



# **NUNAVUT WATER BOARD**

**WATER LICENCE NO: 2AM-MEA1525**



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**Licence No. 2AM-MEA1525**

Pursuant to the Nunavut Waters and Nunavut Surface Rights Tribunal Act and the Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada, the Nunavut Water Board, hereinafter referred to as the Board, hereby grants to

**AGNICO-EAGLE MINES LIMITED**

(Licensee)

**145, KING STREET EAST, SUITE 400, TORONTO, ONTARIO M5C 2Y7**

(Mailing Address)

hereinafter called the Licensee, the right to alter, divert or otherwise use water or deposit waste for a period subject to restrictions and conditions contained within this Licence:

Licence Number/Type: **2AM-MEA1525 / Type "A"**

Water Management Area: **QUOICH / BACK WATERSHEDS (09 / 31)**

Location: **MEADOWBANK GOLD MINE  
KIVALLIQ REGION, NUNAVUT**

Purpose: **WATER USE AND DEPOSIT OF WASTE**

Description: **MINING UNDERTAKING**

Quantity of Water not to be Exceeded: **9,120,000 CUBIC METRES ANNUALLY  
AS PER PART E**

Date Licence Issuance: **JULY 23, 2015**

Expiry of Licence: **JULY 22, 2025**

This Licence issued (**Motion Number 2015-15-P9-06**) and recorded at Gjoa Haven, Nunavut includes and is subject to the annexed conditions.

Lootie Toomasie  
Nunavut Water Board  
Hearing Chair

**APPROVED** Minister of Aboriginal Affairs and  
**BY:** Northern Development Canada

**DATE LICENCE**

**APPROVED:** \_\_\_\_\_



**PART A: SCOPE, DEFINITIONS AND ENFORCEMENT**

**1. SCOPE**

- a. This Licence authorizes Agnico-Eagle Mines Ltd. (“AEM” or “Licensee”) to use Waters and deposit of Waste in support of a Mining Undertaking classified as per Schedule 1 of the Regulations, at the Meadowbank Gold Mine (Project) as outlined in the Type “A” Water Licence Renewal Application (Application) submitted to the Nunavut Water Board (NWB) on August 05, 2014 and as reviewed throughout the regulatory process.

The Licensee may conduct mining, milling and associated activities at the Meadowbank Gold Mine in the Kivalliq Region of Nunavut (65° 01’ 33’’ N, 96° 04’ 01’’ W) including, in general, as follows:

- Use of water from Third Portage Lake for mining and milling, associated activities and domestic purposes;
- Withdrawal and use of water from unnamed lake approximately 250 metres from the Emulsion Plant for use in explosives mixing;
- Withdrawal and use of water from Third Portage Lake and Wally Lake for the re-flooding of open pits following pit development;
- Quarrying of materials from specified locations;
- Operation of mine site facilities including bulk fuel storage, mill, shops, offices, laboratory, warehouse, camp, and explosives mixing;
- Operation of a camp at the Meadowbank Mine site;
- Operation of the Baker Lake Marshalling Facility;
- Operation of the All Weather Private Access Road, site roads, airstrip, and Water crossings;
- Construction and operation of the Portage Waste Rock Storage Facility and the Vault Waste Rock Storage Facility;
- Operation of a Sewage Treatment Plant and controlled discharge of treated Effluent during operations;
- Set-up and operation of a diesel fired equipment including the Waste Incinerator;
- Construction and operation of Contact and Non-Contact Water management systems;
- Construction and operation of an Operations Landfill and a Demolition Landfill in the Portage Waste Rock Storage Facility;
- Operation of a Landfarm;
- Operation of the Portage Attenuation Ponds and the Vault Attenuation Pond;



- Management and disposal of Wastes associated with the Sewage Treatment Plant, the Portage Waste Rock Storage Facility, Vault Waste Rock Storage Facility, Portage Attenuation Pond, Vault Attenuation Pond, Reclaim Pond, Operations Landfill, Demolition Landfill, Landfarm, Incinerator, and other wastes as described in the Water Licence Application;
  - Handling and storage of petroleum products and hazardous materials including explosives, cyanide and other reagents;
  - Construction of a Central Dike, Stormwater Dike, Saddle Dams, Portage Attenuation Pond and Reclaim Pond needed for the operation of the northwest arm of Second Portage Lake as a Tailings Storage Facility;
  - Deposition of tailings into the Tailings Storage Facility;
  - Controlled and regulated Discharge of Effluent to Third Portage Lake from the Portage Attenuation Pond;
  - Controlled and regulated Discharge of Effluent to Wally Lake from the Vault Attenuation Pond;
  - Re-flooding of Portage, Goose Island, and Vault open pits following pit development; and
  - Progressive Reclamation and Abandonment planning of on-site facilities and infrastructure.
- b. This Licence is issued subject to conditions contained herein with respect to the use of Waters and the deposit 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 by the Governor in Council under the Act, or other statutes imposing more stringent conditions relating to the quantity, type or manner under which any such Waste may be so deposited, this Licence shall be deemed to be subject to such requirements.
- c. Compliance with the terms and conditions of this Licence does not absolve the Licensee from responsibility for compliance with all applicable legislation, guidelines and directives.

## **2. DEFINITIONS**

- a. The Licensee shall refer to Schedule A for definitions of terms used in this Licence.

## **3. ENFORCEMENT**

- a. Failure to comply with this Licence may be a violation of the Act, subjecting the Licensee to the enforcement measures and the penalties provided for in the Act.



- b. All inspection and enforcement services regarding this Licence will be provided by Inspectors appointed under the Act.
- c. For the purpose of enforcing this Licence and with respect to the use of Waters and deposit of Waste by the Licensee, Inspectors appointed under the Act, hold all powers, privileges and protections that are conferred upon them by the Act or by other applicable laws.

**PART B: GENERAL CONDITIONS**

1. The amount of Water use fees shall be determined and payment of those fees shall be made in accordance with section 12 of the *Regulations*.
2. The Licensee shall file an Annual Report with the Board no later than March 31<sup>th</sup> in the year following the calendar year being reported. The Annual Report shall be developed in accordance with [Schedule B](#).
3. The Licensee shall retain and have a copy of this Licence available at the site of operations at all times.
4. Any communication with respect to this Licence shall be made in writing to the attention of:  

Manager of Licensing, Nunavut Water Board  
P. O. Box 119  
Gjoa Haven, NU X0B 1J0  
Telephone: (867) 360-6338  
Fax: (867) 360-6369  
Email: [licensing@nwb-oen.ca](mailto:licensing@nwb-oen.ca)
5. Any notice made to an Inspector shall be made in writing to the attention of:  

Water Resources Officer  
Nunavut District, Nunavut Region  
P.O. Box 100  
Iqaluit, NU X0A 0H0  
Telephone: (867) 975-4295  
Fax: (867) 979-6445
6. The Licensee shall submit one (1) paper copy and one (1) electronic copy of all reports, studies, and plans to the Board unless otherwise requested by the Board. Reports or studies submitted to the Board by the Licensee shall include an executive summary in English, Inuktitut, and French.
7. This Licence is assignable as provided in Section 44 of the *Act*.



8. The Licensee shall ensure that any document(s) or correspondence submitted by the Licensee to the Board is received and acknowledged by the Manager of Licensing.
9. The Licensee shall notify the Board of any changes in operating plans or conditions associated with this Project at least sixty (60) days prior to any such change.
10. The Licensee shall post signs in the appropriate areas to inform the public of the location of the Water Supply Facilities and the Waste Disposal Facilities. All signs must be in English, Inuktitut and French and shall be located and maintained to the satisfaction of an Inspector.
11. The Licensee shall, for all Plans submitted under this Licence, include a proposed timetable for implementation. Plans submitted cannot be undertaken without subsequent written Board approval and direction. The Board may alter or modify a Plan if necessary to achieve the legislative objectives and will notify the Licensee in writing of acceptance, rejection or alteration of the Plan.
12. In the event that a Plan is not found acceptable to the Board, the Licensee shall provide a revised version to the Board for review within thirty (30) days of notification by the Board.
13. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing. The Board has approved (or accepted) the following Plans for implementation under the relevant sections in the Licence: Any changes to the plans deemed significant shall be considered as an amendment to the plan(s) or as a modification and must be approved by the Board.
  - a. Aquatic Effects Management Program (AEMP), Version 2 (Dec. 2012);
  - b. Core Receiving Environment Monitoring Program (CREMP), Design Document, Version 1 (Dec. 2012);
  - c. Water Quality Monitoring and Management Plan for Dike Construction and Dewatering, Version 4 (April 2010);
  - d. Groundwater Monitoring Plan, Version 4 (Jan. 2014);
  - e. Quality Assurance/Quality Control (QA/QC) Plan, Version 2 (June, 2014) accepted by the Board;
  - f. Water Quality and Flow Monitoring Plan, Version 4 (January 2015);
  - g. Emergency Response Plan, Version 6 (Aug. 2013);
  - h. Hazardous Material Management Plan, Version 3 (Oct. 2013);
  - i. Spill Contingency Plan, Version 4 (Nov. 2013);
  - j. Operational ARD/ML Testing and Sampling Plan, Version 2 (Nov. 2013);
  - k. Baker Lake Bulk Fuel Storage Facility: Environmental Performance Monitoring Plan, Version 3 (June 2014);
  - l. Meadowbank Bulk Fuel Storage Facility: Environmental Performance Monitoring Plan, Version 2 (June 2014);
  - m. Incinerator Waste Management Plan, Version 5 (June 2014);
  - n. Interim Closure and Reclamation Plan, Version 2 (Jan.2014);



- o. Landfarm Design and Management Plan, Version 3 (Feb. 2013);
  - p. Landfill Design and Management Plan, Version 2 (March 2013);
  - q. 2013 Water Management Report and Plan, Version 1 (March 2014);
  - r. Ammonia Management Plan, Version 1 (Feb. 2013);
  - s. Dewatering Dike : Operation, Maintenance and Surveillance Manual, Version 3 (Sept. 2013);
  - t. Tailings Storage Facility : Operation, Maintenance and Surveillance Manual, Version 3 (Sept. 2013);
  - u. Mine Waste Rock and Tailings Management Plan, Version 1 (March 2014);
  - v. Operation and Maintenance Manual: Sewage Treatment Plan, Version 4 (Apr. 2013);  
and
  - w. Freshet Action Plan, (April 2014).
14. The Licensee shall update and revise for submission to the Board for approval in writing, within sixty (60) days of issuance of this Licence, the following management plans. The updates are to take into account commitments made with respect to submissions received during the technical review of the Application, as well as final submissions and issues raised during the Public Hearing Process, where applicable.
- a. Aquatic Effect Management Program (AEMP);
  - b. Core Receiving Environment Monitoring Program (CREMP);
  - c. Water Management Report and Plan;
  - d. Freshet Action Plan;
  - e. Ammonia Management Plan;
  - f. Groundwater Monitoring Plan;
  - g. Tailings Storage Facility: Operation, Maintenance and Surveillance Manual;
  - h. Operation and Maintenance Manual: Sewage Treatment Plan; and
  - i. Spill Contingency Plan.
15. Every Plan to be carried out pursuant to the terms and conditions of this Licence shall become a part of this Licence, and any additional terms and conditions imposed upon approval of a Plan by the Board become part of this Licence. All terms and conditions of the Licence should be contemplated in the development of a Plan where appropriate.
16. The Licensee shall review the Plans or Manuals referred to in this Licence as required by changes in operation and/or technology and modify the Plans or Manuals accordingly. Revisions to the Plans or Manuals are to be submitted in the form of an Addendum to be included with the Annual Report required by Part B, Item 2, complete with a revisions list detailing where significant content changes are made.
17. The expiry or cancellation of this Licence does not relieve the Licensee from any obligation imposed by the Licence, or any other regulatory requirement.
18. The Schedules attached to this Licence provide details regarding the requirements associated with specific items in the main body of the Licence and are included in the Schedule to provide greater clarity and as an aid to interpretation for the Licensee. If the





Board subsequently determines that an item in any of the Schedules requires revision in order to better reflect the intent and objectives of the Licence, the Board may at its discretion, and upon consulting and providing written notice to the Licensee and interested parties, revise the Schedule accordingly. Unless the Board directs otherwise, such revision may not necessarily be considered as an “Amendment” to the Licence.

**PART C: CONDITIONS APPLYING TO SECURITY**

1. The Licensee shall, within thirty (30) days following the approval of this Licence by the Minister, furnish and maintain security with the Minister in the amount for a total of seventy one million seven hundred thousand dollars (\$71,700,000) in the form, of the nature, subject to such terms and conditions, in accordance with, the Regulations, or that is satisfactory to the Minister.
2. Upon the Licensee filing evidence, in writing with the Board and with notice to the Minister and Kivalliq Inuit Association that the Licensee has furnished and maintained security with the Kivalliq Inuit Association in an amount that the Kivalliq Inuit Association confirms is sufficient to secure the mine closure and reclamation costs (including cumulative and legacy liabilities) estimated to be required for the portion of the Project located on Inuit-owned lands, the Board may reduce the amount of security required to be held under Part C, Item 1. The Board shall ensure that the reduced amount of security furnished under Part C, Item 1 is equal to the estimated anticipated mine closure and reclamation costs (including cumulative legacy liabilities) for the portion of the Project located on Crown-owned lands.
3. The Licensee, the Minister or Kivalliq Inuit Association, may apply to amend the amount of security required to be held under the Licence. The submission shall include supporting evidence to justify the amendment and will be processed by the Board as an amendment to the terms and conditions of the Licence.
4. The security referred to in Part C, Item 1 shall be maintained until such time as it is fully or in part refunded by the Minister pursuant to Section 76(5) of the Act. This clause shall survive the expiry of this Licence or renewals thereof and until full and final reclamation has been completed to the satisfaction of the Minister.
5. In the event that the amount of security required to be held under Part C, Item 1 is reduced on the basis of evidence that the Licensee has furnished and maintained security with the Kivalliq Inuit Association as set out under Part C, Item 2, the Licensee is required to provide the Board and the Minister with sixty (60) days written notice prior to any material change affecting the security arrangements between the Licensee and the Kivalliq Inuit Association, including, but not limited to the form of security, quantum of security or terms associated with holding, accessing or releasing the security.
6. If the Board determines it to be necessary, or upon the request of Licensee, the Minister and/or the Kivalliq Inuit Association, the Board may issue further directions under this Part



with respect to the process for amending the amount of security to be furnished and maintained under the Licence.

**PART D: CONDITIONS APPLYING TO NEW CONSTRUCTION**

1. The Licensee shall submit to the Board for approval, at least six (6) months prior to Construction of the Saddle Dams, or new dikes, final design and construction drawings accompanied by a detailed assessment report from the Independent Geotechnical Expert Review Panel.
2. The Licence shall submit to the Board for review, at least one (1) year prior to commissioning, final design and construction drawings of the Demolition Landfill.
3. If it is determined that the easternmost channel of Third Portage Lake requires capacity upgrading, the Licensee shall submit to the Board and DFO for review, at least six (6) months prior to construction, a management plan including final design and construction drawings of the channel modification.
4. The Licensee shall use fill material for construction only from approved sources that have been demonstrated by appropriate geochemical analyses to not produce Acid Rock Drainage and to be Non-Metal Leaching, and free of contaminants.
5. The Licensee shall submit for approval, at least thirty (30) days prior to new construction, a Final Water Quality Monitoring and Management Plan for Dike Construction and Dewatering. The Plan shall include a protocol to monitor and maintain Water levels in Third Portage Lake, Second Portage Lake and Wally Lake within natural variation.
6. During new dike construction, the Licensee shall implement the action plans outlined in the approved Final Water Quality Monitoring and Management Plan for Dike Construction and Dewatering if:
  - a. Total Suspended Solids (TSS) levels in a single sample exceed the Short Term Maximum TSS concentration defined in Part D Item 7;
  - b. The 7-day moving average TSS concentration exceeds the Maximum Monthly Mean TSS concentration defined in Part D Item 7.
7. The Licensee shall compare TSS levels as required in Part D Item 6 to the following Maximum Monthly Mean and Short Term Maximum concentrations:



Parameter	Maximum Monthly Mean (mg/L)	Short Term Maximum (mg/L)
TSS in areas where there is spawning habitat and at times when eggs or larvae are expected to be present (applied at monitoring stations located closest to the high value shoal areas starting Sept 1, 2008)	6	25
TSS in all other areas and at times when eggs/larvae are not present	15	50
TSS in impounded areas (e.g. northwest arm of Second Portage Lake) at all times in all areas.	15	50

8. Effluent from new dewatering activities shall be monitored at Monitoring Stations ST-DD-1 to ST-DD-TBD and not exceed the following Effluent quality limits:

Parameter	Maximum Monthly Mean	Short Term Maximum
Total Suspended Solids (TSS)	15.0 mg/L	22.5 mg/L
Turbidity	15 NTU	30 NTU
pH	6.0 to 9.0	6.0 to 9.0
Total Aluminium	1.5 mg/L	3.0 mg/L

9. All Effluent from the Sewage Treatment Plant shall be directed to the Stormwater Management Pond. Any discharge of the Stormwater Management Pond shall be directed to the Tailings Storage Facility.
10. The Licensee shall implement sediment and erosion control measures prior to and during Construction, and Operations where necessary, to prevent entry of sediment into Water.
11. The Licensee shall inspect daily, all construction activities for signs of erosion that may affect surface water discharging to Third Portage Lake, Second Portage Lake and Wally Lake.
12. All surface runoff during the construction of any facilities, where flow may directly or indirectly enter a Water body, shall be sampled Weekly and not exceed the following Effluent quality limits:

Parameter	Maximum Average Concentration (mg/L)	Maximum Concentration of Any Grab Sample (mg/L)
Total Suspended Solids (TSS)	50.0	100.0



13. The Licensee shall, during the construction of all engineered structures, provide the required supervision and field checks by an appropriately qualified and experienced Engineer in such a manner that the project specification can be enforced and, where required, the quality control measures can be followed. The Licensee shall maintain all construction records of all engineered structures to be made available at the request of the Board and/or an Inspector.
14. The Licensee shall submit to the Board for review, within ninety (90) days of completion of each facility designed to contain, withhold, divert or retain waters or wastes during the construction phase, a Construction Summary Report prepared by a qualified Engineer(s) in accordance with [Schedule D, Item 1](#).
15. The Licensee shall prevent any chemicals, petroleum products, fuel or wastes associated with the undertaking from entering any Water body.
16. The Licensee shall minimize disturbance to terrain, permafrost and drainage during movement of contractor's equipment and personnel around the site during construction activities.
17. The Licensee shall not store material on the surface of frozen streams or lakes except what is for immediate use.
18. The Licensee shall locate equipment storage areas on gravel, sand or other durable land, a distance of at least thirty one (31) metres above the ordinary High Water Mark of any water body in order to minimize impacts on surface drainage and water quality.
19. The Licensee shall undertake appropriate corrective measures to mitigate impacts on surface drainage resulting from the Licensee's operations.
20. The Licensee shall limit any in-stream activity to low Water periods. In-stream activity is prohibited during fish migration.
21. The Licensee shall, for the purposes of culvert and bridge construction, ensure that all activities remain outside of the natural channel width by the placement of abutments, footings or armouring above the ordinary High Water Mark so that there is no restriction to the natural channel processes.
22. The Licensee shall operate the Mine Site and Marshalling Area Bulk Fuel Storage Facilities in accordance with all applicable legislation and industry standards, including:
  - a. *Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products, 2003 (Updated in 2013) or most recent; CCME; and*
  - b. *National Fire Code, 2010 or most recent.*



23. The Licensee shall consider the principles of adaptive management in construction and operations.

**PART E: CONDITIONS APPLYING TO WATER USE AND MANAGEMENT**

1. The Licensee shall obtain fresh Water from Third Portage Lake at Monitoring Station ST-1 using the Fresh Water Intake Barge for domestic camp use, mining and milling, re-flooding of Portage and Goose Pits and associated use, or as otherwise approved by the Board in writing. The use of Waters from Third Portage Lake, for all purposes, shall not exceed a total of two million three hundred fifty thousand (2,350,000) cubic metres *per* year from the Licence approval date to December 31, 2017, followed by a maximum of four million nine hundred thirty five thousand (4,935,000) cubic metres *per* year, starting in 2018 through to the Expiry of the Licence.
2. The Licensee shall obtain fresh Water from Wally Lake at Monitoring Station ST-2 for re-flooding of Vault Pit and associated use, or as otherwise approved by the Board in writing. The use of Waters from Wally Lake shall not exceed a total of four million one hundred eighty five thousand (4,185,000) cubic metres *per* year starting in 2018 through to the Expiry of the Licence.
3. The Licensee shall obtain fresh Water from the unnamed lake at Monitoring Station ST-3 for purposes of explosives mixing, not to exceed a maximum of two thousand four hundred (2,400) cubic metres *per* year from Licence issuance date to December 31, 2017, or as otherwise approved by the Board in writing.
4. The total volume of fresh Water for all uses and from all sources, shall not exceed two million three hundred and fifty thousand (2,350,000) cubic metres *per* year from the Licence approval date to December 31, 2017 followed by nine million one hundred and twenty thousand (9,120,000) cubic metres *per* year in 2018 through to the expiry of the Licence.
5. The Licensee shall maximize to the greatest practical extent, the use of reclaim water from the Tailings Storage Facility for use in the mill.
6. The Licensee shall equip all Water intake hoses with a screen of an appropriate mesh size to ensure that fish are not entrained and shall withdraw water at a rate such that fish do not become impinged on the screen.
7. The Licensee shall submit a Water Management Plan on an annual basis to the Board for review following the commencement of Operations. The Plan must include an updated Water Balance. The Water Management Plans shall include an action plan to be implemented if predicted re-flooded pit water quality indicates that treatment is necessary. The Licensee shall not breach dikes until the water quality in the re-flooded area meets CCME Water Quality Guidelines for the Protection of Aquatic Life, baseline concentrations, or appropriate site specific water quality objectives. Subject to the Board



approval, if water quality parameters are above CCME Guidelines, a site specific risk assessment must be conducted to identify water quality objectives that are protective of the aquatic environment.

8. The Licensee shall submit a Water Quality Model for pit re-flooding as part of the Water Management Plan which shall be re-calibrated as necessary and updated at a minimum of once every two (2) years following commencement of Operations. The results and implications of the predictive model shall be reported to the Board.
9. The Licensee shall, on an annual basis during Operations and Closure, compare the predicted water quantity and quality within the pits, to the measured water quantity and quality. Should the difference between the predicted and measured values be 20% or greater, then the cause(s) of the difference(s) shall be identified and the implications of the difference shall be assessed and reported to the Board.
10. The Licensee shall carry out weekly inspections of all water management structures during periods of flow and the records be kept for review upon request of an Inspector. More frequent inspections may be required at the request of an Inspector. This information is to be included in the annual Water Management Plan.
11. The Licensee shall implement measures to minimize the generation and deposition of dust and/or sediment into Water arising from road use.
12. The Licensee shall provide at least thirty (30) days' notice to the NWB and Inspector prior to the commencement of re-flooding of each pit.

**PART F: CONDITIONS APPLYING TO WASTE DISPOSAL AND MANAGEMENT**

1. The Licensee shall direct all Sewage and Greywater to the Sewage Treatment Plant as described in the Operation and Maintenance Manual: Sewage Treatment Plant, or as otherwise approved by the Board.
2. The Licensee shall dispose of Sewage Effluent and direct all sludge removed from the Sewage Treatment Plant to the Tailings Storage Facility or to the Landfarm as a nutrient amendment in accordance with the Operation and Maintenance Manual: Sewage Treatment Plant, dated April 2013 as approved by the Board.
3. The Discharge of Effluent from the Portage Attenuation Pond at Monitoring Station ST-9 shall be directed to third Portage Lake through the Third Portage Lake Outfall Diffuser and shall not exceed the following Effluent quality limits:



Parameter	Maximum Average Concentration	Maximum Allowable Grab Sample Concentration
pH	6.0 to 9.0	6.0 to 9.0
TSS (mg/L)	15	30
TDS (mg/L)	1400	1400
Turbidity (NTU)	15	15
Total (T)-Al (mg/L)	1.5	1.5
Dissolved (D)-Al (mg/L)	1.0	1.0
T-As (mg/L)	0.3	0.6
T-Cd (mg/L)	0.002	0.004
T-CN (mg/L)	0.5	1.0
T-Cu (mg/L)	0.1	0.2
T-Hg (mg/L)	0.0004	0.0008
NH <sub>3</sub> -N (mg/L)	16	32
T-Ni (mg/L)	0.2	0.4
T-NO <sub>3</sub> -N (mg/L)	20	40
T-Pb (mg/L)	0.1	0.2
T-P (mg/L)	1.0	2.0
T-Zn (mg/L)	0.4	0.8
T-Cl <sup>-</sup> (mg/L)	1000	2000
Total Petroleum Hydrocarbons (TPH) (mg/L)	3	6

4. The Discharge of Effluent from the Vault Attenuation Pond at Monitoring Station ST-10 shall be directed to Wally Lake through the Wally Outfall Diffuser and shall not exceed the following Effluent quality limits:

Parameter	Maximum Average Concentration	Maximum Allowable Grab Sample Concentration
pH	6.0 to 9.0	6.0 to 9.0
TSS (mg/L)	15	30
TDS (mg/L)	1400	1400
Turbidity (NTU)	15	15
Total (T)-Al (mg/L)	1.5	3.0
Dissolved (D)-Al (mg/L)	1.0	2.0
T-As (mg/L)	0.1	0.2
T-Cd (mg/L)	0.002	0.004
T-Cu (mg/L)	0.1	0.2
T-Hg (mg/L)	0.004	0.008
NH <sub>3</sub> -N (mg/L)	20	40
T-Ni (mg/L)	0.2	0.4
T-NO <sub>3</sub> -N (mg/L)	50	100
T-Pb (mg/L)	0.1	0.2





T-P (mg/L)	1.5	3.0
T-Zn (mg/L)	0.2	0.4
T-Cl <sup>-</sup> (mg/L)	500	1000

5. The Discharge of Effluent from a Final Discharge Point at Monitoring Program Stations ST-9 and ST-10, shall be demonstrated to be non-Acutely Lethal under the following test and as stipulated in Schedule I of the Licence:
  - a. Acute Lethality of Effluents to Rainbow Trout (as per Environment Canada's Environmental Protection Series Biological Test Method EPS/1/RM/13 Second Edition December 2000 (with May 2007 amendments).
6. All water collected prior to discharge from the Non-Contact Water diversions (Monitoring Stations ST-5 and ST-6) and East Dike Seepage (Monitoring Station ST-8) during Operations shall not exceed the following Effluent quality limits:

Parameter	Maximum Average Concentration (mg/L)	Maximum Allowable Grab Sample Concentration (mg/L)
TSS	15	30

7. Effluent from the Mine Site Bulk Fuel Storage Facility and other fuel containment facilities that are within proximity of the Stormwater Management Pond shall be directed to the Stormwater Management Pond.
8. The Discharge of Effluent to land from fuel containment facilities at the Baker Lake Bulk Fuel Storage Facility and Meadowbank Fuel Storage Facility (ST-37 through ST-40), shall not exceed the following Effluent quality limits:

Parameter	Maximum Average Concentration (MAC)	Maximum Concentration of any single Grab sample
pH	6.0 to 9.5	6.0 to 9.5
Total Arsenic (mg/L)	**0.5	1.0
Total Copper (mg/L)	**0.3	0.6
Total Nickel (mg/L)	**0.5	1.0
Total Zinc (mg/L)	*0.5	1.0
Total Suspended Solids (mg/L)	*15	30
Ammonia (mg/L)	6.0	6.0
Benzene (µg/L)	370	370
Toluene (µg/L)	2	2
Ethylbenzene (µg/L)	90	90
Lead (mg/L)	0.1	0.1
Oil and Grease (mg/L)	5 and no visible sheen	5 and no visible sheen

\* Environmental Guideline for Industrial Waste Discharges in the NWT, 2004

\*\* Metal Mines Effluent Regulations (MMER)





9. The Licensee shall, under Part F, Item 8, discharge Effluent in such a manner as to minimize surface erosion at a distance of at least thirty-one (31) metres above the ordinary High Water Mark of any Water body, where direct flow into a Water body is not possible and no additional impacts are created, or as otherwise approved by the Board in writing.
10. The Licensee shall locate areas designated for Waste disposal at a minimum distance of thirty-one (31) metres from the ordinary High Water Mark of any Water body such that the quality, quantity or flow of Water is not impaired, or as otherwise approved by the Board in writing.
11. The Licensee shall confirm compliance with Effluent quality limits in Part F, Items 3, 4 and 8 prior to Discharge.
12. The Licensee shall provide at least ten (10) day notice to the Inspector prior to any planned Discharges from any facilities. The notice shall include the estimated volume proposed for Discharge and the receiving location.
13. The Licensee shall not open burn plastics, wood treated with preservatives, electric wire, Styrofoam, asbestos or painted wood to prevent the deposition of waste materials of incomplete combustion and/or leachate from contaminated ash residual, from impacting any surrounding waters, unless otherwise approved by the Board in writing.
14. The Licensee is authorized to dispose of and contain all-non-hazardous solid Wastes at the on-site Landfills in accordance with the approved Landfill Design and Management Plan, dated March 2013, or as otherwise approved by the Board in writing.
15. The Licensee shall direct all solid Waste generated at the Baker Lake Marshalling Facility to the approved Landfill at Meadowbank Mine site.
16. The Licensee shall remove from the Project site, all solid and liquid hazardous Wastes generated through the course of the Operation, for disposal at an approved hazardous waste disposal facility.
17. The Licensee shall maintain records of all Waste backhauled and confirmation of proper disposal through the use of Waste manifest tracking systems and registration with the Government of Nunavut, Department of Environment.
18. The Licensee shall dispose of all petroleum hydrocarbon contaminated soils and operate the Landfarm in accordance with the approved Landfarm Design and Management Plan, dated February 2013. Water accumulating in the landfarm shall be contained within the Landfarm and not be discharged to the environment.
19. Licensee shall dispose of tailings and operate the Tailings Storage Facility in accordance with the approved Mine Waste Rock and Tailings Management Plan, dated March 2014, and *Guide to the Management of Tailings Facilities* (Mining Association of Canada



September 1998). The tailings solids fraction shall be permanently contained within the Tailings Storage Facility.

20. The Licensee shall incorporate Seepage management at Quarries using best management practices including ditches, diversions, sumps and berms where necessary.
21. The Licensee shall provide to the Board, at least thirty (30) days prior to any planned disposal of Waste in a facility operated by the Hamlet of Baker Lake, documented authorization from the Hamlet for the use of any waste disposal facility operated by the Hamlet.

#### **PART G: CONDITIONS APPLYING TO MODIFICATIONS**

1. The Licensee may, without written consent from the Board, carry out Modifications 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 sixty (60) days prior to beginning the Modifications;
  - b. Such Modifications do not place the Licensee in contravention of the Licence or the Act;
  - c. Such Modifications are consistent with the NIRB Screening Determination;
  - d. The Board has not, within sixty (60) days following notification of the proposed Modifications, informed the Licensee that review of the proposal will require more than sixty (60) days; and
  - e. The Board has not rejected the proposed Modifications.
2. Modifications for which any of the conditions referred to in Part G, Item 1 have not been met can be carried out only with approval from the Board in writing.
3. Applications for modifications shall contain:
  - a. A description of the facilities and/or works to be constructed;
  - b. The proposed location of the structure(s);
  - c. Identification of any potential impacts to the receiving environment;
  - d. A description of any monitoring required, including sampling locations, parameters measured, and frequencies of sampling;
  - e. Schedule for construction;
  - f. Drawings of Engineered Structures stamped by a Professional Engineer; and
  - g. Proposed sediment and erosion control measures.
4. The Licensee shall provide to the Board, within ninety (90) days of completion of the Modification, as-built plans and drawings of the Modifications referred to in this Part. These plans and drawings shall be stamped by an Engineer.



**PART H: CONDITIONS APPLYING TO EMERGENCY RESPONSE AND CONTINGENCY PLANNING**

1. The Licensee shall implement and maintain the Emergency Response Plan, dated August 2013, and the Spill Contingency Plan, dated November 2013, as approved by the Board. The Licensee shall comply with the Plan and any changes deemed significant shall require the submission and subsequent approval of the Board in writing.
2. The Licensee shall prevent any chemicals, petroleum products or unauthorized Wastes associated with the Project from entering Water.
3. The Licensee shall provide secondary containment for fuel and chemical storage as required by applicable standards and acceptable industry practice.
4. The Licensee shall perform weekly inspections of petroleum products storage and containment facilities, fuel tanks and connectors, for leaks and settlement and shall keep a written log of inspections to be made available to an Inspector upon request. More frequent inspections may be requested by an Inspector.
5. If the Licensee provides notification under Part J, Item 4, the Licensee shall submit to the Board, an Addendum to the Emergency Response Plan and the Spill Contingency Plan, detailing the changes in operations, personnel, responsibilities, availability of equipment and access to the site for assistance.
6. The Licensee shall keep a copy of the Emergency Response Plan and the Spill Contingency Plan at each site of operation.
7. The Licensee shall conduct emergency maintenance and servicing on equipment, in designated areas, and shall implement measures to collect motor fluids and other Waste to prevent and contain spills.
8. If, during the period of this Licence an unauthorized discharge of waste and or Effluent occurs, or if such discharge is foreseeable, the Licensee shall:
  - a. Employ the Spill Contingency Plan;
  - b. Report the incident immediately via the 24-Hour Spill Reporting Line (867) 920-8130 and to the Inspector at (867) 975-4295; and
  - c. For each spill occurrence, submit a detailed report to the Inspector, no later than thirty (30) days after initially reporting the event, which includes the amount and type of spilled product, the GPS location of the spill, and the measures taken to contain and clean up the spill site.
9. The Licensee shall, in addition to Part H, Item 8, regardless of the quantity of release of a harmful substance, report to the NWT/NU Spill Line if the release is near or into a Water body.



**PART I: CONDITIONS APPLYING TO GENERAL AND AQUATIC EFFECTS MONITORING**

1. The Licensee shall comply with the Aquatic Effects Management Plan (AEMP), dated December 2012, as approved by the Board. The AEMP shall include:
  - a. Comprehensive receiving environment monitoring to identify changes to the aquatic environment associated with mine activities;
  - b. Linkage between monitoring results and adaptive management response;
  - c. Monitoring of lake productivity;
  - d. Sampling and analysis plans; and
  - e. Monitoring under Fisheries Authorizations, NWB Licence Compliance Monitoring, Metal Mining Effluent Regulations (MMER) Environmental Effects Monitoring, and Groundwater Monitoring.
2. The Licensee shall implement the Core Receiving Environmental Monitoring Program (CREMP), dated December 2012, as approved by the Board. The updated CREMP shall include all comments provided during the technical review of Application.
3. The Licensee shall implement the Water Quality and Flow Monitoring Plan, dated January 2015, as approved by the Board.
4. The Licensee shall install and maintain flow meters or other such devices, or implement suitable methods required for the measuring of Water use and Effluent discharge volumes, to be operated and maintained to the satisfaction of an Inspector.
5. The Licensee shall undertake the Monitoring Program provided in the Tables 1 and 2 of [Schedule I](#). The Licensee shall establish the locations and GPS coordinates for all additional monitoring stations in consultation with an Inspector.
6. The Licensee shall establish the locations for the proposed compliance and internal monitoring locations as they relate to existing drainage courses beneath the Portage and Vault Waste Rock Storage Facilities and Tailing Storage Facility dikes to ensure potential seep locations are adequately identified in accordance with the Groundwater Monitoring Plan, dated January 2014, as approved by the Board.
7. The Licensee shall install and maintain signs that identify monitoring stations. The signs shall be posted in English, Inuktitut and French.
8. The Licensee shall measure and record the following on a Monthly basis in cubic metres or as otherwise stated:
  - a. The volume of fresh Water obtained from Third Portage Lake;
  - b. The volume of fresh Water obtained from Wally Lake;



- c. The volume of fresh Water from the unnamed lake for purposes of explosives mixing;
  - d. The volume of reclaim water obtained from the Tailings Storage Facility for process water;
  - e. The volume of Effluent and fresh Water transferred to the pit lakes;
  - f. The flow during periods of discharge from the Landfarm, Landfills, Waste Rock Storage Facilities, Sewage Treatment Plant, Contact Water Collection System, and area Sumps collecting Contact Water;
  - g. The volume of water transferred from the Marshalling Area Bulk Fuel Storage Facility;
  - h. The volume of Sewage sludge removed from the Sewage Treatment Plant;
  - i. Quantity of mill tailings placed within the Tailings Storage Facility;
  - j. Tonnes of mineralized and un-mineralized waste rock stored; and
  - k. Tonnes of ore processed through the mill.
9. The Licensee shall undertake the Thermal Monitoring Program detailed in the Mine Waste Rock and Tailings Management Plan (2014) as approved by the Board.
10. The Licensee shall undertake a geotechnical inspection, to be carried out annually by a Geotechnical Engineer, between the months of July and September. The inspection shall be conducted in accordance with the *Canadian Dam Safety Guidelines* where applicable and take into account all major earthworks, including:
- a. Dewatering Dikes;
  - b. Stormwater Dikes;
  - c. Saddle Dams;
  - d. Pit walls;
  - e. Tailings Storage Facility;
  - f. Shoreline protection at the location of the Wally Lake and Portage Lake Outfall Diffusers;
  - g. Geotechnical instrumentation;
  - h. All Weather Private Access Road and site roads, in particular water course crossings;
  - i. Quarries;
  - j. Landfills;
  - k. Landfarm;
  - l. Bulk Fuel Storage Facilities at both the Meadowbank mine site and Baker Lake Marshalling area;
  - m. Attenuation Ponds;
  - n. Reclaim Pond; and
  - o. Sumps.
11. The Licensee shall submit to the Board as part of the Annual Report, the Geotechnical Engineer's Inspection Report. The Report shall include a cover letter from the Licensee outlining an implementation plan to address the recommendations of the Geotechnical Engineer.



12. The Licensee shall submit to the Board as part of the Annual Report required under Part B, Item 2, all reports and performance evaluations prepared by the Independent Geotechnical Expert Review Panel.
13. The Licensee shall monitor Seepage observations pursuant to Part I, Item 6 according to the following:

<b>Characterization of seepage including: precise location; discharge rates and volumes; respective hazard(s) and consequences and prescribed mitigative measures</b>	<b>Minimum Frequency of Observation</b>
Lake water Seepage Through Dewatering Dikes	Monthly
Seepage (of any kind) Through Central Dike	Monthly
Seepage and Runoff from the Landfill(s)	Quarterly
Subsurface Seepage and Surface Runoff from Waste Rock Piles	Quarterly
Seepage at Pit Wall and Pit Wall Freeze/Thaw and Permafrost Aggradation	Quarterly

14. The Licensee shall submit the results and interpretation of the Seepage monitoring required in Part I, Item 13 in the Annual Report required under Part B, Item 2.
15. The Licensee shall obtain a digital photographic record of all the watercourse crossings before, during, and after construction has been completed.
16. The Licensee shall maintain a Quality Assurance / Quality Control Plan, accepted by the Board that includes requirements for independent third party sampling and analysis. The QA/QC Plan shall be prepared and updated as needed in accordance with and in consultation with the accredited laboratory conducting the analyses. The Plan shall include a cover letter from the accredited laboratory confirming approval of the Plan for analyses to be performed under this Licence. This Plan shall be developed in accordance with current Standard Methods and the 1996 Quality Assurance (QA) and Quality Control (QC) Guidelines for Use by Class “A” (INAC).
17. The Licensee shall annually review the approved QA/QC Plan and modify the Plan as necessary. Proposed changes shall be submitted to an Accredited Laboratory for approval.
18. All analyses shall be conducted as described in the most recent edition of “*Standard Methods for the Examination of Water and Wastewater*” or by other such methods approved by an Analyst.
19. All compliance analyses shall be performed in an accredited laboratory according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.



20. The Licensee shall submit to the Board, within thirty (30) days following the month being reported, a Monthly Monitoring Report. The Report shall include:
  - a. All data and information required by this Part and generated by the Monitoring Program in the Tables of Schedule I;
  - b. An assessment of data to identify areas of non-compliance with regulated discharge parameters referred to in Parts D and F.
21. The NWB can modify the Monitoring Program as set out in Schedule I without a public hearing. Requests for changes to the Program should be forwarded to the NWB in writing, and should include the justification for the change.
22. Additional monitoring may be imposed by the Inspector.

**PART J: CONDITIONS APPLYING TO ABANDONMENT, RECLAMATION AND CLOSURE**

1. The Licensee shall notify the Board in writing, at least sixty (60) days prior to any intent to achieve Recognized Closed Mine status.
2. The Licensee shall complete all progressive reclamation work in accordance with the Interim Closure and Reclamation Plan (2014) referred to in this Part as approved by the Board.
3. The Licensee shall submit to the Board for approval at least twelve (12) months prior to the expected end of planned mining, a Final Closure and Reclamation Plan. The Final Plan shall incorporate revisions, which reflect the pending closed status of the mine, and include:
  - a. Soil Quality Remediation Objectives along with CCME Guidelines and the Government of Nunavut Environmental Guideline for Site Remediation;
  - b. Environmental Site Assessment plans in accordance Canadian Standards Association (CSA) criteria; and
  - c. An evaluation of the Human Health and Ecological Risk associated with closure options.
4. The Licensee shall notify the Board in writing, at least sixty (60) days prior to, or as soon as practically possible, any intent to enter into a Care and Maintenance Phase.
5. The Licensee shall provide the Board, within thirty (30) days of the Licensee providing notice of intent to enter into Care and Maintenance under Part J, Item 4, a Care and Maintenance Plan that details the Licensee's plans for maintaining compliance with the Terms and Conditions of the Licence.



6. The Licensee shall review the Plans referred to in this Part as required by changes in operation and/or technology and modify the Plans accordingly. Revisions to the Plans should incorporate design changes and adaptive engineering required and implemented during Construction and on the basis of actual site conditions and monitoring results over the life of the Project.
7. The Licensee shall implement progressive reclamation, including progressive covering of the tailings and if practicable re-vegetation.





## **SCHEDULES**

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**Schedule A: Scope, Definition, and Enforcement**

**Schedule B: General Conditions**

**Schedule C: No Schedule for Security**

**Schedule D: Conditions Applying to Construction**

**Schedule E: No Schedule for Water Use and Management**

**Schedule F: No Schedule for Waste Disposal and Management**

**Schedule G: No Schedule for Modifications**

**Schedule H: No Schedule for Emergency Response and Contingency Planning**

**Schedule I: Conditions Applying to General and Aquatic Effects Monitoring**

**Schedule J: No Schedule for Abandonment, Reclamation and Closure**



## Schedule A: Scope, Definitions, and Enforcement

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In this Licence: **2AM-MEA1525**

**“Abandonment”** means the permanent dismantlement of a facility so it is permanently incapable of its intended use. This includes the removal of associated equipment and structures;

**“Act”** means the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*;

**“Acid Rock Drainage (ARD)”** means the production of acidic leachate, seepage or drainage from underground workings, open pits, ore piles, waste rock, construction rock that can lead to the release of metals to groundwater or surface water during the life of the Project and after closure;

**“Acutely Lethal Effluent”** means effluent as defined in the *Metal Mining Effluent Regulations* SOR/2002-222 dated June 6, 2002 and amended on March 2, 2012;

**“Adaptive Management”** means a management plan that describes a way of managing risks associated with uncertainty and provides a flexible framework for mitigation measures to be implemented and actions to be taken when specified thresholds are exceeded;

**“Addendum”** means the supplemental text that is added to a full plan or report, usually included at the end of the document and is not intended to require a full resubmission of the revised report. It may also be considered as an appendix or supplement;

**“All Weather Private Access Road”** means the 115 km. all weather access road and associated water crossings between the Hamlet of Baker Lake and the Meadowbank Gold Project site as described in the application dated, October 26, 2006 and as indicated in the document entitled **“Tehek Access Road Construction, Meadowbank Gold Project”** dated May 5, 2008, Nuna M&T Services and illustrated in the attached AS-Built Engineered Drawings;

**“Amendment”** ; means a change to any terms and conditions of this Licence through application to the NWB, requiring a change, addition, or deletion of specific terms and conditions of the Licence not considered as a modification;

**“Analyst”** means an Analyst designated by the Minister under section 85 (1) of the *Act*;

**“Annually”** means, in the context of monitoring frequency, one sampling event occurring every 365 days with a minimum of 200 days between sampling events;

**“Aquatic Effects Management Program (AEMP)”** means an overarching “umbrella” program that conceptually provides an opportunity to integrate results of individual, but related, monitoring programs in accordance with the Licence;



**“Baker Lake Marshalling Facility”** means the facilities associated with the Meadowbank Project, located within the Hamlet of Baker Lake, that includes the barge unloading facilities, a lay-down, storage and marshalling area, a fuel tank farm, ammonium nitrate and explosive storage areas, and associated access roads, described in the Application filed with the NWB in August 2007 and Amendment Application for expansion of the fuel tank farm filed with the NWB on February 5, 2010;

**“Batch Concrete Plant”** means the plant used to mix cement, aggregate, and water to produce concrete for footings, foundations and floors during construction as described in the March 2013 Water Licence Application document entitled *“Pre-Development Batch Concrete Plant Description Agnico-Eagle Meadowbank Project”* dated January 9, 2008;

**“Bay-Goose Dike”** means the structure designed to isolate a portion of Third Portage lake, referred to as “Goose Island Basin”, to permit dewatering and mining of the Goose Island Pit and southern portion of Portage Pit as indicated in the document entitled *“Bay-Goose Dike Construction As-Built Report Meadowbank Gold Mine, Nunavut”*, dated April 2013, and illustrated in the attached As-Built DWGs 4200-01 to 4200-06, , 4200-10, 42000-11A, 4200-11B, 4200-12 to 4200-23, 4200-30 to 4200-35, 4300-00 to 4300-32, 4300-43 to 4300-52, Golder Associates Project Number 09-1428-5007;

**“Biannual”** means, in the context of monitoring frequency, one sampling event occurring every six months with a minimum of one hundred eighty days between sampling events;

**“Board”** means the Nunavut Water Board established under Article 13 of the *Nunavut Land Claims Agreement* and under section 14 of the Act;

**“Canadian Council of the Minister of Environment (CCME)”** means the organizations of Canadian Ministers of Environment that sets guidelines for environmental protection across Canada such as the Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life;

**“Care and Maintenance”** in respect of a mine, means the status of the facility when the Licensee ceases production or commercial operation temporarily for an undefined period of time;

**“Central Dike”** means the structure, designed to isolate the Tailings Storage Facility from Second Portage Lake for the purpose of retaining tailings as described in the Water Licence Application documents entitled *“Final Report – Detailed Design of Central Dike Meadowbank Gold Project”* dated March 16, 2007, Volumes 1,2 and 3 and as illustrated in DWGs 4000-7 and 4000-17, dated January 10, 2007, Golder Associates Project Number 06-1413-089;

**“Chief Administrative Officer”** means the Executive Director of the Nunavut Water Board;

**“Chief Executive Officer”** means the Chair or Chairperson of the Nunavut Water Board;

**“Closure”** means when an Operator ceases operations at a facility without the intent to resume mining activities in the future;



**“Commercial Operation”** in respect of a mine, means an average rate of production that is equal to or greater than 25% of the design capacity of the mine over a period of ninety consecutive days;

**“Construction”** means any activities undertaken to construct or build any component of, or associated with, the development of the Meadowbank Gold Project, as described in the Water Licence Application, Supporting Documents, and Technical Meeting Information Supplement documents submitted to the Board throughout the regulatory process;

**“Contact Water”** means any water that may be physically or chemically affected by mining activities;

**“Contact Water Collection System”** means the system of trenches, sumps and attenuation ponds designed to manage water that may be affected physically or chemically by mine pre-development activities as described in the Water Licence Application document entitled **“2013 Water Management Report and Plan”** dated March 2014;

**“Core Receiving Environmental Monitoring Program or CREMP”** 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 planned impact mitigation measures and to identify additional impact mitigation measures to avert or reduce environmental effects;

**“Dam Safety Guidelines”** means the *Canadian Dam Association (CDA) Dam Safety Guidelines (DSG)*, (2007) or subsequent approved editions;

**“Deleterious Substances”** means a substance as defined in section 34(1) of the *Fisheries Act*;

**“Deposit”** means the placement of waste rock, tailings or other solids materials on land or in water;

**“Discharge”** means the release of any water or waste to the receiving environment;

**“Dissolved Metals”** means the suite of metals referred to in Group 2 of Table 1 – Monitoring Groups located in Schedule J of this Licence. Dissolved metals shall be analyzed on a filtered sample;

**“Domestic Waste”** means all solid waste generated from the accommodations, kitchen facilities and all other site facilities, excluding those hazardous wastes associated with the Meadowbank Gold Mine Project;

**“East Dewatering Dike (Second Portage Dewatering Dike)”** means the structure designed to isolate the a portion of the northwest arm of Second Portage Lake, for the purpose of dewatering and development of the North Portage Open Pit, as indicated in the document **“East Dike Construction As-Built Report Meadowbank Gold Mine, Nunavut”** December 15, 2009, and



illustrated in the attached As-Built DWGs 2100-00 to 2100-6, 2100-10 to 2100-12, 2100-14 to 2100-17, 2100-24 to 2100-30, Golder Associates Project Numbers 07-1413-0074 and 09-1428-5007;

**“East Dike Seepage Discharge Diffuser”** means the facility designed to discharge and enhance mixing of East Dike seepage to the Second Portage Lake, as indicated in the document *“East Dike Seepage As-Built Report”* dated October 7, 2014, and illustrated in the attached As-Built DWGs EDS-01 and WD, Golder Associates Project Number 12-1221-0010-3100;

**“Effluent”** means treated or untreated liquid waste material that is discharged into the environment from all site water management facilities;

**“Emulsion Plant (Explosives Mixing Facility)”** means the facility designed for storage of Ammonium Nitrate, detonators, and explosives; and designed for the mixing and storage of Ammonium Nitrate Fuel Oil (ANFO), as illustrated in the document entitled *“2AM-MEA Meadowbank Gold Water Licence Application Supplementary Information on Explosive Storage Facilities”* dated November 26, 2007, DWG 600-C-0130 Plant-site Infrastructure Emulsion Plant Location and Finish Grading – Plan, dated March 2007, Hatch Project Number 325174;

**“Engineer”** means a professional engineer registered to practice in Nunavut in accordance with the *Consolidation of Engineers and Geoscientists Act S. Nu 2008, c.2* and the *Engineering and Geoscience Professions Act S.N.W.T. 2006, c.16 Amended by S.N.W.T. 2009, c.12*;

**“Engineering Geologist”** means a professional geologist registered with the Association of Professional Engineers, Geologist and Geophysicists of Nunavut and whose principal field of specialization is the investigation and interpretation of geological conditions for civil engineering purposes;

**“Engineered Structure”** means any facility, which was designed and approved by a Professional Engineer registered with the Association of Professional Engineers, Geologists and Geophysicists of Nunavut;

**“Environmental Assessment”** means, for the purpose of this licence, the totality of the Nunavut Impact Review Board (NIRB) Public Registry as established under the authority of Article 12 of the NLCA, this includes everything that was submitted by the Licensee to the NIRB, the scope of which is consistent with the Water Licence Application;

**“Final Discharge Point”** in respect of an effluent, means an identifiable discharge point of a mine beyond which the operator of the mine no longer exercises control over the quality of the effluent (Metal Mining Effluent Regulations, SOR/2002-222, June, 6, 2002 and amended on March 2 2012);

**“Fresh Water Intake Barge”** means the pre-packaged floating water pump barge fabricated and supplied by Chamco Industries Ltd. of Vancouver, for the purpose of supplying freshwater to the Meadowbank Project as illustrated in Appendix A of the Water Licence Application document entitled *“Meadowbank Gold Project Type A Water Licence Application”* dated August 2007,



DWG Numbers C1011158-21, C1011158-22, and C1011158-23, dated 27.06.05, Chamco Job No. 1011160ABS;

**“Geotechnical Engineer”** means a professional engineer registered with the Association of Professional Engineers, Geologist and Geophysicists of Nunavut and whose principal field of specialization with the engineering properties of earth materials in dealing with man-made structures and earthworks that will be built on a site. These can include shallow and deep foundations, retaining walls, dams, and embankments;

**“Grab Sample”** means an undiluted quantity of material collected at a particular time and place that may be representative of the total substance being sampled at the time and place it was collected;

**“Greywater”** means the component of effluent produced from domestic use (i.e. washing, bathing, food preparation and laundering), excluding sewage;

**“Ground Water”** means water that occupies pores and fractures in rock and soil below the ground surface in a liquid or frozen state;

**“Hazardous Waste”** means materials or contaminant which are categorized as dangerous goods under the *Transportation of Dangerous Goods Act* (1992) and/or that is no longer used for their original purpose and is intended for recycling, treatment, disposal or storage;

**“High Water Mark”** means the usual or average level to which a body of water rises at its highest point and remains for sufficient time so as to change the characteristics of the land (ref. *Department of Fisheries and Oceans Canada, Operational Statement: Mineral Exploration Activities*);

**“ICP Metals Scan”** means for the purpose of the Licence elements detected using Inductively Coupled Plasma (ICP) mass spectrometer. Metal parameters should be consistent with baseline data previously collected and include any other metals of concern or interest;

**“Incinerator”** means the dual chamber, high temperature facility designed with the capacity to service the camp as described in the Water Licence Application document entitled **“Incineration Waste Management Plan, Meadowbank Gold Project”** dated July 2014 and the Hatch Specification dated April, 2008 Inquiry MDB-S-M-268, REV.OB;

**“Independent Geotechnical Expert Review Panel”** means the panel of geotechnical specialists established by AEM to review the designs and performance of the dikes and dams;

**“Inspector”** means an Inspector designated by the Minister under section 85 (1) of the Act;

**“Interim Closure and Reclamation Plan”** means a conceptual detailed plan on the reclamation of mine components which will not be closed until the end of the mining operations, and operational detail for components which are to be progressively reclaimed throughout the mine life;





**“Landfill (Construction and Operations Landfill)”** means the facility to be constructed and operated until the end of the mine life and designed to contain non-salvageable, non-organic, nonhazardous, solid wastes from mining activities that cannot be incinerated, as described in the in the Water Licence Application document entitled **“Landfill Design and Management Plan”** March 2013;

**“Landfill #2 (Demolition Landfill)”** means the facility to be developed on top of the Portage Waste Rock Storage Facility later in mine life as described in the Water Licence Application document entitled **“Landfill Design and Management Plan”** March 2013, and containing DWG 3, Golder Associate’s Project Number 06-1413-089;

**“Landfarm”** means the lined, engineered facility designed to treat petroleum hydrocarbon contaminated snow and soil that may be generated during mining activities using bioremediation as described in the Water Licence Application document entitled **“Landfarm Design and Management Plan Meadowbank Gold Project”** February 2013, and containing DWGs 3-1 an 3-2;

**“Licence”** means this Type “A” Water Licence 2AM-MEA1525, issued by the Nunavut Water Board in accordance with the *Act*, to Agnico-Eagle Mines Ltd. (AEM) for the Meadowbank Gold Mine Project;

**“Licensee”** means to whom the Licence 2AM-MEA1525 is issued to or assigned;

**“Marshalling Area Bulk Fuel Storage Facility”** means the facility consisting of six (6) 10 million L diesel fuel storage tanks and twenty (20) 100,000L fuel storage tank for Jet-A, for a total fuel capacity of sixty two (62) million litres and all associated infrastructure, as described in the Water Licence Application document entitled **“Baker Lake Bulk Fuel Storage Facility: Environmental Performance Monitoring Plan”** dated June 2014, indicated in the documents entitled **“Baker Lake Fuel Storage Installations Final Report Phase 2-B”** December 7, 2009 and illustrated in the As-Built DWGs VD2259-BKL-001 to VD2259-BKL-002, , Stavibel Engineering Project Number VD2259-2, and **“Baker Lake Fuel Storage Installations Final Report Phase 3”** January 2011, and illustrated in the attached As-Built DWGs 740-C-0123, 740-C-0124 and 740-C-0125, Stavibel Engineering Project Number MEAD-1-400;

**“Maximum Average Concentration”** means the average concentration of any four consecutively collected samples taken from the identical sampling location and taken during any given timeframe;

**“Maximum Monthly Mean”** means the average concentration of all samples collected over a thirty day period from the identical sampling location;

**“Meadowbank Mine Site Bulk Fuel Storage Facility”** means the facility consisting of one (1) above ground 5.6 million litre diesel fuel storage tank and all associated infrastructure as described in the Water Licence Application document entitled **“Meadowbank Bulk Fuel Storage Facility: Environmental Performance Monitoring Plan”** dated June 2014, as indicated in the



document entitled "*Meadowbank Fuel Storage Installations Final Report*" April 2009, and illustrated in the attached As-Built DWGs VDB2259-MDB-001, VDB2259-MDB-002, VDB2259-MDB-003, Stavibel Engineering Project Number VD2259-1;

**"Metal Leaching"** means the mobilization of metals into solution under neutral, acidic or alkaline conditions;

**"Mine Water"** means any water, including groundwater, that is pumped or flows out of any underground workings or open pit;

**"Minister"** means the Minister of Aboriginal Affairs and Northern Development Canada (AANDC);

**"Modification"** means an alteration to a physical work that introduces a new structure or eliminates an existing structure and does not alter the purpose or function of the work;

**"Monitoring Program"** means the program to collect data on surface water and Ground Water quality to assess impacts to the environment of an appurtenant undertaking;

**"Monthly"** means, in the context of monitoring frequency, one sampling event occurring every thirty (30) days with a minimum of twenty one (21) days between sampling events;

**"Non-Contact Water"** means the runoff originating from areas unaffected by mining activity that does not come into contact with developed areas;

**"Nunavut Land Claims Agreement"** (NLCA) means the "*Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada*," including its preamble and schedules, and any amendments to that agreement made pursuant to it;

**"Operations"** means the set of activities associated with mining, ore processing and recovery of gold; excluding construction and decommissioning activities;

**"Operator"** means the person who operates, has control or custody of, or is in charge of a mine or recognized closed mine;

**"Portage Attenuation Pond"** means the facility located in the basin at the northwest end of the northwest arm of Second Portage Lake where mine site contact water will be discharged, and where water in the pond will be reclaimed to satisfy mill process water make up requirements with any excess water being treated if required and discharged to Third Portage Lake as described in the Water Licence Application document entitled "*2013 Water Management Report and Plan*" dated March 2014;

**"Portage Waste Rock Storage Facility"** means the facility designed to store waste rock from the Portage open pit as described in the Water Licence Application document entitled "*Updated Mine Waste Rock and Tailings Management Plan*" dated March 2014, and illustrated in the DWGs 2-1, 3-1 to 3-7, 6-1, 9-1 and 9-2;





**“Pre-development”** means the phase of the Project that occurs before the start of construction to allow for the development of a stockpile of broken rock-fill material that will be required to construct the outer shells of the East Dewatering Dike;

**“Progressive Reclamation”** means actions that can be taken during mining operations before permanent closure, to take advantage of cost and operating efficiencies by using the resources available from mine operations to reduce the overall reclamation costs incurred. It enhances environmental protection and shortens the timeframe for achieving the reclamation objectives and goals;

**“Project”** means the Meadowbank Gold Project (Meadowbank Gold Mine) as outlined in the Final Environmental Impact Statement and supplemental information submitted by Cumberland Resources Limited to the Nunavut Impact Review Board (NIRB) as well as the Water Licence Application, Supporting Documents, and Technical Meeting Information Supplement documents submitted by Agnico-Eagle Mines Ltd. to the Nunavut Water Board throughout the regulatory process. It comprises an open pit mine, an all-weather private access road from Baker Lake to the mine site, and a marshalling facility in the Hamlet of Baker Lake;

**“Quarry”** means the areas of surface excavation for extracting rock material for use as construction materials along the All Weather Private Access Road, as identified in the document entitled *“Meadowbank Gold Project 2007 Annual Report All-Weather Private Access Road”*;

**“Quality Assurance / Quality Control (QA/QC)”** Quality Assurance means the system of activities designed to better ensure that quality control is done effectively; Quality Control means the use of established procedures to achieve standards of measurement for the three principle components of quality: precision, accuracy and reliability;

**“Quarterly”** means, in the context of monitoring frequency, one sampling event occurring every three months with a minimum of ninety days between sampling events;

**“Reclamation”** means the process of returning the mine sites and affected areas to viable and, wherever practicable, self-sustaining ecosystems that are compatible with a healthy environment and with human activities;

**“Receiving Environment”** means both the aquatic and terrestrial environments that receive any discharge resulting from the Project;

**“Reclaim Pond”** means the facility located within the Tailings Storage Facility, designed to contain process (tailings related) water, and where water in the pond will be used to satisfy mill process water make up requirements as described in the Water Licence Application document entitled *“2013 Water Management Report and Plan”* dated March 2014;

**“Reclamation”** means the process of returning the mine site and affected areas to viable and, wherever practicable, self-sustaining ecosystems that are compatible with a healthy environment and with human activities;



**“Recognized Closed Mine”** means a recognized closed mine as defined by section (1) of the *Metal Mining Effluent Regulations* SOR/2002-222 dated June 6, 2002 and amended on March 2, 2012;

**“Regulations”** means the *Nunavut Waters Regulations* sor 2013/669 18th April, 2013;

**“Rock Storage Facility – Interim Till Plug”** means the structure designed and constructed as a zoned earth fill structure intended to block seepage from the Waste Rock Storage Facility to go into NP2 Lake and facilitate seepage collection on the upstream side, as described in the Water Licence Application document entitled *“Appendix E – AANDC Inspectors Direction and AEM’s Response”* dated November 20, 2013, as indicated in the *“Construction Summary Report Rock Storage Facility – Interim Till Plug”* dated October 30, 2013, and as illustrated in As-Built DWGs 1, 2 Waste Dump Temporary Till Plug As-Built;

**“Saddle Dam”** means the structures located around the Tailings Storage Facility including the North Saddle Dam and the South Saddle Dam where the South Saddle Dam is designed as a permanent tailings retaining structure and the North Saddle Dam is to act as a berm, as indicated in the document *“Construction Report Tailings Storage Facility Meadowbank Gold Project Nunavut”* Agnico-Eagle Mines Ltd. with collaboration of Golder Associates Ltd. June 15, 2013, and illustrated in the attached documents Saddle Dam 1 – As Built Drawings and Saddle Dam 2 – As Built Drawings, DWGs 1/1, 1/2 and 2/2 As-Built 2010;

**“Seepage”** means any water that drains through or escapes from any structure designed to contain, withhold, divert or retain water or waste. Seepage also includes any flows that have emerged through open pits, runoff from waste rock storage facilities, ore stockpile areas, quarries, landfill or landfarm areas;

**“Sewage”** means all toilet wastes and greywater;

**“Sewage Treatment Plant”** means the rotary biological contactor sewage treatment plant described in the Water Licence Application document entitled *“Operation & Maintenance Manual Sewage Treatment, Meadowbank Gold Project”* April 2013, and the NORDIKeau Inc. Technical Support Section 2 N/Ref.: 50255, dated June 30, 2010;

**“Short Term Maximum”** means the maximum concentration of all samples collected over a 24 hour period or less taken from the identical sampling location;

**“Soil Quality Remediation Objectives (SOROs)”** means the numerical concentration established as target value for soil quality remediation for contaminated sites as determined with guidance provided by the *Canadian Council of Ministers of the Environment (CCME)*.

**“South Camp Dike”** means the dike that encloses the Goose Island area along with the Bay Zone Dewatering Dike, Goose Island Dewatering Dike, and nearby land, such that it can be isolated from Third Portage Lake as indicated in the document entitled *“South Camp Dike Construction Summary Report Meadowbank Gold Project, Nunavut”* March 2012, and illustrated



in the attached As-Built DWGs 4300-01, 4300-02 and Figures 1-4, Golder Associate's Project Number 00-1425-0828/9800;

**"Stormwater Dike"** means the structure designed to isolate the Portage Attenuation Pond from tailings as indicated in the document entitled *"Construction Report Tailings Storage Facility Meadowbank Gold Project Nunavut"* dated June 15, 2013, Agnico-Eagle Mines Ltd. with collaboration of Golder Associates Ltd., and illustrated in the attached document Stormwater Dike – As-Built Drawings 2010;

**"Stormwater Management Pond"** means the facility that incorporates the existing Tear Drop Lake designed with impervious walls to contain treated sewage and contact water as described in the Water Licence Application document entitled *"2013 Water Management Report and Plan"* dated March 2014;

**"Sump"** means a structure or depression that collects, controls, and filters liquid waste before it is released to the environment. This structure should be designed to prevent erosion while allowing percolation of liquid waste;

**"Tailings Storage Facility"** means the facility designed to permanently contain the solid fraction of the mill tailings, located in the northwest arm of the partially dewatered Second Portage Lake as described in the Water Licence Application document entitled *"Updated Mine Waste Rock and Tailings Management Plan"* dated March 2014, as indicated in the document entitled *"Construction Report Tailings Storage Facility Meadowbank Gold Project Nunavut"* dated June 15, 2013, and illustrated in the attached As-Built Engineering Drawings, Golder Associates Project Number 09-1428-5007 (2000). The Facility includes the Reclaim Pond, the Central Dike, Saddle Dams, and the Stormwater Dike;

**"Third Portage Lake Outfall Diffuser"** means the effluent pipe located in low value fish habitat within Third Portage Lake, designed to discharge and enhance mixing of effluent from the Portage Attenuation Pond in the receiving environment as illustrated in As-Built Drawing, DWG 1/1, dated June 26, 2013;

**"Traditional Knowledge"** means the practical knowledge that has been gathered through the experience of living in close contact with nature and has been passed along or communicated orally, and handed down from generation to generation;

**"Total Metals"** means the suite of metals referred to in Group 2 of Table 1 – Monitoring Groups located in Schedule I of this Licence. Total metals shall be analyzed on an un-filtered sample;

**"Use"** means use as defined in section 4 of the Act;

**"Vault Attenuation Pond"** means the facility located in the Vault mining area where contact water including pit water will be discharged and treated, if required, prior to final discharge to Wally Lake as described in the Water Licence Application document entitled *"2013 Water Management Report and Plan"* dated March 2014;



**“Vault Dewatering Dike”** means the structure designed to isolate Vault Lake from Wally Lake, for the purpose of dewatering and development of the Vault Open Pit and allow for storage of effluent in the Vault Attenuation Pond as indicated in the document entitled *“Vault Dike Construction Summary Report Meadowbank Gold Project”* dated July 29, 2013, and illustrated in the attached document Vault Dike As-Built Drawings, DWG 4GDD-0002-00, October 22, 2012, SNC Lavalin Project Number 610548;

**“Vault Haul Road Crossing”** means the crossing located at the outlet of Turn Lake to Drill Tail Lake along the road that connects the Portage mining area to the Vault mining area, as described in the document entitled: *“Haul Road from Meadowbank to the Vault Deposit”* dated December 4, 2009, and illustrated in As-Built DWG’s VD2415-01-C103 and VD2415-01-C104, November 27, 2009, Stavibel Engineering’s Project Number VD2415-001;

**“Vault Waste Rock Storage Facility”** means the facility designed to store waste rock from the Vault open pit as described in the Water Licence Application document entitled *“Updated Mine Waste Rock and Tailings Management Plan”* dated March 2014, and illustrated in DWGs 2-1, 3-1, 3-3 to 3-7, 9-1 and 9-3;

**“Wally Lake Outfall Diffuser”** means the effluent pipe located in low value fish habitat within Wally Lake, designed to discharge and enhance mixing of effluent from the Vault Attenuation Pond in the receiving environment as illustrated in As-Built Drawing, DWG 1/1, dated June 26, 2013;

**“Waste”** means waste as defined in section 4 of the Act;

**“Waste Rock”** means all unprocessed rock materials that are or were produced as a result of mining operations and have no current economic value;

**“Waste Water”** means the water generated by site activities or originates on-site that requires treatment or any other water management activity;

**“Water”** means water as defined in section 4 of the Act;

**“Water Supply Facilities”** means the facilities designated for the supply of water including the Fresh Water Intake Barge at Third Portage Lake, the Reclaim Barge, and the Emulsion Plant fresh Water intake;

**“Waste Disposal Facilities”** means all facilities designated for the disposal of waste including: the mine site Sewage Treatment Plant, Landfill, Landfarm, Tailings Storage Facility, Portage Waste Rock Storage Facility, Vault Waste Rock Storage Facility, Portage Attenuation Pond and Vault Attenuation Pond;

**“Water Licence Application”** for the purposes of this Licence includes the totality of the NWB and NIRB Public Registries established as a result of the filing of the application dated August 2014, including Supporting Documents, and Technical Meeting Information Supplement documents;



“**Weekly**” means, in the context of monitoring frequency, one sampling event occurring every 7 days with a minimum of 5 days between sampling events.

“**West Channel Dike**” means the structure designed to be located in the western outlet channel between Third Portage Lake and Second Portage Lake to allow for dewatering of the northwest arm of Second Portage Lake as indicated in the document entitled “West Channel Dike Construction As-Built Report - Meadowbank Gold Project, Nunavut” dated December 16, 2009, and illustrated in the attached As-Built DWGs 2100-22 and 2100-23, Golder Associate’s Project Numbers 07-1413-00742 and 09-1428-5007;

“**West Diversion Ditch Interception Sump**” means the structure designed to provide an area of capture, retention and decantation of the freshet water flow expected in the West Diversion Ditch located around the northern area of the North Cell of the Tailings Storage Facility to keep freshet surface drainage from contacting the Waste Rock Storage Facility and the Tailings Storage Facility as described in the Water Licence Application document entitled “2013 Water Management Report and Plan” dated March 2014, as indicated in the “West Diversion Ditch – Interception Sump Phase 1 Construction Summary Report” dated April 2015, and illustrated in As-Build DWG 1 – Interception Sump Phase 1;



## **Schedule B: General Conditions**

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The Annual Report referred to in Part B, Item 2, shall include:

### **CONSTRUCTION**

1. For the dikes, dams and structures constructed to withhold water or waste:
  - a. An overview of methods and frequency used to monitor deformations, seepage and geothermal responses;
  - b. A comparison of measured versus predicted performance;
  - c. A discussion of any unanticipated observations including changes in risk and mitigation measures implemented to reduce risk;
  - d. As-built drawings of all mitigation works undertaken;
  - e. Any changes in the design and/or as-built condition and respective consequences of any changes to safety, water balance and water quality;
  - f. Data collected from instrumentation used to monitor earthworks and an interpretation of that data;
  - g. A summary of maintenance work undertaken as a result of settlement or deformation of dikes and dams; and
  - h. The monthly and annual quantities of seepage from dikes and dams in cubic metres.

### **WATER**

2. Monthly and annual volume of fresh Water obtained from Third Portage Lake.
3. Monthly and annual volume of fresh Water obtained from Wally Lake.
4. Results of lake level monitoring conducted under the protocol developed as per Part D Item 5.
5. Summary of reporting results for the Water Balance and Water Quality model and any calibrations as required in Part E Items 7-9..
6. The bathymetric survey(s) conducted prior to each year of shipping at the Baker Lake Marshalling Facility.

### **WASTE**

7. Geochemical monitoring results including:
  - a. Operational acid/base accounting and paste pH test work used for waste rock designation (PAG and NPAG rock);
  - b. As-built volumes of waste rock used in construction and sent to the Waste Rock Storage Facilities with estimated balance of acid generation to acid neutralization capacity in a given sample as well as metal toxicity;
  - c. All monitoring data with respect to geochemical analyses on site and related to roads, quarries, and the All Weather Access Road;
  - d. Leaching observations and tests on pit slope and dike exposure;
  - e. Any geochemical outcomes or observations that could imply or lead to environmental impact;





- f. Geochemical data associated with tailings solids, tailings supernatant, cyanide leach residue, and bleed from the cyanide destruction process including an interpretation of the data; and
  - g. Results related to the road quarries and the All Weather Private Access Road.
- 8. Volumes of waste rock used in construction and placed in the Rock Storage Facilities.
- 9. An update on the remaining capacity of the Tailings Storage Facility.
- 10. Summary of quantities and analysis of seepage and runoff monitoring from the Landfills, Waste Rock Storage Facilities and Central Dike.
- 11. A summary report of all general waste disposal activities including monthly and annual quantities in cubic metres of waste generated and location of disposal.
- 12. Report of Incinerator test results including the materials burned and the efficiency of the Incinerator as they relate to water and the deposit of waste into water.

### **SPILLS**

- 13. A list and description of all unauthorized discharges including volumes, spill report line identification number and summaries of follow-up action taken.

### **MODIFICATIONS**

- 14. A summary of modifications and/or major maintenance work carried out on all water and waste related structures and facilities.

### **MONITORING**

- 15. The results and interpretation of the Monitoring Program in accordance with Part I and Schedule I.
- 16. The results of monitoring related to the Aquatic Effects Monitoring Program (AEMP) including:
  - a. Core Receiving Environment Monitoring Program (CREMP);
  - b. Metal Mining Effluent Regulation (MMER) Monitoring;
  - c. Mine site Water Quality and Flow Monitoring (and evaluation of NP-2);
  - d. Visual AWAR water quality monitoring;
  - e. Blast Monitoring; and
  - f. Groundwater Monitoring.

### **CLOSURE**

- 17. A summary of any progressive closure and reclamation work undertaken including photographic records of site conditions before and after completion of operations, and an outline of any work anticipated for the next year, including any changes to implementation and scheduling.
- 18. A summary of on-going field trials to determine effective capping thickness for the Tailings Storage Facility and Waste Rock Storage Facilities for the purpose of long term environmental protection.





19. An updated estimate of the current restoration liability based on Project development monitoring, results of restoration research and any changes or modifications to the Appurtenant Undertaking.

#### **PLANS/REPORTS/STUDIES**

20. A summary of any studies requested by the Board that relate to Water use, Waste disposal or Reclamation, and a brief description of any future studies planned.
21. Where applicable, revisions as Addendums, with an indication of where changes have been made, for Plans, Reports, and Manuals.
22. An executive summary in English and Inuktitut of all plans, reports, or studies conducted under this Licence.

#### **GENERAL**

23. A summary of actions taken to address concerns or deficiencies listed in the inspection reports and/or compliance reports filed by an Inspector.

#### **OTHER**

24. A summary of public consultation and participation with local organizations and the residents of the nearby communities, including a schedule of upcoming community events and information sessions.
25. Any other details on Water use or Waste Disposal requested by the Board by November 1<sup>st</sup> of the year being reported.



## **Schedule D: Conditions Applying to Construction**

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1. The Construction Summary Report referred to in Part D Item 14 shall include:
  - a All final design and construction drawings shall be stamped and signed by a Professional Engineer.
  - b A summary of construction activities including photographic records before, during and after construction;
  - c As-built drawings;
  - d Documentation of field decisions that deviate from original plans and any data used to support these decisions;
  - e Discussion of mitigation measures implemented during construction and effectiveness;
  - f Monitoring undertaken in accordance with Part D;
  - g Blast vibration monitoring for quarrying activities carried out in close proximity to fish bearing waters;
  - h Monitoring for sediment release from construction areas; and
  - i Monitoring and reporting on use of water to manage dust emissions from crushing and construction activity.



## Schedule I: Conditions Applying to General and Aquatic Effects Monitoring

TABLE 1 – MONITORING GROUP

Group	Parameters
1	pH, turbidity, hardness, alkalinity, ammonia nitrogen, total metals (aluminum, arsenic, barium, cadmium, chloride, chromium, copper, fluoride, iron, lead, manganese, mercury, molybdenum, nickel, nitrite, nitrate, selenium, silver, thallium, zinc) sulphate, total dissolved solids (TDS), TSS, total cyanide. If CN total is detect in an analysis result; further analysis of CN Free and CN WAD will be triggered.
2	<p>Total and Dissolved metals: aluminum, antimony, arsenic, boron, barium, beryllium, cadmium, copper, chromium, iron, lithium, manganese, mercury, molybdenum, nickel, lead, selenium, tin, strontium, titanium, thallium, uranium, vanadium and zinc.</p> <p>Nutrients: Ammonia-nitrogen, total kjeldahl nitrogen, nitrate nitrogen, nitrite-nitrogen, ortho-phosphate, total phosphorous, total organic carbon, total dissolved organic carbon and reactive silica.</p> <p>Conventional Parameters: bicarbonate alkalinity, chloride, carbonate alkalinity, conductivity, hardness, calcium, potassium, magnesium, sodium, sulphate, pH, total alkalinity, TDS, and TSS, turbidity.</p> <p>Total cyanide and free cyanide.</p> <p>If CN total is detected above 0.05 mg/L in an analysis result for monitoring station in receiving environment; further analysis of CN WAD will be triggered.</p>
3	MMER parameters (total cyanide, arsenic, copper, lead, nickel, zinc, radium 226, total suspended solids, pH), sulphate, turbidity and total aluminum.
4	Total Arsenic, Total Copper, Total Lead, Total Nickel, TSS, Benzene, Toluene, Ethylbenzene, Xylene, TPH, pH.
MMER	Total cyanide, arsenic, copper, lead, nickel, zinc, radium 226, total suspended solids, pH, effluent volumes and flow rate of discharge, acute toxicity (Rainbow Trout and Daphnia magna) and environmental effects monitoring (EEM).
Full Suite	Group 2, Total Petroleum Hydrocarbons, Turbidity. Acutely Lethality tests (Rainbow Trout and Daphnia magna) for discharge only.



TABLE 2 – MONITORING PROGRAM

Station	Description	Phase	Monitoring Parameters	Frequency
<i>Mine Site</i>				
ST-DC-1 to TBD	Monitoring stations during Dike Construction as defined in Final Water Quality Monitoring and Management Plan for Dike Construction and Dewatering referred to in Part D Item 5	Construction	As defined in Final Water Quality Monitoring and Management Plan for Dike Construction and Dewatering referred to in Part D, Item 5	As defined in Final Water Quality Monitoring and Management Plan for Dike Construction and Dewatering referred to in Part D Item 5
ST-DD-1 to TBD	Monitoring Stations during Dike Dewatering as defined in Water Quality Monitoring and Management Plan for Dike Construction and Dewatering referred to in Part D, Item 5	Construction	As defined in Final water Quality Monitoring and management Plan for Dike Construction and Dewatering referred to in Part D, tem 5	As defined in Final Water Quality Monitoring and Management Plan for Dike Construction and Dewatering as referred to in part D, Item 5
ST-1	Water Intake for camp, mill and re-flooding	Water Intake for camp, mill and re-flooding	Volume (m <sup>3</sup> )	Monthly
ST-1W	Water Intake for re-flooding	Water Intake for re-flooding	Volume (m <sup>3</sup> )	Monthly
ST-3	Water Intake for Emulsion Plant	Late operations, closure	Volume (m <sup>3</sup> )	Monthly
ST-4	Water Reclaimed from Tailings Storage Facility	Late operations, closure	Volume (m <sup>3</sup> )	Monthly
ST-5	Portage Area (east) diversion ditch	Late operations, closure	Group 3	Monthly during open water



ST-6	Portage Area (west) diversion ditch	Late operations, closure	Group 3	Monthly during open water
ST-8	East Dike Seepage Discharge	Late operations, closure	Group 3	Monthly
ST-9	Portage Attenuation Pond prior to discharge through Third Portage Lake Outfall Diffuser	Early operations	Full Suite	Prior to discharge and Weekly during discharge
			Volume (m <sup>3</sup> )	Daily during periods of discharge
			Acute Lethality	Once prior to discharge and Monthly thereafter
ST-10	Vault Attenuation Pond prior to discharge through Wally Lake Outfall Diffuser	Late operations	Full Suite	Prior to discharge and Weekly during discharge
			Volume (m <sup>3</sup> )	Daily during periods of discharge
			Acute Lethality	Once prior to discharge and Monthly thereafter
ST-11	Tailings Storage Facility	Post closure	Group 1	Annually during open water
ST-12	Portage / Goose Pit Lake	Post closure	Full Suite	Annually during open water
ST-13	Vault Pit Lake	Post closure	Full Suite	Annually during open water
ST-14 (THE-11)	Discharge to the TSF from Landfarm sump at mine site	Late operations, closure	Group 4	Prior to discharge
			Volume (m <sup>3</sup> )	Daily during periods of discharge
ST-16	Portage Rock Storage Facility	Late operations	Group 1	Monthly during open water
		Closure	Group 1	Bi-annually during open water
ST-17**	North Portage Pit Sump	Operations	Group 1	Monthly during open water
			Volume (m <sup>3</sup> )	Daily during periods of discharge



	Portage Pit Lake	Late operations	Group 2	Monthly during open water
		Closure	Group 2	Bi-annually during open water
ST-19**	South Portage Pit Sump	Early operations	Group 1	Monthly during open water
			Volume (m <sup>3</sup> )	Daily during periods of discharge
	Portage Pit Lake	Late operations	Group 2	Monthly during open water
ST-20	Goose Island Pit Sump	Early operations	Group 1	Monthly during open water
			Volume (m <sup>3</sup> )	Daily during periods of discharge
	Goose Island Pit Lake	Late operations	Group 2	Monthly during open water
		Closure	Group 2	Bi-annually during open water
ST-21	Tailings Reclaim Pond	Late operations	Group 1	Monthly during open water
ST-22	Tailings Storage Facility	Closure (drainage runoff)	Group 2	Bi-annually during open water
ST-23	Vault Pit Sump	Late operations	Group 2	Monthly during open water
			Volume (m <sup>3</sup> )	Daily during periods of discharge
ST-24	Vault Rock Storage Facility	Late operations	Group 1	Monthly during open water
		Closure	Group 1	Bi-annually during open water
ST-25	Vault Attenuation Pond	Late operations	Group 1	Monthly during open water
ST-26	Vault Pit Lake	Closure	Group 2	Bi-annually during open water
ST-S-1 to TBD	Seeps (to be determined)	Late operations, Closure	Group 1	Monthly or as found
ST-GW-1 to TBD	Groundwater wells (to be determined) as required under	Early operations, Late operations, Closure	Group 2	Annually



	Groundwater Monitoring Plan referred to in Part I Item 6			
ST-AEMP-1 to TBD	Receiving AEMP and CREMP	Late operations, Closure	Group 2	<p>A minimum of 5 events per year at CREMP stations. Ideally 3 during open water and 2 during winter (through ice).</p> <p>TPL assay, NP2, NP1 and Dogleg ponds to be monitored monthly during open water (July, Aug, and Sept.).</p> <p>Monthly field limnology data collected throughout year at smaller number of locations (through ice).</p>
ST-MMER-1 to TBD	Vault, East Dike and Portage effluent outfall	Late operations	MMER	Weekly during open water
ST-37	Secondary containment sump at the Bulk Fuel Storage Facility at Meadowbank	Late operations, Closure	Group 4	Prior to discharge or transfer of Effluent
ST-38	Secondary containment sump at the Bulk fuel Storage Facility in Baker Lake – Jet-A containment	Late operations, Closure	Group 4	Prior to discharge or transfer of Effluent
ST-40 (MEA-4)	Secondary containment sump at the Bulk Fuel Diesel Storage Facility in Baker Lake	Late operations, Closure	Group 4	Prior to discharge or transfer of Effluent
<p><b><i>Monitoring Program Stations never constructed or associated with the Construction Phase of Project with Monitoring not required and no longer conducted at Operations and Closure phase.</i></b></p>				





ST-2	Reclaim Water Intake	Construction, Early operations, Late operations, Closure	Volume (m <sup>3</sup> )	Monthly
ST-7	Vault Area diversion ditch	Early operations, Late operations, Closure	Group 5, Aluminum	Monthly during open water
ST-5	Vault non-contact diversion ditch	Early operations, Late operations, Closure	Group 5, Aluminum	Monthly during open water
ST-18	Portage Attenuation Pond	Early operations	Group 2	Monthly during open water
ST-27 and ST-28 (TEH-1 & TEH-2)	Water Intake for camp and concrete batch plant purposes	Pre-development, Construction	Volume for each purpose (m <sup>3</sup> )	Monthly
ST-29 and ST-30 (TEH-3 & TEH-4)	Water, if any, accumulated in north and south predevelopment zones	Pre-development	pH, Turbidity	Weekly
			Weekly Metals using an ICP-Metals 36 element scan, Total Ammonia, Nitrate, Sulphate	Monthly
ST-31 and ST-32 (TEH-5 & TEH-6)	Water pumped from north and south predevelopment zones to Contact Water Collection System	Pre-development	pH, Turbidity	Daily during periods of pumping
ST-33 and ST-34 (TEH-7 & TEH-8)	Contact Water Collection System Lakes #1 and #2	Pre-development, Construction	pH, Turbidity, Metals using an ICP-Metals 36 element scan, Total Ammonia, Nitrate, Sulphate	Weekly during periods of pumping from the pre-development pits
ST-35 (THE-9)	Discharge from Lake #1 of Contact Water Collection System (Stormwater Management Pond) to Second Portage Lake	Pre-development, Construction	pH, TSS, T-Al, BOD5, Fecal Coliforms, T-As, T-Cu, T-CN, T-Pb, T-Ni, T-Zn, T-Radium <sub>226</sub>	Once prior to discharge and Weekly during periods of discharge
			Acute Lethality	Once prior to discharge and Monthly thereafter



	<i>In addition, if discharge from Bulk Fuel Storage Facility directed to lake #1</i>		<i>Volume (m<sup>3</sup>)</i>	<i>Daily during periods of discharge</i>
			<i>Benzene, Lead, Toluene, Ethylbenzene, Oil &amp; Grease</i>	<i>Once prior to discharge and Weekly during periods of discharge</i>
<i>ST-36 (THE-10)</i>	<i>Discharge from Lake #2 of Contact Water Collection System to Second Portage Lake</i>	<i>Pre-development, Construction</i>	<i>pH, TSS, T-As, TCu, T-CN, T-Pb, T-Ni, T-Zn, T-Radium<sub>226</sub></i>	<i>Once prior to discharge and Weekly during periods of discharge</i>
			<i>Acute Lethality</i>	<i>Once prior to discharge and Monthly thereafter</i>
			<i>Volume (m<sup>3</sup>)</i>	<i>Daily during periods of discharge</i>
<b><i>Monitoring Program Stations relics of Type “B” Water Licence 8BC-MEA0709 and not applicable, replaced by Monitoring Program Stations ST-37 and ST-38 described below.</i></b>				
<i>ST-37 (MEA-1)</i>	<i>Water sample location at Baker Lake in close proximity to the construction facilities</i>	<i>Pre-development, Construction, Early operation, Late operation, Closure</i>	<i>Group 6</i>	<i>Annually</i>
<i>ST-38 (MEA-2)</i>	<i>East Contact Water Pond located in the south-east corner of the lay-down area</i>	<i>Pre-development, Construction, Early operation, Late operation, Closure</i>	<i>Group 6 &amp; 7</i>	<i>Prior to discharge or transfer of Effluent</i>
			<i>Volume (m<sup>3</sup>)</i>	<i>Monthly</i>
<i>ST-39 (MEA-3)</i>	<i>West Contact Collection Pond located in the south-west corner of the lay-down area</i>	<i>Pre-development, Construction, Early operation, Late operation, Closure</i>	<i>Group 6 &amp; 7</i>	<i>Prior to discharge or transfer of Effluent</i>
			<i>Volume (m<sup>3</sup>)</i>	<i>Monthly</i>

**\*\* ST-17 and ST-19 in Closure will become one sampling point**