

MVLWB Registry

From: Adrian Paradis <Adrian.Paradis@aandc-aadnc.gc.ca>
Sent: Friday, June 26, 2015 3:28 PM
To: Fallon Morton
Subject: Giant Mine Weekly Air Quality Report for the Week of June 13, 2015
Attachments: YELLOWKN-#698820-v1-Giant_monitoring_weekly_air_quality_report_for_june_13_2015.PDF

A summary of the Giant Mine ambient air quality monitoring program for the week ending June 13, 2015 is as follows:

Community Stations:

- There were no continuous 24-hour average concentrations of particulate matter less than 2.5 microns in diameter (PM_{2.5}) above the referenced criteria measured at the community stations during the week. With exception to the NAPS community station on June 9, 2015, there were no continuous 24-hour average concentrations of particulate matter less than 10 microns in diameter (PM₁₀) above the referenced criteria measured at the community stations during the week. The 24-hour PM₁₀ concentration measured at the NAPS community station on June 9, 2015 was above the reference criteria. The 24-hour PM₁₀ concentrations measured at the NDL and YCC stations were more than twelve times lower than those measured at the NAPS station indicating that elevated particulate at the NAPS station were likely influenced by particulate sources located within the immediate vicinity of the NAPS station;
- Laboratory results from available TSP, PM₁₀, and trace metals (including arsenic) samples collected on May 9, 24, 27, 30, and June 2, 2015 at the community stations, with exception to the NAPS station on May 24, 2015, were less than the analytical detection limit and/or below the referenced criteria. The TSP and total iron concentrations measured at the NAPS station on May 24, 2015 exceeded the referenced criteria. TSP and total iron concentrations at the NDL and YCC community stations were more than four times lower than concentrations measured at the NAPS station on May 24, 2015. Winds on May 24, 2015 were blowing predominantly from the southeast, putting the mine site downwind, and indicating that elevated TSP and total iron concentrations were likely influenced by particulate sources located within the immediate vicinity of the NAPS station. Laboratory analysis of community station filters collected after June 2, 2015 are pending;
- Laboratory analytical results received for asbestos samples collected on May 24, 27, 30, and June 2, 2015 at the community stations were less than the analytical detection limit and/or below the referenced criteria. Laboratory results from asbestos samples collected at the community stations on April 15, May 9, and after June 2, 2015 are pending;

Fenceline Network:

- Fenceline air quality monitoring started operations at all sites Friday April 10, 2015. Fenceline samplers were scheduled to run daily from 7 AM to 7 PM local time. Starting on May 31, 2015, fenceline samplers began operating 24 hours per day in support of paste and fill activities, with brief interruptions (e.g., less than 15 minutes) allowed for maintenance and data acquisition;

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

Interim Underground Stabilization (IUS) (tailings work):

- Air quality monitoring at three (3) locations centred on surface drilling in the B1 Pit was initiated on May 9, 2015 in preparation for remediation injection of tailings and paste mix materials. An additional two (2) monitoring locations centred on the freeze plant surface drilling were added on May 18, 2015 and one (1) more monitor was added on May 20, 2015. Two (2) monitors at the freeze plant were removed on May 30, 2015, following conclusion of drilling at the freeze plant, and the remaining sampler at the freeze plant location concluded sampling on June 1, 2015;
- Air quality monitoring at four (4) locations within the vicinity of paste fill operations in the B1 and A1 Pits was started on June 8, 2015. Three monitors were located at sites previously established around the perimeter of the B1 Pit. The fourth monitor was located at the south perimeter of the A1 Pit on June 9, 2015;
- Air quality monitoring at three (3) locations set on the west, north, and south perimeters of tailings work activities in the Central and South Tailings Ponds was initiated on May 12, 2015. Two (2) additional samplers were deployed on May 14, 2015 to the western perimeters of the North and Central Tailings Ponds. One of the additional samplers was removed from the western perimeter on May 14, 2015;
- Air quality monitoring at four (4) locations began on June 10, 2015 to support sampling of mine vents and intake openings. Three monitors were located at vent openings including the 1-38 Portal, UBC Portal, and C1 Shaft Emergency Exit. The fourth monitor was positioned at the blower intake vent located at the west perimeter of the B1 Pit;
- There were no 15-minute average PM₁₀ concentrations above the surface drilling RBAL (260 µg/m³) measured at the B1 Pit during the week;
- There were no 15-minute average PM₁₀ concentrations above the tailings work RBAL (180 µg/m³) measured during the week;
- There were no 15-minute average PM₁₀ concentrations above the underground vent monitoring RBAL (300 µg/m³) measured during the week;
- Analysis of unanalysed filter results collected May 9 – June 6, 2015 for the monitoring of tailings work areas is pending and/or on hold pending request for analysis;
- Analysis of unanalysed filter results collected May 12 – June 6, 2015 for the monitoring of surface drilling in the B1 Pit is pending and/or on hold pending request for analysis;

- Analysis of unanalysed filter results collected May 20 – June 2, 2015 for the monitoring of surface drilling near the freeze plant is pending and/or on hold pending request for analysis;

