
**NEW GOLD INC.**
**RAINY RIVER MINE**

# AMBIENT AIR QUALITY MONITORING PROGRAM
# THIRD QUARTER 2020 REPORT

**NOVEMBER 2020**

## ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| AAQC | Ambient Air Quality Criteria |
| AAQO | Alberta Ambient Air Quality Objectives |
| ACFM | Cubic Feet Per Minute at Actual Conditions |
| AEP | Alberta Environment and Parks |
| ASTM | American Society for Testing and Materials |
| BCMOE | British Columbia Ministry of the Environment |
| CAAQS | Canadian Ambient Air Quality Standards |
| CFM | Cubic Foot Per Minute |
| Hi-Vol | High Volume Sampler |
| ICP/AES | Inductively Coupled Plasma / Atomic Emission Spectroscopy |
| LPM | Litres Per Minute |
| MECP | Ministry of the Environment, Conservation and Parks |
| NIST | National Institute of Standards and Technology |
| TSP | Total Suspended Particulate |
| $PM_{2.5}$ | Particulate Matter less than 2.5 microns in diameter |
| US EPA | United States Environmental Protection Agency |
| $\mu g/m^3$ | Microgram per Cubic Metre |

newgold™ Rainy River

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## 1.0 INTRODUCTION

The following is a summary of the Third Quarter (Q3) 2020 results for the ambient air quality monitoring program undertaken at New Gold Inc.'s Rainy River Mine located northwest of Emo, Ontario.

In Q3 of 2020, New Gold Inc. (New Gold) staff operated and maintained the ambient air quality monitoring sampling stations. They communicated with laboratory staff as required, prepared the data summary reports, and performed one calibration on September 17, 2020.

This Quarterly Ambient Air Quality Report addresses the required elements of a Quarterly Report defined in the Operations Manual for Air Quality Monitoring in Ontario (MECP, 2018), hereafter referred to as the Operations Manual. Specifically, the following information is provided:

- Summary statistics
  - Arithmetic Mean
  - Monthly Arithmetic Mean
  - Maximum for any averaging period for which the data is used for comparison to any limit applied to the emitter;
  - Maximum 24-hour, % valid hours, or other averaging period as appropriate.
- Sampling dates (start and end, where applicable); and
- A summary of exceedances of an Ontario Ambient Air Quality Criterion (AAQC) or Canadian Ambient Air Quality Standard (CAAQS).

The purpose of the air monitoring program is to quantify potential air quality effects associated with mine activities. The monitoring program consists of two sampling stations established in May 2015: one located to the southwest of the site near McMillan Road along the realigned Highway 600 and one located to the northeast of the site along Gallinger Road (Figures 2-1, 2-2, and 2-3). Each sampling station consists of the following:

- One High Volume (Hi-Vol) sampler for discrete sampling of Total Suspended Particulate (TSP) and metals;
- One PQ200 sampler for discrete sampling of respirable particulate matter ($PM_{2.5}$);
- One standard passive dustfall collection unit; and
- One passive sampling enclosure measuring $NO_2$ and $SO_2$.

Figure 2-4 illustrates the Tait Road station.

Barron Site located near Heatwole Road also contains a meteorological station that provides real-time site wind speed, wind direction, temperature, relative humidity, and precipitation data. All measurements at this site are taken at a height of 10 m above grade.

The Ambient Air Monitoring Program was conducted per ECA 0412-A2LR4V and the MECP program approval letter dated November 9, 2016.

## 2.0 MONITORING STATIONS

The ambient air quality monitoring stations were sited in accordance with the criteria stipulated in the Operations Manual (MECP 2018).

The general location for the two stations is shown in Figure 2-1. UTM co-ordinates for each station based upon NAD 83, are presented in Table 2-1. Imagery showing each station are presented as Figures 2-2 and 2-3.

There were no changes to the station locations in Q3 2020.

**Table 2-1: Ambient Air Monitoring Stations**

| Station | UTM Co-ordinates | | | Parameters Monitored |
|---|---|---|---|---|
| | Easting (m) | Northing (m) | Zone | |
| Tait Road Station (Southwest Station) | 426 072 | 5 406 996 | 15 | TSP, metals, $PM_{2.5}$, $NO_2$, $SO_2$, total dustfall |
| Gallinger Road Station (Northeast Station) | 431 133 | 5 410 534 | 15 | TSP, metals, $PM_{2.5}$, $NO_2$, $SO_2$, total dustfall |

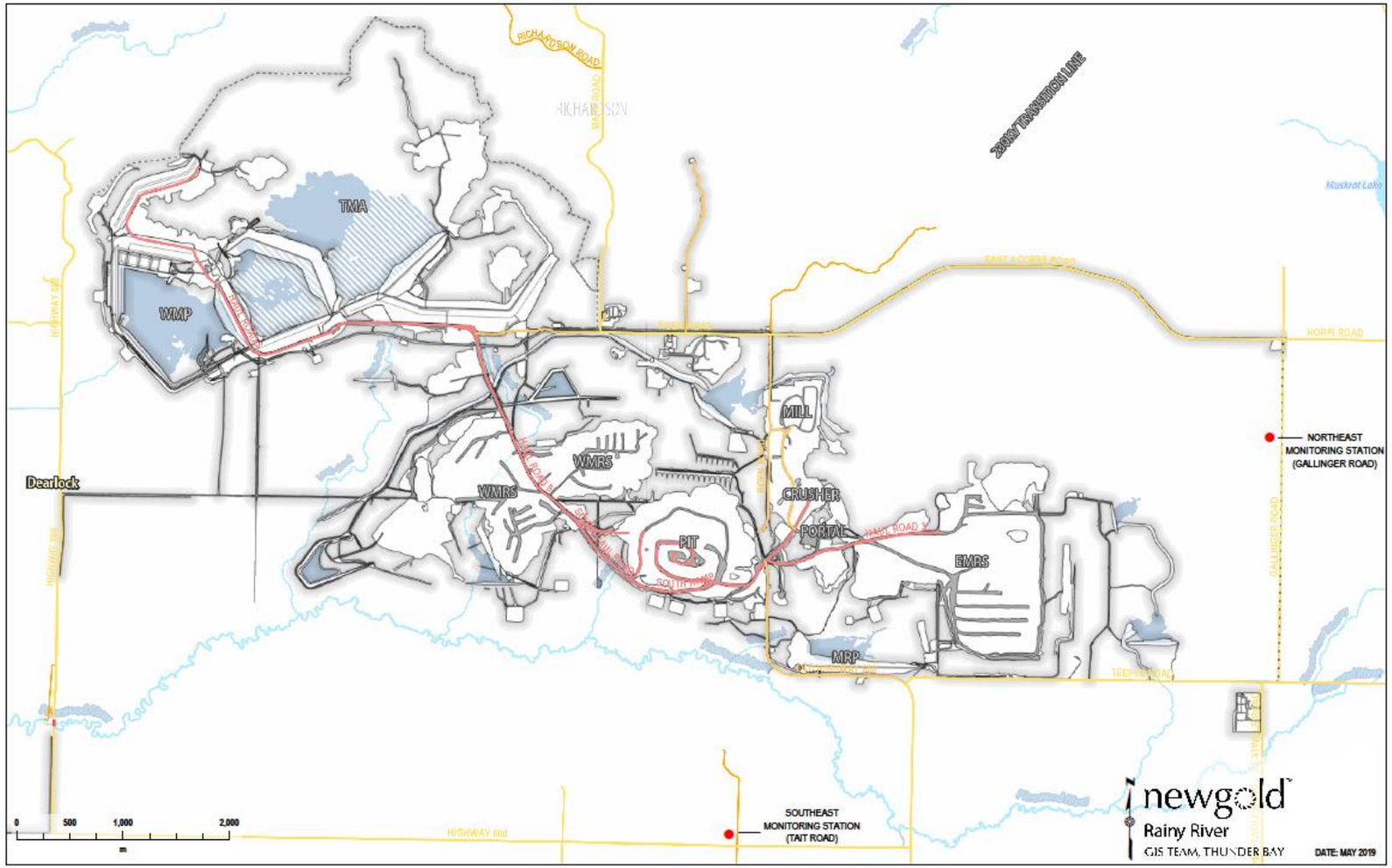


**Figure 2-1: Ambient Air Monitoring Stations**


**Figure 2-2: Ambient Air Monitoring – Southwest Tait Road Monitoring Station**


**Figure 2-3: Ambient Air Monitoring – Northeast Gallinger Road Monitoring Station**

**Figure 2-4: Ambient Air Monitoring – Tait Road Station Air Quality Station**

# 3.0 ANALYTICAL AND MONITORING METHODS

## 3.1 TSP and Metals

Measurements of 24-hour average TSP and metal concentrations were collected as specified in the Operations Manual (MECP 2018); samples of both TSP and metals were collected every sixth day as per the North American schedule (US EPA 2017). Sampling was performed with Hi-Vol samplers (brush motor and mass flow controlled). Samples are collected on an 8 inch by 10 inch Hi Vol quartz filter.

