



**NEW GOLD INC.
RAINY RIVER MINE**

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

AUGUST 2019

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
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RAINY RIVER MINE

Ambient Air Quality Monitoring Program
Second Quarter 2019 Report

1.0 INTRODUCTION

The following is a summary of the Second Quarter (Q2) 2019 results for the ambient air quality monitoring program undertaken at New Gold Inc.'s Rainy River Mine located northwest of Emo, Ontario.

In Q2 of 2019, New Gold Inc. (New Gold) staff operated and maintained the ambient air quality monitoring sampling stations, communicated with the laboratory staff as required, prepared the data summary reports, and performed a Q2 calibration on June 28, 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 NO₂ and SO₂.

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 Q2 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

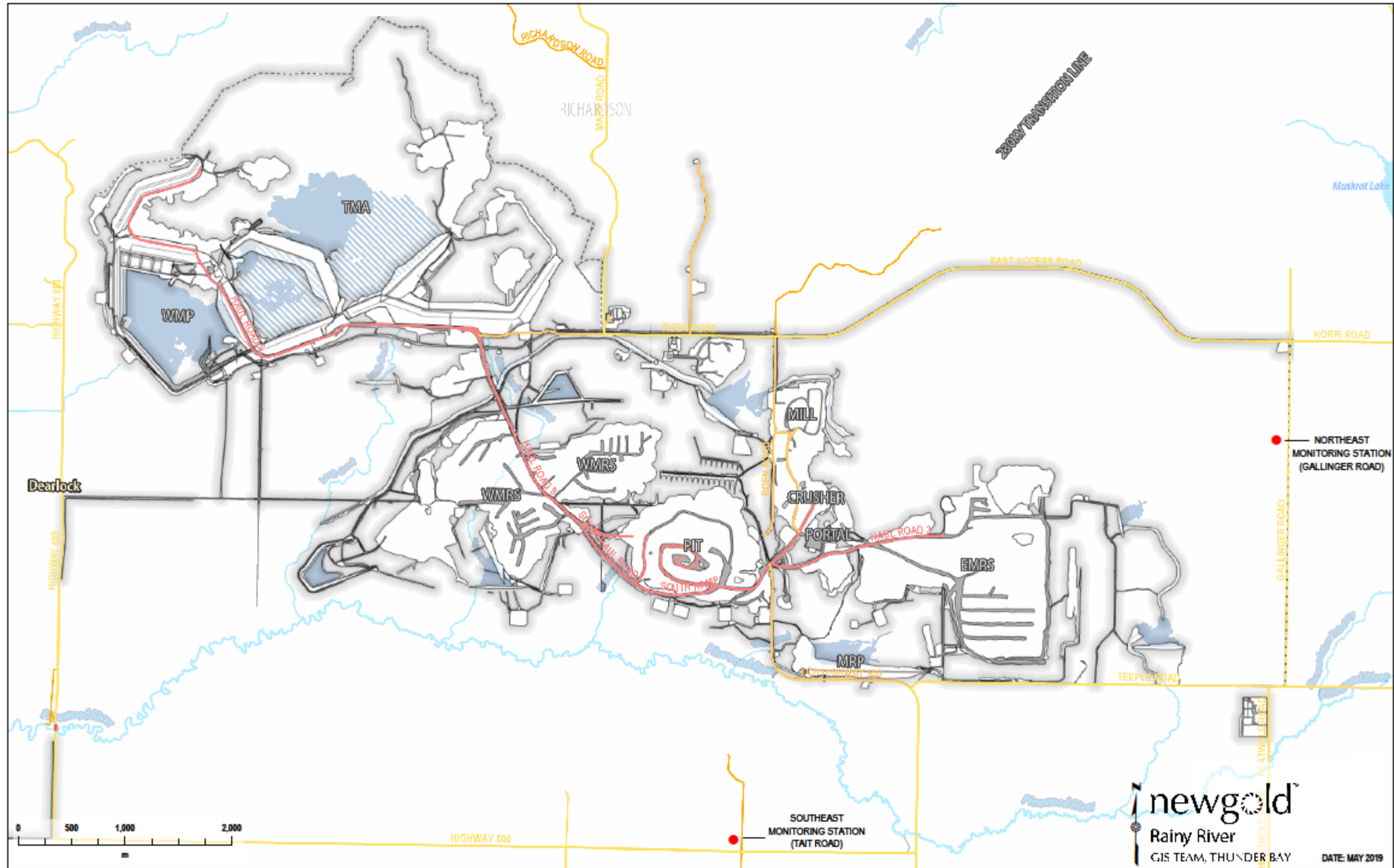


Figure 2-1: Ambient Air Monitoring Stations



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.

Q2 Calibrations were performed on all Hi-Vol and PQ200 samplers on June 28, 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 Q2 2019.

3.5.5 Equipment and Sampling Issues

During Q2 2019, 4 samples were invalidated, as discussed below:

- April 3: PM2.5 sample at the Gallinger Road station was invalidated due to insufficient run time.
- May 15: PM2.5 sample at the Gallinger Road Station was invalidated due to insufficient run time.
- May 21: PM2.5 sample at the Gallinger Road Station was invalidated due to insufficient run time.
- June 20: TSP and PM2.5 samples at the Gallinger Road Station were invalidated due to insufficient run time.

4.0 RESULTS

Sampling program results for Q2 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 Q2 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 Q2 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 April 1 and June 30, 2019.

A summary of the statistical analyses for Q2 2019 for the total dustfall data is presented in Table 4-4. A summary of the statistical analysis for the Q2 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 Q2 2019. The Gallinger Road Station collected 14 valid samples, resulting in 93% valid data for Q2 2019.

For the quarter, the geometric mean TSP concentrations were 27.01 µg/m³ for the Tait Road station and 18.43 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 116.55 µg/m³ at the Tait Road station on June 2, 2019, and 110.14 µg/m³ at the Gallinger Road station on June 26, 2019.

There were no exceedances of an MECP AAQC measured for any of TSP, metals, or metalloids in Q2 2019 at either station.

Appendix A-1 and Figure 4-1 present individual sample data. The Q2 2019 TSP and metals summary statistics are summarized in Tables 4-1 and 4-2, respectively.

4.2 PM_{2.5}

The Tait Road station collected 15 valid samples, resulting in 100% valid data for Q2 2019. The Gallinger Road Station collected 11 valid samples, resulting in 73% valid data for Q2 2019. Continued issues with the Gallinger Road PQ200 unit resulted in insufficient runtimes and sample invalidation.

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 7.33 µg/m³ at the Tait Road station (June 8, 2019), and 8.28 µg/m³ at the Gallinger Road station (June 8, 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 Q2 2019. Appendix A-1 and Figure 4-2 present individual sample data.

The Q2 2019 PM_{2.5} summary statistics are summarized in Table 4-3.

4.3 Total Dustfall

In Q2 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 4.98 µg/m³ at the Tait Road station (June), and 13.23 µg/m³ at the Gallinger Road station (June).

There was one dustfall exceedance of the 30-day MECP AAQC of 7 g/m² measured in Q2 2019 at the Gallinger Road Station. The exceedance occurred during the month of June 2019. It was determined of the 13.23 µg/m³ total dustfall measurement, 9.99 µg/m³ was volatile (organic) matter (insects, bird droppings, etc.). The exceedance was reported to MECP on August 8, 2019 via Transmittal MECP-IFI-0031 Rev D. A copy of the report can be found In Appendix B.

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 Q2 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 Q2 2019 samples.

Table 4-1: Summary Statistics For Q2 2019 TSP Concentration Data

Statistics	Tait Road (SW)	Gallinger (NE)
Geometric mean ($\mu\text{g}/\text{m}^3$)	27.01	18.43
Arithmetic mean ($\mu\text{g}/\text{m}^3$)	35.05	29.2
April Maximum ($\mu\text{g}/\text{m}^3$)	71.04	19.54
May Maximum ($\mu\text{g}/\text{m}^3$)	48.89	70.67
June Maximum ($\mu\text{g}/\text{m}^3$)	116.55	110.14
Maximum 24-hr ($\mu\text{g}/\text{m}^3$)	116.55	110.14
90th percentile	62.18	64.87
95th percentile	84.69	84.48
24-hr AAQC	120	120
No. Valid Samples	15	14
Valid Data	100%	93%
No. Samples > AAQC (particulate)	0	0
No. Samples > AAQC (metals)	0	0
No. Samples > AAQC (metalloids)	0	0

Table 4-2: Summary Statistics For Q2 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	0.00210	0.7%	0.00102	0.3%
Cd	0.025	0.000681	2.7%	0.000680	2.7%
Cr	0.5	0.014	2.8%	0.0110	2.2%
Co	0.1	0.000681	0.7%	0.000680	0.7%
Cu	50	0.0990	0.2%	0.235	0.5%
Fe	4	2.17	54.3%	1.29	32.3%
Pb	0.5	0.00821	1.6%	0.00327	0.7%
Mn	0.4	0.0553	13.8%	0.0470	11.8%
Ni	0.2	0.00319	1.6%	0.00271	1.4%
Se	10	0.00340	0.03%	0.00340	0.03%
V	2	0.00365	0.2%	0.163	8.2%
Zn	120	0.0431	0.04%	0.0434	0.04%

Table 4-3: Summary Statistics for Q2 2019 PM_{2.5} Concentration Data

Statistics	Tait Road (SW)	Gallinger (NE)
Arithmetic mean (µg/m ³)	3.26	2.06
April Maximum (µg/m ³)	4.29	2.25
May Maximum (µg/m ³)	5.21	2.25
June Maximum (µg/m ³)	7.33	8.28
Maximum 24-hr (µg/m ³)	7.33	8.28
90th percentile	4.91	3.71
95th percentile	5.84	5.99
24-hr CAAQS	28	28
No. Valid Samples	15	11
Valid Data	100%	73%
No. Samples > AAQC (particulate)	0	0

Table 4-4: Summary Statistics for Q2 2019 Total Dustfall Data

Statistics	Tait Road (SW)	Gallinger (NE)
Arithmetic mean (µg/m ³ /30d)	3.23	5.56
Maximum 24-hr (µg/m ³ /30d)	4.98	13.23
30-day AAQC	7	7
No. > AAQC	0	1
No. Valid Samples	3	3
Valid Data	100%	100%

Table 4-5: Summary Statistics for Q2 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)	0.26	1.63	0.13	0.75
Maximum (µg/m ³)	0.52	1.88	0.13	0.94
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%

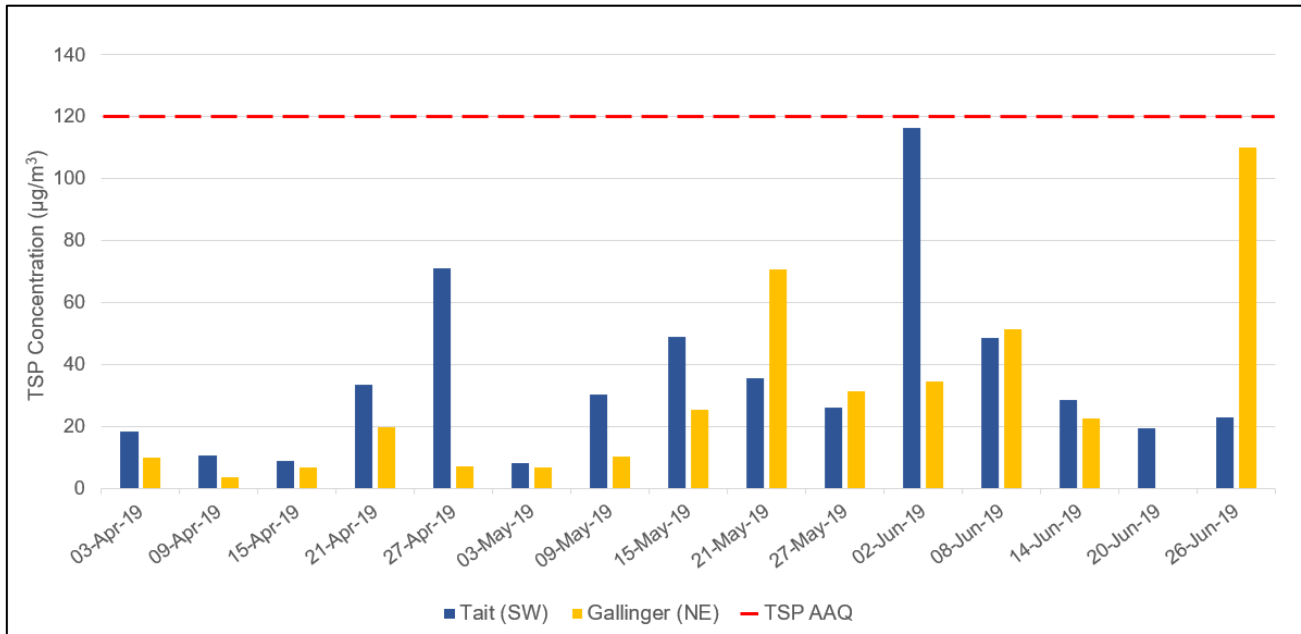


Figure 4-1: TSP Concentrations (Q2 2019)

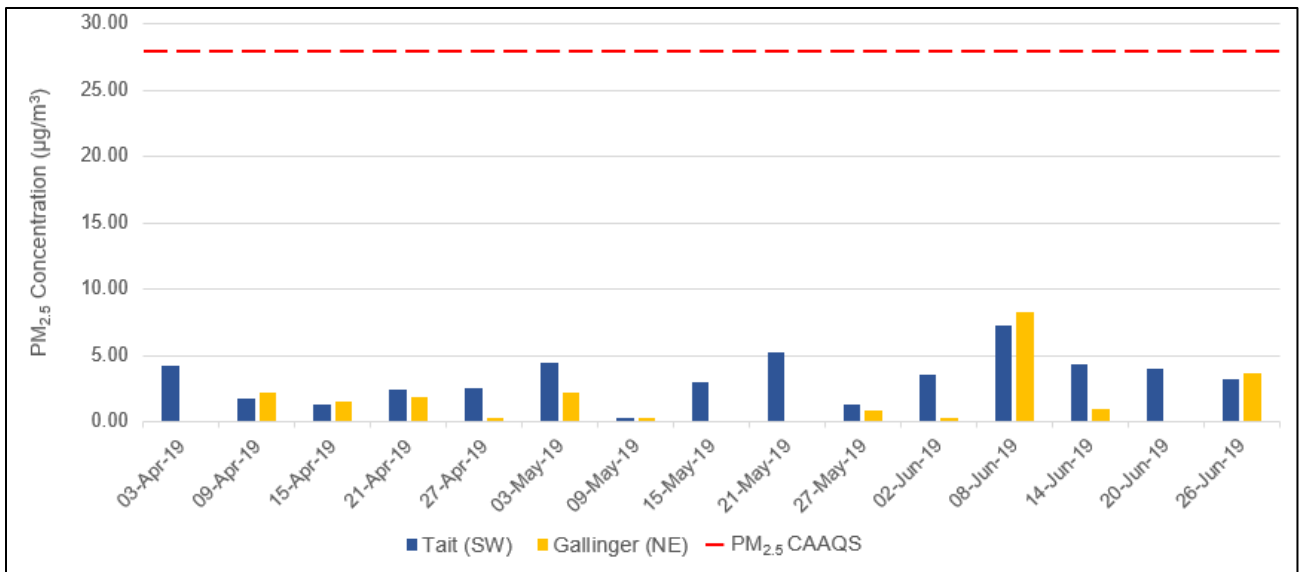


Figure 4-2: PM_{2.5} Concentrations (Q2 2019)

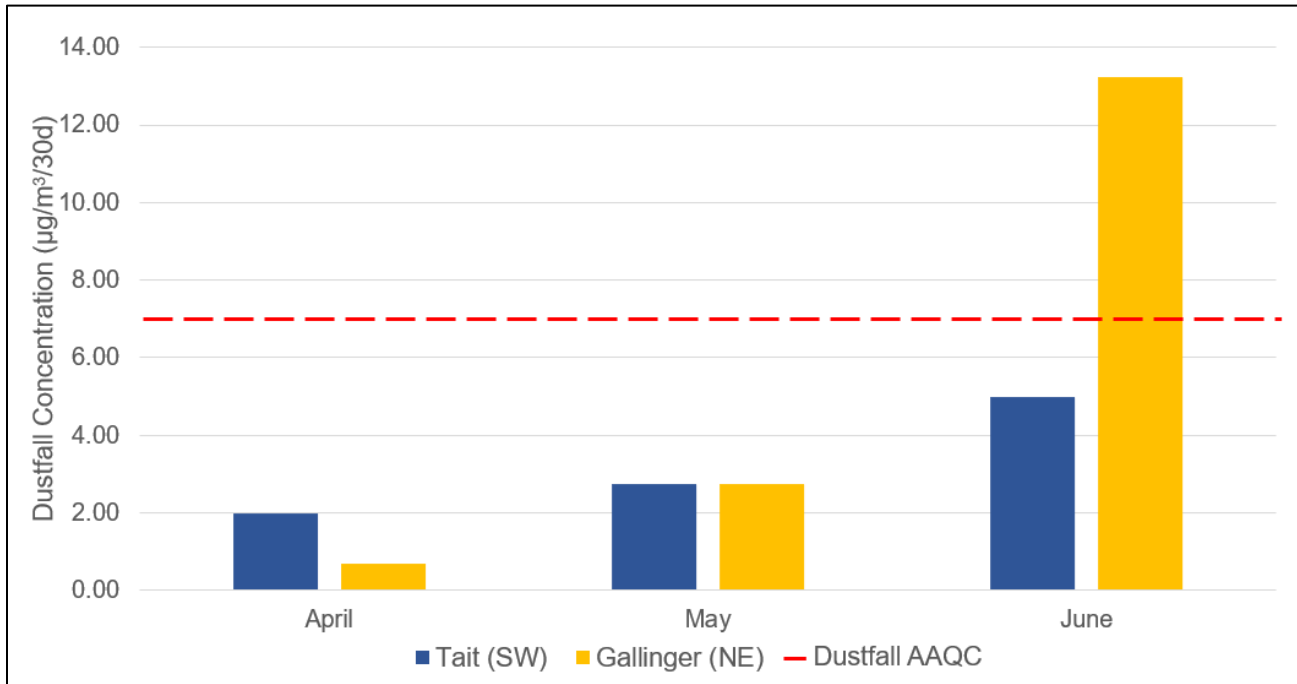


Figure 4-3: Dustfall Concentrations (Q2 2019)

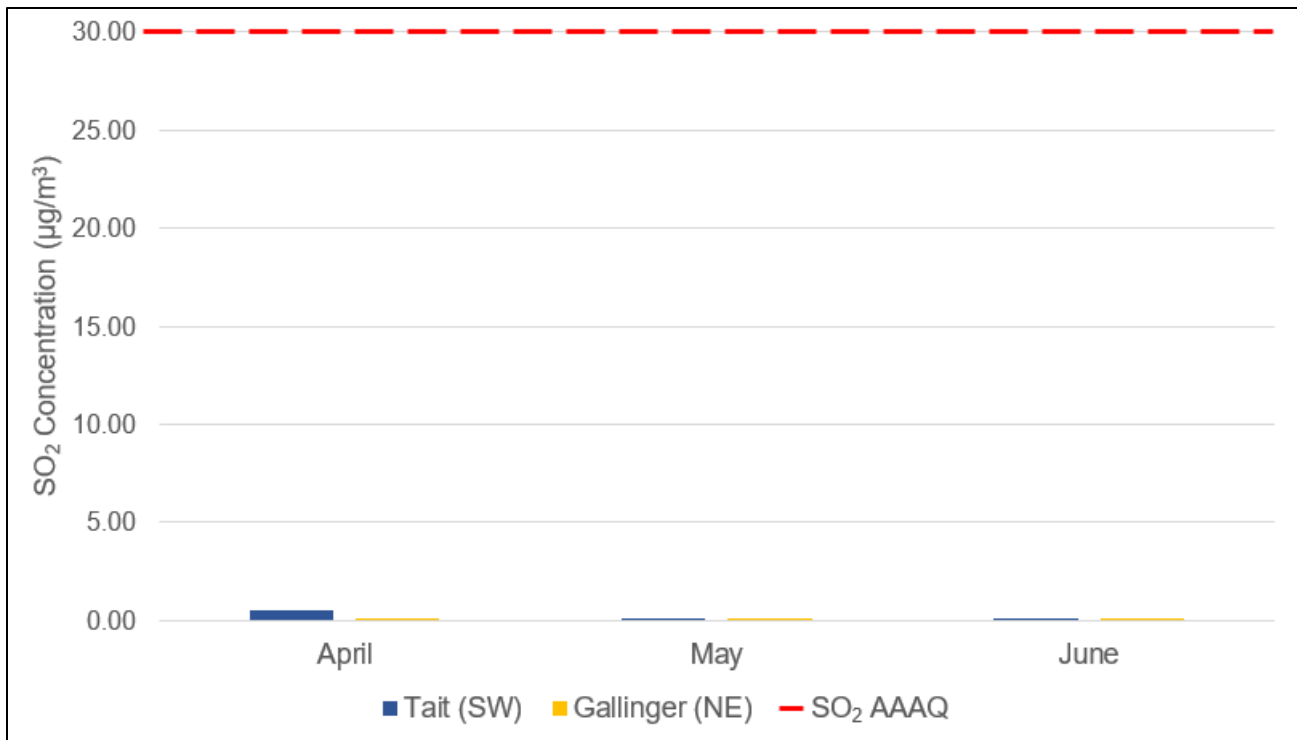


Figure 4-4: SO_2 Concentrations (Q2 2019)

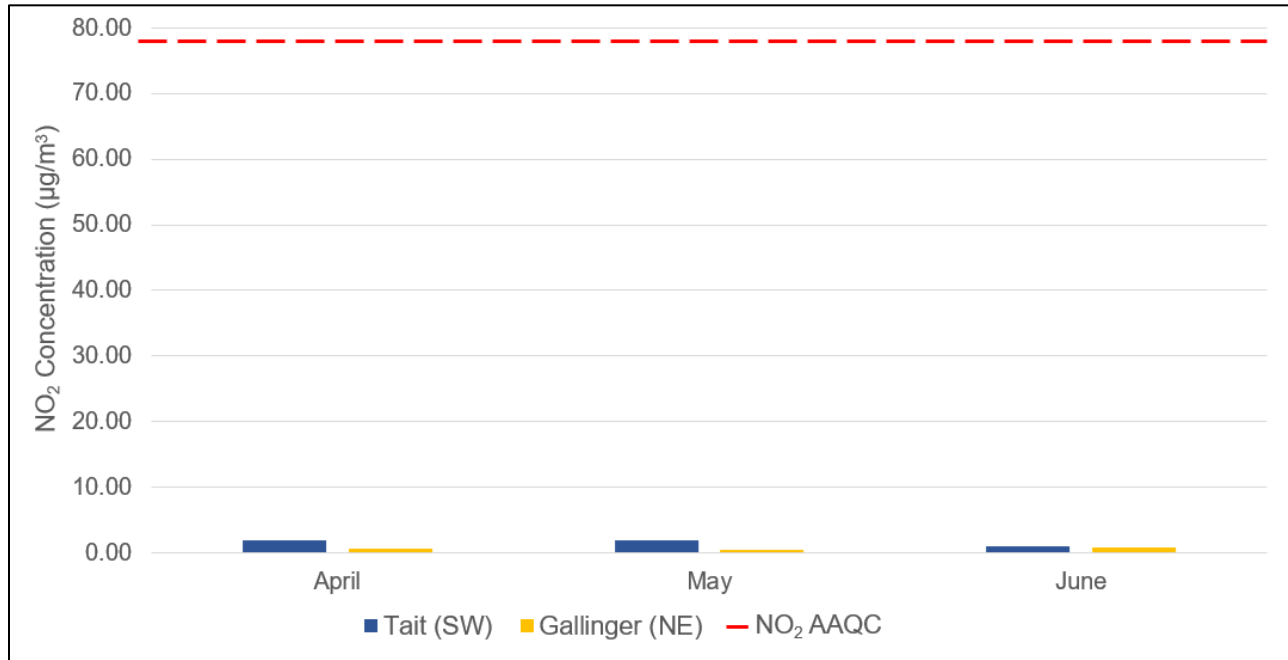


Figure 4-5: NO₂ Concentrations (Q2 2019)

5.0 CONCLUSIONS

A summary of the Q2 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 14 valid TSP samples, resulting in 93% sample validity. Metal and metalloid concentrations were measured on each of the valid TSP filters.
- There were no measured exceedances of an MECP AAQC for TSP, metals, or metalloids in Q2 2019. The invalidated sample was due to excessive run times.
- 15 and 11 valid PM_{2.5} samples were collected at the Tait and Gallinger Road stations, resulting in 100% and 73% valid data, respectively. There were no exceedances of the 24-hour PM_{2.5} CAAQS in Q2 2019. Sample invalidation was due to insufficient runtime.
- 3 valid dustfall samples were collected at each station (100% sample validity). There was one exceedance of the 30-day dustfall AAQC in Q2 2019 during the month of June. This was due to contamination of the sample by organic matter including insects and bird droppings. Details can be found in Appendix B.
- 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 Q2 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).
- British Columbia Ministry of the Environment. 2007. Section G of Air Constituents – Inorganic.
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- 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 Second 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. 8328.

Sincerely,

New Gold Inc.
Rainy River Mine

Prepared by:

<original signed by>

Kelsea Hunsperger, BSc.
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 (Second Quarter 2019)
(results expressed in µg/m³)

Date	PM2.5	TSP	As	Cd	Cr	Co	Cu	Fe	Pb	Mn	Ni	Se	V	Zn
03-Apr-19	4.29	18.12	<u>9.25E-04</u>	<u>6.16E-04</u>	4.99E-03	<u>6.16E-04</u>	5.77E-02	3.53E-01	<u>9.25E-04</u>	1.00E-02	<u>9.25E-04</u>	<u>3.08E-03</u>	<u>1.54E-03</u>	8.69E-03
09-Apr-19	1.7	10.45	<u>9.33E-04</u>	<u>6.22E-04</u>	4.92E-03	<u>6.22E-04</u>	3.45E-02	1.32E-01	<u>9.33E-04</u>	4.23E-03	<u>9.33E-04</u>	<u>9.33E-04</u>	<u>3.11E-03</u>	8.34E-03
15-Apr-19	1.29	8.64	<u>1.02E-03</u>	<u>6.81E-04</u>	6.19E-03	<u>6.81E-04</u>	2.80E-02	1.28E-01	<u>1.02E-03</u>	3.27E-03	<u>1.02E-03</u>	<u>3.40E-03</u>	<u>1.70E-03</u>	2.50E-02
21-Apr-19	2.41	33.50	<u>1.02E-03</u>	<u>6.81E-04</u>	6.26E-03	<u>6.81E-04</u>	3.01E-02	3.43E-01	<u>1.02E-03</u>	1.00E-02	<u>1.02E-03</u>	<u>3.40E-03</u>	<u>1.70E-03</u>	7.83E-03
27-Apr-19	2.50	71.04	<u>8.95E-04</u>	<u>5.97E-04</u>	6.45E-03	<u>5.97E-04</u>	6.51E-02	9.55E-01	<u>8.95E-04</u>	2.93E-02	<u>8.95E-04</u>	<u>2.98E-03</u>	<u>1.49E-03</u>	2.42E-02
03-May-19	4.45	7.91	<u>1.01E-03</u>	<u>6.70E-04</u>	9.25E-03	<u>6.70E-04</u>	2.47E-02	1.43E-01	<u>1.01E-03</u>	3.95E-03	<u>1.01E-03</u>	<u>3.35E-03</u>	<u>3.35E-03</u>	2.57E-02
09-May-19	<u>0.31</u>	30.33	<u>9.38E-04</u>	<u>6.25E-04</u>	9.07E-03	<u>6.25E-04</u>	5.80E-02	4.93E-01	2.19E-03	1.83E-02	<u>9.38E-06</u>	<u>3.13E-03</u>	<u>5/1599.05</u>	2.03E-02
15-May-19	2.96	48.89	<u>9.86E-04</u>	<u>6.57E-04</u>	9.26E-03	<u>6.57E-04</u>	5.56E-02	8.61E-01	8.21E-03	2.73E-02	<u>9.86E-04</u>	<u>3.29E-03</u>	<u>3.29E-03</u>	2.30E-02
21-May-19	5.21	35.43	2.10E-03	<u>6.56E-04</u>	1.14E-02	<u>6.56E-04</u>	3.31E-02	5.41E-01	<u>9.84E-04</u>	1.41E-02	<u>9.84E-04</u>	<u>3.28E-03</u>	<u>3.28E-03</u>	1.00E-02
27-May-19	1.33	25.85	2.02E-03	<u>6.75E-04</u>	9.31E-03	<u>6.75E-04</u>	4.65E-02	1.49E-01	<u>1.01E-03</u>	5.06E-03	<u>1.01E-03</u>	<u>3.37E-03</u>	<u>3.37E-03</u>	1.08E-02
02-Jun-19	3.54	116.55	<u>9.77E-04</u>	<u>6.51E-04</u>	4.43E-03	<u>6.51E-04</u>	9.90E-02	2.17	<u>2.67E-03</u>	5.53E-02	3.19E-03	<u>3.26E-03</u>	3.65E-03	3.85E-02
08-Jun-19	7.33	48.48	<u>1.00E-03</u>	<u>6.69E-04</u>	<u>1.67E-03</u>	<u>6.69E-04</u>	4.93E-02	6.56E-01	<u>1.00E-03</u>	2.10E-02	<u>1.00E-03</u>	<u>3.34E-03</u>	<u>1.67E-03</u>	4.31E-02
14-Jun-19	4.33	28.35	<u>1.02E-03</u>	<u>6.80E-04</u>	5.23E-03	<u>6.80E-04</u>	8.02E-02	6.61E-01	<u>1.02E-03</u>	2.13E-02	<u>1.02E-03</u>	<u>3.40E-03</u>	<u>1.70E-03</u>	1.82E-02
20-Jun-19	3.95	19.38	<u>1.00E-03</u>	<u>6.68E-04</u>	4.21E-03	<u>6.68E-04</u>	4.44E-02	2.57E-01	<u>1.00E-03</u>	6.68E-03	<u>1.00E-03</u>	<u>3.34E-03</u>	<u>1.67E-03</u>	9.89E-03
26-Jun-19	3.25	22.90	<u>1.00E-03</u>	<u>6.70E-04</u>	4.62E-03	<u>6.70E-04</u>	6.50E-02	2.78E-01	<u>1.00E-03</u>	1.08E-02	<u>1.00E-03</u>	<u>3.35E-03</u>	<u>1.67E-03</u>	8.30E-03

Geometric mean	2.66	27.01	1.08E-03	6.54E-04	5.92E-03	6.54E-04	4.77E-02	3.87E-01	1.28E-03	1.17E-02	7.81E-04	3.02E-03	2.23E-03	1.60E-02
Arithmetic mean	3.26	35.05	1.12E-03	6.55E-04	6.48E-03	6.55E-04	5.14E-02	5.42E-01	1.66E-03	1.60E-02	1.07E-03	3.13E-03	2.37E-03	1.88E-02
Max. concentration	7.33	116.55	2.10E-03	6.81E-04	1.14E-02	6.81E-04	9.90E-02	2.17	8.21E-03	5.53E-02	3.19E-03	3.40E-03	3.65E-03	4.31E-02
Min. concentration	0.31	7.91	8.95E-04	5.97E-04	1.67E-03	5.97E-04	2.47E-02	1.28E-01	8.95E-04	3.27E-03	9.38E-06	9.33E-04	1.49E-03	7.83E-03
90th percentile	4.91	62.18	1.62E-03	6.80E-04	9.29E-03	6.80E-04	7.42E-02	9.17E-01	2.48E-03	2.85E-02	1.02E-03	3.40E-03	3.37E-03	3.34E-02
95th percentile	5.84	84.69	2.05E-03	6.81E-04	9.93E-03	6.81E-04	8.58E-02	1.32E+00	4.33E-03	3.71E-02	1.67E-03	3.40E-03	3.47E-03	3.99E-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	1	0	13	15	1	15	0	0	12	0	14	15	14	0
Detection limit (µg)	15	2300	3	2	5	2	4	20	3	1	3	10	10	5
Half detection limit (µg)	7.5	1150	1.5	1	2.5	1	2	10	1.5	0.5	1.5	5	5	2.5
% < detection limit	7	0	87	100	7	100	0	0	80	7	93	100	93	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 (Second Quarter 2019)
(results expressed in $\mu\text{g}/\text{m}^3$)

Date	PM2.5	TSP	As	Cd	Cr	Co	Cu	Fe	Pb	Mn	Ni	Se	V	Zn
03-Apr-19	--	9.97	<u>9.64E-04</u>	<u>6.43E-04</u>	5.34E-03	<u>6.43E-04</u>	1.77E-01	1.23E-01	<u>9.64E-04</u>	4.37E-03	<u>9.64E-04</u>	<u>3.21E-03</u>	<u>1.61E-03</u>	8.68E-03
09-Apr-19	2.25	3.57	<u>9.75E-04</u>	<u>6.50E-04</u>	4.87E-03	<u>6.50E-04</u>	2.03E-01	5.59E-02	<u>9.75E-04</u>	1.30E-03	<u>9.75E-04</u>	<u>3.25E-03</u>	<u>1.62E-03</u>	3.57E-03
15-Apr-19	1.54	6.63	<u>9.85E-04</u>	<u>6.57E-04</u>	5.91E-03	<u>6.57E-04</u>	1.90E-01	9.46E-02	<u>9.85E-04</u>	2.69E-03	<u>9.85E-04</u>	<u>3.28E-03</u>	<u>1.64E-03</u>	1.14E-02
21-Apr-19	1.87	19.54	<u>9.90E-04</u>	<u>6.60E-04</u>	5.21E-03	<u>6.60E-04</u>	2.35E-01	8.05E-02	<u>9.90E-04</u>	3.23E-03	<u>9.90E-04</u>	<u>3.30E-03</u>	<u>1.65E-03</u>	4.09E-03
27-Apr-19	<u>0.31</u>	7.00	<u>9.90E-04</u>	<u>6.60E-04</u>	5.55E-03	<u>6.60E-04</u>	1.84E-01	7.06E-02	<u>9.90E-04</u>	1.85E-03	<u>9.90E-04</u>	<u>3.30E-03</u>	<u>1.65E-03</u>	<u>1.65E-03</u>
03-May-19	2.25	6.53	<u>1.02E-03</u>	<u>6.80E-04</u>	1.01E-02	<u>6.80E-04</u>	1.62E-01	1.22E-01	<u>1.02E-03</u>	4.56E-03	<u>1.02E-03</u>	<u>3.40E-03</u>	1.63E-01	7.28E-03
09-May-19	<u>0.35</u>	10.24	<u>1.00E-03</u>	<u>6.69E-04</u>	9.17E-03	<u>6.69E-04</u>	2.12E-01	1.70E-01	<u>1.00E-03</u>	6.49E-03	<u>1.00E-03</u>	<u>3.35E-03</u>	<u>3.35E-03</u>	1.27E-02
15-May-19	--	25.14	<u>9.98E-04</u>	<u>6.65E-04</u>	9.38E-03	<u>6.65E-04</u>	1.80E-01	3.98E-01	<u>9.98E-04</u>	1.14E-02	<u>9.98E-04</u>	<u>3.33E-03</u>	<u>3.33E-03</u>	1.20E-02
21-May-19	--	70.67	<u>9.72E-04</u>	<u>6.48E-04</u>	1.10E-02	<u>6.48E-04</u>	1.23E-01	1.08	<u>9.72E-04</u>	2.70E-02	2.14E-03	<u>3.24E-03</u>	<u>3.24E-03</u>	9.34E-03
27-May-19	0.83	31.40	<u>9.92E-04</u>	<u>6.61E-04</u>	1.02E-02	<u>6.61E-04</u>	2.16E-01	2.19E-01	<u>9.92E-04</u>	8.53E-03	2.71E-03	<u>3.31E-03</u>	1.06E-02	4.34E-02
02-Jun-19	<u>0.31</u>	34.29	<u>9.70E-04</u>	<u>6.47E-04</u>	<u>1.62E-03</u>	<u>6.47E-04</u>	2.20E-01	4.87E-01	<u>9.70E-04</u>	1.11E-02	<u>9.70E-04</u>	<u>3.23E-03</u>	<u>1.62E-03</u>	8.67E-03
08-Jun-19	8.28	51.33	<u>1.01E-03</u>	<u>6.71E-04</u>	<u>1.68E-03</u>	<u>6.71E-04</u>	1.06E-01	4.58E-01	<u>1.01E-03</u>	1.76E-02	<u>1.01E-03</u>	<u>3.36E-03</u>	<u>1.68E-03</u>	1.59E-02
14-Jun-19	0.94	22.35	<u>1.01E-03</u>	<u>6.73E-04</u>	<u>1.68E-03</u>	<u>6.73E-04</u>	1.83E-01	2.70E-01	<u>1.01E-03</u>	3.39E-02	<u>1.01E-03</u>	<u>3.37E-03</u>	<u>1.68E-03</u>	8.48E-03
20-Jun-19	--	--	--	--	--	--	--	--	--	--	--	--	--	--
26-Jun-19	3.71	110.14	<u>1.00E-03</u>	<u>6.67E-04</u>	5.27E-03	<u>6.67E-04</u>	1.67E-01	1.29	3.27E-03	4.70E-02	2.27E-03	<u>3.34E-03</u>	<u>1.67E-03</u>	4.03E-02

Geometric mean	1.25	18.43	9.91E-04	6.61E-04	5.20E-03	6.61E-04	1.79E-01	2.19E-01	1.08E-03	7.62E-03	1.19E-03	3.30E-03	3.03E-03	9.52E-03
Arithmetic mean	2.06	29.2	9.91E-04	6.61E-04	6.22E-03	6.61E-04	1.83E-01	3.52E-01	1.15E-03	1.29E-02	1.29E-03	3.30E-03	1.42E-02	1.34E-02
Max. concentration	8.28	110.1	1.02E-03	6.80E-04	1.10E-02	6.80E-04	2.35E-01	1.29	3.27E-03	4.70E-02	2.71E-03	3.40E-03	1.63E-01	4.34E-02
Min. concentration	0.31	3.6	9.64E-04	6.43E-04	1.62E-03	6.43E-04	1.06E-01	5.59E-02	9.64E-04	1.30E-03	9.64E-04	3.21E-03	1.61E-03	1.65E-03
90th percentile	3.71	64.87	1.01E-03	6.73E-04	1.02E-02	6.73E-04	2.19E-01	9.04E-01	1.02E-03	3.18E-02	2.23E-03	3.36E-03	8.41E-03	3.30E-02
95th percentile	5.99	84.48	1.01E-03	6.76E-04	1.06E-02	6.76E-04	2.26E-01	1.17E+00	1.92E-03	3.91E-02	2.45E-03	3.38E-03	7.17E-02	4.16E-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	11	14	14	14	14	14	14	14	14	14	14	14	14	14
No. samples < mdl	3	0	14	14	3	14	0	0	13	0	11	14	13	1
Detection limit (μg)	15	2300	3	2	5	2	4	20	3	1	3	10	10	5
Half detection limit (μg)	7.5	1150	1.5	1	2.5	1	2	10	1.5	0.5	1.5	5	5	2.5
% < detection limit	3	0	100	100	21	100	0	0	93	0	79	100	93	7
% valid data	73	93	93	93	93	93	93	93	93	93	93	93	93	93

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 (Second Quarter 2019)
(results expressed in g/m²/30days)

Month	No. Exposure Days	Dustfall (insoluble)	Dustfall (soluble)	Dustfall (total)
April	29	1.65	0.33	1.98
May	31	0.87	1.86	2.73
June	32	3.18	1.80	4.98
Arithmetic mean				3.23
Max. concentration				4.98
Min. concentration				1.98
AAQC				7
No. > AAQC value**				0
No. of valid samples				3
% Valid data				100
No. samples < mdl				0
Detection limit*				0.30
Half detection limit				0.17

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

Month	No. Exposure Days	Dustfall (insoluble)	Dustfall (soluble)	Dustfall (total)
April	29	0.42	<i>0.17</i>	0.69
May	31	1.20	1.56	2.76
June	32	5.31	7.89	13.23
Arithmetic mean				5.56
Max. concentration				13.23
Min. concentration				0.69
AAQC				7
No. > AAQC value**				1
No. of valid samples				3
% Valid data				100
No. samples < mdl				0
Detection limit*				0.30
Half detection limit				0.17

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
Second Quarter 2019 Report

APPENDIX A-3

SO₂ AND NO₂ PASSIVE SAMPLING RESULTS

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

Month	Southwest Tait Road	
	SO ₂	NO ₂
April	0.52	1.88
May	<u>0.13</u>	1.88
June	<u>0.13</u>	1.13
Arithmetic mean	0.26	1.63
Max. concentration	0.52	1.88
Min. concentration	0.13	1.13
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	0.26	0.19
Half detection limit	0.13	0.09

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

Month	Northeast Gallinger Road	
	SO ₂	NO ₂
April	<u>0.13</u>	0.75
May	<u>0.13</u>	0.56
June	<u>0.13</u>	0.94
Arithmetic mean	0.13	0.75
Max. concentration	0.13	0.94
Min. concentration	0.13	0.56
AAQC* (24-hr AAQC converted to equivalent 30-day average)	N/A	78 µg/m ³
Alberta Ambient Air Quality Objectives 2013	30 µg/m ³	N/A
No. of valid samples	3	3
No. samples < mdl	3	0
Detection limit	0.26	0.19
Half detection limit	0.13	0.09

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

RAINY RIVER MINE

Ambient Air Quality Monitoring Program
Second Quarter 2019 Report

APPENDIX B

NOTICES OF EXCEEDANCE FOR Q2 2019

August 8, 2019

Matt Hoffmeister & Jason Tittlemier
 Senior Environmental Officers
 Ministry of the Environment, Conservation & Parks
 Kenora Area Office
 Kenora, ON

SUBJECT: AMBIENT AIR QUALITY – JUNE TOTAL DUSTFALL EXCEEDANCE

Dear Mr. Hoffmeister, Mr. Tittlemier;

On August 7th, shortly after receiving laboratory results from samples from the month of June 2019, I determined that the thirty-day averaging period for total dustfall at the Gallinger Road (North) Air Quality Station exceeded the Ontario Ambient Air Quality Criteria (AAQC) 30-day standard.

Dustfall samples are collected each calendar month (+/- 5 days of a 30-day period) as per Rainy River Mine’s Ambient Air Quality Monitoring Plan, accepted by MECP on November 9, 2016. For the month of June, the sample resulted in 13.23 g/m²/30days, 189% of the AAQC 30-day standard (7 g/m²/30days).

Upon further analysis of the laboratory results, I determined that 9.99 g/m²/30-day of the total dustfall was volatile (organic) matter. Tables 1, 2 & 3 outline the laboratory results for this sample. As you can see in Figure 1, the dustfall jar for the month of June collected at least two insects, as well as bird droppings. The elevated total dustfall result is likely cause by these organic sources.

Table 1. June Total Dustfall Laboratory Results (Gallinger Road Station)	
Parameter	Result (g/m²/30-day)
Total Dustfall	13.23
Total Fixed (non-organic)	3.24
Total Volatile (organic)	9.99

Table 2. June Soluble Dustfall Laboratory Results (Gallinger Road Station)	
Parameter	Result (g/m²/30-day)
Soluble Dustfall	7.89
Soluble Fixed (non-organic)	1.89
Soluble Volatile (organic)	6.00

Table 3. June Insoluble Dustfall Laboratory Results (Gallinger Road Station)	
Parameter	Result (g/m ² /30-day)
Insoluble Dustfall	5.31
Insoluble Fixed (non-organic)	1.35
Insoluble Volatile (organic)	3.99



Figure 1. June Dustfall Jar illustrating organic influences.

Attached find the Notification of Exceedance form (NOE) as per our ECA approval number 0412-A2LR4V. Once you have had the chance to review this document and attachment, please contact the undersigned with any questions or concerns.

Respectfully,

Kelsea Hunsperger
 Environmental Specialist
kelsea.hunsperger@newgold.com
 (807) 482-0900 ext. 8328

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)
2019/08/07

Date Exceedance Determined (yyyy/mm/dd)
2019/08/07

Supporting information attached? Yes No If yes, number of pages 1

Section 2 - Facility and Site Information

Name of Person Making the Notification

Last Name
Hunsperger

First Name
Kelsea

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 Mining

Site Name
Rainy River Mine

MOECC District Office
Kenora Area Office

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

Other NAICS Code

Civic Address

Unit Number

Street Number
24

Street Name
Marr Road

PO Box
P0W1A0

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
Chapple/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
Rural property	NAD83	15U	+/- 5m	GIS	426537	5411220

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 ECA 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
Dustfall Jar	2019/06/30	30-day average

Is the monitoring approved by the Ministry?

Yes No If yes, please describe the approval Ambient Air Quality Monitoring Plan approved November 9, 20

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
Kelsea Hunsperger

Title
Environmental Specialist

Telephone Number 807 482-0900 ext.8328	Fax Number	Mobile Number	Email Address kelsea.hunsperger@newgold.com
Signature			Date (yyyy/mm/dd) 2019/08/07

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
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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 (µg/m ³)	Averaging Period (minute/ hour/day/ annual)	Ministry Limit (µg/m ³) or URT (µg/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
Total Dustfall		Dustfall Jar	N/A	30 days	7g/m2/30da	Soiling	3	B1	189%

* 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



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

Date Received: 14-MAY-19
Report Date: 06-JUN-19 14:59 (MT)
Version: FINAL

Client Phone: 807-482-0900

Certificate of Analysis

Lab Work Order #: L2272518
Project P.O. #: 4500018623
Job Reference: AIR QUALITY MONITORING
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
L2272518-1 NORTH-TSP-234 Sampled By: Client on 03-APR-19 Matrix: Hi Vol Filter Miscellaneous Parameters Total particulate	15500		2300	ug		22-MAY-19	R4641310
Metals on High Volume Filter by ICPMS Arsenic (As)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Cadmium (Cd)	<2.0		2.0	ug	27-MAY-19	27-MAY-19	R4647487
Cobalt (Co)	<2.0		2.0	ug	27-MAY-19	27-MAY-19	R4647487
Chromium (Cr)	8.3		5.0	ug	27-MAY-19	27-MAY-19	R4647487
Copper (Cu)	275		4.0	ug	27-MAY-19	27-MAY-19	R4647487
Iron (Fe)	192		20	ug	27-MAY-19	27-MAY-19	R4647487
Manganese (Mn)	6.8		1.0	ug	27-MAY-19	27-MAY-19	R4647487
Nickel (Ni)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Lead (Pb)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Selenium (Se)	<10		10	ug	27-MAY-19	27-MAY-19	R4647487
Vanadium (V)	<5.0		5.0	ug	27-MAY-19	27-MAY-19	R4647487
Zinc (Zn)	13.5		5.0	ug	27-MAY-19	27-MAY-19	R4647487
L2272518-2 SOUTH-TSP-234 Sampled By: Client on 03-APR-19 Matrix: Hi Vol Filter Miscellaneous Parameters Total particulate	39400		2300	ug		22-MAY-19	R4641310
Metals on High Volume Filter by ICPMS Arsenic (As)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Cadmium (Cd)	<2.0		2.0	ug	27-MAY-19	27-MAY-19	R4647487
Cobalt (Co)	<2.0		2.0	ug	27-MAY-19	27-MAY-19	R4647487
Chromium (Cr)	8.1		5.0	ug	27-MAY-19	27-MAY-19	R4647487
Copper (Cu)	93.6		4.0	ug	27-MAY-19	27-MAY-19	R4647487
Iron (Fe)	572		20	ug	27-MAY-19	27-MAY-19	R4647487
Manganese (Mn)	16.3		1.0	ug	27-MAY-19	27-MAY-19	R4647487
Nickel (Ni)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Lead (Pb)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Selenium (Se)	<10		10	ug	27-MAY-19	27-MAY-19	R4647487
Vanadium (V)	<5.0		5.0	ug	27-MAY-19	27-MAY-19	R4647487
Zinc (Zn)	14.1		5.0	ug	27-MAY-19	27-MAY-19	R4647487
L2272518-3 NORTH-TSP-235 Sampled By: Client on 09-APR-19 Matrix: Hi Vol Filter Miscellaneous Parameters Total particulate	5500		2300	ug		22-MAY-19	R4641310
Metals on High Volume Filter by ICPMS Arsenic (As)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Cadmium (Cd)	<2.0		2.0	ug	27-MAY-19	27-MAY-19	R4647487
Cobalt (Co)	<2.0		2.0	ug	27-MAY-19	27-MAY-19	R4647487
Chromium (Cr)	7.5		5.0	ug	27-MAY-19	27-MAY-19	R4647487
Copper (Cu)	313		4.0	ug	27-MAY-19	27-MAY-19	R4647487
Iron (Fe)	86		20	ug	27-MAY-19	27-MAY-19	R4647487
Manganese (Mn)	2.0		1.0	ug	27-MAY-19	27-MAY-19	R4647487
Nickel (Ni)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Lead (Pb)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Selenium (Se)	<10		10	ug	27-MAY-19	27-MAY-19	R4647487
Vanadium (V)	<5.0		5.0	ug	27-MAY-19	27-MAY-19	R4647487
Zinc (Zn)	5.5		5.0	ug	27-MAY-19	27-MAY-19	R4647487

* 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
L2272518-4 SOUTH-TSP-235 Sampled By: Client on 09-APR-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	16800		2300	ug		22-MAY-19	R4641310
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Cadmium (Cd)	<2.0		2.0	ug	27-MAY-19	27-MAY-19	R4647487
Cobalt (Co)	<2.0		2.0	ug	27-MAY-19	27-MAY-19	R4647487
Chromium (Cr)	7.9		5.0	ug	27-MAY-19	27-MAY-19	R4647487
Copper (Cu)	55.4		4.0	ug	27-MAY-19	27-MAY-19	R4647487
Iron (Fe)	212		20	ug	27-MAY-19	27-MAY-19	R4647487
Manganese (Mn)	6.8		1.0	ug	27-MAY-19	27-MAY-19	R4647487
Nickel (Ni)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Lead (Pb)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Selenium (Se)	<10		10	ug	27-MAY-19	27-MAY-19	R4647487
Vanadium (V)	<5.0		5.0	ug	27-MAY-19	27-MAY-19	R4647487
Zinc (Zn)	13.4		5.0	ug	27-MAY-19	27-MAY-19	R4647487
L2272518-5 NORTH-TSP-236 Sampled By: Client on 15-APR-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	10100		2300	ug		22-MAY-19	R4641310
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Cadmium (Cd)	<2.0		2.0	ug	27-MAY-19	27-MAY-19	R4647487
Cobalt (Co)	<2.0		2.0	ug	27-MAY-19	27-MAY-19	R4647487
Chromium (Cr)	9.0		5.0	ug	27-MAY-19	27-MAY-19	R4647487
Copper (Cu)	289		4.0	ug	27-MAY-19	27-MAY-19	R4647487
Iron (Fe)	144		20	ug	27-MAY-19	27-MAY-19	R4647487
Manganese (Mn)	4.1		1.0	ug	27-MAY-19	27-MAY-19	R4647487
Nickel (Ni)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Lead (Pb)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Selenium (Se)	<10		10	ug	27-MAY-19	27-MAY-19	R4647487
Vanadium (V)	<5.0		5.0	ug	27-MAY-19	27-MAY-19	R4647487
Zinc (Zn)	17.3		5.0	ug	27-MAY-19	27-MAY-19	R4647487
L2272518-6 SOUTH-TSP-236 Sampled By: Client on 15-APR-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	12700		2300	ug		22-MAY-19	R4641310
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Cadmium (Cd)	<2.0		2.0	ug	27-MAY-19	27-MAY-19	R4647487
Cobalt (Co)	<2.0		2.0	ug	27-MAY-19	27-MAY-19	R4647487
Chromium (Cr)	9.1		5.0	ug	27-MAY-19	27-MAY-19	R4647487
Copper (Cu)	41.1		4.0	ug	27-MAY-19	27-MAY-19	R4647487
Iron (Fe)	188		20	ug	27-MAY-19	27-MAY-19	R4647487
Manganese (Mn)	4.8		1.0	ug	27-MAY-19	27-MAY-19	R4647487
Nickel (Ni)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Lead (Pb)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Selenium (Se)	<10		10	ug	27-MAY-19	27-MAY-19	R4647487
Vanadium (V)	<5.0		5.0	ug	27-MAY-19	27-MAY-19	R4647487
Zinc (Zn)	36.8		5.0	ug	27-MAY-19	27-MAY-19	R4647487

* 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
L2272518-7 NORTH-TSP-237 Sampled By: Client on 21-APR-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	29600		2300	ug		22-MAY-19	R4641310
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Cadmium (Cd)	<2.0		2.0	ug	27-MAY-19	27-MAY-19	R4647487
Cobalt (Co)	<2.0		2.0	ug	27-MAY-19	27-MAY-19	R4647487
Chromium (Cr)	7.9		5.0	ug	27-MAY-19	27-MAY-19	R4647487
Copper (Cu)	356		4.0	ug	27-MAY-19	27-MAY-19	R4647487
Iron (Fe)	122		20	ug	27-MAY-19	27-MAY-19	R4647487
Manganese (Mn)	4.9		1.0	ug	27-MAY-19	27-MAY-19	R4647487
Nickel (Ni)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Lead (Pb)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Selenium (Se)	<10		10	ug	27-MAY-19	27-MAY-19	R4647487
Vanadium (V)	<5.0		5.0	ug	27-MAY-19	27-MAY-19	R4647487
Zinc (Zn)	6.2		5.0	ug	27-MAY-19	27-MAY-19	R4647487
L2272518-8 SOUTH-TSP-237 Sampled By: Client on 21-APR-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	49200		2300	ug		22-MAY-19	R4641310
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Cadmium (Cd)	<2.0		2.0	ug	27-MAY-19	27-MAY-19	R4647487
Cobalt (Co)	<2.0		2.0	ug	27-MAY-19	27-MAY-19	R4647487
Chromium (Cr)	9.2		5.0	ug	27-MAY-19	27-MAY-19	R4647487
Copper (Cu)	44.2		4.0	ug	27-MAY-19	27-MAY-19	R4647487
Iron (Fe)	504		20	ug	27-MAY-19	27-MAY-19	R4647487
Manganese (Mn)	14.7		1.0	ug	27-MAY-19	27-MAY-19	R4647487
Nickel (Ni)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Lead (Pb)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Selenium (Se)	<10		10	ug	27-MAY-19	27-MAY-19	R4647487
Vanadium (V)	<5.0		5.0	ug	27-MAY-19	27-MAY-19	R4647487
Zinc (Zn)	11.5		5.0	ug	27-MAY-19	27-MAY-19	R4647487
L2272518-9 NORTH-TSP-238 Sampled By: Client on 27-APR-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	10600		2300	ug		22-MAY-19	R4641310
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Cadmium (Cd)	<2.0		2.0	ug	27-MAY-19	27-MAY-19	R4647487
Cobalt (Co)	<2.0		2.0	ug	27-MAY-19	27-MAY-19	R4647487
Chromium (Cr)	8.4		5.0	ug	27-MAY-19	27-MAY-19	R4647487
Copper (Cu)	279		4.0	ug	27-MAY-19	27-MAY-19	R4647487
Iron (Fe)	107		20	ug	27-MAY-19	27-MAY-19	R4647487
Manganese (Mn)	2.8		1.0	ug	27-MAY-19	27-MAY-19	R4647487
Nickel (Ni)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Lead (Pb)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Selenium (Se)	<10		10	ug	27-MAY-19	27-MAY-19	R4647487
Vanadium (V)	<5.0		5.0	ug	27-MAY-19	27-MAY-19	R4647487
Zinc (Zn)	<5.0		5.0	ug	27-MAY-19	27-MAY-19	R4647487

* 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
L2272518-10 SOUTH-TSP-238 Sampled By: Client on 27-APR-19 Matrix: Hi Vol Filter Miscellaneous Parameters Total particulate	119000		2300	ug		22-MAY-19	R4641310
Metals on High Volume Filter by ICPMS Arsenic (As)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Cadmium (Cd)	<2.0		2.0	ug	27-MAY-19	27-MAY-19	R4647487
Cobalt (Co)	<2.0		2.0	ug	27-MAY-19	27-MAY-19	R4647487
Chromium (Cr)	10.8		5.0	ug	27-MAY-19	27-MAY-19	R4647487
Copper (Cu)	109		4.0	ug	27-MAY-19	27-MAY-19	R4647487
Iron (Fe)	1600		20	ug	27-MAY-19	27-MAY-19	R4647487
Manganese (Mn)	49.1		1.0	ug	27-MAY-19	27-MAY-19	R4647487
Nickel (Ni)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Lead (Pb)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Selenium (Se)	<10		10	ug	27-MAY-19	27-MAY-19	R4647487
Vanadium (V)	<5.0		5.0	ug	27-MAY-19	27-MAY-19	R4647487
Zinc (Zn)	40.6		5.0	ug	27-MAY-19	27-MAY-19	R4647487
L2272518-11 TSP-TRAVEL BLANK Sampled By: Client on 30-APR-19 Matrix: Hi Vol Filter Miscellaneous Parameters Total particulate	<2300		2300	ug		22-MAY-19	R4641310
Metals on High Volume Filter by ICPMS Arsenic (As)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Cadmium (Cd)	<2.0		2.0	ug	27-MAY-19	27-MAY-19	R4647487
Cobalt (Co)	<2.0		2.0	ug	27-MAY-19	27-MAY-19	R4647487
Chromium (Cr)	8.4		5.0	ug	27-MAY-19	27-MAY-19	R4647487
Copper (Cu)	5.8		4.0	ug	27-MAY-19	27-MAY-19	R4647487
Iron (Fe)	74		20	ug	27-MAY-19	27-MAY-19	R4647487
Manganese (Mn)	1.4		1.0	ug	27-MAY-19	27-MAY-19	R4647487
Nickel (Ni)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Lead (Pb)	<3.0		3.0	ug	27-MAY-19	27-MAY-19	R4647487
Selenium (Se)	<10		10	ug	27-MAY-19	27-MAY-19	R4647487
Vanadium (V)	<5.0		5.0	ug	27-MAY-19	27-MAY-19	R4647487
Zinc (Zn)	<5.0		5.0	ug	27-MAY-19	27-MAY-19	R4647487
L2272518-12 NORTH-PM2.5-234 Sampled By: Client on 03-APR-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	16		15	ug		23-MAY-19	R4641316
L2272518-13 SOUTH-PM2.5-234 Sampled By: Client on 03-APR-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	103		15	ug		23-MAY-19	R4641316
L2272518-14 NORTH-PM2.5-235 Sampled By: Client on 09-APR-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	54		15	ug		23-MAY-19	R4641316

* 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
L2272518-15 SOUTH-PM2.5-235 Sampled By: Client on 09-APR-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	41		15	ug		23-MAY-19	R4641316
L2272518-16 NORTH-PM2.5-236 Sampled By: Client on 15-APR-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	37		15	ug		23-MAY-19	R4641316
L2272518-17 SOUTH-PM2.5-236 Sampled By: Client on 15-APR-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	31		15	ug		23-MAY-19	R4641316
L2272518-18 NORTH-PM2.5-237 Sampled By: Client on 21-APR-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	45		15	ug		23-MAY-19	R4641316
L2272518-19 SOUTH-PM2.5-237 Sampled By: Client on 21-APR-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	58		15	ug		23-MAY-19	R4641316
L2272518-20 NORTH-PM2.5-238 Sampled By: Client on 27-APR-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	<15		15	ug		23-MAY-19	R4641316
L2272518-21 SOUTH-PM2.5-238 Sampled By: Client on 27-APR-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	60		15	ug		23-MAY-19	R4641316
L2272518-22 PM2.5-TRAVEL BLANK Sampled By: Client on 30-APR-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	38		15	ug		23-MAY-19	R4641316
L2272518-23 NORTH-DUSTFALL Sampled By: Client on 02-MAY-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	0.23 0.14 <0.10 <0.10 <0.10 <0.10 0.14		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		04-JUN-19 04-JUN-19 04-JUN-19 04-JUN-19 04-JUN-19 04-JUN-19 04-JUN-19	R4659406 R4659406 R4659406 R4659406 R4659406 R4659406 R4659406

* 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
L2272518-23 NORTH-DUSTFALL Sampled By: Client on 02-MAY-19 Matrix: Dustfall							
Dustfalls-Total, Soluble, Insoluble +FV							
Volatile Insoluble Dustfall	<0.10		0.10	mg/dm2.day		04-JUN-19	R4659406
Volatile Soluble Dustfall	<0.10		0.10	mg/dm2.day		04-JUN-19	R4659406
Total Metals in Dustfalls by ICPMS							
Aluminum (Al)-Total	0.00115		0.000029	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Interval			1	days		04-JUN-19	R4656370
Antimony (Sb)-Total	<0.0000049	DLB	0.0000049	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Arsenic (As)-Total	<0.000059	DLM	0.000059	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Barium (Ba)-Total	0.0000210		0.0000004	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Beryllium (Be)-Total	<0.0000049		0.0000049	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Bismuth (Bi)-Total	<0.0000049		0.0000049	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Boron (B)-Total	<0.000098		0.000098	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Cadmium (Cd)-Total	<0.00000049		0.0000004	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Calcium (Ca)-Total	0.0118		0.00020	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Chromium (Cr)-Total	<0.0000049		0.0000049	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Cobalt (Co)-Total	<0.00000098		0.0000009	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Copper (Cu)-Total	0.0000287		0.0000049	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Lead (Pb)-Total	0.00000318		0.0000004	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Iron (Fe)-Total	0.00102		0.00029	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Lithium (Li)-Total	<0.000049		0.000049	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Magnesium (Mg)-Total	0.00314		0.000049	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Manganese (Mn)-Total	0.0000692		0.0000009	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Molybdenum (Mo)-Total	0.00000080		0.0000004	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Nickel (Ni)-Total	0.0000195		0.0000049	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Phosphorus (P)-Total	0.00074		0.00049	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Potassium (K)-Total	0.00271		0.00049	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Selenium (Se)-Total	<0.0000098		0.0000098	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Silicon (Si)-Total	0.00202		0.00049	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Silver (Ag)-Total	0.000000164		0.0000000	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Sodium (Na)-Total	0.00103		0.00049	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Strontium (Sr)-Total	0.0000214		0.0000009	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Thallium (Tl)-Total	<0.00000098		0.0000009	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Tin (Sn)-Total	<0.00000098		0.0000009	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Titanium (Ti)-Total	<0.000098		0.000098	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Uranium (U)-Total	<0.000000098		0.0000000	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Vanadium (V)-Total	<0.0000098		0.0000098	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Zinc (Zn)-Total	<0.00018	DLB	0.00018	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
L2272518-24 SOUTH-DUSTFALL Sampled By: Client on 02-MAY-19 Matrix: Dustfall							
Dustfalls-Total, Soluble, Insoluble +FV							
Total Dustfall	0.66		0.10	mg/dm2.day		04-JUN-19	R4659406
Total Insoluble Dustfall	0.55		0.10	mg/dm2.day		04-JUN-19	R4659406

* 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
L2272518-24 SOUTH-DUSTFALL							
Sampled By: Client on 02-MAY-19							
Matrix: Dustfall							
Dustfalls-Total, Soluble, Insoluble +FV							
Total Soluble Dustfall	0.11		0.10	mg/dm2.day		04-JUN-19	R4659406
Fixed Dustfall	0.48		0.10	mg/dm2.day		04-JUN-19	R4659406
Fixed Insoluble Dustfall	0.47		0.10	mg/dm2.day		04-JUN-19	R4659406
Fixed Soluble Dustfall	<0.10		0.10	mg/dm2.day		04-JUN-19	R4659406
Volatile Dustfall	0.18		0.10	mg/dm2.day		04-JUN-19	R4659406
Volatile Insoluble Dustfall	<0.10		0.10	mg/dm2.day		04-JUN-19	R4659406
Volatile Soluble Dustfall	0.10		0.10	mg/dm2.day		04-JUN-19	R4659406
Total Metals in Dustfalls by ICPMS							
Aluminum (Al)-Total	0.00129		0.000029	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Interval			1	days		04-JUN-19	R4656370
Antimony (Sb)-Total	<0.0000020	DLB	0.0000020	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Arsenic (As)-Total	<0.000069	DLM	0.000069	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Barium (Ba)-Total	0.0000242		0.0000004	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
			9				
Beryllium (Be)-Total	<0.0000049		0.0000049	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Bismuth (Bi)-Total	<0.0000049		0.0000049	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Boron (B)-Total	<0.000098		0.000098	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Cadmium (Cd)-Total	<0.00000049		0.0000004	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
			9				
Calcium (Ca)-Total	0.0174		0.00020	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Chromium (Cr)-Total	<0.0000049		0.0000049	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Cobalt (Co)-Total	<0.00000098		0.0000009	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
			8				
Copper (Cu)-Total	0.0000111		0.0000049	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Lead (Pb)-Total	0.00000147		0.0000004	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
			9				
Iron (Fe)-Total	0.00113		0.00029	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Lithium (Li)-Total	<0.000049		0.000049	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Magnesium (Mg)-Total	0.00447		0.000049	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Manganese (Mn)-Total	0.0000427		0.0000009	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
			8				
Molybdenum (Mo)-Total	0.00000066		0.0000004	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
			9				
Nickel (Ni)-Total	0.0000096		0.0000049	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Phosphorus (P)-Total	<0.00049		0.00049	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Potassium (K)-Total	0.00266		0.00049	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Selenium (Se)-Total	<0.0000098		0.0000098	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Silicon (Si)-Total	0.00200		0.00049	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Silver (Ag)-Total	0.00000632		0.0000000	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
			98				
Sodium (Na)-Total	0.00114		0.00049	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Strontium (Sr)-Total	0.0000317		0.0000009	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
			8				
Thallium (Tl)-Total	<0.00000098		0.0000009	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
			8				
Tin (Sn)-Total	<0.00000098		0.0000009	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
			8				
Titanium (Ti)-Total	<0.000098		0.000098	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Uranium (U)-Total	<0.000000098		0.0000000	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
			98				
Vanadium (V)-Total	<0.0000098		0.0000098	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556
Zinc (Zn)-Total	<0.00012	DLB	0.00012	mg/dm2.day	04-JUN-19	04-JUN-19	R4655556

* 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.
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.
MES	Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).
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
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
PART-EC6.08-GRAV-BU	Filter	Particulate ENV Canada 6.08 microbalance	ENV CAN 6.08
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.			
PART-HIVOL-GRAV-BU	Filter	Particulate on High Volume Filter	USEPA IO3.1

** 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:

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: L2272518

Report Date: 06-JUN-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: Kelsea Hunsperger

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
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MET-IO3.5-MS-BU Filter

Batch **R4647487**

WG3060554-2 LCS

Arsenic (As)			85.6		%		80-120	27-MAY-19
Cadmium (Cd)			86.6		%		80-120	27-MAY-19
Cobalt (Co)			89.3		%		80-120	27-MAY-19
Chromium (Cr)			105.0		%		80-120	27-MAY-19
Copper (Cu)			103.0		%		80-120	27-MAY-19
Iron (Fe)			92.8		%		80-120	27-MAY-19
Manganese (Mn)			94.9		%		80-120	27-MAY-19
Nickel (Ni)			90.0		%		80-120	27-MAY-19
Lead (Pb)			84.8		%		80-120	27-MAY-19
Selenium (Se)			85.9		%		80-120	27-MAY-19
Vanadium (V)			88.2		%		80-120	27-MAY-19
Zinc (Zn)			94.5		%		80-120	27-MAY-19

COMMENTS: U recovery in the LCS cannot be quantified due to a spiking error on behalf of the analyst. In effect, this analyte was not spiked into the sample. The Matrix Spike sample shows good recoveries. This is not expected to have any impact on data quality. PE 29-May-19

WG3060554-1 MB

Arsenic (As)			<3.0		ug		3	27-MAY-19
Cadmium (Cd)			<2.0		ug		2	27-MAY-19
Cobalt (Co)			<2.0		ug		2	27-MAY-19
Chromium (Cr)			5.4	A	ug		5	27-MAY-19
Copper (Cu)			9.5	A	ug		4	27-MAY-19
Iron (Fe)			<20		ug		20	27-MAY-19
Manganese (Mn)			1.3	A	ug		1	27-MAY-19
Nickel (Ni)			<3.0		ug		3	27-MAY-19
Lead (Pb)			<3.0		ug		3	27-MAY-19
Selenium (Se)			<10		ug		10	27-MAY-19
Vanadium (V)			<5.0		ug		10	27-MAY-19
Zinc (Zn)			<5.0		ug		5	27-MAY-19

COMMENTS: Cr, Cu, and Mn observed above the LOR. In the case of Cu this level is significantly above the LOR. Data for these targets are likely to be biased high as a result of this background contribution. PE 29-May-19

PART-EC6.08-GRAV-BU Filter

Batch **R4641316**

WG3056741-2 DUP L2272518-12

Total particulate		16	<15		RPD-NA	ug	N/A	25	23-MAY-19
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WG3056741-1 MB

Total particulate			<15			ug		15	23-MAY-19
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PART-HIVOL-GRAV-BU Filter



Quality Control Report

Workorder: L2272518

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PART-HIVOL-GRAV-BU								
	Filter							
Batch	R4641310							
WG3056736-3	DUP	L2272518-1						
Total particulate		15500	15700		ug	1.3	25	22-MAY-19
WG3056736-1	MB							
Total particulate			<100		ug		100	22-MAY-19
DUSTFALLS-ALL-DM2-VA								
	Dustfall							
Batch	R4659406							
WG3066965-1	MB							
Total Dustfall			<0.10		mg/dm2.day		0.1	04-JUN-19
Total Insoluble Dustfall			<0.10		mg/dm2.day		0.1	04-JUN-19
Total Soluble Dustfall			<0.10		mg/dm2.day		0.1	04-JUN-19
Fixed Dustfall			<0.10		mg/dm2.day		0.1	04-JUN-19
Fixed Insoluble Dustfall			<0.10		mg/dm2.day		0.1	04-JUN-19
Fixed Soluble Dustfall			<0.10		mg/dm2.day		0.1	04-JUN-19
Volatile Dustfall			<0.10		mg/dm2.day		0.1	04-JUN-19
Volatile Insoluble Dustfall			<0.10		mg/dm2.day		0.1	04-JUN-19
Volatile Soluble Dustfall			<0.10		mg/dm2.day		0.1	04-JUN-19
MET-DUST(DM2)-MS-VA								
	Dustfall							
Batch	R4655556							
WG3066469-3	DUP	L2272518-23						
Aluminum (Al)-Total		0.00115	0.00138		mg/dm2.day	19	20	04-JUN-19
Antimony (Sb)-Total		<0.0000049	<0.0000049	RPD-NA	mg/dm2.day	N/A	20	04-JUN-19
Arsenic (As)-Total		<0.000059	<0.000059	RPD-NA	mg/dm2.day	N/A	20	04-JUN-19
Barium (Ba)-Total		0.0000210	0.0000226		mg/dm2.day	7.4	20	04-JUN-19
Beryllium (Be)-Total		<0.0000049	<0.0000049	RPD-NA	mg/dm2.day	N/A	20	04-JUN-19
Bismuth (Bi)-Total		<0.0000049	<0.0000049	RPD-NA	mg/dm2.day	N/A	20	04-JUN-19
Boron (B)-Total		<0.000098	<0.000098	RPD-NA	mg/dm2.day	N/A	20	04-JUN-19
Cadmium (Cd)-Total		<0.00000049	<0.0000004	RPD-NA	mg/dm2.day	N/A	20	04-JUN-19
Calcium (Ca)-Total		0.0118	0.0114		mg/dm2.day	3.1	20	04-JUN-19
Chromium (Cr)-Total		<0.0000049	<0.0000049	RPD-NA	mg/dm2.day	N/A	20	04-JUN-19
Cobalt (Co)-Total		<0.00000098	<0.0000009	RPD-NA	mg/dm2.day	N/A	20	04-JUN-19
Copper (Cu)-Total		0.0000287	0.0000229	J	mg/dm2.day	0.000005	0.0000098	04-JUN-19
Lead (Pb)-Total		0.00000318	0.00000350		mg/dm2.day	9.7	20	04-JUN-19
Iron (Fe)-Total		0.00102	0.00121		mg/dm2.day	17	20	04-JUN-19
Lithium (Li)-Total		<0.000049	<0.000049	RPD-NA	mg/dm2.day	N/A	20	04-JUN-19
Magnesium (Mg)-Total		0.00314	0.00310		mg/dm2.day	1.2	20	04-JUN-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DUST(DM2)-MS-VA		Dustfall						
Batch	R4655556							
WG3066469-3	DUP	L2272518-23						
Manganese (Mn)-Total		0.0000692	0.0000844		mg/dm2.day	20	20	04-JUN-19
Molybdenum (Mo)-Total		0.0000080	0.0000144	J	mg/dm2.day	0.000000	0.0000098	04-JUN-19
Nickel (Ni)-Total		0.0000195	0.0000251	J	mg/dm2.day	0.000005	0.0000098	04-JUN-19
Phosphorus (P)-Total		0.00074	0.00056	J	mg/dm2.day	0.00018	0.00098	04-JUN-19
Potassium (K)-Total		0.00271	0.00274		mg/dm2.day	1.3	20	04-JUN-19
Selenium (Se)-Total		<0.0000098	<0.0000098	RPD-NA	mg/dm2.day	N/A	20	04-JUN-19
Silicon (Si)-Total		0.00202	0.00262	J	mg/dm2.day	0.00060	0.00098	04-JUN-19
Silver (Ag)-Total		0.000000164	0.00000012	J	mg/dm2.day	0.000000	0.00000019	04-JUN-19
Sodium (Na)-Total		0.00103	0.00094		mg/dm2.day	9.5	20	04-JUN-19
Strontium (Sr)-Total		0.0000214	0.0000205		mg/dm2.day	4.3	20	04-JUN-19
Thallium (Tl)-Total		<0.00000098	<0.0000009	RPD-NA	mg/dm2.day	N/A	20	04-JUN-19
Tin (Sn)-Total		<0.00000098	<0.0000009	RPD-NA	mg/dm2.day	N/A	20	04-JUN-19
Titanium (Ti)-Total		<0.000098	<0.000098	RPD-NA	mg/dm2.day	N/A	20	04-JUN-19
Uranium (U)-Total		<0.00000009	<0.0000000	RPD-NA	mg/dm2.day	N/A	20	04-JUN-19
Vanadium (V)-Total		<0.0000098	<0.0000098	RPD-NA	mg/dm2.day	N/A	20	04-JUN-19
Zinc (Zn)-Total		<0.00018	<0.00018	RPD-NA	mg/dm2.day	N/A	20	04-JUN-19
WG3066469-2		LCS						
Aluminum (Al)-Total			117.9		%		80-120	04-JUN-19
Antimony (Sb)-Total			106.2		%		80-120	04-JUN-19
Arsenic (As)-Total			102.7		%		80-120	04-JUN-19
Barium (Ba)-Total			113.6		%		80-120	04-JUN-19
Beryllium (Be)-Total			107.7		%		80-120	04-JUN-19
Bismuth (Bi)-Total			100.1		%		80-120	04-JUN-19
Boron (B)-Total			92.7		%		80-120	04-JUN-19
Cadmium (Cd)-Total			113.6		%		80-120	04-JUN-19
Calcium (Ca)-Total			106.7		%		80-120	04-JUN-19
Chromium (Cr)-Total			111.2		%		80-120	04-JUN-19
Cobalt (Co)-Total			113.5		%		80-120	04-JUN-19
Copper (Cu)-Total			113.9		%		80-120	04-JUN-19
Lead (Pb)-Total			103.7		%		80-120	04-JUN-19
Iron (Fe)-Total			100.8		%		80-120	04-JUN-19
Lithium (Li)-Total			103.7		%		80-120	04-JUN-19
Magnesium (Mg)-Total			115.1		%		80-120	04-JUN-19
Manganese (Mn)-Total			119.2		%		80-120	04-JUN-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DUST(DM2)-MS-VA		Dustfall						
Batch	R4655556							
WG3066469-2	LCS							
Molybdenum (Mo)-Total			103.1		%		80-120	04-JUN-19
Nickel (Ni)-Total			113.8		%		80-120	04-JUN-19
Phosphorus (P)-Total			112.9		%		80-120	04-JUN-19
Potassium (K)-Total			114.5		%		80-120	04-JUN-19
Selenium (Se)-Total			99.6		%		80-120	04-JUN-19
Silicon (Si)-Total			101.3		%		80-120	04-JUN-19
Silver (Ag)-Total			106.2		%		80-120	04-JUN-19
Sodium (Na)-Total			116.1		%		80-120	04-JUN-19
Strontium (Sr)-Total			113.0		%		80-120	04-JUN-19
Thallium (Tl)-Total			99.3		%		80-120	04-JUN-19
Tin (Sn)-Total			97.2		%		80-120	04-JUN-19
Titanium (Ti)-Total			97.8		%		80-120	04-JUN-19
Uranium (U)-Total			105.2		%		80-120	04-JUN-19
Vanadium (V)-Total			115.1		%		80-120	04-JUN-19
Zinc (Zn)-Total			121.4	MES	%		80-120	04-JUN-19
WG3066469-1		MB						
Aluminum (Al)-Total			<0.000079		mg/dm2.day		0.000079	04-JUN-19
Antimony (Sb)-Total			0.0000070	MB-LOR	mg/dm2.day		0.0000026	04-JUN-19
Arsenic (As)-Total			<0.000065		mg/dm2.day		0.000065	04-JUN-19
Barium (Ba)-Total			<0.0000013		mg/dm2.day		0.0000013	04-JUN-19
Beryllium (Be)-Total			<0.000013		mg/dm2.day		0.000013	04-JUN-19
Bismuth (Bi)-Total			<0.000013		mg/dm2.day		0.000013	04-JUN-19
Boron (B)-Total			<0.00026		mg/dm2.day		0.00026	04-JUN-19
Cadmium (Cd)-Total			<0.0000013		mg/dm2.day		0.0000013	04-JUN-19
Calcium (Ca)-Total			<0.00052		mg/dm2.day		0.00052	04-JUN-19
Chromium (Cr)-Total			<0.000013		mg/dm2.day		0.000013	04-JUN-19
Cobalt (Co)-Total			<0.0000026		mg/dm2.day		0.0000026	04-JUN-19
Copper (Cu)-Total			<0.000013		mg/dm2.day		0.000013	04-JUN-19
Lead (Pb)-Total			<0.0000013		mg/dm2.day		0.0000013	04-JUN-19
Iron (Fe)-Total			<0.00079		mg/dm2.day		0.00079	04-JUN-19
Lithium (Li)-Total			<0.00013		mg/dm2.day		0.00013	04-JUN-19
Magnesium (Mg)-Total			<0.00013		mg/dm2.day		0.00013	04-JUN-19
Manganese (Mn)-Total			<0.0000026		mg/dm2.day		0.0000026	04-JUN-19
Molybdenum (Mo)-Total			<0.0000013		mg/dm2.day		0.0000013	04-JUN-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DUST(DM2)-MS-VA	Dustfall							
Batch	R4655556							
WG3066469-1 MB								
Nickel (Ni)-Total			<0.000013		mg/dm2.day		0.000013	04-JUN-19
Phosphorus (P)-Total			<0.0013		mg/dm2.day		0.0013	04-JUN-19
Potassium (K)-Total			<0.0013		mg/dm2.day		0.0013	04-JUN-19
Selenium (Se)-Total			<0.000026		mg/dm2.day		0.000026	04-JUN-19
Silicon (Si)-Total			<0.0013		mg/dm2.day		0.0013	04-JUN-19
Silver (Ag)-Total			<0.0000002		mg/dm2.day		0.00000026	04-JUN-19
Sodium (Na)-Total			<0.0013		mg/dm2.day		0.0013	04-JUN-19
Strontium (Sr)-Total			<0.0000026		mg/dm2.day		0.0000026	04-JUN-19
Thallium (Tl)-Total			<0.0000026		mg/dm2.day		0.0000026	04-JUN-19
Tin (Sn)-Total			<0.0000026		mg/dm2.day		0.0000026	04-JUN-19
Titanium (Ti)-Total			<0.00026		mg/dm2.day		0.00026	04-JUN-19
Uranium (U)-Total			<0.0000002		mg/dm2.day		0.00000026	04-JUN-19
Vanadium (V)-Total			<0.000026		mg/dm2.day		0.000026	04-JUN-19
Zinc (Zn)-Total			0.000312	MB-LOR	mg/dm2.day		0.000079	04-JUN-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
A	Method Blank exceeds ALS DQO. Refer to narrative comments for further information.
J	Duplicate results and limits are expressed in terms of absolute difference.
MB-LOR	Method Blank exceeds ALS DQO. Limits of Reporting have been adjusted for samples with positive hits below 5x blank level.
MES	Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).
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.



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

Date Received: 12-JUN-19
Report Date: 05-JUL-19 15:01 (MT)
Version: FINAL

Client Phone: 807-482-0900

Certificate of Analysis

Lab Work Order #: L2289894
Project P.O. #: 4500018623
Job Reference: AIR QUALITY MONITORING
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
L2289894-1 NORTH-TSP-239 Sampled By: Client on 03-MAY-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	9600		2300	ug		19-JUN-19	R4673408
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Cadmium (Cd)	<2.0		2.0	ug	21-JUN-19	24-JUN-19	R4690199
Cobalt (Co)	<2.0		2.0	ug	21-JUN-19	24-JUN-19	R4690199
Chromium (Cr)	14.9		5.0	ug	21-JUN-19	24-JUN-19	R4690199
Copper (Cu)	238		4.0	ug	21-JUN-19	24-JUN-19	R4690199
Iron (Fe)	179		20	ug	21-JUN-19	24-JUN-19	R4690199
Manganese (Mn)	6.7		1.0	ug	21-JUN-19	24-JUN-19	R4690199
Nickel (Ni)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Lead (Pb)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Selenium (Se)	<10		10	ug	21-JUN-19	24-JUN-19	R4690199
Vanadium (V)	240		10	ug	21-JUN-19	24-JUN-19	R4690199
Zinc (Zn)	20.7		5.0	ug	21-JUN-19	24-JUN-19	R4690199
L2289894-2 SOUTH-TSP-239 Sampled By: Client on 03-MAY-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	11800		2300	ug		19-JUN-19	R4673408
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Cadmium (Cd)	<2.0		2.0	ug	21-JUN-19	24-JUN-19	R4690199
Cobalt (Co)	<2.0		2.0	ug	21-JUN-19	24-JUN-19	R4690199
Chromium (Cr)	13.8		5.0	ug	21-JUN-19	24-JUN-19	R4690199
Copper (Cu)	36.9		4.0	ug	21-JUN-19	24-JUN-19	R4690199
Iron (Fe)	214		20	ug	21-JUN-19	24-JUN-19	R4690199
Manganese (Mn)	5.9		1.0	ug	21-JUN-19	24-JUN-19	R4690199
Nickel (Ni)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Lead (Pb)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Selenium (Se)	<10		10	ug	21-JUN-19	24-JUN-19	R4690199
Vanadium (V)	<10		10	ug	21-JUN-19	24-JUN-19	R4690199
Zinc (Zn)	38.4		5.0	ug	21-JUN-19	24-JUN-19	R4690199
L2289894-3 NORTH-TSP-240 Sampled By: Client on 09-MAY-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	15300		2300	ug		19-JUN-19	R4673408
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Cadmium (Cd)	<2.0		2.0	ug	21-JUN-19	24-JUN-19	R4690199
Cobalt (Co)	<2.0		2.0	ug	21-JUN-19	24-JUN-19	R4690199
Chromium (Cr)	13.7		5.0	ug	21-JUN-19	24-JUN-19	R4690199
Copper (Cu)	317		8.0	ug	21-JUN-19	24-JUN-19	R4690199
Iron (Fe)	254		20	ug	21-JUN-19	24-JUN-19	R4690199
Manganese (Mn)	9.7		1.0	ug	21-JUN-19	24-JUN-19	R4690199
Nickel (Ni)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Lead (Pb)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Selenium (Se)	<10		10	ug	21-JUN-19	24-JUN-19	R4690199
Vanadium (V)	<10		10	ug	21-JUN-19	24-JUN-19	R4690199
Zinc (Zn)	19.0		5.0	ug	21-JUN-19	24-JUN-19	R4690199

* 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
L2289894-4 SOUTH-TSP-240 Sampled By: Client on 09-MAY-19 Matrix: Hi Vol Filter Miscellaneous Parameters Total particulate	48500		2300	ug		19-JUN-19	R4673408
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Cadmium (Cd)	<2.0		2.0	ug	21-JUN-19	24-JUN-19	R4690199
Cobalt (Co)	<2.0		2.0	ug	21-JUN-19	24-JUN-19	R4690199
Chromium (Cr)	14.5		5.0	ug	21-JUN-19	24-JUN-19	R4690199
Copper (Cu)	92.7		4.0	ug	21-JUN-19	24-JUN-19	R4690199
Iron (Fe)	788		20	ug	21-JUN-19	24-JUN-19	R4690199
Manganese (Mn)	29.3		1.0	ug	21-JUN-19	24-JUN-19	R4690199
Nickel (Ni)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Lead (Pb)	3.5		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Selenium (Se)	<10		10	ug	21-JUN-19	24-JUN-19	R4690199
Vanadium (V)	<10		10	ug	21-JUN-19	24-JUN-19	R4690199
Zinc (Zn)	32.4		5.0	ug	21-JUN-19	24-JUN-19	R4690199
L2289894-5 NORTH-TSP-241 Sampled By: Client on 15-MAY-19 Matrix: Hi Vol Filter Miscellaneous Parameters Total particulate	37800		2300	ug		19-JUN-19	R4673408
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Cadmium (Cd)	<2.0		2.0	ug	21-JUN-19	24-JUN-19	R4690199
Cobalt (Co)	<2.0		2.0	ug	21-JUN-19	24-JUN-19	R4690199
Chromium (Cr)	14.1		5.0	ug	21-JUN-19	24-JUN-19	R4690199
Copper (Cu)	271		8.0	ug	21-JUN-19	24-JUN-19	R4690199
Iron (Fe)	599		20	ug	21-JUN-19	24-JUN-19	R4690199
Manganese (Mn)	17.2		1.0	ug	21-JUN-19	24-JUN-19	R4690199
Nickel (Ni)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Lead (Pb)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Selenium (Se)	<10		10	ug	21-JUN-19	24-JUN-19	R4690199
Vanadium (V)	<10		10	ug	21-JUN-19	24-JUN-19	R4690199
Zinc (Zn)	18.0		5.0	ug	21-JUN-19	24-JUN-19	R4690199
L2289894-6 SOUTH-TSP-241 Sampled By: Client on 15-MAY-19 Matrix: Hi Vol Filter Miscellaneous Parameters Total particulate	74400		2300	ug		19-JUN-19	R4673408
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Cadmium (Cd)	<2.0		2.0	ug	21-JUN-19	24-JUN-19	R4690199
Cobalt (Co)	<2.0		2.0	ug	21-JUN-19	24-JUN-19	R4690199
Chromium (Cr)	14.1		5.0	ug	21-JUN-19	24-JUN-19	R4690199
Copper (Cu)	84.6		4.0	ug	21-JUN-19	24-JUN-19	R4690199
Iron (Fe)	1310		20	ug	21-JUN-19	24-JUN-19	R4690199
Manganese (Mn)	41.6		1.0	ug	21-JUN-19	24-JUN-19	R4690199
Nickel (Ni)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Lead (Pb)	12.5		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Selenium (Se)	<10		10	ug	21-JUN-19	24-JUN-19	R4690199
Vanadium (V)	<10		10	ug	21-JUN-19	24-JUN-19	R4690199
Zinc (Zn)	35.0		5.0	ug	21-JUN-19	24-JUN-19	R4690199

* 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
L2289894-7 NORTH-TSP-242 Sampled By: Client on 21-MAY-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	109000		2300	ug		19-JUN-19	R4673408
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Cadmium (Cd)	<2.0		2.0	ug	21-JUN-19	24-JUN-19	R4690199
Cobalt (Co)	<2.0		2.0	ug	21-JUN-19	24-JUN-19	R4690199
Chromium (Cr)	17.0		5.0	ug	21-JUN-19	24-JUN-19	R4690199
Copper (Cu)	190		8.0	ug	21-JUN-19	24-JUN-19	R4690199
Iron (Fe)	1670		20	ug	21-JUN-19	24-JUN-19	R4690199
Manganese (Mn)	41.7		1.0	ug	21-JUN-19	24-JUN-19	R4690199
Nickel (Ni)	3.3		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Lead (Pb)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Selenium (Se)	<10		10	ug	21-JUN-19	24-JUN-19	R4690199
Vanadium (V)	<10		10	ug	21-JUN-19	24-JUN-19	R4690199
Zinc (Zn)	14.4		5.0	ug	21-JUN-19	24-JUN-19	R4690199
L2289894-8 SOUTH-TSP-242 Sampled By: Client on 21-MAY-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	54000		2300	ug		19-JUN-19	R4673408
Metals on High Volume Filter by ICPMS							
Arsenic (As)	3.2		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Cadmium (Cd)	<2.0		2.0	ug	21-JUN-19	24-JUN-19	R4690199
Cobalt (Co)	<2.0		2.0	ug	21-JUN-19	24-JUN-19	R4690199
Chromium (Cr)	17.3		5.0	ug	21-JUN-19	24-JUN-19	R4690199
Copper (Cu)	50.4		4.0	ug	21-JUN-19	24-JUN-19	R4690199
Iron (Fe)	824		20	ug	21-JUN-19	24-JUN-19	R4690199
Manganese (Mn)	21.5		1.0	ug	21-JUN-19	24-JUN-19	R4690199
Nickel (Ni)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Lead (Pb)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Selenium (Se)	<10		10	ug	21-JUN-19	24-JUN-19	R4690199
Vanadium (V)	<10		10	ug	21-JUN-19	24-JUN-19	R4690199
Zinc (Zn)	15.3		5.0	ug	21-JUN-19	24-JUN-19	R4690199
L2289894-9 NORTH-TSP-243 Sampled By: Client on 27-MAY-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	47500		2300	ug		19-JUN-19	R4673408
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Cadmium (Cd)	<2.0		2.0	ug	21-JUN-19	24-JUN-19	R4690199
Cobalt (Co)	<2.0		2.0	ug	21-JUN-19	24-JUN-19	R4690199
Chromium (Cr)	15.5		5.0	ug	21-JUN-19	24-JUN-19	R4690199
Copper (Cu)	327		8.0	ug	21-JUN-19	24-JUN-19	R4690199
Iron (Fe)	332		20	ug	21-JUN-19	24-JUN-19	R4690199
Manganese (Mn)	12.9		1.0	ug	21-JUN-19	24-JUN-19	R4690199
Nickel (Ni)	4.1		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Lead (Pb)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Selenium (Se)	<10		10	ug	21-JUN-19	24-JUN-19	R4690199
Vanadium (V)	16		10	ug	21-JUN-19	24-JUN-19	R4690199
Zinc (Zn)	65.7		5.0	ug	21-JUN-19	24-JUN-19	R4690199

* 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
L2289894-10 SOUTH-TSP-243 Sampled By: Client on 27-MAY-19 Matrix: Hi Vol Filter Miscellaneous Parameters Total particulate	38300		2300	ug		19-JUN-19	R4673408
Metals on High Volume Filter by ICPMS Arsenic (As)	3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Cadmium (Cd)	<2.0		2.0	ug	21-JUN-19	24-JUN-19	R4690199
Cobalt (Co)	<2.0		2.0	ug	21-JUN-19	24-JUN-19	R4690199
Chromium (Cr)	13.8		5.0	ug	21-JUN-19	24-JUN-19	R4690199
Copper (Cu)	68.9		4.0	ug	21-JUN-19	24-JUN-19	R4690199
Iron (Fe)	221		20	ug	21-JUN-19	24-JUN-19	R4690199
Manganese (Mn)	7.5		1.0	ug	21-JUN-19	24-JUN-19	R4690199
Nickel (Ni)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Lead (Pb)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Selenium (Se)	<10		10	ug	21-JUN-19	24-JUN-19	R4690199
Vanadium (V)	<10		10	ug	21-JUN-19	24-JUN-19	R4690199
Zinc (Zn)	16.0		5.0	ug	21-JUN-19	24-JUN-19	R4690199
L2289894-11 TSP-TRAVEL BLANK Sampled By: Client on 31-MAY-19 Matrix: Hi Vol Filter Miscellaneous Parameters Total particulate	<2300		2300	ug		19-JUN-19	R4673408
Metals on High Volume Filter by ICPMS Arsenic (As)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Cadmium (Cd)	<2.0		2.0	ug	21-JUN-19	24-JUN-19	R4690199
Cobalt (Co)	<2.0		2.0	ug	21-JUN-19	24-JUN-19	R4690199
Chromium (Cr)	12.9		5.0	ug	21-JUN-19	24-JUN-19	R4690199
Copper (Cu)	13.5		4.0	ug	21-JUN-19	24-JUN-19	R4690199
Iron (Fe)	95		20	ug	21-JUN-19	24-JUN-19	R4690199
Manganese (Mn)	2.5		1.0	ug	21-JUN-19	24-JUN-19	R4690199
Nickel (Ni)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Lead (Pb)	<3.0		3.0	ug	21-JUN-19	24-JUN-19	R4690199
Selenium (Se)	<10		10	ug	21-JUN-19	24-JUN-19	R4690199
Vanadium (V)	13		10	ug	21-JUN-19	24-JUN-19	R4690199
Zinc (Zn)	7.4		5.0	ug	21-JUN-19	24-JUN-19	R4690199
L2289894-12 NORTH-PM2.5-239 Sampled By: Client on 03-MAY-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	54		15	ug		20-JUN-19	R4676807
L2289894-13 SOUTH-PM2.5-239 Sampled By: Client on 03-MAY-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	107		15	ug		20-JUN-19	R4676807
L2289894-14 NORTH-PM2.5-240 Sampled By: Client on 09-MAY-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	<15		15	ug		20-JUN-19	R4676807

* 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
L2289894-15 SOUTH-PM2.5-240 Sampled By: Client on 09-MAY-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	<15		15	ug		20-JUN-19	R4676807
L2289894-16 NORTH-PM2.5-241 Sampled By: Client on 15-MAY-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	<15		15	ug		20-JUN-19	R4676807
L2289894-17 SOUTH-PM2.5-241 Sampled By: Client on 15-MAY-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	71		15	ug		20-JUN-19	R4676807
L2289894-18 NORTH-PM2.5-242 Sampled By: Client on 21-MAY-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	16		15	ug		20-JUN-19	R4676807
L2289894-19 SOUTH-PM2.5-242 Sampled By: Client on 21-MAY-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	125		15	ug		20-JUN-19	R4676807
L2289894-20 NORTH-PM2.5-243 Sampled By: Client on 27-MAY-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	20		15	ug		20-JUN-19	R4676807
L2289894-21 SOUTH-PM2.5-243 Sampled By: Client on 27-MAY-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	32		15	ug		20-JUN-19	R4676807
L2289894-22 PM2.5-TRAVEL BLANK Sampled By: Client on 31-MAY-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	23		15	ug		20-JUN-19	R4676807
L2289894-23 NORTH-DUSTFALL Sampled By: Client on 31-MAY-19 Matrix: Dustfall Dustfalls-Total, Soluble, Insoluble +FV							
Total Dustfall	0.92		0.10	mg/dm2.day		03-JUL-19	R4694533
Total Insoluble Dustfall	0.52		0.10	mg/dm2.day		03-JUL-19	R4694533
Total Soluble Dustfall	0.40		0.10	mg/dm2.day		03-JUL-19	R4694533
Fixed Dustfall	0.41		0.10	mg/dm2.day		03-JUL-19	R4694533
Fixed Insoluble Dustfall	0.20		0.10	mg/dm2.day		03-JUL-19	R4694533
Fixed Soluble Dustfall	0.22		0.10	mg/dm2.day		03-JUL-19	R4694533
Volatile Dustfall	0.51		0.10	mg/dm2.day		03-JUL-19	R4694533

* 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
L2289894-23 NORTH-DUSTFALL Sampled By: Client on 31-MAY-19 Matrix: Dustfall							
Dustfalls-Total, Soluble, Insoluble +FV							
Volatile Insoluble Dustfall	0.32		0.10	mg/dm2.day		03-JUL-19	R4694533
Volatile Soluble Dustfall	0.18		0.10	mg/dm2.day		03-JUL-19	R4694533
Total Metals in Dustfalls by ICPMS							
Aluminum (Al)-Total	0.00352		0.00011	mg/dm2.day	03-JUL-19	04-JUL-19	R4693950
Interval			1	days		03-JUL-19	R4693057
Antimony (Sb)-Total	<0.0000036	DLM	0.0000036	mg/dm2.day	03-JUL-19	04-JUL-19	R4693950
Arsenic (As)-Total	<0.000054		0.000054	mg/dm2.day	03-JUL-19	04-JUL-19	R4693950
Barium (Ba)-Total	0.000110		0.0000018	mg/dm2.day	03-JUL-19	04-JUL-19	R4693950
Beryllium (Be)-Total	<0.000018		0.000018	mg/dm2.day	03-JUL-19	04-JUL-19	R4693950
Bismuth (Bi)-Total	<0.000018		0.000018	mg/dm2.day	03-JUL-19	04-JUL-19	R4693950
Boron (B)-Total	<0.00036		0.00036	mg/dm2.day	03-JUL-19	04-JUL-19	R4693950
Cadmium (Cd)-Total	<0.0000018		0.0000018	mg/dm2.day	03-JUL-19	04-JUL-19	R4693950
Calcium (Ca)-Total	0.0673		0.00071	mg/dm2.day	03-JUL-19	04-JUL-19	R4693950
Chromium (Cr)-Total	<0.000018		0.000018	mg/dm2.day	03-JUL-19	04-JUL-19	R4693950
Cobalt (Co)-Total	<0.0000036		DLB	0.0000036	mg/dm2.day	03-JUL-19	04-JUL-19
Copper (Cu)-Total	<0.00020	0.00020		mg/dm2.day	03-JUL-19	04-JUL-19	R4693950
Lead (Pb)-Total	0.0000076	0.0000018		mg/dm2.day	03-JUL-19	04-JUL-19	R4693950
Iron (Fe)-Total	0.0046	0.0011		mg/dm2.day	03-JUL-19	04-JUL-19	R4693950
Lithium (Li)-Total	<0.00018	0.00018		mg/dm2.day	03-JUL-19	04-JUL-19	R4693950
Magnesium (Mg)-Total	0.00699	0.00018		mg/dm2.day	03-JUL-19	04-JUL-19	R4693950
Manganese (Mn)-Total	0.000262	0.0000036		mg/dm2.day	03-JUL-19	04-JUL-19	R4693950
Molybdenum (Mo)-Total	0.0000053	0.0000018		mg/dm2.day	03-JUL-19	04-JUL-19	R4693950
Nickel (Ni)-Total	0.000021	0.000018		mg/dm2.day	03-JUL-19	04-JUL-19	R4693950
Phosphorus (P)-Total	0.0118	0.0018		mg/dm2.day	03-JUL-19	04-JUL-19	R4693950
Potassium (K)-Total	0.0126	0.0018	mg/dm2.day	03-JUL-19	04-JUL-19	R4693950	
Selenium (Se)-Total	<0.000036	0.000036	mg/dm2.day	03-JUL-19	04-JUL-19	R4693950	
Silicon (Si)-Total	0.0090	0.0018	mg/dm2.day	03-JUL-19	04-JUL-19	R4693950	
Silver (Ag)-Total	0.00000040	0.0000003	mg/dm2.day	03-JUL-19	04-JUL-19	R4693950	
Sodium (Na)-Total	0.0046	0.0018	mg/dm2.day	03-JUL-19	04-JUL-19	R4693950	
Strontium (Sr)-Total	0.0000890	0.0000036	mg/dm2.day	03-JUL-19	04-JUL-19	R4693950	
Thallium (Tl)-Total	<0.0000036	0.0000036	mg/dm2.day	03-JUL-19	04-JUL-19	R4693950	
Tin (Sn)-Total	<0.0000036	0.0000036	mg/dm2.day	03-JUL-19	04-JUL-19	R4693950	
Titanium (Ti)-Total	<0.00036	0.00036	mg/dm2.day	03-JUL-19	04-JUL-19	R4693950	
Uranium (U)-Total	<0.00000036	0.0000003	mg/dm2.day	03-JUL-19	04-JUL-19	R4693950	
Vanadium (V)-Total	<0.000036	0.000036	mg/dm2.day	03-JUL-19	04-JUL-19	R4693950	
Zinc (Zn)-Total	<0.00054	0.00054	mg/dm2.day	03-JUL-19	04-JUL-19	R4693950	
L2289894-24 SOUTH-DUSTFALL Sampled By: Client on 31-MAY-19 Matrix: Dustfall							
Dustfalls-Total, Soluble, Insoluble +FV							
Total Dustfall	0.91		0.10	mg/dm2.day		03-JUL-19	R4694533
Total Insoluble Dustfall	0.62		0.10	mg/dm2.day		03-JUL-19	R4694533
Total Soluble Dustfall	0.29		0.10	mg/dm2.day		03-JUL-19	R4694533
Fixed Dustfall	0.52		0.10	mg/dm2.day		03-JUL-19	R4694533
Fixed Insoluble Dustfall	0.42		0.10	mg/dm2.day		03-JUL-19	R4694533
Fixed Soluble Dustfall	<0.10		0.10	mg/dm2.day		03-JUL-19	R4694533
Volatile Dustfall	0.40		0.10	mg/dm2.day		03-JUL-19	R4694533
Volatile Insoluble Dustfall	0.20		0.10	mg/dm2.day		03-JUL-19	R4694533
Volatile Soluble Dustfall	0.20		0.10	mg/dm2.day		03-JUL-19	R4694533

* 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
L2289894-24 SOUTH-DUSTFALL							
Sampled By: Client on 31-MAY-19							
Matrix: Dustfall							
Total Metals in Dustfalls by ICPMS							
Aluminum (Al)-Total	0.00327		0.00011	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Interval			1	days		03-JUL-19	R4693057
Antimony (Sb)-Total	<0.000036		0.000036	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Arsenic (As)-Total	<0.000050	DLM	0.000050	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Barium (Ba)-Total	0.0000455		0.000018	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Beryllium (Be)-Total	<0.000018		0.000018	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Bismuth (Bi)-Total	<0.000018		0.000018	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Boron (B)-Total	<0.00036		0.00036	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Cadmium (Cd)-Total	<0.000018		0.000018	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Calcium (Ca)-Total	0.0259		0.00071	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Chromium (Cr)-Total	<0.000018		0.000018	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Cobalt (Co)-Total	<0.000036		0.000036	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Copper (Cu)-Total	<0.000036	DLB	0.000036	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Lead (Pb)-Total	0.0000160		0.000018	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Iron (Fe)-Total	0.0033		0.0011	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Lithium (Li)-Total	<0.00018		0.00018	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Magnesium (Mg)-Total	0.00870		0.00018	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Manganese (Mn)-Total	0.000219		0.000036	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Molybdenum (Mo)-Total	<0.000018		0.000018	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Nickel (Ni)-Total	0.000021		0.000018	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Phosphorus (P)-Total	0.0062		0.0018	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Potassium (K)-Total	0.0081		0.0018	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Selenium (Se)-Total	<0.000036		0.000036	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Silicon (Si)-Total	0.0057		0.0018	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Silver (Ag)-Total	<0.0000036		0.000003	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Sodium (Na)-Total	<0.0018		0.0018	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Strontium (Sr)-Total	0.0000485		0.000036	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Thallium (Tl)-Total	<0.000036		0.000036	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Tin (Sn)-Total	<0.000036		0.000036	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Titanium (Ti)-Total	<0.00036		0.00036	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Uranium (U)-Total	<0.0000036		0.000003	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Vanadium (V)-Total	<0.000036		0.000036	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840
Zinc (Zn)-Total	<0.00021	DLB	0.00021	mg/dm2.day	03-JUL-19	03-JUL-19	R4692840

* 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).
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
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
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
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-EC6.08-GRAV-BU	Filter	Particulate ENV Canada 6.08 microbalance	ENV CAN 6.08
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.			
PART-HIVOL-GRAV-BU	Filter	Particulate on High Volume Filter	USEPA IO3.1

** 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: L2289894

Report Date: 05-JUL-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: Kelsea Hunsperger

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-IO3.5-MS-BU		Filter						
Batch	R4690199							
WG3090464-3	DUP	L2289894-1						
Arsenic (As)		<3.0	<3.0	RPD-NA	ug	N/A	20	24-JUN-19
Cadmium (Cd)		<2.0	<2.0	RPD-NA	ug	N/A	20	24-JUN-19
Cobalt (Co)		<2.0	<2.0	RPD-NA	ug	N/A	20	24-JUN-19
Chromium (Cr)		14.9	12.9		ug	15	20	24-JUN-19
Copper (Cu)		238	205		ug	15	20	24-JUN-19
Iron (Fe)		179	152		ug	16	25	24-JUN-19
Manganese (Mn)		6.7	6.2		ug	7.7	20	24-JUN-19
Nickel (Ni)		<3.0	<3.0	RPD-NA	ug	N/A	20	24-JUN-19
Lead (Pb)		<3.0	<3.0	RPD-NA	ug	N/A	20	24-JUN-19
Selenium (Se)		<10	<10	RPD-NA	ug	N/A	20	24-JUN-19
Vanadium (V)		240	115	G	ug	71	20	24-JUN-19
Zinc (Zn)		20.7	18.7		ug	10	20	24-JUN-19
COMMENTS: V RPD is outside ALS DQOs. This is likely due to inhomogeneity in the dispersion of this target across the sampled filter surface. Data for this analyte may show higher than normal variability. PE 5-Jul-19								
WG3090464-2	LCS							
Arsenic (As)			96.9		%		80-120	24-JUN-19
Cadmium (Cd)			97.4		%		80-120	24-JUN-19
Cobalt (Co)			100.0		%		80-120	24-JUN-19
Chromium (Cr)			127.0	G	%		80-120	24-JUN-19
Copper (Cu)			116.0		%		80-120	24-JUN-19
Iron (Fe)			103.8		%		80-120	24-JUN-19
Manganese (Mn)			102.0		%		80-120	24-JUN-19
Nickel (Ni)			97.9		%		80-120	24-JUN-19
Lead (Pb)			93.7		%		80-120	24-JUN-19
Selenium (Se)			102.0		%		80-120	24-JUN-19
Vanadium (V)			114.3		%		80-120	24-JUN-19
Zinc (Zn)			105.0		%		80-120	24-JUN-19
COMMENTS: Cr recovery is outside ALS DQOs. This may be due to the background contribution identified in the MB sample. Data for this target is likely to be biased slightly high. PE 5-Jul-19								
WG3090464-1	MB							
Arsenic (As)			4.4	A	ug		3	24-JUN-19
Cadmium (Cd)			<2.0		ug		2	24-JUN-19
Cobalt (Co)			<2.0		ug		2	24-JUN-19
Chromium (Cr)			10.8	A	ug		5	24-JUN-19
Copper (Cu)			4.4	A	ug		4	24-JUN-19
Iron (Fe)			<20		ug		20	24-JUN-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-IO3.5-MS-BU								
	Filter							
Batch	R4690199							
WG3090464-1	MB							
Manganese (Mn)			2.4	A	ug		1	24-JUN-19
Nickel (Ni)			<3.0		ug		3	24-JUN-19
Lead (Pb)			<3.0		ug		3	24-JUN-19
Selenium (Se)			<10		ug		10	24-JUN-19
Vanadium (V)			<5.0		ug		10	24-JUN-19
Zinc (Zn)			5.9	A	ug		5	24-JUN-19
COMMENTS: As, Cr, Cu, Mn, Zn observed above the LOR. This sample contains a representative unsampled filter portion, and the results suggest data for these targets are likely biased high as a result of this background. PE 5-Jul-19								
WG3090464-4	MS	L2289894-1						
Arsenic (As)			88.1		%		75-125	24-JUN-19
Cadmium (Cd)			86.9		%		75-125	24-JUN-19
Cobalt (Co)			91.9		%		75-125	24-JUN-19
Chromium (Cr)			89.8		%		75-125	24-JUN-19
Copper (Cu)			N/A	MS-B	%		-	24-JUN-19
Iron (Fe)			82.6		%		75-125	24-JUN-19
Manganese (Mn)			94.1		%		75-125	24-JUN-19
Nickel (Ni)			89.0		%		75-125	24-JUN-19
Lead (Pb)			84.6		%		75-125	24-JUN-19
Selenium (Se)			94.7		%		75-125	24-JUN-19
Vanadium (V)			N/A	MS-B	%		-	24-JUN-19
Zinc (Zn)			93.0		%		75-125	24-JUN-19
PART-EC6.08-GRAV-BU								
	Filter							
Batch	R4676807							
WG3082608-3	DUP	L2289894-12						
Total particulate		54	48		ug	12	25	20-JUN-19
WG3082608-2	MB							
Total particulate			<15		ug		15	20-JUN-19
PART-HIVOL-GRAV-BU								
	Filter							
Batch	R4673408							
WG3081433-3	DUP	L2289894-1						
Total particulate		9600	9900		ug	3.1	25	19-JUN-19
WG3081433-1	MB							
Total particulate			<100		ug		100	19-JUN-19
DUSTFALLS-ALL-DM2-VA								
	Dustfall							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DUSTFALLS-ALL-DM2-VA Dustfall								
Batch R4694533								
WG3094982-1 MB								
Total Dustfall			<0.10		mg/dm2.day		0.1	03-JUL-19
Total Insoluble Dustfall			<0.10		mg/dm2.day		0.1	03-JUL-19
Total Soluble Dustfall			<0.10		mg/dm2.day		0.1	03-JUL-19
Fixed Dustfall			<0.10		mg/dm2.day		0.1	03-JUL-19
Fixed Insoluble Dustfall			<0.10		mg/dm2.day		0.1	03-JUL-19
Fixed Soluble Dustfall			<0.10		mg/dm2.day		0.1	03-JUL-19
Volatile Dustfall			<0.10		mg/dm2.day		0.1	03-JUL-19
Volatile Insoluble Dustfall			<0.10		mg/dm2.day		0.1	03-JUL-19
Volatile Soluble Dustfall			<0.10		mg/dm2.day		0.1	03-JUL-19
MET-DUST(DM2)-MS-VA Dustfall								
Batch R4692840								
WG3093653-2 LCS								
Aluminum (Al)-Total			102.7		%		80-120	03-JUL-19
Antimony (Sb)-Total			112.9		%		80-120	03-JUL-19
Arsenic (As)-Total			100.5		%		80-120	03-JUL-19
Barium (Ba)-Total			99.1		%		80-120	03-JUL-19
Beryllium (Be)-Total			103.0		%		80-120	03-JUL-19
Bismuth (Bi)-Total			110.5		%		80-120	03-JUL-19
Boron (B)-Total			99.1		%		80-120	03-JUL-19
Cadmium (Cd)-Total			99.7		%		80-120	03-JUL-19
Calcium (Ca)-Total			102.7		%		80-120	03-JUL-19
Chromium (Cr)-Total			101.3		%		80-120	03-JUL-19
Cobalt (Co)-Total			99.2		%		80-120	03-JUL-19
Copper (Cu)-Total			100.0		%		80-120	03-JUL-19
Lead (Pb)-Total			107.7		%		80-120	03-JUL-19
Iron (Fe)-Total			100.8		%		80-120	03-JUL-19
Lithium (Li)-Total			103.6		%		80-120	03-JUL-19
Magnesium (Mg)-Total			100.7		%		80-120	03-JUL-19
Manganese (Mn)-Total			103.2		%		80-120	03-JUL-19
Molybdenum (Mo)-Total			109.8		%		80-120	03-JUL-19
Nickel (Ni)-Total			97.6		%		80-120	03-JUL-19
Phosphorus (P)-Total			115.7		%		80-120	03-JUL-19
Potassium (K)-Total			96.8		%		80-120	03-JUL-19
Selenium (Se)-Total			104.1		%		80-120	03-JUL-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DUST(DM2)-MS-VA		Dustfall						
Batch	R4692840							
WG3093653-2		LCS						
Silicon (Si)-Total			105.2		%		80-120	03-JUL-19
Silver (Ag)-Total			104.8		%		80-120	03-JUL-19
Sodium (Na)-Total			102.5		%		80-120	03-JUL-19
Strontium (Sr)-Total			103.1		%		80-120	03-JUL-19
Thallium (Tl)-Total			108.4		%		80-120	03-JUL-19
Tin (Sn)-Total			101.5		%		80-120	03-JUL-19
Titanium (Ti)-Total			97.4		%		80-120	03-JUL-19
Uranium (U)-Total			110.6		%		80-120	03-JUL-19
Vanadium (V)-Total			100.0		%		80-120	03-JUL-19
Zinc (Zn)-Total			105.7		%		80-120	03-JUL-19
WG3093653-1		MB						
Aluminum (Al)-Total			0.000083	B	mg/dm2.day		0.000069	03-JUL-19
Antimony (Sb)-Total			0.0000024	B	mg/dm2.day		0.0000023	03-JUL-19
Arsenic (As)-Total			<0.000053		mg/dm2.day		0.000053	03-JUL-19
Barium (Ba)-Total			<0.0000012		mg/dm2.day		0.0000012	03-JUL-19
Beryllium (Be)-Total			<0.000012		mg/dm2.day		0.000012	03-JUL-19
Bismuth (Bi)-Total			<0.000012		mg/dm2.day		0.000012	03-JUL-19
Boron (B)-Total			<0.00023		mg/dm2.day		0.00023	03-JUL-19
Cadmium (Cd)-Total			<0.0000012		mg/dm2.day		0.0000012	03-JUL-19
Calcium (Ca)-Total			<0.00046		mg/dm2.day		0.00046	03-JUL-19
Chromium (Cr)-Total			<0.000012		mg/dm2.day		0.000012	03-JUL-19
Cobalt (Co)-Total			<0.0000023		mg/dm2.day		0.0000023	03-JUL-19
Copper (Cu)-Total			0.000207	MB-LOR	mg/dm2.day		0.000012	03-JUL-19
Lead (Pb)-Total			<0.0000012		mg/dm2.day		0.0000012	03-JUL-19
Iron (Fe)-Total			<0.00069		mg/dm2.day		0.00069	03-JUL-19
Lithium (Li)-Total			<0.00012		mg/dm2.day		0.00012	03-JUL-19
Magnesium (Mg)-Total			<0.00012		mg/dm2.day		0.00012	03-JUL-19
Manganese (Mn)-Total			0.0000030	B	mg/dm2.day		0.0000023	03-JUL-19
Molybdenum (Mo)-Total			<0.0000012		mg/dm2.day		0.0000012	03-JUL-19
Nickel (Ni)-Total			<0.000012		mg/dm2.day		0.000012	03-JUL-19
Phosphorus (P)-Total			<0.0012		mg/dm2.day		0.0012	03-JUL-19
Potassium (K)-Total			<0.0012		mg/dm2.day		0.0012	03-JUL-19
Selenium (Se)-Total			<0.000023		mg/dm2.day		0.000023	03-JUL-19
Silicon (Si)-Total			<0.0012		mg/dm2.day		0.0012	03-JUL-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DUST(DM2)-MS-VA Dustfall								
Batch R4692840								
WG3093653-1 MB								
Silver (Ag)-Total			<0.0000002		mg/dm2.day		0.00000023	03-JUL-19
Sodium (Na)-Total			<0.0012		mg/dm2.day		0.0012	03-JUL-19
Strontium (Sr)-Total			<0.0000023		mg/dm2.day		0.0000023	03-JUL-19
Thallium (Tl)-Total			<0.0000023		mg/dm2.day		0.0000023	03-JUL-19
Tin (Sn)-Total			0.0000080	MB-LOR	mg/dm2.day		0.0000023	03-JUL-19
Titanium (Ti)-Total			<0.00023		mg/dm2.day		0.00023	03-JUL-19
Uranium (U)-Total			0.00000029	MB-LOR	mg/dm2.day		0.00000023	03-JUL-19
Vanadium (V)-Total			<0.000023		mg/dm2.day		0.000023	03-JUL-19
Zinc (Zn)-Total			0.000077	MB-LOR	mg/dm2.day		0.000069	03-JUL-19
Batch R4693950								
WG3093653-3 DUP L2289894-23								
Aluminum (Al)-Total		0.00352	0.00378		mg/dm2.day	7.0	20	04-JUL-19
Antimony (Sb)-Total		<0.0000036	<0.0000036	RPD-NA	mg/dm2.day	N/A	20	04-JUL-19
Arsenic (As)-Total		<0.000054	<0.000054	RPD-NA	mg/dm2.day	N/A	20	04-JUL-19
Barium (Ba)-Total		0.000110	0.000119		mg/dm2.day	7.5	20	04-JUL-19
Beryllium (Be)-Total		<0.000018	<0.000018	RPD-NA	mg/dm2.day	N/A	20	04-JUL-19
Bismuth (Bi)-Total		<0.000018	<0.000018	RPD-NA	mg/dm2.day	N/A	20	04-JUL-19
Boron (B)-Total		<0.00036	<0.00036	RPD-NA	mg/dm2.day	N/A	20	04-JUL-19
Cadmium (Cd)-Total		<0.0000018	<0.0000018	RPD-NA	mg/dm2.day	N/A	20	04-JUL-19
Calcium (Ca)-Total		0.0673	0.0695		mg/dm2.day	3.1	20	04-JUL-19
Chromium (Cr)-Total		<0.000018	<0.000018	RPD-NA	mg/dm2.day	N/A	20	04-JUL-19
Cobalt (Co)-Total		<0.0000036	<0.0000036	RPD-NA	mg/dm2.day	N/A	20	04-JUL-19
Copper (Cu)-Total		<0.00020	<0.00020	RPD-NA	mg/dm2.day	N/A	20	04-JUL-19
Lead (Pb)-Total		0.0000076	0.0000084		mg/dm2.day	9.7	20	04-JUL-19
Iron (Fe)-Total		0.0046	0.0047		mg/dm2.day	0.3	20	04-JUL-19
Lithium (Li)-Total		<0.00018	<0.00018	RPD-NA	mg/dm2.day	N/A	20	04-JUL-19
Magnesium (Mg)-Total		0.00699	0.00757		mg/dm2.day	8.0	20	04-JUL-19
Manganese (Mn)-Total		0.000262	0.000277		mg/dm2.day	5.4	20	04-JUL-19
Molybdenum (Mo)-Total		0.0000053	0.0000056		mg/dm2.day	5.3	20	04-JUL-19
Nickel (Ni)-Total		0.000021	0.000023		mg/dm2.day	6.2	20	04-JUL-19
Phosphorus (P)-Total		0.0118	0.0129		mg/dm2.day	8.5	20	04-JUL-19
Potassium (K)-Total		0.0126	0.0135		mg/dm2.day	7.0	20	04-JUL-19
Selenium (Se)-Total		<0.000036	<0.000036	RPD-NA	mg/dm2.day	N/A	20	04-JUL-19
Silicon (Si)-Total		0.0090	0.0085		mg/dm2.day	6.5	20	04-JUL-19



Quality Control Report

Workorder: L2289894

Report Date: 05-JUL-19

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DUST(DM2)-MS-VA	Dustfall							
Batch	R4693950							
WG3093653-3 DUP		L2289894-23						
Silver (Ag)-Total		0.00000040	0.00000041		mg/dm2.day	2.7	20	04-JUL-19
Sodium (Na)-Total		0.0046	0.0050		mg/dm2.day	7.6	20	04-JUL-19
Strontium (Sr)-Total		0.0000890	0.0000943		mg/dm2.day	5.8	20	04-JUL-19
Thallium (Tl)-Total		<0.0000036	<0.0000036	RPD-NA	mg/dm2.day	N/A	20	04-JUL-19
Tin (Sn)-Total		<0.0000036	<0.0000036	RPD-NA	mg/dm2.day	N/A	20	04-JUL-19
Titanium (Ti)-Total		<0.00036	<0.00036	RPD-NA	mg/dm2.day	N/A	20	04-JUL-19
Uranium (U)-Total		<0.00000036	<0.00000036	RPD-NA	mg/dm2.day	N/A	20	04-JUL-19
Vanadium (V)-Total		<0.000036	<0.000036	RPD-NA	mg/dm2.day	N/A	20	04-JUL-19
Zinc (Zn)-Total		<0.00054	<0.00054	RPD-NA	mg/dm2.day	N/A	20	04-JUL-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
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.
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.



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

Date Received: 10-JUL-19
Report Date: 02-AUG-19 11:12 (MT)
Version: FINAL

Client Phone: 807-482-0900

Certificate of Analysis

Lab Work Order #: L2307048
Project P.O. #: 4500018623
Job Reference: AIR QUALITY MONITORING
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
L2307048-1 NORTH-TSP-244 Sampled By: Client on 02-JUN-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	53000		2300	ug		23-JUL-19	R4720419
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Cadmium (Cd)	<2.0		2.0	ug	23-JUL-19	23-JUL-19	R4723008
Cobalt (Co)	<2.0		2.0	ug	23-JUL-19	23-JUL-19	R4723008
Chromium (Cr)	<5.0		5.0	ug	23-JUL-19	23-JUL-19	R4723008
Copper (Cu)	340		4.0	ug	23-JUL-19	23-JUL-19	R4723008
Iron (Fe)	753		20	ug	23-JUL-19	23-JUL-19	R4723008
Manganese (Mn)	17.1		1.0	ug	23-JUL-19	23-JUL-19	R4723008
Nickel (Ni)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Lead (Pb)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Selenium (Se)	<10		10	ug	23-JUL-19	23-JUL-19	R4723008
Vanadium (V)	<5.0		5.0	ug	23-JUL-19	23-JUL-19	R4723008
Zinc (Zn)	13.4		5.0	ug	23-JUL-19	23-JUL-19	R4723008
L2307048-2 SOUTH-TSP-244 Sampled By: Client on 02-JUN-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	179000		2300	ug		23-JUL-19	R4720419
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Cadmium (Cd)	<2.0		2.0	ug	23-JUL-19	23-JUL-19	R4723008
Cobalt (Co)	<2.0		2.0	ug	23-JUL-19	23-JUL-19	R4723008
Chromium (Cr)	6.8		5.0	ug	23-JUL-19	23-JUL-19	R4723008
Copper (Cu)	152		4.0	ug	23-JUL-19	23-JUL-19	R4723008
Iron (Fe)	3340		20	ug	23-JUL-19	23-JUL-19	R4723008
Manganese (Mn)	84.9		1.0	ug	23-JUL-19	23-JUL-19	R4723008
Nickel (Ni)	4.9		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Lead (Pb)	4.1		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Selenium (Se)	<10		10	ug	23-JUL-19	23-JUL-19	R4723008
Vanadium (V)	5.6		5.0	ug	23-JUL-19	23-JUL-19	R4723008
Zinc (Zn)	59.2		5.0	ug	23-JUL-19	23-JUL-19	R4723008
L2307048-3 NORTH-TSP-245 Sampled By: Client on 08-JUN-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	76500		2300	ug		23-JUL-19	R4720419
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Cadmium (Cd)	<2.0		2.0	ug	23-JUL-19	23-JUL-19	R4723008
Cobalt (Co)	<2.0		2.0	ug	23-JUL-19	23-JUL-19	R4723008
Chromium (Cr)	<5.0		5.0	ug	23-JUL-19	23-JUL-19	R4723008
Copper (Cu)	158		4.0	ug	23-JUL-19	23-JUL-19	R4723008
Iron (Fe)	682		20	ug	23-JUL-19	23-JUL-19	R4723008
Manganese (Mn)	26.3		1.0	ug	23-JUL-19	23-JUL-19	R4723008
Nickel (Ni)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Lead (Pb)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Selenium (Se)	<10		10	ug	23-JUL-19	23-JUL-19	R4723008
Vanadium (V)	<5.0		5.0	ug	23-JUL-19	23-JUL-19	R4723008
Zinc (Zn)	23.7		5.0	ug	23-JUL-19	23-JUL-19	R4723008

* 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
L2307048-4 SOUTH-TSP-245 Sampled By: Client on 08-JUN-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	72500		2300	ug		23-JUL-19	R4720419
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Cadmium (Cd)	<2.0		2.0	ug	23-JUL-19	23-JUL-19	R4723008
Cobalt (Co)	<2.0		2.0	ug	23-JUL-19	23-JUL-19	R4723008
Chromium (Cr)	<5.0		5.0	ug	23-JUL-19	23-JUL-19	R4723008
Copper (Cu)	73.8		4.0	ug	23-JUL-19	23-JUL-19	R4723008
Iron (Fe)	965		20	ug	23-JUL-19	23-JUL-19	R4723008
Manganese (Mn)	31.4		1.0	ug	23-JUL-19	23-JUL-19	R4723008
Nickel (Ni)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Lead (Pb)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Selenium (Se)	<10		10	ug	23-JUL-19	23-JUL-19	R4723008
Vanadium (V)	<5.0		5.0	ug	23-JUL-19	23-JUL-19	R4723008
Zinc (Zn)	64.5		5.0	ug	23-JUL-19	23-JUL-19	R4723008
L2307048-5 NORTH-TSP-246 Sampled By: Client on 14-JUN-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	33200		2300	ug		23-JUL-19	R4720419
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Cadmium (Cd)	<2.0		2.0	ug	23-JUL-19	23-JUL-19	R4723008
Cobalt (Co)	<2.0		2.0	ug	23-JUL-19	23-JUL-19	R4723008
Chromium (Cr)	<5.0		5.0	ug	23-JUL-19	23-JUL-19	R4723008
Copper (Cu)	272		4.0	ug	23-JUL-19	23-JUL-19	R4723008
Iron (Fe)	401		20	ug	23-JUL-19	23-JUL-19	R4723008
Manganese (Mn)	50.3		1.0	ug	23-JUL-19	23-JUL-19	R4723008
Nickel (Ni)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Lead (Pb)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Selenium (Se)	<10		10	ug	23-JUL-19	23-JUL-19	R4723008
Vanadium (V)	<5.0		5.0	ug	23-JUL-19	23-JUL-19	R4723008
Zinc (Zn)	12.6		5.0	ug	23-JUL-19	23-JUL-19	R4723008
L2307048-6 SOUTH-TSP-246 Sampled By: Client on 14-JUN-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	41700		2300	ug		23-JUL-19	R4720419
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Cadmium (Cd)	<2.0		2.0	ug	23-JUL-19	23-JUL-19	R4723008
Cobalt (Co)	<2.0		2.0	ug	23-JUL-19	23-JUL-19	R4723008
Chromium (Cr)	7.7		5.0	ug	23-JUL-19	23-JUL-19	R4723008
Copper (Cu)	118		4.0	ug	23-JUL-19	23-JUL-19	R4723008
Iron (Fe)	972		20	ug	23-JUL-19	23-JUL-19	R4723008
Manganese (Mn)	31.4		1.0	ug	23-JUL-19	23-JUL-19	R4723008
Nickel (Ni)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Lead (Pb)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Selenium (Se)	<10		10	ug	23-JUL-19	23-JUL-19	R4723008
Vanadium (V)	<5.0		5.0	ug	23-JUL-19	23-JUL-19	R4723008
Zinc (Zn)	26.8		5.0	ug	23-JUL-19	23-JUL-19	R4723008

* 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
L2307048-7 NORTH-TSP-247 Sampled By: Client on 20-JUN-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	20400		2300	ug		23-JUL-19	R4720419
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Cadmium (Cd)	<2.0		2.0	ug	23-JUL-19	23-JUL-19	R4723008
Cobalt (Co)	<2.0		2.0	ug	23-JUL-19	23-JUL-19	R4723008
Chromium (Cr)	6.1		5.0	ug	23-JUL-19	23-JUL-19	R4723008
Copper (Cu)	289		4.0	ug	23-JUL-19	23-JUL-19	R4723008
Iron (Fe)	199		20	ug	23-JUL-19	23-JUL-19	R4723008
Manganese (Mn)	4.9		1.0	ug	23-JUL-19	23-JUL-19	R4723008
Nickel (Ni)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Lead (Pb)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Selenium (Se)	<10		10	ug	23-JUL-19	23-JUL-19	R4723008
Vanadium (V)	<5.0		5.0	ug	23-JUL-19	23-JUL-19	R4723008
Zinc (Zn)	12.3		5.0	ug	23-JUL-19	23-JUL-19	R4723008
L2307048-8 SOUTH-TSP-247 Sampled By: Client on 20-JUN-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	29000		2300	ug		23-JUL-19	R4720419
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Cadmium (Cd)	<2.0		2.0	ug	23-JUL-19	23-JUL-19	R4723008
Cobalt (Co)	<2.0		2.0	ug	23-JUL-19	23-JUL-19	R4723008
Chromium (Cr)	6.3		5.0	ug	23-JUL-19	23-JUL-19	R4723008
Copper (Cu)	66.5		4.0	ug	23-JUL-19	23-JUL-19	R4723008
Iron (Fe)	384		20	ug	23-JUL-19	23-JUL-19	R4723008
Manganese (Mn)	10.0		1.0	ug	23-JUL-19	23-JUL-19	R4723008
Nickel (Ni)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Lead (Pb)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Selenium (Se)	<10		10	ug	23-JUL-19	23-JUL-19	R4723008
Vanadium (V)	<5.0		5.0	ug	23-JUL-19	23-JUL-19	R4723008
Zinc (Zn)	14.8		5.0	ug	23-JUL-19	23-JUL-19	R4723008
L2307048-9 NORTH-TSP-248 Sampled By: Client on 26-JUN-19 Matrix: Hi Vol Filter							
Miscellaneous Parameters							
Total particulate	165000		2300	ug		23-JUL-19	R4720419
Metals on High Volume Filter by ICPMS							
Arsenic (As)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Cadmium (Cd)	<2.0		2.0	ug	23-JUL-19	23-JUL-19	R4723008
Cobalt (Co)	<2.0		2.0	ug	23-JUL-19	23-JUL-19	R4723008
Chromium (Cr)	7.9		5.0	ug	23-JUL-19	23-JUL-19	R4723008
Copper (Cu)	250		4.0	ug	23-JUL-19	23-JUL-19	R4723008
Iron (Fe)	1940		20	ug	23-JUL-19	23-JUL-19	R4723008
Manganese (Mn)	70.4		1.0	ug	23-JUL-19	23-JUL-19	R4723008
Nickel (Ni)	3.4		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Lead (Pb)	4.5		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Selenium (Se)	<10		10	ug	23-JUL-19	23-JUL-19	R4723008
Vanadium (V)	<5.0		5.0	ug	23-JUL-19	23-JUL-19	R4723008
Zinc (Zn)	60.4		5.0	ug	23-JUL-19	23-JUL-19	R4723008

* 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
L2307048-10 SOUTH-TSP-248 Sampled By: Client on 26-JUN-19 Matrix: Hi Vol Filter Miscellaneous Parameters Total particulate	34200		2300	ug		23-JUL-19	R4720419
Metals on High Volume Filter by ICPMS Arsenic (As)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Cadmium (Cd)	<2.0		2.0	ug	23-JUL-19	23-JUL-19	R4723008
Cobalt (Co)	<2.0		2.0	ug	23-JUL-19	23-JUL-19	R4723008
Chromium (Cr)	6.9		5.0	ug	23-JUL-19	23-JUL-19	R4723008
Copper (Cu)	97.1		4.0	ug	23-JUL-19	23-JUL-19	R4723008
Iron (Fe)	415		20	ug	23-JUL-19	23-JUL-19	R4723008
Manganese (Mn)	16.1		1.0	ug	23-JUL-19	23-JUL-19	R4723008
Nickel (Ni)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Lead (Pb)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Selenium (Se)	<10		10	ug	23-JUL-19	23-JUL-19	R4723008
Vanadium (V)	<5.0		5.0	ug	23-JUL-19	23-JUL-19	R4723008
Zinc (Zn)	12.4		5.0	ug	23-JUL-19	23-JUL-19	R4723008
L2307048-11 TSP-TRAVEL BLANK Sampled By: Client on 03-JUL-19 Matrix: Hi Vol Filter Miscellaneous Parameters Total particulate	11100		2300	ug		23-JUL-19	R4720419
Metals on High Volume Filter by ICPMS Arsenic (As)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Cadmium (Cd)	<2.0		2.0	ug	23-JUL-19	23-JUL-19	R4723008
Cobalt (Co)	<2.0		2.0	ug	23-JUL-19	23-JUL-19	R4723008
Chromium (Cr)	6.3		5.0	ug	23-JUL-19	23-JUL-19	R4723008
Copper (Cu)	12.2		4.0	ug	23-JUL-19	23-JUL-19	R4723008
Iron (Fe)	44		20	ug	23-JUL-19	23-JUL-19	R4723008
Manganese (Mn)	1.4		1.0	ug	23-JUL-19	23-JUL-19	R4723008
Nickel (Ni)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Lead (Pb)	<3.0		3.0	ug	23-JUL-19	23-JUL-19	R4723008
Selenium (Se)	<10		10	ug	23-JUL-19	23-JUL-19	R4723008
Vanadium (V)	<5.0		5.0	ug	23-JUL-19	23-JUL-19	R4723008
Zinc (Zn)	6.0		5.0	ug	23-JUL-19	23-JUL-19	R4723008
L2307048-12 NORTH-PM2.5-244 Sampled By: Client on 02-JUN-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	<15		15	ug		18-JUL-19	R4715468
L2307048-13 SOUTH-PM2.5-244 Sampled By: Client on 02-JUN-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	85		15	ug		18-JUL-19	R4715468
L2307048-14 NORTH-PM2.5-245 Sampled By: Client on 08-JUN-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	185		15	ug		18-JUL-19	R4715468

* 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
L2307048-15 SOUTH-PM2.5-245 Sampled By: Client on 08-JUN-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	178		15	ug		18-JUL-19	R4715468
L2307048-16 NORTH-PM2.5-246 Sampled By: Client on 14-JUN-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	22		15	ug		18-JUL-19	R4715468
L2307048-17 SOUTH-PM2.5-246 Sampled By: Client on 14-JUN-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	104		15	ug		18-JUL-19	R4715468
L2307048-18 NORTH-PM2.5-247 Sampled By: Client on 20-JUN-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	<15		15	ug		18-JUL-19	R4715468
L2307048-19 SOUTH-PM2.5-247 Sampled By: Client on 20-JUN-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	95		15	ug		18-JUL-19	R4715468
L2307048-20 NORTH-PM2.5-248 Sampled By: Client on 26-JUN-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	84		15	ug		18-JUL-19	R4715468
L2307048-21 SOUTH-PM2.5-248 Sampled By: Client on 26-JUN-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	78		15	ug		18-JUL-19	R4715468
L2307048-22 PM2.5-TRAVEL BLANK Sampled By: Client on 03-JUL-19 Matrix: 47mm Filter Miscellaneous Parameters Total particulate	<15		15	ug		18-JUL-19	R4715468
L2307048-23 NORTH-DUSTFALL Sampled By: Client on 02-JUL-19 Matrix: Dustfall Dustfalls-Total, Soluble, Insoluble +FV							
Total Dustfall	4.41		0.10	mg/dm2.day		30-JUL-19	R4734589
Total Insoluble Dustfall	1.77		0.10	mg/dm2.day		30-JUL-19	R4734589
Total Soluble Dustfall	2.63		0.10	mg/dm2.day		30-JUL-19	R4734589
Fixed Dustfall	1.08		0.10	mg/dm2.day		30-JUL-19	R4734589
Fixed Insoluble Dustfall	0.45		0.10	mg/dm2.day		30-JUL-19	R4734589
Fixed Soluble Dustfall	0.63		0.10	mg/dm2.day		30-JUL-19	R4734589
Volatile Dustfall	3.33		0.10	mg/dm2.day		30-JUL-19	R4734589

* 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	
L2307048-23 NORTH-DUSTFALL Sampled By: Client on 02-JUL-19 Matrix: Dustfall								
Dustfalls-Total, Soluble, Insoluble +FV								
Volatile Insoluble Dustfall	1.33		0.10	mg/dm2.day		30-JUL-19	R4734589	
Volatile Soluble Dustfall	2.00		0.10	mg/dm2.day		30-JUL-19	R4734589	
Total Metals in Dustfalls by ICPMS								
Aluminum (Al)-Total	0.00438		0.000031	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913	
Interval			1	days		31-JUL-19	R4731393	
Antimony (Sb)-Total	0.0000021	DLM	0.0000010	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913	
Arsenic (As)-Total	<0.000038		0.000038	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913	
Barium (Ba)-Total	0.000110		0.0000005	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913	
Beryllium (Be)-Total	<0.0000052		2	0.0000052	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
Bismuth (Bi)-Total	<0.0000052		0.0000052	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913	
Boron (B)-Total	0.00013		0.00010	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913	
Cadmium (Cd)-Total	0.00000187		0.0000005	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913	
Calcium (Ca)-Total	0.0422		2	0.00021	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
Chromium (Cr)-Total	0.0000083		0.0000052	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913	
Cobalt (Co)-Total	0.0000035		0.0000010	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913	
Copper (Cu)-Total	0.000137		0.0000052	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913	
Lead (Pb)-Total	0.00000856		0.0000005	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913	
Iron (Fe)-Total	0.00531		2	0.00031	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
Lithium (Li)-Total	<0.000052		0.000052	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913	
Magnesium (Mg)-Total	0.0218		0.000052	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913	
Manganese (Mn)-Total	0.000726		0.0000010	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913	
Molybdenum (Mo)-Total	0.0000278		0.0000005	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913	
Nickel (Ni)-Total	0.0000376		2	0.000052	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
Phosphorus (P)-Total	0.0920		0.00052	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913	
Potassium (K)-Total	0.195		0.00052	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913	
Selenium (Se)-Total	<0.000010	0.000010	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913		
Silicon (Si)-Total	0.0109	0.00052	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913		
Silver (Ag)-Total	0.00000061	0.0000001	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913		
Sodium (Na)-Total	0.00286	0	0.00052	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913	
Strontium (Sr)-Total	0.0000661	0.0000010	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913		
Thallium (Tl)-Total	<0.0000010	0.0000010	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913		
Tin (Sn)-Total	<0.0000010	0.0000010	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913		
Titanium (Ti)-Total	0.00010	0.00010	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913		
Uranium (U)-Total	0.00000030	0.0000001	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913		
Vanadium (V)-Total	<0.000010	0	0.000010	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913	
Zinc (Zn)-Total	0.00106	0.000031	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913		
L2307048-24 SOUTH-DUSTFALL Sampled By: Client on 02-JUL-19 Matrix: Dustfall								
Dustfalls-Total, Soluble, Insoluble +FV								
Total Dustfall	1.66		0.10	mg/dm2.day		30-JUL-19	R4734589	
Total Insoluble Dustfall	1.06		0.10	mg/dm2.day		30-JUL-19	R4734589	
Total Soluble Dustfall	0.60		0.10	mg/dm2.day		30-JUL-19	R4734589	
Fixed Dustfall	0.78		0.10	mg/dm2.day		30-JUL-19	R4734589	
Fixed Insoluble Dustfall	0.53		0.10	mg/dm2.day		30-JUL-19	R4734589	
Fixed Soluble Dustfall	0.25		0.10	mg/dm2.day		30-JUL-19	R4734589	

* 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
L2307048-24 SOUTH-DUSTFALL							
Sampled By: Client on 02-JUL-19							
Matrix: Dustfall							
Dustfalls-Total, Soluble, Insoluble +FV							
Volatile Dustfall	0.88		0.10	mg/dm2.day		30-JUL-19	R4734589
Volatile Insoluble Dustfall	0.52		0.10	mg/dm2.day		30-JUL-19	R4734589
Volatile Soluble Dustfall	0.36		0.10	mg/dm2.day		30-JUL-19	R4734589
Total Metals in Dustfalls by ICPMS							
Aluminum (Al)-Total	0.00598		0.000029	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
Interval			1	days		31-JUL-19	R4731393
Antimony (Sb)-Total	0.00000119		0.0000009	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
			6				
Arsenic (As)-Total	<0.000052	DLM	0.000052	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
Barium (Ba)-Total	0.0000691		0.0000004	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
			8				
Beryllium (Be)-Total	<0.0000048		0.0000048	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
Bismuth (Bi)-Total	<0.0000048		0.0000048	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
Boron (B)-Total	<0.000096		0.000096	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
Cadmium (Cd)-Total	0.00000112		0.0000004	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
			8				
Calcium (Ca)-Total	0.0250		0.00019	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
Chromium (Cr)-Total	0.0000128		0.0000048	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
Cobalt (Co)-Total	0.00000507		0.0000009	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
			6				
Copper (Cu)-Total	0.0000768		0.0000048	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
Lead (Pb)-Total	0.00000788		0.0000004	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
			8				
Iron (Fe)-Total	0.00692		0.00029	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
Lithium (Li)-Total	<0.000048		0.000048	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
Magnesium (Mg)-Total	0.0136		0.000048	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
Manganese (Mn)-Total	0.000361		0.0000009	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
			6				
Molybdenum (Mo)-Total	0.0000182		0.0000004	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
			8				
Nickel (Ni)-Total	0.0000248		0.0000048	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
Phosphorus (P)-Total	0.0228		0.00048	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
Potassium (K)-Total	0.0831		0.00048	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
Selenium (Se)-Total	<0.0000096		0.0000096	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
Silicon (Si)-Total	0.0126		0.00048	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
Silver (Ag)-Total	0.000000202		0.0000000	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
			96				
Sodium (Na)-Total	0.00339		0.00048	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
Strontium (Sr)-Total	0.0000571		0.0000009	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
			6				
Thallium (Tl)-Total	<0.00000096		0.0000009	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
			6				
Tin (Sn)-Total	<0.00000096		0.0000009	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
			6				
Titanium (Ti)-Total	0.000178		0.000096	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
Uranium (U)-Total	0.000000253		0.0000000	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
			96				
Vanadium (V)-Total	0.0000135		0.0000096	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
Zinc (Zn)-Total	<0.00049	DLB	0.00049	mg/dm2.day	31-JUL-19	01-AUG-19	R4735913
L2307048-25 DUSTFALL-TRAVEL BLANK							
Sampled By: Client on 03-JUL-19							
Matrix: Dustfall							
Dustfalls-Total, Soluble, Insoluble +FV							
Total Dustfall	<0.10		0.10	mg/dm2.day		30-JUL-19	R4734589

* 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
L2307048-25 DUSTFALL-TRAVEL BLANK							
Sampled By: Client on 03-JUL-19							
Matrix: Dustfall							
Dustfalls-Total, Soluble, Insoluble +FV							
Total Insoluble Dustfall	<0.10		0.10	mg/dm2.day		30-JUL-19	R4734589
Total Soluble Dustfall	<0.10		0.10	mg/dm2.day		30-JUL-19	R4734589
Fixed Dustfall	<0.10		0.10	mg/dm2.day		30-JUL-19	R4734589
Fixed Insoluble Dustfall	<0.10		0.10	mg/dm2.day		30-JUL-19	R4734589
Fixed Soluble Dustfall	<0.10		0.10	mg/dm2.day		30-JUL-19	R4734589
Volatile Dustfall	<0.10		0.10	mg/dm2.day		30-JUL-19	R4734589
Volatile Insoluble Dustfall	<0.10		0.10	mg/dm2.day		30-JUL-19	R4734589
Volatile Soluble Dustfall	<0.10		0.10	mg/dm2.day		30-JUL-19	R4734589
Total Metals in Dustfalls by ICPMS							
Aluminum (Al)-Total	0.000111		0.000066	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Interval			1	days		30-JUL-19	R4730495
Antimony (Sb)-Total	<0.0000022		0.0000022	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Arsenic (As)-Total	<0.0000022		0.0000022	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Barium (Ba)-Total	<0.0000055	DLB	0.0000055	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Beryllium (Be)-Total	<0.000011		0.000011	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Bismuth (Bi)-Total	<0.000011		0.000011	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Boron (B)-Total	<0.00022		0.00022	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Cadmium (Cd)-Total	<0.0000011		0.0000011	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Calcium (Ca)-Total	0.00085		0.00044	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Chromium (Cr)-Total	<0.000011		0.000011	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Cobalt (Co)-Total	<0.0000022		0.0000022	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Copper (Cu)-Total	<0.00044	DLB	0.00044	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Lead (Pb)-Total	<0.0000066	DLB	0.0000066	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Iron (Fe)-Total	<0.00066		0.00066	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Lithium (Li)-Total	<0.00011		0.00011	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Magnesium (Mg)-Total	<0.00011		0.00011	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Manganese (Mn)-Total	<0.000013	DLB	0.000013	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Molybdenum (Mo)-Total	<0.0000011		0.0000011	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Nickel (Ni)-Total	<0.000011		0.000011	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Phosphorus (P)-Total	<0.0011		0.0011	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Potassium (K)-Total	<0.0011		0.0011	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Selenium (Se)-Total	<0.000022		0.000022	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Silicon (Si)-Total	<0.0011		0.0011	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Silver (Ag)-Total	<0.00000022		0.0000002	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
			2				
Sodium (Na)-Total	<0.0011		0.0011	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Strontium (Sr)-Total	0.0000062		0.0000022	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Thallium (Tl)-Total	<0.0000022		0.0000022	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Tin (Sn)-Total	<0.0000022		0.0000022	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Titanium (Ti)-Total	<0.00022		0.00022	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Uranium (U)-Total	<0.00000022		0.0000002	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
			2				
Vanadium (V)-Total	<0.000022		0.000022	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Zinc (Zn)-Total	<0.00033	DLB	0.00033	mg/dm2.day	30-JUL-19	30-JUL-19	R4731240
Note: Ca Al Sr in MB is under DL. Ca Al Sr entered as they are, in this Travel Blank.							

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

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
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.
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
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
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-EC6.08-GRAV-BU	Filter	Particulate ENV Canada 6.08 microbalance	ENV CAN 6.08
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.			
PART-HIVOL-GRAV-BU	Filter	Particulate on High Volume Filter	USEPA IO3.1

** 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:

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: L2307048

Report Date: 02-AUG-19

Page 1 of 8

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

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-IO3.5-MS-BU		Filter						
Batch	R4723008							
WG3113884-2	LCS							
Arsenic (As)			87.8		%		80-120	23-JUL-19
Cadmium (Cd)			89.9		%		80-120	23-JUL-19
Cobalt (Co)			86.6		%		80-120	23-JUL-19
Chromium (Cr)			89.0		%		80-120	23-JUL-19
Copper (Cu)			116.3		%		80-120	23-JUL-19
Iron (Fe)			89.1		%		80-120	23-JUL-19
Manganese (Mn)			89.2		%		80-120	23-JUL-19
Nickel (Ni)			89.3		%		80-120	23-JUL-19
Lead (Pb)			90.1		%		80-120	23-JUL-19
Selenium (Se)			95.1		%		80-120	23-JUL-19
Vanadium (V)			87.8		%		80-120	23-JUL-19
Zinc (Zn)			94.9		%		80-120	23-JUL-19
WG3113884-1	MB							
Arsenic (As)			<3.0		ug		3	23-JUL-19
Cadmium (Cd)			<2.0		ug		2	23-JUL-19
Cobalt (Co)			<2.0		ug		2	23-JUL-19
Chromium (Cr)			<5.0		ug		5	23-JUL-19
Copper (Cu)			<4.0		ug		4	23-JUL-19
Iron (Fe)			<20		ug		20	23-JUL-19
Manganese (Mn)			<1.0		ug		1	23-JUL-19
Nickel (Ni)			<3.0		ug		3	23-JUL-19
Lead (Pb)			<3.0		ug		3	23-JUL-19
Selenium (Se)			<10		ug		10	23-JUL-19
Vanadium (V)			<5.0		ug		10	23-JUL-19
Zinc (Zn)			<5.0		ug		5	23-JUL-19
PART-EC6.08-GRAV-BU		Filter						
Batch	R4715468							
WG3109694-2	DUP	L2307048-12						
Total particulate		<15	<15	RPD-NA	ug	N/A	25	18-JUL-19
WG3109694-1	MB							
Total particulate			<15		ug		15	18-JUL-19
PART-HIVOL-GRAV-BU		Filter						



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PART-HIVOL-GRAV-BU								
	Filter							
Batch	R4720419							
WG3112454-3	DUP	L2307048-1						
Total particulate		53000	53100		ug	0.2	25	23-JUL-19
WG3112454-1	MB							
Total particulate			<100		ug		100	23-JUL-19
DUSTFALLS-ALL-DM2-VA								
	Dustfall							
Batch	R4734589							
WG3119725-1	MB							
Total Dustfall			<0.10		mg/dm2.day		0.1	30-JUL-19
Total Insoluble Dustfall			<0.10		mg/dm2.day		0.1	30-JUL-19
Total Soluble Dustfall			<0.10		mg/dm2.day		0.1	30-JUL-19
Fixed Dustfall			<0.10		mg/dm2.day		0.1	30-JUL-19
Fixed Insoluble Dustfall			<0.10		mg/dm2.day		0.1	30-JUL-19
Fixed Soluble Dustfall			<0.10		mg/dm2.day		0.1	30-JUL-19
Volatile Dustfall			<0.10		mg/dm2.day		0.1	30-JUL-19
Volatile Insoluble Dustfall			<0.10		mg/dm2.day		0.1	30-JUL-19
Volatile Soluble Dustfall			<0.10		mg/dm2.day		0.1	30-JUL-19
MET-DUST(DM2)-MS-VA								
	Dustfall							
Batch	R4731240							
WG3118315-2	LCS							
Aluminum (Al)-Total			99.9		%		80-120	30-JUL-19
Antimony (Sb)-Total			95.6		%		80-120	30-JUL-19
Arsenic (As)-Total			100.1		%		80-120	30-JUL-19
Barium (Ba)-Total			102.7		%		80-120	30-JUL-19
Beryllium (Be)-Total			95.7		%		80-120	30-JUL-19
Bismuth (Bi)-Total			91.4		%		80-120	30-JUL-19
Boron (B)-Total			100.8		%		80-120	30-JUL-19
Cadmium (Cd)-Total			100.1		%		80-120	30-JUL-19
Calcium (Ca)-Total			102.2		%		80-120	30-JUL-19
Chromium (Cr)-Total			95.1		%		80-120	30-JUL-19
Cobalt (Co)-Total			97.4		%		80-120	30-JUL-19
Copper (Cu)-Total			102.9		%		80-120	30-JUL-19
Lead (Pb)-Total			94.2		%		80-120	30-JUL-19
Iron (Fe)-Total			96.8		%		80-120	30-JUL-19
Lithium (Li)-Total			94.8		%		80-120	30-JUL-19
Magnesium (Mg)-Total			96.2		%		80-120	30-JUL-19
Manganese (Mn)-Total			98.8		%		80-120	30-JUL-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DUST(DM2)-MS-VA		Dustfall						
Batch	R4731240							
WG3118315-2 LCS								
Molybdenum (Mo)-Total			97.5		%		80-120	30-JUL-19
Nickel (Ni)-Total			100.8		%		80-120	30-JUL-19
Phosphorus (P)-Total			101.9		%		80-120	30-JUL-19
Potassium (K)-Total			100.9		%		80-120	30-JUL-19
Selenium (Se)-Total			98.7		%		80-120	30-JUL-19
Silicon (Si)-Total			98.7		%		80-120	30-JUL-19
Silver (Ag)-Total			91.5		%		80-120	30-JUL-19
Sodium (Na)-Total			99.0		%		80-120	30-JUL-19
Strontium (Sr)-Total			90.6		%		80-120	30-JUL-19
Thallium (Tl)-Total			85.8		%		80-120	30-JUL-19
Tin (Sn)-Total			94.0		%		80-120	30-JUL-19
Titanium (Ti)-Total			93.0		%		80-120	30-JUL-19
Uranium (U)-Total			94.1		%		80-120	30-JUL-19
Vanadium (V)-Total			99.6		%		80-120	30-JUL-19
Zinc (Zn)-Total			93.2		%		80-120	30-JUL-19
WG3118315-1 MB								
Aluminum (Al)-Total			<0.000079		mg/dm2.day		0.000079	30-JUL-19
Antimony (Sb)-Total			<0.0000026		mg/dm2.day		0.0000026	30-JUL-19
Arsenic (As)-Total			<0.0000026		mg/dm2.day		0.0000026	30-JUL-19
Barium (Ba)-Total			0.0000017	MB-LOR	mg/dm2.day		0.0000013	30-JUL-19
Beryllium (Be)-Total			<0.000013		mg/dm2.day		0.000013	30-JUL-19
Bismuth (Bi)-Total			<0.000013		mg/dm2.day		0.000013	30-JUL-19
Boron (B)-Total			<0.00026		mg/dm2.day		0.00026	30-JUL-19
Cadmium (Cd)-Total			<0.0000013		mg/dm2.day		0.0000013	30-JUL-19
Calcium (Ca)-Total			<0.00052		mg/dm2.day		0.00052	30-JUL-19
Chromium (Cr)-Total			<0.000013		mg/dm2.day		0.000013	30-JUL-19
Cobalt (Co)-Total			<0.0000026		mg/dm2.day		0.0000026	30-JUL-19
Copper (Cu)-Total			0.000258	MB-LOR	mg/dm2.day		0.000013	30-JUL-19
Lead (Pb)-Total			0.0000017	MB-LOR	mg/dm2.day		0.0000013	30-JUL-19
Iron (Fe)-Total			<0.00079		mg/dm2.day		0.00079	30-JUL-19
Lithium (Li)-Total			<0.00013		mg/dm2.day		0.00013	30-JUL-19
Magnesium (Mg)-Total			<0.00013		mg/dm2.day		0.00013	30-JUL-19
Manganese (Mn)-Total			0.0000031	MB-LOR	mg/dm2.day		0.0000026	30-JUL-19
Molybdenum (Mo)-Total			<0.0000013		mg/dm2.day		0.0000013	30-JUL-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DUST(DM2)-MS-VA								
	Dustfall							
Batch	R4731240							
WG3118315-1	MB							
Nickel (Ni)-Total			<0.000013		mg/dm2.day		0.000013	30-JUL-19
Phosphorus (P)-Total			<0.0013		mg/dm2.day		0.0013	30-JUL-19
Potassium (K)-Total			<0.0013		mg/dm2.day		0.0013	30-JUL-19
Selenium (Se)-Total			<0.000026		mg/dm2.day		0.000026	30-JUL-19
Silicon (Si)-Total			<0.0013		mg/dm2.day		0.0013	30-JUL-19
Silver (Ag)-Total			<0.0000002		mg/dm2.day		0.00000026	30-JUL-19
Sodium (Na)-Total			<0.0013		mg/dm2.day		0.0013	30-JUL-19
Strontium (Sr)-Total			<0.0000026		mg/dm2.day		0.0000026	30-JUL-19
Thallium (Tl)-Total			<0.0000026		mg/dm2.day		0.0000026	30-JUL-19
Tin (Sn)-Total			<0.0000026		mg/dm2.day		0.0000026	30-JUL-19
Titanium (Ti)-Total			<0.00026		mg/dm2.day		0.00026	30-JUL-19
Uranium (U)-Total			<0.0000002		mg/dm2.day		0.00000026	30-JUL-19
Vanadium (V)-Total			<0.000026		mg/dm2.day		0.000026	30-JUL-19
Zinc (Zn)-Total			0.000309	MB-LOR	mg/dm2.day		0.000079	30-JUL-19
Batch	R4735913							
WG3119551-3	DUP	L2307048-23						
Aluminum (Al)-Total		0.00438	0.00463		mg/dm2.day	5.4	20	01-AUG-19
Antimony (Sb)-Total		0.0000021	0.0000021		mg/dm2.day	2.5	20	01-AUG-19
Arsenic (As)-Total		<0.000038	0.0000380		mg/dm2.day	1.4	20	01-AUG-19
Barium (Ba)-Total		0.000110	0.000116		mg/dm2.day	5.2	20	01-AUG-19
Beryllium (Be)-Total		<0.0000052	<0.0000052	RPD-NA	mg/dm2.day	N/A	20	01-AUG-19
Bismuth (Bi)-Total		<0.0000052	<0.0000052	RPD-NA	mg/dm2.day	N/A	20	01-AUG-19
Boron (B)-Total		0.00013	0.00013		mg/dm2.day	0.8	20	01-AUG-19
Cadmium (Cd)-Total		0.00000187	0.00000175		mg/dm2.day	7.0	20	01-AUG-19
Calcium (Ca)-Total		0.0422	0.0421		mg/dm2.day	0.2	20	01-AUG-19
Chromium (Cr)-Total		0.0000083	0.0000093		mg/dm2.day	12	20	01-AUG-19
Cobalt (Co)-Total		0.0000035	0.0000035		mg/dm2.day	0.1	20	01-AUG-19
Copper (Cu)-Total		0.000137	0.000138		mg/dm2.day	0.3	20	01-AUG-19
Lead (Pb)-Total		0.00000856	0.00000842		mg/dm2.day	1.7	20	01-AUG-19
Iron (Fe)-Total		0.00531	0.00520		mg/dm2.day	2.1	20	01-AUG-19
Lithium (Li)-Total		<0.000052	<0.000052	RPD-NA	mg/dm2.day	N/A	20	01-AUG-19
Magnesium (Mg)-Total		0.0218	0.0223		mg/dm2.day	2.2	20	01-AUG-19
Manganese (Mn)-Total		0.000726	0.000742		mg/dm2.day	2.2	20	01-AUG-19
Molybdenum (Mo)-Total		0.0000278	0.0000264		mg/dm2.day	4.9	20	01-AUG-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DUST(DM2)-MS-VA								
	Dustfall							
Batch	R4735913							
WG3119551-3	DUP	L2307048-23						
Nickel (Ni)-Total		0.0000376	0.0000457		mg/dm2.day	19	20	01-AUG-19
Phosphorus (P)-Total		0.0920	0.0964		mg/dm2.day	4.7	20	01-AUG-19
Potassium (K)-Total		0.195	0.204		mg/dm2.day	4.6	20	01-AUG-19
Selenium (Se)-Total		<0.000010	<0.000010	RPD-NA	mg/dm2.day	N/A	20	01-AUG-19
Silicon (Si)-Total		0.0109	0.0111		mg/dm2.day	1.4	20	01-AUG-19
Silver (Ag)-Total		0.00000061	0.00000086	DUP-H	mg/dm2.day	0.000000	0.0000002	01-AUG-19
Sodium (Na)-Total		0.00286	0.00303		mg/dm2.day	5.7	20	01-AUG-19
Strontium (Sr)-Total		0.0000661	0.0000664		mg/dm2.day	0.5	20	01-AUG-19
Thallium (Tl)-Total		<0.0000010	<0.0000010	RPD-NA	mg/dm2.day	N/A	20	01-AUG-19
Tin (Sn)-Total		<0.0000010	<0.0000010	RPD-NA	mg/dm2.day	N/A	20	01-AUG-19
Titanium (Ti)-Total		0.00010	0.00011		mg/dm2.day	4.9	20	01-AUG-19
Uranium (U)-Total		0.00000030	0.00000033		mg/dm2.day	9.8	20	01-AUG-19
Vanadium (V)-Total		<0.000010	<0.000010	RPD-NA	mg/dm2.day	N/A	20	01-AUG-19
Zinc (Zn)-Total		0.00106	0.00102		mg/dm2.day	4.1	20	01-AUG-19
WG3119551-2	LCS							
Aluminum (Al)-Total			103.1		%		80-120	01-AUG-19
Antimony (Sb)-Total			114.8		%		80-120	01-AUG-19
Arsenic (As)-Total			104.9		%		80-120	01-AUG-19
Barium (Ba)-Total			100.5		%		80-120	01-AUG-19
Beryllium (Be)-Total			100.2		%		80-120	01-AUG-19
Bismuth (Bi)-Total			99.8		%		80-120	01-AUG-19
Boron (B)-Total			101.0		%		80-120	01-AUG-19
Cadmium (Cd)-Total			102.0		%		80-120	01-AUG-19
Calcium (Ca)-Total			106.5		%		80-120	01-AUG-19
Chromium (Cr)-Total			104.6		%		80-120	01-AUG-19
Cobalt (Co)-Total			103.9		%		80-120	01-AUG-19
Copper (Cu)-Total			103.4		%		80-120	01-AUG-19
Lead (Pb)-Total			98.3		%		80-120	01-AUG-19
Iron (Fe)-Total			99.5		%		80-120	01-AUG-19
Lithium (Li)-Total			103.2		%		80-120	01-AUG-19
Magnesium (Mg)-Total			103.8		%		80-120	01-AUG-19
Manganese (Mn)-Total			100.4		%		80-120	01-AUG-19
Molybdenum (Mo)-Total			104.2		%		80-120	01-AUG-19
Nickel (Ni)-Total			104.9		%		80-120	01-AUG-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DUST(DM2)-MS-VA		Dustfall						
Batch	R4735913							
WG3119551-2 LCS								
Phosphorus (P)-Total			117.7		%		80-120	01-AUG-19
Potassium (K)-Total			105.1		%		80-120	01-AUG-19
Selenium (Se)-Total			103.2		%		80-120	01-AUG-19
Silicon (Si)-Total			106.3		%		80-120	01-AUG-19
Silver (Ag)-Total			95.9		%		80-120	01-AUG-19
Sodium (Na)-Total			106.2		%		80-120	01-AUG-19
Strontium (Sr)-Total			103.2		%		80-120	01-AUG-19
Thallium (Tl)-Total			97.2		%		80-120	01-AUG-19
Tin (Sn)-Total			103.2		%		80-120	01-AUG-19
Titanium (Ti)-Total			105.4		%		80-120	01-AUG-19
Uranium (U)-Total			103.2		%		80-120	01-AUG-19
Vanadium (V)-Total			103.4		%		80-120	01-AUG-19
Zinc (Zn)-Total			102.5		%		80-120	01-AUG-19
WG3119551-1 MB								
Aluminum (Al)-Total			<0.000069		mg/dm2.day		0.000069	01-AUG-19
Antimony (Sb)-Total			<0.0000023		mg/dm2.day		0.0000023	01-AUG-19
Arsenic (As)-Total			0.0000544	MB-LOR	mg/dm2.day		0.0000023	01-AUG-19
Barium (Ba)-Total			<0.0000012		mg/dm2.day		0.0000012	01-AUG-19
Beryllium (Be)-Total			<0.000012		mg/dm2.day		0.000012	01-AUG-19
Bismuth (Bi)-Total			<0.000012		mg/dm2.day		0.000012	01-AUG-19
Boron (B)-Total			<0.00023		mg/dm2.day		0.00023	01-AUG-19
Cadmium (Cd)-Total			<0.0000012		mg/dm2.day		0.0000012	01-AUG-19
Calcium (Ca)-Total			0.00135	MB-LOR	mg/dm2.day		0.00046	01-AUG-19
Chromium (Cr)-Total			<0.000012		mg/dm2.day		0.000012	01-AUG-19
Cobalt (Co)-Total			<0.0000023		mg/dm2.day		0.0000023	01-AUG-19
Copper (Cu)-Total			0.000020	MB-LOR	mg/dm2.day		0.000012	01-AUG-19
Lead (Pb)-Total			0.0000016	MB-LOR	mg/dm2.day		0.0000012	01-AUG-19
Iron (Fe)-Total			<0.00069		mg/dm2.day		0.00069	01-AUG-19
Lithium (Li)-Total			<0.00012		mg/dm2.day		0.00012	01-AUG-19
Magnesium (Mg)-Total			<0.00012		mg/dm2.day		0.00012	01-AUG-19
Manganese (Mn)-Total			<0.0000023		mg/dm2.day		0.0000023	01-AUG-19
Molybdenum (Mo)-Total			<0.0000012		mg/dm2.day		0.0000012	01-AUG-19
Nickel (Ni)-Total			<0.000012		mg/dm2.day		0.000012	01-AUG-19
Phosphorus (P)-Total			<0.0012		mg/dm2.day		0.0012	01-AUG-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DUST(DM2)-MS-VA	Dustfall							
Batch	R4735913							
WG3119551-1 MB								
Potassium (K)-Total			<0.0012		mg/dm2.day		0.0012	01-AUG-19
Selenium (Se)-Total			<0.000023		mg/dm2.day		0.000023	01-AUG-19
Silicon (Si)-Total			<0.0012		mg/dm2.day		0.0012	01-AUG-19
Silver (Ag)-Total			<0.0000002		mg/dm2.day		0.00000023	01-AUG-19
Sodium (Na)-Total			<0.0012		mg/dm2.day		0.0012	01-AUG-19
Strontium (Sr)-Total			<0.0000023		mg/dm2.day		0.0000023	01-AUG-19
Thallium (Tl)-Total			<0.0000023		mg/dm2.day		0.0000023	01-AUG-19
Tin (Sn)-Total			<0.0000023		mg/dm2.day		0.0000023	01-AUG-19
Titanium (Ti)-Total			<0.00023		mg/dm2.day		0.00023	01-AUG-19
Uranium (U)-Total			<0.0000002		mg/dm2.day		0.00000023	01-AUG-19
Vanadium (V)-Total			<0.000023		mg/dm2.day		0.000023	01-AUG-19
Zinc (Zn)-Total			0.000245	MB-LOR	mg/dm2.day		0.000069	01-AUG-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
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.
MB-LOR	Method Blank exceeds ALS DQO. Limits of Reporting have been adjusted for samples with positive hits below 5x blank level.
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.

Your P.O. #: 4500022601
 Your Project #: TC111504.2015.6
 Site#: 2019/04/01 - 2019/05/02
 Site Location: NEW GOLD - EMO, ON

Attention: GARNET CORNELL

NEW GOLD INC.
 EMO, ON
 5967 HIGHWAY 11/71
 PO BOX 5
 EMO, ON
 CANADA POW 1E0

Report Date: 2019/05/22
 Report #: R2725350
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B935632
Received: 2019/05/13, 10:04

Sample Matrix: Air
 # Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
NO2 Passive Analysis	2	2019/05/13	2019/05/22	PTC SOP-00148	Passive NO2 in ATM
SO2 Passive Analysis	2	2019/05/13	2019/05/22	PTC SOP-00149	Passive SO2 in ATM

This report shall not be reproduced except in full, without the written approval of the laboratory.
 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: LManchak@maxxam.ca
 Phone# (780)378-8542

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

RESULTS OF CHEMICAL ANALYSES OF AIR

Maxxam ID		VR0235	VR0236		
Sampling Date		2019/04/01	2019/04/01		
	UNITS	RRP SOUTH	RRP NORTH	RDL	QC Batch
Passive Monitoring					
Calculated NO2	ppb	1.0	0.4	0.1	9415417
Calculated SO2	ppb	0.2	<0.1	0.1	9415505
RDL = Reportable Detection Limit					

GENERAL COMMENTS

Results relate only to the items tested.

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9415417	YL6	Spiked Blank	Calculated NO2			100	%	90 - 110
9415417	YL6	Method Blank	Calculated NO2		<0.1		ppb	
9415505	OZ	Spiked Blank	Calculated SO2			102	%	90 - 110
9415505	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.

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

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Your P.O. #: 4500022601
 Your Project #: TC111504.2015.6
 Site#: 2019/05/02 - 2019/05/31
 Site Location: NEW GOLD - EMO, ON

Attention: GARNET CORNELL

NEW GOLD INC.
 EMO, ON
 5967 HIGHWAY 11/71
 PO BOX 5
 EMO, ON
 CANADA POW 1E0

Report Date: 2019/06/20
 Report #: R2740286
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B945637

Received: 2019/06/12, 10:54

Sample Matrix: Air
 # Samples Received: 2

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
NO2 Passive Analysis	2	2019/06/13	2019/06/20	PTC SOP-00148	Passive NO2 in ATM
SO2 Passive Analysis	2	2019/06/17	2019/06/20	PTC SOP-00149	Passive SO2 in ATM

This report shall not be reproduced except in full, without the written approval of the laboratory.
 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

=====

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



BUREAU
VERITAS

BV Labs Job #: B945637

Report Date: 2019/06/20

NEW GOLD INC.

Client Project #: TC111504.2015.6

Site Location: NEW GOLD - EMO, ON

Your P.O. #: 4500022601

Sampler Initials: KH

RESULTS OF CHEMICAL ANALYSES OF AIR

BV Labs ID		VW2648	VW2649		
Sampling Date		2019/05/02	2019/05/02		
	UNITS	RRP SOUTH	RRP NORTH	RDL	QC Batch
Passive Monitoring					
Calculated NO2	ppb	1.0	0.3	0.1	9464547
Calculated SO2	ppb	<0.1	<0.1	0.1	9471121
RDL = Reportable Detection Limit					



**BUREAU
VERITAS**

BV Labs Job #: B945637

Report Date: 2019/06/20

NEW GOLD INC.

Client Project #: TC111504.2015.6

Site Location: NEW GOLD - EMO, ON

Your P.O. #: 4500022601

Sampler Initials: KH

GENERAL COMMENTS

Results relate only to the items tested.



BUREAU
VERITAS

BV Labs Job #: B945637

Report Date: 2019/06/20

NEW GOLD INC.

Client Project #: TC111504.2015.6

Site Location: NEW GOLD - EMO, ON

Your P.O. #: 4500022601

Sampler Initials: KH

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9464547	YL6	Spiked Blank	Calculated NO2			99	%	90 - 110
9464547	YL6	Method Blank	Calculated NO2		<0.1		ppb	
9471121	OZ	Spiked Blank	Calculated SO2			100	%	90 - 110
9471121	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 #: B945637
Report Date: 2019/06/20

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

VALIDATION SIGNATURE PAGE

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<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#: 2019/05/31 - 2019/07/02
 Site Location: NEW GOLD - EMO, ON

Attention: GARNET CORNELL

NEW GOLD INC.
 EMO, ON
 5967 HIGHWAY 11/71
 PO BOX 5
 EMO, ON
 CANADA POW 1E0

Report Date: 2019/07/18
 Report #: R2754365
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B955233

Received: 2019/07/10, 10:38

Sample Matrix: Air
 # Samples Received: 2

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
NO2 Passive Analysis	2	2019/07/15	2019/07/18	PTC SOP-00148	Passive NO2 in ATM
SO2 Passive Analysis	2	2019/07/15	2019/07/18	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 #: B955233

Report Date: 2019/07/18

NEW GOLD INC.

Client Project #: TC111504.2015.6

Site Location: NEW GOLD - EMO, ON

Your P.O. #: 4500022601

Sampler Initials: KH

RESULTS OF CHEMICAL ANALYSES OF AIR

BV Labs ID		WB3945	WB3946		
Sampling Date		2019/05/31	2019/05/31		
	UNITS	RRP SOUTH	RRP NORTH	RDL	QC Batch
Passive Monitoring					
Calculated NO2	ppb	0.6	0.5	0.1	9507307
Calculated SO2	ppb	<0.1	<0.1	0.1	9507450
RDL = Reportable Detection Limit					



**BUREAU
VERITAS**

BV Labs Job #: B955233

Report Date: 2019/07/18

NEW GOLD INC.

Client Project #: TC111504.2015.6

Site Location: NEW GOLD - EMO, ON

Your P.O. #: 4500022601

Sampler Initials: KH

GENERAL COMMENTS

Travel blank result for SO₂ exceeded acceptance criteria of >RDL. Possible contamination may have occurred. Sample results have been blank subtracted.

Results relate only to the items tested.



BUREAU
VERITAS

BV Labs Job #: B955233

Report Date: 2019/07/18

NEW GOLD INC.

Client Project #: TC111504.2015.6

Site Location: NEW GOLD - EMO, ON

Your P.O. #: 4500022601

Sampler Initials: KH

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9507307	YL6	Spiked Blank	Calculated NO2			99	%	90 - 110
9507307	YL6	Method Blank	Calculated NO2		<0.1		ppb	
9507450	OZ	Spiked Blank	Calculated SO2			102	%	90 - 110
9507450	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 #: B955233
Report Date: 2019/07/18

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

VALIDATION SIGNATURE PAGE

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<original signed by>

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APPENDIX D

PQ200 & TE-5170 CALIBRATION SHEETS – Q2 2019

MFC SAMPLER CALIBRATION SHEET



Site Name Tait Road Station
 Project New Gold Rainy River
 Site Operator Environment

Date 2019-06-28

Start Time 12:22

Stop Time 12:36

Sampler Information:
 Manufacturer: Tish Environmental
 Model: TE-5170
 Serial #: 3150

Pre-Calibration Chart Flow Reading 50

Post-Calibration Chart Flow Reading 44

Ambient Conditions:

Pa (in Hg) 28.70

Pa (mm Hg) 724

Ta (°C) 26.2

Ta (°K) 299

Calibration Orifice Information:

Orifice S/N 3662

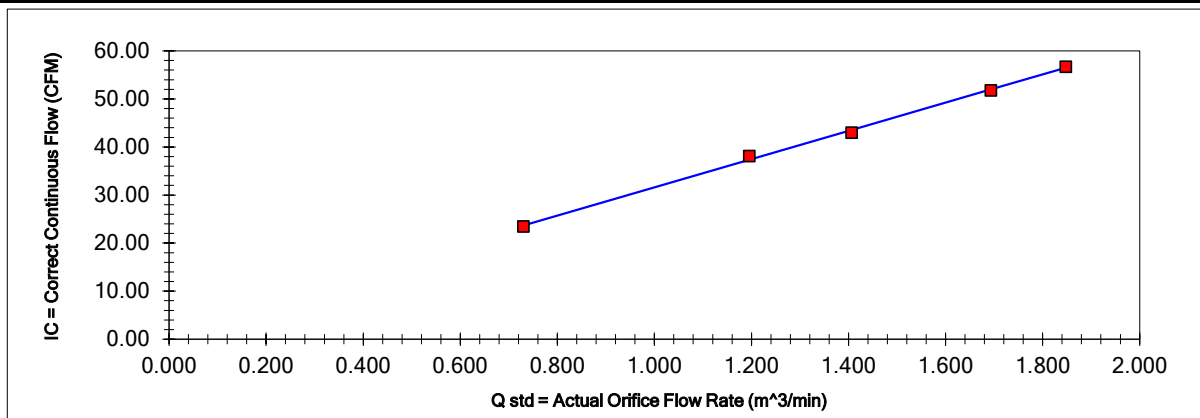
Calibration Date 2019-06-17

Orifice cal relationship:

m = 1.67950

b = -0.0291

Flow Rate Reading	Orifice Delta H ₂ O (in)	X axis = Qstd Orifice Flow (m ³ /min) ^{Eq. 1}	I = Continuous Flow (Chart Reading)	Y axis = IC Correct Continuous Flow ^{Eq. 2} (Chart Corrected)
1	9.20	1.776	66.00	64.29
2	8.60	1.718	64.00	62.34
3	6.80	1.530	59.00	57.47
4	5.40	1.365	52.00	50.65
5	3.40	1.087	45.00	43.83



(Eq. 1) $Q_{std} = 1/m[\sqrt{(H_2O)(Pa/760)(298/Ta)}] - b$

(Eq. 2) $IC = I[\sqrt{(Pa/760)(298/Ta)}]$

Sampler Calibration Relationship (Qstd on x-axis; IC on y-axis):

m (slope) = 30.1526

b (intercept) = 10.6316

r (correlation)* = 0.9965

Average Sampler Flow: 1.2626 m³/min**

**The acceptable operating flow range of a TSP sampler is 1.1 to 1.7 m³/min

Estimated Sampler Volume (24-hours): 1818.2009 m³

*A correlation coefficient (r) below 0.990 indicates a calibration is not linear, this is most likely due to an air leak. A calibration should be performed again.

 = cell containing equations

Comments

Calibrated By Kelsea Hunsperger

MFC SAMPLER CALIBRATION SHEET



Site Name Gallinger Road Station
 Project New Gold Rainy River
 Site Operator Environment

Date 2019-06-28 Start Time 11:38
 Stop Time 11:50

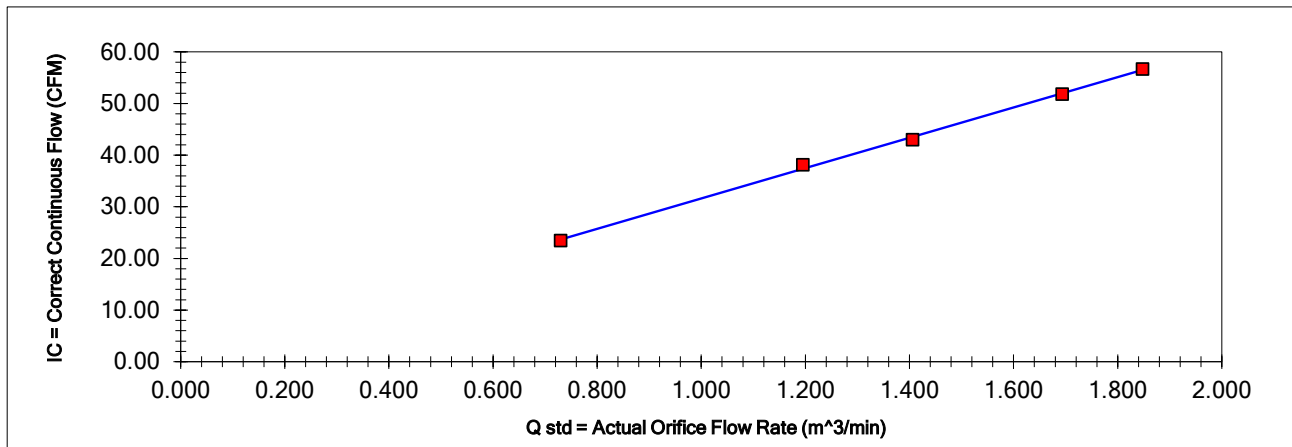
Sampler Information:
 Manufacturer: Tish Environmental
 Model: TE-5170
 Serial #: 3105

Pre-Calibration Chart Flow Reading 42
 Post-Calibration Chart Flow Reading 42

Ambient Conditions:
 Pa (in Hg) 28.74 Pa (mm Hg) 725 Ta (°C) 24.8 Ta (°K) 298

Calibration Orifice Information:
 Orifice S/N 3662 Calibration Date 2019-06-17
 Orifice cal relationship: m= 1.67950 b = -0.0291

Flow Rate Reading	Orifice Delta H ₂ O (in)	X axis = Qstd Orifice Flow (m ³ /min) ^{Eq. 1}	I = Continuous Flow (Chart Reading)	Y axis = IC Correct Continuous Flow ^{Eq. 2} (Chart Corrected)
1	9.90	1.848	58.00	56.67
2	8.30	1.693	53.00	51.78
3	5.70	1.406	44.00	42.99
4	4.10	1.195	39.00	38.10
5	1.50	0.730	24.00	23.45



(Eq. 1) $Q_{std} = 1/m[\text{Sqrt}((H_2O)(Pa/760)(298/Ta))-b]$

(Eq. 2) $IC = I[\text{Sqrt}((Pa/760)(298/Ta))]$

Sampler Calibration Relationship (Qstd on x-axis; IC on y-axis):

m (slope) = 29.3793
 b (intercept) = 2.2183
 r (correlation)* = 0.9993

Average Sampler Flow: 1.2547 m³/min**

**The acceptable operating flow range of a TSP sampler is 1.1 to 1.7 m³/min

Estimated Sampler Volume (24-hours): 1806.7989 m³

*A correlation coefficient (r) below 0.990 indicates a calibration is not linear, this is most likely due to an air leak. A calibration should be performed again.

 = cell containing equations

Comments

Calibrated By Kelsea Hunsperger

PQ200 Calibration Sheet

Calibrated By: Kelsea Hunsperger
Date: 2019/06/28
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: 12:42
Displayed Time: 12:42
Displayed Year: 2019
Displayed Date: 28 Jun

Ambient Temperature (°C):

PQ200 Reading: 26.4
Actual Reading: 25
Difference (+/- 2°C): 1.4
Temp Reset (Y/N): N

Ambient Barometric Pressure (mmHg):

PQ200 Reading: 730
Actual Reading: 731.5
Difference (+/- 10mmHg): 1.5
Reset (Y/N): N

Flow Check (LPM):

Target Flow: 16.70
Measured Flow: 16.61
Difference (+/- 2%): 0.09 (0.5%)
3 Point Flow Calibration (Y/N):N

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: 2019/06/28
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: 11:46
Displayed Time: 11:46
Displayed Year: 2019
Displayed Date: 28 Jun

Ambient Temperature (°C):

PQ200 Reading: 27.7
Actual Reading: 27.8
Difference (+/- 2°C): 0.1
Temp Reset (Y/N): N

Ambient Barometric Pressure (mmHg):

PQ200 Reading: 730
Actual Reading: 730.5
Difference (+/- 10mmHg): 0.5
Reset (Y/N): N

Flow Check (LPM):

Target Flow: 16.70
Measured Flow: 16.81
Difference (+/- 2%): 0.11 (0.7%)
3 Point Flow Calibration (Y/N):N

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:
