

From: Geneva Irwin
Subject: Air Quality Monitoring Weekly Summary Week Ending in November 5
Date: Tuesday, November 15, 2016 4:40:20 PM
Attachments: [Nov. 5.pdf](#)

Good Afternoon,

A summary of the Giant Mine ambient air quality monitoring program (AQM) for the week ending November 5, 2016 is as follows:

Fenceline Network:

Three 15-minute average particulate matter less than 10 microns in diameter (PM₁₀) concentrations above the established Risk Based Action Level (RBAL) of 159 µg/m³ were measured at fenceline monitoring station A-North on November 5, 2016. No other 15-minute average PM₁₀ concentrations above the RBAL were measured at the fenceline monitoring stations during the week. These concentrations were due to the influence of freezing fog, snow, and sleet, and do not appear to have been caused by site activities;

- o Three 15-minute average concentrations were measured at site A-North on November 5, 2016 (237 µg/m³ at 19:15 MST; 301 µg/m³ at 19:30 MST, and 180 µg/m³ at 19:45 MST). During this time the wind speed was 6.1 km/h and wind direction was from the east-northeast at 19:15 MST and 19:30 MST and from the west-northwest at 19:45 MST placing Yellowknife both upwind and downwind during this period Giant Mine;

Eleven 15-minute average total suspended particulate (TSP) concentrations above the established fenceline RBAL of 333 µg/m³ were measured at the fenceline monitoring stations H-NW Pond and I-South Pond on November 5, 2016. No other 15-minute average TSP concentrations above the RBAL were measured at the fenceline monitoring stations during the week. These concentrations were due to the influence of freezing fog, snow, and sleet, and do not appear to have been caused by site activities;

- o Three 15-minute average concentrations were measured at site H-NW Pond on November 5, 2016 (346 µg/m³ at 17:45 MST, 358 µg/m³ at 18:30 MST, and 702 µg/m³ at 19:45 MST). During this time the wind speed was 3.6 km/h and wind direction was from the west-northwest placing Yellowknife downwind from Giant Mine;
- o Eight 15-minute average concentrations were measured at site I-S Pond on November 5, 2016 (555 µg/m³ at 16:30 MST; 544 µg/m³ at 17:30 MST, 368 µg/m³ at 17:45 MST, 444 µg/m³ at 18:30 MST, 716 µg/m³ at 19:15 MST, 1361 µg/m³ at 19:30 MST, 1285 µg/m³ at 19:45 MST, and 454 µg/m³ at 20:00 PM MST). During this time the wind speed was 3.6 km/h (on average) and wind direction was from the west-northwest placing Yellowknife downwind from Giant Mine;
- Laboratory results of arsenic concentrations from samples collected on October 12, 2016 at the Fenceline E-Sampler locations were less than the analytical detection limit and/or below the referenced standards. There are no further pending laboratory analyses of arsenic filter samples for the Fenceline Network.

Community Stations:

No 24-hour average concentrations of PM_{2.5} and PM₁₀ were measured above the referenced standards at the community stations during the week. PM_{2.5} and PM₁₀ concentrations during the week were typically representative of seasonal background concentrations;

Laboratory results from TSP, PM₁₀, and trace metals (including arsenic) samples collected on October 12, 15, 18, and 21, 2016 at the community stations were less than the analytical detection limit and/or below the referenced standard. Laboratory analysis of community station filters collected after October 21, 2016 are pending;

- Laboratory results from asbestos samples collected on October 12, 15, 18, and 21, 2016 at the community stations were less than the analytical detection limit and/or below the referenced standard. Laboratory analyses of asbestos samples collected at the community stations on October 21, 2016 are pending.

General Operation:

The AQM program operated as specified during the week ending November 5, 2016, with the following exception:

- o Fenceline DustTrak instruments have been affected by an intermittent internal software error causing sporadic loss of PM₁₀ and TSP 15-minute concentration data. SLR has been working with the manufacturer to identify and correct this issue, but has yet to determine a cause. Backup E-Sampler PM₁₀ instruments have been collocated with the DustTraks at site F-Marina and G-West to provide data during periods affected by the DustTrak instrument software error.

