



Annex D: Jay Project related Conditions

Annexed to Water Licence W2020L2-0004

These conditions were part of the Ekati Water Licence W2020L2-0004 (formerly W2012L2-0001) with respect to the Jay Project. They have been removed from the body of the Licence on the basis of the Licensee's request.

Part A: Scope and Definitions

1. Scope

- a) Subject to the terms and conditions of this Licence, the Licensee may divert water from Upper Panda Lake to Kodiak Lake, and use water and dispose of Waste for the purpose of mining the Panda, Koala, Koala North, Misery, and Fox kimberlite pipes, and Jay kimberlite pipes, for operating the processing facilities and related infrastructure, and carrying out Reclamation associated with diamond mining within the Koala, Misery, King-Cujo, Desperation-Carrie, and Lac du Sauvage Watersheds of the Lac de Gras basin, Northwest Territories.

This Licence also entitles the Licensee to Dewater a portion of Lac du Sauvage, use water, dispose of Waste, and divert streams B0 and Ac35 around the perimeter of the Dewatered area, for the purposes of mining the Jay kimberlite pipe and carrying out Reclamation of the Jay Development, as shown in Map 3.1-3 of the Updated Project Description submitted June 7, 2016.

Definitions

"Back-flooding" means the diversion of water into open pits or into the area enclosed by the Jay and North dykes, for Reclamation purposes.

"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. This includes the Jay Dyke and North Dyke.

"Geochemistry Baseline Report" means the report titled "Annex VIII: Geochemistry Baseline Report for the Jay Project" submitted to the Mackenzie Valley Environmental Impact Review Board as part of the Jay Project Developer's Assessment Report (September 2014) for EA 1314-01.

"Jay Development" means all of the activities and facilities associated with the Construction, operation, and Reclamation of the Jay pit.

"Jay Dyke" means the horseshoe-shaped water-retaining Engineered Structure which is intended to isolate the portion of Lac du Sauvage containing the Jay kimberlite pipe, so that Dewatering and open-pit mining of kimberlite can occur.

"Jay Dyke Review Panel" means the expert panel established by the Licensee in accordance with Jay Report of Environmental Assessment Measure 4-4.

“Jay Report of Environmental Assessment” means the Report of Environmental Assessment and Reasons for Decision for EA 1314-01, dated February 1, 2016.

“Letter of Acceptance” means a letter signed by the Jay Dyke Review Panel members that states the Panel’s opinion that reviewed plans and materials meet good engineering standards and practice and should prevent significant adverse effects to the environment.

“Misery Pit Minewater Management Facility” means the mined-out Misery pit which will be used for storage of Minewater related to the Misery Underground Development and during the Jay pit Dewatering phase and during mine operations, as described in the approved **Wastewater and Processed Kimberlite Management Plan**.

“North Dyke” means a small water-retaining dyke constructed near the north abutment of the Jay Dyke, forming a portion of the structures that will isolate the Jay kimberlite pipe from Lac du Sauvage.

“Traditional Knowledge Management Framework” is a document that describes protocols for collecting, storing, managing, and using Traditional Knowledge and will apply to the lifetime of the Jay Project (Construction, operations and closure phases), as described in Measure 7-1 of the Jay Report of Environmental Assessment and required by Land Use Permit W2013D0007.

Part B: General Conditions

1. The Licensee shall operate in accordance with the **Traditional Knowledge Management Framework** that describes protocols for collecting, storing, managing, and using Traditional Knowledge, consistent with the Jay Report of Environmental Assessment Measure 7-1.

Part D: Conditions Applying to Water Use

1. The Licensee may only obtain water for domestic purposes, processing, road watering, and associated uses from Long Lake Containment Facility, Koala South and East Sumps, Desperation Pond, King Pond Settling Facility, Two Rock Lake, Two Rock Sedimentation Pond, Falcon Lake, Lac de Gras, Lac du Sauvage, Grizzly Lake, Little Lake, and Thinner Lake (Misery Camp), unless otherwise approved by the Board. Water will be withdrawn using the Water Supply Facilities, unless otherwise authorized in writing by an Inspector.
2. The annual quantity of fresh water withdrawn for any purpose excluding those one-time uses described in Part D, Condition 3, shall not exceed the limits set out below (in cubic metres):

Water Source	Timing of Use (where applicable)	Maximum Quantity of Water Use (m³)
Two Rock Lake		466,000
Grizzly Lake		200,000
Little Lake		400,000
Thinner Lake		15,000
Falcon Lake		100,000

Lac de Gras		100,000
Lac du Sauvage	construction phase	500,000
	operations phase	100,000

3. Fresh water withdrawn for a one-time water use, shall not exceed the limits set out below:

Water Source	Timing of Use (where applicable)	Maximum Quantity of Water Use (m³)
Sable Lake	Dewatering	560,400
Pigeon Pond	Dewatering	18,500
Lac du Sauvage (area enclosed by Jay Dyke and North Dyke)	Dredging	1,000,000
	Dewatering	32,000,000

A one-time water use fee is to be paid prior to the commencement of each one-time water use.

