30 mg/L (grab) and 15 mg/L (monthly average). Extra samples to external lab if necessary.	Env. Department	TSS result dependent
	6) Install turbidity barriers in NP-2, if needed, and maintain.	Env. Department	May - before freshet starts and until freeze up or water clears
	7) Report any discharge of TSS to ECCC/NWB (if grab > 30 mg/L).	Env. Department	May - as soon as freshet starts and until water freezes
2.3.1.6 North portion of NAG Waste Rock Expansion	1) Daily inspection - keep record	Env. Department	May until runoff complete
	2) Sample for ST-S-XX when water observed; sample upstream (background) in diversion ditch for same parameters and compare results (rush analysis). If results indicate potential for impact, i.e. results are > background, meet with engineering and determine necessity of ditching	Env. Dept + Geotech assistance if ditches needed	May until runoff complete

		3) Prevent **contaminated** contact water from reaching NP-2.	Env. Department	May until runoff complete
2.3.1.7	East Diversion Ditch - NP2 Outlet and Vault Road culvert.	1) Snow and/or ice must be removed with an excavator on each side of the culvert and upstream at the exit of NP-2 Lake to allow water flow.	Geotech to coordinate with E&I	Early May
		2) If needed, steam culvert to free any ice/snow blockage.	Geotech to coordinate with E&I	Before May 20
		3) Daily inspection - keep record.	Env. Department	May - until Freshet complete and after rain events
		4) Install turbidity barriers in NP-1, if needed, and maintain.	Env. Department	May - before freshet starts and until freeze
		5) Sample for TSS monthly (external lab) and as needed for Turbidity. Increase frequency of sampling if TSS near 30 mg/L (grab) and 15 mg/L (monthly average). Multi Lab for any increased sampling frequency.	Env. Department	May - until Freshet complete and after rain events
		6) Report any discharge of TSS to ECCCO/NWB (if grab > 30 mg/L).	Env. Department	May - as soon as freshet starts and until water freezes

2.3.2 TSF Dikes			
2.3.2.1 Saddle Dam 1	1) Inspect pumping system	E&I	Early May
	2) Daily inspection - keep record	Geotech and E&I	May and until water freezes
	3) Start pumping to TSF when water observed. Keep volume pumped out.	Geotech and E&I	May until water freezes
	4) ST-S-2 sampling as per Water License.	Env. Department	Monthly as soon as freshet starts and until water freezes
2.3.2.2 Saddle Dam 2	1) Prepare pumping system	E&I	Early May
	2) Weekly Inspection - keep record.	Geotech	May and until water freezes
	3) Start pumping to TSF when water observed. Keep volume pumped out.	Geotech and E&I	May until water freezes
2.3.2.3 Saddle Dam 3	1) Inspect pumping system	E&I	Early May
	2) Daily inspection - keep record	Geotech and E&I	May and until water freezes

		3) Start pumping to TSF when water observed. Keep volume pumped out.	Geotech and E&I	After May and until water freezes
		4) ST-32 sampling as per Water License.	Env. Department	Monthly as soon as freshet starts and until water freezes
2.3.2.4	Saddle Dam 4-5	1) Prepare pumping system	E&I	Early May
		2) Monthly Inspection - keep record.	Geotech	May until water freezes
		3) Start pumping to TSF when water observed. Keep volume pumped out.	Geotech and E&I	May until water freezes
2.3.2.5	North Cell Internal Structure	1) Prepare pumping system	E&I	Early May
		2) Weekly Inspection - keep record.	Geotech	May and until water freezes
		3) Start pumping to TSF when water observed. Keep volume pumped out.	Geotech and E&I	May until water freezes
2.3.2.7	Stormwater Dike	1) Prepare pumping system	E&I	Early May

		2) Weekly Inspection - keep record.	Geotech	May and until water freezes
		3) Start pumping to TSF when water observed. Keep volume pumped out.	Geotech and E&I	May until water freezes
2.4	**VAULT ROAD CULVERT**			
2.4	Vault road culvert from Turn Lake to Drill Trail Lake (~km 2 on Vault road)	1) Daily inspection - keep record	Env. Department	May - until Freshet complete and after rain events
		2) Install turbidity barriers, 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 Drill Tail to ECCC/NWB (if grab > 30 mg/L).	Env. Department	May - until freshet complete and after rain events
2.5	**STORMWATER MANAGEMENT POND**			

2.5	Stormwater Management Pond	1) Pump Stormwater to applicable TSF in Spring/Fall - pumped volume must be kept.	E&I and Geotech	When required in Spring and/or Fall
2.6	**FUEL TANK FARMS**			
2.6.1 Meadowbank Tank Farm		1) E&I Dept to advise Env Dept in advance of intent to pump once ice melts in containment area.	E&I and Env. Department	As required during summer
		2) Sample water in accordance with Water License to ensure compliance with limits prior to release.	Env. Department	As required during summer
		3) Provide notice to Inspector 10 days prior to pumping.	Env. Department	As required during summer
		4) Advise Energy and Infrastructure Dept if pumping can begin based on sample results.	Env. Department	As required during summer
		5) Pump to tundra/ground or Stormwater Mgmt Pond (note pumping to Stormwater Mgmt Pond does not require compliance with limits - at Meadowbank only). **NOTE: The water cannot be pumped out to the tundra if it does not meet the Water License criteria.**	E&I	Following ENV. Authorization
2.6.2	Baker Lake Tank Farms	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	As required during summer

	2) Sample water in accordance with Water License to ensure compliance with limits prior to release.	Env. Department	As required during summer
	3) Provide notice to Inspector 10 days prior to pumping.	Env. Department	As required during summer
	4) Advise Energy and Infrastructure Dept if pumping can begin based on sample results.	Env. Department	As required during summer
	5) Once approval given by Env Dept, E&I Dept can pump to tundra but must avoid erosion during pumping, i.e., low flow, the volume must also be determined by E&I Dept personnel. **NOTE: The water cannot be pumped out to the tundra if it does not meet the Water License criteria. Any wastewater unsuitable for discharge will be transported back to Meadowbank for disposal in the TSF or shipped south for disposal.**	E&I Dept Env Department	Following ENV. Authorization

2.7 AWAR CULVERTS ON THE BAKER LAKE PORTION

2.7	AWAR Culverts on the Baker Lake Portion	1) Weekly inspection of culverts along AWAR to Baker Lake.	Env. Department	May
		1) Sample for TSS and Turbidity if elevated TSS observed.	Env. Department	May - until freeze
		2) Notify E&I Dept if severe erosion/scouring observed - for repair action.	Env. Department	May - until freeze
		3) Install turbidity barriers if required.	Env. Department	May - until freeze
2.8	**East Dike**			
2.8	East Dike	1) Maintain pumping system	E&I	Early May
		2) Weekly Inspection - keep record.	Geotech	May and until water freezes
		3) Sample ST-8 as per calendar requirement	Env	Throughout the year
3.0	**INCIDENT RESPONSE**			
3.1	**ST-16 Seepage**			

3.1	ST-16 Seepage	1) Check Piping from pump to discharge area at North Cell TSF.	Geotech and E&I	Early May
		2) If the snow accumulation is judged to be too great, then snow must be removed.	Geotech to coordinate with E&I	Early May
		3) Daily inspection - keep record.	Env. Dept, and E&I	May - as soon as freshet starts until freeze
		4) Notify Eng. Dept and E&I when water present and pumping can start. **Water level to be maintained, as a minimum, below the till plug elevation. Water should not pond against the Till plug for extended time periods - i.e. < 2 - 3 hours. For emergencies the water truck can be requested. Start pumping.**	Env. Department	May/early June - as soon as free water present and ice has melted until freeze
		5) Any seepage through rockfill road to NP-2 must immediately be reported to Env Dept and authorities.	Env. Dept, Geotech and E&I	May/early June - as soon as water is present until freeze
		6) Thermistor Monitoring.	Env. Department	Ongoing throughout the year
		7) Submit progress/update report to regulators.	Env. Department	Annual Report

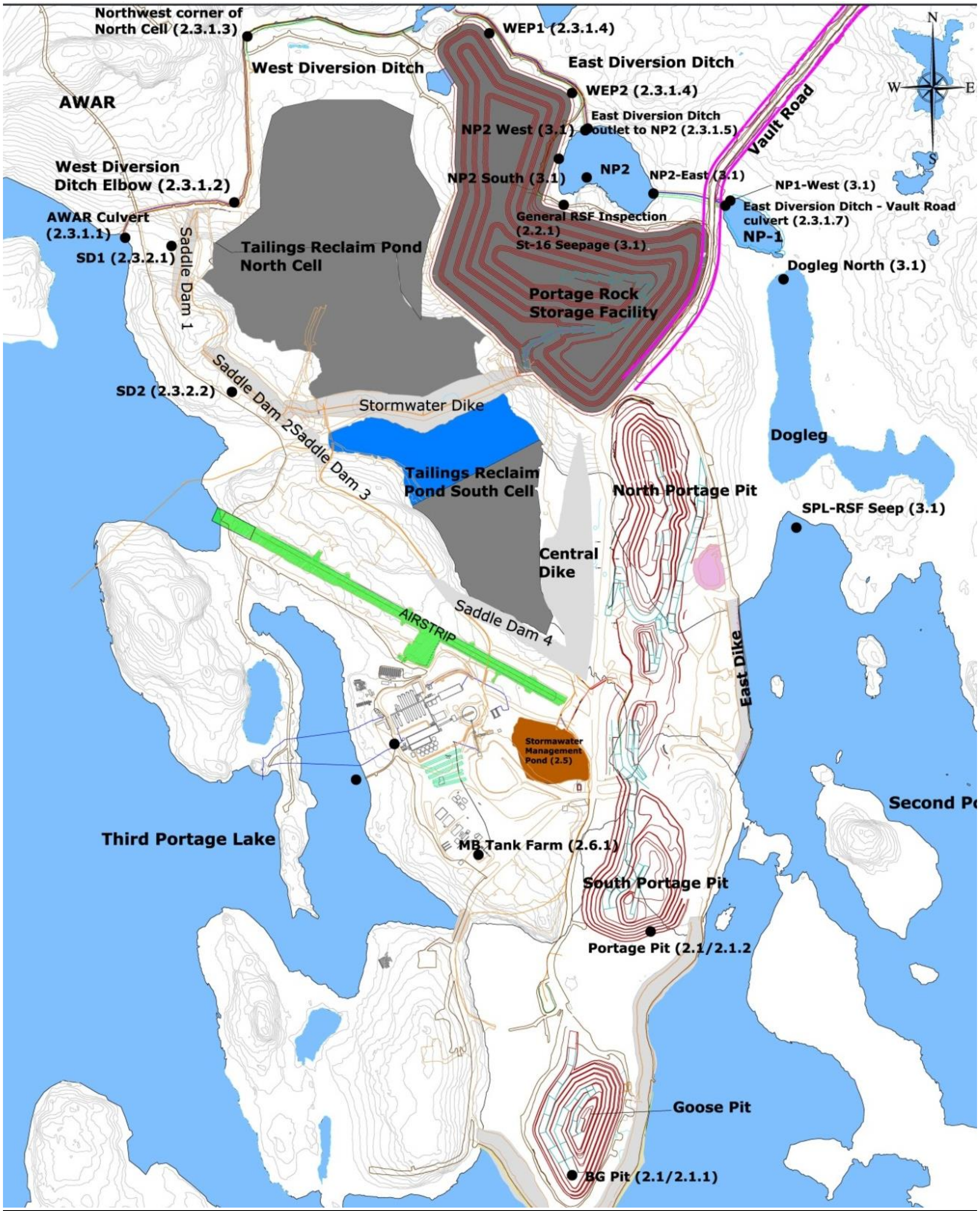
3.2	**Mill Seepage**			
3.2	Mill Seepage	1) Pump water from the trench to the mill - volumes documented.	Geotech and E&I	Start May/early June when water present until freeze
		2) Daily inspection of pumping, collection systems, bermed areas and perimeter area – keep record. **For emergencies the water truck can be requested.**	Env. Department	Start May/early June when water present until freeze
3.3	**Central Dike Seepage**			
3.3	Central Dike Seepage	1) Pump water to the South Cell TSF - volumes documented.	E&I and Geotech	All year round

	2) Daily inspection of pumping, collection systems, bermed areas and perimeter area – keep record.	E&I	All year round

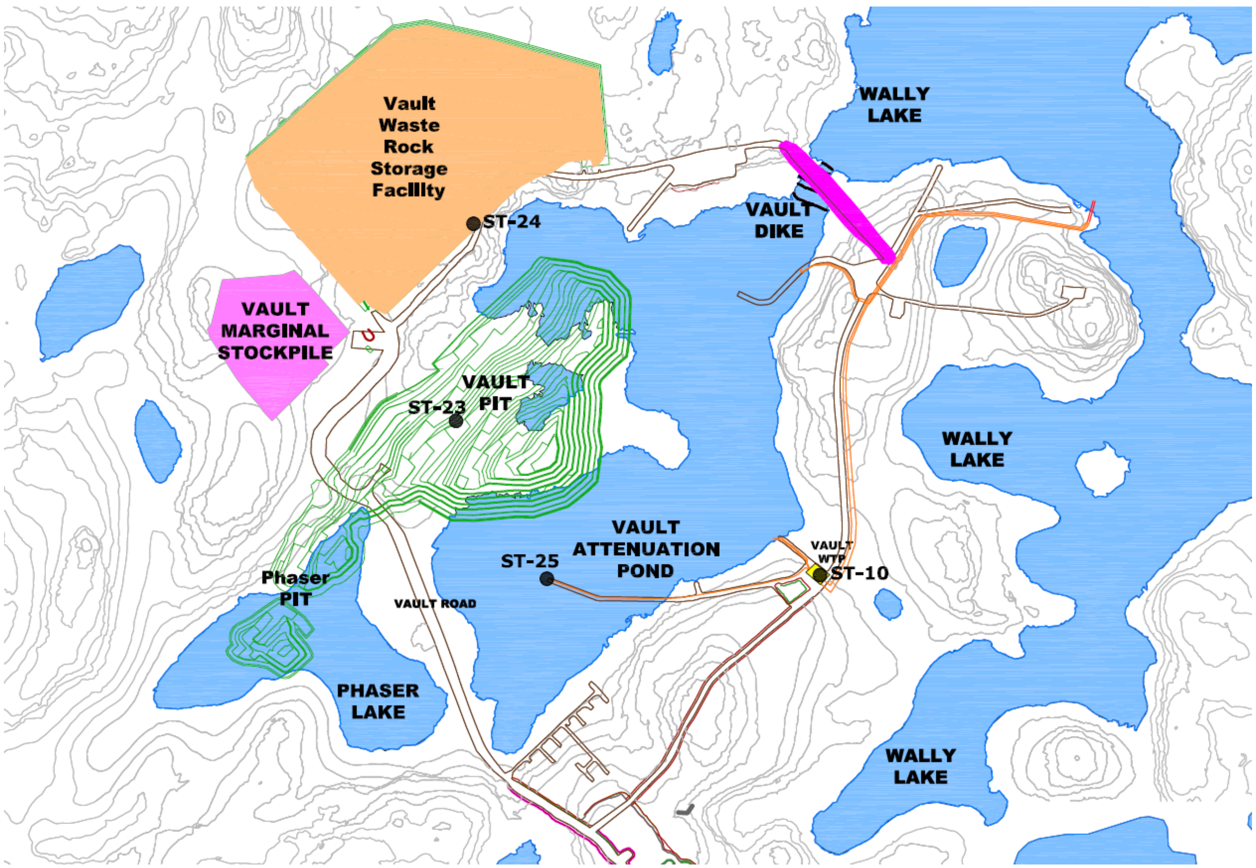
APPENDIX 2

2020 Monitoring Locations and Areas of Concern for the Freshet Action and Incident Response Plan

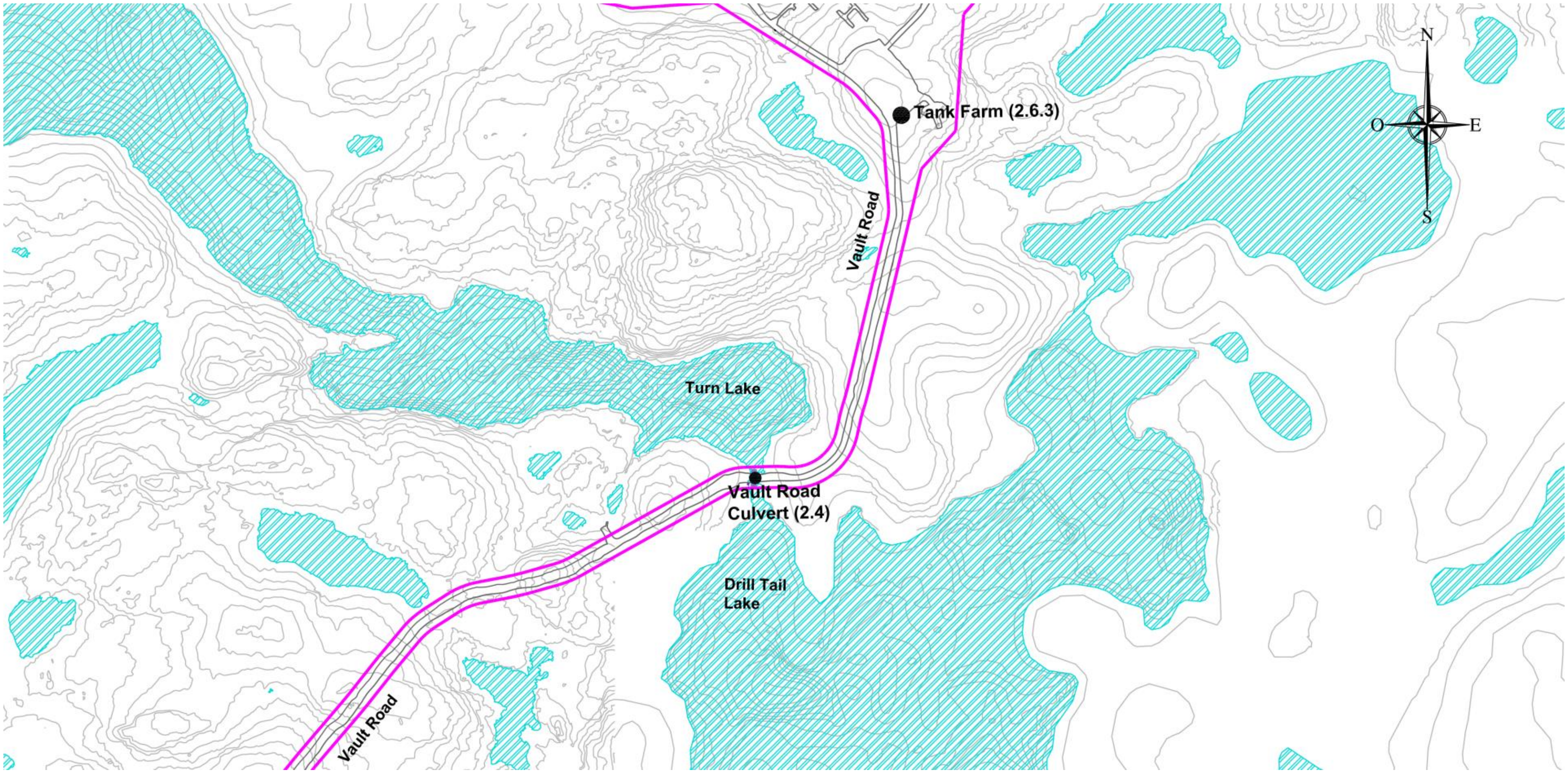
Meadowbank Areas of Concern and Monitoring Locations



