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December 24, 2014

Mr. Willard Hagen, Chair  
Mackenzie Valley Land and Water Board  
7<sup>TH</sup> FLOOR – 4910 50<sup>TH</sup> AVENUE  
YELLOWKNIFE, NT X1A 2P6

Dear Mr. Hagen;

**RE: November 2014 Monthly Report for Water Licence, MV2012L8-0010, Part B, Item 7**

Aboriginal Affairs and Northern Development Canada (AANDC) was issued Water Licence MV2012L8-0010 (the Licence) on March 28, 2013 for water use and waste disposal associated with roaster complex deconstruction and underground stabilization at the Giant Mine. Part B, Item 7 of the Licence requires that the commitments made in the *Communications Plan for Duration of Site Stabilization Activities* (SSP Communications Plan) be fulfilled. One of the commitments in the SSP Communications Plan is to provide monthly updates to the Mackenzie Valley Land and Water Board and identified Parties during active operations.

If you have any questions or concerns, please contact the undersigned at (867)669-2425 or [adrian.paradis@aandc-aadnc.gc.ca](mailto:adrian.paradis@aandc-aadnc.gc.ca).

Sincerely,

Adrian Paradis  
Regulatory Manager  
Giant Mine Remediation Plan

Encl. Monthly Report November 2014

c.c.: AANDC Inspector  
Jane Amphlett, AANDC Giant Mine Operations Manager  
Distribution List

**Canada**

**GIANT MINE ROASTER COMPLEX DECONSTRUCTION  
AND UNDERGROUND STABILIZATION**

**WATER LICENCE MV2012L8-0010 – PART B, ITEM 7**

**SSP COMMUNICATIONS PLAN**

**MONTHLY REPORT**

**November 2014**

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## INTRODUCTION

Water Licence MV2012L8-0010 (the Licence) was issued to Aboriginal Affairs and Northern Development Canada (AANDC) on March 28, 2013 for water use and waste disposal associated with roaster complex deconstruction and underground stabilization at the Giant Mine. Part B, Item 7 of the Licence requires that the commitments made in the *Communications Plan for Duration of Site Stabilization Activities* (SSP Communications Plan) be fulfilled. One of the commitments in the SSP Communications Plan is to provide monthly updates to the Mackenzie Valley Land and Water Board (MVLWB) and identified Parties<sup>1</sup> during active operations.

The SSP Communications Plan requires that the monthly updates include the following items:

- Progress/status update of the work
- Summary of outcomes from environmental and health and safety related inspections
- Summary of outcomes from air and water quality monitoring

This report has been prepared for the Licence and describes activities that took place in November 2014.

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<sup>1</sup> Parties identified in the SSP Communications Plan include the following:

Residents of Yellowknife, N'Dilo and Dettah	North Slave Métis Alliance
Yellowknives Dene First Nation	Lutsel K'e First Nation
Giant Mine Advisory Committee	NWT Métis Nation
Tlicho First Nation	City of Yellowknife
Back Bay Community Association	Alternatives North
Ecology North	Workers Safety & Compensation Commission
City Emergency Services	Media
Members of the NWT Legislature	Giant Mine Community Alliance
Federal and territorial government agencies and inspection agencies, including Government of the Northwest Territories, Fisheries and Oceans and Environment Canada	

## REGULATORY MILESTONES

A list of major regulatory milestones and activities is provided in the table below for reference purposes.

**Table 1: Regulatory Milestones during the Reporting Period**

	<ul style="list-style-type: none"><li>• There are no regulatory milestones to report for November 2014</li></ul>
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## ROASTER COMPLEX DECONSTRUCTION – PROGRESS UPDATE

During the month of November, 2014 the following on site activities occurred:

- General:
  - Continued operation of site facilities until demobilization.
  - Continued the medical monitoring program for all site employees until demobilization.
  - Completed the hauling of all containerized arsenic containing deconstruction wastes to the Material Storage Area (MSA).
  - Continued a daily cleaning schedule for the trailers until demobilization.
  - Continued with dust suppression activities until demobilization.
  - Transported all of the remaining non-asbestos, non-arsenic hazardous waste that was removed from the roaster complex to a licensed facility for disposal.
  - Decontaminated and demobilized trailers, including the restroom trailer and tanks, south decontamination unit (DCU), office trailers, support trailers, and laundry trailer. Each trailer was power-washed on the outside, cleaned on the inside, and inspected by AECOM before it left the site. Trailers were also inspected and certified for highway use, as required.
  - Decontaminated and demobilized equipment including heavy equipment, wastewater treatment plant, tools and scaffolding.
  - Completed inspecting, sizing, cleaning, and moving metal and other non-hazardous waste to the storage yard at the waste transfer storage area (W TSA).
  - Transferred all remaining property of the Crown to Det'on Cho Nuna JV for their use or storage.
  - Disconnected site utilities including electrical power, phones, and Internet, and removed cables and wiring as appropriate.
  - Conducted the final occupational health and safety committee meeting on November 14, 2014.
  - Completed team demobilization on November 21, 2014.
  - Mechanical issues with the crane prevented the remaining loaded containers from being moved, this activity will be completed in December 2014.
  - Freezing temperatures prevented final debris removal, scraping of the site, packaging of the waste from these activities and loading the waste into containers, from occurring. This work will occur after the 2015 spring thaw.
  - The cold temperatures limited the ability to finish work on the building sumps, removal of remaining concrete footers, and columns. Final deconstruction actions on these will be completed after the site thaws in 2015.

- The final site survey and record photographs will be collected after the site is free of snow and all other work is completed in 2015.
- Operated frost fighters to keep water collection lines, tanks and treatment facilities in operation.
- AC Roaster Building:
  - The building has been decontaminated and deconstructed to slab on grade.
  - All arsenic and/or asbestos containing materials are packaged.
  - All uncontaminated non-hazardous materials (metal, wood and fibreglass) are sorted and stacked in the storage yard at the Waste Transfer Storage Area (WTSA).
- Cottrell Precipitator Building:
  - The building has been decontaminated and deconstructed to slab on grade.
  - All arsenic and/or asbestos containing materials are packaged.
  - All uncontaminated non-hazardous materials (metal, wood and fibreglass) are sorted and stacked in the storage yard at the Waste Transfer Storage Area (WTSA).
- Dorrco Roaster:
  - The building has been decontaminated and deconstructed to slab on grade.
  - All arsenic and/or asbestos containing materials are packaged.
  - All uncontaminated non-hazardous materials (metal, wood and fibreglass) are sorted and stacked in the storage yard at the Waste Transfer Storage Area (WTSA).
  - Moved material from the Dorrco Roaster sump into the Calcine Plant sump to be capped.
- Calcine:
  - The building has been decontaminated and deconstructed to slab on grade.
  - All arsenic and/or asbestos containing materials are packaged.
  - All uncontaminated non-hazardous materials (metal, wood and fibreglass) are sorted and stacked in the storage yard at the Waste Transfer Storage Area (WTSA).
  - Material from the Dorrco sump was placed in the Calcine sump and was covered with a poly liner and fill from the site.
- Baghouse:
  - The building has been decontaminated and deconstructed to slab on grade.
  - All arsenic and/or asbestos containing materials are packaged.
  - All uncontaminated non-hazardous materials (metal, wood and fibreglass) are sorted and stacked in the storage yard at the Waste Transfer Storage Area (WTSA).
- Material Storage Area:
  - Continued loading containers with bags of arsenic impacted waste, and used crane to stack the loaded shipping containers in their final configuration for waste storage in the MSA.
  - Finished the labeling and locking of all marine containers of waste at the MSA.

- 610 waste bags were unable to be accommodated in the shipping containers brought to site; they have been tarped and protected from the elements and will be placed in additional shipping containers in 2015.

## **UNDERGROUND STABILIZATION – PROGRESS UPDATE**

- Det'on Cho Nahanni Construction Ltd. (DCN) continued excavating and stockpiling tailings in preparation for paste production in the Spring of 2015. By the end of November, approximately 12,000 cubic meters of tailings have been stockpiled.
- Implementation of paste trial batching quality control and testing matrix design.
- DCN staff completed the 28 day compressive strength tests of the paste trial batching cylinders to determine required paste recipes for 2015.
- Completed construction of an access road into the North Pond to access these tailings.

## **ENGAGEMENT ACTIVITIES**

- Table 2 provides a summary of engagement activities related to the Site Stabilization Plan (SSP) during the reporting period. Other topics have not been reported below.

**Table 2: Engagement Activities Related to Site Stabilization Plan during the Reporting Period**

<b>Engagement Activity/Target</b>	<b>Number</b>	<b>Type</b>
Public Events	5	GMCA, Justice Canada, GMWG, YKDFN, GeoScience
Information Distribution	2	Meetings, E-Newsletter, e-mails, website
Site Tours	0	
Media Interactions (based on # of media involved)	1	emailed responses, interviews, twitter post

## **MONITORING and INSPECTIONS**

### **Health and Safety Inspections**

- 0 lost time incidents.
- 0 minor first aid incidents.
- 0 property damages.
- 0 near miss was reported.
- Weekly Inspections occurred on November 7.

- All hazards that were identified during the inspections were corrected.

## Spill Events

- No reportable spills occurred during the month of November, 2014.

## Water Quality Monitoring

Samples were collected from the waste water treatment system that processes the water collected from washing activities as well as dust control inside the buildings. The results of the samples taken on November 6 and 12 were all under the MVLWB criteria for oil and grease.

The following table presents a summary of all the project discharges during the 2013 and 2014 construction seasons.

**Table 3: Treated Wastewater Discharged to Date to the Northwest Tailings Pond**

Date	Volume (Litres)
Total for 2013	384,745
May 25, 2014	15,140
June 8, 2014	22,700
June 15, 2014	30,280
June 22, 2014	22,700
June 29, 2014	22,700
July 6, 2014	22,700
July 13, 2014	22,700
July 20, 2014	38,250
July 27, 2014	53,000
August 1, 2014	22,710
August 6, 2014	22,710
August 12, 2014	30,285
August 16, 2014	30,285
August 20, 2014	22,710
August 26, 2014	30,285
August 30, 2014	30,285
September 8, 2014	30,280
September 11, 2014	30,280
September 25, 2014	30,280
September 29, 2014	30,280
October 2, 2014,	30,280
October 21, 2014	7,570



<b>Date</b>	<b>Volume (Litres)</b>
October 22, 2014	26,497
October 27, 2014	39,747
November 3, 2014	39,747
November 7, 2014	39,747
November 10, 2014	39,747
November 14, 2014	26,496
<b>Total for Project</b>	<b>1,195,136</b>

## Sanitary Waste Management

The following table presents a summary of all the sanitary sewage discharges during the 2013 and 2014 construction seasons.

**Table 4: Sanitary Wastewater Discharged to Date to the Dettah Sewage Lagoon**

<b>Date</b>	<b>Volume (Litres)</b>
Total for 2013	67,364
Week ending April 20, 2014	152
Week ending May 4, 2014	1,893
Week ending May 25, 2014	3,400
Week ending June 1, 2014	3,785
Week ending June 8, 2014	2,840
Week ending June 15, 2014	2,270
Week ending June 22, 2014	3,030
Week ending June 29, 2014	3,785
Week ending July 6, 2014	3,030
Week ending July 13, 2014	3,400
Week ending July 20, 2014	3,030
Week ending July 27, 2014	3,400
Week ending August 4, 2014	3,785
Week ending August 10, 2014	8,700
Week ending August 17, 2014	3,030
Week ending August 24, 2014	3,410
Week ending August 31, 2014	3,030
Week ending September 7, 2014	3,030
Week ending September 14, 2014	3,785
Week ending September 21, 2014	2,650

Date	Volume (Litres)
Week ending September 28, 2014	2,650
Week ending October 5, 2014	2,649
Week ending October 12, 2014	6,435
Week ending October 19, 2014	1,892
Week ending October 26, 2014	5,299
Week ending November 2, 2014	2,650
Week ending November 9, 2014	2,271
Week ending November 16, 2014	14,006
<b>Total for Project</b>	<b>170,651</b>

## Air Quality Monitoring

A tiered ambient air quality monitoring program made up of three distinct parts has been implemented at the Giant Mine site. The three parts to the air quality program include task specific perimeter monitoring around the roaster, fenceline monitoring and community monitoring.

Perimeter air monitoring includes daily, real-time monitoring for Particulate Matter (PM<sub>10</sub>) as well as 24-hour samples collected every three days and analyzed for PM<sub>10</sub>, total suspended particulates (TSP), and arsenic.

Please find below the summary for air monitoring for the month of November:

### Community Monitoring:

- There were no continuous 24-hour average concentrations for PM<sub>2.5</sub> and PM<sub>10</sub> greater than the reference criteria for the community stations for the month of November. It should be noted that Beta Attention Continuous Particulate Monitor (BAM) equipment at the National Air Pollution Surveillance Program (NAPS) location was off line for the month of November (the NAPS BAM equipment is maintained by others independent of the Giant Mine Remediation project).
- Sampling for TSP (high volumetric air flow), PM<sub>10</sub> (high volumetric air flow), asbestos, total inorganics (trace metals), and arsenic for a twenty-four hour period is conducted every three (3) days for the community sampling program. Sampling of these parameters has been ongoing since June 24, 2013. Laboratory results for the month of November are available up to November 16, 2014. Results were below either detection limits or target criteria for all parameters for that period. Laboratory results collected after November 16, 2014 are pending.

### Fenceline Program:

- There were no measured concentrations greater than PM<sub>10</sub> target action level or the TSP target action level at the fenceline monitoring stations for the month of November.

### Interim Underground Stabilization (IUS) Program:

- There were no measured concentrations greater than the PM<sub>10</sub> target action level for the month of November.

#### Roaster Program:

- Deconstruction work at the Roaster was completed on November 14, 2014. The air quality monitoring program was completed on November 14, 2014.
- There were no measured concentrations greater than the PM<sub>10</sub> target action level at the Roaster monitoring stations for the month of November.
- Laboratory results for samples collected during November at the Roaster indicated arsenic, PM<sub>10</sub>, and TSP concentrations were below the target criteria.

### **Wildlife Observations and Follow-Up Actions**

Wildlife observations during the month were limited to squirrels, a fox and ravens around the perimeter areas.