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Pursuant to the *Mackenzie Valley Resource Management Act* and Regulations, the Wek'èezhìi Land and Water Board, hereinafter referred to as the Board, hereby grants to:

Diavik Diamond Mines (2012) Inc.
(Licensee)

of P.O. Box 2498 Suite 300, 5201-50th Avenue, Yellowknife, NT X1A 2P8
(Mailing Address)

Hereinafter called the Licensee, the right to alter, divert or otherwise use water and deposit Waste subject to the restrictions and conditions contained in the *Waters Act* and Regulations and in accordance with the conditions specified in this Licence.

Licence Number:	W2015L2-0001 (Amendment to incorporate the A21 Underground Project)
Licence Type:	A
Water Management Area:	NORTHWEST TERRITORIES 05
Location:	LAC DE GRAS, NT
Purpose:	WATER USE AND WASTE DISPOSAL
Description:	DIAMOND MINING AND MILLING
Quantity of water **not to be exceeded**:	SEE PART D, ITEM 2
Effective Date of Licence:	XX XX, 2020
Term of Licence:	8 YEARS
Expiry Date of Licence:	OCTOBER 18, 2023

This Licence issued and recorded at Yellowknife includes and is subject to the annexed conditions.
Wek'èezhìi Land and Water Board:

Witness **Chair**

APPROVED BY:

Minister of Environment and Natural Resources

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PART A: SCOPE AND DEFINITIONS

1. Scope

This Licence entitles Diavik Diamond Mines (2012) Inc. (DDMI) to use water, dewater a portion of Lac de Gras, and dispose of Waste, for the purpose of Construction, operation, closure, and Reclamation of the Diavik Diamonds Project in the Lac de Gras area of the Coppermine Watershed, Northwest Territories, as shown on Figure 2.1, (Overall Site Plan, page 13, Diavik Diamonds Project Supporting Documentation Class A Water Licence Application, August 1999).

2. Definitions

"A154 Pit" means the developed open pit and underground mine workings for the mining of the A154 North and South Kimberlite Pipes.

"A21 Pit" means the developed open pit and underground mine workings for the mining of the A21 Kimberlite Pipe.

"A418 Pit" means the developed open pit and underground mine workings for the mining of the A418 Kimberlite Pipe.

"Acid Rock Drainage (ARD)" means the production of acidic leachate, Seepage or drainage from underground workings, pits, ore piles, Waste Rock, tailings, and overburden that could lead to the release of metals to Groundwater and surface water during the life of the mine and after mine closure.

"Act" means the *Waters Act.*

"Action Level" means a predetermined qualitative or quantitative event which, if met, requires the Licensee to take appropriate actions including, but not limited to: further investigations, changes to operations, or enhanced mitigation measures.

"Analyst" means an Analyst designated by the Minister under section 65(1) of the Act.

"Annual Load of Total Phosphorus" means the sum of monthly loads from a calendar year.

"Aquatic Effects Monitoring Program (AEMP)" means a monitoring program designed to determine the short and long-term effects in the aquatic environment resulting from the Project, to evaluate the accuracy of impact predictions, to assess the effectiveness of impact mitigation measures, and to identify additional impact mitigation measures to reduce or eliminate environmental effects of the licensed undertaking.

"Average Annual Loading of Total Phosphorus" means the sum of annual loads divided by the number of annual loads summed.

"Board" means the Wek'èezhìi Land and Water Board established under section 57.1 of the *Mackenzie Valley Resource Management Act.*

"Closure and Reclamation Plan" means either an Interim or Final Closure and Reclamation Plan approved under this Licence and as described in the Mackenzie Valley Land and Water Board's *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories.*

"Closure Criteria" has the same meaning as that term in the Mackenzie Valley Land and Water Board and Aboriginal Affairs and Northern Development Canada's *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories.*

"Closure Objectives" has the same meaning as that term in the Mackenzie Valley Land and Water Board and Aboriginal Affairs and Northern Development Canada's *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories.*

"Construction" means any activities undertaken to construct or build any components of, or associated with, the development of the Diavik Diamond Mine.

"Cut-off Wall Trench" means a trench excavated vertically through a dike to allow the Construction of a Diaphragm Wall Seepage barrier.

"Dam" means an Engineered Structure that meets the definition of a dam under the *Dam Safety Guidelines* and is intended to contain, withhold, divert, or retain water or Waste.

"Dam Safety Guidelines (DSG)" means the Canadian Dam Association's (CDA) *Dam Safety Guidelines*, 2007 (2013 edition). The scope and applicability of the DSG referred to in this Licence, is presented in section 1 of the DSG.

"Dewatering" is the complete removal of water from an existing water body or portion thereof by pumping or draining.

"Diaphragm Wall" means the plastic concrete Cut-off Wall constructed in a dike as a Seepage barrier.

"Diavik Geotechnical Review Board" means the Expert Review Board established by DDMI to review dike designs.

"Dike Rock Placement" means the placement of rock associated with the Construction of a dike.

"Dike Seepage" means any water which passes through a dike.

"Discharge" means the direct or indirect release or deposit of any water or Waste to the Receiving Environment.

"Drainage Control and Collection System" means the ditches, ponds, and associated piping and pumps used for the diversion, collection, and disposal of surface runoff and Seepage.

"Dredging Activities" means excavating and moving lake-bottom sediments and glacial till below the high water mark and from the bottom of Lac de Gras in the area of the footprints of the dikes.

"East Island" means the large eastern-most island in Lac de Gras as identified in Figure l.1 B (Final Design Report Site Location, Volume Il-A, Part A, Water Management Plan, Version 1, Water Licence Application, August 1999).

"Engagement Plan" a document developed in accordance with the Board's *Engagement and Consultation Policy* and *Engagement Guidelines for Applicants and Holders of Water Licences and Land Use Permits*.

"Engineered Structure" means any constructed facility which was, or, in the Boards' view, normally would be, designed and approved by a Professional Engineer.

"Engineering Geologist" means a professional geologist registered with the Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists and whose principal field of specialization is the investigation and interpretation of geological conditions for civil engineering purposes.

"Freeboard" means the vertical distance between the water line and the effective water containment crest on a dam's or dike's upstream slope.

"Frozen Core" means a permafrost core comprising frozen ice-saturated aggregate material and functioning as an impervious Seepage barrier to water or tailings.

"Geotechnical Engineer" means a Professional Engineer whose principal field of specialization is the design and Construction of earthworks in a permafrost environment.

"Ground Ice" means ice that occupies pores and crevices in rock and soil.

"Groundwater" means all water below the ground surface.

"ICP Metal Scan" means the elements detected using an inductively coupled plasma mass spectrometer.

"Inspector" means an Inspector designated by the Minister under section 65(1) of the Act.

"Licensee" means the holder of this Licence.

"LC20" is the concentration of effluent in water that is estimated to be lethal to 20% of the test organisms. The LC20 and its 95% confidence limits are usually derived by statistical analysis of percent mortalities in several test concentrations, after a fixed period of exposure. The duration of exposure must be specified (e.g., 48-h LC20).

"Management Plans" means the specific plans required by the Board under this Water Licence.

"Maximum Average Concentration" means the moving average of any five (5) consecutive analytical results collected at six (6) day intervals as submitted to the Board in accordance with the sampling and analysis requirements specified in the Surveillance Network Program.

"Metal Leaching" means the production of leachate under neutral or alkaline conditions, Seepage or drainage from underground workings, pits, ore piles, Waste Rock, tailings, and overburden that could lead to the release of metals to Groundwater and surface water during the life of the mine and after mine closure.

"Mine Design" means the detailed engineered designs for all mine components stamped by a design Engineer.

"Mine Plan" means the plan for development of the proposed mine, including the sequencing of the development.

"Minewater" means any water that accumulates in any underground workings or open pits.

"Minister" means a duly-appointed member of the Executive Council who is responsible for the Act or the department responsible for administering the Act.

"Modification" in respect of an Engineered Structure, means a change, other than an expansion, that does not alter the purpose or function of a structure.

"Monthly Load of Total Phosphorus" means the load calculated from the daily flow volume measurements and analytical results collected at 6-day intervals that fall within a calendar month.

"Mount Polley Report" means the *Report on Mount Polley Tailings Storage Facility Breach* (January 30, 2015), prepared by the Independent Expert Engineering Investigation and Review Panel established by the B.C. Government, the Williams Lake Indian Band, and the Soda Creek Indian Band**.**

"North Inlet Facility" means the containment facility that is constructed within the North Inlet of East Island of Lac de Gras.

"North Inlet Water Treatment Plant" includes the treatment facility designated for the treatment of waters associated with the North Inlet Facility.

"Pit Water" means the water that seeps into and/or is collected within an open pit.

"Processed Kimberlite" means material rejected from the process plant after the recoverable minerals have been extracted.

"Processed Kimberlite Containment Facility" comprises the tailings containment basins and the Engineered Structures that are designed to contain tailings as identified in Drawing Number 1 11O-42D3-1005 (Overall Site Plan, Volume II-B Part L, Processed Kimberlite Containment, Water Licence Application, August 1999).

"Professional Engineer" means a person who is registered with the Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists in accordance with the *Engineering and Geoscience Professions Act*, as a Professional Engineer.

"Progressive Reclamation" has the same meaning as that term in the Mackenzie Valley Land and Water Board and Aboriginal Affairs and Northern Development Canada's *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories.*

"Project" means the undertaking described in Part A, Item 1.

"Receiving Environment" means, for the purpose of this Licence, the natural environment that receives any Discharge of Waste, including Seepage and runoff, from the Project.

"Reclamation" has the same meaning as that term in the Mackenzie Valley Land and Water Board and Aboriginal Affairs and Northern Development Canada's *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories.*

"Regulations" means Regulations proclaimed pursuant to section 63 of the Act.

"Response Framework" is a systematic approach to responding when the results of a monitoring program indicate that an Action Level has been reached.

"Response Plan" is a part of the Response Framework and describes the specific actions to be taken by the Licensee in response to reaching or exceeding an Action Level.

"Seepage" includes water or Waste that drains through or escapes from any structure designed to contain, withhold, divert, or retain water or Waste.

"Sewage" means all toilet Waste and greywater.

"Sewage Treatment Facility" means the facility that is designed to contain and treat Sewage.

"Spillway" means an Engineered Structure to facilitate the emergency release of water or Waste from a facility. The Spillway elevation is the elevation at which water or Waste begins to flow through the Spillway structure.

"Unauthorized Discharge" means any Discharge of any Waste not authorized by law or under this Licence.

"Waste" has the meaning set out in section 1 of the Act.

"Waste Rock" means all unprocessed rock materials that are produced as a result of mining operations.

"Waste Rock Storage Area" includes the engineered facilities for the disposal of rock and till, which are designated as the North and South Waste Rock Piles.

"Water Intake Facility" comprises the water intake infrastructure as identified in Drawing Number 1135-41D1-1001 (Raw Water Intake Earthworks & Section, Volume II-A, Part E, Water Intake Structure, WLA, August 1999).

"Water Licence Application" means the Type A Water Licence Application as submitted to the NWT Water Board and all additional supporting documents.

PART B: GENERAL CONDITIONS

1. This Licence is issued subject to the conditions contained herein with respect to the taking of water and the depositing of Waste of any type in any waters or in any place under any conditions where such Waste or any other Waste that results from the deposits of such Waste may enter any waters. Whenever new Regulations are made or existing Regulations are amended under the *Waters Act*, or other statutes imposing more stringent conditions relating to the quantity or type of Waste that may be so deposited, or under which any such Waste may be so deposited this Licence shall be deemed, upon promulgation of such Regulations, to be automatically amended to conform with such Regulations.

2. The Licensee shall take every reasonable precaution to protect the environment.

3. In conducting its activities under this Licence, the Licensee shall make every reasonable effort to consider and incorporate any scientific and traditional knowledge that is made available to the Licensee.

4. Compliance with the terms and conditions of this Licence does not excuse the Licensee from its obligation to comply with the requirements of any other applicable federal, territorial, Tłı̨chǫ, or municipal laws.

5. The Licensee shall ensure a copy of this Licence is maintained at the site of operations at all times.

6. The water use fee shall be paid annually, in advance of any water use, in accordance with the Mackenzie Valley Land and Water Board's *Water Use Fee Policy*.

7. The Licensee shall file an **Annual Water Licence Report** with the Board no later than March 31 of the year following the calendar year reported. The Report shall contain the information set out in Schedule 1, Item 1.

8. The Licensee shall comply with the Schedules, which are annexed to and form part of this Licence, and any amendments to the Schedules as may be made by the Board.

9. The Licensee shall comply with the Surveillance Network Program annexed to this Licence, and any amendment to the Surveillance Network Program as may be made by the Board, pursuant to the conditions of this Licence.

10. The Surveillance Network Program, Schedules, and compliance dates specified in the Licence may be modified at the discretion of the Board.

11. The Licensee shall install, operate, and maintain meters, devices, or other such methods employed for measuring the volumes of water used and Waste discharged, to the satisfaction of an Inspector.

12. The Licensee shall locate and maintain the signs identifying the stations of the Surveillance Network Program to the satisfaction of an Inspector.

13. The Licensee shall operate in accordance with the approved **Engagement Plan,** review the Plan annually, and submit updates to this Plan to the Board for approval at the following times:

    a) a minimum of ninety (90) days prior to any proposed changes to the approved Plan; and,

    b) upon the request of the Board.

14. Any revised Plan submitted to the Board under this Licence shall include a list of notable revisions to the Plan.

15. The Plans referred to in Part H, Items 2, 4, 5, 6, 7, 9, and 10, shall be presented in a format consistent with the Mackenzie Valley Land and Water Boards' *Standard Outline for Management Plans,* unless otherwise approved by the Board.

16. The Licensee shall operate in accordance with any Plans approved pursuant to the conditions of this Licence.

17. Any reference to a Plan, Guideline, Act, or Regulation in this Licence is a reference to the most current version unless otherwise explicitly stated.

PART C: CONDITIONS APPLYING TO SECURITY DEPOSITS

1. The Licensee shall post and maintain a security deposit with the Minister in an amount which is in accordance with Schedule 2.

2. Upon request of the Board, the Licensee shall submit an updated mine Reclamation liability estimate utilizing the current version of RECLAIM or another method acceptable to the Board.

3. The amount of the security deposit required by Part C, Item 1 and Schedule 2 may be revised by the Board based on estimates of the mine Reclamation liability referred to in Part C, Item 2 of this Licence or based on such other information as may become available to the Board.

4. If the amount of the security deposit is revised by the Board as described under Part C, Item 3, the Licensee shall post the revised amount with the Minister within ninety (90) days of the Board giving notice of the revised amount.

PART D: CONDITIONS APPLYING TO WATER USE

1. The Licensee is authorized to use water from the Water Intake Facility or as approved by the Board.

2. The quantity of water used for all purposes shall not exceed the following:

    a) 1,750,000 cubic metres annually during the period from November 1, 2008 until December 31, 2009, during the operational phase for domestic, mining, milling and associated purposes;

    b) 1,280,000 cubic metres annually commencing January 1, 2010, during the operational phase for domestic, mining, milling and associated purposes;

    c) 11,400,000 cubic metres during the Dewatering of the A21 pool water; and,

    d) 3,500,000 cubic metres during in-lake Dredging Activities.

3. The Licensee shall construct and maintain the water intake(s) with a fish screen designed to prevent impingement and entrainment of fish. The fish screen shall be in accordance with the detailed guidance referred to in Schedule 3, Item 1.

PART E: CONDITIONS APPLYING TO DEWATERING

1. The Licensee is authorized to dewater a portion of Lac de Gras to facilitate mining the A21 kimberlite pipe.

2. Each water source shall be sampled and analyzed in accordance with the requirements set out in the Surveillance Network Program and the results shall be provided to an Inspector for approval prior to the commencement of Dewatering.

3. The Licensee shall ensure that any waters associated with Dewatering activities that are to be discharged to Lac de Gras, satisfy the effluent quality criteria specified in Part H, Items 26 and 29.

4. All Dewatering Discharge structures shall be designed and located to minimize erosion and impacts on receiving water quality.

5. During the Dewatering of any water source that is to be discharged to Lac de Gras, daily erosion inspections of the Discharge points shall be carried out and records of these inspections shall be kept for review, upon the request of an Inspector. If any erosion is observed, the Licensee shall immediately notify an Inspector and take the necessary corrective action to mitigate the erosion problem to the satisfaction of an Inspector.

6. Within sixty (60) days of the completion of Dewatering the A21 Pit, the Licensee shall submit to the Board an **A21 Dewatering Summary Report** that shall include, but not be limited to, the requirements of Schedule 4.

PART F: CONDITIONS APPLYING TO CONSTRUCTION

1. The Licensee shall ensure that all structures intended to contain, withhold, divert, or retain water or Waste are designed, constructed, and maintained to prevent escape of Waste to the Receiving Environment.

2. The Licensee shall ensure that all Dams are designed, constructed, and maintained to meet or exceed the *Dam Safety Guidelines.*

3. The Licensee shall ensure that all Engineered Structures are constructed and maintained in accordance with the recommendations of the Professional Engineer responsible for the design, including but not limited to recommendations regarding field supervision and inspection requirements.

4. At least forty-five (45) days prior to the start of Construction of any Dams, dikes, or structures intended to contain, withhold, divert or retain water or Wastes, the Licensee shall submit to the Board for approval, design drawings stamped by a Geotechnical Engineer.

5. All rock used in Construction must meet the geochemical criteria specified in the approved **Waste Rock Management Plan** as per Part H, Item 7.

6. Prior to the start of Construction the Licensee shall undertake and submit to the Board, the **Results of a Comprehensive Delineation Program** to identify soil, rock, and Ground Ice conditions along the centerline of all containment structures and runoff control ditches. This program shall be developed in accordance with Schedule 5, Item 1.

7. The Processed Kimberlite Containment Facility shall be constructed according to the approved **Processed Kimberlite Containment Facility Design Report** (including drawings stamped by a Geotechnical Engineer and/or Engineering Geologist) in accordance with Schedule 5, Item 2.

8. The Processed Kimberlite Containment Facility shall be designed, constructed, maintained, and operated to prevent Discharge to the Groundwater system.

9. There shall be no accumulation of water against the containment Dam structures of the Processed Kimberlite Containment Facility, unless approved by the Board.

10. The Licensee shall comply with the approved **A21 Construction Environmental Management Plan** which shall be in accordance with Schedule 5, Item 3.

11. The Licensee shall annually review the **A21 Construction Environmental Management Plan** and shall submit updates to the Board, for approval, at the following times:

    a) a minimum of ninety (90) days prior to any proposed changes to the requirements in the approved Plan; and,

    b) upon request of the Board.