Vault areas of concern

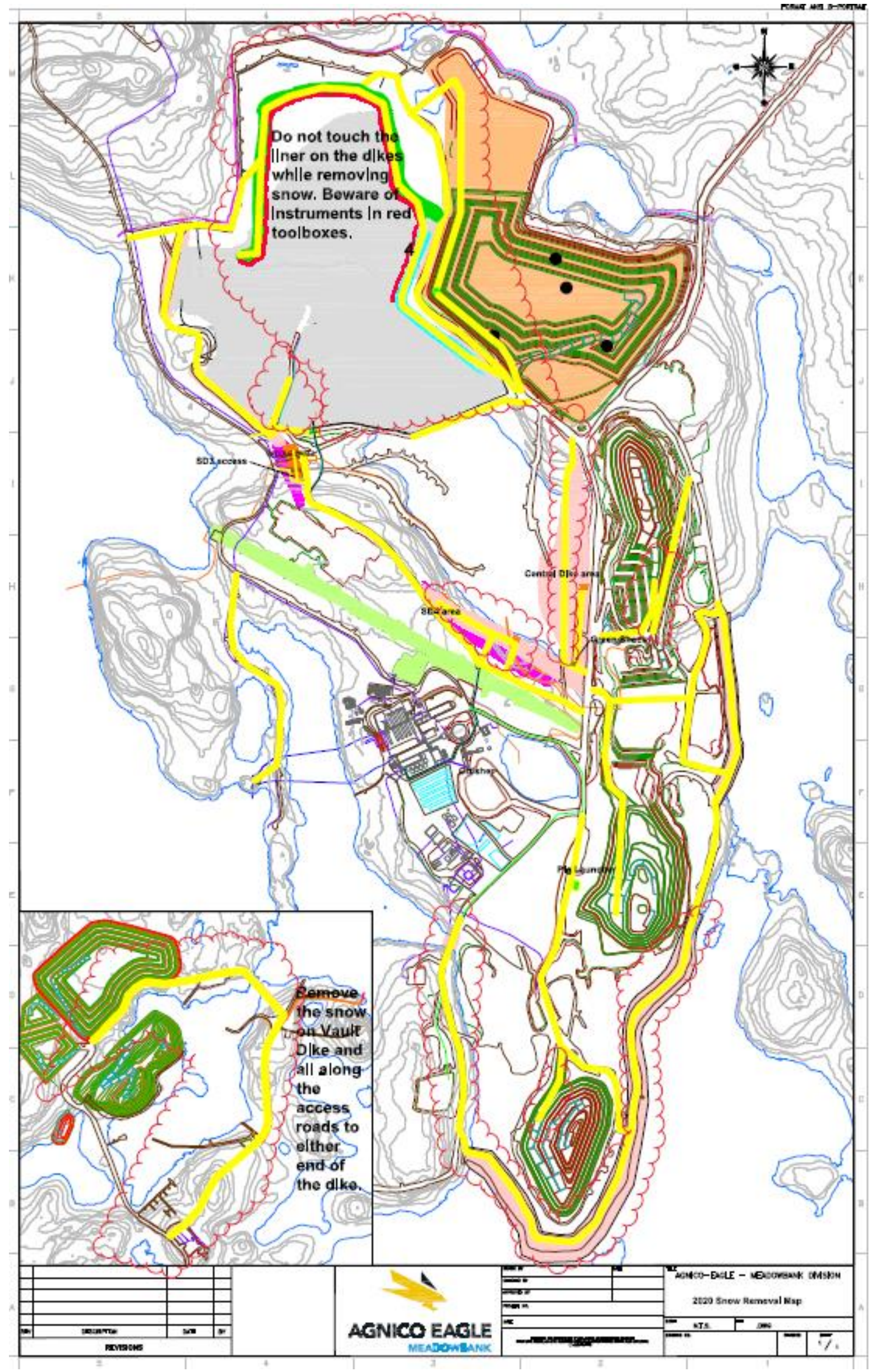


Vault Road areas of concern



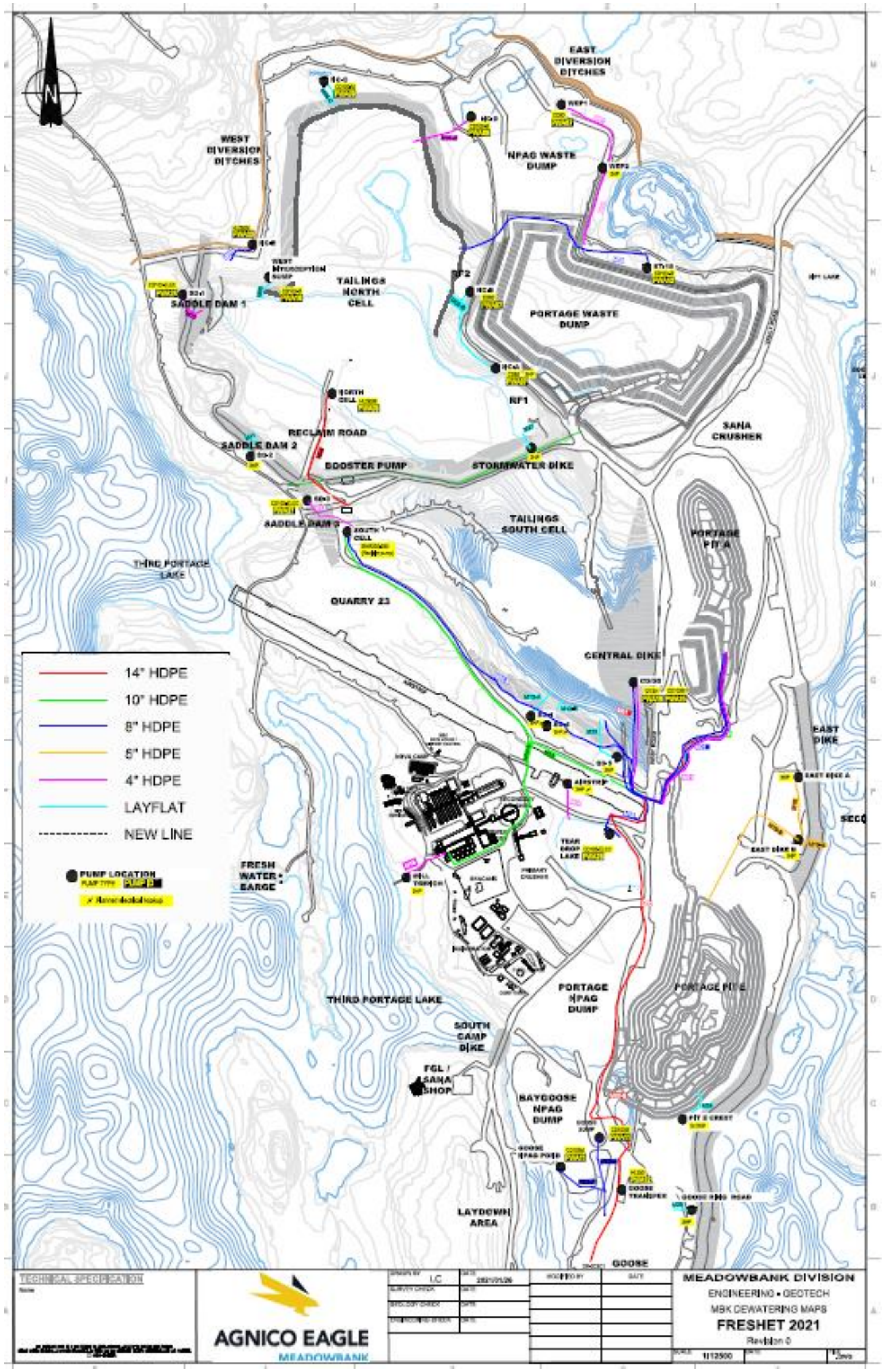
APPENDIX 3

2020 Snow management


Do not touch the liner on the dikes while removing snow. Beware of instruments in red toolboxes.
SD1 access
Central Dike area
SD2 area
Remove the snow on Vault Dike and all along the access roads to either end of the dike.
REVISIONS
AGNICO EAGLE MEADOWBANK
AGNICO-EAGLE – MEADOWBANK DIVISION
2020 Snow Removal Map

APPENDIX 4

2021 Freshet flowchart and plan view


EAST DIVERSION DITCHES
WEST DIVERSION DITCHES
NPAG WASTE DUMP
TAILINGS NORTH CELL
PORTAGE WASTE DUMP
SADDLE DAM 1
SADDLE DAM 2
SADDLE DAM 3
RECLAIM ROAD
BOOSTER PUMP
STORMWATER DIKE
SANA CRUSHER
TAILINGS SOUTH CELL
PORTAGE PIT A
THIRD PORTAGE LAKE
QUARRY 23
CENTRAL DIKE
EAST DIKE
14" HDPE
10" HDPE
8" HDPE
5" HDPE
4" HDPE
LAYFLAT
NEW LINE
PUMP LOCATION
FRESH WATER BARGE
PORTAGE PIT E
PORTAGE NPAG DUMP
THIRD PORTAGE LAKE
SOUTH CAMP DIKE
BAYGOOSE NPAG DUMP
LAYDOWN AREA
GOOSE
TECHNICAL SPECIFICATION
AGNICO EAGLE
MEADOWBANK
MEADOWBANK DIVISION
ENGINEERING • GEOTECH
MBK DEWATERING MAPS
FRESHET 2021
Revision 0
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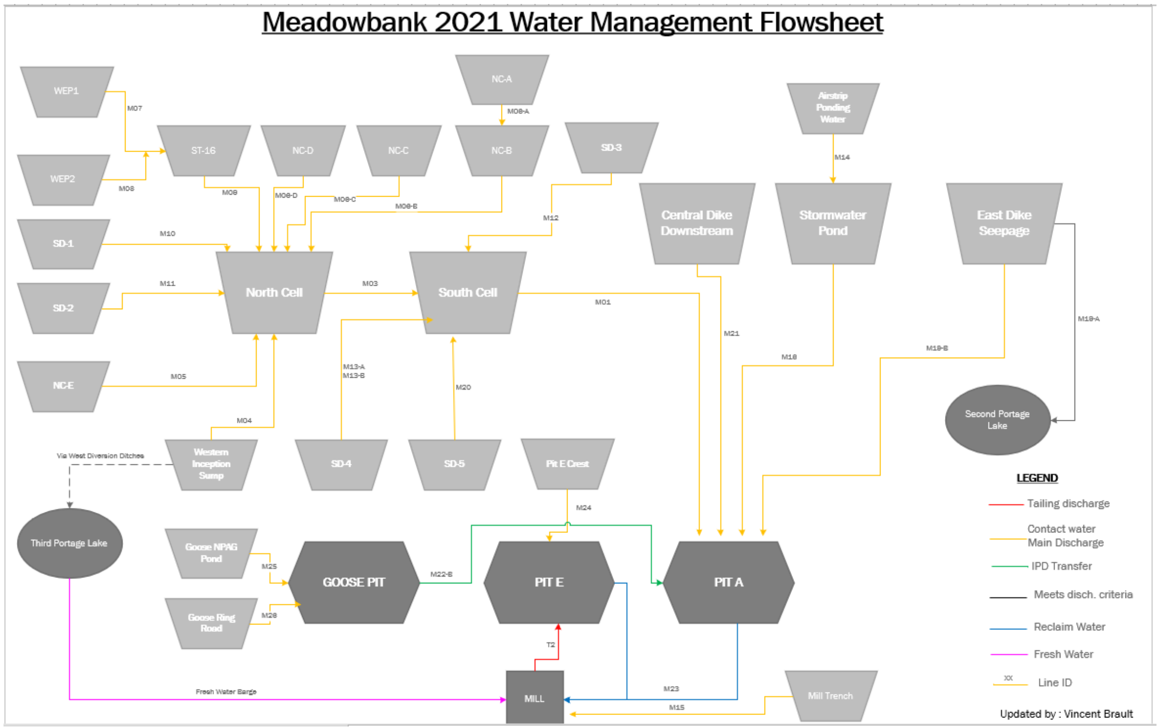
Meadowbank 2021 Water Management Flowsheet
WEP1
M07
WEP2
M08
ST-16
M09
NC-D
M06-D
NC-C
M06-C
NC-A
M06-A
NC-B
M06-B
SD-3
M12
SD-1
M10
SD-2
M11
North Cell
M03
South Cell
M01
NC-E
M05
M04
Western Inception Sump
Via West Diversion Ditches
Third Portage Lake
SD-4
M13-A
M13-B
SD-5
M20
Pit E Crest
M24
Airstrip Ponding Water
M14
Central Dike Downstream
M21
Stormwater Pond
M18
East Dike Seepage
M19-A
M19-B
Second Portage Lake
Goose NPAG Pond
M25
Goose Ring Road
M28
GOOSE PIT
M22-B
PIT E
PIT A
T2
MILL
Fresh Water Barge
M23
M15
Mill Trench
LEGEND
Tailing discharge
Contact water Main Discharge
IPD Transfer
Meets disch. criteria
Reclaim Water
Fresh Water
XX
Line ID
Updated by : Vincent Brault

APPENDIX E – 2020 AMMONIA MANAGEMENT PLAN

MEADOWBANK COMPLEX

AMMONIA MANAGEMENT PLAN

MARCH 2021

VERSION 3

EXECUTIVE SUMMARY

In accordance with the Type A Water License, Agnico Eagle is completing Ammonia Management at the Meadowbank and Whale Tail Projects (e.g., the Meadowbank Complex), which includes monitoring for ammonia in all mine pit sumps, storage pond, tailings storage facility, seeps, etc. Furthermore, Agnico Eagle has implemented a comprehensive, regular inspection program related to explosives management within the mine pits, conducts regular inspections at the explosives manufacturing facility (Dyno Nobel) to ensure all explosive products are stored in locked, sealed containers prior to use, and continues to perform continuous review of analysis results such that mitigation measures can be implemented when increasing trends of ammonia are determined. Agnico Eagle has not exceeded any ammonia discharge criteria (Water License or MDMER) to date.

This Ammonia Management Plan (AMP) is a companion document to the Spill Contingency Plan, the Water Management Plan and the Water Quality and Flow Monitoring Plan and has been updated to provide guidance for monitoring ammonia levels at the Meadowbank and Whale Tail mine sites, as part of the conditions applying to waste disposal and management listed in the water license.

DOCUMENT CONTROL

Revision				Pages Revised	Remarks
#	Prep.	Rev.	Date		
00	SNC		February 2013	All	
01	Agnico Eagle	1	March 2016	13	Table 1 update
				16	Add section 6
				Appendix 1	Add Memorandum to address comments made during water license renewal process
WT	Agnico Eagle	WT	June 2016		Included Whale Tail Pit operations in the updated plan
02_NIRB	Agnico Eagle	2	Dec 2018		For WT Expansion permitting process
02_NWB	Agnico Eagle	2	April 2019		For WT Expansion permitting process
02	Agnico Eagle	2	April 2020	All	Comprehensive review of the plan + incorporates WT
03	Agnico Eagle	3	March 2021	All	Comprehensive update to reflect the current operation

Prepared By: Environmental Department

Approved by: Alexandre Lavallee
Superintendent – Environment - Interim

TABLE OF CONTENTS

List of Appendix

ACRONYMNS

AGNICO EAGLE	AGNICO EAGLE MINES LIMITED
AMP	AMMONIA MANAGEMENT PLAN
AN	AMMONIUM NITRATE
ANFO	AMMONIUM NITRATE – FUEL OIL
AWAR	ALL-WEATHER ACCESS ROAD
CCME	CANADIAN COUNCIL OF MINISTERS OF THE ENVIRONMENT
CIRNAC	CROWN-INDIGENOUS RELATIONS AND NORTHERN AFFAIRS CANADA
CNO-	CYANATE
CREMP	CORE RECEIVING ENVIRONMENTAL MONITORING PROGRAM
KivIA	KIVALLIQ INUIT ASSOCIATION
MDMER	METAL AND DIAMOND MINING EFFLUENT REGULATIONS
NIRB	NUNAVUT IMPACT REVIEW BOARD
NWB	NUNAVUT WATER BOARD
TSF	TAILINGS STORAGE FACILITY
WMP	WATER MANAGEMENT PLAN
WRSF	WASTE ROCK STORAGE FACILITY
WTHR	WHALE TAIL HAUL ROAD

1 INTRODUCTION

The Meadowbank Mine Water Management Plan (WMP) was first prepared in 2009 (Doc. 833). This version was subsequently updated, support document (Doc. 500), in preparation for the Type-A Water License Application for the Meadowbank Mine. The WMP was then updated in 2011 (Doc. 1270). In 2015 WMP update, a technical note was added as an appendix, which was the first iteration of the Ammonia Management Plan (AMP) for the Meadowbank Mine. As an extension of the Meadowbank Mine, the 2016 update of the AMP includes measures to manage and monitor ammonia at the Whale Tail satellite open pit operations. Other facilities that are part of the Meadowbank Project are the Baker Lake facility, the All-weather Access Road (AWAR) between Baker Lake and the Meadowbank Mine, the Meadowbank Mine Camp, the Meadowbank Tailings Storage Facility, the 8 km Vault haul road and the 64.1 kilometer Whale Tail Haul Road (WTHR) between the Whale Tail open pit and the Meadowbank Mine site.

The Ammonia Management Plan (AMP) was updated in March 2016 in response to concerns raised during the Water License renewal process (January, 2015 – NWB Technical Meetings – Baker Lake) and was re-issued as part of the management plans update process. These concerns from interveners centered on ammonia loading resulting from mine infrastructure in particular from cyanidation in the Tailings Storage Facility (TSF), the use and management of explosives, and the management of treated sewage. In addition, there was a request for loading calculations of ammonia to the receiving environment. These comments are addressed in the Ammonia Management Plan Version 2 March 2016 and specifically in the SNC 2016 Technical Memorandum – WGFU, which was appended to the revised plan. It should be noted that there is no further planned discharge of mine contact water into Third Portage Lake from the Portage Attenuation Pond. The onsite Core Receiving Environmental Monitoring Program (CREMP), takes into account the overall ammonia levels in Third Portage Lake and to date Agnico Eagle has not reached any level of concern (no trigger levels have been reached for ammonia).

