Appendix 15: 2022 Stack Testing Report

SOURCE EMISSION SURVEY REPORT

Performed by Bureau Veritas Canada (2019) Inc.

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AGNICO EAGLE MINES LIMITED

MELIADINE MINE, RANKIN INLET, NUNAVUT
INCINERATOR STACK
Project # 2779

August 31 - September 8, 2022

SES-2022-20220831 to 20220908-Incinerator Stack

Attention: MATT GILLMAN

Report Date: March 13, 2023

Prepared by:

Nazek AL-Hadi

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Reviewed by:

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Calgary Source Supervisor - Emission Services

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ACRONYMS AND ABBREVIATIONS

ABS: *Absorption*
Avg: *Average*
BV: *Bureau Veritas Canada (2019) Inc. (Bureau Veritas)*
°C: *Degrees Celsius*
CALA: *Canadian Association for Laboratory Accreditation*
CDD: *Chloro Dibenzo-p-Dioxin*
CDF: *Chloro Dibenzo-p-Furan*
CO: *Carbon Monoxide*
CO2: *Carbon Dioxide*
Cond: *Conditions*
CVAAS: *Cold Vapor Atomic Absorption Spectroscopy*
ECCC: *Environment and Climate Change Canada*
EDL: *Estimated Detection Limit*
GCMS: *Gas Chromatograph Mass Spectrometry*
GC TCD: *Gas Chromatograph With a Thermal Conductivity Detector*
H2: *Hydrogen*
H2O: *Moisture/Water*
ICP: *Inductively Coupled Plasma Emission Spectroscopy*
ICP-MS: *Inductively Coupled Plasma Emission Spectroscopy – Mass Spectroscopy*
ISO: *Isokinetic*
EMS: *Emission Services*
EPA: *Environmental Protection Agency*
EPS: *Environmental Protection Series*
K: *Kelvin*
MDL: *Method Detection Limit*
MW: *Molecular Weight*
N/A: *Not Applicable*
N/D: *Valid Data Not Available*
NIST: *National Institute of Standards and Technology*
N2: *Nitrogen*
NO: *Nitrogen Oxide*
NO2: *Nitrogen Dioxide*
NOx: *Oxides of Nitrogen*
O2: *Oxygen*
PCDDs: *Polychlorinated Dibenzo-para-Dioxins*
PCFDs: *Polychlorinated Dibenzofurans*
Press: *Pressure*
RDL: *Reportable Detection Limit*
Ref: *Reference*
RM: *Reference Method*
SES: *Source Emission Survey*
SO2: *Sulphur Dioxide*
SVOC: *Semi-Volatile Organic Compounds*
TEF: *Toxic Equivalency Factor*
TEQ: *Toxic Equivalency Quotient*
v/v: *Volume/Volume*
WI: *Work Instruction*
QA: *Quality Assurance*
QC: *Quality Control*

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March 13, 2023

Project #: 2779

Agnico Eagle Mines Limited
Meliadine Mine
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Attention: Matt Gillman, Environment Superintendent
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Subject: September 2022 - Agnico Eagle Mines Limited - Source Emission Survey Report

On August 31 - September 08, 2022, the Emission Services Group of Bureau Veritas conducted a Source Emission Survey on the Incinerator Stack at the Agnico Eagle Mines Limited, Meliadine Mine, Rankin Inlet, Nunavut. Sampling was carried out to determine the concentrations and emission rates of compliance parameters as laid out in the Government of Nunavut Environmental Guideline for the Burning and Incineration of Solid Waste.

SUMMARY OF SOURCE EMISSION SURVEY RESULTS

Sample Dates	Parameter	Units	Test 1	Test 2	Test 3	Overall Average	Approval Limits	In Compliance:
Aug 31- Sept 2, 2022	Particulate Matter - Front Half	kg/hr wet	0.1454	0.0500	0.0427	0.0794	N/A	N/A
Aug 31- Sept 2, 2022	Hydrochloric Acid Gas	kg/hr wet	0.0873	0.0790	0.0826	0.0830	N/A	N/A
Aug 31- Sept 2, 2022	Chlorine*	kg/hr wet	< 0.0000	< 0.0000	< 0.0000	< 0.0000	N/A	N/A
Aug 31- Sept 2, 2022	NOx	kg/hr wet	0.73	0.74	0.77	0.75	N/A	N/A
Aug 31- Sept 2, 2022	Carbon Monoxide*	kg/hr wet	< 0.0254	< 0.0243	< 0.0249	< 0.0248	N/A	N/A
Aug 31- Sept 2, 2022	Metals**	ug/m^3 dry @ 11% O_2	293.2065	400.0186	339.1058	344.1103	N/A	N/A
Aug 31- Sept 2, 2022	Class One Metals**	ug/m^3 dry @ 11% O_2	214.4775	323.5396	277.5758	271.8643	N/A	N/A
Aug 31- Sept 2, 2022	Class Two Metals**	ug/m^3 dry @ 11% O_2	60.4406	62.7127	49.7222	57.6252	N/A	N/A
Aug 31- Sept 2, 2022	Class Three Metals**	ug/m^3 dry @ 11% O_2	1.2358	1.1093	0.9958	1.1136	N/A	N/A
Aug 31- Sept 2, 2022	Mercury**	ug/m^3 dry @ 11% O_2	0.0367	0.0202	0.0102	0.0224	20 ug/m^3 @ 11% O_2	Yes
Sep 6- Sep 8, 2022	Sulphur Dioxide	kg/hr wet	0.105	0.099	0.047	0.084	N/A	N/A
Sep 6- Sep 8, 2022	Total PCDDs**	ng/m^3 dry @ 11% O_2	0.0224	0.0110	0.0231	0.0188	N/A	N/A
Sep 6- Sep 8, 2022	Total PCDFs**	ng/m^3 dry @ 11% O_2	0.1593	0.0580	0.0807	0.0994	N/A	N/A
Sep 6- Sep 8, 2022	Total 2378 Toxic Equivalent**	pg/m^3 dry @ 11% O_2	3.9608	2.1274	1.8642	2.6508	80 pg/m^3 @ 11% O_2	Yes

Reference conditions are 25 °C and 760 mmHg
N/A - not applicable
**When analytical results are less than the MDL, the MDL has been used to calculate emission results.*
***When analytical results are less than the MDL, zero has been used to calculate emission results.*

Report Preparation By:

Nazek AL-Hadi

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I certify that I have reviewed and verified this report and that the information is complete, accurate and representative of the monitoring results, reporting timeframe and the specified analysis, summarization and reporting requirements. Certification of submitted information is specific to the contents of this report and is not intended to represent the onus of the Person Responsible.

SUMMARY

On August 31 - September 08, 2022, the Emission Services Group of Bureau Veritas conducted a Source Emission Survey on the Incinerator Stack at the Agnico Eagle Mines Limited, Meliadine Mine, Rankin Inlet, Nunavut. Sampling was carried out to determine the concentrations and emission rates of compliance parameters as laid out in the Government of Nunavut Environmental Guideline for the Burning and Incineration of Solid Waste.

All sampling, analysis, and QA/QC for this project was performed by Bureau Veritas and complies with the applicable protocols (US EPA Code of Federal Regulations and ECCC Reference Method EPS 1/RM/8). The results are therefore considered to be representative of the source during the testing period. All tests were compliant with the approval limits outlined in the Environmental Guideline for the Burning and Incineration of Solid Waste.

The Source Emission Survey was conducted by Patrick Vien and Godson Odumodu.

The following sampling and analytical methods were used to complete the test program:

US EPA Method 29 - Particulate Matter (Front Half)
US EPA Method 29 - Metals
EPS 1/RM/2 – Semi-Volatile Organic Compounds
US EPA Method 7A - Oxides of Nitrogen
US EPA Method 6 - Sulphur Dioxide
US EPA Method 26 - Hydrogen Halides and Halogens
US EPA Method 10 - Carbon Monoxide
US EPA Method 3 - Fixed Gas Composition and Molecular Weights by GC
US EPA Methods 1,2,3,and 4 – Temperature, Flue gas Composition and Molecular Weight, Water Determination, Velocity, Flow

Stratification was addressed by taking a full flow traverse measurement on each sample port.

Bureau Veritas has confirmed the absence of cyclonic flow based off of historical measurements which have been reconfirmed by the approval holder.

The summary of results are presented on the following pages. Reference conditions for this report are 25 °C and 760 mmHg.

Any deviations or modifications made to the sampling or analytical methods are outlined in Section 1.0 Discussion. On this basis, Bureau Veritas is issuing this completed report to Agnico Eagle Mines Limited, Nunavut, Canada.

We trust that this report meets your requirements. If you have any questions regarding this project, please contact us by email at nazek.al-hadi@bureauveritas.com or toll-free at 1-800-386-7247.

SUMMARY OF SOURCE EMISSION SURVEY RESULTS

INCINERATOR STACK
MELIADINE MINE

		Test #1	Test #2	Test #3	Averages
	Date	31-Aug-22	01-Sep-22	02-Sep-22	
	Start Time	14:30	13:20	14:15	
	End Time	16:45	15:35	16:30	
Particulate Matter - Front Half Only	**- mg/m³ wet**	24.17	8.70	7.27	13.38
	- mg/m³ dry	26.20	9.44	7.87	14.50
	- g/kg wet	0.0208	0.0075	0.0062	0.0115
	- g/kg dry	0.0218	0.0078	0.0065	0.0121
- Mass Flow Rate	**- kg/hr wet**	0.1454	0.0500	0.0427	0.0794
Hydrochloric Acid Gas Concentration	**- ppmv wet**	9.7320	9.2192	9.4336	9.4616
	- ppmv dry	10.5515	10.0102	10.2155	10.2590
	- mg/m³ wet	14.5036	13.7394	14.0590	14.1007
	- mg/m³ dry	15.7249	14.9182	15.2242	15.2891
- Mass Flow Rate	**- kg/hr wet**	0.0873	0.0790	0.0826	0.0830
Chlorine Concentration*	**- ppmv wet**	< 0.0012	< 0.0013	< 0.0013	< 0.0013
	- ppmv dry	< 0.0014	< 0.0014	< 0.0014	< 0.0014
	- mg/m³ wet	< 0.0036	< 0.0037	< 0.0036	< 0.0036
	- mg/m³ dry	< 0.0039	< 0.0040	< 0.0039	< 0.0040
- Mass Flow Rate	**- kg/hr wet**	< 0.0000	< 0.0000	< 0.0000	< 0.0000
Oxides of Nitrogen Concentration	**- ppmv wet**	64.52	68.46	70.08	67.69
(as NO_2)	**- ppmv dry**	69.95	74.33	75.89	73.39
	- mg/m³ wet	121.31	128.72	131.77	127.27
	- mg/m³ dry	131.53	139.76	142.69	137.99
- Mass Flow Rate	**- kg/hr wet**	0.73	0.74	0.77	0.75
Carbon Monoxide Concentration*	**- ppmv wet**	< 3.6893	< 3.6839	< 3.6939	< 3.6890
	- ppmv dry	< 4.0000	< 4.0000	< 4.0000	< 4.0000
	- mg/m³ wet	< 4.2238	< 4.2176	< 4.2290	< 4.2235
	- mg/m³ dry	< 4.5795	< 4.5795	< 4.5795	< 4.5795
- Mass Flow Rate	**- kg/hr wet**	< 0.0254	< 0.0243	< 0.0249	< 0.0248
Metals Concentration ****	**- mg/m³ wet**	0.2079	0.2880	0.2768	0.2576
	- mg/m³ dry	0.2254	0.3127	0.2997	0.2793
	- mg/m³ dry @ 11% O_2	0.2932	0.4000	0.3391	0.3441
	- ug/m³ dry @ 11% O_2	293.2065	400.0186	339.1058	344.1103
- Mass Flow Rate	**- g/hr wet**	1.2511	1.6568	1.6271	1.5117
Class One**	**- mg/m³ wet**	0.1521	0.2330	0.2266	0.2039
	- mg/m³ dry	0.1649	0.2529	0.2453	0.2210
	- mg/m³ dry @ 11% O_2	0.2145	0.3235	0.2776	0.2719
	- ug/m³ dry @ 11% O_2	214.4775	323.5396	277.5758	271.8643
- Mass Flow Rate	**- g/hr wet**	0.9152	1.3400	1.3319	1.1957
Class Two**	**- mg/m³ wet**	0.0429	0.0452	0.0406	0.0429
	- mg/m³ dry	0.0465	0.0490	0.0439	0.0465
	- mg/m³ dry @ 11% O_2	0.0604	0.0627	0.0497	0.0576
	- ug/m³ dry @ 11% O_2	60.4406	62.7127	49.7222	57.6252
- Mass Flow Rate	**- g/hr wet**	0.2579	0.2597	0.2386	0.2521
Class Three**	**- mg/m³ wet**	0.0009	0.0008	0.0008	0.0008
	- mg/m³ dry	0.0009	0.0009	0.0009	0.0009
	- mg/m³ dry @ 11% O_2	0.0012	0.0011	0.0010	0.0011
	- ug/m³ dry @ 11% O_2	1.2358	1.1093	0.9958	1.1136
- Mass Flow Rate	**- g/hr wet**	0.0053	0.0046	0.0048	0.0049
Mercury Concentration**	**- mg/m³ wet**	0.0000	0.0000	0.0000	0.0000
	- mg/m³ dry	0.0000	0.0000	0.0000	0.0000
	- mg/m³ dry @ 11% O_2	0.0000	0.0000	0.0000	0.0000
	- ug/m³ dry @ 11% O_2	0.0367	0.0202	0.0102	0.0224
Approval Limit	**- ug/m³ @ 11% O_2**				**20 PASS**

Reference conditions are 25 °C and 760 mmHg

**When analytical results are less than the MDL, the MDL has been used to calculate emission results.*

*** When analytical results are less than the MDL, zero has been used to calculate emission results.*

SUMMARY OF SOURCE EMISSION SURVEY RESULTS

INCINERATOR STACK
MELIADINE MINE

		Test #1	Test #2	Test #3	Averages
	Date	31-Aug-22	01-Sep-22	02-Sep-22	
	Start Time	14:30	13:20	14:15	
	End Time	16:45	15:35	16:30	
Stack Height	**- m**	11.10	11.10	11.10	11.10
Stack Diameter	**- m**	0.98	0.98	0.98	0.98
Average Gas Temperature	**- DegC**	887.46	880.75	861.83	876.68
Average Gas Velocity	**- m/s wet**	8.67	8.44	8.42	8.51
Total Effluent Flow Rate	**- Rm^3/s wet**	1.67	1.60	1.63	1.63
Dry Effluent Flow Rate	**- Rm^3/s dry**	1.54	1.47	1.51	1.51
Water Concentration	**- mole %**	7.77	7.90	7.65	7.77
- Mass Flow Rate	**- t/hr wet**	0.34	0.33	0.33	0.34
Oxygen Concentration - Tedlar Bag	**- mole % wet**	12.26	12.12	11.22	11.87
	- mole % dry	13.29	13.16	12.15	12.87
- Mass Flow Rate	**- t/hr wet**	0.97	0.91	0.86	0.91
Carbon Dioxide Concentration - Tedlar Bag	**- mole % wet**	4.72	5.22	5.61	5.18
	- mole % dry	5.12	5.67	6.07	5.62
- Mass Flow Rate	**- t/hr wet**	0.51	0.54	0.59	0.55
Oxygen Concentration - Glass Bomb	**- mole % wet**	12.10	11.01	10.74	11.28
	- mole % dry	13.12	11.95	11.63	12.23
- Mass Flow Rate	**- t/hr wet**	0.95	0.83	0.83	0.87
Carbon Dioxide Concentration - Glass Bomb	**- mole % wet**	5.22	6.17	6.35	5.91
	- mole % dry	5.66	6.70	6.88	6.41
- Mass Flow Rate	**- t/hr wet**	0.57	0.64	0.67	0.63
Isokinetics	**- %**	103.11%	102.55%	102.70%	

Reference conditions are 25 °C and 760 mmHg

SUMMARY OF SOURCE EMISSION SURVEY RESULTS

INCINERATOR STACK
MELIADINE MINE

		Test #1	Test #2	Test #3	Averages
	Date	06-Sep-22	06-Sep-22	08-Sep-22	
	Start Time	10:00	14:35	06:20	
	End Time	14:10	18:50	10:30	
Sulphur Dioxide Concentration	**- ppmv wet**	6.837	6.694	2.989	5.507
	- ppmv dry	7.491	7.203	3.271	5.988
	- mg/m^3 wet	17.904	17.527	7.826	14.419
	- mg/m^3 dry	19.615	18.861	8.566	15.681
- Mass Flow Rate	**- kg/hr wet**	0.105	0.099	0.047	0.084
Total PCDDs *	**- ng/m^3 dry basis***	0.0197	0.0098	0.0204	0.0166
	- ng/m^3 dry @ 11% O_2*	0.0224	0.0110	0.0231	0.0188
- Mass Flow Rate	**- ug/hr dry***	0.1048	0.0515	0.1115	0.0893
Total PCDFs *	**- ng/m^3 dry basis***	0.1398	0.0514	0.0711	0.0875
	- ng/m^3 dry @ 11% O_2*	0.1593	0.0580	0.0807	0.0994
- Mass Flow Rate	**- ug/hr dry***	0.7447	0.2707	0.3899	0.4685
Total 2378 Toxic Equivalent *	**- ng/m^3 dry basis***	0.0035	0.0019	0.0016	0.0023
	- ng/m^3 dry @ 11% O_2*	0.0040	0.0021	0.0019	0.0027
	- pg/m^3 dry @ 11% O_2	3.9608	2.1274	1.8642	2.6508
Approval Limit	**- pg/m^3 @ 11% O2**				**80 PASS**
- Mass Flow Rate	**- ug/hr dry***	0.0185	0.0099	0.0090	0.0125
Stack Height	**- m**	11.10	11.10	11.10	11.10
Stack Diameter	**- m**	0.98	0.98	0.98	0.98
Average Gas Temperature	**- DegC**	863.19	871.96	820.06	851.74
Average Gas Velocity	**- m/s wet**	8.43	8.25	8.51	8.40
Total Effluent Flow Rate	**- Rm^3/s wet**	1.62	1.57	1.67	1.62
Dry Effluent Flow Rate	**- Rm^3/s dry**	1.48	1.46	1.52	1.49
Water Concentration	**- mole %**	8.73	7.07	8.64	8.15
- Mass Flow Rate	**- t/hr wet**	0.37	0.29	0.38	0.35
Oxygen Concentration - Tedlar Bag	**- mole % wet**	11.15	11.27	11.13	11.18
	- mole % dry	12.22	12.13	12.18	12.18
- Mass Flow Rate	**- t/hr wet**	0.85	0.84	0.87	0.85
Carbon Dioxide Concentration - Tedlar Bag	**- mole % wet**	5.68	5.87	5.68	5.74
	- mole % dry	6.22	6.32	6.22	6.25
- Mass Flow Rate	**- t/hr wet**	0.60	0.60	0.61	0.60
Oxygen Concentration - Glass Bomb	**- mole % wet**	10.96	11.11	10.94	11.00
	- mole % dry	12.01	11.96	11.97	11.98
- Mass Flow Rate	**- t/hr wet**	0.84	0.82	0.86	0.84
Carbon Dioxide Concentration - Glass Bomb	**- mole % wet**	6.22	6.35	6.23	6.26
	- mole % dry	6.81	6.83	6.82	6.82
- Mass Flow Rate	**- t/hr wet**	0.65	0.65	0.67	0.66
Carbon Monoxide Concentration**	**- mole % wet**	< 0.0004	< 0.0004	< 0.0004	< 0.0004
	- mole % dry	< 0.0004	< 0.0004	< 0.0004	< 0.0004
- Mass Flow Rate	**- kg/hr wet**	< 0.0244	< 0.0241	< 0.0251	< 0.0245
Isokinetics	**- %**	102.68%	101.33%	101.51%	

Reference conditions are 25 °C and 760 mmHg
** When analytical results are less than the MDL, zero has been used to calculate emission results.*
***When analytical results are less than the MDL, the MDL has been used to calculate emission results.*

TABLE OF CONTENTS

1.0 Discussion

The Source Emission Survey (SES) consisted of 3 test runs for each of the test parameters listed in 4.0 Sampling and Analytical Test Methods, extracted from the Incinerator Stack between August 31 - September 8, 2022. The results of all individual test runs were used in the calculations for this stack survey. The arithmetic average of all test runs were used to assess compliance with the limits stated in the Government of Nunavut Environmental Guideline for the Burning and Incineration of Solid Waste. The monitoring results were all compliant with the emissions limits stated in the Government of Nunavut Environmental Guideline.

Points 28, 42, 44 and 45 in the EPS 1/RM/2 – Semi-Volatile Organic Compounds test 3 conducted on September 8, 2022, exceeded the allowable isokinetics range of 90% - 110%, with values of 119.2%, 89.7%, 86.3% and 110.2 %, respectively. The overall isokientic average of test 3 was acceptable, at 101.5%, therefore test 3 is still valid.

Stratification was addressed by taking a full flow traverse measurement on each sample port.

Bureau Veritas has confirmed the absence of cyclonic flow based off of historical measurements which have been reconfirmed by the approval holder.

There were no operational or analytical problems encountered during the field sampling or sample analysis. The values reported are considered to be representative of the conditions that existed during the testing period.

2.0 Sampling Personnel

Randy Schwandt and Brett Fairbairn were the Environment Coordinators and points of contact on site for Agnico Eagle Mines Limited during testing, and the Bureau Veritas field sampling team consisted of Patrick Vien, Project Lead and Godson Odumodu, Field Technician.

3.0 Plant Operating Parameters & Process Description

Bureau Veritas sampling team members were not made aware of any plant operating variances or upsets during the time of sampling. All sampling was conducted during steady plant operating conditions. If a plant upset were to occur, the field team would halt sampling, remove the probe from the stack and seal the inlet with an inert plug until the plant process was back at normal operating conditions. At this time the probe would be unsealed and placed back into the stack and sampling would resume.

4.0 Sampling and Analytical Test Methods

US EPA Method 29 - Particulate Matter (Front Half)

Particulate matter was collected and analyzed following the protocols in Method #29 - Determination of Metals Emissions from Stationary Sources as outlined in the US EPA Code of Federal Regulations. Particulate matter is withdrawn isokinetically from the source and collected heated, high-purity, quartz-glass fibre filter. The sample was then passed through a series of impingers containing known volumes of an aqueous acidified solution of hydrogen peroxide and an aqueous acidic solution of potassium permanganate (4% KMnO4/10% H2SO4).

US EPA Method 29 - Metals

Metals samples were collected and analyzed following the protocols in Method #29 - Determination of Metals Emissions from Stationary Sources as outlined in the US EPA Code of Federal Regulations. Samples were collected isokinetically through a heated, Teflon™ or quartz glass lined stainless steel sampling probe and captured on a heated, high-purity, quartz-glass fibre filter. The sample was then passed through a series of impingers containing known volumes of an aqueous acidified solution of hydrogen peroxide and an aqueous acidic solution of potassium permanganate (4% KMnO4/10% H2SO4).

The samples from the probe wash, filter paper, and in the empty and HNO3/H2O2 impingers were analyzed for all target metals, including mercury. The samples from the KMnO4/H2SO4 impinger were analyzed for mercury only. These recovered samples were digested and the appropriate fractions were analyzed for Hg by cold vapor atomic absorption spectroscopy (CVAAS). Inductively coupled plasma emission spectroscopy (ICP) or inductively coupled plasma emission spectroscopy – mass spectroscopy (ICP-MS) were used to analyze for all other target metals.

Class I	***Class II***	***Class III***	***Additional***	
Antimony	Arsenic	Cadmium	Barium	Phosphorous
Copper	Chromium	Mercury	Beryllium	Silver
Lead	Cobalt	Thallium	Boron	Strontium
Manganese	Nickel		Lithium	Titanium
Vanadium	Selenium		Magnesium	
Zinc	Tellurium			

EPS 1/RM/2 Semi-Volatile Organic Compounds

Semi-volatile organic compounds were sampled following the protocols in Report EPS 1/RM/2 – Reference Method for Source Testing: Measurement of Releases of Selected Semi-Volatile Organic Compounds from Stationary Sources: Pollution Measurement Division, River Road Technology Centre, Conservation and Protection, Environment Canada. The samples were collected isokinetically through a glass or Teflon™ lined stainless steel sampling probe and captured on heated glass fibre filters. The sample was then passed through a condenser and Amberlite XAD-2 resin, followed by a series of impingers. Analysis was by GCMS, following the protocols in Reference Method EPS 1/RM/3 (revised) – A Method for the Analysis of Polychlorinated Dibenzo-para-Dioxins (PCDDs), Polychlorinated Dibenzofurans (PCDFs) and Polychlorinated Biphenyls (PCBs) in Samples from the Incineration of PCB Waste, Issued by Environment Canada. Samples were also analyzed for Chlorobenzenes by GCMS.

US EPA Method 7A - Oxides of Nitrogen

Oxides of nitrogen samples were collected following the protocols in Method #7A - Determination of Nitrogen Oxide Emissions from Stationary Sources (Ion Chromatographic Method), as outlined in the US EPA Code of Federal Regulations. Grab samples are collected in evacuated flasks containing a dilute sulphuric acid-hydrogen peroxide absorbing solution. The nitrogen oxides, excluding nitrous oxide, were oxidized to nitrate, measured using ion chromatography, and reported as NO2 equivalent.

US EPA Method 6 - Sulphur Dioxide

Sulphur dioxide samples were collected and analyzed following the protocols in Method #6 - Determination of Sulphur Dioxide Emissions from Stationary Sources, as outlined in the US EPA Code of Federal Regulations. This method uses the constant sampling technique listed as an approved alternative in Section 1.2 of the method, and the isopropyl alcohol impinger has been removed, as sulphuric acid mist was not sampled for. A gas sample is extracted at a constant sampling rate from a source. The sulphur dioxide is measured by ion chromatograph following standard procedures.

US EPA Method 26 - Hydrogen Halides and Halogens

Halogen Halide and Halogen samples were collected and analyzed following the protocols in Method #26 – Determination of Hydrogen Halide and Halogen Emissions from Stationary Sources, as outlined in the US EPA Code of Federal Regulations. An integrated sample is extracted at a constant rate from the source and passed through dilute sulphuric acid and dilute sodium hydroxide solutions, which collect the hydrogen halides and halogens, respectively. The separate solutions are then analyzed by ion chromatograph.

US EPA Method 10 - Carbon Monoxide

Carbon monoxide was sampled and analyzed following the protocols in Method #10 – Determination of Carbon Monoxide Emissions from Stationary Sources, as outlined in the US EPA Code of Federal Regulations. Samples were collected using the integrated bag sampling technique, and were stored in a sealed cooler upon completion of the test. Samples were analyzed using a gas chromatograph with a thermal conductivity detector (GC TCD), which has lower method and reportable detection limits than the Luft-type nondispersive infrared analyzer (NDIR) mentioned in the method.

US EPA Method 3 - Fixed Gas Composition and Molecular Weights by GC

Fixed gas samples were collected using the integrated bag sampling technique following the protocols in Method #3 - Gas Analysis for the Determination of Molecular Weight as outlined in the US EPA Code of Federal Regulations. Compositional analysis was by gas chromatography.

US EPA Method 3 - Fixed Gas Composition and Molecular Weights by Fyrites

Fixed gas sampling and analysis for Oxygen and Carbon Dioxide was performed on site using Fyrite™ analyzers, following the protocols in Method #3 - Gas Analysis for the Determination of Molecular Weights as outlined in the US EPA Code of Federal Regulations. Values for Nitrogen and Carbon Monoxide were obtained by difference.

US EPA Method 4 - Flue Gas Moisture Content

Flue gas moisture content was determined simultaneously with the target parameter sample runs following the protocols in Method #4 as outlined in the US EPA Code of Federal Regulations. Moisture was measured volumetrically for each sample run.

US EPA Method 2 - Flue Gas Velocities and Volumetric Rates

Flue gas velocities and volumetric flow rates were determined following the protocols in Method # 2 - Determination of Stack Gas Velocity and Volumetric Flow Rates (Type S Pitot Tube) as outlined in the US EPA Code of Federal Regulations. An S-type pitot tube and oil manometer capable of detecting pressure differences of 0.005 inches of water were used for these determinations.

US EPA Method 2 - Stack Temperatures

Stack temperatures were determined using a calibrated type "K" thermocouple and digital thermometer.

There were no deviations from the prescribed methods.

The following instruments were used to perform the test program:

Equipment Used	Identification Number
Pitobe	BO51
ISO Kit	ISO010
ABS Kit	ABS002
Barometer	053
Balance	39

Certification and Calibration sheets for equipment listed above can be found in Appendix V.

Bureau Veritas is accredited to ISO/IEC 17025 by the Standards Council of Canada.
Method equipment diagrams are presented in Appendix VI of this report.

5.0 Equipment Calibration Methods

US EPA Method 5 - Field Barometer
All field barometers were calibrated as per the protocols as outlined in Method #5 of the US EPA Code of Federal Regulations.

US EPA Method 5 - Dry Gas Meters
Units are calibrated and calibration data is documented as per the protocols outlined in Section 16.1, of Method #5 of the US EPA Code of Federal Regulations.

US EPA Method 2 - Thermocouples
Thermocouples were calibrated and calibration data is documented as per the protocols outlined in Method #2 of the US EPA Code of Federal Regulations. All thermocouples have been previously calibrated against a NIST calibrated reference thermometer at three temperatures: in an ice bath, at the boiling point of water, and at an elevated temperature.

US EPA Method 2 - Pitot Tubes
Pitot tubes were calibrated and calibration data is documented as per the protocols outlined in Section 4 of Method #2 of the US EPA Code of Federal Regulations and 40 CFR 60 Appendix A. All pitot tubes have been previously calibrated against a standard pitot tube with a NIST traceable coefficient. Calibration data and pitot tube coefficients are based on multiple flow rate measurements obtained at the Southern Alberta Institute of Technology (SAIT) wind tunnel.

US EPA - Sample Collection Glassware and Probe Liners
All glassware and probe liners used for the collection of flue gas samples were cleaned using laboratory grade glassware detergent and thoroughly rinsed with de-ionized water.

Additionally, glassware for metals and mercury tests are soaked in 10% (v/v) nitric acid for a minimum of 4 hours; the glassware is then rinsed three times with deionized water, once with acetone, and then is allowed to air dry before being sealed with Parafilm for transport.

All calibration data is presented in Appendix V of this report.
All equipment used has been calibrated according to Bureau Veritas Work Instructions EMS WI-00019, EMS WI-00116, EMS WI-00117, EMS WI-00129, and EMS WI-00131.

6.0 Quality Assurance/Quality Control

Bureau Veritas Source Testing Department
Bureau Veritas' source testing department QA/QC protocols include, but are not limited to the following:

i - regular maintenance and calibration of all field sampling equipment as per the applicable sampling method protocols. All calibration records are retained on site for inspection
ii - on site leak checks (sample systems & pitot tubes), flow checks, moisture verifications and % isokinetic determinations
iii - sample glassware cleaning, and proofing when required
iv - proper sealing, labeling, storing, transport, and chain of custody/log in procedures upon return to the laboratory
v - submission of field blank sampling absorbing solution for analysis to determine if background contamination has occurred

Bureau Veritas Analytical Departments
Bureau Veritas' analytical departments QA/QC protocols include, but are not limited to the following:

i - Canadian Association for Laboratory Accreditation (CALA) performance evaluation samples every six months
ii - Canadian Association for Laboratory Accreditation (CALA) laboratory audits every two years
iii - analytical instrument calibration curves based on five (5) varying standards
iv - minimum of one QC check sample is run with each set of stack samples
v - minimum of one (1) QC blank sample is analyzed with each set of stack samples, routinely blank samples are run between each individual stack sample
vi - all stack samples are analyzed in duplicate when appropriate or required

7.0 Conclusion

The Source Emission Survey conducted by Bureau Veritas on the Incinerator Stack at the Agnico Eagle Mines Limited, Meliadine Mine took place between August 31 - September 8, 2022. All parameters were sampled as per the approved methods outlined in Section 4.0 Sampling and Analytical Test Methods. All 3 US EPA Method 29 tests and the overall average were acceptable and were below the allowable limit of 20 ug/m^3 @ 11% O_2. All 3 EPS 1/RM/2 tests and overall average were acceptable and were below the allowable limit of 80 pg/m^3 @ 11% O_2. These limits have been referenced from the Government of Nunavut Environmental Guideline for the Burning and Incineration of Solid Waste.

APPENDIX I
EMISSION RESULTS

SOURCE CONDITIONS AND EMISSION RATES

INCINERATOR STACK
MELIADINE MINE

		#1	#2	#3	Average
Date		31-Aug-22	01-Sep-22	02-Sep-22	
Time		14:30-16:45	13:20-15:35	14:15-16:30	
SAMPLING CONDITIONS					
Number of Points		24	24	24	
Time per Point	**min**	5.00	5.00	5.00	
Total Sampling Time	**min**	120	120	120	
Nozzle Diameter	**mm**	12.70	12.70	12.70	
Pitot tube Cal Factor		0.808	0.808	0.808	
Barometric Pressure	**mmHg**	759.40	741.68	746.76	749.28
Static Pressure	**mmHg**	-0.04	-0.06	-0.04	-0.04
Stack Pressure	**mmHg**	759.36	741.62	746.72	749.24
Dry Gas Meter Cal Factor		1.009	1.009	1.009	1.009
Average Meter Temp	**˚C**	25.98	23.46	21.29	23.58
Average Orifice Press	**mm H_2O**	24.67	22.81	23.51	23.66
Volume Sampled	**m^3 dry @ Ref Cond**	1.93	1.83	1.88	1.88
Average Sampling Rate	**m^3/min**	0.0174	0.0166	0.0170	0.0170
Average Isokinetic	**%**	103.11%	102.55%	102.70%	102.78%
Stack Diameter	**meters**	0.98	0.98	0.98	
Stack area	**m^2**	0.75	0.75	0.75	
Stack Height	**meters**	11.10	11.10	11.10	
Avg. Stack Temperature	**˚C**	887.46	880.75	861.83	876.68
MW Dry		29.35	29.43	29.46	29.41
MW Wet		28.47	28.53	28.58	28.53
SAMPLING CONDITIONS - Tedlar Bag Fixed Gas Results					
H_2O	**%**	7.77	7.90	7.65	7.77
O_2	**% dry**	13.29	13.16	12.15	12.87
CO_2	**% dry**	5.12	5.67	6.07	5.62
CO*	**% dry**	< 0.0004	< 0.0004	< 0.0004	< 0.0004
N_2+H_2	**% dry**	81.59	81.17	81.78	81.51
SAMPLING CONDITIONS - Glass Bomb Fixed Gas Results					
H_2O	**%**	7.77	7.90	7.65	7.77
O_2	**% dry**	13.12	11.95	11.63	12.23
CO_2	**% dry**	5.66	6.70	6.88	6.41
CO*	**% dry**	< 0.0004	< 0.0004	< 0.0004	< 0.0004
N_2+H_2	**% dry**	81.22	81.35	81.49	81.35
Velocity	**m/s wet**	8.67	8.44	8.42	8.51
Avg. Velocity Press	**mm H_2O**	1.77	1.65	1.69	1.70
Volumetric Flow - Stack Cond	**m^3/s wet**	6.51	6.34	6.33	6.39
Volumetric Flow - Ref Cond	**m^3/s wet**	1.67	1.60	1.63	1.63
Volumetric Flow - Ref Cond	**m^3/s dry**	1.54	1.47	1.51	1.51

Reference conditions are 25 ˚C and 760 mmHg
**When analytical results are less than the MDL, the MDL has been used to calculate emission results.*

ISOKINETIC SAMPLING EMISSION RESULTS

INCINERATOR STACK
MELIADINE MINE

		#1	#2	#3	Average
	Date	31-Aug-22	01-Sep-22	02-Sep-22	
	Time	14:30-16:45	13:20-15:35	14:15-16:30	
PARTICULATE EMISSION RESULTS					
Analytical Results	**Filter (g)**	0.0485	0.0158	0.0140	0.0261
	Probe Wash (g)	0.0021	0.0015	0.0008	0.0015
	Impinger Filtration (g)	n/a	n/a	n/a	
	Total Front Half (g)	0.0506	0.0173	0.0148	0.0276
	TOTAL (g)	0.0506	0.0173	0.0148	0.0276
Concentrations and Emission Rates	**mg/m^3 wet**	24.17	8.70	7.27	13.38
Front Half and Impinger Filtration Only	**mg/m^3 dry**	26.20	9.44	7.87	14.50
	g/kg Effluent wet	0.0208	0.0075	0.0062	0.0115
	g/kg Effluent dry	0.0218	0.0078	0.0065	0.0121
	kg/hr wet	0.1454	0.0500	0.0427	0.0794
Particulate Distribution	**Probe Wash**	4.15%	8.67%	5.41%	6.08%
	Filter	95.85%	91.33%	94.59%	93.92%
	Impinger Catch	n/a	n/a	n/a	
	Total Front Half	100.00%	100.00%	100.00%	100.00%
	Impinger/Back Half	0.00%	0.00%	0.00%	0.00%
	TOTAL	100.00%	100.00%	100.00%	100.00%

Reference conditions are 25 °C and 760 mmHg

CONSTANT SAMPLING EMISSION RESULTS

INCINERATOR STACK
MELIADINE MINE

		#1	#2	#3	Average
	Date	31-Aug-22	01-Sep-22	02-Sep-22	
	Time	14:30-15:30	13:20-14:20	14:15-15:15	
Volumetric Flow - Ref Cond	**m^3/s wet**	1.67	1.60	1.63	1.63
% H_2O		7.77	7.90	7.65	7.77
HYDROCHLORIC ACID GAS EMISSION RESULTS					
Dry Gas Meter Cal Factor		0.993	0.993	0.993	
Water Collected	**ml**	13	19	17	
Water in Silica	**g**	3	1	1	
Average Meter Temp	**°C**	23.00	12.67	13.33	16.33
Volume Sampled	**m^3 dry @ Meter Cond**	0.3797	0.3682	0.3731	0.3737
Volume Sampled	**m^3 dry @ Ref Cond**	0.3820	0.3748	0.3816	0.3795
Analytical Results	**Total mg**	6.0070	5.5920	5.8090	5.8027
Concentrations and Emission Rates	**ppm wet**	9.7320	9.2192	9.4336	9.4616
	ppm dry	10.5515	10.0102	10.2155	10.2590
	mg/m^3 wet	14.5036	13.7394	14.0590	14.1007
	mg/m^3 dry	15.7249	14.9182	15.2242	15.2891
	kg/hr wet	0.0873	0.0790	0.0826	0.0830
CHLORINE EMISSION RESULTS					
Dry Gas Meter Cal Factor		0.993	0.993	0.993	
Water Collected	**ml**	13	19	17	
Water in Silica	**g**	3	1	1	
Average Meter Temp	**°C**	23.00	12.67	13.33	16.33
Volume Sampled	**m^3 dry @ Meter Cond**	0.3797	0.3682	0.3731	0.3737
Volume Sampled	**m^3 dry @ Ref Cond**	0.3820	0.3748	0.3816	0.3795
Analytical Results	**Total mg**	< 0.0015	< 0.0015	< 0.0015	< 0.0015
Concentrations and Emission Rates	**ppm wet**	< 0.0012	< 0.0013	< 0.0013	< 0.0013
	ppm dry	< 0.0014	< 0.0014	< 0.0014	< 0.0014
	mg/m^3 wet	< 0.0036	< 0.0037	< 0.0036	< 0.0036
	mg/m^3 dry	< 0.0039	< 0.0040	< 0.0039	< 0.0040
	kg/hr wet	< 0.0000	< 0.0000	< 0.0000	< 0.0000

Reference conditions are 25 °C and 760 mmHg
Where results are less than the Method Detection Limit, the MDL has been used to calculate concentration and emission rates.

OXIDES OF NITROGEN EMISSION RESULTS

INCINERATOR STACK
MELIADINE MINE

		#1		#2		#3		Average
		A	B	A	B	A	B	
	Date	31-Aug-22	31-Aug-22	01-Sep-22	01-Sep-22	02-Sep-22	02-Sep-22	
	Time	14:51	14:54	13:42	13:46	14:30	14:34	
Volumetric Flow - Ref Cond	**m^3/s wet**	1.67		1.60		1.63		1.63
% H_2O		7.77		7.90		7.65		7.77
Analytical Results - NOx as NO_2	**Total mg**	0.2470	0.2340	0.2390	0.2410	0.2380	0.2670	
Volume Sampled	**mL**	1807	1852	1727	1708	1661	1879	
Oxides of Nitrogen as NO_2	**ppm wet**	67.04	62.00	67.79	69.13	70.37	69.80	
	ppm dry	72.69	67.22	73.61	75.06	76.20	75.58	
	mg/m^3 dry	136.67	126.38	138.40	141.13	143.28	142.11	
	Average ppm wet	64.52		68.46		70.08		67.69
	Average ppm dry	69.95		74.33		75.89		73.39
	Average mg/m^3 wet	121.31		128.72		131.77		127.27
	Average mg/m^3 dry	131.53		139.76		142.69		137.99
	kg/hr wet	0.73		0.74		0.77		0.75

Reference conditions are 25 °C and 760 mmHg

GASEOUS COMPOUND EMISSION RESULTS

INCINERATOR STACK
MELIADINE MINE

		#1	#2	#3	Average
	Date	31-Aug-22	01-Sep-22	02-Sep-22	
	Time	14:30 - 15:30	13:20 - 14:20	14:15 - 15:15	
Volumetric Flow - Ref Cond	**m^3/s wet**	1.67	1.60	1.63	1.63
% H_2O		7.77	7.90	7.65	7.77
Carbon Monoxide	**ppm wet**	< 3.6893	< 3.6839	< 3.6939	< 3.6890
MDL = 4 ppm dry	**ppm dry**	< 4.0000	< 4.0000	< 4.0000	< 4.0000
	mg/m^3 wet	< 4.2238	< 4.2176	< 4.2290	< 4.2235
	mg/m^3 dry	< 4.5795	< 4.5795	< 4.5795	< 4.5795
	kg/hr wet	< 0.0254	< 0.0243	< 0.0249	< 0.0248

Reference conditions are 25 °C and 760 mmHg
Where results are less than the Method Detection Limit, the MDL has been used to calculate concentration and emission rates.

