NEW GOLD INC.
RAINY RIVER MINE

AMBIENT AIR QUALITY MONITORING PROGRAM
FIRST QUARTER 2020 REPORT

MAY 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
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

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1.0 INTRODUCTION

The following is a summary of the First Quarter (Q1) 2020 results for the ambient air quality monitoring program undertaken at New Gold Inc.'s Rainy River Mine located northwest of Emo, Ontario.

In Q1 of 2020, New Gold Inc. (New Gold) staff operated and maintained the ambient air quality monitoring sampling stations. They communicated with the laboratory staff as required, prepared the data summary reports, and performed one calibration on February 24, 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;
- Sampling dates (start and end where applicable); and
- A summary of exceedances of an Ontario Standard, 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.

The Ambient Air Monitoring Program was carried out 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 Q1 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

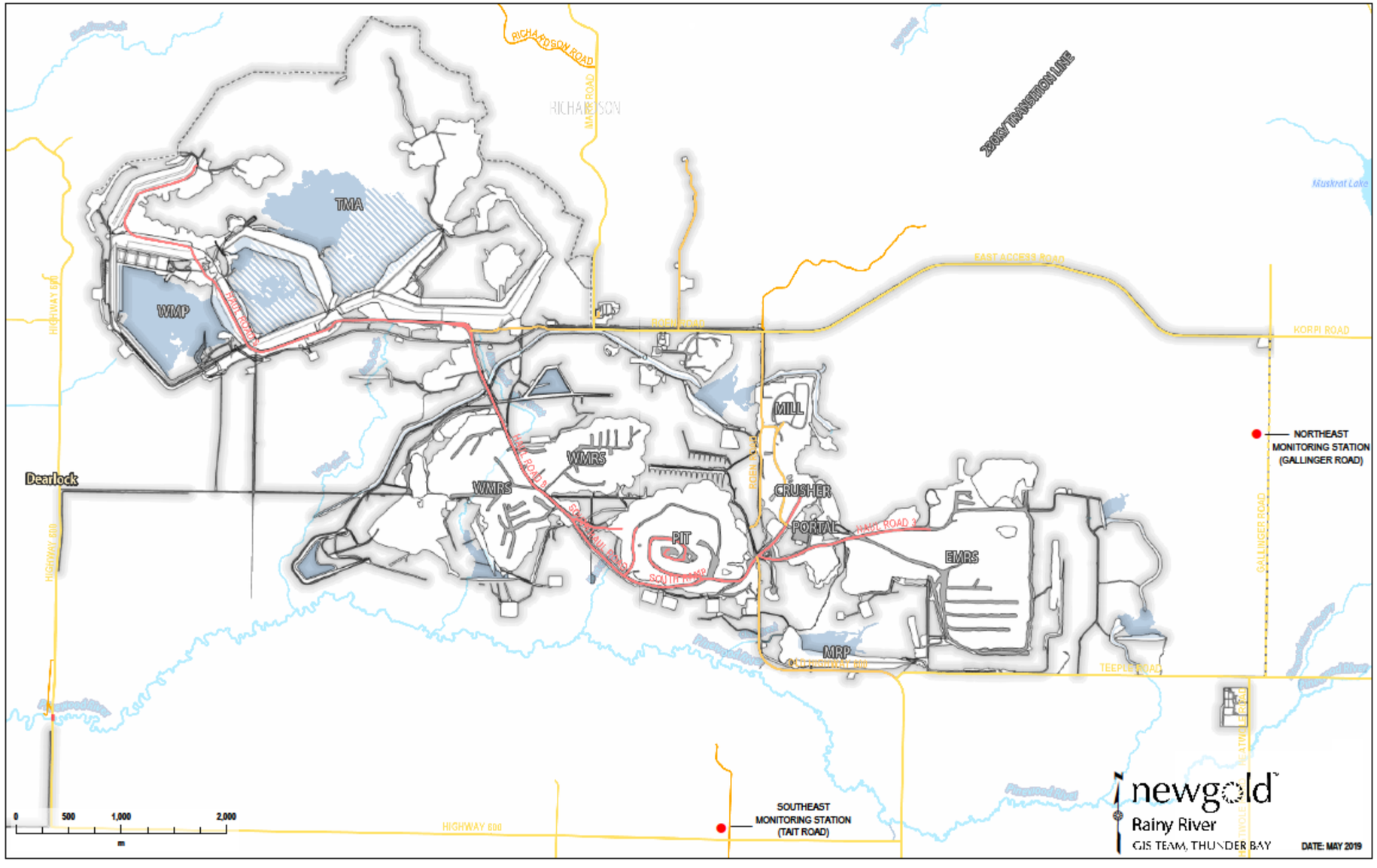

Figure 2-1: Ambient Air Monitoring Stations

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

The 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). Measurements of 24-hour average TSP and metal concentrations were collected as specified in the Operations Manual (MECP 2018); particulate samples 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). 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.

Metal concentrations were determined using standard Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP/AES) methodology. Method detection limits are as shown on the data sheets in Appendix A-1.

The lowest detectable limit of total particulate on the filter is 2.3 milligrams (mg). A typical 24-hour sample volume of 1,630 m³ results in a method detection limit of 1.4 micrograms per cubic metre (µg/m³).

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.

3.2 $PM_{2.5}$

Sampling was performed with PQ200 samplers. $PM_{2.5}$ 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); particulate samples were collected every sixth day as per the North American schedule (US EPA 2017).

The lowest detectable limit of $PM_{2.5}$ on the Teflon filters is 15 µg. A typical 24-hour sample volume of 24 m³ results in a method detection limit of 0.6 µg/m³.

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

3.3 Total Dustfall

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). Standard dustfall samplers were used to measure total dustfall deposition. 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. 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.

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. For both SO_2 and NO_2, the analytical method detection limit is in the order of 0.1 parts per billion (ppb). 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 MECP 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 of 30 µg/m^3 (AEP 2016).

3.5 Field Operations

3.5.1 Hi-Vol and PQ200 Samplers

To meet the requirements of 1 in 6 day sampling schedule, stations were visited once every six days. 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, temperature, and barometric pressure calibrations on PQ200 samplers using an electronic BGI flow calibrator. The flows were calibrated to 16.7 litres per minute (LPM) for each station.

New Gold staff performed flow calibrations on Hi Vol TE-5170 samplers using a Tisch Delta Calibration kit.

The Q1 calibration was performed on all Hi-Vol and PQ200 samplers on February 24, 2020. Calibration sheets can be found in Appendix D.

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 Q1 2020.