TSP concentrations were determined using the standard gravimetric reference methods approved by the United States Environmental Protection Agency (US EPA) and the Ontario Ministry of the Environment, Conservation and Parks (MECP), as described in the Operations Manual (MECP 2018).

Metal concentrations were determined using standard Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP/AES) methodology. Metals and metalloids analyzed included the following: arsenic (As), cadmium (Cd), chromium (Cr), cobalt (Co), copper (Cu), iron (Fe), lead (Pb), manganese (Mn), nickel (Ni), selenium (Se), vanadium (V) and zinc (Zn). A metalloid is an element such as As that has both metallic and non-metallic properties.

The lowest detectable limit of total particulate on the filter is 2.3 milligrams (mg). A typical 24-hour sample volume of 1,630 $m^3$ results in a method detection limit of 1.4 micrograms per cubic metre ($\mu g/m^3$). Method detection limits for metals are given in Appendix A-1.

Total Volume is calculated for each run using sampler manufacturer recommended calculations. These calculations consider ambient temperature, ambient pressure, sample flow rate, and individual monitor specifications. These calculations are not corrected for humidity.

## 3.2 $PM_{2.5}$

Sampling was performed with PQ200 samplers. Samples are collected on a 47 millimetre (mm) diameter Teflon filter. Particulate samples were collected every sixth day as per the North American schedule (US EPA 2017).

$PM_{2.5}$ concentrations were determined using the standard gravimetric reference methods approved by the US EPA and the MECP; as described in the Operations Manual (MECP 2018). $PM_{2.5}$ measurements were collected over a 24-hour period to match the averaging time for the Canadian Ambient Air Quality Standard (CAAQS).

The lowest detectable limit of $PM_{2.5}$ on the Teflon filters is 15 µg. A typical 24-hour sample volume of 24 $m^3$ results in a method detection limit of 0.6 $\mu g/m^3$.

Total Volume is recorded mechanically by the PQ200 samplers for each run.

### 3.3 Total Dustfall

Standard dustfall samplers were used to measure total dustfall deposition. Samples are collected in jars measuring roughly 15.4 centimetre (cm) in diameter and 30.5 cm in height.

Water soluble and insoluble portions of dustfall were determined using ASTM method D-1739-98 and the British Columbia Ministry of Environment method outlined in Section G of Air Constituents – Inorganic (MECP 2018).

The method detection limit for total dustfall is 0.3 g/m²/30 days.

### 3.4 Passive Sampling for $SO_2$ and $NO_2$

$SO_2$ and $NO_2$ concentrations were monitored with passive sampling devices. Sample uptake is dependent on temperature, relative humidity, and wind speed. Analytical results are adjusted for these meteorological parameters measured during the exposure period (monthly averages). Required meteorological data were obtained from the Environment and Climate Change Canada website. Fort Frances meteorological station (Climate ID 6022474) is downloaded by Maxxam Analytics with each sample submission.

Testing was conducted using methodology developed, approved, and validated by Alberta Environment with the support of the Alberta Research Council, the Clean Air Strategic Alliance of Alberta, and the National Research Council of Canada.

For both $SO_2$ and $NO_2$, the analytical method detection limit is in the order of 0.1 parts per billion by volume (ppbv). Validation tests conducted in Alberta show that results from passive sampling are typically within 10% of those obtained from sampling with continuous analyzers for 30-day exposure periods.

Since there are no MECP guidelines for monthly concentrations of $SO_2$ and $NO_2$ obtained from passive sampling, the data is only used for screening purposes. For $NO_2$, the monthly results were compared to the Ontario 24-hour AAQC converted to an equivalent 30-day average (78 µg/m³) using the methodology outlined in the Procedure for Preparing an Emission Summary and Dispersion Modelling Report (MECP 2018). For $SO_2$, the results were compared against the 30-day Alberta Ambient Air Quality Objective (AAAQO) of 30 µg/m$^3$ (AEP 2016).

### 3.5 Field Operations

#### 3.5.1 Hi-Vol and PQ200 Samplers

To meet the requirements of the 1 in 6-day sampling schedule, stations were visited once every six days and TSP, Metals, and PM2.5 samples were taken. The exposed filter was recovered, and a pre-weighed filter installed for the subsequent sample run. Additional visits were made to resolve instrumentation issues and perform flow calibration checks and preventative/proactive maintenance.

New Gold staff performed flow calibrations on Hi Vol TE-5170 samplers using a Tisch Delta Calibration kit. The flow is calibrated to 1133 litres per minute (LPM) or a total of 1632 $m^3$ in a 24-hour period.

New Gold staff performed flow, temperature, and barometric pressure calibrations on PQ200 samplers using an electronic BGI flow calibrator. The flows were calibrated to 16.7 LPM or a total of 24.05 $m^3$ in a 24-hour period.

The Q3 calibration was performed on all Hi-Vol and PQ200 samplers on September 17, 2020. Calibration sheets can be found in Appendix D. Calibrations are completed at least once per quarter for each sampler. Calibrations are also completed in accordance with the manufacturer's specifications.

### 3.5.2 Dustfall Samplers

The dustfall samplers containing algaecide were changed every month. Dustfall jars were provided by the laboratory with screw-on lids to prevent sample loss during transport.

### 3.5.3 Passive Samplers

The permeation filters in the passive samplers were changed every month. Filters were kept in cassettes inside Ziploc bags until deployed to prevent premature exposure. After the sample was collected, the filter was placed back in its cassette and into a Ziploc bag for shipment to the lab.

### 3.5.4 Performance and Site Audits

There were no MECP audits conducted in Q3 2020.

### 3.5.5 Equipment and Sampling Issues

During Q3 2020, 5 samples were invalidated, as discussed below:

- July 26: TSP sample Tait Road station was invalidated due to air volume of 1458 $m^3$ exceeding theoretical air volume lower range value of 1468 $m^3$.
- August 31: TSP sample Tait Road station was invalidated due to the run time of 59.51 hours exceeding the upper range of 26.4 hours.
- July 25: PM2.5 sample Gallinger Road station was invalidated due to the run time of 6.28 hours exceeding the lower range of 21.6 hours.
- September 24: TSP sample Gallinger Road station was invalidated due to air volume of 1834 $m^3$ exceeding theoretical air volume upper range value of 1794 $m^3$.

- September 30: TSP sample Gallinger Road station was invalidated due to air volume of 1406 $m^3$ exceeding theoretical air volume upper range value of 1468 $m^3$.

## 4.0 RESULTS

Sampling program results for Q3 2020 are presented in Appendix A-1 for the particulate and metals data, Appendix A-2 for the dustfall data, and Appendix A-3 for the passive $SO_2$ and $NO_2$ data. For performing statistical analyses following MECP protocol, a value of half the detection limit was substituted for concentrations less than the detection limit. Laboratory Certificates of Analysis for all the samples collected in Q3 2020 can be found in Appendix C.

For comparative purposes, the Ontario AAQC and Canadian AAQS values are presented, where available, noting that the Ontario AAQCs are numerically equivalent to the Ontario Regulation 419/05 standards.

