



PO BOX 1500
YELLOWKNIFE NT X1A 2R3

November 27, 2020

Distribution List

GMRP AAQMP summary for the week ending November 14, 2020 - Revised

The following is a revised weekly report based on stakeholder questions on the original to provide additional information as well as an analytical filter exceedance which was inadvertently omitted on the original. Changes are noted in *underlined italics*.

A summary of the Giant Mine Remediation Project ambient air quality monitoring program for the week ending November 14, 2020 is as follows:

Site Perimeter Monitoring Network

- 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 at the site perimeter monitoring locations 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 at the site perimeter monitoring locations during the week were typical of seasonal background concentrations.
- Laboratory results for integrated TSP, PM₁₀, and trace metals (including arsenic) analyses from samples collected on October 30, 2020 at the site perimeter monitoring stations were less than the analytical detection limit and/or below the referenced standard.
- Laboratory results from integrated samples collected from the site perimeter on October 24, 2020 indicated a nickel concentration above the referenced standard and arsenic and iron concentrations above the referenced standards on October 27, 2020. Details of the exceedances are as follows:



- A 24-hour integrated nickel concentration of $0.22 \mu\text{g}/\text{m}^3$ was measured at the TSP site perimeter Station C-Northwest on October 24, 2020, exceeding the Ontario Standard for nickel of $0.20 \mu\text{g}/\text{m}^3$. The daily average wind speed was 4.1 m/s with an hourly maximum of 7.9 m/s and blowing predominantly from the northwest placing the City of Yellowknife and the community of Ndilo downwind of Giant Mine. No known site activities were ongoing on this day that may have resulted in the measured nickel exceedance.
- A 24-hour integrated arsenic concentration of $0.45 \mu\text{g}/\text{m}^3$ was measured at the TSP site perimeter Station H-NW Pond on October 27, 2020, exceeding the Ontario Standard for arsenic of $0.30 \mu\text{g}/\text{m}^3$. A 24-hour integrated iron concentration of $6.5 \mu\text{g}/\text{m}^3$ was also measured at TSP site perimeter Station H-NW Pond on October 27, 2020, exceeding the 24-hour Ontario Standard for iron of $4.0 \mu\text{g}/\text{m}^3$. The daily average wind speed was 4.0 m/s with an hourly maximum of 6.5 m/s and blowing predominantly from the east-northeast placing the City of Yellowknife and the community of Ndilo crosswind of Giant Mine. Elevated 24-hour integrated PM_{10} and TSP concentrations were measured at Station H-NW Pond but did not exceed their respective 24-hour average Ontario and Northwest Territory Standards. Real-time continuous PM_{10} and TSP concentrations were measured throughout the night and morning, however no 15-minute RBAL exceedances were measured during the day. Elevated particulate concentrations and arsenic and iron exceedance concentrations were likely a result of localized dust blowing off the Northwest tailings pond.

Community Station Monitoring Network

- No continuous $\text{PM}_{2.5}$ or PM_{10} 24-hour average concentrations above the referenced standards for each were measured at any of the community stations during the week. $\text{PM}_{2.5}$ and PM_{10} concentrations during the week were typically representative of seasonal background concentrations.
- Laboratory results for integrated TSP, PM_{10} , and trace metals (including arsenic) analyses from samples collected on October 24 and 27, 2020 at the community stations were less than the analytical detection limit and/or below the referenced standard.
- There were no NO_2 concentrations measured at the Niven Lake Community 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 each day's maximum hourly concentration and each day's 24-hour average concentration at the Niven Lake community station during the week.

Table 1
Niven Lake Community Station NO₂ Concentrations

Date	Maximum One-hour Average (ppb)	24-hour Average (ppb)
November 08, 2020	7.3	2.8
November 09, 2020	3.8	1.5
November 10, 2020	15.9	2.7
November 11, 2020	6.3	1.8
November 12, 2020	18.7	3.4
November 13, 2020	1.9	0.5
November 14, 2020	2.5	0.0

General Operation

- Integrated sampling for TSP, PM₁₀, and trace metals at the Community Stations was conducted on November 8, 11, and 14, 2020. The next regularly scheduled sampling is November 17, 2020.
- Data completeness for the reporting period was 99.75% for continuous TSP and 99.52% for continuous PM₁₀ concentrations measured at the site perimeter monitoring stations.
- The AAQM program operated as specified during the week ending November 14, 2020 with the following exceptions:
 - Five hours of PM_{2.5} data at the NDL community station were invalidated on November 14, 2020 due to a tape error in the instrument.
 - The PM₁₀ sampler at site perimeter Station C-Northwest did not record data from 03:45 to 09:30 on November 8, 2020 due to a battery malfunction.

Sincerely,



Natalie Plato
Deputy Director
Giant Mine Remediation Project
c.c.: Distribution List