Ammonia management at Whale Tail Pit follows the same practices as outlined in this approved plan and similarly includes conducting routine monitoring in the receiving environment at the Whale Tail Pit site under the CREMP.

This AMP is a companion document to the Spill Contingency Plan, the Water Management Plan and the Water Quality and Flow Monitoring Plan and has been updated to provide guidance for monitoring ammonia levels at the Meadowbank and Whale Tail mine sites, as part of the conditions applying to waste disposal and management listed in the water license. This includes monitoring for ammonia in all mine pit sumps, attenuation ponds, TSF, seeps, etc. in accordance with the Type A Water Licenses. Furthermore, Agnico Eagle will implement a comprehensive, regular inspection program related to explosives management within the mine open pits, conduct regular inspections at the explosives manufacturing facility (Dyno Nobel) to ensure all explosive products are stored in locked, sealed containers prior to use, and continue to perform continuous review of analytical results such that mitigation measures can be implemented when increasing trends of ammonia are noted. Agnico Eagle has not exceeded any ammonia discharge criteria (Water License or MDMER) to date.

Ammonia is a naturally occurring nitrogen compound found in the environment. However, there are two sources at the mine site that can contribute to the mobilization of ammonia in the groundwater or surface runoff:

1. Blasting of ammonium-nitrate (AN) explosives is typically the primary source of ammonia in areas of mining operations. AN readily absorbs water and dissolves easily, thereby mobilizing ammonia in either groundwater or surface runoff.

2. In gold mine operations using a cyanidation process to extract the gold from the ore, the cyanide in solution is oxidized to cyanate (CNO^-) using a sulfur dioxide (SO_2) air process before discharge to the TSF. The cyanate can then hydrolyze to ammonia in the TSF reclaim pond.

Ammonia dissolved in water exists in equilibrium of interchanging un-ionized (NH_3) and ionized (NH_4^+) forms. The equilibrium is influenced by pH, temperature, and ionic strength (salinity) where the amount of un-ionized ammonia is favored as the pH becomes more basic or as the water temperature or salinity increases. Un-ionized ammonia can readily pass across the gill surface and enter into the bloodstream of fish, while ionized ammonia passes with greater difficulty. Once inside the fish, both forms of ammonia can cause toxic effects (CCME, 2010). Furthermore, it should be noted that ammonia oxidizes to nitrite (NO_2) and nitrate (NO_3), the former being particularly toxic to fish and humans. Both nitrite and nitrate have CCME guidelines to ensure the Protection of Aquatic Life.

In addition to ammonia, monitoring of nitrate and nitrite is also considered in the AMP, as both water quality parameters are signature compounds of AN explosives. NO_3 has a discharge criteria threshold specified in the conditions applying to waste disposal and management in the Meadowbank and Whale Tail water licenses. This AMP proposes monitoring of blasting practices for the assessment of explosive quantity used and blast performance, as well as monitoring of water quality to determine ammonia levels in waters within the Project sites. The monitoring results can be used to review and adjust blasting practices or water management if ammonia levels need to be reduced.

2 EXPLOSIVE MANAGEMENT AND BLASTING PRACTICES

2.1 SITE DESCRIPTION

2.1.1 Explosive Storage

The primary storage area of explosive products is located at the Meadowbank and Whale Tail site emulsion plant areas (see Appendix 1).. The explosive products arrive by barge at the Baker Lake marshalling area. They are then transported by ground to the emulsion plant located at the Meadowbank and Whale Tail emulsion plant storage facilities.

Explosive products at the storage facilities are packaged in supplier provided containers, which limit the possibility of spillage into the environment. The products are only removed from these containers prior to use at the emulsion plant areas. Surface areas are graded to collect water runoff within the storage facilities.

The emulsion plant area at Meadowbank is located north of the Meadowbank mill, pits, and camp site and approximately 76 km from the Whale Tail Project. The storage area is accessible from the AWAR. This area consists of an emulsion plant for the preparation of bulk emulsion explosives, two buildings for the storage of AN, and four explosive magazines along the access road to the plant. An Emulsion Plant at Whale Tail will be built in a remote area southwest of the Pits and camp site. It will consist of an emulsion plant for the preparation of bulk emulsion explosives, two buildings for the storage of AN, and four explosive magazines along the access road to the plant.

The use of explosives at the Meadowbank mine for operations at Vault Pit, Goose Pit, Portage Pit and Phaser Pits ceased when mining was completed in Q4 2019. The existing emulsion plant at Meadowbank will supply explosives to the Whale Tail Pit, IVR Pit, and underground. Similar to the previous Meadowbank operations, the emulsion will be trucked to Whale Tail Pit, IVR Pit, and underground for blast purposes. The current plan for emulsion delivery is to directly deliver to the open pit and underground operations. However, emulsion will be stored in a remote emulsion storage building located where the Whale Tail Pit explosives magazines are stored. In the case of road closures, inclement weather or other operational constraints, the remote emulsion storage will supply emulsion to the Whale Tail Pit, IVR Pit, and underground operations.

2.1.2 Roads

The 110 km AWAR between the Meadowbank mine site and Baker Lake will continue to be used to transport explosive products from the Baker Lake site facilities to the emulsion plant area located 4 km north of the Meadowbank mine site.

Agnico Eagle will continue to enforce restricted access from km 85 north to the Meadowbank Mine and will enforce the same restrictions along the WTHR (refer to the Whale Tail Pit Haul Road Management Plan). In preparation for blasting operations, explosive products are transported from the emulsion plant area to the appropriate blasting locations via Meadowbank local site roads and haul roads. Explosives are delivered via the WTHR between Meadowbank and the Whale Tail Project site.

Spillage control protocols, procedures and handling of spilled material, and explosive management for both storage and transport have been established by Dyno Nobel Inc. (Dyno) and are provided in Appendix 2. Explosive products and spills on the AWAR/WTHR are referenced in the Spill Contingency Plan.

2.1.3 Pits and Underground Operations

The development sequence of the mine site is provided in the Meadowbank Mine Waste Rock and Tailings Management Plan and the Whale Tail Waste Rock Management Plan. Explosives are used for the excavation of waste rock and mining of the ore at the Portage, Goose and Vault pits at Meadowbank before depletion, and at the Whale Tail pit, IVR Pit, and underground mines.

2.2 AMMONIA PATHWAYS

Emulsion not fully detonated in pit blasting operations provides several pathways for ammonia mobilization. Water from drainage runoff is the primary mechanism of mobilization for ammonia residuals remaining within open pits. This water, being at Meadowbank or Whale Tail, is collected at pit sumps and then is pumped to the associated Attenuation Ponds.

Blasting residuals are also expected to be attached to waste rock and ore materials, which are transported from the open pits to their respective storage and processing facilities. Residuals from waste rock may be washed off by precipitation and be ultimately conveyed to the attenuation ponds. Residuals from the ore may be carried in the tailings to the TSF. All these pathways (mine sumps, attenuation ponds, TSF) are monitored in accordance with the Water License.

At Whale Tail operations, if blasting residues on waste rock are mobilized, they will collect in the Waste Rock Storage Facility (WRSF) pond, which is downslope of the WRSF, or the IVR WRSF contact water collection system. For ore stored within the dewatered portion of Whale Lake, drainage would flow to the attenuation pond. The locations of the WSRF and the storage ponds are shown in the figure for Whale Tail site in Appendix 1.

To avoid any case of poor or incomplete detonation, Agnico Eagle employs the following measures:

- inspection of drilling depth to ensure it is in accordance with blast design;
- inspection of quantity of explosives in each drillhole to ensure it is in accordance with blast design;
- inspection of blast tie-in execution; and
- reporting of any anomalies during loading and priming of explosives to correct situations prior to initiation.

These measures will be reviewed should ongoing cases of poor or incomplete detonation be encountered. This will be included in the next revision of the AMP.

2.3 EXPLOSIVES AND BLASTING

Based on experience at Meadowbank and at other open pit mines in the Canadian Arctic, the largest potential source of ammonia in mine water will be explosive residue from blasting. Depending on the wetness of the site, water may leach explosives from blastholes prior to the blast. Other forms of ammonia released from AN are explosives flowing into cracks and fissures in the rock and not detonating or leading to an incomplete detonation of the explosive column and misfired blastholes. An AN based emulsion is used as a blasting agent at the Meadowbank and Whale Tail sites. This material is designed to repel water thus minimizing the potential for ammonia to impact mine water.

Blasting operations on site include monitoring of explosive quantities, blast design, procedures, and practices. The results of this assessment are used to adjust blasting practices as needed to:

a) Optimize the use of explosives; and

b) Increase the completion and efficiency of explosive detonations.

Any modifications to blast design are intended to decrease the amount of ammonia that may become available for mobilization in mine water.

2.3.1 Explosive Products

Explosive products used at the mine site include bulk explosives (bulk emulsion), packaged explosives, cast boosters, detonating cords, non-electric delay detonators and non-electric lead lines. The material safety data sheets (MSDS) for these products are provided in Appendix 4. Of these products, the greatest potential for water contamination comes from the bulk explosives. Meadowbank and Whale Tail use emulsion as the primary bulk explosive for blasting operations.

Bulk emulsions typically contain some or all of the following components:

- Ammonium, sodium and/or calcium nitrate;
- Fuel and/or mineral oil;
- Methylamine nitrate;
- Emulsifiers; and
- Ethylene glycol.

Although bulk emulsions are water resistant, contaminants can be leached from the product if it is left in contact with standing or flowing water for extended periods of time. The performance of the explosive, and hence the potential for post-blast contaminations, deteriorates with the length of time that the emulsion remains in the blasthole after it has been loaded (i.e., sleep time). Blast procedures currently in use are designed to minimize sleep time so that standing or flowing water is not in contact with the bulk emulsion for extended periods of time.

2.3.2 Procedures and Practices

Quality control procedures are in place to verify AN content in bulk explosives. Quality control procedures for the emulsion occur at the plant and density tests are done at the blast site (on the trucks). Loading procedures specify that blastholes be loaded with emulsion from the bottom of the blastholes to provide a continuous explosive column. Details on the explosive quality control and loading procedures have been established by Dyno Nobel and are provided in Appendix 2.

The primary factors that may reduce the amount of ammonia available for mobilization in mine water are:

- Explosives handling; and
- Completeness of detonation

Bulk emulsion spillage during blasthole loading could (as bulk emulsion is resistant to water) be a source of ammonia that could be carried by water collected in the pits. Spillage control protocols, procedures and handling of spilled material, and explosive management for storage and transport, as well as the emergency response plan, have been established by Dyno and are provided in Appendix 2 and 3.

Incomplete detonation results in higher ammonia residue on the blasted rock. Evidence of incomplete detonation is often observed as an orange fume after a blast and sometimes an orange pigment on the blasted rock. Explosives that have failed to detonate may be observed in the muck pile. Muck piles are routinely inspected by Meadowbank and Whale Tail staff for signs of incomplete detonation.

3 MONITORING

Monitoring of explosive handling and blasting is as follows:

a) Explosive quantities: Records of explosive quantities used for in-pit blasting are kept for each blasting event and will be conserved throughout the mine life. Furthermore, a record of blast location (i.e., pit and elevation), blast date, and bulk explosive type and name used (emulsion, with the corresponding ratio of AN over emulsion) is kept for all events.

b) Design parameters: Blast design parameters, as well as changes in the blast design parameters from the standard are recorded and dated.

c) Loading instructions: Loading instruction forms are completed for each blast event and provide a record of the as-loaded parameters for all blastholes in the blast pattern including:
   - Hole depth
   - Collar height
   - Priming (single or double)
   - Other observations made by the blast crew (e.g., wetness of holes, use of liners, collapsing holes or difficulty loading)

d) Video footage: Videos are taken of each blast. This practice provides a visual, qualitative record of the results of each blast and provides insight into potential problems such as incomplete detonation (e.g., orange fumes) and misfires, as well as areas of poor muck pile heave and forward movement.

e) Blast audits: Blast audits are conducted on a monthly basis to ensure that best practices are being followed in the field (audits may be adjusted to a lesser frequency if low ammonia levels are consistently observed, or conversely may be adjusted to a higher frequency if high ammonia levels are consistently observed).

An additional monitoring technique commonly used is the measurement of the Velocity of Detonation (VOD), which has been shown to be directly related to the volumetric fraction of the explosive that has been consumed. This technique will be implemented if poor or incomplete detonation is consistently suspected.

4 MILL EFFLUENT

4.1 SITE DESCRIPTION

The mill effluent consists of tailings produced at the mill that is pumped as slurry and deposited in the TSF/in-pit disposal where the tailings particles can settle and consolidate. The reclaim water is pumped back to the mill for re-use. Prior to discharge of the mill effluent to the TSF, the effluent is sent to the cyanide destruction process. The cyanide destruction process at Meadowbank uses the sulfur dioxide (SO_2) and air process to oxidize weak acid dissociable cyanide (CN-WAD) to a less toxic form: cyanate (CNO^-) based on the following reactions:

$$SO_2 + O_2 + H_2O + \text{CN-WAD} \rightarrow CNO^- + H_2SO_4$$

The process can also use sodium metabisulfite ($Na_2S_2O_5$) instead of sulfur dioxide in case there are operating issues with the dosing of sulfur dioxide gas in the process. This ensures that chemicals required for the cyanide destruction process (either SO_2 or $Na_2S_2O_5$) are always available.

4.2 AMMONIA PATHWAY

Cyanate produced from the oxidation of CN-WAD can readily hydrolyze to ammonia (NH_3) and carbon dioxide (CO_2) based on the following reaction:

$$CNO^- + H^+ + H_2O \rightarrow NH_3 + CO_2$$

Thus, the mill effluent provides an ammonia loading to the TSF reclaim water.

During the operation of the TSF, the reclaim water will be pumped to the mill for re-use in a closed loop system. Consequently, there will be no discharge of reclaim water to the environment during this period. Furthermore, it is expected that the ammonia concentration will gradually increase in the TSF/in-pit reclaim pond over time, even though (1) there may be some slight attenuation of ammonia due to microbial/algae activity in the summer and (2) ammonia may oxidize to nitrite and nitrate, particularly near the top of the pond where oxygen is most present.

Annual Water Quality Forecasting provides a forecast of the concentration for ammonia in the TSF reclaim pond during the life of the mine. Furthermore, the report provides a forecast of the ammonia concentration in the Portage and Goose Pit once flooding activities has started. This modeling has been updated for Whale Tail operations to include predictions for Portage and Goose Pit end pit water quality and will be updated according to the Type A Water License requirements.

4.3 MONITORING

Concentrations of ammonia, nitrate and nitrite are parameters that are monitored on a monthly basis as part of this sampling campaign of the TSF/in-pit reclaim water at station ST-21.

In the Water Quality Forecasting, a maximum ammonia concentration in the TSF reclaim water is evaluated in order to meet the Type A water license criteria which for benchmarking are compared to CCME guidelines for the Protection of Aquatic Life in the Portage and Goose Pits once in-pit disposal and flooding activities are completed. If this concentration is exceeded before the end of the flooding operation, measures could be undertaken to lower the ammonia concentration, as well as nitrate and nitrite if required, in the TSF reclaim pond prior to the transfer of TSF reclaim water to the pits.

Ammonia treatment technologies that could be further investigated, if the need arises, include:

i) Biological nitrification / denitrification during the summer months.

ii) In-situ volatilization of ammonia during the summer months.

iii) Ammonia removal by snow making.

5 WATER MANAGEMENT

For details on the site wide water management, please refer to the Meadowbank Mine Water Management Report and Plan and the Whale Tail Pit Water Management Plan.

In addition to controlling contact water through design, the Meadowbank Water Quality and Flow Monitoring Plans and Type A water license requires monitoring stations that are used for the monitoring of ammonia loadings around the mine site and waste rock storage areas from explosive residuals, as well as ammonia concentration found in the TSF reclaim pond. These monitoring requirements ensure contact water that may contain elevated ammonia, nitrates or nitrites are managed, treated if necessary and do not impact the receiving environment. Monitoring at Whale Tail site is presented in the Whale Tail Water Quality and Flow Monitoring Plan and in the Type A water license.

In addition to the monitoring listed in the Water Quality and Flow Monitoring Plan, the following actions are undertaken at Meadowbank and Whale Tail as part of the AMP:

- If runoff or seepage is detected at the rock storage facility, water samples collected at the Portage, Vault, Whale Tail, or IVR WRSFs during late operations will also be analyzed for nitrate and nitrite to complete the suite of signature compounds found in explosive residuals.
- Tailings slurry volumes and density from the mill pumping facility to the TSF are recorded on a monthly basis.
- The records of water volumes pumped from the Meadowbank and Whale Tail sumps or WRSF pond to the attenuation ponds are recorded on a monthly basis.
- The records of water volumes pumped from the attenuation or storage ponds to the receiving environment will be recorded on a monthly basis.

Sampling frequency at the pit sump will also be increased if high variability is identified in observed constituent concentrations as a result of the blasting schedule.

The WRSF ponds at Whale Tail will collect all drainage from the WRSFs. Any drainage from the ore storage area will collect in the Whale Tail Attenuation Pond. The open pit, water storage ponds and the Attenuation Ponds at Whale Tail and IVR Pits are shown in Appendix 1.

6 REPORTING

Reporting of ammonia concentrations at the Type A sampling stations listed is included as part of the requirement of the water license. The reporting frequency is prescribed by the Nunavut Impact Review Board (NIRB) Kivalliq Inuit Association (KivIA), and Nunavut Water Board (NWB) and include, but may not be limited to:

- Brief monthly reports of the compiled water quality monitoring results, sent to the NWB, the CIRNAC, Water License Inspector and to the KivIA; and
- An annual report submitted to the NWB, KivIA, CIRNAC, NIRB, Government of Nunavut, and other interested parties. This report summarizes monitoring results for each sampling station, annual seep water chemistry results, annual groundwater monitoring results, receiving water monitoring results, spills and any accidental releases, measured flow volumes, effluent volumes and loadings, and results of QA/QC analytical data.

Mine operation personnel reviews on a monthly basis the data gathered from the sampling stations in the Type A water license and from the monitoring action proposed under the AMP. If the data indicates that further studies and/or significant changes to the water management infrastructure are required to assess or control ammonia concentrations, Agnico Eagle will notify the NWB and KivIA as early as practical. Results of these further studies and/or changes to the AMP monitoring actions will be transmitted to the NWB for review.

