



PO BOX 1500
YELLOWKNIFE NT X1A 2R3

May 10, 2022

Distribution List

A summary of the Giant Mine Remediation Project ambient air quality monitoring program for the week ending April 23, 2022 is as follows:

Site Perimeter Monitoring Stations

- No 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 the Site Perimeter Monitoring Stations during the week. PM₁₀ concentrations measured during the week were typical of seasonal background concentrations.
- No 15-minute average total suspended particulate (TSP) concentrations above the established RBAL of 333 µg/m³ were measured at the Site Perimeter Monitoring Stations during the week. TSP concentrations measured during the week were typical of seasonal background concentrations.

Community Monitoring Stations

- A 24-hour average continuous PM₁₀ concentration (52.9 µg/m³) above the program PM₁₀ standard of 50 µg/m³ was measured at the Niven Lake Community Monitoring Station on April 19, 2022. Details associated with the exceedance were as follows:
 - On this day, winds were light with an average wind speed of 2.3 m/s (8.3 km/h) and were predominately from the south, placing the Niven Lake Community Monitoring Station and the City of Yellowknife upwind from the Giant Mine site.
 - Localized fugitive dust was visible on this day in the City of Yellowknife.
 - There were no on-site activities observed or reported that may have contributed to the reported concentration.
 - PM₁₀ concentrations measured at all Site Perimeter Monitoring Stations were typical of background concentrations.
 - Elevated hourly PM₁₀ concentrations were observed at the Niven Lake Community Monitoring Station beginning in the evening of April 18, 2022 and remained elevated through the day on April 19, 2022. Elevated hourly PM₁₀ concentrations were also observed at both the Ndilo and Yellowknife Bay Community Monitoring Stations during this time.
 - Details listed above would suggest the PM₁₀ exceedance was not a result of activities associated with the Giant Mine Remediation Project and was likely due to road dust in the vicinity of the Niven Lake Community Monitoring Station.



- No continuous PM_{2.5} 24-hour average concentrations above the program standard were measured at any of the Community Monitoring Stations during the week. PM_{2.5} concentrations during the week were representative of typical seasonal background concentrations.
- Laboratory results for integrated TSP, PM₁₀, and trace metals analyses from samples collected on March 24, 30, April 5, and April 11, 2022 at the Community Monitoring Stations were less than the analytical detection limit and/or below program standards. Laboratory analyses results for samples collected after April 11, 2022 are pending.
- There were no NO₂ concentrations measured at the Niven Lake Community Monitoring Station above the NWT Ambient Air Quality 24-hour standard of 106 parts per billion (ppb) or the one-hour standard of 213 ppb during the week. Table 1 summarizes the maximum hourly concentration each day and the corresponding 24-hour average concentration measured at the Niven Lake Community Monitoring Station.

Table 1: Niven Lake Community Monitoring Station NO₂ Concentrations

| Date | Maximum One-hour Average (ppb) | 24-hour Average (ppb) |
|----------------|--------------------------------|-----------------------|
| April 17, 2022 | 2.0 | 0.0 |
| April 18, 2022 | 14.2 | 1.0 |
| April 19, 2022 | 28.0 | 8.4 |
| April 20, 2022 | 21.8 | 3.4 |
| April 21, 2022 | 11.0 | 3.0 |
| April 22, 2022 | 9.5 | 1.6 |
| April 23, 2022 | 0.0 | 0.0 |

General Operation

- Integrated sampling for TSP, PM₁₀, and trace metals was conducted at all three Community Monitoring Stations on April 17, 2022 and on April 23, 2022. The next regularly scheduled sampling date is April 29, 2022.
- Data completeness at the Site Perimeter Monitoring Stations for the week was 99.37% for continuous TSP and 99.42% for continuous PM₁₀.

- Data completeness at the Community Monitoring Stations was 99.4% for PM₁₀ and PM_{2.5} at the Niven Lake, Ndilo, and Yellowknife Bay Community Monitoring Stations, and 99.4% for NO₂ at the Niven Lake Community Monitoring Station.
- The AAQMP operated as specified during the week ending April 23, 2022, except for minor data loss at the Site Perimeter Monitoring Stations due to battery failure and during monthly PM_{2.5} and PM₁₀ quality control checks at the Community Monitoring Stations.

Sincerely,

A handwritten signature in blue ink that reads "Natalie Plato".

Natalie Plato
Deputy Director
Giant Mine Remediation Project

c.c.: Distribution List