AGNICO EAGLE

MEADOWBANK GOLD MINE

FRESHET ACTION AND INCIDENT RESPONSE PLAN

OCTOBER 2015

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 have and will be taken by AEM 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 sample location ST-16 (2013) and seepage from the mill (inside) containment structures through the Assay Road southwest of the mill (Mill Seepage - 2013). 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 extending 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 mining pits and pit walls, the East and West diversion ditches, Vault Road culverts, the areas around the Portage Waste Rock Storage Facility (RSF) including the northern portions of the NPAG waste rock extension, Vault Waste Rock Storage Facility, Northwest corner of the North Cell TSF, Saddle Dam 1 corner, Saddle Dam 2 sump, AWAR culverts near the site and along the road to Baker Lake, RSF – ST-16 Seepage, Assay Road (Mill) Seepage and the Vault Pit area.

It is important that all dewatering and associated infrastructure be in good working order and adequate to receive the expected water flows associated with the freshet period; this includes but is not limited to pumps, ditch 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 2015 preparation works and roles and responsibilities is presented in the attached Appendix 1 (2015 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 respose locations. Schedules 1 and 2 describe the monitoring programs for incident responses.

DOCUMENT CONTROL

Revision				Pages Revised	Remarks
#	Prep.	Rev.	Date		
01	AEM	Internal	April 2014	All	
02	AEM	Internal	May 2015	All	Comprehensive update from 2014 Plan
03	AEM	Internal	October 2015	All	Comprehensive update from May 2015 Plan

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1 INTRODUCTION

The purpose of this Freshet Action and Incident Response Plan is to ensure that AEM can address and manage excess water associated with the freshet season at the Meadowbank site and to ensure AEM has implemented specific management and mitigation measures in response to environmental incidents with potential for off site impacts to water or land.

The freshet season is loosely defined as 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 AEM 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 AEM 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 2015 procedures, the roles and responsibilities and associated timelines. AEM'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 the mining pits and pit walls, the East and West diversion ditches, Vault Road culverts, the area around the Portage Waste Rock Storage Facility (RSF) including the northern portions of the NPAG waste rock extension, Vault Waste Rock Storage Facility, Northwest corner of the North Cell TSF, Saddle Dam 1 corner, Saddle Dam 2 sump, AWAR culverts near the site and along the road to Baker Lake, RSF – ST-16 Seepage, Assay Road (Mill) Seepage and the Vault Pit area.

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 MINING PITS AND PIT WALLS

All permanent ramps, jump ramps, ditches and sumps must be cleaned of all ice and snow before the month of May in order to contain any water resulting from the snow melt. All pumps must be checked and serviced before the month of May. In addition, a check must be completed confirming that all piping systems starting from the different pits leading to the attenuation pond or the South Cell TSF 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 April 2015. All pumping equipment has been removed from the pit. Runoff water that accumulates in the Goose pit will now form part of the Goose pit reflooding process.

2.1.2 Portage pit

Water management in the Portage pit has been simplified since the mining of pits B, C and D has been completed. However, infrastructure is in place to prevent runoff water from reaching Pit A and E.

- A pond and ditch system south of Pit E pushback is presented in Figure 2-1. Runoff water accumulated in ponds GP-3, GP-4, GP-8 and Pond 8 will be pumped into Goose pit;
- A pumping station located in pit B (not shown) will be used to manage runoff water affecting the active mining production area in pit A. The water will be pumped to the South Cell Tailings Storage Facility (TSF); and
- A pumping station located in pit E (not shown) will be used to manage runoff water affecting the active mining production area in pit E. The water will be pumped to the South Cell TSF.

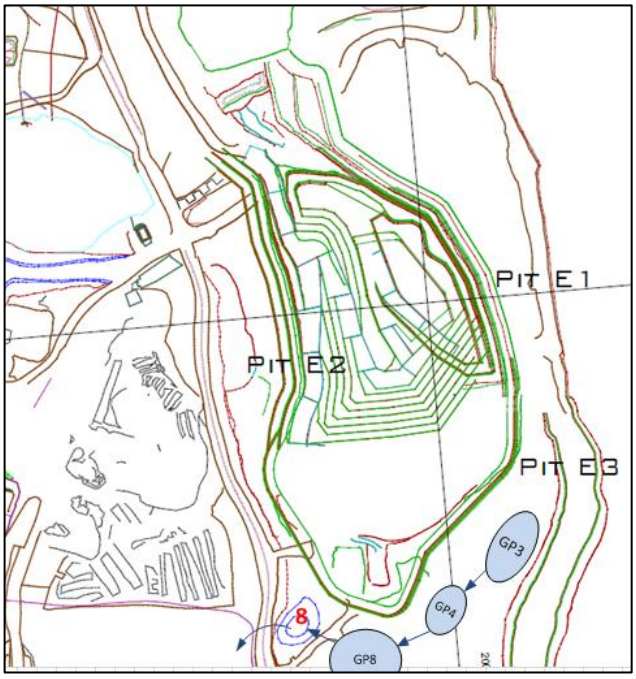

Figure 2-1: View of Portage Pit E area with the associated sumps and trenches

2.1.3 Vault Pit

Since the summer of 2014 (dewatering completed) Vault Lake is now used as an Attenuation pond. The light blue surfaces in Figure 2-2 represent four isolated ponds that form 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 that flows into the active mining areas will be pumped to the Attenuation pond.

Discharge from the Vault attenuation pond to Wally Lake may require treatment at the Vault WTP if the water quality does not meet discharge criteria. The Actiflo treatment plant is designed to remove TSS. A diffuser was installed in Wally Lake to meet the Type A Water License requirement. The Environmental department must be notified ten days before discharging any water to Wally Lake to comply with notification and sampling requirements. All piping and the discharge diffuser must be inspected in April in order to have all installations in place to proceed with pumping and/or treatment activities during freshet. The WTP will also be inspected and commissioned to be ready for the pumping season.

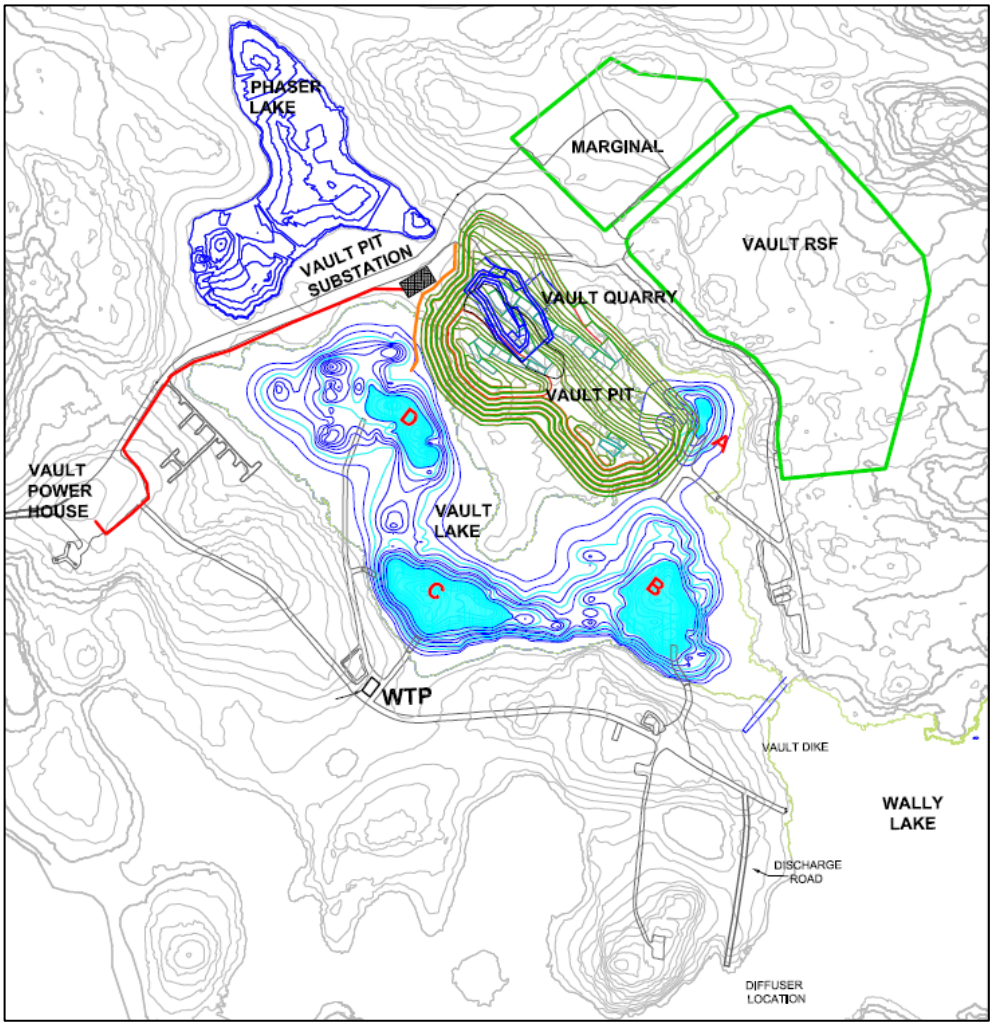

Figure 2-2: View of Vault Attenuation pond its associated ponds

2.2 WASTE ROCK STORAGE AREAS

2.2.1 PORTAGE RSF

The Portage Rock Storage Facility (RSF) will require weekly inspections around the perimeter beginning in mid-May 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 Engineering and Environment Departments and samples must be taken to determine the water quality and source. A mitigation plan will be prepared and implemented if necessary.