7 INSPECTION

On a weekly basis, the environment department will conduct inspection in the blasting area to ensure that the Dyno Nobel loading procedures are being implemented (this will minimize blasting residues). In addition, inspections will be undertaken at explosive product storage facilities (Dyno Nobel) to ensure that explosives products are stored in sealed containers and there is no spillage. If any non-conformities are observed follow up action will be undertaken, and corrective measures will be put in place. See Appendix 5 for copy of the AMP inspection form.

8 REVIEW OF AMMONIA MANAGEMENT PLAN

Review of the results of the site water quality and AMP monitoring during the year may provide new information, and/or indications that changes to the AMP are necessary. When revisions are warranted, an updated AMP will be submitted to the NWB for review.

9 REFERENCES

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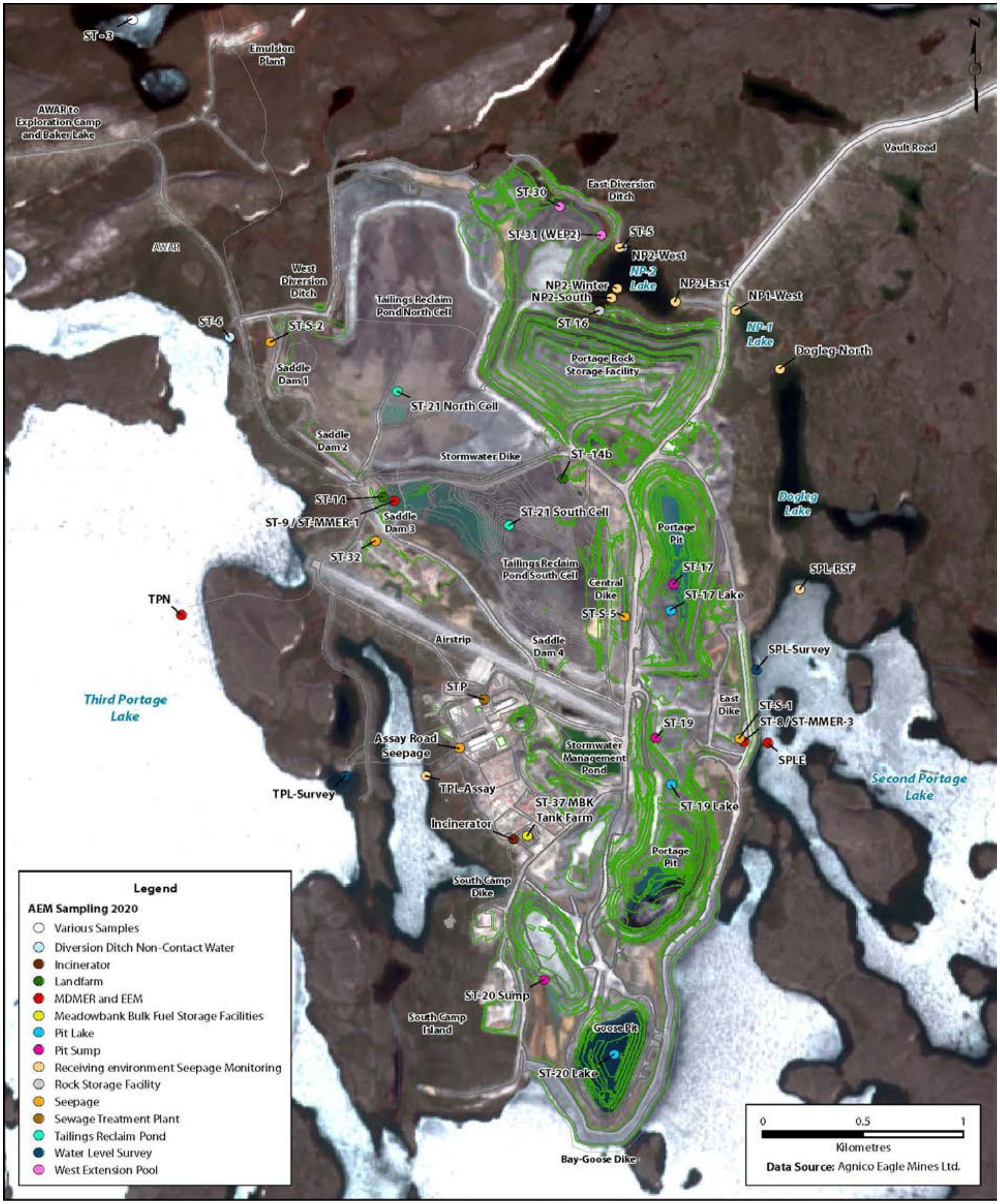
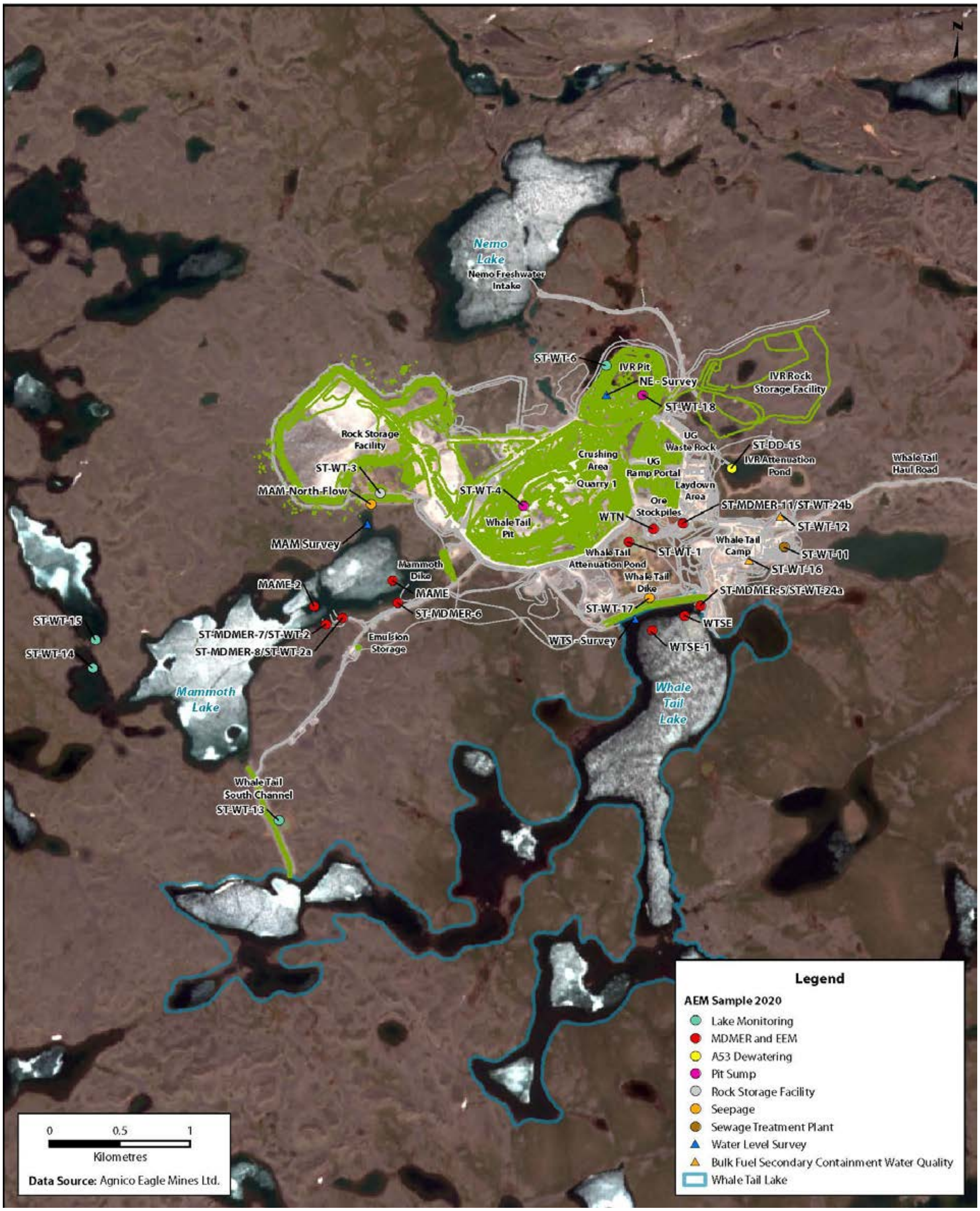
APPENDIX 1

ENVIRONMENT FIELD STATIONS – MINE SITE VIEW

Meadowbank Mine Site Layout Area



Whale Tail Mine Site Layout Area



APPENDIX 2

SPILL CONTROL AND LOADING PROCEDURE PLAN

Dyno Spill Control and Loading Procedure Plan

1) All trucks are washed inside shop to contain any residue that may have contacted trucks. The water from the washing of the trucks and or the shop floors themselves is then picked up by the AEM e vacuum and disposed of in the onsite Stormwater Management Pond.

2) A.N. Prill is brought to the Emulsion Plant site in 20 ft Seacans and is stored in the Seacans on the A.N. Pad for the site till it is needed. It is then taken out of the Seacan /s and brought into the Plant for use. Sometimes enough product for the next batch is stored outside to speed up Batching time when it is necessary. A.N. Prill is not left outside if weather looks like it is going to be damp or raining to prevent the leaching of Prill through the Tote bags and on to the ground surface.

3) Any A.N. spills that occur are promptly cleaned up and disposed of in 1 of 2 ways:
   i. Any contaminated prill is put into containment barrels or buckets inside Plant, depending on amount, and put into the next Ansol batch to be made.
   ii. Any contaminated Prill is put in Barrels or Buckets (depending on amount) and then transferred from barrels to buckets for the Emulsion Truck Operators to take to the Blast Pattern and placed into the boreholes after they have been loaded (disposal via blast).

   Any spills that are too difficult (some of our drummed Products) to take care of in this manner are placed in Metal Drums or HAZMAT bins etc. with absorbing materials, sealed and sent to AEM HAZMAT AREA (for shipment south).

4) Emulsion waste (with contaminants) is also either contained in drums or bins until it can be transferred into buckets and taken to Blast patterns and placed into boreholes for disposal (disposal via blasting).
   Any non contaminated Emulsion is put back through the system and on to Trucks.
   When Trucks need to be de-contaminated or process lines of trucks or plant need to be cleaned out, the excess water is strained through a Sack (this allows the water to go through, but contains the Emulsion) to minimize nitrites in our plant sump containment.

5) When an Emulsion Truck has completed loading on a blast pattern the remaining emulsion is flushed out of the loading hose by running water through the hose (water holding tank on trucks) until water discharges out the end of the hose into the borehole.
   This does not completely remove all of the Emulsion out of the Hose; there is still a residue amount left in the hose. Thus, when the Truck operator starts up on the next blast pattern, the hose is put into the borehole and the Operator primes the hose and all the residue Emulsion is contained in borehole and disposed of when hole/s are blasted.

APPENDIX 3

DYNO NOBEL EMERGENCY RESPONSE PLAN – MAGAZINE, PLANT AND WORK SITE

EMERGENCY RESPONSE PLAN

QAAQTUQ

Agnico Eagle Meadowbank (Baker Lake) Nunavut

For Dyno Nobel Canada Inc.

Magazine, Plant and Work Sites

This Emergency Response Plan (ERP) addresses incidents and potential incidents involving the manufacturing, handling and storage of explosives and related products in Dyno Nobel Canada Inc.' magazines, plants and worksites. This ERP has been developed for Dyno Nobel Canada Inc. and all of it's wholly-owned subsidiaries (DNX Drilling). Actions detailed within this plan are compulsory, under the approval and authorization of DNCI's Regional Operations Managers.

"This document, as presented on Dyno Nobel's database, is a controlled document and represents the version currently in effect. All printed copies are uncontrolled documents and may not be current".

Note: Information provided within this document may be privileged and is not intended for general distribution.

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Publication/ Amendment Date	Changes To Prior Edition	Pg.
15 Oct 03	**New document**	All
26 Apr 04	**Amendment # 1**	
	Renumbering of Appendices 6 – 13	App. 7 – 14
	Miscellaneous Typos & Amendment Dates	All
17 March 08	**Amendment #2**	
	Updated Contact information	
	Addition of definitions	
	Included Calling and responding emergency procedures	
	Addition Duties of Key personnel	
	Addition of response to Natural disasters	
	Addition of visitor and contractors access control -	
	Replaced the Appendices and renumbering	
	Included a Emergency Report form	
	Addition of Nitric acid, Aluminum and Diethylene glycol and CFE	
	Addition of alternate methods of communication	
	Addition of Reportable Substance list	
	Miscellaneous Typos & Amendment Dates	All
August 18, 2010	**Amendment #3**	
	Updated Scope and ERP Outline	
	Added Sign-off sheet for Annual Fire Department Review	
	Added Appendix for Employee Training sign-off	
	Updated Reporting Incidents Flowchart	
	Updated procedure for Raw Material Truck Spills	
	Updated Bomb Threat Checklist	
September 29, 2011	Amendment #4	
	Updated contacts and phone numbers	
November 15, 2011	Amendment #5	
	Amended Appendix 8	
	Addition of Appendix 10	

Table of Contents

1.0 SCOPE

This document provides a Work Site Emergency Response Plan covering fire/explosion, spills, security breach, bomb threat, evacuation and prescribed actions that employees must take to ensure employee and public safety in the event of an emergency. The general reference to DNCI's "Work Sites" throughout this document includes magazines, plants and miscellaneous work locations.

The Emergency Response Plan appearing on Dyno Nobel Canada Inc.' database is a controlled document. Uncontrolled copies of this ERP are provided to customers and associates who own the land on which DNCI's worksite is located, plus applicable municipal and regulatory authorities. As well, uncontrolled copies are issued to all Company employees and are placed in all central offices and Company delivery vehicles.

2.0 RELATED DOCUMENTS

The following documents also relate to emergency situations that can arise and should be held at each Work Site:

- Federal, Provincial and Municipal regulations, standards and guidelines
- Corporate Policies plus MSA Standards & Procedures
- Standard Operating Procedures (SOP's)
- Dyno Nobel General and Specialized Work Rules
- Material Safety Data Sheets
- Prime Contractor's / Customer's ERP
- Transportation ERAP #2-1037
- Crisis Communication Plan

3.0 ERP OUTLINE

3.1 The following materials are covered by this ERP:
Fuel Oil
ATF Hydraulic Fluid
Ammonium Nitrate Prills and Solution
Sodium Nitrite
Sodium Thiocyanate
ANFO
Emulsion

Packaged Explosives
Detonators
Acetic acid
Diethylene glycol
Aluminum
Enviro CFE

3.2 The following situations are addressed in this ERP:

- Fire / Explosion
- Storage Tank Failure
- Spills from Product Delivery Trucks
- Spills from Raw Material Delivery Trucks
- Process Spills
- Shut down due to weather, floods, lightning, fires, explosions and other threats to the security and operation of DNCI's facilities, equipment and material.
- Bomb Threats
- Quantities of spills and reportable to Dyno Nobel and authorities

3.3 This ERP covers:

Preparation	Reporting
Training	Waste Disposal Permits
Lines of Authority	Containment
Notification	Inspection
Decontamination	Maintenance

3.4 The following definitions apply to this plan:

<u>DNCI Corporate contact :</u> A DNCI corporate employee who is assigned to receive Emergency Calls at all times from the answering service.

<u>ER Advisor:</u> Emergency Response Advisor (ERA), who will normally be the applicable General Manager, Area Manager, or Technical Advisor who will liaise with First Responders.

<u>OSC:</u> (DNCI) On Scene Coordinator, the Senior DNCI employee at an incident site who manages and controls DNCI resources in support of First Responders and incident recovery.

ERT: Emergency Response Team, DNCI personnel dispatched to an incident site to assist First Responders and conduct incident recovery under the direction of the OSC.

4.0 PREPARATION AND PLANNING

4.1 In order to provide competent emergency response at Dyno Nobel Canada Inc.' magazines, plants and worksites, first responders (local fire departments and mine rescue personnel) must be thoroughly briefed on an annual basis of the potential hazards involved in a Dyno Nobel Canada Inc. worksite fire. To this end, Work Site Supervisors must take fire department plus mine safety and security representatives on an annual magazine / plant tour to view:

Explosives Storage Areas	Evacuation (Meeting) Area
Bulk Emulsion Equipment	Communications Equipment
ANFO Blending Area	Facility Layout
Fire Fighting Equipment Sites	(Waste) Burn Facilities

A record of each explosives worksite tour and the names of the first responder representatives attending are to be documented and kept on file.

Annual Fire Department Review Form (Appendix 9)

4.2 All DNCI employees shall review this ERP on an annual basis and participate in ERP drills / exercises when scheduled.

4.3 All worksite accidents involving fire, explosion, reportable spills/emissions, breaches of security and bomb threats are to be reported to applicable authorities and senior management. As per incident reporting procedure

4. 4 Spill procedures for each of the materials listed in section 3.1 are outlined in Table 6-3. All procedures specify: Method of Cleanup, Method of Disposal and Protective Clothing. Based on the procedures presented in Table 6-3, worksite supervisors must ensure that adequate clean-up equipment and materials are readily available and in good condition.

4.5 Worksite information for each of DNCI's facilities is contained in the attached appendices. The ERP is revised whenever significant changes are made.

4.6 Current Material Safety Data Sheets (MSDS) are to be kept at each Work Site for all hazardous materials that are stored and handled at the Work Site. Copies of current product MSDS' are also made available to customers and landowners. Obsolete MSDS' will be replaced as new ones are issued.

4.7 Each Work Site will hold and maintain in good repair, appropriate fire fighting and spill control equipment for potential emergencies. Fire extinguishers, hoses and other fire fighting equipment are to be visually inspected on a monthly basis to ensure Magazine, Plant, Work Site and delivery vehicle readiness.

5.0 TRAINING

5.1 All employees will complete training on the contents of this Plan during their "new hire" orientation and review the plan annually.

5.2 A trained person is considered to have reviewed all related documents (Section 2.0), to have been instructed on the use of related equipment and procedures, and to have discussed with their Supervisor or trainer, questions and issues of concern.

5.3 Training records, including certificates for training completed, are to be kept onsite in the Employee's Training Record.