Summaries of the statistical analyses for Q3 2020 for the TSP, metals, and $PM_{2.5}$ concentrations are presented in Tables 4-1, 4-2, and 4-3, respectively. Table 4-1 and 4-2 statistics include valid and invalid data. During the quarter, the 1 in 6-day sampling schedule presented a possible 16 sampling days between July 1 and September 30, 2020.

A summary of the statistical analyses for Q3 2020 for the total dustfall data is presented in Table 4-4. A summary of the statistical analysis for the Q3 2020 passive $SO_2$ and $NO_2$ results is presented in Table 4-5.

### 4.1 TSP and Metals

The Tait Road and Gallinger Road stations both collected 14 valid samples, resulting in 88% valid data for Q3 2020. Since this is below the 90% threshold, the statistics for TSP and Metals were created using the valid and invalid data.

For the quarter, the geometric mean TSP concentrations were 20.56 µg/m³ for the Tait Road station and 23.97 µg/m³ for the Gallinger Road station. Values reported by the laboratory as below the detection limit were substituted with one-half of the detection limit.

The maximum 24-hour concentration for TSP was 47.62 µg/m³ at the Tait Road station on August 1, 2020, and 48.02 µg/m³ at the Gallinger Road station on July 26, 2020. The arithmetic mean, maximum and minimum values for TSP and Metals samples can be found in Appendix A-1.

Appendix A-1 and Figure 4-1 present individual sample data. The Q3 2020 TSP and metals summary statistics of valid and invalid data are summarized in Tables 4-1 and 4-2, respectively.

The concentrations presented in Tables 4-1 and 4-2, Appendix A-1, and Figure 4-1 are determined by dividing the mass reported by the laboratory by the total volume of the sample taken. The equation below provides a sample of the calculation used to determine the 24-hour concentration at the Gallinger Road station on July 26, 2020.

$$Concentration = \frac{Mass\ Reported\ by\ Laboratory\ (\mu g)}{Total\ Volume\ (m^3)} = \frac{76800\ \mu g}{1599.28\ m^3} = 48.02\ \mu g/m^3$$

There were no samples that exceeded the AAQC in Q3 2020.

### 4.2 $PM_{2.5}$

The Tait Road station collected 16 valid samples, resulting in 100% valid data for Q3 2020. While the Gallinger Road station collected 15 valid samples, resulting in 94% valid data for Q3 2020.

Values reported by the laboratory as below the detection limit (15 µg) were substituted with one-half the detection limit (7.5 µg).

The maximum 24-hour concentration for $PM_{2.5}$ was 5.06 µg/m³ at the Tait Road station on September 6, 2020, and 6.70 µg/m³ at the Gallinger Road station on September 6, 2020.

The Q3 2020 $PM_{2.5}$ summary statistics are summarized in Table 4-3. Appendix A-1 and Figure 4-2 present individual sample data. The arithmetic mean, maximum and minimum values for PM2.5 samples can be found in Appendix A-1.

The concentrations presented in Table 4-3, Appendix A-1, and Figure 4-2 are determined by dividing the mass reported by the laboratory by the total volume of the sample taken. The equation below provides a sample of the calculation used to determine the 24-hour concentration at the Gallinger Road station on September 6, 2020.

$$Concentration = \frac{Mass\ Reported\ by\ Laboratory\ (\mu g)}{Total\ Volume\ (m^3)} = \frac{161\ \mu g}{24.03\ m^3} = 6.70\ \mu g/m^3$$

There were no $PM_{2.5}$ exceedances of the Ontario AAQC of 30 µg/m³ or CAAQS (ECCC 2013) of 28 µg/m³ measured in Q3 2020.

### 4.3 Total Dustfall

In Q3 2020, three valid samples were collected at each station. Each dustfall jar was exposed for approximately 30-days to coincide with each calendar month in the quarter.

Values reported by the laboratory as below the detection limit (0.1 mg/dm$^2$/day) were substituted with one-half the detection limit (0.05 mg/dm$^2$/day).

The maximum 30-day concentration for dustfall was 2.91 g/m$^2$ at the Tait Road station in August, and 3.09 g/m$^2$ at the Gallinger Road station in July.

A summary of the results is presented in Table 4-4 and the monthly results are presented in Appendix A-2. The data is presented in Figure 4-3.

The concentrations presented in Table 4-4, Appendix A-2, and Figure 4-3 are determined by converting the units reported by the laboratory to the necessary units used for reporting. The equation below provides a sample of the calculation used to determine the maximum concentration at the Gallinger Road station in July.

$$30\ Day\ Concentration = Lab\ Concentration\left(\frac{mg}{dm^2 \cdot day}\right) \times \frac{1\ g}{1000\ mg} \times \frac{100\ dm^2}{1\ m^2} \times 30\ days$$
$$= 1.03 \frac{mg}{dm^2 \cdot day} \times 3 = 3.09\ g/m^2$$

There were no dustfall exceedances of the 30-day Ontario AAQC of 7 g/m² measured in Q3 2020 at either Tait Road or Gallinger Road stations.

## 4.4 Passive $SO_2$ and $NO_2$

In Q3 2020, 3 valid samples were collected at each station of each $SO_2$ and $NO_2$.

There are no MECP standards, guidelines, or Ontario AAQCs for $SO_2$ or $NO_2$ for a 30-day averaging period. Instead, the 30-day measured average $SO_2$ or $NO_2$ concentrations allow for future analysis of trends in the ambient concentrations, to identify any notable increases, and for potential comparison with dispersion modelling results.

Values reported by the laboratory as below the detection limit (0.1 ppbv) were substituted with one-half the detection limit (0.05 ppbv).

For $NO_2$, the monthly results were compared to the Ontario 24-hour AAQC converted to an equivalent 30-day average (78 µg/m³) using the methodology outlined in the Procedure for Preparing an Emission Summary and Dispersion Modelling Report (MECP 2018).

For $SO_2$, the results were compared against the AAQO of 30 µg/m³ (AEP 2017).

A summary of the passive results is presented in Table 4-5 and Figures 4-4 and 4-5 and the monthly results are presented in Appendix A-3.

The concentrations presented in the Table, Figures, and the Appendix are determined by converting the units reported by the laboratory to the necessary units required for comparison against the criteria mentioned above. The equation below provides a sample of the calculation used to determine the maximum concentration of $NO_2$ at the Gallinger Road station in August.

$$Concentration\ (\mu g/m^3) = Concentration\ (ppbv) \times \frac{Molecular\ Weight}{Molar\ Volume\ (L)}$$

$$= 0.7\ ppbv \times \frac{46.00 \frac{g}{mol}}{22.41 \frac{L}{mol} \times \frac{298\ K}{273\ K}}$$
$$= 0.7\ ppbv \times 1.88 \frac{\mu g/m^3}{ppbv} = 1.316\ \mu g/m^3$$

There were no exceedances in Q3 2020 for $SO_2$ or $NO_2$.

### 4.5 Evaluation of Effects of Abatement Measures on Monitored Concentrations

The Rainy River Mine has a comprehensive Best Management Practices Plan (BMPP) for Fugitive Dust approved by the MECP as part of the ECA review process. This BMPP effectively controls the generation and dispersion of dust such that the particulate matter measured at the two ambient monitoring stations was below the Ontario AAQC for all Q3 2020 samples.