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. In the event that seepage is observed, the Engineering and Environment Departments 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 Vault Attenuation Pond and the waste rock from the Vault Pit is primarily NPAG.

2.3 NORTH CELL TAILINGS STORAGE FACILITY

Water management around the North Cell Tailings Storage Facility (TSF) is required to maintain integrity of the tailings pond 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.

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 dversion ditches have been identified where actions will be taken during or before freshet:

2. 1. AWAR culvert – Discharge to Third Portage Lake;
2. 2. West Diversion Ditch elbow;
2. 3. Northwest corner of North Cell TSF;
2. 4. East Diversion Ditch low point;
2. 5. East Diversion Ditch Outlet to NP-2 Lake;
2. 6. North portion of NPAG waste rock expansion; and
2. 7. Vault road culvert – NP-2 Lake exit to NP-1 Lake.

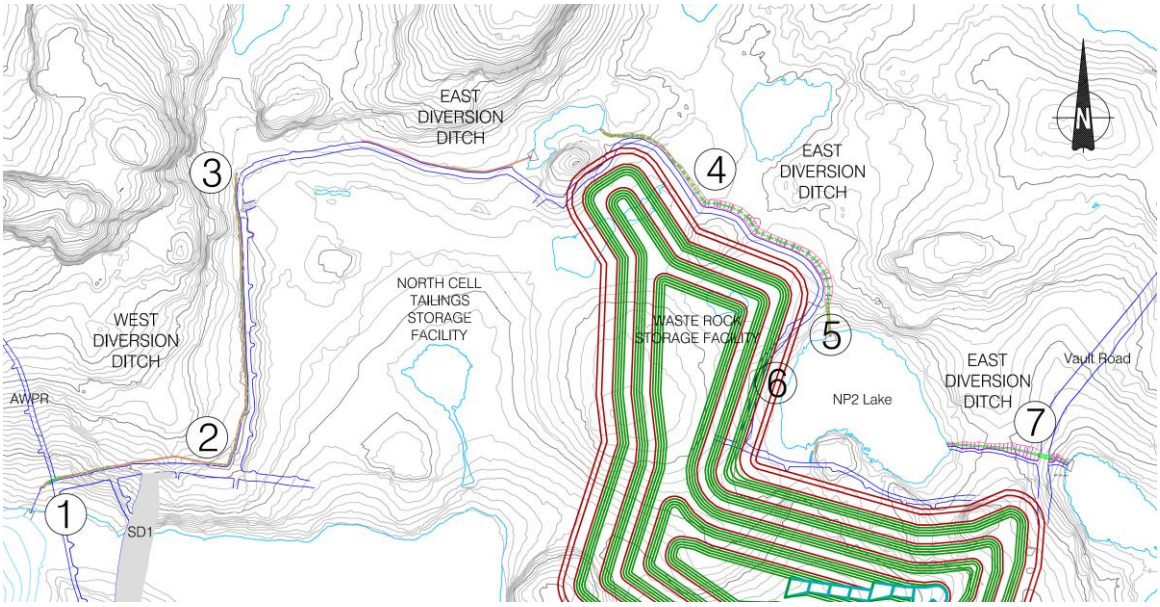

Figure 2-3: Location of the areas of interest for the 2015 diversion ditches freshet Action plan

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 needs to be removed in early May to prevent any back up in the West Diversion ditch. This could increase water levels upstream in the ditch causing problems discussed in Section 2.3.1.2. If necessary silt curtains will be installed at the discharge area to Third Portage Lake to control elevated TSS during the freshet period.

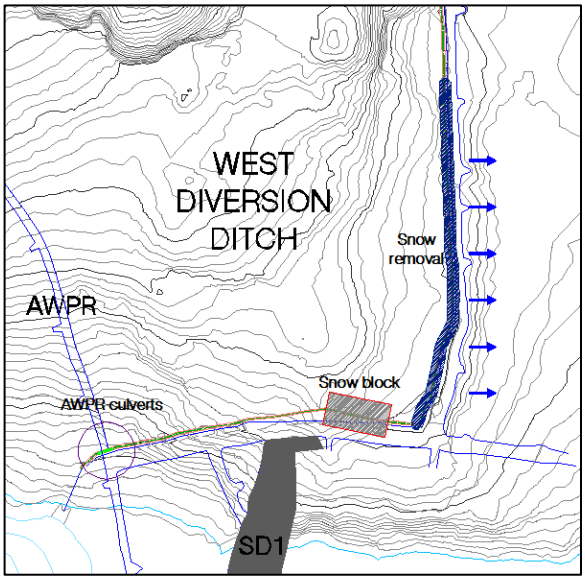

Figure 2-4: West diversion ditches area of interest

A turbidity barrier installed in 2014 has been left in place over the winter. Additional barriers can be installed after ice melt as a contingency. Daily inspections will be conducted starting in mid-May. 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), or visually elevated. If a discharge of TSS occurs, the Environment Department will notify DFO.

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 2013 a large accumulation of snow blocked the flow through this ditch at a location denoted by the red square. Water accumulated behind the blockage and raised upstream creating channels through the rockfill and into the North Cell TSF. In early May of each year, AEM 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, AEM constructed an interception sump located at the west diversion ditch elbow location in 2014. The sump has a capacity of 3000 m³. The sump is designed to intercept water coming from the most critical parts of the West Ditch. Sample monitoring will determine if there is any seepage from the TSF or elevated TSS from the ditch. If water does not meet discharge criteria it will be pumped back to the North Cell TSF. These measures will prevent any contaminated water from reaching Third Portage Lake. 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 during the freshet. Sample monitoring will also be conducted if necessary. Figure 2-5 shows the North Cell interception/settling sump after the completion of the construction.

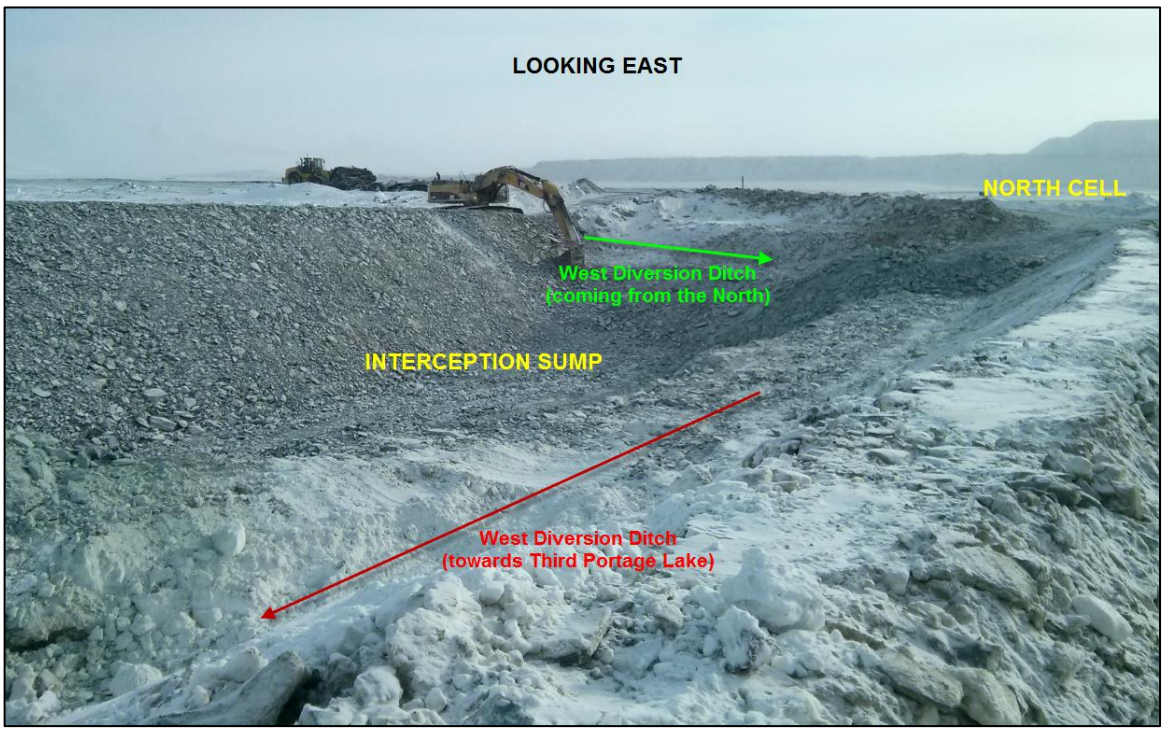

Figure 2-5: North Cell West Diversion ditch interception sump

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) is vulnerable to damage from the freshet water flow from the northern watershed (see watercourse flow in Figure 2-6 denoted by light blue dotted line). The start of the West Diversion ditch is also located in this area and is designed to collect most of the freshet flow – note arrows in Figure 2-6. In order to prevent the water from accumulating against the access construction road and possible overflow to the tailings pond, the snow and ice must be removed in early May from the areas indicated by the red circle in Figure 2-6. This is very important as the start of the West ditch is shallow, must manage a high initial flow rate and can plug easily (with snow). Also, note in the Figure 2-6 two areas where water ponded during the 2013 and 2014 freshet. As a contingency, a pump can be utilized to transfer this water to the North Cell TSF or the West Diversion ditch (non-contact water only). In addition, to prevent any contamination of Third Portage Lake, daily inspections will be completed and samples will be taken if AEM suspects that any seepage contamination is migrating out of the TSF (analysis for CN and metals). If water is contaminated with tailings, the water will pumped back to the TSF.