5.4 The Magazine, Plant or Work Site Supervisor/Manager will certify their employees as having received training by signing the training form. In signing the training form, the Supervisor / Manager will have satisfied themselves that trained employees are able to:

- Recognize fire and explosive hazards for the materials and processes to which they are exposed /involved with;
- Competently use Fire Fighting / Fire Protection Equipment (Note: employees should receive refresher training in the use of fire extinguishers at least every three years)
- Competently use applicable personal protective equipment (PPE) when handling hazardous substances;
- Recognize and be familiar with substances which become hazardous wastes when spilled; and

- Follow SOP's and use established work practices to minimize the potential for fires, explosions, environmental releases and other accidents.
- Worksite Managers / Supervisors will ensure that all contractors receive a worksite orientation before commencing work or being left unaccompanied in the worksite. Following the orientation process, the contractors will be required to sign off on the Contractor Checklist acknowledging training in the applicable areas including the site emergency response plan.
- All Plant & Magazine sites will have in place, a continuous (24 hour) access control system to control the entrance, presence and exit of visitor and contractors and their equipment and materials
- Employees must be trained on Reportable Quantities to the Government in the unlikely event of a spill.
- All employees are aware of evacuation routes, muster point location, and all-clear notice procedure.
- New/Transferred employee or Annual Refresher sign-off form located in Appendix 8

6.0 EMERGENCY PROCEDURES AND LINES OF AUTHORITY

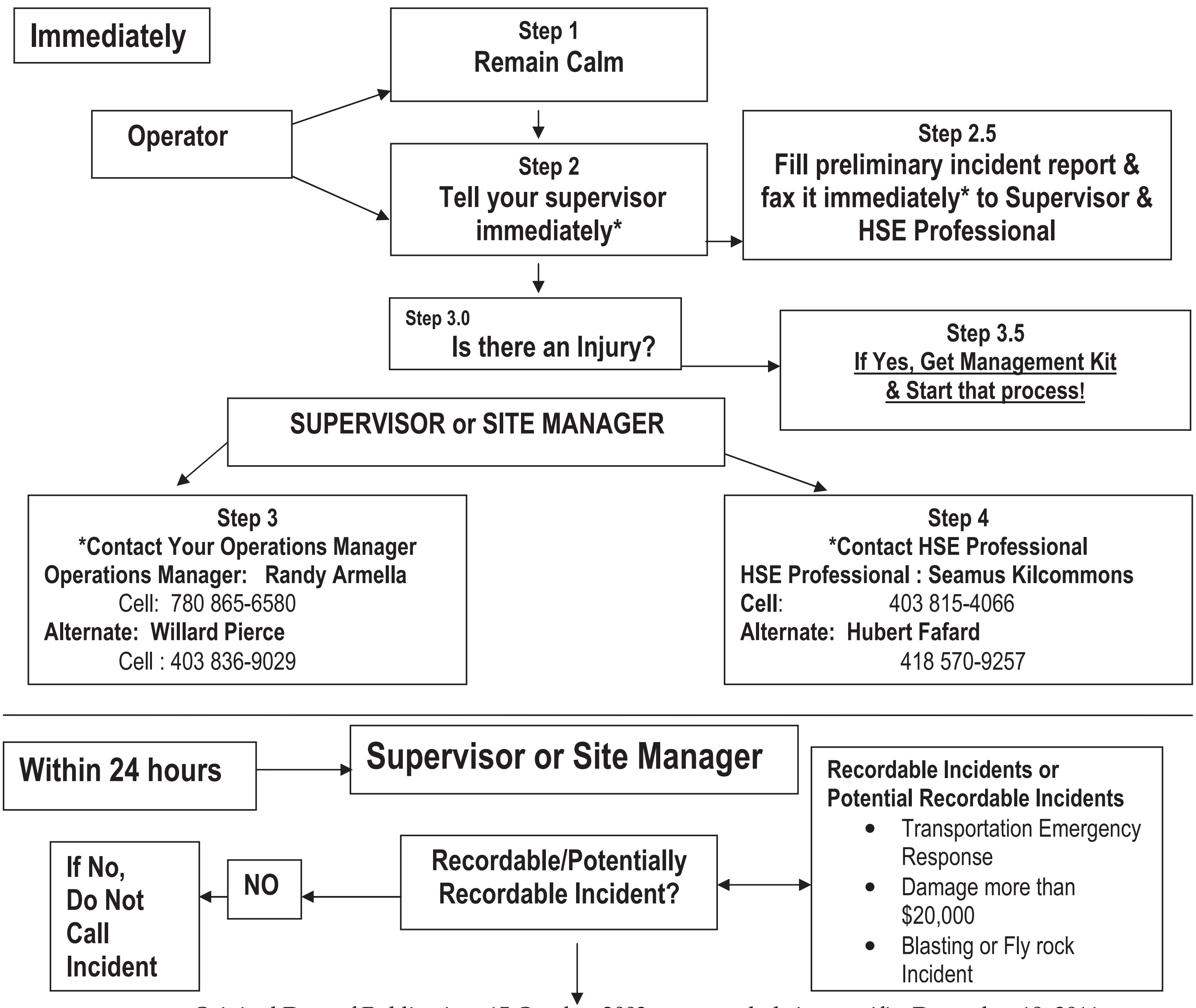
6.1 GENERAL

Reporting Incidents Flow Chart (continued on next page)

Table 6-1
Emergency Response Flow Chart

Reporting Incidents

Property Loss/Fly Rock/Environmental Spill/Injury



Yes, Not Sure?

Contact Incident Report Line
1- 888-547-3966
(1-888-KIS-DYNO)
Press: "1 " and report: Actual or Potential MTIs, RWIs, LTIs, Transportation Emergency, Blasting or Fly Rock Incidents, Environmental Spills, Property Damage over $20,000

Within 72 hours

Supervisor or Manager

Complete ICARUS Report & Submit to HSE Professional & Operations Manager

Complete Investigation and RCA with Help of HSE Professional

SITE SUPERVISOR/DELAGATE
EXPERIENCING EMERGENCY / POTENTIAL EMERGENCY

- **CALL FOR EMERGENCY ASSISTANCE**
  In the event of an emergency, accidental release or imminent accidental release involving explosives, eliminate potential sources of detonation where possible (eg. turn off the ignition of a vehicle), call **911** (or the local police number) for immediate assistance, **call the site Supervisor/ Area Manager** and initiate the site's Emergency Response Plan. If normal phone systems are down other methods of communication can include two way radios, satellite phones, pager, e mail and vehicle satellite tracking systems.

- **WARN PUBLIC WITHIN EVACUATION DISTANCES IF RISK OF DETONATION**
  Should there be explosive detonations, or the risk of detonations due to the presence of fire or other detonating factors, advise the First Responders (or anyone within the immediate vicinity if First Responders are not at the scene) of the risk and applicable safety distances per Table 6-4, page 17 (liaise with Emergency Response Advisor (ERA) if time permits). Help organize perimeter guards to prevent people from entering the evacuation zone.
  Note: See ERP, page 17 Table 6-4 for Evacuation Procedures.

- **ASSIST LOCAL AUTHORITIES**
  Assist First Responders and Local Authorities in eliminating the emergency situation, and liaise with DNCI's On-Call Employee / ERA until relieved by the Company's Emergency Response Team (ERT).

TO RESPOND TO AN EMERGENCY CALL

DNCI Corporate contact instructions:

Upon receiving a call for emergency response assistance, keep a log of all subsequent communications and actions, and do the following:

1. Immediately obtain the name and callback number of the caller, in case the telephone line is lost.

2. Obtain information as fully and accurately as possible following the emergency report form (see appendix 1).

3. Call an ER Advisor for the applicable Region (see appendix 2) and report the emergency situation. In turn, the ER Advisor will phone the emergency scene caller, establish ongoing contact, assess the emergency, determine what Company resources and/or contracted emergency response services are required and organize an Emergency Response Team – ERT to proceed to the emergency scene if required.

4. Assist the Emergency Response Advisor (ERA).

5. Liaise with Company Executive / Senior Managers.

Emergency Response Advisor (ERA) instructions:

1.Call the Branch/Plant Supervisor nearest the emergency scene plus provincial & federal authorities (see applicable appendix to Annex D) to advise them of the situation and the need for an emergency response.

2. Designate, assemble and dispatch an Emergency Response Team (ERT), made up of Groups 1 & 2 personnel (see ERAP pg. 16 and Annex D) under the leadership of an On Scene Coordinator (OSC), if required.

3. Authorize the dispatching of additional resources, communications, transportation and contracted services as necessary.

4. Contact and instruct the designated Emergency Response Team (ERT) to proceed to the emergency scene with the required vehicles and equipment.

5. Liaise with the Person in Charge of the Emergency) and/or Local Authorities to obtain a situation update.

6.Advise Local Authorities as appropriate, regarding the properties, hazards and handling procedures for the explosives involved in the emergency. In particular, advise the Local Authorities of appropriate evacuation distances per Table 6-4 pg. 17.

7. Continue to consult with the Local Authorities as appropriate, plus the Company's On-Scene Coordinator (OSC), to stabilize and eliminate the emergency.

8. Refer to **Regional Manager** *Tom Medak or Cory Redwood .(see appendix2))* for any media requests in accordance to the Crisis Communication Plan (CCP). Media contacts shall be through Regional Manager designated for the area.

9. Contact the explosives supplier and / or transporter (if other than DNCI) to advise them of the emergency and to request their assistance if/as required.

ON-SCENE CO-ORDINATOR (OSC)

- The On-Scene Coordinator (OSC) is the Company's representative and local authority in charge of all company actions and resources at the emergency scene. Once the OSC arrives at the emergency scene, the ERA will transfer communication with First Responders/Local Authorities to the OSC. In turn, the OSC will liaise with the ER Advisor as required. Throughout the Company's emergency response, the OSC will ensure that First Responders and Company personnel (employees and contractors) observe all safety and regulatory standards and procedures.
- The OSC may revise / adjust the composition of the Emergency Response Team (ERT) and supporting resources as required. The OSC may, in consultation with the ER Advisor, contract commercial services to assist in addressing and resolving the emergency situation.

- The OSC will oversee the Company's local involvement with emergency services, government (municipal & provincial) and public interests until the emergency is fully resolved. Post-emergency activities (clean-up, restoration, etc.) under the direction of the Environment Manager may be delegated to an appropriate Branch, Plant or Area Manager. **EMERGENCY RESPONSE TEAM (ERT)**

- Selected emergency response personnel will take their direction to assemble and proceed to the emergency scene from the ERA or their representative. Team members will immediately report to the On-Scene-Coordinator.

- The primary role of the ERT is to provide a competent and trained / certified workforce plus specialized equipment and material to assist First Responders / Local Authorities in the stabilizing and elimination of an 'explosives emergency', and to retrieve / recover, repackage and remove to safe and secure storage, non-detonated explosives.

- While at the emergency scene, ERT members will take their direction from the Company's OSC and remain available until released by the OSC.

NOTE:

ONLY INDIVIDUALS WHO HAVE RECEIVED TRAINING AS REQUIRED UNDER THE TRANSPORTATION OF DANGEROUS GOODS (CLEAR LANGUAGE) REGULATIONS, OR WHO ARE WORKING UNDER THE DIRECT AND CONTINUOUS SUPERVISION OF AN EMPLOYEE WHO HAS BEEN TRAINED FOR CLASS 1 DANGEROUS GOODS UNDER TDG, MAY PARTICIPATE IN SITE CLEAN-UP ACTIVITIES SUCH AS PICKING UP, REPACKAGING AND TRANSPORTING EXPLOSIVE MATERIAL.

6.1.1 In any emergency the Work Site Supervisor/Manager or their delegate must take certain actions, including the following:

- Call local fire/emergency authorities (at mine sites, also call Mine Fire, Safety and Security if different and give relevant information).
- Account for all employees and visitors. Arrange for Rescue of anyone who may be trapped, without endangering oneself or others.
- Notify Dyno Nobel Canada Inc. ERA's so that necessary arrangements can be made for technical / administrative support, including accident reporting and investigation plus continued/alternate production. The following information should be provided and refer to appendix 1:

What Occurred	Time of Occurrence
Action Taken	People Contacted
Status of Situation	Anticipated Follow-up

6.2 FIRE & EXPLOSIVES

6.2.1. There are three categories of fire that may involve explosives:

I. Fires Directly Involving Class 1 Explosives and Blasting Agents

- **DO NOT FIGHT THE FIRE.** Instruct all fire fighters on the scene not to fight fire with explosives.

- Shut off power at main breakers if possible. At mine sites, call Mine Security or Fire/Rescue. At all other DNCI locations call local Fire/Rescue personnel.
- Evacuate all personnel from the Work Site to the safe meeting place as outlined in the Work Site Appendix.
- Set up a communications base at the meeting place and guard
- against anyone entering the area.

II. <u>Fires Involving Components For Manufacture of Blasting Agents</u>

Bulk blasting agents may be in the form of emulsion or ANFO. ANFO is a mixture of prilled ammonium nitrate and fuel oil.

Under conditions of large mass, intense heat, confined dust / vapor buildup, and the right mixture combination of the basic ingredients, emulsion and ANFO will explode. The probability of explosion with ammonium nitrate (AN) alone is very small, but increases when under intense heat and confinement. Table 6-1 includes recommended fire fighting procedures for each of these substances.

III. <u>Fires Involving Dyno Nobel Canada Inc. Trucks</u>

In cases where the Dyno Nobel Canada Inc. delivery trucks are in a building that is on fire, if there is no explosives and safe to do so, may be moved provided access to the truck and exit from the building is not barred by flames or smoke, with available fire extinguishers with caution only if the fire is small and not in the storage compartment.

Fires on re-pump or other bulk explosive delivery vehicles shall not be fought if the fire involves the explosives compartment. Fire fighting measures should be taken immediately to prevent any fire such as a tire, electrical or cab fire from reaching the explosives compartment.

Fires on other transport vehicles may be fought with caution. Fires that cannot be controlled sufficiently to avoid involvement of the vehicle's fuel compartment shall be left and personnel evacuated to a safe distance.

6.2.2. When a fire is small and does not involve any explosive agents, it may be fought with plant extinguishing equipment. If the fire is widespread and intense, all personnel, including visitors and contractors should be evacuated to the meeting area outside the main gate.

Table 6 - 2
FIRE FIGHTING INFORMATION

MATERIAL	RECOMMENDED FIRE-FIGHTING METHODS	SPECIAL CONSIDERATION
Ammonium Nitrate Prill – Odorless white to light tan crystaline solid	Use flooding amounts of water in early stages of fire. Keep upwind. AN is an oxidizing agent which supports combustion and is an explosive hazard if heated under confinement that allows high-pressure buildup. Ensure good ventilation and remove combustible materials if it can be safely done. Evacuate to designated area if fire cannot be controlled.	Toxic oxides of nitrogen are given off during combustion. Fire fighters require self-contained positive pressure breathing apparatus. Avoid contaminating with organic materials. Many powdered metals such as Al, Sb, Si, Cd, Cr, Co, Cu, Fe, Pb, Mg, Mn, Ni, Sn, Zn and brass react violently and explosively with fused AN below 200˚C Sensitivity to detonation increases when heated.
Ammonium Nitrate Solution-Colorless/Odourless Liquid – white paste like solid when cooled	Use flooding amounts of water in early stages of fire. Cool containing vellels with with flooding quantities of water until after fire is out	Material will not burn, but thermal decomposition may result in flammable/toxic gases being formed. These products are nitrogen oxides and ammonia. (NO,NO_2 NH_3). Product may form explosive mixtures when contaminated and comes in contact with organic materials. Explosive when exposed to heat or flame under confinement. Avoid temperatures over 210°C (410°F) A self contained breathing apparatus should be used to avoid inhalation of toxic fumes
Acetic Acid – Colourless liquid with a pungent odour	Use dry chemicals, CO_2, Alcohol foam or water spray	Isolate and restrict area access, stay upwind. Water run-off and vapour cloud may be corrosive.
Sodium Thiocyanate – White solid - odourless	Use extinguishing media most appropriate for the surrounding fire	Wear self contained breathing apparatus – MSHA/NIOSH approved or equivalent, and full protective gear. During a fire, irritating or highly toxic gases may be generated by thermal decomposition or combustion.
Sodium Nitrite – Oxydizing agent - white to light yellow crystals- faint odour	Flammability class – not regulated. Flood with water only – Isolate materials not involved in the fire and cool containers with flooding quantities of water until well after the fire is out.	Self contained apparatus should be worn in a fire involving Sodium Nitite.Thermal decomposition will cause reddish brown nitrogen oxides to be released.
Fuel Oil (No. 2 diesel) Dyed or pale yellow liquid with petroleum odor; and/or ATF Fluid	Use water spray to cool fire-exposed surfaces and to protect personnel. Shut off fuel from fire. Use foam, dry chemical or water spray to extinguish fire. Avoid spraying water directly into storage container due to danger of boil-over.	Avoid strong oxidizing agents.

Explosive emulsions, ANFO, packaged explosives and firing devices.	**Fire involving explosive materials must never be fought. Evacuate the incident scene. Do not confine (ventilate to prevent / reduce pressure build-up if safe to do so).**	Explosion hazard.
Enviro CFE	Dry chemical, foam, water spray (fog). Use water spray to cool exposed surfaces and containers	OIL FLOATS ON WATER. Do not use direct or heavy water stream to fight fire. Use organic vapour respirator or self-contained breathing apparatus to fight fire.

Table 6 - 3

CONTROL MEASURES FOR FIRE

MATERIAL	RECOMMENDED FIRE-FIGHTING METHODS	SPECIAL CONSIDERATION
Acetic acid	Small fire: type ABC dry chemical or CO_2 fire extinguisher. Large fire: water fog or foam.	May react violently with oxidizers and nitric acid. May react with aluminum powder and give off highly flammable hydrogen gas.
Aluminum	Small fire: type D fire extinguisher, dry sand. **Never use water**.	May react with oxidizers (nitrate and perchlorate) and acids. Avoid contact with water. Highly flammable hydrogen gas may be released.
Diethylene glycol	Small fire: type ABC dry chemical or CO_2 fire extinguisher. Large fire: water fog.	Keep away from oxidizers (nitrates and perchlorate). Explosion hazard if heated under confinement.

EVACUATION PROCEDURES

Advise the first emergency responders at the scene (police or fire) of the need to evacuate using the guidance in the Emergency Response Plan. Employees at the scene should assist local emergency services to the best of their ability to accomplish this. For incidents within a worksite such as a mine, quarry or construction operation, in most cases access is radio controlled. The quickest way of alerting people, therefore, is by site radio. Clearly state your location, situation and call for assistance in evacuating the area.

DO NOT FIGHT EXPLOSIVES FIRES. EVACUATE THE AREA AND LET THE FIRE BURN ITSELF OUT.

THE MINIMUM EVACUATION DISTANCE IS AS OUTLINED IN TABLE 6-4 (Pg. 17) FOR ALL DIRECTIONS (which is based on a higher traffic / risk / population density within the area, without benefit of protective features such as berms and hills. (**Transport Canada requires 1,600 meters for situations that involve high-risk surroundings**) upon determining actual quantity of explosives refer to Table 6-4 as per ERD quantity of distances.

