

MVLWB Permits

From: Fallon Morton <Fallon.Morton@aandc-aadnc.gc.ca>
Sent: Friday, August 22, 2014 11:24 AM
To: NWTLands
Cc: Lisa Colas
Subject: Giant Mine AQM weekly summary report for the week ending August 16, 2014
Attachments: Letter Week ending August 16, 2014.pdf

Greetings,

Attached is the AQM weekly summary report for Giant Mine for week ending August 16, 2014.

In discussions with the Giant Mine Working Group, in lieu of the detailed weekly reports the project has decided to provide weekly summaries and a detailed monthly report. This is done to make the reporting more useful to users, while still maintaining the level of details previously provided.

A summary of the report is provided below:

- Downwind fenceline monitoring results indicate there were no particulate matter less than 10 microns in diameter (PM₁₀) concentrations in exceedance of the Risk Based Action Level (RBAL) during the week ending August 16, 2014. The maximum downwind PM₁₀ concentration (156 µg/m³) was observed at Site C (Northwest Pond) on August 13, 2014. Windblown dust was observed at the NW Tailings Pond on August 13, 2014 indicating that downwind PM₁₀ measured at the nearby Site C was a mix of both dust from the NW Tailings Pond and smoke from regional forest fires. Visual observations of smoke from regional forest fires; similar concentrations measured across all fenceline monitoring locations, and no remediation activities generating dust were observed on-site, indicate measured concentrations above the PM₁₀ RBAL were likely caused by off-site regional forest fires.
- Downwind fenceline monitoring results indicate there were no total suspended particulate (TSP) concentrations in exceedance of the established RBAL during the week ending August 16, 2014. The maximum downwind TSP concentration (164 µg/m³) was observed at Site C (Northwest Pond) on August 13, 2014. Windblown dust was observed at the NW Tailings Pond on August 13, 2014 indicating that downwind TSP measured at the nearby Site C was a mix of both dust from the NW Tailings Pond and smoke from regional forest fires.
- Two (2) real time 15-minute average PM₁₀ concentration differences above the established RBAL criteria were measured at the underground vent locations during the week. Measured concentrations above the RBAL occurred at the UBC Portal vent during late evening on August 16, 2014. The maximum 15-minute average underground vent PM₁₀ concentration difference was 410 µg/m³ on August 16, 2014 at the UBC Portal. Similarly high concentrations were measured at the Blower Intake vent prior to the high concentrations at the UBC Portal indicating the concentration differences above the RBAL were likely the result of time-lag between particulate mass inflow at the Blower Intake, underground air mixing, and outflow of mixed air at the UBC Portal. Visual observations of smoke from regional forest fires; similar concentrations measured across all vent, drilling, and fenceline monitoring locations, and no venting or drilling activities generating dust were observed on-site, and time-lag between ambient and underground concentration changes indicate measured concentrations above the PM₁₀ RBAL were likely caused by off-site regional forest fires.

- No downwind 15-minute average PM₁₀ concentrations above the established RBAL were measured at the surface drilling monitor locations around the B1 Pit during the week. The maximum downwind 15-minute average PM₁₀ concentration was 72 µg/m³ at sampler E06 (North).
- Analytical PM₁₀ and arsenic results measured and unreported from underground vent and surface drilling monitoring after July 26, 2014 are pending.
- Multiple real time 15-minute average PM₁₀ concentrations above the established RBAL were measured on August 13 and August 15, 2014 at each perimeter monitoring location for the Roaster deconstruction specific air quality monitoring program. At the time of the elevated concentrations it was noted Roaster deconstruction work activities were not generating dust and multiple forest fires in the area were reported.
- Sixteen (16) continuous 24-hour average concentrations of particulate matter less than 2.5 microns in diameter (PM_{2.5}) and six (6) continuous 24-hour average PM₁₀ concentrations above the referenced criteria were measured at the community stations August 10 through August 16, 2014. Winds did not indicate exceedances were likely caused by on-site activities. Visual observations of smoke from regional forest fires; no dust generating activities observed on-site that would impact community stations; and similar concentrations measured across the community stations indicate measured concentrations above the ambient air quality standard were likely caused by off-site regional forest fires;
- Laboratory results from TSP, PM₁₀, and trace metals (including arsenic) samples measured and unreported after July 26, 2014 are pending;
- Laboratory results from asbestos samples on July 25, 2014 are below reference criteria. Laboratory results from asbestos samples collected on July 19 and July 22, 2014 are pending;
- Laboratory results from samples collected on August 6 – 7 and August 9 – 10, 2014 for the roaster deconstruction specific air quality monitoring program, indicated 24-hour average arsenic, PM₁₀, and TSP concentrations were below the referenced applicable criteria;
- The AQM program operated as specified during the week ending August 16, 2014.

As a note

With forest fires in the vicinity of Yellowknife throughout the past few days, Giant Mine's fence line air quality monitors have registered elevated levels of particulate matter (PM, or dust). Further details will be shared in upcoming weekly reports. As the PM10 readings this week have been elevated across all monitoring stations, there is every indication that these readings are related to a regional airshed phenomena: i.e. heavy smoke from local forest fires.