METHOD 29 - METALS RESULTS - Page 1

INCINERATOR STACK
MELIADINE MINE

		Averages	#1
	Date		31-Aug-22
	Time		14:30-16:45
SAMPLING CONDITIONS			
Volume Sampled	**m^3 dry @ Ref Cond**	1.88	1.93
Volumetric Flow	**m^3/s dry @ Ref Cond**	1.51	1.54
	m^3/s wet @ Ref Cond	1.63	1.67
Water Concentration	**%**	7.77	7.77
Oxygen Concentration	**% dry**	12.87	13.29

PARAMETER	Front Half Analytical ug	Back Half Analytical ug	Total Analytical ug	mg/Rm^3 wet basis	mg/Rm^3 dry basis	mg/m^3 dry @ 11% O_2	g/hr wet	Front Half Corrected ug	Back Half Corrected ug	Total Analytical ug	mg/Rm^3 wet basis	mg/Rm^3 dry basis	mg/m^3 dry @ 11% O_2	g/hr wet
Antimony	80.63	0.00	80.63	0.0398	0.0431	0.0516	0.2328	25.40	0.00	25.40	0.0121	0.0132	0.0171	0.0730
Arsenic	60.48	0.25	60.73	0.0299	0.0324	0.0400	0.1752	47.45	0.00	47.45	0.0227	0.0246	0.0320	0.1364
Barium	0.67	2.46	3.13	0.0015	0.0016	0.0021	0.0090	0.90	4.19	5.09	0.0024	0.0026	0.0034	0.0146
Beryllium	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000
Boron	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000
Cadmium	1.52	0.14	1.66	0.0008	0.0009	0.0011	0.0048	1.78	0.00	1.78	0.0009	0.0009	0.0012	0.0051
Chromium	25.72	0.00	25.72	0.0125	0.0136	0.0170	0.0741	40.15	0.00	40.15	0.0192	0.0208	0.0270	0.1154
Cobalt	0.08	0.00	0.08	0.0000	0.0000	0.0001	0.0002	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000
Copper	42.70	1.43	44.13	0.0216	0.0234	0.0291	0.1273	45.60	2.55	48.15	0.0230	0.0249	0.0324	0.1384
Lead	53.57	0.17	53.73	0.0263	0.0286	0.0348	0.1550	45.50	0.50	46.00	0.0220	0.0238	0.0310	0.1322
Lithium	11.60	0.00	11.60	0.0057	0.0062	0.0078	0.0334	15.70	0.00	15.70	0.0075	0.0081	0.0106	0.0451
Magnesium	0.00	0.37	0.37	0.0002	0.0002	0.0002	0.0011	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000
Manganese	2.42	0.32	2.73	0.0013	0.0014	0.0018	0.0079	3.35	0.00	3.35	0.0016	0.0017	0.0023	0.0096
Mercury	0.00	0.03	0.03	0.0000	0.0000	0.0000	0.0001	0.00	0.05	0.05	0.0000	0.0000	0.0000	0.0002
Nickel	0.65	0.23	0.88	0.0004	0.0005	0.0006	0.0025	1.45	0.68	2.13	0.0010	0.0011	0.0014	0.0061
Phosphorus	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000
Selenium	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000
Silver	1.51	0.00	1.51	0.0007	0.0008	0.0010	0.0044	2.08	0.00	2.08	0.0010	0.0011	0.0014	0.0060
Strontium	0.00	0.18	0.18	0.0001	0.0001	0.0001	0.0005	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000
Tellurium	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000
Thallium	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000
Titanium	3.05	0.63	3.68	0.0018	0.0020	0.0023	0.0106	2.45	0.00	2.45	0.0012	0.0013	0.0017	0.0070
Vanadium	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000
Zinc	233.17	0.00	233.17	0.1148	0.1245	0.1545	0.6728	195.50	0.00	195.50	0.0934	0.1012	0.1317	0.5619
TOTAL				**0.2576**	**0.2793**	**0.3441**	**1.5117**				**0.2079**	**0.2254**	**0.2932**	**1.2511**
Class One				**0.2039**	**0.2210**	**0.2719**	**1.1957**				**0.1521**	**0.1649**	**0.2145**	**0.9152**
Class Two				**0.0429**	**0.0465**	**0.0576**	**0.2521**				**0.0429**	**0.0465**	**0.0604**	**0.2579**
Class Three				**0.0008**	**0.0009**	**0.0011**	**0.0049**				**0.0009**	**0.0009**	**0.0012**	**0.0053**

Reference conditions are 25 °C and 760 mmHg

Notes - Where results are less than the Method Detection Limit, "zero" has been used to calculate concentration and emission rates.
Class One = Antimony, Copper, Lead, Manganese, Vanadium, Zinc
Class Two = Arsenic, Chromium, Cobalt, Nickel, Selenium, Tellurium
Class Three = Cadmium, Mercury, Thallium

METHOD 29 - METALS RESULTS - Page 2

INCINERATOR STACK
MELIADINE MINE

		#2							#3						
	Date	01-Sep-22							02-Sep-22						
	Time	13:20-15:35							14:15-16:30						
SAMPLING CONDITIONS															
Volume Sampled	**m^3 dry @ Ref Cond**	1.83							1.88						
Volumetric Flow	**m^3/s dry @ Ref Cond**	1.47							1.51						
	m^3/s wet @ Ref Cond	1.60							1.63						
Water Concentration	**%**	7.90							7.65						
Oxygen Concentration	**% dry**	13.16							12.15						
PARAMETER		Front Half Corrected ug	Back Half Corrected ug	Total Analytical ug	mg/Rm3 wet basis	mg/Rm3 dry basis	mg/m^3 dry @ 11% O_2	g/hr wet	Front Half Corrected ug	Back Half Corrected ug	Total Analytical ug	mg/Rm3 wet basis	mg/Rm^3 dry basis	mg/m^3 dry @ 11% O_2	g/hr wet
Antimony		78.50	0.00	78.50	0.0395	0.0428	0.0548	0.2270	138.00	0.00	138.00	0.0678	0.0734	0.0830	0.3984
Arsenic		70.80	0.00	70.80	0.0356	0.0386	0.0494	0.2047	63.20	0.74	63.94	0.0314	0.0340	0.0385	0.1846
Barium		0.00	1.79	1.79	0.0009	0.0010	0.0012	0.0052	1.10	1.40	2.50	0.0012	0.0013	0.0015	0.0072
Beryllium		0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000
Boron		0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000
Cadmium		1.56	0.00	1.56	0.0008	0.0009	0.0011	0.0045	1.21	0.43	1.64	0.0008	0.0009	0.0010	0.0047
Chromium		18.60	0.00	18.60	0.0093	0.0102	0.0130	0.0538	18.40	0.00	18.40	0.0090	0.0098	0.0111	0.0531
Cobalt		0.23	0.00	0.23	0.0001	0.0001	0.0002	0.0007	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000
Copper		42.70	0.94	43.64	0.0219	0.0238	0.0305	0.1262	39.80	0.79	40.59	0.0199	0.0216	0.0244	0.1172
Lead		43.50	0.00	43.50	0.0219	0.0237	0.0304	0.1258	71.70	0.00	71.70	0.0352	0.0381	0.0431	0.2070
Lithium		14.10	0.00	14.10	0.0071	0.0077	0.0098	0.0408	5.00	0.00	5.00	0.0025	0.0027	0.0030	0.0144
Magnesium		0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.00	1.10	1.10	0.0005	0.0006	0.0007	0.0032
Manganese		1.80	0.00	1.80	0.0009	0.0010	0.0013	0.0052	2.10	0.95	3.05	0.0015	0.0016	0.0018	0.0088
Mercury		0.00	0.03	0.03	0.0000	0.0000	0.0000	0.0001	0.00	0.02	0.02	0.0000	0.0000	0.0000	0.0000
Nickel		0.20	0.00	0.20	0.0001	0.0001	0.0001	0.0006	0.30	0.00	0.30	0.0001	0.0002	0.0002	0.0009
Phosphorus		0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000
Selenium		0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000
Silver		1.54	0.00	1.54	0.0008	0.0008	0.0011	0.0045	0.92	0.00	0.92	0.0005	0.0005	0.0006	0.0027
Strontium		0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.00	0.55	0.55	0.0003	0.0003	0.0003	0.0016
Tellurium		0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000
Thallium		0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000
Titanium		0.70	0.00	0.70	0.0004	0.0004	0.0005	0.0020	6.00	1.90	7.90	0.0039	0.0042	0.0048	0.0228
Vanadium		0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000
Zinc		296.00	0.00	296.00	0.1488	0.1616	0.2066	0.8559	208.00	0.00	208.00	0.1021	0.1106	0.1251	0.6005
TOTAL					**0.2880**	**0.3127**	**0.4000**	**1.6568**				**0.2768**	**0.2997**	**0.3391**	**1.6271**
Class One					**0.2330**	**0.2529**	**0.3235**	**1.3400**				**0.2266**	**0.2453**	**0.2776**	**1.3319**
Class Two					**0.0452**	**0.0490**	**0.0627**	**0.2597**				**0.0406**	**0.0439**	**0.0497**	**0.2386**
Class Three					**0.0008**	**0.0009**	**0.0011**	**0.0046**				**0.0008**	**0.0009**	**0.0010**	**0.0048**

Reference conditions are 25 °C and 760 mmHg

Notes - Where results are less than the Method Detection Limit, "zero" has been used to calculate concentration and emission rates.
Class One = Antimony, Copper, Lead, Manganese, Vanadium, Zinc
Class Two = Arsenic, Chromium, Cobalt, Nickel, Selenium, Tellurium
Class Three = Cadmium, Mercury, Thallium

SOURCE CONDITIONS AND EMISSION RATES

INCINERATOR STACK
MELIADINE MINE

		#1	#2	#3	Average
Date		06-Sep-22	06-Sep-22	08-Sep-22	
Time		10:00-14:10	14:35-18:50	06:20-10:30	
SAMPLING CONDITIONS					
Number of Points		48	48	48	
Time per Point	**min**	5.00	5.00	5.00	
Total Sampling Time	**min**	240	240	240	
Nozzle Diameter	**mm**	12.70	12.70	12.70	
Pitot tube Cal Factor		0.808	0.808	0.808	
Barometric Pressure	**mmHg**	741.68	741.68	726.44	736.60
Static Pressure	**mmHg**	-0.06	-0.06	-0.06	-0.06
Stack Pressure	**mmHg**	741.62	741.62	726.38	736.54
Dry Gas Meter Cal Factor		1.009	1.009	1.009	1.009
Average Meter Temp	**˚C**	19.34	26.06	13.24	19.55
Average Orifice Press	**mm H_2O**	22.71	22.23	24.06	23.00
Volume Sampled	**m^3 dry @ Ref Cond**	3.69	3.60	3.75	3.68
Average Sampling Rate	**m^3/min**	0.0169	0.0161	0.0171	0.0167
Average Isokinetic	**%**	102.68%	101.33%	101.51%	101.84%
Stack Diameter	**meters**	0.98	0.98	0.98	
Stack area	**m^2**	0.75	0.75	0.75	
Stack Height	**meters**	11.10	11.10	11.10	
Avg. Stack Temperature	**˚C**	863.19	871.96	820.06	851.74
MW Dry		29.48	29.50	29.48	29.49
MW Wet		28.48	28.68	28.49	28.55
SAMPLING CONDITIONS - Tedlar Bag Fixed Gas Results					
H_2O	**%**	8.73	7.07	8.64	8.15
O_2	**% dry**	12.22	12.13	12.18	12.18
CO_2	**% dry**	6.22	6.32	6.22	6.25
CO*	**% dry**	< 0.0004	< 0.0004	< 0.0004	< 0.0004
N_2+H_2	**% dry**	81.56	81.55	81.60	81.57
SAMPLING CONDITIONS - Glass Bomb Fixed Gas Results					
H_2O	**%**	8.73	7.07	8.64	8.15
O_2	**% dry**	12.01	11.96	11.97	11.98
CO_2	**% dry**	6.81	6.83	6.82	6.82
CO*	**% dry**	< 0.0004	< 0.0004	< 0.0004	< 0.0004
N_2+H_2	**% dry**	81.18	81.21	81.21	81.20
Velocity	**m/s wet**	8.43	8.25	8.51	8.40
Avg. Velocity Press	**mm H_2O**	1.68	1.60	1.74	1.67
Volumetric Flow - Stack Cond	**m^3/s wet**	6.33	6.19	6.39	6.31
Volumetric Flow - Ref Cond	**m^3/s wet**	1.62	1.57	1.67	1.62
Volumetric Flow - Ref Cond	**m^3/s dry**	1.48	1.46	1.52	1.49

Reference conditions are 25 ˚C and 760 mmHg
**When analytical results are less than the MDL, the MDL has been used to calculate emission results.*

CONSTANT SAMPLING EMISSION RESULTS

INCINERATOR STACK
MELIADINE MINE

		#1	#2	#3	Average
	Date	06-Sep-22	06-Sep-22	06-Sep-22	
	Time	10:00-11:00	14:35-15:35	06:20-07:20	
Volumetric Flow - Ref Cond	**m^3/s wet**	1.62	1.57	1.67	1.62
% H_2O		8.73	7.07	8.64	8.15
SULPHUR DIOXIDE EMISSION RESULTS					
Dry Gas Meter Cal Factor		0.993	0.993	0.993	
Water Collected	**ml**	26	24	22	
Water in Silica	**g**	2	1	2	
Average Meter Temp	**°C**	11.33	11.33	11.00	11.22
Volume Sampled	**m^3 dry @ Meter Cond**	0.380	0.378	0.375	0.378
Volume Sampled	**m^3 dry @ Ref Cond**	0.389	0.387	0.376	0.384
Analytical Results	**Total mg**	7.624	7.301	3.225	6.050
Concentrations and Emission Rates	**ppm wet**	6.837	6.694	2.989	5.507
	ppm dry	7.491	7.203	3.271	5.988
	mg/m^3 wet	17.904	17.527	7.826	14.419
	mg/m^3 dry	19.615	18.861	8.566	15.681
	kg/hr wet	0.105	0.099	0.047	0.084

Reference conditions are 25 °C and 760 mmHg

DIBENZODIOXIN/FURAN EMISSION RESULTS - Page 1

INCINERATOR STACK
MELIADINE MINE

		Averages	#1
	Date		06-Sep-22
	Time		10:00-14:10
SAMPLING CONDITIONS			
Volume Sampled	**m^3 dry @ Ref Cond**	3.68	3.69
Volumetric Flow	**m^3/s dry @ Ref Cond**	1.49	1.48
Oxygen Concentration	**% dry**	12.18	12.22

RESULTS	Blank Corr Analytical pg	ng/m^3 dry basis*	ng/m^3 dry @ 11% O_2*	2378 TEQ ng/m^3 dry*	2378 TEQ ng/m^3 dry @ 11% O_2*	ug/hr dry*	2378 TEQ ug/hr dry*	Blank Corr Analytical pg	ng/m^3 dry basis*	ng/m^3 dry @ 11% O_2*	2378 TEQ ng/m^3 dry*	2378 TEQ ng/m^3 dry @ 11% O_2*	ug/hr dry*	2378 TEQ ug/hr dry*
2378 - TCDD	<2.4333	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	< 2.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12378 - PeCDD	<3.2667	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	< 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
123478 - HxCDD	<2.8333	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	< 2.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
123678 - HxCDD	3.1000	0.0003	0.0003	0.0000	0.0000	0.0015	0.0001	3.1000	0.0008	0.0010	0.0001	0.0001	0.0045	0.0004
123789 - HxCDD	4.6000	0.0004	0.0005	0.0000	0.0000	0.0022	0.0002	4.6000	0.0012	0.0014	0.0001	0.0001	0.0066	0.0007
1234678 - HpCDD	8.6667	0.0024	0.0027	0.0000	0.0000	0.0126	0.0001	12.1000	0.0033	0.0037	0.0000	0.0000	0.0175	0.0002
1,2,3,4,6,7,8,9-Octa CDD	26.1667	0.0071	0.0081	0.0000	0.0000	0.0380	0.0000	37.3000	0.0101	0.0115	0.0000	0.0000	0.0538	0.0000
TOTAL TCDD	13.5000	0.0036	0.0041			0.0197		8.1000	0.0022	0.0025			0.0117	
TOTAL PeCDD	8.6667	0.0023	0.0026			0.0126		5.8000	0.0016	0.0018			0.0084	
TOTAL HxCDD	18.1000	0.0049	0.0056			0.0263		31.5000	0.0085	0.0097			0.0455	
TOTAL HpCDD	21.1000	0.0057	0.0065			0.0307		27.2000	0.0074	0.0084			0.0393	
2378 - TCDF	<20.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	< 25	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12378 - PeCDF	5.9333	0.0016	0.0018	0.0000	0.0001	0.0086	0.0003	7.8000	0.0021	0.0024	0.0001	0.0001	0.0113	0.0003
23478 - PeCDF	11.3333	0.0031	0.0035	0.0009	0.0010	0.0165	0.0049	15.6000	0.0042	0.0048	0.0013	0.0014	0.0225	0.0068
123478 - HxCDF	16.7000	0.0045	0.0051	0.0005	0.0005	0.0243	0.0024	24.3000	0.0066	0.0075	0.0007	0.0008	0.0351	0.0035
123678 - HxCDF	8.9667	0.0024	0.0028	0.0002	0.0003	0.0130	0.0013	14.0000	0.0038	0.0043	0.0004	0.0004	0.0202	0.0020
234678 - HxCDF	15.6333	0.0043	0.0048	0.0004	0.0005	0.0227	0.0023	21.4000	0.0058	0.0066	0.0006	0.0007	0.0309	0.0031
123789 - HxCDF	3.0000	0.0003	0.0003	0.0000	0.0000	0.0014	0.0001	3.0000	0.0008	0.0009	0.0001	0.0001	0.0043	0.0004
1234678 - HpCDF	32.9000	0.0090	0.0102	0.0001	0.0001	0.0477	0.0005	57.9000	0.0157	0.0179	0.0002	0.0002	0.0836	0.0008
1234789 - HpCDF	9.4333	0.0026	0.0029	0.0000	0.0000	0.0137	0.0001	14.6000	0.0040	0.0045	0.0000	0.0000	0.0211	0.0002
1,2,3,4,6,7,8,9-Octa CDF	30.3667	0.0083	0.0094	0.0000	0.0000	0.0441	0.0000	56.1000	0.0152	0.0173	0.0000	0.0000	0.0810	0.0000
TOTAL TCDF	84.4333	0.0228	0.0259			0.1226		128.0000	0.0347	0.0395			0.1847	
TOTAL PeCDF	88.1333	0.0239	0.0271			0.1280		138.0000	0.0374	0.0426			0.1992	
TOTAL HxCDF	79.5333	0.0216	0.0245			0.1155		130.0000	0.0352	0.0401			0.1876	
TOTAL HpCDF	70.5000	0.0192	0.0218			0.1023		120.0000	0.0325	0.0371			0.1732	
Total PCDD		**0.0166**	**0.0188**			**0.0893**			**0.0197**	**0.0224**			**0.1048**	
Total PCDF		**0.0875**	**0.0994**			**0.4685**			**0.1398**	**0.1593**			**0.7447**	
Totals		**0.1041**	**0.1182**	**0.0023**	**0.0027**	**0.5577**	**0.0125**		**0.1595**	**0.1817**	**0.0035**	**0.0040**	**0.8495**	**0.0185**

Where results are less than the Method Detection Limit, "zero" has been used to calculate concentration and emission rates.
**Results presented at reference conditions of 25 °C and 760 mmHg*

DIBENZODIOXIN/FURAN EMISSION RESULTS - Page 2

INCINERATOR STACK
MELIADINE MINE

		#2						#3					
Date		06-Sep-22						08-Sep-22					
Time		14:35-18:50						06:20-10:30					
SAMPLING CONDITIONS													
Volume Sampled	**m^3 dry @ Ref Cond**	3.60						3.75					
Volumetric Flow	**m^3/s dry @ Ref Cond**	1.46						1.52					
Oxygen Concentration	**% dry**	12.13						12.18					
RESULTS		Blank Corr Analytical pg	ng/m^3 dry basis*	ng/m^3 dry @ 11% O_2*	2378 TEQ ng/m^3 dry*	2378 TEQ ng/m^3 dry @ 11% O_2*	ug/hr dry*	2378 TEQ ug/hr dry*	Blank Corr Analytical pg	ng/m^3 dry basis*	ng/m^3 dry @ 11% O_2*	2378 TEQ ng/m^3 dry*	2378 TEQ ng/m^3 dry @ 11% O_2*	ug/hr dry*	2378 TEQ ug/hr dry*
2378 - TCDD		< 2.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	< 2.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12378 - PeCDD		< 3.4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	< 3.4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
123478 - HxCDD		< 2.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	< 2.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
123678 - HxCDD		< 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	< 2.8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
123789 - HxCDD		< 4.2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	< 3.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1234678 - HpCDD		8.9000	0.0025	0.0028	0.0000	0.0000	0.0130	0.0001	5.0000	0.0013	0.0015	0.0000	0.0000	0.0073	0.0001
1,2,3,4,6,7,8,9-Octa CDD		31.6000	0.0088	0.0099	0.0000	0.0000	0.0462	0.0000	9.6000	0.0026	0.0029	0.0000	0.0000	0.0140	0.0000
TOTAL TCDD		3.3000	0.0009	0.0010			0.0048		29.1000	0.0078	0.0088			0.0425	
TOTAL PeCDD		3.4000	0.0009	0.0011			0.0050		16.8000	0.0045	0.0051			0.0246	
TOTAL HxCDD		6.5000	0.0018	0.0020			0.0095		16.3000	0.0043	0.0049			0.0238	
TOTAL HpCDD		22.0000	0.0061	0.0069			0.0322		14.1000	0.0038	0.0043			0.0206	
2378 - TCDF		< 12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	< 23	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12378 - PeCDF		4.1000	0.0011	0.0013	0.0000	0.0000	0.0060	0.0002	5.9000	0.0016	0.0018	0.0000	0.0001	0.0086	0.0003
23478 - PeCDF		8.7000	0.0024	0.0027	0.0007	0.0008	0.0127	0.0038	9.7000	0.0026	0.0029	0.0008	0.0009	0.0142	0.0043
123478 - HxCDF		12.3000	0.0034	0.0039	0.0003	0.0004	0.0180	0.0018	13.5000	0.0036	0.0041	0.0004	0.0004	0.0197	0.0020
123678 - HxCDF		5.7000	0.0016	0.0018	0.0002	0.0002	0.0083	0.0008	7.2000	0.0019	0.0022	0.0002	0.0002	0.0105	0.0011
234678 - HxCDF		18.0000	0.0050	0.0056	0.0005	0.0006	0.0263	0.0026	7.5000	0.0020	0.0023	0.0002	0.0002	0.0110	0.0011
123789 - HxCDF		< 2.6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	< 2.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1234678 - HpCDF		25.6000	0.0071	0.0080	0.0001	0.0001	0.0374	0.0004	15.2000	0.0041	0.0046	0.0000	0.0000	0.0222	0.0002
1234789 - HpCDF		9.2000	0.0026	0.0029	0.0000	0.0000	0.0135	0.0001	4.5000	0.0012	0.0014	0.0000	0.0000	0.0066	0.0001
1,2,3,4,6,7,8,9-Octa CDF		27.1000	0.0075	0.0085	0.0000	0.0000	0.0396	0.0000	7.9000	0.0021	0.0024	0.0000	0.0000	0.0115	0.0000
TOTAL TCDF		22.3000	0.0062	0.0070			0.0326		103.0000	0.0275	0.0312			0.1506	
TOTAL PeCDF		50.8000	0.0141	0.0159			0.0743		75.6000	0.0202	0.0229			0.1105	
TOTAL HxCDF		51.7000	0.0144	0.0162			0.0756		56.9000	0.0152	0.0172			0.0832	
TOTAL HpCDF		60.3000	0.0168	0.0189			0.0882		31.2000	0.0083	0.0094			0.0456	
Total PCDD			**0.0098**	**0.0110**			**0.0515**			**0.0204**	**0.0231**			**0.1115**	
Total PCDF			**0.0514**	**0.0580**			**0.2707**			**0.0711**	**0.0807**			**0.3899**	
Totals			**0.0612**	**0.0690**	**0.0019**	**0.0021**	**0.3222**	**0.0099**		**0.0915**	**0.1038**	**0.0016**	**0.0019**	**0.5014**	**0.0090**

Where results are less than the Method Detection Limit, "zero" has been used to calculate concentration and emission rates.
**Results presented at reference conditions of 25 °C and 760 mmHg*

APPENDIX II
VELOCITY TRAVERSE DATA

ISOKINETIC FIELD DATA RUN #1

INCINERATOR STACK
MELIADINE MINE

DATE: 31-Aug-22 ***TIME:*** 14:30 to 16:45

Port	Point No.	Stack Temp (^oC)	Velocity Head (mm H_2O)	Velocity (m/s wet)	Orifice Press. (mm H_2O)	Volume Sampled (m^3)	Meter Temp In (^oC)	Meter Temp Out (^oC)	Temperature Probe (^oC)	Temperature Box (^oC)	Vacuum (in. Hg)	% Isokinetic	Velocity (Vertical) (m/s)	θ
North	1	888	1.52	8.07	18.03	0.069	24	24	120	118	-1.00	94.5	8.07	0
North	2	888	1.52	8.07	21.59	0.075	25	24	120	114	-1.00	103.0	8.07	0
North	3	886	1.78	8.71	25.15	0.082	25	24	121	113	-1.00	104.1	8.71	0
North	4	886	1.78	8.71	25.40	0.081	26	24	120	114	-2.00	102.8	8.71	0
North	5	887	1.78	8.72	25.15	0.081	26	24	120	114	-2.00	103.6	8.72	0
North	6	887	1.78	8.72	25.15	0.082	26	24	121	115	-2.00	104.0	8.72	0
North	7	887	2.03	9.32	27.94	0.087	27	24	120	116	-3.00	103.3	9.32	0
North	8	888	2.03	9.32	27.94	0.087	27	25	120	118	-3.00	103.8	9.32	0
North	9	888	2.03	9.32	27.94	0.086	27	25	120	117	-3.00	103.1	9.32	0
North	10	887	1.78	8.72	25.40	0.081	27	25	120	117	-2.00	103.6	8.72	0
North	11	888	1.52	8.07	21.59	0.075	27	25	121	117	-2.00	103.3	8.07	0
North	12	888	1.52	8.07	21.59	0.075	27	25	120	117	-2.00	103.7	8.07	0
East	13	887	1.27	7.37	18.03	0.068	27	25	121	114	-1.00	103.2	7.37	0
East	14	888	1.78	8.72	25.40	0.081	27	25	121	114	-1.00	103.7	8.72	0
East	15	889	1.52	8.08	21.59	0.075	27	25	120	116	-2.00	103.3	8.08	0
East	16	888	1.78	8.72	25.40	0.081	27	26	121	117	-2.00	103.9	8.72	0
East	17	888	2.03	9.32	27.94	0.087	27	26	122	117	-3.00	103.3	9.32	0
East	18	888	2.29	9.89	30.48	0.092	28	26	122	118	-3.00	103.6	9.89	0
East	19	888	2.03	9.32	27.94	0.087	28	26	121	119	-3.00	103.5	9.32	0
East	20	887	2.03	9.32	27.94	0.087	28	26	121	117	-2.00	103.4	9.32	0
East	21	887	1.78	8.72	25.40	0.082	28	26	120	116	-2.00	104.0	8.72	0
East	22	887	1.78	8.72	25.40	0.081	28	26	120	116	-1.00	103.3	8.72	0
East	23	887	1.52	8.07	21.84	0.075	28	26	120	114	-1.00	102.9	8.07	0
East	24	887	1.52	8.07	21.84	0.075	28	26	121	115	-1.00	103.7	8.07	0
AVERAGE		**887**	**1.77**	**8.67**	**24.67**		**27**	**25**				**103.1**	**8.67**	

ISOKINETIC FIELD DATA RUN #2

INCINERATOR STACK
MELIADINE MINE

DATE: 01-Sep-22 ***TIME:*** 13:20 to 15:35

Port	Point No.	Stack Temp (^oC)	Velocity Head (mm H_2O)	Velocity (m/s wet)	Orifice Press. (mm H_2O)	Volume Sampled (m^3)	Meter Temp In (^oC)	Meter Temp Out (^oC)	Temperature Probe (^oC)	Temperature Box (^oC)	Vacuum (in. Hg)	% Isokinetic	Velocity (Vertical) (m/s)	θ
North	1	881	1.52	8.14	20.83	0.074	19	19	122	108	-1.00	102.9	8.14	0
North	2	881	1.52	8.14	21.08	0.074	20	19	122	108	-1.00	103.1	8.14	0
North	3	876	1.52	8.12	21.08	0.074	20	19	122	109	-1.00	102.5	8.12	0
North	4	879	1.78	8.78	24.64	0.079	20	19	123	110	-1.00	102.0	8.78	0
North	5	880	2.03	9.39	27.94	0.086	22	19	120	111	-1.00	104.1	9.39	0
North	6	881	1.78	8.79	24.64	0.080	22	20	120	112	-1.00	103.0	8.79	0
North	7	881	2.03	9.39	24.64	0.079	23	21	121	114	-1.00	95.4	9.39	0
North	8	882	2.03	9.40	27.94	0.086	23	21	122	110	-1.00	103.3	9.40	0
North	9	880	1.52	8.13	21.08	0.074	23	21	121	111	-1.00	103.0	8.13	0
North	10	883	1.27	7.43	17.53	0.067	24	22	120	108	-1.00	103.1	7.43	0
North	11	880	1.27	7.42	17.78	0.067	24	22	118	109	-1.00	101.7	7.42	0
North	12	880	1.27	7.42	17.78	0.068	24	22	119	111	-1.00	103.8	7.42	0
East	13	878	1.27	7.42	17.78	0.067	23	22	120	109	-1.00	101.7	7.42	0
East	14	878	1.52	8.13	21.34	0.074	24	22	121	110	-1.00	103.3	8.13	0
East	15	880	1.52	8.13	21.34	0.074	25	23	120	111	-1.00	103.5	8.13	0
East	16	880	1.78	8.78	24.89	0.079	26	24	120	112	-2.00	102.0	8.78	0
East	17	880	1.78	8.78	24.89	0.080	26	24	121	114	-2.00	103.1	8.78	0
East	18	881	2.03	9.39	27.94	0.085	27	24	120	115	-2.00	102.4	9.39	0
East	19	881	2.03	9.39	27.94	0.086	27	25	119	117	-2.00	103.2	9.39	0
East	20	883	2.03	9.40	27.94	0.085	28	25	119	119	-2.00	102.1	9.40	0
East	21	882	1.78	8.79	25.15	0.081	28	26	120	119	-2.00	103.9	8.79	0
East	22	882	1.52	8.14	21.59	0.073	29	26	121	119	-2.00	102.3	8.14	0
East	23	884	1.52	8.15	21.59	0.074	29	27	122	117	-2.00	103.4	8.15	0
East	24	885	1.27	7.44	18.03	0.067	30	28	122	119	-2.00	102.4	7.44	0
AVERAGE		**881**	**1.65**	**8.44**	**22.81**		**24**	**23**				**102.6**	**8.44**	

ISOKINETIC FIELD DATA RUN #3

INCINERATOR STACK
MELIADINE MINE

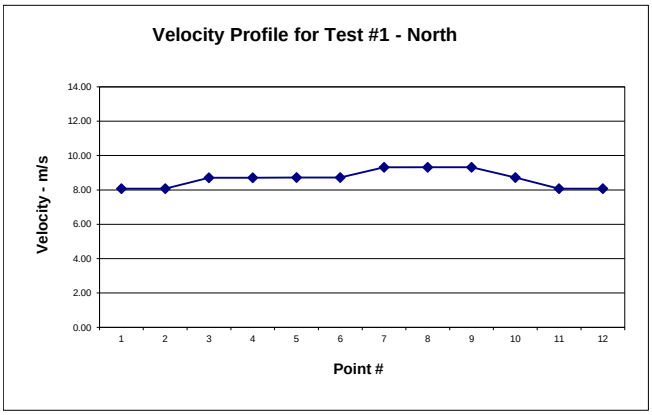
DATE: 02-Sep-22 ***TIME:*** 14:15 to 16:30

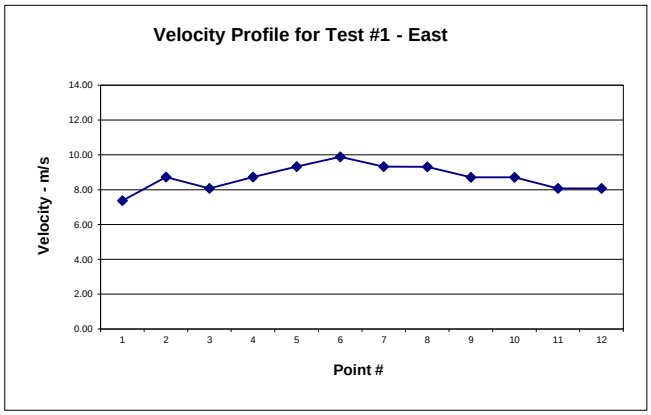
Port	Point No.	Stack Temp (^oC)	Velocity Head (mm H_2O)	Velocity (m/s wet)	Orifice Press. (mm H_2O)	Volume Sampled (m^3)	Meter Temp In (^oC)	Meter Temp Out (^oC)	Temperature Probe (^oC)	Temperature Box (^oC)	Vacuum (in. Hg)	% Isokinetic	Velocity (Vertical) (m/s)	θ
North	1	862	1.27	7.33	17.53	0.068	17	17	121	108	-1.00	103.1	7.33	0
North	2	862	1.27	7.33	17.53	0.068	17	17	120	108	-1.00	102.7	7.33	0
North	3	863	1.52	8.04	21.08	0.074	18	17	120	109	-1.00	102.0	8.04	0
North	4	863	1.78	8.68	24.64	0.081	18	17	120	110	-1.00	102.9	8.68	0
North	5	869	1.78	8.70	24.64	0.081	19	17	121	110	-2.00	103.4	8.70	0
North	6	870	2.03	9.31	27.94	0.086	19	17	120	110	-2.00	102.6	9.31	0
North	7	867	2.29	9.86	30.48	0.091	19	17	120	110	-2.00	102.2	9.86	0
North	8	863	2.29	9.84	30.48	0.092	19	17	121	108	-2.00	103.3	9.84	0
North	9	858	1.52	8.02	21.34	0.074	20	18	121	110	-2.00	101.6	8.02	0
North	10	860	1.27	7.33	17.78	0.069	22	18	121	111	-1.00	103.3	7.33	0
North	11	860	1.27	7.33	17.78	0.068	22	18	120	110	-1.00	102.4	7.33	0
North	12	859	1.52	8.02	21.34	0.075	22	19	120	110	-1.00	102.7	8.02	0
East	13	861	1.27	7.33	17.78	0.068	23	20	120	117	-1.00	102.8	7.33	0
East	14	860	1.52	8.03	21.59	0.075	24	20	120	119	-1.00	102.6	8.03	0
East	15	860	1.78	8.67	25.15	0.081	24	21	120	119	-1.00	102.5	8.67	0
East	16	860	1.78	8.67	25.40	0.080	25	21	120	120	-2.00	102.3	8.67	0
East	17	861	2.03	9.27	27.94	0.086	25	22	120	120	-2.00	102.7	9.27	0
East	18	860	2.29	9.83	30.48	0.092	26	22	120	121	-2.00	102.6	9.83	0
East	19	862	2.29	9.84	30.48	0.092	26	24	120	121	-2.00	103.0	9.84	0
East	20	861	1.78	8.67	25.40	0.081	26	24	120	122	-2.00	103.1	8.67	0
East	21	860	1.78	8.67	25.40	0.081	27	24	120	122	-1.00	102.5	8.67	0
East	22	861	1.52	8.03	21.84	0.075	27	25	120	121	-1.00	102.9	8.03	0
East	23	862	1.52	8.03	21.84	0.075	27	25	120	122	-1.00	102.5	8.03	0
East	24	860	1.27	7.33	18.29	0.069	28	25	120	124	-1.00	103.1	7.33	0
AVERAGE		**862**	**1.69**	**8.42**	**23.51**		**23**	**20**				**102.7**	**8.42**	

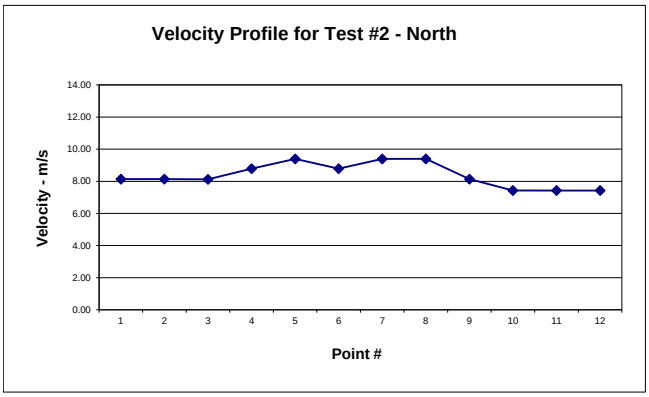
VELOCITY PROFILES

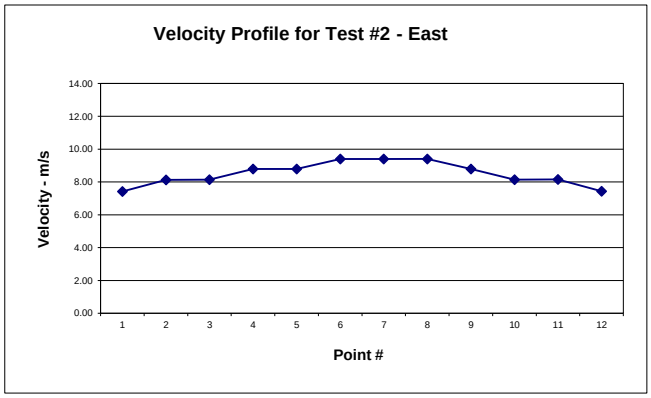
INCINERATOR STACK
MELIADINE MINE

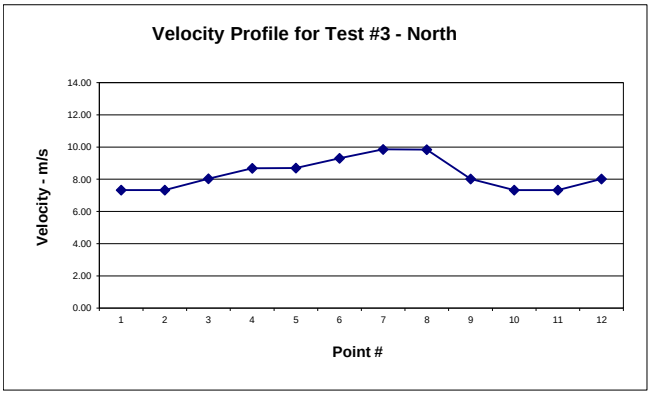
August 31 - September 2, 2022

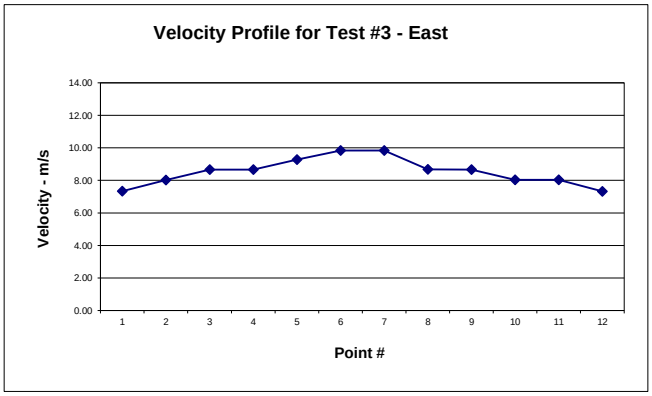












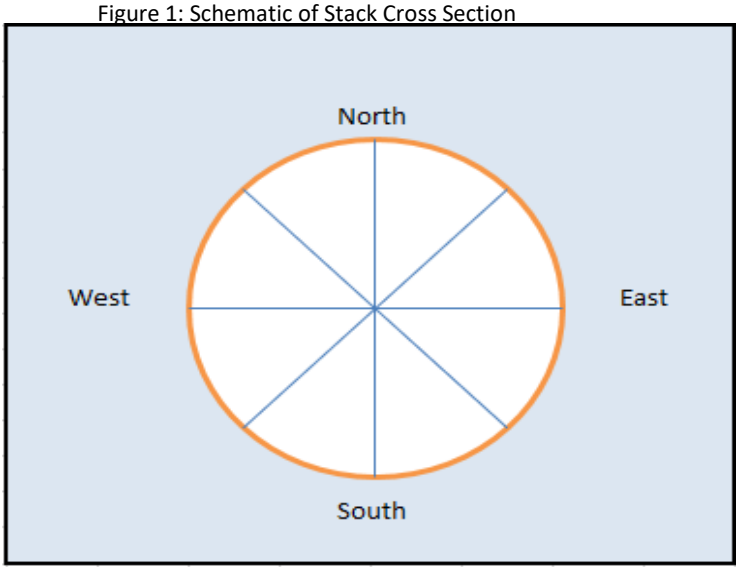
INCINERATOR STACK
MELIADINE MINE

	Number of Traverse Points on a Diameter											
Traverse Point Number on a Diameter	2	4	6	8	10	12	14	16	18	20	22	24
1	5.6	2.6	1.7	1.2	1.0	0.8	0.7	0.6	0.5	0.5	0.4	0.4
2	32.9	9.6	5.6	4.0	3.2	2.6	2.2	1.9	1.7	1.5	1.3	1.2
3		28.9	11.4	7.5	5.6	4.5	3.8	3.3	2.9	2.6	2.3	2.1
4		35.9	27.1	12.4	8.7	6.8	5.6	4.8	4.2	3.7	3.3	3.0
5			32.9	26.1	13.2	9.6	7.7	6.5	5.6	5.0	4.5	4.0
6			36.8	31.0	25.3	13.7	10.4	8.5	7.2	6.4	5.6	5.1
7				34.5	29.8	24.8	14.1	10.9	9.1	7.9	6.9	6.2
8				37.3	32.9	28.9	24.4	14.4	11.4	9.6	8.4	7.5
9					35.3	31.7	28.1	24.1	14.7	11.8	10.1	8.9
10					37.5	34.0	30.8	27.6	23.8	14.9	12.1	10.5
11						35.9	32.9	30.0	27.1	23.6	15.1	12.4
12						37.7	34.7	32.0	29.4	26.7	23.4	15.3
13							36.3	33.7	31.3	28.9	26.4	23.2
14							37.8	35.2	32.9	30.6	28.4	26.1
15								36.6	34.3	32.1	30.1	28.0
16								37.9	35.6	33.5	31.6	29.6
17									36.8	34.8	32.9	31.0
18									38.0	35.9	34.0	32.3
19										37.0	35.2	33.4
20										38.0	36.2	34.5
21											37.2	35.5
22											38.1	36.4
23												37.3
24												38.1

Table 1: Location of Traverse Points used for Sampling

Stack Height (m):	11.10
Annulus Length (in.):	7.75
Stack Diameter (in.):	38.5
Diameter(s) to be Tested:	2
Total points tested:	24
Total Points per diameter:	12

Figure 1: Schematic of Stack Cross Section



ISOKINETIC FIELD DATA RUN #1

INCINERATOR STACK
MELIADINE MINE

DATE: 06-Sep-22 ***TIME:*** 10:00 to 14:10

Port	Point No.	Stack Temp (^oC)	Velocity Head (mm H_2O)	Velocity (m/s wet)	Orifice Press. (mm H_2O)	Volume Sampled (m^3)	Meter Temp In (^oC)	Meter Temp Out (^oC)	Temperature Probe (^oC)	Temperature Box (^oC)	Vacuum (in. Hg)	% Isokinetic	Velocity (Vertical) (m/s)	θ
North	1	833	1.27	7.28	17.53	0.068	15	14	120	108	-3.00	102.9	7.28	0
North	2	833	1.27	7.28	17.53	0.069	15	14	121	112	-3.00	103.4	7.28	0
North	3	835	1.52	7.98	21.08	0.074	15	14	122	114	-3.00	101.6	7.98	0
North	4	837	1.52	7.99	21.08	0.075	15	14	121	114	-3.00	103.3	7.99	0
North	5	837	1.52	7.99	21.08	0.075	16	14	120	116	-4.00	102.7	7.99	0
North	6	840	1.78	8.64	24.64	0.081	16	15	120	122	-5.00	102.9	8.64	0
North	7	844	1.78	8.65	24.38	0.080	16	15	120	122	-5.00	102.7	8.65	0
North	8	848	2.03	9.27	27.94	0.085	16	15	120	124	-5.00	102.5	9.27	0
North	9	848	2.03	9.27	27.94	0.086	16	15	120	124	-5.00	102.8	9.27	0
North	10	852	2.29	9.85	30.48	0.091	17	15	120	124	-6.00	102.9	9.85	0
North	11	855	2.54	10.39	33.02	0.096	17	15	120	125	-6.00	103.0	10.39	0
North	12	855	2.54	10.39	33.02	0.095	17	15	120	126	-6.00	102.7	10.39	0
North	13	860	2.03	9.32	25.40	0.085	17	15	120	126	-6.00	102.5	9.32	0
North	14	860	2.03	9.32	25.40	0.085	18	15	120	124	-5.00	102.7	9.32	0
North	15	860	2.03	9.32	25.40	0.085	18	16	120	124	-5.00	102.8	9.32	0
North	16	860	2.03	9.32	25.40	0.085	18	16	120	125	-5.00	102.8	9.32	0
North	17	860	1.52	8.07	20.83	0.073	18	16	120	125	-5.00	102.3	8.07	0
North	18	863	1.52	8.08	20.83	0.074	19	16	120	125	-5.00	102.6	8.08	0
North	19	863	1.52	8.08	20.83	0.074	19	17	120	125	-5.00	102.5	8.08	0
North	20	865	1.78	8.73	24.13	0.080	19	17	121	124	-5.00	103.1	8.73	0
North	21	866	1.78	8.74	24.13	0.079	19	17	121	124	-5.00	102.4	8.74	0
North	22	866	1.27	7.38	17.27	0.067	20	18	122	124	-5.00	102.4	7.38	0
North	23	867	1.27	7.39	17.27	0.067	22	18	120	125	-5.00	102.1	7.39	0
North	24	869	1.27	7.39	17.27	0.067	22	19	120	125	-5.00	103.3	7.39	0
Leak Check														
East	25	869	1.27	7.39	17.27	0.067	22	20	120	125	-4.00	102.7	7.39	0
East	26	869	1.27	7.39	17.27	0.067	22	20	120	125	-4.00	102.7	7.39	0
East	27	870	1.52	8.10	20.83	0.074	22	20	120	125	-5.00	102.9	8.10	0
East	28	872	1.52	8.11	20.83	0.073	22	20	120	125	-5.00	102.2	8.11	0
East	29	875	1.52	8.12	20.83	0.074	23	20	120	125	-5.00	103.0	8.12	0
East	30	875	1.78	8.77	24.38	0.079	23	21	120	125	-5.00	102.2	8.77	0
East	31	874	2.03	9.37	27.94	0.085	23	21	120	125	-5.00	103.1	9.37	0
East	32	874	1.78	8.77	24.38	0.079	23	21	120	125	-5.00	102.9	8.77	0
East	33	875	1.78	8.77	24.38	0.079	23	21	120	125	-5.00	102.5	8.77	0
East	34	874	1.78	8.77	24.38	0.079	23	21	120	125	-5.00	102.5	8.77	0
East	35	874	2.03	9.37	27.94	0.084	23	21	120	125	-6.00	102.4	9.37	0
East	36	873	2.03	9.37	27.94	0.085	23	21	120	125	-6.00	103.4	9.37	0
East	37	873	2.03	9.37	27.94	0.085	23	21	120	125	-6.00	102.7	9.37	0
East	38	873	2.03	9.37	27.94	0.084	23	21	120	125	-6.00	102.0	9.37	0
East	39	874	1.78	8.77	24.38	0.080	23	21	120	125	-6.00	103.2	8.77	0
East	40	874	1.52	8.12	20.83	0.073	24	21	120	125	-6.00	102.6	8.12	0
East	41	874	1.52	8.12	20.83	0.073	24	21	121	125	-6.00	102.2	8.12	0
East	42	875	1.27	7.41	17.27	0.067	24	21	120	125	-5.00	103.3	7.41	0
East	43	875	1.27	7.41	17.53	0.067	24	22	120	125	-5.00	102.7	7.41	0
East	44	875	1.52	8.12	20.83	0.073	24	22	120	125	-5.00	102.5	8.12	0
East	45	873	1.27	7.41	17.53	0.067	24	22	120	125	-5.00	102.6	7.41	0
East	46	872	1.27	7.40	17.53	0.067	24	22	120	125	-5.00	103.4	7.40	0
East	47	872	1.27	7.40	17.53	0.066	24	22	120	125	-5.00	101.3	7.40	0
East	48	873	1.27	7.41	17.53	0.067	24	22	120	125	-5.00	102.6	7.41	0
AVERAGE		**863**	**1.68**	**8.43**	**22.71**		**20**	**18**				**102.7**	**8.43**	