Table 6 - 4
EVACUATION DISTANCES
Based On Amount of Explosives Present

Explosive Quantity		**Metric Distance**		**English Distance**
250 kg		70 Meters		230 Feet
500 kg		100 Meters		320 Feet
1,000 kg		150 Meters		500 Feet
2,000 kg		240 Meters		800 Feet
5,000 kg		400 Meters		1,300 Feet
7,000 kg		450 Meters		1,450 Feet
10,000 kg		480 Meters		1,550 Feet
20,000 kg		700 Meters		2,300 Feet
40,000 kg		800 Meters		2,640 Feet
60,000 kg		870 Meters		2,860 Feet
80,000 kg		960 Meters		3,150 Feet
100,000 kg		1040 Meters		3,420 Feet
120,000 kg		1100 Meters		3,610 Feet
>120,000 kg		1600 Meters		5,250 Feet

6.3 ENVIRONMENTAL RELEASES

6.3.1 Procedure For Fuel Oil Storage Tank Failure

- Assess the magnitude of the leak.
- If the leak is slow and the source can be determined, take the appropriate action to prevent further leakage.
- Transfer fuel from storage tank into drums if necessary.
- Collect spilled material, including contaminated soil, with absorbent pads or inert solid absorbent and store in drums labeled for disposal.
- If the leak is large and further leakage cannot be prevented, allow the dyke to fill. Transfer to drums, label for reuse or disposal, and store.
- Inspect empty tank to identify failure/cause of leak and repair tank.

6.3.2 Procedure For Raw Material Truck Spills

- Identify the material involved, assess the magnitude of the spill or leak and assist the driver to take appropriate action to stop the leak, taking care to prevent run off and/or entry into any water course or drainage system near the spill site.
- For AN prill, shovel spilled material into drums, label for reuse or disposal, and store. Use a non-sparking shovel to transfer spilled material into lined drums.
- For spilled fuel, contain by dyking with earth. Collect spilled fuel with absorbent pads or solid inert absorbent, transfer into drums, label and store for disposal.
- Remove contaminated soil for disposal in conformance with Environment Canada standards.

6.3.3 Procedure For Process Spills

- Identify the material involved and assess the magnitude of the spill or leak, taking care to prevent run off and/or entry into any watercourse or drainage system near the spill site.
- For AN prill, shovel spilled material into drums, label for reuse or disposal, and store.
- For spilled fuel, contain by dyking with earth. Collect with absorbent pads or solid inert absorbent, transfer into drums, label, and store for disposal.
- In the case of leaking bags of ANFO, sweep or shovel the spilled material into a clean drum or other suitable container, label for reuse or disposal, and store.
- Remove contaminated soil for disposal in conformance with Environment Canada standards.

- Have any process equipment (pumps, process lines, parts, gauges, etc.) involved in a leak or spill inspected and repaired or replaced. Re-inspect and test if necessary after repair is affected.

6.3.4 Procedure For Emulsion Tank Failure

- Assess the magnitude of the leak.
- If the leak is slow and the source can be determined, take the appropriate action to prevent further leakage.
- Transfer remaining emulsion from leaking storage tank into another storage tank, a tanker trailer if available, or into drums as necessary.
- Collect spilled material using double diaphragm pump(s) and store in labeled drums for reuse or disposal at the mine.
- If the leak is large and further leakage cannot be prevented, allow the room to fill. Transfer to drums, label for reuse or disposal, and store.
- Inspect empty tank to identify failure/cause of leak and repair or replace the tank

6.3.5 Procedure For Fire

- In the event of a raw material or product fire, take care to protect all persons from exposure to smoke and gaseous emissions from the fire.
- Potential toxic gaseous emissions from fires involving explosive materials include:

  Oxides of Nitrogen
  Carbon Monoxide
  Cyanide Gas

- All fires must be reported to local authorities and Mine Site Security as soon as possible.
- Self contained breathing apparatus is required for fighting a fire in the plant.
- Follow procedures outlined above for any spills and leaks resulting from fire when it is safe to do so

Table 6 – 5
ENVIRONMENTAL RELEASE PROCEDURES

MATERIAL	SPILL AND LEAK PROCEDURES	WASTE DISPOSAL
Ammonium Nitrate Prill (odorless white to light tan crystalline solid)	Remove source of heat and ignition. Sweep or shovel spill into a clean, non-combustible container. Wash remaining trace residues with water. Wear rubber gloves and safety glasses to minimize contact with skin and eyes.	Re-use if possible or give it to a farmer as a fertilizer. If not possible, dispose of as-is in approved. Remove as much as possible the spilled material as a solid.
Ammonium Nitrate Solution-Colorless/Odourless Liquid – white paste like solid when cooled	Small spill - Dike and contain spilled material. Ensure spilled material does not enter sewers, wells or water courses. Allow to solidify. Use appropriate tools to place in container for disposal. Larger spill - Dike and contain spilled material. Ensure spilled material does not enter sewers, wells or water courses. Notify downstream water users. Allow to solidify. Use appropriate tools to place in container for disposal.	Call for assistance for disposal. Ensure disposal complies with regulatory requirements and regulations.
Fuel Oil (dyed or pale yellow liquid with petroleum odor)	Eliminate any source of ignition. Prevent spills from entering watercourses or drainage systems. Contain with sand or earth. Recover with pump or inert absorbent material into clean container. Wear safety glasses and rubber gloves to prevent contact with the eyes and skin.	Dispose of recovered material in approved landfill or other waste disposal facility.
ANFO (Ammonium Nitrate Fuel Oil)	This material is an explosive. Remove all sources of heat and ignition. Transfer into clean plastic container with a plastic shovel. Label drums. Wear rubber gloves.	Recycle product, if possible. If not practical, explode it inside a borehole or burn it in an authorized burning ground.
Emulsion	This product is a blasting agent. Remove all sources of heat and ignition. Prevent spills from entering watercourses or drainage systems. If large amount of emulsion is involved, contain spill with earth or sand found locally. Recover spilled material with a diaphragm pump. Use of a diaphragm pump also requires an air compressor. Limitation of the pump suction is approximately 2.5 meters, pump discharge is approximately 8 meters. Use a screening device on pump suction hose. Out of area spills will require taking two pumps and extra hose. Transfer the product into a tanker trailer or clean 200 liter drums. If small amount of emulsion is involved, transfer material into a clean plastic container with a plastic shovel. Label tanker trailer or drums. Wear rubber gloves and rubber boots.	Recycle product, if possible. If not practical, explode it inside a borehole or if large amount is involved, demulsify it with liquid detergent.

Enviro CFE	Eliminate any source of ignition. Prevent spills from entering watercourses or drainage systems. Contain with sand or earth. Recover with pump or inert absorbent material into clean container. Wear safety glasses and rubber gloves to prevent contact with the eyes and skin.	Dispose of recovered material in approved landfill or other waste disposal facility.
Sodium Thiocyanate – White solid - odourless	Ensure adequate ventilation whe handling Sodium Thiocyanate. Keep containers closed when not in use. Wear appropriate PPE – eye protection, gloves and appropriate clothing to prevent skin exposure.	Vacuum or sweep up material and place into a suitable disposal container. Avoid run off into storm sewers and ditches which lead to waterways. Not regulated as a hazardous material. Chemical waste generators must consult appropriate hazardous waste regulations to ensure complete and accurate classification.
Sodium Nitrite – Oxydizing agent - white to light yellow crystals- faint odour	In the event of a spill or leak, contact the vendor (403-263-8660) for advice. Wear respirator, protective clothing and gloves. Vacuuming is the recommended method to clean up spills. Do **not** sweep or use compressed air for clean up. Recover spilled material on non-combustible material, such as vermiculite. Use non-sparking tools and place in covered containers for disposal. Any recovered material mau be used for it's intended purpose , depending on contamination.	Dispose of the waste material at an approved hazardous waste treatment/disposal facility.
Acetic Acid – Colourless liquid with a pungent odour	Wear appropriate PPE – evacuate downind areas as required to prevent exposure and to allow fumes and vapours to dissipate. Prevent entry into sewers or streams. Dike if needed. Eliminate all sources of ignition. Neutralize the residue with sodium carbonate or crushed limestone. Absorb win an inert dry material and place in an appropriate container for disposal. Flush area with water to remove trace residue.	Waste disposal must be done in accordance with provincial and federal regulations. Empty containers must be recycled or disposed of through an approved waste management facility.

6.4 SECURITY

6.4.1. In the event of a breach of security at a Dyno Nobel Canada Inc. Work Site, a call is to be made to the RCMP / local Police Department at the discretion of the Supervisor/Manager, or their delegate. In the case of a breach of security, Dyno Nobel Canada Inc.' HSE, Regulatory Affairs and Executive / Senior Management shall also be informed immediately and provided with the same information as outlined in Section 6.1

6.4.2. Any person(s) apprehended during the course of a serious security breach shall be detained until the Police arrive (note: employees are not to put themselves at undue risk by attempting to apprehend or restrain a potentially violent person).

6.5 BOMB THREAT

6.5.1. The safety of employees and the public is of primary concern. A person receiving a bomb threat over the telephone should attempt to remain calm and keep the caller talking by asking the questions listed in Table 6-6 (ERP pg. 20). Recording (writing) as much information about the caller and their comments is also very important for future reference. If possible, alert a co-worker to the situation while talking to the caller.

6.5.2. The police / mine security should be advised of the bomb threat as soon as possible. Unless there is good reason to the contrary, all personnel should evacuate the Work Site and await the arrival of the police / first responders at the designated meeting area. Suspicious objects should be reported but not tampered with and other people should be prevented from entering the Work Site until the local authority has authorized a return to the Work Site. Employees should be prepared to assist local authorities in their search / inspection of the Work Site as necessary.

Table 6 - 6
CONVERSATION GUIDELINES IN THE EVENT OF RECEIVING A BOMB THREAT

See Appendix 7

6.6 LINES OF AUTHORITY

6.6.1 Based upon the information available at the time of the incident, the Work Site Supervisor/Manager, in consultation with others (such as DNCI Senior Management, Mine/local authorities and/or Dyno Nobel advisors), will evaluate the incident and proceed with appropriate steps to implement this ERP. A decision on when to return to the scene of a serious incident will be made in like fashion, subject to approval by public authorities overseeing the incident.

6.6.2 The Work Site Supervisor/Manager will have overall responsibility for the implementation of this ERP and the supervision of all Company activities. Public authorities and the site owner have ultimate authority regarding the resumption of normal production activities.

7.0 NOTIFICATION AND REPORTING

7.1 Any incident that activates this ERP shall be documented on the DYNO Incident (Cintellate) Report. The Corporate Emergency Response Advisor must also be notified and in turn will advise the:

HSE Manager   Vice President Operations
Area Manager

It is the responsibility of the HSE Manager or his delegate to report the incident to DYNO's HSE Management Team. A major incident involving a fire with emissions and/or a hazardous material spill shall be reported to a provincial Environment Officer under the direction of the Environmental Manager. Major incidents shall also be reported to the Chief Inspector, Explosives Branch, Natural Resources Canada; a Provincial/Territorial Safety Officer; and as applicable, an Emergency Measures Official.

Any incident which involves a spill at a Mine Site shall be immediately reported to the Mine Site Environmental Representative, and followed up with a copy of the incident report when complete.

7.2 Spills and Releases – Reportable and Significant Classifications

1) Determine if the spill/release is reportable
All environmental incidents are to be input into Cintellate. Reportable spills/releases are not only input into Cintellate, but the investigation and corrective action sections of Cintellate must be completed. To assist in determining if a spill/release is reportable, a listing of common materials with assigned reportable quantities is referenced (see Appendix 5, Reportable Substance List). The reportable quantities utilize the most stringent "reportable quantity" in Canada. Even if the spill/released material is recovered, the media impacted by the spill/release may be reportable to authorities (e.g., a portion of a spill reaching a source of drinking water or wetland). In addition, a spill/release is reportable if the amount equals or exceeds the Dyno Nobel Default Threshold.

2) Determine if the spill/release is significant

- Significant spills/releases are disclosed in the company's annual report. Significant spills/releases trigger time-critical internal actions as required by the company's procedures (crisis communication, internal investigation, etc)

The following table is provided to assist in making these determinations:

Reporting of Environmental Spills

Is the spill reportable?

- Yes if above a Reportable Quantity
- Yes if oil sheen is visible or sludge/emulsion is deposited beneath water surface
- Yes if water quality standards are exceeded
- Yes if from a UST exceeding 25 gallons or result in a sheen

Is the spill significant?

- Yes if authorities implement a national contingency plan
- Yes if "sensitive" environmental features have been impacted
- Yes if neighbors are evacuated
- Yes if authorities and/or neighbors file complaints and/or demand response activities
- Yes if financial impact is >US$100K
- Yes if media coverage is adverse.

7.3 Internal investigation reports will include:

- Name, work address, and phone number of the investigating (reporting) individual
- Identification and quantity of the released substance
- Time, duration, and location of the release
- Nature and quantity of injuries, property damage, production loss, administrative penalty and/or legal liability
- Precautions taken during the incident
- Relevant environmental conditions
- Corrective actions taken at the time of the incident
- Recommended corrective actions to prevent future occurrence

7.4 Senior Management shall be immediately informed by telephone of any major incident that requires Government notification as per Dyno Nobel's reporting procedures.

7.5 Major incidents involving explosive material shall also be reported to the Chief Inspector, Explosives Branch, and Natural Resources Canada by the applicable Regulatory Affairs Coordinator.

Table 7 – 1
REPORTABLE SUBSTANCE QUANTITY LIST

Material Released	Reportable to Authorities		Dyno Nobel Default Threshold (Proposed)
	If Recovered	If Unrecoverable/ Abandoned / Disposed	
AN Solution	Not Reportable if it can be used as a product	45 Kg (100 lbs) as released oxidizer (not media specific)	225 Kg (500 lbs)
	44 Kg (100 lbs) for ammonia if released into water	45 Kg (100 lbs) for ammonia if released into water	
	Report if released to Drinking Water (DW std at 10mg/L-N)	Report if released to Drinking Water (DW std at 10mg/L-N)	
	Report if released to aquatic ecosystem (NH3 toxic to fish)	Report if released to aquatic ecosystem (NH3 toxic to fish)	
AN Prill	Not Reportable if it can be used as a product	45 Kg (100 lbs) as released oxidizer (not media specific)	225 Kg (500 lbs)
	45 Kg (100 lbs) for ammonia if released into water	45 Kg (100 lbs) for ammonia if released into water	
	Report if released to Drinking Water (DW std at 10mg/L-N)	Report if released to Drinking Water (DW std at 10mg/L-N)	
	Report if released to aquatic ecosystem (NH3 toxic to fish)	Report if released to aquatic ecosystem (NH3 toxic to fish)	
SN Prill	Not Reportable if it can be used as a product	45 Kg (100 lbs) as released oxidizer (not media specific)	225 Kg (500 lbs)
	Report if released to Drinking Water (DW std at 10mg/L-N)	Report if released to Drinking Water (DW std at 10mg/L-N)	
Acetic Acid	453 Kg (1,000 lbs)	454 Kg (1,000 lbs)	225 Kg (500 lbs)
	Report if released to Drinking Water (DW std at 10mg/L-N)	Report if released to Drinking Water (DW std at 10mg/L-N)	
Sodium Nitrite	45 Kg (100 lbs)	45 Kg (100 lbs)	225 Kg (500 lbs)
	Report if released to Drinking Water (DW std at 1mg/L-N)	Report if released to Drinking Water (DW std at 1mg/L-N)	
Fuel Oil	Reportable if sheen on surface of pond, stream, etc. or sludge within such	Reportable if sheen on surface of pond, stream, etc. or sludge within such	225 Kg (500 lbs); 261 L (69 gallons)
	State Regulations - Varies from Any Amount to specific Trigger Amounts	State Regulations - Varies from All Spills to specific Trigger Amounts	
	95 L (25 gallons) from UST	96 L (25 gallons) from UST	
Mineral Oil	Reportable if sheen on surface of pond, stream, etc. or sludge within such	Reportable if sheen on surface of pond, stream, etc. or sludge within such	225 Kg (500 lbs); 261 L (69 gallons)

	State Regulations - Varies from Any Amount to specific Trigger Amounts	State Regulations - Varies from All Spills to specific Trigger Amounts	
	95 L (25 gallons) from UST	96 L (25 gallons) from UST	
Emulsifier Agents	Reportable if sheen on surface of pond, stream, etc. or sludge within such	Reportable if sheen on surface of pond, stream, etc. or sludge within such	225 Kg (500 lbs); 261 L (69 gallons)
	State Regulations - Varies from Any Amount to specific Trigger Amounts	State Regulations - Varies from All Spills to specific Trigger Amounts	
Granular Aluminum	Not Reportable	Not Reportable	225 Kg (500 lbs)
ANFO	Not Reportable if it can be used as a product	45 Kg (100 lbs) as released oxidizer (not media specific)	225 Kg (500 lbs)
	45 Kg (100 lbs) for ammonia if released into water	45 Kg (100 lbs) for ammonia if released into water	
	Report if released to Drinking Water (DW std at 10mg/L-N)	Report if released to Drinking Water (DW std at 10mg/L-N)	
	Report if released to aquatic ecosystem (NH3 toxic to fish)	Report if released to aquatic ecosystem (NH3 toxic to fish)	
	Reportable if sheen on surface of pond, stream, etc.	Reportable if sheen on surface of pond, stream, etc.	
Emulsion	Not Reportable if it can be used as a product	45 Kg (100 lbs) as released oxidizer (not media specific)	225 Kg (500 lbs)
	44 Kg (100 lbs) for ammonia if released into water	45 Kg (100 lbs) for ammonia if released into water	
	Report if released to Drinking Water (DW std at 10mg/L-N)	Report if released to Drinking Water (DW std at 10mg/L-N)	
	Report if released to aquatic ecosystem (NH3 toxic to fish)	Report if released to aquatic ecosystem (NH3 toxic to fish)	
	Reportable if sheen on surface of pond, stream, etc. or sludge within such	Reportable if sheen on surface of pond, stream, etc. or sludge within such	
Ethylene Glycol	2250 Kg (5000 lbs)	2250 Kg (5000 lbs)	225 Kg (500 lbs)
Sodium Thiocyanate	45 Kg (100 lbs)	45 Kg (100 lbs)	225 Kg (500 lbs)
	Report if released to Drinking Water (DW std at 1mg/L-N)	Report if released to Drinking Water (DW std at 1mg/L-N)	

8.0 DECONTAMINATION

8.1 DNCI's Standard Operating Procedures and safety rules establish work practices that minimize employees' direct and indirect contact with hazardous substances.

8.2 Equipment, rubber boots, gloves and clothes that have been contaminated can be washed with soap and water. Wash water should be collected and disposed of in an approved manner with other contaminated material.