Table 4-1: Summary Statistics For Q3 2020 TSP Concentration for Valid Data

| Statistics | Tait Road (SW) | Gallinger (NE) |
|---|---|---|
| Geometric mean (µg/m³) | 20.56 | 23.97 |
| Arithmetic mean (µg/m³) | 23.34 | 25.94 |
| July Maximum (µg/m³) | 37.85 | 48.02 |
| Aug Maximum (µg/m³) | 47.62 | 24.92 |
| Sept Maximum (µg/m³) | 22.70 | 30.09 |
| Maximum 24-hr (µg/m³) | 47.62 | 48.02 |
| 90th percentile | 37.18 | 38.90 |
| 95th percentile | 41.27 | 42.28 |
| 24-hr AAQC | 120 | 120 |
| No. Valid Samples | 14 | 14 |
| Valid Data | 88% | 88% |
| No. Samples > AAQC (particulate) | 0 | 0 |
| No. Samples > AAQC (metals) | 0 | 0 |
| No. Samples > AAQC (metalloids) | 0 | 0 |

Table 4-2: Summary Statistics For Q3 2020 Metals Concentration for Valid Data

| Metal | 24-hr AAQC (µg/m³) | Tait Road (SW) | | Gallinger Road (NE) | |
|---|---|---|---|---|---|
| | | Maximum 24-hr Concentration (µg/m³) | Fraction of 24-hr AAQC | Maximum 24-hr Concentration (µg/m³) | Fraction of 24-hr AAQC |
| As | 0.3 | 0.0010 | 0.34% | 0.0010 | 0.34% |
| Cd | 0.025 | 0.0007 | 2.72% | 0.0007 | 2.70% |
| Cr | 0.5 | 0.0017 | 0.34% | 0.0017 | 0.34% |
| Co | 0.1 | 0.0007 | 0.68% | 0.0007 | 0.67% |
| Cu | 50 | 0.0740 | 0.15% | 0.1060 | 0.21% |
| Fe | 4 | 0.9323 | 23.31% | 0.7226 | 18.07% |
| Pb | 0.5 | 0.0019 | 0.38% | 0.0010 | 0.20% |
| Mn | 0.4 | 0.0262 | 6.56% | 0.0263 | 6.57% |
| Ni | 0.2 | 0.0010 | 0.51% | 0.0010 | 0.51% |
| Se | 10 | 0.0034 | 0.03% | 0.0034 | 0.03% |
| V | 2 | 0.0017 | 0.08% | 0.0017 | 0.08% |
| Zn | 120 | 0.0200 | 0.02% | 0.0241 | 0.02% |

Table 4-3: Summary Statistics for Q3 2020 $PM_{2.5}$ Concentration Data

| Statistics | Tait Road (SW) | Gallinger (NE) |
|---|---|---|
| Arithmetic mean (µg/m³) | 1.54 | 2.35 |
| July Maximum (µg/m³) | 2.16 | 1.71 |
| Aug Maximum (µg/m³) | 4.17 | 4.70 |
| Sept Maximum (µg/m³) | 5.06 | 6.70 |
| Maximum 24-hr (µg/m³) | 5.06 | 6.70 |
| 90th percentile | 3.50 | 4.65 |
| 95th percentile | 4.39 | 5.30 |
| 24-hr CAAQS | 28 | 28 |
| No. Valid Samples | 16 | 15 |
| Valid Data | 100% | 94% |
| No. Samples > AAQC (particulate) | 0 | 0 |

Table 4-4: Summary Statistics for Q3 2020 Total Dustfall Data

| Statistics | Tait Road (SW) | Gallinger (NE) |
|---|---|---|
| Arithmetic Mean (g/m$^2$/30d) | 2.49 | 2.63 |
| Maximum Monthly (g/m$^2$/30d) | 2.91 | 3.09 |
| 30-day AAQC | 7 | 7 |
| No. > AAQC | 0 | 0 |
| No. Valid Samples | 3 | 3 |
| Valid Data | 100% | 100% |

Table 4-5: Summary Statistics for Q3 2020 Passive $SO_2$ and $NO_2$ Concentration Data

| Statistics | Tait Road (SW) | | Gallinger Road (NE) | |
|---|---|---|---|---|
| | $SO_2$ | $NO_2$ | $SO_2$ | $NO_2$ |
| Mean (µg/m$^3$) | 0.131 | 0.752 | 0.131 | 1.003 |
| Maximum (µg/m$^3$) | 0.131 | 0.940 | 0.131 | 1.316 |
| AAQC* 24-hr converted to 30 day (µg/m$^3$) | N/A | 78 | N/A | 78 |
| Alberta AAQO (µg/m$^3$) | 30 | N/A | 30 | N/A |
| No. Valid samples | 3 | 3 | 3 | 3 |
| Valid data | 100% | 100% | 100% | 100% |

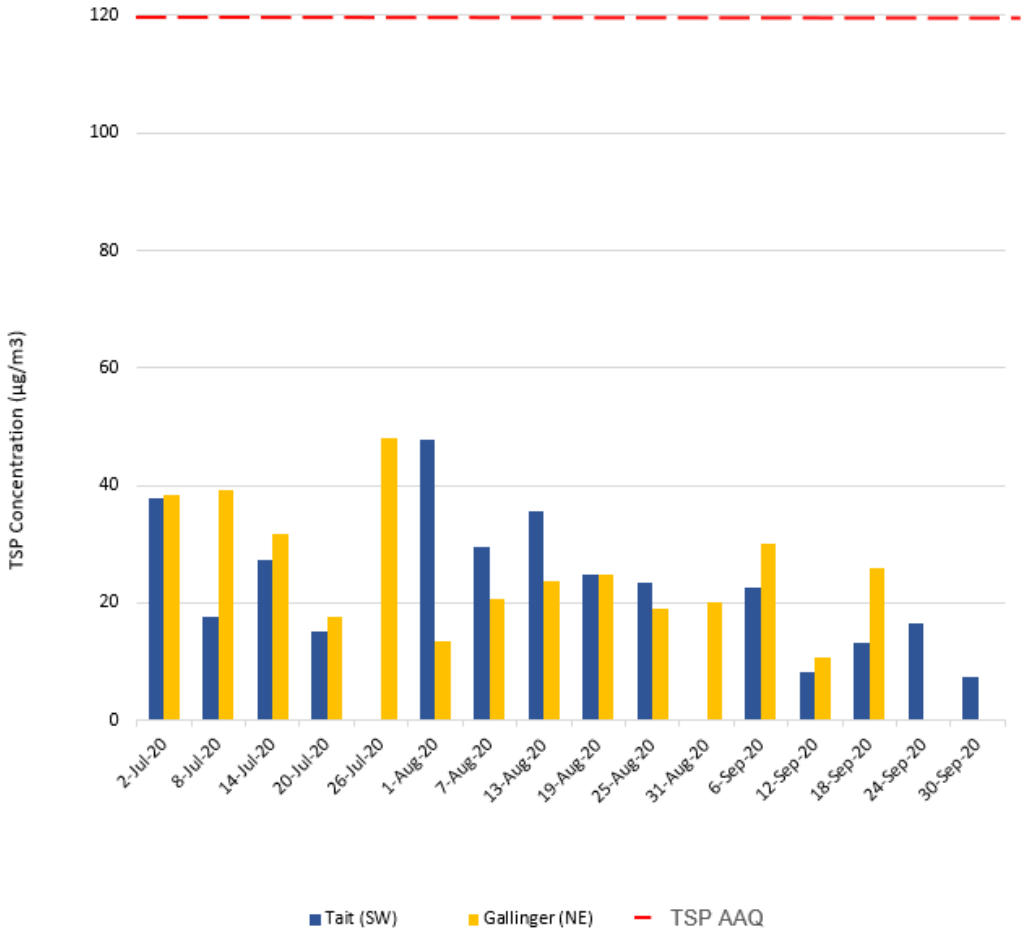


Figure 4-1: TSP Concentrations (Valid Data) (Q3 2020)

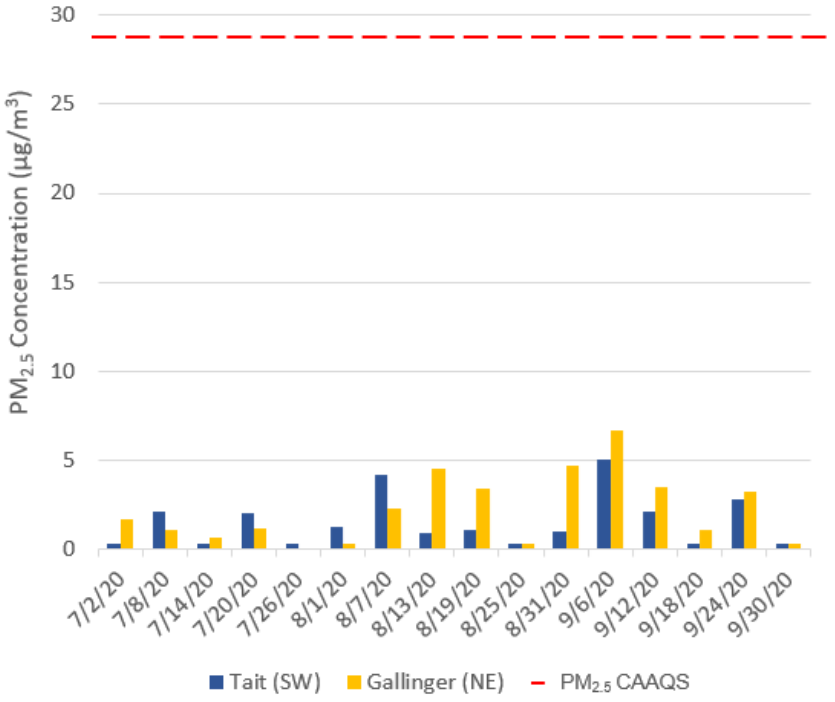


Figure 4-2: $PM_{2.5}$ Concentrations (Q3 2020)

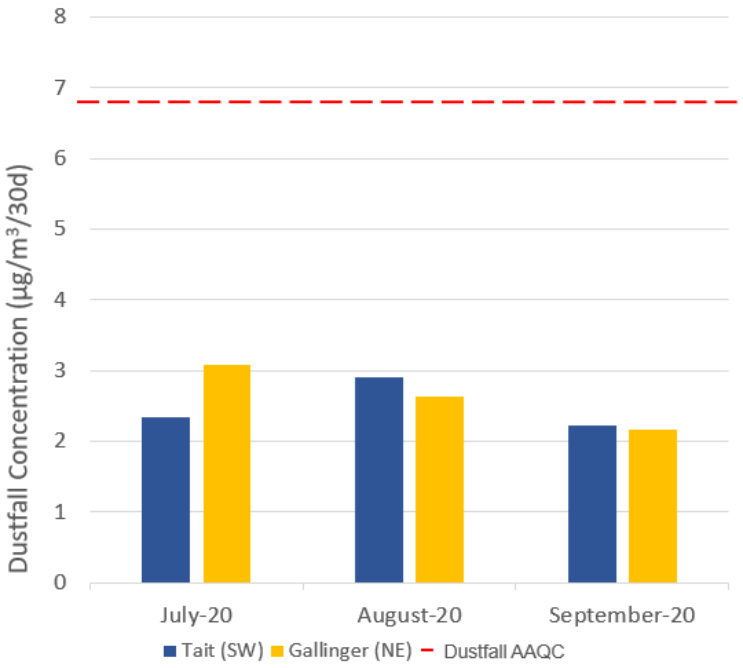


Figure 4-3: Dustfall Concentrations (Q3 2020)

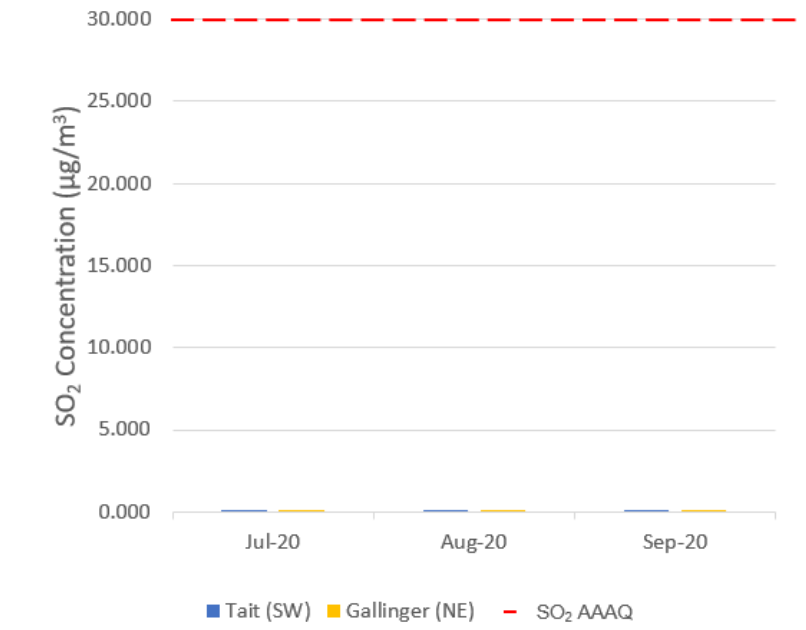


Figure 4-4: $SO_2$ Concentrations (Q3 2020)

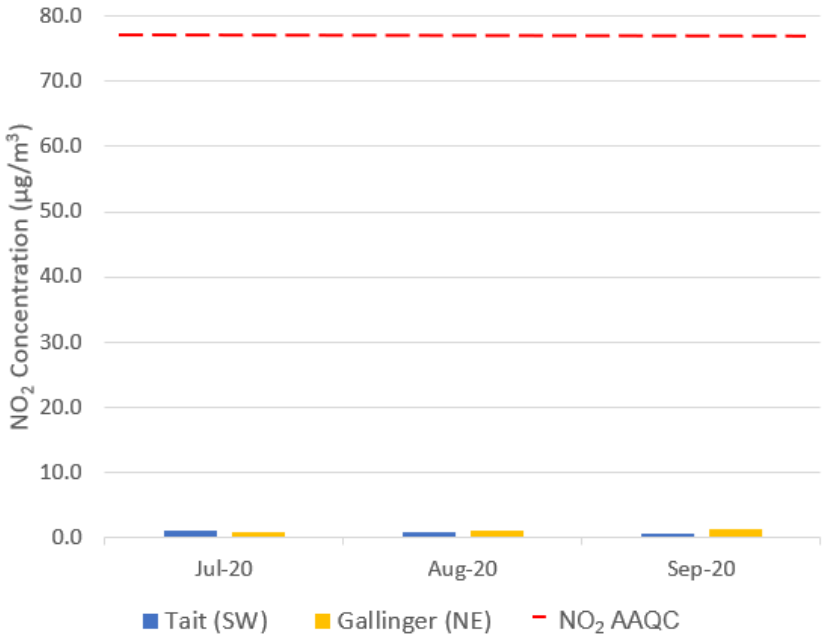


Figure 4-5: $NO_2$ Concentrations (Q3 2020)

## 5.0 MITIGATION MEASURES

In Q1 2020, 23 out of the 30 TSP samples were invalid. The majority of which were due to variable flow through the Hi Vol TE-5170. The measures listed below were implemented mid-May 2020 to mitigate the issues will invalid flows.

- Additions to the air quality sampling procedure such as:
    - A check of the flow controller to ensure that the flow is being maintained (controller alters the motor speed to maintain a constant flow rate) and confirmation of the correct time of day after each sample run.
    - Review of previous samples flow measurement and comparing it to the Operations manual's limits after each sample run.
    - A review will be performed of the ΔP from the pressure tap on the motor casing with a digital manometer to confirm that the ΔP is in the expected range.
    - The face plate gasket will be cleaned after each sample run.
    - The face plate will be cleaned with soap and water periodically, especially under the roof and the filter cassette supporting surface.
    - The filter holder, especially the gasket and horn, will be cleaned at every filter change and inspected for evidence of leakage.
    - Further training for New Gold Personnel on the maintenance and calibration of the equipment.
    - Replacement of brushes and replacement of motors for the Hi Vol TE-5170.
    - Development of a maintenance schedule for an assessment of the equipment.

In Q3 2020, at both stations 88% of the TSP data was valid. This shows that the above measures have significantly improve the sampling procedure. New Gold will continue to look for any improvement that could be made in the sampling procedures.

## 6.0 CONCLUSIONS

A summary of the Q3 2020 ambient air quality monitoring program results is provided below:

- The Tait Road and Gallinger Road stations collected 14 valid TSP samples, resulting in 88% sample validity. Metal and metalloid concentrations were measured on each of the valid TSP filters. There were no exceedances in Q3 2020.

- 16 and 15 valid $PM_{2.5}$ samples were collected at the Tait and Gallinger Road stations, resulting in 100% and 94% valid data, respectively. There were no exceedances of the 24-hour PM2.5 CAAQS in Q3 2020.

- 3 valid dustfall samples were collected at each station, resulting in 100% sample validity. There were no exceedances of the 30-day dustfall Ontario AAQC in Q3 2020.

- 3 valid passive SO2 and NO2 samples were collected at each of the two stations, resulting in 100% sample validity. There were no exceedances of AAAQO for $SO_2$ or the 30-day equivalent Ontario AAQC for $NO_2$ in Q3 2020.

## 7.0 REFERENCES

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## 8.0 CLOSING

This *Rainy River Mine Ambient Air Quality Monitoring Program Third Quarter 2020 Report* was prepared by New Gold Inc. The quality of information, conclusions and estimates contained herein are based on:

- information available at the time of preparation;
- data supplied by outside sources; and
- the assumptions, conditions and qualifications set forth in this document.

If you require further information regarding the above or the mine in general, please contact the undersigned at (807) 482-0900 ext. 8064.

Sincerely,

New Gold Inc.
Rainy River Mine

Prepared by:

<original signed by>

Matthew Wilson
Environmental Specialist

Approved by:

<original signed by>

On behalf of

Sylvie St. Jean
Environment Manager

# APPENDIX A

SAMPLING RESULTS

| | |
|---|---|
| Appendix A-1 | TSP, Metals and $PM_{2.5}$ Sampling Results |
| Appendix A-2 | Total Dustfall Sampling Results |
| Appendix A-3 | $SO_2$ and $NO_2$ Passive Sampling Results |

# APPENDIX A-1

TSP, METALS AND $PM_{2.5}$ SAMPLING RESULTS

newgold™ Rainy River

| Southwest Tait Road Monitoring Results for TSP and Metals (Third Quarter 2020) | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (results expressed in µg/m³) | | | | | | | | | | | | | | |
| **Date** | **PM2.5** | **TSP** | **As** | **Cd** | **Cr** | **Co** | **Cu** | **Fe** | **Pb** | **Mn** | **Ni** | **Se** | **V** | **Zn** |
| 7/2/20 | *0.312* | 37.847 | *1.00E-03* | *6.70E-04* | *1.67E-03* | *6.70E-04* | 0.063 | 0.737 | *1.00E-03* | 0.018 | *0.001* | *0.003* | *0.002* | 0.007 |
| 7/8/20 | 2.164 | 17.722 | *9.49E-04* | *6.33E-04* | *1.58E-03* | *6.33E-04* | 0.062 | 0.268 | *9.49E-04* | 0.007 | *0.001* | *0.003* | *0.002* | 0.005 |
| 7/14/20 | *0.312* | 27.303 | *9.80E-04* | *6.53E-04* | *1.63E-03* | *6.53E-04* | 0.041 | 0.335 | *9.80E-04* | 0.012 | *0.001* | *0.003* | *0.002* | 0.007 |
| 7/20/20 | 2.045 | 15.039 | *8.88E-04* | *5.92E-04* | *1.48E-03* | *5.92E-04* | 0.074 | 0.205 | *8.88E-04* | 0.004 | *0.001* | *0.003* | *0.001* | 0.008 |
| 7/26/20 | *0.311* | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 8/1/20 | 1.305 | 47.622 | *1.01E-03* | *6.71E-04* | *1.68E-03* | *6.71E-04* | 0.074 | 0.932 | *1.01E-03* | 0.026 | *0.001* | *0.003* | *0.002* | 0.020 |
| 8/7/20 | 4.170 | 29.512 | *8.92E-04* | *5.95E-04* | *1.49E-03* | *5.95E-04* | 0.039 | 0.613 | 1.90E-03 | 0.015 | *0.001* | *0.003* | *0.001* | 0.014 |
| 8/13/20 | 0.960 | 35.634 | *9.74E-04* | *6.49E-04* | *1.62E-03* | *6.49E-04* | 0.054 | 0.928 | *9.74E-04* | 0.018 | *0.001* | *0.003* | *0.002* | 0.014 |
| 8/19/20 | 1.087 | 24.668 | *9.71E-04* | *6.47E-04* | *1.62E-03* | *6.47E-04* | 0.045 | 0.402 | *9.71E-04* | 0.021 | *0.001* | *0.003* | *0.002* | 0.009 |
| 8/25/20 | *0.312* | 23.359 | *9.34E-04* | *6.23E-04* | *1.56E-03* | *6.23E-04* | 0.059 | 0.404 | *9.34E-04* | 0.011 | *0.001* | *0.003* | *0.002* | 0.010 |
| 8/31/20 | 0.999 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 9/6/20 | 5.056 | 22.700 | *9.15E-04* | *6.10E-04* | *1.53E-03* | *6.10E-04* | 0.030 | 0.209 | *9.15E-04* | 0.010 | *0.001* | *0.003* | *0.002* | 0.011 |
| 9/12/20 | 2.137 | 8.248 | *9.90E-04* | *6.60E-04* | *1.65E-03* | *6.60E-04* | 0.032 | 0.084 | *9.90E-04* | 0.003 | *0.001* | *0.003* | *0.002* | 0.005 |
| 9/18/20 | *0.312* | 13.192 | *1.02E-03* | *6.80E-04* | *1.70E-03* | *6.80E-04* | 0.027 | 0.239 | *1.02E-03* | 0.009 | *0.001* | *0.003* | *0.002* | 0.008 |
| 9/24/20 | 2.831 | 16.368 | *1.00E-03* | *6.68E-04* | *1.67E-03* | *6.68E-04* | 0.035 | 0.334 | *1.00E-03* | 0.011 | *0.001* | *0.003* | *0.002* | 0.006 |
| 9/30/20 | *0.312* | 7.483 | *9.35E-04* | *6.24E-04* | *1.56E-03* | *6.24E-04* | 0.064 | 0.205 | *9.35E-04* | 0.006 | *0.001* | *0.003* | *0.002* | 0.006 |
| Geometric mean | 0.98 | 20.56 | 9.61E-04 | 6.40E-04 | 1.60E-03 | 6.40E-04 | 4.73E-02 | 3.45E-01 | 1.01E-03 | 1.02E-02 | 9.61E-04 | 3.20E-03 | 1.60E-03 | 8.57E-03 |
| July Arithmetic Mean | 0.93 | 27.62 | 9.78E-04 | 6.52E-04 | 1.63E-03 | 6.52E-04 | 5.53E-02 | 4.47E-01 | 9.78E-04 | 1.21E-02 | 9.78E-04 | 3.26E-03 | 1.63E-03 | 6.36E-03 |
| August Arithmetic Mean | 1.36 | 32.16 | 9.56E-04 | 6.37E-04 | 1.59E-03 | 6.37E-04 | 5.40E-02 | 6.56E-01 | 1.16E-03 | 1.82E-02 | 9.56E-04 | 3.19E-03 | 1.59E-03 | 1.34E-02 |
| Sept Arithmetic Mean | 2.13 | 13.60 | 9.73E-04 | 6.48E-04 | 1.62E-03 | 6.48E-04 | 3.76E-02 | 2.14E-01 | 9.73E-04 | 7.53E-03 | 9.73E-04 | 3.24E-03 | 1.62E-03 | 7.24E-03 |
| Q3 Arithmetic mean | 1.54 | 23.34 | 9.62E-04 | 6.41E-04 | 1.60E-03 | 6.41E-04 | 4.99E-02 | 4.21E-01 | 1.03E-03 | 1.21E-02 | 9.62E-04 | 3.21E-03 | 1.60E-03 | 9.31E-03 |
| Max. concentration | 5.06 | 47.62 | 1.02E-03 | 6.80E-04 | 1.70E-03 | 6.80E-04 | 7.40E-02 | 9.32E-01 | 1.90E-03 | 2.62E-02 | 1.02E-03 | 3.40E-03 | 1.70E-03 | 2.00E-02 |
| Min. concentration | 0.31 | 7.48 | 8.88E-04 | 5.92E-04 | 1.48E-03 | 5.92E-04 | 2.69E-02 | 8.45E-02 | 8.88E-04 | 2.51E-03 | 8.88E-04 | 2.96E-03 | 1.48E-03 | 4.82E-03 |
| 90th percentile | 3.50 | 37.18 | 1.01E-03 | 6.70E-04 | 1.68E-03 | 6.70E-04 | 7.09E-02 | 8.71E-01 | 1.02E-03 | 2.02E-02 | 1.01E-03 | 3.35E-03 | 1.68E-03 | 1.42E-02 |
| 95th percentile | 4.39 | 41.27 | 1.01E-03 | 6.74E-04 | 1.68E-03 | 6.74E-04 | 7.39E-02 | 9.30E-01 | 1.33E-03 | 2.29E-02 | 1.01E-03 | 3.37E-03 | 1.68E-03 | 1.64E-02 |
| CAAQS | 28 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| No. > CAAQS value* | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| AAQC | N/A | 120 | 0.3 | 0.025 | 0.5 | 0.1 | 50 | 4 | 0.5 | 0.4 | 0.2 | 10 | 2 | 120 |
| No. > AAQC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| No. of valid samples | 16 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| No. samples < mdl | 6 | 0 | 14 | 14 | 14 | 14 | 0 | 0 | 13 | 0 | 14 | 14 | 14 | 0 |
| Detection limit (µg) | 15 | 2300 | 3 | 2 | 5 | 2 | 4 | 20 | 3 | 1 | 3 | 10 | 5 | 5 |
| Half detection limit (µg) | 7.5 | 1150 | 1.5 | 1 | 2.5 | 1 | 2 | 10 | 1.5 | 0.5 | 1.5 | 5 | 2.5 | 2.5 |
| % < detection limit | 38 | 0 | 100 | 100 | 100 | 100 | 0 | 0 | 93 | 0 | 100 | 100 | 100 | 0 |
| % valid data | 100 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 |

Notes: All non detectable results were reported as 1/2 detection limit and are denoted by italics & underlining (If samples had differing detection limits, the highest is displayed here)

N/A: Not applicable

—: Invalid Sample

*Canadian Ambient Air Quality Standard, 24-hour standard

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| Northeast Gallinger Road Monitoring Results for TSP and Metals (Third Quarter 2020) | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (results expressed in µg/m3) | | | | | | | | | | | | | | |
| **Date** | **PM2.5** | **TSP** | **As** | **Cd** | **Cr** | **Co** | **Cu** | **Fe** | **Pb** | **Mn** | **Ni** | **Se** | **V** | **Zn** |
| 7/2/20 | 1.707 | 38.231 | *1.01E-03* | *6.74E-04* | *1.69E-03* | *6.74E-04* | 0.090 | 0.601 | *1.01E-03* | 0.016 | *0.001* | *0.003* | *0.002* | 0.010 |
| 7/8/20 | 1.124 | 39.192 | *9.77E-04* | *6.51E-04* | *1.63E-03* | *6.51E-04* | 0.072 | 0.723 | *9.77E-04* | 0.017 | *0.001* | *0.003* | *0.002* | 0.014 |
| 7/14/20 | 0.707 | 31.794 | *9.17E-04* | *6.11E-04* | *1.53E-03* | *6.11E-04* | 0.061 | 0.350 | *9.17E-04* | 0.013 | *0.001* | *0.003* | *0.002* | 0.013 |
| 7/20/20 | 1.165 | 17.663 | *9.40E-04* | *6.26E-04* | *1.57E-03* | *6.26E-04* | 0.089 | 0.210 | *9.40E-04* | 0.007 | *0.001* | *0.003* | *0.002* | 0.013 |
| 7/26/20 | -- | 48.021 | *9.38E-04* | *6.25E-04* | *1.56E-03* | *6.25E-04* | 0.051 | 0.707 | *9.38E-04* | 0.026 | *0.001* | *0.003* | *0.002* | 0.024 |
| 8/1/20 | *0.312* | 13.313 | *9.69E-04* | *6.46E-04* | *1.62E-03* | *6.46E-04* | 0.106 | 0.096 | *9.69E-04* | 0.003 | *0.001* | *0.003* | *0.002* | 0.009 |
| 8/7/20 | 2.289 | 20.544 | *9.25E-04* | *6.17E-04* | *1.54E-03* | *6.17E-04* | 0.077 | 0.207 | *9.25E-04* | 0.007 | *0.001* | *0.003* | *0.002* | 0.012 |
| 8/13/20 | 4.578 | 23.548 | *8.94E-04* | *5.96E-04* | *1.49E-03* | *5.96E-04* | 0.082 | 0.311 | *8.94E-04* | 0.009 | *0.001* | *0.003* | *0.001* | 0.013 |
| 8/19/20 | 3.412 | 24.919 | *9.39E-04* | *6.26E-04* | *1.57E-03* | *6.26E-04* | 0.091 | 0.349 | *9.39E-04* | 0.017 | *0.001* | *0.003* | *0.002* | 0.009 |
| 8/25/20 | *0.312* | 19.098 | *9.55E-04* | *6.37E-04* | *1.59E-03* | *6.37E-04* | 0.079 | 0.272 | *9.55E-04* | 0.007 | *0.001* | *0.003* | *0.002* | 0.009 |
| 8/31/20 | 4.702 | 20.161 | *9.05E-04* | *6.04E-04* | *1.51E-03* | *6.04E-04* | 0.046 | 0.199 | *9.05E-04* | 0.008 | *0.001* | *0.003* | *0.002* | 0.009 |
| 9/6/20 | 6.700 | 30.094 | *9.35E-04* | *6.23E-04* | *1.56E-03* | *6.23E-04* | 0.058 | 0.278 | *9.35E-04* | 0.012 | *0.001* | *0.003* | *0.002* | 0.017 |
| 9/12/20 | 3.497 | 10.653 | *9.34E-04* | *6.23E-04* | *1.56E-03* | *6.23E-04* | 0.057 | 0.090 | *9.34E-04* | 0.003 | *0.001* | *0.003* | *0.002* | 0.007 |
| 9/18/20 | 1.124 | 25.880 | *9.24E-04* | *6.16E-04* | *1.54E-03* | *6.16E-04* | 0.089 | 0.377 | *9.24E-04* | 0.016 | *0.001* | *0.003* | *0.002* | 0.013 |
| 9/24/20 | 3.246 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 9/30/20 | *0.312* | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Geometric mean | 1.55 | 23.97 | 9.40E-04 | 6.27E-04 | 1.57E-03 | 6.27E-04 | 7.27E-02 | 2.86E-01 | 9.40E-04 | 9.89E-03 | 9.40E-04 | 3.13E-03 | 1.57E-03 | 1.16E-02 |
| July Arithmetic Mean | 1.18 | 36.41 | 9.68E-04 | 6.46E-04 | 1.61E-03 | 6.46E-04 | 7.44E-02 | 5.58E-01 | 9.68E-04 | 1.55E-02 | 9.68E-04 | 3.23E-03 | 1.61E-03 | 1.22E-02 |
| August Arithmetic Mean | 2.18 | 24.91 | 9.37E-04 | 6.25E-04 | 1.56E-03 | 6.25E-04 | 8.11E-02 | 3.24E-01 | 9.37E-04 | 1.17E-02 | 9.37E-04 | 3.12E-03 | 1.56E-03 | 1.26E-02 |
| Sept Arithmetic Mean | 2.98 | 22.21 | 9.31E-04 | 6.21E-04 | 1.55E-03 | 6.21E-04 | 6.80E-02 | 2.48E-01 | 9.31E-04 | 1.06E-02 | 9.31E-04 | 3.10E-03 | 1.55E-03 | 1.24E-02 |
| Arithmetic mean | 2.35 | 25.94 | 9.40E-04 | 6.27E-04 | 1.57E-03 | 6.27E-04 | 7.49E-02 | 3.41E-01 | 9.40E-04 | 1.16E-02 | 9.40E-04 | 3.13E-03 | 1.57E-03 | 1.22E-02 |
| Max. concentration | 6.70 | 48.02 | 1.01E-03 | 6.74E-04 | 1.69E-03 | 6.74E-04 | 1.06E-01 | 7.23E-01 | 1.01E-03 | 2.63E-02 | 1.01E-03 | 3.37E-03 | 1.69E-03 | 2.41E-02 |
| Min. concentration | 0.31 | 10.65 | 8.94E-04 | 5.96E-04 | 1.49E-03 | 5.96E-04 | 4.56E-02 | 8.97E-02 | 8.94E-04 | 3.23E-03 | 8.94E-04 | 2.98E-03 | 1.49E-03 | 7.29E-03 |
| 90th percentile | 4.65 | 38.90 | 9.74E-04 | 6.50E-04 | 1.62E-03 | 6.50E-04 | 9.11E-02 | 6.75E-01 | 9.74E-04 | 1.71E-02 | 9.74E-04 | 3.25E-03 | 1.62E-03 | 1.61E-02 |
| 95th percentile | 5.30 | 42.28 | 9.89E-04 | 6.59E-04 | 1.65E-03 | 6.59E-04 | 9.65E-02 | 7.12E-01 | 9.89E-04 | 2.04E-02 | 9.89E-04 | 3.30E-03 | 1.65E-03 | 1.95E-02 |
| CAAQS | 28 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| No. > CAAQS value* | 0 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| AAQC | N/A | 120 | 0.3 | 0.025 | 0.5 | 0.1 | 50 | 4 | 0.5 | 0.4 | 0.2 | 10 | 2 | 120 |
| No. > AAQC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| No. of valid samples | 15 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| No. samples < mdl | 3 | 0 | 14 | 14 | 14 | 14 | 0 | 0 | 14 | 0 | 14 | 14 | 14 | 0 |
| Detection limit (µg) | 15 | 2300 | 3 | 2 | 5 | 2 | 4 | 20 | 3 | 1 | 3 | 10 | 5 | 5 |
| Half detection limit (µg) | 7.5 | 1150 | 1.5 | 1 | 2.5 | 1 | 2 | 10 | 1.5 | 0.5 | 1.5 | 5 | 2.5 | 2.5 |
| % < detection limit | 20 | 0 | 100 | 100 | 100 | 100 | 0 | 0 | 100 | 0 | 100 | 100 | 100 | 0 |
| % valid data | 94 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 |

