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June 16, 2014

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

Dear Mr. Hagen;

RE: May 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.

Sincerely,

Benny Nordahn for
Adrian Paradis
Regulatory Manager
Giant Mine Remediation Plan

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

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

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

MONTHLY REPORT

May 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 and identified Parties¹ 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 May 2014.

¹ 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

May 22, 2014	<ul style="list-style-type: none">• MVLWB approved the updated Roaster Complex Deconstruction Waste Management Plan v.2
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ROASTER COMPLEX DECONSTRUCTION – PROGRESS UPDATE

During the month of May 2014 the following onsite activities occurred:

- General
 - Obtained WSCC approval for the use of interim measures to allow for the commencement of high-risk activities.
 - Obtained certifications to perform high-risk work in the AC Roaster and Dorrco Roaster.
 - New video web-camera system was ordered. Contractor proposing to install camera on roof of Mill Building in order to provide a high angle shot from the south.
 - Continued operation of all site facilities.
 - Working with PWGSC to resolve outstanding Change Orders.
 - Continued the medical monitoring program for all site employees.
 - Continued scaffolding of the Calcine Plant and shrink-wrapping, along with the buildout of a new waste transfer area between the Dorrco and Calcine buildings.
 - Continued daily inspections of the bird chirpers (audio repellants). An American kestrel was observed flying over the work area.
 - Reassessed internal spill reporting process and made adjustments to ensure compliance with regulatory requirements.
 - Submitted the plan for the emergency response drill to Det'on Cho Nuna JV for acceptance and coordination.
 - Arriving personnel received site and project orientation and technical training.
 - Completed marking paths from the worker decontamination units (DCUs) to the exclusion zone buildings using T-posts and barricade fence.
 - Held the monthly meeting of the site occupational health and safety (OHS) committee on May 21.
 - Hauling waste bags to MSA.
 - Delivery of laundry trailer and initial set up of utilities.
 - Application of calcium chloride to minimize dust generation.
- AC Roaster Building:
 - Started high risk abatement work in the AC Roaster
 - Marked pipes for removal.
 - Serviced negative air machines on roof and conducted flow testing.
 - Inspected critical barriers.
 - Tested the integrity and operation of negative air machine HEPA filters.

- Cottrell Precipitator Building:
 - Prepared plans for decontamination.
- Dorrco Roaster:
 - Identified severe corrosion on 21 structural columns. Prepared engineering plans for repairs, ordered materials and emergency repairs are in progress.
 - Continued installation of scaffolding and shrink-wrap containment system.
 - Completed exterior seals on south and east sides.
 - Installed power distribution system.
 - Installed negative air machines.
 - Tested the integrity and operation of negative air machine HEPA filters.
 - Performed pre-abatement inspection, received authorization for start of abatement activities.
 - Removed obstructions within building.
 - Started wash down activities inside the building.
- Calcine
 - Continued with scaffold construction around building perimeter.
 - Constructed waste load out area off south west corner of building.
 - Began installing roof truss system to enclose the roof for abatement activities.
 - Began shrink wrapping building structure as well as waste transfer room.
 - Installed negative air machines.
 - Pre-abatement inspection was conducted.
 - Removed obstructions within building.
- MSA:
 - Changed inspection practices to inspect and document conditions at the MSA on a daily basis.
 - Pumped water which had collected on top of tarp.

UNDERGROUND STABILIZATION – PROGRESS UPDATE

Geotechnical Investigations

- The 2nd phase of geotechnical drilling began in early January and is ongoing. WSCC requires no drilling into or within 10m of an arsenic stope until updated Standard Operating Procedures are submitted. This has caused a delay with approximately 50% of the drilling program pushing the work into the summer of FY 14/15.
- Drilling continues in the B3-06, B3-10 mid and C5-09 areas.
- Safe Operating Procedures have been submitted to the WSCC office for approvals for drilling within 10m of an arsenic stope.
- The procurement of a contractor to implement the underground backfill program has started with the posting of the tender for this work.

ENGAGEMENT ACTIVITIES

Table 2: Engagement Activities for May 2014

SUMMARY: Engagement Activities Completed During the Reporting Period		
Engagement Activity/Target	Number	Type
Public Events	4	Giant Mine Community Alliance, Career Fair, Working Group
Information Distribution	12	Meetings, E-newsletter, e-mails, website
Site Tours	3	Bidders Tour, Mine Inspectors
Media Interactions (based on # of media involved)	6	Interviews, site tour, emailed responses

MONITORING and INSPECTIONS

Health and Safety Inspections

There were no first aid, recordable, or lost time injuries in May 2014.

Spill Events

In May 2014, the following spills were reported.

- On May 16, a hose split on the water treatment plant and released 62 L of treated wastewater onto the ground. Water in the treated waste water tank was tested and analytical results were reported at <2.0 mg/L for oil and grease and 294 ppm for total arsenic. The spill was reported to the NWT spill report line based on the arsenic content. The calculated quantity of the spill was below the reportable limits; however the Mine Manager reported it to the GNWT Spill Line as a precaution. A spill incident closure letter from Parsons was subsequently sent to the GNWT Spill Line through the Mine Manager.
- On May 24, the tank that collects shower water from the south DCU overflowed and released 10 L of water onto the ground. The spill was mostly contained in the containment barrier and small amount fell to the ground. It was cleaned up using absorbent spill pads.
- On May 27, discolored soils were identified at the MSA. The affected soils were removed by hand excavation and the recovered soil was placed in a MSA in a soil bag. This bag was then placed under a tarp. Approximately 0.5 m³ of soils were recovered.
- On May 28, 2014, a sub-contractors truck leaked approximately 0.5 L of transmission fluid. The spill was cleaned up using onsite spill pads and the waste was bagged for disposal.

Water Quality Monitoring

Samples were collected from the waste water treatment system that is used for rinsing down contamination and dust control inside the buildings for decontamination activities on May 21, 2014. All results were Non Detect for Oil and grease.

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

Wastewater Discharged to Date to the Northwest Tailings Pond

Date	Volume (Litres)
Total for 2013	384,745
May 23, 2014	15,000
Total for Project	399,745

Sanitary Waste Management

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

Sanitary Wastewater Discharged to Date to the Dettah Sewage Lagoon

Date	Volume (Litres)
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
Total for Project	72,809

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 roaster work area perimeter monitoring, fenceline monitoring and community monitoring.

Please find below summary for fenceline and community air monitoring results for the month of May.

- There was one event where 15-minute average concentrations were above the fenceline PM10 RBAL of 159 µg/m³ and 15-minute average concentrations were above the fenceline TSP RBAL 333 µg/m³ on May 2, 2014. These elevated readings were attributed to visual dust associated with the tailings ponds. Elevated readings occurred at Site D between 7AM and 11AM. Mitigation measure were immediately taken, following which the fenceline readings returned to background levels;

- There were no PM2.5 24-hour average concentrations above the Northwest Territories Ambient Air Quality Standard of 30 µg/m³
- There was one PM10 24-hour average concentrations above the Ontario Ambient Air Quality Standard of 50 µg/m³ the NAPS location on May 1, 2014. This measurement has not been attributed to site activities due to the fact that fence line readings were low, there was no observed dust on site and wind direction was from the northwest making the NAPS community station cross wind of the Giant Mine Site;
- Sampling for TSP (high volumetric air flow), PM10 (high volumetric air flow), asbestos, total inorganics (trace metals), and arsenic for a twenty-four hour period is conducted every three (3) days. Sampling of these parameters has been ongoing since June 24th, 2013. There was one iron concentration (4.3 µg/m³) above the criteria (4.0 µg/m³) at the NDL station (located on N'Dilo First Nation) on May 2, 2014 . As per the AQMP, a measured concentration above criteria is not an immediate cause for concern but rather "exceedances to the community air quality criteria will be reviewed and investigated." On May 2, 2014 visual dust and fence line monitoring triggered immediate mitigation measures, which included watering the tailings areas, to suppress dust. When there is a measured concentration above criteria long-term trends will be compared against relevant annual criteria to measure effects associated with the remediation project. It should be noted that all air criteria have safety factors built in and are set well below the level that may cause harm. A problem may exist if there were consistent measurements above criteria or a few major measurements above criteria. This iron concentration is the first measured that is thought to be a result of dust related to the Giant Mine site activities since the air monitoring program initiated at the start of the remediation project. All other results were below criteria or below laboratory detection limits.

Perimeter air monitoring includes daily, real-time monitoring for PM10 as well as 24-hour samples collected every 3 days and analyzed for PM10, total suspended particulates, and arsenic.

Please find below summary for the perimeter air monitoring results for the month of May:

- Perimeter air monitoring with ADR units was performed since data collection began on May 2, 2014. No recorded measurements were above the action levels in May. There were no measurements above action limits for any of the industrial hygiene samples collected during the month.

Wildlife Observations and Follow-Up Actions

Wildlife observations during the month were limited to Kestrel noted above the Roaster and Mill Buildings as well as ravens typically observed flying in the area of the Roaster buildings and across the Giant Mine site. The ravens were not observed using the Roaster buildings.