3.5.5 Equipment and Sampling Issues

During Q1 2020, 23 samples were invalidated, as discussed below:

- January 16: TSP sample Tait Road station was invalidated due to air volume of 1803 m^3 exceeding theoretical air volume upper range value of 1794m^3.
- January 22: TSP sample Tait Road station was invalidated due to air volume of 2207 m^3 exceeding theoretical air volume upper range value of 1794m^3.
- January 28: TSP sample Tait Road station was invalidated due to air volume of 2276 m^3 exceeding theoretical air volume upper range value of 1794m^3.
- February 3: TSP sample Tait Road station was invalidated due to air volume of 2152 m^3 exceeding theoretical air volume upper range value of 1794m^3.
- February 9: TSP sample Tait Road station was invalidated due to air volume of 2152 m^3 exceeding theoretical air volume upper range value of 1794m^3.
- February 15: TSP sample Tait Road station was invalidated due to air volume of 4449 m^3 exceeding theoretical air volume upper range value of 1794m^3 and the run time of 47.38 hours exceeding the upper range of 26.4 hours.
- February 21: TSP sample Tait Road station was invalidated due to air volume of 1965 m^3 exceeding theoretical air volume upper range value of 1794m^3.
- February 27: TSP sample Tait Road station was invalidated due to air volume of 2095 m^3 exceeding theoretical air volume upper range value of 1794m^3.
- March 4: TSP sample Tait Road station was invalidated due to air volume of 2071 m^3 exceeding theoretical air volume upper range value of 1794m^3.
- March 10: TSP sample Tait Road station was invalidated due to air volume of 1874 m^3 exceeding theoretical air volume upper range value of 1794m^3.
- March 16: TSP sample Tait Road station was invalidated due to run time of 17.8 hours exceeding the lower range value of 21.6 hours.

- March 22: TSP sample Tait Road station was invalidated due to air volume of 2040 m^3 exceeding theoretical air volume upper range value of 1794m^3.
- March 28: TSP sample Tait Road station was invalidated due to air volume of 1992 m^3 exceeding theoretical air volume upper range value of 1794m^3.
- January 22: TSP sample Gallinger Road station was invalidated due to air volume of 1323 m^3 exceeding theoretical air volume lower range value of 1468m^3.
- February 3: TSP sample Gallinger Road station was invalidated due to air volume of 2278 m^3 exceeding theoretical air volume upper range value of 1794 m^3.
- February 9: TSP sample Gallinger Road station was invalidated due to air volume of 1066 m^3 exceeding theoretical air volume lower range value of 1468m^3.
- February 21: TSP sample Gallinger Road station was invalidated due to insufficient run time.
- February 27: TSP sample Gallinger Road station was invalidated due to air volume of 1830 m^3 exceeding theoretical air volume upper range value of 1794 m^3.
- March 4: TSP sample Gallinger Road station was invalidated due to air volume of 2161 m^3 exceeding theoretical air volume upper range value of 1794 m^3.
- March 10: TSP sample Gallinger Road station was invalidated due to air volume of 1300 m^3 exceeding theoretical air volume lower range value of 1468 m^3.
- March 16: TSP sample Gallinger Road station was invalidated due to air volume of 1871 m^3 exceeding theoretical air volume upper range value of 1794 m^3.
- March 22: TSP sample Gallinger Road station was invalidated due to air volume of 1864 m^3 exceeding theoretical air volume upper range value of 1794 m^3.
- March 28: TSP sample Gallinger Road station was invalidated due to air volume of 1811 m^3 exceeding theoretical air volume upper range value of 1794 m^3.

4.0 RESULTS

Sampling program results for Q1 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 the purpose of 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 Q1 2020 can be found in Appendix C.

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

Summaries of the statistical analyses for Q1 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 15 sampling days between January 1 and March 30, 2020.

A summary of the statistical analyses for Q1 2020 for the total dustfall data is presented in Table 4-4. A summary of the statistical analysis for the Q1 2020 passive SO_2 and NO_2 results is presented in Table 4-5.

4.1 TSP and Metals

The Tait Road station collected 2 valid samples, resulting in 13% valid data for Q1 2020. The Gallinger Road Station collected 5 valid samples, resulting in 33% valid data for Q1 2020. Therefore the statistics for the TSP an Metals were created using the valid and invalid data.

For the quarter, the geometric mean TSP concentrations were 8.29 µg/m³ for the Tait Road station and 19.13 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 287.29 µg/m³ at the Tait Road station on February 27, 2020, and 219.71 µg/m³ at the Gallinger Road station on February 27, 2020.

The Gallinger Road and Tait Road values exceeded the MECP AAQC value of 120 µg/m³ for TSP and 4 µg/m³ for iron on February 27, 2020. Although this data was identified as invalid by the flow requirements, both exceedances were reported to MECP Spills Action Centre on May 12, 2020. A copy of the report can be found in Appendix B.

Appendix A-1 and Figure 4-1 present individual sample data. The Q1 2020 TSP and metals summary statistics of valid and invalid data are summarized in Tables 4-1 and 4-2, respectively.

4.2 $PM_{2.5}$

Both Tait Road and Gallinger stations collected 15 valid samples, resulting in 100% valid data for Q1 2020.

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 $PM_{2.5}$ was 10.90 µg/m³ at the Tait

Road station (January 22, 2020), and 11.40 µg/m³ at the Gallinger Road station (January 22, 2020).

There were no $PM_{2.5}$ exceedances of the MECP AAQC of 30 µg/m³ or CAAQS (ECCC 2013) of 28 µg/m³ measured in Q1 2020. Appendix A-1 and Figure 4-2 present individual sample data.

The Q1 2020 $PM_{2.5}$ summary statistics are summarized in Table 4-3.

4.3 Total Dustfall

In Q1 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 were substituted with one-half of the detection limit. The maximum 30-day concentration for dustfall was 2.31 µg/m³ at the Tait Road station (February), and 2.64 µg/m³ at the Gallinger Road station (February).

There were no dustfall exceedances of the 30-day MECP AAQC of 7 g/m² measured in Q1 2020 at either Tait Road or Gallinger Road stations.

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

4.4 Passive SO_2 and NO_2

In Q1 2020, 3 valid samples were collected at each station of each SO_2 and NO_2.

There are no MECP standards, guidelines or AAQCs for SO_2 or NO_2 for a 30-day averaging period. 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.

For NO_2, the monthly results were compared to the MECP 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 Alberta Ambient Air Quality Objective of 30 µg/m³ (AEP 2017).

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

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 AAQC for all Q1 2020 samples.