PART E: Conditions Applying to Dewatering and Drawdown

1. Prior to the commencement of Dewatering or Drawdown, excluding Grizzly Lake, Little Lake, Thinner Lake, Falcon Lake, Lynx Lake and the area enclosed by the Jay Dyke and North Dyke, the Licensee shall submit a **Dewatering Plan** or **Drawdown Plan** for each lake in accordance with Schedule 4, Condition 1 to the Board for approval.
2. At least 90 days prior to the commencement of Dewatering of the area enclosed by the Jay Dyke and North Dyke, the Licensee shall submit a **Jay Dyke and North Dyke Dewatering Plan** in accordance with Schedule 4, Condition 3 to the Board for approval. Dewatering of the area enclosed by the Jay Dyke and North Dyke shall not commence until the Plan is approved by the Board.

Part F: Conditions Applying to Construction

1. The Licensee shall annually review the **Construction Plan** described in Part F, Condition 2 for the Jay Dyke and North Dyke and shall submit updates to the Board for approval, at the following times:
 - a) a minimum of 90 days prior to any proposed changes to the requirements in the approved Plan;
 - b) a minimum of 90 days prior to Dredging for the Jay Dyke and/or North Dyke, if required; and
 - c) upon request of the Board.
2. At least 90 days prior to Construction of a quarry within the footprint of the Jay Waste Rock Storage Area, the Licensee shall submit an **updated stability analysis** stamped by a Professional Engineer, that reflects the quarry, to the Board for approval.
3. Prior to the start of Construction along the centerline of all containment structures and diversion channels related to the Sable, Pigeon, Beartooth, Lynx, and Jay Development, the Licensee shall undertake a

comprehensive delineation program to identify soil, rock, and ground ice conditions and shall submit the results of the program to the Board.

4. A minimum of ten days prior to commencement of Construction at each of the Sable, Pigeon, Beartooth, Lynx, Jay, and Misery Underground Developments, the Licensee shall provide written notification to an Inspector.
5. At least 60 days prior to Construction of either the Jay Dyke or North Dyke, the Licensee shall submit the final **Jay Dyke or North Dyke Design Report** in accordance with Schedule 5, Condition 3, stamped by a Professional Engineer, to the Board.
6. At least 60 days prior to Construction of either the Jay Dyke or North Dyke, the Licensee shall submit a **Letter of Acceptance** from the Jay Dyke Review Panel that indicates their review and acceptance of the final **Jay Dyke and North Dyke Design Report** referred to in Part F, Condition 11.
7. The Licensee shall construct the Jay Dyke and North Dyke according to the final **Jay Dyke and North Dyke Design Report** referred to in Part F, Condition 11.
8. The Licensee shall ensure that a Professional Engineer is retained as the Engineer of Record as described by the *Dam Safety Guidelines* for the Jay Dyke and North Dyke.
9. The Licensee shall consult with the Board, Government of the Northwest Territories, and the Independent Environmental Monitoring Agency in advance before any changes are made to the Jay Dyke Review Panel's composition and role or responsibilities.
10. Within 60 days of the effective date of Amendment #4, the Licensee shall submit the final **Terms of Reference** for the Jay Dyke Review Panel to the Board. The Licensee shall submit a revised **Terms of Reference** prior to implementation of any changes to the Panel's **Terms of Reference**.

PART G: Conditions Applying to Modifications

1. Prior to carrying out Modifications to the Jay Dyke and/or North Dyke, the Licensee shall submit to the Board, an updated **Jay Dyke and North Dyke Design Report** and a **Letter of Acceptance** from the Jay Dyke Review Panel that indicates their review and acceptance of any Modifications proposed by the Licensee. The Licensee shall not carry out Modifications to the Jay Dyke or North Dyke until this is received by the Board.

Part H: Conditions Applying to Waste Disposal

1. The Licensee shall submit a revised **Wastewater and Processed Kimberlite Management Plan**, in accordance with the detailed guidance set out in Schedule 6, Condition 1, to the Board for approval, at the following times:
 - a) A minimum of 60 days prior to the Construction of each of the Sable, Pigeon, and Lynx pits;
 - b) A minimum of 90 days prior to commencement of Dewatering of the area enclosed by the Jay Dyke and North Dyke to provide specific details related the scenarios (i.e., conditions and timing) under which the potential water-management contingency strategies for the Jay Development will be implemented;
 - c) A minimum of 90 days prior to the deposition of Processed Kimberlite into Panda and Koala pits to incorporate results of the freshwater cap optimization study required by Schedule 9, Condition 1(a);

