

Permits

From: Adrian Paradis <Adrian.Paradis@aandc-aadnc.gc.ca>
Sent: Monday, October 26, 2015 10:37 AM
Subject: Giant Mine Air Quality Monitoring Program 17 October 2015
Attachments: YELLOWKN-#773920-v1-Giant_Monitoring_Weekly_Air_Quality_Report_for_17_Oct_2015.PDF; Adrian Paradis.vcf

A summary of the Giant Mine ambient air quality monitoring program for the week ending October 17, 2015 is as follows:

Fenceline Network:

- No 15-minute average particulate matter less than 10 microns in diameter (PM₁₀) concentrations above the established Risk Based Action Level (RBAL) criteria (159 µg/m³) were measured at the fenceline monitoring stations during the week. PM₁₀ concentrations measured at fenceline locations during the week were typical of seasonal background concentrations;
- No 15-minute average total suspended particulate (TSP) concentrations above the established RBAL (333 µg/m³) were measured at the fenceline monitoring stations during the week. TSP concentrations measured at fenceline locations during the week were typical of seasonal background concentrations;

Community Stations:

- No twenty-four (24) hour average concentrations of PM_{2.5} and PM₁₀ were measured above the referenced criteria at the community stations during the week. PM_{2.5} and PM₁₀ concentrations during the week were typical of seasonal background concentrations;
- Laboratory results from available TSP, PM₁₀, and trace metals (including arsenic) samples collected on September 30, 2015 at the community stations were less than the analytical detection limit and/or below the referenced criteria. Laboratory analysis of community station filters collected after September 30, 2015 are pending;
 - Laboratory results from asbestos samples collected at the community stations on September 15, 18, 21, and after September 27, 2015 are pending.

Interim Underground Stabilization (IUS) (tailings work):

- Air quality monitoring specific to the IUS program was conducted at:
 - Four (4) locations within the vicinity of paste fill operations in the B1 and A1 Pits;
 - Four (4) locations set on the west, north, and south perimeters of the Central and South Tailings Ponds;
 - Four (4) locations at the mine vents and intake openings.
- No 15-minute average PM₁₀ concentrations were measured above the surface drilling RBAL (260 µg/m³) during the week. Concentrations during the week were typical of background levels;
- No 15-minute average PM₁₀ concentrations above the tailings pond work RBAL (180 µg/m³) were measured at the perimeter of the tailings pond work during the week. Concentrations during the week were typical of background levels;

- One (1) 15-minute average PM₁₀ concentration above the underground vent monitoring RBAL (300 µg/m³) was measured at the mine intakes and vent openings during the week. The PM₁₀ concentration was measured at the UBC Portal 2:15 PM October 17, 2015. Site investigations indicate emissions from a vacuum truck parked adjacent to the sampler caused the high PM₁₀ concentrations measured above the RBAL. The truck was moved and PM₁₀ concentrations returned to background levels. PM₁₀ concentrations were below the RBAL at all other vent monitoring sites during the rest of the week. Concentrations during the week were typical of background levels;
- Laboratory results from available arsenic filter samples collected September 30, 2015 at the IUS locations were less than the analytical detection limit and/or below the referenced criteria. Laboratory results from available arsenic filter samples collected after September 30, 2015 at the IUS locations are pending.

General Operations:

- The AQM program operated as specified during the week ending October 17, 2015 with exception to the following:
 - The PM_{2.5} BAM sampler at NAPS community station was down for maintenance October 11 through October 13, 2015.
 - The PM₁₀ BAM sampler at NAPS community station was down due to unscheduled repairs October 14 through October 17, 2015. The sampler is expected to return to service pending receipt and installation of a replacement sampler ordered from the manufacturer.

Adrian Paradis

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October 26, 2015

Mr. Willard Hagen, Chair
Mackenzie Valley Land and Water Board
7TH FLOOR – 4910, 50TH AVE., PO BOX 2130
YELLOWKNIFE, NT X1A 2P6

RE: Water Licence MV2012L8-0010 – Air Quality Reports for the Week of October 17, 2015

Dear: Mr. Hagen,

This report is meant to satisfy commitments made in the May 21, 2013, responses to review comments on the roaster plans. Our commitment was to provide weekly summaries of the following data:

- PM₁₀ measurements captured by the contractor and the fence-line program;
- All other available and quality assured data, including TSP, trace elements (metals) and asbestos data.

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Fenceline Network:

- No 15-minute average particulate matter less than 10 microns in diameter (PM₁₀) concentrations above the established Risk Based Action Level (RBAL) criteria (159 µg/m³) were measured at the fenceline monitoring stations during the week. PM₁₀ concentrations measured at fenceline locations during the week were typical of seasonal background concentrations;
- No 15-minute average total suspended particulate (TSP) concentrations above the established RBAL (333 µg/m³) were measured at the fenceline monitoring stations

during the week. TSP concentrations measured at fence line locations during the week were typical of seasonal background concentrations;

Community Stations:

- No twenty-four (24) hour average concentrations of PM_{2.5} and PM₁₀ were measured above the referenced criteria at the community stations during the week. PM_{2.5} and PM₁₀ concentrations during the week were typical of seasonal background concentrations;
- Laboratory results from available TSP, PM₁₀, and trace metals (including arsenic) samples collected on September 30, 2015 at the community stations were less than the analytical detection limit and/or below the referenced criteria. Laboratory analysis of community station filters collected after September 30, 2015 are pending;
- Laboratory results from asbestos samples collected at the community stations on September 15, 18, 21, and after September 27, 2015 are pending.

Interim Underground Stabilization (IUS) (tailings work):

- Air quality monitoring specific to the IUS program was conducted at:
 1. Four (4) locations within the vicinity of paste fill operations in the B1 and A1 Pits;
 2. Four (4) locations set on the west, north, and south perimeters of the Central and South Tailings Ponds;
 3. Four (4) locations at the mine vents and intake openings.
- No 15-minute average PM₁₀ concentrations were measured above the surface drilling RBAL (260 µg/m³) during the week. Concentrations during the week were typical of background levels;
- No 15-minute average PM₁₀ concentrations above the tailings pond work RBAL (180 µg/m³) were measured at the perimeter of the tailings pond work during the week. Concentrations during the week were typical of background levels;
- One (1) 15-minute average PM₁₀ concentration above the underground vent monitoring RBAL (300 µg/m³) was measured at the mine intakes and vent openings during the week. The PM₁₀ concentration was measured at the UBC Portal 2:15 PM October 17, 2015. Site investigations indicate emissions from a vacuum truck parked adjacent to the sampler caused the high PM₁₀ concentrations measured above the RBAL. The truck was moved and PM₁₀ concentrations returned to background levels. PM₁₀ concentrations were below the RBAL at all other vent monitoring sites during the rest of the week. Concentrations during the week were typical of background levels;
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General Operations:

- The AQM program operated as specified during the week ending October 17, 2015 with exception to the following:
 1. The PM_{2.5} BAM sampler at NAPS community station was down for maintenance October 11 through October 13, 2015.
 2. The PM₁₀ BAM sampler at NAPS community station was down due to unscheduled repairs October 14 through October 17, 2015. The sampler is expected to return to service pending receipt and installation of a replacement sampler ordered from the manufacturer.

Additional air quality information for the Giant Mine can be found on the NWT Air Quality Monitoring Network web page: <http://aqm.enr.gov.nt.ca>.

For information on RBALs, TSP, PM10 and for answers to other commonly asked questions about Air Quality Monitoring, please see the Giant Mine Remediation Project Team's [online FAQs](#). Should you have any questions or comments, please contact Adrian Paradis by Telephone: (867) 669-2425 or by E-mail: Adrian.Paradis@aandc-aadnc.gc.ca.

Sincerely,



Adrian Paradis
Regulatory Manager
Giant Mine Remediation Project

c.c.: Distribution List