12. The Licensee shall implement the approved **Characterization of Enhanced Permeability Zones and Hydrogeological Test Work Plan for the A21 Pit Area.**

13. The Licensee shall construct the A21 Water Retention Dike in accordance with the **Final A21 Dike Design Report** stamped by a Geotechnical Engineer and/or Engineering Geologist.

14. The Licensee shall construct the A21 Mine according to the **Final Detailed Mine Design Report**, stamped by a Geotechnical Engineer and/or an Engineering Geologist. This Report shall be developed in accordance with Schedule 5, Item 4.

15. The Licensee shall submit a comprehensive report from the Diavik Geotechnical Review Board that indicates their assessment and approval of the **Final Dike Design Report** and plastic concrete wall performance.

16. A minimum of six (6) months prior to the commencement of Construction of the south Waste Rock Storage Area, the Licensee shall submit a **Waste Rock Storage Area Design Report**. The Licensee shall construct the Waste Rock Storage Area according to the **Waste Rock Storage Area Design Report** stamped by a Professional Engineer and/or Engineering Geologist and meet the requirements of Schedule 5, Item 5.

17. The Licensee shall construct the Drainage Control and Collection System according to the final detailed **Drainage Control and Collection System Design Report** (including representative cross sections and drawings of the Drainage Control and Collection System stamped by a Professional Engineer and/or Engineering Geologist).

18. The Licensee shall ensure that all Construction of Engineered Structures is supervised by a Professional Engineer and/or Engineering Geologist. The Licensee shall also ensure that Construction records of Engineered Structures are maintained and made available at the request of the Board and/or Inspector.

19. The Licensee shall, within ninety (90) days after completion of any Dam, submit to the Board a **Geotechnical Engineering Report** prepared by a Professional Engineer and/or Engineering Geologist that shall include as-built drawings, documentation of field decisions that deviate from original plans, and any data used to support these decisions.

20. Prior to the start of Construction of all on-land water and Waste management structures, the Licensee shall prepare a **Quality Assurance/Quality Control Manual**. The Manual shall be submitted to the Board for approval, prior to the commencement of the Construction of those structures. This Manual shall be developed in accordance with Schedule 5, Item 6.

21. The Licensee shall operate in accordance with the approved **Quality Assurance/Quality Control Manual** for the Construction of the A21 Dike. The Manual shall be in accordance with Schedule 5, Item 7.

PART G: CONDITIONS APPLYING TO MODIFICATIONS

1. The Licensee may, without written approval from the Board, carry out Modifications to Engineered Structures related to water use and Waste disposal provided that such Modifications are consistent with the terms of this Licence and the following requirements are met:

    a) the Licensee has notified the Board in writing of such proposed Modifications at least forty-five (45) days prior to beginning the Modifications;

    b) the Modifications do not place the Licensee in contravention of either the Licence or the Act;

    c) the Board has not, during the forty-five (45) days following notification of the proposed Modifications, informed the Licensee that review of the proposal will require more than forty-five (45) days;

    d) an Inspector has confirmed the acceptability of the proposed Modification to the Board in writing; and,

    e) the Board has not rejected the proposed Modifications.

2. Modifications for which all of the conditions referred to in Part G, Item 1, have not been met may be carried out only with written approval from the Board.

3. Within ninety (90) days of the completion of Modifications referred to in Part G, Item 1, the Licensee shall provide as-built drawings stamped by a Professional Engineer to the Board.

PART H: CONDITIONS APPLYING TO WATER AND WASTE MANAGEMENT

1. Within ninety (90) days of the effective date of this Licence, the Licensee shall submit a **Waste Management Plan.** The Plan shall be in accordance with the Mackenzie Valley Land and Water Board's *Guidelines for Developing a Waste Management Plan*, 2011. In addition to conforming to the Guidelines, the Plan shall include a section that addresses the Licensee's plan for the mitigating and monitoring of dust resulting from its operations. Once approved, the Licensee shall operate in accordance with the approved **Waste Management Plan**.

2. The Licensee shall operate in accordance with the approved **Water Management Plan**. The Plan shall be in accordance with Schedule 6, Item 1.

3. Within sixty (60) days of the effective date of this Licence, the Licensee shall submit an updated **Water Management Plan,** for approval.

4. The Licensee shall operate in accordance with the approved **Processed Kimberlite Containment Facility Plan**. The Plan shall be in accordance with Schedule 6, Item 2.

5. The Licensee shall operate in accordance with the approved **North Inlet Water Treatment Plant Operations Plan**. The Plan shall be in accordance with Schedule 6, Item 3.

6. The Licensee shall operate in accordance with the approved **Sewage Treatment Facility Operations Plan.** The Plan shall be in accordance with Schedule 6, Item 4.

7. The Licensee shall operate in accordance with the approved **Waste Rock Management Plan.** The Plan shall be in accordance with Schedule 6, Item 5.

8. A minimum of six (6) months prior to the commencement of Construction of the south Waste Rock Storage Area, the Licensee shall submit an updated **Waste Rock Management Plan,** for approval.

9. The Licensee shall operate in accordance with the approved **Hazardous Materials Management Plan**.

10. The Licensee shall operate in accordance with the approved **Ammonia Management Plan**.

11. A minimum of twelve (12) months prior to pre-stripping of the A21 Pit, the Licensee shall submit an updated **Ammonia Management Plan,** for approval.

12. The Licensee shall annually review the **Waste Management Plan**, **Water Management Plan, Processed Kimberlite Containment Facility Plan**, **North Inlet Water Treatment Plant Operations Plan**, **Sewage Treatment Facility Plan**, **Waste Rock Management Plan**, **Hazardous Materials Management Plan**, and **Ammonia Management Plan** referred to in Part H, Items 1, 2, 4, 5, 6, 7, 9, and 10, respectively, and shall submit updates to the Plans to the Board, for approval, at the following times:

    a) a minimum of ninety (90) days prior to any proposed changes to the requirements in the approved Plan; and,

    b) upon request of the Board.

13. The Licensee shall implement the approved Standard Operating Procedures for pH adjustment for all Discharges to Lac de Gras from SNP Station # 1645-18.

14. Upon instruction from the Board, the Licensee shall modify the Standard Operating Procedures for pH adjustment referred to in Part H, Item 13, to reflect directives from the Board. The modified Procedures shall be submitted to the Board for approval and shall be implemented upon approval.

15. The Licensee shall conduct Seepage surveys for all constructed rock piles, stockpiles of Reclamation rock, ore stockpiles, areas constructed with mined or quarried rock, and water retention dikes and dams. The Seepage surveys shall be in accordance with Schedule 6, Item 6.

16. By March 31 each year, the Licensee shall submit to the Board, for approval, a **Seepage Survey Report.** The Report shall be in accordance with Schedule 6, Item 6.

17. Within six (6) months following the effective date of this Licence, the Licensee shall submit a **Mount Polley Report Evaluation** prepared by a Professional Engineer. The Report shall assess the applicability of the recommendations in the Mount Polley Report to the Diavik Diamond Mine Project.

18. On or before January 31, 2016, the Licensee shall submit a **North Inlet Hydrocarbon Investigation Report**. The objective of the Plan is to identify sources of hydrocarbon contamination in the North Inlet Facility. The Plan shall be in accordance with Schedule 6, Item 7.

19. On or before January 31, 2016, the Licensee shall submit to the Board, for approval, a **North Inlet Sludge Management Report**. The objective of the Report is to determine whether North Inlet Water Treatment Plant sludge should be disposed in an alternative location in order to meet the Closure Objectives in the approved **Closure and Reclamation Plan**. The Report shall be in accordance with Schedule 6, Item 8.

Engineering Standards

20. The Licensee shall operate and maintain the Water Retention Dikes to engineering standards such that at a minimum they comply with the *Dam Safety Guidelines,* and in accordance with the following:

    a) the lowest point on the upper edge of the Diaphragm Wall shall not be lower than 419.0 metres above mean sea level, or as recommended by a Geotechnical Engineer and as approved by the Board;

    b) the Licensee shall install and maintain geotechnical instrumentation in the Water Retention Dikes as described in the Water Retention Dikes Final Design Report, dated July 1999;

    c) a schedule of reading the instrumentation shall be submitted to the Board for approval not less than three (3) months before Dewatering is scheduled to commence. The Licensee shall carry out the instrumentation reading schedule upon approval of the Board;

    d) weekly inspections of the Water Retention Dikes shall be conducted and the records of these inspections and all monitoring records shall be kept for review upon request of an Inspector;

    e) any Seepage through the Water Retention Dikes that does not meet the effluent quality criteria Part H, Items 26 and 29 shall be collected and directed to the North Inlet or the Processed Kimberlite Containment Facility, and measures shall be employed to reduce Seepage;

    f) any deterioration or erosion of any Engineered Structures associated with the Water Retention Dikes shall be reported to an Inspector and repaired immediately; and,

    g) an inspection of the Water Retention Dikes shall be carried out annually in August by a Geotechnical Engineer. The Engineer's report shall be submitted to the Board within ninety (90) days of the inspection, including a covering letter from the Licensee outlining an **Implementation Plan** for addressing each of the Engineer's recommendations.

21. The Licensee shall operate and maintain the Processed Kimberlite Containment Facility to engineering standards such that:

    a) a minimum Freeboard limit of 1.5 metres below the lowest surveyed point of the liner or of the engineered emergency Spillway, whichever is lower, shall be maintained at all times; or as recommended by a Geotechnical Engineer and as approved by the Board*;*

    b) if Seepage from the Processed Kimberlite Containment Facility occurs, the Licensee shall collect and return the Seepage to the Processed Kimberlite Containment Facility and measures shall be undertaken to eliminate the Seepage;

    c) any deterioration or erosion of any Engineered Structures associated with the Processed Kimberlite Containment Facility shall be reported to an Inspector and repaired immediately;

    d) the solids fraction of all Processed Kimberlite shall be deposited and permanently contained within the Processed Kimberlite Containment Facility;

e) weekly inspections of the Processed Kimberlite Containment Facility Dams, emergency Spillway(s), pipeline(s), and catchment basin(s) shall be conducted and the records of these inspections shall be kept for review upon the request of an Inspector; and,

f) an inspection of the Processed Kimberlite Containment Facility shall be carried out annually in July by a Geotechnical Engineer. The **Engineer's Report** shall be submitted to the Board within ninety (90) days of the inspection, including a covering letter from the Licensee outlining an **Implementation Plan** for addressing each of the Engineer's recommendations.

22. The Licensee shall operate and maintain the Drainage Control and Collection System to engineering standards such that:

a) a minimum Freeboard limit of one (1) metre below the engineered emergency Spillways shall be maintained at all times or as recommended by a Geotechnical Engineer and as approved by the Board;

b) Seepage from the Drainage Control and Collection System shall be minimized, collected, and returned to the Drainage Control and Collection System or Processed Kimberlite Containment Facility;

c) any deterioration or erosion of any Engineered Structures associated with the Drainage Control and Collection System shall be reported to an Inspector and repaired immediately;

d) weekly inspections of the Drainage Control and Collection System, emergency Spillway(s), pipeline(s), and catchment basin(s) shall be conducted and the records of these inspections shall be kept for review upon the request of an Inspector;

e) during the weekly inspections required by Part H, Item 22(d), if DDMI detects Seepage,

i. the following information shall be reported in the subsequent monthly SNP report: date Seepage identified, location, rate of flow each day, number of days until Seepage was contained, and the results of the analysis of the Seepage for the parameters outlined in Part H, Item 22(e)(ii).

ii. DDMI must notify the Inspector immediately and provide any information requested by the Inspector. The Seepage must be sampled daily until contained and the daily samples analyzed for the following parameters: total metals, pH, total ammonia, NO_3, Cl, and SO_4.

f) an inspection of the Drainage Control and Collection System shall be carried out annually in July by a Geotechnical Engineer. The **Engineer's Report** shall be submitted to the Board within ninety (90) days of the inspection, including a covering letter from the Licensee outlining an **Implementation Plan** for addressing each of the Engineer's recommendations.

23. The Licensee shall operate and maintain the North Inlet Facility to engineering standards such that:

a) a minimum Freeboard limit of 1.5 metres below the engineered emergency Spillway shall be maintained at all times or as recommended by a Geotechnical Engineer and as approved by the Board;

b) any deterioration or erosion of any Engineered Structures associated with the North Inlet Facility shall be reported to an Inspector and repaired immediately;

c) the solids fraction of the lake bed sediments that are disposed in the North Inlet Facility shall be permanently contained within the North Inlet Facility or as approved by the Board;

d) Seepage from the west dike of the North Inlet Facility shall be minimized, collected, and returned to the North Inlet Facility;

e) weekly inspections of the North Inlet Facility, emergency Spillway(s), pipeline(s), and catchment basin(s) shall be carried out and records of these inspections shall be kept for review upon the request of an Inspector; and,

f) an inspection of the North Inlet Facility shall be carried out annually in August by a Geotechnical Engineer. The **Engineer's Report** shall be submitted to the Board within ninety (90) days of the inspection, including a covering letter from the Licensee outlining an **Implementation Plan** for addressing each of the Engineer's recommendations.

24. The Licensee shall conduct Dam Safety Reviews of the following:

a) the Processed Kimberlite Containment Facility in 2017 and every seven (7) years thereafter, or at a frequency approved by the Board;

b) the A418 dike in 2017 and every five (5) years thereafter, or at a frequency approved by the Board;

c) the A154 dike in 2018 and every five (5) years thereafter, or at a frequency approved by the Board; and,

d) the A21 dike in 2020 and every five (5) years thereafter, or at a frequency approved by the Board.

The Dam Safety Reviews shall be conducted in accordance with the *Dam Safety Guidelines* by a Professional Engineer. The timing of the Dam Safety Review inspection will be at the discretion of the review Engineer conducting the inspection.

25. Within ninety (90) days after completing a Dam Safety Review inspection, the Licensee shall submit to the Board:

a) the Engineer's **Dam Safety Review Report**; and,

b) an **Implementation Plan** outlining how the Licensee will respond to each recommendation in the Engineer's **Dam Safety Review Report**, including a rationale for any decisions that deviate from the Engineer's recommendations.

Effluent Quality Criteria (EQC)

26. The Licensee shall ensure that all Discharges to Lac de Gras from the Water Treatment Facilities at SNP Station # 1645-18 meet the following Effluent Quality Criteria:

Parameter	Maximum Average Concentration	Maximum Concentration of Any Grab Sample
Total Ammonia	6.0 mg/L	12.0 mg/L
Total Aluminum	1.5 mg/L	3.0 mg/L
Total Arsenic	0.05 mg/L	0.1 mg/L
Total Copper	0.02 mg/L	0.04 mg/L
Total Cadmium	0.0015 mg/L	0.003 mg/L
Total Chromium	0.02 mg/L	0.04 mg/L
Total Lead	0.01 mg/L	0.02 mg/L
Total Zinc	0.01 mg/L	0.02 mg/L
Total Nickel	0.05 mg/L	0.1 mg/L
Nitrite	1.0 mg/L	2.0 mg/L
Total Suspended Solids	15.0 mg/L	25.0 mg/L
Turbidity	10 NTU	15 NTU
BOD_5	15.0 mg/L	25.0 mg/L
Total Petroleum Hydrocarbons	3.0 mg/L	5.0 mg/L
Faecal Coliforms	10 CFU/100ml	20 CFU/100ml

27. All other authorized Discharges to Lac de Gras shall meet the Effluent Quality Criteria as specified in Part H, Items 26 and 29.

28. All surface runoff Discharged to Lac de Gras shall have a pH between 5.0 and 8.4 unless it can be demonstrated that a pH outside this range was not caused by mine activities.

29. All authorized Discharges to Lac de Gras (except for surface runoff) shall have a pH between 6.0 and 8.4.

30. No Discharge to Lac de Gras by the Licensee from the Water Treatment Facilities at SNP Station #1645-18 shall be acutely toxic under the following tests to be conducted as per the Surveillance Network Program annexed to this Licence:

    a) acute lethality to rainbow trout, *Oncorhynchus mykiss* as per Environment Canada's Environmental Protection Series Biological Test Method EPS/1/RM/13; and,

    b) acute lethality to the crustacean, *Daphnia magna* (as per Environment Canada's Environmental Protection Series Biological Test Method EPS/1/RM/14.

31. The Licensee shall ensure that all in-lake dredging, dike Construction, or other in-lake activities meet the following criteria: At SNP Station #1645-82 to 1645-84 inclusive, and at a 200 metre distance in any direction from the centerline of the dike footprint the maximum concentration for Total Suspended Solids shall not exceed 25 mg/L over the background concentration at SNP station #1645-55, in any grab sample.

32. Total phosphorus loads from all treatment facilities discharging to Lac de Gras must be controlled, as per approved operations plans, such that loads of total phosphorus do not exceed a maximum of 300 kg per month during the life of the mine, and do not exceed an average annual loading of 1,000 kg per year during the life of the mine, and do not exceed a maximum loading of 2,000 kg per year in any year during the life of the mine.

33. The Licensee shall provide water sampling results to an Inspector prior to any authorized Discharge to the Receiving Environment. Discharge shall not commence until authorized in writing by an Inspector.

PART I: CONDITIONS APPLYING TO CONTINGENCY PLANNING

1. The Licensee shall operate in accordance with the approved **Contingency Plan.** The Plan shall be in accordance with Indian and Northern Affairs Canada's *Guidelines for Spill Contingency Planning*, 2007, and Schedule 7, Item 1.

2. The Licensee shall annually review the **Contingency Plan** and shall submit updates to the Plan to the Board, for approval, at the following times:

    a) a minimum of ninety (90) days prior to any proposed changes to the requirements in the approved Plan; and,

    b) upon request of the Board.

3. If, during the period of this Licence, an Unauthorized Discharge of Waste occurs or is foreseeable, the Licensee shall:

    a) implement the approved **Contingency Plan**;

    b) report the incident immediately via the 24 Hour Spill Report Line (867) 920-8130 in accordance with the instructions contained in the Spill Report Form NWT 1752/0593;

    c) report each spill and Unauthorized Discharge to an Inspector within 24 hours; and,

    d) within thirty (30) days of an Unauthorized Discharge or an incident reported under Part I, Item 3b, the Licensee shall submit a detailed report to the Board and an Inspector. The report shall include descriptions of causes, response actions, and any changes to procedures proposed to prevent similar occurrences in the future.

4. The **Contingency Plan** required under Part I, Item 1, shall not include the extraction of water from Lac de Gras for the purpose of pre-diluting the effluent as an ongoing operational approach for dealing with elevated levels of ammonia.