Roaster Deconstruction

- Roaster Deconstruction site activities resumed on June 1, 2015. Activities conducted during the week focused on surface scraping, debris pickup and storage, and concrete slab washdown. Real-time air quality monitoring for PM₁₀ as well as 24-hour integrated sampling for PM₁₀, TSP and arsenic resumed on June 1, 2015 in support of roaster deconstruction activities. The roaster deconstruction specific air quality monitoring program consisted of four (4) real-time samplers, two (2) PM₁₀ integrated samplers, and two (2) TSP integrated samplers (arsenic) located around planned deconstruction activities;
- There were no real-time PM₁₀ concentrations measured above the referenced criteria for the roaster deconstruction specific air quality monitoring program during the week;
- Laboratory results from 24-hour integrated samples collected on June 5 and 8, 2015 for the roaster deconstruction specific air quality monitoring program, indicated 24-hour average PM₁₀, and TSP concentrations were below the referenced applicable criteria. Excavator segregation of concrete debris around the site and water truck traffic was reported to have been likely contributors to the elevated arsenic concentration at the static monitor location. The prime contractor has since amended work practices and increased watering to mitigate future exceedances. Analysis results of samples collected on June 5, 2015 are pending;

General Operations:

- The AQM program operated as specified during the week ending June 13, 2015.

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.

Regards,

Adrian Paradis

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NT 698784

June 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 June 13, 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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Community Stations:

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particulate at the NAPS station were likely influenced by particulate sources located within the immediate vicinity of the NAPS station;

- Laboratory results from available TSP, PM₁₀, and trace metals (including arsenic) samples collected on May 9, 24, 27, 30, and June 2, 2015 at the community stations, with exception to the NAPS station on May 24, 2015, were less than the analytical detection limit and/or below the referenced criteria. The TSP and total iron concentrations measured at the NAPS station on May 24, 2015 exceeded the referenced criteria. TSP and total iron concentrations at the NDL and YCC community stations were more than four times lower than concentrations measured at the NAPS station on May 24, 2015. Winds on May 24, 2015 were blowing predominantly from the southeast, putting the mine site downwind, and indicating that elevated TSP and total iron concentrations were likely influenced by particulate sources located within the immediate vicinity of the NAPS station. Laboratory analysis of community station filters collected after June 2, 2015 are pending;
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- There were no 15-minute average particulate matter less than 10 microns in diameter (PM₁₀) concentrations measured above the established Risk Based Action Level (RBAL) criteria at the fenceline monitoring stations during the week. PM₁₀ concentrations measured at fenceline locations were typical of seasonal background concentrations;
- No 15-minute average total suspended particulate (TSP) concentrations above the established RBAL were measured at the fenceline monitoring stations during the week. TSP concentrations measured at fenceline locations were typical of seasonal background concentrations;

Interim Underground Stabilization (IUS) (tailings work):

- Air quality monitoring at three (3) locations centred on surface drilling in the B1 Pit was initiated on May 9, 2015 in preparation for remediation injection of tailings and paste mix materials. An additional two (2) monitoring locations centred on the freeze plant surface drilling were added on May 18, 2015 and one (1) more monitor was added on May 20, 2015. Two (2) monitors at the freeze plant were removed on May 30, 2015, following conclusion of drilling at the freeze plant, and the remaining sampler at the freeze plant location concluded sampling on June 1, 2015;

- Air quality monitoring at four (4) locations within the vicinity of paste fill operations in the B1 and A1 Pits was started on June 8, 2015. Three monitors were located at sites previously established around the perimeter of the B1 Pit. The fourth monitor was located at the south perimeter of the A1 Pit on June 9, 2015;
- Air quality monitoring at three (3) locations set on the west, north, and south perimeters of tailings work activities in the Central and South Tailings Ponds was initiated on May 12, 2015. Two (2) additional samplers were deployed on May 14, 2015 to the western perimeters of the North and Central Tailings Ponds. One of the additional samplers was removed from the western perimeter on May 14, 2015;
- Air quality monitoring at four (4) locations began on June 10, 2015 to support sampling of mine vents and intake openings. Three monitors were located at vent openings including the 1-38 Portal, UBC Portal, and C1 Shaft Emergency Exit. The fourth monitor was positioned at the blower intake vent located at the west perimeter of the B1 Pit;
- There were no 15-minute average PM₁₀ concentrations above the surface drilling RBAL (260 µg/m³) measured at the B1 Pit during the week;
- There were no 15-minute average PM₁₀ concentrations above the tailings work RBAL (180 µg/m³) measured during the week;
- There were no 15-minute average PM₁₀ concentrations above the underground vent monitoring RBAL (300 µg/m³) measured during the week;
- Analysis of unanalysed filter results collected May 9 – June 6, 2015 for the monitoring of tailings work areas is pending and/or on hold pending request for analysis;
- Analysis of unanalysed filter results collected May 12 – June 6, 2015 for the monitoring of surface drilling in the B1 Pit is pending and/or on hold pending request for analysis;
- Analysis of unanalysed filter results collected May 20 – June 2, 2015 for the monitoring of surface drilling near the freeze plant is pending and/or on hold pending request for analysis;

Roaster Deconstruction

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- There were no real-time PM₁₀ concentrations measured above the referenced criteria for the roaster deconstruction specific air quality monitoring program during the week;

- Laboratory results from 24-hour integrated samples collected on June 5 and 8, 2015 for the roaster deconstruction specific air quality monitoring program, indicated 24-hour average PM₁₀, and TSP concentrations were below the referenced applicable criteria. Excavator segregation of concrete debris around the site and water truck traffic was reported to have been likely contributors to the elevated arsenic concentration at the static monitor location. The prime contractor has since amended work practices and increased watering to mitigate future exceedances. Analysis results of samples collected on June 5, 2015 are pending;

General Operations:

- The AQM program operated as specified during the week ending June 13, 2015.

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