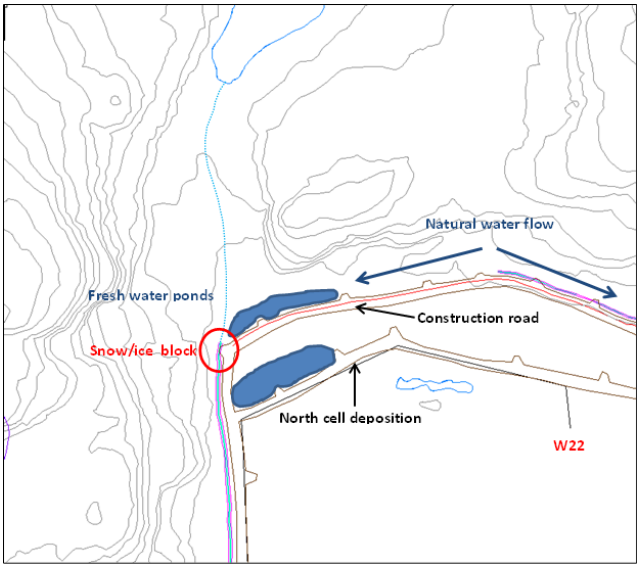

Figure 2-6: View of the northwest corner of the ditches

2.3.1.4 East Diversion Ditch Low Point

There is a low point located on the northernmost portion of the East Diversion ditch – see Figure 2-7 below and Figure 2-3 #4. Snow needs to be removed from this area, denoted by the blue arrow, to prevent watershed flow from following the historical watercourse (dotted line) and reaching the toe of the NPAG Waste Rock extension (RSF). Removing the accumulated snow in early May at a downstream location referenced by the blue arrow will allow the runoff to flow freely through the East Diversion ditch to NP-2 Lake. Daily inspections will be undertaken to ensure the watershed non-contact water flows freely in this section of the East Diversion Ditch.

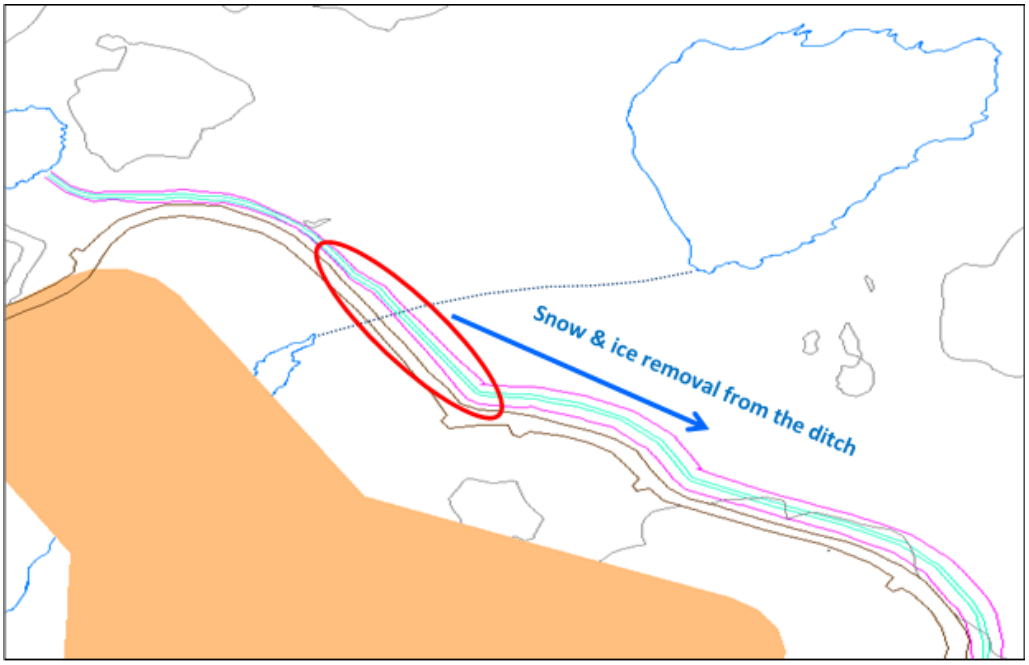

Figure 2-7: View of the north low area where a snow build up retained water in spring 2013

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 will be mitigated using the steam machine to melt away the obstruction. Daily inspections will commence in early May and 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. If a discharge of TSS occurs, the Environmental Department will notify DFO.

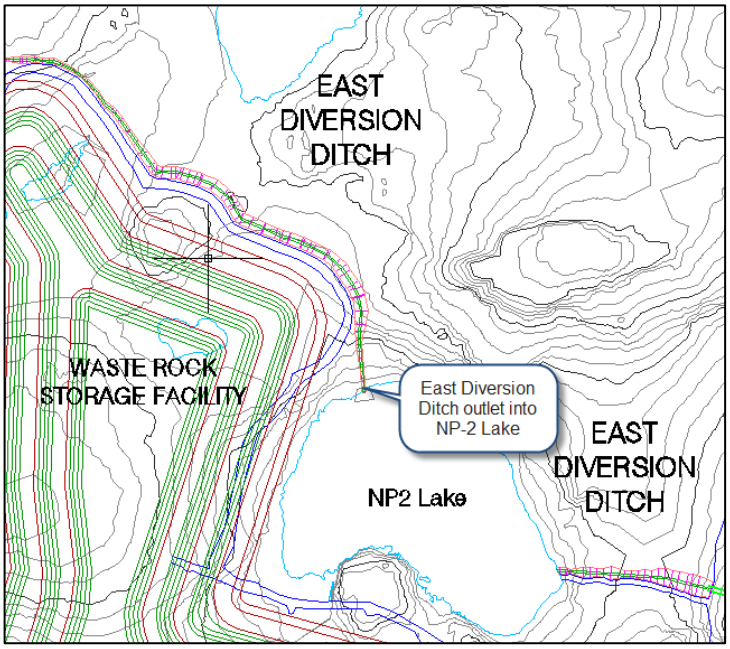

Figure 2-8: View of the East Diversion ditch outlet into NP-2 Lake

2.3.1.6 NP-2 Outlet and Vault Road Culvert

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 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 upstream water raises in Lake NP-2 which could cause overflow into the RSF at ST-16. First, snow from the ditch between NP1 and the road (1) would be removed in early May. Next, any obstruction between the road and NP2 Lake (2) would be removed. If needed, the steam machine would be used to remove the ice and snow from inside the culvert (3) and ensure that any other ice obstructions were removed from the outlet of NP2 Lake (4) to allow free flow of melt water. Daily inspections will commence in early May and TSS sample monitoring will be conducted monthly. Sampling frequency may be increased if TSS results are near 30 mg/L (grab) and 15 mg/L (monthly average), or visually elevated. 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). If a discharge of TSS occurs, the Environmental Department will notify DFO.

In June 2015, while conducting regular inspections as per the Freshet Action Plan, AEM staff observed elevated TSS in the water running under Vault Road (culvert) toward Lake NP-1. The flow was largely localized due to a large accumulation of snow in this area, significant snowmelt occurring due to spring freshet and recent heavy rain. After some additional melting of ice and snow it was clear that water with elevated TSS was flowing past the turbidity and silt barrier that

was in place from last year, onto the lake ice. A second turbidity barrier (yellow barrier #2) was installed just outside of the first barrier. Two additional barriers were also installed as a precautionary measure at the outlet of NP-1 (barrier #3) and at the inlet of Dogleg Lake (barrier #4) (Figure 2-11). The incident was of short duration and the turbidity barriers prevented migration of TSS to Dogleg Lake which is fish bearing. AEM also proceeded to raise the Vault road near NP-1 culverts (Figure 2-12). A different source of aggregate – NPAG from Vault was used (harder material) which will prevent an accumulation of fine material and will allow for water to runoff instead of accumulating or percolating through the road. For the next winter season there will be no additional snow from ploughing placed in this area.