5. All spills and Unauthorized Discharges shall be reclaimed to the satisfaction of an Inspector.

PART J: CONDITIONS APPLYING TO AQUATIC EFFECTS MONITORING

1. The Licensee shall submit for approval a revised version of the May 2006 report, Historical Information Review – Aquatic Environmental, that was submitted under Licence N7L2-1645, if directed by the Board.

2. The Licensee shall comply with the approved **AEMP Design Plan**. The **AEMP Design Plan** shall include a **Response Framework** and be in accordance with Schedule 8, Item 1.

3. The Licensee shall review and revise, as necessary, the **AEMP Design Plan** every three years, or as directed by the Board.

4. The Licensee shall comply with the approved **AEMP Quality Assurance Project Plan**. To reflect changes to the **AEMP Design Plan**, the Licensee shall, every three years or as directed by the Board, review and revise the **AEMP Quality Assurance Project Plan**, for Board approval.

5. The Licensee shall complete Specific Effects Studies and shall submit the **Specific Effects Study Reports** to the Board for approval. These studies shall include, but not necessarily be limited to, those listed in Schedule 8, Item 2.

6. If any Action Level defined in the approved **Response Framework** is exceeded, the Licensee shall:

    a) notify the Board within thirty (30) days of when the exceedance is detected; and,

    b) within ninety (90) days of when the exceedance is detected, submit a **Response Plan** that satisfies the requirements of Schedule 8, Item 3 to the Board for approval.

7. The Licensee shall implement **Response Plans** as, and when, approved by the Board.

8. On or before March 31 each year, the Licensee shall submit an **AEMP Annual Report** to the Board for approval. This Report shall satisfy the requirements of Schedule 8, Item 4, and include information relating to data collected in the preceding calendar year.

9. The Licensee shall submit an **Aquatic Effects Re-evaluation Report** for Board approval every three (3) years, or upon direction from the Board. The Report shall meet the following objectives and satisfy the requirements of Schedule 8, Item 5:

    a) To describe the Project-related effects on the Receiving Environment compared against Environmental Assessment (EA) predictions;

    b) To update predictions of Project-related effects on the Receiving Environment based on monitoring results obtained since Project inception; and,

    c) To provide supporting evidence, if necessary, for proposed revisions to the **AEMP Design Plan**.

10. If not approved by the Board, the Plans and Reports referred to in Part J, Items 2, 4, 5, 6, 8, and 9 shall be revised and resubmitted in accordance with directives from the Board.

PART K: CONDITIONS APPLYING TO CLOSURE AND RECLAMATION

1. The Licensee shall implement the **Closure and Reclamation Plan** as approved by the Board and endeavour to carry out Progressive Reclamation as soon as is reasonably practicable.

2. Updates to the **Closure and Reclamation Plan** shall be in accordance with the Mackenzie Valley Land and Water Board and Aboriginal Affairs and Northern Development Canada's *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories*. In addition to conforming with the Guidelines, the Plan shall be in accordance with Schedule 9, Item 1, and any other direction from the Board.

3. The Licensee shall submit a revised **Closure and Reclamation Plan** upon request of the Board.

4. Prior to December 31 of each year, the Licensee shall submit an **Annual Closure and Reclamation Plan Progress Report**. The Report shall be developed in accordance with the Mackenzie Valley Land and Water Board and Aboriginal Affairs and Northern Development Canada's *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories,* Schedule 9, Item 2, and any other direction from the Board.

5. Following the closure and/or Reclamation of components of the Project, the Licensee shall submit a **Reclamation Completion Report** to the Board for approval. The Report shall be developed in accordance with the Mackenzie Valley Land and Water Board and Aboriginal Affairs and Northern Development Canada's *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites within the Northwest Territories.*

6. Once the Licensee has determined that Closure Objectives and Closure Criteria have been met, the Licensee shall submit a **Performance Assessment Report** to the Board for approval. The Report shall be developed in accordance with the Mackenzie Valley Land and Water Board's *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites within the Northwest Territories*.

7. The Licensee shall submit a **Final Closure and Reclamation Plan** to the Board for approval three (3) years prior to the expiry date of this Licence or a minimum of twenty-four (24) months prior to the end of commercial operations, whichever occurs first.

SCHEDULE 1
ANNUAL WATER LICENCE REPORT

1. The **Annual Water Licence Report** referred to in Part B, Item 7, shall include, but not be limited to, the following:

Quantities and Measurements

a) the monthly and annual quantities in cubic metres of water obtained from Lac de Gras;

b) the monthly, annual, and total quantities in cubic metres of water dewatered from the A21 pool;

c) the monthly elevations of water in the North Inlet during the open water period;

d) the monthly and annual quantities in cubic metres of recycled water identifying both the source and use;

e) the monthly and annual quantities of solids in tonnes and liquid fractions in cubic metres of each Waste stream discharged to the Processed Kimberlite Containment Facility, and the North Inlet, by source;

f) the monthly and annual quantities of dredged sediment in cubic metres;

g) the monthly and annual quantities in cubic metres of all Discharges to Lac de Gras, by source;

h) the monthly and annual quantities in cubic metres of treated effluent discharged from the Sewage Treatment Facility;

i) the monthly and annual quantities in cubic metres of Sewage solids removed from the Sewage Treatment Facility;

j) the current annual and past annual quantities in cubic metres and tonnes for till, ore stockpiling, Processed Kimberlite generation and Waste Rock production (per rock type) by destination including sources of each material;

k) for materials listed in Condition j:

   i. provide a comparison of quantities of materials (where applicable) between predictions in the Processed Kimberlite Containment Facility Plan and Waste Rock Management Plan, against material deposited in the preceding year; and

   ii. identify if predictions in the Processed Kimberlite Containment Facility Plan and Waste Rock Management Plan require updating and if they have implications on how the materials will be managed.

l) a summary which describes any important trends, notable events, or other significant interpretations of the SNP data. All raw SNP data is to be submitted in electronic form;

m) analyze temporal trends in PHC F3 concentration from SNP stations 1645-75 and 1645-75b, since the beginning of sampling for PHC F3, and to present and discuss results from this analysis.

n) present the PHC F3 results from sediment collected during the open-water season at SNP

station 1645-19 and provide a discussion on the analysis of that data.

Management Plans and Activities

o) a summary of Dewatering activities undertaken in accordance with Part E;

p) a summary of Construction activities conducted and an updated **Mine Plan**, including any changes to the schedule for mine development;

q) a summary of all work carried out under the Management Plans in accordance with Part H;

r) an overall water balance for the Project, that includes the specific water balances for each of the Processed Kimberlite Containment Facility and the North Inlet Facility, and associated waters for both facilities as updated with current information respecting:
    i. on-site precipitation, evaporation and runoff;
    ii. volumes of recycled water and raw water utilized during the previous year;
    iii. Groundwater inflows to the pit;
    iv. realized capacity of water treatment plants; and
    v. stage-volume curves that show the expected capacity of the Processed Kimberlite Containment and North Inlet Facilities.

s) a summary of Modifications and/or major maintenance work carried out on the Water Treatment Facilities, Processed Kimberlite Containment Facility, Sewage Treatment Facilities, Drainage Control and Collection System and any associated structures;

Spills and Unauthorized Discharges

t) a list and description including volumes of all Unauthorized Discharges and spills of Waste, and summaries of follow-up actions taken;

u) an outline of any spill training exercises carried out;

v) annual underground spill summary;

Other Reporting Requirements

w) results and interpretation of further fracture zone characterization and hydrogeological test work conducted in accordance with Part F, Item 12, and its implications for potential Groundwater inflows and overall water balances;

x) a progress report on any studies requested by the Board and a brief description of any future studies planned by the Licensee;

y) annual results and interpretation of any geochemical sampling or testing completed for till, ore, Processed Kimberlite, and/or Waste Rock produced during the preceding year, including whether the results affects management of those materials (i.e. changes to the Processed Kimberlite Facility Plan or Waste Rock Management Plan);

z) any other details on water use or Waste disposal requested by the Board by November 1 of the year being reported;

aa)annual trends in ammonia concentrations; and,

bb) summarize feedback received from affected parties resulting from an internal annual review of the Engagement Plan, as well as on DDMI's engagement processes throughout the year.

SCHEDULE 2
SECURITY

1. The Licensee shall maintain a security deposit of $142,810,000 in accordance with section 35 of the Act and section 11 of the *Waters Regulations*.

SCHEDULE 3
WATER USE

1. The detailed guidance referred to in Part D, Item 3, is the Department of Fisheries and Oceans' *Freshwater Intake End-of-Pipe Fish Screen Guidelines*, 1995, and *Fish Screen Design Criteria for Flood and Water Truck Pumps,* 2011.

SCHEDULE 4
DEWATERING

1. The **A21 Dewatering Summary Report** referred to in Part E, Item 6, that shall include, but not be limited to, the following:

    a) the metered daily, monthly, and total Discharge rates;

    b) a description of any water treatment undertaken, erosion problems encountered, and mitigative actions taken;

    c) the results of water quality monitoring and an evaluation of compliance with the regulated water quality requirements; and,

    d) an evaluation of any impacts to Lac de Gras resulting from Dewatering activities.

SCHEDULE 5
CONSTRUCTION

1. The Comprehensive Delineation Program referred to in Part F, Item 6, of the Licence, shall include, but not necessarily be limited to, the following:

    a) detailed delineation of ice rich features;

    b) follow up test pit and/or borehole investigations; and,

    c) geophysical surveys.

2. The **Processed Kimberlite Containment Facility Design Report** referred to in Part F, Item 7, of the Licence, shall include, but not necessarily be limited to, the following:

    a) a description of existing conditions beneath the footprint of the structure and extending at least fifty (50) metres beyond the footprint in either direction, including the distribution of the frozen and unfrozen soil and rock materials along representative cross sections of the dams;

    b) an explanation for any significant lateral variations in soil materials and the implications of the soil variability on the West Dam design;

    c) intended depth of excavation for each of the cross sections selected;

    d) a description of the variability of the spatial and engineering properties of the soil;

    e) the interpreted engineering properties of unfrozen materials below the depth of excavation within the areas delineated in the cross sections in Item 2 i);

    f) representative cross sections showing the various stages of Dam raises when geothermal modelling and short term slope stability analyses are to be conducted;

    g) a schedule indicating the time of year when the Construction of each lift will be carried out;

    h) representative cross sections showing the final configuration of the upstream toe of all dams when operation of the facility commences;

    i) an evaluation of the magnitude of differential settlement related to the taliks underneath the proposed dams, as well as foundation movement related to frost heave and thaw settlement over the design life of the structure; and,

    j) the results of revised geothermal modelling throughout the intermediate and final stages of Construction.

3. The **A21 Construction Environmental Management Plan** shall include but not necessarily be limited to:

    a) Dredging Plan:

        i. a schedule of Dredging Activities;
        ii. dredging equipment design and operation;
        iii. production rates;
        iv. operational approaches for minimizing sediment disturbance; and,
        v. final monitoring plan details.

    b) Dewatering Plan:

        i. the volume of water to be Dewatered from each source;
        ii. the expected quality of water to be discharged to Lac de Gras;
        iii. a schedule for Dewatering and daily Discharge rates;
        iv. pumping methods including locations of intake and outflow structures;
        v. the design of any erosion protection measures to be employed in the Discharge areas;
        vi. the description of procedures and schedules for visual inspections of any erosion along the Discharge areas;
        vii. the frequency and locations for water quality monitoring as referred to in the Surveillance Network Program;
        viii. the frequency, location, and procedures for monitoring flow rates in the Discharge stream;
        ix. the design of each pipeline and related facilities;
        x. the procedures and rates for Dewatering during the winter months to minimize erosion;
        xi. the identification of any treatment that may be used to ensure that effluent quality criteria are met; and,
        xii. a description of how the Licensee will link the results of monitoring to those corrective actions necessary to prevent or minimize any Dredging- or Dewatering-related effects to the Receiving Environment.

    c) A conformance table identifying where each of the requirements in Schedule 5, Items 3(a), (b), and (c) are located in the Plan (e.g., page number and/or document section).

4. The **Final Detailed Mine Design Report** referred to in Part F, Item 14, of the Licence, shall include, but not necessarily be limited to, the following:

    a) A detailed engineering report

    b) the results of detailed analyses that demonstrate the compatibility of the Mine Design and water retention dike design, with special reference to Seepage and Groundwater flow, slope stability and deformations;

c) a complete characterization of the rock or soil properties (including thermal) of both *in situ* and placed materials necessary to meet performance objectives;

d) a description of the scope of any additional evaluations to be conducted prior to Construction, that includes foundation inspection, drill holes and test pits, samples to be collected, analyses to be conducted and details of any instrumentation to be installed;

e) the results of a comprehensive test program and structural assessment to demonstrate that the dike and plastic concrete wall will perform satisfactorily. The test program shall identify the range of acceptable material properties (dike fill zones, plastic concrete, jet grout and bedrock grout) that will meet performance expectations. The structural assessment shall demonstrate that the short and long term performance of the dike and plastic concrete, as an integrated structure, will be acceptable under the range of hydraulic, deformation and thermal conditions expected; and,

f) The plastic concrete testing shall include at a minimum laboratory testing for the optimization of the proposed mix design of the plastic concrete, laboratory testing to determine the freezing and frozen properties of the plastic concrete, geothermal analysis to determine the thermal regime as a function of time as permafrost aggrades into the dike and encompasses the Diaphragm Wall, and analyses of deformation and water retention characteristics under predicted insitu conditions, including the drawdown, mining and closure scenarios.

5. The final **Waste Rock Storage Area Design Report** referred to in Part F, Item 16, of the Licence, shall include, but not necessarily be limited to, the following:

a) geothermal analysis of the foundation of the Waste Rock Storage Area and till storage areas; and,

b) short term stability analyses that simulate the development of the Waste Rock disposal facilities and till storage area across the sediment retention pond and the clarification pond, particularly the portions underlain by thawed/thawing ice rich soils. These analyses should identify the method of Construction and lift thickness of the rock pile that will not result in the release of water or sediment from the facility and/or damage to the containment structures.

6. The **Quality Assurance/Quality Control Manual** for on-land water and Waste management structures referred to in Part F, Item 20 of the Licence, shall include, but not necessarily be limited to, the following:

a) a complete characterization of the soil and/or rock properties of both insitu and placed materials necessary to meet performance objectives for each structure;

b) the procedures to be followed upon identification of any unacceptable materials, that includes reporting, removal, replacement, specifications for insitu remediation and/or replacement materials;

c) the protocol and schedule for inspections and sampling during the Construction of each structure;

d) the frequency of visual inspections for the identification of material types, stratigraphy, ice content and distribution, and any other parameters as may be identified in Item 5 a) above; and,

e) the schedule of sampling for confirmatory laboratory testing of the materials identified in Items 5 a) and 5 b) above.

7. The **Quality Assurance/Quality Control Manual** for the Construction of the Water Retention Dikes referred to in Part F, Item 21 of the Licence, shall include, but not necessarily be limited to, the following:

a) For Dredging Activities:

i. the protocol and schedule of inspecting and sampling during the dredging period that includes a description of methods that will be used to assess dredging effectiveness to remove lakebed sediments;

ii. the procedures to be followed upon identification of any unacceptable materials that includes reporting requirements and removal methods;

iii. the operational measures that will be employed to minimize re-suspension of lakebed sediments in Lac de Gras as a result of Dredging Activities; and,

iv. monitoring requirements and operational in-line dredge metering for determining dredging effectiveness.

b) For Dike Rock Placement Activities:

i. the protocol and schedule of inspecting and sampling during the placement of rock materials to ensure performance objectives are met for grain size distribution, surveying and geometric control and verification of vibrodensification;

ii. the schedule of monitoring that includes the type and distribution of instrumentation to be used , monitoring frequency, monitoring threshold limits upon which action should be taken and proposed contingency measures in the event that design specifications are not achieved; and,

iii. identify operational measures to be employed to minimize introduction of sediments in Lac de Gras as a result of dike placement activities.

c) For Plastic Concrete Placement Activities:

i. the protocol and schedule of inspecting and sampling for preparation of the plastic concrete;

ii. the protocol of inspections and monitoring of the excavation of the Cut-off Wall Trench including vertical alignment, slurry loss, preparation of primary panel ends, cleaning of panel base, sequence of panel Construction and placement;

iii. the schedule of monitoring that includes type and distribution of instrumentation, monitoring frequency, design specifications upon which action should be taken and proposed contingency measures in the event that design specifications and not met; and,

iv. measures to be employed for the management of all bentonite not confined to the Cut-off Wall trench.

d) For Jet Grouting and Bedrock Grouting Activities:

i. the protocol and schedule of inspecting and sampling for preparation of the grout mixtures;

ii. the protocol of inspections and monitoring for the alignment of drill holes;

iii. the protocol of inspections and monitoring for the grouting pressures, grout take and return volume; and,

iv. the schedule of monitoring including type and distribution of instrumentation and monitoring frequency.

8. The Quality Assurance/Quality Control Manuals in Items 6 and 7 above, shall describe the management thresholds upon which action will be taken to implement the contingency measures and mitigation in the event that design specifications are not met.

SCHEDULE 6
WATER AND WASTE MANAGEMENT

1. The **Water Management Plan** referred to in Part H, Item 2, shall include, but not necessarily be limited to the following:

    a) measures that will be undertaken to minimize the amount of raw water required from Lac de Gras; the measures shall integrate the requirements of, or work done under, other Management Plans or research projects and shall consider alternative water sources such as the Processed Kimberlite Containment Facility, North Inlet Facility, and Pits;

    b) a complete list of Waste streams that are discharged to Lac de Gras without treatment;

    c) a summary of plans for managing water to be stored in the Processed Kimberlite Containment Facility, the North Inlet Facility and for the management of all other waters on East Island; and,

    d) an overall water balance for the Project, at the time the Plan was last updated or if changes to the water balance impact the Water Management Plan. The water balance shall include the specific water balances for each of the Processed Kimberlite Containment Facility and the North Inlet Facility, and associated waters for both facilities as updated with current information respecting:

        i. on-site precipitation, evaporation and runoff;
        ii. volumes of recycled water and raw water utilized during the previous year;
        iii. Groundwater inflows to the pit;
        iv. realized capacity of water treatment plants; and,
        v. stage-volume curves that show the expected capacity of the Processed Kimberlite Containment and North Inlet Facilities.

    e) A map including site facilities, all components of the Drainage Control and Collection System, potential surface water flow paths (to Lac de Gras and/or facilities), all the water and wastewater streams that report to and from the Drainage Control and Collection System and all the water and wastewater streams that fall outside the Drainage Control and Collection System.