Notes: All non detectable results were reported as 1/2 detection limit and are denoted by italics & underlining (If samples had differing detection limits, the highest is displayed here)
N/A: Not applicable
—: Invalid Sample
*Canadian Ambient Air Quality Standard, 24-hour standard

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**RAINY RIVER MINE**
Ambient Air Quality Monitoring Program
Third Quarter 2020 Report

# APPENDIX A-2

TOTAL DUSTFALL SAMPLING RESULTS

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| Tait Road Monitoring Results for Dustfall (Third Quarter 2020) (results expressed in g/m²/30days) | | | | |
|---|---|---|---|---|
| **Month** | **No. Exposure Days** | **Dustfall (insoluble)** | **Dustfall (soluble)** | **Tait (SW)** |
| July-20 | 29 | 2.25 | *0.15* | 2.34 |
| August-20 | 35 | 2.34 | 0.57 | 2.91 |
| September-20 | 30 | 1.05 | 1.17 | 2.22 |
| | | | Arithmetic mean | 2.49 |
| | | | Max. concentration | 2.91 |
| | | | Min. concentration | 2.22 |
| | | | AAQC | 7 |
| | | | No. > AAQC value** | 0 |
| | | | No. of valid samples | 3 |
| | | | % Valid data | 100 |
| | | | No. samples < mdl | 0 |
| | | | Detection limit* | 0.1 |
| | | | Half detection limit | 0.05 |

| Tait Road Monitoring Results for Dustfall (Third Quarter 2020) (results expressed in g/m²/30days) | | | | |
|---|---|---|---|---|
| **Month** | **No. Exposure Days** | **Dustfall (insoluble)** | **Dustfall (soluble)** | **Gallinger (NE)** |
| July-20 | 29 | 1.77 | 1.29 | 3.09 |
| August-20 | 35 | 1.32 | 1.32 | 2.64 |
| September-20 | 30 | 1.05 | 1.11 | 2.16 |
| | | | Arithmetic mean | 2.63 |
| | | | Max. concentration | 3.09 |
| | | | Min. concentration | 2.16 |
| | | | AAQC | 7 |
| | | | No. > AAQC value** | 0 |
| | | | No. of valid samples | 3 |
| | | | % Valid data | 100 |
| | | | No. samples < mdl | 0 |
| | | | Detection limit* | 0.1 |
| | | | Half detection limit | 0.05 |

Notes:

All statistics were calculated using 1/2DL for values reported as <DL

All non detectable results were reported as 1/2 detection limit and are denoted by italics and underlining

N/A: Not applicable

—: Invalid Sample

*If samples had differing detection limits, the highest is displayed here

**Ontario Ambient Air Quality Criteria, 30-day standard

# APPENDIX A-3

$SO_2$ AND $NO_2$ PASSIVE SAMPLING RESULTS

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## Monitoring Results for Passive $SO_2$ and $NO_2$ (Third Quarter 2020)
## (results expressed in µg/m$^3$)

| | Southwest Tait Road | |
|---|---|---|
| **Month** | **$SO_2$** | **$NO_2$** |
| Jul-20 | *0.13* | 0.94 |
| Aug-20 | *0.13* | 0.75 |
| Sep-20 | *0.13* | 0.56 |
| | | |
| Arithmetic mean | *0.13* | 0.75 |
| Max. concentration | *0.13* | 0.94 |
| Min. concentration | *0.13* | 0.56 |
| AAQC* (24-hr AAQC converted to equivalent 30-day average) | N/A | 78 µg/m3 |
| Alberta Ambient Air Quality Objectives 2013 | 30 µg/m3 | N/A |
| No. of valid samples | 3 | 3 |
| No. samples < mdl | 3 | 0 |
| Detection limit | 0.1 | 0.1 |
| Half detection limit | 0.05 | 0.05 |
| | | |

## Monitoring Results for Passive $SO_2$ and $NO_2$ (Third Quarter 2020)
## (results expressed in µg/m$^3$)

| | Northeast Gallinger Road | |
|---|---|---|
| **Month** | **$SO_2$** | **$NO_2$** |
| Jul-20 | *0.13* | 0.75 |
| Aug-20 | *0.13* | 0.94 |
| Sep-20 | *0.13* | 1.32 |
| | | |
| Arithmetic mean | *0.13* | 1.00 |
| Max. concentration | *0.13* | 1.32 |
| Min. concentration | *0.13* | 0.75 |
| AAQC* (24-hr AAQC converted to equivalent 30-day average) | N/A | 78 µg/m3 |
| Alberta Ambient Air Quality Objectives 2013 | 30 µg/m3 | N/A |
| No. of valid samples | 3 | 3 |
| No. samples < mdl | 3 | 0 |
| Detection limit | 0.1 | 0.1 |
| Half detection limit | 0.05 | 0.05 |

Notes:

All statistics were calculated using 1/2DL for values reported as <DL

All non detectable results were reported as 1/2 detection limit and are denoted by italics and underlining

All results reported by the lab in parts per billion (ppb) and are converted to µg/m3 assuming 101.23kPA and 25C

N/A: Not applicable

—: Invalid Sample

*Ontario Ambient Air Quality Criteria

# APPENDIX B

NOTICES OF EXCEEDANCE FOR Q3 2020

# APPENDIX C

LABORATORY RESULTS – CERTIFICATES OF ANALYSIS

# APPENDIX D

PQ200 & TE-5170 CALIBRATION SHEETS – Q3 2020