ISOKINETIC FIELD DATA RUN #2

INCINERATOR STACK
MELIADINE MINE

DATE: 06-Sep-22 ***TIME:*** 14:35 to 18:50

Port	Point No.	Stack Temp (^oC)	Velocity Head (mm H_2O)	Velocity (m/s wet)	Orifice Press. (mm H_2O)	Volume Sampled (m^3)	Meter Temp In (^oC)	Meter Temp Out (^oC)	Temperature Probe (^oC)	Temperature Box (^oC)	Vacuum (in. Hg)	% Isokinetic	Velocity (Vertical) (m/s)	θ
North	1	878	1.27	7.40	17.53	0.067	24	22	120	108	-2.00	101.4	7.40	0
North	2	877	1.27	7.39	17.53	0.067	24	22	120	109	-2.00	101.3	7.39	0
North	3	874	1.27	7.38	17.53	0.067	24	22	120	116	-2.00	101.6	7.38	0
North	4	870	1.27	7.37	17.53	0.067	25	23	120	118	-2.00	101.1	7.37	0
North	5	869	1.52	8.07	21.08	0.073	25	23	120	120	-4.00	100.8	8.07	0
North	6	871	1.52	8.08	21.08	0.074	26	24	121	123	-4.00	101.7	8.08	0
North	7	872	1.52	8.08	21.08	0.073	26	24	121	124	-4.00	101.3	8.08	0
North	8	873	1.78	8.73	24.64	0.079	26	24	120	124	-4.00	101.0	8.73	0
North	9	873	1.78	8.73	24.64	0.079	26	24	120	124	-4.00	101.0	8.73	0
North	10	872	1.52	8.08	21.08	0.074	26	24	121	125	-4.00	101.7	8.08	0
North	11	873	1.78	8.73	24.64	0.079	26	24	120	125	-4.00	101.4	8.73	0
North	12	871	1.78	8.73	24.89	0.080	27	24	121	125	-4.00	101.5	8.73	0
North	13	871	2.03	9.33	27.94	0.085	27	25	120	125	-4.00	101.5	9.33	0
North	14	870	2.03	9.32	27.94	0.085	27	25	121	125	-4.00	101.1	9.32	0
North	15	873	1.78	8.73	24.89	0.080	27	25	120	125	-4.00	101.8	8.73	0
North	16	873	2.03	9.34	27.94	0.085	27	25	120	125	-4.00	101.2	9.34	0
North	17	872	1.78	8.73	24.89	0.079	27	25	120	125	-4.00	101.4	8.73	0
North	18	872	1.52	8.08	21.34	0.074	27	25	120	125	-4.00	101.4	8.08	0
North	19	872	1.52	8.08	21.34	0.073	27	25	120	125	-4.00	101.0	8.08	0
North	20	871	1.52	8.08	21.34	0.074	27	25	120	125	-4.00	101.7	8.08	0
North	21	872	1.78	8.73	24.89	0.079	27	25	120	125	-5.00	101.4	8.73	0
North	22	870	1.27	7.37	17.78	0.067	27	25	120	125	-5.00	101.3	7.37	0
North	23	872	1.27	7.38	17.78	0.067	27	25	120	125	-5.00	100.5	7.38	0
North	24	872	1.27	7.38	17.78	0.068	27	25	120	125	-5.00	102.2	7.38	0
Leak Check														
East	25	873	1.27	7.38	17.78	0.067	27	25	120	125	-4.00	101.4	7.38	0
East	26	873	1.27	7.38	17.78	0.067	27	25	120	125	-4.00	101.4	7.38	0
East	27	873	1.52	8.09	21.34	0.073	27	25	120	125	-5.00	101.0	8.09	0
East	28	873	1.27	7.38	17.78	0.067	28	25	120	125	-5.00	101.6	7.38	0
East	29	874	1.52	8.09	21.34	0.073	28	25	120	126	-5.00	101.3	8.09	0
East	30	874	1.52	8.09	21.34	0.073	28	25	120	126	-5.00	100.9	8.09	0
East	31	872	1.78	8.73	24.89	0.080	28	25	120	126	-5.00	101.6	8.73	0
East	32	871	1.78	8.73	24.89	0.080	28	25	120	126	-5.00	101.5	8.73	0
East	33	871	1.78	8.73	24.89	0.079	28	25	120	126	-5.00	101.2	8.73	0
East	34	870	1.78	8.72	24.89	0.080	28	25	121	125	-5.00	101.5	8.72	0
East	35	870	2.03	9.32	27.94	0.085	28	26	120	125	-5.00	101.4	9.32	0
East	36	870	2.03	9.32	27.94	0.085	28	26	120	125	-5.00	101.4	9.32	0
East	37	869	2.03	9.32	27.94	0.085	28	26	120	125	-5.00	101.4	9.32	0
East	38	870	2.03	9.32	27.94	0.085	28	26	120	125	-5.00	101.4	9.32	0
East	39	869	1.78	8.72	24.89	0.080	28	26	120	125	-5.00	101.6	8.72	0
East	40	870	2.03	9.32	27.94	0.085	28	26	120	125	-5.00	101.1	9.32	0
East	41	872	1.52	8.08	21.34	0.073	29	26	120	125	-5.00	101.3	8.08	0
East	42	872	1.52	8.08	21.34	0.074	29	26	120	126	-5.00	101.6	8.08	0
East	43	875	1.52	8.09	21.34	0.073	29	26	120	126	-5.00	101.4	8.09	0
East	44	875	1.52	8.09	21.34	0.073	29	26	120	126	-5.00	101.4	8.09	0
East	45	874	1.27	7.38	17.78	0.067	29	26	120	126	-5.00	100.9	7.38	0
East	46	871	1.27	7.37	17.78	0.067	29	26	120	126	-5.00	101.2	7.37	0
East	47	870	1.27	7.37	17.78	0.067	29	27	120	126	-5.00	101.0	7.37	0
East	48	870	1.27	7.37	17.78	0.067	29	27	120	126	-5.00	101.4	7.37	0
AVERAGE		**872**	**1.60**	**8.25**	**22.23**		**27**	**25**				**101.3**	**8.25**	

ISOKINETIC FIELD DATA RUN #3

INCINERATOR STACK
MELIADINE MINE

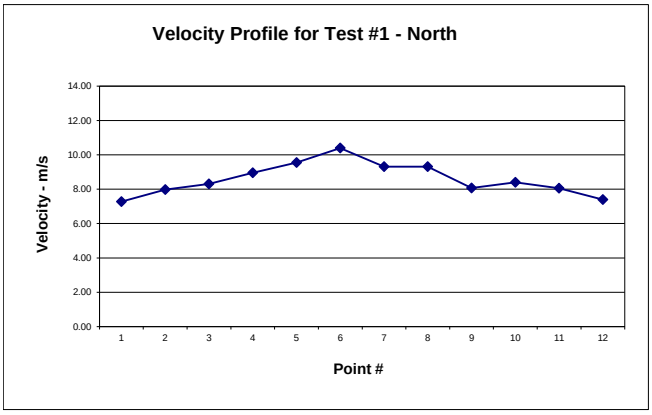
DATE: 08-Sep-22 ***TIME:*** 06:20 to 10:30

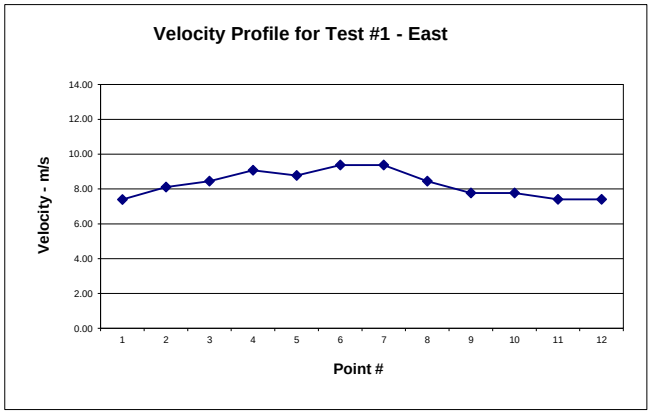
Port	Point No.	Stack Temp (^oC)	Velocity Head (mm H_2O)	Velocity (m/s wet)	Orifice Press. (mm H_2O)	Volume Sampled (m^3)	Meter Temp In (^oC)	Meter Temp Out (^oC)	Temperature Probe (^oC)	Temperature Box (^oC)	Vacuum (in. Hg)	% Isokinetic	Velocity (Vertical) (m/s)	θ
North	1	817	1.52	7.99	21.34	0.074	12	11	118	119	-3.00	101.5	7.99	0
North	2	817	1.52	7.99	21.34	0.073	12	11	118	117	-3.00	101.1	7.99	0
North	3	817	1.27	7.30	17.78	0.067	12	11	119	116	-3.00	100.8	7.30	0
North	4	817	1.52	7.99	21.34	0.074	12	11	119	115	-3.00	101.9	7.99	0
North	5	815	1.52	7.99	21.34	0.074	12	11	119	113	-3.00	101.4	7.99	0
North	6	815	1.78	8.63	24.89	0.079	12	11	120	110	-4.00	101.3	8.63	0
North	7	819	1.78	8.64	24.64	0.079	12	11	120	110	-4.00	101.5	8.64	0
North	8	819	2.03	9.24	27.94	0.084	12	11	120	110	-4.00	100.8	9.24	0
North	9	817	1.78	8.64	24.89	0.079	12	11	120	109	-4.00	101.4	8.64	0
North	10	817	1.78	8.64	24.89	0.080	12	11	120	110	-4.00	102.1	8.64	0
North	11	816	1.52	7.99	21.34	0.074	12	11	120	111	-4.00	101.5	7.99	0
North	12	815	2.03	9.22	27.94	0.084	12	11	120	110	-4.00	100.6	9.22	0
North	13	818	2.03	9.24	27.94	0.085	13	11	120	115	-4.00	101.6	9.24	0
North	14	817	2.03	9.23	27.94	0.085	13	11	120	113	-4.00	101.2	9.23	0
North	15	817	2.03	9.23	27.94	0.085	13	11	120	112	-4.00	101.9	9.23	0
North	16	816	2.29	9.79	30.48	0.090	13	11	120	112	-4.00	101.5	9.79	0
North	17	817	2.29	9.79	30.48	0.090	13	11	120	114	-4.00	101.5	9.79	0
North	18	819	2.03	9.24	27.94	0.084	13	11	120	115	-4.00	100.9	9.24	0
North	19	820	2.03	9.24	27.94	0.085	14	11	120	115	-4.00	101.1	9.24	0
North	20	817	1.78	8.64	24.89	0.079	14	11	120	115	-4.00	101.4	8.64	0
North	21	814	1.78	8.62	24.89	0.080	14	11	120	115	-4.00	102.0	8.62	0
North	22	819	1.52	8.00	21.34	0.074	14	12	120	116	-4.00	101.9	8.00	0
North	23	813	1.52	7.98	21.59	0.074	14	12	120	116	-4.00	101.2	7.98	0
North	24	813	1.52	7.98	21.34	0.073	14	12	120	116	-4.00	100.8	7.98	0
Leak Check														
East	25	815	1.27	7.29	17.78	0.067	15	12	120	115	-4.00	101.3	7.29	0
East	26	818	1.27	7.30	17.78	0.067	15	12	120	114	-4.00	101.0	7.30	0
East	27	820	1.27	7.31	17.78	0.067	15	12	120	114	-4.00	101.5	7.31	0
East	28	821	1.27	7.31	17.78	0.079	15	12	120	113	-4.00	119.2	7.31	0
East	29	820	1.78	8.65	24.89	0.080	15	12	120	113	-4.00	101.9	8.65	0
East	30	821	1.78	8.65	24.89	0.079	15	12	120	114	-4.00	101.6	8.65	0
East	31	822	1.78	8.66	24.89	0.073	15	13	120	112	-4.00	93.4	8.66	0
East	32	820	1.52	8.01	21.34	0.074	15	13	120	114	-4.00	101.6	8.01	0
East	33	821	1.52	8.01	21.34	0.080	15	13	120	115	-4.00	109.9	8.01	0
East	34	821	1.78	8.65	24.89	0.079	15	13	120	115	-4.00	101.0	8.65	0
East	35	824	1.78	8.66	24.89	0.079	16	13	120	115	-4.00	101.4	8.66	0
East	36	824	1.78	8.66	24.89	0.085	16	13	120	114	-4.00	108.6	8.66	0
East	37	824	2.03	9.26	27.94	0.085	16	14	120	113	-4.00	101.5	9.26	0
East	38	825	2.03	9.27	27.94	0.084	16	14	120	113	-5.00	101.2	9.27	0
East	39	827	2.03	9.27	27.94	0.090	16	14	120	113	-5.00	107.4	9.27	0
East	40	827	2.29	9.84	30.48	0.085	16	14	120	111	-5.00	95.8	9.84	0
East	41	826	2.03	9.27	27.94	0.090	16	14	120	111	-5.00	107.3	9.27	0
East	42	826	2.29	9.83	30.48	0.079	16	14	120	112	-5.00	89.7	9.83	0
East	43	825	1.78	8.67	24.89	0.079	16	14	120	112	-5.00	100.9	8.67	0
East	44	825	1.78	8.67	24.89	0.067	16	14	120	114	-5.00	86.3	8.67	0
East	45	827	1.27	7.33	17.78	0.073	17	14	120	114	-5.00	110.2	7.33	0
East	46	828	1.52	8.04	21.34	0.068	17	14	120	115	-5.00	93.6	8.04	0
East	47	828	1.27	7.34	17.78	0.067	17	15	120	114	-5.00	101.0	7.34	0
East	48	827	1.27	7.33	17.78	0.068	17	15	120	114	-5.00	102.7	7.33	0
AVERAGE		**820**	**1.74**	**8.51**	**24.06**		**14**	**12**				**101.5**	**8.51**	

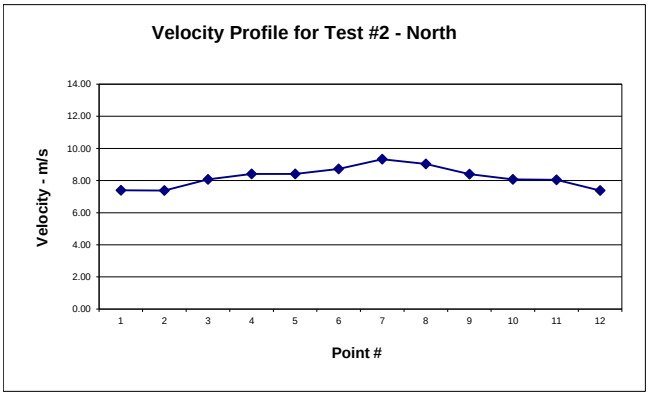
VELOCITY PROFILES

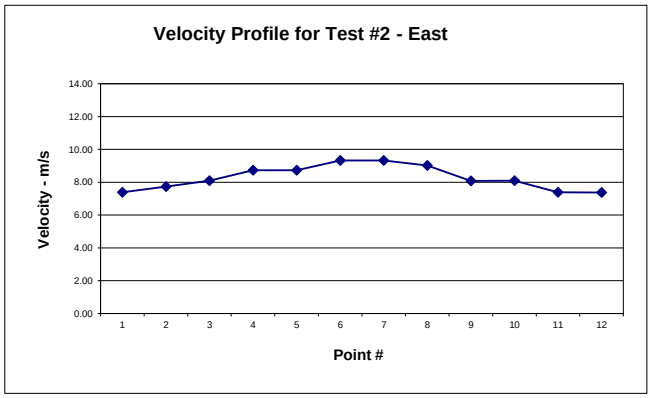
INCINERATOR STACK
MELIADINE MINE

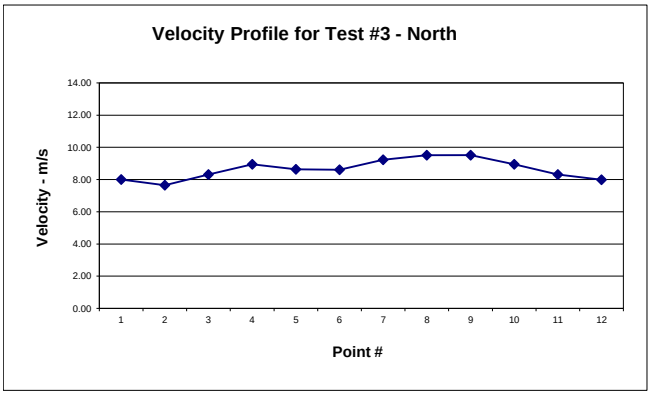
September 6 - 8, 2022

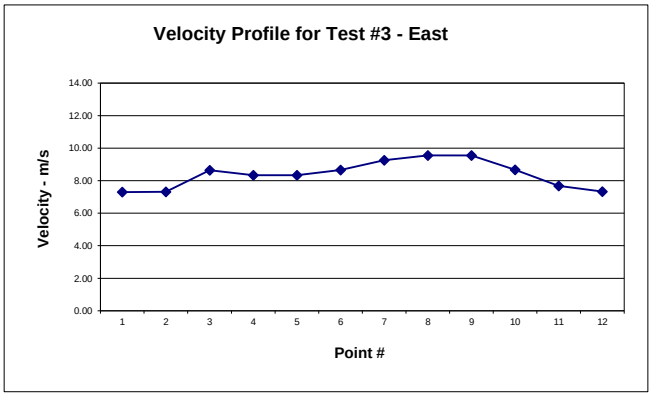












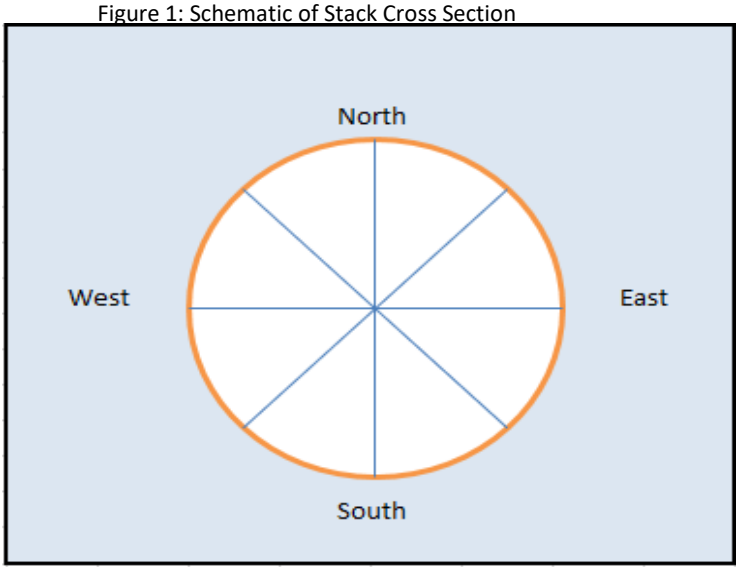
INCINERATOR STACK
MELIADINE MINE

	Number of Traverse Points on a Diameter											
Traverse Point Number on a Diameter	2	4	6	8	10	12	14	16	18	20	22	24
1	5.6	2.6	1.7	1.2	1.0	0.8	0.7	0.6	0.5	0.5	0.4	0.4
2	32.9	9.6	5.6	4.0	3.2	2.6	2.2	1.9	1.7	1.5	1.3	1.2
3		28.9	11.4	7.5	5.6	4.5	3.8	3.3	2.9	2.6	2.3	2.1
4		35.9	27.1	12.4	8.7	6.8	5.6	4.8	4.2	3.7	3.3	3.0
5			32.9	26.1	13.2	9.6	7.7	6.5	5.6	5.0	4.5	4.0
6			36.8	31.0	25.3	13.7	10.4	8.5	7.2	6.4	5.6	5.1
7				34.5	29.8	24.8	14.1	10.9	9.1	7.9	6.9	6.2
8				37.3	32.9	28.9	24.4	14.4	11.4	9.6	8.4	7.5
9					35.3	31.7	28.1	24.1	14.7	11.8	10.1	8.9
10					37.5	34.0	30.8	27.6	23.8	14.9	12.1	10.5
11						35.9	32.9	30.0	27.1	23.6	15.1	12.4
12						37.7	34.7	32.0	29.4	26.7	23.4	15.3
13							36.3	33.7	31.3	28.9	26.4	23.2
14							37.8	35.2	32.9	30.6	28.4	26.1
15								36.6	34.3	32.1	30.1	28.0
16								37.9	35.6	33.5	31.6	29.6
17									36.8	34.8	32.9	31.0
18									38.0	35.9	34.0	32.3
19										37.0	35.2	33.4
20										38.0	36.2	34.5
21											37.2	35.5
22											38.1	36.4
23												37.3
24												38.1

Table 1: Location of Traverse Points used for Sampling

Stack Height (m):	11.10
Annulus Length (in.):	7.75
Stack Diameter (in.):	38.5
Diameter(s) to be Tested:	2
Total points tested:	24
Total Points per diameter:	12

Figure 1: Schematic of Stack Cross Section



APPENDIX III
ANALYTICAL RESULTS

Bureau Veritas Canada
#1 2080 39th Avenue NE
Calgary, Ab T2E 6P7

bvlabs.com
Toll Free 800-386-7247
Fax 403-219-3673

PARTICULATE PRE-TEST BLANK ANALYSIS

Company:	**Bureau Veritas Canada - Emission Services Group**	**Method Reference:**	AENV Method 5
Date Reported:	**2022-06-03**	**Laboratory Reference:**	EMS SOP-00115
Analyst:	Qun Wong		
Approved:	Bill Wong		

Initial Weighing (1) - Date/Time:	2022-06-01 / 08:20	**Final Weighing (1) - Date/Time:**	2022-06-02 / 08:45
Initial Weighing (2) - Date/Time:	2022-06-01 / 15:00	**Final Weighing (2) - Date/Time:**	2022-06-02 / 15:05

Blank Analysis

	ACETONE		DEIONIZED WATER	
Flask #:	X1		X2	
Manufacturer / Lot #	Fisher Optima / 218251		Air Services Lab Deionization System	
Volume Analyzed (mls):	200		200	
Weighing Number :	**1**	**2**	**1**	**2**
Final Weight (g):	6.8379	6.8377	1.9806	1.9808
Initial Weight (g):	6.8378	6.8378	1.9808	1.9809
Net (mg):	0.0		0.0	
Density (g/ml):	0.78		1.00	
Weight %:	**0.0000**		**0.0000**	

Blank Analysis

	METHYLENE CHLORIDE		HEXANE	
Flask #:	X3		X4	
Manufacturer / Lot #	Fisher Optima / 220746		Fisher Optima / 215530	
Volume Analyzed (mls):	200		200	
Weighing Number :	**1**	**2**	**1**	**2**
Final Weight (g):	2.2296	2.2299	7.7143	7.7141
Initial Weight (g):	2.2297	2.2299	7.7142	7.7144
Net (mg):	0.0		0.0	
Density:	1.32		0.65	
Weight %:	**0.0000**		**0.0000**	

Shaping a world of trust

Bureau Veritas Canada
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Calgary, Ab T2E 6P7

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EPA M5 - Particulate Matter (PM) - Front Half

Company:	Agnico Eagle Mines Limited	**Project Number:**	2779
Plant Location:	Meliadine Site - ~~Baker Lake,~~ Rankin Inlet Nunavut KW 23-Feb-23	**Method Reference:**	EPA Method 5
Source:	Incinerator Stack	**Laboratory Reference:**	EMS SOP-00115
Date Sampled:	2022-08-31 / 2022-09-01	**Analyst:**	Qun Wong
Date Reported:	2022-10-14	**Approved:**	Bill Wong
Report Version:	1		

Initial Weighing (1) - Date/Time:	2022-09-23 / 09:15	**Final Weighing (1) - Date/Time:**	2022-09-27 / 14:45
Initial Weighing (2) - Date/Time:	2022-09-23 / 15:20	**Final Weighing (2) - Date/Time:**	2022-09-28 / 09:10

Blank Analysis

	ACETONE		DEIONIZED WATER	
Lab Tracking # / Flask #:	W7		P2	
Volume Analyzed (mls):	200		200	
Weighing Number :	**1**	**2**	**1**	**2**
Final Weight (g):	6.7972	6.7972	1.7495	1.7494
Initial Weight (g):	6.7970	6.7973	1.7492	1.7496
Net (mg):	0.05		0.05	
Blank Concentration (mg/ml):	0.0003		0.0003	

Blank Correction

	Probe Wash (Front Half)			Impinger (Back Half)		
Lab Tracking #:	21529	21530	21531			
Test Number:	**1**	**2**	**3**	**1**	**2**	**3**
Total Volume Collected (mls):	150	150	150			
Blank (mg) = Total Volume (ml) x Blank Concentration (mg/ml)	**0.0**	**0.0**	**0.0**			

Filter - Test #:

	1		2		3	
Lab Tracking # / Filter ID:	21525	QM2394	21526	QM2404	21527	QM2395
Weighing Number :	**1**	**2**	**1**	**2**	**1**	**2**
Final Weight (g):	0.4160	0.4157	0.4000	0.4001	0.4070	0.4072
Initial Weight (g):	0.3674		0.3843		0.3931	
Net (mg):	**48.5**		**15.8**		**14.0**	

Probe Wash - Test #:

	1		2		3	
Lab Tracking # / Flask #:	21529	W8	21530	W9	21531	W10
Amount of Liquid Lost during transport (ml) :	0		0		0	
Weighing Number :	**1**	**2**	**1**	**2**	**1**	**2**
Final Weight (g):	6.7280	6.7275	6.3124	6.3125	7.1927	7.1929
Initial Weight (g):	6.7258	6.7255	6.3110	6.3110	7.1919	7.1920
Net (mg):	2.1		1.5		0.8	
Net (mg) - Blank Corrected:	**2.1**		**1.5**		**0.8**	

Bureau Veritas Canada
#1 2080 39th Avenue NE
Calgary, Ab T2E 6P7

bvlabs.com
Toll Free 800-386-7247
Fax 403-219-3673

EPA M5 - Particulate Matter (PM) - Back Half

Company:	Agnico Eagle Mines Limited	**Project Number:**	2779
Plant Location:	Meliadine Site - ~~Baker Lake~~ Rankin Inlet, Nunavut	**Method Reference:**	EPA Method 5
Source:	Incinerator Stack KW 23-Feb-23	**Laboratory Reference:**	EMS SOP-00115
Date Sampled:	2022-08-31 / 2022-09-01	**Analyst:**	Qun Wong
Date Reported:	2022-10-14	**Approved:**	Bill Wong
Report Version:	1		

Impinger - Test #:

	1		2		3	
Lab Tracking # / Flask #:						
Amount of Liquid Lost during transport (ml) :						
Weighing Number :	1	2	1	2	1	2
Aliquot used (ml):						
Final Weight (g):						
Initial Weight (g):						
Net (mg):						
Blank (mg):						
Net (mg) - Blank & Volume Corrected:						

Impinger Filtration - Test #:

	1		2		3	
Filter #:						
Final Weight (g):						
Initial Weight (g):						
Net (mg):						

QAQC Standard

Flask Number:	99	
Weighing Number :	1	2
Aliquot used (ml):	100	
Final Weight (g):	0.5360	0.5362
Initial Weight (g):	0.5261	0.5263
Net (mg):	9.9	
True Value (mg):	10.0	
% Recovery:	**99.0**	

SUMMARY

Test #:	1	2	3
Total F/H Particulates (mg):	**50.6**	**17.3**	**14.8**
Total B/H Particulates (mg):			
Total Particulates (mg):	**50.6**	**17.3**	**14.8**

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US EPA Method 26/26A - Hydrogen Halides & Halogens - Ion Chromotography

KW 23-Feb-23

Company Name: **Agnico Eagle Mines Limited**
Plant Location: Meliadine Site - ~~Baker Lake~~ Rankin Inlet, Nunavut
Source Location: Incinerator Stack
Sampling Date: 2022-08-31 to 2022-09-02
Analytical Date: 2022-10-05
Reporting Date: 2022-10-14
Report Version: 1

Project Number: 2779
Method Reference: US EPA Method 26/26A
Laboratory Reference: EMS SOP-00110
Analyst: BW

Acidic Fraction

Lab Tracking #	Test #	Cl (mg/L)	Total Volume	Dilution	HCl (mg)
21466	1	1.434	163	25	6.007
21467	2	1.287	169	25	5.592
21468	3	1.353	167	25	5.809
21469	Blank	-0.030	100	1	-0.003

Caustic Fraction

Lab Tracking #	Test #	Cl (mg/L)	Total Volume	Dilution	Cl_2 (mg)
21470	1	-0.030	150	1	-0.005
21471	2	-0.030	150	1	-0.005
21472	3	-0.030	150	1	-0.005
21473	Blank	-0.030	100	1	-0.003

Analytical Precision and QAQC

Acidic Fraction

Lab ID#	Run #	Cl
21466	1	1.433
	2	1.434
	Average	1.434
	% +/-	0.0

Caustic Fraction

Lab ID#	Run #	Cl
21470	1	-0.030
	2	-0.030
	Average	-0.030
	% +/-	0.0

Second Source Calibration Standard

Lot # SPEX 18-161JKSY / 1308-39-5

QAQC #	Run #	Cl
1	7195	7.924
2	7202	7.934
3	7209	7.929
Average		7.929
True Value		7.960
% Recovery		99.6

Continuous Calibration Verification

Lot # 1308-39-6

QAQC #	Run #	Cl
1	7196	9.936
2	7203	9.933
3	7210	9.911
Average		9.927
True Value		10.000
% Recovery		99.3

Reviewed by: Jackson Le

Validated by: Bill Wong

Note: All chromatograms, calibrations and QAQC data wil be kept on file and will be reproduced and sent upon request.
MDL = 0.03 mg/L Cl 0.003 mg HCl / Cl_2 .

" - " means less than MDL

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US EPA Method 7A - Nitrogen Oxide Analysis - Ion Chromotography

KW 23-Feb-23

Company Name: **Agnico Eagle Mines Limited**
Plant Location: Meliadine Site - ~~Baker Lake~~ Rankin Inlet, Nunavut
Source Location: Incinerator Stack
Sampling Date: 2022-08-31 to 2022-09-01/02
Analytical Date: 2022-10-05
Reporting Date: 2022-10-14
Report Version: 1

Project Number: 2779
Method Reference: US EPA Method 7A
Laboratory Reference: EMS SOP-00110
Analyst: BW

Lab Tracking #	Test #	Bomb #	NO_3 (mg/L)	Total Volume	Dilution	NO_2 (mg)
21452	1A	79	6.659	50	1	0.247
21453	1B	70	6.303	50	1	0.234
21454	2A	85	6.443	50	1	0.239
21455	2B	110	6.508	50	1	0.241
21456	3A	101	6.420	50	1	0.238
21457	3B	100	7.197	50	1	0.267
21458	Blank		0.010	50	1	0.000

Analytical Precision and QAQC

Lab ID#	Run #	NO_3
21452	1	6.649
	2	6.669
	Average	6.659
	% +/-	0.2

	Second Source Calibration Standard Lot # SPEX 18-161JKSY / 1308-39-5		Continuous Calibration Verification Lot # 1308-39-6	
QAQC #	Run #	NO_3	Run #	NO_3
1	7178	15.978	7179	9.703
2	7188	15.949	7189	9.695
Average		15.964		9.699
True Value		16.000		10.000
% Recovery		99.8		97.0

Reviewed by: Jackson Le

Validated by: Bill Wong

Note: All chromatograms, calibrations and QAQC data wil be kept on file and will be reproduced and sent upon request.
MDL = 0.03 mg/L NO_3 or 0.001 mg NO_2

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AENV / EPA Method 3 - Fixed Gas Analysis - Gas Chromatography

KW 23-Feb-23

Company Name: **Agnico Eagle Mines Limited**
Plant Location: **Meliadine Site - ~~Baker Lake~~ Rankin Inlet, Nunavut**
Sampling Date: 2022-08-31 / 2022-09-01/02
Analytical Date: 2022-09-26
Reporting Date: 2022-10-05
Report Version: 1

Project #: 2779
Method Reference: AENV / EPA Method 3
Laboratory Reference: EMS SOP-00112
Analyst: JL

Source Location:	Incinerator Stack 10 L Tedlar Bag	Incinerator Stack 10 L Tedlar Bag	Incinerator Stack 10 L Tedlar Bag
	Test 1	Test 2	Test 3
Lab ID#:	21474	21475	21476
Time:	14:35-15:35	13:20-14:20	14:15-15:15

FIXED GAS ANALYSIS

(Mole % - Dry Basis)

COMPONENT			
H_2	< 0.05	< 0.05	< 0.05
Ar	0.96	0.96	0.97
O_2	13.29	13.16	12.15
N_2	80.62	80.21	80.81
CO_2	5.12	5.67	6.07
CO	<0.0004	< 0.0004	< 0.0004
C_1	<0.0004	< 0.0004	< 0.0004
Total	100.00	100.00	100.00

Reviewed By: **Jackson Le**

Validated By: **Bill Wong**

MDL - Fixed Gases for CH_4 and CO - 4 ppmv
ZERO means analyzed for but not detected.

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AENV / EPA Method 3 - Fixed Gas Analysis - Gas Chromatography

KW 23-Feb-23

Company Name: **Agnico Eagle Mines Limited**
Plant Location: **Meliadine Site - ~~Baker Lake~~ Rankin Inlet, Nunavut**
Sampling Date: 2022-08-31 / 2022-09-01/02
Analytical Date: 2022-09-26
Reporting Date: 2022-10-05
Report Version: 1

Project #: 2779
Method Reference: AENV / EPA Method 3
Laboratory Reference: EMS SOP-00112
Analyst: JL

Source Location:	Incinerator Stack GC Bomb	Incinerator Stack GC Bomb	Incinerator Stack GC Bomb
	Test 1	Test 2	Test 3
Lab ID#:	21477	21478	21479
Time:	14:35-15:35	13:20-14:20	14:15-15:15

FIXED GAS ANALYSIS

(Mole % - Dry Basis)

COMPONENT			
H_2	< 0.05	< 0.05	< 0.05
Ar	0.96	0.96	0.96
O_2	13.12	11.95	11.63
N_2	80.26	80.39	80.53
CO_2	5.66	6.70	6.88
CO	<0.0004	< 0.0004	< 0.0004
C_1	<0.0004	< 0.0004	< 0.0004
Total	100.00	100.00	100.00

Reviewed By: **Jackson Le**

Validated By: **Bill Wong**

MDL - Fixed Gases for CH_4 and CO - 4 ppmv
ZERO means analyzed for but not detected.

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US EPA Method 6 / AECV Method 47071 - Sulphur Dioxide Analysis - Ion Chromotography

KW 23-Feb-23

Company Name: **Agnico Eagle Mines Limited**
Plant Location: Meliadine Site - ~~Baker Lake~~ Rankin Inlet, Nunavut
Source Location: Incinerator Stack
Sampling Date: 2022-09-06/08
Analytical Date: 2022-10-05
Reporting Date: 2022-10-14
Report Version: 1

Project Number: 2779
Method Reference: US EPA Method 6 and AECV Method 4707
Laboratory Reference: EMS SOP-00110
Analyst: BW

Lab Tracking #	Test #	SO_4 (mg/L)	Total Volume	Dilution	SO_2 (mg)
21459	3	41.588	276	1	7.655
21460	4	40.126	274	1	7.332
21461	5	17.950	272	1	3.256
21462	Blank	0.235	200	1	0.031

Analytical Precision and QAQC

Lab ID#	Run #	SO_4
21459	1	41.690
	2	41.486
	Average	41.588
	% +/-	0.3

	Second Source Calibration Standard Lot # SPEX 18-161JKSY / 1308-39-5		Continuous Calibration Verification Lot # 1308-39-6	
QAQC #	Run #	SO_4	Run #	SO_4
1	7186	16.440	7189	9.821
2	7195	16.463	7196	9.802
Average		16.452		9.812
True Value		15.880		10.000
% Recovery		103.6		98.1

Reviewed by: Jackson Le

Validated by: Bill Wong

Note: All chromatograms, calibrations and QAQC data wil be kept on file and will be reproduced and sent upon request.
MDL = 0.010 mg/L SO_4 or 0.001 mg SO_2

Shaping a world of trust

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AENV / EPA Method 3 - Fixed Gas Analysis - Gas Chromatography

KW 23-Feb-23

Company Name: **Agnico Eagle Mines Limited**
Plant Location: **Meliadine Site - ~~Baker Lake~~ Rankin Inlet, Nunavut**
Sampling Date: 2022-09-06/08
Analytical Date: 2022-09-26
Reporting Date: 2022-10-05
Report Version: 1

Project #: 2779
Method Reference: AENV / EPA Method 3
Laboratory Reference: EMS SOP-00112
Analyst: JL

Source Location:	Incinerator Stack 10 L Tedlar Bag	Incinerator Stack 10 L Tedlar Bag	Incinerator Stack 10 L Tedlar Bag
	Test 1	Test 2	Test 3
Lab ID#:	21483	21484	21485
Time:	10:00-11:00	14:35-15:35	06:30-07:30

FIXED GAS ANALYSIS

(Mole % - Dry Basis)

COMPONENT			
H_2	< 0.05	< 0.05	< 0.05
Ar	0.96	0.96	0.96
O_2	12.22	12.13	12.18
N_2	80.60	80.58	80.63
CO_2	6.22	6.32	6.22
CO	<0.0004	< 0.0004	< 0.0004
C_1	<0.0004	< 0.0004	< 0.0004
Total	100.00	100.00	100.00

Reviewed By: **Jackson Le**

Validated By: **Bill Wong**

MDL - Fixed Gases for CH_4 and CO - 4 ppmv
ZERO means analyzed for but not detected.

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AENV / EPA Method 3 - Fixed Gas Analysis - Gas Chromatography

KW 23-Feb-23

Company Name: **Agnico Eagle Mines Limited**
Plant Location: **Meliadine Site - ~~Baker Lake~~ Rankin Inlet, Nunavut**
Sampling Date: 2022-09-06/08
Analytical Date: 2022-09-26
Reporting Date: 2022-10-05
Report Version: 1

Project #: 2779
Method Reference: AENV / EPA Method 3
Laboratory Reference: EMS SOP-00112
Analyst: JL

Source Location:	Incinerator Stack GC Bomb	Incinerator Stack GC Bomb	Incinerator Stack GC Bomb
	Test 1	Test 2	Test 3
Lab ID#:	21480	21481	21482
Time:	10:00-11:00	14:35-15:35	06:30-07:30

FIXED GAS ANALYSIS

(Mole % - Dry Basis)

COMPONENT			
H_2	< 0.05	< 0.05	< 0.05
Ar	0.96	0.96	0.96
O_2	12.01	11.96	11.97
N_2	80.23	80.24	80.25
CO_2	6.81	6.83	6.82
CO	<0.0004	< 0.0004	< 0.0004
C_1	<0.0004	< 0.0004	< 0.0004
Total	100.00	100.00	100.00

Reviewed By: **Jackson Le**

Validated By: **Bill Wong**

MDL - Fixed Gases for CH_4 and CO - 4 ppmv
ZERO means analyzed for but not detected.

Company: Agnico Eagle Mines Limited - Meliadine Site - ~~Baker Lake~~ Rankin Inlet, Nunavut

Source: Incinerator Stack

KW 23-Feb-23

Date: 2022-09-06/08

Project #: 2779

TEST 1

	INITIAL WEIGHT	FINAL WEIGHT	LOAD
MM5 SET#	13		
H20 IMPINGER 1	504.2	707.0	202.8
H20 IMPINGER 2	496.0	496.0	0.0
GLYCOL IMPINGER	781.0	813.0	32.0
EMPTY IMPINGER	657.9	658.0	0.1
SILICA GEL IMPINGER	892.9	912.0	19.1
CONDENSER	288.6	291.0	2.4
XAD CARTRIDGE	335.0	339.0	4.0
XAD CARTRIDGE #	1		
			260.4

TEST 2

	INITIAL WEIGHT	FINAL WEIGHT	LOAD
MM5 SET#	14		
H20 IMPINGER 1	510.6	678.0	167.4
H20 IMPINGER 2	504.4	504.4	0.0
GLYCOL IMPINGER	768.0	785.0	17.0
EMPTY IMPINGER	662.3	665.0	2.7
SILICA GEL IMPINGER	806.7	814.0	7.3
CONDENSER	267.8	271.0	3.2
XAD CARTRIDGE	340.5	345.0	4.5
XAD CARTRIDGE #	2		
			202.1

TEST 3

	INITIAL WEIGHT	FINAL WEIGHT	LOAD
MM5 SET#	16		
H20 IMPINGER 1	488.9	714.0	225.1
H20 IMPINGER 2	513.5	513.5	0.0
GLYCOL IMPINGER	713.0	733.0	20.0
EMPTY IMPINGER	654.7	656.0	1.3
SILICA GEL IMPINGER	828.9	838.0	9.1
CONDENSER	279.0	282.0	3.0
XAD CARTRIDGE	331.8	335.0	3.2
XAD CARTRIDGE #	4		
			261.7

BLANK

	INITIAL WEIGHT	FINAL WEIGHT	LOAD
MM5 SET#	10		
H20 IMPINGER 1	497.8	497.8	0.0
H20 IMPINGER 2	477.9	477.9	0.0
GLYCOL IMPINGER	785.0	785.0	0.0
EMPTY IMPINGER	653.9	653.9	0.0
SILICA GEL IMPINGER	884.0	884.0	0.0
CONDENSER	276.5	276.5	0.0
XAD CARTRIDGE	335.4	335.4	0.0
XAD CARTRIDGE #	5		
			0.0

Your Project #: 2779
Site#: INCINERATOR STACK- MELIADINE S
Site Location: AGNICO EAGLE MINES LIMITED-RANKIN INLET,NUNAVUT
Your C.O.C. #: 200925-01

Attention: Bill Wong

Bureau Veritas
Calgary - Air Services
1 - 2080 39th Ave NE
Calgary, AB
CANADA T2E 6P7

Report Date: 2022/10/26
Report #: R7358495
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C2S6928
Received: 2022/10/03, 09:12

Sample Matrix: Stack Sampling Train
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Mercury 3C in HCl Rinse	5	2022/10/14	2022/10/17	BRL SOP-00104	EPA M29/M0060 m
Mercury 2B in HNO3/H2O2 Imp.	4	2022/10/11	2022/10/17	BRL SOP-00104	EPA M29/M0060 m
Mercury 3A in HNO3 Rinse	4	2022/10/11	2022/10/17	BRL SOP-00104	EPA M29/M0060 m
Mercury 3B in KMnO4/H2SO4 Imp.	5	2022/10/13	2022/10/17	BRL SOP-00104	EPA M29/M0060 m
Mercury 1B in Filter + Rinse (M29)	4	2022/10/11	2022/10/17	BRL SOP-00104	EPA 29 m
Metals B.H. in H2O2/HNO3 Imp.(6010C)	5	2022/10/12	2022/10/21	CAM SOP-00408 / BRL SOP-00102	EPA 6010D/M29 m
Metals F.H. in Filter + Rinse (6010C)	5	2022/10/11	2022/10/21	CAM SOP-00408 / BRL SOP-00102	EPA 6010D/ M29 m
Metals B.H. in H2O2/HNO3 Imp.(6020B m)	5	2022/10/12	2022/10/17	BRL SOP-00103 / BRL SOP-00102	EPA M29/CARB 436 m
Precious Metals B.H. in H2O2/HNO3 Imp.	5	2022/10/12	2022/10/21	BRL SOP-00103 / BRL SOP-00102	EPA 6020B/M29 m
Precious Metals F.H. in Filter + Rinses	5	2022/10/11	2022/10/21	BRL SOP-00103/ BRL SOP-00102	EPA 6020B/M29 m
Metals F.H. in Filter + Rinses (6020B m)	5	2022/10/11	2022/10/14	BRL SOP-00103/ BRL SOP-00102	EPA M29/CARB 436 m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the

Your Project #: 2779
Site#: INCINERATOR STACK- MELIADINE S
Site Location: AGNICO EAGLE MINES LIMITED-RANKIN INLET,NUNAVUT
Your C.O.C. #: 200925-01

Attention: Bill Wong

Bureau Veritas
Calgary - Air Services
1 - 2080 39th Ave NE
Calgary, AB
CANADA T2E 6P7

Report Date: 2022/10/26
Report #: R7358495
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C2S6928
Received: 2022/10/03, 09:12
customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* 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:
Marinela Sim, Project Manager
Email: Marinela.Sim@bureauveritas.com
Phone# (905)817-5828
==========
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

EPA M29 METALS (FRONT & BACK SEPARATE)