Table 4-1: Summary Statistics For Q1 2020 TSP Concentration for Valid and Invalid Data

Statistics	Tait Road (SW)	Gallinger (NE)
Geometric mean (µg/m^3)	8.29	19.13
Arithmetic mean (µg/m^3)	28.88	39.10
Jan Maximum (µg/m^3)	18.35	55.76
Feb Maximum (µg/m^3)	287.29	219.71
Mar Maximum (µg/m^3)	41.67	57.73
Maximum 24-hr (µg/m^3)	287.29	219.71
90th percentile	32.34	57.14
95th percentile	115.36	114.43
24-hr AAQC	120	120
No. Valid Samples	2	5
Valid Data	100%	100%
No. Samples > AAQC (particulate)	1	1
No. Samples > AAQC (metals)	1	1
No. Samples > AAQC (metalloids)	0	0

Table 4-2: Summary Statistics For Q1 2020 Metals Concentration for Valid and Invalid Data

Metal	24-hr AAQC (µg/m^3)	Tait Road (SW)		Gallinger Road (NE)	
		Maximum 24-hr Concentration (µg/m^3)	Fraction of 24-hr AAQC	Maximum 24-hr Concentration (µg/m^3)	Fraction of 24-hr AAQC
As	0.3	0.0025	0.83%	0.0014	0.47%
Cd	0.025	0.0006	2.59%	0.0009	3.75%
Cr	0.5	0.0099	1.98%	0.0162	3.24%
Co	0.1	0.0027	2.72%	0.0038	3.83%
Cu	50	0.2573	0.51%	0.0771	0.15%
Fe	4	6.4425	161.06%	5.9028	147.57%
Pb	0.5	0.0042	0.84%	0.0026	0.51%
Mn	0.4	0.1613	40.33%	0.1148	28.69%
Ni	0.2	0.0064	3.22%	0.0095	4.76%
Se	10	0.0032	0.03%	0.0047	0.05%
V	2	0.0090	0.45%	0.0123	0.61%
Zn	120	0.0778	0.06%	0.0256	0.02%

Table 4-3: Summary Statistics for Q1 2020 $PM_{2.5}$ Concentration Data

Statistics	Tait Road (SW)	Gallinger (NE)
Arithmetic mean (µg/m³)	2.44	1.99
Jan Maximum (µg/m³)	10.90	11.40
Feb Maximum (µg/m³)	4.58	1.41
Mar Maximum (µg/m³)	3.71	4.62
Maximum 24-hr (µg/m³)	10.90	11.40
90th percentile	4.23	4.15
95th percentile	6.48	6.65
24-hr CAAQS	28	28
No. Valid Samples	15	15
Valid Data	100%	100%
No. Samples > AAQC (particulate)	0	0

Table 4-4: Summary Statistics for Q1 2020 Total Dustfall Data

Statistics	Tait Road (SW)	Gallinger (NE)
Arithmetic mean (µg/m³/30d)	1.57	1.45
Maximum 24-hr (µg/m³/30d)	2.31	2.64
30-day AAQC	7	7
No. > AAQC	0	0
No. Valid Samples	3	3
Valid Data	100%	100%

Table 4-5: Summary Statistics for Q1 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/m³)	0.393	0.846	0.131	0.721
Maximum (µg/m³)	0.524	1.316	0.131	1.128
AAQC* 24-hr converted to 30 day (µg/m³)	N/A	78	N/A	78
Alberta AAQO (µg/m³)	30	N/A	30	N/A
No. valid samples (µg/m³)	3	3	3	3
Valid data	100%	100%	100%	100%

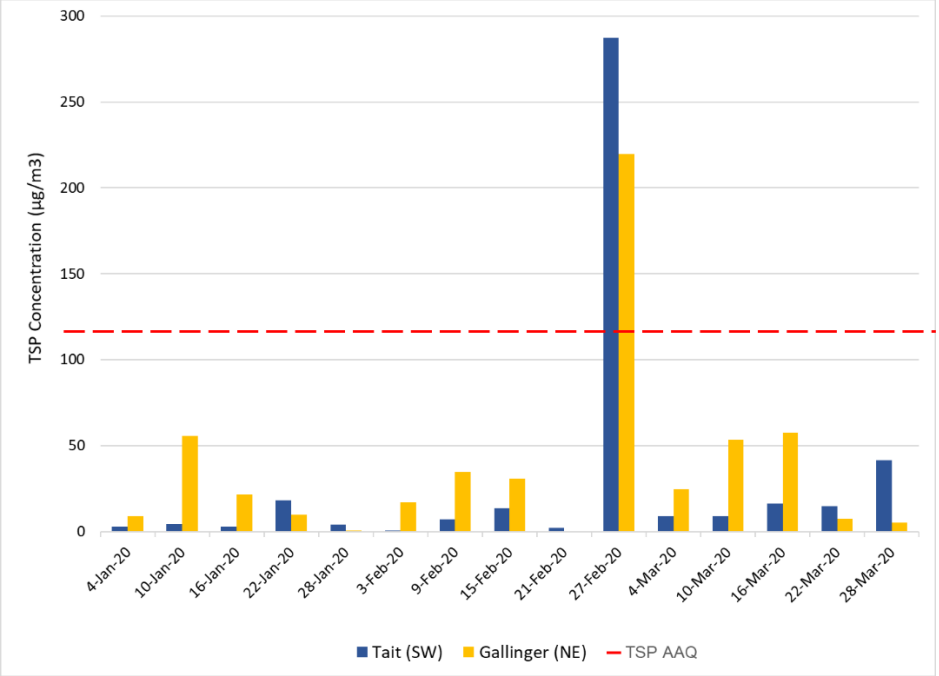

Figure 4-1: TSP Concentrations (Valid and Invalid Data) (Q1 2020)