9.0 WORKSITE CLOSURE / SHUT DOWN

9.1 **Plant Shutdown** **(use appropriate lock-out/tag-out procedures)**

- In the event that a plant is shut down due to weather, flood, or other adverse situation, the Plant Manager / Supervisor or his delegate will ensure that all non-essential power is shut off. The Plant Manager / Supervisor will secure all valves and flow devices so as to prevent accidental opening.
- The Plant Manager / Supervisor shall determine if any raw material or raw material storage will be contaminated or at risk of fire/explosion, and take steps to move the material or isolate it from the contamination / hazard source.
- If the power and/or gas will create a dangerous situation the Plant Manager / Supervisor will cut the outside supply of power, thereby isolating all plant equipment.
- The Plant Manager /Supervisor will advise local Mine authorities of the plant shutdown and preventative actions taken.
- All sensitive documents must be secured.

9.2 **Magazine Closure** **(use appropriate lock-out/tag-out procedures)**

- In the event that a magazine is closed due to weather, flood, or other adverse situation, the Supervisor/Manager or his delegate will ensure that all non-essential power is shut off. Also, the Supervisor/Manager will ensure that all magazines and compound gates are locked before leaving the site.
- The Supervisor/Manager shall determine if any products or raw materials will be contaminated and take steps to move the material or isolate it from the contamination source.
- If power and/or gas will create a dangerous situation the Supervisor/Manager will cut the outside supply of power, thereby isolating all magazine equipment.

10. <u>RESPONSE TO NATURAL DISASTER</u>

Hurricanes, tornadoes, floods, slides, forest fires, and earthquakes, have the ability to damage or destroy everything in their path. Yet much of the damage or destruction associated with such phenomena is the result of some secondary event, e.g. fallen power lines, ruptured tanks valves, pipes etc. If reasonable warning of an approaching disaster is received, efforts can be made to minimize damage by taking specific preventative measures. These measures are outlined in the following procedures.

1. Consult the Site Supervisor for guidance and proceed according to his direction. **SEE SITE SPECIFIC POTENTIAL HAZARDS APPENDIX 10**
2. If so directed, notify key personnel regarding the action being taken.
3. Collect important files, records and papers for safekeeping.
4. Open main electrical breaker to cut off all power to the site. (The main breaker is marked for easy identification).
5. Secure all buildings and equipment and lock the site gate.
6. Evacuate the site taking mobile equipment to safety.
7. Post Guards on site access routes to monitor the activities of unauthorized personnel.
8. A report of the incident must be submitted to the Area Manager within 24 hours.

10.1 PREVENTIVE MEASURES

10.2 <u>Waste Disposal Permits</u>

If nitrate waste is generated, a disposal permit must be obtained and kept up to date if the product will be disposed of off-site, or in mine tailings. Permits to dispose of other collected waste in the event of spills or leaks (such as described in Section 6.3) must also be obtained in consultation with mine / provincial environmental representatives

10.3 <u>Liquid Containment</u>

All fuel / oil storage tanks must be dyked according to the provisions of Federal and/or Provincial regulations (eg. National Fire Code, Environmental Protection Act), or have a double-walled tank.

A plan must be in place and materials on hand to create a dyke in the event of a large fuel or solution leak or spill or other emergency spill situation.

10.4 <u>Inspection</u>

All site emergency storage areas and equipment must be inspected monthly by qualified personnel, monthly for physical condition and serviceability, and the results recorded according to quality and safety standard operating procedures.

All recommendations/orders made by NRC Explosives Branch inspectors, Fire Marshals and insurance inspectors must be responded to and acted upon accordingly. Copies of their reports are to be forwarded to DNCI's HSE representative for the region.

10.5 **Maintenance**
All preventive and breakdown maintenance must be carried out and recorded in accordance with standard operating procedures.

11.0 WORK SITE START UP (Restoration of Business)

11.1 Before startup, the condition prompting the shutdown / closure must be over / corrected (i.e. flood, fire, explosion or blizzard).

11.2 All decontamination procedures must be followed and the site cleared and cleaned of any environmental waste hazards.

11.3 All repairs to plant equipment involving safety shutdowns and essential operating machinery must be completed.

11.4 All electrical circuits, plumbing and piping must be tested.

11.5 The Work Site Supervisor / Manager will ensure that all lockout and tag-out procedures have been followed and signed off.

11.6 The Work Site Supervisor / Manager will start up the facility by turning on individual switches to the components that have been shutdown.

11.7 Operational checks will be done to ensure that all equipment is functioning at safe working pressures and voltage.

11.8 The Work Site Supervisor / Manager will give the verbal "all clear" before workers will be allowed to return to work.

11.9 The Work Site Supervisor / Manager or one of their delegates will cancel / remove all roadblocks, terminate evacuation activities, and notify employees to return to normal activities.

APPENDIX 1

Basic Investigation Report

(Factual Report not prepared Under Legal Professional Privilege)

Incident Title	
Incident No.	
Incident Date	
Site	
Department / Location	
Report Author	
Report Date	
Investigation Manager	
Investigation Team Members	
Report Distribution	

Who was involved? **name, job, title**
When did it happen? **date & exact time**
Where did it happen? **The exact location**
What was the person doing at the time? **What product or equipment was involved**
What went wrong? **Not your opinion, only factual information. Eg: an operator fell off a ladder, the hose broke; spill / quantity**
What happened? **Describe the sequence and timing of events**
Immediate Control Actions **What first aid treatment was given and or actions taken (valve turned off, electricity isolated) immediately after the incident to make the situation safe**
Interim Control Action **The interim corrective actions to prevent re-occurrence**

5-Why Analysis - Consolidate the information above into a flow chart Double click on chart to enter visio and update as required

Contributing factors **What factors combined to make the situation unsafe – in descending order of importance**
Root Cause **What were the root causes identified in the 5Why analysis – in descending order of importance**

Corrective Action	**Who**	Due Date

Comments

APPENDIX 2

DNCI Corporate contact

Name	Position	Cell number
Benoit Choquette	Environmental Manager - Canada	(514) 246-6285
Seamus Kilcommons	H&S Manager Western Canada	(403) 815-4066
Tim Marles	H&S Advisor Artic	(403) 723-7540
Willard Pierce	Regional Manager West/ Central Canada	(403) 836-9029
Hubert Fafard	H&S Manager Eastern Canada	(418) 570-9257
Greg Brown	Sales Manager Western	(403) 512-5127
Ralph Olson	Operations Manager of Western Canada	(250) 713-8720
Randy Armella	Bulk Operations Manager	(780) 865-6580
Rick Chopp	H&S Manager – Central Canada	(705) 498-2855
Pierre St Georges	Regulatory Affairs Coordinator	(613) 677-1051
Cory Redwood	General Manager Western Canada	(867) 444-8533

APPENDIX 3

DNCI Emergency Response Advisors (ERA) per area

Name	Position	Cell number	Area (West, Central or East)
Tom Medak	Mgr, Bulk operations	(403) 818-4434	West / Arctic
Dennis Wall & Doug Robertson	Meadowbank Operations Supervisors	(867) 793-4610 opt 2 ext 6804 Cell (867) 222-3930	Arctic
Seamus Kilcommons	H&S Manager Western Canda	(403) 815-4066	West
Tim Marles	H&S Advisor Arctic	(403) 723-7540 office	Artic
Tyrone McClean	Operations manager, Manitoba and Saskatchewan	(204) 687-0046	Central
Corey Rachuk	Plant Supervisor – Flin Flon	(204) 687-0028	Central
Joss Forget	Operations Manager Northern Ontario	(705) 471- 8745	East
David Roy	Manager Plant operations	(418) 570-5604	East
Francois Lambert	Operations Manager	(514) 212-3490	East
Daniel Roy	Dyno Consult , Ste-Sophie	(514) 213-5889	East

APPENDIX 4
SITE: QAAQTUQ / Meadowbank Operations

MANAGEMENT AND WORK SITE CONTACT LIST

NAME	TITLE	BUSINESS PHONE	2 WAY RADIO	CELL PHONE
Dennis Wall	Site Supervisor	(867)793-4610 opt#2 ext 6804		(867) 222-3930
Doug Robertson	Site Supervisor	((867)793-4610 opt#2 ext 6804		(867) 222-3930
Tom Medak	Bulk Manager	(403) 236-9160		(403) 818-4434
Tim Marles	H&S Advisor Arctic	403 723-7540		TBA
Seamus Kilcommons	H&S Manager	(403) 236-9160		(403) 815-4066
Benoit Choquette	Environmental Manager	(450) 818-7176		(514) 249-6285
Pierre St George	Regulatory Affairs Coordinator	(613) 632-5844		(613) 677-1051

Agnico-Eagle Mines Ltd. – Meadowbank WORK SITE CONTACT LIST

NAME	TITLE	BUSINESS PHONE	2 WAY RADIO	CELL PHONE
Meadowbank Mine		(867)793-4610		
Julie Belanger	Agnico-Eagle	(867)793-4610 ext 6721		

EXTERNAL CONTACT NUMBERS

ORGANIZATION/CONTACT	LOCATION	PHONE NUMBER
NT Oil & Chemical Spills	Iqaluit, NU	(867) 979-8130
Environment Canada, NT	Yellowknife, NT	(867) 669-4700
NRC / Explosives Branch	Ottawa	(613) 995-5555
RCMP	Baker Lake, NU	(867) 793-1111 or (867)-793-0123
RCMP 'G' Division	Yellowknife, NT	(867)669-5100

APPENDIX 5

Area Office Address:
Agnico-Eagle Mines Ltd. - Meadowbank
PO BOX 540
Baker Lake, Nunavut
X0C 0A0

Type of Facility:
Bulk Explosives Site

Customer/Client Information:
Customer: Agnico-Eagle
Contact:
Title:

Evacuation and Emergency Meeting Place Upon Evacuation:
As identified on site orientation forms (Designated Muster Points)

Emergency Shutdown switch location:

"ONLY A CERTIFIED PERSONELLE ARE TO ACTIVATE THIS SWITCH"

Magazine and Plant Site Address:

NRC License:

Agnico-Eagle Meadowbank Mine

Site Plan and Evacuation Route:
Posted in site offices – site specific orientations required

Site Rescue Plans:
Site Supervisor or designate to conduct review of attendance sheet. If employees, visitors or contractors are unaccounted for, Site Supervisor will advise mine LPO of unaccounted persons and last known location. Site Supervisor shall attend last known location with mine rescue team and jointly determine potential hazards of re-entering area to locate unaccounted for persons. Site Supervisor and Rescue team entering the evacuated area must don all required PPE due to unknown potential dangers that may have come about. Proper fire retardant suits, SCBA and/or other PPE as determine by the site to protect rescuers from becoming overcome by physical, chemical or other hazards. If determined safe to enter site and/ or buildings, a counter clockwise sweep of the area is to be conducted.

Medical Emergencies: In the unlikely event of a medical emergency, the site shall ensure that it is compliant to OH&S Code. As per legislation requirements, the site shall have adequate first aiders and equipment to attend to individuals as required.

All incidents, first aid/ medical treatment/property damage/near miss or other, shall be in compliance with HSE MS Standard 9.2, which meets or exceeds legislative requirments.

Site First Aiders:	**LOCATION**	**PHONE NUMBER**
TBA		
Security (Mine Emergency Services –fire, EMS)		

Emergency Equipment On Hand:
Fire Extinguishers, Spill Kits, First Aid Kits, non-sparking shovels as outlined in site plan.

Delivery Vehicles:

Unit #	**Vehicle**	**(EVC/ETP) TC Permit #**	**Carrying Capacity (80% of Max.)**

APPENDIX 6
BOMB THREAT CHECKLIST

Exact time of call:
Exact words of caller:
QUESTIONS TO ASK
1- When is bomb going to explode?
2- Where is the bomb?
3- What does it look like?
4- What kind of bomb is it?
5-What will cause it to explode?
6- Did you place the bomb?
7- Why?
8- Where are you calling from?
9- What is your address?
10- What is your name?

CALLER'S VOICE (circle)

1-	Calm	Slow	Crying	Slurred
2-	Stutter	Deep	Loud	Broken
3-	Giggling	Accent	Angry	Rapid
4-	Stressed	Nasal	Lisp	Excited
5-	Disguised	Sincere	Squeaky	Normal

If voice is familiar, whom did it sound like?	
Were there any background noises?	
Remarks:	
Person receiving call:	Telephone number call received at:
Date:	Report call immediately to:

APPENDIX 7

Dyno Nobel Inc.
JOB-SPECIFIC ORIENTATION CHECKLIST

(Modify as needed to meet site-specific needs)
Employee Name: Job Title:
Location: Hire Date:

CHECK COMPLETED ITEMS. FOR ALL ITEMS THAT ARE NOT APPLICABLE, ENTER "NA" ON THE LINE RETURN COMPLETED AND SIGNED CHECKLIST TO APPROPRIATE HR REPRESENTATIVE

1. JOB SPECIFIC ORIENTATION TO DNA WORK SITE(S)

a. ____ DN Safety & Quality Policy
b. ____ General Safety Rules
c. ____ Site Specific Safety Rules and Instructions
d. ____ Products and Services
e. ____ Tour of Site
f. ____ Rest Rooms, Lockers, Eating Areas
g. ____ Dress and Uniform Standards
h. ____ Personal Protective Equipment
i. ____ First Aid Procedures
j. ____ How to Report Near-Misses and Accidents
k. ____ Workers' Compensation and Return to Work
l. ____ Smoking Policy and Designated Areas
m. ____ Drug and Alcohol Policy
n. ____ Site Emergency and Evacuation Plans
o. ____ Fire Extinguishers
p. ____ DN Crisis Communication Plan
q. ____ Parking and Traffic Plan
r. ____ Security Issues
s. ____ Electrical Hazards
t. ____ Review Job Description
u. ____ Take 5 Program
v. ____ Site Specific SOPs

2. OCCUPATIONAL HEALTH AND SAFETY ACT - REGULATION (OHSA)

a. ____ Mobile Equipment (Forklifts/Bobcats)
b. ____ Review Site MSDS
c. ____ Confined Spaces
d. ____ Lockout/Tagout
e. ____ DNA Hearing Conservation
f. ____ Bloodborne Pathogens
g. ____ Worker's Rights

3. ENVIRONMENT CANADA

a. ____ Spill/Release Reporting
b. ____ Proper disposal of Waste
c. ____ Waste Minimization/Pollution Prevention
d. ____ Used Oil Management
e. ____ Drum/Container Management

4. TRANSPORTATION CANADA (TDG)

a. ____ Road Test
b. ____ TDG Transportation
c. ____ TDG Hours of Service Policy
d. ____ Pre and Post Inspections

5. NATURAL RESOURCES CANADA, EXPLOSIVES SAFETY AND SECURITY BRANCH

a. ____ Site Security Plans / Key Policy
b. ____ Magazine Rules
c. ____ Inventory Accuracy
d. ____ Guidelines for bulk explosive facilities

6. QUESTIONS AND SUMMARY

_
__
_ Ask employee if there are any questions or areas of employment not clearly understood. Advise employee what's next.
Comments
: ____

____________________________________ ____________ _________________________________ _____________ Employee
Signature Date Trainer/Supervisor Signature Date

Job Specific Orientation Page 1 of 1 Canadian Standard Revised 12/17/09

APPENDIX 8

ANNUAL FIRE DEPARTMENT REVIEW FORM

Information to be released to Emergency Services

From: Local Emergency Services

Subject: Emergency Response Plan for ______________________________.

The following is a copy of the Emergency Response Plan that has been prepared by Dyno Nobel Inc. Has been received from ________________ operations. The ERP has been discussed and being kept on file for future reference. If questions arise, we have been given the contact information for the __________________________ operations staff.

Signed:_______________________________________

Position:______________________________________

Date:____

EMERGENCY RESPONSE REPORT/DEBRIEF TEMPLATE (found in NEXUS Std 9.1)

Site:.. **Date**: .... **Drill or Actual Event** (circle)

Emergency Call placed with: Mine Emergency ☐ 911 ☐

Supervisor/Manager Advised: ☐

Incident Details:

Sequence of Events

Time	Activity	By

Gaps Identified:

	Details of Gaps Identified	*Action Required
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

A report should be raised in SHAERS/ICARUS listing all gaps identified and action required.

Fax completed form to Health & Safety Advisor for your site

APPENDIX 9
Transportation of Dangerous Goods Regulation
Class Quantity Emission Limit

1	Any quantity that could pose a danger to public safety or 50 kg
2	Any quantity that could pose a danger to public safety or any sustained release of 10 minutes or more
3	200 L
4	25 kg
5.1	50 kg or 50 L
5.2	1 kg or 1 L
6.1	5 kg or 5 L
6.2	Any quantity that could pose a danger to public safety or 1 kg or 1 L
7	Any quantity that could pose a danger to public safety. An emission level greater than the level established in section 20 of the *Packaging and Transport of Nuclear Substances Regulations*
8	5 kg or 5 L
9	25 kg or 25 L

Table identified in Section 8.1(1) of Part 8 of the Transportation of Dangerous Goods Regulation Class Quantity Emission Limit

APPENDIX 10

Emergency Risk Assessment

Site Emergency Response Plan should be based upon a risk assessment of all types of probable emergencies and regulatory impact (as found in NEXUS Std 9.1)

Location Date Analysis Completed Completed by:

Emergency Type	Scenario(s)	Safeguards	Historical Frequency	Future Risk Potential	Loss Severity Rate	Probable Emergency 8+ to be in plan	Regulatory Notifications	Actions / Remarks
Bomb Threat								
Chemical Spill/Release								
Security								
Explosion								
Fire								
Loss/Theft of Explosives								
Equipment								
Process Loss/Interruption								
Catastrophic Injury/Illness								
Trespassing/Vandalism								
Extreme Temperatures								
Earthquake								
Hurricane								
Tornado								
Severe Flooding								
OFF SITE								
Blast Site Incident								
Fire (Forest/Brush)								
Neighboring Facility Incident								
Transportation Vehicle Accident								
Transportation Fire/Explosion Incident								
Transportation Chemical Spill								
Transportation Vehicle Breakdown								

Emergency Assessment Score Information **- Use to evaluate Emergency Type level of risk**

Historical Frequency	Score	Future Risk Potential	Score	Loss Severity Rate	Score	Probability Total A & B (8+) to be in plan
Several Time per Year	5	Several Time per Year	5	Catastrophic	5	
One Time per Year	4	One Time per Year	4	Major/Critical	4	12 or higher
Once Every 3-5 Years	3	Once Every 3-5 Years	3	Serious	3	8-11
Less than Once Every 10 Yrs	2	Less than Once Every 10 Yrs	2	Negligible- No Loss	2	Less and 8
Very Unlikely to Happen Ever	1	Very Unlikely to Happen Ever	1	No Loss Occurrence	1	

APPENDIX 4

MSDS FOR BULK EMULATION AND PRESPLIT

1. MSDS – Dyno Gold Lite Bulk Emulsion

2. MSDS – Detagel Presplit

Material Safety Data Sheet

Dyno Nobel Inc.
2650 Decker Lake Boulevard, Suite 300
Salt Lake City, Utah 84119
Phone: 801-364-4800 Fax: 801-321-6703
E-Mail: dnna.hse@am.dynonobel.com
FOR 24 HOUR EMERGENCY, CALL CHEMTREC (USA) 800-424-9300
CANUTEC (CANADA) 613-996-6666

MSDS # 1052
Date [redacted]

Supercedes
MSDS # 1052 03/21/05
Added Dyno® RG3

SECTION I - PRODUCT IDENTIFICATION

Trade Name(s): DYNO GOLD® C, DYNOGOLD® C EXTRA
DYNO GOLD® C LITE, DYNO GOLD® C LITE SUPER
DYNO GOLD® CS LITE
DYNO GOLD®, DYNO GOLD® LITE
DYNO GOLD® B, DYNO GOLD® B LITE
HD
1116, 1126P, 1136P, 1146P
IREMEX 362, IREMEX 562, IREMEX 762, IREMEX 764
RJ5
RG1-A
RUG-1 (Canada Only)
DX 5007; DX 5010
DX 5013; DX 5013G; DX 5013 PB
TITAN®XL1000
TITAN® 1000, TITAN® 1000 G, TITAN® PB 1000
DYNO® RG3

Product Class: Bulk Emulsion

Product Appearance & Odor: Translucent to opaque, viscous liquid. May be silvery in color. May have fuel odor.