Bureau Veritas ID		TXJ961	TXJ962			TXJ964			
Sampling Date		2022/09/27	2022/09/27			2022/09/02			
COC Number		200925-01	200925-01			200925-01			
	UNITS	FRONT HALF SPIKE	BACK HALF SPIKE	RDL	MDL	M29-BLANK	RDL	MDL	QC Batch
Front Half Antimony (Sb)	ug	16.6	N/A	3.0	0.080	<3.0	3.0	0.080	8276132
Front Half Arsenic (As)	ug	12.9	N/A	0.80	0.080	<0.80	0.80	0.080	8276132
Front Half Barium (Ba)	ug	46.0	N/A	1.2	0.80	2.1	1.2	0.80	8276132
Front Half Beryllium (Be)	ug	15.7	N/A	0.18	0.040	<0.18	0.18	0.040	8276132
Front Half Boron (B)	ug	<100	N/A	100	2.0	<100	100	2.0	8276132
Front Half Cadmium (Cd)	ug	18.5	N/A	0.18	0.040	<0.18	0.18	0.040	8276132
Front Half Chromium (Cr)	ug	17.9	N/A	3.0	0.10	<3.0	3.0	0.10	8276132
Front Half Cobalt (Co)	ug	17.7	N/A	0.18	0.020	<0.18	0.18	0.020	8276132
Front Half Copper (Cu)	ug	19.0	N/A	1.8	0.20	<1.8	1.8	0.20	8276132
Front Half Lead (Pb)	ug	56.1	N/A	0.60	0.040	<0.60	0.60	0.040	8276132
Front Half Magnesium (Mg)	ug	<30	N/A	30	1.0	<30	30	1.0	8276132
Front Half Manganese (Mn)	ug	75.0	N/A	1.2	0.10	<1.2	1.2	0.10	8276132
Front Half Nickel (Ni)	ug	58.4	N/A	1.0	0.20	1.4	1.0	0.20	8276132
Front Half Phosphorus (P)	ug	<90	N/A	90	10	<90	90	10	8276132
Front Half Selenium (Se)	ug	34.9	N/A	2.0	0.50	<2.0	2.0	0.50	8276132
Front Half Silver (Ag)	ug	17.7	N/A	0.24	0.040	<0.24	0.24	0.040	8276132
Front Half Strontium (Sr)	ug	9.72	N/A	0.90	0.060	<0.90	0.90	0.060	8276132
Front Half Thallium (Tl)	ug	15.5	N/A	0.24	0.10	<0.24	0.24	0.10	8276132
Front Half Titanium (Ti)	ug	<3.0	N/A	3.0	0.30	6.4	3.0	0.30	8276132
Front Half Vanadium (V)	ug	36.1	N/A	0.60	0.080	<0.60	0.60	0.080	8276132
Front Half Zinc (Zn)	ug	37	N/A	10	1.0	<10	10	1.0	8276132
Back Half Antimony (Sb)	ug	N/A	8.38	0.40	0.040	<0.40	0.40	0.040	8276123
Back Half Arsenic (As)	ug	N/A	6.54	0.40	0.040	<0.40	0.40	0.040	8276123
Back Half Barium (Ba)	ug	N/A	25.7	0.60	0.040	8.59	0.60	0.040	8276123
Back Half Beryllium (Be)	ug	N/A	8.47	0.090	0.050	<0.090	0.090	0.050	8276123
Back Half Boron (B)	ug	N/A	<100	100	1.0	<100	100	1.0	8276123
Back Half Cadmium (Cd)	ug	N/A	9.55	0.090	0.030	<0.090	0.090	0.030	8276123
Back Half Chromium (Cr)	ug	N/A	9.3	1.5	0.070	<1.5	1.5	0.070	8276123
Back Half Cobalt (Co)	ug	N/A	9.47	0.090	0.010	<0.090	0.090	0.010	8276123
Back Half Copper (Cu)	ug	N/A	11.6	0.75	0.75	<0.75	0.75	0.75	8276123
Back Half Lead (Pb)	ug	N/A	30.0	0.30	0.040	<0.30	0.30	0.040	8276123
Back Half Magnesium (Mg)	ug	N/A	<15	15	0.50	15	15	0.50	8276123
Back Half Manganese (Mn)	ug	N/A	41.3	0.60	0.060	<0.60	0.60	0.060	8276123

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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EPA M29 METALS (FRONT & BACK SEPARATE)

Bureau Veritas ID		TXJ961	TXJ962			TXJ964			
Sampling Date		2022/09/27	2022/09/27			2022/09/02			
COC Number		200925-01	200925-01			200925-01			
	UNITS	FRONT HALF SPIKE	BACK HALF SPIKE	RDL	MDL	M29-BLANK	RDL	MDL	QC Batch
Back Half Nickel (Ni)	ug	N/A	30.0	0.50	0.060	<0.50	0.50	0.060	8276123
Back Half Phosphorus (P)	ug	N/A	<45	45	7.0	<45	45	7.0	8276123
Back Half Selenium (Se)	ug	N/A	17.0	1.0	0.20	<1.0	1.0	0.20	8276123
Back Half Silver (Ag)	ug	N/A	9.44	0.12	0.020	<0.12	0.12	0.020	8276123
Back Half Strontium (Sr)	ug	N/A	5.09	0.45	0.030	<0.45	0.45	0.030	8276123
Back Half Thallium (Tl)	ug	N/A	8.26	0.12	0.050	<0.12	0.12	0.050	8276123
Back Half Titanium (Ti)	ug	N/A	<1.5	1.5	0.080	<1.5	1.5	0.080	8276123
Back Half Vanadium (V)	ug	N/A	19.3	0.30	0.030	<0.30	0.30	0.030	8276123
Back Half Zinc (Zn)	ug	N/A	19.3	5.0	0.60	<10	10	1.2	8276123

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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EPA M29 METALS (FRONT & BACK SEPARATE)

Bureau Veritas ID		TXJ965	TXJ965	TXJ966	TXJ967			
Sampling Date		2022/08/31	2022/08/31	2022/09/01	2022/09/02			
COC Number		200925-01	200925-01	200925-01	200925-01			
	UNITS	M29- TEST 1	M29- TEST 1 Lab-Dup	M29- TEST 2	M29- TEST 3	RDL	MDL	QC Batch
Front Half Antimony (Sb)	ug	25.7	25.1	78.5	138	3.0	0.080	8276132
Front Half Arsenic (As)	ug	47.5	47.4	70.8	63.2	0.80	0.080	8276132
Front Half Barium (Ba)	ug	3.2	2.8	2.1	3.2	1.2	0.80	8276132
Front Half Beryllium (Be)	ug	<0.18	<0.18	<0.18	<0.18	0.18	0.040	8276132
Front Half Boron (B)	ug	<100	<100	<100	<100	100	2.0	8276132
Front Half Cadmium (Cd)	ug	1.83	1.73	1.56	1.21	0.18	0.040	8276132
Front Half Chromium (Cr)	ug	40.3	40.0	18.6	18.4	3.0	0.10	8276132
Front Half Cobalt (Co)	ug	<0.18	<0.18	0.23	<0.18	0.18	0.020	8276132
Front Half Copper (Cu)	ug	46.1	45.1	42.7	39.8	1.8	0.20	8276132
Front Half Lead (Pb)	ug	45.8	45.2	43.5	71.7	0.60	0.040	8276132
Front Half Magnesium (Mg)	ug	<30	<30	<30	<30	30	1.0	8276132
Front Half Manganese (Mn)	ug	3.4	3.3	1.8	2.1	1.2	0.10	8276132
Front Half Nickel (Ni)	ug	2.9	2.8	1.6	1.7	1.0	0.20	8276132
Front Half Phosphorus (P)	ug	<90	<90	<90	<90	90	10	8276132
Front Half Selenium (Se)	ug	<2.0	<2.0	<2.0	<2.0	2.0	0.50	8276132
Front Half Silver (Ag)	ug	2.09	2.06	1.54	0.92	0.24	0.040	8276132
Front Half Strontium (Sr)	ug	<0.90	<0.90	<0.90	<0.90	0.90	0.060	8276132
Front Half Thallium (Tl)	ug	<0.24	<0.24	<0.24	<0.24	0.24	0.10	8276132
Front Half Titanium (Ti)	ug	8.9	8.8	7.1	12.4	3.0	0.30	8276132
Front Half Vanadium (V)	ug	<0.60	<0.60	<0.60	<0.60	0.60	0.080	8276132
Front Half Zinc (Zn)	ug	194	197	296	208	10	1.0	8276132
Back Half Antimony (Sb)	ug	<0.40	<0.40	<0.40	<0.40	0.40	0.040	8276123
Back Half Arsenic (As)	ug	<0.40	<0.40	<0.40	0.74	0.40	0.040	8276123
Back Half Barium (Ba)	ug	5.11	5.27	2.79	2.40	0.60	0.040	8276123
Back Half Beryllium (Be)	ug	<0.090	<0.090	<0.090	<0.090	0.090	0.050	8276123
Back Half Boron (B)	ug	<100	<100	<100	<100	100	1.0	8276123
Back Half Cadmium (Cd)	ug	<0.090	<0.090	<0.090	0.428	0.090	0.030	8276123
Back Half Chromium (Cr)	ug	<1.5	<1.5	<1.5	<1.5	1.5	0.070	8276123
Back Half Cobalt (Co)	ug	<0.090	<0.090	<0.090	<0.090	0.090	0.010	8276123
Back Half Copper (Cu)	ug	2.62	2.48	0.94	0.79	0.75	0.75	8276123
Back Half Lead (Pb)	ug	0.50	0.49	<0.30	<0.30	0.30	0.040	8276123
Back Half Magnesium (Mg)	ug	<15	<15	<15	21	15	0.50	8276123
Back Half Manganese (Mn)	ug	<0.60	<0.60	<0.60	0.95	0.60	0.060	8276123

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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EPA M29 METALS (FRONT & BACK SEPARATE)

Bureau Veritas ID		TXJ965	TXJ965	TXJ966	TXJ967			
Sampling Date		2022/08/31	2022/08/31	2022/09/01	2022/09/02			
COC Number		200925-01	200925-01	200925-01	200925-01			
	UNITS	M29- TEST 1	M29- TEST 1 Lab-Dup	M29- TEST 2	M29- TEST 3	RDL	MDL	QC Batch
Back Half Nickel (Ni)	ug	0.65	0.70	<0.50	<0.50	0.50	0.060	8276123
Back Half Phosphorus (P)	ug	<45	<45	<45	<45	45	7.0	8276123
Back Half Selenium (Se)	ug	<1.0	<1.0	<1.0	<1.0	1.0	0.20	8276123
Back Half Silver (Ag)	ug	<0.12	<0.12	<0.12	<0.12	0.12	0.020	8276123
Back Half Strontium (Sr)	ug	<0.45	<0.45	<0.45	0.55	0.45	0.030	8276123
Back Half Thallium (Tl)	ug	<0.12	<0.12	<0.12	<0.12	0.12	0.050	8276123
Back Half Titanium (Ti)	ug	<1.5	<1.5	<1.5	1.9	1.5	0.080	8276123
Back Half Vanadium (V)	ug	<0.30	<0.30	<0.30	<0.30	0.30	0.030	8276123
Back Half Zinc (Zn)	ug	<5.0	<5.0	<5.0	<5.0	5.0	0.60	8276123

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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EPA M29 MERCURY (STACK SAMPLING TRAIN)

Bureau Veritas ID		TXJ963			TXJ964			TXJ965			
Sampling Date		2022/09/27			2022/09/02			2022/08/31			
COC Number		200925-01			200925-01			200925-01			
	UNITS	MERCURY SPIKE	RDL	MDL	M29-BLANK	RDL	MDL	M29- TEST 1	RDL	MDL	QC Batch
1B Mercury (Hg)	ug	N/A	0.015	0.006	<0.015	0.015	0.006	<0.015	0.015	0.006	8276142
2B Mercury (Hg)	ug	N/A	0.15	0.006	<0.15	0.15	0.006	<0.2	0.2	0.008	8275417
3A Mercury (Hg)	ug	N/A	0.005	0.0006	<0.005	0.005	0.0006	<0.005	0.005	0.0006	8275391
3B Mercury (Hg)	ug	0.021	0.013	0.0026	<0.02	0.02	0.004	<0.028	0.028	0.0056	8280900
3C Mercury (Hg)	ug	0.432	0.013	0.0026	<0.013	0.013	0.0026	0.054	0.013	0.0026	8284016

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

Bureau Veritas ID		TXJ965			TXJ966	TXJ967			
Sampling Date		2022/08/31			2022/09/01	2022/09/02			
COC Number		200925-01			200925-01	200925-01			
	UNITS	M29- TEST 1 Lab-Dup	RDL	MDL	M29- TEST 2	M29- TEST 3	RDL	MDL	QC Batch
1B Mercury (Hg)	ug	<0.015	0.015	0.006	<0.015	<0.015	0.015	0.006	8276142
2B Mercury (Hg)	ug	<0.2	0.2	0.008	<0.2	<0.2	0.2	0.008	8275417
3A Mercury (Hg)	ug	<0.005	0.005	0.0006	<0.005	<0.005	0.005	0.0006	8275391
3B Mercury (Hg)	ug	<0.028	0.028	0.0056	<0.025	<0.025	0.025	0.005	8280900
3C Mercury (Hg)	ug	0.055	0.013	0.0026	0.029	0.017	0.013	0.0026	8284016

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Bureau Veritas Job #: C2S6928
Report Date: 2022/10/26

Bureau Veritas
Client Project #: 2779
Site Location: AGNICO EAGLE MINES LIMITED-RANKIN INLET,NUNAVUT
Sampler Initials: JL

ELEMENTS BY ICP-AES (STACK SAMPLING TRAIN)

Bureau Veritas ID		TXJ961	TXJ961	TXJ962	TXJ962	TXJ964			
Sampling Date		2022/09/27	2022/09/27	2022/09/27	2022/09/27	2022/09/02			
COC Number		200925-01	200925-01	200925-01	200925-01	200925-01			
	UNITS	FRONT HALF SPIKE	FRONT HALF SPIKE Lab-Dup	BACK HALF SPIKE	BACK HALF SPIKE Lab-Dup	M29-BLANK	RDL	MDL	QC Batch
Front Half Lithium (Li)	ug	<3.0	<3.0	N/A	N/A	<3.0	3.0	1.8	8292345
Back Half Lithium (Li)	ug	N/A	N/A	<3.0	<3.0	<3.0	3.0	1.1	8292240

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

Bureau Veritas ID		TXJ965	TXJ966	TXJ967			
Sampling Date		2022/08/31	2022/09/01	2022/09/02			
COC Number		200925-01	200925-01	200925-01			
	UNITS	M29- TEST 1	M29- TEST 2	M29- TEST 3	RDL	MDL	QC Batch
Front Half Lithium (Li)	ug	15.7	14.1	5.0	3.0	1.8	8292345
Back Half Lithium (Li)	ug	<3.0	<3.0	<3.0	3.0	1.1	8292240

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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ELEMENTS BY ICP/MS (STACK SAMPLING TRAIN)

Bureau Veritas ID		TXJ961	TXJ962	TXJ964	TXJ965	TXJ965			
Sampling Date		2022/09/27	2022/09/27	2022/09/02	2022/08/31	2022/08/31			
COC Number		200925-01	200925-01	200925-01	200925-01	200925-01			
	UNITS	FRONT HALF SPIKE	BACK HALF SPIKE	M29-BLANK	M29- TEST 1	M29- TEST 1 Lab-Dup	RDL	MDL	QC Batch
Back Half Tellurium (Te)	ug	N/A	<0.50	<0.50	<0.50	<0.50	0.50	N/A	8292381
Front Half Tellurium (Te)	ug	<2.0	N/A	<2.0	<2.0	<2.0	2.0	N/A	8292392

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

Bureau Veritas ID		TXJ966	TXJ967			
Sampling Date		2022/09/01	2022/09/02			
COC Number		200925-01	200925-01			
	UNITS	M29- TEST 2	M29- TEST 3	RDL	MDL	QC Batch
Back Half Tellurium (Te)	ug	<0.50	<0.50	0.50	N/A	8292381
Front Half Tellurium (Te)	ug	<2.0	<2.0	2.0	N/A	8292392

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Bureau Veritas Job #: C2S6928
Report Date: 2022/10/26

Bureau Veritas
Client Project #: 2779
Site Location: AGNICO EAGLE MINES LIMITED-RANKIN INLET,NUNAVUT
Sampler Initials: JL

TEST SUMMARY

Bureau Veritas ID: TXJ961 **Collected:** 2022/09/27
Sample ID: FRONT HALF SPIKE **Shipped:**
Matrix: Stack Sampling Train **Received:** 2022/10/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Metals F.H. in Filter + Rinse (6010C)	ICP	8292345	2022/10/11	2022/10/21	Indira HarryPaul
Precious Metals F.H. in Filter + Rinses	ICP1/MS	8292392	2022/10/11	2022/10/21	Nan Raykha
Metals F.H. in Filter + Rinses (6020B m)	ICP1/MS	8276132	2022/10/11	2022/10/14	Arefa Dabhad

Bureau Veritas ID: TXJ961 Dup **Collected:** 2022/09/27
Sample ID: FRONT HALF SPIKE **Shipped:**
Matrix: Stack Sampling Train **Received:** 2022/10/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Metals F.H. in Filter + Rinse (6010C)	ICP	8292345	2022/10/11	2022/10/21	Indira HarryPaul

Bureau Veritas ID: TXJ962 **Collected:** 2022/09/27
Sample ID: BACK HALF SPIKE **Shipped:**
Matrix: Stack Sampling Train **Received:** 2022/10/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Metals B.H. in H2O2/HNO3 Imp.(6010C)	ICP	8292240	2022/10/12	2022/10/21	Indira HarryPaul
Metals B.H. in H2O2/HNO3 Imp.(6020B m)	ICP1/MS	8276123	2022/10/12	2022/10/17	Arefa Dabhad
Precious Metals B.H. in H2O2/HNO3 Imp.	ICP1/MS	8292381	2022/10/12	2022/10/21	Nan Raykha

Bureau Veritas ID: TXJ962 Dup **Collected:** 2022/09/27
Sample ID: BACK HALF SPIKE **Shipped:**
Matrix: Stack Sampling Train **Received:** 2022/10/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Metals B.H. in H2O2/HNO3 Imp.(6010C)	ICP	8292240	2022/10/12	2022/10/21	Indira HarryPaul

Bureau Veritas ID: TXJ963 **Collected:** 2022/09/27
Sample ID: MERCURY SPIKE **Shipped:**
Matrix: Stack Sampling Train **Received:** 2022/10/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Mercury 3C in HCl Rinse	CV/AA	8284016	2022/10/14	2022/10/17	Thuy Linh Nguyen
Mercury 3B in KMnO4/H2SO4 Imp.	CV/AA	8280900	2022/10/13	2022/10/17	Thuy Linh Nguyen

Bureau Veritas ID: TXJ964 **Collected:** 2022/09/02
Sample ID: M29- BLANK **Shipped:**
Matrix: Stack Sampling Train **Received:** 2022/10/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Mercury 3C in HCl Rinse	CV/AA	8284016	2022/10/14	2022/10/17	Thuy Linh Nguyen
Mercury 2B in HNO3/H2O2 Imp.	CV/AA	8275417	2022/10/11	2022/10/17	Thuy Linh Nguyen
Mercury 3A in HNO3 Rinse	CV/AA	8275391	2022/10/11	2022/10/17	Thuy Linh Nguyen
Mercury 3B in KMnO4/H2SO4 Imp.	CV/AA	8280900	2022/10/13	2022/10/17	Thuy Linh Nguyen

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Bureau Veritas Job #: C2S6928
Report Date: 2022/10/26

Bureau Veritas
Client Project #: 2779
Site Location: AGNICO EAGLE MINES LIMITED-RANKIN INLET,NUNAVUT
Sampler Initials: JL

TEST SUMMARY

Bureau Veritas ID: TXJ964
Sample ID: M29- BLANK
Matrix: Stack Sampling Train

Collected: 2022/09/02
Shipped:
Received: 2022/10/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Mercury 1B in Filter + Rinse (M29)	CV/AA	8276142	2022/10/11	2022/10/17	Thuy Linh Nguyen
Metals B.H. in H2O2/HNO3 Imp.(6010C)	ICP	8292240	2022/10/12	2022/10/21	Indira HarryPaul
Metals F.H. in Filter + Rinse (6010C)	ICP	8292345	2022/10/11	2022/10/21	Indira HarryPaul
Metals B.H. in H2O2/HNO3 Imp.(6020B m)	ICP1/MS	8276123	2022/10/12	2022/10/17	Arefa Dabhad
Precious Metals B.H. in H2O2/HNO3 Imp.	ICP1/MS	8292381	2022/10/12	2022/10/21	Nan Raykha
Precious Metals F.H. in Filter + Rinses	ICP1/MS	8292392	2022/10/11	2022/10/21	Nan Raykha
Metals F.H. in Filter + Rinses (6020B m)	ICP1/MS	8276132	2022/10/11	2022/10/14	Arefa Dabhad

Bureau Veritas ID: TXJ965
Sample ID: M29- TEST 1
Matrix: Stack Sampling Train

Collected: 2022/08/31
Shipped:
Received: 2022/10/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Mercury 3C in HCl Rinse	CV/AA	8284016	2022/10/14	2022/10/17	Thuy Linh Nguyen
Mercury 2B in HNO3/H2O2 Imp.	CV/AA	8275417	2022/10/11	2022/10/17	Thuy Linh Nguyen
Mercury 3A in HNO3 Rinse	CV/AA	8275391	2022/10/11	2022/10/17	Thuy Linh Nguyen
Mercury 3B in KMnO4/H2SO4 Imp.	CV/AA	8280900	2022/10/13	2022/10/17	Thuy Linh Nguyen
Mercury 1B in Filter + Rinse (M29)	CV/AA	8276142	2022/10/11	2022/10/17	Thuy Linh Nguyen
Metals B.H. in H2O2/HNO3 Imp.(6010C)	ICP	8292240	2022/10/12	2022/10/21	Indira HarryPaul
Metals F.H. in Filter + Rinse (6010C)	ICP	8292345	2022/10/11	2022/10/21	Indira HarryPaul
Metals B.H. in H2O2/HNO3 Imp.(6020B m)	ICP1/MS	8276123	2022/10/12	2022/10/17	Arefa Dabhad
Precious Metals B.H. in H2O2/HNO3 Imp.	ICP1/MS	8292381	2022/10/12	2022/10/21	Nan Raykha
Precious Metals F.H. in Filter + Rinses	ICP1/MS	8292392	2022/10/11	2022/10/21	Nan Raykha
Metals F.H. in Filter + Rinses (6020B m)	ICP1/MS	8276132	2022/10/11	2022/10/14	Arefa Dabhad

Bureau Veritas ID: TXJ965 Dup
Sample ID: M29- TEST 1
Matrix: Stack Sampling Train

Collected: 2022/08/31
Shipped:
Received: 2022/10/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Mercury 3C in HCl Rinse	CV/AA	8284016	2022/10/14	2022/10/17	Thuy Linh Nguyen
Mercury 2B in HNO3/H2O2 Imp.	CV/AA	8275417	2022/10/11	2022/10/17	Thuy Linh Nguyen
Mercury 3A in HNO3 Rinse	CV/AA	8275391	2022/10/11	2022/10/17	Thuy Linh Nguyen
Mercury 3B in KMnO4/H2SO4 Imp.	CV/AA	8280900	2022/10/13	2022/10/17	Thuy Linh Nguyen
Mercury 1B in Filter + Rinse (M29)	CV/AA	8276142	2022/10/11	2022/10/17	Thuy Linh Nguyen
Metals B.H. in H2O2/HNO3 Imp.(6020B m)	ICP1/MS	8276123	2022/10/12	2022/10/17	Arefa Dabhad
Precious Metals B.H. in H2O2/HNO3 Imp.	ICP1/MS	8292381	2022/10/12	2022/10/21	Nan Raykha
Precious Metals F.H. in Filter + Rinses	ICP1/MS	8292392	2022/10/11	2022/10/21	Nan Raykha
Metals F.H. in Filter + Rinses (6020B m)	ICP1/MS	8276132	2022/10/11	2022/10/14	Arefa Dabhad

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TEST SUMMARY

Bureau Veritas ID: TXJ966
Sample ID: M29- TEST 2
Matrix: Stack Sampling Train

Collected: 2022/09/01
Shipped:
Received: 2022/10/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Mercury 3C in HCl Rinse	CV/AA	8284016	2022/10/14	2022/10/17	Thuy Linh Nguyen
Mercury 2B in HNO3/H2O2 Imp.	CV/AA	8275417	2022/10/11	2022/10/17	Thuy Linh Nguyen
Mercury 3A in HNO3 Rinse	CV/AA	8275391	2022/10/11	2022/10/17	Thuy Linh Nguyen
Mercury 3B in KMnO4/H2SO4 Imp.	CV/AA	8280900	2022/10/13	2022/10/17	Thuy Linh Nguyen
Mercury 1B in Filter + Rinse (M29)	CV/AA	8276142	2022/10/11	2022/10/17	Thuy Linh Nguyen
Metals B.H. in H2O2/HNO3 Imp.(6010C)	ICP	8292240	2022/10/12	2022/10/21	Indira HarryPaul
Metals F.H. in Filter + Rinse (6010C)	ICP	8292345	2022/10/11	2022/10/21	Indira HarryPaul
Metals B.H. in H2O2/HNO3 Imp.(6020B m)	ICP1/MS	8276123	2022/10/12	2022/10/17	Arefa Dabhad
Precious Metals B.H. in H2O2/HNO3 Imp.	ICP1/MS	8292381	2022/10/12	2022/10/21	Nan Raykha
Precious Metals F.H. in Filter + Rinses	ICP1/MS	8292392	2022/10/11	2022/10/21	Nan Raykha
Metals F.H. in Filter + Rinses (6020B m)	ICP1/MS	8276132	2022/10/11	2022/10/14	Arefa Dabhad

Bureau Veritas ID: TXJ967
Sample ID: M29- TEST 3
Matrix: Stack Sampling Train

Collected: 2022/09/02
Shipped:
Received: 2022/10/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Mercury 3C in HCl Rinse	CV/AA	8284016	2022/10/14	2022/10/17	Thuy Linh Nguyen
Mercury 2B in HNO3/H2O2 Imp.	CV/AA	8275417	2022/10/11	2022/10/17	Thuy Linh Nguyen
Mercury 3A in HNO3 Rinse	CV/AA	8275391	2022/10/11	2022/10/17	Thuy Linh Nguyen
Mercury 3B in KMnO4/H2SO4 Imp.	CV/AA	8280900	2022/10/13	2022/10/17	Thuy Linh Nguyen
Mercury 1B in Filter + Rinse (M29)	CV/AA	8276142	2022/10/11	2022/10/17	Thuy Linh Nguyen
Metals B.H. in H2O2/HNO3 Imp.(6010C)	ICP	8292240	2022/10/12	2022/10/21	Indira HarryPaul
Metals F.H. in Filter + Rinse (6010C)	ICP	8292345	2022/10/11	2022/10/21	Indira HarryPaul
Metals B.H. in H2O2/HNO3 Imp.(6020B m)	ICP1/MS	8276123	2022/10/12	2022/10/17	Arefa Dabhad
Precious Metals B.H. in H2O2/HNO3 Imp.	ICP1/MS	8292381	2022/10/12	2022/10/21	Nan Raykha
Precious Metals F.H. in Filter + Rinses	ICP1/MS	8292392	2022/10/11	2022/10/21	Nan Raykha
Metals F.H. in Filter + Rinses (6020B m)	ICP1/MS	8276132	2022/10/11	2022/10/14	Arefa Dabhad

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GENERAL COMMENTS

ELEMENTS BY ICP/MS (STACK SAMPLING TRAIN)

Precious Metals F.H. in Filter + Rinses : Post spike done for BLANK and MATRIX on sample TXJ965

Precious Metals B.H. in H2O2/HNO3 Imp.: Post digestion spikes done for BLANK and MATRIX

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
8275391	TLG	Matrix Spike(TXJ965)	3A Mercury (Hg)	2022/10/17		98	%	75 - 125
8275391	TLG	Matrix Spike DUP(TXJ965)	3A Mercury (Hg)	2022/10/17		96	%	75 - 125
8275391	TLG	MS/MSD RPD	3A Mercury (Hg)	2022/10/17	2.3		%	20
8275391	TLG	Spiked Blank	3A Mercury (Hg)	2022/10/17		96	%	90 - 110
8275391	TLG	Spiked Blank DUP	3A Mercury (Hg)	2022/10/17		96	%	90 - 110
8275391	TLG	RPD	3A Mercury (Hg)	2022/10/17	0.21		%	20
8275391	TLG	Method Blank	3A Mercury (Hg)	2022/10/17	<0.005		ug	
8275391	TLG	RPD - Sample/Sample Dup	3A Mercury (Hg)	2022/10/17	NC		%	20
8275417	TLG	Matrix Spike(TXJ965)	2B Mercury (Hg)	2022/10/17		96	%	75 - 125
8275417	TLG	Matrix Spike DUP(TXJ965)	2B Mercury (Hg)	2022/10/17		94	%	75 - 125
8275417	TLG	MS/MSD RPD	2B Mercury (Hg)	2022/10/17	1.7		%	20
8275417	TLG	Spiked Blank	2B Mercury (Hg)	2022/10/17		96	%	90 - 110
8275417	TLG	Spiked Blank DUP	2B Mercury (Hg)	2022/10/17		95	%	90 - 110
8275417	TLG	RPD	2B Mercury (Hg)	2022/10/17	1.7		%	20
8275417	TLG	Method Blank	2B Mercury (Hg)	2022/10/17	<0.15		ug	
8275417	TLG	RPD - Sample/Sample Dup	2B Mercury (Hg)	2022/10/17	NC		%	20
8276123	ADA	Matrix Spike(TXJ965)	Back Half Antimony (Sb)	2022/10/17		103	%	75 - 125
			Back Half Arsenic (As)	2022/10/17		98	%	75 - 125
			Back Half Barium (Ba)	2022/10/17		99	%	75 - 125
			Back Half Beryllium (Be)	2022/10/17		99	%	75 - 125
			Back Half Boron (B)	2022/10/17		96	%	75 - 125
			Back Half Cadmium (Cd)	2022/10/17		98	%	75 - 125
			Back Half Chromium (Cr)	2022/10/17		97	%	75 - 125
			Back Half Cobalt (Co)	2022/10/17		102	%	75 - 125
			Back Half Copper (Cu)	2022/10/17		95	%	75 - 125
			Back Half Lead (Pb)	2022/10/17		96	%	75 - 125
			Back Half Magnesium (Mg)	2022/10/17		95	%	75 - 125
			Back Half Manganese (Mn)	2022/10/17		102	%	75 - 125
			Back Half Nickel (Ni)	2022/10/17		100	%	75 - 125
			Back Half Phosphorus (P)	2022/10/17		97	%	75 - 125
			Back Half Selenium (Se)	2022/10/17		95	%	75 - 125
			Back Half Silver (Ag)	2022/10/17		98	%	75 - 125
			Back Half Strontium (Sr)	2022/10/17		102	%	75 - 125
			Back Half Thallium (Tl)	2022/10/17		100	%	75 - 125
			Back Half Titanium (Ti)	2022/10/17		100	%	75 - 125
			Back Half Vanadium (V)	2022/10/17		100	%	75 - 125
			Back Half Zinc (Zn)	2022/10/17		95	%	75 - 125
8276123	ADA	Matrix Spike DUP(TXJ965)	Back Half Antimony (Sb)	2022/10/17		104	%	75 - 125
			Back Half Arsenic (As)	2022/10/17		97	%	75 - 125
			Back Half Barium (Ba)	2022/10/17		98	%	75 - 125
			Back Half Beryllium (Be)	2022/10/17		94	%	75 - 125
			Back Half Boron (B)	2022/10/17		90	%	75 - 125
			Back Half Cadmium (Cd)	2022/10/17		98	%	75 - 125
			Back Half Chromium (Cr)	2022/10/17		96	%	75 - 125
			Back Half Cobalt (Co)	2022/10/17		100	%	75 - 125
			Back Half Copper (Cu)	2022/10/17		97	%	75 - 125
			Back Half Lead (Pb)	2022/10/17		99	%	75 - 125
			Back Half Magnesium (Mg)	2022/10/17		95	%	75 - 125
			Back Half Manganese (Mn)	2022/10/17		102	%	75 - 125
			Back Half Nickel (Ni)	2022/10/17		99	%	75 - 125

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Back Half Phosphorus (P)	2022/10/17		97	%	75 - 125
			Back Half Selenium (Se)	2022/10/17		96	%	75 - 125
			Back Half Silver (Ag)	2022/10/17		98	%	75 - 125
			Back Half Strontium (Sr)	2022/10/17		100	%	75 - 125
			Back Half Thallium (Tl)	2022/10/17		102	%	75 - 125
			Back Half Titanium (Ti)	2022/10/17		100	%	75 - 125
			Back Half Vanadium (V)	2022/10/17		100	%	75 - 125
			Back Half Zinc (Zn)	2022/10/17		95	%	75 - 125
8276123	ADA	MS/MSD RPD	Back Half Antimony (Sb)	2022/10/17	0.75		%	20
			Back Half Arsenic (As)	2022/10/17	0.072		%	20
			Back Half Barium (Ba)	2022/10/17	0.22		%	20
			Back Half Beryllium (Be)	2022/10/17	5.2		%	20
			Back Half Boron (B)	2022/10/17	6.7		%	20
			Back Half Cadmium (Cd)	2022/10/17	0.38		%	20
			Back Half Chromium (Cr)	2022/10/17	1.0		%	20
			Back Half Cobalt (Co)	2022/10/17	2.1		%	20
			Back Half Copper (Cu)	2022/10/17	1.4		%	20
			Back Half Lead (Pb)	2022/10/17	3.1		%	20
			Back Half Magnesium (Mg)	2022/10/17	0.42		%	20
			Back Half Manganese (Mn)	2022/10/17	0.36		%	20
			Back Half Nickel (Ni)	2022/10/17	1.1		%	20
			Back Half Phosphorus (P)	2022/10/17	0.082		%	20
			Back Half Selenium (Se)	2022/10/17	1.9		%	20
			Back Half Silver (Ag)	2022/10/17	0.020		%	20
			Back Half Strontium (Sr)	2022/10/17	1.7		%	20
			Back Half Thallium (Tl)	2022/10/17	2.7		%	20
			Back Half Titanium (Ti)	2022/10/17	0.18		%	20
			Back Half Vanadium (V)	2022/10/17	0.11		%	20
			Back Half Zinc (Zn)	2022/10/17	0.55		%	20
8276123	ADA	Spiked Blank	Back Half Antimony (Sb)	2022/10/17		110	%	85 - 115
			Back Half Arsenic (As)	2022/10/17		102	%	85 - 115
			Back Half Barium (Ba)	2022/10/17		104	%	85 - 115
			Back Half Beryllium (Be)	2022/10/17		102	%	85 - 115
			Back Half Boron (B)	2022/10/17		99	%	85 - 115
			Back Half Cadmium (Cd)	2022/10/17		103	%	85 - 115
			Back Half Chromium (Cr)	2022/10/17		99	%	85 - 115
			Back Half Cobalt (Co)	2022/10/17		101	%	85 - 115
			Back Half Copper (Cu)	2022/10/17		100	%	85 - 115
			Back Half Lead (Pb)	2022/10/17		100	%	85 - 115
			Back Half Magnesium (Mg)	2022/10/17		100	%	85 - 115
			Back Half Manganese (Mn)	2022/10/17		104	%	85 - 115
			Back Half Nickel (Ni)	2022/10/17		104	%	85 - 115
			Back Half Phosphorus (P)	2022/10/17		111	%	85 - 115
			Back Half Selenium (Se)	2022/10/17		101	%	85 - 115
			Back Half Silver (Ag)	2022/10/17		103	%	85 - 115
			Back Half Strontium (Sr)	2022/10/17		104	%	85 - 115
			Back Half Thallium (Tl)	2022/10/17		104	%	85 - 115
			Back Half Titanium (Ti)	2022/10/17		105	%	85 - 115
			Back Half Vanadium (V)	2022/10/17		104	%	85 - 115
			Back Half Zinc (Zn)	2022/10/17		99	%	85 - 115

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
8276123	ADA	Spiked Blank DUP	Back Half Antimony (Sb)	2022/10/17		109	%	85 - 115
			Back Half Arsenic (As)	2022/10/17		101	%	85 - 115
			Back Half Barium (Ba)	2022/10/17		103	%	85 - 115
			Back Half Beryllium (Be)	2022/10/17		103	%	85 - 115
			Back Half Boron (B)	2022/10/17		104	%	85 - 115
			Back Half Cadmium (Cd)	2022/10/17		103	%	85 - 115
			Back Half Chromium (Cr)	2022/10/17		99	%	85 - 115
			Back Half Cobalt (Co)	2022/10/17		99	%	85 - 115
			Back Half Copper (Cu)	2022/10/17		100	%	85 - 115
			Back Half Lead (Pb)	2022/10/17		99	%	85 - 115
			Back Half Magnesium (Mg)	2022/10/17		98	%	85 - 115
			Back Half Manganese (Mn)	2022/10/17		104	%	85 - 115
			Back Half Nickel (Ni)	2022/10/17		103	%	85 - 115
			Back Half Phosphorus (P)	2022/10/17		111	%	85 - 115
			Back Half Selenium (Se)	2022/10/17		102	%	85 - 115
			Back Half Silver (Ag)	2022/10/17		101	%	85 - 115
			Back Half Strontium (Sr)	2022/10/17		102	%	85 - 115
			Back Half Thallium (Tl)	2022/10/17		106	%	85 - 115
			Back Half Titanium (Ti)	2022/10/17		102	%	85 - 115
			Back Half Vanadium (V)	2022/10/17		103	%	85 - 115
			Back Half Zinc (Zn)	2022/10/17		101	%	85 - 115
8276123	ADA	RPD	Back Half Antimony (Sb)	2022/10/17	0.75		%	20
			Back Half Arsenic (As)	2022/10/17	0.71		%	20
			Back Half Barium (Ba)	2022/10/17	0.98		%	20
			Back Half Beryllium (Be)	2022/10/17	1.3		%	20
			Back Half Boron (B)	2022/10/17	4.6		%	20
			Back Half Cadmium (Cd)	2022/10/17	0.28		%	20
			Back Half Chromium (Cr)	2022/10/17	0.11		%	20
			Back Half Cobalt (Co)	2022/10/17	1.7		%	20
			Back Half Copper (Cu)	2022/10/17	0.16		%	20
			Back Half Lead (Pb)	2022/10/17	1.0		%	20
			Back Half Magnesium (Mg)	2022/10/17	1.2		%	20
			Back Half Manganese (Mn)	2022/10/17	0.43		%	20
			Back Half Nickel (Ni)	2022/10/17	1.5		%	20
			Back Half Phosphorus (P)	2022/10/17	0.19		%	20
			Back Half Selenium (Se)	2022/10/17	1.5		%	20
			Back Half Silver (Ag)	2022/10/17	1.4		%	20
			Back Half Strontium (Sr)	2022/10/17	1.3		%	20
			Back Half Thallium (Tl)	2022/10/17	2.0		%	20
			Back Half Titanium (Ti)	2022/10/17	2.9		%	20
			Back Half Vanadium (V)	2022/10/17	0.43		%	20
			Back Half Zinc (Zn)	2022/10/17	1.2		%	20
8276123	ADA	Method Blank	Back Half Antimony (Sb)	2022/10/17	<0.40		ug	
			Back Half Arsenic (As)	2022/10/17	<0.40		ug	
			Back Half Barium (Ba)	2022/10/17	<0.60		ug	
			Back Half Beryllium (Be)	2022/10/17	<0.090		ug	
			Back Half Boron (B)	2022/10/17	<100		ug	
			Back Half Cadmium (Cd)	2022/10/17	<0.090		ug	
			Back Half Chromium (Cr)	2022/10/17	<1.5		ug	
			Back Half Cobalt (Co)	2022/10/17	<0.090		ug	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Back Half Copper (Cu)	2022/10/17	<0.75		ug	
			Back Half Lead (Pb)	2022/10/17	<0.30		ug	
			Back Half Magnesium (Mg)	2022/10/17	<15		ug	
			Back Half Manganese (Mn)	2022/10/17	<0.60		ug	
			Back Half Nickel (Ni)	2022/10/17	<0.50		ug	
			Back Half Phosphorus (P)	2022/10/17	<45		ug	
			Back Half Selenium (Se)	2022/10/17	<1.0		ug	
			Back Half Silver (Ag)	2022/10/17	<0.12		ug	
			Back Half Strontium (Sr)	2022/10/17	<0.45		ug	
			Back Half Thallium (Tl)	2022/10/17	<0.12		ug	
			Back Half Titanium (Ti)	2022/10/17	<1.5		ug	
			Back Half Vanadium (V)	2022/10/17	<0.30		ug	
			Back Half Zinc (Zn)	2022/10/17	<5.0		ug	
8276123	ADA	RPD - Sample/Sample Dup	Back Half Antimony (Sb)	2022/10/17	NC		%	20
			Back Half Arsenic (As)	2022/10/17	NC		%	20
			Back Half Barium (Ba)	2022/10/17	3.0		%	20
			Back Half Beryllium (Be)	2022/10/17	NC		%	20
			Back Half Boron (B)	2022/10/17	NC		%	20
			Back Half Cadmium (Cd)	2022/10/17	NC		%	20
			Back Half Chromium (Cr)	2022/10/17	NC		%	20
			Back Half Cobalt (Co)	2022/10/17	NC		%	20
			Back Half Copper (Cu)	2022/10/17	5.3		%	20
			Back Half Lead (Pb)	2022/10/17	1.6		%	20
			Back Half Magnesium (Mg)	2022/10/17	NC		%	20
			Back Half Manganese (Mn)	2022/10/17	NC		%	20
			Back Half Nickel (Ni)	2022/10/17	7.0		%	20
			Back Half Phosphorus (P)	2022/10/17	NC		%	20
			Back Half Selenium (Se)	2022/10/17	NC		%	20
			Back Half Silver (Ag)	2022/10/17	NC		%	20
			Back Half Strontium (Sr)	2022/10/17	NC		%	20
			Back Half Thallium (Tl)	2022/10/17	NC		%	20
			Back Half Titanium (Ti)	2022/10/17	NC		%	20
			Back Half Vanadium (V)	2022/10/17	NC		%	20
			Back Half Zinc (Zn)	2022/10/17	NC		%	20
8276132	ADA	Matrix Spike(TXJ965)	Front Half Antimony (Sb)	2022/10/14		110	%	75 - 125
			Front Half Arsenic (As)	2022/10/14		100	%	75 - 125
			Front Half Barium (Ba)	2022/10/14		95	%	75 - 125
			Front Half Beryllium (Be)	2022/10/14		99	%	75 - 125
			Front Half Boron (B)	2022/10/14		96	%	75 - 125
			Front Half Cadmium (Cd)	2022/10/14		102	%	75 - 125
			Front Half Chromium (Cr)	2022/10/14		96	%	75 - 125
			Front Half Cobalt (Co)	2022/10/14		94	%	75 - 125
			Front Half Copper (Cu)	2022/10/14		92	%	75 - 125
			Front Half Lead (Pb)	2022/10/14		98	%	75 - 125
			Front Half Magnesium (Mg)	2022/10/14		95	%	75 - 125
			Front Half Manganese (Mn)	2022/10/14		97	%	75 - 125
			Front Half Nickel (Ni)	2022/10/14		99	%	75 - 125
			Front Half Phosphorus (P)	2022/10/14		94	%	75 - 125
			Front Half Selenium (Se)	2022/10/14		101	%	75 - 125
			Front Half Silver (Ag)	2022/10/14		98	%	75 - 125

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Front Half Strontium (Sr)	2022/10/14		99	%	75 - 125
			Front Half Thallium (Tl)	2022/10/14		101	%	75 - 125
			Front Half Titanium (Ti)	2022/10/14		95	%	75 - 125
			Front Half Vanadium (V)	2022/10/14		97	%	75 - 125
			Front Half Zinc (Zn)	2022/10/14		98	%	75 - 125
8276132	ADA	Matrix Spike DUP(TXJ965)	Front Half Antimony (Sb)	2022/10/14		113	%	75 - 125
			Front Half Arsenic (As)	2022/10/14		100	%	75 - 125
			Front Half Barium (Ba)	2022/10/14		97	%	75 - 125
			Front Half Beryllium (Be)	2022/10/14		98	%	75 - 125
			Front Half Boron (B)	2022/10/14		92	%	75 - 125
			Front Half Cadmium (Cd)	2022/10/14		102	%	75 - 125
			Front Half Chromium (Cr)	2022/10/14		96	%	75 - 125
			Front Half Cobalt (Co)	2022/10/14		94	%	75 - 125
			Front Half Copper (Cu)	2022/10/14		93	%	75 - 125
			Front Half Lead (Pb)	2022/10/14		98	%	75 - 125
			Front Half Magnesium (Mg)	2022/10/14		95	%	75 - 125
			Front Half Manganese (Mn)	2022/10/14		97	%	75 - 125
			Front Half Nickel (Ni)	2022/10/14		100	%	75 - 125
			Front Half Phosphorus (P)	2022/10/14		95	%	75 - 125
			Front Half Selenium (Se)	2022/10/14		101	%	75 - 125
			Front Half Silver (Ag)	2022/10/14		100	%	75 - 125
			Front Half Strontium (Sr)	2022/10/14		99	%	75 - 125
			Front Half Thallium (Tl)	2022/10/14		101	%	75 - 125
			Front Half Titanium (Ti)	2022/10/14		95	%	75 - 125
			Front Half Vanadium (V)	2022/10/14		97	%	75 - 125
			Front Half Zinc (Zn)	2022/10/14		98	%	75 - 125
8276132	ADA	MS/MSD RPD	Front Half Antimony (Sb)	2022/10/14	3.0		%	20
			Front Half Arsenic (As)	2022/10/14	0.080		%	20
			Front Half Barium (Ba)	2022/10/14	1.4		%	20
			Front Half Beryllium (Be)	2022/10/14	1.6		%	20
			Front Half Boron (B)	2022/10/14	3.6		%	20
			Front Half Cadmium (Cd)	2022/10/14	0.069		%	20
			Front Half Chromium (Cr)	2022/10/14	0.042		%	20
			Front Half Cobalt (Co)	2022/10/14	0.30		%	20
			Front Half Copper (Cu)	2022/10/14	1.5		%	20
			Front Half Lead (Pb)	2022/10/14	0.40		%	20
			Front Half Magnesium (Mg)	2022/10/14	0.56		%	20
			Front Half Manganese (Mn)	2022/10/14	0.062		%	20
			Front Half Nickel (Ni)	2022/10/14	0.44		%	20
			Front Half Phosphorus (P)	2022/10/14	0.52		%	20
			Front Half Selenium (Se)	2022/10/14	0.079		%	20
			Front Half Silver (Ag)	2022/10/14	1.9		%	20
			Front Half Strontium (Sr)	2022/10/14	0.071		%	20
			Front Half Thallium (Tl)	2022/10/14	0.39		%	20
			Front Half Titanium (Ti)	2022/10/14	0.26		%	20
			Front Half Vanadium (V)	2022/10/14	0.062		%	20
			Front Half Zinc (Zn)	2022/10/14	0.28		%	20
8276132	ADA	Spiked Blank	Front Half Antimony (Sb)	2022/10/14		106	%	85 - 115
			Front Half Arsenic (As)	2022/10/14		101	%	85 - 115
			Front Half Barium (Ba)	2022/10/14		96	%	85 - 115

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Front Half Beryllium (Be)	2022/10/14		100	%	85 - 115
			Front Half Boron (B)	2022/10/14		95	%	85 - 115
			Front Half Cadmium (Cd)	2022/10/14		100	%	85 - 115
			Front Half Chromium (Cr)	2022/10/14		97	%	85 - 115
			Front Half Cobalt (Co)	2022/10/14		95	%	85 - 115
			Front Half Copper (Cu)	2022/10/14		91	%	85 - 115
			Front Half Lead (Pb)	2022/10/14		95	%	85 - 115
			Front Half Magnesium (Mg)	2022/10/14		95	%	85 - 115
			Front Half Manganese (Mn)	2022/10/14		99	%	85 - 115
			Front Half Nickel (Ni)	2022/10/14		99	%	85 - 115
			Front Half Phosphorus (P)	2022/10/14		100	%	85 - 115
			Front Half Selenium (Se)	2022/10/14		100	%	85 - 115
			Front Half Silver (Ag)	2022/10/14		96	%	85 - 115
			Front Half Strontium (Sr)	2022/10/14		99	%	85 - 115
			Front Half Thallium (Tl)	2022/10/14		97	%	85 - 115
			Front Half Titanium (Ti)	2022/10/14		95	%	85 - 115
			Front Half Vanadium (V)	2022/10/14		98	%	85 - 115
			Front Half Zinc (Zn)	2022/10/14		100	%	85 - 115
8276132	ADA	Spiked Blank DUP	Front Half Antimony (Sb)	2022/10/14		105	%	85 - 115
			Front Half Arsenic (As)	2022/10/14		100	%	85 - 115
			Front Half Barium (Ba)	2022/10/14		96	%	85 - 115
			Front Half Beryllium (Be)	2022/10/14		99	%	85 - 115
			Front Half Boron (B)	2022/10/14		95	%	85 - 115
			Front Half Cadmium (Cd)	2022/10/14		101	%	85 - 115
			Front Half Chromium (Cr)	2022/10/14		96	%	85 - 115
			Front Half Cobalt (Co)	2022/10/14		93	%	85 - 115
			Front Half Copper (Cu)	2022/10/14		91	%	85 - 115
			Front Half Lead (Pb)	2022/10/14		95	%	85 - 115
			Front Half Magnesium (Mg)	2022/10/14		92	%	85 - 115
			Front Half Manganese (Mn)	2022/10/14		96	%	85 - 115
			Front Half Nickel (Ni)	2022/10/14		98	%	85 - 115
			Front Half Phosphorus (P)	2022/10/14		101	%	85 - 115
			Front Half Selenium (Se)	2022/10/14		100	%	85 - 115
			Front Half Silver (Ag)	2022/10/14		98	%	85 - 115
			Front Half Strontium (Sr)	2022/10/14		97	%	85 - 115
			Front Half Thallium (Tl)	2022/10/14		98	%	85 - 115
			Front Half Titanium (Ti)	2022/10/14		94	%	85 - 115
			Front Half Vanadium (V)	2022/10/14		96	%	85 - 115
			Front Half Zinc (Zn)	2022/10/14		98	%	85 - 115
8276132	ADA	RPD	Front Half Antimony (Sb)	2022/10/14	0.75		%	20
			Front Half Arsenic (As)	2022/10/14	1.6		%	20
			Front Half Barium (Ba)	2022/10/14	0.54		%	20
			Front Half Beryllium (Be)	2022/10/14	0.99		%	20
			Front Half Boron (B)	2022/10/14	0.76		%	20
			Front Half Cadmium (Cd)	2022/10/14	1.5		%	20
			Front Half Chromium (Cr)	2022/10/14	0.59		%	20
			Front Half Cobalt (Co)	2022/10/14	1.8		%	20
			Front Half Copper (Cu)	2022/10/14	0.68		%	20
			Front Half Lead (Pb)	2022/10/14	0.53		%	20
			Front Half Magnesium (Mg)	2022/10/14	3.1		%	20

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Front Half Manganese (Mn)	2022/10/14	2.4		%	20
			Front Half Nickel (Ni)	2022/10/14	1.5		%	20
			Front Half Phosphorus (P)	2022/10/14	1.1		%	20
			Front Half Selenium (Se)	2022/10/14	0.17		%	20
			Front Half Silver (Ag)	2022/10/14	2.4		%	20
			Front Half Strontium (Sr)	2022/10/14	2.4		%	20
			Front Half Thallium (Tl)	2022/10/14	1.3		%	20
			Front Half Titanium (Ti)	2022/10/14	1.1		%	20
			Front Half Vanadium (V)	2022/10/14	1.4		%	20
			Front Half Zinc (Zn)	2022/10/14	2.2		%	20
8276132	ADA	Method Blank	Front Half Antimony (Sb)	2022/10/14	<3.0		ug	
			Front Half Arsenic (As)	2022/10/14	<0.80		ug	
			Front Half Barium (Ba)	2022/10/14	<1.2		ug	
			Front Half Beryllium (Be)	2022/10/14	<0.18		ug	
			Front Half Boron (B)	2022/10/14	<100		ug	
			Front Half Cadmium (Cd)	2022/10/14	<0.18		ug	
			Front Half Chromium (Cr)	2022/10/14	<3.0		ug	
			Front Half Cobalt (Co)	2022/10/14	<0.18		ug	
			Front Half Copper (Cu)	2022/10/14	<1.8		ug	
			Front Half Lead (Pb)	2022/10/14	<0.60		ug	
			Front Half Magnesium (Mg)	2022/10/14	<30		ug	
			Front Half Manganese (Mn)	2022/10/14	<1.2		ug	
			Front Half Nickel (Ni)	2022/10/14	<1.0		ug	
			Front Half Phosphorus (P)	2022/10/14	<90		ug	
			Front Half Selenium (Se)	2022/10/14	<2.0		ug	
			Front Half Silver (Ag)	2022/10/14	<0.24		ug	
			Front Half Strontium (Sr)	2022/10/14	<0.90		ug	
			Front Half Thallium (Tl)	2022/10/14	<0.24		ug	
			Front Half Titanium (Ti)	2022/10/14	<3.0		ug	
			Front Half Vanadium (V)	2022/10/14	<0.60		ug	
			Front Half Zinc (Zn)	2022/10/14	<10		ug	
8276132	ADA	RPD - Sample/Sample Dup	Front Half Antimony (Sb)	2022/10/14	2.5		%	20
			Front Half Arsenic (As)	2022/10/14	0.14		%	20
			Front Half Barium (Ba)	2022/10/14	12		%	20
			Front Half Beryllium (Be)	2022/10/14	NC		%	20
			Front Half Boron (B)	2022/10/14	NC		%	20
			Front Half Cadmium (Cd)	2022/10/14	6.1		%	20
			Front Half Chromium (Cr)	2022/10/14	0.70		%	20
			Front Half Cobalt (Co)	2022/10/14	NC		%	20
			Front Half Copper (Cu)	2022/10/14	2.2		%	20
			Front Half Lead (Pb)	2022/10/14	1.3		%	20
			Front Half Magnesium (Mg)	2022/10/14	NC		%	20
			Front Half Manganese (Mn)	2022/10/14	1.3		%	20
			Front Half Nickel (Ni)	2022/10/14	3.4		%	20
			Front Half Phosphorus (P)	2022/10/14	NC		%	20
			Front Half Selenium (Se)	2022/10/14	NC		%	20
			Front Half Silver (Ag)	2022/10/14	1.7		%	20
			Front Half Strontium (Sr)	2022/10/14	NC		%	20
			Front Half Thallium (Tl)	2022/10/14	NC		%	20
			Front Half Titanium (Ti)	2022/10/14	1.3		%	20

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Front Half Vanadium (V)	2022/10/14	NC		%	20
			Front Half Zinc (Zn)	2022/10/14	1.5		%	20
8276142	TLG	Reagent Blank	1B Mercury (Hg)	2022/10/17	<0.015		ug	
8276142	TLG	Matrix Spike(TXJ965)	1B Mercury (Hg)	2022/10/17		90	%	75 - 125
8276142	TLG	Matrix Spike DUP(TXJ965)	1B Mercury (Hg)	2022/10/17		94	%	75 - 125
8276142	TLG	MS/MSD RPD	1B Mercury (Hg)	2022/10/17	4.0		%	20
8276142	TLG	Spiked Blank	1B Mercury (Hg)	2022/10/17		94	%	90 - 110
8276142	TLG	Spiked Blank DUP	1B Mercury (Hg)	2022/10/17		95	%	90 - 110
8276142	TLG	RPD	1B Mercury (Hg)	2022/10/17	1.7		%	20
8276142	TLG	Method Blank	1B Mercury (Hg)	2022/10/17	<0.015		ug	
8276142	TLG	RPD - Sample/Sample Dup	1B Mercury (Hg)	2022/10/17	NC		%	20
8280900	TLG	Reagent Blank	3B Mercury (Hg)	2022/10/17	<0.013		ug	
8280900	TLG	Matrix Spike(TXJ965)	3B Mercury (Hg)	2022/10/17		90	%	75 - 125
8280900	TLG	Matrix Spike DUP(TXJ965)	3B Mercury (Hg)	2022/10/17		91	%	75 - 125
8280900	TLG	MS/MSD RPD	3B Mercury (Hg)	2022/10/17	0.55		%	20
8280900	TLG	Spiked Blank	3B Mercury (Hg)	2022/10/17		96	%	90 - 110
8280900	TLG	Spiked Blank DUP	3B Mercury (Hg)	2022/10/17		96	%	90 - 110
8280900	TLG	RPD	3B Mercury (Hg)	2022/10/17	0.21		%	20
8280900	TLG	Method Blank	3B Mercury (Hg)	2022/10/17	<0.013		ug	
8280900	TLG	RPD - Sample/Sample Dup	3B Mercury (Hg)	2022/10/17	NC		%	20
8284016	TLG	Reagent Blank	3C Mercury (Hg)	2022/10/17	<0.013		ug	
8284016	TLG	Matrix Spike(TXJ965)	3C Mercury (Hg)	2022/10/17		95	%	75 - 125
8284016	TLG	Matrix Spike DUP(TXJ965)	3C Mercury (Hg)	2022/10/17		93	%	75 - 125
8284016	TLG	MS/MSD RPD	3C Mercury (Hg)	2022/10/17	2.3		%	20
8284016	TLG	Spiked Blank	3C Mercury (Hg)	2022/10/17		96	%	90 - 110
8284016	TLG	Spiked Blank DUP	3C Mercury (Hg)	2022/10/17		97	%	90 - 110
8284016	TLG	RPD	3C Mercury (Hg)	2022/10/17	0.21		%	20
8284016	TLG	Method Blank	3C Mercury (Hg)	2022/10/17	<0.013		ug	
8284016	TLG	RPD - Sample/Sample Dup	3C Mercury (Hg)	2022/10/17	0.74		%	20
8292240	IHP	Matrix Spike(TXJ962)	Back Half Lithium (Li)	2022/10/21		93	%	N/A
8292240	IHP	Spiked Blank	Back Half Lithium (Li)	2022/10/21		95	%	90 - 110
8292240	IHP	Spiked Blank DUP	Back Half Lithium (Li)	2022/10/21		95	%	90 - 110
8292240	IHP	RPD	Back Half Lithium (Li)	2022/10/21	0.84		%	20
8292240	IHP	Method Blank	Back Half Lithium (Li)	2022/10/21	<3.0		ug	
8292240	IHP	RPD - Sample/Sample Dup	Back Half Lithium (Li)	2022/10/21	NC		%	20
8292345	IHP	Matrix Spike(TXJ961)	Front Half Lithium (Li)	2022/10/21		101	%	N/A
8292345	IHP	Spiked Blank	Front Half Lithium (Li)	2022/10/21		95	%	90 - 110
8292345	IHP	Spiked Blank DUP	Front Half Lithium (Li)	2022/10/21		93	%	90 - 110
8292345	IHP	RPD	Front Half Lithium (Li)	2022/10/21	1.6		%	20
8292345	IHP	Method Blank	Front Half Lithium (Li)	2022/10/21	<3.0		ug	
8292345	IHP	RPD - Sample/Sample Dup	Front Half Lithium (Li)	2022/10/21	NC		%	20
8292381	N_R	Matrix Spike(TXJ965)	Back Half Tellurium (Te)	2022/10/21		101	%	N/A
8292381	N_R	Matrix Spike DUP(TXJ965)	Back Half Tellurium (Te)	2022/10/21		102	%	N/A
8292381	N_R	MS/MSD RPD	Back Half Tellurium (Te)	2022/10/21	0.85		%	0
8292381	N_R	Spiked Blank	Back Half Tellurium (Te)	2022/10/21		101	%	N/A
8292381	N_R	Spiked Blank DUP	Back Half Tellurium (Te)	2022/10/21		100	%	N/A
8292381	N_R	RPD	Back Half Tellurium (Te)	2022/10/21	0.78		%	0
8292381	N_R	Method Blank	Back Half Tellurium (Te)	2022/10/21	<0.50		ug	
8292381	N_R	RPD - Sample/Sample Dup	Back Half Tellurium (Te)	2022/10/21	NC		%	N/A
8292392	N_R	Matrix Spike(TXJ965)	Front Half Tellurium (Te)	2022/10/21		96	%	N/A

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
8292392	N_R	Matrix Spike DUP(TXJ965)	Front Half Tellurium (Te)	2022/10/21		96	%	N/A
8292392	N_R	MS/MSD RPD	Front Half Tellurium (Te)	2022/10/21	0.63		%	0
8292392	N_R	Spiked Blank	Front Half Tellurium (Te)	2022/10/21		101	%	N/A
8292392	N_R	Spiked Blank DUP	Front Half Tellurium (Te)	2022/10/21		97	%	N/A
8292392	N_R	RPD	Front Half Tellurium (Te)	2022/10/21	3.3		%	0
8292392	N_R	Method Blank	Front Half Tellurium (Te)	2022/10/21	<2.0		ug	
8292392	N_R	RPD - Sample/Sample Dup	Front Half Tellurium (Te)	2022/10/21	NC		%	N/A

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Reagent Blank: A blank matrix containing all reagents used in the analytical procedure. Used to determine any analytical contamination.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

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.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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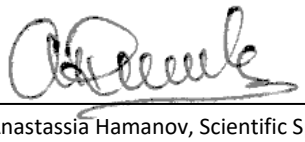
Bureau Veritas Job #: C2S6928
Report Date: 2022/10/26

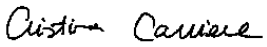
Bureau Veritas
Client Project #: 2779
Site Location: AGNICO EAGLE MINES LIMITED- RANKIN INLET,NUNAVUT
Sampler Initials: JL

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Anastassia Hamanov, Scientific Specialist



Cristina Carriere, Senior Scientific Specialist

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EPA Method 29

Agnico Eagle Mines Limited - Rankin Inlet, Nunavut - Meliadine Site - Incinerator Stack - 2022-08-31 to 2022-09-01/02

Project # - 2779

			Front Half		Blank Spike		Back Half		Blank Spike
			Blank Spike	Spike Amount	% Recoveries		Blank Spike	Spike Amount	% Recoveries
Component	**RDL**	**Units**				**RDL**			
Mercury (Hg)		ug				0.025	0.45	0.50	91
Antimony (Sb)	3.0	ug	16.6	16.6	100	0.40	8.38	8.3	101
Arsenic (As)	0.8	"	12.9	16.4	79	0.40	6.54	8.2	80
Barium (Ba)	1.2	"	46.0	47.4	97	0.60	25.7	23.7	108
Beryllium (Be)	0.18	"	15.7	16.6	95	0.090	8.47	8.3	102
Cadmium (Cd)	0.18	"	18.5	18.6	99	0.090	9.55	9.3	103
Chromium (Cr)	3.0	"	17.9	18.6	96	1.5	9.3	9.3	100
Cobalt (Co)	0.18	"	17.7	18.8	94	0.090	9.47	9.4	101
Copper (Cu)	1.8	"	19.0	18.8	101	0.75	11.60	9.4	123
Lead (Pb)	0.60	"	56.1	57.6	97	0.30	30.0	28.8	104
Manganese (Mn)	1.2	"	75.0	79.0	95	0.60	41.3	39.5	105
Nickel (Ni)	1.0	"	58.4	58.2	100	0.50	30.0	29.1	103
Phosphorous (P)	90	"	<90	<90		45	<45	<45	
Selenium (Se)	2.0	"	34.9	37.0	94	1.0	17.0	18.5	92
Silver (Ag)	0.24	"	17.7	18.4	96	0.12	9.44	9.2	103
Thallium (Tl)	0.24	"	15.5	16.4	95	0.12	8.26	8.2	101
Zinc (Zn)	10.0	"	37.0	37.0	100	5.0	19.3	18.5	104

Rankin Inlet

Agnico Eagle Mines Limited - ~~Baker Lake,~~ Nunavut - Meliadine Site - Incinerator Stack - Aug 31, Sept 1-2, M29 Tests - Project #2779 KW 23-Feb-23

Key to Sample Spiking

QCP-TMS-1 - Lot Number P2-TMS678322 - IL# 19-05-13-330 - Expiry 2023-04-08

QCP-TMS-Hg - Lot Number M2-QCPHG660555 - IL# 19-05-13-331 - Expiry 2022-06-25

	dilute 5 ml/L for Hg			ug's/L	ug's	ug's/L	ug's
	dilute 10 ml/L for Metals		mls	0.20	0.20	0.10	0.10
Analyte	ug's/L	ug's/mL	Total	100	into 100 ml	100	into 100 ml
Al	395.0	39.5		79.0	7.9	39.5	4.0
Sb	830.0	83.0		166.0	16.6	83.0	8.3
As	820.0	82.0		164.0	16.4	82.0	8.2
Ba	2370.0	237.0		474.0	47.4	237.0	23.7
Be	830.0	83.0		166.0	16.6	83.0	8.3
B	1870.0	187.0		374.0	37.4	187.0	18.7
Cd	930.0	93.0		186.0	18.6	93.0	9.3
Cr	930.0	93.0		186.0	18.6	93.0	9.3
Co	940.0	94.0		188.0	18.8	94.0	9.4
Cu	940.0	94.0		188.0	18.8	94.0	9.4
Fe	3920.0	392.0		784.0	78.4	392.0	39.2
Pb	2880.0	288.0		576.0	57.6	288.0	28.8
Mn	3951.0	395.1		790.2	79.0	395.1	39.5
Mo	520.0	52.0		104.0	10.4	52.0	5.2
Ni	2911.0	291.1		582.2	58.2	291.1	29.1
Se	1850.0	185.0		370.0	37.0	185.0	18.5
Ag	920.0	92.0		184.0	18.4	92.0	9.2
Sr	470.0	47.0		94.0	9.4	47.0	4.7
Tl	820.0	82.0		164.0	16.4	82.0	8.2
V	1870.0	187.0		374.0	37.4	187.0	18.7
Zn	1850.0	185.0		370.0	37.0	185.0	18.5
				0.1	0.1		
Hg	24.940	4.988		4.99	0.50		

Front half

Metals Spike

Method blank consists of 5 mls Nitric acid spiked with 0.2 mls TMS standard and diluted up to 100 mls.

Back half

Metals Spike

Method blank consists of 5 mls Nitric acid and 10 ml H2O2 thenspiked with 0.1 mls Metals standard and diluted up to 100 mls.

Mercury Spike

4% KMnO4 / 10% H2SO4 - 100 mls spiked with 0.1 mls Hg std.

Your Project #: 2779
Site#: INCINERATOR STACK - MELIADINE
Site Location: AGNICO EAGLE MINES LTD - RANKIN INLET,NUNAVUT
Your C.O.C. #: 191025-01

Attention: Bill Wong

Bureau Veritas
Calgary - Air Services
1 - 2080 39th Ave NE
Calgary, AB
CANADA T2E 6P7

Report Date: 2022/10/31
Report #: R7365064
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2S5276
Received: 2022/09/29, 10:36

Sample Matrix: Stack Sampling Train
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
2,3,7,8-TCDF Confirmation (M23)	2	N/A	2022/10/21	BRL SOP-00404	EPA M23/23A m
Dioxins/Furans in Air (Method 23)	4	2022/10/05	2022/10/20	BRL SOP-00404	EPA M23/23A m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

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Your Project #: 2779
Site#: INCINERATOR STACK - MELIADINE
Site Location: AGNICO EAGLE MINES LTD - RANKIN INLET,NUNAVUT
Your C.O.C. #: 191025-01

Attention: Bill Wong

Bureau Veritas
Calgary - Air Services
1 - 2080 39th Ave NE
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CANADA T2E 6P7

Report Date: 2022/10/31
Report #: R7365064
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2S5276
Received: 2022/09/29, 10:36

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Marinela Sim, Project Manager
Email: Marinela.Sim@bureauveritas.com
Phone# (905)817-5828

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This report has been generated and distributed using a secure automated process.
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

EPA M23 DIOXINS AND FURANS (STACK SAMPLING TRAIN)

Bureau Veritas ID		TXA248							
Sampling Date		2022/09/08							
COC Number		191025-01				TOXIC EQUIVALENCY		# of	
	UNITS	M23- BLANK	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDD *	pg	<2.5	2.5	20	2.0	1.00	2.50	N/A	8295757
1,2,3,7,8-Penta CDD *	pg	<3.0	3.0	20	2.0	1.00	3.00	N/A	8295757
1,2,3,4,7,8-Hexa CDD *	pg	<2.2	2.2	20	2.0	0.100	0.220	N/A	8295757
1,2,3,6,7,8-Hexa CDD *	pg	<2.3	2.3	20	2.0	0.100	0.230	N/A	8295757
1,2,3,7,8,9-Hexa CDD *	pg	<2.1	2.1	20	2.0	0.100	0.210	N/A	8295757
1,2,3,4,6,7,8-Hepta CDD *	pg	4.1	2.5	20	3.0	0.0100	0.0410	N/A	8295757
1,2,3,4,6,7,8,9-Octa CDD *	pg	4.4	2.7	200	3.0	0.000300	0.00132	N/A	8295757
Total Tetra CDD *	pg	<2.5	2.5	20	N/A	N/A	N/A	0	8295757
Total Penta CDD *	pg	<3.0	3.0	20	N/A	N/A	N/A	0	8295757
Total Hexa CDD *	pg	<5.1	5.1	20	N/A	N/A	N/A	0	8295757
Total Hepta CDD *	pg	4.1	2.5	20	N/A	N/A	N/A	1	8295757
2,3,7,8-Tetra CDF **	pg	<3.8 (1)	3.8	20	2.0	0.100	0.380	N/A	8295757
1,2,3,7,8-Penta CDF **	pg	<2.7	2.7	20	2.0	0.0300	0.0810	N/A	8295757
2,3,4,7,8-Penta CDF **	pg	<2.7	2.7	20	2.0	0.300	0.810	N/A	8295757
1,2,3,4,7,8-Hexa CDF **	pg	<3.3 (1)	3.3	20	2.0	0.100	0.330	N/A	8295757
1,2,3,6,7,8-Hexa CDF **	pg	<2.8	2.8	20	2.0	0.100	0.280	N/A	8295757
2,3,4,6,7,8-Hexa CDF **	pg	<2.4	2.4	20	2.0	0.100	0.240	N/A	8295757
1,2,3,7,8,9-Hexa CDF **	pg	<2.4	2.4	20	2.0	0.100	0.240	N/A	8295757
1,2,3,4,6,7,8-Hepta CDF **	pg	2.8 (2)	1.1	20	3.0	0.0100	0.0280	N/A	8295757
1,2,3,4,7,8,9-Hepta CDF **	pg	<1.3	1.3	20	2.0	0.0100	0.0130	N/A	8295757
1,2,3,4,6,7,8,9-Octa CDF **	pg	<2.5	2.5	200	5.0	0.000300	0.000750	N/A	8295757
Total Tetra CDF **	pg	<2.5	2.5	20	N/A	N/A	N/A	0	8295757
Total Penta CDF **	pg	<2.8	2.8	20	N/A	N/A	N/A	0	8295757
Total Hexa CDF **	pg	<2.4	2.4	20	N/A	N/A	N/A	0	8295757

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

(1) RT > 3 seconds - PCDD/DF analysis - Peak detected exceeds expected retention time (from internal standard) by greater than 3 seconds.

(2) EMPC / Ratio - Isotopic ratio adjusted to meet theoretical

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EPA M23 DIOXINS AND FURANS (STACK SAMPLING TRAIN)

Bureau Veritas ID		TXA248							
Sampling Date		2022/09/08							
COC Number		191025-01				TOXIC EQUIVALENCY		# of	
	UNITS	M23- BLANK	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Total Hepta CDF **	pg	<3.1	3.1	20	N/A	N/A	N/A	1	8295757
TOTAL TOXIC EQUIVALENCY	pg	N/A	N/A	N/A	N/A	N/A	8.61	N/A	N/A
Surrogate Recovery (%)									
C13-1234678 HeptaCDD *	%	108	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-1234678 HeptaCDF **	%	111	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-123478 HexaCDD *	%	109	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-123478 HexaCDF **	%	103	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-1234789 HeptaCDF **	%	106	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-123678 HexaCDD *	%	96	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-123678 HexaCDF **	%	112	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-12378 PentaCDD *	%	98	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-12378 PentaCDF **	%	84	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-123789 HexaCDF **	%	92	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-23478 PentaCDF **	%	110	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-2378 TetraCDD *	%	84	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-2378 TetraCDF **	%	89	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-Octachlorodibenzo-p-Dioxin	%	96	N/A	N/A	N/A	N/A	N/A	N/A	8295757
Cl37-2378 TetraCDD *	%	107	N/A	N/A	N/A	N/A	N/A	N/A	8295757

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
QC Batch = Quality Control Batch
** CDF = Chloro Dibenzo-p-Furan
N/A = Not Applicable
* CDD = Chloro Dibenzo-p-Dioxin

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EPA M23 DIOXINS AND FURANS (STACK SAMPLING TRAIN)

Bureau Veritas ID		TXA249							
Sampling Date		2022/09/06							
COC Number		191025-01				TOXIC EQUIVALENCY		# of	
	UNITS	M23- TEST 1	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDD *	pg	<2.3	2.3	20	2.0	1.00	2.30	N/A	8295757
1,2,3,7,8-Penta CDD *	pg	<3.0	3.0	20	2.0	1.00	3.00	N/A	8295757
1,2,3,4,7,8-Hexa CDD *	pg	<2.9	2.9	20	2.0	0.100	0.290	N/A	8295757
1,2,3,6,7,8-Hexa CDD *	pg	3.1	2.5	20	2.0	0.100	0.310	N/A	8295757
1,2,3,7,8,9-Hexa CDD *	pg	4.6	2.3	20	2.0	0.100	0.460	N/A	8295757
1,2,3,4,6,7,8-Hepta CDD *	pg	16.2	2.5	20	3.0	0.0100	0.162	N/A	8295757
1,2,3,4,6,7,8,9-Octa CDD *	pg	41.7	2.2	200	3.0	0.000300	0.0125	N/A	8295757
Total Tetra CDD *	pg	8.1	2.3	20	N/A	N/A	N/A	2	8295757
Total Penta CDD *	pg	5.8	3.0	20	N/A	N/A	N/A	1	8295757
Total Hexa CDD *	pg	31.5	2.4	20	N/A	N/A	N/A	5	8295757
Total Hepta CDD *	pg	31.3	2.5	20	N/A	N/A	N/A	2	8295757
2,3,7,8-Tetra CDF **	pg	<25 (1)	25	20	2.0	0.100	2.50	N/A	8295757
1,2,3,7,8-Penta CDF **	pg	7.8	2.4	20	2.0	0.0300	0.234	N/A	8295757
2,3,4,7,8-Penta CDF **	pg	15.6	2.4	20	2.0	0.300	4.68	N/A	8295757
1,2,3,4,7,8-Hexa CDF **	pg	24.3	2.3	20	2.0	0.100	2.43	N/A	8295757
1,2,3,6,7,8-Hexa CDF **	pg	14.0	2.1	20	2.0	0.100	1.40	N/A	8295757
2,3,4,6,7,8-Hexa CDF **	pg	21.4	2.3	20	2.0	0.100	2.14	N/A	8295757
1,2,3,7,8,9-Hexa CDF **	pg	3.0	2.3	20	2.0	0.100	0.300	N/A	8295757
1,2,3,4,6,7,8-Hepta CDF **	pg	60.7	2.0	20	3.0	0.0100	0.607	N/A	8295757
1,2,3,4,7,8,9-Hepta CDF **	pg	14.6	2.3	20	2.0	0.0100	0.146	N/A	8295757
1,2,3,4,6,7,8,9-Octa CDF **	pg	56.1	2.4	200	5.0	0.000300	0.0168	N/A	8295757
Total Tetra CDF **	pg	128	2.7	20	N/A	N/A	N/A	11	8295757
Total Penta CDF **	pg	138	2.4	20	N/A	N/A	N/A	11	8295757
Total Hexa CDF **	pg	130	2.3	20	N/A	N/A	N/A	11	8295757
Total Hepta CDF **	pg	120	2.1	20	N/A	N/A	N/A	4	8295757

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

(1) RT > 3 seconds - PCDD/DF analysis - Peak detected exceeds expected retention time (from internal standard) by greater than 3 seconds.

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EPA M23 DIOXINS AND FURANS (STACK SAMPLING TRAIN)

Bureau Veritas ID		TXA249							
Sampling Date		2022/09/06							
COC Number		191025-01				**TOXIC EQUIVALENCY**		# of	
	UNITS	**M23- TEST 1**	**EDL**	**RDL**	**MDL**	**TEF (2005 WHO)**	**TEQ(DL)**	**Isomers**	**QC Batch**
Confirmation 2,3,7,8-Tetra CDF **	pg	4.2	2.2	20	N/A	0.100	0.420	N/A	8302184
TOTAL TOXIC EQUIVALENCY	pg	N/A	N/A	N/A	N/A	N/A	18.9	N/A	N/A
Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	88	N/A	N/A	N/A	N/A	N/A	N/A	8302184
C13-1234678 HeptaCDD *	%	113	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-1234678 HeptaCDF **	%	113	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-123478 HexaCDD *	%	113	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-123478 HexaCDF **	%	103	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-1234789 HeptaCDF **	%	111	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-123678 HexaCDD *	%	97	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-123678 HexaCDF **	%	106	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-12378 PentaCDD *	%	102	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-12378 PentaCDF **	%	96	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-123789 HexaCDF **	%	94	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-23478 PentaCDF **	%	109	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-2378 TetraCDD *	%	90	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-2378 TetraCDF **	%	98	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-Octachlorodibenzo-p-Dioxin	%	101	N/A	N/A	N/A	N/A	N/A	N/A	8295757
Cl37-2378 TetraCDD *	%	111	N/A	N/A	N/A	N/A	N/A	N/A	8295757

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin

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EPA M23 DIOXINS AND FURANS (STACK SAMPLING TRAIN)

Bureau Veritas ID		TXA250							
Sampling Date		2022/09/08							
COC Number		191025-01				TOXIC EQUIVALENCY		# of	
	UNITS	M23- TEST 2	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDD *	pg	<2.5	2.5	20	2.0	1.00	2.50	N/A	8295757
1,2,3,7,8-Penta CDD *	pg	<3.4	3.4	20	2.0	1.00	3.40	N/A	8295757
1,2,3,4,7,8-Hexa CDD *	pg	<2.9	2.9	20	2.0	0.100	0.290	N/A	8295757
1,2,3,6,7,8-Hexa CDD *	pg	<3.0	3.0	20	2.0	0.100	0.300	N/A	8295757
1,2,3,7,8,9-Hexa CDD *	pg	<4.2 (1)	4.2	20	2.0	0.100	0.420	N/A	8295757
1,2,3,4,6,7,8-Hepta CDD *	pg	13.0	2.7	20	3.0	0.0100	0.130	N/A	8295757
1,2,3,4,6,7,8,9-Octa CDD *	pg	36.0	2.6	200	3.0	0.000300	0.0108	N/A	8295757
Total Tetra CDD *	pg	3.3	2.5	20	N/A	N/A	N/A	1	8295757
Total Penta CDD *	pg	3.4	3.4	20	N/A	N/A	N/A	1	8295757
Total Hexa CDD *	pg	6.5	2.8	20	N/A	N/A	N/A	1	8295757
Total Hepta CDD *	pg	26.1	2.7	20	N/A	N/A	N/A	2	8295757
2,3,7,8-Tetra CDF **	pg	<12 (2)	12	20	2.0	0.100	1.20	N/A	8295757
1,2,3,7,8-Penta CDF **	pg	4.1	2.7	20	2.0	0.0300	0.123	N/A	8295757
2,3,4,7,8-Penta CDF **	pg	8.7	2.8	20	2.0	0.300	2.61	N/A	8295757
1,2,3,4,7,8-Hexa CDF **	pg	12.3	2.6	20	2.0	0.100	1.23	N/A	8295757
1,2,3,6,7,8-Hexa CDF **	pg	5.7	2.4	20	2.0	0.100	0.570	N/A	8295757
2,3,4,6,7,8-Hexa CDF **	pg	18.0	2.6	20	2.0	0.100	1.80	N/A	8295757
1,2,3,7,8,9-Hexa CDF **	pg	<2.6	2.6	20	2.0	0.100	0.260	N/A	8295757
1,2,3,4,6,7,8-Hepta CDF **	pg	28.4	2.5	20	3.0	0.0100	0.284	N/A	8295757
1,2,3,4,7,8,9-Hepta CDF **	pg	9.2	2.9	20	2.0	0.0100	0.0920	N/A	8295757
1,2,3,4,6,7,8,9-Octa CDF **	pg	27.1	2.8	200	5.0	0.000300	0.00813	N/A	8295757
Total Tetra CDF **	pg	22.3	2.7	20	N/A	N/A	N/A	4	8295757
Total Penta CDF **	pg	50.8	2.8	20	N/A	N/A	N/A	5	8295757
Total Hexa CDF **	pg	51.7	2.5	20	N/A	N/A	N/A	4	8295757

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

(1) RT>2 seconds - PCDD/DF analysis-Peak maxima of monitored ions exceeds 2 seconds

(2) RT > 3 seconds - PCDD/DF analysis - Peak detected exceeds expected retention time (from internal standard) by greater than 3 seconds.

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EPA M23 DIOXINS AND FURANS (STACK SAMPLING TRAIN)

Bureau Veritas ID		TXA250							
Sampling Date		2022/09/08							
COC Number		191025-01				TOXIC EQUIVALENCY		# of	
	UNITS	M23- TEST 2	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Total Hepta CDF **	pg	60.3	2.7	20	N/A	N/A	N/A	4	8295757
TOTAL TOXIC EQUIVALENCY	pg	N/A	N/A	N/A	N/A	N/A	15.2	N/A	N/A
Surrogate Recovery (%)									
C13-1234678 HeptaCDD *	%	100	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-1234678 HeptaCDF **	%	97	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-123478 HexaCDD *	%	99	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-123478 HexaCDF **	%	96	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-1234789 HeptaCDF **	%	109	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-123678 HexaCDD *	%	90	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-123678 HexaCDF **	%	93	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-12378 PentaCDD *	%	81	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-12378 PentaCDF **	%	76	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-123789 HexaCDF **	%	81	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-23478 PentaCDF **	%	100	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-2378 TetraCDD *	%	77	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-2378 TetraCDF **	%	81	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-Octachlorodibenzo-p-Dioxin	%	88	N/A	N/A	N/A	N/A	N/A	N/A	8295757
Cl37-2378 TetraCDD *	%	111	N/A	N/A	N/A	N/A	N/A	N/A	8295757

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin

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EPA M23 DIOXINS AND FURANS (STACK SAMPLING TRAIN)

Bureau Veritas ID		TXA251							
Sampling Date		2022/09/08							
COC Number		191025-01				TOXIC EQUIVALENCY		# of	
	UNITS	M23- TEST 3	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDD *	pg	<2.5	2.5	10	2.0	1.00	2.50	N/A	8295757
1,2,3,7,8-Penta CDD *	pg	<3.4	3.4	10	2.0	1.00	3.40	N/A	8295757
1,2,3,4,7,8-Hexa CDD *	pg	<2.7	2.7	10	2.0	0.100	0.270	N/A	8295757
1,2,3,6,7,8-Hexa CDD *	pg	<2.8	2.8	10	2.0	0.100	0.280	N/A	8295757
1,2,3,7,8,9-Hexa CDD *	pg	<3.9	3.9	10	2.0	0.100	0.390	N/A	8295757
1,2,3,4,6,7,8-Hepta CDD *	pg	9.1	2.3	10	3.0	0.0100	0.0910	N/A	8295757
1,2,3,4,6,7,8,9-Octa CDD *	pg	14.0	2.5	100	3.0	0.000300	0.00420	N/A	8295757
Total Tetra CDD *	pg	29.1	2.5	10	N/A	N/A	N/A	3	8295757
Total Penta CDD *	pg	16.8	3.4	10	N/A	N/A	N/A	2	8295757
Total Hexa CDD *	pg	16.3	2.4	10	N/A	N/A	N/A	1	8295757
Total Hepta CDD *	pg	18.2	2.3	10	N/A	N/A	N/A	2	8295757
2,3,7,8-Tetra CDF **	pg	<23 (1)	23	10	2.0	0.100	2.30	N/A	8295757
1,2,3,7,8-Penta CDF **	pg	5.9	2.5	10	2.0	0.0300	0.177	N/A	8295757
2,3,4,7,8-Penta CDF **	pg	9.7	2.6	10	2.0	0.300	2.91	N/A	8295757
1,2,3,4,7,8-Hexa CDF **	pg	13.5	2.6	10	2.0	0.100	1.35	N/A	8295757
1,2,3,6,7,8-Hexa CDF **	pg	7.2	2.4	10	2.0	0.100	0.720	N/A	8295757
2,3,4,6,7,8-Hexa CDF **	pg	7.5	2.6	10	2.0	0.100	0.750	N/A	8295757
1,2,3,7,8,9-Hexa CDF **	pg	<2.7	2.7	10	2.0	0.100	0.270	N/A	8295757
1,2,3,4,6,7,8-Hepta CDF **	pg	18.0	2.3	10	3.0	0.0100	0.180	N/A	8295757
1,2,3,4,7,8,9-Hepta CDF **	pg	4.5	2.7	10	2.0	0.0100	0.0450	N/A	8295757
1,2,3,4,6,7,8,9-Octa CDF **	pg	7.9	2.3	100	5.0	0.000300	0.00237	N/A	8295757
Total Tetra CDF **	pg	103	2.5	10	N/A	N/A	N/A	11	8295757
Total Penta CDF **	pg	75.6	2.6	10	N/A	N/A	N/A	8	8295757
Total Hexa CDF **	pg	56.9	2.5	10	N/A	N/A	N/A	6	8295757
Total Hepta CDF **	pg	31.2	2.5	10	N/A	N/A	N/A	4	8295757

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

(1) RT > 3 seconds - PCDD/DF analysis - Peak detected exceeds expected retention time (from internal standard) by greater than 3 seconds.

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EPA M23 DIOXINS AND FURANS (STACK SAMPLING TRAIN)

Bureau Veritas ID		TXA251							
Sampling Date		2022/09/08							
COC Number		191025-01				TOXIC EQUIVALENCY		# of	
	UNITS	M23- TEST 3	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Confirmation 2,3,7,8-Tetra CDF **	pg	3.6	2.4	20	N/A	0.100	0.360	N/A	8302184
TOTAL TOXIC EQUIVALENCY	pg	N/A	N/A	N/A	N/A	N/A	13.7	N/A	N/A
Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	81	N/A	N/A	N/A	N/A	N/A	N/A	8302184
C13-1234678 HeptaCDD *	%	110	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-1234678 HeptaCDF **	%	111	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-123478 HexaCDD *	%	113	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-123478 HexaCDF **	%	102	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-1234789 HeptaCDF **	%	106	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-123678 HexaCDD *	%	93	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-123678 HexaCDF **	%	98	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-12378 PentaCDD *	%	88	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-12378 PentaCDF **	%	88	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-123789 HexaCDF **	%	91	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-23478 PentaCDF **	%	103	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-2378 TetraCDD *	%	83	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-2378 TetraCDF **	%	91	N/A	N/A	N/A	N/A	N/A	N/A	8295757
C13-Octachlorodibenzo-p-Dioxin	%	97	N/A	N/A	N/A	N/A	N/A	N/A	8295757
Cl37-2378 TetraCDD *	%	109	N/A	N/A	N/A	N/A	N/A	N/A	8295757

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

** CDF = Chloro Dibenzo-p-Furan

N/A = Not Applicable

* CDD = Chloro Dibenzo-p-Dioxin

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TEST SUMMARY

Bureau Veritas ID: TXA248 **Collected:** 2022/09/08
Sample ID: M23- BLANK **Shipped:**
Matrix: Stack Sampling Train **Received:** 2022/09/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dioxins/Furans in Air (Method 23)	HRMS/MS	8295757	2022/10/05	2022/10/20	Cathy Xu

Bureau Veritas ID: TXA249 **Collected:** 2022/09/06
Sample ID: M23- TEST 1 **Shipped:**
Matrix: Stack Sampling Train **Received:** 2022/09/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
2,3,7,8-TCDF Confirmation (M23)	HRMS/MS	8302184	N/A	2022/10/21	Angel Guerrero
Dioxins/Furans in Air (Method 23)	HRMS/MS	8295757	2022/10/05	2022/10/20	Cathy Xu

Bureau Veritas ID: TXA250 **Collected:** 2022/09/08
Sample ID: M23- TEST 2 **Shipped:**
Matrix: Stack Sampling Train **Received:** 2022/09/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dioxins/Furans in Air (Method 23)	HRMS/MS	8295757	2022/10/05	2022/10/20	Cathy Xu

Bureau Veritas ID: TXA251 **Collected:** 2022/09/08
Sample ID: M23- TEST 3 **Shipped:**
Matrix: Stack Sampling Train **Received:** 2022/09/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
2,3,7,8-TCDF Confirmation (M23)	HRMS/MS	8302184	N/A	2022/10/21	Angel Guerrero
Dioxins/Furans in Air (Method 23)	HRMS/MS	8295757	2022/10/05	2022/10/20	Cathy Xu

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GENERAL COMMENTS

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
8295757	CXU	Spiked Blank	C13-1234678 HeptaCDD	2022/10/21		115	%	25 - 130
			C13-1234678 HeptaCDF	2022/10/21		104	%	25 - 130
			C13-123678 HexaCDD	2022/10/21		92	%	40 - 130
			C13-123678 HexaCDF	2022/10/21		95	%	40 - 130
			C13-12378 PentaCDD	2022/10/21		87	%	40 - 130
			C13-12378 PentaCDF	2022/10/21		87	%	40 - 130
			C13-2378 TetraCDD	2022/10/21		80	%	40 - 130
			C13-2378 TetraCDF	2022/10/21		85	%	40 - 130
			C13-Octachlorodibenzo-p-Dioxin	2022/10/21		94	%	25 - 130
			2,3,7,8-Tetra CDD	2022/10/21		112	%	80 - 140
			1,2,3,7,8-Penta CDD	2022/10/21		108	%	80 - 140
			1,2,3,4,7,8-Hexa CDD	2022/10/21		110	%	80 - 140
			1,2,3,6,7,8-Hexa CDD	2022/10/21		116	%	80 - 140
			1,2,3,7,8,9-Hexa CDD	2022/10/21		113	%	80 - 140
			1,2,3,4,6,7,8-Hepta CDD	2022/10/21		104	%	80 - 140
			1,2,3,4,6,7,8,9-Octa CDD	2022/10/21		112	%	80 - 140
			2,3,7,8-Tetra CDF	2022/10/21		118	%	80 - 140
			1,2,3,7,8-Penta CDF	2022/10/21		113	%	80 - 140
			2,3,4,7,8-Penta CDF	2022/10/21		118	%	80 - 140
			1,2,3,4,7,8-Hexa CDF	2022/10/21		116	%	80 - 140
			1,2,3,6,7,8-Hexa CDF	2022/10/21		113	%	80 - 140
			2,3,4,6,7,8-Hexa CDF	2022/10/21		124	%	80 - 140
			1,2,3,7,8,9-Hexa CDF	2022/10/21		119	%	80 - 140
			1,2,3,4,6,7,8-Hepta CDF	2022/10/21		113	%	80 - 140
			1,2,3,4,7,8,9-Hepta CDF	2022/10/21		129	%	80 - 140
			1,2,3,4,6,7,8,9-Octa CDF	2022/10/21		115	%	80 - 140
8295757	CXU	Spiked Blank DUP	C13-1234678 HeptaCDD	2022/10/21		111	%	25 - 130
			C13-1234678 HeptaCDF	2022/10/21		110	%	25 - 130
			C13-123678 HexaCDD	2022/10/21		94	%	40 - 130
			C13-123678 HexaCDF	2022/10/21		96	%	40 - 130
			C13-12378 PentaCDD	2022/10/21		87	%	40 - 130
			C13-12378 PentaCDF	2022/10/21		86	%	40 - 130
			C13-2378 TetraCDD	2022/10/21		82	%	40 - 130
			C13-2378 TetraCDF	2022/10/21		86	%	40 - 130
			C13-Octachlorodibenzo-p-Dioxin	2022/10/21		97	%	25 - 130
			2,3,7,8-Tetra CDD	2022/10/21		112	%	80 - 140
			1,2,3,7,8-Penta CDD	2022/10/21		110	%	80 - 140
			1,2,3,4,7,8-Hexa CDD	2022/10/21		112	%	80 - 140
			1,2,3,6,7,8-Hexa CDD	2022/10/21		118	%	80 - 140
			1,2,3,7,8,9-Hexa CDD	2022/10/21		114	%	80 - 140
			1,2,3,4,6,7,8-Hepta CDD	2022/10/21		106	%	80 - 140
			1,2,3,4,6,7,8,9-Octa CDD	2022/10/21		111	%	80 - 140
			2,3,7,8-Tetra CDF	2022/10/21		119	%	80 - 140
			1,2,3,7,8-Penta CDF	2022/10/21		116	%	80 - 140
			2,3,4,7,8-Penta CDF	2022/10/21		124	%	80 - 140
			1,2,3,4,7,8-Hexa CDF	2022/10/21		116	%	80 - 140
			1,2,3,6,7,8-Hexa CDF	2022/10/21		113	%	80 - 140
			2,3,4,6,7,8-Hexa CDF	2022/10/21		128	%	80 - 140
			1,2,3,7,8,9-Hexa CDF	2022/10/21		121	%	80 - 140
			1,2,3,4,6,7,8-Hepta CDF	2022/10/21		113	%	80 - 140
			1,2,3,4,7,8,9-Hepta CDF	2022/10/21		120	%	80 - 140

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			1,2,3,4,6,7,8,9-Octa CDF	2022/10/21		115	%	80 - 140
8295757	CXU	RPD	2,3,7,8-Tetra CDD	2022/10/21	0		%	20
			1,2,3,7,8-Penta CDD	2022/10/21	1.8		%	20
			1,2,3,4,7,8-Hexa CDD	2022/10/21	1.8		%	20
			1,2,3,6,7,8-Hexa CDD	2022/10/21	1.7		%	20
			1,2,3,7,8,9-Hexa CDD	2022/10/21	0.88		%	20
			1,2,3,4,6,7,8-Hepta CDD	2022/10/21	1.9		%	20
			1,2,3,4,6,7,8,9-Octa CDD	2022/10/21	0.90		%	20
			2,3,7,8-Tetra CDF	2022/10/21	0.84		%	20
			1,2,3,7,8-Penta CDF	2022/10/21	2.6		%	20
			2,3,4,7,8-Penta CDF	2022/10/21	5.0		%	20
			1,2,3,4,7,8-Hexa CDF	2022/10/21	0		%	20
			1,2,3,6,7,8-Hexa CDF	2022/10/21	0		%	20
			2,3,4,6,7,8-Hexa CDF	2022/10/21	3.2		%	20
			1,2,3,7,8,9-Hexa CDF	2022/10/21	1.7		%	20
			1,2,3,4,6,7,8-Hepta CDF	2022/10/21	0		%	20
			1,2,3,4,7,8,9-Hepta CDF	2022/10/21	7.2		%	20
			1,2,3,4,6,7,8,9-Octa CDF	2022/10/21	0		%	20
8295757	CXU	Method Blank	C13-1234678 HeptaCDD	2022/10/20		98	%	25 - 130
			C13-1234678 HeptaCDF	2022/10/20		96	%	25 - 130
			C13-123678 HexaCDD	2022/10/20		95	%	40 - 130
			C13-123678 HexaCDF	2022/10/20		88	%	40 - 130
			C13-12378 PentaCDD	2022/10/20		86	%	40 - 130
			C13-12378 PentaCDF	2022/10/20		83	%	40 - 130
			C13-2378 TetraCDD	2022/10/20		79	%	40 - 130
			C13-2378 TetraCDF	2022/10/20		70	%	40 - 130
			C13-Octachlorodibenzo-p-Dioxin	2022/10/20		93	%	25 - 130
			2,3,7,8-Tetra CDD	2022/10/20	<2.7, EDL=2.7		pg	
			1,2,3,7,8-Penta CDD	2022/10/20	<2.4, EDL=2.4		pg	
			1,2,3,4,7,8-Hexa CDD	2022/10/20	<2.4, EDL=2.4		pg	
			1,2,3,6,7,8-Hexa CDD	2022/10/20	<2.5, EDL=2.5		pg	
			1,2,3,7,8,9-Hexa CDD	2022/10/20	<2.3, EDL=2.3		pg	
			1,2,3,4,6,7,8-Hepta CDD	2022/10/20	<2.6, EDL=2.6		pg	
			1,2,3,4,6,7,8,9-Octa CDD	2022/10/20	3.6, EDL=2.5		pg	
			Total Tetra CDD	2022/10/20	<2.7, EDL=2.7		pg	
			Total Penta CDD	2022/10/20	<2.4, EDL=2.4		pg	
			Total Hexa CDD	2022/10/20	<2.4, EDL=2.4		pg	
			Total Hepta CDD	2022/10/20	<2.6, EDL=2.6		pg	
			2,3,7,8-Tetra CDF	2022/10/20	<2.5, EDL=2.5		pg	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			1,2,3,7,8-Penta CDF	2022/10/20	<2.7, EDL=2.7		pg	
			2,3,4,7,8-Penta CDF	2022/10/20	<2.8, EDL=2.8		pg	
			1,2,3,4,7,8-Hexa CDF	2022/10/20	<2.4, EDL=2.4		pg	
			1,2,3,6,7,8-Hexa CDF	2022/10/20	<2.2, EDL=2.2		pg	
			2,3,4,6,7,8-Hexa CDF	2022/10/20	<2.4, EDL=2.4		pg	
			1,2,3,7,8,9-Hexa CDF	2022/10/20	<2.4, EDL=2.4		pg	
			1,2,3,4,6,7,8-Hepta CDF	2022/10/20	<2.2, EDL=2.2		pg	
			1,2,3,4,7,8,9-Hepta CDF	2022/10/20	<2.6, EDL=2.6		pg	
			1,2,3,4,6,7,8,9-Octa CDF	2022/10/20	3.0, EDL=1.4 (1)		pg	
			Total Tetra CDF	2022/10/20	<2.5, EDL=2.5		pg	
			Total Penta CDF	2022/10/20	<2.8, EDL=2.8		pg	
			Total Hexa CDF	2022/10/20	<2.4, EDL=2.4		pg	
			Total Hepta CDF	2022/10/20	<2.4, EDL=2.4		pg	
8302184	AGU	Method Blank	Confirmation 2,3,7,8-Tetra CDF	2022/10/21	<2.2, EDL=2.2		pg	
			Confirmation C13-2378 TetraCDF	2022/10/21		83	%	40 - 135

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

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.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

(1) EMPC / Ratio - Isotopic ratio adjusted to meet theoretical

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Angel Guerrero, Supervisor, Ultra Trace Analysis, HRMS

M Di Grazia

Melissa DiGrazia, Operations Manager, HRMS Department

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Your Project #: 2779
Site Location: AGNICO EAGLE MINES LTD. MELIADINE SITE-
RANKIN INLET, NUNAVUT

Attention: Bill Wong

Bureau Veritas Laboratories
Calgary - Air Services
1 - 2080 39th Ave NE
Calgary, AB
CANADA T2E 6P7

Report Date: 2022/09/08
Report #: R7287790
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2O6248
Received: 2022/08/29, 08:03

Sample Matrix: Stack Sampling Train
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Dioxins/Furans in Air (Method 23)	1	2022/08/30	2022/09/08	BRL SOP-00404	EPA M23/23A m
Dioxins/Furans in Air (Method 23)	1	2022/08/31	2022/08/25	BRL SOP-00404	EPA M23/23A m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Your Project #: 2779
Site Location: AGNICO EAGLE MINES LTD. MELIADINE SITE-
RANKIN INLET, NUNAVUT

Attention: Bill Wong

Bureau Veritas Laboratories
Calgary - Air Services
1 - 2080 39th Ave NE
Calgary, AB
CANADA T2E 6P7

Report Date: 2022/09/08
Report #: R7287790
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2O6248
Received: 2022/08/29, 08:03

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Marinela Sim, Project Manager
Email: Marinela.Sim@bureauveritas.com
Phone# (905)817-5828
==========
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DIOXINS AND FURANS BY HRMS (STACK SAMPLING TRAIN)

Bureau Veritas ID		TOQ403							
Sampling Date		2022/08/29 09:42				TOXIC EQUIVALENCY		# of	
	UNITS	XAD GLASS PROOF	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDD *	pg	<2.9	2.9	10	2.0	1.00	2.90	N/A	8195477
1,2,3,7,8-Penta CDD *	pg	<2.4	2.4	10	2.0	1.00	2.40	N/A	8195477
1,2,3,4,7,8-Hexa CDD *	pg	<2.0	2.0	10	2.0	0.100	0.200	N/A	8195477
1,2,3,6,7,8-Hexa CDD *	pg	<1.6	1.6	10	2.0	0.100	0.160	N/A	8195477
1,2,3,7,8,9-Hexa CDD *	pg	<1.6	1.6	10	2.0	0.100	0.160	N/A	8195477
1,2,3,4,6,7,8-Hepta CDD *	pg	<1.4	1.4	10	3.0	0.0100	0.0140	N/A	8195477
1,2,3,4,6,7,8,9-Octa CDD *	pg	<1.6	1.6	100	3.0	0.000300	0.000480	N/A	8195477
Total Tetra CDD *	pg	<2.9	2.9	10	N/A	N/A	N/A	0	8195477
Total Penta CDD *	pg	<2.4	2.4	10	N/A	N/A	N/A	0	8195477
Total Hexa CDD *	pg	<1.7	1.7	10	N/A	N/A	N/A	0	8195477
Total Hepta CDD *	pg	<1.4	1.4	10	N/A	N/A	N/A	0	8195477
2,3,7,8-Tetra CDF **	pg	<1.8	1.8	10	2.0	0.100	0.180	N/A	8195477
1,2,3,7,8-Penta CDF **	pg	<2.5	2.5	10	2.0	0.0300	0.0750	N/A	8195477
2,3,4,7,8-Penta CDF **	pg	<2.6	2.6	10	2.0	0.300	0.780	N/A	8195477
1,2,3,4,7,8-Hexa CDF **	pg	<1.4	1.4	10	2.0	0.100	0.140	N/A	8195477
1,2,3,6,7,8-Hexa CDF **	pg	<1.2	1.2	10	2.0	0.100	0.120	N/A	8195477
2,3,4,6,7,8-Hexa CDF **	pg	<1.4	1.4	10	2.0	0.100	0.140	N/A	8195477
1,2,3,7,8,9-Hexa CDF **	pg	<1.5	1.5	10	2.0	0.100	0.150	N/A	8195477
1,2,3,4,6,7,8-Hepta CDF **	pg	<1.0	1.0	10	3.0	0.0100	0.0100	N/A	8195477
1,2,3,4,7,8,9-Hepta CDF **	pg	<1.2	1.2	10	2.0	0.0100	0.0120	N/A	8195477
1,2,3,4,6,7,8,9-Octa CDF **	pg	<1.1	1.1	100	5.0	0.000300	0.000330	N/A	8195477
Total Tetra CDF **	pg	<1.8	1.8	10	N/A	N/A	N/A	0	8195477
Total Penta CDF **	pg	<2.5	2.5	10	N/A	N/A	N/A	0	8195477
Total Hexa CDF **	pg	<1.9	1.9	10	N/A	N/A	N/A	0	8195477
Total Hepta CDF **	pg	<1.1	1.1	10	N/A	N/A	N/A	0	8195477
TOTAL TOXIC EQUIVALENCY	pg	N/A	N/A	N/A	N/A	N/A	7.44	N/A	N/A

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
QC Batch = Quality Control Batch
* CDD = Chloro Dibenzo-p-Dioxin
N/A = Not Applicable
** CDF = Chloro Dibenzo-p-Furan

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DIOXINS AND FURANS BY HRMS (STACK SAMPLING TRAIN)

Bureau Veritas ID		TOQ403							
Sampling Date		2022/08/29 09:42				TOXIC EQUIVALENCY		# of	
	UNITS	XAD GLASS PROOF	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Surrogate Recovery (%)									
C13-1234678 HeptaCDD *	%	105	N/A	N/A	N/A	N/A	N/A	N/A	8195477
C13-1234678 HeptaCDF **	%	99	N/A	N/A	N/A	N/A	N/A	N/A	8195477
C13-123678 HexaCDD *	%	88	N/A	N/A	N/A	N/A	N/A	N/A	8195477
C13-123678 HexaCDF **	%	80	N/A	N/A	N/A	N/A	N/A	N/A	8195477
C13-12378 PentaCDD *	%	114	N/A	N/A	N/A	N/A	N/A	N/A	8195477
C13-12378 PentaCDF **	%	97	N/A	N/A	N/A	N/A	N/A	N/A	8195477
C13-123789 HexaCDF **	%	82	N/A	N/A	N/A	N/A	N/A	N/A	8195477
C13-2378 TetraCDD *	%	84	N/A	N/A	N/A	N/A	N/A	N/A	8195477
C13-2378 TetraCDF **	%	84	N/A	N/A	N/A	N/A	N/A	N/A	8195477
C13-Octachlorodibenzo-p-Dioxin	%	121	N/A	N/A	N/A	N/A	N/A	N/A	8195477

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

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DIOXINS AND FURANS BY HRMS (STACK SAMPLING TRAIN)

Bureau Veritas ID		TOQ404							
Sampling Date		2022/08/29 09:42				TOXIC EQUIVALENCY		# of	
	UNITS	XAD RESIN PROOF	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDD *	pg	<0.23	0.23	10	2.0	1.00	0.230	N/A	8198162
1,2,3,7,8-Penta CDD *	pg	<0.28	0.28	10	2.0	1.00	0.280	N/A	8198162
1,2,3,4,7,8-Hexa CDD *	pg	<0.25	0.25	10	2.0	0.100	0.0250	N/A	8198162
1,2,3,6,7,8-Hexa CDD *	pg	<0.20	0.20	10	2.0	0.100	0.0200	N/A	8198162
1,2,3,7,8,9-Hexa CDD *	pg	<0.20	0.20	10	2.0	0.100	0.0200	N/A	8198162
1,2,3,4,6,7,8-Hepta CDD *	pg	<0.38	0.38	10	3.0	0.0100	0.00380	N/A	8198162
1,2,3,4,6,7,8,9-Octa CDD *	pg	<0.46	0.46	100	3.0	0.000300	0.000138	N/A	8198162
Total Tetra CDD *	pg	<0.23	0.23	10	N/A	N/A	N/A	0	8198162
Total Penta CDD *	pg	<0.59	0.59	10	N/A	N/A	N/A	0	8198162
Total Hexa CDD *	pg	<0.21	0.21	10	N/A	N/A	N/A	0	8198162
Total Hepta CDD *	pg	<0.38	0.38	10	N/A	N/A	N/A	0	8198162
2,3,7,8-Tetra CDF **	pg	<0.13	0.13	10	2.0	0.100	0.0130	N/A	8198162
1,2,3,7,8-Penta CDF **	pg	<0.34	0.34	10	2.0	0.0300	0.0102	N/A	8198162
2,3,4,7,8-Penta CDF **	pg	<0.35	0.35	10	2.0	0.300	0.105	N/A	8198162
1,2,3,4,7,8-Hexa CDF **	pg	<0.28	0.28	10	2.0	0.100	0.0280	N/A	8198162
1,2,3,6,7,8-Hexa CDF **	pg	<0.23	0.23	10	2.0	0.100	0.0230	N/A	8198162
2,3,4,6,7,8-Hexa CDF **	pg	<0.26	0.26	10	2.0	0.100	0.0260	N/A	8198162
1,2,3,7,8,9-Hexa CDF **	pg	<0.29	0.29	10	2.0	0.100	0.0290	N/A	8198162
1,2,3,4,6,7,8-Hepta CDF **	pg	<0.13	0.13	10	3.0	0.0100	0.00130	N/A	8198162
1,2,3,4,7,8,9-Hepta CDF **	pg	<0.16	0.16	10	2.0	0.0100	0.00160	N/A	8198162
1,2,3,4,6,7,8,9-Octa CDF **	pg	<0.36	0.36	100	5.0	0.000300	0.000108	N/A	8198162
Total Tetra CDF **	pg	<0.13	0.13	10	N/A	N/A	N/A	0	8198162
Total Penta CDF **	pg	<0.34	0.34	10	N/A	N/A	N/A	0	8198162
Total Hexa CDF **	pg	<0.26	0.26	10	N/A	N/A	N/A	0	8198162
Total Hepta CDF **	pg	<0.14	0.14	10	N/A	N/A	N/A	0	8198162
TOTAL TOXIC EQUIVALENCY	pg	N/A	N/A	N/A	N/A	N/A	0.816	N/A	N/A

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

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DIOXINS AND FURANS BY HRMS (STACK SAMPLING TRAIN)

Bureau Veritas ID		TOQ404							
Sampling Date		2022/08/29 09:42				TOXIC EQUIVALENCY		# of	
	UNITS	XAD RESIN PROOF	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Surrogate Recovery (%)									
C13-1234678 HeptaCDD *	%	97	N/A	N/A	N/A	N/A	N/A	N/A	8198162
C13-1234678 HeptaCDF **	%	90	N/A	N/A	N/A	N/A	N/A	N/A	8198162
C13-123678 HexaCDD *	%	101	N/A	N/A	N/A	N/A	N/A	N/A	8198162
C13-123678 HexaCDF **	%	94	N/A	N/A	N/A	N/A	N/A	N/A	8198162
C13-12378 PentaCDD *	%	106	N/A	N/A	N/A	N/A	N/A	N/A	8198162
C13-12378 PentaCDF **	%	96	N/A	N/A	N/A	N/A	N/A	N/A	8198162
C13-2378 TetraCDD *	%	91	N/A	N/A	N/A	N/A	N/A	N/A	8198162
C13-2378 TetraCDF **	%	90	N/A	N/A	N/A	N/A	N/A	N/A	8198162
C13-Octachlorodibenzo-p-Dioxin	%	111	N/A	N/A	N/A	N/A	N/A	N/A	8198162

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
QC Batch = Quality Control Batch
* CDD = Chloro Dibenzo-p-Dioxin
N/A = Not Applicable
** CDF = Chloro Dibenzo-p-Furan

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TEST SUMMARY

Bureau Veritas ID: TOQ403 **Collected:** 2022/08/29
Sample ID: XAD GLASS PROOF **Shipped:**
Matrix: Stack Sampling Train **Received:** 2022/08/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dioxins/Furans in Air (Method 23)	HRMS/MS	8195477	2022/08/30	2022/09/08	Yan Qin

Bureau Veritas ID: TOQ404 **Collected:** 2022/08/29
Sample ID: XAD RESIN PROOF **Shipped:**
Matrix: Stack Sampling Train **Received:** 2022/08/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dioxins/Furans in Air (Method 23)	HRMS/MS	8198162	2022/08/31	2022/08/25	Yan Qin

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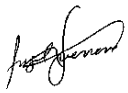
GENERAL COMMENTS

Results relate only to the items tested.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Angel Guerrero, Supervisor, Ultra Trace Analysis, HRMS

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Your Project #: 20210923
Site#: CALGARY
Site Location: EMISSION SERVICES GROUP MM5 PROOFING
Your C.O.C. #: 191029-01

Attention: Bill Wong

Bureau Veritas Laboratories
Calgary - Air Services
1 - 2080 39th Ave NE
Calgary, AB
CANADA T2E 6P7

Report Date: 2021/11/12
Report #: R6898400
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1R9471
Received: 2021/09/24, 11:02

Sample Matrix: Stack Sampling Train
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Chlorobenzenes in MM5 Trains (EPA M0010) (1)	1	2021/11/06	2021/11/09	BRL SOP-00202	In house (M0010)
Chlorophenols in MM5 Trains (EPA M0010) (2)	1	2021/11/06	2021/11/11	BRL SOP-00204	In house (M0010)
Dioxins/Furans in Air (Method 23)	1	2021/10/21	2021/10/28	BRL SOP-00404	EPA M23/23A m
PAH's in MM5 SamplingTrains (CARB429mod)	1	2021/10/22	2021/10/22	BRL SOP-00201	CARB429(ARBM1,M2)mod
PCBs in a Sampling Train (1668Amod) (3)	1	2021/10/21	2021/10/23	BRL SOP-00408	EPA 1668A m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Analysis was conducted according to Bureau Veritas Laboratories method BRL SOP-00202 and modified where applicable based on the sample matrix. This test is not Standards Council of Canada accredited for this matrix.
(2) Analysis was conducted according to Bureau Veritas Laboratories method BRL SOP-00204 and modified where applicable based on the sample matrix. This test is not Standards Council of Canada accredited for this matrix.
(3) Analysis was conducted according to Bureau Veritas Laboratories method BRL SOP-00408 and modified where applicable based on the sample matrix. This test is not Standards Council of Canada accredited for this matrix.

Your Project #: 20210923
Site#: CALGARY
Site Location: EMISSION SERVICES GROUP MM5 PROOFING
Your C.O.C. #: 191029-01

Attention: Bill Wong

Bureau Veritas Laboratories
Calgary - Air Services
1 - 2080 39th Ave NE
Calgary, AB
CANADA T2E 6P7

Report Date: 2021/11/12
Report #: R6898400
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1R9471
Received: 2021/09/24, 11:02

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Marinela Sim, Project Manager
Email: Marinela.Sim@bureauveritas.com
Phone# (905)817-5828
==========
This report has been generated and distributed using a secure automated process.
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EPA M23 DIOXINS AND FURANS (STACK SAMPLING TRAIN)

Bureau Veritas ID		QTR800							
Sampling Date		2021/09/23							
COC Number		191029-01				TOXIC EQUIVALENCY		# of	
	UNITS	PROOF-GLASSWARE SETS 1-22, BOTTLES, FILTERS	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDD *	pg	<6.1	6.1	60	12	1.00	6.10	N/A	7650915
1,2,3,7,8-Penta CDD *	pg	<6.4	6.4	60	12	1.00	6.40	N/A	7650915
1,2,3,4,7,8-Hexa CDD *	pg	<5.6	5.6	60	12	0.100	0.560	N/A	7650915
1,2,3,6,7,8-Hexa CDD *	pg	<5.5	5.5	60	12	0.100	0.550	N/A	7650915
1,2,3,7,8,9-Hexa CDD *	pg	<5.5	5.5	60	12	0.100	0.550	N/A	7650915
1,2,3,4,6,7,8-Hepta CDD *	pg	<7.3	7.3	60	18	0.0100	0.0730	N/A	7650915
1,2,3,4,6,7,8,9-Octa CDD *	pg	<7.1	7.1	600	18	0.000300	0.00213	N/A	7650915
Total Tetra CDD *	pg	<6.1	6.1	60	N/A	N/A	N/A	0	7650915
Total Penta CDD *	pg	<6.4	6.4	60	N/A	N/A	N/A	0	7650915
Total Hexa CDD *	pg	<5.5	5.5	60	N/A	N/A	N/A	0	7650915
Total Hepta CDD *	pg	<7.3	7.3	60	N/A	N/A	N/A	0	7650915
2,3,7,8-Tetra CDF **	pg	<6.3	6.3	60	12	0.100	0.630	N/A	7650915
1,2,3,7,8-Penta CDF **	pg	<6.6	6.6	60	12	0.0300	0.198	N/A	7650915
2,3,4,7,8-Penta CDF **	pg	<6.6	6.6	60	12	0.300	1.98	N/A	7650915
1,2,3,4,7,8-Hexa CDF **	pg	<7.4	7.4	60	12	0.100	0.740	N/A	7650915
1,2,3,6,7,8-Hexa CDF **	pg	<7.5	7.5	60	12	0.100	0.750	N/A	7650915
2,3,4,6,7,8-Hexa CDF **	pg	<8.1	8.1	60	12	0.100	0.810	N/A	7650915
1,2,3,7,8,9-Hexa CDF **	pg	<9.2	9.2	60	12	0.100	0.920	N/A	7650915
1,2,3,4,6,7,8-Hepta CDF **	pg	18.5	7.0	60	18	0.0100	0.185	N/A	7650915
1,2,3,4,7,8,9-Hepta CDF **	pg	<9.3	9.3	60	12	0.0100	0.0930	N/A	7650915
1,2,3,4,6,7,8,9-Octa CDF **	pg	<8.0	8.0	600	30	0.000300	0.00240	N/A	7650915
Total Tetra CDF **	pg	<6.3	6.3	60	N/A	N/A	N/A	0	7650915
Total Penta CDF **	pg	<6.6	6.6	60	N/A	N/A	N/A	0	7650915
Total Hexa CDF **	pg	<8.0	8.0	60	N/A	N/A	N/A	0	7650915
Total Hepta CDF **	pg	28.0	8.0	60	N/A	N/A	N/A	2	7650915
TOTAL TOXIC EQUIVALENCY	pg	N/A	N/A	N/A	N/A	N/A	20.5	N/A	N/A

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
QC Batch = Quality Control Batch
* CDD = Chloro Dibenzo-p-Dioxin
N/A = Not Applicable
** CDF = Chloro Dibenzo-p-Furan

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EPA M23 DIOXINS AND FURANS (STACK SAMPLING TRAIN)

Bureau Veritas ID		QTR800							
Sampling Date		2021/09/23							
COC Number		191029-01				TOXIC EQUIVALENCY		# of	
	UNITS	PROOF-GLASSWARE SETS 1-22, BOTTLES, FILTERS	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Surrogate Recovery (%)									
C13-1234678 HeptaCDD *	%	111	N/A	N/A	N/A	N/A	N/A	N/A	7650915
C13-1234678 HeptaCDF **	%	117	N/A	N/A	N/A	N/A	N/A	N/A	7650915
C13-123678 HexaCDD *	%	115	N/A	N/A	N/A	N/A	N/A	N/A	7650915
C13-123678 HexaCDF **	%	109	N/A	N/A	N/A	N/A	N/A	N/A	7650915
C13-12378 PentaCDD *	%	112	N/A	N/A	N/A	N/A	N/A	N/A	7650915
C13-12378 PentaCDF **	%	97	N/A	N/A	N/A	N/A	N/A	N/A	7650915
C13-123789 HexaCDF **	%	103	N/A	N/A	N/A	N/A	N/A	N/A	7650915
C13-2378 TetraCDD *	%	97	N/A	N/A	N/A	N/A	N/A	N/A	7650915
C13-2378 TetraCDF **	%	89	N/A	N/A	N/A	N/A	N/A	N/A	7650915
C13-Octachlorodibenzo-p-Dioxin	%	90	N/A	N/A	N/A	N/A	N/A	N/A	7650915

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
QC Batch = Quality Control Batch
* CDD = Chloro Dibenzo-p-Dioxin
N/A = Not Applicable
** CDF = Chloro Dibenzo-p-Furan

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EPS 1/RM/2 SEMIVOLATILES (STACK SAMPLING TRAIN)

Bureau Veritas ID		QTR800			
Sampling Date		2021/09/23			
COC Number		191029-01			
	UNITS	PROOF-GLASSWARE SETS 1-22, BOTTLES, FILTERS	RDL	MDL	QC Batch
1-Methylnaphthalene	ug	<0.050	0.050	0.050	7653628
1-Methylphenanthrene	ug	<0.050	0.050	0.050	7653628
2-Chloronaphthalene	ug	<0.050	0.050	0.050	7653628
2-Methylanthracene	ug	<0.050	0.050	0.050	7653628
2-Methylnaphthalene	ug	<0.050	0.050	0.010	7653628
3-Methylcholanthrene	ug	<0.050	0.050	0.050	7653628
7,12-Dimethylbenzo(a)anthracene	ug	<0.20	0.20	0.050	7653628
9,10-Dimethylanthracene	ug	<0.050	0.050	0.050	7653628
Acenaphthene	ug	<0.050	0.050	0.010	7653628
Acenaphthylene	ug	<0.050	0.050	0.010	7653628
Anthracene	ug	<0.050	0.050	0.010	7653628
Benzo(a)anthracene	ug	<0.050	0.050	0.010	7653628
Benzo(a)fluorene	ug	<0.050	0.050	0.050	7653628
Benzo(a)pyrene	ug	<0.050	0.050	0.010	7653628
Benzo(b)fluoranthene	ug	<0.050	0.050	0.010	7653628
Benzo(b)fluorene	ug	<0.050	0.050	0.050	7653628
Benzo(e)pyrene	ug	<0.050	0.050	0.050	7653628
Benzo(k)fluoranthene	ug	<0.050	0.050	0.010	7653628
Biphenyl	ug	<0.050	0.050	0.050	7653628
Chrysene	ug	<0.050	0.050	0.010	7653628
Coronene	ug	<0.050	0.050	0.050	7653628
Dibenzo(a,h)anthracene	ug	<0.050	0.050	0.010	7653628
Dibenzo(a,e)pyrene	ug	<0.050	0.050	0.050	7653628
Fluoranthene	ug	<0.050	0.050	0.010	7653628
Fluorene	ug	<0.050	0.050	0.010	7653628
Indeno(1,2,3-cd)pyrene	ug	<0.050	0.050	0.010	7653628
m-Terphenyl	ug	<0.050	0.050	0.050	7653628
Naphthalene	ug	<0.050	0.050	0.050	7653628
o-Terphenyl	ug	<0.050	0.050	0.050	7653628
Perylene	ug	<0.050	0.050	0.050	7653628
Phenanthrene	ug	<0.050	0.050	0.010	7653628
p-Terphenyl	ug	<0.050	0.050	0.050	7653628
Pyrene	ug	<0.050	0.050	0.010	7653628

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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EPS 1/RM/2 SEMIVOLATILES (STACK SAMPLING TRAIN)

Bureau Veritas ID		QTR800			
Sampling Date		2021/09/23			
COC Number		191029-01			
	UNITS	PROOF-GLASSWARE SETS 1-22, BOTTLES, FILTERS	RDL	MDL	QC Batch
Quinoline	ug	<0.050	0.050	0.050	7653628
Tetralin	ug	<0.050	0.050	0.050	7653628
1,2,3,4-Tetrachlorobenzene	ug	<0.30	0.30	0.060	7685125
1,2,3,5+1,2,4,5-Tetrachlorobenzene	ug	<0.30	0.30	0.060	7685125
1,2,3-Trichlorobenzene	ug	<0.30	0.30	0.060	7685125
1,2,4-Trichlorobenzene	ug	<0.30	0.30	0.060	7685125
1,2-Dichlorobenzene	ug	<0.30	0.30	0.060	7685125
1,3,5-Trichlorobenzene	ug	<0.30	0.30	0.060	7685125
1,3-Dichlorobenzene	ug	<0.30	0.30	0.060	7685125
1,4-Dichlorobenzene	ug	<0.30	0.30	0.060	7685125
Hexachlorobenzene	ug	<0.30	0.30	0.060	7685125
Pentachlorobenzene	ug	<0.30	0.30	0.060	7685125
2,3,4,5-Tetrachlorophenol	ug	<0.30	0.30	0.24	7685128
2,3,4,6-Tetrachlorophenol	ug	<0.30	0.30	0.24	7685128
2,3,4-Trichlorophenol	ug	<0.30	0.30	0.24	7685128
2,3,5,6-Tetrachlorophenol	ug	<0.30	0.30	0.24	7685128
2,3,5-Trichlorophenol	ug	<0.30	0.30	0.24	7685128
2,3,6-Trichlorophenol	ug	<0.30	0.30	0.24	7685128
2,3-Dichlorophenol	ug	<0.30	0.30	0.24	7685128
2,4 + 2,5-Dichlorophenol	ug	<0.30	0.30	0.24	7685128
2,4,5-Trichlorophenol	ug	<0.30	0.30	0.24	7685128
2,4,6-Trichlorophenol	ug	<0.30	0.30	0.24	7685128
2,6-Dichlorophenol	ug	<0.30	0.30	0.24	7685128
2-Chlorophenol	ug	<0.30	0.30	0.24	7685128
3,4,5-Trichlorophenol	ug	<0.30	0.30	0.24	7685128
3,4-Dichlorophenol	ug	<0.30	0.30	0.24	7685128
3,5-Dichlorophenol	ug	<0.30	0.30	0.24	7685128
3-Chlorophenol	ug	<0.30	0.30	0.24	7685128
4-Chlorophenol	ug	<0.30	0.30	0.24	7685128
Pentachlorophenol	ug	<0.30	0.30	0.24	7685128
Surrogate Recovery (%)					
13C6-Hexachlorobenzene	%	102	N/A	N/A	7685125
2H3-1,2,4-Trichlorobenzene	%	92	N/A	N/A	7685125

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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EPS 1/RM/2 SEMIVOLATILES (STACK SAMPLING TRAIN)

Bureau Veritas ID		QTR800			
Sampling Date		2021/09/23			
COC Number		191029-01			
	UNITS	PROOF-GLASSWARE SETS 1-22, BOTTLES, FILTERS	RDL	MDL	QC Batch
2H4-1,3-Dichlorobenzene	%	100	N/A	N/A	7685125
D3-2,4-Dichlorophenol	%	103	N/A	N/A	7685128
D6-Pentachlorophenol	%	121	N/A	N/A	7685128
D10-2-Methylnaphthalene	%	98	N/A	N/A	7653628
D10-Fluoranthene	%	96	N/A	N/A	7653628
D10-Phenanthrene	%	100	N/A	N/A	7653628
D12-Benzo(a)anthracene	%	96	N/A	N/A	7653628
D12-Benzo(a)pyrene	%	82	N/A	N/A	7653628
D12-Benzo(b)fluoranthene	%	98	N/A	N/A	7653628
D12-Benzo(ghi)perylene	%	96	N/A	N/A	7653628
D12-Benzo(k)fluoranthene	%	98	N/A	N/A	7653628
D12-Chrysene	%	100	N/A	N/A	7653628
D12-Indeno(1,2,3-cd)pyrene	%	94	N/A	N/A	7653628
D12-Perylene	%	84	N/A	N/A	7653628
D14-Dibenzo(a,h)anthracene	%	96	N/A	N/A	7653628
D8-Acenaphthylene	%	80	N/A	N/A	7653628
D8-Naphthalene	%	98	N/A	N/A	7653628

RDL = Reportable Detection Limit
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N/A = Not Applicable

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RESULTS OF ANALYSES OF STACK SAMPLING TRAIN

Bureau Veritas ID		QTR800							
Sampling Date		2021/09/23							
COC Number		191029-01				TOXIC EQUIVALENCY		# of	
	UNITS	PROOF-GLASSWARE SETS 1-22, BOTTLES, FILTERS	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
33'44'-TetraCB-(77)	ng	<0.042	0.042	0.10	N/A	0.00010	0.0000042	N/A	7661953
344'5-TetraCB-(81)	ng	<0.038	0.038	0.10	N/A	0.00030	0.000011	N/A	7661953
233'44'-PentaCB-(105)	ng	<0.037	0.037	0.10	N/A	0.000030	0.0000011	N/A	7661953
2344'5-PentaCB-(114)	ng	<0.037	0.037	0.10	N/A	0.000030	0.0000011	N/A	7661953
23'44'5-PentaCB-(118)	ng	<0.036	0.036	0.10	N/A	0.000030	0.0000011	N/A	7661953
23'44'5'-PentaCB-(123)	ng	<0.039	0.039	0.10	N/A	0.000030	0.0000012	N/A	7661953
33'44'5-PentaCB-(126)	ng	<0.036	0.036	0.10	N/A	0.10	0.0036	N/A	7661953
HexaCB-(156)+(157)	ng	<0.035	0.035	0.20	N/A	0.000030	0.0000011	N/A	7661953
23'44'55'-HexaCB-(167)	ng	<0.035	0.035	0.10	N/A	0.000030	0.0000011	N/A	7661953
33'44'55'-HexaCB-(169)	ng	<0.034	0.034	0.10	N/A	0.030	0.0010	N/A	7661953
22'33'44'5-HeptaCB-(170)	ng	<0.033	0.033	0.10	N/A	N/A	N/A	N/A	7661953
22'344'55'-HeptaCB-(180)	ng	<0.034	0.034	0.10	N/A	N/A	N/A	N/A	7661953
233'44'55'-HeptaCB-(189)	ng	<0.058	0.058	0.10	N/A	0.000030	0.0000017	N/A	7661953
TOTAL TOXIC EQUIVALENCY	ng	N/A	N/A	N/A	N/A	N/A	0.0046	N/A	N/A
Surrogate Recovery (%)									
C13-233'44'55'-HeptaCB-(189)	%	114	N/A	N/A	N/A	N/A	N/A	N/A	7661953
C13-233'44'5-HexaCB-(156)	%	93	N/A	N/A	N/A	N/A	N/A	N/A	7661953
C13-233'44'5'-HexaCB-(157)	%	93	N/A	N/A	N/A	N/A	N/A	N/A	7661953
C13-233'44'-PentaCB-(105)	%	102	N/A	N/A	N/A	N/A	N/A	N/A	7661953
C13-23'44'55'-HexaCB-(167)	%	91	N/A	N/A	N/A	N/A	N/A	N/A	7661953
C13-2344'5-PentaCB-(114)	%	90	N/A	N/A	N/A	N/A	N/A	N/A	7661953
C13-23'44'5-PentaCB-(118)	%	98	N/A	N/A	N/A	N/A	N/A	N/A	7661953
C13-2'344'5-PentaCB-(123)	%	93	N/A	N/A	N/A	N/A	N/A	N/A	7661953
C13-33'44'55'-HexaCB-(169)	%	84	N/A	N/A	N/A	N/A	N/A	N/A	7661953
C13-33'44'5-PentaCB-(126)	%	96	N/A	N/A	N/A	N/A	N/A	N/A	7661953
C13-33'44'-TetraCB-(77)	%	108	N/A	N/A	N/A	N/A	N/A	N/A	7661953
C13-344'5-TetraCB-(81)	%	111	N/A	N/A	N/A	N/A	N/A	N/A	7661953

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

N/A = Not Applicable

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TEST SUMMARY

Bureau Veritas ID: QTR800
Sample ID: PROOF- GLASSWARE SETS 1-22, BOTTLES, FILTERS
Matrix: Stack Sampling Train

Collected: 2021/09/23
Shipped:
Received: 2021/09/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chlorobenzenes in MM5 Trains (EPA M0010)	GC/MS	7685125	2021/11/06	2021/11/09	Gnana Thomas
Chlorophenols in MM5 Trains (EPA M0010)	GC/MS	7685128	2021/11/06	2021/11/11	Gnana Thomas
Dioxins/Furans in Air (Method 23)	HRMS/MS	7650915	2021/10/21	2021/10/28	Angel Guerrero
PAH's in MM5 SamplingTrains (CARB429mod)	GC/MS	7653628	2021/10/22	2021/10/22	Gnana Thomas
PCBs in a Sampling Train (1668Amod)	HRMS/MS	7661953	2021/10/21	2021/10/23	Cathy Xu

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GENERAL COMMENTS

Results relate only to the items tested.

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Angel Guerrero, Supervisor, Ultra Trace Analysis, HRMS

M Di Grazia

Melissa DiGrazia, Operations Manager, HRMS Department

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

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Your Project #: 20201027
Site#: CALGARY
Site Location: EMISSION SERVICES GROUP MM5 PROOFING
Your C.O.C. #: 191029-01

Attention: Bill Wong

Bureau Veritas Laboratories
Calgary - Air Services
1 - 2080 39th Ave NE
Calgary, AB
CANADA T2E 6P7

Report Date: 2020/12/07
Report #: R6439590
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C0T1755
Received: 2020/11/02, 08:00

Sample Matrix: Stack Sampling Train
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Chlorobenzenes in MM5 Trains (EPA M0010)	3	2020/11/22	2020/11/26	BRL SOP-00202	In house (M0010)
Chlorophenols in MM5 Trains (EPA M0010)	3	2020/11/26	2020/11/28	BRL SOP-00204	In house (M0010)
Dioxins/Furans in Air (Method 23)	3	2020/11/25	2020/11/26	BRL SOP-00404	EPA M23/23A m
PAH's in MM5 SamplingTrains (CARB429mod)	3	2020/11/25	2020/11/27	BRL SOP-00201	CARB429(ARBM1,M2)mod
PCBs in a Sampling Train (1668Amod)	3	2020/12/02	2020/11/29	BRL SOP-00408	EPA 1668A m

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Your Project #: 20201027
Site#: CALGARY
Site Location: EMISSION SERVICES GROUP MM5 PROOFING
Your C.O.C. #: 191029-01

Attention: Bill Wong

Bureau Veritas Laboratories
Calgary - Air Services
1 - 2080 39th Ave NE
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CANADA T2E 6P7

Report Date: 2020/12/07
Report #: R6439590
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C0T1755
Received: 2020/11/02, 08:00

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Marinela Sim, Project Manager
Email: Marinela.Sim@bvlabs.com
Phone# (905)817-5828
==========

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

EPA M23 DIOXINS AND FURANS (STACK SAMPLING TRAIN)

BV Labs ID		OBL553							
Sampling Date		2020/10/27							
COC Number		191029-01				TOXIC EQUIVALENCY		# of	
	UNITS	PROOF-GLASSWARE SETS 1-22	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDD *	pg	<7.3	7.3	60	12	1.00	7.30	N/A	7074905
1,2,3,7,8-Penta CDD *	pg	<8.0	8.0	60	12	1.00	8.00	N/A	7074905
1,2,3,4,7,8-Hexa CDD *	pg	<7.8	7.8	60	12	0.100	0.780	N/A	7074905
1,2,3,6,7,8-Hexa CDD *	pg	<7.9	7.9	60	12	0.100	0.790	N/A	7074905
1,2,3,7,8,9-Hexa CDD *	pg	<7.2	7.2	60	12	0.100	0.720	N/A	7074905
1,2,3,4,6,7,8-Hepta CDD *	pg	<8.6	8.6	60	18	0.0100	0.0860	N/A	7074905
1,2,3,4,6,7,8,9-Octa CDD *	pg	<7.8	7.8	600	18	0.000300	0.00234	N/A	7074905
Total Tetra CDD *	pg	<7.3	7.3	60	N/A	N/A	N/A	0	7074905
Total Penta CDD *	pg	<8.0	8.0	60	N/A	N/A	N/A	0	7074905
Total Hexa CDD *	pg	<14 (1)	14	60	N/A	N/A	N/A	0	7074905
Total Hepta CDD *	pg	<8.6	8.6	60	N/A	N/A	N/A	0	7074905
2,3,7,8-Tetra CDF **	pg	<8.4	8.4	60	12	0.100	0.840	N/A	7074905
1,2,3,7,8-Penta CDF **	pg	<8.6	8.6	60	12	0.0300	0.258	N/A	7074905
2,3,4,7,8-Penta CDF **	pg	<8.8	8.8	60	12	0.300	2.64	N/A	7074905
1,2,3,4,7,8-Hexa CDF **	pg	<7.5	7.5	60	12	0.100	0.750	N/A	7074905
1,2,3,6,7,8-Hexa CDF **	pg	<7.4	7.4	60	12	0.100	0.740	N/A	7074905
2,3,4,6,7,8-Hexa CDF **	pg	<7.8	7.8	60	12	0.100	0.780	N/A	7074905
1,2,3,7,8,9-Hexa CDF **	pg	<9.5	9.5	60	12	0.100	0.950	N/A	7074905
1,2,3,4,6,7,8-Hepta CDF **	pg	14.4	7.3	60	18	0.0100	0.144	N/A	7074905
1,2,3,4,7,8,9-Hepta CDF **	pg	<10	10	60	12	0.0100	0.100	N/A	7074905
1,2,3,4,6,7,8,9-Octa CDF **	pg	<7.9	7.9	600	30	0.000300	0.00237	N/A	7074905
Total Tetra CDF **	pg	<9.4 (1)	9.4	60	N/A	N/A	N/A	0	7074905
Total Penta CDF **	pg	<8.7	8.7	60	N/A	N/A	N/A	0	7074905
Total Hexa CDF **	pg	<8.0	8.0	60	N/A	N/A	N/A	0	7074905
Total Hepta CDF **	pg	14.4	8.4	60	N/A	N/A	N/A	1	7074905
TOTAL TOXIC EQUIVALENCY	pg	N/A	N/A	N/A	N/A	N/A	24.9	N/A	N/A

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
QC Batch = Quality Control Batch
* CDD = Chloro Dibenzo-p-Dioxin
N/A = Not Applicable
** CDF = Chloro Dibenzo-p-Furan
(1) EMPC / NDR - Peak detected does not meet ratio criteria and has resulted in an elevated detection limit.

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EPA M23 DIOXINS AND FURANS (STACK SAMPLING TRAIN)

BV Labs ID		OBL553							
Sampling Date		2020/10/27							
COC Number		191029-01				TOXIC EQUIVALENCY		# of	
	UNITS	PROOF-GLASSWARE SETS 1-22	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Surrogate Recovery (%)									
C13-1234678 HeptaCDD *	%	109	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-1234678 HeptaCDF **	%	88	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-123678 HexaCDD *	%	101	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-123678 HexaCDF **	%	73	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-12378 PentaCDD *	%	84	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-12378 PentaCDF **	%	63	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-123789 HexaCDF **	%	101	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-2378 TetraCDD *	%	56	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-2378 TetraCDF **	%	57	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-Octachlorodibenzo-p-Dioxin	%	118	N/A	N/A	N/A	N/A	N/A	N/A	7074905

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
QC Batch = Quality Control Batch
* CDD = Chloro Dibenzo-p-Dioxin
N/A = Not Applicable
** CDF = Chloro Dibenzo-p-Furan

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EPA M23 DIOXINS AND FURANS (STACK SAMPLING TRAIN)

BV Labs ID		OBL581							
Sampling Date		2020/10/27							
COC Number		191029-01				TOXIC EQUIVALENCY		# of	
	UNITS	HEXANE/ACETONE (FISHER LOT# 197044/197441)	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDD *	pg	<8.0	8.0	60	12	1.00	8.00	N/A	7074905
1,2,3,7,8-Penta CDD *	pg	<6.9	6.9	60	12	1.00	6.90	N/A	7074905
1,2,3,4,7,8-Hexa CDD *	pg	<6.6	6.6	60	12	0.100	0.660	N/A	7074905
1,2,3,6,7,8-Hexa CDD *	pg	<6.8	6.8	60	12	0.100	0.680	N/A	7074905
1,2,3,7,8,9-Hexa CDD *	pg	<6.2	6.2	60	12	0.100	0.620	N/A	7074905
1,2,3,4,6,7,8-Hepta CDD *	pg	<8.7	8.7	60	18	0.0100	0.0870	N/A	7074905
1,2,3,4,6,7,8,9-Octa CDD *	pg	<8.6	8.6	600	18	0.000300	0.00258	N/A	7074905
Total Tetra CDD *	pg	<8.0	8.0	60	N/A	N/A	N/A	0	7074905
Total Penta CDD *	pg	<6.9	6.9	60	N/A	N/A	N/A	0	7074905
Total Hexa CDD *	pg	<14 (1)	14	60	N/A	N/A	N/A	0	7074905
Total Hepta CDD *	pg	<8.7	8.7	60	N/A	N/A	N/A	0	7074905
2,3,7,8-Tetra CDF **	pg	<8.6	8.6	60	12	0.100	0.860	N/A	7074905
1,2,3,7,8-Penta CDF **	pg	<5.6	5.6	60	12	0.0300	0.168	N/A	7074905
2,3,4,7,8-Penta CDF **	pg	<5.7	5.7	60	12	0.300	1.71	N/A	7074905
1,2,3,4,7,8-Hexa CDF **	pg	<6.6	6.6	60	12	0.100	0.660	N/A	7074905
1,2,3,6,7,8-Hexa CDF **	pg	<6.4	6.4	60	12	0.100	0.640	N/A	7074905
2,3,4,6,7,8-Hexa CDF **	pg	<6.8	6.8	60	12	0.100	0.680	N/A	7074905
1,2,3,7,8,9-Hexa CDF **	pg	<8.3	8.3	60	12	0.100	0.830	N/A	7074905
1,2,3,4,6,7,8-Hepta CDF **	pg	<10 (1)	10	60	18	0.0100	0.100	N/A	7074905
1,2,3,4,7,8,9-Hepta CDF **	pg	<7.8	7.8	60	12	0.0100	0.0780	N/A	7074905
1,2,3,4,6,7,8,9-Octa CDF **	pg	<7.0	7.0	600	30	0.000300	0.00210	N/A	7074905
Total Tetra CDF **	pg	<8.6	8.6	60	N/A	N/A	N/A	0	7074905
Total Penta CDF **	pg	<5.6	5.6	60	N/A	N/A	N/A	0	7074905
Total Hexa CDF **	pg	<6.9	6.9	60	N/A	N/A	N/A	0	7074905
Total Hepta CDF **	pg	<12 (1)	12	60	N/A	N/A	N/A	0	7074905
TOTAL TOXIC EQUIVALENCY	pg	N/A	N/A	N/A	N/A	N/A	22.7	N/A	N/A

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
QC Batch = Quality Control Batch
* CDD = Chloro Dibenzo-p-Dioxin
N/A = Not Applicable
** CDF = Chloro Dibenzo-p-Furan
(1) EMPC / NDR - Peak detected does not meet ratio criteria and has resulted in an elevated detection limit.

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EPA M23 DIOXINS AND FURANS (STACK SAMPLING TRAIN)

BV Labs ID		OBL581							
Sampling Date		2020/10/27							
COC Number		191029-01				TOXIC EQUIVALENCY		# of	
	UNITS	HEXANE/ACETONE (FISHER LOT# 197044/197441)	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Surrogate Recovery (%)									
C13-1234678 HeptaCDD *	%	107	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-1234678 HeptaCDF **	%	92	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-123678 HexaCDD *	%	95	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-123678 HexaCDF **	%	76	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-12378 PentaCDD *	%	79	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-12378 PentaCDF **	%	59	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-123789 HexaCDF **	%	108	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-2378 TetraCDD *	%	49	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-2378 TetraCDF **	%	41	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-Octachlorodibenzo-p-Dioxin	%	129	N/A	N/A	N/A	N/A	N/A	N/A	7074905

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
QC Batch = Quality Control Batch
* CDD = Chloro Dibenzo-p-Dioxin
N/A = Not Applicable
** CDF = Chloro Dibenzo-p-Furan

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EPA M23 DIOXINS AND FURANS (STACK SAMPLING TRAIN)

BV Labs ID		OBL582							
Sampling Date		2020/10/27							
COC Number		191029-01				TOXIC EQUIVALENCY		# of	
	UNITS	GLYCOL/WATER (FISHER LOT#184420/192713)	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDD *	pg	<8.5	8.5	60	12	1.00	8.50	N/A	7074905
1,2,3,7,8-Penta CDD *	pg	<8.0	8.0	60	12	1.00	8.00	N/A	7074905
1,2,3,4,7,8-Hexa CDD *	pg	<6.7	6.7	60	12	0.100	0.670	N/A	7074905
1,2,3,6,7,8-Hexa CDD *	pg	<6.8	6.8	60	12	0.100	0.680	N/A	7074905
1,2,3,7,8,9-Hexa CDD *	pg	<6.3	6.3	60	12	0.100	0.630	N/A	7074905
1,2,3,4,6,7,8-Hepta CDD *	pg	<7.8	7.8	60	18	0.0100	0.0780	N/A	7074905
1,2,3,4,6,7,8,9-Octa CDD *	pg	<6.9	6.9	600	18	0.000300	0.00207	N/A	7074905
Total Tetra CDD *	pg	<8.5	8.5	60	N/A	N/A	N/A	0	7074905
Total Penta CDD *	pg	<8.0	8.0	60	N/A	N/A	N/A	0	7074905
Total Hexa CDD *	pg	<13 (1)	13	60	N/A	N/A	N/A	0	7074905
Total Hepta CDD *	pg	<7.8	7.8	60	N/A	N/A	N/A	0	7074905
2,3,7,8-Tetra CDF **	pg	<9.5	9.5	60	12	0.100	0.950	N/A	7074905
1,2,3,7,8-Penta CDF **	pg	<9.8	9.8	60	12	0.0300	0.294	N/A	7074905
2,3,4,7,8-Penta CDF **	pg	<10	10	60	12	0.300	3.00	N/A	7074905
1,2,3,4,7,8-Hexa CDF **	pg	<8.5	8.5	60	12	0.100	0.850	N/A	7074905
1,2,3,6,7,8-Hexa CDF **	pg	<8.4	8.4	60	12	0.100	0.840	N/A	7074905
2,3,4,6,7,8-Hexa CDF **	pg	<8.8	8.8	60	12	0.100	0.880	N/A	7074905
1,2,3,7,8,9-Hexa CDF **	pg	<11	11	60	12	0.100	1.10	N/A	7074905
1,2,3,4,6,7,8-Hepta CDF **	pg	8.8	5.4	60	18	0.0100	0.0880	N/A	7074905
1,2,3,4,7,8,9-Hepta CDF **	pg	<7.4	7.4	60	12	0.0100	0.0740	N/A	7074905
1,2,3,4,6,7,8,9-Octa CDF **	pg	<5.8	5.8	600	30	0.000300	0.00174	N/A	7074905
Total Tetra CDF **	pg	<9.5	9.5	60	N/A	N/A	N/A	0	7074905
Total Penta CDF **	pg	<9.9	9.9	60	N/A	N/A	N/A	0	7074905
Total Hexa CDF **	pg	<9.0	9.0	60	N/A	N/A	N/A	0	7074905
Total Hepta CDF **	pg	8.8	6.2	60	N/A	N/A	N/A	1	7074905
TOTAL TOXIC EQUIVALENCY	pg	N/A	N/A	N/A	N/A	N/A	26.6	N/A	N/A

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
QC Batch = Quality Control Batch
* CDD = Chloro Dibenzo-p-Dioxin
N/A = Not Applicable
** CDF = Chloro Dibenzo-p-Furan
(1) EMPC / NDR - Peak detected does not meet ratio criteria and has resulted in an elevated detection limit.

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EPA M23 DIOXINS AND FURANS (STACK SAMPLING TRAIN)

BV Labs ID		OBL582							
Sampling Date		2020/10/27							
COC Number		191029-01				TOXIC EQUIVALENCY		# of	
	UNITS	GLYCOL/WATER (FISHER LOT#184420/192713)	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Surrogate Recovery (%)									
C13-1234678 HeptaCDD *	%	88	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-1234678 HeptaCDF **	%	88	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-123678 HexaCDD *	%	95	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-123678 HexaCDF **	%	68	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-12378 PentaCDD *	%	91	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-12378 PentaCDF **	%	72	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-123789 HexaCDF **	%	110	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-2378 TetraCDD *	%	59	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-2378 TetraCDF **	%	59	N/A	N/A	N/A	N/A	N/A	N/A	7074905
C13-Octachlorodibenzo-p-Dioxin	%	118	N/A	N/A	N/A	N/A	N/A	N/A	7074905

EDL = Estimated Detection Limit
RDL = Reportable Detection Limit
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds
QC Batch = Quality Control Batch
* CDD = Chloro Dibenzo-p-Dioxin
N/A = Not Applicable
** CDF = Chloro Dibenzo-p-Furan

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EPS 1/RM/2 SEMIVOLATILES (STACK SAMPLING TRAIN)

BV Labs ID		OBL553	OBL581	OBL582			
Sampling Date		2020/10/27	2020/10/27	2020/10/27			
COC Number		191029-01	191029-01	191029-01			
	UNITS	PROOF-GLASSWARE SETS 1-22	HEXANE/ACETONE (FISHER LOT# 197044/197441)	GLYCOL/WATER (FISHER LOT#184420/192713)	RDL	MDL	QC Batch
1-Methylnaphthalene	ug	<0.30	<0.30	<0.30	0.30	0.30	7074912
1-Methylphenanthrene	ug	<0.30	<0.30	<0.30	0.30	0.30	7074912
2-Chloronaphthalene	ug	<0.30	<0.30	<0.30	0.30	0.30	7074912
2-Methylanthracene	ug	<0.30	<0.30	<0.30	0.30	0.30	7074912
2-Methylnaphthalene	ug	<0.30	<0.30	<0.30	0.30	0.060	7074912
3-Methylcholanthrene	ug	<0.30	<0.30	<0.30	0.30	0.30	7074912
7,12-Dimethylbenzo(a)anthracene	ug	<1.2	<1.2	<1.2	1.2	0.30	7074912
9,10-Dimethylanthracene	ug	<0.30	<0.30	<0.30	0.30	0.30	7074912
Acenaphthene	ug	<0.30	<0.30	<0.30	0.30	0.060	7074912
Acenaphthylene	ug	<0.30	<0.30	<0.30	0.30	0.060	7074912
Anthracene	ug	<0.30	<0.30	<0.30	0.30	0.060	7074912
Benzo(a)anthracene	ug	<0.30	<0.30	<0.30	0.30	0.060	7074912
Benzo(a)fluorene	ug	<0.30	<0.30	<0.30	0.30	0.30	7074912
Benzo(a)pyrene	ug	<0.30	<0.30	<0.30	0.30	0.060	7074912
Benzo(b)Anthracene	ug	<0.30	<0.30	<0.30	0.30	0.060	7074912
Benzo(b)fluoranthene	ug	<0.30	<0.30	<0.30	0.30	0.060	7074912
Benzo(b)fluorene	ug	<0.30	<0.30	<0.30	0.30	0.30	7074912
Benzo(e)pyrene	ug	<0.30	<0.30	<0.30	0.30	0.30	7074912
Benzo(k)fluoranthene	ug	<0.30	<0.30	<0.30	0.30	0.060	7074912
Biphenyl	ug	<0.30	<0.30	<0.30	0.30	0.30	7074912
Chrysene	ug	<0.30	<0.30	<0.30	0.30	0.060	7074912
Coronene	ug	<0.30	<0.30	<0.30	0.30	0.30	7074912
Dibenzo(a,h)anthracene	ug	<0.30	<0.30	<0.30	0.30	0.060	7074912
Dibenzo(a,c) anthracene + Picene	ug	<0.30	<0.30	<0.30	0.30	0.060	7074912
Dibenzo(a,e)pyrene	ug	<0.30	<0.30	<0.30	0.30	0.30	7074912
Fluoranthene	ug	<0.30	<0.30	<0.30	0.30	0.060	7074912
Fluorene	ug	<0.30	<0.30	<0.30	0.30	0.060	7074912
Indeno(1,2,3-cd)pyrene	ug	<0.30	<0.30	<0.30	0.30	0.060	7074912
m-Terphenyl	ug	<0.30	<0.30	<0.30	0.30	0.30	7074912
Naphthalene	ug	<0.30	<0.30	<0.30	0.30	0.30	7074912
o-Terphenyl	ug	<0.30	<0.30	<0.30	0.30	0.30	7074912
Perylene	ug	<0.30	<0.30	<0.30	0.30	0.30	7074912
Phenanthrene	ug	<0.30	<0.30	<0.30	0.30	0.060	7074912
p-Terphenyl	ug	<0.30	<0.30	<0.30	0.30	0.30	7074912

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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EPS 1/RM/2 SEMIVOLATILES (STACK SAMPLING TRAIN)

BV Labs ID		OBL553	OBL581	OBL582			
Sampling Date		2020/10/27	2020/10/27	2020/10/27			
COC Number		191029-01	191029-01	191029-01			
	UNITS	PROOF-GLASSWARE SETS 1-22	HEXANE/ACETONE (FISHER LOT# 197044/197441)	GLYCOL/WATER (FISHER LOT#184420/192713)	RDL	MDL	QC Batch
Pyrene	ug	<0.30	<0.30	<0.30	0.30	0.060	7074912
Quinoline	ug	<0.30	<0.30	<0.30	0.30	0.30	7074912
Tetralin	ug	<0.30	<0.30	<0.30	0.30	0.30	7074912
Triphenylene	ug	<0.30	<0.30	<0.30	0.30	0.060	7074912
1,2,3,4-Tetrachlorobenzene	ug	<0.30	<0.30	<0.30	0.30	0.060	7070091
1,2,3,5+1,2,4,5-Tetrachlorobenzene	ug	<0.30	<0.30	<0.30	0.30	0.060	7070091
1,2,3-Trichlorobenzene	ug	<0.30	<0.30	<0.30	0.30	0.060	7070091
1,2,4-Trichlorobenzene	ug	<0.30	<0.30	<0.30	0.30	0.060	7070091
1,2-Dichlorobenzene	ug	<0.30	<0.30	<0.30	0.30	0.060	7070091
1,3,5-Trichlorobenzene	ug	<0.30	<0.30	<0.30	0.30	0.060	7070091
1,3-Dichlorobenzene	ug	<0.30	<0.30	<0.30	0.30	0.060	7070091
1,4-Dichlorobenzene	ug	<0.30	<0.30	<0.30	0.30	0.060	7070091
Hexachlorobenzene	ug	<0.30	<0.30	<0.30	0.30	0.060	7070091
Pentachlorobenzene	ug	<0.30	<0.30	<0.30	0.30	0.060	7070091
2,3,4,5-Tetrachlorophenol	ug	<0.30	<0.30	<0.30	0.30	0.24	7077400
2,3,4,6-Tetrachlorophenol	ug	<0.30	<0.30	<0.30	0.30	0.24	7077400
2,3,4-Trichlorophenol	ug	<0.30	<0.30	<0.30	0.30	0.24	7077400
2,3,5,6-Tetrachlorophenol	ug	<0.30	<0.30	<0.30	0.30	0.24	7077400
2,3,5-Trichlorophenol	ug	<0.30	<0.30	<0.30	0.30	0.24	7077400
2,3,6-Trichlorophenol	ug	<0.30	<0.30	<0.30	0.30	0.24	7077400
2,3-Dichlorophenol	ug	<0.30	<0.30	<0.30	0.30	0.24	7077400
2,4 + 2,5-Dichlorophenol	ug	<0.30	<0.30	<0.30	0.30	0.24	7077400
2,4,5-Trichlorophenol	ug	<0.30	<0.30	<0.30	0.30	0.24	7077400
2,4,6-Trichlorophenol	ug	<0.30	<0.30	<0.30	0.30	0.24	7077400
2,6-Dichlorophenol	ug	<0.30	<0.30	<0.30	0.30	0.24	7077400
2-Chlorophenol	ug	<0.30	<0.30	<0.30	0.30	0.24	7077400
3,4,5-Trichlorophenol	ug	<0.30	<0.30	<0.30	0.30	0.24	7077400
3,4-Dichlorophenol	ug	<0.30	<0.30	<0.30	0.30	0.24	7077400
3,5-Dichlorophenol	ug	<0.30	<0.30	<0.30	0.30	0.24	7077400
3-Chlorophenol	ug	<0.30	<0.30	<0.30	0.30	0.24	7077400
4-Chlorophenol	ug	<0.30	<0.30	<0.30	0.30	0.24	7077400
Pentachlorophenol	ug	<0.30	<0.30	<0.30	0.30	0.24	7077400

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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EPS 1/RM/2 SEMIVOLATILES (STACK SAMPLING TRAIN)

BV Labs ID		OBL553	OBL581	OBL582			
Sampling Date		2020/10/27	2020/10/27	2020/10/27			
COC Number		191029-01	191029-01	191029-01			
	UNITS	PROOF-GLASSWARE SETS 1-22	HEXANE/ACETONE (FISHER LOT# 197044/197441)	GLYCOL/WATER (FISHER LOT#184420/192713)	RDL	MDL	QC Batch
Surrogate Recovery (%)							
13C6-Hexachlorobenzene	%	71	82	75	N/A	N/A	7070091
2H3-1,2,4-Trichlorobenzene	%	77	87	78	N/A	N/A	7070091
2H4-1,3-Dichlorobenzene	%	84	102	84	N/A	N/A	7070091
D3-2,4-Dichlorophenol	%	93	97	98	N/A	N/A	7077400
D6-Pentachlorophenol	%	97	100	97	N/A	N/A	7077400
D10-2-Methylnaphthalene	%	86	94	100	N/A	N/A	7074912
D10-Fluoranthene	%	86	91	91	N/A	N/A	7074912
D10-Phenanthrene	%	82	88	91	N/A	N/A	7074912
D12-Benzo(a)anthracene	%	91	90	93	N/A	N/A	7074912
D12-Benzo(a)pyrene	%	93	95	92	N/A	N/A	7074912
D12-Benzo(b)fluoranthene	%	94	93	96	N/A	N/A	7074912
D12-Benzo(ghi)perylene	%	99	100	93	N/A	N/A	7074912
D12-Benzo(k)fluoranthene	%	95	97	95	N/A	N/A	7074912
D12-Chrysene	%	90	92	99	N/A	N/A	7074912
D12-Indeno(1,2,3-cd)pyrene	%	99	101	93	N/A	N/A	7074912
D12-Perylene	%	92	95	93	N/A	N/A	7074912
D14-Dibenzo(a,h)anthracene	%	102	103	93	N/A	N/A	7074912
D8-Acenaphthylene	%	80	91	89	N/A	N/A	7074912
D8-Naphthalene	%	85	93	99	N/A	N/A	7074912

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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RESULTS OF ANALYSES OF STACK SAMPLING TRAIN

BV Labs ID		OBL553							
Sampling Date		2020/10/27							
COC Number		191029-01				TOXIC EQUIVALENCY		# of	
	UNITS	PROOF-GLASSWARE SETS 1-22	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
33'44'-TetraCB-(77)	ng	<0.051	0.051	0.60	N/A	0.00010	0.0000051	N/A	7087253
344'5-TetraCB-(81)	ng	<0.051	0.051	0.60	N/A	0.00030	0.000015	N/A	7087253
233'44'-PentaCB-(105)	ng	<0.030	0.030	0.60	N/A	0.000030	0.00000090	N/A	7087253
2344'5-PentaCB-(114)	ng	<0.030	0.030	0.60	N/A	0.000030	0.00000090	N/A	7087253
23'44'5-PentaCB-(118)	ng	0.070	0.031	0.60	N/A	0.000030	0.0000021	N/A	7087253
23'44'5'-PentaCB-(123)	ng	<0.033	0.033	0.60	N/A	0.000030	0.00000099	N/A	7087253
33'44'5-PentaCB-(126)	ng	<0.028	0.028	0.60	N/A	0.10	0.0028	N/A	7087253
HexaCB-(156)+(157)	ng	<0.042	0.042	1.2	N/A	0.000030	0.0000013	N/A	7087253
23'44'55'-HexaCB-(167)	ng	<0.041	0.041	0.60	N/A	0.000030	0.0000012	N/A	7087253
33'44'55'-HexaCB-(169)	ng	<0.042	0.042	0.60	N/A	0.030	0.0013	N/A	7087253
22'33'44'5-HeptaCB-(170)	ng	<0.060	0.060	0.60	N/A	N/A	N/A	N/A	7087253
22'344'55'-HeptaCB-(180)	ng	<0.063	0.063	0.60	N/A	N/A	N/A	N/A	7087253
233'44'55'-HeptaCB-(189)	ng	<0.083	0.083	0.60	N/A	0.000030	0.0000025	N/A	7087253
TOTAL TOXIC EQUIVALENCY	ng	N/A	N/A	N/A	N/A	N/A	0.0041	N/A	N/A
Surrogate Recovery (%)									
C13-233'44'55'-HeptaCB-(189)	%	119	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-233'44'5-HexaCB-(156)	%	103	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-233'44'5'-HexaCB-(157)	%	103	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-233'44'-PentaCB-(105)	%	110	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-23'44'55'-HexaCB-(167)	%	102	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-2344'5-PentaCB-(114)	%	101	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-23'44'5-PentaCB-(118)	%	103	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-2'344'5-PentaCB-(123)	%	105	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-33'44'55'-HexaCB-(169)	%	91	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-33'44'5-PentaCB-(126)	%	105	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-33'44'-TetraCB-(77)	%	105	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-344'5-TetraCB-(81)	%	101	N/A	N/A	N/A	N/A	N/A	N/A	7087253

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

N/A = Not Applicable

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RESULTS OF ANALYSES OF STACK SAMPLING TRAIN

BV Labs ID		OBL581							
Sampling Date		2020/10/27							
COC Number		191029-01				TOXIC EQUIVALENCY		# of	
	UNITS	HEXANE/ACETONE (FISHER LOT# 197044/197441)	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
33'44'-TetraCB-(77)	ng	<0.046	0.046	0.60	N/A	0.00010	0.0000046	N/A	7087253
344'5-TetraCB-(81)	ng	<0.045	0.045	0.60	N/A	0.00030	0.000014	N/A	7087253
233'44'-PentaCB-(105)	ng	<0.039	0.039	0.60	N/A	0.000030	0.0000012	N/A	7087253
2344'5-PentaCB-(114)	ng	<0.038	0.038	0.60	N/A	0.000030	0.0000011	N/A	7087253
23'44'5-PentaCB-(118)	ng	<0.039	0.039	0.60	N/A	0.000030	0.0000012	N/A	7087253
23'44'5'-PentaCB-(123)	ng	<0.042	0.042	0.60	N/A	0.000030	0.0000013	N/A	7087253
33'44'5-PentaCB-(126)	ng	<0.036	0.036	0.60	N/A	0.10	0.0036	N/A	7087253
HexaCB-(156)+(157)	ng	<0.043	0.043	1.2	N/A	0.000030	0.0000013	N/A	7087253
23'44'55'-HexaCB-(167)	ng	<0.041	0.041	0.60	N/A	0.000030	0.0000012	N/A	7087253
33'44'55'-HexaCB-(169)	ng	<0.043	0.043	0.60	N/A	0.030	0.0013	N/A	7087253
22'33'44'5-HeptaCB-(170)	ng	<0.056	0.056	0.60	N/A	N/A	N/A	N/A	7087253
22'344'55'-HeptaCB-(180)	ng	<0.058	0.058	0.60	N/A	N/A	N/A	N/A	7087253
233'44'55'-HeptaCB-(189)	ng	<0.054	0.054	0.60	N/A	0.000030	0.0000016	N/A	7087253
TOTAL TOXIC EQUIVALENCY	ng	N/A	N/A	N/A	N/A	N/A	0.0049	N/A	N/A
Surrogate Recovery (%)									
C13-233'44'55'-HeptaCB-(189)	%	117	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-233'44'5-HexaCB-(156)	%	112	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-233'44'5'-HexaCB-(157)	%	112	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-233'44'-PentaCB-(105)	%	102	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-23'44'55'-HexaCB-(167)	%	106	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-2344'5-PentaCB-(114)	%	97	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-23'44'5-PentaCB-(118)	%	99	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-2'344'5-PentaCB-(123)	%	101	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-33'44'55'-HexaCB-(169)	%	95	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-33'44'5-PentaCB-(126)	%	106	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-33'44'-TetraCB-(77)	%	102	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-344'5-TetraCB-(81)	%	98	N/A	N/A	N/A	N/A	N/A	N/A	7087253

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

N/A = Not Applicable

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RESULTS OF ANALYSES OF STACK SAMPLING TRAIN

BV Labs ID		OBL582							
Sampling Date		2020/10/27							
COC Number		191029-01				TOXIC EQUIVALENCY		# of	
	UNITS	GLYCOL/WATER (FISHER LOT#184420/192713)	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
33'44'-TetraCB-(77)	ng	<0.043	0.043	0.60	N/A	0.00010	0.0000043	N/A	7087253
344'5-TetraCB-(81)	ng	<0.042	0.042	0.60	N/A	0.00030	0.000013	N/A	7087253
233'44'-PentaCB-(105)	ng	<0.027	0.027	0.60	N/A	0.000030	0.00000081	N/A	7087253
2344'5-PentaCB-(114)	ng	<0.026	0.026	0.60	N/A	0.000030	0.00000078	N/A	7087253
23'44'5-PentaCB-(118)	ng	0.051	0.027	0.60	N/A	0.000030	0.0000015	N/A	7087253
23'44'5'-PentaCB-(123)	ng	<0.029	0.029	0.60	N/A	0.000030	0.00000087	N/A	7087253
33'44'5-PentaCB-(126)	ng	<0.025	0.025	0.60	N/A	0.10	0.0025	N/A	7087253
HexaCB-(156)+(157)	ng	<0.033	0.033	1.2	N/A	0.000030	0.00000099	N/A	7087253
23'44'55'-HexaCB-(167)	ng	<0.032	0.032	0.60	N/A	0.000030	0.00000096	N/A	7087253
33'44'55'-HexaCB-(169)	ng	<0.033	0.033	0.60	N/A	0.030	0.00099	N/A	7087253
22'33'44'5-HeptaCB-(170)	ng	<0.056	0.056	0.60	N/A	N/A	N/A	N/A	7087253
22'344'55'-HeptaCB-(180)	ng	<0.058	0.058	0.60	N/A	N/A	N/A	N/A	7087253
233'44'55'-HeptaCB-(189)	ng	<0.067	0.067	0.60	N/A	0.000030	0.0000020	N/A	7087253
TOTAL TOXIC EQUIVALENCY	ng	N/A	N/A	N/A	N/A	N/A	0.0035	N/A	N/A
Surrogate Recovery (%)									
C13-233'44'55'-HeptaCB-(189)	%	125	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-233'44'5-HexaCB-(156)	%	115	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-233'44'5'-HexaCB-(157)	%	115	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-233'44'-PentaCB-(105)	%	109	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-23'44'55'-HexaCB-(167)	%	109	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-2344'5-PentaCB-(114)	%	101	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-23'44'5-PentaCB-(118)	%	102	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-2'344'5-PentaCB-(123)	%	106	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-33'44'55'-HexaCB-(169)	%	107	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-33'44'5-PentaCB-(126)	%	110	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-33'44'-TetraCB-(77)	%	101	N/A	N/A	N/A	N/A	N/A	N/A	7087253
C13-344'5-TetraCB-(81)	%	100	N/A	N/A	N/A	N/A	N/A	N/A	7087253

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

N/A = Not Applicable

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

TEST SUMMARY

BV Labs ID: OBL553
Sample ID: PROOF- GLASSWARE SETS 1-22
Matrix: Stack Sampling Train

Collected: 2020/10/27
Shipped:
Received: 2020/11/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chlorobenzenes in MM5 Trains (EPA M0010)	GC/MS	7070091	2020/11/22	2020/11/26	Fan (Carrie) Jiang
Chlorophenols in MM5 Trains (EPA M0010)	GC/MS	7077400	2020/11/26	2020/11/28	Fan (Carrie) Jiang
Dioxins/Furans in Air (Method 23)	HRMS/MS	7074905	2020/11/25	2020/11/26	Owen Cosby
PAH's in MM5 SamplingTrains (CARB429mod)	GC/MS	7074912	2020/11/25	2020/11/27	Fan (Carrie) Jiang
PCBs in a Sampling Train (1668Amod)	HRMS/MS	7087253	2020/12/02	2020/11/29	Cathy Xu

BV Labs ID: OBL581
Sample ID: HEXANE/ACETONE (FISHER LOT# 197044/197441)
Matrix: Stack Sampling Train

Collected: 2020/10/27
Shipped:
Received: 2020/11/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chlorobenzenes in MM5 Trains (EPA M0010)	GC/MS	7070091	2020/11/22	2020/11/26	Fan (Carrie) Jiang
Chlorophenols in MM5 Trains (EPA M0010)	GC/MS	7077400	2020/11/26	2020/11/28	Fan (Carrie) Jiang
Dioxins/Furans in Air (Method 23)	HRMS/MS	7074905	2020/11/25	2020/11/26	Owen Cosby
PAH's in MM5 SamplingTrains (CARB429mod)	GC/MS	7074912	2020/11/25	2020/11/27	Fan (Carrie) Jiang
PCBs in a Sampling Train (1668Amod)	HRMS/MS	7087253	2020/12/02	2020/11/29	Cathy Xu

BV Labs ID: OBL582
Sample ID: GLYCOL/WATER (FISHER LOT#184420/192713)
Matrix: Stack Sampling Train

Collected: 2020/10/27
Shipped:
Received: 2020/11/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chlorobenzenes in MM5 Trains (EPA M0010)	GC/MS	7070091	2020/11/22	2020/11/26	Fan (Carrie) Jiang
Chlorophenols in MM5 Trains (EPA M0010)	GC/MS	7077400	2020/11/26	2020/11/28	Fan (Carrie) Jiang
Dioxins/Furans in Air (Method 23)	HRMS/MS	7074905	2020/11/25	2020/11/26	Owen Cosby
PAH's in MM5 SamplingTrains (CARB429mod)	GC/MS	7074912	2020/11/25	2020/11/27	Fan (Carrie) Jiang
PCBs in a Sampling Train (1668Amod)	HRMS/MS	7087253	2020/12/02	2020/11/29	Cathy Xu

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GENERAL COMMENTS

Results relate only to the items tested.

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VALIDATION SIGNATURE PAGE

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

Angel Guerrero, Supervisor, Ultra Trace Analysis, HRMS

M Di Grazia

Melissa DiGrazia, Operations Manager, HRMS Department

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

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BUREAU VERITAS AIR SERVICES GROUP

#1 2080 39th Avenue NE, Calgary, AB, T2E 6P8, Phone: (403) 291-3077, Fax: (403) 219-3673

CHEMICAL PREPARATION REQUEST FORM

Requested by: Patrick Vien
Date Completed: 2022-07-22
Date Required: Aug 31, 2022 to Sept 05, 2022
Relinquished by: Jackson Le
Company / Location: Agnico Eagle Mines Limited- Meliadine Site- Rankin Inlet, Nunavut
Received by: Patrick Vien

Comments/Notes

2779 Incinerator Stack

Sampling Method	Chemical Solution / Preparation	Volume/# Required	Special Instructions
US EPA Method 6 - Constant - SO2	H2O2 30%	250ml	IL# 18-10-15-290
	-		
	-		
	-		
	-		
	-		
	-		
US EPA Method 7A - Flask - NOx	NOx solution	1 L	IL# 1307-66-4A
	-		
	-		
	-		
	-		
	-		
	-		
US EPA Method 10 - Integrated 1 hr - CO US EPA Method 3 - Integrated 1 hr - O2 US EPA Method 3 - Integrated 1 hr - CO2	10 L gas bags	6	
	-		
	-		
	-		
	-		
	-		
	-		
US EPA Method 26 - Constant - Halides	0.1 N H2SO4	1 L	IL# 1307-60-8A
	0.1 N NaOH	1 L	IL# 1307-62-15A
	Glass Sample Probe Liners	3	
	-		
	-		
	-		
	-		
US EPA Method 29 - Particulates (FH)	acetone	2 L	Fisher Lot# 218251
	-		
	-		
	-		
	-		
	-		

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CHEMICAL PREPARATION REQUEST FORM

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Relinquished by: Jackson Le
Company / Location: Agnico Eagle Mines Limited -Meliadine Site - Rankin Inlet , Nunavut
Received by: Patrick Vien

Comments/Notes

2779 Incinerator Stack

Sampling Method	Chemical Solution / Preparation	Volume/# Required	Special Instructions
EPA Method 29 - Metals	Metals Trains	5	0.1 N HNO3 - IL# 1307-59-4B
	Metals Chemicals	5	10% H2SO4 - IL# 1307-60-5B
	Metals Filters	6	8N HCl - IL# 1307-59-2A
	Metals Recovery Kit	1	5% HNO3/10% H2O2 - IL# 1307-61-12A
	Metals Glassware Tub	1	KMnO4 - IL# 12-10-24-67
	Glass Nozzles	5	
	Glass Pitobe Liners	5	
Env Canada EPS 1/RM/2 - Organics	Organics Chemicals	6	Dioxin/Furans
	XAD Traps	6	Job#
	Organics Glassware Tub	1	Use organic trains 13, 14, 15 - Blank 10
	Glass Pitobe Liners	5	Spare Trains - 16
	Organics Trains	5	Ordered 2022-07-25 for delivery 2022-08-25 JL
	-		
	-		

APPENDIX IV
FIELD DATA SHEETS

ISOKINETIC TEST DATA

(1)

CLIENT NAME	AGnico			IMPINGER # / CONTENTS	INITIAL VOLUME	FINAL VOLUME	MLS CONDENSED
LOCATION	Meliadine						
SOURCE NAME	Incinerator stack			1 Empty	644	710	66
PROJECT NUMBER	2779	O2 (BLUE)	CO2 (RED)	2 5%HNO3/10% H2O2	744	775	31
TEST DATE (dd-mon-yy)	31-Aug-22	10	6	3 5%HNO3/10% H2O2	739	745	6
TEST NUMBER	ONe	10	6	4 Empty	630	632	2
TEST PERFORMED BY	PV-GO	9.5	5.5	5 KMNO4	756	757	1
STACK I.D./WIDTH	38.5" Historical / Measured	ANNULUS	7.75"	6 KMnO4	735	736	1
DELTA H@	1.747	☒ Measured		7 Silica	910	923	13
MINUTES PER POINT	5			FILTER # 1 QM2394	FILTER #2 —		120
BAROMETRIC PRESSURE	759.40 mm Hg	Barom. ID# 53		MEASURED GLASSWARE RINSE VOLUME:			— mls
STATIC PRESSURE	-0.02 inches H_2O	NOZZLE CALIBRATION		PROBE LINER USED:	GLASS / TEFLON / STEEL		
PRE-TEST O_2	10 % (dry)	ID# Quartz		IS STACK CYCLONIC?			YES / NO
PRE-TEST CO_2	6 % (dry)		.500	PRE-TEST PITOT LEAK CHECK PERFORMED:			YES / NO
WATER CONTENT	6 mole%	TRAIN DATA		POST-TEST PITOT LEAK CHECK PERFORMED:			YES / NO
NOZZLE DIAMETER	.500 inches	METALS # 2		INITIAL LEAK CHECK: 0.00	CFM @ -20		in. Hg
PITOT FACTOR	.808	KIT USED: ISO-010		FINAL LEAK CHECK: 0.00	CFM @ -17		in. Hg
INITIAL METER READING	663.75 ft^3	Meter Factor: 1.010 N2		PITOBE USED: 3051	Balance ID # 39		
STACK TOP HEIGHT	36.5	1.009 O2		CEMS STATION ID (IF APPLICABLE)	—		

VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? (YES) OR NO (PLEASE CIRCLE ONE)

PORT DIR.	TRAV. POINT	START TIME	METER TEMP. IN	METER TEMP. OUT	STACK TEMP °C	PITOT READING in. H_2O	ORIFICE SETTING in. H_2O	METER READING ft^3	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	IMP. VAC in. Hg
N	12	14:30	24	24	888	0.06	.71	666.14	120	118	7	-1
	11	14:35	25	24	888	0.06	.85	668.75	120	114	7	-1
	10	14:40	25	24	888	0.07	.99	671.60	121	113	6	-1
	9	14:45	26	24	886	0.07	1.0	674.42	120	114	6	-2
	8	14:50	26	24	887	0.07	.99	677.26	120	114	6	-2
	7	14:55	26	24	887	0.07	.99	680.11	121	115	6	-2
	6	15:00	27	24	887	0.08	1.1	683.14	120	116	7	-3
	5	15:05	27	25	888	0.08	1.1	686.19	120	118	7	-3
	4	15:10	27	25	888	0.08	1.1	689.22	120	117	7	-3
	3	15:15	27	25	887	0.07	1.0	692.07	120	117	8	-2
	2	15:20	27	25	888	0.06	.85	694.70	121	117	8	-2
	1	15:25	27	25	888	0.06	.85	697.34	120	117	8	-2
E	12	15:45	27	25	887	0.05	.71	699.74	121	114	8	-1
	11	15:50	27	25	888	0.07	1.0	702.59	121	114	8	-1
	10	15:55	27	25	889	0.06	.85	705.22	120	116	9	-2

METHOD USED: M-29 - M5 | PARAMETER: Metals/Particulates

Tester Name: P.V. | Reviewer Name: GODSON ODUMODU

I certify the test data is accurate and complete. | I certify I have reviewed the test data.

ISOKINETIC TEST DATA

(1)

CLIENT NAME	SEE Pg 1of2		
LOCATION			
SOURCE NAME			
PROJECT NUMBER		O2 (BLUE)	CO2 (RED)
TEST DATE (dd-mon-yy)			
TEST NUMBER			
TEST PERFORMED BY			
STACK I.D./WIDTH	Historical c / Measured c	ANNULUS	
DELTA H@		☐ Measured	
MINUTES PER POINT			
BAROMETRIC PRESSURE	mm Hg	Barom. ID#	
STATIC PRESSURE	inches H_2O	NOZZLE CALIBRATION	
PRE-TEST O_2	% (dry)	ID#	
PRE-TEST CO_2	% (dry)		
WATER CONTENT	mole%	TRAIN DATA	
NOZZLE DIAMETER	inches	METALS #	
PITOT FACTOR		KIT USED:	
INITIAL METER READING	ft^3	Meter Factor:	
STACK TOP HEIGHT			

IMPINGER # / CONTENTS	INITIAL VOLUME	FINAL VOLUME	MLS CONDENSED
1			
2			
3			
4			
5			
6			
7			

FILTER # 1 | FILTER #2

MEASURED GLASSWARE RINSE VOLUME: mls

PROBE LINER USED: GLASS / TEFLON / STEEL

IS STACK CYCLONIC? YES / NO

PRE-TEST PITOT LEAK CHECK PERFORMED: YES / NO

POST-TEST PITOT LEAK CHECK PERFORMED: YES / NO

INITIAL LEAK CHECK: CFM @ in. Hg

FINAL LEAK CHECK: CFM @ in. Hg

PITOBE USED: Balance ID #

CEMS STATION ID (IF APPLICABLE)

VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? (YES) OR NO (PLEASE CIRCLE ONE)

PORT DIR.	TRAV. POINT	START TIME	METER TEMP. IN	METER TEMP. OUT	STACK TEMP °C	PITOT READING in. H_2O	ORIFICE SETTING in. H_2O	METER READING ft^3	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	IMP. VAC in. Hg
E	9	16.00	28	26	888	0.07	1.0	708.08	121	117	9	-2
	8	16.05	27	26	888	0.08	1.1	711.12	122	117	9	-3
	7	16.10	28	26	888	0.09	1.2	714.36	122	118	9	-3
	6	16.15	28	26	888	0.08	1.1	717.41	121	119	9	-3
	5	16.20	28	26	887	0.08	1.1	720.46	121	117	10	-2
	4	16.25	28	26	887	0.07	1.0	723.33	120	116	10	-2
	3	16.30	28	26	887	0.07	1.0	726.28	126	116	10	-1
	2	16.35	28	26	887	0.06	.86	728.81	120	114	10	-1
	1	16.40	28	26	887	0.06	.86	731.46	121	115	10	-1

PV

METHOD USED: M-29-M5

PARAMETER: Metals/Particulates

Tester Name: P. Vi

Reviewer Name: GODSON ODUMODU

I certify the test data is accurate and complete.

I certify I have reviewed the test data.

ISOKINETIC TEST DATA (2)

CLIENT NAME	Agrico				IMPINGER # / CONTENTS	INITIAL VOLUME	FINAL VOLUME	MLS CONDENSED
LOCATION	Metlaclne							
SOURCE NAME	Incinerator Stack				1 Empty	648	725	77
PROJECT NUMBER	2779	O2 (BLUE)	CO2 (RED)		2 5% HNO3/10% H2O2	752	777	25
TEST DATE (dd-mon-yy)	1-Sept-22	10	6		3 5% HNO3/10% H2O2	736	739	3
TEST NUMBER	Two	10	6		4 Empty	633	633	0
TEST PERFORMED BY	PV-GO	10	6		5 KMNO4	750	751	1
STACK I.D./WIDTH	38'-5"	Historical / Measured ✓	ANNULUS	7.75"	6 KMNO4	744	744	0
DELTA H@	1.747		✓ Measured		7 Silica	923	933	10
MINUTES PER POINT	5	29.2			FILTER # 1	QM2404	FILTER #2	—
BAROMETRIC PRESSURE	741.68	mm Hg	Barom. ID#	53	MEASURED GLASSWARE RINSE VOLUME:			— mls
STATIC PRESSURE	-0.03	inches H_2O	NOZZLE CALIBRATION		PROBE LINER USED:		(GLASS) / TEFLON / STEEL	
PRE-TEST O_2	10	% (dry)	ID#	Quartz	IS STACK CYCLONIC?			YES / (NO)
PRE-TEST CO_2	6	% (dry)	.500	—	PRE-TEST PITOT LEAK CHECK PERFORMED:		(YES) / NO	
WATER CONTENT	6	mole%	TRAIN DATA		POST-TEST PITOT LEAK CHECK PERFORMED:		(YES) / NO	
NOZZLE DIAMETER	.500	inches	METALS #	2	INITIAL LEAK CHECK:	0.00	CFM @ -14	in. Hg
PITOT FACTOR	.808		KIT USED:	ISO 010	FINAL LEAK CHECK:	0.00	CFM @ -15	in. Hg
INITIAL METER READING	732.88	ft^3	Meter Factor:	1.010 N3	PITOBE USED:	B051	Balance ID #	39
STACK TOP HEIGHT	36'-5"			1.009	CEMS STATION ID (IF APPLICABLE)	—		

VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? (YES) OR NO (PLEASE CIRCLE ONE)

PORT DIR.	TRAV. POINT	START TIME	METER TEMP. IN	METER TEMP. OUT	STACK TEMP °C	PITOT READING in. H_2O	ORIFICE SETTING in. H_2O	METER READING ft^3	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	IMP. VAC in. Hg
N	12	13:20	19	19	881	.06	.82	735.47	122	108	7	-1
|	11	13:25	20	19	881	.06	.83	738.07	122	108	7	-1
|	10	13:30	20	19	876	.06	.83	740.66	122	109	5	-1
|	9	13:35	20	19	879	.07	.97	743.44	123	110	5	-1
|	8	13:40	22	19	880	.08	1.1	746.48	120	111	5	-1
|	7	13:45	22	20	881	.07	.97	749.30	120	112	5	-1
|	6	13:50	23	21	881	.08	.97	752.10	121	114	5	-1
|	5	13:55	23	21	882	.08	1.1	755.13	122	116	6	-1
|	4	14:00	23	21	880	.06	.83	757.75	121	111	6	-1
|	3	14:05	24	22	883	.05	.69	760.15	120	108	6	-1
|	2	14:10	24	22	880	.05	.70	762.52	118	109	6	-1
V	1	14:15	24	22	880	.05	.70	764.94	119	111	6	-1
												PV
E	12	14:35	23	22	878	.05	.70	767.31	120	109	6	-1
|	11	14:40	24	22	878	.06	.84	769.95	121	110	6	-1
V	10	14:45	25	23	880	.06	.84	772.60	120	111	6	-1

116

METHOD USED: M-29-M5 | PARAMETER: Metals/Particulates

Tester Name: P.V. | Reviewer Name: GODSON ODUMODU

I certify the test data is accurate and complete. | I certify I have reviewed the test data.