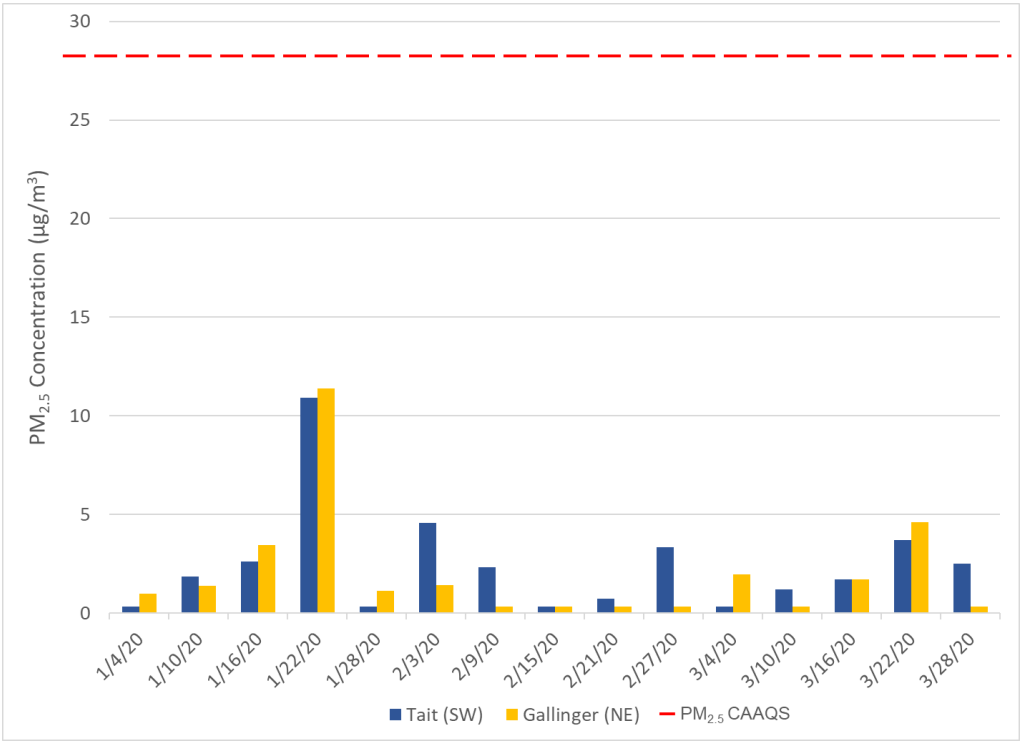

Figure 4-2: $PM_{2.5}$ Concentrations (Q1 2020)

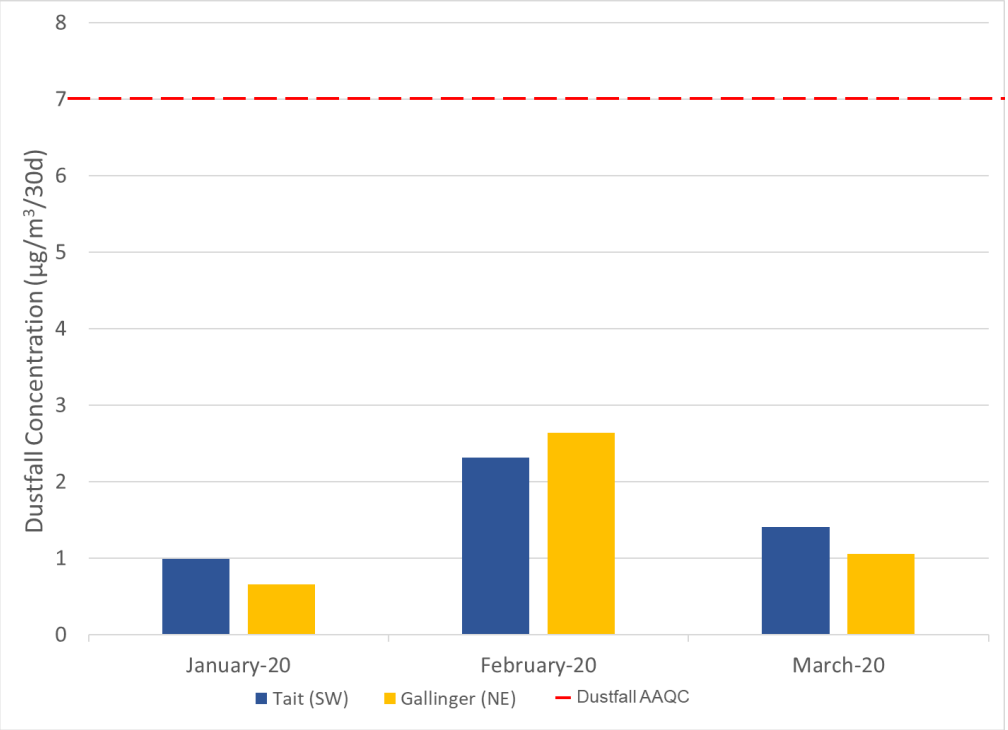

Figure 4-3: Dustfall Concentrations (Q1 2020)

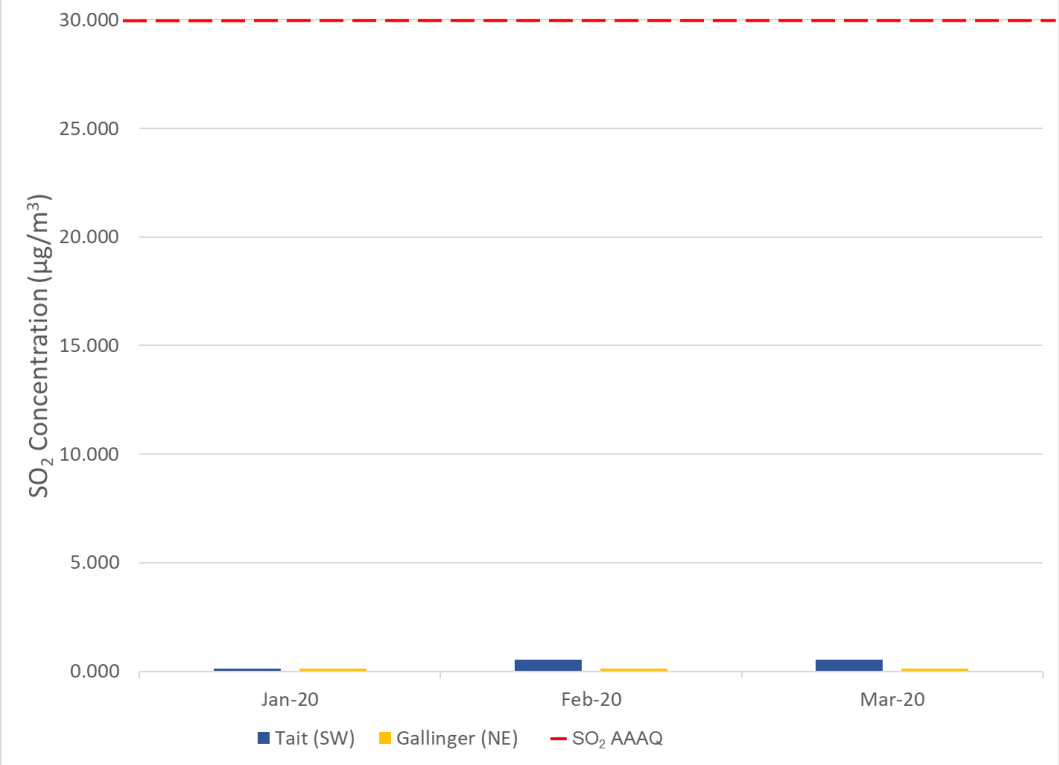

Figure 4-4: SO_2 Concentrations (Q1 2020)

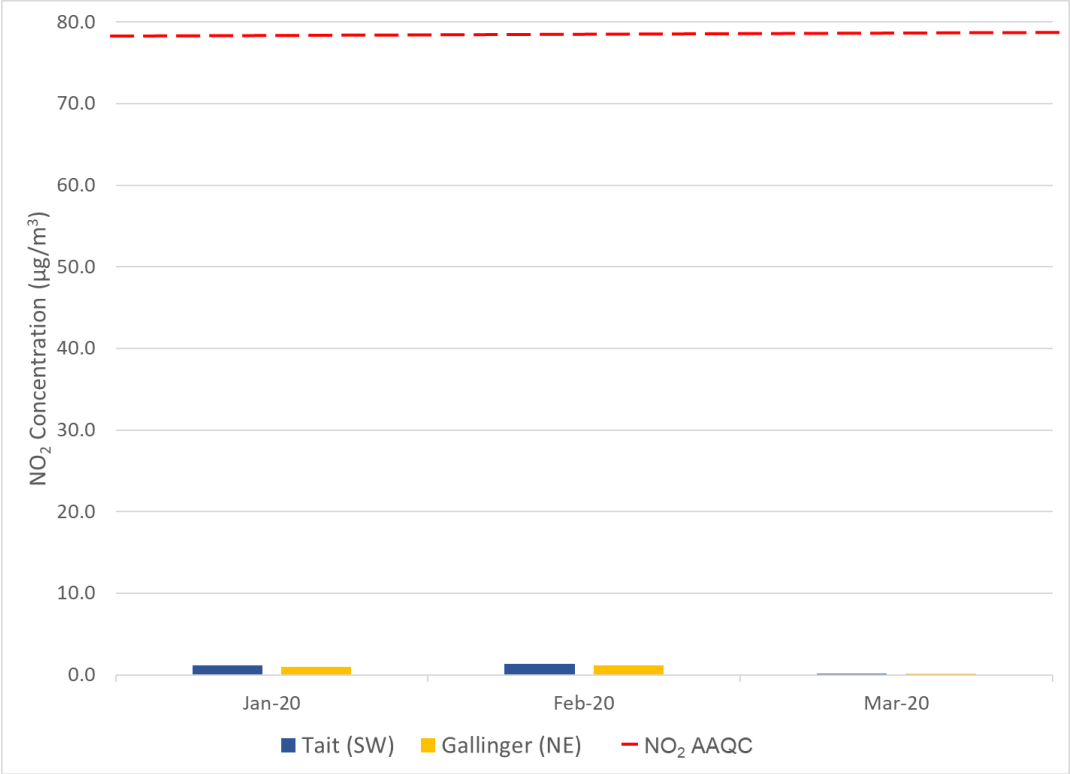

Figure 4-5: NO_2 Concentrations (Q1 2020)

5.0 MITIGATION MEASURES

In Q1 2020, 23 out of the 30 TSP samples were invalid. Majority of which were due to variable flow through the Hi Vol TE-5170. The measures listed below will be implemented to mitigate this issue:

- 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 is sample run.
  - 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 possible replacement of motors for the Hi Vol TE-5170
- Development of a maintenance schedule for an assessment of the equipment

These mitigation measure will be implemented and assessed in the Q2 2020 Ambient Air Quality Report.

6.0 CONCLUSIONS

A summary of the Q1 2020 ambient air quality monitoring program results is provided below:

- The Tait Road station collected 2 valid TSP samples, resulting in 13% sample validity. The Gallinger Road Station collected 5 valid TSP samples, resulting in 33% sample validity. Metal and metalloid concentrations were measured on each of the valid TSP filters.
- There were two exceedances of the TSP in Q1 2020 during the month of February. This was most likely due to dust from the public roads near both stations. Details can be found in Appendix B.
- There were two exceedances of iron in Q1 2020 during the month of February. This was most likely due to dust from the public roads near both stations. Details can be found in Appendix B.

- 15 valid $PM_{2.5}$ samples were collected at the Tait and Gallinger Road stations, resulting in 100% valid data, overall. There were no exceedances of the 24-hour $PM_{2.5}$ CAAQS in Q1 2020.
- 3 valid dustfall samples were collected at each station (100% sample validity). There were no exceedances of the 30-day dustfall AAQC in Q1 2020.
- 3 valid passive SO_2 and NO_2 samples were collected at each of the two stations (100% sample validity). There were no exceedances of AEP Criterion for SO_2 or the 30-day equivalent AAQC for NO_2 in Q1 2020.

7.0 REFERENCES

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8.0 CLOSING

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

i) information available at the time of preparation;

ii) data supplied by outside sources; and

iii) 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:

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

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Southwest Tait Road Monitoring Results (Valid) for TSP and Metals (First Quarter 2020)														
(results expressed in µg/m^3)														
Date	**PM2.5**	**TSP**	**As**	**Cd**	**Cr**	**Co**	**Cu**	**Fe**	**Pb**	**Mn**	**Ni**	**Se**	**V**	**Zn**
1/4/20	*0.312*	2.849	*9.71E-04*	*6.48E-04*	*1.62E-03*	*6.48E-04*	0.059	0.058	*9.71E-04*	0.002	*0.001*	*0.003*	*0.002*	0.012
1/10/20	1.832	4.547	*9.47E-04*	*6.32E-04*	*1.58E-03*	*6.32E-04*	0.058	0.077	*9.47E-04*	0.003	*0.001*	*0.003*	*0.002*	0.009
1/16/20	2.623	--	--	--	--	--	--	--	--	--	--	--	--	--
1/22/20	10.903	--	--	--	--	--	--	--	--	--	--	--	--	--
1/28/20	*0.312*	--	--	--	--	--	--	--	--	--	--	--	--	--
2/3/20	4.578	--	--	--	--	--	--	--	--	--	--	--	--	--
2/9/20	2.331	--	--	--	--	--	--	--	--	--	--	--	--	--
2/15/20	*0.312*	--	--	--	--	--	--	--	--	--	--	--	--	--
2/21/20	0.708	--	--	--	--	--	--	--	--	--	--	--	--	--
2/27/20	3.331	--	--	--	--	--	--	--	--	--	--	--	--	--
3/4/20	*0.312*	--	--	--	--	--	--	--	--	--	--	--	--	--
3/10/20	1.207	--	--	--	--	--	--	--	--	--	--	--	--	--
3/16/20	1.707	--	--	--	--	--	--	--	--	--	--	--	--	--
3/22/20	3.705	--	--	--	--	--	--	--	--	--	--	--	--	--
3/28/20	2.497	--	--	--	--	--	--	--	--	--	--	--	--	--
Geometric mean	1.44	3.60	9.59E-04	6.39E-04	1.60E-03	6.39E-04	5.89E-02	6.70E-02	9.59E-04	2.08E-03	9.59E-04	3.20E-03	1.60E-03	1.05E-02
Arithmetic mean	2.44	3.70	9.59E-04	6.40E-04	1.60E-03	6.40E-04	5.89E-02	6.77E-02	9.59E-04	2.17E-03	9.59E-04	3.20E-03	1.60E-03	1.06E-02
Max. concentration	10.90	4.55	9.71E-04	6.48E-04	1.62E-03	6.48E-04	5.94E-02	7.70E-02	9.71E-04	2.78E-03	9.71E-04	3.24E-03	1.62E-03	1.21E-02
Min. concentration	0.31	2.85	9.47E-04	6.32E-04	1.58E-03	6.32E-04	5.83E-02	5.83E-02	9.47E-04	1.55E-03	9.47E-04	3.16E-03	1.58E-03	9.09E-03
90th percentile	4.23	4.38	9.69E-04	6.46E-04	1.61E-03	6.46E-04	5.93E-02	7.52E-02	9.69E-04	2.66E-03	9.69E-04	3.23E-03	1.61E-03	1.18E-02
95th percentile	6.48	4.46	9.70E-04	6.47E-04	1.62E-03	6.47E-04	5.94E-02	7.61E-02	9.70E-04	2.72E-03	9.70E-04	3.23E-03	1.62E-03	1.20E-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	2	2	2	2	2	2	2	2	2	2	2	2	2
No. samples < mdl	4	0	2	2	2	2	0	0	2	0	2	2	2	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	27	0	100	100	100	100	0	0	100	0	100	100	100	0
% valid data	100	13	13	13	13	13	13	13	13	13	13	13	13	13

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

newgold™ Rainy River

Northeast Gallinger Road Monitoring Results (Valid) for TSP and Metals (First Quarter 2020)														
(results expressed in µg/m3)														
Date	**PM2.5**	**TSP**	**As**	**Cd**	**Cr**	**Co**	**Cu**	**Fe**	**Pb**	**Mn**	**Ni**	**Se**	**V**	**Zn**
1/4/20	0.957	9.112	*8.99E-04*	*5.99E-04*	*1.50E-03*	*5.99E-04*	0.076	0.397	*8.99E-04*	0.010	*0.001*	*0.003*	*0.001*	0.018
1/10/20	1.373	55.763	*8.98E-04*	*5.99E-04*	*1.50E-03*	*5.99E-04*	0.041	0.773	*8.98E-04*	0.022	*0.001*	*0.003*	*0.001*	0.024
1/16/20	3.454	21.559	*8.56E-04*	*5.70E-04*	*1.43E-03*	*5.70E-04*	0.067	0.344	1.83E-03	0.013	*0.001*	*0.003*	*0.001*	0.020
1/22/20	11.402	--	--	--	--	--	--	--	--	--	--	--	--	--
1/28/20	1.124	*0.688*	*8.98E-04*	*5.99E-04*	*1.50E-03*	*5.99E-04*	0.059	0.034	*8.98E-04*	0.001	*0.001*	*0.003*	*0.001*	0.004
2/3/20	1.415	--	--	--	--	--	--	--	--	--	--	--	--	--
2/9/20	*0.312*	--	--	--	--	--	--	--	--	--	--	--	--	--
2/15/20	*0.312*	30.737	*9.17E-04*	*6.11E-04*	*1.53E-03*	*6.11E-04*	0.033	0.561	*9.17E-04*	0.019	*0.001*	*0.003*	*0.002*	0.023
2/21/20	*0.313*	--	--	--	--	--	--	--	--	--	--	--	--	--
2/27/20	*0.312*	--	--	--	--	--	--	--	--	--	--	--	--	--
3/4/20	1.956	--	--	--	--	--	--	--	--	--	--	--	--	--
3/10/20	*0.312*	--	--	--	--	--	--	--	--	--	--	--	--	--
3/16/20	1.707	--	--	--	--	--	--	--	--	--	--	--	--	--
3/22/20	4.619	--	--	--	--	--	--	--	--	--	--	--	--	--
3/28/20	*0.312*	--	--	--	--	--	--	--	--	--	--	--	--	--
Geometric mean	1.01	11.83	8.93E-04	5.96E-04	1.49E-03	5.96E-04	5.26E-02	2.89E-01	1.04E-03	8.13E-03	8.93E-04	2.98E-03	1.49E-03	1.49E-02
Arithmetic mean	1.99	23.57	8.94E-04	5.96E-04	1.49E-03	5.96E-04	5.50E-02	4.22E-01	1.09E-03	1.29E-02	8.94E-04	2.98E-03	1.49E-03	1.77E-02
Max. concentration	11.40	55.76	9.17E-04	6.11E-04	1.53E-03	6.11E-04	7.55E-02	7.73E-01	1.83E-03	2.19E-02	9.17E-04	3.06E-03	1.53E-03	2.38E-02
Min. concentration	0.31	0.69	8.56E-04	5.70E-04	1.43E-03	5.70E-04	3.30E-02	3.41E-02	8.98E-04	6.58E-04	8.56E-04	2.85E-03	1.43E-03	3.77E-03
90th percentile	4.15	45.75	9.10E-04	6.06E-04	1.52E-03	6.06E-04	7.20E-02	6.88E-01	1.46E-03	2.06E-02	9.10E-04	3.03E-03	1.52E-03	2.33E-02
95th percentile	6.65	50.76	9.13E-04	6.09E-04	1.52E-03	6.09E-04	7.38E-02	7.30E-01	1.64E-03	2.13E-02	9.13E-04	3.04E-03	1.52E-03	2.35E-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	5	5	5	5	5	5	5	5	5	5	5	5	5
No. samples < mdl	6	1	5	5	5	5	0	0	4	0	5	5	5	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	40	20	100	100	100	100	0	0	80	0	100	100	100	0
% valid data	100	33	33	33	33	33	33	33	33	33	33	33	33	33

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

newgold™ Rainy River

Southwest Tait Road Monitoring Results (Valid and Invalid) for TSP and Metals (First Quarter 2020)														
(results expressed in µg/m³)														
Date	PM2.5	TSP	As	Cd	Cr	Co	Cu	Fe	Pb	Mn	Ni	Se	V	Zn
1/4/20	*0.312*	2.849	*9.71E-04*	*6.48E-04*	*1.62E-03*	*6.48E-04*	0.059	0.058	*9.71E-04*	0.002	*0.001*	*0.003*	*0.002*	0.012
1/10/20	1.832	4.547	*9.47E-04*	*6.32E-04*	*1.58E-03*	*6.32E-04*	0.058	0.077	*9.47E-04*	0.003	*0.001*	*0.003*	*0.002*	0.009
1/16/20	2.623	2.828	*8.32E-04*	*5.55E-04*	*1.39E-03*	*5.55E-04*	0.257	0.049	*8.32E-04*	0.002	*0.001*	*0.003*	*0.001*	0.009
1/22/20	10.903	18.351	*6.80E-04*	*4.53E-04*	*1.13E-03*	*4.53E-04*	0.050	0.271	*6.80E-04*	0.010	*0.001*	*0.002*	*0.001*	0.017
1/28/20	*0.312*	3.910	*6.59E-04*	*4.39E-04*	*1.10E-03*	*4.39E-04*	0.087	0.077	*6.59E-04*	0.002	*0.001*	*0.002*	*0.001*	0.006
2/3/20	4.578	*0.534*	*6.97E-04*	*4.65E-04*	*1.16E-03*	*4.65E-04*	0.066	0.072	*6.97E-04*	0.002	*0.001*	*0.002*	*0.001*	0.010
2/9/20	2.331	6.934	*6.67E-04*	*4.44E-04*	*1.11E-03*	*4.44E-04*	0.049	0.145	*6.67E-04*	0.004	*0.001*	*0.002*	*0.001*	0.006
2/15/20	*0.312*	13.485	*3.37E-04*	*2.25E-04*	*5.62E-04*	*2.25E-04*	0.046	0.236	1.91E-03	0.010	*0.000*	*0.001*	*0.001*	0.017
2/21/20	0.708	1.985	*7.63E-04*	*5.09E-04*	*1.27E-03*	*5.09E-04*	0.022	0.146	*7.63E-04*	0.009	*0.001*	*0.003*	*0.001*	0.007
2/27/20	3.331	287.290	2.48E-03	*4.77E-04*	9.88E-03	2.72E-03	0.092	6.443	4.20E-03	0.161	0.006	*0.002*	0.009	0.078
3/4/20	*0.312*	9.079	*7.24E-04*	*4.83E-04*	*1.21E-03*	*4.83E-04*	0.047	0.259	*7.24E-04*	0.006	*0.001*	*0.002*	*0.001*	0.013
3/10/20	1.207	8.967	*8.01E-04*	*5.34E-04*	*1.33E-03*	*5.34E-04*	0.037	0.189	*8.01E-04*	0.004	*0.001*	*0.003*	*0.001*	0.003
3/16/20	1.707	16.128	*9.30E-04*	*6.20E-04*	*1.55E-03*	*6.20E-04*	0.036	0.256	*9.30E-04*	0.007	*0.001*	*0.003*	*0.002*	0.009
3/22/20	3.705	14.709	*7.35E-04*	*4.90E-04*	*1.23E-03*	*4.90E-04*	0.038	0.369	*7.35E-04*	0.010	*0.001*	*0.002*	*0.001*	0.009
3/28/20	2.497	41.674	*7.53E-04*	*5.02E-04*	*1.26E-03*	*5.02E-04*	0.063	0.653	1.76E-03	0.023	*0.001*	*0.003*	*0.001*	0.024
Geometric mean	1.44	8.29	7.92E-04	4.86E-04	1.40E-03	5.46E-04	5.62E-02	2.00E-01	9.75E-04	6.10E-03	8.44E-04	2.43E-03	1.39E-03	1.13E-02
Arithmetic mean	2.44	28.88	8.65E-04	4.98E-04	1.82E-03	6.48E-04	6.72E-02	6.20E-01	1.15E-03	1.70E-02	1.13E-03	2.49E-03	1.77E-03	1.54E-02
Max. concentration	10.90	287.29	2.48E-03	6.48E-04	9.88E-03	2.72E-03	2.57E-01	6.44E+00	4.20E-03	1.61E-01	6.44E-03	3.24E-03	9.02E-03	7.78E-02
Min. concentration	0.31	0.53	3.37E-04	2.25E-04	5.62E-04	2.25E-04	2.24E-02	4.88E-02	6.59E-04	1.55E-03	3.37E-04	1.12E-03	5.62E-04	3.31E-03
90th percentile	4.23	32.34	9.62E-04	6.27E-04	1.60E-03	6.41E-04	8.99E-02	5.39E-01	1.85E-03	1.81E-02	9.62E-04	3.14E-03	1.60E-03	2.14E-02
95th percentile	6.48	115.36	1.42E-03	6.36E-04	4.10E-03	1.27E-03	1.41E-01	2.39E+00	2.60E-03	6.47E-02	2.61E-03	3.18E-03	3.84E-03	4.03E-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	1	0	0	0	0	0	1	0	0	0	0	0	0
No. of valid samples	15	2	2	2	2	2	2	2	2	2	2	2	2	2
No. samples < mdl	4	1	14	15	14	14	0	0	12	0	14	15	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	27	7	93	100	93	93	0	0	80	0	93	100	93	0
% valid data	100	13	13	13	13	13	13	13	13	13	13	13	13	13

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

newgold™ Rainy River

Northeast Gallinger Road Monitoring Results (Valid and Invalid) for TSP and Metals (First Quarter 2020)														
(results expressed in µg/m3)														
Date	**PM2.5**	**TSP**	**As**	**Cd**	**Cr**	**Co**	**Cu**	**Fe**	**Pb**	**Mn**	**Ni**	**Se**	**V**	**Zn**
1/4/20	0.957	9.112	*8.99E-04*	*5.99E-04*	*1.50E-03*	*5.99E-04*	0.076	0.397	*8.99E-04*	0.010	*0.001*	*0.003*	*0.001*	0.018
1/10/20	1.373	55.763	*8.98E-04*	*5.99E-04*	*1.50E-03*	*5.99E-04*	0.041	0.773	*8.98E-04*	0.022	*0.001*	*0.003*	*0.001*	0.024
1/16/20	3.454	21.559	*8.56E-04*	*5.70E-04*	*1.43E-03*	*5.70E-04*	0.067	0.344	1.83E-03	0.013	*0.001*	*0.003*	*0.001*	0.020
1/22/20	11.402	9.752	*1.13E-03*	*7.56E-04*	*1.89E-03*	*7.56E-04*	0.060	0.225	*1.13E-03*	0.010	*0.001*	*0.004*	*0.002*	0.017
1/28/20	1.124	*0.688*	*8.98E-04*	*5.99E-04*	*1.50E-03*	*5.99E-04*	0.059	0.034	*8.98E-04*	0.001	*0.001*	*0.003*	*0.001*	0.004
2/3/20	1.415	17.119	*6.58E-04*	*4.39E-04*	*1.10E-03*	*4.39E-04*	0.055	0.249	1.36E-03	0.008	*0.001*	*0.002*	*0.001*	0.020
2/9/20	*0.312*	34.508	1.41E-03	9.38E-04	2.34E-03	9.38E-04	0.025	0.587	1.41E-03	0.015	0.001	0.005	0.002	0.016
2/15/20	*0.312*	30.737	*9.17E-04*	*6.11E-04*	*1.53E-03*	*6.11E-04*	0.033	0.561	*9.17E-04*	0.019	*0.001*	*0.003*	*0.002*	0.023
2/21/20	*0.313*													
2/27/20	*0.312*	219.715	*8.20E-04*	*5.47E-04*	1.62E-02	3.83E-03	0.077	5.903	2.57E-03	0.115	0.010	*0.003*	0.012	0.026
3/4/20	1.956	24.669	*6.94E-04*	*4.63E-04*	*1.16E-03*	*4.63E-04*	0.042	0.292	*6.94E-04*	0.008	*0.001*	*0.002*	*0.001*	0.013
3/10/20	*0.312*	53.291	*1.15E-03*	*7.69E-04*	*1.92E-03*	*7.69E-04*	0.020	0.644	*1.15E-03*	0.032	*0.001*	*0.004*	*0.002*	0.013
3/16/20	1.707	57.731	*8.02E-04*	*5.35E-04*	*1.34E-03*	*5.35E-04*	0.031	0.887	1.66E-03	0.026	*0.001*	*0.003*	*0.001*	0.021
3/22/20	4.619	7.511	*8.05E-04*	*5.36E-04*	*1.34E-03*	*5.36E-04*	0.023	0.148	*8.05E-04*	0.006	*0.001*	*0.003*	*0.001*	0.007
3/28/20	*0.312*	5.246	*8.28E-04*	*5.52E-04*	*1.38E-03*	*5.52E-04*	0.067	0.119	*8.28E-04*	0.003	*0.001*	*0.003*	*0.001*	0.007
Geometric mean	1.01	19.13	8.94E-04	5.96E-04	1.78E-03	6.85E-04	4.40E-02	3.76E-01	1.14E-03	1.15E-02	1.07E-03	2.98E-03	1.74E-03	1.45E-02
Arithmetic mean	1.99	39.10	9.12E-04	6.08E-04	2.58E-03	8.42E-04	4.82E-02	7.97E-01	1.22E-03	2.06E-02	1.53E-03	3.04E-03	2.30E-03	1.63E-02
Max. concentration	11.40	219.71	1.41E-03	9.38E-04	1.62E-02	3.83E-03	7.71E-02	5.90E+00	2.57E-03	1.15E-01	9.51E-03	4.69E-03	1.23E-02	2.56E-02
Min. concentration	0.31	0.69	6.58E-04	4.39E-04	1.10E-03	4.39E-04	1.98E-02	3.41E-02	6.94E-04	6.58E-04	6.58E-04	2.19E-03	1.10E-03	3.77E-03
90th percentile	4.15	57.14	1.15E-03	7.65E-04	2.22E-03	8.87E-04	7.29E-02	8.53E-01	1.77E-03	3.03E-02	1.33E-03	3.83E-03	2.22E-03	2.34E-02
95th percentile	6.65	114.43	1.24E-03	8.28E-04	7.19E-03	1.95E-03	7.61E-02	2.64E+00	2.09E-03	6.09E-02	4.24E-03	4.14E-03	5.83E-03	2.44E-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	1	0	0	0	0	0	1	0	0	0	0	0	0
No. of valid samples	15	5	5	5	5	5	5	5	5	5	5	5	5	5
No. samples < mdl	6	1	13	13	12	12	0	0	9	0	12	13	12	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	40	7	93	93	86	86	0	0	64	0	86	93	86	0
% valid data	100	33	33	33	33	33	33	33	33	33	33	33	33	33

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
Blank: No samples run
—: Invalid Sample

*Canadian Ambient Air Quality Standard, 24-hour standard

APPENDIX A-2

TOTAL DUSTFALL SAMPLING RESULTS

newgold™ Rainy River

Tait Road Monitoring Results for Dustfall (First Quarter 2020) (results expressed in g/m²/30days)				
Month	**No. Exposure Days**	**Dustfall (insoluble)**	**Dustfall (soluble)**	**Tait (SW)**
January-20	29	0.78	*0.15*	0.99
February-20	31	2.19	*0.15*	2.31
March-20	28	1.26	*0.15*	1.41
			Arithmetic mean	1.57
			Max. concentration	2.31
			Min. concentration	0.99
			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

Gallinger Road Monitoring Results for Dustfall (First Quarter 2020) (results expressed in g/m²/30days)				
Month	**No. Exposure Days**	**Dustfall (insoluble)**	**Dustfall (soluble)**	**Gallinger (NE)**
January-20	29	0.48	*0.15*	0.66
February-20	31	2.52	*0.15*	2.64
March-20	28	0.66	0.39	1.05
			Arithmetic mean	1.45
			Max. concentration	2.64
			Min. concentration	0.66
			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

newgold™ Rainy River

Monitoring Results for Passive SO_2 and NO_2 (First Quarter 2020)

(results expressed in µg/m^3)

	Southwest Tait Road	
Month	**SO_2**	**NO_2**
Jan-20	*0.13*	1.13
Feb-20	0.52	1.32
Mar-20	0.52	*0.09*
Arithmetic mean	0.39	0.85
Max. concentration	0.52	1.32
Min. concentration	*0.13*	*0.09*
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	1	1
Detection limit	0.1	0.1
Half detection limit	0.05	0.05

Monitoring Results for Passive SO_2 and NO_2 (First Quarter 2020)

(results expressed in µg/m^3)

	Northeast Gallinger Road	
Month	**SO_2**	**NO_2**
Jan-20	*0.13*	0.94
Feb-20	*0.13*	1.13
Mar-20	*0.13*	*0.09*
Arithmetic mean	*0.13*	0.72
Max. concentration	*0.13*	1.13
Min. concentration	*0.13*	*0.09*
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	1
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 Q1 2020

APPENDIX C

LABORATORY RESULTS – CERTIFICATES OF ANALYSIS

APPENDIX D

PQ200 & TE-5170 CALIBRATION SHEETS – Q1 2020