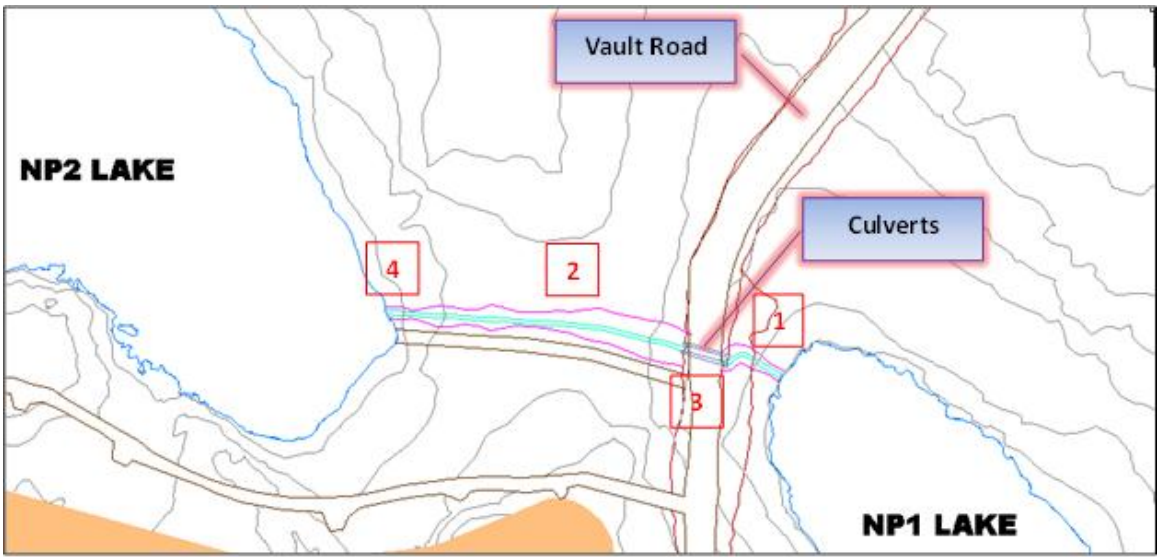

Figure 2-9: View of the diversion ditches at the Vault road area

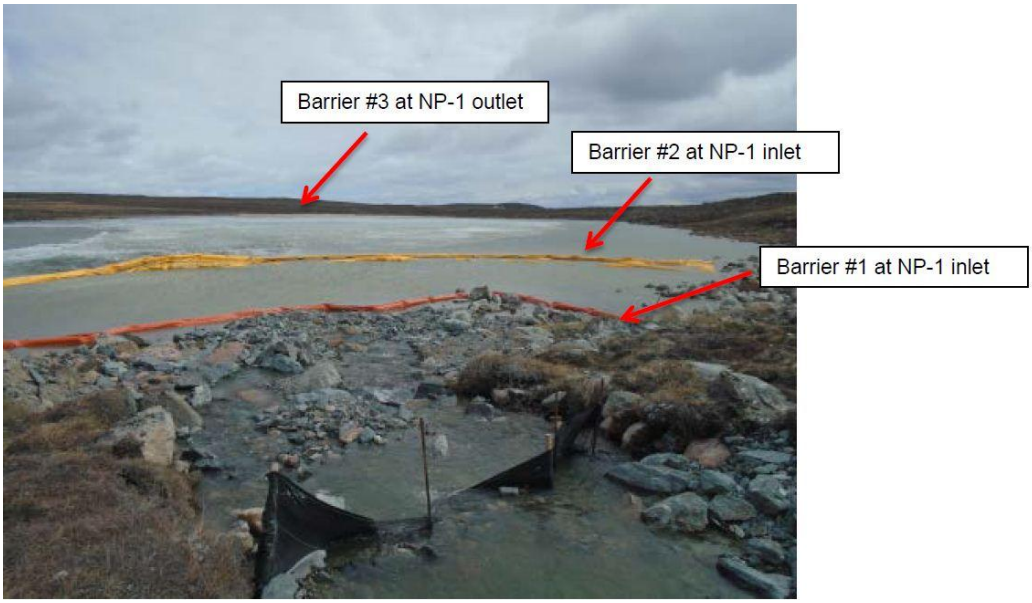

Figure 2-10:Turbidity barriers at inlet of NP1

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

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Figure 2-12: Vault Road repair

2.3.1.7 North Portion of NPAG Waste Rock Expansion

The northwestern area of the RSF, which consists entirely of NPAG 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. A natural depression should capture most of the NPAG runoff. Daily inspections will be conducted by the Environmental Department. 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. Ditching can be undertaken as a mitigation measure if required.

2.3.2 Saddle Dams

2.3.2.1 Saddle Dam 1

This dam, peripheral to the North Cell TSF, is critical to the normal operation of the North Cell TSF. Daily inspections starting mid-May will be required for Saddle Dam 1 (SD1) to ensure that water does not pool against the toe of the dike. A pumping station located along the toe of the dike was installed previously to mitigate the pooling of water at the toe. This pumping station must be operational once water is observed at the toe to pump the water to the TSF. The pumping system must 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 dam, just South of SD1, is also critical to the normal operation of the North Cell TSF. Historically, this structure has not had any issues with water pooling at the toe, therefore monthly inspections starting mid-May 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, a mitigation plan will be determined and implemented by the Geotechnical department.

2.4 VAULT ROAD CULVERT

The Vault road crosses over a connection between two water bodies, Turn Lake and Drill Trail Lake, at approximately km 2. A system of culverts was installed to allow flow to occur between the two waterbodies. Beginning in mid-May 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, a report will be made to the DFO. Turbidity barriers will be installed as a mitigation measure if needed.

2.5 STORMWATER MANAGEMENT POND

The Stormwater Management Pond is a small shallow and fishless water body that can be seen in Figure 2-13 adjacent to Portage Pit. Treated sewage is discharged into this pond before being transferred to the active TSF. The quantity of water transferred each year is recorded. Weekly inspections will be undertaken to determine the commencement of pumping.

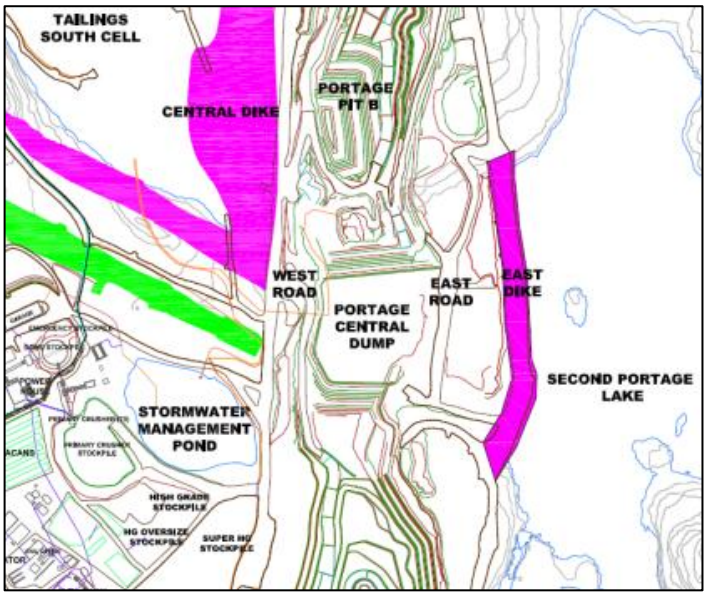


Figure 2-13: Portage Pit area with the Stormwater Management Pond

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 handing systems. The Site Service 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 Site Service 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 can be pumped 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 Site Service 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 Site Service Department if pumping can begin. If sample results permit, the pumping may begin; to direct water 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.**

2.7 AWAR CULVERTS ON THE BAKER LAKE PORTION

Weekly inspections will be undertaken at all culverts along the AWAR to ensure that water during freshet is flowing freely and no erosion is occurring. If elevated TSS levels are observed sampling will occur and the results assessed. In addition snow and ice removal may be required to allow the water to flow as per design specifications.

2.8 MEADOWBANK ASSAY LAB

The Assay Lab needs to be advised of the extra sampling that will occur during the freshet period, well in advance. Consideration should be given to reducing the initial sampling after one month period if sample results are consistent or results indicate no elevated contaminant levels. The onsite laboratory, although not accredited, can provide indicative results quickly so that mitigation measures can be implemented in a timely manner.

3 INCIDENT RESPONSE

3.1 ST-16 SEEPAGE

In July 2013, it was noted that seepage from the Waste 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 reclaim water from the North Cell TSF. This water migrated underneath the RSF through a former watercourse into the seepage sump area (ST-16). AEM took immediate measures to stop the seepage and implement corrective measures to prevent a recurrence. This included, keeping the sump area pumped to a low level, installation of an impermeable 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 is continuous as it is part of AEM's Tailings Deposition Plan). A permanent pumping system was installed in 2014 in order to direct seepage back to the North Cell TSF. In addition, as mentioned previously (Section 2.3.1.6), 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. Please note that 2014 pump volumes are reportred in the AEM 2014 Annual Report within the Water Management Report and Plan (Section 3.1.9) and in Table 1 below.

Table 1: Water pumped from ST-16 Seepage back to TSF

	Volume (m^3)	
	2013	**2014**
January	0	0
February	0	0
March	0	0
April	0	0
May	0	14,591
June	0	9,294
July	2,091	3,810

August	2,900	3,386
September	1,364	1,088
October	227	0
November	0	0
December	0	0
Total	**6,582**	**32,169**

During the renewal process for the Meadowbank Type A Water License (2014 – 2015) the KIA requested additional monitoring related to this incident. The revised monitoring plan in NP-2 Lake as well as downstream lakes (NP-1, Dogleg and Second Portage Lakes) is attached in Schedule 1. A discussion and analysis of the 2014 monitoring results can be found in the AEM 2014 Annual Report (Section 8.1.4.2, pg 41 and Appendix G2). The water quality in NP-2 Lake has improved significantly and no impacts have been observed in the aforementioned downstream lakes.