- d) Prior to the Misery pit reaching 40 percent of its storage capacity to include objectives, criteria, preliminary designs, triggers and Action Levels for potential operational water adaptive management strategies, based on operational monitoring data; and
 - e) As directed by the Board.
2. The Licensee shall submit a revised **Waste Rock and Ore Storage Management Plan** in accordance with the detailed guidance referred to in Schedule 6, Condition 2, to the Board for approval, at the following times:
- a) A minimum of 90 days prior to the Construction of the Sable, Pigeon, Lynx, and Jay pits; and
 - b) As directed by the Board.
3. Within 90 days of the effective date of Amendment #4, the Licensee is to submit to the Board for approval a **Jay Waste Rock Co-placement Study Design** to optimize the co-placement strategy, determine the target NP/AP ratio, and identify the scale of mixing that will prevent Acid Rock Drainage from the Jay Waste Rock Storage Area. This Design is to be in accordance with Schedule 6, Condition 3.
4. Collection and Settling Ponds
- c) The Licensee shall construct, operate, and maintain the Collection and Settling Ponds to design specifications such that:
 - i. a minimum Freeboard limit of 1.0 metre, or other Freeboard limit as recommended by a Professional Engineer, shall be maintained at all times;
 - ii. Seepage from the Collection and Settling Ponds is minimized at all times;
 - iii. any Seepage from the Collection and Settling Ponds that occurs and does not meet effluent quality requirements, as specified in Part H, Condition 21(b) for those facilities associated with the Misery Development, Condition 21(d) for those facilities associated with the Sable Development, Condition 21(e) for those facilities associated with the Jay Development, and Condition 21(a) for those facilities associated with the remainder of the Project, shall be collected and immediately returned to the Collection and Settling Ponds, the Long Lake Containment Facility, the Two Rock Sedimentation Pond, the Misery Pit Minewater Management Facility, the process plant, or another location approved by the Board; and
 - iv. any constructed facilities that are eroded are repaired immediately.
 - b) Inspections of the Collection and Settling Ponds shall be carried out regularly in consultation with a Professional Engineer and records of these inspections shall be kept for review. The Licensee shall perform more frequent inspections at the request of an Inspector; and
 - c) An inspection of the Collection and Settling Ponds shall be carried out annually in July by a Professional Engineer. The Professional Engineer's full **Geotechnical Inspection Report** shall be submitted to the Board within 90 days of the inspection, including a covering letter from the Licensee outlining an implementation plan to respond to any recommendations made by the Professional Engineer.
5. Jay Dyke and North Dyke

- a) The Licensee shall construct, operate, and maintain the Jay Dyke and North Dyke to engineering standards such that at a minimum they comply with the *Dam Safety Guidelines*, and are in accordance with the following:
 - i. A minimum Freeboard limit of 1.4 meters for the North Dyke and 1.7 meters for the Jay Dyke, or other Freeboard limits as recommended by a Professional Engineer, shall be maintained at all times.
 - ii. Prior to the implementation of a Freeboard limit different from that described in Part H, Condition 12(a)(i), the Licensee shall submit a **Letter of Acceptance** from the Jay Dyke Review Panel that indicates their review and acceptance of the revised Freeboard limit.
 - b) The Licensee shall install and maintain geotechnical instrumentation in the Water Retention Dykes as described in the **Jay Dyke and North Dyke Final Design Report**, described in Part F, Condition 11;
 - c) Weekly inspections of the Jay Dyke and North Dyke shall be conducted and the records of these inspections and all monitoring records shall be kept for review upon request of an Inspector;
 - d) Any deterioration or erosion of any Engineered Structures associated with the Jay Dyke and/or North Dyke shall be reported to an Inspector and repaired immediately; and
 - e) An inspection of the Jay Dyke and North Dyke shall be carried out annually in July by a Professional Engineer. The Professional Engineer's full **Geotechnical Inspection Report** shall be submitted to the Board within 90 days of the inspection, including a covering letter from the Licensee outlining an implementation plan for addressing each of the Engineer's recommendations.
6. The Licensee shall conduct Dam Safety Reviews of the Jay Dyke and North Dyke commencing five years following the completion of Dewatering of the area enclosed by the Jay Dyke and North Dyke, and every five years thereafter or at a frequency approved by the Board.
 7. 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.
 8. Within six months of completing the Dam Safety Review inspection referred to in Part H, Condition 13, 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.
 9. Within nine months of completing a Dam Safety Review inspection under Part H, Condition 13, the Licensee shall submit to the Board a **Letter of Acceptance** from the Jay Dyke Review Panel indicating their review and acceptance of the **Implementation Plan** described in Part H, Condition 15(b).
 10. Following completion of initial Dewatering, as described in the approved **Jay Dyke and North Dewatering Plan** required under Part E, Condition 3, all water from the Jay Development shall be directed to the Misery Pit Minewater Management Facility and/or Lynx pit, unless otherwise authorized by the Board.

11. Effluent Quality Criteria (EQC)

- d) All water or Waste from the Project that enters the Receiving Environment, including all Discharges at Surveillance Network Program Station 1616-30, but excluding those Discharges listed in Part H, Conditions 21(b), 21(c), 21(d), 21(e), and 25, shall meet the following effluent quality requirements:

Parameter	Maximum Average Concentration (mg/L)	Maximum Concentration of Any Grab Sample (mg/L)
Dissolved Aluminum	0.1	0.2
Total Antimony	0.01	0.02
Total Arsenic	0.004	0.008
Chloride	$116.6(\ln[\text{Hardness}]) - 204.1$	$2(116.6(\ln[\text{Hardness}]) - 204.1)$
Nitrate – N	$e^{(0.9518(\ln[\text{Hardness}]) - 2.032)}$	$2(e^{(0.9518(\ln[\text{Hardness}]) - 2.032)})$
Nitrite – N	0.06	0.12
Potassium	53	103
Total Selenium	0.001	0.002
Total Strontium	3.0	6.0
Sulphate	$e^{(0.9116(\ln[\text{Hardness}]) + 1.712)}$	$2(e^{(0.9116(\ln[\text{Hardness}]) + 1.712)})$
Total Suspended Solids	15	25
Total Petroleum Hydrocarbons	3.0	5.0

Hardness to be used in the equations shown above is the hardness as analyzed from the sample collected at the same time at Surveillance Network Program Station 1616-30, with the following limits:

- i. for nitrate and chloride: up to a maximum hardness of 160 mg/L (if hardness exceeds 160 mg/L, 160 mg/L will be used in the equations); and
- ii. for sulphate: up to a maximum hardness of 115 mg/L (if hardness exceeds 115 mg/L, 115 mg/L will be used in the equations).

A quick-reference table of EQC for chloride, nitrate, and sulphate is included in Schedule 6, Condition 8.

- e) All water or Waste from the Jay Development that enters the Receiving Environment, including all Discharges at Surveillance Network Program Station Jay-0005a/b, but excluding those listed in Part H, Condition 25, shall meet the following effluent quality requirements:

Parameter	Maximum Average Concentration (mg/L)	Maximum Concentration of Any Grab Sample (mg/L)	Annual Loading Limit
Chloride	lesser of	$10^{(0.297(\text{Log}[\text{Effluent Hardness}] + 2.232))}$	
	$0.8215(((116.6(\ln[\text{hardness}]) - 204.1)13,920,000 - 3,192,000)/1,152,000)$		

Parameter	Maximum Average Concentration (mg/L)	Maximum Concentration of Any Grab Sample (mg/L)	Annual Loading Limit
	OR		
	$10^{(0.297(\text{Log}[\text{Effluent Hardness}])+2.232)}$		
Nitrate	$0.8215\left(\left(e^{(0.9518(\ln[\text{hardness}]) - 2.032)}\right)13,920,000 - 38,300\right)/1,152,000$ (mg N/L)	$1.6483\left(\left(e^{(0.9518(\ln[\text{hardness}]) - 2.032)}\right)13,920,000 - 38,300\right)/1,152,000$ (mgN/L)	
Total Ammonia	9 (mg N/L)	14 (mgN/L)	
Total Phosphorus			130-890 (kg P/yr)
Cadmium	0.0002	0.0003	
Chromium	0.003	0.006	
Cobalt	0.02	0.04	
Copper	0.006	0.02	
Iron	2	4	
Lead	0.02	0.04	
Uranium	0.033	0.033	
Dissolved Aluminum	0.4	0.8	
Total Suspended Solids	15	25	
Total Petroleum Hydrocarbons	3.0	5.0	

In the equations shown above, hardness refers to lake hardness, as analyzed in the most recent sample at SNP station Jay-0005c, and effluent hardness is analyzed in the most recent sample collected at SNP station Jay-0005a/b, with the following limits:

- i. for nitrate and chloride: a maximum hardness of 160 mg/L at SNP station Jay-0005c (if Hardness exceeds 160 mg/L, 160 mg/L will be used in the equations);
- ii. for chloride: a maximum effluent hardness of 300 mg/L at station Jay-0005a/b (if effluent hardness exceeds 300 mg/L, 300 mg/L will be used in the equations);

The total phosphorus annual loading limit is variable depending on the year of Discharge: Refer to Schedule 6 Condition 8 for limits that apply each year. Operational Discharge from Misery pit shall be managed to prevent the appearance of any visible hydrocarbon film on the surface of Lac du Sauvage. A quick-reference table of EQC for chloride, total phosphorus, and nitrate is included in Schedule 6, Condition 8.

- f) All water or Waste from the Project that enters the Receiving Environment, including Discharges at Surveillance Network Program Station 1616-30, 1616-43, and 0008-Sa3 shall be non-acutely toxic as determined by the acute toxicity tests described in Part A in the attached Surveillance Network Program.
12. With submission of the revised Wastewater and Process Kimberlite Management Plan, required by Part H, Condition 2(d), the Licensee shall submit a **Misery Pit Update Report** to the Board. This Report shall include at minimum:
- a) summary comparing model predictions against measured water quality data in Misery pit, including but not limited to TDS and chloride;
 - b) description of the stability of meromixis in Misery pit; and
 - c) description of whether any additional evaluation is required.
13. At least two years prior to Discharge from the Misery pit, the Licensee will submit a **Misery Pit Water Quality Report** in accordance with Schedule 6, Condition 5 on the updated water quality model to the Board for approval. Discharge shall not occur from Misery pit until this Report is approved by the Board.
14. The Licensee shall ensure that Construction of the Jay Dyke and North Dyke, and associated in-lake activities, meet the following criteria at SNP Station Jay-0010 to Jay-0015 inclusive, when active:
- a) the maximum concentration for TSS remain below 50 mg/L in any daily sample;
 - b) the average concentration over any 30-day period shall not exceed 25 mg/L TSS;
 - c) all samples shall be taken on a depth-integrated basis; and
 - d) each depth-integrated sample shall consist of a continuous sample taken between 1 m from the lake bottom to 1 m below the lake surface.
15. Within 12 months of the beginning of Discharge from the Misery Pit Minewater Management Facility, the Licensee shall submit a **Misery Plume Delineation Report** to the Board. This Report will include the results of a plume delineation study designed to describe dispersion of effluent into Lac du Sauvage from the Misery Pit Minewater Management Facility. This Report shall be in accordance with Schedule 6, Condition 7. An updated plume delineation study may be required as directed by the Board.
16. At least six months prior to the commencement of Dewatering of the area enclosed by the Jay Dyke and North Dyke, the Licensee shall submit a **Jay Dyke and North Dyke Operation, Maintenance, and Surveillance Manual** in accordance with the *Dam Safety Guidelines* to the Board. This Manual shall include triggers for the use of a depressurization system.
17. At least six months prior to the commencement of Dewatering of the area enclosed by the Jay Dyke and North Dyke, the Licensee is to submit a **Letter of Acceptance** from the Jay Dyke Review Panel that indicates their review and acceptance of the **Jay Dyke and North Dyke Operation, Maintenance, and Surveillance Manual** referred to in Part H, Condition 34.
18. No later than 30 days following a material change to the **Jay Dyke and North Dyke Operation, Maintenance, and Surveillance Manual** referred to in Part H, Condition 34, the Licensee shall notify the Board and submit the revised Manual to the Board.

19. No later than six months following a material change to the **Jay Dyke and North Dyke Operation, Maintenance, and Surveillance Manual** referred to in Part H, Condition 34, the Licensee shall submit a **Letter of Acceptance** from the Jay Dyke Review Panel to the Board.

PART I: Conditions Applying to Contingency Planning

1. The Licensee shall review and update the Board-approved **Spill Contingency Plan** as necessary to reflect changes in operation and technology, as well as 60 days prior to the Construction of each of the Sable, Pigeon, Lynx, and Jay pits. Any proposed updates shall be in accordance with Indian and Northern Affairs Canada's *Guidelines for Spill Contingency Planning, 2007*, or subsequent editions, and shall be submitted to the Board for approval.

PART J: Conditions Applying to Aquatic Effects Monitoring

1. The Licensee shall operate in accordance with the approved **AEMP Design Plan**. The Licensee shall submit a revised **AEMP Design Plan**, that satisfies the objectives of Part J, Condition 1, and the requirements of Schedule 8, Condition 1, to the Board for approval, at the following times:
 - a) At least one year prior to commencement of Construction at each of the Pigeon and Sable pits;
 - b) At least six months prior to commencement of Dewatering of Lynx Lake; and
 - c) Within six months of the effective date of Amendment #4.

The revised AEMP Design Plan shall include those sampling stations necessary to determine short- and long-term effects in the Receiving Environment as a result of the Pigeon, Sable, Lynx, or Jay Development.

PART K: Conditions Applying to Closure and Reclamation

1. The Licensee shall not permanently cover lakebed sediments and/or glacial till that result from the Construction of the Jay pit area and are deposited into the Jay Waste Rock Storage Area, or otherwise make this material unavailable for future use in Reclamation, unless approved by the Board.
2. The Licensee will make all reasonable efforts to establish and stabilize meromixis to ensure that water quality in the Misery pit and Jay pit is compatible with traditional uses after closure.
3. If the Licensee is unable to establish and stabilize meromixis as described in Part K, Condition 9, the Licensee will implement contingencies to ensure the pit lake water quality is compatible with traditional use after closure. The Licensee shall not implement any contingency until approved by the Board.

Schedule 1

Part B: General Conditions

Measuring and Reporting on Water and Waste:

- a) The monthly elevations of water during the open-water season for Grizzly Lake, Little Lake, Thinner Lake, Upper Panda Lake, Cell E of the Long Lake Containment Facility, the King Pond Settling Facility, the Two Rock Sedimentation Pond, Misery pit during its use as the Misery Pit Minewater Facility, and Lynx pit during its use for Misery Underground Development and Jay Minewater management;

- b) The monthly and annual quantities in cubic metres of each Waste deposited into the Long Lake Containment Facility, King Pond Settling Facility, Phase 1 Tailings Containment Area, and Two Rock Sedimentation Pond, the Misery Pit Minewater Facility, and Lynx pit during its use for Misery Underground Development and Jay Minewater management;
- c) Tabular summaries of all data and information generated under the Surveillance Network Program and graphical summaries of parameters in the effluent quality criteria under Part H at the points of compliance (SNP stations 1616-30, 1616-43, 1616-47, 0008-Sa3, Jay-0005a/b) in an electronic format acceptable to the Board. The Licensee shall provide raw data in electronic form upon request by the Board;
- d) The monthly and annual quantities of overburden removed from dyked area;

Management Plans and Activities:

- a) A summary of all work carried out over the last year under the approved Management Plans referred to in Part H, Conditions 1 through 3 of this Licence including:
 - i. tracking and documenting of Jay Waste Rock placement by rock type;
 - ii. results of Waste Rock sampling within the Jay open pit to confirm geochemical characteristics and geological mapping of the benches sampled;
 - iii. results of sampling and field inspection program to confirm Jay Waste Rock placement; and
 - iv. results of Groundwater monitoring and reporting program for the open pits during operations for the Jay Development in accordance with the approved **Wastewater and Processed Kimberlite Management Plan**;
- e) A summary of any Modifications carried out in accordance with Part G of this Licence and/or major maintenance work carried out on any water or Waste management facilities including, but not limited to, Water Supply Facilities, Collection and Settling Ponds, Long Lake Containment Facility, King Pond Settling Facility, Sewage Treatment Facilities, Two Rock Sedimentation Pond, Pigeon Diversion Channel, Jay and North Dyke, Sub-Basin B Diversion Channel, and associated structures;
- f) A summary of any revisions to the approved:
 - i. **Construction Plan** for the Jay and North Dyke referred to in Part F, Condition 3;

Other Reporting Requirements:

- a) Any changes to the Engineer of Record for the Jay Dyke and North Dyke.

Schedule 2

Part C: Conditions Applying to Security Deposits

1. In accordance with subsection 35(1) of the Act and Part C of this Licence, the Licensee shall post and maintain:
 - a) additional security deposits on the following schedule:
 - i. At least 60 days prior to commencement of Jay dyke construction, the Licensee shall post and maintain an additional CDN \$4,591,701.

- ii. At least 60 days prior to commencement of Jay open pit mining, the Licensee shall post and maintain an additional CDN \$3,155,704.

Schedule 4

Part E: Conditions Applying to Dewatering and Drawdown

1. The **Jay Dyke and North Dyke Dewatering Plan** referred to in Part E, Condition 3 shall include, but not be limited to, the following information:
 - a) Schedule for Dewatering;
 - b) Volume of water produced by Dewatering to each Discharge location;
 - c) The expected quality of water to be discharged to Lac du Savage;
 - d) Pumping methods including locations of intake and outflow structures;
 - e) Maximum pumping rates with rationale;
 - f) The design of any erosion prevention structures in the areas where water or Waste is Discharged;
 - g) A description of, and mitigation measures for, any predicted hydrological or water quality impacts to downstream water bodies;
 - h) The schedule and locations for that water quality monitoring necessary to evaluate any effects to the Receiving Environment caused by Dewatering the area enclosed by the Jay Dyke and North Dyke, with rationale;
 - i) The frequency, location, and procedures for monitoring flow rates in the Discharge stream and if appropriate, in the receiving water body;
 - j) The design of the pipeline and related facilities which includes considerations for preventing/mitigating erosion at the Discharge locations and how that has been incorporated into the design of the Dewatering pumping and pipeline system;
 - k) The procedures and rates for Dewatering to minimize erosion of the downstream water bodies, adjacent shorelines and, in winter, damage to spawning habitat from the development of icings, overflows, or glaciation; and
 - l) A description of how the Licensee will link the results of monitoring to those corrective actions necessary to prevent or minimize any Dewatering-related effects to the Receiving Environment. The description shall include, but not be limited to:
 - i. Definitions, with rationale, of Action Levels applicable to monitoring identified under Schedule 4, Condition 3 (h) and (i). At a minimum, Action Levels should be set that:
 1. define a level of Discharge quality or receiving water quality that indicates that water from the area enclosed by the Jay Dyke and North Dyke should cease to be discharged to the Receiving Environment and be redirected to the Misery Pit Minewater Management Facility; and
 2. define a level of Discharge quality or receiving water quality that indicates that additional monitoring (i.e., through the SNP or AEMP) should be undertaken;

- ii. For each Action Level, a description of how exceedances of the Action Level will be assessed and generally which types of actions may be taken if the Action Level is exceeded.

Schedule 5

Part F: Conditions Applying to Construction

- a) The **Construction Plans** for the Pigeon Stream Diversion Channel and the Sub-Basin B Diversion Channel, are also to include the details of measures to prevent degradation of permafrost and/or ice lenses;
 - b) The **Construction Plan** for the Jay Dyke and North Dyke is also to include, but not be limited to, the following:
 - i. A description of Dredging activities planned, including but not limited to the following:
 - 1. Schedule of Dredging Activities;
 - 2. Dredging equipment design and operation;
 - 3. Production rates;
 - 4. Operational approaches for minimizing sediment disturbance;
 - 5. A description of where dredged material will be located, if deemed necessary, and any implications for the Jay Waste Rock Storage Area Design; and
 - 6. Final monitoring plan details;
 - ii. A description of specific mitigation measures in consideration of Construction during and between different seasons;
 - iii. A description of adaptive management monitoring and mitigations, including but not limited to:
 - 1. A description of mitigation and management of fine sediments between the dyke and turbidity barriers;
 - 2. A description of how the TSS-turbidity relationship will be established and validated;
 - 3. A description of the actions to be taken in the event of a TSS exceedance of the limits set out in Part H, Condition 26;
 - 4. A description of triggers and actions in response to weather events; and
 - 5. Seven-day rolling average TSS concentration triggers and associated actions, in consideration of Construction during and between different seasons.
2. A **Waste Rock Storage Area Design Report**, referred to in Part F, Condition 4 shall include, but not be limited to:
- a) In addition, in the case of the Jay WRSA, the Report shall include, but not be limited to:
 - i. relevant background information;
 - ii. a description of the facilities to be constructed, including proposed locations;
 - iii. quantities of Waste material;
 - iv. discussion of setback distance of potentially acid generating rock within the Jay Waste Rock Storage Area, with rationale;

- v. a summary of the results of the Study conducted in accordance with the approved Jay Waste Rock Co-placement Study Design referred to in Part H, Condition 4, and any implications for the Waste Rock Storage Area Final Design Report;
- vi. design drawings and specifications of Engineered Structures, stamped by a Professional Engineer;
- vii. summary of results of the geotechnical investigation to confirm foundation characteristics, including ground truthing and field reconnaissance study for the Jay Project, and a description of any implications for the Jay Waste Rock Storage Area design and routing for surface runoff and Seepage;
- viii. Construction considerations, including timing, sequencing, and a schedule;
- ix. operations and maintenance requirements;
- x. detailed instrumentation and monitoring plans, including but not limited to sampling;
- xi. locations, parameters measured, and frequencies of sampling to be carried out; and
- xii. description of where dredged material will be located, if deemed necessary, and any implications for the Jay Waste Rock Storage Area Design.

3. **Jay Dyke and North Dyke Design Report** referred to in Part F, Condition 11 shall include, but not be limited to, the following:

- a) Jay Dyke and North Dyke detailed design drawings. These drawings should be:
 - i. Signed and stamped by an engineer;
 - ii. Labeled “issued for-Construction” or equivalent; and
 - iii. Include an itemized list of revisions to design;
- b) An evaluation of the critical hydraulic gradient used in the dyke design, in consideration of the laboratory testing completed on the lakebed sediments; and
- c) Description of adaptive management processes that systematically link monitoring results to management activities and allow management activities to be developed adaptively, in response to changes in the environment.

Schedule 6

Part H: Conditions Applying to Waste Disposal

Wastewater and Processed Kimberlite Management

- a) A list of contingencies to manage water for the Jay Project and an evaluation of the feasibility of each;
 - b) A description of the scenarios (i.e., conditions and timing) under which contingencies required by paragraph (k) will be implemented;
 - c) Identify which of the contingencies identified in Schedule 6, Condition 1(k), are preferred by the Licensee, with rationales, for each scenario;
2. The **Waste Rock and Ore Storage Management Plan** referred to in Part H, Condition 3 shall be in accordance with the Department of Indian and Northern Affairs and Northern Development’s *Guidelines for Acid Rock Drainage Protection in the North*, September 1992, or in the case of the Jay Development, Mine

Environment Neutral Drainage's *Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials*, December 2009, and shall include, but not be limited to, the following information:

- a) For the Jay Waste Rock Storage Area, identification of the "effective" neutralization potential (NP) in Waste Rock as defined by Mine Environment Neutral Drainage's *Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials*, December 2009;
- b) For the Jay Waste Rock Storage Area, the proposed target neutralization potential to acid potential (NP/AP) ratio for bulk rock in the Jay Waste Rock Storage Area, with a detailed rationale that addresses the effective NP, the results of the Geochemistry Baseline Report and the results of the Waste Rock Co-placement Study referred to in Part H, Condition 4;
- c) A description of Waste Rock sampling within the Jay open pit to confirm geochemical characteristics;
- d) For the Jay Waste Rock Storage Area, a detailed monitoring plan for description of deformation, Seepage, and thermal monitoring, including parameters and frequency of sampling for the Waste Rock Storage Area;
- e) Description of anticipated slope movement during rock placement at the Jay Waste Rock Storage Area and the associated monitoring and mitigation measures;
- f) Discussion of setback distance of potentially acid generating rock within the Jay Waste Rock Storage Area, with rationale;
- g) Discussion of how the results of the Study conducted in accordance with the approved **Jay Waste Rock Co-placement Study Design** referred to in Part H, Condition 4 were considered in the proposed Waste Rock and ore management;
- h) Discussion of potential Seepage quality issues for the Jay Waste Rock Storage Area including thresholds and triggers for adaptive management

3. The study outlined in the **Jay Waste Rock Co-placement Study Design**, referred to in Part H, Condition 4, shall investigate at minimum the following:

- a) the sensitivity of effective neutralizing potential/acid potential (NP/AP) to imperfect mixing for the propose co-placement management plan;
- b) whether the effective neutralizing potential/acid potential (NP/AP) characteristics of the fine rock fractions for metasediments, granite, and diabase are different in samples of rock blasted during mining than in samples of rock prepared for humidity cell testing, and if so, a means of accounting for the differences when managing the proposed co-placement of rock in the WRSA;
- c) how to optimize co-placement methods of blending and layering for the proposed co-placement of the potentially acid generating (PAG) and non-PAG rock to prevent acid rock drainage and metal leaching; and
- d) any other testing or analysis that will inform the most appropriate NP/AP ratio and the co-placement method, limits, and controls for blending and/or layering.

4. The **Misery Pit Water Quality Report** referred to in Part H, Condition 23 shall include but not be limited to the following:

- a) A report summarizing the assumptions and results of the updated water quality model;
 - b) A description of how the updated water quality model has considered monitoring data available for Discharge from the KPSF during the Misery Underground Development, and initial filling of Misery pit, with rationale;
 - c) A description of any implications of water quality changes on the downstream environment;
 - d) An assessment based on the results of Schedule 6, Condition 5(a) of whether the EQC as outlined in Part H, Condition 21(e), including but not limited to Phosphorus, require re-evaluation prior to Discharge; and
 - e) One of the following:
 - i. A description of whether the modelling results demonstrate that the Licensee will be able to ensure Part K, Condition 9 will be satisfied, with rationale, or
 - ii. Propose any revisions to the approved **Wastewater and Processed Kimberlite Management Plan** described in Part H, Condition 2, to satisfy Part K, Condition 9.
 - iii.
5. The **Misery Plume Delineation Report** referred to in Part H, Condition 32 shall include, but not be limited to, the following information:
- a) The results of monitoring the initial mixing of effluent into Lac du Sauvage; and
 - b) Propose locations for Surveillance Network Program Station Jay-0005c that will allow verification of initial effluent mixing in Lac du Sauvage.
6. The EQC for chloride, nitrate, and sulphate are determined based on the equations shown in Part H, Conditions 21(a), 21(b), 21(c), and 21(e). Tables that can be used for quick reference of select values resulting from those equations are provided below:

Hardness in Lac du Sauvage (i.e., at Jay-0005c) (mg/L)	Hardness-dependent Chronic WQO	EQC at Jay-0005a/b
	Chloride (mg/L)	Chloride (mg/L)
		Max. Average
5	64	631
10	64	635
15	112	1,102
20	145	1,434
25	171	1,692
30	192	1,902
Chloride concentrations shaded in grey are above the maximum grab EQC. As a result, the Maximum Average Concentration should be set equal to the maximum grab concentration.		

Hardness in Discharge (i.e., at Jay-0005a/b) (mg/L)	Hardness-dependent Acute WQO	EQC at Jay-0005a/b
	Chloride (mg/L)	Chloride (mg/L)

		Max. Grab
50	545	545
100	670	670
150	756	756
200	823	823
250	879	879
300	928	928
>300	N/A	928

Hardness in Lac du Sauvage (i.e., at Jay-0005c) (mg/L)	EQC at Jay-0005a/b	
	Nitrate (mg/L)	
	Max. Average	Max. Grab
5	12	23
10	12	23
15	17	34
20	22	45
25	28	56
30	33	66
35	38	77

Operations Year	Annual Loading Limit in Lac du Sauvage during Jay Operations
	Total Phosphorus (kg P/yr)
6	380
7	440
8	655
9	705
10	805
11	870
12	890
13	880
14	130

Schedule 8

Part J: Conditions Applying to Aquatic Effects

1. The **AEMP Design Plan** for the Aquatic Effects Monitoring Program referred to in Part J, Conditions 2, 3, and 4 shall include, but not be limited to, the following:
 - a) The establishment of sufficient monitoring sites within the Zone of Influence including sites located at:

- i. Lac du Sauvage in the vicinity of the Jay Development (when constructed), including, but not limited to, the Narrows; and
 - b) A summary table of all baseline data that will be utilized in AEMP for the Jay Development and a description of any additional baseline data to be collected;
 - c) A description of comparisons to be made to baseline data for the Jay Development, including:
 - i. identification of the baseline and proposed sampling stations, and parameters to be compared,
 - ii. a description of why the baseline stations are considered comparable to the proposed stations,
 - iii. a description of variability in each baseline data set, and
 - iv. based on Schedule 6, Condition 1(s)(i-iii), an estimation of the magnitude of change that could be reliably detected in each planned comparison;
 - d) An evaluation, based on the information in Schedule 6, Condition 1(s), of the adequacy of the baseline data to support the objectives of the AEMP;
 - e) A summary of the results of the reconnaissance study and provide recommendations for the use of Thonokied Lake as the reference lake for the AEMP, or for the selection of another potential reference lake; and
 - f) An evaluation of the use of Slimy Sculpin as a sentinel species for detecting effects due to the Jay Development, including recommendations for sample sizes, frequency, locations, and measured parameters as well as a description of contingencies if adequate sample sizes cannot be achieved.
2. The **Response Plan** referred to in Part J, Condition 9(b) shall contain the following information for each parameter that has exceeded an Action Level:
- a) For hydrology-related parameters at the Narrows, a description of how the Action Levels proposed will ensure water levels at the Narrows are maintained such that the Jay Development does not adversely affect fish passage and the continuation of traditional use of the area as an open water source; and

Schedule 9

Part K: Closure and Reclamation

1. The **Interim Reclamation and Closure Plan** shall include, but not be limited to:
- a) Reclamation Research Plans related to the uncertainty associated with, but not limited to the following:
 - i. Freshwater cap depth of Jay pit;
 - ii. Freshwater cap depth of Misery pit;
 - iii. Closure of the Sub-Basin B Diversion Channel;
 - iv. Jay Dyke breaching and Back-flooding; and
 - b) Description of engagement on the use of glacial till and overburden material for vegetation at Jay site and also for the main Ekati site;

- c) Closure objectives and criteria for the Jay Project components, including but not limited to the following:
- i. Jay pit;
 - ii. Misery pit;
 - iii. Lynx pit; and
 - iv. Jay Waste Rock Storage Area;

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