DOT Hazard Shipping Description: As Transported:
Oxidizing Liquid, n.o.s. (Ammonium Nitrate) 5.1 UN3139 II
After Blending with Density Control Agent On-site:
Explosive, Blasting, Type E 1.5D UN0332 II

NFPA Hazard Classification: Not Applicable (See Section IV - Special Fire Fighting Procedures)

SECTION II - HAZARDOUS INGREDIENTS

Ingredients:	CAS#	% (Range)	ACGIH TLV-TWA
Ammonium Nitrate	6484-52-2	30-80	No Value Established
Sodium Nitrate[1*]	7631-99-4	0-15	No Value Established
Calcium Nitrate	10124-37-5	0-35	No Value Established
Fuel Oil	68476-34-6	0-10	100 ppm
Mineral Oil	64742-35-4	0-7	5 mg/m^3
Aluminum *	7429-90-5	0-5	10 mg/m^3

[1] Our source of Sodium Nitrate (Chilean) may contain perchlorate ion, which occurs naturally. Although Dyno Nobel does not analyze for the presence of perchlorate anion, based on published studies, the products listed above may contain between 0 and 300 ppm perchlorate.
* The hazardous ingredients marked with an asterisk are not found in the majority of listed products.

Ingredients, other than those mentioned above, as used in this product are not hazardous as defined under current Department of Labor regulations, or are present in deminimus concentrations (less than 0.1% for carcinogens, less than 1.0% for other hazardous materials).

SECTION III - PHYSICAL DATA

Boiling Point: Not Applicable
Vapor Density: (Air = 1) Not Applicable
Percent Volatile by Volume: <30

Evaporation Rate (Butyl Acetate = 1): <1

Vapor Pressure: Not Applicable
Density: 0.8 - 1.5 g/cc
Solubility in Water: Nitrate salts are completely soluble, but emulsion dissolution is very slow.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point: Not Applicable
Flammable Limits: Not Applicable
Extinguishing Media: (See Special Fire Fighting Procedures Section)
Special Fire Fighting Procedures: Do not attempt to fight fires involving explosive materials or emulsion explosive precursors. Evacuate all personnel to a predetermined safe location, no less than 2,500 feet in all directions.
Unusual Fire and Explosion Hazards: May explode or detonate under fire conditions. Burning material may produce toxic vapors.

SECTION V - HEALTH HAZARD DATA

Effects of Overexposure

Eyes: Can cause irritation, redness and tearing.
Skin: Prolonged contact may cause irritation.
Ingestion: Large amounts may be harmful if swallowed.
Inhalation: May cause dizziness, nausea or intestinal upset.
Systemic or Other Effects: *Perchlorate*: Perchlorate can potentially inhibit iodide uptake by the thyroid and result in a decrease in thyroid hormone. The National Academy of Sciences (NAS) has reviewed the toxicity of perchlorate and has concluded that even the most sensitive populations could ingest up to 0.7 microgram perchlorate per kilogram of body weight per day without adversely affecting health. The USEPA must establish a maximum contaminant level (MCL) for perchlorate in drinking water by 2007, and this study by NAS may result in a recommendation of about 20 ppb for the MCL.

Emergency and First Aid Procedures

Eyes: Irrigate with running water for at least fifteen minutes. If irritation persists, seek medical attention.
Skin: Remove contaminated clothing. Wash with soap and water.
Ingestion: Seek medical attention.
Inhalation: Remove to fresh air. If irritation persists, seek medical attention.
Special Considerations: None.

SECTION VI - REACTIVITY DATA

Stability: Stable under normal conditions. May explode when subjected to fire, supersonic shock or high-energy projectile impact, especially when confined or in large quantities.
Conditions to Avoid: Keep away from heat, flame, ignition sources and strong shock.
Materials to Avoid (Incompatibility): Corrosives (strong acids and strong bases or alkalis).
Hazardous Decomposition Products: Nitrogen Oxides (NO_X), Carbon Monoxide (CO)
Hazardous Polymerization: Will not occur.

SECTION VII - SPILL OR LEAK PROCEDURES

Steps to be taken In Case Material is Released or Spilled: Protect from all ignition sources. In case of fire evacuate area not less than 2,500 feet in all directions. Notify authorities in accordance with emergency response procedures. Only personnel trained in emergency response should respond. If no fire danger is present, and product is undamaged and/or uncontaminated, repackage product in original packaging or other clean DOT approved container. Ensure that a complete account of product has been made and is verified. Follow applicable Federal, State and local spill reporting requirements.
Waste Disposal Method: Disposal must comply with Federal, State and local regulations. If product becomes a waste, it is potentially regulated as a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR, part 261. Review disposal requirements with a person knowledgeable with applicable environmental law (RCRA) before disposing of any explosive material.

SECTION VIII - SPECIAL PROTECTION INFORMATION

Ventilation: Not required for normal handling.
Respiratory Protection: None normally required.
Protective Clothing: Gloves and work clothing that reduce skin contact are suggested.
Eye Protection: Safety glasses are recommended.
Other Precautions Required: None.

SECTION IX - SPECIAL PRECAUTIONS

Precautions to be taken in handling and storage: Store in cool, dry, well-ventilated location. Store in compliance with Federal, State and local regulations. Keep away from heat, flame, ignition sources and strong shock.
Precautions to be taken during use: Avoid breathing the fumes or gases from detonation of explosives. Use accepted safe industry practices when using explosive materials. Unintended detonation of explosives or explosive devices can cause serious injury or death.
Other Precautions: It is recommended that users of explosives material be familiar with the Institute of Makers of Explosives Safety Library publications.

SECTION X - SPECIAL INFORMATION

The reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372 may become applicable if the physical state of this product is changed to an aqueous solution. If an aqueous solution of this product is manufactured, processed, or otherwise used, the nitrate compounds category and ammonia listings of the previously referenced regulation should be reviewed.

Material Safety Data Sheet

Disclaimer

Dyno Nobel Inc. and its subsidiaries disclaim any warranties with respect to this product, the safety or suitability thereof, the information contained herein, or the results to be obtained, whether express or implied, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND/OR OTHER WARRANTY. The information contained herein is provided for reference purposes only and is intended only for persons having relevant technical skills. Because conditions and manner of use are outside of our control, the user is responsible for determining the conditions of safe use of the product. Buyers and users assume all risk, responsibility and liability whatsoever from any and all injuries (including death), losses, or damages to persons or property arising from the use of this product or information. Under no circumstances shall either Dyno Nobel Inc. or any of its subsidiaries be liable for special, consequential or incidental damages or for anticipated loss of profits.

Detagel Presplit

Material Safety Data Sheet

5700 N. Portland, Suite 301 / Oklahoma City, OK 73112 / Phone: (405) 947-0765 / Fax: (405) 947-0768

SECTION 1 - PRODUCT INFORMATION

TRADE NAME:	Presplit
SYNONYM:	NA
CHEMICAL FAMILY:	Watergel Slurry High Explosive
FORMULA:	Mixture
CAS NUMBER:	None
UN/NA NUMBER:	UN0241
DOT HAZARD CLASS:	Explosive, Blasting, Type E, Class 1.1 D

SECTION 2 - HEALTH ALERT

DANGER - If misused or disposed of improperly, material could explode and cause death or serious injury.
DO NOT HANDLE WHEN IN DOUBT!!
See section VIII - Personal Protection
CHEM-TEL, INC. (800) 255-3924.

SECTION 3 - HEALTH HAZARD INFORMATION

EYE: May cause moderate irritation.
SKIN: May cause moderate irritation characterized my redness and/or rash.
INHALATION: Inhalation of decomposed products may irritate the respiratory tract. Prolonged exposure to these fumes may result in respiratory difficulties (shortness of breath, etc.) and possibly more severe toxic effects.
INGESTION: Swallowing large quantities may cause toxicity characterized by dizziness, bluish skin coloration, methemoglobinemia, unconsciousness, abdominal spasms, nausea, and pain.

SECTION 4 - EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: Flush with large amounts of water. Seek medical aid.
SKIN CONTACT :Remove contaminated clothing. Wash skin thoroughly with soap and water.
INHALATION: Remove from exposure. If breathing stops or is difficult, administer artificial respiration or oxygen. Seek medical aid.
INGESTION: Give 8-16 oz. of milk or water. Induce vomiting. Seek medical aid.

SECTION 5 - RECOMMENDED OCCUPATIONAL EXPOSURE LIMIT/ HAZARDOUS INGREDIENTS
EXPOSURE LIMIT (PRODUCT): None required for product. *React to form Hexaminedinitrate

HAZARDOUS INGREDIENTS:	PERCENT	EXPOSURE LIMIT	PPM	MG/M3
Ammonium Nitrate	<65%	NONE		
Sodium Nitrate	<20%	NONE		
Sodium Perchlorate	<7%	NONE		
Nitric Acid*	<5%	ACGIH - TLV	2	5
Hexamine*	<15%	NONE		
Aluminum	<7%	ACGIH - TLV		
Pentaerythritol Tetranitrate	<2%	NONE		

NOTE: All ingredients are present in a gelled slurry matrix and individual hazard may not be present in this formulation.

SECTION 6 - REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY: Heat (confinement); Stacking (burning).
INCOMPATIBILITY: Can react violently or explode, with reducing agents and organic materials. Avoid amines, strong alkalies & acids. ***HAZARDOUS REACTION / DECOMPOSITION PRODUCTS:*** At high temperatures, especially >374 F, may emit severe toxic fumes of nitrogen oxides. ***CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION:*** Not applicable.

SECTION 7 - FIRE AND EXPLOSION HAZARD INFORMATION

FLASH POINT & METHOD: NA ***AUTO IGNITION TEMPERATURE:*** Explodes ***FLAMMABLE LIMITS (% BY VOLUME/AIR): LOWER:*** NA ***UPPER:*** NA ***EXTINGUISHING MEDIA:*** Water ***FIRE-FIGHTING PROCEDURES:*** When explosive is burning, ***EVACUATE AREA.*** Avoid breathing vapor. Don't disturb fire, as dusty cloud containing aluminum may form explosive mixture with air. ***FIRE & EXPLOSION HAZARDS:*** Dangerous when exposed to heat or flame. Can support combustion of other materials involved in a fire and is capable of undergoing detonation if heated to high temperatures, especially under confinement including being piled on itself in a burning fire. When heated to decomposition, highly toxic fumes may be emitted. Do not return to area of explosion until smoke and fumes have dissipated. Dry alkali or amine salts are explosive.

Detagel Presplit

Material Safety Data Sheet

SECTION 7 - FIRE AND EXPLOSION HAZARD INFORMATION (con't.)

Internally, product contains detonating cord, consisting of flexible cord with and explosive core of PETN (pentaerythritol tetranitrate) within a textile casing covered by a seamless polyethylene jacket. This portion, if removed from the cartridge, may explode when subjected to fire or shock. PETN crystals, if separated or spilled, are substantially more sensitive to initiation by impact and friction than other components of the product, and care should be taken to avoid shock, friction, and excessive heat.

SECTION 8 - PERSONAL PROTECTION INFORMATION

EYE PROTECTION: Safety goggles approved for the handling of explosives materials.
SKIN PROTECTION: Neoprene, natural rubber, polyethylene or polyvinyl chloride gloves. Use barrier creams, hand protection and protective clothing. ***RESPIRATORY PROTECTION:*** Not normally required. Mechanical filter or supplied air type respirator as required for concentrations exceeding the occupational exposure limit.
VENTILATION: Maintain adequate ventilation. Use local exhaust if needed.

SECTION 9 - PERSONAL HANDLING INSTRUCTIONS

HANDLING: Explosives should not be abandoned at any location for any reason. Do not handle during electrical storms.
STORAGE: Store in a cool, dry, well-ventilated area remote from operations. Storage area should be of non-combustible construction and in accordance with appropriate BATF regulations. Organic materials, flammable substances and finely divided metals should be stored separately. Flames, smoking and unauthorized personnel are prohibited where this product is used or stored. Protect against physical damage, static electricity and lightning.
WARNING: Use of this product by persons lacking adequate training, experience and supervision may result in death or serious injury. Obey all Federal, State, and local laws / regulations applicable to transportation, storage, handling, and use of explosives.
DISTANCE: Always stay from area of explosion or disposal sites. Stay behind suitable barriers.

SECTION 10 - SPILL & LEAK PROCEDURES

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED (IN ADDITION, SEE SECTION 8): Isolate area. Eliminate ALL sources of ignition. Avoid skin contact. Scrape up. Remove soiled clothing.
WASTE DISPOSAL - USE APPROPRIATE METHOD(S): Disposal of unexploded or deteriorated explosives material can be hazardous. Expert assistance is positively recommended in destroying explosives. Accidents can be prevented by thorough planning and handling in accordance with approved methods. Consult your supervisor, or the nearest SEC Regional Office for assistance. If improperly disposed of, material could explode and cause death or serious injury.

In all cases, follow facility emergency response procedures. Contact Facility Environmental Manager for assistance. Report any discharge of oil or hazardous substance that may enter surface waters to the National Response Center (800) 424 - 8802.

Observe all applicable local, state, and federal environmental spill and water quality regulations.

SECTION 11 - PHYSICAL DATA

BOILING POINT: NA ***BULK DENSITY:*** 1.25 g/cc ***MELTING POINT:*** NA ***%VOLATILE BY VOLUME:*** NA
VAPOR PRESSURE: NA ***EVAPORATION RATE (ETHER=1):*** NA ***SOLUBILITY IN WATER:*** Negligible with short term exposure
APPEARANCE/ ODOR: Odorless ,gray/white gel packaged in polyethylene cartridges ***DECOMPOSITION POINT:*** 200 C

SECTION 12 - COMMENTS

This product is classified as a Class 1.1D High Explosive and must be stored in a high explosive magazine. Storage should be in a well constructed, well ventilated, dry structure located to conform with local, state, and federal regulations. The area surrounding an explosive magazine must be kept clear of combustible materials for a distance of 50 feet. Magazine floors and containers must be properly cleaned. Normal operating conditions are assumed unless otherwise stated. If any given information is not clear or does not apply to your situation, STOP, store the material suitably, and seek correct help from your supervisors, Institute of Makers of Explosives or Slurry Explosive Corporation.

Disposal sites must be clear of people at the time of disposal.

NOTICE: The data and recommendations presented herein are based upon data which are considered to be accurate. However, SEC makes no guarantee or warranty, either expressed or implied, of the accuracy or completeness of these data and recommendations. For more detailed information on the hazards of this product, contact the Regulatory Compliance Department at the address below:

Slurry Explosive Corporation
P. O. Box 348
Columbus, Kansas 66725
(620) 597-2552

Revised 6-2001

APPENDIX 5

EMULSION PLAN / BLAST AREA INSPECTION SHEET

Environmental Inspection Report for the Emulsion Plant Area and the Loading of Blast Holes

Date: **Inspected By:**

Location: Emulsion Plant

Weekly Inspection

In Compliance with	Subject	Conform	Non-conform	N/A	Comments
NWB Part B Item 15	Sign posted to inform of a waste disposal facility				
NWB Part D Item 29 MBK SCP NIRB Condition 26	Are there any visual spills?				
NWB Part F Item 19	All Hazardous Waste disposal is located 30m from the ordinary high water mark.				
NWB Part H Item 3	Resources in place to prevent any chemicals, petroleum products, or unauthorized Wastes from entering a water body.				
NWB Part H Item 4 Ammonia Management Plan	Is secondary containment for chemical storage provided.				
NWB Part I Item 9	Monitoring signs are posted in English, French, and Inuktitut.				
MBK SCP	Spill Kits Present				
NIRB Condition 26	Ensure that spills, if any, are cleaned up immediately and that the site is kept clean of debris, including wind-blown debris.				
NIRB Condition 25	Management and control waste in a manner that reduces or eliminates the attraction to carnivores and/or raptors.				

NIRB Condition 27 Ammonia Management Plan	Ensure the hazardous material are contained using environmentally protective methods based on practical best management practices				
	Are storage containers clearly labelled to identify Hazardous substance?				
Ammonia Management Plan	Are storage containers in good condition? Is there any visible damage or leaks? Can the doors be sealed shut?				
Ammonia Management Plan	Where necessary – Are containers with product stored in an upright position?				
Ammonia Management Plan	Do you see any potential environmental hazards posed by these HAZARDOUS containers/materials?				
BMP	Are there any additional environmental hazards/potential impacts that require attention?				
MINE ACT	Are there any Health and Safety issues that should be addressed to prevent injury to workers?				

Pit Location: **Blast Pattern#**

In Compliance with	Subject	Conform	Non-conform	N/A	Comments
NWB Part D Item 29 MBK SCP NIRB Condition 26	Are there any visual spills, including emulsion?				
Ammonia Management Plan	Is there presence of Emulsion outside of the holes that are being loaded?				
NWB Part F Item 19	All Hazardous Waste disposal is located 30m from the ordinary high water mark.				

NWB Part H Item 3	Resources in place to prevent any chemicals, petroleum products, or unauthorized Wastes from entering a water body.				
NWB Part H Item 4 Ammonia Management Plan	Is secondary containment for chemical storage provided?				
NIRB Condition 27 Ammonia Management Plan	Ensure the hazardous material are contained using environmentally protective methods based on practical best management practices				

Comments/Recommendations:

Environmental Personnel Name:
Signature: ____

Actions Corrected:
____
____
____
____
____

Site Service Supervisor Name: ____

Signature: ____

Picture 1:

Picture 2:

Picture 3: