



**NEW GOLD INC.
RAINY RIVER MINE**

**AMBIENT AIR QUALITY MONITORING PROGRAM
FOURTH QUARTER 2019 REPORT**

FEBRUARY 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
PM2.5	Particulate Matter less than 2.5 microns in diameter
US EPA	United States Environmental Protection Agency
$\mu\text{g}/\text{m}^3$	Microgram per Cubic Metre

RAINY RIVER MINE

Ambient Air Quality Monitoring Program
Fourth Quarter 2019 Report

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1.0 INTRODUCTION

The following is a summary of the Fourth Quarter (Q4) 2019 results for the ambient air quality monitoring program undertaken at New Gold Inc.'s Rainy River Mine located northwest of Emo, Ontario.

In Q4 of 2019, 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 two calibrations, one on September 27 and another on November 20 of 2019.

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 Q4 2019.

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

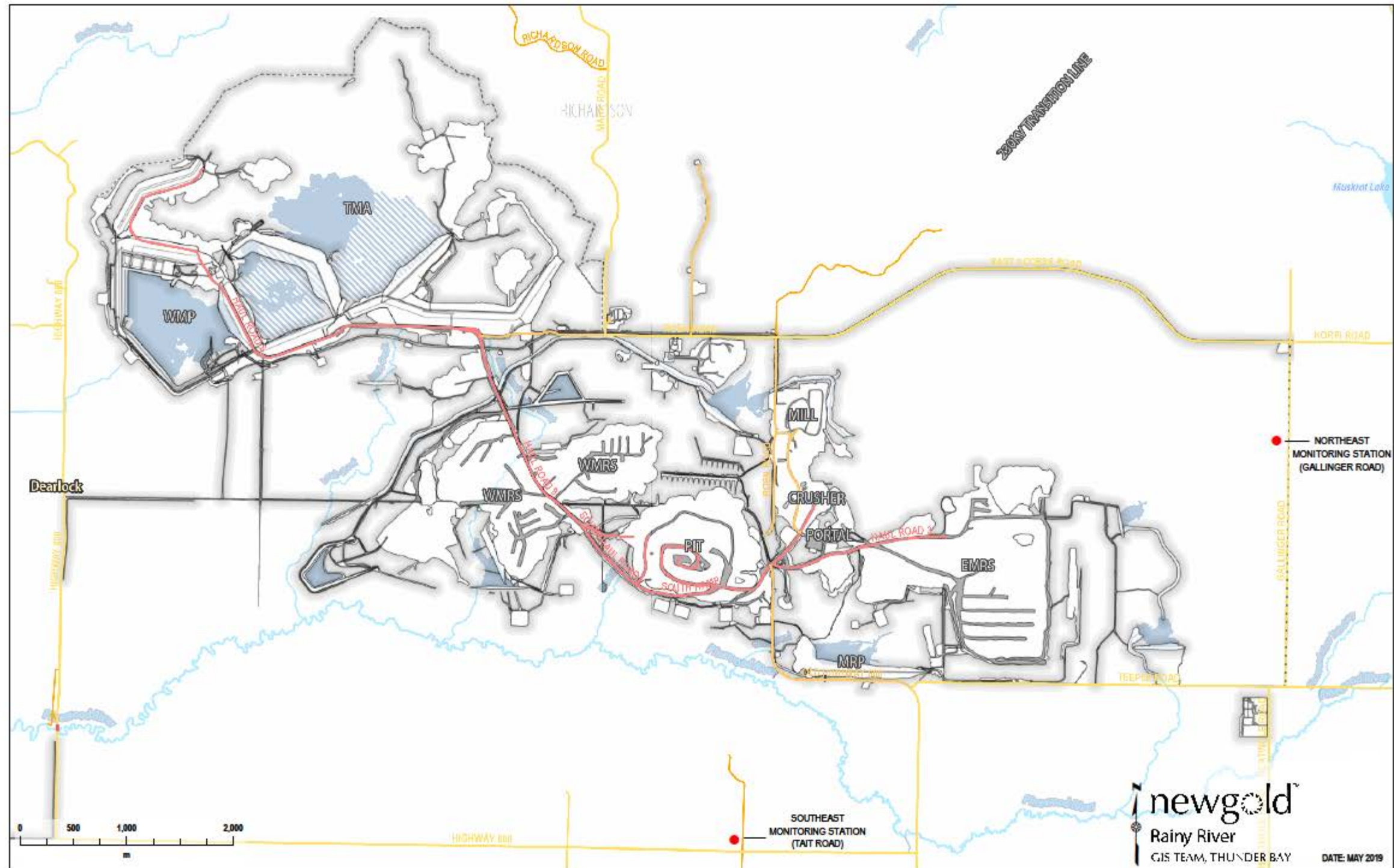


Figure 2-1: Ambient Air Monitoring Stations



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 SO₂ and NO₂

SO₂ and NO₂ 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 SO₂ and NO₂, 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 SO₂ and NO₂ obtained from passive sampling, the data is only used for screening purposes. For NO₂, 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 SO₂, the results were compared against the 30-day Alberta Ambient Air Quality Objective of 30 µg/m³ (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.

Q3 and Q4 calibrations were performed on all Hi-Vol and PQ200 samplers on September 27 and November 20, 2019. 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 Q4 2019.

3.5.5 Equipment and Sampling Issues

During Q4 2019, 3 samples were invalidated, as discussed below:

- October 18: TSP sample at the Gallinger Road station was invalidated due to air volume of 1797 m³ exceeding theoretical air volume upper range value of 1794m³.
- November 17: TSP sample at the Gallinger Road Station was invalidated due to air volume of 2000 m³ exceeding theoretical air volume upper range value of 1794 m³.
- December 17: TSP sample at the Gallinger Road Station was invalidated due to air volume of 1467 m³ not reaching theoretical air volume lower range value of 1468 m³.
- A new motor was installed in the Hi-vol Gallinger Road station on November 19th. On November 20th, both Gallinger and Tait Road Hi-vol samplers were calibrated.

4.0 RESULTS

Sampling program results for Q4 2019 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 SO₂ and NO₂ 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 Q4 2019 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 Q4 2019 for the TSP, metals, and PM_{2.5} concentrations are presented in Tables 4-1, 4-2, and 4-3, respectively. During the quarter, the 1 in 6-day sampling schedule presented a possible 15 sampling days between October 1 and December 30, 2019.

A summary of the statistical analyses for Q4 2019 for the total dustfall data is presented in Table 4-4. A summary of the statistical analysis for the Q4 2019 passive SO₂ and NO₂ results is presented in Table 4-5.

4.1 TSP and Metals

The Tait Road station collected 15 valid samples, resulting in 100% valid data for Q4 2019. The Gallinger Road Station collected 12 valid samples, resulting in 80% valid data for Q4 2019.

For the quarter, the geometric mean TSP concentrations were 10.30 µg/m³ for the Tait Road station and 14.19 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 80.61 µg/m³ at the Tait Road station on October 30, 2019, and 121.10 µg/m³ at the Gallinger Road station on October 30, 2019.

The Gallinger Road value slightly exceeds the MECP AAQC value of 120 µg/m³. The exceedance was reported to MECP Spills Action Centre on February 14, 2020. A copy of the report can be found in Appendix B.

There were no exceedances of an MECP AAQC measured for any metals, or metalloids in Q4 2019 at station.

Appendix A-1 and Figure 4-1 present individual sample data. The Q4 2019 TSP and metals summary statistics 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 Q4 2019.

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 4.55 µg/m³ at the Tait

Road station (November 23, 2019), and 4.00 µg/m³ at the Gallinger Road station (October 24, 2019).

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 Q4 2019. Appendix A-1 and Figure 4-2 present individual sample data.

The Q4 2019 PM_{2.5} summary statistics are summarized in Table 4-3.

4.3 Total Dustfall

In Q4 2019, 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 1.26 µg/m³ at the Tait Road station (November), and 1.38 µg/m³ at the Gallinger Road station (October).

There were no dustfall exceedances of the 30-day MECP AAQC of 7 g/m² measured in Q4 2019 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 SO₂ and NO₂

In Q4 2019, 3 valid samples were collected at each station of each SO₂ and NO₂.

There are no MECP standards, guidelines or AAQCs for SO₂ or NO₂ for a 30-day averaging period. The 30-day measured average SO₂ or NO₂ 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 NO₂, 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 SO₂, 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 Q4 2019 samples.

Table 4-1: Summary Statistics For Q4 2019 TSP Concentration Data

Statistics	Tait Road (SW)	Gallinger (NE)
Geometric mean ($\mu\text{g}/\text{m}^3$)	10.30	14.19
Arithmetic mean ($\mu\text{g}/\text{m}^3$)	15.14	27.96
Oct Maximum ($\mu\text{g}/\text{m}^3$)	80.61	121.10
Nov Maximum ($\mu\text{g}/\text{m}^3$)	12.32	57.56
Dec Maximum ($\mu\text{g}/\text{m}^3$)	29.07	61.74
Maximum 24-hr ($\mu\text{g}/\text{m}^3$)	80.61	121.10
90th percentile	24.51	61.32
95th percentile	44.53	91.42
24-hr AAQC	120	120
No. Valid Samples	15	12
Valid Data	100%	80%
No. Samples > AAQC (particulate)	0	1
No. Samples > AAQC (metals)	0	0
No. Samples > AAQC (metalloids)	0	0

Table 4-2: Summary Statistics For Q4 2019 Metals Concentration Data

Metal	24-hr AAQC ($\mu\text{g}/\text{m}^3$)	Tait Road (SW)		Gallinger Road (NE)	
		Maximum 24-hr Concentration ($\mu\text{g}/\text{m}^3$)	Fraction of 24-hr AAQC	Maximum 24-hr Concentration ($\mu\text{g}/\text{m}^3$)	Fraction of 24-hr AAQC
As	0.3	0.0010	0.33%	0.001	0.3%
Cd	0.025	0.0007	2.8%	0.0006	2.4%
Cr	0.5	0.0037	0.7%	0.004	0.8%
Co	0.1	0.0007	0.7%	0.0006	0.6%
Cu	50	0.0809	0.2%	0.45	0.9%
Fe	4	1.71	42.8%	1.93	48.3%
Pb	0.5	0.0027	0.5%	0.003	0.6%
Mn	0.4	0.0412	10.3%	0.06	15%
Ni	0.2	0.0024	1.2%	0.002	1.0%
Se	10	0.0033	0.03%	0.0031	0.03%
V	2	0.0016	0.08%	0.002	0.1%
Zn	120	0.04	0.03%	0.04	0.03%

Table 4-3: Summary Statistics for Q4 2019 PM_{2.5} Concentration Data

Statistics	Tait Road (SW)	Gallinger (NE)
Arithmetic mean (µg/m ³)	1.81	1.65
Oct Maximum (µg/m ³)	3.45	4.00
Nov Maximum (µg/m ³)	4.55	3.46
Dec Maximum (µg/m ³)	3.16	2.66
Maximum 24-hr (µg/m ³)	4.55	4.00
90th percentile	3.35	3.45
95th percentile	3.78	3.64
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 Q4 2019 Total Dustfall Data

Statistics	Tait Road (SW)	Gallinger (NE)
Arithmetic mean (µg/m ³ /30d)	1.16	1.03
Maximum 24-hr (µg/m ³ /30d)	1.26	1.38
30-day AAQC	7	7
No. > AAQC	0	0
No. Valid Samples	3	3
Valid Data	100%	100%

Table 4-5: Summary Statistics for Q4 2019 Passive SO₂ and NO₂ Concentration Data

Statistics	Tait Road (SW)		Gallinger Road (NE)	
	SO ₂	NO ₂	SO ₂	NO ₂
Mean (µg/m ³)	0.22	1.44	0.26	2.26
Maximum (µg/m ³)	0.26	1.88	0.52	2.82
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 (µg/m ³)	3	3	3	3
Valid data	100%	100%	100%	100%

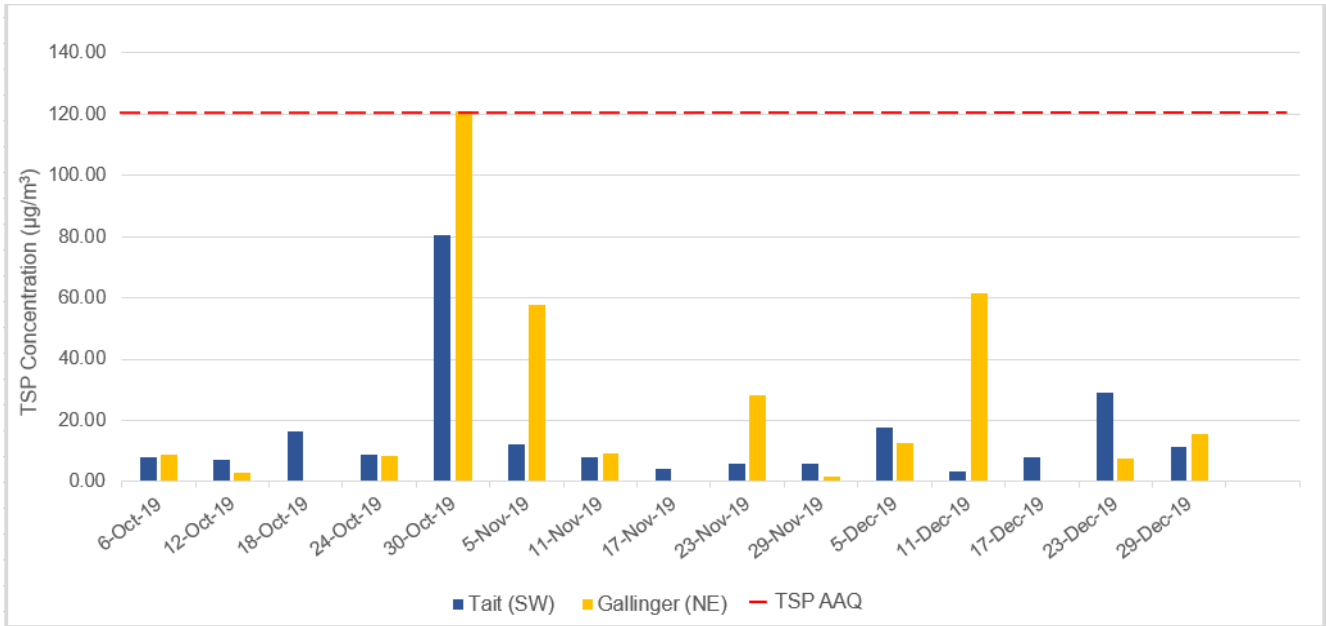


Figure 4-1: TSP Concentrations (Q4 2019)

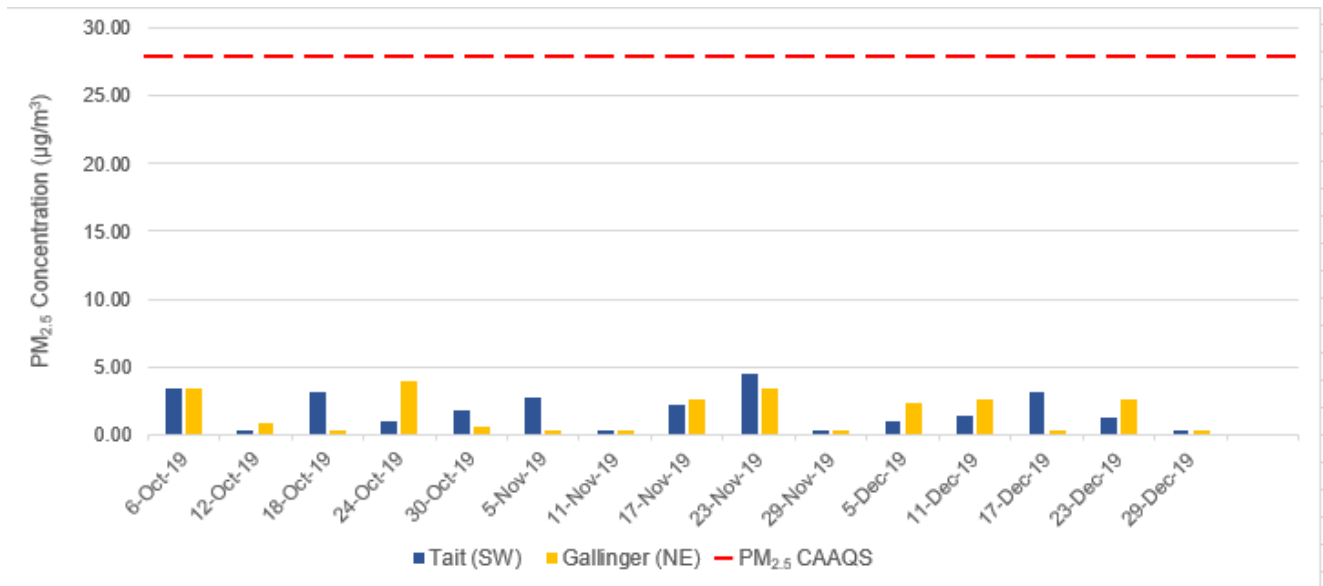


Figure 4-2: PM_{2.5} Concentrations (Q4 2019)

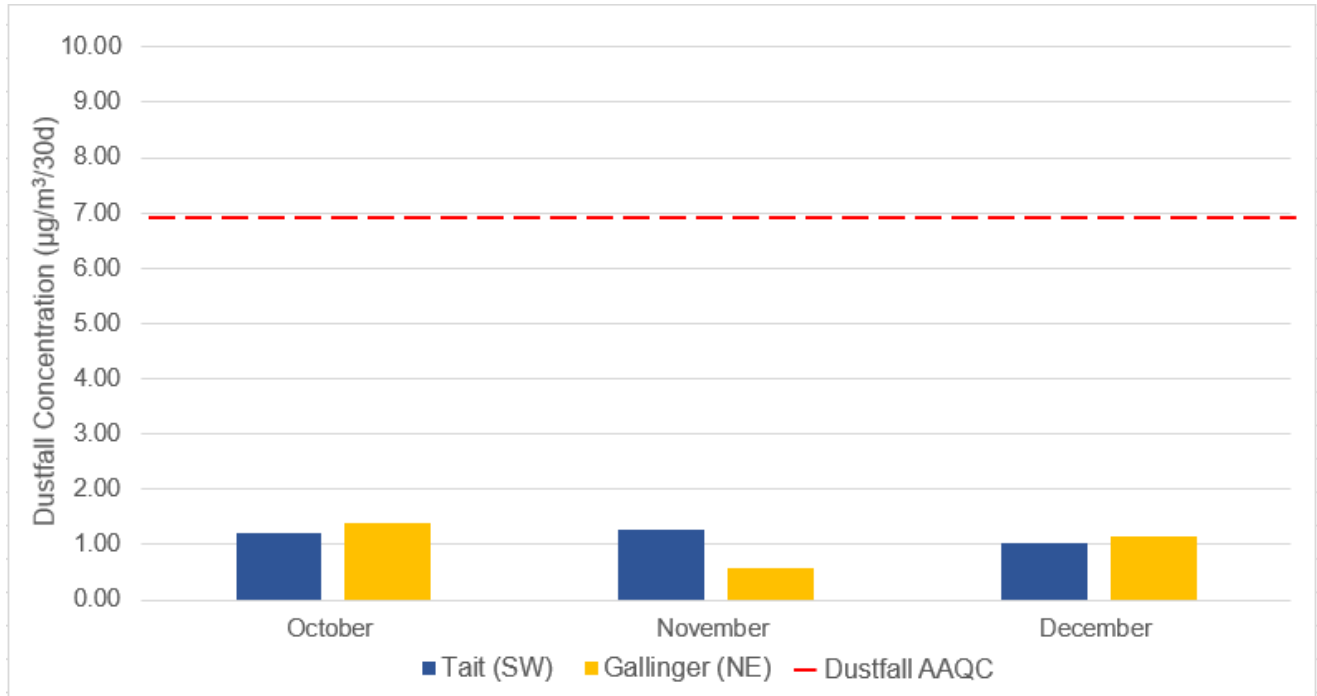


Figure 4-3: Dustfall Concentrations (Q4 2019)

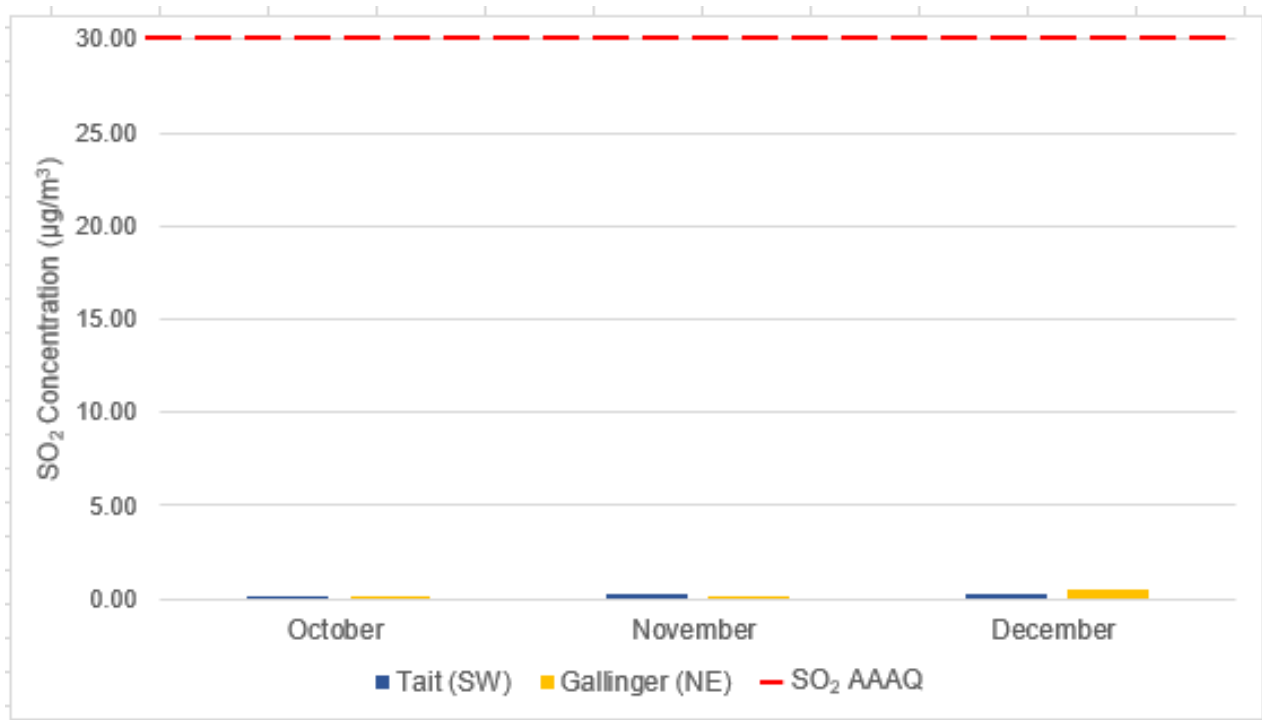


Figure 4-4: SO_2 Concentrations (Q4 2019)

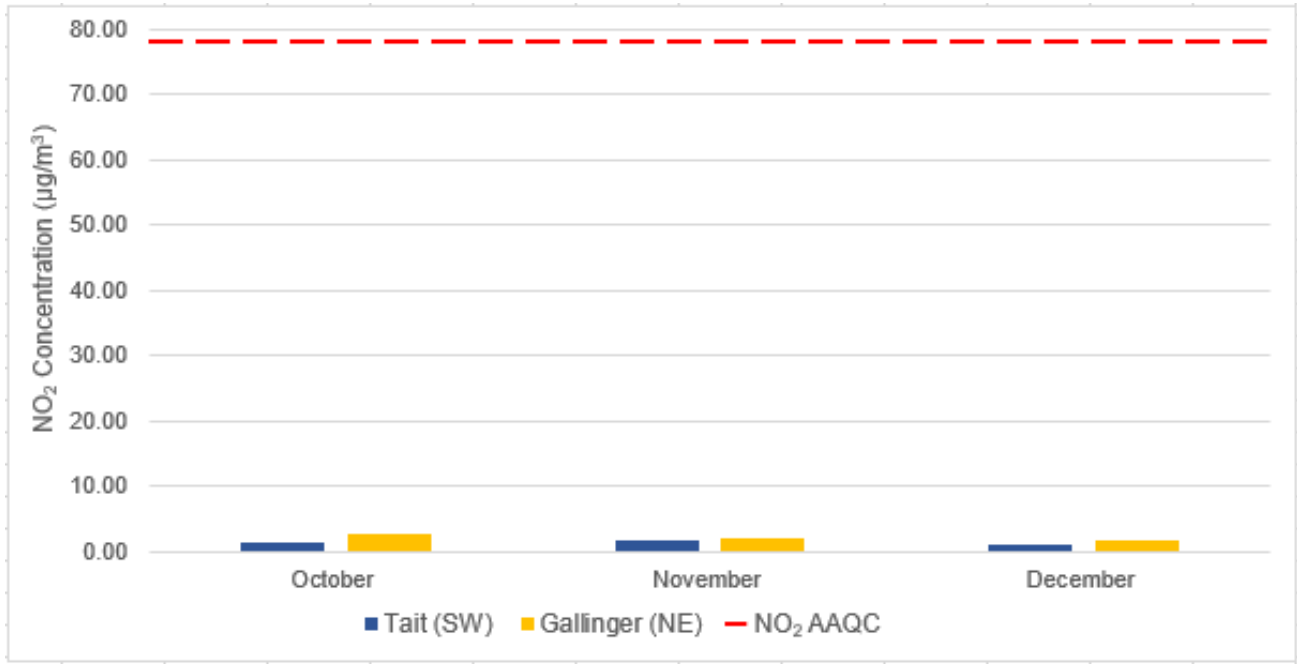


Figure 4-5: NO₂ Concentrations (Q4 2019)

5.0 CONCLUSIONS

A summary of the Q4 2019 ambient air quality monitoring program results is provided below:

- The Tait Road station collected 15 valid TSP samples, resulting in 100% sample validity. The Gallinger Road Station collected 12 valid TSP samples, resulting in 80% sample validity. Metal and metalloid concentrations were measured on each of the valid TSP filters.
- There was one exceedance of the TSP in Q4 2019 during the month of October. This was due to mechanical issues with the Hi-vol motor. Details can be found in Appendix B.
- There were no measured exceedances of an MECP AAQC for metals, or metalloids in Q4 2019.
- 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 Q4 2019.
- 3 valid dustfall samples were collected at each station (100% sample validity). There were no exceedances of the 30-day dustfall AAQC in Q4 2019.
- 3 valid passive SO₂ and NO₂ samples were collected at each of the two stations (100% sample validity). There were no exceedances of AEP Criterion for SO₂ or the 30-day equivalent AAQC for NO₂ in Q4 2019.

6.0 REFERENCES

- Alberta Environment and Parks (AEP). 2017. Alberta Ambient Air Quality Objectives and Guidelines Summary.
- American Society for Testing and Materials (ASTM). 2004. Standard Test Method for Collection and Measurement of Dustfall (Settleable Particulate Matter).
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- Ministry of the Environment Conservation and Parks (MECP). Updates: April 30, 2019. Ontario's Ambient Air Quality Criteria, PIBS # 6570e01.
- Ministry of the Environment Conservation and Parks (MECP). 2018. Operations Manual for Air Quality Monitoring in Ontario.
- Ministry of the Environment Conservation and Parks (MECP). 2016c. Determination of Total Dustfall in Air Particulate Matter by Gravimetry, E3043.
- United States Environmental Protection Agency (USEPA). 2017. Sampling Schedule Calendar, <https://www3.epa.gov/ttnamti1/calendar.html> (Accessed February 10, 2017).

7.0 CLOSING

This *Rainy River Mine Ambient Air Quality Monitoring Program Fourth Quarter 2019 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>

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Sr. Environmental Specialist

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

Southwest Tait Road Monitoring Results for TSP and Metals (Fourth Quarter 2019)
(results expressed in µg/m³)

Date	PM2.5	TSP	As	Cd	Cr	Co	Cu	Fe	Pb	Mn	Ni	Se	V	Zn
6-Oct-19	3.45	8.02	<u>9.18E-04</u>	<u>6.12E-04</u>	<u>1.53E-03</u>	<u>6.12E-04</u>	0.024	0.09	<u>9.18E-04</u>	0.003	<u>9.18E-04</u>	<u>3.06E-03</u>	<u>1.53E-03</u>	0.007
12-Oct-19	<u>0.31</u>	7.12	<u>9.62E-04</u>	<u>6.41E-04</u>	<u>1.60E-03</u>	<u>6.41E-04</u>	0.075	0.12	<u>9.62E-04</u>	0.003	<u>9.62E-04</u>	<u>3.21E-03</u>	<u>1.60E-03</u>	0.007
18-Oct-19	3.21	16.50	<u>9.82E-04</u>	<u>6.55E-04</u>	<u>1.64E-03</u>	<u>6.55E-04</u>	0.023	0.24	<u>9.82E-04</u>	0.010	<u>9.82E-04</u>	<u>3.27E-03</u>	<u>1.64E-03</u>	0.009
24-Oct-19	1.04	8.93	<u>9.37E-04</u>	<u>6.25E-04</u>	<u>1.56E-03</u>	<u>6.25E-04</u>	0.023	0.15	<u>9.37E-04</u>	0.005	<u>9.37E-04</u>	<u>3.12E-03</u>	<u>1.56E-03</u>	0.007
30-Oct-19	1.79	80.61	<u>9.67E-04</u>	<u>6.45E-04</u>	3.68E-03	<u>6.45E-04</u>	0.018	1.71	<u>9.67E-04</u>	0.041	2.39E-03	<u>3.22E-03</u>	<u>1.61E-03</u>	0.010
5-Nov-19	2.78	12.32	<u>9.38E-04</u>	<u>6.25E-04</u>	<u>1.56E-03</u>	<u>6.25E-04</u>	0.015	0.25	<u>9.38E-04</u>	0.006	<u>9.38E-04</u>	<u>3.13E-03</u>	<u>1.56E-03</u>	0.012
11-Nov-19	<u>0.31</u>	7.93	<u>9.51E-04</u>	<u>6.34E-04</u>	<u>1.59E-03</u>	<u>6.34E-04</u>	0.044	0.18	<u>9.51E-04</u>	0.004	<u>9.51E-04</u>	<u>3.17E-03</u>	<u>1.59E-03</u>	0.009
17-Nov-19	2.25	4.04	<u>9.61E-04</u>	<u>6.41E-04</u>	<u>1.60E-03</u>	<u>6.41E-04</u>	0.062	0.08	<u>9.61E-04</u>	0.003	<u>9.61E-04</u>	<u>3.20E-03</u>	<u>1.60E-03</u>	0.006
23-Nov-19	4.55	5.97	<u>8.87E-04</u>	<u>5.91E-04</u>	<u>1.48E-03</u>	<u>5.91E-04</u>	0.041	0.13	<u>8.87E-04</u>	0.007	<u>8.87E-04</u>	<u>2.96E-03</u>	<u>1.48E-03</u>	0.013
29-Nov-19	<u>0.31</u>	5.95	<u>8.92E-04</u>	<u>5.95E-04</u>	<u>1.49E-03</u>	<u>5.95E-04</u>	0.032	0.36	<u>8.92E-04</u>	0.008	<u>8.92E-04</u>	<u>2.97E-03</u>	<u>1.49E-03</u>	0.010
5-Dec-19	1.00	17.66	<u>8.92E-04</u>	<u>5.95E-04</u>	<u>1.49E-03</u>	<u>5.95E-04</u>	0.081	0.40	<u>8.92E-04</u>	0.009	<u>8.92E-04</u>	<u>2.97E-03</u>	<u>1.49E-03</u>	0.021
11-Dec-19	1.37	3.43	<u>9.35E-04</u>	<u>6.23E-04</u>	<u>1.56E-03</u>	<u>6.23E-04</u>	0.044	0.07	<u>9.35E-04</u>	0.002	<u>9.35E-04</u>	<u>3.12E-03</u>	<u>1.56E-03</u>	0.008
17-Dec-19	3.16	8.02	<u>9.33E-04</u>	<u>6.22E-04</u>	<u>1.55E-03</u>	<u>6.22E-04</u>	0.075	0.14	<u>9.33E-04</u>	0.003	<u>9.33E-04</u>	<u>3.11E-03</u>	<u>1.55E-03</u>	0.009
23-Dec-19	1.33	29.07	<u>9.38E-04</u>	<u>6.25E-04</u>	3.69E-03	<u>6.25E-04</u>	0.079	0.55	<u>9.38E-04</u>	0.014	<u>9.38E-04</u>	<u>3.13E-03</u>	<u>1.56E-03</u>	0.015
29-Dec-19	<u>0.31</u>	11.56	<u>8.84E-04</u>	<u>5.90E-04</u>	<u>1.47E-03</u>	<u>5.90E-04</u>	0.067	0.24	2.65E-03	0.006	<u>8.84E-04</u>	<u>2.95E-03</u>	<u>1.47E-03</u>	0.040

Geometric mean	1.26	10.30	9.31E-04	6.21E-04	1.74E-03	6.21E-04	4.04E-02	2.10E-01	1.00E-03	5.83E-03	9.89E-04	3.10E-03	1.55E-03	1.05E-02
Arithmetic mean	1.81	15.14	9.32E-04	6.21E-04	1.83E-03	6.21E-04	4.68E-02	3.15E-01	1.05E-03	8.28E-03	1.03E-03	3.11E-03	1.55E-03	1.21E-02
Max. concentration	4.55	80.61	0.0010	0.0007	0.0037	0.0007	0.0809	1.7090	0.0027	0.0412	0.0024	0.0033	0.0016	0.0403
Min. concentration	0.31	3.43	8.84E-04	5.90E-04	1.47E-03	5.90E-04	1.49E-02	6.80E-02	8.87E-04	1.81E-03	8.84E-04	2.95E-03	1.47E-03	6.15E-03
90th percentile	3.35	24.51	9.65E-04	6.43E-04	2.86E-03	6.43E-04	7.74E-02	4.91E-01	9.76E-04	1.25E-02	9.74E-04	3.22E-03	1.61E-03	1.83E-02
95th percentile	3.78	44.53	9.72E-04	6.48E-04	3.68E-03	6.48E-04	7.94E-02	8.97E-01	1.48E-03	2.25E-02	1.40E-03	3.24E-03	1.62E-03	2.65E-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	15	15	15	15	15	15	15	15	15	15	15	15	15
No. samples < mdl	4	0	16	15	4	15	0	0	14	0	14	15	15	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	13	0	100	100	25	100	0	0	93	0	93	100	100	0
% valid data	100	100	100	100	100	100	100	100	100	100	100	100	100	100

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

Northeast Gallinger Road Monitoring Results for TSP and Metals (Fourth Quarter 2019)
(results expressed in µg/m³)

Date	PM2.5	TSP	As	Cd	Cr	Co	Cu	Fe	Pb	Mn	Ni	Se	V	Zn
6-Oct-19	3.45	8.70	<u>8.70E-04</u>	<u>5.80E-04</u>	<u>1.45E-03</u>	<u>5.80E-04</u>	0.090	0.12	<u>8.70E-04</u>	0.00	<u>8.70E-04</u>	<u>2.90E-03</u>	<u>1.45E-03</u>	0.02
12-Oct-19	0.92	3.00	<u>9.18E-04</u>	<u>6.12E-04</u>	<u>1.53E-03</u>	<u>6.12E-04</u>	0.452	0.03	<u>9.18E-04</u>	0.00	<u>9.18E-04</u>	<u>3.06E-03</u>	<u>1.53E-03</u>	0.01
18-Oct-19	<u>0.31</u>	-	-	-	-	-	-	-	-	-	-	-	-	-
24-Oct-19	4.00	8.29	<u>8.95E-04</u>	<u>5.97E-04</u>	<u>1.49E-03</u>	<u>5.97E-04</u>	0.427	0.11	<u>8.95E-04</u>	0.00	<u>8.95E-04</u>	<u>2.98E-03</u>	<u>1.49E-03</u>	0.01
30-Oct-19	0.67	121.10	<u>9.08E-04</u>	<u>6.05E-04</u>	4.06E-03	<u>6.05E-04</u>	0.163	1.93	3.21E-03	0.06	2.42E-03	<u>3.03E-03</u>	<u>1.51E-03</u>	0.04
5-Nov-19	<u>0.31</u>	57.56	<u>9.02E-04</u>	<u>6.01E-04</u>	3.37E-03	<u>6.01E-04</u>	0.165	1.15	2.29E-03	0.04	<u>9.02E-04</u>	<u>3.01E-03</u>	<u>1.50E-03</u>	0.04
11-Nov-19	<u>0.31</u>	9.16	<u>9.23E-04</u>	<u>6.15E-04</u>	<u>1.54E-03</u>	<u>6.15E-04</u>	0.415	0.17	<u>9.23E-04</u>	0.00	<u>9.23E-04</u>	<u>3.08E-03</u>	<u>1.54E-03</u>	0.01
17-Nov-19	2.66	-	-	-	-	-	-	-	-	-	-	-	-	-
23-Nov-19	3.46	28.29	<u>8.37E-04</u>	<u>5.58E-04</u>	<u>1.39E-03</u>	<u>5.58E-04</u>	0.073	0.54	1.90E-03	0.02	<u>8.37E-04</u>	<u>2.79E-03</u>	<u>1.39E-03</u>	0.02
29-Nov-19	<u>0.31</u>	1.86	<u>9.02E-04</u>	<u>6.01E-04</u>	<u>1.50E-03</u>	<u>6.01E-04</u>	0.026	0.03	<u>9.02E-04</u>	0.00	<u>9.02E-04</u>	<u>3.01E-03</u>	<u>1.50E-03</u>	<u>1.50E-03</u>
5-Dec-19	2.37	12.77	<u>9.17E-04</u>	<u>6.11E-04</u>	<u>1.53E-03</u>	<u>6.11E-04</u>	0.079	0.33	<u>9.17E-04</u>	0.01	<u>9.17E-04</u>	<u>3.06E-03</u>	<u>1.53E-03</u>	0.02
11-Dec-19	2.66	61.74	<u>9.26E-04</u>	<u>6.17E-04</u>	<u>1.54E-03</u>	<u>6.17E-04</u>	0.075	0.91	<u>9.26E-04</u>	0.03	<u>9.26E-04</u>	<u>3.09E-03</u>	<u>1.54E-03</u>	0.02
17-Dec-19	<u>0.31</u>	-	-	-	-	-	-	-	-	-	-	-	-	-
23-Dec-19	2.62	7.46	<u>8.47E-04</u>	<u>5.65E-04</u>	<u>1.41E-03</u>	<u>5.65E-04</u>	0.056	0.12	<u>8.47E-04</u>	0.00	<u>8.47E-04</u>	<u>2.82E-03</u>	<u>1.41E-03</u>	0.01
29-Dec-19	<u>0.31</u>	15.62	<u>9.08E-04</u>	<u>6.05E-04</u>	3.87E-03	<u>6.05E-04</u>	0.067	0.16	<u>9.08E-04</u>	0.01	<u>9.08E-04</u>	<u>3.03E-03</u>	<u>1.51E-03</u>	0.02

Geometric mean	1.01	14.19	0.001	0.0006	0.002	0.0006	0.12	0.22	0.001	0.01	0.001	0.0030	0.001	0.01
Arithmetic mean	1.65	27.96	0.001	0.0006	0.002	0.0006	0.17	0.47	0.001	0.01	0.001	0.0030	0.001	0.02
Max. concentration	4.00	121.10	0.001	0.0006	0.004	0.0006	0.45	1.93	0.003	0.06	0.002	0.0031	0.002	0.04
Min. concentration	0.31	1.86	0.001	0.0006	0.001	0.0006	0.03	0.03	0.001	0.00	0.001	0.0028	0.001	0.00
90th percentile	3.45	61.32	0.001	0.0006	0.004	0.0006	0.43	1.13	0.002	0.04	0.001	0.0031	0.002	0.03
95th percentile	3.64	91.42	0.001	0.0006	0.004	0.0006	0.44	1.54	0.003	0.05	0.002	0.0031	0.002	0.04
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	0	0	0	0	0	0	0
No. of valid samples	15	12	12	12	12	12	12	12	12	12	12	12	12	12
No. samples < mdl	6	0	15	12	9	12	0	0	9	0	11	12	12	1
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	0	100	100	75	100	0	0	75	0	92	100	100	8
% valid data	100	80	80	80	80	80	80	80	80	80	80	80	80	80

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

APPENDIX A-2

TOTAL DUSTFALL SAMPLING RESULTS

Tait Road Monitoring Results for Dustfall (Fourth Quarter 2019)
(results expressed in g/m²/30days)

Month	No. Exposure Days	Dustfall (insoluble)	Dustfall (soluble)	Dustfall (total)
October	35	0.75	0.45	1.20
November	27	1.14	<i>0.15</i>	1.26
December	31	0.93	<i>0.15</i>	1.02
Arithmetic mean				1.16
Max. concentration				1.26
Min. concentration				1.02
AAQC				7
No. > AAQC value**				0
No. of valid samples				3
% Valid data				100
No. samples < mdl				0
Detection limit*				0.10
Half detection limit				0.05

Gallinger Road Monitoring Results for Dustfall (Fourth Quarter 2019)
(results expressed in g/m²/30days)

Month	No. Exposure Days	Dustfall (insoluble)	Dustfall (soluble)	Dustfall (total)
October	35	0.87	0.51	1.38
November	27	0.57	<i>0.15</i>	0.57
December	31	1.08	<i>0.15</i>	1.14
Arithmetic mean				1.03
Max. concentration				1.38
Min. concentration				0.30
AAQC				7
No. > AAQC value**				0
No. of valid samples				3
% Valid data				100
No. samples < mdl				0
Detection limit*				0.10
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

RAINY RIVER MINE

Ambient Air Quality Monitoring Program
 Fourth Quarter 2019 Report

APPENDIX A-3

SO₂ AND NO₂ PASSIVE SAMPLING RESULTS

Monitoring Results for Passive SO₂ and NO₂ (Fourth Quarter 2019)
(results expressed in µg/m³)

Month	Southwest Tait Road	
	SO ₂	NO ₂
October	<u>0.13</u>	1.32
November	0.26	1.88
December	0.26	1.13
Arithmetic mean	0.22	1.44
Max. concentration	0.26	1.88
Min. concentration	0.13	0.56
AAQC* (24-hr AAQC converted to equivalent 30-day average)	N/A	78 µg/m ³
Alberta Ambient Air Quality Objectives 2013	30 µg/m ³	N/A
No. of valid samples	3	3
No. samples < mdl	1	0
Detection limit	0.10	0.10
Half detection limit	0.05	0.05

Monitoring Results for Passive SO₂ and NO₂ (Fourth Quarter 2019)
(results expressed in µg/m³)

Month	Northeast Gallinger Road	
	SO ₂	NO ₂
October	<u>0.13</u>	2.82
November	<u>0.13</u>	2.07
December	0.52	1.88
Arithmetic mean	0.26	2.26
Max. concentration	0.52	2.82
Min. concentration	<u>0.13</u>	1.88
AAQC* (24-hr AAQC converted to equivalent 30-day average)	N/A	78 µg/m ³
Alberta Ambient Air Quality Objectives 2013	30 µg/m ³	N/A
No. of valid samples	3	3
No. samples < mdl	2	0
Detection limit	0.10	0.10
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 Q4 2019

February 14, 2020

Matt Hoffmeister & Jason Tittlemier
Senior Environmental Officers
Ministry of the Environment, Conservation and Parks
808 Robertson St.
Kenora, ON P9N 1X9

Dear Mr. Hoffmeister and Mr. Tittlemier,

RE: AIR QUALITY EXCEEDANCES OF 24-HOUR TOTAL SUSPENDED PARTICULATE-MONITORING LIMITS - SAC REFERENCE #7107-BLSQR2

During preparation of the 2019 fourth quarter ambient air quality report, it was noted that on October 30, 2019, the total suspended particulates (TSP) concentration at Gallinger Road air quality station had exceeded Ministry approved limits by less than 1%.

New Gold notified the Spills Action Centre (SAC) Reference #7107-BLSQR2 of the exceedance of the ministry approved limits for Total Suspended Particulate Matter concentrations on February 14th, 2020. The exceedance occurred on October 30th, 2019 at the Gallinger Air Quality Monitoring Station. The following letter report accompanies a copy of the Notification of Exceedance form (NOE) as per ECA #0412-A2LR4V.

Gallinger Road air quality station is located approximately 4.5 km due east of the primary crusher on the Rainy River Mine Site. Gallinger Road itself passes by the air quality station in a north-south direction at approximately 50 metres east.

TSP samples were collected during a 24-hr period on October 30th, 2019 as per Rainy River Project Ambient Air Quality Monitoring Plan, accepted by MECP on November 9th, 2016. During this 24-hour period, predominant wind direction varied from west to southwest with an average wind speed of 10 km/hr. With these wind directions, it is unlikely that the source of the dust would be from the crusher which is situated to the west of the air monitoring station and suggests that the source was related to the road dust.

Once the 24-hour sampling period is complete, New Gold's sampling protocol states that the glass particle filter be removed and replaced with a new filter before the next 24-hour sample period. After the 24-hour sampling period on October 30th, the filter was left in place for 5 days. Filter changeover was performed under less than optimal conditions with poor visibility resulting in sampler error. Mitigation measures include modification of the ambient air quality monitoring sampling procedure. Modifications will include performing glass particle filter changes within 2 days of the sampling date, in either later morning or early afternoon, and auditing of sampling techniques.

Once you have had the opportunity to review this document, please contact me at (807) 708-2407 with any questions or concerns.

<original signed by> >

Twila Griffith, M.Sc., P.Geo.
Sr. Environmental Specialist

New Gold Inc.
Rainy River Mine
5967 Highway 11/71, P.O. Box 5, Emo
Ontario, Canada, P0W 1E0
M: +1.807.708.2407

cc. Sylvie St.Jean (Sylvie.st.jean@newgold.com)

General Information

Information requested in this notification form is collected under the authority of the *Environmental Protection Act*, R.S.O. 1990 (EPA) and Ontario Regulation 419/05: Air Pollution – Local Air Quality (the Regulation) made under the EPA and will be used to collect information relating to a measured or modelled air-related exceedance as required by s.25(9), s.28(1) and s.30(3) of the Regulation. The Ministry of the Environment and Climate Change (Ministry) may also request additional information.

1. Questions regarding completion and submission of this notification form should be directed to your local Ministry District Office. A list of these District Offices (including fax numbers) is available on the [Ministry Internet site](http://www.ontario.ca/environment-and-energy/ministry-environment-and-climate-change-district-locator) at <http://www.ontario.ca/environment-and-energy/ministry-environment-and-climate-change-district-locator>. A copy of this form may be acquired through the Ministry public web site <http://www.ontario.ca/environment-and-energy/rules-air-quality-and-pollution> or by contacting any Ministry office.
2. For notification under s.25(9) or s.28(1), the completed notification form should be sent, as soon as practicable, to the local Ministry District Office which has jurisdiction over the area in which the facility is located. A list of these District Offices (including fax numbers) is available on the [Ministry Internet site](http://www.ontario.ca/environment-and-energy/ministry-environment-and-climate-change-district-locator) at <http://www.ontario.ca/environment-and-energy/ministry-environment-and-climate-change-district-locator>.
3. For notification under s.30(3), the completed notification form should be immediately faxed to the local Ministry District Office which has jurisdiction over the area which the facility is located. A list of these District Offices (including fax numbers) is available on the [Ministry Internet site](http://www.ontario.ca/environment-and-energy/ministry-environment-and-climate-change-district-locator) at <http://www.ontario.ca/environment-and-energy/ministry-environment-and-climate-change-district-locator>. If the exceedance is determined outside of the business hours of the District Office then the completed notification form should be faxed to the Spills Action Center (1-800-268-6061).
4. Information on this form may be claimed as confidential but will be subject to the *Freedom of Information and Protection of Privacy Act* (FOIPPA) and the EBR. If you do not claim confidentiality at the time of submitting the information, the MOECC Ministry may make the information available to the public without further notice to you.

Instructions

This form should be used to notify the Ministry of a measured or modelled air-related exceedance. Notification is required under the Regulation and failure to notify the Ministry constitutes an offence under the Regulation and the EPA.

The publication titled “Air Contaminants Benchmarks (ACB) List: Standards, guidelines and screening levels for assessing point of impingement concentrations of air contaminants” contains two types of benchmarks: Benchmark 1 values (standards and guidelines) and Benchmark 2 values (screening levels). This list is available on the [Internet site](https://www.ontario.ca/page/air-contaminants-benchmarks-list-standards-guidelines-and-screening-levels-assessing-point) at <https://www.ontario.ca/page/air-contaminants-benchmarks-list-standards-guidelines-and-screening-levels-assessing-point>. This form is to be used to notify the Ministry of an exceedance of a Benchmark 1 value. If a concentration of a contaminant exceeds a Benchmark 1 value that is based on a guideline value, it is an indication that discharges of the contaminant may cause an adverse effect. If a concentration of a contaminant exceeds a Benchmark 2 value, it may be an indication that discharges of the contaminant may cause an adverse effect – further assessment should be undertaken to determine if an adverse effect may occur. If so, this form should be used to notify the Ministry.

This form may be used for notification of exceedances of more than one contaminant; Table 1 (or equivalent) should be completed for modelled exceedances. Table 2 should be completed for measured exceedances. If this notification is made pursuant to s. 30 then this form must be submitted immediately.

Note: The Ministry publishes a separate list of Ontario’s Ambient Air Quality Criteria (AAQCs) which can be found on our [website](http://www.ontario.ca/document/ontarios-ambient-air-quality-criteria-sorted-contaminant-name) <http://www.ontario.ca/document/ontarios-ambient-air-quality-criteria-sorted-contaminant-name>. AAQCs are intended to address general air quality, not contributions of a contaminant to air quality from a facility. Hence, the notification requirements under the Regulation do not apply to AAQCs.

Regulatory Authority

Exceedance of a Benchmark 1 Value (Standard or Guideline)

“28. (1) A person who discharges or causes or permits the discharge of a contaminant shall, as soon as practicable, notify a provincial officer in writing if,

- (a) the person uses an approved dispersion model to predict concentrations of the contaminant that result from the discharges and,
 - i. the use of the model indicates that discharges of the contaminant may result in a contravention of section 19 or 20, or
 - ii. sections 19 and 20 do not apply to discharges of the contaminant and the use of the model indicates that discharges of the contaminant may cause an adverse effect;
 - (b) measurements of air samples indicate that discharges of the contaminant may result in a contravention of section 19 or 20; or
 - (c) sections 19 and 20 do not apply to discharges of the contaminant and measurements of air samples indicate that discharges of the contaminant may cause an adverse effect. ...”
3. The emission rate that, for the relevant averaging period, is derived from a combination of a method that complies with paragraph 1 or 2 and ambient monitoring, according to a plan approved by the Director as likely to provide an accurate reflection of emissions.

“25. (9) A person who is required under subsection (8) to complete the update of a report not later than March 31 in a year shall, as soon as practicable after that date, notify a provincial officer in writing if the person has started to use an approved dispersion model with respect to a contaminant for the purpose of completing the update but has not yet complied with section 12, and,

- (a) the use of the model indicates that discharges of the contaminant may result in a contravention of section 19 or 20; or
- (b) sections 19 and 20 do not apply to discharges of the contaminant and the use of the model indicates that discharges of the contaminant may cause an adverse effect. ...”

Exceedance of an Upper Risk Threshold

“30. (1) A person who discharges or causes or permits the discharge of a contaminant listed in Schedule 6 into the air shall comply with subsections (3) and (4) if there is reason to believe, based on any relevant information, that discharges of the contaminant may result in,

- (a) the concentration of the contaminant exceeding the half hour upper risk threshold set out for that contaminant in Schedule 6 at a point of impingement, if section 19 applies to the person in respect of the contaminant; or
- (b) the other time period upper risk threshold set out for that contaminant in Schedule 6 at a point of impingement, if section 20 applies to the person in respect of the contaminant.

(1.1) The two items in Schedule 6 that set out upper risk thresholds for total reduced sulphur (TRS) compounds specify the facilities to which they apply.

(2) Without limiting the generality of subsection (1), the reference in that subsection to relevant information includes relevant information from predictions of a dispersion model, including,

- (a) an approved dispersion model or other dispersion model; or
- (b) a dispersion model that is not used in accordance with this Regulation.

(3) If subsection (1) applies to a discharge, the person who discharged or caused or permitted the discharge of the contaminant shall immediately notify the Director in writing. ...”

Section 1 - Ministry of the Environment and Climate Change District Office Information

Date Form Submitted (yyyy/mm/dd)
2020/02/14

Date Exceedance Determined (yyyy/mm/dd)
2019/10/30

MOECC District Office
Kenora Area Office

District Office Fax Number
807 468-2178

Supporting information attached? Yes No If yes, number of pages

Section 2 - Facility and Site Information

Name of Person Making the Notification

Last Name
Griffith

First Name
Twila

Business Name (the name under which the entity is operating or trading - also referred to as trade name)
New Gold Inc.

Business Number

Business Activity Description (a description of the business endeavour, this may include products sold, services provided, equipment used, etc.)

Gold Ore Mining

Site Name
Rainy River Mine

MOECC District Office
Kenora Area Office

Primary North American Industry Classification System (NAICS) Code Section 19 (Schedule 2) applies Section 20 (Schedule 3) applies
212220

Other NAICS Code

Civic Address

Unit Number

Street Number
24

Street Name
Marr Road

PO Box

Survey Address

Lot and Concession: used to indicate location within a subdivided township and consists of a lot number and a concession number.

Part and Reference: used to indicate location within an unsubdivided township or unsurveyed territory, and consists of a part and a reference plan number indicating the location within that plan. Attach copy of the plan.

Lot Concession Part Reference Plan

Non Address Information (includes any additional information to clarify requestor's physical location)

Municipality/Unorganized Township or Territory Upper Tier/District
Barwick/Rainy River

Postal Code
P0W 1A0

Telephone Number ext. Fax Number Mobile Number Email Address

Geo Reference

Description of location	Map Datum	Zone	Accuracy Estimate	Geo-Referencing Method	UTM Easting	UTM Northing
Vacant White House	NAD83	15N	+/- 5m	GIS	431129	5410540

Environmental Compliance Approval (ECA) Number(s) and/or Environmental Activity and Sector Registry (EASR) Number(s) – attach a separate list if more space is required

1 0412-A2LR4V 2 _____ 3 _____
4 _____ 5 _____ 6 _____

Section 3 - Type of Notification – Table 1 or Table 2 should be completed and submitted with this notification

This is a notification under subsection 28(1) – Notice to Provincial Officer as a result of modelling or measurements (select all that apply)

- Exceedance of Benchmark 1 Value (Standard) Exceedance of Benchmark 1 Value (Guideline) Exceedance of Benchmark 2 Value (determined discharge may cause adverse effect)

Other (explain)

This is a notification under subsection 25(9) – Notice to Provincial Officer as a result an update of an Emission Summary and Dispersion Modelling Report (ESDM) (select all that apply)

- Exceedance of Benchmark 1 Value (Standard) Exceedance of Benchmark 1 Value (Guideline) Exceedance of Benchmark 2 Value (determined discharge may cause adverse effect)

Other (explain)

Date that Refinement (see section 12 of the regulation) is anticipated to be complete (yyyy/mm/dd)

This is a notification under subsection 30(3) – Notice to the Director as a result of an exceedance of Upper Risk Threshold (URT) (Schedule 6)

Yes No

Section 4 - Follow-Up Action

Section 28 Notifications

Will an Abatement Plan be submitted to the Ministry within 30 days of this notice as per s.29?

Yes No If No, please provide the following

Type of Previously Submitted Abatement Plan
[assessing for contamination](#)

Date Submitted under s.29 of the Regulation (yyyy/mm/dd)

Subsection 30(3) Notifications for URT Exceedance

Has an ESDM Report been prepared in accordance with s.30(4) and submitted to the Ministry?

Yes No If No, what is the anticipated submission date for the ESDM* (yyyy/mm/dd)?

*Note: ESDM Report must be submitted within three months of the discharge

Section 5 - Model Based Assessment – please complete this section if notifying of a modelled exceedance (complete Table 1)

Was an ESDM Report prepared in accordance with s.26 of the Regulation?

Yes No

If yes, was the ESDM Report prepared to fulfill (select all that apply)

s.22 of the Regulation - Application for ECA under s. 20.2 of the *Environmental Protection Act*

s.9 of the EPA – Condition of an ECA (e.g. ECA with Limited Operational Flexibility)

s.23 of the Regulation - Requirement for Schedule 4 and 5 sector facilities

s.24 of the Regulation - Notice issued by Director

s.25 of the Regulation - Requirement for updating ESDM Report

s.30(4) of the Regulation – Required as result of URT exceedance

s.33(1) of the Regulation – Required as part of a request for a site-specific standard

s.11 (1) of Ontario Regulation 1/17 – Registrations under Part II.2 of the Act – Activities Requiring Assessment of Air Emissions (Air Emissions EASR Regulation)

Other (please specify) _____

What approved dispersion model was used? Include version number (select all that apply)

Appendix to Reg. 346 AERMOD ASHRAE SCREEN 3

Other (please specify) (if other, provide copy of section 7 notice) _____

Was the approved dispersion model refined as required by s.12 of the Regulation (i.e. operating conditions, emission rates)?

Yes No

What meteorological data was used?

Regional Data Regional data refined, in consultation with the EMRB, to reflect local land use conditions

Local or Site-Specific Data Data from a computational method

Did you receive approval under s. 13 for the Meteorological Data? Yes No

Have you modelled a concentration at a Point of Impingement (POI) other than the maximum POI? (please include figure showing maximum POI location)

Yes No

If Yes, specify additional locations (i.e., land use) at which the exceedance may occur (select all that apply – please include figure showing additional modelled locations):

Health Care Seniors Residence/Long Term Care Facility Child Care Facility Educational Facility

Dwelling

Location Specified by the Director (explain) _____

Other Location (explain) _____

Section 6 - Measurement Based Assessment – please complete this section if notifying of a measured **exceedance** (Complete Table 2 or equivalent)

Type of Monitor / Measurement Type	Date of Exceedance (yyyy/mm/dd)	Duration of Exceedance
High Volume Sampler	2019/10/30	24-hr Average

Is the monitoring approved by the Ministry?

Yes No If yes, please describe the approval Air Monitoring Program letter of Approval dated Nov. 9, 2016.

Monitoring Reference Number: (if available)

Specify the location (i.e., land use) at which the exceedance did occur (select all that apply):

Health Care Seniors Residence/Long Term Care Facility Child Care Facility Educational Facility

Dwelling

Location Specified by the Director (explain) _____

Other Location (explain) Gallinger Road Station

Section 7 - Statement of Company Official

I, the undersigned hereby declare that, to the best of my knowledge:

- The information contained herein and the information submitted is complete and accurate in every way and I am aware of the penalties against providing false information as per s.184 (2) of the *Environmental Protection Act*.
- I have been authorized to act on behalf of the company identified in this form for the purpose of providing this notification of exceedance under the Regulation to the Ministry of the Environment and Climate Change.
- I have used the most recent notification form (as obtained from the Ministry Internet site at <http://www.ontario.ca/environment-and-energy/rules-air-quality-and-pollution> or from my local Ministry District Office and I have included all necessary information required by the Regulation and identified on this form.

Name of Signing Authority
Twila Griffith

Title
Sr. Environmental Specialist

Telephone Number 807 482-0900 ext.8064	Fax Number	Mobile Number 807 708-2407	Email Address twila.griffith@newgold.com
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Signature <original signed by>	Date (yyyy/mm/dd) 2020/02/14
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Address Information

Same as Site Physical Address? Yes No (If no, please provide signing authority mailing address information below)

Civic Address

Unit Number	Street Number 5967	Street Name Highway 11/71	PO Box 5
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Delivery Designator: If signing authority mailing address is a Rural Route, Suburban Service, Mobile Route or General Delivery (i.e., RR#3)

Municipality/Unorganized Township or Territory Emo	County/District	Province/State Ontario	Country Canada	Postal Code P0W 1E0
---	-----------------	---------------------------	-------------------	------------------------

Table 1 - Information About Modelled Exceedance

Contaminant (a)	CAS (b) Number	Air Dispersion Model Used (include version number)	Maximum POI (c) Concentration ($\mu\text{g}/\text{m}^3$)	Averaging Period (hours)(minute/hour/day/annual)	Ministry Limit ($\mu\text{g}/\text{m}^3$) or URT ($\mu\text{g}/\text{m}^3$)	Limiting Effect	Schedule 2, Schedule 3, Guideline, Schedule 6 URT or Other (specify) (d)	Benchmark 1, Benchmark 2, or No Benchmark (e) (specify)	Percentage of Ministry Limit or URT

Provide additional information as needed (e.g. Location of Maximum POI Concentrations (e.g. UTM, street address, land use at Maximum POI if known, etc.))

Notes:

- (a) Proper Chemical Name should be given (Abbreviations, acronyms, numeric codes, trade names and mixtures NOT ACCEPTABLE).
- (b) CAS Number : Chemical Abstracts Services Number (UNIQUE Identifier for a chemical)
- (c) POI Concentration : Point of Impingement Concentration
- (d) Schedule 2 = section 19 applies; Schedule 3 = section 20 applies
- (e) If a B2 value is exceeded, the regulation requires potential adverse effects to be assessed. If it is determined that an adverse effect may occur for the contaminant in question, this should be included in the table

Table 2 - Information About Measured Exceedance

Contaminant (a)	CAS (b) Number	Type of Assessment (Measurement Method)	Maximum POI (c) Concentration ($\mu\text{g}/\text{m}^3$)	Averaging Period (minute/ hour/day/ annual)	Ministry Limit ($\mu\text{g}/\text{m}^3$) or URT ($\mu\text{g}/\text{m}^3$)	Limiting Effect	Schedule 2, Schedule 3, Guideline, Schedule 6 URT, or Other (specify)	Benchmark 1, Benchmark 2, or No Benchmark (d) (specify)	Percentage of Ministry Limit or URT
Suspended particulate	N/A	HiVol	N/A	24 hour	120	Soiling	3	B1	101%

* For additional measurement locations / sampling times, please include additional tables

** If you are reporting more than one exceedance, include the time of the exceedance in the contaminant column

Notes:

(a) Proper Chemical Name should be given (Abbreviations, acronyms, numeric codes, trade names and mixtures NOT ACCEPTABLE).

(b) CAS Number : Chemical Abstracts Services Number (UNIQUE Identifier for a chemical)

(c) POI Concentration : Point of Impingement Concentration

(d) Schedule 2 = section 19 applies; Schedule 3 = section 20 applies

(e) If a B2 value is exceeded, the regulation requires potential adverse effects to be assessed. If it is determined that an adverse effect may occur for the contaminant in question, this should be included in the table

APPENDIX C

LABORATORY RESULTS – CERTIFICATES OF ANALYSIS



Your Project #: EMO ON - TC111504.2015.6
 Site#: 2019/10/01 - 2019/11/06
 Site Location: NEW GOLD - EMO, ON

Attention: Claire Kocharakkal

ALS Environmental
 Burlington ON
 1435 Norjohn Court
 Unit 1
 Burlington, ON
 CANADA L7L 0E6

Report Date: 2019/11/21
 Report #: R2813819
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B997248

Received: 2019/11/12, 12:52

Sample Matrix: Air
 # Samples Received: 2

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
NO2 Passive Analysis	2	2019/11/15	2019/11/21	PTC SOP-00148	Passive NO2 in ATM
SO2 Passive Analysis	2	2019/11/14	2019/11/21	PTC SOP-00149	Passive SO2 in ATM

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 Results relate only to the items tested.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
 Levi Manchak, Project Manager SR
 Email: Levi.MANCHAK@bvlabs.com
 Phone# (780)378-8542

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BUREAU
VERITAS

BV Labs Job #: B997248

Report Date: 2019/11/21

ALS Environmental

Client Project #: EMO ON - TC111504.2015.6

Site Location: NEW GOLD - EMO, ON

Sampler Initials: KH

RESULTS OF CHEMICAL ANALYSES OF AIR

BV Labs ID		WX3827		WX3828		
Sampling Date		2019/10/01		2019/10/01		
	UNITS	RRP SOUTH	QC Batch	RRP NORTH	RDL	QC Batch
Passive Monitoring						
Calculated NO2	ppb	0.7	9673127	1.5	0.1	9673127
Calculated SO2	ppb	<0.1	9671354	<0.1	0.1	9671351
RDL = Reportable Detection Limit						



**BUREAU
VERITAS**

BV Labs Job #: B997248

Report Date: 2019/11/21

ALS Environmental

Client Project #: EMO ON - TC111504.2015.6

Site Location: NEW GOLD - EMO, ON

Sampler Initials: KH

GENERAL COMMENTS

Results relate only to the items tested.



BUREAU
VERITAS

BV Labs Job #: B997248

Report Date: 2019/11/21

ALS Environmental

Client Project #: EMO ON - TC111504.2015.6

Site Location: NEW GOLD - EMO, ON

Sampler Initials: KH

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9671351	OZ	Spiked Blank	Calculated SO2			101	%	90 - 110
9671351	OZ	Method Blank	Calculated SO2		<0.1		ppb	
9671354	OZ	Spiked Blank	Calculated SO2			100	%	90 - 110
9671354	OZ	Method Blank	Calculated SO2		<0.1		ppb	
9673127	OZ	Spiked Blank	Calculated NO2			100	%	90 - 110
9673127	OZ	Method Blank	Calculated NO2		<0.1		ppb	

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.



**BUREAU
VERITAS**

BV Labs Job #: B997248

Report Date: 2019/11/21

ALS Environmental

Client Project #: EMO ON - TC111504.2015.6

Site Location: NEW GOLD - EMO, ON

Sampler Initials: KH

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

<original signed by>

-

Linda Lin, Supervisor, Centre for Passive Sampling Technology

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Your P.O. #: 4500022601
 Your Project #: TC111504.2015.6
 Site#: 2019/11/05 - 2019/12/02
 Site Location: NEW GOLD - EMO, ON

Attention: Claire Kocharakkal

ALS Environmental
 Burlington ON
 1435 Norjohn Court
 Unit 1
 Burlington, ON
 CANADA L7L 0E6

Report Date: 2020/01/13
 Report #: R2832983
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C000210

Received: 2020/01/02, 07:44

Sample Matrix: Air
 # Samples Received: 2

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
NO2 Passive Analysis	2	2020/01/06	2020/01/13	PTC SOP-00148	Passive NO2 in ATM
SO2 Passive Analysis	2	2020/01/03	2020/01/13	PTC SOP-00149	Passive SO2 in ATM

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 Results relate only to the items tested.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
 Levi Manchak, Project Manager SR
 Email: Levi.MANCHAK@bvlabs.com
 Phone# (780)378-8542

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BUREAU
VERITAS

BV Labs Job #: C000210
Report Date: 2020/01/13

ALS Environmental
Client Project #: TC111504.2015.6
Site Location: NEW GOLD - EMO, ON
Your P.O. #: 4500022601
Sampler Initials: MW

RESULTS OF CHEMICAL ANALYSES OF AIR

BV Labs ID		XE7030	XE7031		
Sampling Date		2019/11/05	2019/11/05		
	UNITS	RRP SOUTH	RRP NORTH	RDL	QC Batch
Passive Monitoring					
Calculated NO2	ppb	1.0	1.1	0.1	9726045
Calculated SO2	ppb	0.1	<0.1	0.1	9725627
RDL = Reportable Detection Limit					



BUREAU
VERITAS

BV Labs Job #: C000210
Report Date: 2020/01/13

ALS Environmental
Client Project #: TC111504.2015.6
Site Location: NEW GOLD - EMO, ON
Your P.O. #: 4500022601
Sampler Initials: MW

GENERAL COMMENTS

Results relate only to the items tested.



BUREAU
VERITAS

BV Labs Job #: C000210
Report Date: 2020/01/13

ALS Environmental
Client Project #: TC111504.2015.6
Site Location: NEW GOLD - EMO, ON
Your P.O. #: 4500022601
Sampler Initials: MW

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9725627	OZ	Spiked Blank	Calculated SO2			100	%	90 - 110
9725627	OZ	Method Blank	Calculated SO2		<0.1		ppb	
9726045	YL6	Spiked Blank	Calculated NO2			98	%	90 - 110
9726045	YL6	Method Blank	Calculated NO2		<0.1		ppb	

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.



**BUREAU
VERITAS**

BV Labs Job #: C000210
Report Date: 2020/01/13

ALS Environmental
Client Project #: TC111504.2015.6
Site Location: NEW GOLD - EMO, ON
Your P.O. #: 4500022601
Sampler Initials: MW

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

<original signed by>

~

Linda Lin, Supervisor, Centre for Passive Sampling Technology

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Your P.O. #: 4500022601
 Your Project #: TC111504.2015.6
 Site#: 2019/12/02 - 2020/01/02
 Site Location: NEW GOLD - EMO, ON

Attention: Claire Kocharakkal

ALS Environmental
 Burlington ON
 1435 Norjohn Court
 Unit 1
 Burlington, ON
 CANADA L7L 0E6

Report Date: 2020/01/15
 Report #: R2833836
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C001540

Received: 2020/01/09, 10:47

Sample Matrix: Air
 # Samples Received: 2

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
NO2 Passive Analysis	2	2020/01/10	2020/01/15	PTC SOP-00148	Passive NO2 in ATM
SO2 Passive Analysis	2	2020/01/10	2020/01/15	PTC SOP-00149	Passive SO2 in ATM

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 Results relate only to the items tested.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
 Levi Manchak, Project Manager SR
 Email: Levi.MANCHAK@bvlabs.com
 Phone# (780)378-8542

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BUREAU
VERITAS

BV Labs Job #: C001540
Report Date: 2020/01/15

ALS Environmental
Client Project #: TC111504.2015.6
Site Location: NEW GOLD - EMO, ON
Your P.O. #: 4500022601
Sampler Initials: MW

RESULTS OF CHEMICAL ANALYSES OF AIR

BV Labs ID		XF2223	XF2224		
Sampling Date		2019/12/02	2019/12/02		
	UNITS	RRP SOUTH	RRP NORTH	RDL	QC Batch
Passive Monitoring					
Calculated NO2	ppb	0.6	1.0	0.1	9731028
Calculated SO2	ppb	0.1	0.2	0.1	9731119
RDL = Reportable Detection Limit					



**BUREAU
VERITAS**

BV Labs Job #: C001540

Report Date: 2020/01/15

ALS Environmental

Client Project #: TC111504.2015.6

Site Location: NEW GOLD - EMO, ON

Your P.O. #: 4500022601

Sampler Initials: MW

GENERAL COMMENTS

Results relate only to the items tested.



BUREAU
VERITAS

BV Labs Job #: C001540
Report Date: 2020/01/15

ALS Environmental
Client Project #: TC111504.2015.6
Site Location: NEW GOLD - EMO, ON
Your P.O. #: 4500022601
Sampler Initials: MW

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9731028	YL6	Spiked Blank	Calculated NO2			96	%	90 - 110
9731028	YL6	Method Blank	Calculated NO2		<0.1		ppb	
9731119	OZ	Spiked Blank	Calculated SO2			104	%	90 - 110
9731119	OZ	Method Blank	Calculated SO2		<0.1		ppb	

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.



BUREAU
VERITAS

BV Labs Job #: C001540
Report Date: 2020/01/15

ALS Environmental
Client Project #: TC111504.2015.6
Site Location: NEW GOLD - EMO, ON
Your P.O. #: 4500022601
Sampler Initials: MW

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

<original signed by>

Linda Lin, Supervisor, Centre for Passive Sampling Technology

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New Gold Inc. Rainy River Project
ATTN: Twila Griffith
5967 Highway 11/71
P.O. Box 5
Emo ON POW 1E0

Date Received: 11-NOV-19
Report Date: 05-DEC-19 13:08 (MT)
Version: FINAL

Client Phone: 807-482-0900

Certificate of Analysis

Lab Work Order #: L2380277
Project P.O. #: 4500035097
Job Reference: NEW GOLD RRP
C of C Numbers:
Legal Site Desc:

<original signed by>


Claire Kocharakkal, B.Sc.
Account Manager

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2380277-1 NORTH-TSP-265 Sampled By: Client on 06-OCT-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	15000		2300	ug		19-NOV-19	R4915745
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Cadmium (Cd)	<2.0		2.0	ug	19-NOV-19	19-NOV-19	R4916143
Cobalt (Co)	<2.0		2.0	ug	19-NOV-19	19-NOV-19	R4916143
Chromium (Cr)	<5.0		5.0	ug	19-NOV-19	19-NOV-19	R4916143
Copper (Cu)	155		4.0	ug	19-NOV-19	19-NOV-19	R4916143
Iron (Fe)	206		20	ug	19-NOV-19	19-NOV-19	R4916143
Manganese (Mn)	6.4		1.0	ug	19-NOV-19	19-NOV-19	R4916143
Nickel (Ni)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Lead (Pb)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Selenium (Se)	<10		10	ug	19-NOV-19	19-NOV-19	R4916143
Vanadium (V)	<5.0		5.0	ug	19-NOV-19	19-NOV-19	R4916143
Zinc (Zn)	32.0		5.0	ug	19-NOV-19	19-NOV-19	R4916143
L2380277-2 SOUTH-TSP-265 Sampled By: Client on 06-OCT-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	13100		2300	ug		19-NOV-19	R4915745
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Cadmium (Cd)	<2.0		2.0	ug	19-NOV-19	19-NOV-19	R4916143
Cobalt (Co)	<2.0		2.0	ug	19-NOV-19	19-NOV-19	R4916143
Chromium (Cr)	<5.0		5.0	ug	19-NOV-19	19-NOV-19	R4916143
Copper (Cu)	39.4		4.0	ug	19-NOV-19	19-NOV-19	R4916143
Iron (Fe)	154		20	ug	19-NOV-19	19-NOV-19	R4916143
Manganese (Mn)	4.5		1.0	ug	19-NOV-19	19-NOV-19	R4916143
Nickel (Ni)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Lead (Pb)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Selenium (Se)	<10		10	ug	19-NOV-19	19-NOV-19	R4916143
Vanadium (V)	<5.0		5.0	ug	19-NOV-19	19-NOV-19	R4916143
Zinc (Zn)	12.1		5.0	ug	19-NOV-19	19-NOV-19	R4916143
L2380277-3 NORTH-TSP-266 Sampled By: Client on 12-OCT-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	4900		2300	ug		19-NOV-19	R4915745
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Cadmium (Cd)	<2.0		2.0	ug	19-NOV-19	19-NOV-19	R4916143
Cobalt (Co)	<2.0		2.0	ug	19-NOV-19	19-NOV-19	R4916143
Chromium (Cr)	<5.0		5.0	ug	19-NOV-19	19-NOV-19	R4916143
Copper (Cu)	738		4.0	ug	19-NOV-19	19-NOV-19	R4916143
Iron (Fe)	56		20	ug	19-NOV-19	19-NOV-19	R4916143
Manganese (Mn)	1.3		1.0	ug	19-NOV-19	19-NOV-19	R4916143
Nickel (Ni)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Lead (Pb)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Selenium (Se)	<10		10	ug	19-NOV-19	19-NOV-19	R4916143
Vanadium (V)	<5.0		5.0	ug	19-NOV-19	19-NOV-19	R4916143
Zinc (Zn)	9.7		5.0	ug	19-NOV-19	19-NOV-19	R4916143

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2380277-4 SOUTH-TSP-266 Sampled By: Client on 12-OCT-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	11100		2300	ug		19-NOV-19	R4915745
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Cadmium (Cd)	<2.0		2.0	ug	19-NOV-19	19-NOV-19	R4916143
Cobalt (Co)	<2.0		2.0	ug	19-NOV-19	19-NOV-19	R4916143
Chromium (Cr)	<5.0		5.0	ug	19-NOV-19	19-NOV-19	R4916143
Copper (Cu)	117		4.0	ug	19-NOV-19	19-NOV-19	R4916143
Iron (Fe)	185		20	ug	19-NOV-19	19-NOV-19	R4916143
Manganese (Mn)	4.2		1.0	ug	19-NOV-19	19-NOV-19	R4916143
Nickel (Ni)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Lead (Pb)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Selenium (Se)	<10		10	ug	19-NOV-19	19-NOV-19	R4916143
Vanadium (V)	<5.0		5.0	ug	19-NOV-19	19-NOV-19	R4916143
Zinc (Zn)	10.4		5.0	ug	19-NOV-19	19-NOV-19	R4916143
L2380277-5 NORTH-TSP-267 Sampled By: Client on 18-OCT-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	32100		2300	ug		19-NOV-19	R4915745
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Cadmium (Cd)	<2.0		2.0	ug	19-NOV-19	19-NOV-19	R4916143
Cobalt (Co)	<2.0		2.0	ug	19-NOV-19	19-NOV-19	R4916143
Chromium (Cr)	<5.0		5.0	ug	19-NOV-19	19-NOV-19	R4916143
Copper (Cu)	522		4.0	ug	19-NOV-19	19-NOV-19	R4916143
Iron (Fe)	527		20	ug	19-NOV-19	19-NOV-19	R4916143
Manganese (Mn)	21.4		1.0	ug	19-NOV-19	19-NOV-19	R4916143
Nickel (Ni)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Lead (Pb)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Selenium (Se)	<10		10	ug	19-NOV-19	19-NOV-19	R4916143
Vanadium (V)	<5.0		5.0	ug	19-NOV-19	19-NOV-19	R4916143
Zinc (Zn)	13.6		5.0	ug	19-NOV-19	19-NOV-19	R4916143
L2380277-6 SOUTH-TSP-267 Sampled By: Client on 18-OCT-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	25200		2300	ug		19-NOV-19	R4915745
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Cadmium (Cd)	<2.0		2.0	ug	19-NOV-19	19-NOV-19	R4916143
Cobalt (Co)	<2.0		2.0	ug	19-NOV-19	19-NOV-19	R4916143
Chromium (Cr)	<5.0		5.0	ug	19-NOV-19	19-NOV-19	R4916143
Copper (Cu)	35.8		4.0	ug	19-NOV-19	19-NOV-19	R4916143
Iron (Fe)	366		20	ug	19-NOV-19	19-NOV-19	R4916143
Manganese (Mn)	14.7		1.0	ug	19-NOV-19	19-NOV-19	R4916143
Nickel (Ni)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Lead (Pb)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Selenium (Se)	<10		10	ug	19-NOV-19	19-NOV-19	R4916143
Vanadium (V)	<5.0		5.0	ug	19-NOV-19	19-NOV-19	R4916143
Zinc (Zn)	14.5		5.0	ug	19-NOV-19	19-NOV-19	R4916143

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2380277-7 NORTH-TSP-268 Sampled By: Client on 24-OCT-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	13900		2300	ug		19-NOV-19	R4915745
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Cadmium (Cd)	<2.0		2.0	ug	19-NOV-19	19-NOV-19	R4916143
Cobalt (Co)	<2.0		2.0	ug	19-NOV-19	19-NOV-19	R4916143
Chromium (Cr)	<5.0		5.0	ug	19-NOV-19	19-NOV-19	R4916143
Copper (Cu)	716		4.0	ug	19-NOV-19	19-NOV-19	R4916143
Iron (Fe)	185		20	ug	19-NOV-19	19-NOV-19	R4916143
Manganese (Mn)	7.3		1.0	ug	19-NOV-19	19-NOV-19	R4916143
Nickel (Ni)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Lead (Pb)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Selenium (Se)	<10		10	ug	19-NOV-19	19-NOV-19	R4916143
Vanadium (V)	<5.0		5.0	ug	19-NOV-19	19-NOV-19	R4916143
Zinc (Zn)	12.9		5.0	ug	19-NOV-19	19-NOV-19	R4916143
L2380277-8 SOUTH-TSP-268 Sampled By: Client on 24-OCT-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	14300		2300	ug		19-NOV-19	R4915745
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Cadmium (Cd)	<2.0		2.0	ug	19-NOV-19	19-NOV-19	R4916143
Cobalt (Co)	<2.0		2.0	ug	19-NOV-19	19-NOV-19	R4916143
Chromium (Cr)	<5.0		5.0	ug	19-NOV-19	19-NOV-19	R4916143
Copper (Cu)	36.2		4.0	ug	19-NOV-19	19-NOV-19	R4916143
Iron (Fe)	246		20	ug	19-NOV-19	19-NOV-19	R4916143
Manganese (Mn)	7.8		1.0	ug	19-NOV-19	19-NOV-19	R4916143
Nickel (Ni)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Lead (Pb)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Selenium (Se)	<10		10	ug	19-NOV-19	19-NOV-19	R4916143
Vanadium (V)	<5.0		5.0	ug	19-NOV-19	19-NOV-19	R4916143
Zinc (Zn)	11.3		5.0	ug	19-NOV-19	19-NOV-19	R4916143
L2380277-9 NORTH-TSP-269 Sampled By: Client on 30-OCT-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	200000		2300	ug		19-NOV-19	R4915745
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Cadmium (Cd)	<2.0		2.0	ug	19-NOV-19	19-NOV-19	R4916143
Cobalt (Co)	<2.0		2.0	ug	19-NOV-19	19-NOV-19	R4916143
Chromium (Cr)	6.7		5.0	ug	19-NOV-19	19-NOV-19	R4916143
Copper (Cu)	270		4.0	ug	19-NOV-19	19-NOV-19	R4916143
Iron (Fe)	3180		20	ug	19-NOV-19	19-NOV-19	R4916143
Manganese (Mn)	97.2		1.0	ug	19-NOV-19	19-NOV-19	R4916143
Nickel (Ni)	4.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Lead (Pb)	5.3		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Selenium (Se)	<10		10	ug	19-NOV-19	19-NOV-19	R4916143
Vanadium (V)	<5.0		5.0	ug	19-NOV-19	19-NOV-19	R4916143
Zinc (Zn)	67.1		5.0	ug	19-NOV-19	19-NOV-19	R4916143

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2380277-10 SOUTH-TSP-269 Sampled By: Client on 30-OCT-19 Matrix: Hi Vol Filter Miscellaneous Parameters Total particulate	125000		2300	ug		19-NOV-19	R4915745
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Cadmium (Cd)	<2.0		2.0	ug	19-NOV-19	19-NOV-19	R4916143
Cobalt (Co)	<2.0		2.0	ug	19-NOV-19	19-NOV-19	R4916143
Chromium (Cr)	5.7		5.0	ug	19-NOV-19	19-NOV-19	R4916143
Copper (Cu)	27.8		4.0	ug	19-NOV-19	19-NOV-19	R4916143
Iron (Fe)	2650		20	ug	19-NOV-19	19-NOV-19	R4916143
Manganese (Mn)	63.9		1.0	ug	19-NOV-19	19-NOV-19	R4916143
Nickel (Ni)	3.7		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Lead (Pb)	<3.0		3.0	ug	19-NOV-19	19-NOV-19	R4916143
Selenium (Se)	<10		10	ug	19-NOV-19	19-NOV-19	R4916143
Vanadium (V)	<5.0		5.0	ug	19-NOV-19	19-NOV-19	R4916143
Zinc (Zn)	15.1		5.0	ug	19-NOV-19	19-NOV-19	R4916143
L2380277-11 NORTH-PM2.5-265 Sampled By: Client on 06-OCT-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	83		15	ug		04-DEC-19	R4933927
L2380277-12 SOUTH-PM2.5-265 Sampled By: Client on 06-OCT-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	83		15	ug		04-DEC-19	R4933927
L2380277-13 NORTH-PM2.5-266 Sampled By: Client on 12-OCT-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	22		15	ug		04-DEC-19	R4933927
L2380277-14 SOUTH-PM2.5-266 Sampled By: Client on 12-OCT-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	<15		15	ug		04-DEC-19	R4933927
L2380277-15 NORTH-PM2.5-267 Sampled By: Client on 18-OCT-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	<15		15	ug		04-DEC-19	R4933927
L2380277-16 SOUTH-PM2.5-267 Sampled By: Client on 18-OCT-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	77		15	ug		04-DEC-19	R4933927
L2380277-17 NORTH-PM2.5-268 Sampled By: Client on 24-OCT-19 Matrix: 47mm Filter Miscellaneous Parameters							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2380277-17 NORTH-PM2.5-268 Sampled By: Client on 24-OCT-19 Matrix: 47mm Filter Total particulate	96		15	ug		04-DEC-19	R4933927
L2380277-18 SOUTH-PM2.5-268 Sampled By: Client on 24-OCT-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	25		15	ug		04-DEC-19	R4933927
L2380277-19 NORTH-PM2.5-269 Sampled By: Client on 30-OCT-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	16		15	ug		04-DEC-19	R4933927
L2380277-20 SOUTH-PM2.5-269 Sampled By: Client on 30-OCT-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	43		15	ug		04-DEC-19	R4933927
L2380277-21 NORTH-DUSTFALL Sampled By: Client on 05-NOV-19 Matrix: Dustfall Dustfalls-Total, Soluble, Insoluble +FV Total Dustfall Total Insoluble Dustfall Total Soluble Dustfall Fixed Dustfall Fixed Insoluble Dustfall Fixed Soluble Dustfall Volatile Dustfall Volatile Insoluble Dustfall Volatile Soluble Dustfall Total Metals in Dustfalls by ICPMS Aluminum (Al)-Total Interval Antimony (Sb)-Total Arsenic (As)-Total Barium (Ba)-Total Beryllium (Be)-Total Bismuth (Bi)-Total Boron (B)-Total Cadmium (Cd)-Total Calcium (Ca)-Total Chromium (Cr)-Total Cobalt (Co)-Total Copper (Cu)-Total Lead (Pb)-Total Iron (Fe)-Total Lithium (Li)-Total Magnesium (Mg)-Total Manganese (Mn)-Total Molybdenum (Mo)-Total	0.46 0.29 0.17 0.35 0.27 <0.10 0.12 <0.10 <0.10 0.00591 <0.000045 <0.000045 0.0000594 <0.000023 <0.000023 <0.00045 <0.000023 0.0234 <0.000023 <0.000045 <0.000097 0.0053 <0.00023 0.00637 0.000292 <0.000023		0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.00014 1 0.000045 0.000045 0.000023 0.000023 0.00045 0.000023 0.00090 0.000023 0.000045 DLB 0.000045 0.000023 0.0014 0.00023 0.00023 0.000045 0.000023	mg/dm2.day mg/dm2.day mg/dm2.day mg/dm2.day mg/dm2.day mg/dm2.day mg/dm2.day mg/dm2.day mg/dm2.day mg/dm2.day days mg/dm2.day	15-NOV-19 15-NOV-19 15-NOV-19 15-NOV-19 15-NOV-19 15-NOV-19 15-NOV-19 15-NOV-19 15-NOV-19 15-NOV-19	R4917147 R4917147 R4917147 R4917147 R4917147 R4917147 R4917147 R4917147 R4917147 R4910247 R4908602 R4910247	

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2380277-21 NORTH-DUSTFALL Sampled By: Client on 05-NOV-19 Matrix: Dustfall							
Total Metals in Dustfalls by ICPMS							
Nickel (Ni)-Total	<0.000023		0.000023	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Phosphorus (P)-Total	<0.0023		0.0023	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Potassium (K)-Total	0.0025		0.0023	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Selenium (Se)-Total	<0.000045		0.000045	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Silicon (Si)-Total	0.0069		0.0023	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Silver (Ag)-Total	0.00000140		0.0000004 5	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Sodium (Na)-Total	<0.0023		0.0023	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Strontium (Sr)-Total	0.0000443		0.0000045	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Thallium (Tl)-Total	<0.0000045		0.0000045	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Tin (Sn)-Total	<0.0000045		0.0000045	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Titanium (Ti)-Total	<0.00045		0.00045	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Uranium (U)-Total	<0.00000045		0.0000004 5	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Vanadium (V)-Total	<0.000045		0.000045	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Zinc (Zn)-Total	<0.00041	DLB	0.00041	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
L2380277-22 SOUTH-DUSTFALL Sampled By: Client on 05-NOV-19 Matrix: Dustfall							
Dustfalls-Total, Soluble, Insoluble +FV							
Total Dustfall	0.40		0.10	mg/dm2.day		15-NOV-19	R4917147
Total Insoluble Dustfall	0.25		0.10	mg/dm2.day		15-NOV-19	R4917147
Total Soluble Dustfall	0.15		0.10	mg/dm2.day		15-NOV-19	R4917147
Fixed Dustfall	0.31		0.10	mg/dm2.day		15-NOV-19	R4917147
Fixed Insoluble Dustfall	0.24		0.10	mg/dm2.day		15-NOV-19	R4917147
Fixed Soluble Dustfall	<0.10		0.10	mg/dm2.day		15-NOV-19	R4917147
Volatile Dustfall	<0.10		0.10	mg/dm2.day		15-NOV-19	R4917147
Volatile Insoluble Dustfall	<0.10		0.10	mg/dm2.day		15-NOV-19	R4917147
Volatile Soluble Dustfall	<0.10		0.10	mg/dm2.day		15-NOV-19	R4917147
Total Metals in Dustfalls by ICPMS							
Aluminum (Al)-Total	0.00748		0.00013	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Interval			1	days		15-NOV-19	R4908602
Antimony (Sb)-Total	<0.0000043		0.0000043	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Arsenic (As)-Total	<0.0000043		0.0000043	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Barium (Ba)-Total	0.0000724		0.0000021	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Beryllium (Be)-Total	<0.000021		0.000021	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Bismuth (Bi)-Total	<0.000021		0.000021	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Boron (B)-Total	<0.00043		0.00043	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Cadmium (Cd)-Total	<0.0000021		0.0000021	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Calcium (Ca)-Total	0.0194		0.00085	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Chromium (Cr)-Total	<0.000021		0.000021	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Cobalt (Co)-Total	0.0000054		0.0000043	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Copper (Cu)-Total	<0.000043	DLM	0.000043	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Lead (Pb)-Total	0.0000087		0.0000021	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Iron (Fe)-Total	0.0094		0.0013	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Lithium (Li)-Total	<0.00021		0.00021	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Magnesium (Mg)-Total	0.00636		0.00021	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Manganese (Mn)-Total	0.000324		0.0000043	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Molybdenum (Mo)-Total	<0.0000021		0.0000021	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Nickel (Ni)-Total	0.000021		0.000021	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Phosphorus (P)-Total	<0.0021		0.0021	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2380277-22 SOUTH-DUSTFALL							
Sampled By: Client on 05-NOV-19							
Matrix: Dustfall							
Total Metals in Dustfalls by ICPMS							
Potassium (K)-Total	0.0028		0.0021	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Selenium (Se)-Total	<0.000043		0.000043	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Silicon (Si)-Total	0.0102		0.0021	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Silver (Ag)-Total	<0.00000043		0.00000043	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
			3				
Sodium (Na)-Total	<0.0021		0.0021	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Strontium (Sr)-Total	0.0000583		0.000043	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Thallium (Tl)-Total	<0.0000043		0.000043	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Tin (Sn)-Total	<0.0000043		0.000043	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Titanium (Ti)-Total	<0.00043		0.00043	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Uranium (U)-Total	<0.00000043		0.00000043	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
			3				
Vanadium (V)-Total	<0.000043		0.000043	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247
Zinc (Zn)-Total	<0.00038	DLM	0.00038	mg/dm2.day	15-NOV-19	15-NOV-19	R4910247

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
B	Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.
DLB	Detection Limit Raised. Analyte detected at comparable level in Method Blank.
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.
DUP-H,J	Duplicate results outside ALS DQO, due to sample heterogeneity. Duplicate results and limits are expressed in terms of absolute difference.
G	QC result did not meet ALS DQO. Refer to narrative comments for further information.
MB-LOR	Method Blank exceeds ALS DQO. Limits of Reporting have been adjusted for samples with positive hits below 5x blank level.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
AIR VOLUME-HIVOL-BU	Filter	Air volume (m3)	USEPA IO3.1
AIR VOLUME-M212 F-BU	Filter	Air volume (m3)	EPA QA Guidance Document 2.12
DUSTFALLS-ALL-DM2-VA	Dustfall	Dustfalls-Total, Soluble, Insoluble +FV	BC LAB MANUAL - PARTICULATE
<p>This analysis is carried out using procedures modified from British Columbia Environmental Manual "Particulate." Particulates or "Dustfalls" are determined gravimetrically. Total Insoluble and Soluble Dustfalls are determined by filtering a sample through a 0.45 um membrane filter and drying the filter and filtrate at 104 C, followed by ignition at 550 C. The remaining residue after 550 C represents the fixed portion and the weight lost on ignition represents the volatile portion. The sum of all fixed and volatile portions on both Insoluble and Soluble portions represents Total Dustfalls.</p>			
MET-DUST(DM2)-MS-VA	Dustfall	Total Metals in Dustfalls by ICPMS	EPA 6020A
<p>This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). Instrumental analysis is by inductively coupled plasma - mass spectrometry (EPA Method 6020A).</p>			
MET-IO3.5-MS-BU	Filter	Metals on High Volume Filter by ICPMS	IO3.5
<p>After weighing (if required), hivol filters are sub-sampled and leached with nitric acid to extract available metal analytes. After dilution, the extracts are submitted to the ICPMS instrument for analysis.</p>			
PART-HIVOL-GRAV-BU	Filter	Particulate on High Volume Filter	USEPA IO3.1
PART-M212 F-GRAV-BU	Filter	PM via Gravimetric Analysis	EPA QA Guidance Document 2.12
<p>The particulate matter collected onto tare-weighted 47mm Teflon Disc filter media is desiccated then brought to a constant weight on an analytical balance. Results are presented in ug (per filter). An air volume can be included to allow for reporting in ug/m3.</p>			

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
BU	ALS ENVIRONMENTAL - BURLINGTON, ONTARIO, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
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GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L2380277

Report Date: 05-DEC-19

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Client: New Gold Inc. Rainy River Project
 5967 Highway 11/71 P.O. Box 5
 Emo ON P0W 1E0

Contact: Twila Griffith

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-IO3.5-MS-BU		Filter						
Batch	R4916143							
WG3222660-3	DUP	L2380277-1						
Arsenic (As)		<3.0	<3.0	RPD-NA	ug	N/A	20	19-NOV-19
Cadmium (Cd)		<2.0	<2.0	RPD-NA	ug	N/A	20	19-NOV-19
Cobalt (Co)		<2.0	<2.0	RPD-NA	ug	N/A	20	19-NOV-19
Chromium (Cr)		<5.0	<5.0	RPD-NA	ug	N/A	20	19-NOV-19
Copper (Cu)		155	151		ug	2.9	20	19-NOV-19
Iron (Fe)		206	202		ug	2.0	25	19-NOV-19
Manganese (Mn)		6.4	6.2		ug	3.6	20	19-NOV-19
Nickel (Ni)		<3.0	<3.0	RPD-NA	ug	N/A	20	19-NOV-19
Lead (Pb)		<3.0	<3.0	RPD-NA	ug	N/A	20	19-NOV-19
Selenium (Se)		<10	<10	RPD-NA	ug	N/A	20	19-NOV-19
Vanadium (V)		<5.0	<5.0	RPD-NA	ug	N/A	20	19-NOV-19
Zinc (Zn)		32.0	88.2	G	ug	94	20	19-NOV-19
COMMENTS: Zn RPD is outside ALS DQOs. Data for this analyte may show higher than normal variation. PE 20-Nov-19								
WG3222660-2	LCS							
Arsenic (As)			85.2		%		80-120	19-NOV-19
Cadmium (Cd)			95.2		%		80-120	19-NOV-19
Cobalt (Co)			88.9		%		80-120	19-NOV-19
Chromium (Cr)			86.6		%		80-120	19-NOV-19
Copper (Cu)			107.0		%		80-120	19-NOV-19
Iron (Fe)			88.0		%		80-120	19-NOV-19
Manganese (Mn)			87.9		%		80-120	19-NOV-19
Nickel (Ni)			86.4		%		80-120	19-NOV-19
Lead (Pb)			88.9		%		80-120	19-NOV-19
Selenium (Se)			91.5		%		80-120	19-NOV-19
Vanadium (V)			86.6		%		80-120	19-NOV-19
Zinc (Zn)			91.0		%		80-120	19-NOV-19
WG3222660-1	MB							
Arsenic (As)		<3.0			ug		3	19-NOV-19
Cadmium (Cd)		<2.0			ug		2	19-NOV-19
Cobalt (Co)		<2.0			ug		2	19-NOV-19
Chromium (Cr)		<5.0			ug		5	19-NOV-19
Copper (Cu)		<4.0			ug		4	19-NOV-19
Iron (Fe)		<20			ug		20	19-NOV-19
Manganese (Mn)		<1.0			ug		1	19-NOV-19
Nickel (Ni)		<3.0			ug		3	19-NOV-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-IO3.5-MS-BU								
	Filter							
Batch	R4916143							
WG3222660-1	MB							
Lead (Pb)			<3.0		ug		3	19-NOV-19
Selenium (Se)			<10		ug		10	19-NOV-19
Vanadium (V)			<5.0		ug		10	19-NOV-19
Zinc (Zn)			<5.0		ug		5	19-NOV-19
WG3222660-4	MS	L2380277-1						
Arsenic (As)			79.8		%		75-125	19-NOV-19
Cadmium (Cd)			89.0		%		75-125	19-NOV-19
Cobalt (Co)			83.3		%		75-125	19-NOV-19
Chromium (Cr)			81.6		%		75-125	19-NOV-19
Copper (Cu)			N/A	MS-B	%		-	19-NOV-19
Iron (Fe)			N/A	MS-B	%		75-125	19-NOV-19
Manganese (Mn)			79.7		%		75-125	19-NOV-19
Nickel (Ni)			80.9		%		75-125	19-NOV-19
Lead (Pb)			80.2		%		75-125	19-NOV-19
Selenium (Se)			85.2		%		75-125	19-NOV-19
Vanadium (V)			81.9		%		75-125	19-NOV-19
Zinc (Zn)			N/A	MS-B	%		75-125	19-NOV-19
PART-HIVOL-GRAV-BU								
	Filter							
Batch	R4915745							
WG3222320-4	DUP	L2380277-1						
Total particulate		15000	14400		ug	4.1	25	19-NOV-19
WG3222320-3	MB							
Total particulate			<100		ug		100	19-NOV-19
PART-M212 F-GRAV-BU								
	Filter							
Batch	R4933927							
WG3235112-2	DUP	L2380277-11						
Total particulate		83	90		ug	8.1	10	04-DEC-19
WG3235112-1	MB							
Total particulate			<15		ug		15	04-DEC-19
DUSTFALLS-ALL-DM2-VA								
	Dustfall							
Batch	R4917147							
WG3219779-1	MB							
Total Dustfall			<0.10		mg/dm2.day		0.1	15-NOV-19
Total Insoluble Dustfall			<0.10		mg/dm2.day		0.1	15-NOV-19
Total Soluble Dustfall			<0.10		mg/dm2.day		0.1	15-NOV-19



Quality Control Report

Workorder: L2380277

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DUSTFALLS-ALL-DM2-VA Dustfall								
Batch R4917147								
WG3219779-1 MB								
Fixed Dustfall			<0.10		mg/dm2.day		0.1	15-NOV-19
Fixed Insoluble Dustfall			<0.10		mg/dm2.day		0.1	15-NOV-19
Fixed Soluble Dustfall			<0.10		mg/dm2.day		0.1	15-NOV-19
Volatile Dustfall			<0.10		mg/dm2.day		0.1	15-NOV-19
Volatile Insoluble Dustfall			<0.10		mg/dm2.day		0.1	15-NOV-19
Volatile Soluble Dustfall			<0.10		mg/dm2.day		0.1	15-NOV-19
MET-DUST(DM2)-MS-VA Dustfall								
Batch R4910247								
WG3216938-2 LCS								
Aluminum (Al)-Total			116.1		%		80-120	15-NOV-19
Antimony (Sb)-Total			116.1		%		80-120	15-NOV-19
Arsenic (As)-Total			113.5		%		80-120	15-NOV-19
Barium (Ba)-Total			116.8		%		80-120	15-NOV-19
Beryllium (Be)-Total			104.3		%		80-120	15-NOV-19
Bismuth (Bi)-Total			104.8		%		80-120	15-NOV-19
Boron (B)-Total			109.7		%		80-120	15-NOV-19
Cadmium (Cd)-Total			117.9		%		80-120	15-NOV-19
Calcium (Ca)-Total			106.9		%		80-120	15-NOV-19
Chromium (Cr)-Total			111.0		%		80-120	15-NOV-19
Cobalt (Co)-Total			112.0		%		80-120	15-NOV-19
Copper (Cu)-Total			118.5		%		80-120	15-NOV-19
Lead (Pb)-Total			110.1		%		80-120	15-NOV-19
Iron (Fe)-Total			115.1		%		80-120	15-NOV-19
Lithium (Li)-Total			99.9		%		80-120	15-NOV-19
Magnesium (Mg)-Total			116.4		%		80-120	15-NOV-19
Manganese (Mn)-Total			114.7		%		80-120	15-NOV-19
Molybdenum (Mo)-Total			113.8		%		80-120	15-NOV-19
Nickel (Ni)-Total			109.4		%		80-120	15-NOV-19
Phosphorus (P)-Total			114.4		%		80-120	15-NOV-19
Potassium (K)-Total			113.5		%		80-120	15-NOV-19
Selenium (Se)-Total			110.0		%		80-120	15-NOV-19
Silicon (Si)-Total			113.0		%		80-120	15-NOV-19
Silver (Ag)-Total			103.2		%		80-120	15-NOV-19
Sodium (Na)-Total			116.4		%		80-120	15-NOV-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DUST(DM2)-MS-VA		Dustfall						
Batch	R4910247							
WG3216938-2 LCS								
Strontium (Sr)-Total			112.4		%		80-120	15-NOV-19
Thallium (Tl)-Total			97.7		%		80-120	15-NOV-19
Tin (Sn)-Total			111.7		%		80-120	15-NOV-19
Titanium (Ti)-Total			109.9		%		80-120	15-NOV-19
Uranium (U)-Total			108.4		%		80-120	15-NOV-19
Vanadium (V)-Total			113.9		%		80-120	15-NOV-19
Zinc (Zn)-Total			114.6		%		80-120	15-NOV-19
WG3216938-1 MB								
Aluminum (Al)-Total			0.000117	B	mg/dm2.day		0.000079	15-NOV-19
Antimony (Sb)-Total			<0.0000026		mg/dm2.day		0.0000026	15-NOV-19
Arsenic (As)-Total			<0.0000026		mg/dm2.day		0.0000026	15-NOV-19
Barium (Ba)-Total			0.0000041	B	mg/dm2.day		0.0000013	15-NOV-19
Beryllium (Be)-Total			<0.000013		mg/dm2.day		0.000013	15-NOV-19
Bismuth (Bi)-Total			<0.000013		mg/dm2.day		0.000013	15-NOV-19
Boron (B)-Total			<0.00026		mg/dm2.day		0.00026	15-NOV-19
Cadmium (Cd)-Total			<0.0000013		mg/dm2.day		0.0000013	15-NOV-19
Calcium (Ca)-Total			<0.00052		mg/dm2.day		0.00052	15-NOV-19
Chromium (Cr)-Total			<0.000013		mg/dm2.day		0.000013	15-NOV-19
Cobalt (Co)-Total			<0.0000026		mg/dm2.day		0.0000026	15-NOV-19
Copper (Cu)-Total			0.000020	MB-LOR	mg/dm2.day		0.000013	15-NOV-19
Lead (Pb)-Total			<0.0000013		mg/dm2.day		0.0000013	15-NOV-19
Iron (Fe)-Total			<0.00079		mg/dm2.day		0.00079	15-NOV-19
Lithium (Li)-Total			<0.00013		mg/dm2.day		0.00013	15-NOV-19
Magnesium (Mg)-Total			<0.00013		mg/dm2.day		0.00013	15-NOV-19
Manganese (Mn)-Total			0.0000050	B	mg/dm2.day		0.0000026	15-NOV-19
Molybdenum (Mo)-Total			<0.0000013		mg/dm2.day		0.0000013	15-NOV-19
Nickel (Ni)-Total			<0.000013		mg/dm2.day		0.000013	15-NOV-19
Phosphorus (P)-Total			<0.0013		mg/dm2.day		0.0013	15-NOV-19
Potassium (K)-Total			<0.0013		mg/dm2.day		0.0013	15-NOV-19
Selenium (Se)-Total			<0.000026		mg/dm2.day		0.000026	15-NOV-19
Silicon (Si)-Total			<0.0013		mg/dm2.day		0.0013	15-NOV-19
Silver (Ag)-Total			<0.0000002		mg/dm2.day		0.00000026	15-NOV-19
Sodium (Na)-Total			<0.0013		mg/dm2.day		0.0013	15-NOV-19
Strontium (Sr)-Total			<0.0000026		mg/dm2.day		0.0000026	15-NOV-19



Quality Control Report

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DUST(DM2)-MS-VA	Dustfall							
Batch	R4910247							
WG3216938-1	MB							
Thallium (Tl)-Total			<0.0000026		mg/dm2.day		0.0000026	15-NOV-19
Tin (Sn)-Total			<0.0000026		mg/dm2.day		0.0000026	15-NOV-19
Titanium (Ti)-Total			<0.00026		mg/dm2.day		0.00026	15-NOV-19
Uranium (U)-Total			<0.0000002		mg/dm2.day		0.00000026	15-NOV-19
Vanadium (V)-Total			<0.000026		mg/dm2.day		0.000026	15-NOV-19
Zinc (Zn)-Total			0.000126	MB-LOR	mg/dm2.day		0.000079	15-NOV-19

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Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
B	Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.
G	QC result did not meet ALS DQO. Refer to narrative comments for further information.
MB-LOR	Method Blank exceeds ALS DQO. Limits of Reporting have been adjusted for samples with positive hits below 5x blank level.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

Report To: **L2380277**

Company: **New Gold Inc. Rainy River Project**

Contact: **Twila Griffith**

Address: **24 Mar Rd.**

City/Province: **Barwick ON**

Postal Code: **P0W 1A0**

Phone: **807-482-0900 x8064**

Report Format / Distribution: **PDF** **Excel** **EDD (Digital)**

Quality Control (QC) Report with Report: **Yes** **No**

Criteria on Report - provide details below if box checked:

Select Distribution: **Email** **Mail** **Fax**

Email 1 or Fax: **rainyriver.labresults@newgold.com**

Email 2: **yag.wiron@newgold.com**

Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests): **R** **Regular** (Standard TAT if received by 3pm - business days)

P **Priority** (2-4 bus. days if received by 3pm - 50% surcharge - contact ALS to confirm TAT)

E **Emergency** (1-2 bus. days if received by 3pm - 100% surcharge - contact ALS to confirm TAT)

E2 **Emergency** (1-2 bus. days if received by 3pm - 100% surcharge - contact ALS to confirm TAT)

Date and Time Required for all E&P TATs: _____

For tests that can not be performed according to the service level selected, you will be contacted.

Invoice To: **Same as Report?** **Yes** **No**

Copy of Invoice with Report? **Yes** **No**

Select Invoice Distribution: **Email** **Mail** **Fax**

Invoice Distribution: _____

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

Company: _____

Contact: _____

Project Information: _____

Oil and Gas Required Fields (client use): _____

ALS Quote #: _____

Job #: **Air Quality**

PO / AFE: **4500035007**

LSD: _____

ALS Lab Work Order # (lab use only): _____

ALS Contact: **Kyle Watkins**

Sampler: _____

Approval ID: _____

Cost Center: _____

GL Account: _____

Routing Code: _____

Activity Code: _____

Location: _____

Sample Ref (upload EDD)	Sample Identification and/or Coordinates (Description etc. appear on the report)	Filter ID	Date (dd-MMM-yy)	Time (hh:mm)	Sample Type	TSP and Metals	PM2.5	Other (incl. volatile)	Number of Containers
123280	TSP	North-TSP-265	06-Oct-19	12:00	Air	X			
123281	TSP	South-TSP-265	06-Oct-19	12:00	Air	X			
123282	PM 2.5	North-PM2.5-265	06-Oct-19	12:00	Air		X		
123283	PM 2.5	South-PM2.5-265	06-Oct-19	12:00	Air		X		
123284	TSP	North-TSP-266	12-Oct-19	12:00	Air	X			
123285	TSP	South-TSP-266	12-Oct-19	12:00	Air	X			
123286	PM 2.5	North-PM2.5-266	12-Oct-19	12:00	Air		X		
123287	PM 2.5	South-PM2.5-266	12-Oct-19	12:00	Air		X		
123288	TSP	North-TSP-267	18-Oct-19	12:00	Air	X			
123289	TSP	South-TSP-267	18-Oct-19	12:00	Air	X			
123290	PM 2.5	North-PM2.5-267	18-Oct-19	12:00	Air		X		
123291	PM 2.5	South-PM2.5-267	18-Oct-19	12:00	Air		X		
123292	TSP	North-TSP-268	24-Oct-19	12:00	Air	X			
123293	TSP	South-TSP-268	24-Oct-19	12:00	Air	X			
123294	PM 2.5	North-PM2.5-268	24-Oct-19	12:00	Air		X		
123295	PM 2.5	South-PM2.5-268	24-Oct-19	12:00	Air		X		
123296	TSP	North-TSP-269	30-Oct-19	12:00	Air	X			
123297	TSP	South-TSP-269	30-Oct-19	12:00	Air	X			
123298	PM 2.5	North-PM2.5-269	30-Oct-19	12:00	Air		X		
123299	PM 2.5	South-PM2.5-269	30-Oct-19	12:00	Air		X		
123300	TSP Travel Blank		05-Nov-19	12:00	Air	X			
123301	PM2.5 Travel Blank		05-Nov-19	12:00	Air		X		
123302	Dustfall - Tail Road (South)		05-Nov-19	12:00	Air			X	
123303	Dustfall - Gainger Road		05-Nov-19	12:00	Air			X	

Drinking Water (DW) Samples (client use)

Are samples taken from a Regulated DW System? **Yes** **No**

Are samples for human drinking water use? **Yes** **No**

Special Instructions / Specify Criteria to add on report (client use): **MISA [Template NGSWMISA]**

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen SIF Observations **Yes** **No**

Ice packs **Yes** **No** Custody seal intact **Yes** **No**

Cooling Inhibited

INITIAL COOLER TEMPERATURES °C: **11.3°C** FINAL COOLER TEMPERATURES °C: _____

SHIPMENT RELEASE (client use)

INITIAL SHIPMENT RECEPTION (lab use only)

Released by: **Kelisa Humpferger** Date: **2019-11-14** Time: **11:00**

Received by: **ARROW BURTON** Date: **11-Nov-2019** Time: **9:50**

FINAL SHIPMENT RECEPTION (lab use only)

Received by: _____ Date: _____ Time: _____



New Gold Inc. Rainy River Project
ATTN: Amanda Jacobs / Carolyn Winik
5967 Highway 11/71
P.O. Box 5
Emo ON POW 1E0

Date Received: 30-DEC-19
Report Date: 21-JAN-20 14:03 (MT)
Version: FINAL

Client Phone: 807-482-0900

Certificate of Analysis

Lab Work Order #: L2400811
Project P.O. #: 4500035097
Job Reference: NEW GOLD RRP
C of C Numbers:
Legal Site Desc:

<original signed by>


Claire Kocharakkal, B.Sc.
Account Manager

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ADDRESS: 1435 Norjohn Court, Unit 1, Burlington, ON, L7L 0E6 Canada | Phone: +1 905 331 3111 | Fax: +1 905 331 4567
ALS CANADA LTD Part of the ALS Group An ALS Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2400811-1 NORTH-TSP-270 Sampled By: Client on 05-NOV-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	95700		2300	ug		08-JAN-20	R4963848
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Cadmium (Cd)	<2.0		2.0	ug	10-JAN-20	13-JAN-20	R4971927
Cobalt (Co)	<2.0		2.0	ug	10-JAN-20	13-JAN-20	R4971927
Chromium (Cr)	5.6		5.0	ug	10-JAN-20	13-JAN-20	R4971927
Copper (Cu)	275		4.0	ug	10-JAN-20	13-JAN-20	R4971927
Iron (Fe)	1920		20	ug	10-JAN-20	13-JAN-20	R4971927
Manganese (Mn)	61.7		1.0	ug	10-JAN-20	13-JAN-20	R4971927
Nickel (Ni)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Lead (Pb)	3.8		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Selenium (Se)	<10		10	ug	10-JAN-20	13-JAN-20	R4971927
Vanadium (V)	<5.0		5.0	ug	10-JAN-20	13-JAN-20	R4971927
Zinc (Zn)	58.5		5.0	ug	10-JAN-20	13-JAN-20	R4971927
L2400811-2 SOUTH-TSP-270 Sampled By: Client on 05-NOV-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	19700		2300	ug		08-JAN-20	R4963848
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Cadmium (Cd)	<2.0		2.0	ug	10-JAN-20	13-JAN-20	R4971927
Cobalt (Co)	<2.0		2.0	ug	10-JAN-20	13-JAN-20	R4971927
Chromium (Cr)	<5.0		5.0	ug	10-JAN-20	13-JAN-20	R4971927
Copper (Cu)	23.9		4.0	ug	10-JAN-20	13-JAN-20	R4971927
Iron (Fe)	399		20	ug	10-JAN-20	13-JAN-20	R4971927
Manganese (Mn)	9.5		1.0	ug	10-JAN-20	13-JAN-20	R4971927
Nickel (Ni)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Lead (Pb)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Selenium (Se)	<10		10	ug	10-JAN-20	13-JAN-20	R4971927
Vanadium (V)	<5.0		5.0	ug	10-JAN-20	13-JAN-20	R4971927
Zinc (Zn)	18.5		5.0	ug	10-JAN-20	13-JAN-20	R4971927
L2400811-3 NORTH-TSP-271 Sampled By: Client on 11-NOV-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	14900		2300	ug		08-JAN-20	R4963848
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Cadmium (Cd)	<2.0		2.0	ug	10-JAN-20	13-JAN-20	R4971927
Cobalt (Co)	<2.0		2.0	ug	10-JAN-20	13-JAN-20	R4971927
Chromium (Cr)	<5.0		5.0	ug	10-JAN-20	13-JAN-20	R4971927
Copper (Cu)	675		4.0	ug	10-JAN-20	13-JAN-20	R4971927
Iron (Fe)	280		20	ug	10-JAN-20	13-JAN-20	R4971927
Manganese (Mn)	8.1		1.0	ug	10-JAN-20	13-JAN-20	R4971927
Nickel (Ni)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Lead (Pb)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Selenium (Se)	<10		10	ug	10-JAN-20	13-JAN-20	R4971927
Vanadium (V)	<5.0		5.0	ug	10-JAN-20	13-JAN-20	R4971927
Zinc (Zn)	21.4		5.0	ug	10-JAN-20	13-JAN-20	R4971927

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2400811-4 SOUTH-TSP-271 Sampled By: Client on 11-NOV-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	12500		2300	ug		08-JAN-20	R4963848
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Cadmium (Cd)	<2.0		2.0	ug	10-JAN-20	13-JAN-20	R4971927
Cobalt (Co)	<2.0		2.0	ug	10-JAN-20	13-JAN-20	R4971927
Chromium (Cr)	<5.0		5.0	ug	10-JAN-20	13-JAN-20	R4971927
Copper (Cu)	69.3		4.0	ug	10-JAN-20	13-JAN-20	R4971927
Iron (Fe)	291		20	ug	10-JAN-20	13-JAN-20	R4971927
Manganese (Mn)	6.6		1.0	ug	10-JAN-20	13-JAN-20	R4971927
Nickel (Ni)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Lead (Pb)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Selenium (Se)	<10		10	ug	10-JAN-20	13-JAN-20	R4971927
Vanadium (V)	<5.0		5.0	ug	10-JAN-20	13-JAN-20	R4971927
Zinc (Zn)	13.7		5.0	ug	10-JAN-20	13-JAN-20	R4971927
L2400811-5 NORTH-TSP-272 Sampled By: Client on 17-NOV-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	15100		2300	ug		08-JAN-20	R4963848
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Cadmium (Cd)	<2.0		2.0	ug	10-JAN-20	13-JAN-20	R4971927
Cobalt (Co)	<2.0		2.0	ug	10-JAN-20	13-JAN-20	R4971927
Chromium (Cr)	<5.0		5.0	ug	10-JAN-20	13-JAN-20	R4971927
Copper (Cu)	102		4.0	ug	10-JAN-20	13-JAN-20	R4971927
Iron (Fe)	295		20	ug	10-JAN-20	13-JAN-20	R4971927
Manganese (Mn)	12.8		1.0	ug	10-JAN-20	13-JAN-20	R4971927
Nickel (Ni)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Lead (Pb)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Selenium (Se)	<10		10	ug	10-JAN-20	13-JAN-20	R4971927
Vanadium (V)	<5.0		5.0	ug	10-JAN-20	13-JAN-20	R4971927
Zinc (Zn)	19.1		5.0	ug	10-JAN-20	13-JAN-20	R4971927
L2400811-6 SOUTH-TSP-272 Sampled By: Client on 17-NOV-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	6300		2300	ug		08-JAN-20	R4963848
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Cadmium (Cd)	<2.0		2.0	ug	10-JAN-20	13-JAN-20	R4971927
Cobalt (Co)	<2.0		2.0	ug	10-JAN-20	13-JAN-20	R4971927
Chromium (Cr)	<5.0		5.0	ug	10-JAN-20	13-JAN-20	R4971927
Copper (Cu)	96.3		4.0	ug	10-JAN-20	13-JAN-20	R4971927
Iron (Fe)	132		20	ug	10-JAN-20	13-JAN-20	R4971927
Manganese (Mn)	4.8		1.0	ug	10-JAN-20	13-JAN-20	R4971927
Nickel (Ni)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Lead (Pb)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Selenium (Se)	<10		10	ug	10-JAN-20	13-JAN-20	R4971927
Vanadium (V)	<5.0		5.0	ug	10-JAN-20	13-JAN-20	R4971927
Zinc (Zn)	9.6		5.0	ug	10-JAN-20	13-JAN-20	R4971927

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2400811-7 NORTH-TSP-273 Sampled By: Client on 23-NOV-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	50700		2300	ug		08-JAN-20	R4963848
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Cadmium (Cd)	<2.0		2.0	ug	10-JAN-20	13-JAN-20	R4971927
Cobalt (Co)	<2.0		2.0	ug	10-JAN-20	13-JAN-20	R4971927
Chromium (Cr)	<5.0		5.0	ug	10-JAN-20	13-JAN-20	R4971927
Copper (Cu)	130		4.0	ug	10-JAN-20	13-JAN-20	R4971927
Iron (Fe)	972		20	ug	10-JAN-20	13-JAN-20	R4971927
Manganese (Mn)	39.4		1.0	ug	10-JAN-20	13-JAN-20	R4971927
Nickel (Ni)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Lead (Pb)	3.4		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Selenium (Se)	<10		10	ug	10-JAN-20	13-JAN-20	R4971927
Vanadium (V)	<5.0		5.0	ug	10-JAN-20	13-JAN-20	R4971927
Zinc (Zn)	35.8		5.0	ug	10-JAN-20	13-JAN-20	R4971927
L2400811-8 SOUTH-TSP-273 Sampled By: Client on 23-NOV-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	10100		2300	ug		08-JAN-20	R4963848
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Cadmium (Cd)	<2.0		2.0	ug	10-JAN-20	13-JAN-20	R4971927
Cobalt (Co)	<2.0		2.0	ug	10-JAN-20	13-JAN-20	R4971927
Chromium (Cr)	<5.0		5.0	ug	10-JAN-20	13-JAN-20	R4971927
Copper (Cu)	68.9		4.0	ug	10-JAN-20	13-JAN-20	R4971927
Iron (Fe)	220		20	ug	10-JAN-20	13-JAN-20	R4971927
Manganese (Mn)	11.1		1.0	ug	10-JAN-20	13-JAN-20	R4971927
Nickel (Ni)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Lead (Pb)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Selenium (Se)	<10		10	ug	10-JAN-20	13-JAN-20	R4971927
Vanadium (V)	<5.0		5.0	ug	10-JAN-20	13-JAN-20	R4971927
Zinc (Zn)	21.2		5.0	ug	10-JAN-20	13-JAN-20	R4971927
L2400811-9 NORTH-TSP-274 Sampled By: Client on 29-NOV-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	3100		2300	ug		08-JAN-20	R4963848
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Cadmium (Cd)	<2.0		2.0	ug	10-JAN-20	13-JAN-20	R4971927
Cobalt (Co)	<2.0		2.0	ug	10-JAN-20	13-JAN-20	R4971927
Chromium (Cr)	<5.0		5.0	ug	10-JAN-20	13-JAN-20	R4971927
Copper (Cu)	43.2		4.0	ug	10-JAN-20	13-JAN-20	R4971927
Iron (Fe)	50		20	ug	10-JAN-20	13-JAN-20	R4971927
Manganese (Mn)	1.1		1.0	ug	10-JAN-20	13-JAN-20	R4971927
Nickel (Ni)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Lead (Pb)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Selenium (Se)	<10		10	ug	10-JAN-20	13-JAN-20	R4971927
Vanadium (V)	<5.0		5.0	ug	10-JAN-20	13-JAN-20	R4971927
Zinc (Zn)	<5.0		5.0	ug	10-JAN-20	13-JAN-20	R4971927

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2400811-10 SOUTH-TSP-274 Sampled By: Client on 29-NOV-19 Matrix: Hi Vol Filter Miscellaneous Parameters Total particulate	10000		2300	ug		08-JAN-20	R4963848
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Cadmium (Cd)	<2.0		2.0	ug	10-JAN-20	13-JAN-20	R4971927
Cobalt (Co)	<2.0		2.0	ug	10-JAN-20	13-JAN-20	R4971927
Chromium (Cr)	<5.0		5.0	ug	10-JAN-20	13-JAN-20	R4971927
Copper (Cu)	53.1		4.0	ug	10-JAN-20	13-JAN-20	R4971927
Iron (Fe)	603		20	ug	10-JAN-20	13-JAN-20	R4971927
Manganese (Mn)	14.1		1.0	ug	10-JAN-20	13-JAN-20	R4971927
Nickel (Ni)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Lead (Pb)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Selenium (Se)	<10		10	ug	10-JAN-20	13-JAN-20	R4971927
Vanadium (V)	<5.0		5.0	ug	10-JAN-20	13-JAN-20	R4971927
Zinc (Zn)	17.6		5.0	ug	10-JAN-20	13-JAN-20	R4971927
L2400811-11 TSP-BLANK Sampled By: Client on 02-DEC-19 Matrix: Hi Vol Filter Miscellaneous Parameters Total particulate	<2300		2300	ug		08-JAN-20	R4963848
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Cadmium (Cd)	<2.0		2.0	ug	10-JAN-20	13-JAN-20	R4971927
Cobalt (Co)	<2.0		2.0	ug	10-JAN-20	13-JAN-20	R4971927
Chromium (Cr)	<5.0		5.0	ug	10-JAN-20	13-JAN-20	R4971927
Copper (Cu)	<4.0		4.0	ug	10-JAN-20	13-JAN-20	R4971927
Iron (Fe)	37		20	ug	10-JAN-20	13-JAN-20	R4971927
Manganese (Mn)	<1.0		1.0	ug	10-JAN-20	13-JAN-20	R4971927
Nickel (Ni)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Lead (Pb)	<3.0		3.0	ug	10-JAN-20	13-JAN-20	R4971927
Selenium (Se)	<10		10	ug	10-JAN-20	13-JAN-20	R4971927
Vanadium (V)	<5.0		5.0	ug	10-JAN-20	13-JAN-20	R4971927
Zinc (Zn)	<5.0		5.0	ug	10-JAN-20	13-JAN-20	R4971927
L2400811-12 NORTH-PM2.5-270 Sampled By: Client on 05-NOV-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	<15		15	ug		08-JAN-20	R4963848
Note: Samples L2400811-12, and -22 show signs of damage, sustained during the sampling event. This is evidenced by holes in each filter, and an overall loss of mass. Data for these samples are biased low. PE 9-Jan-20							
L2400811-13 SOUTH-PM2.5-270 Sampled By: Client on 05-NOV-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	67		15	ug		08-JAN-20	R4963848
L2400811-14 NORTH-PM2.5-271 Sampled By: Client on 11-NOV-19 Matrix: 47mm Filter							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2400811-14 NORTH-PM2.5-271 Sampled By: Client on 11-NOV-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	<15		15	ug		08-JAN-20	R4963848
L2400811-15 SOUTH-PM2.5-271 Sampled By: Client on 11-NOV-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	<15		15	ug		08-JAN-20	R4963848
L2400811-16 NORTH-PM2.5-272 Sampled By: Client on 17-NOV-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	64		15	ug		08-JAN-20	R4963848
L2400811-17 SOUTH-PM2.5-272 Sampled By: Client on 17-NOV-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	54		15	ug		08-JAN-20	R4963848
L2400811-18 NORTH-PM2.5-273 Sampled By: Client on 23-NOV-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	83		15	ug		08-JAN-20	R4963848
L2400811-19 SOUTH-PM2.5-273 Sampled By: Client on 23-NOV-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	109		15	ug		08-JAN-20	R4963848
L2400811-20 NORTH-PM2.5-274 Sampled By: Client on 29-NOV-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	<15		15	ug		08-JAN-20	R4963848
L2400811-21 SOUTH-PM2.5-274 Sampled By: Client on 29-NOV-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	<15		15	ug		08-JAN-20	R4963848
L2400811-22 PM2.5-BLANK Sampled By: Client on 02-DEC-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	<15		15	ug		08-JAN-20	R4963848
L2400811-23 NORTH-DUSTFALL Sampled By: Client on 02-DEC-19 Matrix: Dustfall Dustfalls-Total, Soluble, Insoluble +FV Total Dustfall	0.19		0.11	mg/dm2.day		16-JAN-20	R4973141

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2400811-23 NORTH-DUSTFALL							
Sampled By: Client on 02-DEC-19							
Matrix: Dustfall							
Dustfalls-Total, Soluble, Insoluble +FV							
Total Insoluble Dustfall	0.19		0.11	mg/dm2.day		16-JAN-20	R4973141
Total Soluble Dustfall	<0.11		0.11	mg/dm2.day		16-JAN-20	R4973141
Fixed Dustfall	0.19		0.11	mg/dm2.day		16-JAN-20	R4973141
Fixed Insoluble Dustfall	0.19		0.11	mg/dm2.day		16-JAN-20	R4973141
Fixed Soluble Dustfall	<0.11		0.11	mg/dm2.day		16-JAN-20	R4973141
Volatile Dustfall	<0.11		0.11	mg/dm2.day		16-JAN-20	R4973141
Volatile Insoluble Dustfall	<0.11		0.11	mg/dm2.day		16-JAN-20	R4973141
Volatile Soluble Dustfall	<0.11		0.11	mg/dm2.day		16-JAN-20	R4973141
Total Metals in Dustfalls by ICPMS							
Aluminum (Al)-Total	0.00418		0.000086	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Interval			1	days		03-JAN-20	R4958977
Antimony (Sb)-Total	<0.0000029		0.0000029	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Arsenic (As)-Total	<0.00011	DLM	0.00011	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Barium (Ba)-Total	0.0000289		0.0000014	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Beryllium (Be)-Total	<0.000014		0.000014	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Bismuth (Bi)-Total	<0.000014		0.000014	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Boron (B)-Total	<0.00029		0.00029	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Cadmium (Cd)-Total	<0.0000014		0.0000014	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Calcium (Ca)-Total	0.00826		0.00057	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Chromium (Cr)-Total	<0.000014		0.000014	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Cobalt (Co)-Total	<0.0000029		0.0000029	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Copper (Cu)-Total	<0.000017	DLB	0.000017	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Lead (Pb)-Total	0.0000069		0.0000014	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Iron (Fe)-Total	0.00347		0.00086	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Lithium (Li)-Total	<0.00014		0.00014	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Magnesium (Mg)-Total	0.00271		0.00014	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Manganese (Mn)-Total	0.000172		0.0000029	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Molybdenum (Mo)-Total	<0.0000014		0.0000014	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Nickel (Ni)-Total	0.000017		0.000014	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Phosphorus (P)-Total	<0.0014		0.0014	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Potassium (K)-Total	<0.0014		0.0014	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Selenium (Se)-Total	<0.000029		0.000029	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Silicon (Si)-Total	0.0065		0.0014	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Silver (Ag)-Total	<0.00000029		0.00000029	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
			9				
Sodium (Na)-Total	<0.0014		0.0014	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Strontium (Sr)-Total	0.0000237		0.0000029	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Thallium (Tl)-Total	<0.0000029		0.0000029	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Tin (Sn)-Total	<0.0000029		0.0000029	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Titanium (Ti)-Total	<0.00029		0.00029	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Uranium (U)-Total	<0.00000029		0.00000029	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
			9				
Vanadium (V)-Total	<0.000029		0.000029	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Zinc (Zn)-Total	0.000123		0.000086	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
L2400811-24 SOUTH-DUSTFALL							
Sampled By: Client on 02-DEC-19							
Matrix: Dustfall							
Dustfalls-Total, Soluble, Insoluble +FV							
Total Dustfall	0.42		0.11	mg/dm2.day		16-JAN-20	R4973141
Total Insoluble Dustfall	0.38		0.11	mg/dm2.day		16-JAN-20	R4973141
Total Soluble Dustfall	<0.11		0.11	mg/dm2.day		16-JAN-20	R4973141

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2400811-24 SOUTH-DUSTFALL							
Sampled By: Client on 02-DEC-19							
Matrix: Dustfall							
Dustfalls-Total, Soluble, Insoluble +FV							
Fixed Dustfall	0.38		0.11	mg/dm2.day		16-JAN-20	R4973141
Fixed Insoluble Dustfall	0.38		0.11	mg/dm2.day		16-JAN-20	R4973141
Fixed Soluble Dustfall	<0.11		0.11	mg/dm2.day		16-JAN-20	R4973141
Volatile Dustfall	<0.11		0.11	mg/dm2.day		16-JAN-20	R4973141
Volatile Insoluble Dustfall	<0.11		0.11	mg/dm2.day		16-JAN-20	R4973141
Volatile Soluble Dustfall	<0.11		0.11	mg/dm2.day		16-JAN-20	R4973141
Total Metals in Dustfalls by ICPMS							
Aluminum (Al)-Total	0.00852		0.000072	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Interval			1	days		03-JAN-20	R4958977
Antimony (Sb)-Total	<0.0000024		0.0000024	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Arsenic (As)-Total	<0.000095	DLM	0.000095	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Barium (Ba)-Total	0.0000471		0.000012	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Beryllium (Be)-Total	<0.000012		0.000012	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Bismuth (Bi)-Total	<0.000012		0.000012	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Boron (B)-Total	<0.00024		0.00024	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Cadmium (Cd)-Total	<0.0000012		0.0000012	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Calcium (Ca)-Total	0.0126		0.00048	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Chromium (Cr)-Total	<0.000012		0.000012	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Cobalt (Co)-Total	<0.0000024		0.0000024	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Copper (Cu)-Total	<0.000019	DLB	0.000019	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Lead (Pb)-Total	0.0000087		0.0000012	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Iron (Fe)-Total	0.00687		0.00072	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Lithium (Li)-Total	<0.00012		0.00012	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Magnesium (Mg)-Total	0.00465		0.00012	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Manganese (Mn)-Total	0.000228		0.0000024	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Molybdenum (Mo)-Total	<0.0000012		0.0000012	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Nickel (Ni)-Total	<0.000012		0.000012	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Phosphorus (P)-Total	<0.0012		0.0012	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Potassium (K)-Total	0.0020		0.0012	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Selenium (Se)-Total	<0.000024		0.000024	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Silicon (Si)-Total	0.0128		0.0012	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Silver (Ag)-Total	<0.00000024		0.0000002	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
			4				
Sodium (Na)-Total	0.0017		0.0012	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Strontium (Sr)-Total	0.0000437		0.0000024	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Thallium (Tl)-Total	<0.0000024		0.0000024	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Tin (Sn)-Total	<0.0000024		0.0000024	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Titanium (Ti)-Total	<0.00024		0.00024	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Uranium (U)-Total	<0.00000024		0.0000002	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
			4				
Vanadium (V)-Total	<0.000024		0.000024	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256
Zinc (Zn)-Total	0.000100		0.000072	mg/dm2.day	03-JAN-20	04-JAN-20	R4959256

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
A	Method Blank exceeds ALS DQO. Refer to narrative comments for further information.
B	Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.
DLB	Detection Limit Raised. Analyte detected at comparable level in Method Blank.
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
MB-LOR	Method Blank exceeds ALS DQO. Limits of Reporting have been adjusted for samples with positive hits below 5x blank level.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
AIR VOLUME-HIVOL-BU	Filter	Air volume (m3)	USEPA IO3.1
AIR VOLUME-M212 F-BU	Filter	Air volume (m3)	EPA QA Guidance Document 2.12
DUSTFALLS-ALL-DM2-VA	Dustfall	Dustfalls-Total, Soluble, Insoluble +FV	BC LAB MANUAL - PARTICULATE

This analysis is carried out using procedures modified from British Columbia Environmental Manual "Particulate." Particulates or "Dustfalls" are determined gravimetrically. Total Insoluble and Soluble Dustfalls are determined by filtering a sample through a 0.45 um membrane filter and drying the filter and filtrate at 104 C, followed by ignition at 550 C. The remaining residue after 550 C represents the fixed portion and the weight lost on ignition represents the volatile portion. The sum of all fixed and volatile portions on both Insoluble and Soluble portions represents Total Dustfalls.

MET-DUST(DM2)-MS-VA	Dustfall	Total Metals in Dustfalls by ICPMS	EPA 6020A
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This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). Instrumental analysis is by inductively coupled plasma - mass spectrometry (EPA Method 6020A).

MET-IO3.5-MS-BU	Filter	Metals on High Volume Filter by ICPMS	IO3.5
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After weighing (if required), hivol filters are sub-sampled and leached with nitric acid to extract available metal analytes. After dilution, the extracts are submitted to the ICPMS instrument for analysis.

PART-HIVOL-GRAV-BU	Filter	Particulate on High Volume Filter	USEPA IO3.1
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PART-M212 F-GRAV-BU	Filter	PM via Gravimetric Analysis	EPA QA Guidance Document 2.12
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The particulate matter collected onto tare-weighed 47mm Teflon Disc filter media is desiccated then brought to a constant weight on an analytical balance. Results are presented in ug (per filter). An air volume can be included to allow for reporting in ug/m3.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
BU	ALS ENVIRONMENTAL - BURLINGTON, ONTARIO, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
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GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L2400811

Report Date: 21-JAN-20

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Client: New Gold Inc. Rainy River Project
 5967 Highway 11/71 P.O. Box 5
 Emo ON P0W 1E0

Contact: Amanda Jacobs / Carolyn Winik

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-IO3.5-MS-BU		Filter						
Batch	R4971927							
WG3256997-3	DUP	L2400811-1						
Arsenic (As)		<3.0	<3.0	RPD-NA	ug	N/A	20	13-JAN-20
Cadmium (Cd)		<2.0	<2.0	RPD-NA	ug	N/A	20	13-JAN-20
Cobalt (Co)		<2.0	<2.0	RPD-NA	ug	N/A	20	13-JAN-20
Chromium (Cr)		5.6	5.2		ug	8.3	20	13-JAN-20
Copper (Cu)		275	226		ug	19	20	13-JAN-20
Iron (Fe)		1920	1750		ug	9.6	25	13-JAN-20
Manganese (Mn)		61.7	59.0		ug	4.5	20	13-JAN-20
Nickel (Ni)		<3.0	<3.0	RPD-NA	ug	N/A	20	13-JAN-20
Lead (Pb)		3.8	3.7		ug	3.9	20	13-JAN-20
Selenium (Se)		<10	<10	RPD-NA	ug	N/A	20	13-JAN-20
Vanadium (V)		<5.0	<5.0	RPD-NA	ug	N/A	20	13-JAN-20
Zinc (Zn)		58.5	56.7		ug	3.1	20	13-JAN-20
WG3256997-2	LCS							
Arsenic (As)			94.5		%		80-120	13-JAN-20
Cadmium (Cd)			97.8		%		80-120	13-JAN-20
Cobalt (Co)			100.0		%		80-120	13-JAN-20
Chromium (Cr)			95.5		%		80-120	13-JAN-20
Copper (Cu)			104.0		%		80-120	13-JAN-20
Iron (Fe)			96.8		%		80-120	13-JAN-20
Manganese (Mn)			96.8		%		80-120	13-JAN-20
Nickel (Ni)			95.4		%		80-120	13-JAN-20
Lead (Pb)			98.2		%		80-120	13-JAN-20
Selenium (Se)			99.2		%		80-120	13-JAN-20
Vanadium (V)			95.7		%		80-120	13-JAN-20
Zinc (Zn)			98.0		%		80-120	13-JAN-20
WG3256997-1	MB							
Arsenic (As)			<3.0		ug		3	13-JAN-20
Cadmium (Cd)			<2.0		ug		2	13-JAN-20
Cobalt (Co)			<2.0		ug		2	13-JAN-20
Chromium (Cr)			<5.0		ug		5	13-JAN-20
Copper (Cu)			4.5	A	ug		4	13-JAN-20
Iron (Fe)			<20		ug		20	13-JAN-20
Manganese (Mn)			<1.0		ug		1	13-JAN-20
Nickel (Ni)			<3.0		ug		3	13-JAN-20
Lead (Pb)			<3.0		ug		3	13-JAN-20



Quality Control Report

Workorder: L2400811

Report Date: 21-JAN-20

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-IO3.5-MS-BU Filter								
Batch R4971927								
WG3256997-1 MB								
Selenium (Se)			<10		ug		10	13-JAN-20
Vanadium (V)			<5.0		ug		10	13-JAN-20
Zinc (Zn)			<5.0		ug		5	13-JAN-20
COMMENTS: Cu observed in the method blank, above the LOR. Cu data may be biased high as a result of this background contribution. PE 17-Jan-2020								
WG3256997-4 MS L2400811-1								
Arsenic (As)			80.4		%		75-125	13-JAN-20
Cadmium (Cd)			85.5		%		75-125	13-JAN-20
Cobalt (Co)			79.6		%		75-125	13-JAN-20
Chromium (Cr)			79.3		%		75-125	13-JAN-20
Copper (Cu)			N/A	MS-B	%		-	13-JAN-20
Iron (Fe)			N/A	MS-B	%		-	13-JAN-20
Manganese (Mn)			N/A	MS-B	%		-	13-JAN-20
Nickel (Ni)			79.6		%		75-125	13-JAN-20
Lead (Pb)			83.7		%		75-125	13-JAN-20
Selenium (Se)			85.4		%		75-125	13-JAN-20
Vanadium (V)			80.4		%		75-125	13-JAN-20
Zinc (Zn)			77.0		%		75-125	13-JAN-20
PART-HIVOL-GRAV-BU Filter								
Batch R4963848								
WG3254413-2 DUP L2400811-1								
Total particulate		95700	95900		ug	0.2	25	08-JAN-20
WG3254413-1 MB								
Total particulate			<100		ug		100	08-JAN-20
PART-M212 F-GRAV-BU Filter								
Batch R4963848								
WG3254413-4 DUP L2400811-12								
Total particulate		<15	<15	RPD-NA	ug	N/A	10	08-JAN-20
WG3254413-3 MB								
Total particulate			<15		ug		15	08-JAN-20
DUSTFALLS-ALL-DM2-VA Dustfall								
Batch R4973141								
WG3258958-1 MB								
Total Dustfall			<0.10		mg/dm2.day		0.1	16-JAN-20
Total Insoluble Dustfall			<0.10		mg/dm2.day		0.1	16-JAN-20
Total Soluble Dustfall			<0.10		mg/dm2.day		0.1	16-JAN-20



Quality Control Report

Workorder: L2400811

Report Date: 21-JAN-20

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DUSTFALLS-ALL-DM2-VA Dustfall								
Batch R4973141								
WG3258958-1 MB								
Fixed Dustfall			<0.10		mg/dm2.day		0.1	16-JAN-20
Fixed Insoluble Dustfall			<0.10		mg/dm2.day		0.1	16-JAN-20
Fixed Soluble Dustfall			<0.10		mg/dm2.day		0.1	16-JAN-20
Volatile Dustfall			<0.10		mg/dm2.day		0.1	16-JAN-20
Volatile Insoluble Dustfall			<0.10		mg/dm2.day		0.1	16-JAN-20
Volatile Soluble Dustfall			<0.10		mg/dm2.day		0.1	16-JAN-20
MET-DUST(DM2)-MS-VA Dustfall								
Batch R4959256								
WG3252071-3 DUP L2400811-23								
Aluminum (Al)-Total		0.00418	0.00431		mg/dm2.day	3.1	20	04-JAN-20
Antimony (Sb)-Total		<0.0000029	<0.0000029	RPD-NA	mg/dm2.day	N/A	20	04-JAN-20
Arsenic (As)-Total		<0.00011	<0.00011	RPD-NA	mg/dm2.day	N/A	20	04-JAN-20
Barium (Ba)-Total		0.0000289	0.0000310		mg/dm2.day	7.1	20	04-JAN-20
Beryllium (Be)-Total		<0.000014	<0.000014	RPD-NA	mg/dm2.day	N/A	20	04-JAN-20
Bismuth (Bi)-Total		<0.000014	<0.000014	RPD-NA	mg/dm2.day	N/A	20	04-JAN-20
Boron (B)-Total		<0.00029	<0.00029	RPD-NA	mg/dm2.day	N/A	20	04-JAN-20
Cadmium (Cd)-Total		<0.0000014	<0.0000014	RPD-NA	mg/dm2.day	N/A	20	04-JAN-20
Calcium (Ca)-Total		0.00826	0.00835		mg/dm2.day	1.1	20	04-JAN-20
Chromium (Cr)-Total		<0.000014	<0.000014	RPD-NA	mg/dm2.day	N/A	20	04-JAN-20
Cobalt (Co)-Total		<0.0000029	<0.0000029	RPD-NA	mg/dm2.day	N/A	20	04-JAN-20
Copper (Cu)-Total		<0.000017	0.000017	RPD-NA	mg/dm2.day	N/A	20	04-JAN-20
Lead (Pb)-Total		0.0000069	0.0000062		mg/dm2.day	10	20	04-JAN-20
Iron (Fe)-Total		0.00347	0.00346		mg/dm2.day	0.2	20	04-JAN-20
Lithium (Li)-Total		<0.00014	<0.00014	RPD-NA	mg/dm2.day	N/A	20	04-JAN-20
Magnesium (Mg)-Total		0.00271	0.00261		mg/dm2.day	3.6	20	04-JAN-20
Manganese (Mn)-Total		0.000172	0.000172		mg/dm2.day	0.0	20	04-JAN-20
Molybdenum (Mo)-Total		<0.0000014	<0.0000014	RPD-NA	mg/dm2.day	N/A	20	04-JAN-20
Nickel (Ni)-Total		0.000017	<0.000014	RPD-NA	mg/dm2.day	N/A	20	04-JAN-20
Phosphorus (P)-Total		<0.0014	<0.0014	RPD-NA	mg/dm2.day	N/A	20	04-JAN-20
Potassium (K)-Total		<0.0014	<0.0014	RPD-NA	mg/dm2.day	N/A	20	04-JAN-20
Selenium (Se)-Total		<0.000029	<0.000029	RPD-NA	mg/dm2.day	N/A	20	04-JAN-20
Silicon (Si)-Total		0.0065	0.0061		mg/dm2.day	5.6	20	04-JAN-20
Silver (Ag)-Total		<0.00000029	<0.00000029	RPD-NA	mg/dm2.day	N/A	20	04-JAN-20
Sodium (Na)-Total		<0.0014	<0.0014	RPD-NA	mg/dm2.day	N/A	20	04-JAN-20



Quality Control Report

Workorder: L2400811

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DUST(DM2)-MS-VA								
	Dustfall							
Batch	R4959256							
WG3252071-3	DUP	L2400811-23						
Strontium (Sr)-Total		0.0000237	0.0000227		mg/dm2.day	4.3	20	04-JAN-20
Thallium (Tl)-Total		<0.0000029	<0.0000029	RPD-NA	mg/dm2.day	N/A	20	04-JAN-20
Tin (Sn)-Total		<0.0000029	<0.0000029	RPD-NA	mg/dm2.day	N/A	20	04-JAN-20
Titanium (Ti)-Total		<0.00029	<0.00029	RPD-NA	mg/dm2.day	N/A	20	04-JAN-20
Uranium (U)-Total		<0.00000029	<0.0000002	RPD-NA	mg/dm2.day	N/A	20	04-JAN-20
Vanadium (V)-Total		<0.000029	<0.000029	RPD-NA	mg/dm2.day	N/A	20	04-JAN-20
Zinc (Zn)-Total		0.000123	0.000103		mg/dm2.day	18	20	04-JAN-20
WG3252071-1	MB							
Aluminum (Al)-Total			0.000138	B	mg/dm2.day		0.000079	04-JAN-20
Antimony (Sb)-Total			<0.0000026		mg/dm2.day		0.0000026	04-JAN-20
Arsenic (As)-Total			<0.00010		mg/dm2.day		0.0001	04-JAN-20
Barium (Ba)-Total			0.0000021	B	mg/dm2.day		0.0000013	04-JAN-20
Beryllium (Be)-Total			<0.000013		mg/dm2.day		0.000013	04-JAN-20
Bismuth (Bi)-Total			<0.000013		mg/dm2.day		0.000013	04-JAN-20
Boron (B)-Total			<0.00026		mg/dm2.day		0.00026	04-JAN-20
Cadmium (Cd)-Total			<0.0000013		mg/dm2.day		0.0000013	04-JAN-20
Calcium (Ca)-Total			<0.00052		mg/dm2.day		0.00052	04-JAN-20
Chromium (Cr)-Total			<0.000013		mg/dm2.day		0.000013	04-JAN-20
Cobalt (Co)-Total			<0.0000026		mg/dm2.day		0.0000026	04-JAN-20
Copper (Cu)-Total			0.000049	MB-LOR	mg/dm2.day		0.000013	04-JAN-20
Lead (Pb)-Total			<0.0000013		mg/dm2.day		0.0000013	04-JAN-20
Iron (Fe)-Total			<0.00079		mg/dm2.day		0.00079	04-JAN-20
Lithium (Li)-Total			<0.00013		mg/dm2.day		0.00013	04-JAN-20
Magnesium (Mg)-Total			<0.00013		mg/dm2.day		0.00013	04-JAN-20
Manganese (Mn)-Total			0.0000041	B	mg/dm2.day		0.0000026	04-JAN-20
Molybdenum (Mo)-Total			<0.0000013		mg/dm2.day		0.0000013	04-JAN-20
Nickel (Ni)-Total			<0.000013		mg/dm2.day		0.000013	04-JAN-20
Phosphorus (P)-Total			<0.0013		mg/dm2.day		0.0013	04-JAN-20
Potassium (K)-Total			<0.0013		mg/dm2.day		0.0013	04-JAN-20
Selenium (Se)-Total			<0.000026		mg/dm2.day		0.000026	04-JAN-20
Silicon (Si)-Total			<0.0013		mg/dm2.day		0.0013	04-JAN-20
Silver (Ag)-Total			<0.0000002		mg/dm2.day		0.00000026	04-JAN-20
Sodium (Na)-Total			<0.0013		mg/dm2.day		0.0013	04-JAN-20
Strontium (Sr)-Total			<0.0000026		mg/dm2.day		0.0000026	04-JAN-20



Quality Control Report

Workorder: L2400811

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DUST(DM2)-MS-VA		Dustfall						
Batch R4959256								
WG3252071-1 MB								
Thallium (Tl)-Total			<0.0000026		mg/dm2.day		0.0000026	04-JAN-20
Tin (Sn)-Total			<0.0000026		mg/dm2.day		0.0000026	04-JAN-20
Titanium (Ti)-Total			<0.00026		mg/dm2.day		0.00026	04-JAN-20
Uranium (U)-Total			<0.0000002		mg/dm2.day		0.00000026	04-JAN-20
Vanadium (V)-Total			<0.000026		mg/dm2.day		0.000026	04-JAN-20
Zinc (Zn)-Total			<0.000079		mg/dm2.day		0.000079	04-JAN-20
Batch R4966499								
WG3252071-2 LCS								
Aluminum (Al)-Total			103.0		%		80-120	10-JAN-20
Antimony (Sb)-Total			105.4		%		80-120	10-JAN-20
Arsenic (As)-Total			98.2		%		80-120	10-JAN-20
Barium (Ba)-Total			96.0		%		80-120	10-JAN-20
Beryllium (Be)-Total			99.9		%		80-120	10-JAN-20
Bismuth (Bi)-Total			110.5		%		80-120	10-JAN-20
Boron (B)-Total			106.7		%		80-120	10-JAN-20
Cadmium (Cd)-Total			97.7		%		80-120	10-JAN-20
Calcium (Ca)-Total			102.8		%		80-120	10-JAN-20
Chromium (Cr)-Total			102.8		%		80-120	10-JAN-20
Cobalt (Co)-Total			99.5		%		80-120	10-JAN-20
Copper (Cu)-Total			98.9		%		80-120	10-JAN-20
Lead (Pb)-Total			109.0		%		80-120	10-JAN-20
Iron (Fe)-Total			88.9		%		80-120	10-JAN-20
Lithium (Li)-Total			95.2		%		80-120	10-JAN-20
Magnesium (Mg)-Total			102.6		%		80-120	10-JAN-20
Manganese (Mn)-Total			102.4		%		80-120	10-JAN-20
Molybdenum (Mo)-Total			108.3		%		80-120	10-JAN-20
Nickel (Ni)-Total			99.8		%		80-120	10-JAN-20
Phosphorus (P)-Total			101.5		%		80-120	10-JAN-20
Potassium (K)-Total			98.2		%		80-120	10-JAN-20
Selenium (Se)-Total			99.3		%		80-120	10-JAN-20
Silicon (Si)-Total			99.1		%		80-120	10-JAN-20
Silver (Ag)-Total			103.0		%		80-120	10-JAN-20
Sodium (Na)-Total			106.0		%		80-120	10-JAN-20
Strontium (Sr)-Total			109.2		%		80-120	10-JAN-20



Quality Control Report

Workorder: L2400811

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DUST(DM2)-MS-VA	Dustfall							
Batch	R4966499							
WG3252071-2	LCS							
Thallium (Tl)-Total			109.7		%		80-120	10-JAN-20
Tin (Sn)-Total			99.4		%		80-120	10-JAN-20
Titanium (Ti)-Total			96.5		%		80-120	10-JAN-20
Uranium (U)-Total			110.6		%		80-120	10-JAN-20
Vanadium (V)-Total			102.2		%		80-120	10-JAN-20
Zinc (Zn)-Total			95.1		%		80-120	10-JAN-20

Quality Control Report

Workorder: L2400811

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Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
A	Method Blank exceeds ALS DQO. Refer to narrative comments for further information.
B	Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.
MB-LOR	Method Blank exceeds ALS DQO. Limits of Reporting have been adjusted for samples with positive hits below 5x blank level.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

Report To: L2400811		Report Format / Distribution	Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	New Gold Inc. Rainy River Project	Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> Excel <input checked="" type="checkbox"/> EDD (Digital)	R <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3pm - business days)
Contact:	Amanda Jacobs / Carolyn Wink	Quality Control (QC) Report with Report: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	P <input type="checkbox"/> Priority (1-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	24 Main Rd.	<input type="checkbox"/> Criteria on Report - provide details below if box checked	E <input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
City/Province:	Barwick ON	Select Distribution: <input checked="" type="checkbox"/> Email <input type="checkbox"/> Mail <input type="checkbox"/> Fax	E2 <input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
Postal Code:	P0W 1A0	Email 1 or Fax: rainyriver.labresults@newgold.com	Date and Time Required for all E3P TATs:
Phone:	807-482-0900 x8076 or x8048	Email 2: yag.inviron@newgold.com	For tests that can not be performed according to the service level selected, you will be contacted.

Invoice To Same as Report? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Invoice Distribution	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (FP) below
Copy of Invoice with Report? <input type="checkbox"/> Yes <input type="checkbox"/> No	Select Invoice Distribution: <input checked="" type="checkbox"/> Email <input type="checkbox"/> Mail <input type="checkbox"/> Fax	

Company:	Email 1 or Fax: rainyriver.labresults@newgold.com
Contact:	Email 2: Caleb.Vandenburg@amectw.com
Project Information	
ALS Quote #	Oil and Gas Required Fields (client use)
Job #: Air Quality	Approver ID: Cost Center:
PO / AFE: 4500218023	GL Account: Routing Code:
LSD:	Activity Code:
ALS Lab Work Order # (lab use only)	ALS Contact: Kyle Watkins Sampler:

Sample Ref (upload EDD)	Sample Identification and/or Coordinates (Description will appear on the report)	Filter ID	Date (dd-MMM-yy)	Time (hh:mm)	Sample Type	TSP and Metals	PM2.5	Dustfall incl. x2 file	Number of Containers
123356	PM2.5 Travel Blank	22	2-Dec-19	12:00	Air		X		
123357	TSP Travel Blank	11	2-Dec-19	12:00	Air	X			
123358	Dustfall - Tail Road (South)	24	2-Dec-19	12:00	Air			X	
123359	Dustfall - Callinger Road	23	2-Dec-19	12:00	Air			X	
123361	PM 2.5	13	25-Nov-19	12:00	Air		X		
123362	PM 2.5	12	25-Nov-19	12:00	Air		X		
123363	PM 2.5	17	17-Nov-19	12:00	Air		X		
123364	PM 2.5	21	29-Nov-19	12:00	Air		X		
123365	PM 2.5	20	25-Nov-19	12:00	Air		X		
123366	PM 2.5	18	23-Nov-19	12:00	Air		X		
123367	PM 2.5	15	18-Nov-19	12:00	Air		X		
123368	PM 2.5	19	23-Nov-19	12:00	Air		X		
123369	PM 2.5	14	18-Nov-19	12:00	Air		X		
123374	PM 2.5	16	17-Nov-19	12:00	Air		X		
123390	TSP	4	18-Nov-19	12:00	Air	X			
123391	TSP	2	25-Nov-19	12:00	Air	X			
123392	TSP	1	25-Nov-19	12:00	Air	X			
123393	TSP	8	23-Nov-19	12:00	Air	X			
123394	TSP	3	18-Nov-19	12:00	Air	X			
123395	TSP	5	17-Nov-19	12:00	Air	X			
123396	TSP	6	17-Nov-19	12:00	Air	X			
123397	TSP	7	23-Nov-19	12:00	Air	X			
123398	TSP	10	23-Nov-19	12:00	Air	X			
123399	TSP	9	23-Nov-19	12:00	Air	X			

Drinking Water (DW) Samples' (client use)		Special Instructions / Specify Criteria to add on report (client Use)		SAMPLE CONDITION AS RECEIVED (lab use only)	
Are samples taken from a Regulated DW System? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		MISA [Template NGSWMISA]		Frozen <input type="checkbox"/> SIF Observations <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				Ice packs <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Custody seal intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
				Coating Initiated <input type="checkbox"/>	
				INITIAL COOLER TEMPERATURES °C: 15.8°C FINAL COOLER TEMPERATURES °C:	
SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (lab use only)		FINAL SHIPMENT RECEPTION (lab use only)	
Released by: <i>Ad. Wilson</i>	Date: 2019-12-16	Time: 11:00am	Received by: <i>ARROW BURTON</i>	Date: 30-Dec-2019	Time: 10:45



New Gold Inc. Rainy River Project
ATTN: Amanda Jacobs / Twila Griffith
5967 Highway 11/71
P.O. Box 5
Emo ON POW 1E0

Date Received: 09-JAN-20
Report Date: 30-JAN-20 10:36 (MT)
Version: FINAL

Client Phone: 807-482-0900

Certificate of Analysis

Lab Work Order #: L2403754
Project P.O. #: 4500035097
Job Reference: NEW GOLD RRP
C of C Numbers:
Legal Site Desc:

<original signed by>

Claire Kocharakkal, B.Sc.
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 1435 Norjohn Court, Unit 1, Burlington, ON, L7L 0E6 Canada | Phone: +1 905 331 3111 | Fax: +1 905 331 4567
ALS CANADA LTD Part of the ALS Group An ALS Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2403754-1 NORTH-TSP-275 Sampled By: Client on 05-DEC-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	20900		2300	ug		14-JAN-20	R4970110
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	20-JAN-20	23-JAN-20	R4977248
Cadmium (Cd)	<2.0		2.0	ug	20-JAN-20	23-JAN-20	R4977248
Cobalt (Co)	<2.0		2.0	ug	20-JAN-20	23-JAN-20	R4977248
Chromium (Cr)	<5.0		5.0	ug	20-JAN-20	23-JAN-20	R4977248
Copper (Cu)	129		4.0	ug	20-JAN-20	23-JAN-20	R4977248
Iron (Fe)	540		20	ug	20-JAN-20	23-JAN-20	R4977248
Manganese (Mn)	12.3		1.0	ug	20-JAN-20	23-JAN-20	R4977248
Nickel (Ni)	<3.0		3.0	ug	20-JAN-20	23-JAN-20	R4977248
Lead (Pb)	<3.0		3.0	ug	20-JAN-20	23-JAN-20	R4977248
Selenium (Se)	<10		10	ug	20-JAN-20	23-JAN-20	R4977248
Vanadium (V)	<5.0		5.0	ug	20-JAN-20	23-JAN-20	R4977248
Zinc (Zn)	24.6		5.0	ug	20-JAN-20	23-JAN-20	R4977248
L2403754-2 SOUTH-TSP-275 Sampled By: Client on 05-DEC-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	29700		2300	ug		14-JAN-20	R4970110
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Cadmium (Cd)	<2.0		2.0	ug	20-JAN-20	21-JAN-20	R4977248
Cobalt (Co)	<2.0		2.0	ug	20-JAN-20	21-JAN-20	R4977248
Chromium (Cr)	<5.0		5.0	ug	20-JAN-20	21-JAN-20	R4977248
Copper (Cu)	136		4.0	ug	20-JAN-20	21-JAN-20	R4977248
Iron (Fe)	680		20	ug	20-JAN-20	21-JAN-20	R4977248
Manganese (Mn)	15.5		1.0	ug	20-JAN-20	21-JAN-20	R4977248
Nickel (Ni)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Lead (Pb)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Selenium (Se)	<10		10	ug	20-JAN-20	21-JAN-20	R4977248
Vanadium (V)	<5.0		5.0	ug	20-JAN-20	21-JAN-20	R4977248
Zinc (Zn)	34.5		5.0	ug	20-JAN-20	21-JAN-20	R4977248
L2403754-3 NORTH-TSP-276 Sampled By: Client on 11-DEC-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	100000		2300	ug		14-JAN-20	R4970110
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Cadmium (Cd)	<2.0		2.0	ug	20-JAN-20	21-JAN-20	R4977248
Cobalt (Co)	<2.0		2.0	ug	20-JAN-20	21-JAN-20	R4977248
Chromium (Cr)	<5.0		5.0	ug	20-JAN-20	21-JAN-20	R4977248
Copper (Cu)	122		4.0	ug	20-JAN-20	21-JAN-20	R4977248
Iron (Fe)	1470		20	ug	20-JAN-20	21-JAN-20	R4977248
Manganese (Mn)	46.4		1.0	ug	20-JAN-20	21-JAN-20	R4977248
Nickel (Ni)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Lead (Pb)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Selenium (Se)	<10		10	ug	20-JAN-20	21-JAN-20	R4977248
Vanadium (V)	<5.0		5.0	ug	20-JAN-20	21-JAN-20	R4977248
Zinc (Zn)	34.8		5.0	ug	20-JAN-20	21-JAN-20	R4977248

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2403754-4 SOUTH-TSP-276 Sampled By: Client on 11-DEC-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	5500		2300	ug		14-JAN-20	R4970110
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Cadmium (Cd)	<2.0		2.0	ug	20-JAN-20	21-JAN-20	R4977248
Cobalt (Co)	<2.0		2.0	ug	20-JAN-20	21-JAN-20	R4977248
Chromium (Cr)	<5.0		5.0	ug	20-JAN-20	21-JAN-20	R4977248
Copper (Cu)	70.7		4.0	ug	20-JAN-20	21-JAN-20	R4977248
Iron (Fe)	109		20	ug	20-JAN-20	21-JAN-20	R4977248
Manganese (Mn)	2.9		1.0	ug	20-JAN-20	21-JAN-20	R4977248
Nickel (Ni)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Lead (Pb)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Selenium (Se)	<10		10	ug	20-JAN-20	21-JAN-20	R4977248
Vanadium (V)	<5.0		5.0	ug	20-JAN-20	21-JAN-20	R4977248
Zinc (Zn)	12.4		5.0	ug	20-JAN-20	21-JAN-20	R4977248
L2403754-5 NORTH-TSP-277 Sampled By: Client on 17-DEC-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	19500		2300	ug		14-JAN-20	R4970110
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Cadmium (Cd)	<2.0		2.0	ug	20-JAN-20	21-JAN-20	R4977248
Cobalt (Co)	<2.0		2.0	ug	20-JAN-20	21-JAN-20	R4977248
Chromium (Cr)	<5.0		5.0	ug	20-JAN-20	21-JAN-20	R4977248
Copper (Cu)	85.1		4.0	ug	20-JAN-20	21-JAN-20	R4977248
Iron (Fe)	353		20	ug	20-JAN-20	21-JAN-20	R4977248
Manganese (Mn)	9.4		1.0	ug	20-JAN-20	21-JAN-20	R4977248
Nickel (Ni)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Lead (Pb)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Selenium (Se)	<10		10	ug	20-JAN-20	21-JAN-20	R4977248
Vanadium (V)	<5.0		5.0	ug	20-JAN-20	21-JAN-20	R4977248
Zinc (Zn)	19.2		5.0	ug	20-JAN-20	21-JAN-20	R4977248
L2403754-6 SOUTH-TSP-277 Sampled By: Client on 17-DEC-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	12900		2300	ug		14-JAN-20	R4970110
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Cadmium (Cd)	<2.0		2.0	ug	20-JAN-20	21-JAN-20	R4977248
Cobalt (Co)	<2.0		2.0	ug	20-JAN-20	21-JAN-20	R4977248
Chromium (Cr)	<5.0		5.0	ug	20-JAN-20	21-JAN-20	R4977248
Copper (Cu)	121		4.0	ug	20-JAN-20	21-JAN-20	R4977248
Iron (Fe)	228		20	ug	20-JAN-20	21-JAN-20	R4977248
Manganese (Mn)	5.5		1.0	ug	20-JAN-20	21-JAN-20	R4977248
Nickel (Ni)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Lead (Pb)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Selenium (Se)	<10		10	ug	20-JAN-20	21-JAN-20	R4977248
Vanadium (V)	<5.0		5.0	ug	20-JAN-20	21-JAN-20	R4977248
Zinc (Zn)	13.7		5.0	ug	20-JAN-20	21-JAN-20	R4977248

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2403754-7 NORTH-TSP-278 Sampled By: Client on 23-DEC-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	13200		2300	ug		14-JAN-20	R4970110
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Cadmium (Cd)	<2.0		2.0	ug	20-JAN-20	21-JAN-20	R4977248
Cobalt (Co)	<2.0		2.0	ug	20-JAN-20	21-JAN-20	R4977248
Chromium (Cr)	<5.0		5.0	ug	20-JAN-20	21-JAN-20	R4977248
Copper (Cu)	98.6		4.0	ug	20-JAN-20	21-JAN-20	R4977248
Iron (Fe)	207		20	ug	20-JAN-20	21-JAN-20	R4977248
Manganese (Mn)	5.0		1.0	ug	20-JAN-20	21-JAN-20	R4977248
Nickel (Ni)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Lead (Pb)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Selenium (Se)	<10		10	ug	20-JAN-20	21-JAN-20	R4977248
Vanadium (V)	<5.0		5.0	ug	20-JAN-20	21-JAN-20	R4977248
Zinc (Zn)	12.6		5.0	ug	20-JAN-20	21-JAN-20	R4977248
L2403754-8 SOUTH-TSP-278 Sampled By: Client on 23-DEC-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	46500		2300	ug		14-JAN-20	R4970110
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Cadmium (Cd)	<2.0		2.0	ug	20-JAN-20	21-JAN-20	R4977248
Cobalt (Co)	<2.0		2.0	ug	20-JAN-20	21-JAN-20	R4977248
Chromium (Cr)	5.9		5.0	ug	20-JAN-20	21-JAN-20	R4977248
Copper (Cu)	126		4.0	ug	20-JAN-20	21-JAN-20	R4977248
Iron (Fe)	878		20	ug	20-JAN-20	21-JAN-20	R4977248
Manganese (Mn)	23.1		1.0	ug	20-JAN-20	21-JAN-20	R4977248
Nickel (Ni)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Lead (Pb)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Selenium (Se)	<10		10	ug	20-JAN-20	21-JAN-20	R4977248
Vanadium (V)	<5.0		5.0	ug	20-JAN-20	21-JAN-20	R4977248
Zinc (Zn)	23.9		5.0	ug	20-JAN-20	21-JAN-20	R4977248
L2403754-9 NORTH-TSP-279 Sampled By: Client on 29-DEC-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	25800		2300	ug		14-JAN-20	R4970110
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Cadmium (Cd)	<2.0		2.0	ug	20-JAN-20	21-JAN-20	R4977248
Cobalt (Co)	<2.0		2.0	ug	20-JAN-20	21-JAN-20	R4977248
Chromium (Cr)	6.4		5.0	ug	20-JAN-20	21-JAN-20	R4977248
Copper (Cu)	110		4.0	ug	20-JAN-20	21-JAN-20	R4977248
Iron (Fe)	271		20	ug	20-JAN-20	21-JAN-20	R4977248
Manganese (Mn)	8.5		1.0	ug	20-JAN-20	21-JAN-20	R4977248
Nickel (Ni)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Lead (Pb)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Selenium (Se)	<10		10	ug	20-JAN-20	21-JAN-20	R4977248
Vanadium (V)	<5.0		5.0	ug	20-JAN-20	21-JAN-20	R4977248
Zinc (Zn)	39.5		5.0	ug	20-JAN-20	21-JAN-20	R4977248

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2403754-10 SOUTH-TSP-279 Sampled By: Client on 29-DEC-19 Matrix: Hi Vol Filter Miscellaneous Parameters Total particulate	19600		2300	ug		14-JAN-20	R4970110
Metals on High Volume Filter by ICPMS Arsenic (As)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Cadmium (Cd)	<2.0		2.0	ug	20-JAN-20	21-JAN-20	R4977248
Cobalt (Co)	<2.0		2.0	ug	20-JAN-20	21-JAN-20	R4977248
Chromium (Cr)	<5.0		5.0	ug	20-JAN-20	21-JAN-20	R4977248
Copper (Cu)	113		4.0	ug	20-JAN-20	21-JAN-20	R4977248
Iron (Fe)	408		20	ug	20-JAN-20	21-JAN-20	R4977248
Manganese (Mn)	10.3		1.0	ug	20-JAN-20	21-JAN-20	R4977248
Nickel (Ni)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Lead (Pb)	4.5		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Selenium (Se)	<10		10	ug	20-JAN-20	21-JAN-20	R4977248
Vanadium (V)	<5.0		5.0	ug	20-JAN-20	21-JAN-20	R4977248
Zinc (Zn)	68.4		5.0	ug	20-JAN-20	21-JAN-20	R4977248
L2403754-11 TSP-BLANK Sampled By: Client on 02-JAN-20 Matrix: Hi Vol Filter Miscellaneous Parameters Total particulate	<2300		2300	ug		14-JAN-20	R4970110
Metals on High Volume Filter by ICPMS Arsenic (As)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Cadmium (Cd)	<2.0		2.0	ug	20-JAN-20	21-JAN-20	R4977248
Cobalt (Co)	<2.0		2.0	ug	20-JAN-20	21-JAN-20	R4977248
Chromium (Cr)	<5.0		5.0	ug	20-JAN-20	21-JAN-20	R4977248
Copper (Cu)	<4.0		4.0	ug	20-JAN-20	21-JAN-20	R4977248
Iron (Fe)	29		20	ug	20-JAN-20	21-JAN-20	R4977248
Manganese (Mn)	<1.0		1.0	ug	20-JAN-20	21-JAN-20	R4977248
Nickel (Ni)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Lead (Pb)	<3.0		3.0	ug	20-JAN-20	21-JAN-20	R4977248
Selenium (Se)	<10		10	ug	20-JAN-20	21-JAN-20	R4977248
Vanadium (V)	<5.0		5.0	ug	20-JAN-20	21-JAN-20	R4977248
Zinc (Zn)	<5.0		5.0	ug	20-JAN-20	21-JAN-20	R4977248
L2403754-12 NORTH-PM2.5-275 Sampled By: Client on 05-DEC-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	57		15	ug		14-JAN-20	R4970110
L2403754-13 SOUTH-PM2.5-275 Sampled By: Client on 05-DEC-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	24		15	ug		14-JAN-20	R4970110
L2403754-14 NORTH-PM2.5-276 Sampled By: Client on 11-DEC-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	64		15	ug		14-JAN-20	R4970110

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2403754-15 SOUTH-PM2.5-276 Sampled By: Client on 11-DEC-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	33		15	ug		14-JAN-20	R4970110
L2403754-16 NORTH-PM2.5-277 Sampled By: Client on 17-DEC-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	<15		15	ug		14-JAN-20	R4970110
L2403754-17 SOUTH-PM2.5-277 Sampled By: Client on 17-DEC-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	76		15	ug		14-JAN-20	R4970110
L2403754-18 NORTH-PM2.5-278 Sampled By: Client on 23-DEC-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	63		15	ug		14-JAN-20	R4970110
L2403754-19 SOUTH-PM2.5-278 Sampled By: Client on 23-DEC-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	32		15	ug		14-JAN-20	R4970110
L2403754-20 NORTH-PM2.5-279 Sampled By: Client on 29-DEC-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	<15		15	ug		14-JAN-20	R4970110
L2403754-21 SOUTH-PM2.5-279 Sampled By: Client on 29-DEC-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	<15		15	ug		14-JAN-20	R4970110
L2403754-22 PM2.5-BLANK Sampled By: Client on 02-JAN-20 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	<15		15	ug		14-JAN-20	R4970110
L2403754-23 NORTH-DUSTFALL Sampled By: Client on 02-JAN-20 Matrix: Dustfall Dustfalls-Total, Soluble, Insoluble +FV Total Dustfall Total Insoluble Dustfall Total Soluble Dustfall Fixed Dustfall Fixed Insoluble Dustfall Fixed Soluble Dustfall Volatile Dustfall	0.38 0.36 <0.10 0.35 0.34 <0.10 <0.10		0.10 0.10 0.10 0.10 0.10 0.10 0.10	mg/dm2.day mg/dm2.day mg/dm2.day mg/dm2.day mg/dm2.day mg/dm2.day mg/dm2.day		21-JAN-20 21-JAN-20 21-JAN-20 21-JAN-20 21-JAN-20 21-JAN-20 21-JAN-20	R4975250 R4975250 R4975250 R4975250 R4975250 R4975250 R4975250

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2403754-23 NORTH-DUSTFALL							
Sampled By: Client on 02-JAN-20							
Matrix: Dustfall							
Dustfalls-Total, Soluble, Insoluble +FV							
Volatile Insoluble Dustfall	<0.10		0.10	mg/dm2.day		21-JAN-20	R4975250
Volatile Soluble Dustfall	<0.10		0.10	mg/dm2.day		21-JAN-20	R4975250
Total Metals in Dustfalls by ICPMS							
Aluminum (Al)-Total	0.00902		0.000089	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Interval			1	days		20-JAN-20	R4973360
Interval			1	days		22-JAN-20	R4975348
Antimony (Sb)-Total	<0.0000030		0.0000030	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Arsenic (As)-Total	<0.00013	DLM	0.00013	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Barium (Ba)-Total	0.0000482		0.0000015	mg/dm2.day	22-JAN-20	21-JAN-20	R4976769
Beryllium (Be)-Total	<0.000015		0.000015	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Bismuth (Bi)-Total	<0.000015		0.000015	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Boron (B)-Total	<0.00030		0.00030	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Cadmium (Cd)-Total	<0.0000015		0.0000015	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Calcium (Ca)-Total	0.0107		0.00060	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Chromium (Cr)-Total	<0.000015		0.000015	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Cobalt (Co)-Total	<0.0000030		0.0000030	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Copper (Cu)-Total	<0.000030	DLB	0.000030	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Lead (Pb)-Total	0.0000093		0.0000015	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Iron (Fe)-Total	0.00587		0.00089	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Lithium (Li)-Total	<0.00015		0.00015	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Magnesium (Mg)-Total	0.00367		0.00015	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Manganese (Mn)-Total	0.000191		0.0000030	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Molybdenum (Mo)-Total	<0.0000015		0.0000015	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Nickel (Ni)-Total	0.000028		0.000015	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Phosphorus (P)-Total	<0.0015		0.0015	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Potassium (K)-Total	0.0020		0.0015	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Selenium (Se)-Total	<0.000030		0.000030	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Silicon (Si)-Total	0.0135		0.0015	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Silver (Ag)-Total	<0.00000030		0.00000030	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Sodium (Na)-Total	0.0024		0.0015	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Strontium (Sr)-Total	0.0000465		0.0000030	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Thallium (Tl)-Total	<0.0000030		0.0000030	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Tin (Sn)-Total	<0.0000030		0.0000030	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Titanium (Ti)-Total	<0.00030		0.00030	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Uranium (U)-Total	<0.00000030		0.00000030	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Vanadium (V)-Total	<0.000030		0.000030	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Zinc (Zn)-Total	0.000315		0.000089	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
L2403754-24 SOUTH-DUSTFALL							
Sampled By: Client on 02-JAN-20							
Matrix: Dustfall							
Dustfalls-Total, Soluble, Insoluble +FV							
Total Dustfall	0.34		0.10	mg/dm2.day		21-JAN-20	R4975250
Total Insoluble Dustfall	0.31		0.10	mg/dm2.day		21-JAN-20	R4975250
Total Soluble Dustfall	<0.10		0.10	mg/dm2.day		21-JAN-20	R4975250
Fixed Dustfall	0.34		0.10	mg/dm2.day		21-JAN-20	R4975250
Fixed Insoluble Dustfall	0.31		0.10	mg/dm2.day		21-JAN-20	R4975250
Fixed Soluble Dustfall	<0.10		0.10	mg/dm2.day		21-JAN-20	R4975250
Volatile Dustfall	<0.10		0.10	mg/dm2.day		21-JAN-20	R4975250
Volatile Insoluble Dustfall	<0.10		0.10	mg/dm2.day		21-JAN-20	R4975250

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2403754-24 SOUTH-DUSTFALL							
Sampled By: Client on 02-JAN-20							
Matrix: Dustfall							
Dustfalls-Total, Soluble, Insoluble +FV							
Volatile Soluble Dustfall	<0.10		0.10	mg/dm2.day		21-JAN-20	R4975250
Total Metals in Dustfalls by ICPMS							
Aluminum (Al)-Total	0.00784		0.000079	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Interval			1	days		20-JAN-20	R4973360
Interval			1	days		22-JAN-20	R4975348
Antimony (Sb)-Total	<0.0000026		0.0000026	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Arsenic (As)-Total	<0.00016	DLM	0.00016	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Barium (Ba)-Total	0.0000436		0.0000013	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Beryllium (Be)-Total	<0.000013		0.000013	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Bismuth (Bi)-Total	<0.000013		0.000013	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Boron (B)-Total	<0.00026		0.00026	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Cadmium (Cd)-Total	<0.0000013		0.0000013	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Calcium (Ca)-Total	0.00839		0.00053	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Chromium (Cr)-Total	<0.000013		0.000013	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Cobalt (Co)-Total	<0.0000026		0.0000026	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Copper (Cu)-Total	0.000026	DLB	0.000026	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Lead (Pb)-Total	0.0000083		0.0000013	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Iron (Fe)-Total	0.00522		0.00079	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Lithium (Li)-Total	<0.00013		0.00013	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Magnesium (Mg)-Total	0.00317		0.00013	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Manganese (Mn)-Total	0.000171		0.0000026	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Molybdenum (Mo)-Total	<0.0000013		0.0000013	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Nickel (Ni)-Total	<0.000013		0.000013	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Phosphorus (P)-Total	<0.0013		0.0013	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Potassium (K)-Total	0.0014		0.0013	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Selenium (Se)-Total	<0.000026		0.000026	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Silicon (Si)-Total	0.0129		0.0013	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Silver (Ag)-Total	<0.00000026		0.0000002	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
			6				
Sodium (Na)-Total	0.0018		0.0013	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Strontium (Sr)-Total	0.0000433		0.0000026	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Thallium (Tl)-Total	<0.0000026		0.0000026	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Tin (Sn)-Total	<0.0000026		0.0000026	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Titanium (Ti)-Total	<0.00026		0.00026	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Uranium (U)-Total	<0.00000026		0.0000002	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
			6				
Vanadium (V)-Total	<0.000026		0.000026	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769
Zinc (Zn)-Total	0.000104		0.000079	mg/dm2.day	22-JAN-20	23-JAN-20	R4976769

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
B	Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.
DLB	Detection Limit Raised. Analyte detected at comparable level in Method Blank.
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
G	QC result did not meet ALS DQO. Refer to narrative comments for further information.
MB-LOR	Method Blank exceeds ALS DQO. Limits of Reporting have been adjusted for samples with positive hits below 5x blank level.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
AIR VOLUME-HIVOL-BU	Filter	Air volume (m3)	USEPA IO3.1
AIR VOLUME-M212 F-BU	Filter	Air volume (m3)	EPA QA Guidance Document 2.12
DUSTFALLS-ALL-DM2-VA	Dustfall	Dustfalls-Total, Soluble, Insoluble +FV	BC LAB MANUAL - PARTICULATE

This analysis is carried out using procedures modified from British Columbia Environmental Manual "Particulate." Particulates or "Dustfalls" are determined gravimetrically. Total Insoluble and Soluble Dustfalls are determined by filtering a sample through a 0.45 um membrane filter and drying the filter and filtrate at 104 C, followed by ignition at 550 C. The remaining residue after 550 C represents the fixed portion and the weight lost on ignition represents the volatile portion. The sum of all fixed and volatile portions on both Insoluble and Soluble portions represents Total Dustfalls.

MET+IC/SOLID-CALC-BU	Filter	Metals + Anions + Cations / Solids Ratio	Calculation
MET-DUST(DM2)-MS-VA	Dustfall	Total Metals in Dustfalls by ICPMS	EPA 6020A

This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). Instrumental analysis is by inductively coupled plasma - mass spectrometry (EPA Method 6020A).

MET-IO3.5-MS-BU	Filter	Metals on High Volume Filter by ICPMS	IO3.5
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After weighing (if required), hivol filters are sub-sampled and leached with nitric acid to extract available metal analytes. After dilution, the extracts are submitted to the ICPMS instrument for analysis.

PART-HIVOL-GRAV-BU	Filter	Particulate on High Volume Filter	USEPA IO3.1
PART-M212 F-GRAV-BU	Filter	PM via Gravimetric Analysis	EPA QA Guidance Document 2.12

The particulate matter collected onto tare-weighed 47mm Teflon Disc filter media is desiccated then brought to a constant weight on an analytical balance. Results are presented in ug (per filter). An air volume can be included to allow for reporting in ug/m3.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
BU	ALS ENVIRONMENTAL - BURLINGTON, ONTARIO, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
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GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L2403754

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Client: New Gold Inc. Rainy River Project
 5967 Highway 11/71 P.O. Box 5
 Emo ON P0W 1E0

Contact: Amanda Jacobs / Twila Griffith

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-IO3.5-MS-BU		Filter						
Batch	R4977248							
WG3261013-3	DUP	L2403754-1						
Arsenic (As)		<3.0	<3.0	RPD-NA	ug	N/A	20	21-JAN-20
Cadmium (Cd)		<2.0	<2.0	RPD-NA	ug	N/A	20	21-JAN-20
Cobalt (Co)		<2.0	<2.0	RPD-NA	ug	N/A	20	21-JAN-20
Chromium (Cr)		<5.0	<5.0	RPD-NA	ug	N/A	20	21-JAN-20
Copper (Cu)		129	145		ug	12	20	21-JAN-20
Iron (Fe)		540	680		ug	23	25	21-JAN-20
Manganese (Mn)		12.3	15.3	G	ug	22	20	21-JAN-20
Nickel (Ni)		<3.0	<3.0	RPD-NA	ug	N/A	20	21-JAN-20
Lead (Pb)		<3.0	<3.0	RPD-NA	ug	N/A	20	21-JAN-20
Selenium (Se)		<10	<10	RPD-NA	ug	N/A	20	21-JAN-20
Vanadium (V)		<5.0	<5.0	RPD-NA	ug	N/A	20	21-JAN-20
Zinc (Zn)		24.6	23.0		ug	6.6	20	21-JAN-20
<p>COMMENTS: Mn RPD is outside ALS DQOs. This is likely due to inhomogeneity in the dispersion of this target analyte across the sampled filter surface. Data for this analyte may show higher-than-normal variability. PE 24-Jan-2020</p>								
WG3261013-2		LCS						
Arsenic (As)			92.0		%		80-120	21-JAN-20
Cadmium (Cd)			99.6		%		80-120	21-JAN-20
Cobalt (Co)			93.0		%		80-120	21-JAN-20
Chromium (Cr)			93.0		%		80-120	21-JAN-20
Copper (Cu)			105.0		%		80-120	21-JAN-20
Iron (Fe)			93.6		%		80-120	21-JAN-20
Manganese (Mn)			89.4		%		80-120	21-JAN-20
Nickel (Ni)			92.6		%		80-120	21-JAN-20
Lead (Pb)			95.3		%		80-120	21-JAN-20
Selenium (Se)			100.0		%		80-120	21-JAN-20
Vanadium (V)			92.3		%		80-120	21-JAN-20
Zinc (Zn)			94.5		%		80-120	21-JAN-20
WG3261013-1		MB						
Arsenic (As)		<3.0			ug		3	21-JAN-20
Cadmium (Cd)		<2.0			ug		2	21-JAN-20
Cobalt (Co)		<2.0			ug		2	21-JAN-20
Chromium (Cr)		<5.0			ug		5	21-JAN-20
Copper (Cu)		<4.0			ug		4	21-JAN-20
Iron (Fe)		<20			ug		20	21-JAN-20
Manganese (Mn)		<1.0			ug		1	21-JAN-20



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-IO3.5-MS-BU								
	Filter							
Batch	R4977248							
WG3261013-1	MB							
Nickel (Ni)			<3.0		ug		3	21-JAN-20
Lead (Pb)			<3.0		ug		3	21-JAN-20
Selenium (Se)			<10		ug		10	21-JAN-20
Vanadium (V)			<5.0		ug		10	21-JAN-20
Zinc (Zn)			<5.0		ug		5	21-JAN-20
WG3261013-4	MS	L2403754-1						
Arsenic (As)			75.6		%		75-125	23-JAN-20
Cadmium (Cd)			81.5		%		75-125	23-JAN-20
Cobalt (Co)			75.7		%		75-125	23-JAN-20
Chromium (Cr)			73.0	G	%		75-125	23-JAN-20
Copper (Cu)			N/A	MS-B	%		-	23-JAN-20
Iron (Fe)			N/A	MS-B	%		-	23-JAN-20
Manganese (Mn)			69.3	G	%		75-125	23-JAN-20
Nickel (Ni)			73.9	G	%		75-125	23-JAN-20
Lead (Pb)			77.4		%		75-125	23-JAN-20
Selenium (Se)			80.7		%		75-125	23-JAN-20
Vanadium (V)			74.3	G	%		75-125	23-JAN-20
Zinc (Zn)			72.7	G	%		75-125	23-JAN-20
<p>COMMENTS: Zn, V, Ni, Mn, Cr recoveries in the MS are outside ALS DQOs. This is likely due to inhomogeneity in the dispersion of these targets analyte across the sampled filter surface. Data for these analytes may show higher-than-normal variability. PE 24-Jan-2020</p>								
PART-HIVOL-GRAV-BU								
	Filter							
Batch	R4970110							
WG3257511-1	MB							
Total particulate			<100		ug		100	14-JAN-20
PART-M212 F-GRAV-BU								
	Filter							
Batch	R4970110							
WG3257511-4	DUP	L2403754-12						
Total particulate		57	58		ug	1.7	10	14-JAN-20
WG3257511-3	MB							
Total particulate			<15		ug		15	14-JAN-20
DUSTFALLS-ALL-DM2-VA								
	Dustfall							
Batch	R4975250							
WG3260931-1	MB							
Total Dustfall			<0.10		mg/dm2.day		0.1	21-JAN-20



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DUSTFALLS-ALL-DM2-VA Dustfall								
Batch R4975250								
WG3260931-1 MB								
Total Insoluble Dustfall			<0.10		mg/dm2.day		0.1	21-JAN-20
Total Soluble Dustfall			<0.10		mg/dm2.day		0.1	21-JAN-20
Fixed Dustfall			<0.10		mg/dm2.day		0.1	21-JAN-20
Fixed Insoluble Dustfall			<0.10		mg/dm2.day		0.1	21-JAN-20
Fixed Soluble Dustfall			<0.10		mg/dm2.day		0.1	21-JAN-20
Volatile Dustfall			<0.10		mg/dm2.day		0.1	21-JAN-20
Volatile Insoluble Dustfall			<0.10		mg/dm2.day		0.1	21-JAN-20
Volatile Soluble Dustfall			<0.10		mg/dm2.day		0.1	21-JAN-20
MET-DUST(DM2)-MS-VA Dustfall								
Batch R4976769								
WG3261650-2 LCS								
Aluminum (Al)-Total			101.8		%		80-120	23-JAN-20
Antimony (Sb)-Total			103.8		%		80-120	23-JAN-20
Arsenic (As)-Total			102.8		%		80-120	23-JAN-20
Barium (Ba)-Total			103.6		%		80-120	23-JAN-20
Beryllium (Be)-Total			99.3		%		80-120	23-JAN-20
Bismuth (Bi)-Total			98.4		%		80-120	23-JAN-20
Boron (B)-Total			98.8		%		80-120	23-JAN-20
Cadmium (Cd)-Total			98.5		%		80-120	23-JAN-20
Calcium (Ca)-Total			96.3		%		80-120	23-JAN-20
Chromium (Cr)-Total			97.5		%		80-120	23-JAN-20
Cobalt (Co)-Total			99.0		%		80-120	23-JAN-20
Copper (Cu)-Total			112.5		%		80-120	23-JAN-20
Lead (Pb)-Total			98.0		%		80-120	23-JAN-20
Iron (Fe)-Total			99.2		%		80-120	23-JAN-20
Lithium (Li)-Total			92.7		%		80-120	23-JAN-20
Magnesium (Mg)-Total			99.3		%		80-120	23-JAN-20
Manganese (Mn)-Total			101.5		%		80-120	23-JAN-20
Molybdenum (Mo)-Total			100.1		%		80-120	23-JAN-20
Nickel (Ni)-Total			96.4		%		80-120	23-JAN-20
Phosphorus (P)-Total			103.5		%		80-120	23-JAN-20
Potassium (K)-Total			97.3		%		80-120	23-JAN-20
Selenium (Se)-Total			112.5		%		80-120	23-JAN-20
Silicon (Si)-Total			107.4		%		80-120	23-JAN-20



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DUST(DM2)-MS-VA		Dustfall						
Batch	R4976769							
WG3261650-2 LCS								
Silver (Ag)-Total			94.6		%		80-120	23-JAN-20
Sodium (Na)-Total			105.5		%		80-120	23-JAN-20
Strontium (Sr)-Total			99.4		%		80-120	23-JAN-20
Thallium (Tl)-Total			99.9		%		80-120	23-JAN-20
Tin (Sn)-Total			96.8		%		80-120	23-JAN-20
Titanium (Ti)-Total			97.6		%		80-120	23-JAN-20
Uranium (U)-Total			97.1		%		80-120	23-JAN-20
Vanadium (V)-Total			100.1		%		80-120	23-JAN-20
Zinc (Zn)-Total			103.0		%		80-120	23-JAN-20
WG3261650-1 MB								
Aluminum (Al)-Total			0.000090	B	mg/dm2.day		0.000079	23-JAN-20
Antimony (Sb)-Total			<0.0000026		mg/dm2.day		0.0000026	23-JAN-20
Arsenic (As)-Total			0.00010	MB-LOR	mg/dm2.day		0.0001	23-JAN-20
Barium (Ba)-Total			0.0000030	MB-LOR	mg/dm2.day		0.0000013	23-JAN-20
Beryllium (Be)-Total			<0.000013		mg/dm2.day		0.000013	23-JAN-20
Bismuth (Bi)-Total			<0.000013		mg/dm2.day		0.000013	23-JAN-20
Boron (B)-Total			<0.00026		mg/dm2.day		0.00026	23-JAN-20
Cadmium (Cd)-Total			<0.0000013		mg/dm2.day		0.0000013	23-JAN-20
Calcium (Ca)-Total			<0.00052		mg/dm2.day		0.00052	23-JAN-20
Chromium (Cr)-Total			<0.000013		mg/dm2.day		0.000013	23-JAN-20
Cobalt (Co)-Total			<0.0000026		mg/dm2.day		0.0000026	23-JAN-20
Copper (Cu)-Total			0.000061	MB-LOR	mg/dm2.day		0.000013	23-JAN-20
Lead (Pb)-Total			<0.0000013		mg/dm2.day		0.0000013	23-JAN-20
Iron (Fe)-Total			<0.00079		mg/dm2.day		0.00079	23-JAN-20
Lithium (Li)-Total			<0.00013		mg/dm2.day		0.00013	23-JAN-20
Magnesium (Mg)-Total			<0.00013		mg/dm2.day		0.00013	23-JAN-20
Manganese (Mn)-Total			0.0000039	B	mg/dm2.day		0.0000026	23-JAN-20
Molybdenum (Mo)-Total			<0.0000013		mg/dm2.day		0.0000013	23-JAN-20
Nickel (Ni)-Total			<0.000013		mg/dm2.day		0.000013	23-JAN-20
Phosphorus (P)-Total			<0.0013		mg/dm2.day		0.0013	23-JAN-20
Potassium (K)-Total			<0.0013		mg/dm2.day		0.0013	23-JAN-20
Selenium (Se)-Total			<0.000026		mg/dm2.day		0.000026	23-JAN-20
Silicon (Si)-Total			<0.0013		mg/dm2.day		0.0013	23-JAN-20
Silver (Ag)-Total			<0.0000002		mg/dm2.day		0.00000026	23-JAN-20



Quality Control Report

Workorder: L2403754

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DUST(DM2)-MS-VA	Dustfall							
Batch	R4976769							
WG3261650-1 MB								
Sodium (Na)-Total			<0.0013		mg/dm2.day		0.0013	23-JAN-20
Strontium (Sr)-Total			<0.0000026		mg/dm2.day		0.0000026	23-JAN-20
Thallium (Tl)-Total			<0.0000026		mg/dm2.day		0.0000026	23-JAN-20
Tin (Sn)-Total			<0.0000026		mg/dm2.day		0.0000026	23-JAN-20
Titanium (Ti)-Total			<0.00026		mg/dm2.day		0.00026	23-JAN-20
Uranium (U)-Total			<0.0000002		mg/dm2.day		0.00000026	23-JAN-20
Vanadium (V)-Total			<0.000026		mg/dm2.day		0.000026	23-JAN-20
Zinc (Zn)-Total			<0.000079		mg/dm2.day		0.000079	23-JAN-20

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Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
B	Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.
G	QC result did not meet ALS DQO. Refer to narrative comments for further information.
MB-LOR	Method Blank exceeds ALS DQO. Limits of Reporting have been adjusted for samples with positive hits below 5x blank level.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

Report To: **L2403754**

Company: **New Gold Inc Rainy River Mine**

Contact: **Amanda Jacobs / Twila Griffith**

Address: **24 Marr Rd**

City/Province: **Barwick ON**

Postal Code: **P0W 1A0**

Phone: **807-482-0900 x8076 or x8054**

Report Format / Distribution: **PDF Excel EDD (Digital)**

Quality Control (QC) Report with Report: **Yes No**

Criteria on Report - provide details below if box checked

Select Distribution: **Email Mail Fax**

Email 1 or Fax: **rainyriver.labresults@newgold.com**

Date and Time Required for all E&P TATs:

For tests that can not be performed according to the service level selected, you will be contacted

Invoice To: **Same as Report? Yes No**

Copy of Invoice with Report? **Yes No**

Invoice Distribution: **Email Mail Fax**

Select Invoice Distribution: **Email Mail Fax**

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (FP) below:

Company: **New Gold Inc Rainy River Mine**

Contact: **Amanda Jacobs / Twila Griffith**

Email 1 or Fax: **rainyriver.labresults@newgold.com**

Email 2: **twila.griffith@newgold.com**

Project Information: **ALS Quote #**

Oil and Gas Required Fields (client use): **Approver ID Cost Center**

Job #: **Air Quality**

GL Account: **Routing Code**

PO / AFE: **4500035097**

Activity Code:

LSD: **Location**

ALS Lab Work Order # (lab use only): **ALS Contact: Kyle Watkins Sampler:**

Sample Ref (upload EDD)	Sample Identification and/or Coordinates (Description will appear on the report)	Filter ID	Date (dd-MM-yy)	Time (hh:mm)	Sample Type	TSP and Metals	PM2.5	On-site direct release	Number of Containers
123412	PM2.5 Travel Blank		02-Jan-20	12:00	Air				
123413	TSP Travel Blank		02-Jan-20	12:00	Air	X			
123414	Dustfall - Galinger Road		02-Jan-20	12:00	Air			X	
123415	Dustfall - Tat Road (South)		02-Jan-20	12:00	Air			X	
123416	TSP	North-TSP-273	29-Dec-19	12:00	Air	X			
123417	TSP	North-TSP-274	23-Dec-19	12:00	Air	X			
123418	TSP	North-TSP-277	17-Dec-19	12:00	Air	X			
123419	TSP	North-TSP-274	11-Dec-19	12:00	Air	X			
123420	TSP	North-TSP-275	05-Dec-19	12:00	Air	X			
123421	TSP	South-TSP-279	29-Dec-19	12:00	Air	X			
123422	TSP	South-TSP-275	23-Dec-19	12:00	Air	X			
123423	TSP	South-TSP-277	17-Dec-19	12:00	Air	X			
123424	TSP	South-TSP-276	11-Dec-19	12:00	Air	X			
123425	TSP	South-TSP-275	05-Dec-19	12:00	Air	X			
123426	PM 2.5	North-PM2.5-279	29-Dec-19	12:00	Air		X		
123427	PM 2.5	North-PM2.5-278	23-Dec-19	12:00	Air		X		
123428	PM 2.5	North-PM2.5-277	17-Dec-19	12:00	Air		X		
123429	PM 2.5	North-PM2.5-276	11-Dec-19	12:00	Air		X		
123430	PM 2.5	North-PM2.5-275	05-Dec-19	12:00	Air		X		
123431	PM 2.5	South-PM2.5-279	29-Dec-19	12:00	Air		X		
123432	PM 2.5	South-PM2.5-278	23-Dec-19	12:00	Air		X		
123433	PM 2.5	South-PM2.5-277	17-Dec-19	12:00	Air		X		
123434	PM 2.5	South-PM2.5-276	11-Dec-19	12:00	Air		X		
123435	PM 2.5	South-PM2.5-275	05-Dec-19	12:00	Air		X		

Drinking Water (DW) Samples (client use): **Are samples taken from a Regulated DW System? Yes No**

Are samples for human drinking water use? **Yes No**

Special Instructions / Specify Criteria to add on report (client use): **MISA [Template HQSWMISA]**

SAMPLE CONDITION AS RECEIVED (lab use only): **Frozen No SIF Observations Yes No Ice packs Yes No Custody seal intact Yes No Cooling Initiated**

INITIAL COOLER TEMPERATURES °C: **16.0°C** FINAL COOLER TEMPERATURES °C:

SHIPMENT RELEASE (client use): **Released by: Twila Griffith Date: 2020-01-03 Time: 13:00 Hrs**

INITIAL SHIPMENT RECEPTION (lab use only): **Received by: AARON MATEW Date: 8-Jan-2020 Time: 8:55**

FINAL SHIPMENT RECEPTION (lab use only): **Received by: Date: Time:**

APPENDIX D

PQ200 & TE-5170 CALIBRATION SHEETS – Q4 2019



TE-5170 Calibration Worksheet

Site Information

Location: Rainy River Mine	Site ID: North	Date: 20-Nov-19
Sampler: E-5170 MFC	Serial No: 3150	Tech: Kebea Kari

Site Conditions

Barometric Pressure (in Hg): 28.60	Corrected Pressure (mm Hg): 726
Temperature (deg F): 33	Temperature (deg K): 273
Average Press. (in Hg): 28.00	Corrected Average (mm Hg): 711
Average Temp. (deg F): 14	Average Temp. (deg K): 263

Calibration Orifice

Make: Tisch	Qstd Slope: 1.67950
Model: TE-5028A	Qstd Intercept: 0.02910
Serial#: 3662	Date Certified: 17-Jun-19

Calibration Information

Plate or Test #	H2O (in)	Qstd (m3/min)	I (chart)	IC (corrected)	Linear Regression
1	5.80	1.446	42.0	42.87	Slope: 26.1751 Intercept: 4.5423 Corr. Coeff: 0.9909 # of Observations: 5
2	5.40	1.395	40.0	40.83	
3	4.80	1.314	38.0	38.79	
4	4.35	1.250	36.0	36.75	
5	3.60	1.136	34.0	34.70	

Calculations

$$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$$

$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

Qstd = standard flow rate
 IC = corrected chart response
 I = actual chart response

m = calibrator Qstd slope
 b = calibrator Qstd intercept
 Ta = actual temperature during calibration (deg K)
 Pa = actual pressure during calibration (mm Hg)
 Tstd = 298 deg K
 Pstd = 760 mm Hg

For subsequent calculation of sampler flow:
 $1/m((I)[\text{Sqrt}(298/Tav)(Pav/760)]-b)$

m = sampler slope
 b = sampler intercept
 I = chart response
 Tav = daily average temperature
 Pav = daily average pressure

Average I (chart): 34.0
Average Flow Calculation m3/min 1.164015965
Average Flow Calculation in CFM 41.10140373
Sample Time (Hrs): 24.0
Total Flow in m3/min 1676.18299
Total Flow in CFM 59186.02137

NOTE: Ensure calibration orifice has been certified within 12 months of use

PQ200 Calibration Sheet

Calibrated By: Kelsea Hunsperger
Date: 2019/11/20
Site Name: New Gold Rainy River Mine
Site Location: Gallinger Road Station
PQ200 Serial Number: 1752
Calibrator Make: BGI
Calibrator Serial Number: 172457
NIST Certificate Expiry Date: April 30, 2020

System Clock Time:

Actual Time: 9:19
Displayed Time: 10:15
Displayed Year: 2019
Displayed Date: 20 Nov
Time Change (Y/N): Y

Ambient Temperature (°C):

PQ200 Reading: 1.7
Actual Reading: 1.7
Difference (+/- 2°C): 0
Temp Reset (Y/N): N

Ambient Barometric Pressure (mmHg):

PQ200 Reading: 728
Actual Reading: 728
Difference (+/- 10mmHg): 0
Reset (Y/N): N

Flow Check (LPM):

Target Flow: 16.70
Measured Flow: 16.03
3 Point Flow Calibration (Y/N): Y

3 Point Flow Calibration:

Target: 15.0 LPM
Corrected Actual: 14.95 LPM

Target: 18.4 LPM
Corrected Actual: 18.39 LPM

Target: 16.70 LPM
Corrected Actual: 16.68

Inspection of Inlet/Seals/Filter:

Cleanliness of Inlet: Good
Glass Jar: Good
Glass Jar Gasket: Good
PM2.5 VSCC Inlet: Good
Filter Holder: Good
Filter Holder Seals: Good
Filter Tensioner: Good
Cleanliness of Fan Filter: Good

Comments/Recommendations: _____

PQ200 Calibration Sheet

Calibrated By: Kelsea Hunsperger
Date: 2019/11/20
Site Name: New Gold Rainy River Mine
Site Location: Tait Road Station
PQ200 Serial Number: 1751
Calibrator Make: BGI
Calibrator Serial Number: 172457
NIST Certificate Expiry Date: April 30, 2020

System Clock Time:

Actual Time: 10:49
Displayed Time: 11:45
Displayed Year: 2019
Displayed Date: 20 Nov
Time Change (Y/N): Y

Ambient Temperature (°C):

PQ200 Reading: 1.1
Actual Reading: 1.0
Difference (+/- 2°C): 0.1
Temp Reset (Y/N): N

Ambient Barometric Pressure (mmHg):

PQ200 Reading: 728
Actual Reading: 729
Difference (+/- 10mmHg): 1
Reset (Y/N): N

Flow Check (LPM):

Target Flow: 16.70
Measured Flow: 16.40
3 Point Flow Calibration (Y/N): Y

3 Point Flow Calibration:

Target: 15.0 LPM
Corrected Actual: 14.95 LPM

Target: 18.4 LPM
Corrected Actual: 18.39 LPM

Target: 16.70 LPM
Corrected Actual: 16.68 LPM

Inspection of Inlet/Seals/Filter:

Cleanliness of Inlet: Good
Glass Jar: Good
Glass Jar Gasket: Good
PM2.5 VSCC Inlet: Good
Filter Holder: Good
Filter Holder Seals: Good
Filter Tensioner: Good
Cleanliness of Fan Filter: Good

Comments/Recommendations: _____



TE-5170 Calibration Worksheet

Site Information

Location: Rainy River Mine	Site ID: South	Date: 20-Nov-19
Sampler: E-5170 MFC	Serial No: 3151	Tech: Kebea Kari

Site Conditions

Barometric Pressure (in Hg): 28.70	Corrected Pressure (mm Hg): 729
Temperature (deg F): 34	Temperature (deg K): 274
Average Press. (in Hg): 28.00	Corrected Average (mm Hg): 711
Average Temp. (deg F): 14	Average Temp. (deg K): 263

Calibration Orifice

Make: Tisch	Qstd Slope: 1.67950
Model: TE-5028A	Qstd Intercept: -0.02910
Serial#: 3662	Date Certified: 17-Jun-19

Calibration Information

Plate or Test #	H2O (in)	Qstd (m3/min)	I (chart)	IC (corrected)	Linear Regression
1	4.30	1.278	48.0	49.02	Slope: 34.5780 Intercept: 4.8170 Corr. Coeff: 0.9921 # of Observations: 5
2	4.00	1.233	46.0	46.97	
3	3.40	1.138	44.0	44.93	
4	2.80	1.035	40.0	40.85	
5	2.60	0.998	38.0	38.80	

Calculations

$$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$$

$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

Qstd = standard flow rate
 IC = corrected chart response
 I = actual chart response

m = calibrator Qstd slope
 b = calibrator Qstd intercept
 Ta = actual temperature during calibration (deg K)
 Pa = actual pressure during calibration (mm Hg)
 Tstd = 298 deg K
 Pstd = 760 mm Hg

For subsequent calculation of sampler flow:
 $1/m((I)[\text{Sqrt}(298/Tav)(Pav/760)]-b)$

m = sampler slope
 b = sampler intercept
 I = chart response
 Tav = daily average temperature
 Pav = daily average pressure

Average I (chart): 44.0
Average Flow Calculation m3/min 1.170995133
Average Flow Calculation in CFM 41.34783816
Sample Time (Hrs): 24.0
Total Flow in m3/min 1686.232992
Total Flow in CFM 59540.88695

NOTE: Ensure calibration orifice has been certified within 12 months of use



TE-5170 Calibration Worksheet

Site Information

Location: Rainy River Mine	Site ID: North	Date: 16-Sep-19
Sampler: E-5170 MFC	Serial No: 3105	Tech: Kebea H KariL

Site Conditions

Barometric Pressure (in Hg):	Corrected Pressure (mm Hg): 724
Temperature (deg F): 28	Temperature (deg K): 301
Average Press. (in Hg):	Corrected Average (mm Hg): 724
Average Temp. (deg F):	Average Temp. (deg K): 273

Calibration Orifice

Make: Tisch	Qstd Slope: 1.67950
Model: TE-5028A	Qstd Intercept: -0.02910
Serial#: 3662	Date Certified: 17-Jun-19

Calibration Information

Plate or Test #	H2O (in)	Qstd (m3/min)	I (chart)	IC (corrected)	Linear Regression
1	7.35	1.584	50.0	48.53	Slope: 32.4549 Intercept: 0.3013 Corr. Coeff: 0.5609 # of Observations: 5
2	7.00	1.546	48.0	46.59	
3	6.35	1.474	46.0	59.00	
4	5.30	1.348	44.0	42.71	
5	4.80	1.283	42.0	39.50	

Calculations

$$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta)) - b]$$

$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

Qstd = standard flow rate
 IC = corrected chart response
 I = actual chart response

m = calibrator Qstd slope
 b = calibrator Qstd intercept
 Ta = actual temperature during calibration (deg K)
 Pa = actual pressure during calibration (mm Hg)
 Tstd = 298 deg K
 Pstd = 760 mm Hg

For subsequent calculation of sampler flow:
 $1/m((I)[\text{Sqrt}(298/Tav)(Pav/760)] - b)$

m = sampler slope
 b = sampler intercept
 I = chart response
 Tav = daily average temperature
 Pav = daily average pressure

Average I (chart):
Average Flow Calculation m3/min
-0.009282523
Average Flow Calculation in CFM
-0.327765883
Sample Time (Hrs):
Total Flow in m3/min
0
Total Flow in CFM
0

NOTE: Ensure calibration orifice has been certified within 12 months of use



TE-5170 Calibration Worksheet

Site Information

Location: Rainy River Mine	Site ID: South	Date: 16-Sep-19
Sampler: E-5170 MFC	Serial No: 3150	Tech: Kebea H

Site Conditions

Barometric Pressure (in Hg): 28.70	Corrected Pressure (mm Hg): 729
Temperature (deg F): 79	Temperature (deg K): 299
Average Press. (in Hg):	Corrected Average (mm Hg): 720
Average Temp. (deg F):	Average Temp. (deg K): 273

Calibration Orifice

Make: Tisch	Qstd Slope: 1.67950
Model: TE-5028A	Qstd Intercept: -0.02910
Serial#: 3662	Date Certified: 17-Jun-19

Calibration Information

Plate or Test #	H2O (in)	Qstd (m3/min)	I (chart)	IC (corrected)	Linear Regression
1	9.20	1.783	66.0	64.51	Slope: 30.2986 Intercept: 10.7174 Corr. Coeff: 0.9909 # of Observations: 5
2	8.60	1.724	64.0	62.55	
3	6.80	1.535	59.0	59.00	
4	5.40	1.370	52.0	50.83	
5	3.40	1.090	45.0	43.98	

Calculations

$$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$$

$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

Qstd = standard flow rate
 IC = corrected chart response
 I = actual chart response

m = calibrator Qstd slope
 b = calibrator Qstd intercept
 Ta = actual temperature during calibration (deg K)
 Pa = actual pressure during calibration (mm Hg)
 Tstd = 298 deg K
 Pstd = 760 mm Hg

For subsequent calculation of sampler flow:
 $1/m((I)[\text{Sqrt}(298/Tav)(Pav/760)]-b)$

m = sampler slope
 b = sampler intercept
 I = chart response
 Tav = daily average temperature
 Pav = daily average pressure

Average I (chart): 43.0
Average Flow Calculation m3/min 1.089096864
Average Flow Calculation in CFM 38.45601028
Sample Time (Hrs): 24.0
Total Flow in m3/min 1567.646027
Total Flow in CFM 55353.5812

NOTE: Ensure calibration orifice has been certified within 12 months of use