2. The **Processed Kimberlite Containment (PKC) Facility Plan**, (formerly the Processed Kimberlite and Waste Water Management Plan) referred to in Part H, Item 4, shall be in accordance with the NWT Water Board's "*Guidelines for Tailings Impoundment in the Northwest Territories*, February 1987", and will include, but not necessarily be limited to, the following:

    a) a comprehensive description of all sources and types of Waste and wastewater which will be deposited in the Processed Kimberlite Containment (PKC) Facility;

    b) a description of any proposed physical or chemical treatment of Waste or wastewater prior to its Discharge to the PKC Facility and prior to Discharge from the PKC Treatment Facility to the Receiving Environment;

c) a description, including maps to scale, of the locations of all monitoring stations within the PKC Facility and Discharge locations to and from the PKC Facility. The description should include the sampling protocols for each station;

d) a description of the management and scheduling of all Processed Kimberlite deposition within the PKC Facility;

e) stage-volume curves and water, solids and ice balance calculations showing life expectancy of the PKC Facility;

f) any operational and/or structural Modifications which may be implemented that will affect the management of the PKC Facility and associated wastewater operations;

g) a description of the methods that will be used to determine the volume in cubic metres of fine and coarse fractions of Processed Kimberlite disposed of in the PKC Facility on an annual basis;

h) a description of the procedures that will be used to characterize the physical, thermal and chemical properties of the fine kimberlite in the frozen and thawed condition within the PKC Facility;

i) a description of the procedures that will be used to characterize pore water within frozen and thawed zones; and,

j) a description of the thermal monitoring of Dam structures that will be conducted to ensure that the Frozen Core develops as planned and is maintained throughout the life of the mine.

3. The **North Inlet Water Treatment Plant Operations Plan** (formerly the North Inlet Sediment and Waste Water Management Plan) referred to in Part H, Item 5, shall include, but not necessarily be limited to, the following:

a) a comprehensive characterization of all sources and types of wastewater and Wastes including sediments that will be directed and stored in the North Inlet Facility;

b) a description of any proposed physical and chemical treatment of Waste prior to Discharge to the North Inlet Facility and proposed treatment of Waste stored in the North Inlet Facility prior to release to the environment;

c) a description of proposed management and scheduling of sediment deposition in the North Inlet Facility; and,

d) any operational and/or structural Modifications that may affect the North Inlet Facility operations.

4. The **Sewage Treatment Facility Operations Plan** referred to in Part H, Item 6, shall include, but not necessarily be limited to, the following:

a) details on the design;

b) operational capacity, management, and maintenance; and,

c) disposal of sludge.

5. The **Waste Rock Management Plan** referred to in Part H, Item 8, shall incorporate the approved Biotite Schist Management Plan (Volume II-B, Part N, Version 1, Water Licence Application, August 1999) to address the management of all rock and till that is disturbed, moved, stored, or otherwise affected by mining-related activity on the property, over the term of the Project, and shall be in accordance with the Department of Indian and Northern Affairs Canada's *Guidelines for Acid Rock Drainage Protection in the North,* 1992. This Plan shall describe decision criteria and operating procedures for how all rock and till will be placed and managed during Construction, mining and post closure, and include, but not necessarily be limited to, the following:

    a. A **Background Information** section, including but not limited to:

        i. the purpose and objectives of the Plan;

        ii. site geology;

        iii. history of the Waste Rock Storage Area (WRSA);

        iv. description of each till, ore, and Waste Rock Storage Area;

        v. a map depicting the location of each type of rock, till, re-mine locations, collection ponds, SNP sites, and thermal monitoring instrumentation;

        vi. a description of how the approved 2001 design differs from the constructed WRSA;

        vii. a summary description of water management related to the WRSA;

        viii. a summary description of DDMI's on-site water treatment;

        ix. a summary description of the closure concept for the WRSA;

        x. a summary of the test pile research results, with references to key research documents;

        xi. a summary of the geochemical characteristics of each rock type with reference to all geochemical datasets at the time the Waste Rock Management Plan was updated;

        xii. summary of predicted water chemistry of the Waste Rock storage area seepage and a summary of the prediction methodologies; and

        xiii. an overview of the methods used to construct the following such that generation of acidic drainage and/or Metal Leaching is limited: till storage; ore stockpiling; and Waste Rock facilities;

    b. A **Waste Rock Management** section, including but not limited to:

        i. geochemical decision criteria for managing Waste Rock extracted from quarries, underground, pits, and stockpiles. Criteria will identify the classification of rock which is suitable and not suitable for the following uses in terms of acid generation and metals leaching potential:

a. Construction and closure and reclamation;

b. disposal; and

c. as approved by the Board.

ii. a statement that the company will not use the Type I rock underlying the Type III rock in the CLR basin of the Waste Rock Storage Area unless testing confirms the material is suitable for use;

iii. a description of the location, purpose, rock type, and storage duration of any temporary storage of ore, till, or waste rock;

iv. a description of operational procedures that will be used to segregate and manage the rock that is identified for (i) Construction, closure and reclamation, and (ii) disposal;

v. a description of the sampling design and analytical methods that will be used to support the segregation and management of rock; and

vi. past and predicted quantities in cubic metres and tonnes for till, ore stockpiling, and Waste Rock (per type) by destination, including source of each material, at the time the Plan was updated.

c. A **Monitoring and Verification** section, including but not limited to:

i. a description of the verification program that will be used to confirm Waste Rock by type and potential uses, in particular to verify that Type I rock that will be used in Construction is non-PAG;

ii. a description of monitoring to confirm that the Plan meets its stated purpose and objectives;

iii. a description of a comprehensive testing program to determine the geochemical characteristics of the A21 Waste Rock;

iv. a description of the thermal monitoring that is conducted in all Waste Rock Storage Areas.

v. definitions, with rationale, for Action Levels for all active water bodies within the Drainage Control and Collection System and all detected seepage/runoff; and

vi. for each Action Level, a description of how exceedances of the Action Level will be assessed and generally which types of responses may be taken by the Licensee if the Action Level is exceeded

d. A conformance table identifying where each of the requirements in Schedule 6, Condition 5(a), 5(b) and 5(c) are located in the Plan (e.g., page number and/or document section).

6. The **Seepage Survey Report** referred to in Part H, Item 16, shall consist of the results of Seepage surveys of all mine components including: constructed rock piles, stockpiles of Reclamation rock, ore stockpiles, areas constructed with mined or quarried rock, and water retention dikes and dams, and include, but not necessarily be limited to:

a) monthly sampling of detected Seepages during periods of flow;

b) testing in the field shall include volume, dissolved oxygen, conductivity, Eh, field pH, water temperature, water colour, and precipitate colour;

c) laboratory analysis of each sample shall include major ions (as defined in the SNP), nitrite, nitrate, total ammonia, total arsenic, total dissolved solids, total phosphorus, TSS, pH, conductivity, total and dissolved metals determined by inductively coupled plasma mass spectrometry (ICP-MS) analysis as defined in this Licence and the SNP; and,

d) a Site Plan showing sampling locations, interpretation of SNP data collected from the drainage control and collection ponds and a description of how the results have been interpreted relative to the results of the QA/QC program.

7. The **North Inlet Hydrocarbon Investigation Report** referred to in Part H, Item 18, shall include, but not necessarily be limited to, the following:
   a) a summary of the results of investigations into the source of hydrocarbon contamination in the North Inlet conducted to date, including but not limited to:
      i. a summary of the investigations, including dates;
      ii. a summary of what is known about the toxicity of North Inlet sediment;
      iii. a description of the types of hydrocarbons known to be present in North Inlet sediment; and,
      iv. a description of known sources of hydrocarbons contamination.
   b) a list of all possible additional sources of hydrocarbon contamination and the types of hydrocarbons that may be associated with each source; and,
   c) identification of most likely sources of hydrocarbon to the North Inlet.

8. The **North Inlet Sludge Management Report** referred to in Part H, Item 19, shall include, but not necessarily be limited to, the following:

a) the results of the North Inlet sediment characterization study update;

b) an estimate of the total volume and depth of sediments deposited in the North Inlet since the start of operations, and a prediction of the total volume and depth of sediments at the end of operations;

c) the results of the risk assessment described in Appendix VIII-5 of the approved ICRP;

d) a cost benefit analysis conducted by a third party of the following alternative disposal locations for sludge:

   i. Waste Rock Facility;
   ii. Processed Kimberlite Containment Facility;
   iii. New on-land facility;
   iv. Mixing with cover soils or hydrocarbon contaminated soils;
   v. Underground mine back fill mix;
   vi. North Inlet followed by selective dredging;

   The third party analysis shall assess the costs (financial, environmental, and other) and the benefits (operational, environmental, closure, other) of each alternative, and include a recommendation and rationale regarding the best location for sludge disposal; and,

e) a letter indicating the Licensee's preferred sludge disposal location, with rationale. If the Licensee proposes to dispose sludge in an alternate location, the letter shall include a schedule for implementing the change, and shall identify any Management Plans that require revisions as a result of the change.

9. The **Ammonia Management Plan** referred to in Part H, Item 10, shall include, but not necessarily be limited to, the following:

   a) A statement that demonstrates that contingencies related to ammonia management are in accordance with Part I, Item 4; and;

   b) specific contingency measures to deal with effluent and actions to be taken if effluent exceeds LC20 values due to ammonia in accordance with toxicity testing as required by the Surveillance Network Program annexed to this Licence. If the effluent exceeds LC20 values due to ammonia, the **Ammonia Management Plan** shall address the following:

      i. in the event of a quarterly or monthly toxicity test failure, the effluent shall be retested immediately (confirmatory testing);
      ii. if the confirmatory test also fails, the effluent shall be held and a Toxicity Identification Evaluation conducted to determine the cause of the toxicity;
      iii. if failure is noted on two (2) tests in any four (4) month period, then the **Ammonia Management Plan** shall be implemented, the effluent shall be held, and a Toxicity Identification Evaluation conducted;
      iv. if the Toxicity Identification Evaluation indicates ammonia is the cause, actions will be taken in accordance with the **Ammonia Management Plan**, and effluent will continue to be held until it passes an LC20 test;
      v. if the Toxicity Identification Evaluation indicates a cause other than ammonia, DDMI will follow the steps identified in the **Ammonia Management Plan** including continued Toxicity Identification Evaluation; and,
      vi. a protocol for undertaking pH adjustments, based on the results of the Toxicity Identification Evaluation.

   c) Conduct toxicity testing with amphipod, *Hyalella azteca*, according to the testing protocol approved by the Board (under Part H, Item 8 W2007L2-0003), if the maximum average

concentration (as defined in the Water Licence) of total ammonia exceeds 3 mg/L at either SNP Stations 1645-18 and 1645-18B. In addition:

i. Notify Inspector and WLWB if this testing is triggered;
ii. Commence two consecutive months of toxicity testing using *Hyalella azteca;* and
iii. Develop an action plan to address results of toxicity testing.

SCHEDULE 7
CONTINGENCY PLANNING

1. The **Contingency Plan** referred to in Part I, Item 1, of the Licence shall include, but not be necessarily limited to, the following contingencies for:

    a) contingencies for managing Groundwater and Pit Water flows should they become excessive and threaten to exceed treatment plant capacity or storage capacity;

    b) contingencies for the following items:

        i. water management during Construction;

        ii. treatment plant operation and the capacity to ensure the effluent quality criteria are met;

        iii. in-lake Construction activities, including spills of hazardous materials and any plume beyond the 200 metre zone;

        iv. Dam Seepage, reduced capacity, failures of containment facilities, uncontrolled Discharges, metal contamination and threshold limits at which point management action will be taken;

        v. handling of larger volumes of water than expected associated with pit Dewatering, and the capacity of the PKC and North Inlet Facilities;

        vi. hazardous materials storage areas, including spills of fuel and explosive chemical;

        vii. management of water associated with inland lake Dewatering, including poor water quality, and erosion;

        viii. operations of all treatment facilities including: poor treatment performance, toxic effluent, and inadequate diffuser performance;

        ix. stability and drainage control associated with Waste Rock management, including slope failure and poor Seepage quality;

        x. Seepage control systems, including the failure of collection ditches;

        xi. uncontrolled Discharges from Spillways;

        xii. Groundwater contamination; and,

        xiii. solid Waste management.

    c) specific triggers to define when contingency measures are to be implemented;

    d) a summary of the Licensee's current practices for minimizing hydrocarbon contamination;

    e) details of improved spill reporting procedures;

    f) hydrocarbon management performance tracking including a monitoring program; and,

    g) a description of proposed mitigations to minimize hydrocarbon contamination and a schedule for implementation

SCHEDULE 8
AQUATIC EFFECTS MONITORING

1. The **AEMP Design Plan** referred to in Part J, Item 2, shall include, but not be limited to, the following:

    a) a process for measuring Project-related effects on the following components of the Receiving Environment:

        i. water quality, quantity, and rate of flow;

        ii. sediment quality; plankton abundance, taxonomic richness, and diversity;

        iii. benthic invertebrate abundance, taxonomic richness, and diversity; and,

        iv. fish health and chemistry;

    b) plume characterization;

    c) a description of the AEMP components including dust monitoring;

    d) a description of the area to be monitored including maps showing all sampling and reference locations in the AEMP;

    e) a description of procedures to minimize the impacts of the AEMP on fish populations and fish habitat;

    f) a description of the approaches to be used to evaluate and adjust the AEMP;

    g) a summary of how Traditional Knowledge has been collected and incorporated into the AEMP, as well as a summary of how Traditional Knowledge will be incorporated into further studies relating to the AEMP;

    h) a description of an AEMP Response Framework which shall include:

        i. definitions, with rationale, for Significance Thresholds and tiered Action Levels applicable to the aquatic Receiving Environment of the Project; and,

        ii. for each Action Level:

            a. a description of the rationale including, but not limited to, a consideration of the predictions and conclusions of the Environmental Assessment as well as AEMP results to date;

            b. a description of how exceedances of Action Levels will be assessed; and,

            c. a general description of what types of actions may be taken if an Action Level is exceeded.

    i) a plain language description of the program objectives, methodology, and interpretative framework; and

    j) a summary of changes to AEMP design since the last approved design and a rationale for the changes.

2. The Specific Effects Studies referred to in Part J, Item 5, are:

    a) in-situ evaluation of Metal Leaching and releases of explosives residues from the Water Retention Dikes;

    b) delineation study of any plumes from the main effluent Discharge;

    c) characterization of the toxicity of the effluent source waters;

    d) validation of nutrient input predictions for Lac de Gras;

    e) evaluation of the effects of dredging, dike Construction, and associated sediment plumes on water quality and biota;

    f) evaluation of contaminant loading and the fate of contaminants in Lac de Gras;

    g) an evaluation of various eutrophication monitoring tools that may be used to evaluate the effects of nutrient releases to Lac de Gras;

    h) an evaluation of the effects of nutrient releases on the algal, benthos, and zooplankton communities and trophic status of Lac de Gras; and,

    i) a site-specific evaluation of the impacts of cadmium on the waters of Lac de Gras.

3. The requirements for the **Response Plan** referred to in Part J, Item 6, are:

    a) for each water chemistry, sediment chemistry, and eutrophication indicator parameter that has been reported in the **AEMP Annual Report** to have exceeded an Action Level 1: no Response Plan is required;

    b) for each water chemistry, sediment chemistry, and eutrophication indicator parameter that has been reported in the **AEMP Annual Report** to have exceeded an Action Level 2 or 3, the Response Plan shall include, but not be limited to, a description of the specific actions that will be undertaken, or outcomes of specific actions to be undertaken, to address the response actions as outlined in the Response Framework;

    c) for each biological parameter that has been reported in the **AEMP Annual Report** to have exceeded an Action Level 1 or 2, the Response Plan shall include, but not be limited to, a description of the specific actions that will be undertaken, or outcomes of specific actions to be undertaken, to address the response actions as outlined in the Response Framework;

    d) for each water chemistry, sediment chemistry, and eutrophication indicator parameter that has been reported in the **AEMP Annual Report** to have exceeded an Action Level 4 or higher, the Response Plan shall include, but not be limited to:

        i. a description of the parameter, its relation to Significance Thresholds, and the ecological implication of the Action Level exceedance;

        ii. a summary of how the Action Level exceedance was determined;

        iii. a description of likely causes of the Action Level exceedance and potential mitigation options if appropriate;

        iv. a description of actions to be taken by the Licensee in response to the Action Level exceedance including:

a. a justification of the selected action(s) which may include a cost/benefit analysis;

b. a description of timelines to implement the proposed actions;

c. a projection of the environmental response to the planned actions, if appropriate;

d. a monitoring plan for tracking the response to the actions, if appropriate; and

e. a schedule to report on the effectiveness of actions and to update the **Response Plan** as required; and

v. any other information necessary to assess the response to an Action Level exceedance or that has been requested by the Board; and

e) for each biological parameter that has been reported in the **AEMP Annual Report** to have exceeded an Action Level 3 or higher, the Response Plan shall include, but not be limited to:

i. a description of the parameter, its relation to Significance Thresholds, and the ecological implication of the Action Level exceedance;

ii. a summary of how the Action Level exceedance was determined;

iii. a description of likely causes of the Action Level exceedance and potential mitigation options if appropriate;

iv. a description of actions to be taken by the Licensee in response to the Action Level exceedance including:

a. a justification of the selected action(s) which may include a cost/benefit analysis;

b. a description of timelines to implement the proposed actions;

c. a projection of the environmental response to the planned actions, if appropriate;

d. a monitoring plan for tracking the response to the actions, if appropriate; and

e. a schedule to report on the effectiveness of actions and to update the **Response Plan** as required; and

v. any other information necessary to assess the response to an Action Level exceedance or that has been requested by the Board.

4. The **AEMP Annual Report** referred to in Part J, Item 9, shall include, but not be limited to, the following:

a) a summary of activities conducted under the Aquatic Effects Monitoring Program**;**

b) tabular summaries of all data and information generated under the AEMP in an electronic and printed format acceptable to the Board;

c) An interpretation of the results, including an evaluation of any identified environmental changes that occurred as a result of the Project;

d) an evaluation of any adaptive management response actions implemented during the year;

e) recommendations for refining the Aquatic Effects Monitoring Program to improve its effectiveness as required; and,

f) an evaluation of the overall effectiveness of the Aquatic Effects Monitoring Program to date; and, any other information specified in the approved Aquatic Effects Monitoring Program or that may be requested by the Board.

5. The **Aquatic Effects Re-evaluation Report** referred to in Part J, Item 10, shall include, but not be limited to, the following:

a) a review and summary of AEMP data collected to date including a description of overall trends in the data and other key findings of the monitoring program;

b) an analysis that integrates the results of individual monitoring components (e.g., water quality, fish health, etc.) to date and describes the overall ecological significance of the results;

c) a comparison of measured Project-related aquatic effects to predictions made during the Environmental Assessment and an evaluation of any differences and lessons learned;

d) updated predictions of Project-related aquatic effects or impacts from the time of writing to the end of mine life based on AEMP results to date and any other relevant operational monitoring data;

e) a plain language summary of the major results of the above analyses and a plain language interpretation of the significance of those results;

f) recommendations, with rationale, for changes to Action Levels as set in the **AEMP Design Plan**;

g) recommendations, with rationale, for changes to any other aspect of the **AEMP Design Plan**; and,

h) any other information required as requested by the Board.

SCHEDULE 9
CLOSURE AND RECLAMATION

1. The **Closure and Reclamation Plan** referred to in Part K, Item 2, shall include but not be limited to:

    a) contingencies for Pit Water treatment during closure;

    b) dike breach locations and sizes;

    c) a comprehensive assessment of materials suitability, including geochemical and physical characterization, and schedule of availability for Reclamation needs, with attention to top-dressing materials, including maps where appropriate, showing sources and stockpile locations of all Reclamation Construction materials;

    d) a description of any post-closure treatment that may be required for drainage water that is not acceptable for Discharge from any of the reclaimed mine components including a description for handling and disposing of post-closure treatment facility sludges;

    e) a description of the Plan to assess and monitor any Groundwater contamination during post-closure;

    f) a description of how metal uptake in re-vegetated plant communities will be monitored;

    g) a field testing program and an implementation timetable to verify the effectiveness of the proposed impermeable closure cap for the Process Kimberlite Containment Facility and the Waste Rock Storage Area;

    h) an evaluation of the potential to re-vegetate disturbed sites that includes the identification of criteria to be used to determine technical feasibility and alternative Reclamation options;

    i) a description of proposed means to provide long term maintenance of collection system and treatment plant;

    j) a conformance table that identifies the location within the **Interim Closure and Reclamation Plan** where the information required by a) through i) can be found;

    k) Reclamation of aquatic habitat in all areas; and,

    l) the placement of coarse kimberlite material over the Processed Kimberlite Containment slimes, and water handling during placement.

2. The **Annual Closure and Reclamation Plan Progress Report** referred to in Part K, Item 4, shall include but not be limited to:

    a) Report Summary:

        i. Summarize the key aspects of the previous year's closure and Reclamation planning.

    b) Community Engagement:

        i. Summarize community engagement that was conducted during the previous year and is related to closure and Reclamation.

ii. Provide engagement records, in accordance with the MVLWB's *Engagement Guidelines for Applicants and Holders of Water Licences and Land Use Permits*.

c) Reclamation Research Update:

For each research plan in the Closure and Reclamation Plan:

i. identify completed tasks and summarize results. Research or study results can be appended to the Annual ICRP Progress Report;

ii. analyse results and provide conclusions, focussing on how the results impact closure activities, objectives, criteria, or other key aspects of the **Closure Plan**;

iii. identify next steps and any proposed changes to research plans;

iv. develop detailed scopes of work for each research task that is within 3 years of implementation; and,

v. update the timelines for the completion of all research tasks.

d) Proposed Changes to Design Concepts:

i. Identify any proposed changes to the preferred closure activities currently outlined in the CRP and provide supporting rationale. Changes to closure activities for any mine components require approval, but will not need to be incorporated directly into the ICRP until the next version. Submit diagrams clearly demonstrating the configuration of any proposed changes to major physical features of the site (e.g., tailings covers, Waste Rock pile configuration, etc.).

e) Closure Objectives and Criteria:

i. Identify any proposed changes to Closure Objectives, including documentation of related engagement; and,

ii. Describe progress on development of Closure Criteria, and outline next steps.

f) Progressive Reclamation:

i. Report any Progressive Reclamation that occurred since submission of the previous version of the CRP. Describe the effectiveness of these activities, and identify any work expected for the upcoming year. Describe how the effectiveness of Progressive Reclamation will be monitored.

ii. Outline of any Progressive Reclamation work anticipated for the next year.

iii. This section should include a discussion about the impacts of leaving the Waste Rock pile uncovered, and provide enough information so that the Board can be confident that there are no unnecessary delays in placing the cover.

g) Schedule:

i. Discuss whether the current closure planning schedule is on track (e.g., completion of research tasks within the specified timeframes, development of final design concepts, etc.) Identify the key milestones that must be completed within the next three years to ensure closure planning remains on track. Identify any unanticipated delays in the previous year or new threats to timely closure. This is one of the most important sections of the progress report, and the Licensee should provide sufficient detail to demonstrate that the Licensee is on schedule.

h) Other Important Information:

Any other information related to closure planning. At a minimum, this should include:

i. summary of any operational monitoring results (e.g., PKC Seepage monitoring) that impact closure;

ii. any changes to the estimates of amounts of Reclamation materials that will be available or required;

iii. once research results are available, a description of the effectiveness of potential top-dressing materials for revegetation and the amounts of required top-dressing material. If research on the amounts required are not complete, provide a rough estimate (e.g., as a range) of the total amount of top-dressing that might be required to re-vegetate the site;

iv. a description of any collaboration with Dominion Diamonds Corporation or other companies on closure issues;

v. new industry best practices or corporate requirements related to the mine's **Closure Plan**;

vi. a review of updated meteorological data and a discussion of whether the results impact closure planning, in particular as it relates to climate change; and,

vii. improved diagrams of the Waste Rock pile, including cross-sectional diagrams, diagrams clearly demonstrating the scale of the piles, a depiction of possible configurations, information about covers, slopes, wildlife access, vegetation, etc. Include a figure showing the different pockets/areas of types of Waste Rock (including spill contaminated material).

i) Record of Revisions to be made in the next version of the CRP:

i. Include a list of any CRP changes that the Licensee has proposed and the Board has approved since the previous CRP approval.

Annex 1: Surveillance Network Program

Revision History

Commented [Staff1]: The Revision History will be updated after the Board's decision (if necessary).

Effective Date	Section and Description
September 23, 2016	SNP Amendments throughout. See September 23, 2016 Reasons for Decision for more detail.
July 25, 2017	Part E, SNP Stations 1645-18/18B, Footnote (a)iii: Removal of quarterly testing of *Hyalella azteca* toxicity testing at 1645-18 and 1645-18B. See the Ammonia Management Plan and Contingency Plan - Reasons for Decision (July 25, 2017) for more details. Part E, SNP Station 1645-55, 1645-82, 1645-83 and 1645-84: Status change of SNP stations 1645-55, 1645-82, 1645-83 and 1645-84 from active to inactive. See the Ammonia Management Plan and Contingency Plan - Reasons for Decision (July 25, 2017) for more details.
September 22, 2017	Part E, SNP Station 1645-41: Updated to provide clarification on the frequency of sampling during Dewatering of the A21 pool and the sampling location/requirements to be completed on the final day of Dewatering. See the SNP Update Request – A21 Dewatering – Board Directive (September 22, 2017) for more details.
June 13, 2018	Part E, SNP Station 1645-87: Addition of Sump E21 to monitor runoff and seepage collected from the south Waste Rock Storage Area (South Country Rock Pile). Part E, SNP Station 1645-52, 1645-53 and 1645-54: Status changed to active for monitoring Dike Seepage water in the A154, A418, and A21 toe berm. Description updated to "Dike Seepage". Part E, SNP Station 1645-41: Status changed to inactive since A21 construction dewatering complete. Part E, SNP Station 1645-81 A/B: Added "A/B" to SNP Stations 1645-81 to reflect that there are two areas monitored and edited description. Part E, SNP Stations 1645-42, 44 to 47, 67, 69, 74, 76 (Collection Ponds); Rationale for Stations modified to align with content of the Water Management Plan V14.1. Removed reference to sampling requirements for Discharge.

	Part E, SNP Stations 1645-77 to 80 (PKC Interception Wells): Descriptions in the Quick Reference Table and/or the 'Rationale for Stations' modified to align with content of the Water Management Plan V14.1. SNP Amendments throughout. See June 13, 2018 Reasons for Decision for more detail.
March 24, 2020	Part E, SNP Station 1645-18/18B: Frequency of sampling for faecal coliforms, biological oxygen demand (BOD5), and oil and grease changed from "Every (7) days" to "Quarterly".

Part A - Reporting Requirements

1. The Licensee shall within 30 days following the month being reported, submit to the Board all data and information in an electronic and printed format acceptable to the Board required by the "Surveillance Network Program" including the results of the approved QA/QC plan.
2. The Licensee shall provide the following time-series plots in the SNP Report beginning at least 12 months prior to underground mining at the A21 Pit:
    a. A time-series of volumes of water pumped from 1645-51 to the North Inlet.
    b. A time-series of analyte concentrations and TDS, TP, TN in water from 1645-51.
    c. A time-series of monthly loads of TDS, TP, and TN reporting to the North Inlet from 1645-51.

Commented [Staff2]: In response to the GNWT-ENR's Intervention, DDMI committed to including time-series plots in monthly SNP reports, at least 12 months prior to underground mining at the A21 Pit. Staff have included this reporting requirement to reflect DDMI's commitment.

Part B - Flow and Volume Measurement Requirements

Unless otherwise noted, all flow and volume measurements shall be recorded monthly and recorded in cubic metres.

1. The daily volume of water obtained from Lac de Gras for all purposes.
2. The daily volume of water dewatered from the A21 Pit.
3. The volume of water obtained from all sources for use in the process plant.
4. The volume of effluent recycled from the Processed Kimberlite Containment Facility.
5. The volumes of the solids in tonnes and liquid fractions in cubic metres of each Waste transferred to the Processed Kimberlite Containment Facility.
6. The volume of effluent discharged from the Processed Kimberlite Containment Facility.
7. The volume of effluent discharged from the North Inlet Facility to the Treatment Facilities.
8. The daily volume of effluent discharged into Lac de Gras at SNP Station Numbers 1645-18 and 1645-18B.

9. The volume of dredged sediments deposited into the Dredged Sediment Containment Facility or the North Inlet Facility.

10. The daily volume of Minewater and seepage pumped from A154, A418 and A21 open pits to the North Inlet Facility and/or Lac de Gras.

11. The daily volume of treated Sewage effluent discharged from the Sewage Disposal Facilities.

12. The volume of Sewage solids removed from the Sewage Disposal Facilities.

13. The volume of water pumped from the run-off collection ponds.

14. The volume of ice or frozen sediments removed from the Pit(s) areas.

Part C - Sampling and Analysis Requirements

1. The field pH, sample temperature, and ambient wind and weather conditions shall be recorded at all locations at the time of sampling.

2. The Licensee shall increase sampling if exceedances of the Effluent Quality Requirements occur or as directed by an Inspector.

3. All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of "Standards Methods for the Examination of Water and Wastewater", or by such other methods approved by an Analyst.

4. All analyses shall be performed in a laboratory accredited by the Canadian Association for Laboratory Accreditation (CALA) for the specific analyses to be performed or as approved by an Analyst.

5. The Licensee shall implement the Quality Assurance/Quality Control QA/QC Plan that includes field and laboratory procedures and requirements as approved by an Analyst under Licence N7L2-1645.

6. The Licensee shall annually review the approved the quality assurance/quality control (QA/QC) plan and modify the Plan as necessary. Proposed revisions shall be submitted to an Analyst for approval.

7. The QA/QC plan referred to in SNP Part C, Item 5 shall be implemented as approved by an Analyst.

NOTES:

[1]ICP-MS Metal Scan shall include at a minimum, the following regulated parameters:
Aluminum, Cadmium, Chromium, Copper, Lead, Nickel, Zinc

Once Annually the ICP shall also include the following monitored parameters:
Manganese, Molybdenum, Selenium, Strontium, Uranium

Total metals shall be analyzed unfiltered and preserved as per the laboratory requirements. Dissolved metals shall be filtered using a 0.45 micron filter and preserved as per the laboratory requirements.

[2]Major ions include the following parameters:
Calcium, Chloride, Sulphate, Magnesium, Fluoride, Potassium, Alkalinity, Hardness, Total Dissolved Solids

[3]Field parameters include the following measurements:
pH, Conductivity, Temperature

[4]pH analyzed in the laboratory

[5] Nutrients include the following parameters:
Total Ammonia, Nitrite-Nitrogen, Nitrate-Nitrogen, Total Kjeldahl Nitrogen, Total Phosphorus, Total Dissolved Phosphorus, Ortho Phosphorus.

[6] Total Petroleum Hydrocarbons (TPH) is defined as carbon range $C_6 - C_{50}$ (PHC F1-F4)

[7] Monthly SNP Report should include reporting of both TPH and PHC (F1-F4)

Part D - Other Monitoring Requirements

1. The Licensee shall measure and record the following data:
    a) Precipitation, measured and recorded in hourly and daily totals;
    b) Evaporation, which is calculated from the parameters list below with hourly and daily averages:
        i. Wind speed at approximately 2.0 meters above the water surface including daily minima and maxima;
        ii. Wind direction on an hourly basis;
        iii. Air temperature at approximately 0.75 and 2.0 metres above the water surface including daily minima and maxima;
        iv. Relative humidity at approximately 0.75 and 2.0 metres above the water surface;
        v. Water temperature at two levels approximately 1 and 2 metre depths;
        vi. Net solar radiation over the water surface; and
        vii. Water level; and
    c) The weather data for evaporation calculations shall be measured and recorded at a site located at or near the PKC Facility as approved by an Inspector.
2. The Licensee shall implement the location, methods, and frequency for measuring and recording the meteorological data identified in Part D, Item 1 of the SNP as approved under Licence N7L2-1645.
3. The methods and frequency referred to in Part D, Item 1 of the SNP shall be implemented as and when approved by the Board.
4. The quantity of ore processed shall be measured in tonnes and recorded monthly.

5. The quantity of Waste Rock, coarse tailings, and till shall be measured in tonnes and recorded monthly and their disposal locations recorded monthly.

6. The Licensee shall install and monitor a minimum of one (1) SNP station for monitoring the Lac de Gras background references for the regulation of the dredging and dike Construction activities. This station shall not be located near developmental activities or the inlets of any rivers or streams and shall be sampled in accordance with SNP Part H, Item 31.

7. In the event that a second dredge is required during the Construction of the Water Retention Dikes, the Licensee shall establish additional SNP Stations for the second dredge in the same manner as those identified (SNP Stations 1645-82, 1645-83, and 1645-84) for the monitoring of a single dredge. These stations shall be numbered in sequence and monitored in accordance with SNP Station 1645-55.

Part E – Site Descriptions and Sampling Requirements

Location of sampling sites and specific monitoring requirements are as follows:
NOTE: The description of the SNP Stations is approximate and subject to the approval of an Inspector.

SNP Site Quick Reference Table

SNP Site #	Description	Status
1645-1	Mine water Discharge	INACTIVE
1645-2	Outflow decant from F1	INACTIVE
1645-3	Lac de Gras inflow from F1 Wetlands	INACTIVE
1645-4	Discharge from Sewage Disposal Facility	INACTIVE
1645-5	Outflow from disposal pond	INACTIVE
1645-6	Prior to entering Lac de Gras at the stream outflow from the Sewage disposal	INACTIVE
1645-7	Upstream of the confluence between the ice scrapings disposal area runoff and the stream from the Sewage outflow	INACTIVE
1645-8	Down slope of the semi-permeable dike in D1 drainage way	INACTIVE
1645-9	Treated mine water pumped directly to Lac de Gras	INACTIVE
1645-10	Station applying to treated Effluent Discharge to monitor Sewage Discharge from North Construction Camp	INACTIVE
1645-11	Sewage Discharge	ACTIVE
1645-12	West Cell – North Inlet Facility	INACTIVE
1645-13	North Inlet – Influent prior to treatment	ACTIVE
1645-14	North Inlet Treatment Plant treated effluent prior to mixing with PKC treated effluent	INACTIVE
1645-15	Process Plan slurry Discharge to PKC facility	INACTIVE
1645-16	PKC pond water within the PKC	ACTIVE
1645-17	PKC Treatment Plant Effluent prior to mixing with North Inlet Treatment Plant treated effluent	INACTIVE
1645-18/18B	Main effluent Discharge to Lac de Gras from NIWTP (point of compliance)	ACTIVE
1645-19	Effluent mixing zone in Lac de Gras	ACTIVE

1645-20	Northwest of clarification pond	INACTIVE
1645-21	West of Clarification pond (drainage course) between Pond 2 and Pond 3.	INACTIVE
1645-22	North of Quarry and till areas (drainage course) on the South side of North Inlet Facility	INACTIVE
1645-23	North perimeter road (drainage course) between road and North Inlet Facility.	INACTIVE
1645-24	East of perimeter road (drainage course)	INACTIVE
1645-25	East PKC Dike area (drainage course)	INACTIVE
1645-26	West PKC Dike area (drainage course)	INACTIVE
1645-27	Airstrip Drainage Course	INACTIVE
1645-28	Groundwater GW1 between the North Rock Pile and North Inlet	INACTIVE
1645-29	Groundwater GW2	INACTIVE
1645-30	Groundwater GW3 Northwest of Till Disposal Area	INACTIVE
1645-31	Groundwater GW4 West of the PKC	INACTIVE
1645-32	Groundwater – South of PKC, between the Ammonium Nitrate Storage and Pond 7	INACTIVE
1645-33	Groundwater nearest to Bulk Fuel Storage	ACTIVE
1645-34	Near intake structure for De-watering of Lake E1	INACTIVE
1645-35	Near intake structure of De-watering of Lake E6	INACTIVE
1645-36	Near intake structure for De-watering of Lake E7	INACTIVE
1645-37	Near intake structure for De-watering of Lake E8	INACTIVE
1645-38	Near intake structure for De-watering of Lake E10	INACTIVE
1645-39	Near intake structure for De-watering within the dike enclosure of A154	INACTIVE
1645-40	Near intake structure for dike pool watering – A418	INACTIVE
1645-41	A21 pool dewatering	INACTIVE
1645-42	Collection Pond 4	ACTIVE
1645-43	A21 SNP Station: Collection Pond	INACTIVE
1645-44	Collection Pond 7	ACTIVE
1645-45	Collection Pond 10	ACTIVE
1645-46	Collection Pond 11	ACTIVE
1645-47	Collection Pond 12	ACTIVE
1645-48	Clarification pond (Pond 3)	INACTIVE
1645-49	Mine water removed from A154 Pit	INACTIVE
1645-50	Mine water removed from A418 Pit	INACTIVE
1645-51	Mine water removed from A21 Open Pit (sump)	ACTIVE
1645-52	Dike Seepage collected from inside toe of the A154 Dike	ACTIVE
1645-53	Dike Seepage collected from inside toe of the A418 Dike	ACTIVE
1645-54	Dike Seepage collection from inside toe of A21 Dike.	ACTIVE
1645-55	A21 SNP reference station in Lac de Gras	INACTIVE
1645-56	Station applying to dredging and dike Construction	INACTIVE
1645-57	Station applying to dredging and dike Construction	INACTIVE
1645-58	Station applying to dredging and dike Construction	INACTIVE
1645-59	Station applying to dredging and dike Construction	INACTIVE
1645-60	Station applying to dredging and dike Construction	INACTIVE

1645-61	Station applying to dredging and dike Construction	INACTIVE
1645-62	Station applying to dredging and dike Construction	INACTIVE
1645-63	Station applying to dredging and dike Construction	INACTIVE
1645-64	Station applying to dredging and dike Construction	INACTIVE
1645-65	Station applying to dredging and dike Construction	INACTIVE
1645-66	Near intake structure for De-watering of North Inlet.	INACTIVE
1645-67	Collection Pond 1	ACTIVE
1645-68	Collection Pond 2	ACTIVE
1645-69	Collection Pond 5	ACTIVE
1645-70	Station applying to dredging and dike Construction	INACTIVE
1645-71	Station applying to dredging and dike Construction	INACTIVE
1645-72	Station applying to dredging and dike Construction	INACTIVE
1645-73	Station applying to dredging and dike Construction	INACTIVE
1645-74	Collection Pond 13	ACTIVE
1645-75	A154/A418 underground water (9290 Pump Station and Dewatering sumps)	ACTIVE
1645-75B	A154/A418 underground water (9105 Pump Station)	ACTIVE
1645-76	Collection Pond 3	ACTIVE
1645-77	PKC Interception Well	ACTIVE
1645-78	PKC Interception Well	ACTIVE
1645-79	PKC Interception Well	ACTIVE
1645-80	PKC Interception Well	ACTIVE
1645-81A/B	Surface Runoff during Freshet	ACTIVE
1645-82	A21 SNP dredging and dike construction	INACTIVE
1645-83	A21 SNP dredging and dike construction	INACTIVE
1645-84	A21 SNP dredging and dike construction	INACTIVE
1645-85a	Clarifier 1 Sludge North Inlet Water Treatment Plant	ACTIVE
1645-85b	Clarifier 2 Sludge North Inlet Water Treatment Plant	ACTIVE
1645-86a	Clarifier 3 Sludge North Inlet Water Treatment Plant	ACTIVE
1645-86b	Clarifier 4 Sludge North Inlet Water Treatment Plant	ACTIVE
1645-87	Sump E21	ACTIVE

STATIONS APPLYING TO TREATED EFFLUENT DISCHARGE

Surveillance Network Program (SNP) Station 1645-11 (Active)

Description:	Sewage Discharge
Location:	South Sewage Treatment Plant
Sampling Frequency:	Annually
Sampling Parameters:	BOD_5, pH[4], Faecal Coliforms, Nutrients[5], Oil and Grease, Temperature, Total Suspended Solids

Rationale for Station:	To verify that Sewage treatment plant is operating effectively

Surveillance Network Program (SNP) Station 1645-13 (Active)

Description:	North Inlet – Influent prior to treatment	
Location:	North Inlet Water Treatment Plant	
Sampling Frequency:	Every six (6) days to correspond with the sampling of Effluent (1645-18 and 1645-18B)	Monthly to correspond with the sampling of Effluent (1645-18 and 1645-18B)
Sampling Parameters:	Total Arsenic, Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], pH[4], Nutrients[5], Total Mercury, Total Suspended Solids, Turbidity, Total Petroleum Hydrocarbons[6](TPH), PHC (F1-F4)[7]	Total Arsenic, Dissolved Organic Carbon, Dissolved Oxygen, Field Parameters[3], ICP-MS Metal Scan[1] (Total and Dissolved), Major Ions[2], pH[4], Nutrients[5], Total Mercury, Total Organic Carbon, Total Suspended Solids, Turbidity, Total Petroleum Hydrocarbons[6](TPH), PHC (F1-F4)[7]
Rationale for Station:	To monitor influent water quality prior to North Inlet Water Treatment Plant. Helps to determine treatment plant efficiency, and, in the event of poor effluent quality, can help determine the source of the problem. Also provides information regarding water quality in the north inlet, which can inform closure planning.	

Surveillance Network Program (SNP) Station 1645-18/18B (Active)

Description:	Main effluent Discharge to Lac de Gras from NIWTP (point of compliance)			
Location:	North Inlet Water Treatment Plant 1 – 1645-18 North Inlet Water Treatment Plant 2 – 1645-18B			
Sampling Frequency:	Every six (6) days	Monthly	Quarterly	Quarterly or monthly
Sampling Parameters:	Total Arsenic, Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], pH[4], Nutrients[5], Total Mercury, , Total Suspended Solids, Turbidity, Total Petroleum Hydro-carbons[6](TPH), PHC (F1-F4)[7]	Total Arsenic, Dissolved Organic Carbon, Dissolved Oxygen, Field Parameters[3], ICP-MS Metal Scan[1] (Total and Dissolved), Major Ions[2], pH[4], Nutrients[5], Total Mercury, Total Organic Carbon, Total Suspended Solids, Turbidity, Total Petroleum Hydrocarbons[6] (TPH), PHC (F1-F4)[7]	Additionally, If effluent from Sewage Treatment Facilities are directed to Lac de Gras… Faecal Coliforms, BOD_5, Oil and Grease	1. In accordance with Part H, Item 30(a) and (b)[a] 2. Chronic toxicity[b]
Rationale for Station:	This information is required to confirm compliance with EQC, and can also provide information about effectiveness of treatment plant.			

[a] Samples of effluent shall be provided to an accredited bioassay laboratory for the purpose of performing the following acute toxicity tests at the specified frequencies:

i. Tests required under Part H, Item 30 (a) and (b) of the Water Licence shall be performed quarterly unless and until a result of >50% mortality in 100% effluent is obtained for a test organism; at that time the frequency of the acute toxicity test will increase to monthly. If the monthly acute toxicity tests show less than or equal to 50% mortality in 100% effluent for 12 consecutive tests, the frequency of testing can again be reduced to quarterly. Note that acute toxicity for these tests is defined using the LC50 value; the Board may alter this definition for acute toxicity if deemed necessary (e.g., based on results of round whitefish testing). If a result of >50% mortality in 100% effluent is obtained, the Licensee must report both the LC50 and the LC20 values in the SNP reports required under SNP Part A, Item 1.

ii. The Licensee shall submit a revised round whitefish toxicity testing protocol, based on a directive to be provided by the Board. The purpose of the testing is to evaluate the relative sensitivity of round whitefish to ammonia compared to rainbow trout. The Board will provide further instructions regarding toxicity testing with round whitefish following submission of these results to the WLWB; and,

[b] Bioassay samples shall be provided to an accredited bioassay laboratory for the following analyses:

i. Chronic toxicity to the early life stages of salmonid fish (as per Environment Canada's Environmental Protection Series Biological Test Method EPS/1/RM/28); and

ii. Chronic toxicity to the crustacean, *Ceriodaphnia dubia* (as per Environment Canada's Environmental Protection Series Biological Test Method EPS/1/RM/21); and

iii. Chronic toxicity to the alga, *Pseudokirchneriella subcapitata* (as per Environment Canada's Environmental Protection Series Biological Test Method EPS/1/RM/25).

Surveillance Network Program (SNP) Station 1645-19 (Active)

Description:	Effluent mixing zone in Lac de Gras	
Location:	60 meters from the effluent Discharge	
Sampling Frequency:	Water Sampled Monthly (provided safe access via open water or sufficient ice thickness) at three (3) stations located at a sixty (60) metre radius from the diffuser. Samples shall be collected at surface and at five (5) metre intervals to depth at each station and analyzed[c]	Sediments sampled annually at each of the three (3) sites
Sampling Parameters:	Total Arsenic, Dissolved Organic Carbon, Dissolved Oxygen, Field Parameters[3], ICP-MS Metal Scan[1](Total and Dissolved), Major Ions[2], pH[4], Nutrients[5], Total Mercury, Total Organic Carbon, Total Suspended Solids, Turbidity	Total Metals (strong acid Digestion), Total Organic Carbon, Simultaneous Extracted Metals[d], Acid Volatile Sulphide, Total Ammonia, PAH's, Hydrogen Sulfide, PHC F3
Rationale for Station:	To assess whether water quality objectives are being met at the edge of the initial dilution zone.	

[c] Methods for analysis for Simultaneous Extracted Metals and Acid Volatile Sulphide shall be approved by the Analyst

STATIONS APPLYING TO SURFACE RUNOFF AND GROUNDWATER

Surveillance Network Program (SNP) Station 1645-33 (Active)

Description:	Groundwater nearest to Bulk Fuel Storage
Location:	South of Main Tank Farm
Sampling Frequency:	Checked weekly for Groundwater flow and sampled monthly.
Sampling Parameters:	Total Ammonia, Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], pH[4], Total Petroleum Hydrocarbons[6](TPH), PHC (F1-F4)[7]
Rationale for Station:	To monitor water down gradient of Bulk Fuel Storage

Surveillance Network Program (SNP) Station 1645-81A/B (Active)

Description:	Surface Runoff during Freshet
Location:	Emulsion Plant and Ammonium Nitrate Storage Building
Sampling Frequency:	Checked weekly for surface water flow and sampled monthly.
Sampling Parameters:	Total Ammonia, Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], pH[4], Total Petroleum Hydrocarbons[6](TPH), PHC (F1-F4)[7]
Rationale for Station:	To monitor surface runoff water quality and determine if any contaminants from the Emulsion Plant and the Ammonia Nitrate Storage building reach the receiving environment.

STATIONS APPLYING TO COLLECTION PONDS

Surveillance Network Program (SNP) Station 1645-42 (Active)

Description:	Collection Pond
Location:	Pond 4
Sampling Frequency:	Sampled monthly when water is present and ice cover does not prevent the collection of pond samples, or as directed by the Board or Inspector
Sampling Parameters:	Total Ammonia, Field Parameters[3], Total ICP-MS Metal Scan[1], Major Ions[2], Nitrate, Nitrite, pH[4], Total Phosphorus, Total Suspended Solids, Turbidity
Rationale for Station:	To monitor runoff water quality of the PKC West Dam embankment and site roads and PKC Facility seepage, if present.

Surveillance Network Program (SNP) Station 1645-44 (Active)

Description:	Collection Pond
Location:	Pond 7
Sampling Frequency:	Sampled monthly when water is present and ice cover does not prevent the collection of pond samples, or as directed by the Board or Inspector
Sampling Parameters:	Total Ammonia, Field Parameters[3], Total ICP-MS Metal Scan[1], Major Ions[2], Nitrate, Nitrite, pH[4], Total Phosphorus, Total Suspended Solids, Turbidity
Rationale for Station:	To monitor runoff water quality of the Ammonium Nitrate Storage and Emulsion Plant areas and site roads, as well as PKC Facility seepage and runoff, if present.

Surveillance Network Program (SNP) Station 1645-45 (Active)

Description:	Collection Pond
Location:	Pond 10
Sampling Frequency:	Sampled monthly when water is present and ice cover does not prevent the collection of pond samples, or as directed by the Board or Inspector
Sampling Parameters:	Total Ammonia, Field Parameters[3], Total ICP-MS Metal Scan[1], Major Ions[2], Nitrate, Nitrite, pH[4], Total Phosphorus, Total Suspended Solids, Turbidity
Rationale for Station:	To monitor runoff water quality of the Maintenance Building, accommodations, Processing Plant runoff and site roads, if present.

Surveillance Network Program (SNP) Station 1645-46 (Active)

Description:	Collection Pond
Location:	Pond 11
Sampling Frequency:	Sampled monthly when water is present and ice cover does not prevent the collection of pond samples, or as directed by the Board or Inspector
Sampling Parameters:	Total Ammonia, Field Parameters[3], Total ICP-MS Metal Scan[1], Major Ions[2] Nitrate, Nitrite, pH[4], Total Phosphorus, Total Suspended Solids, Turbidity
Rationale for Station:	To monitor runoff water quality of the Accommodations, South Tank Farm and Warehouse Laydown and site roads, if present.

Surveillance Network Program (SNP) Station 1645-47 (Active)

Description:	Collection Pond
Location:	Pond 12
Sampling Frequency:	Sampled monthly when water is present and ice cover does not prevent the collection of pond samples, or as directed by the Board or Inspector.
Sampling Parameters:	Total Ammonia, Field Parameters[3], Total ICP-MS Metal Scan[1], Major Ions[2] Nitrate, Nitrite, pH[4], Total Phosphorus, Total Suspended Solids, Turbidity
Rationale for Station:	To monitor runoff water quality of the Process Plant ROM (Run of Mine), site roads and Waste Transfer Area, if present.

Surveillance Network Program (SNP) Station 1645-67 (Active)

Description:	Collection Pond
Location:	Pond 1
Sampling Frequency:	Sampled monthly when water is present and ice cover does not prevent the collection of pond samples, or as directed by the Board or Inspector.
Sampling Parameters:	Total Ammonia, Field Parameters[3], Total ICP-MS Metal Scan[1], Major Ions[2], Nitrate, Nitrite, pH[4], Total Phosphorus, Total Suspended Solids, Turbidity
Rationale for Station:	To monitor runoff water quality of the South Haul Road, site roads, north Waste Rock Storage Area-North Country Rock Pile (WRSA-NCRP), Backfill and Crusher Plants and East PKC Dam embankment, as well as PKC Facility and north WRSA-NCRP seepage, if present.

Surveillance Network Program (SNP) Station 1645-68 (Active)

Description:	Collection Pond
Location:	Pond 2
Sampling Frequency:	Sampled monthly when water is present and ice cover does not prevent the collection of pond samples, or as directed by the Board or Inspector
Sampling Parameters:	Total Ammonia, Field Parameters[3], Total ICP-MS Metal Scan[1], Major Ions[2], Nitrate, Nitrite, pH[4], Total Phosphorus, Total Suspended Solids, Turbidity
Rationale for Station:	To monitor runoff water quality of the north WRSA-NCRP and site roads, as well as north WRSA-NCRP seepage, if present.

Surveillance Network Program (SNP) Station 1645-69 (Active)

Description:	Collection Pond
Location:	Pond 5
Sampling Frequency:	Sampled monthly when water is present and ice cover does not prevent the collection of pond samples, or as directed by the Board or Inspector
Sampling Parameters:	Total Ammonia, Field Parameters[3], Total ICP-MS Metal Scan[1], Major Ions[2], Nitrate, Nitrite, pH[4], Total Phosphorus, Total Suspended Solids, Turbidity
Rationale for Station:	To monitor runoff water quality of the South Haul Road, site roads, PKC East Dam embankment and ROM, as well as PKC Facility seepage, if present.

Surveillance Network Program (SNP) Station 1645-74 (Active)

Description:	Collection Pond
Location:	Pond 13
Sampling Frequency:	Sampled monthly when water is present and ice cover does not prevent the collection of pond samples, or as directed by the Board or Inspector
Sampling Parameters:	Total Ammonia, Field Parameters[3], Total ICP-MS Metal Scan[1], Major Ions[2], Nitrate, Nitrite, pH[4], Total Phosphorus, Total Suspended Solids, Turbidity
Rationale for Station:	To monitor the runoff water quality of the Main Underground Portal Ore and Waste Storage Pad, North Construction office area and site roads, if present.

Surveillance Network Program (SNP) Station 1645-76 (Active)

Description:	Collection Pond
Location:	Pond 3
Sampling Frequency:	Sampled monthly when water is present and ice cover does not prevent the collection of pond samples, or as directed by the Board or Inspector
Sampling Parameters:	Total Ammonia, Field Parameters[3], Total ICP-MS Metal Scan[1], Major Ions[2], Nitrate, Nitrite, pH[4], Total Phosphorus, Total Suspended Solids, Turbidity
Rationale for Station:	To monitor runoff water quality of the north WRSA-NCRP, Inert Landfill, North and West PKC Dam embankment, site roads and PKC Spillway, as well as PKC Facility and north WRSA-NCRP Seepage, if present.

Surveillance Network Program (SNP) Station 1645-87 (Active)

Description:	Sump
Location:	Sump E21 (formerly Lake e21)
Sampling Frequency:	Sampled monthly when water is present and ice cover does not prevent the collection of sump samples, or as directed by the Board or Inspector
Sampling Parameters:	Total Ammonia, Field Parameters[3], Total ICP-MS Metal Scan[1], Major Ions[2], Nitrate, Nitrite, pH[4], Total Phosphorus, Total Suspended Solids, Turbidity
Rationale for Station:	To monitor runoff water quality from the south Waste Rock Storage Area-South Country Rock Pile (WRSA-SCRP) and site roads, as well as south WRSA-SCRP Seepage, if present.

STATIONS APPLYING TO DEWATERING OF THE UNDERGROUND MINE

Surveillance Network Program (SNP) Station 1645-75 (Active)

Description:	A154/A418 underground water (9290 Pump Station and Dewatering sumps)
Location:	North Inlet Water Treatment Plant
Sampling Frequency:	Every two (2) weeks
Sampling Parameters:	Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], Nutrients[5], pH[4], Total Suspended Solids, Turbidity, Total Petroleum Hydrocarbons[6] (TPH), PHC (F1-F4)[7]
Rationale for Station:	This information helps understand how Minewater affects the quality of Water entering the treatment plant, provides information on the changes in Minewater quality over time and may inform closure planning.

Surveillance Network Program (SNP) Station 1645-75B (Active)

Description:	A154/A418 underground water (9105 Pump Station)
Location:	Fresh Air Raise/Return Air Riser
Sampling Frequency:	Every two (2) weeks
Sampling Parameters:	Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], Nutrients[5], pH[4], Total Suspended Solids, Turbidity, Total Petroleum Hydrocarbons[6] (TPH), PHC (F1-F4)[7]
Rationale for Station:	This information helps understand how Minewater affects the quality of Water entering the treatment plant, provides information on the changes in Minewater quality over time and may inform closure planning.

STATIONS APPLYING TO THE PROCESSED KIMBERLITE CONTAINMENT FACILITY

Surveillance Network Program (SNP) Station 1645-16 (Active)

Description:	PKC pond water within the PKC
Location:	PKC Reclaim Barge
Sampling Frequency:	Sampled Monthly
Sampling Parameters:	Total Arsenic, Dissolved Organic Carbon, Dissolved Oxygen, Field Parameters[3], ICP-MS Metal Scan[1](Total and Dissolved), Major Ions[2], pH[4], Nutrients[5], Total Mercury, Total Organic Carbon, Total

	Suspended Solids, Turbidity, Total Petroleum Hydrocarbons[6](TPH), PHC (F1-F4)[7]
Rationale for Station:	Monitor water quality within PKC pond

Surveillance Network Program (SNP) Station 1645-77 (Active)

Description:	PKC Interception Well
Location:	East PKC Dam
Sampling Frequency:	Checked weekly, sampled monthly
Sampling Parameters:	Total Arsenic, Dissolved Organic Carbon, Dissolved Oxygen, Field Parameters[3], ICP-MS Metal Scan[1] (Total and Dissolved), Major Ions[2], pH[4], Nutrients[5], Total Mercury, Total Organic Carbon, Total Suspended Solids, Turbidity
Rationale for Station:	To monitor chemistry of PKC Interception Well Water.

Surveillance Network Program (SNP) Station 1645-78 (Active)

Description:	PKC Interception Well
Location:	East PKC Dam
Sampling Frequency:	Checked weekly, sampled monthly
Sampling Parameters:	Total Arsenic, Dissolved Organic Carbon, Dissolved Oxygen, Field Parameters[3], ICP-MS Metal Scan[1](Total and Dissolved), Major Ions[2], pH[4], Nutrients[5], Total Mercury, Total Organic Carbon, Total Suspended Solids, Turbidity
Rationale for Station:	To monitor chemistry of PKC Interception Well Water.

Surveillance Network Program (SNP) Station 1645-79 (Active)

Description:	PKC Interception Well
Location:	South PKC Dam
Sampling Frequency:	Checked weekly, sampled monthly.
Sampling Parameters:	Total Arsenic, Dissolved Organic Carbon, Dissolved Oxygen, Field Parameters[3], ICP-MS Metal Scan[1](Total and Dissolved), Major Ions[2], pH[4], Nutrients[5], Total Mercury, Total Organic Carbon, Total Suspended Solids, Turbidity
Rationale for Station:	To monitor chemistry of PKC Interception Well Water.

Surveillance Network Program (SNP) Station 1645-80 (Active)

Description:	PKC Interception Well
Location:	West PKC Dam
Sampling Frequency:	Checked weekly, sampled monthly.
Sampling Parameters:	Total Arsenic, Dissolved Organic Carbon, Dissolved Oxygen, Field Parameters[3], ICP-MS Metal Scan[1](Total and Dissolved), Major Ions[2], pH[4], Nutrients[5], Total Mercury, Total Organic Carbon, Total Suspended Solids, Turbidity
Rationale for Station:	To monitor chemistry of PKC Interception Well Water.

STATIONS APPLYING TO THE NIWTP CLARIFIER SLUDGE SAMPLING PROGRAM

Surveillance Network Program (SNP) Station 1645-85A (Active)

Description:	Sludge Sampling from the North Inlet Water Treatment Plant
Location:	Clarifier 1, North Inlet Water Treatment Plant (Plant 1)
Sampling Frequency:	Monthly. Sampled with 1645-86A. Offset with 1645-85B and 1645-86B by two weeks.
Sampling Parameters:	Total Petroleum Hydrocarbons[6](TPH), PHC (F1-F4)[7]
Rationale for Station:	To monitor hydrocarbon levels in North Inlet Water Treatment Plant Sludge to ensure sediment and water quality is suitable for aquatic life

Surveillance Network Program (SNP) Station 1645-85B (Active)

Description:	Sludge Sampling from the North Inlet Water Treatment Plant
Location:	Clarifier 2, North Inlet Water Treatment Plant (Plant 1)
Sampling Frequency:	Monthly. Sampled with 1645-86B. Offset with 1645-85A and 1645-86A by two weeks.
Sampling Parameters:	Total Petroleum Hydrocarbons[6](TPH), PHC (F1-F4)[7]
Rationale for Station:	To monitor hydrocarbon levels in North Inlet Water Treatment Plant Sludge to ensure sediment and water quality is suitable for aquatic life

Surveillance Network Program (SNP) Station 1645-86A (Active)

Description:	Sludge Sampling from the North Inlet Water Treatment Plant
Location:	Clarifier 3, North Inlet Water Treatment Plant (Plant 2)
Sampling Frequency:	Monthly. Sampled with 1645-85A. Offset with 1645-85B and 1645-86B by two weeks.
Sampling Parameters:	Total Petroleum Hydrocarbons[6](TPH), PHC (F1-F4)[7]
Rationale for Station:	To monitor hydrocarbon levels in North Inlet Water Treatment Plant Sludge to ensure sediment and water quality is suitable for aquatic life

Surveillance Network Program (SNP) Station 1645-86B (Active)

Description:	Sludge Sampling from the North Inlet Water Treatment Plant
Location:	Clarifier 4, North Inlet Water Treatment Plant (Plant 2)
Sampling Frequency:	Monthly. Sampled with 1645-85B. Offset with 1645-85A and 1645-86A by two weeks.
Sampling Parameters:	Total Petroleum Hydrocarbons[6](TPH), PHC (F1-F4)[7]
Rationale for Station:	To monitor hydrocarbon levels in North Inlet Water Treatment Plant Sludge to ensure sediment and water quality is suitable for aquatic life

STATIONS APPLYING TO THE A21 OPEN PIT MINING SAMPLING PROGRAM

Surveillance Network Program (SNP) Station 1645-51 (Active)

Description:	Sump A21 SNP Station
Location:	A21 Open Pit
Sampling Frequency:	Every two (2) weeks Note: Will only apply at the time A21 Pit is developed
Sampling Parameters:	Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], Nutrients[5], pH[4], Total Suspended Solids, Turbidity, Total Petroleum Hydrocarbons[6] (TPH), PHC (F1-F4)[7]
Rationale for Station:	To monitor water quality during A21 development

STATIONS APPLYING TO THE DIKE PUMPING STATIONS

Surveillance Network Program (SNP) Station 1645-52 (Active)

Description:	Dike Seepage collected from inside toe of the A154 Dike	
Location:	A154 Dike	
Sampling Frequency:	Sample once prior to Discharge	Daily during Discharge
Sampling Parameters:	Total Ammonia, pH[4], Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], Nutrients[5], Turbidity, Total Suspended Solids, Total Dissolved Solids, Total Petroleum Hydrocarbons[6](TPH), PHC (F1-F4)[7]	Field Parameters[3], Total Suspended Solids, Total Phosphorus, Turbidity, Total Ammonia
Rationale for Station:	Monitor Dike Seepage through open pit dikes prior to Discharge to Lac de Gras	

Surveillance Network Program (SNP) Station 1645-53 (Active)

Description:	Dike Seepage collected from inside toe of the A418 Dike	
Location:	A418 Dike	
Sampling Frequency:	Sample once prior to Discharge	Daily during Discharge:
Sampling Parameters:	Total Ammonia, pH[4], Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], Nutrients[5], Turbidity, Total Suspended Solids, Total Dissolved Solids, Total Petroleum Hydrocarbons[6](TPH), PHC (F1-F4)[7]	Field Parameters[3], Total Suspended Solids, Total Phosphorus, Turbidity, Total Ammonia
Rationale for station:	Monitor Dike Seepage through open pit dikes prior to Discharge to Lac de Gras	

Surveillance Network Program (SNP) Station 1645-54 (Active)

Description:	A21 SNP Station. Dike Seepage collection from inside toe of A21 Dike.	
Location:	To be determined	
Sampling Frequency:	Once prior to Discharge Note: Will only apply when A21 pit is developed	Daily during Discharge:
Sampling Parameters:	Total Ammonia, pH[4], Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], Nutrients[5], Turbidity, Total Suspended Solids, Total Dissolved Solids, Total Petroleum Hydrocarbons[6](TPH), PHC (F1-F4)[7]	Field Parameters[3], Total Suspended Solids, Total Phosphorus, Turbidity, Total Ammonia
Rationale for Station:	To monitor water quality during A21 development	

INACTIVE STATIONS

Surveillance Network Program (SNP) Station 1645-1 (Inactive)

Description:	Minewater Discharge
Rationale for Status:	Class "B" Licence no longer active

Surveillance Network Program (SNP) Station 1645-2 (Inactive)

Description:	Outflow decant from F1
Rationale for Status:	Class "B" Licence no longer active

Surveillance Network Program (SNP) Station 1645-3(Inactive)

Description:	Lac de Gras inflow from F1 Wetlands
Rationale for Status:	Class "B" Licence no longer active

Surveillance Network Program (SNP) Station 1645-4 (Inactive)

Description:	Discharge from Sewage Disposal Facility
Rationale for Status:	Class “B” Licence no longer active

Surveillance Network Program (SNP) Station 1645-5 (Inactive)

Description:	Outflow from disposal pond
Rationale for Status:	Class “B” Licence no longer active

Surveillance Network Program (SNP) Station 1645-6 (Inactive)

Description:	Prior to entering Lac de Gras at the stream outflow from the Sewage disposal
Rationale for Status:	Class “B” Licence no longer active

Surveillance Network Program (SNP) Station 1645-7 (Inactive)

Description:	Upstream of the confluence between the ice scrapings disposal area runoff and the stream from the Sewage outflow
Rationale for Status:	Class “B” Licence no longer active

Surveillance Network Program (SNP) Station 1645-8 (Inactive)

Description:	Down slope of the semi-permeable dike in D1 drainage way
Rationale for Status:	Class “B” Licence no longer active

Surveillance Network Program (SNP) Station 1645-9 (Inactive)

Description:	Treated Minewater pumped directly to Lac de Gras
Rationale for Status:	Class “B” Licence no longer active

Surveillance Network Program (SNP) Station 1645-10 (Inactive)

Description:	Station applying to treated Effluent Discharge to monitor Sewage Discharge from North Construction Camp
Rationale for Status:	Class “B” Licence no longer active.

Surveillance Network Program (SNP) Station 1645-12 (Inactive)

Description:	West Cell – North Inlet Facility
Location:	N/A

Sampling Frequency:	Monthly
Sampling Parameters:	Total Ammonia, Turbidity, Field Parameters[3], Nitrate, Total Suspended Solids, Nitrate, Total Phosphorus, ICP-MS Metal Scan[1] (Total), Major Ions[2], pH[4]
Rationale for Station:	Station applying to treated Effluent Discharge to monitor water in the West Cell of the North Inlet Facility
Rationale for Status:	West dike never constructed, intermediate SNP station deemed unnecessary.

Surveillance Network Program (SNP) Station 1645-14 (Inactive)

Description:	North Inlet Treatment Plant treated effluent prior to mixing with PKC treated effluent
Location:	N/A
Sampling Frequency:	Every (6) days during periods of Discharge to Lac de Gras
Sampling Parameters:	Total Arsenic, Dissolved Organic Carbon, Dissolved Oxygen, Field Parameters[3], ICP-MS Metal Scan[1](Total and Dissolved), Major Ions[2], pH[4], Nutrients[5], Total Mercury, Total Organic Carbon, Total Suspended Solids, Turbidity
Rationale for Station:	Station applying to treated Effluent Discharge to monitor water quality of treated effluent.
Rationale for Status:	Station was never established

Surveillance Network Program (SNP) Station 1645-15 (Inactive)

Description:	Process Plan slurry Discharge to PKC facility
Location:	Process Plant
Sampling Frequency:	Sampled monthly during periods of Discharge
Sampling Parameters:	Volume Percent Solids
Rationale for Station:	Station applying to treated Effluent Discharge to monitor slurry Discharge.
Rationale for Status:	Diavik proposes to move SNP Station 1645-15 to Section C, Flow and Volume Measurement Requirements as it would support other measurements of the Surveillance Network Program.

Surveillance Network Program (SNP) Station 1645-17 (Inactive)

Description:	PKC Treatment Plant Effluent prior to mixing with North Inlet Treatment Plant treated effluent	
Location:	N/A	
Sampling Frequency:	Every six (6) days	Quarterly
Sampling Parameters:	Total Arsenic, Dissolved Organic Carbon, Dissolved Oxygen, Field Parameters[3], ICP-MS Metal Scan[1](Total and Dissolved), Major Ions[2], pH[4], Nutrients[5], Total Mercury, Total Organic Carbon, Total Suspended Solids, Turbidity	BOD_5, Faecal Coliforms, Total Petroleum Hydrocarbons (TPH)
Rationale for Station:	To monitor PKC Effluent water quality	
Rationale for Status:	The PKC Effluent is discharged into North Inlet and the two treated effluent streams do not mix	

Surveillance Network Program (SNP) Station 1645-20 (Inactive)

Description:	Northwest of clarification pond
Location:	NW of Pond 2
Sampling Frequency:	Checked weekly, sampled monthly. Last data collected in August 2009.
Sampling Parameters:	N/A
Rationale for Station:	To monitor Groundwater down gradient of Water Retention Structures.
Rationale for Status:	Lack of data from current Station. SNP station will be replaced by monitoring requirements in SNP Part D, Item 8.

Surveillance Network Program (SNP) Station 1645-21 (Inactive)

Description:	West of Clarification pond (drainage course) between Pond 2 and Pond 3.

Location:	West of Ponds 2 and 3
Sampling Frequency:	Checked weekly, sampled monthly. Last data collected in August 2009
Sampling Parameters:	N/A
Rationale for Station:	To monitor Groundwater down gradient of Water Retention Structures
Rationale for Status:	Lack of data from current Station. SNP station will be replaced by monitoring requirements in SNP Part D, Item 8.

Surveillance Network Program (SNP) Station 1645-22 (Inactive)

Description:	North of Quarry and till areas (drainage course) on the South side of North Inlet Facility
Location:	North of Till Stockpile
Sampling Frequency:	Checked weekly, sampled monthly. Last data collected in October 2008
Sampling Parameters:	N/A
Rationale for Station:	To monitor potential surface ARD
Rationale for Status:	To date, there has not been any observed Seepage from the NCRP. Any Seepage event will be reported in the Annual Seepage Report.

Surveillance Network Program (SNP) Station 1645-23 (Inactive)

Description:	North perimeter road (drainage course) between road and North Inlet Facility.
Location:	North of Waste Rock Pile
Sampling Frequency:	Checked weekly, sampled monthly. Last data collected in October 2011.
Sampling Parameters:	N/A
Rationale for Station:	To monitor potential surface ARD
Rationale for Status:	To date, there has not been any observed Seepage from the NCRP. Any Seepage event will be reported in the Annual Seepage Report.

Surveillance Network Program (SNP) Station 1645-24 (Inactive)

Description:	East of perimeter road (drainage course)
Location:	South of Pond 1

Sampling Frequency:	Checked weekly, sampled monthly. Last data collected pre 2008.
Sampling Parameters:	N/A
Rationale for Station:	To monitor surface runoff and Seepage down gradient of Water Retention structures.
Rationale for Status:	Lack of data from current Station. SNP station will be replaced by monitoring requirements in SNP Part D, Item 8.

Surveillance Network Program (SNP) Station 1645-25 (Inactive)

Description:	East PKC Dike area (drainage course)
Location:	East of Pond 5 towards the bay
Sampling Frequency:	Checked weekly, sampled monthly. Last data collected in September 2008.
Sampling Parameters:	N/A
Rationale for Station:	To monitor surface runoff and Seepage down gradient of Water Retention Structures
Rational for Status:	Lack of data from current Station. SNP station will be replaced by monitoring requirements in SNP Part D, Item 8.

Surveillance Network Program (SNP) Station 1645-26 (Inactive)

Description:	West PKC Dike area (drainage course)
Location:	West side of Pond 4
Sampling Frequency:	Checked weekly, sampled monthly. Last data collected in September 2008
Sampling Parameters:	N/A
Rationale for Station:	To monitor surface runoff and Seepage down gradient of Water Retention Structures
Rationale for Status:	Lack of data from current Station. SNP station will be replaced by monitoring requirements in SNP Part D, Item 8.

Surveillance Network Program (SNP) Station 1645-27 (Inactive)

Description:	Airstrip Drainage Course
Location:	North of Airstrip
Sampling Frequency:	N/A
Sampling Parameters:	N/A
Rationale for Station:	Station applying to surface runoff and Groundwater to monitor water quality of drainage course
Rationale for Status:	Drainage course dried up following Construction of airstrip

Surveillance Network Program (SNP) Station 1645-28 (Inactive)

Description:	Groundwater GW1 between the North Rock Pile and North Inlet
Location:	North of Waste Rock Pile
Sampling Frequency:	Checked weekly for Groundwater flow and sampled monthly. Last data collected Pre 2008.
Sampling Parameters:	Total Ammonia, Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], pH[4], Total Petroleum Hydrocarbons
Rationale for Station:	To monitor potential Groundwater ARD
Rationale for Status:	To date, there has not been any observed Seepage from the NCRP. Any Seepage event will be reported in the Annual Seepage Report.

Surveillance Network Program (SNP) Station 1645-29 (Inactive)

Description:	Groundwater GW2
Location:	North of Pond 2
Sampling Frequency:	Checked weekly for Groundwater flow and sampled monthly. Last data collected pre 2008
Sampling Parameters:	Total Ammonia, Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], pH[4], Total Petroleum Hydrocarbons
Rationale for Station:	To monitor Groundwater down gradient of Water Retention Structures
Rationale for Status:	Lack of data from current Station. SNP station will be replaced by monitoring requirements in SNP Part D, Item 8.

Surveillance Network Program (SNP) Station 1645-30 (Inactive)

Description:	Groundwater GW3 Northwest of Till Disposal Area
Location:	N/A
Sampling Frequency:	Checked weekly for Groundwater flow and sampled monthly.
Sampling Parameters:	Total Ammonia, Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], pH[4], Total Petroleum Hydrocarbons
Rationale for Station:	Station applying to surface runoff and Groundwater to monitor Groundwater quality
Rationale for Status:	Area covered by Till Pile

Surveillance Network Program (SNP) Station 1645-31 (Inactive)

Description:	Groundwater GW4 West of the PKC
Location:	South of Pond 4
Sampling Frequency:	Checked weekly for Groundwater flow and sampled monthly. Last data collected pre 2008.
Sampling Parameters:	Total Ammonia, Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], pH[4], Total Petroleum Hydrocarbons
Rationale for Station:	To monitor Groundwater down gradient of Water Retention Structures
Rationale for Status:	Lack of data from current Station. SNP station will be replaced by monitoring requirements in SNP Part D, Item 8.

Surveillance Network Program (SNP) Station 1645-32 (Inactive)

Description:	Groundwater – South of PKC, between the Ammonium Nitrate Storage and Pond 7
Location:	South of Pond 7 and Emulsion Plant
Sampling Frequency:	Checked weekly for Groundwater flow and sampled monthly. Last data collected pre 2008.
Sampling Parameters:	Total Ammonia, Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], pH[4], Total Petroleum Hydrocarbons
Rationale for Station:	To monitor water down gradient of Water Retention Structure and Emulsion Plant

Rationale for Status:	Diavik will create a runoff monitoring and collection program to area surrounding Emulsion Plant and Ammonium Nitrate Storage Building during freshet. New monitoring station is referenced as 1645-81.