Regards,

Fallon Morton
 Giant Mine Remediation Project
 Aboriginal Affairs and Northern Development Canada
 PO Box 1500
 Yellowknife, NT X1A 2R3
 Phone (867) 669-2426
 Fax (867) 669-2439



PO Box 1500
YELLOWKNIFE NT X1A 2R3

NT 648310

August 22, 2014

Mr. Willard Hagen, Chair
Mackenzie Valley Land and Water Board
7TH FLOOR – 4922, 48TH ST., PO BOX 2130
YELLOWKNIFE, NT X1A 2P6

Dear: Mr. Hagen,

RE: Water Licence MV2012L8-0010 – Air Quality Reports for the Week of August 10th

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.

In discussions with the Giant Mine Working Group, in lieu of the detailed weekly reports the project has decided to provide weekly summaries and a detailed monthly report. This is done to make the reporting more useful to users, while still maintaining the level of details previously provided.

In summary for the week of August 10th – August 16th, 2014, 2014:

- The initial 15-minute average PM₁₀ concentration above the RBAL on August 13, 2014 was measured at fenceline location C. SLR mobilized to the location and observed windblown dust coming from the Northwest tailings pond. Strong winds from the NNW were observed at the time, however airborne dust quickly dissipated as wind speeds diminished. No elevated PM₁₀ concentrations were measured at any of the other fenceline locations and no elevated PM₁₀ concentrations were observed at any of the community stations at the time of the RBAL occurrence. Two 15-minute average PM₁₀ concentrations above the RBAL were measured at fenceline location C as a result of both dust from the Northwest tailings pond and smoke from regional forest fires. To mitigate future dust creation in this area, additional resurfacing by placement of soil cement is in progress in the area of the Northwest tailings pond.

- Downwind fenceline monitoring results indicate there were no total suspended particulate (TSP) concentrations in exceedance of the established RBAL during the week ending August 16, 2014. The maximum downwind TSP concentration ($164 \mu\text{g}/\text{m}^3$) was observed at Site C (Northwest Pond) on August 13, 2014. Windblown dust was observed at the NW Tailings Pond on August 13, 2014 indicating that downwind TSP measured at the nearby Site C was a mix of both dust from the NW Tailings Pond and smoke from regional forest fires.
- Two (2) real time 15-minute average PM_{10} concentration differences above the established RBAL criteria were measured at the underground vent locations during the week. Measured concentrations above the RBAL occurred at the UBC Portal vent during late evening on August 16, 2014. The maximum 15-minute average underground vent PM_{10} concentration difference was $410 \mu\text{g}/\text{m}^3$ on August 16, 2014 at the UBC Portal. Similarly high concentrations were measured at the Blower Intake vent prior to the high concentrations at the UBC Portal indicating the concentration differences above the RBAL were likely the result of time-lag between particulate mass inflow at the Blower Intake, underground air mixing, and outflow of mixed air at the UBC Portal. Visual observations of smoke from regional forest fires; similar concentrations measured across all vent, drilling, and fenceline monitoring locations, and no venting or drilling activities generating dust were observed on-site, and time-lag between ambient and underground concentration changes indicate measured concentrations above the PM_{10} RBAL were likely caused by off-site regional forest fires.
- No downwind 15-minute average PM_{10} concentrations above the established RBAL were measured at the surface drilling monitor locations around the B1 Pit during the week. The maximum downwind 15-minute average PM_{10} concentration was $72 \mu\text{g}/\text{m}^3$ at sampler E06 (North).
- Analytical PM_{10} and arsenic results measured and unreported from underground vent and surface drilling monitoring after July 26, 2014 are pending.
- Multiple real time 15-minute average PM_{10} concentrations above the established RBAL were measured on August 13 and August 15, 2014 at each perimeter monitoring location for the Roaster deconstruction specific air quality monitoring program. At the time of the elevated concentrations it was noted Roaster deconstruction work activities were not generating dust and multiple forest fires in the area were reported.
- Sixteen (16) continuous 24-hour average concentrations of particulate matter less than 2.5 microns in diameter ($\text{PM}_{2.5}$) and six (6) continuous 24-hour average PM_{10} concentrations above the referenced criteria were measured at the community stations August 10 through August 16, 2014. Winds did not indicate exceedances were likely caused by on-site activities. Visual observations of smoke from regional forest fires; no dust generating activities observed on-site

that would impact community stations; and similar concentrations measured across the community stations indicate measured concentrations above the ambient air quality standard were likely caused by off-site regional forest fires;

- Laboratory results from TSP, PM₁₀, and trace metals (including arsenic) samples measured and unreported after July 26, 2014 are pending;
- Laboratory results from asbestos samples on July 25, 2014 are below reference criteria. Laboratory results from asbestos samples collected on July 19 and July 22, 2014 are pending;
- Laboratory results from samples collected on August 6 – 7 and August 9 – 10, 2014 for the roaster deconstruction specific air quality monitoring program, indicated 24-hour average arsenic, PM₁₀, and TSP concentrations were below the referenced applicable criteria;
- The AQM program operated as specified during the week ending August 16, 2014.

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>.

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

Encl: Weekly Ambient Air Quality Monitoring Summary August 10th – August 16th, 2014

c.c.: Distribution List