Sincerely,

Natalie Plato



PO BOX 1500
YELLOWKNIFE NT X1A 2R3

NT 860783

November 15, 2016

Distribution List

RE: Air Quality Reports for the Week of November 5, 2016.

A summary of the Giant Mine ambient air quality monitoring program (AQM) for the week ending November 5, 2016 is as follows:

Fenceline Network:

- Three 15-minute average particulate matter less than 10 microns in diameter (PM_{10}) concentrations above the established Risk Based Action Level (RBAL) of $159 \mu\text{g}/\text{m}^3$ were measured at fenceline monitoring station A-North on November 5, 2016. No other 15-minute average PM_{10} concentrations above the RBAL were measured at the fenceline monitoring stations during the week. These concentrations were due to the influence of freezing fog, snow, and sleet, and do not appear to have been caused by site activities;
 - Three 15-minute average concentrations were measured at site A-North on November 5, 2016 ($237 \mu\text{g}/\text{m}^3$ at 19:15 MST; $301 \mu\text{g}/\text{m}^3$ at 19:30 MST, and $180 \mu\text{g}/\text{m}^3$ at 19:45 MST). During this time the wind speed was 6.1 km/h and wind direction was from the east-northeast at 19:15 MST and 19:30 MST and from the west-northwest at 19:45 MST placing Yellowknife both upwind and downwind during this period Giant Mine;
- Eleven 15-minute average total suspended particulate (TSP) concentrations above the established fenceline RBAL of $333 \mu\text{g}/\text{m}^3$ were measured at the fenceline monitoring stations H-NW Pond and I-South Pond on November 5, 2016. No other 15-minute average TSP concentrations above the RBAL were measured at the fenceline monitoring stations during the week. These concentrations were due to the influence of freezing fog, snow, and sleet, and do not appear to have been caused by site activities;
 - Three 15-minute average concentrations were measured at site H-NW Pond on November 5, 2016 ($346 \mu\text{g}/\text{m}^3$ at 17:45 MST, $358 \mu\text{g}/\text{m}^3$ at 18:30 MST, and $702 \mu\text{g}/\text{m}^3$ at 19:45 MST). During this time the wind speed was 3.6 km/h and wind direction was from the west-northwest placing Yellowknife downwind from Giant Mine;
 - Eight 15-minute average concentrations were measured at site I-S Pond on November 5, 2016 ($555 \mu\text{g}/\text{m}^3$ at 16:30 MST; $544 \mu\text{g}/\text{m}^3$ at 17:30 MST, $368 \mu\text{g}/\text{m}^3$ at 17:45 MST, $444 \mu\text{g}/\text{m}^3$ at 18:30 MST, $716 \mu\text{g}/\text{m}^3$ at 19:15 MST, $1361 \mu\text{g}/\text{m}^3$ at 19:30 MST, $1285 \mu\text{g}/\text{m}^3$ at 19:45 MST, and $454 \mu\text{g}/\text{m}^3$ at 20:00 PM MST). During this time the wind speed was 3.6 km/h (on average) and wind direction was from the west-northwest placing Yellowknife downwind from Giant Mine;

- Laboratory results of arsenic concentrations from samples collected on October 12, 2016 at the Fenceline E-Sampler locations were less than the analytical detection limit and/or below the referenced standards. There are no further pending laboratory analyses of arsenic filter samples for the Fenceline Network.

Community Stations:

- No 24-hour average concentrations of PM_{2.5} and PM₁₀ were measured above the referenced standards at the community stations during the week. PM_{2.5} and PM₁₀ concentrations during the week were typically representative of seasonal background concentrations;
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- Laboratory results from asbestos samples collected on October 12, 15, 18, and 21, 2016 at the community stations were less than the analytical detection limit and/or below the referenced standard. Laboratory analyses of asbestos samples collected at the community stations on October 21, 2016 are pending.

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Sincerely,



Natalie Plato
Deputy Director
Giant Mine Remediation Project

c.c.: Distribution List