Surveillance Network Program (SNP) Station 1645-34 (Inactive)

Description:	Near intake structure for De-watering of Lake E1		
Location:	N/A		
Sampling Frequency:	Once prior to commencement of de-watering	Daily during de-watering	Once on the final day of de-watering
Sampling Parameters:	Total Ammonia, Total Suspended Solids, Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], Total Phosphorus, Nitrate, Nitrite, Turbidity	Total Suspended Solids, pH[4], Turbidity	Total Ammonia, Total Suspended Solids, Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], pH[4], Total Phosphorus, Nitrate, Nitrite, Turbidity
Rationale for Station:	To monitor water quality during de-watering		
Rationale for Status:	Work is completed, Station no longer applicable.		

Surveillance Network Program (SNP) Station 1645-35 (Inactive)

Description:	Near intake structure of De-watering of Lake E6		
Location:	N/A		
Sampling Frequency:	Once prior to commencement of de-watering	Daily during de-watering	Once on the final day of de-watering

Sampling Parameters:	Total Ammonia, Total Suspended Solids, Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], Total Phosphorus, Nitrate, Nitrite, Turbidity	Total Suspended Solids, pH[4], Turbidity	Total Ammonia, Total Suspended Solids, Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], pH[4], Total Phosphorus, Nitrate, Nitrite, Turbidity
Rationale for Station:	To monitor water quality during de-watering		
Rationale for Status:	Work is completed, Station no longer applicable.		

Surveillance Network Program (SNP) Station 1645-36 (Inactive)

Description:	Near intake structure for De-watering of Lake E7		
Location:	N/A		
Sampling Frequency:	Once prior to commencement of de-watering	Daily during de-watering	Once on the final day of de-watering
Sampling Parameters:	Total Ammonia, Total Suspended Solids, Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], Total Phosphorus, Nitrate, Nitrite, Turbidity	Total Suspended Solids, pH[4], Turbidity	Total Ammonia, Total Suspended Solids, Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], pH[4], Total Phosphorus, Nitrate, Nitrite, Turbidity
Rationale for Station:	To monitor water quality during de-watering		
Rationale for Status:	Work is completed, Station no longer applicable.		

Surveillance Network Program (SNP) Station 1645-37 (Inactive)

Description:	Near intake structure for De-watering of Lake E8
Location:	N/A

Sampling Frequency:	Once prior to commencement of de-watering	Daily during de-watering	Once on the final day of de-watering
Sampling Parameters:	Total Ammonia, Total Suspended Solids, Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], Total Phosphorus, Nitrate, Nitrite, Turbidity	Total Suspended Solids, pH[4], Turbidity	Total Ammonia, Total Suspended Solids, Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], pH[4], Total Phosphorus, Nitrate, Nitrite, Turbidity
Rationale for Station:	To monitor water quality during de-watering		
Rationale for Status:	Work is completed, Station no longer applicable.		

Surveillance Network Program (SNP) Station 1645-38 (Inactive)

Description:	Near intake structure for De-watering of Lake E10		
Location:	N/A		
Sampling Frequency:	Once prior to commencement of de-watering	Daily during de-watering	Once on the final day of de-watering
Sampling Parameters:	Total Ammonia, Total Suspended Solids, Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], Total Phosphorus, Nitrate, Nitrite, Turbidity	Total Suspended Solids, pH[4], Turbidity	Total Ammonia, Total Suspended Solids, Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], pH[4], Total Phosphorus, Nitrate, Nitrite, Turbidity
Rationale for Station:	To monitor water quality during de-watering		
Rationale for Status:	Work is completed, Station no longer applicable.		

Surveillance Network Program (SNP) Station 1645-39 (Inactive)

Description:	Near intake structure for De-watering within the dike enclosure of A154			
Location:	N/A			
Sampling Frequency:	Once prior to commencement of Discharge at a minimum of five (5) stations evenly spaced along a longitudinal transect as approved by an Inspector. At each station, samples must be collected at surface and at two (2) metre intervals	Daily during Dewatering	Every six (6) days during Dewatering	Once on the final day of Dewatering at each of the five (5) sites
Sampling Parameters:	pH[4], Field Paramaters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], Total Suspended Solids, Turbidity, Nutrients[5]	pH[4], Total Suspended Solids, Turbidity, Total Phosphorus	Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], Nutrients[5], Oil and Grease	pH[4], Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], Total Suspended Solids, Turbidity, Nutrients[5]
	Note: Additional sampling may be required at the request of an Inspector			
Rationale for Station:	To monitor water quality during de-watering			
Rationale for Status:	Work is completed, Station no longer applicable.			

Surveillance Network Program (SNP) Station 1645-40 (Inactive)

Description:	Near intake structure for dike pool watering – A418			
Location:	N/A			
Sampling Frequency:	Once prior to commencement of Discharge at a minimum of five (5) stations evenly spaced along a longitudinal transect as approved by an Inspector. At each station, samples must be collected at surface and at two (2) metre intervals	Daily during Dewatering	Every six (6) days during Dewatering	Once on the final day of Dewatering at each of the five (5) sites
Sampling Parameters:	pH[4], Field Paramaters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], Total Suspended Solids, Turbidity, Nutrients[5]	pH[4], Total Suspended Solids, Turbidity, Total Phosphorus	Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], Nutrients[5], Oil and Grease	pH[4], Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], Total Suspended Solids, Turbidity, Nutrients[5]
	Note: Additional sampling may be required at the request of an Inspector			
Rationale for Station:	To monitor water quality during de-watering			
Rationale for Status:	Work is completed, Station no longer applicable.			

Surveillance Network Program (SNP) Station 1645-43 (Inactive)

Description:	A 21 SNP Station: Collection Pond		
Location:	Pond 6		
Sampling Frequency:	Monthly if water is present	Once prior to the commencement of Discharge to Lac de Gras	Daily during Discharge to Lac de Gras
Sampling Parameters:	Total Ammonia, Field Parameters[3], ICP-MS Metal Scan[1], Major Ions[2], Nitrate, Nitrite, pH[4], Total Phosphorus, Total Suspended Solids, Turbidity	Total Petroleum Hydrocarbons (TPH)	TSS, pH[4], Turbidity
Rationale for Station:	To monitor ware quality during A21 development		
Rationale for Status:	The approved Construction Environmental Management Plan, Version 2.0, indicates that Pond 6 is no longer necessary.		

Surveillance Network Program (SNP) Station 1645-48 (Inactive)

Description:	Clarification pond (Pond 3)		
Location:	West side of the North Rock Pile		
Sampling Frequency:	Once prior to the commencement of the Discharge at a minimum of three (3) stations evenly spaced along a longitudinal transect at the centerline of the clarification pond collected at surface, and at two (2) metre intervals to depth	Daily during periods of Discharge	Every two (2) weeks during periods of Discharge and once on the final day of Discharge
Sampling Parameters:	pH[4], Field Parameters[3] ICP-MS Metal Scan[1](Total), Major Ions[2], Total Ammonia, Nitrite, Oil and Grease, Total Phosphorus, Nitrate, Total Suspended Solids, Turbidity	Total Suspended Solids, Total Phosphorus, Turbidity	pH[4], Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], Total Ammonia, Nitrite, Oil and Grease, Total Phosphorus, Nitrate, Total Suspended Solids, Turbidity
Rationale for Station:	To monitor water quality of Pond 3.		
Rationale for Status:	Pond is no longer large enough for three (3) stations along centre-line transect. It is now covered by SNP Station 1645-76.		

Surveillance Network Program (SNP) Station 1645-49 (Inactive)

Description:	Mine water removed from A154 Pit
Location:	N/A
Sampling Frequency:	Every two (2) weeks
Sampling Parameters:	Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], Nutrients[5], pH[4], Total Suspended Solids, Turbidity, Oil and Grease
Rationale for Station:	Station applying to Dewatering to monitor water quality from A154 Pit
Rationale for Status:	Inactive after the closure of the A154 Open Pit

Surveillance Network Program (SNP) Station 1645-50 (Inactive)

Description:	Mine water removed from A418 Pit
Location:	A418 Open Pit
Sampling Frequency:	Not currently Monitored. Last data collected in June 2012 every two (2) weeks. Note: Will only apply at the time A418 Pit is developed.
Sampling Parameters:	Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], Nutrients[5], pH[4], Total Suspended Solids, Turbidity, Oil and Grease
Rationale for Station:	Monitor quality of Pit Water
Rationale for Status:	With the closure of A418 Open Pit, there is no need for this station. Any water

Surveillance Network Program (SNP) Station 1645-55 (Inactive)

Description:	A21 SNP reference station in Lac de Gras
Location:	Northing: 7151091, Easting: 537393
Sampling Frequency:	Sample daily using approved depth integrated sampler (provided safe boating conditions)
Sampling Parameters:	Total Suspended Solids, Turbidity
Rationale for Station:	Reference station for regulation of dredging and dike Construction activities during A21 development
Rationale for Status:	A21 in-lake work is complete; Station no longer applicable.

Surveillance Network Program (SNP) Station 1645-56 (Inactive)

Description:	Station applying to dredging and dike Construction
Rationale for Status:	Fixed Dredging/Diking Station located 200 meters east from the centerline of the North Inlet East Dike

Surveillance Network Program (SNP) Station 1645-57 (Inactive)

Description:	Station applying to dredging and dike Construction
Rationale for Status:	Removed as per approved Dredging TSS Management and In Lake Construction Plan

Surveillance Network Program (SNP) Station 1645-58 (Inactive)

Description:	Station applying to dredging and dike Construction
Location:	N 7.152.057, E 537.073
Sampling Frequency:	Sample daily using approved depth integrated sampler
Sampling Parameters:	Total Suspended Solids, Turbidity
Rationale for Station:	N/A
Rationale for Status:	Station as referenced in Figure 8.1 of the approved Dredging TSS Management and In Lake Construction Plan.

Surveillance Network Program (SNP) Station 1645-59 (Inactive)

Description:	Station applying to dredging and dike Construction
Location:	N 7.152.210, E 537.342
Sampling Frequency:	Sample daily using approved depth integrated sampler
Sampling Parameters:	Total Suspended Solids Turbidity
Rationale for Station:	N/A
Rationale for Status:	Station as referenced in Figure 8.1 of the approved Dredging TSS Management and In Lake Construction Plan.

Surveillance Network Program (SNP) Station 1645-60 (Inactive)

Description:	Station applying to dredging and dike Construction
Location:	N 7.152.587, E 537.575
Sampling Frequency:	Sample daily using approved depth integrated sampler
Sampling Parameters:	Total Suspended Solids, Turbidity
Rationale for Station:	N/A
Rationale for Status:	Station as referenced in Figure 8.1 of the approved Dredging TSS Management and In Lake Construction Plan.

Surveillance Network Program (SNP) Station 1645-61 (Inactive)

Description:	Station applying to dredging and dike Construction
Location:	N 7.153.263, E 537.666
Sampling Frequency:	Sample daily using approved depth integrated sampler
Sampling Parameters:	Total Suspended Solids, Turbidity
Rationale for Station:	N/A
Rationale for Status:	Station as referenced in Figure 8.1 of the approved Dredging TSS Management and In Lake Construction Plan.

Surveillance Network Program (SNP) Station 1645-62 (Inactive)

Description:	Station applying to dredging and dike Construction
Location:	N 7.153.562, E 537.079
Sampling Frequency:	Sample daily using approved depth integrated sampler
Sampling Parameters:	Total Suspended Solids, Turbidity
Rationale for Station:	N/A
Rationale for Status:	Station as referenced in Figure 8.1 of the approved Dredging TSS Management and In Lake Construction Plan.

Surveillance Network Program (SNP) Station 1645-63 (Inactive)

Description:	Station applying to dredging and dike Construction
Location:	N 7.153.744, E 536.463
Sampling Frequency:	Sample daily using approved depth integrated sampler
Sampling Parameters:	Total Suspended Solids, Turbidity
Rationale for Station:	N/A
Rationale for Status:	Station as referenced in Figure 8.1 of the approved Dredging TSS Management and In Lake Construction Plan.

Surveillance Network Program (SNP) Station 1645-64 (Inactive)

Description:	Station applying to dredging and dike Construction
Location:	N 7.153.768, E 536.173
Sampling Frequency:	Sample daily using approved depth integrated sampler
Sampling Parameters:	Total Suspended Solids, Turbidity
Rationale for Station:	N/A
Rationale for Status:	Station as referenced in Figure 8.1 of the approved Dredging TSS Management and In Lake Construction Plan.

Surveillance Network Program (SNP) Station 1645-65 (Inactive)

Description:	Station applying to dredging and dike Construction
Location:	N 7.153.740, E 535.756
Sampling Frequency:	Sample daily using approved depth integrated sampler
Sampling Parameters:	Total Suspended Solids, Turbidity
Rationale for Station:	N/A
Rationale for Status:	Station as referenced in Figure 8.1 of the approved Dredging TSS Management and In Lake Construction Plan.

Surveillance Network Program (SNP) Station 1645-66 (Inactive)

Description:	Near intake structure for De-watering of North Inlet.		
Location:	N/A		
Sampling Frequency:	Once prior to commencement of de-watering	Daily during de-watering	Once on the final day of de-watering
Sampling Parameters:	Total Ammonia, Total Suspended Solids, Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], Total Phosphorus, Nitrate, Nitrite, Turbidity	Total Suspended Solids, pH[4], Turbidity	Total Ammonia, Total Suspended Solids, Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], pH[4], Total Phosphorus, Nitrate, Nitrite, Turbidity
Rationale for Station:	Station applying to Dewatering to monitor water quality before, during, and at the end of De-watering North Inlet.		
Rationale for Status:			

Surveillance Network Program (SNP) Station 1645-70 (Inactive)

Description:	Station applying to dredging and dike Construction
Location:	N 7.151.848, E 537.057
Sampling Frequency:	Sample daily using approved depth integrated sampler
Sampling Parameters:	Total Suspended Solids, Turbidity
Rationale for Station:	To monitor suspended solids and turbidity caused by dredging and dike Construction.
Rationale for Status:	Station referenced as 1645-A in Figure 1 of the April 12, 2005 DDMI request for additional SNP Stations.

Surveillance Network Program (SNP) Station 1645-71 (Inactive)

Description:	Station applying to dredging and dike Construction
Location:	N 7.151.369, E 536.765
Sampling Frequency:	Sample daily using approved depth integrated sampler
Sampling Parameters:	Total Suspended Solids, Turbidity
Rationale for Station:	To monitor suspended solids and turbidity caused by dredging and dike Construction.
Rationale for Status:	Station referenced as 1645-B in Figure 1 of the April 12, 2005 DDMI request for additional SNP Stations.

Surveillance Network Program (SNP) Station 1645-72 (Inactive)

Description:	Station applying to dredging and dike Construction
Location:	N 7.151.319, E 536.414
Sampling Frequency:	Sample daily using approved depth integrated sampler
Sampling Parameters:	Total Suspended Solids, Turbidity
Rationale for Station:	To monitor suspended solids and turbidity caused by dredging and dike Construction.
Rationale for Status:	Station referenced as 1645-C in Figure 1 of the April 12, 2005 DDMI request for additional SNP Stations.

Surveillance Network Program (SNP) Station 1645-73 (Inactive)

Description:	Station applying to dredging and dike Construction
Location:	N/A
Sampling Frequency:	Sample daily using approved depth integrated sampler
Sampling Parameters:	Total Suspended Solids, Turbidity
Rationale for Station:	Background reference station for the regulation of dredging and dike Construction association with A418 Pit
Rationale for Status:	Station referenced as 1645-55B in Figure 1 of the April 12, 2005 DDMI request for additional SNP Stations - Relocated background reference Station (N 7.152.720 E 538.765)

Surveillance Network Program (SNP) Station 1645-82 (Inactive)

Description:	A21 SNP reference station in Lac de Gras
Location:	200 m from the dike center line Northing: 7149416, Easting: 534620
Sampling Frequency:	Sample daily using approved depth integrated sampler (provided safe boating conditions)
Sampling Parameters:	Total Suspended Solids, Turbidity
Rationale for Station:	Reference Station during A21 development
Rationale for Status:	A21 in-lake work is complete; Station no longer applicable.

Surveillance Network Program (SNP) Station 1645-83 (Inactive)

Description:	A21 SNP reference station in Lac de Gras
Location:	200 m from the dike center line Northing: 7149025, Easting: 534537
Sampling Frequency:	Sample daily using approved depth integrated sampler (provided safe boating conditions)
Sampling Parameters:	Total Suspended Solids, Turbidity
Rationale for Station:	Reference Station during A21 development
Rationale for Status:	A21 in-lake work is complete; Station no longer applicable.

Surveillance Network Program (SNP) Station 1645-84 (Inactive)

Description:	A21 SNP reference station in Lac de Gras
Location:	200 m from the dike center line Northing: 7148677, Easting: 534181
Sampling Frequency:	Sample daily using approved depth integrated sampler (provided safe boating conditions)
Sampling Parameters:	Total Suspended Solids, Turbidity
Rationale for Station:	Reference Station during A21 development
Rationale for Status:	A21 in-lake work is complete; Station no longer applicable.

Surveillance Network Program (SNP) Station 1645-41 (Inactive)

Description:	A21 SNP Station: Sample Spigot from Dewatering Pipeline				
Location:	A21				
Sampling Frequency:	Once prior to commencement of Discharge at a minimum of five (5) stations evenly spaced along a longitudinal transect in the A21 pool, as approved by an Inspector. At each station, samples must be collected at surface and at two (2) metre intervals	Daily during Dewatering to Lac de Gras	Every six (6) days during Dewatering to Lac de Gras	Once on the final day of Dewatering to Lac de Gras	Every (2) weeks during Dewatering to the North Inlet
Sampling Parameters:	pH[4], Field Paramaters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], Total Suspended Solids, Turbidity, Nutrients[5], Total Petroleum Hydrocarbons[6] (TPH)	pH[4], Total Suspended Solids, Turbidity, Total Phosphorus	pH[4], Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], Total Suspended Solids, Turbidity, Nutrients[5], Total Petroleum Hydrocarbons[6] (TPH), PHC (F1-F4)[7]	pH[4], Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], Total Suspended Solids, Turbidity, Nutrients[5], Total Petroleum Hydrocarbons (TPH)	pH[4], Field Parameters[3], ICP-MS Metal Scan[1](Total), Major Ions[2], Total Suspended Solids, Turbidity, Nutrients[5], Total Petroleum Hydrocarbons (TPH)
	Note: Additional sampling may be required at the request of an Inspector				
Rationale for Station:	To monitor water quality during A21 Pool Dewatering				
Rationale for Status:	A21 construction dewatering complete; operational pumping to be monitored through 1645-51.				