As soon as the Lake and seep area are ice free the sample monitoring program will commence.

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

Also, in 2014, in accordance with the overall mitigation plan for this incident, tailings beaches were built along RF-1 and RF-2 before tailings deposition switched to the South Cell TSF on November 19 2014. Filters barriers were installed along RF-1 and RF-2 to prevent water egress from the North Cell (suspected source area). Coverplacement was installed in late 2014 and early 2015 along RF-2. Thermistors installed in 2013 indicate that freezeback is occurring along the seepage path. All the information collected in 2014 from the inspections, pumping, thermistors, and sampling results were compiled and submitted as progress reports to regulators. This report “Follow up AEM Report – Seepage Water From Waste Rock Storage Facility – Sample Location ST-16” can be found in Appendix G2 of the 2014 Annual report.

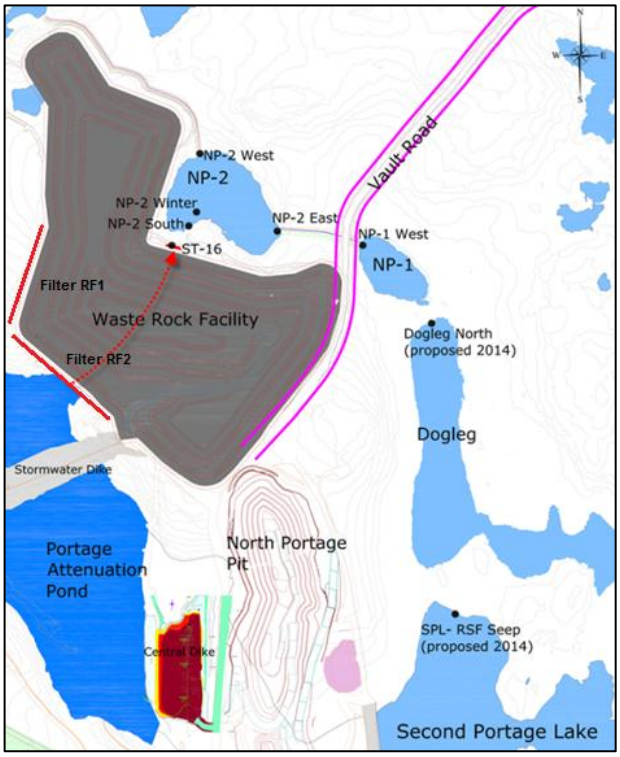


Figure 3-3-1: View of the RSF seepage observed at the ST-16 station with a red arrow representing the flow of the seepage. Red Lines represent installed filters and areas where tailings beaches were built up to minimize flow through.

3.2 MILL SEEPAGE

In November 2013, AEM 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 was completed in 2014 thus stopping the source of the seep. AEM 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 3-3 for the seep location. AEM completed the drilling program and based on the results constructed an interception/collection trench prior to the 2014 freshet (completed early May 2014).

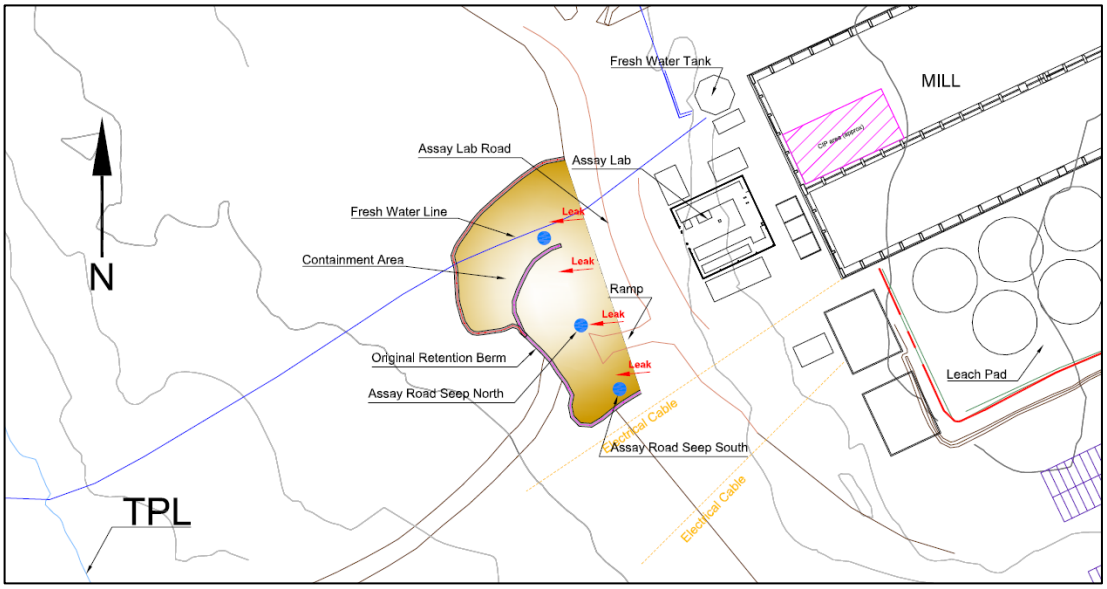


Figure 3-3-2: View of the mill seepage area and initial retention berm construction

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 – See Table 2 below.

Table 2: Water pumped from Mill Seepage back to the mill

	Volume (m^3)	
	2013	**2014**
January	0	0
February	0	0
March	0	0
April	0	0
May	0	2,450
June	0	1,935
July	0	1,158
August	0	3,979

September	0	2,420
October	0	1,043
November	Ice	842
December	0	871
Total	**0**	**14,698**

In addition, a recovery/monitoring well, MW-203, located beside the Assay Lab upstream of the trench is continuously pumped back to the mill to intercept the seepage. 2014 pump volumes are reported in the AEM 2014 Annual Report within the Water Management Report and Plan and included in Table 2 above.

CN WAD (on site uncertified lab) levels in MW-203 have diminished significantly over the winter of 2015 as have the flow rates. This well will remain in operation.

As soon as the trench, monitoring wells and Third Portage Lake are unfrozen a comprehensive monitoring program will be implemented. This program is attached in Schedule 2. A complete discussion of the monitoring results for 2014 is included in AEM's 2014 Annual Report (Section 7, pgs 32-34). 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 levels of contaminants decreased significantly during the monitoring period in the interception trench. The seepage appears to have been effectively contained and the source area has been repaired.

Daily inspections will be conducted of the pumping, collection systems and perimeter area and the pumped volumes will be recorded in 2015.

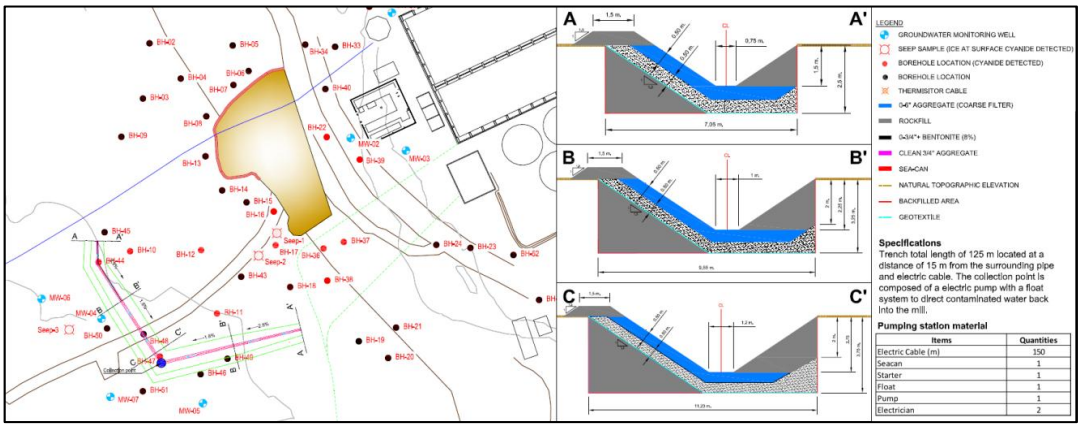


Figure 3-3: View of the mill seepage area and interception trench design

APPENDIX 1

2015 Freshet Action Plan Procedure

Section	Area of Concern	Role/Action	Responsbilities	Dates
2.1	**Mining Pits and Pit Walls**			
2.1	Mining Pit and Pit walls - General	1) Clean all ice, mud and snow on all permanent ramps, jump ramps, etc.	Mine Operations	Before May
		2) Check and service all pumps.	Dike/Dewatering and Maintenance	Before May
		3) Check that all piping systems starting from the different pits leading to the South Cell TSF are free of ice by validating pumping values (if pumping systems is active) and/or performing an air test in the pipe with a compressor.	Dike/Dewatering	Before May
2.1.1	**Goose Pit**			
2.1.1	Goose Pit	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
2.1.2	**Portage Pit**			

2.1.2	Portage Pit	1) Runoff water accumulated in ponds GP-3, GP-4, GP-8 and Pond 8 will be pumped into Goose pit; 2) Runoff water accumulated in pit B will be pumped to the South Cell Tailings Storage Facility (TSF); 3) Runoff water accumulated in pit E will be pumped to the South Cell Tailings Storage Facility (TSF).	Geotech tech and Engineering	Before June
2.1.3	**Vault Pit**			
2.1.3 Vault Pit		1) The dewatering of Vault Lake was completed in 2014. During the freshet period water management consists of making sure all sumps are pumped to the Vault Attenuation Pond (former Pond D).	Mine Operations	May to Sept
		2) Set-up pumping from pond A & D to Vault Attenuation Pond (former Pond B & C) to prevent water from flowing into the Vault pit area.	Mine Operations	
		3) Notify Environmental Department before discharging any water to Wally Lake. **NOTE: Any discharge of contact water must be through the Diffuser.**	Water engineers and Engineering	Freshet/Summer 2015
		4) Inspect all piping and discharge diffuser	Dike/Dewatering	May
		5) Inspect and commission the WTP	Dike/Dewatering	May
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 Department AND sample for Cn and Water License Parameters.	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 Department AND sample for Water License Parameters – ST-24.	Env. Department	May - as soon as freshet starts until freeze up
2.3 NORTH CELL TAILINGS STORAGE FACILITY			
2.3.1 North Cell Tailings Storage Facility (Diversion Ditch areas)			
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.	Engineering to coordinate with Site Service, Mine and Dikes/Dewatering	Before May 20
	2) If needed, steam to free any ice blockage.	Engineering to coordinate with Site Service, Mine and Dikes/Dewatering	Before May 20

	3) Before starting snow clearing operation, make sure the electrical cable location has been visually identified in the field.	Engineering to coordinate with Site Service, Mine and Dikes/Dewatering	Before May 20
	4) Daily inspection - keep record.	Env. Department	May - until Freshet complete and after rain events
	5) ST-6 sampling as per Water License and monthly inspection.	Env. Department	Monthly as soon as freshet starts (open water) and continue until freeze up.
	6) Increase frequency of ST-6 sampling if TSS near 30 mg/L (grab) and 15 mg/L (monthly average), or visually elevated, can use onsite assay lab for this (provide notice). Extra sample to Multilab if needed.	Env. Department	Depends on TSS result
	7) Have turbidity and silt barriers in place at TPL (2) and maintain.	Env. Department	May - before freshet starts and until water freezes up

		8) Report any discharge of TSS to DFO/NWB (grab > 30 mg/L).	Env. Department	May - as soon as freshet starts and until water freezes up
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.	Engineering to coordinate with Site Service, Mine and Dikes/Dewatering	Early May
		2) Daily inspection - keep record.	Env. Department	May - until Freshet complete and after rain events
		3) Sample for TSS monthly (Multi Lab) and as needed for Turbidity - can use on site lab for TSS if necessary. Increase frequency of sampling if TSS near 30 mg/L (grab) and 15 mg/L (monthly average).	Env. Department	May - until Freshet complete and after rain events
		4) If water exceeds Water License criteria (TSS - 30 mg/L (grab) and 15 mg/L (monthly average), contact Engineering to pump water to TSF and temporarily stop (dam) flow through ditch to prevent impact to TPL.	Env Dept/ Eng Dept if limits exceeded, Dikes/Dewatering if pumping needed	May - as soon as freshet start and until water freeze up
2.3.1.3	Northwest corner of North Cell TSF (West Diversion ditch)	1) Snow and/or ice must be removed with an excavator to allow water flow to enter West Diversion Ditch.	Engineering to coordinate with Site Service, Mine and Dikes/Dewatering	Early May

		2) Daily inspection - keep record.	Env. Department	May - until Freshet complete and after rain events
		3) Sample if suspect Tailings water - analyse for Cn, Copper, Iron - can use onsite lab for CN WAD as indicator.	Env. Department	May - until Freshet complete and after rain events
		4) If tailings water present - water to be pumped back to TSF, contact engineering and dikes/dewatering.	Env. Dept Eng. Dept if limits exceeded, Dikes/Dewatering if pumping needed	May - as soon as freshet start and until water freeze up
		5) Tailings beach to be maintained in North TSF.	Water engineers to ensure tailings deposition	All year
2.3.1.4	East Diversion Ditch low point (E 638418, N7216815). **(area where former pipe was through road)**	1) Snow removal to allow free water flow.	Engineering to coordinate with Site Service, Mine and Dikes/Dewatering	Early May
		2) Daily inspection - keep record.	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.	Engineering to coordinate with Site Service, Mine and Dikes/Dewatering	Early May
		2) If needed, steam to free any ice blockage.	Engineering to coordinate with Site Service, Mine and Dikes/Dewatering	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 monthly inspection (keep record).	Env. Department	Monthly as soon as freshet starts and until water freezes up
		5) Increase frequency of ST-5 sampling if TSS near 30 mg/L (grab) and 15 mg/L (monthly average), or visually elevated, can use on site assay lab for this (provide notice). Extra samples to Multi lab if necessary.	Env. Department	Depends on TSS result
		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 DFO/NWB (grab > 30 mg/L).	Env. Department	May - as soon as freshet starts and until water freezes up
2.3.1.6	East Diversion Ditch - NP2 Oulet 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.	Engineering to coordinate with Site Service, Mine and Dikes/Dewatering	Early May
		2)	If needed, steam culvert to free any ice/snow blockage.	Engineering to coordinate with Site Service, Mine and Dikes/Dewatering	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 - see # 5 below.	Env. Department	May - before freshet starts and until freeze - up
		5)	Sample for TSS monthly (Multi Lab) and as needed for Turbidity. Increase frequency of sampling if TSS near 30 mg/L (grab) and 15 mg/L (monthly average) - use on site assay lab as this location is not regulated. Multi Lab to verify levels >30 mg/l - install turbidity barrier for elevated levels	Env. Department	May - until Freshet complete and after rain events

2.3.1.7	North portion of NPAG Waste Rock Expansion	1) Daily inspection - keep record	Env. Department	May until runoff complete
		2) Sample for ST-S-XX and ST-16 metals when water observed; sample upstream (background)in diversion ditch for same parameters and compare results (rush analysis). If results indicate potential for impact, ie results are > background, meet with engineering and determine necessity of ditching	Env. Dept + Eng Dept assistance if ditches needed	May until runoff complete
		3) Prevent **contaminated** contact water from reaching NP-2.	Env. Department	May until runoff complete
2.3.2	**Saddle Dams**			
2.3.2.1	Saddle Dam 1	1) Inspect pumping system	Dikes/Dewatering	Early May
		2) Daily inspection - keep record	Eng Dept and Dikes/Dewatering	May and until water freezes
		3) Start pumping to TSF when water observed. Keep volume pumped out.	Eng Dept and Dikes/Dewatering	After May and 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) Monthly Inspection - keep record.	Geotech engineer and Engineering	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, and maintain	Env. Department	May - until freshet complete and after rain events
		3) Sample monitoring for TSS, if excess turbidity observed - use onsite assay lab and Multi Lab to verify levels >30 mg/l.	Env. Department	May - until freshet complete and after rain events
		4) Report any discharge of TSS to Drill Tail to DFO (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.	Site Services and Dike/Dewatering	When required in Spring and/or Fall

2.6 FUEL TANK FARMS			
2.6.1 Meadowbank Tank Farm	1) Site Service to advise Env Dept in advance of intent to pump once ice melts in containment area	Sites Servies and Env. Department	Probably mid-June and September
	2) Sample water in accordance with Water License to ensure compliance with limits prior to release.	Env. Department	Probably mid-June and September
	3) Provide notice to Inspector 10 days prior to pumping.	Env. Department	Probably mid-June and September
	4) Advise Site Services if pumping can begin based on sample results.	Env. Department	Probably mid-June and September
	5) Pump to tundra/ground or Stormwater Mgt Pond (note pumping to Stormwater Mgt Pond does not requi:re 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.**	Site Services	Probably mid-June and September
2.6.2 Baker Lake Tank Farms	1) Site Service to advise Env Dept in advance of intent to pump once ice melts in containment area.	Sites Servies and Env. Department	Probably mid-June and

			September
	2) Sample water in accordance with Water License to ensure compliance with limits prior to release.	Env. Department	Probably mid-June and September
	3) Provide notice to Inspector 10 days prior to pumping.	Env. Department	Probably mid-June and September
	4) Advise Site Services if pumping can begin based on sample results.	Env. Department	Probably mid-June and September
	5) Once approval given by Env Dept, Site Services can pump to tundra but must avoid erosion during pumping, ie., low flow, the volume must also be determined by Site Services personnel **NOTE: The water cannot be pumped out to the tundra if it does not meet the Water License criteria.**	Site Services	Probably mid-June and September
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 2015

		1) Sample for TSS and Turbidity if elevated TSS observed.	Env. Department	May - until freeze up
		2) Notify Site Services if severe erosion/scouring observed - for repair action.	Env. Department	May - until freeze up
		3) Install turbidity barriers if required.	Env. Department	May - until freeze up
2.8	**ASSAY LAB**			
2.8	Meadowbank Assay Lab	1) The Assay Lab needs to be advised of the extra sampling that will occur well in advance of the freshet.	Env. Department	May 2015
		2) Consideration should be given to reducing the initial sampling after an initial one month period. If we are managing the water as planned (i.e. on site) there is no need to require extra sampling.	Env. Department	May 2015
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.	Engineering and Dikes/Dewatering	Early May

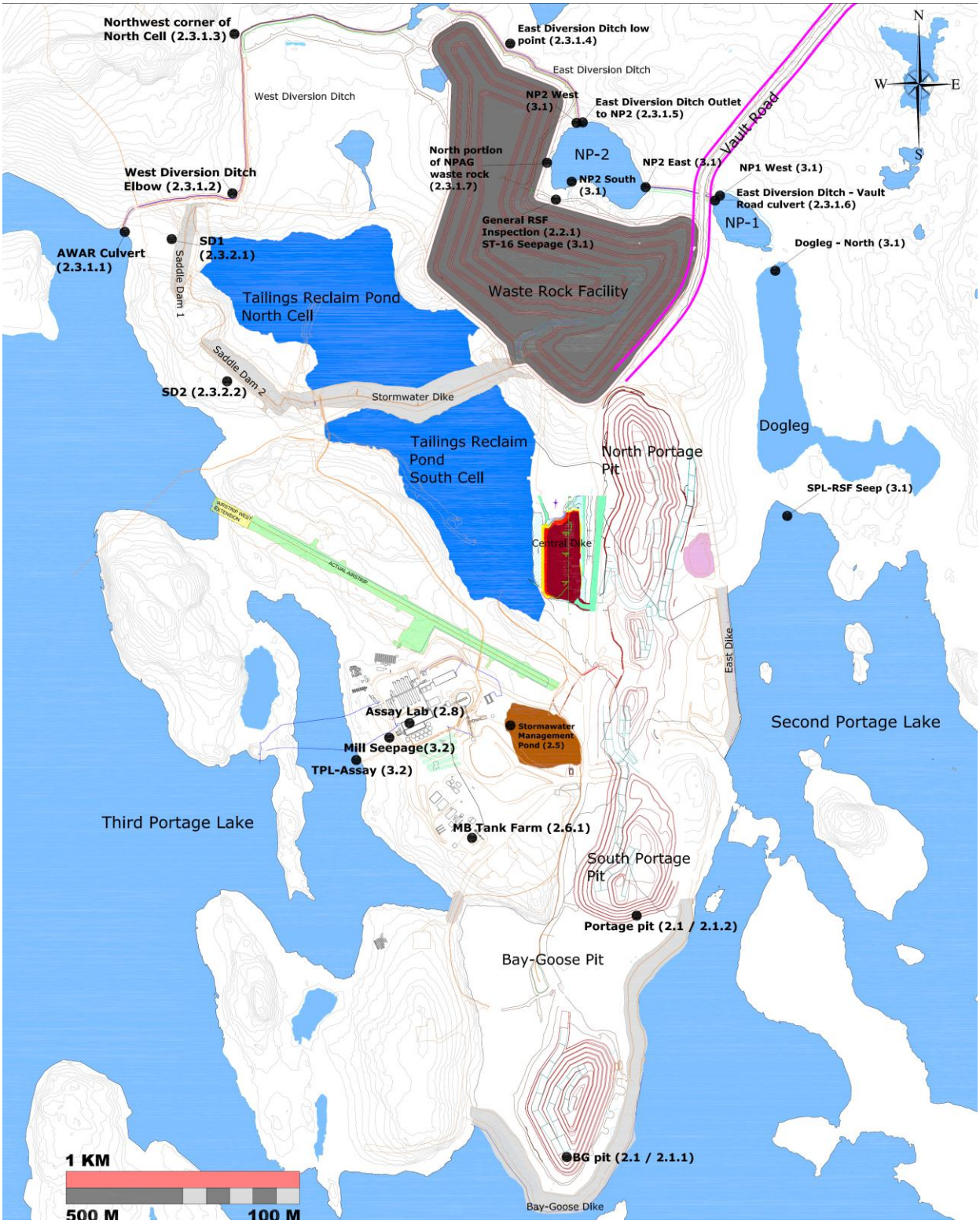
2) If the snow accumulation is judged to be too great, then snow must be removed.	Engineering to coordinate with Site Service, Mine and Dikes/Dewatering	Early May
3) Daily inspection - keep record.	Env. Dept, Eng Dept and Dikes/Dewatering	May - as soon as freshet starts until freeze up
4) Notify Eng. Dept and Dikes/Dewatering 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 - ie < 2 - 3 hours. For emergencies the mine water trucks can be requested. Start pumping.**	Env. Department	May/early June - as soon as free water present and ice has melted until freeze up
5) Water sampling program starts when water present in accordance with attached Schedule 1.	Env. Department	May/early June - as soon as water present until freeze up
6) Any seepage through rockfill road to NP-2 must be reported to Env Dept and authorities.	Env. Dept, Eng Dept and Dikes/Dewatering	May/early June - as soon as water is present until freeze up
7) Thermistor Monitoring.	Env. Department	Ongoing throughout the year

		8) Submit progress/update report to regulators.	Env. Department	Annual Report2015
3.2	**Mill Seepage**			
3.2	Mill Seepage	1) Pump water from the trench to the mill - volumes documented.	Env. Dept with assistance from Site Services	Start May/early June when water present until freeze-up
		2) Daily inspection of pumping, collection systems, bermed areas and perimeter area – keep record. **For emegencies the mine water trucks can be requested.**	Env. Department	Start May/early June when water present until freeze-up
		3) Monitoring Program – in accordance with attached Schedule 2, commences when water present and ice has melted.	Env. Department	May/early June as soon as water present until water freeze

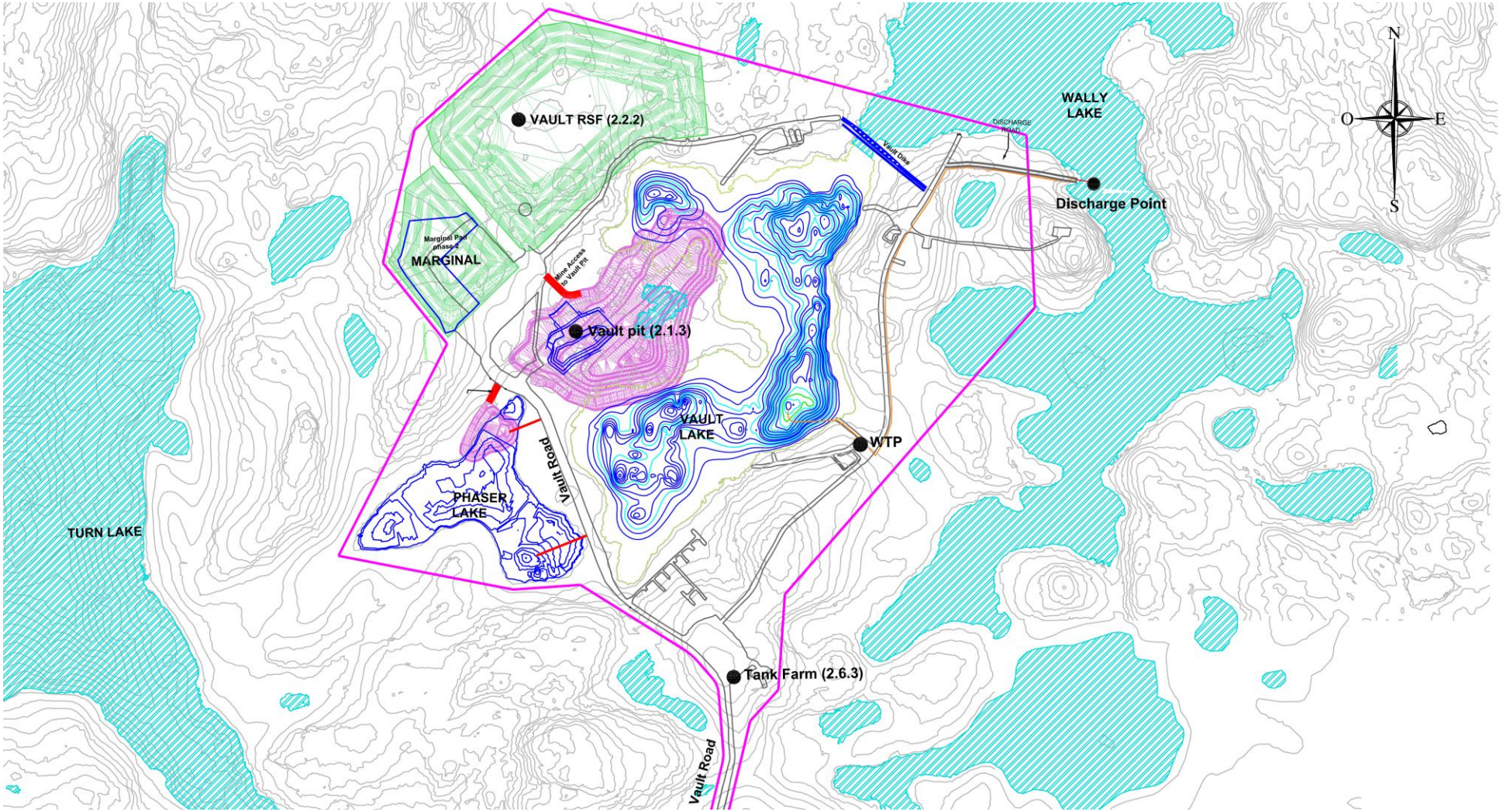
APPENDIX 2

2014 Monitoring Locations and Areas of Concern for the Freshet Action and Incident Response Plan

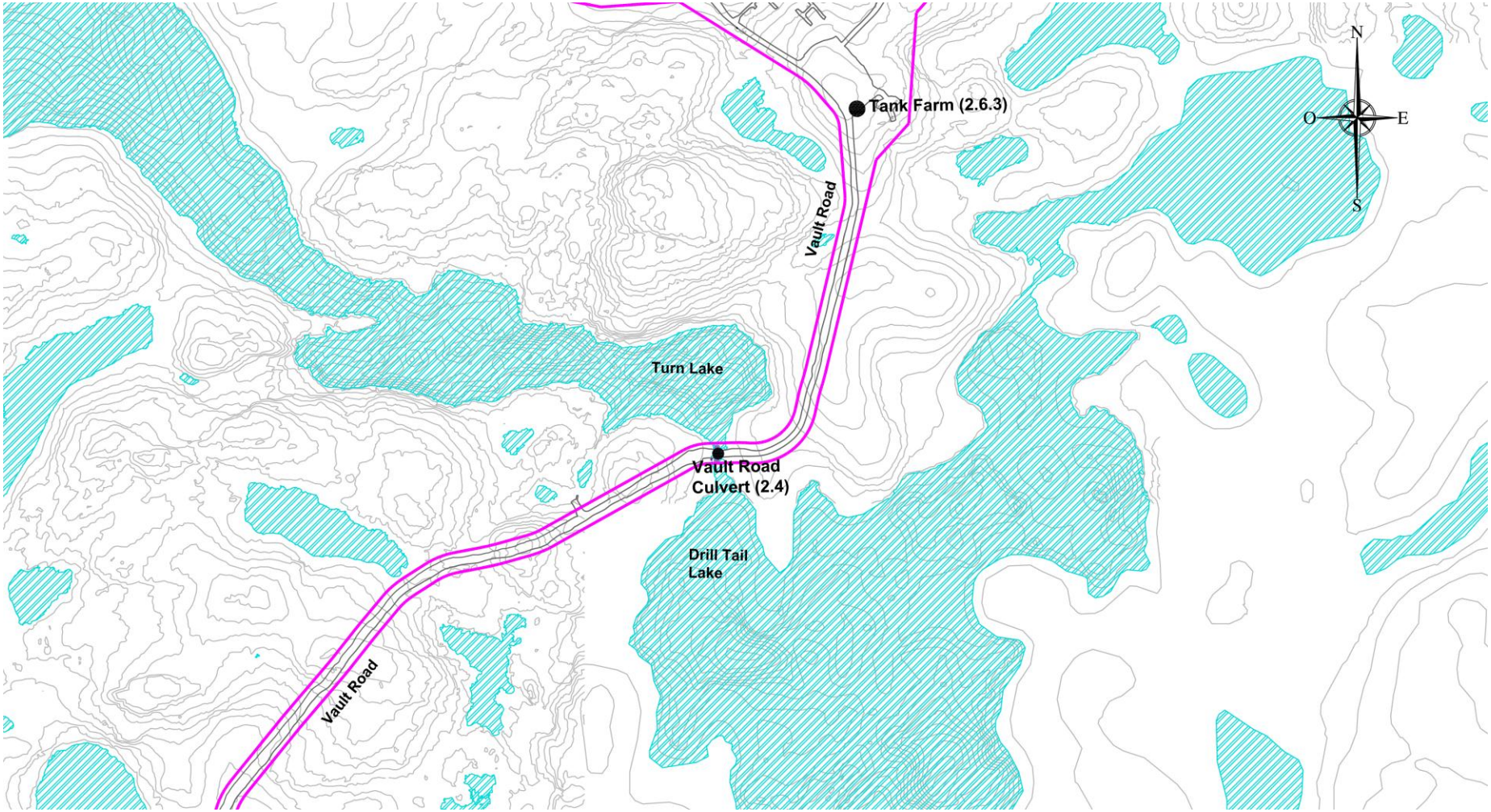
Meadowbank Areas of Concern and Monitoring Locations


Northwest corner of North Cell (2.3.1.3)
East Diversion Ditch low point (2.3.1.4)
East Diversion Ditch
West Diversion Ditch
NP2 West (3.1)
East Diversion Ditch Outlet to NP2 (2.3.1.5)
Vault Road
N
W
E
S
North portion of NPAG waste rock (2.3.1.7)
NP-2
NP2 East (3.1)
NP1 West (3.1)
West Diversion Ditch Elbow (2.3.1.2)
NP2 South (3.1)
East Diversion Ditch - Vault Road culvert (2.3.1.6)
General RSF Inspection (2.2.1)
ST-16 Seepage (3.1)
NP-1
AWAR Culvert (2.3.1.1)
SD1 (2.3.2.1)
Saddle Dam 1
Dogleg - North (3.1)
Tailings Reclaim Pond North Cell
Waste Rock Facility
Saddle Dam 2
SD2 (2.3.2.2)
Stormwater Dike
Tailings Reclaim Pond South Cell
North Portage Pit
Dogleg
SPL-RSF Seep (3.1)
Central Dike
East Dike
Assay Lab (2.8)
Second Portage Lake
Stormawater Management Pond (2.5)
Mill Seepage(3.2)
TPL-Assay (3.2)
Third Portage Lake
MB Tank Farm (2.6.1)
South Portage Pit
Portage pit (2.1 / 2.1.2)
Bay-Goose Pit
BG pit (2.1 / 2.1.1)
Bay-Goose Dike
1 KM
500 M
100 M

Vault areas of concern


VAULT RSF (2.2.2)
WALLY LAKE
Vault Dike
DISCHARGE TRAIL
Discharge Point
N
O
E
S
Marginal Pad phase 2
MARGINAL
Mine Access to Vault Pit
Vault pit (2.1.3)
VAULT LAKE
WTP
Vault Road
PHASER LAKE
TURN LAKE
Tank Farm (2.6.3)
Vault Road

Vault Road areas of concern


Tank Farm (2.6.3)
Vault Road
Turn Lake
Vault Road
Culvert (2.4)
Drill Tail
Lake
Vault Road
N
O
E
S

SCHEDULE 1

ST-16 Seepage Monitoring Program

ST-16 Seepage Monitoring Program (May/early June - as soon as water present until freeze up)			
Parameters	**Laboratory**	**Station**	**Frequency**
pH, Conductivity, Turbidity, Colour, Hardness, Bromide, Thiosulfate, Fluoride, Thiocyanate, Alcalinity, Ammonia-nitrogen, Total Ammonia, Nitrite, Nitrate, TDS, Chloride, Sulfate, Ortho-Phosphate, TOC, TSS, Dissolved Oxygen (DO), Total Kjeldahl Nitrogen (TKN), Mg, K, Dissolved and total metal: Al, Ag, As, Sb, Ba, Be, B, Cd, Cu, Cr, Co, Fe, Pb, Li, Mn, Hg, Mo, Ni,Se, Sr, Tl, Sn, Ti, U, V, Zn, and Chlorophyll A (Lake site), CN tot / CN Wad, Total P	Multilab	ST-16 NP-2 South NP-2 West NP-2 East NP-1 Dogleg SPL	Monthly
CN Free	SGS	ST-16 NP-2 South NP-2 West NP-2 East NP-1 Dogleg SPL	Monthly
CN Wad	Assay Lab	ST-16 NP-2 South	2x/week initially and 1x/week after 1 month

SCHEDULE 2

Mill Seepage Monitoring Program

Mill Seepage Monitoring Program (May/early June - as soon as water present until freeze up)			
Parameters	**Laboratory**	**Station**	**Frequency**
CN Total Cu Fe	Multilab	Trench Original Sump MW 4-5-6-7-8	Monthly
CN Free	SGS	Trench Original Sump MW 4-5-6-7-8 TPL-Assay	Monthly
pH, Conductivity, Turbidity, Colour, Hardness, Bromide, Thiosulfate, Fluoride, Thiocyanate, Alcalinity, Ammonia-nitrogen, Total Ammonia, Nitrite, Nitrate, TDS, Chloride, Sulfate, Ortho-Phosphate, TOC, TSS, Dissolved Oxygen (DO), Total Kjeldahl Nitrogen (TKN), Mg, K, Dissolved and total metal: Al, Ag, As, Sb, Ba, Be, B, Cd, Cu, Cr, Co, Fe, Pb, Li, Mn, Hg, Mo, Ni,Se, Sr, Tl, Sn, Ti, U, V, Zn, and Chlorophyll A (Lake site), CN tot / CN Wad, Total P	Multilab	TPL-Assay	Monthly
CN WAD	Assay Lab	Trench Original sump MW 2-3-8-201-202-203	2x/week initially and 1x/week after 1 month