ISOKINETIC TEST DATA

(2)

CLIENT NAME					IMPINGER # / CONTENTS	INITIAL VOLUME	FINAL VOLUME	MLS CONDENSED
LOCATION	SEE PG 1 OF 2							
SOURCE NAME					1			
PROJECT NUMBER			O2 (BLUE)	CO2 (RED)	2			
TEST DATE (dd-mon-yy)					3			
TEST NUMBER					4			
TEST PERFORMED BY					5			
STACK I.D./WIDTH		Historical c Measured c	ANNULUS		6			
DELTA H@			☐ Measured		7			
MINUTES PER POINT					FILTER # 1		FILTER #2	
BAROMETRIC PRESSURE		mm Hg	Barom. ID#		MEASURED GLASSWARE RINSE VOLUME:			mls
STATIC PRESSURE		inches H_2O	NOZZLE CALIBRATION		PROBE LINER USED:		GLASS / TEFLON / STEEL	
PRE-TEST O_2		% (dry)	ID#		IS STACK CYCLONIC?			YES / NO
PRE-TEST CO_2		% (dry)			PRE-TEST PITOT LEAK CHECK PERFORMED:			YES / NO
WATER CONTENT		mole%	TRAIN DATA		POST-TEST PITOT LEAK CHECK PERFORMED:			YES / NO
NOZZLE DIAMETER		inches	METALS #		INITIAL LEAK CHECK:		CFM @	In. Hg
PITOT FACTOR			KIT USED:		FINAL LEAK CHECK:		CFM @	In. Hg
INITIAL METER READING		ft^3	Meter Factor:		PITOBE USED:		Balance ID #	
STACK TOP HEIGHT					CEMS STATION ID (IF APPLICABLE)			

VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? YES OR NO (PLEASE CIRCLE ONE)

PORT DIR.	TRAV. POINT	START TIME	METER TEMP. IN	METER TEMP. OUT	STACK TEMP °C	PITOT READING in. H_2O	ORIFICE SETTING in. H_2O	METER READING ft^3	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	IMP. VAC in. Hg
E	9	14:50	26	24	880	0.07	.98	775.43	120	112	7	-2
|	8	14:55	26	24	880	.07	.98	778.29	121	114	7	-2
|	7	15:00	27	24	881	.08	1.1	781.33	120	115	7	-2
|	6	15:05	27	25	881	.08	1.1	784.40	119	117	7	-2
|	5	15:10	28	25	883	.08	1.1	787.44	119	119	7	-2
|	4	15:15	28	26	882	.07	.99	790.34	120	119	7	-2
|	3	15:20	29	26	882	.06	.85	792.99	121	119	7	-2
|	2	15:25	29	27	884	.06	.85	795.67	122	117	8	-2
↓	1	15:30	30	28	885	.05	.71	798.10	122	119	8	-2
												PV

METHOD USED: M-29-M5 | PARAMETER: Metals / Particulates

Tester Name: P. Vun | Reviewer Name: GODSON Odumosu

I certify the test data is accurate and complete.

I certify I have reviewed the test data.

ISOKINETIC TEST DATA

H20 7.762

CLIENT NAME	Agnico				IMPINGER # / CONTENTS	INITIAL VOLUME	FINAL VOLUME	MLS CONDENSED	
LOCATION	Meliadine								
SOURCE NAME	Incinerator stack				1 Empty	632	707	75	
PROJECT NUMBER	2779	O2 (BLUE)	CO2 (RED)		2 5% HNO3/10% H2O2	754	775	21	
TEST DATE (dd-mon-yy)	2-Sept-22	10	6		3 5% HNO3/10% H2O2	756	758	2	
TEST NUMBER	Three	10	6		4 Empty	631	635	4	
TEST PERFORMED BY	PV-GO	10	6		5 KMNO4	752	754	2	
STACK I.D./WIDTH	38.5" Historical / Measured c	ANNULUS	7.75"		6 KMNO4	746	747	1	
DELTA H@	1.747	Measured			7 Silica	932	942	10	
MINUTES PER POINT	5	29.4			FILTER # 1	QM2395	FILTER #2	—	115
BAROMETRIC PRESSURE	746.76	mm Hg	Barom. ID#	53	MEASURED GLASSWARE RINSE VOLUME:			— mls	
STATIC PRESSURE	-0.02	inches H_2O	NOZZLE CALIBRATION		PROBE LINER USED:	(GLASS) / TEFLON / STEEL			
PRE-TEST O_2	10	% (dry)	ID# Quartz	—	IS STACK CYCLONIC?			YES / (NO)	
PRE-TEST CO_2	6	% (dry)	—	.500	PRE-TEST PITOT LEAK CHECK PERFORMED:			(YES) / NO	
WATER CONTENT	6	mole%	TRAIN DATA		POST-TEST PITOT LEAK CHECK PERFORMED:			(YES) / NO	
NOZZLE DIAMETER	.500	inches	METALS #	2	INITIAL LEAK CHECK: 0.00	CFM @	-19	in. Hg	
PITOT FACTOR	.808		KIT USED:	ISO-010	FINAL LEAK CHECK: 0.00	CFM @	-19	in. Hg	
INITIAL METER READING	799.30	ft^3	Meter Factor:	1.010 N2	PITOBE USED:	B051	Balance ID #	39	
STACK TOP HEIGHT	36.5'			1.009 O2	CEMS STATION ID (IF APPLICABLE)	—			

VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? (YES) OR NO (PLEASE CIRCLE ONE)

PORT DIR.	TRAV. POINT	START TIME	METER TEMP. IN	METER TEMP. OUT	STACK TEMP °C	PITOT READING in. H_2O	ORIFICE SETTING in. H_2O	METER READING ft^3	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	IMP. VAC in. Hg
N	12	14:15	17	17	862	.05	.69	801.67	121	108	9	-1
|	11	14:20	17	17	862	.05	.69	804.03	120	108	9	-1
|	10	14:25	18	17	863	.06	.83	806.60	120	109	10	-1
|	9	14:30	18	17	863	.07	.97	809.40	120	110	10	-1
|	8	14:35	19	17	869	.07	.97	812.21	121	110	10	-2
|	7	14:40	19	17	870	.08	1.1	815.19	120	110	10	-2
|	6	14:45	19	17	867	.09	1.2	818.34	120	110	10	-2
|	5	14:50	19	17	863	.09	1.2	821.53	121	108	10	-2
|	4	14:55	20	18	858	.06	.84	824.11	121	110	10	-2
|	3	15:00	22	18	860	.05	.70	826.51	121	111	10	-1
|	2	15:05	22	18	860	.05	.70	828.89	120	110	10	-1
V	1	15:10	22	19	859	.06	.84	831.51	120	110	10	-1
												PV

METHOD USED: M-29-M5 PARAMETER: Metals/Particulates

Tester Name: P. Vin Reviewer Name: GODSON OBUMNEME

I certify the test data is accurate and complete. I certify I have reviewed the test data.

ISOKINETIC TEST DATA

CLIENT NAME					IMPINGER # / CONTENTS		INITIAL VOLUME	FINAL VOLUME	MLS CONDENSED
LOCATION	SEE PG 1 of 2								
SOURCE NAME					1				
PROJECT NUMBER			O2 (BLUE)	CO2 (RED)	2				
TEST DATE (dd-mon-yy)					3				
TEST NUMBER					4				
TEST PERFORMED BY					5				
STACK I.D./WIDTH		Historical c Measured c	ANNULUS		6				
DELTA H@			☐ Measured		7				
MINUTES PER POINT					FILTER # 1			FILTER #2	
BAROMETRIC PRESSURE		mm Hg	Barom. ID#		MEASURED GLASSWARE RINSE VOLUME:				mls
STATIC PRESSURE		inches H_2O	NOZZLE CALIBRATION		PROBE LINER USED:		GLASS / TEFLON / STEEL		
PRE-TEST O_2		% (dry)	ID#		IS STACK CYCLONIC?				YES / NO
PRE-TEST CO_2		% (dry)			PRE-TEST PITOT LEAK CHECK PERFORMED:				YES / NO
WATER CONTENT		mole%	TRAIN DATA		POST-TEST PITOT LEAK CHECK PERFORMED:				YES / NO
NOZZLE DIAMETER		inches	METALS #		INITIAL LEAK CHECK:		CFM @		in. Hg
PITOT FACTOR			KIT USED:		FINAL LEAK CHECK:		CFM @		In. Hg
INITIAL METER READING		ft^3	Meter Factor:		PITOBE USED:		Balance ID #		
STACK TOP HEIGHT					CEMS STATION ID (IF APPLICABLE)				

VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? (YES) OR NO (PLEASE CIRCLE ONE)

PORT DIR.	TRAV. POINT	START TIME	METER TEMP. IN	METER TEMP. OUT	STACK TEMP °C	PITOT READING in. H_2O	ORIFICE SETTING in. H_2O	METER READING ft^3	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	IMP. VAC in. Hg
E	12	15:30	23	20	861	0.05	.70	833.91	120	117	9	-1
|	11	15:35	24	20	860	.06	.85	836.54	120	119	10	-1
|	10	15:40	24	21	860	.07	.99	839.38	120	119	11	-1
|	9	15:45	25	21	860	.07	1.0	842.22	120	120	11	-2
|	8	15:50	25	22	861	.08	1.1	845.27	120	120	11	-2
|	7	15:55	26	22	860	.09	1.2	848.51	120	121	11	-2
|	6	16:00	26	24	862	.09	1.2	851.77	120	121	11	-2
|	5	16:05	26	24	861	.07	1.0	854.65	120	122	12	-2
|	4	16:10	27	24	860	.07	1.0	857.52	120	122	12	-1
|	3	16:15	27	25	861	.06	.86	860.19	120	121	12	-1
|	2	16:20	27	25	862	.06	.86	862.85	120	122	12	-1
↓	1	16:25	28	25	860	.05	.72	865.30	120	124	12	-1
												pv

METHOD USED: M-29-M5 PARAMETER: Metals/Particulates

Tester Name: P. Vin Reviewer Name: Godson Odumosu

I certify the test data is accurate and complete.

I certify I have reviewed the test data.

PROPORTIONAL/NO FLOW COMPLIANCE TEST DATA

CLIENT NAME	Agnico Eagle Mines Limited	**STACK I.D. (inches)**	38.5	H	**Historical (H) or Measured (M)**
		ANNULUS (inches)	7.75	M	
FACILITY	Meliadine Mine	**IS STACK CYCLONIC**	N/A	H	
		PROBE LINER	Glass		
SOURCE NAME (UNIQUE ID)	Incinerator Stack	**PITOT# & FACTOR**	B051 - 0.808		
		KIT# & FACTOR	ABS 002 - 0.993		

Project # (PN)	Stack Top Height (meters)	Barometer ID#	Balance ID#	Analyst(s)	CEMS Station ID (if applicable)
2779	11.13	BP53	BAL-039	GO,PV	n/a

PARAMETER/METHOD	POST-TEST PITOT LEAK CHECK PERFORMED
M26	Yes

NOTES:
100ml rinse (50ml for 0.1N H2SO4, 50ml for 0.1N NaOH)

PER TEST/SET DATA (Test # 01 of 03 PN 2779)

Test Date (dd-mmm-yy)	Barometric Pressure (in.Hg)	Ambient Temp (C)
31-AUG-22	29.9	21

LEAK CHECK (Test # 01 of 03 PN 2779)

Before		After	
(cfm)	(in.Hg)	(cfm)	(in.Hg)
0.000	-19	0.000	-19

FYRITE ANALYSIS (Test # 01 of 03 PN 2779)

O2			CO2		
Test 1	Test 2	Test 3	Test 1	Test 2	Test 3
10	10	9.5	6	6	5.5

IMPINGER VOLUMES / WEIGHTS (Test # 01 of 03 PN 2779)		
Impinger # / Contents	Volume / Weight	
	Initial	Final
0.1N H2SO4	100	113
EMPTY	0	0
0.1N NaOH	100	100
SILICA GEL	512	515
Total Silica Gel - Final Weight	3	
Total Impinger Condensed Vol.	13	
Total Vol./Weight Condensed	16	
Glassware Rinse Volume	50	

DRY GAS METER DATA (Test # 01 of 03 PN 2779)				
Clock Time (24 hr)	Meter		Impinger	
	Volume	Temp	Vac	Temp
1430	42.725	21	-5	4
1500	49.360	23	-5	4
1530	56.230	25	-5	4
Total Meter Volume: 13.505	**Meter Volume Unit:** ft3 (cubed feet)		**Meter Temp Unit:** C (degrees Celsius)	

Tester Name	Verifier Name
Godson Odumodu	Patrick Vien
I certify that the above information is accurate and complete. (Test # 01 of 03 PN 2779)	**I certify that I have reviewed the test data.**
Verified that unit is running at normal operating conditions? Yes	

PROPORTIONAL/NO FLOW COMPLIANCE TEST DATA

CLIENT NAME	Agnico Eagle Mines Limited	**STACK I.D. (inches)**	38.5	H	**Historical (H) or Measured (M)**
		ANNULUS (inches)	7.75	M	
FACILITY	Meliadine Mine	**IS STACK CYCLONIC**	N/A	H	
		PROBE LINER	Glass		
SOURCE NAME (UNIQUE ID)	Incinerator Stack	**PITOT# & FACTOR**	B051 - 0.808		
		KIT# & FACTOR	ABS 002 - 0.993		

Project # (PN)	Stack Top Height (meters)	Barometer ID#	Balance ID#	Analyst(s)	CEMS Station ID (if applicable)
2779	11.13	BP53	BAL-039	GO,PV	n/a

PARAMETER/METHOD	POST-TEST PITOT LEAK CHECK PERFORMED
M26	Yes

NOTES:
100ml rinse (50ml for 0.1N H2SO4, 50ml for 0.1N NaOH)

PER TEST/SET DATA (Test # 02 of 03 PN 2779)

Test Date (dd-mmm-yy)	Barometric Pressure (in.Hg)	Ambient Temp (C)
01-Sep-22	29.2	11

LEAK CHECK (Test # 02 of 03 PN 2779)

Before		After	
(cfm)	(in.Hg)	(cfm)	(in.Hg)
0.000	-19	0.000	-19

FYRITE ANALYSIS (Test # 02 of 03 PN 2779)

O2			CO2		
Test 1	Test 2	Test 3	Test 1	Test 2	Test 3
10	10	10	6	6	6

IMPINGER VOLUMES / WEIGHTS (Test # 02 of 03 PN 2779)		
Impinger # / Contents	Volume / Weight	
	Initial	Final
0.1N H2SO4	100	119
EMPTY	0	0
0.1N NaOH	100	100
SILICA GEL	515	516
Total Silica Gel - Final Weight	1	
Total Impinger Condensed Vol.	19	
Total Vol./Weight Condensed	20	
Glassware Rinse Volume	50	

DRY GAS METER DATA (Test # 02 of 03 PN 2779)				
Clock Time (24 hr)	Meter		Impinger	
	Volume	Temp	Vac	Temp
1320	71.035	12	-7	3
1350	77.110	13	-7	3
1420	84.130	13	-7	4
Total Meter Volume: 13.095	**Meter Volume Unit:** ft3 (cubed feet)		**Meter Temp Unit:** C (degrees Celsius)	

Tester Name	Verifier Name
Godson Odumodu	Patrick Vien
I certify that the above information is accurate and complete. (Test # 02 of 03 PN 2779)	**I certify that I have reviewed the test data.**
Verified that unit is running at normal operating conditions? Yes	

PROPORTIONAL/NO FLOW COMPLIANCE TEST DATA

CLIENT NAME	Agnico Eagle Mines Limited	**STACK I.D. (inches)**	38.5	H	**Historical (H) or Measured (M)**
		ANNULUS (inches)	7.75	M	
FACILITY	Meliadine Mine	**IS STACK CYCLONIC**	N/A	H	
		PROBE LINER	Glass		
SOURCE NAME (UNIQUE ID)	Incinerator Stack	**PITOT# & FACTOR**	B051 - 0.808		
		KIT# & FACTOR	ABS 002 - 0.993		

Project # (PN)	Stack Top Height (meters)	Barometer ID#	Balance ID#	Analyst(s)	CEMS Station ID (if applicable)
2779	11.13	BP53	BAL-039	GO,PV	n/a

PARAMETER/METHOD	POST-TEST PITOT LEAK CHECK PERFORMED
M26	Yes

NOTES:
100ml rinse (50ml for 0.1N H2SO4, 50ml for 0.1N NaOH)

PER TEST/SET DATA (Test # 03 of 03 PN 2779)

Test Date (dd-mmm-yy)	Barometric Pressure (in.Hg)	Ambient Temp (C)
02-Sep-22	29.4	10

LEAK CHECK (Test # 03 of 03 PN 2779)

Before		After	
(cfm)	(in.Hg)	(cfm)	(in.Hg)
0.000	-19	0.000	-19

FYRITE ANALYSIS (Test # 03 of 03 PN 2779)

O2			CO2		
Test 1	Test 2	Test 3	Test 1	Test 2	Test 3
10	10	10.5	6	5.5	6

IMPINGER VOLUMES / WEIGHTS (Test # 03 of 03 PN 2779)		
Impinger # / Contents	Volume / Weight	
	Initial	Final
0.1N H2SO4	100	117
EMPTY	0	0
0.1N NaOH	100	100
SILICA GEL	516	517
Total Silica Gel - Final Weight	1	
Total Impinger Condensed Vol.	17	
Total Vol./Weight Condensed	18	
Glassware Rinse Volume	50	

DRY GAS METER DATA (Test # 03 of 03 PN 2779)				
Clock Time (24 hr)	Meter		Impinger	
	Volume	Temp	Vac	Temp
1415	86.040	12	-6	4
1445	92.745	13	-6	4
1515	99.310	15	-6	4
Total Meter Volume: 13.27	Meter Volume Unit: ft3 (cubed feet)		Meter Temp Unit: C (degrees Celsius)	

Tester Name	Verifier Name
Godson Odumodu	Patrick Vien
I certify that the above information is accurate and complete. (Test # 03 of 03 PN 2779)	I certify that I have reviewed the test data.
Verified that unit is running at normal operating conditions? Yes	

OXIDES OF NITROGEN TEST DATA

CLIENT NAME	Agnico Eagle Mines Limited	**STACK I.D. (inches)**	38.5	Historical	**Historical (H) or Measured (M)**
FACILITY	Meliadine Mine	**ANNULUS (inches)**	7.75	Measured	
SOURCE NAME (UNIQUE ID)	Incinerator Stack	**PROBE LINER**	Steel		
		PITOT# & FACTOR	B051 - 0.821		

PROJECT # (PN)	STACK TOP HEIGHT (METERS)	BAROMETER ID#	ANALYST(S)
2779	11.13	BP53	GO, PV

VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? Yes

CONFIRMED PROBE AND SAMPLE LINE RINSED WITH DISTILLED WATER: Yes

CONFIRMED PROBE PASSED LEAK-CHECK PRIOR TO INSERTING INTO THE SAMPLE PORT: Yes

NOTES: Test #2 (01-Sep-22 / BP 29.2) Test #3 (02-Sep-22 /BP 29.4)

FIELD DATA (Test # 01 to 03 PN 2779)

DATE (dd-mmm-yy)	Field B.P. (in.Hg)	Field Test Run	Flask ID#	Time	Field Flask Pressure (in.Hg)	Field Flask Temp. (C)
31-Aug-22	29.9	1A	79	1451	-27	22
31-Aug-22	29.9	1B	70	1454	-27	22
01-Sep-22	29.2	2A	85	1342	-26.5	13
01-Sep-22	29.2	2B	110	1346	-26.5	13
02-Sep-22	29.4	3A	101	1430	-26.6	14
02-Sep-22	29.4	3B	100	1434	-26.6	14

Solution Volume = 25 ml

LAB DATA (Test # 01 to 03 PN 2779)				
DATE (dd-*mmm*-*yy*)	Lab Test Run	Lab Barometric Pressure	Lab Flask Pressure (in.Hg)	Lab Flask Temp. (C)
08-Sep-22	1A	28.4	0.48	12
08-Sep-22	1B	28.4	0.76	12
08-Sep-22	2A	28.4	-2.41	12
08-Sep-22	2B	28.4	-2.75	12
08-Sep-22	3A	28.4	-1.66	12
08-Sep-22	3B	28.4	-1.18	12

Calgary Lab B.P. Unit = mbar

Edmonton Lab B.P. Unit = in.Hg

Tester Name	Verifier Name
Godson Odumodu	Patrick Vien
I certify that the above information is accurate and complete.(Test # 01 to 03 PN 2779)	**I certify that I have reviewed the test data.**
Verified that unit is running at normal operating conditions? Yes	

3.2

ISOKINETIC TEST DATA

H20%. 8.69
ISO: 101.673

EMS FCD-00404/11
Page 1 of 3

CLIENT NAME	AGNICO				IMPINGER # / CONTENTS	INITIAL VOLUME	FINAL VOLUME	MLS CONDENSED
LOCATION	Meliadine							
SOURCE NAME	Incinerator stack				1 XAD	347	352	5
PROJECT NUMBER	2779		O2 (BLUE)	CO2 (RED)	2 Condenser	289	291	2
TEST DATE (dd-mon-yy)	6-sept-22		10	6.5	3 Condensate trap	504	707	203
TEST NUMBER	ONE		10.5	7.0	4 Glycol	781	813	32
TEST PERFORMED BY	PV-GO		10	7	5 Empty	657	658	1
STACK I.D./WIDTH	38.5"	Historical c / Measured c	ANNULUS	7.75"	6 Silica	896	912	16
DELTA H@	1.747	29.2	☑ Measured		7 Total mls	—	—	259
MINUTES PER POINT	5x2				FILTER # 1	Train 13/1	FILTER #2	—
BAROMETRIC PRESSURE	741.68	mm Hg	Barom. ID#	53	MEASURED GLASSWARE RINSE VOLUME:			— mls
STATIC PRESSURE	-0.03	inches H_2O	NOZZLE CALIBRATION		PROBE LINER USED:		(GLASS) / TEFLON / STEEL	
PRE-TEST O_2	10	% (dry)	ID# Quartz		IS STACK CYCLONIC?			YES (NO)
PRE-TEST CO_2	6.5	% (dry)	—	.500	PRE-TEST PITOT LEAK CHECK PERFORMED:			(YES) / NO
WATER CONTENT	7	mole%	TRAIN DATA		POST-TEST PITOT LEAK CHECK PERFORMED:			(YES) / NO
NOZZLE DIAMETER	.500	inches	~~METALS #~~ XAD: 1		INITIAL LEAK CHECK: 0.00		CFM @ -20	in. Hg
PITOT FACTOR	.808		KIT USED: ISO: 010		FINAL LEAK CHECK: 0.01		CFM @ -18	in. Hg
INITIAL METER READING	866.71	ft^3	Meter Factor: ~~1.010~~ 1.009		PITOBE USED: B051		Balance ID # 39	
STACK TOP HEIGHT	36.5"	Filter: 1	Train: 13		CEMS STATION ID (IF APPLICABLE)			

L.C
0.40
~~.83~~
L.C
.81

VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? (YES) OR NO (PLEASE CIRCLE ONE)

PORT DIR.	TRAV. POINT	START TIME	METER TEMP. IN	METER TEMP. OUT	STACK TEMP °C	PITOT READING in. H_2O	ORIFICE SETTING in. H_2O	METER READING ft^3	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	IMP. VAC in. Hg
N	12	10:00	15	14	833	0.05	.69	869.07	120	108	4	-3
	12	10:05	15	14	833	0.05	.69	871.44	121	112	4	-3
	11	10:10	15	14	835	0.06	.83	873.99	122	114	4	-3
	11	10:15	15	14	837	0.06	.83	876.58	121	114	4	-3
	10	10:20	16	14	837	0.06	.83	879.16	120	116	5	-4
	10	10:25	16	15	840	0.07	.97	881.95	120	122	5	-5
	9	10:30	16	15	844	0.07	.96	884.73	120	122	5	-5
	9	10:35	16	15	848	0.08	1.1	887.69	120	124	5	-5
	8	10:40	16	15	848	0.08	1.1	890.66	120	124	6	-5
	8	10:45	17	15	852	0.09	1.2	893.81	120	124	6	-6
	7	10:50	17	15	855	0.10	1.3	897.13	120	125	6	-6
	7	10:55	17	15	855	0.10	1.3	900.44	120	126	6	-6
	6	11:00	17	15	860	0.08	1.0	903.39	120	126	6	-6
	6	11:05	18	15	860	0.08	1.0	906.435	120	124	7	-5
	5	11:10	18	16	860	0.08	1.0	909.32	120	124	7	-5
↓	5	11:15	18	16	860	0.08	1.0	912.29	120	125	7	-5

METHOD USED: EPS 1/RM2	PARAMETER: Dioxins/Furans/SVOC
Tester Name: P.Vin	Reviewer Name: GODSON ODUMODU

I certify the test data is accurate and complete.

I certify I have reviewed the test data.

ISOKINETIC TEST DATA

CLIENT NAME					IMPINGER # / CONTENTS	INITIAL VOLUME	FINAL VOLUME	MLS CONDENSED
LOCATION								
SOURCE NAME	SEE Pg 1 OF 3				1			
PROJECT NUMBER			O2 (BLUE)	CO2 (RED)	2			
TEST DATE (dd-mon-yy)					3			
TEST NUMBER					4			
TEST PERFORMED BY					5			
STACK I.D./WIDTH		Historical c Measured c	ANNULUS		6			
DELTA H@			☐ Measured		7			
MINUTES PER POINT					FILTER # 1		FILTER #2	
BAROMETRIC PRESSURE		mm Hg	Barom. ID#		MEASURED GLASSWARE RINSE VOLUME:			mls
STATIC PRESSURE		inches H_2O	NOZZLE CALIBRATION		PROBE LINER USED:	GLASS / TEFLON / STEEL		
PRE-TEST O_2		% (dry)	ID#		IS STACK CYCLONIC?			YES / NO
PRE-TEST CO_2		% (dry)			PRE-TEST PITOT LEAK CHECK PERFORMED:			YES / NO
WATER CONTENT		mole%	TRAIN DATA		POST-TEST PITOT LEAK CHECK PERFORMED:			YES / NO
NOZZLE DIAMETER		inches	METALS #		INITIAL LEAK CHECK:	CFM @		in. Hg
PITOT FACTOR			KIT USED:		FINAL LEAK CHECK:	CFM @		in. Hg
INITIAL METER READING		ft^3	Meter Factor:		PITOBE USED:	Balance ID #		
STACK TOP HEIGHT					CEMS STATION ID (IF APPLICABLE)			

VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? YES OR NO (PLEASE CIRCLE ONE)

PORT DIR.	TRAV. POINT	START TIME	METER TEMP. IN	METER TEMP. OUT	STACK TEMP °C	PITOT READING in. H_2O	ORIFICE SETTING in. H_2O	METER READING ft^3	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	IMP. VAC in. Hg
N	4	11:20	18	16	860	0.06	.82	914.85	120	125	8	-5
↓	4	11:25	19	16	863	0.06	.82	917.42	120	125	8	-5
	3	11:30	19	17	863	0.06	.82	919.99	120	125	8	-5
	3	11:35	19	17	865	0.07	.95	922.78	121	124	8	-5
	2	11:40	19	17	866	0.07	.95	925.55	121	124	8	-5
	2	11:45	20	18	866	0.05	.68	927.90	122	124	9	-5
	1	11:50	22	18	867	0.05	.68	930.25	120	125	9	-5
↓	1	11:55	22	19	869	0.05	.68	932.63	120	125	9	-5
—	—	—	—	L.C.	0.01@ -20 in Hg			— 934.32	—	—	—	1.69
E	12	12:10	22	20	869	0.05	.68	936.69	120	125	10	-4
	12	12:15	22	20	869	0.05	.68	939.06	120	125	10	-4
	11	12:20	22	20	870	0.06	.82	941.66	120	125	8	-5
	11	12:25	22	20	872	0.06	.82	944.24	120	125	8	-5
	10	12:30	23	20	875	0.06	.82	946.84	120	125	8	-5
	10	12:35	23	21	875	0.07	.96	949.63	120	125	7	-5
	9	12:40	23	21	874	0.08	1.1	952.64	120	125	7	-5

METHOD USED: EPS 1/RM2

PARAMETER: Dioxins/Furans/SVOC

Tester Name: P. Vin

I certify the test data is accurate and complete.

Reviewer Name: Gideon Odumosu

I certify I have reviewed the test data.

ISOKINETIC TEST DATA

EMS FCD-00404/11
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3 of 3

CLIENT NAME					IMPINGER # / CONTENTS	INITIAL VOLUME	FINAL VOLUME	MLS CONDENSED
LOCATION								
SOURCE NAME	SEE Pg 1 of 3				1			
PROJECT NUMBER		O2 (BLUE)	CO2 (RED)		2			
TEST DATE (dd-mon-yy)					3			
TEST NUMBER					4			
TEST PERFORMED BY					5			
STACK I.D./WIDTH	Historical c Measured c	ANNULUS			6			
DELTA H@		☐ Measured			7			
MINUTES PER POINT					FILTER # 1		FILTER #2	
BAROMETRIC PRESSURE	mm Hg	Barom. ID#			MEASURED GLASSWARE RINSE VOLUME:			mls
STATIC PRESSURE	inches H_2O	NOZZLE CALIBRATION			PROBE LINER USED:		GLASS / TEFLON / STEEL	
PRE-TEST O_2	% (dry)	ID#			IS STACK CYCLONIC?			YES / NO
PRE-TEST CO_2	% (dry)				PRE-TEST PITOT LEAK CHECK PERFORMED:			YES / NO
WATER CONTENT	mole%	TRAIN DATA			POST-TEST PITOT LEAK CHECK PERFORMED:			YES / NO
NOZZLE DIAMETER	inches	METALS #			INITIAL LEAK CHECK:		CFM @	in. Hg
PITOT FACTOR		KIT USED:			FINAL LEAK CHECK:		CFM @	in. Hg
INITIAL METER READING	ft^3	Meter Factor:			PITOBE USED:		Balance ID #	
STACK TOP HEIGHT					CEMS STATION ID (IF APPLICABLE)			

VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? YES OR NO (PLEASE CIRCLE ONE)

PORT DIR.	TRAV. POINT	START TIME	METER TEMP. IN	METER TEMP. OUT	STACK TEMP °C	PITOT READING in. H_2O	ORIFICE SETTING in. H_2O	METER READING ft^3	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	IMP. VAC in. Hg
E	9	12:45	23	21	874	.07	.96	955.45	120	125	6	-5
	8	12:50	23	21	875	.07	.96	958.25	120	125	6	-5
	8	12:55	23	21	874	.07	.96	961.05	120	125	6	-5
	7	13:00	23	21	874	.08	1.1	964.04	120	125	6	-6
	7	13:05	23	21	873	.08	1.1	967.06	120	125	7	-6
	6	13:10	23	21	873	.08	1.1	970.06	120	125	7	-6
	6	13:15	23	21	873	.08	1.1	973.04	120	125	7	-6
	5	13:20	23	21	874	.07	.96	975.86	120	125	7	-6
	5	13:25	24	21	874	.06	.82	978.46	120	125	8	-6
	4	13:30	24	21	874	.06	.82	981.05	121	125	8	-6
	4	13:35	24	21	875	.05	.68	983.44	120	125	8	-5
	3	13:40	24	22	875	.05	.69	985.82	120	125	8	-5
	3	13:45	24	22	875	.06	.82	988.42	120	125	8	-5
	2	13:50	24	22	873	.05	.69	990.80	120	125	9	-5
	2	13:55	24	22	872	.05	.69	993.20	120	125	9	-5
	1	14:00	24	22	872	.05	.69	995.55	120	125	9	-5
		13:55	24	22	873	.05	.69	997.93	120	125	9	-5

METHOD USED: EPS 1/RM 2

PARAMETER: Dioxins/Furans/SVOC

Tester Name: P. Vin

Reviewer Name: GODSON ODUMOSU

I certify the test data is accurate and complete.

I certify I have reviewed the test data.

ISOKINETIC TEST DATA (2)

H20.7.001

CLIENT NAME	Agnico				IMPINGER # / CONTENTS	INITIAL VOLUME	FINAL VOLUME	MLS CONDENSED
LOCATION	Meliadine							
SOURCE NAME	Incinerator Stack				1 XAD	350	356	6
PROJECT NUMBER	2779		O2 (BLUE)	CO2 (RED)	2 Condenser	268	271	3
TEST DATE (dd-mon-yy)	6-Sept-22		10	6	3 Condenser trap	511	678	167
TEST NUMBER	Two		10	5.5	4 Glycol	768	785	17
TEST PERFORMED BY	PV-GO		10	5.5	5 Empty	662	665	3
STACK I.D./WIDTH	38.5"	Historical (c) Measured c	ANNULUS	7.75"	6 Silica	809	814	5
DELTA H@	1.747		☒ Measured		7 Total mls	—	—	201
MINUTES PER POINT	5min x2				FILTER # 1 Train Filter: 14		FILTER #2	—
BAROMETRIC PRESSURE	741.68	mm Hg	Barom. ID# 53		MEASURED GLASSWARE RINSE VOLUME:			— mls
STATIC PRESSURE	-0.03	inches H_2O	NOZZLE CALIBRATION		PROBE LINER USED:		(GLASS) / TEFLON / STEEL	
PRE-TEST O_2	10	% (dry)	ID# Quartz		IS STACK CYCLONIC?			YES / (NO)
PRE-TEST CO_2	6	% (dry)	—	.500	PRE-TEST PITOT LEAK CHECK PERFORMED:			(YES) / NO
WATER CONTENT	7	mole%	TRAIN DATA		POST-TEST PITOT LEAK CHECK PERFORMED:			(YES) / NO
NOZZLE DIAMETER	.500	inches	~~METALS #~~ XAD: 2		INITIAL LEAK CHECK: 0.01		CFM @ -20	in. Hg
PITOT FACTOR	.808		KIT USED: ISO-010		FINAL LEAK CHECK: 0.01		CFM @ -19	in. Hg
INITIAL METER READING	998.74	ft^3	Meter Factor: 1.016 / 1.009		PITOBE USED: B051		Balance ID # 39	
STACK TOP HEIGHT	36.5"		Train: 14		CEMS STATION ID (IF APPLICABLE)			

L.C

VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? (YES) OR NO (PLEASE CIRCLE ONE)

PORT DIR.	TRAV. POINT	START TIME	METER TEMP. IN	METER TEMP. OUT	STACK TEMP °C	PITOT READING in. H_2O	ORIFICE SETTING in. H_2O	METER READING ft^3	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	IMP. VAC in. Hg
N	12	14:35	24	22	878	0.05	.69	1001.12	120	108	5	-2
	12	14:40	24	22	877	0.05	.69	1003.50	120	109	5	-2
	11	14:45	24	22	874	.05	.69	1005.89	120	116	5	-2
	11	14:50	25	23	870	.05	.69	1008.28	120	118	5	-2
	10	14:55	25	23	869	.06	.83	1010.89	120	120	5	-4
	10	15:00	26	24	871	.06	.83	1013.53	121	123	5	-4
	9	15:05	26	24	872	.06	.83	1016.16	121	124	6	-4
	9	15:10	26	24	873	.07	.97	1018.99	120	124	6	-4
	8	15:15	26	24	873	.07	.97	1021.82	120	124	6	-4
	8	15:20	26	24	872	.06	.83	1024.46	121	125	6	-4
	7	15:25	26	24	873	.07	.97	1027.30	120	125	6	-4
	7	15:30	27	24	871	.07	.98	1030.15	121	125	7	-4
	6	15:35	27	25	871	.08	1.1	1033.20	120	125	7	-4
	6	15:40	27	25	870	.08	1.1	1036.24	121	125	7	-4
	5	15:45	27	25	873	.07	.98	1039.10	120	125	7	-4
↓	5	15:50	27	25	873	.08	1.1	1042.14	120	125	7	-4

METHOD USED: EPS 1/RM2

PARAMETER: Dioxins/Furans/SVOC

Tester Name: P.V.

Reviewer Name: GODSON ODUMODU

I certify the test data is accurate and complete.

I certify I have reviewed the test data.

ISOKINETIC TEST DATA

(2)

CLIENT NAME	SEE Pg 1of3			IMPINGER#/ CONTENTS	INITIAL VOLUME	FINAL VOLUME	MLS CONDENSED
LOCATION							
SOURCE NAME				1			
PROJECT NUMBER		O2 (BLUE)	CO2 (RED)	2			
TEST DATE (dd-mon-yy)				3			
TEST NUMBER				4			
TEST PERFORMED BY				5			
STACK I.D./WIDTH	Historical c / Measured c	ANNULUS		6			
DELTA H@		☐ Measured		7			
MINUTES PER POINT				FILTER # 1		FILTER #2	
BAROMETRIC PRESSURE	mm Hg	Barom. ID#		MEASURED GLASSWARE RINSE VOLUME:			mls
STATIC PRESSURE	inches H_2O	NOZZLE CALIBRATION		PROBE LINER USED:	GLASS / TEFLON / STEEL		
PRE-TEST O_2	% (dry)	ID#		IS STACK CYCLONIC?			YES / NO
PRE-TEST CO_2	% (dry)			PRE-TEST PITOT LEAK CHECK PERFORMED:			YES / NO
WATER CONTENT	mole%	TRAIN DATA		POST-TEST PITOT LEAK CHECK PERFORMED:			YES / NO
NOZZLE DIAMETER	inches	METALS #		INITIAL LEAK CHECK:	CFM @		in. Hg
PITOT FACTOR		KIT USED:		FINAL LEAK CHECK:	CFM @		in. Hg
INITIAL METER READING	ft^3	Meter Factor:		PITOBE USED:		Balance ID #	
STACK TOP HEIGHT				CEMS STATION ID (IF APPLICABLE)			

VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? (YES) OR NO (PLEASE CIRCLE ONE)

PORT DIR.	TRAV. POINT	START TIME	METER TEMP. IN	METER TEMP. OUT	STACK TEMP °C	PITOT READING in. H_2O	ORIFICE SETTING in. H_2O	METER READING ft^3	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	IMP. VAC in. Hg
↓	4	15:55	27	25	872	.07	.98	1044.99	120	125	8	-4
	4	16:00	27	25	872	.06	.84	1047.63	120	125	8	-4
	3	16:05	27	25	872	.06	.84	1050.26	120	125	8	-4
	3	16:10	27	25	871	.06	.84	1052.91	120	125	8	-4
	2	16:15	27	25	872	.07	.98	1055.76	120	125	5	-5
	2	16:20	27	25	870	.05	.70	1058.17	120	125	5	-5
	1	16:25	27	25	872	.05	.70	1060.56	120	125	5	-5
	1	16:30	27	25	872	.05	.70	1062.99	120	125	5	-5
—		—	LC, 0.01@ - 19 in HG - 1064.87 - 1.88 L.C -									—
E ↓	12	16:50	27	25	873	.05	.70	1067.28	120	125	4	-4
	12	16:55	27	25	873	.05	.70	1069.69	120	125	4	-4
	11	17:00	27	25	873	.06	.84	1072.32	120	125	4	-5
	11	17:05	28	25	873	.05	.70	1074.74	120	125	4	-5
	10	17:10	28	25	874	.06	.84	1077.38	120	126	4	-5
	10	17:15	28	25	874	.06	.84	1080.01	120	126	4	-5
	9	17:20	28	25	872	.07	.98	1082.87	120	126	4	-5

METHOD USED: EPS 1/RM2

PARAMETER: Dioxins/Furans/SVOC

Tester Name: P.V. [signature]

Reviewer Name: GODSON ODUMODU

I certify the test data is accurate and complete.

I certify I have reviewed the test data.

ISOKINETIC TEST DATA

(2)

CLIENT NAME	SEE PG 1 OF 3			IMPINGER # / CONTENTS	INITIAL VOLUME	FINAL VOLUME	MLS CONDENSED
LOCATION				1			
SOURCE NAME				2			
PROJECT NUMBER		O2 (BLUE)	CO2 (RED)	3			
TEST DATE (dd-mon-yy)				4			
TEST NUMBER				5			
TEST PERFORMED BY				6			
STACK I.D./WIDTH	Historical c / Measured c	ANNULUS		7			
DELTA H@		☐ Measured		FILTER # 1		FILTER #2	
MINUTES PER POINT				MEASURED GLASSWARE RINSE VOLUME:			mls
BAROMETRIC PRESSURE	mm Hg	Barom. ID#		PROBE LINER USED:		GLASS / TEFLON / STEEL	
STATIC PRESSURE	inches H_2O	NOZZLE CALIBRATION		IS STACK CYCLONIC?		YES / NO	
PRE-TEST O_2	% (dry)	ID#		PRE-TEST PITOT LEAK CHECK PERFORMED:		YES / NO	
PRE-TEST CO_2	% (dry)			POST-TEST PITOT LEAK CHECK PERFORMED:		YES / NO	
WATER CONTENT	mole%	TRAIN DATA		INITIAL LEAK CHECK:	CFM @	in. Hg	
NOZZLE DIAMETER	inches	METALS #		FINAL LEAK CHECK:	CFM @	in. Hg	
PITOT FACTOR		KIT USED:		PITOBE USED:		Balance ID #	
INITIAL METER READING	ft^3	Meter Factor:		CEMS STATION ID (IF APPLICABLE)			
STACK TOP HEIGHT							

VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? (YES) OR NO (PLEASE CIRCLE ONE)

PORT DIR.	TRAV. POINT	START TIME	METER TEMP. IN	METER TEMP. OUT	STACK TEMP °C	PITOT READING in. H_2O	ORIFICE SETTING in. H_2O	METER READING ft^3	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	IMP. VAC in. Hg
E	9	17:25	28	25	871	.07	.98	1085.73	120	126	4	-5
↓	8	17:30	28	25	871	.07	.98	1088.58	120	126	4	-5
	8	17:35	28	25	870	.07	.98	1091.44	121	125	4	-5
	7	17:40	28	26	870	.08	1.1	1094.50	120	125	5	-5
	7	17:45	28	26	870	.08	1.1	1097.56	120	125	5	-5
	6	17:50	28	26	869	.08	1.1	1100.62	120	125	5	-5
	6	17:55	28	26	870	.08	1.1	1103.68	120	125	5	-5
	5	18:00	28	26	869	.07	.98	1106.55	120	125	5	-5
	5	18:05	28	26	870	.08	1.1	1109.60	120	125	5	-5
	4	18:10	29	26	872	.06	.84	1112.25	120	125	5	-5
	4	18:15	29	26	872	.06	.84	1114.91	120	126	5	-5
	3	18:20	29	26	875	.06	.84	1117.56	120	126	5	-5
	3	18:25	29	26	875	.06	.84	1120.21	120	126	6	-5
	2	18:30	29	26	874	.05	.70	1122.62	120	126	6	-5
	2	18:35	29	26	871	.05	.70	1125.04	120	126	6	-5
↓	1	18:40	29	27	870	.05	.70	1127.46	120	126	6	-5
	1	18:45	29	27	870	.05	.70	1129.89	120	126	6	-5

METHOD USED: EPS 1/RM2

PARAMETER: Diox:ns/Furans/SVOC

Tester Name: P. Vi[illegible]

I certify the test data is accurate and complete.

Reviewer Name: GODSON ODUMODU

I certify I have reviewed the test data.

(3)

ISOKINETIC TEST DATA

H20.818

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CLIENT NAME	Agnico				IMPINGER # / CONTENTS	INITIAL VOLUME	FINAL VOLUME	MLS CONDENSED
LOCATION	Meliadine				1 XAD	331	336	5
SOURCE NAME	Incinerator Stack				2 condenser	279	282	3
PROJECT NUMBER	2779	O2 (BLUE)	CO2 (RED)		3 Condenser trap	489	714	225
TEST DATE (dd-mon-yy)	8-Aug-22	10	6		4 Glycol	713	733	20
TEST NUMBER	Three	10	5.5		5 Empty	655	656	1
TEST PERFORMED BY	PV, GO	10	6		6 Silica	831	838	7
STACK I.D./WIDTH	38.5'	Historical C / Measured C	ANNULUS	7.75	7 Total mls	—	—	261
DELTA H@	1.747		☑ Measured		FILTER # 1 Train 16		FILTER #2	—
MINUTES PER POINT	5 X 2	28.6			MEASURED GLASSWARE RINSE VOLUME:			— mls
BAROMETRIC PRESSURE	726.44	mm Hg	Barom. ID# 53		PROBE LINER USED:	GLASS / TEFLON / STEEL		
STATIC PRESSURE	-0.03	inches H_2O	NOZZLE CALIBRATION		IS STACK CYCLONIC?			YES / NO
PRE-TEST O_2	10	% (dry)	ID# Quartz		PRE-TEST PITOT LEAK CHECK PERFORMED:			YES / NO
PRE-TEST CO_2	6	% (dry)	—	.500	POST-TEST PITOT LEAK CHECK PERFORMED:			YES / NO
WATER CONTENT	7	mole%	TRAIN DATA JL		INITIAL LEAK CHECK: 0.00		CFM @ -20	in. Hg
NOZZLE DIAMETER	.500	inches	~~METALS #~~ XAD ~~#334~~		FINAL LEAK CHECK: 0.00		CFM @ -18	in. Hg
PITOT FACTOR	.808		KIT USED: ISO.010		PITOBE USED: B051		Balance ID # 39	
INITIAL METER READING	131.34	ft³	Meter Factor: 1.010 ~~1.009~~		Filter # 16 1.009		CEMS STATION ID (IF APPLICABLE) —	

VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? (YES) OR NO (PLEASE CIRCLE ONE)

PORT DIR.	TRAV. POINT	START TIME	METER TEMP. IN	METER TEMP. OUT	STACK TEMP °C	PITOT READING in. H_2O	ORIFICE SETTING in. H_2O	METER READING ft³	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	IMP. VAC in. Hg
N	12	06:20	12	11	817	0.06	.84	133.91	118	119	2	-3
↓	12	06:25	13	11	817	0.06	.84	136.47	118	117	2	-3
	11	06:30	12	11	817	0.05	.70	138.80	119	116	2	-3
	11	06:35	12	11	817	0.06	.84	141.38	119	115	2	-3
	10	06:40	12	11	815	0.06	.84	143.95	119	113	2	-3
	10	06:45	12	11	815	0.07	.98	146.72	120	110	2	-4
	9	06:50	12	11	819	0.07	.97	149.49	120	110	2	-4
	9	06:55	12	11	819	0.08	1.1	152.43	120	110	2	-4
	8	07:00	12	11	817	0.07	.98	155.20	120	109	2	-4
	8	07:05	12	11	817	0.07	.98	157.99	120	110	2	-4
	7	07:10	12	11	816	0.06	.84	160.56	120	111	2	-4
	7	07:15	12	11	815	0.08	1.1	163.50	120	110	3	-4
	6	07:20	13	11	818	0.08	1.1	166.47	120	113	3	-4
	6	07:25	13	11	817	.08	1.1	169.43	120	113	3	-4
	5	07:30	13	11	817	.08	1.1	172.41	120	112	3	-4
↓	5	07:35	13	11	816	.09	1.2	175.56	120	112	3	-4

METHOD USED: EPS 1/RM/2

PARAMETER: Dioxins/Furans - Organics

Tester Name: P.V

Reviewer Name: Godson Odumodu

I certify the test data is accurate and complete.

I certify I have reviewed the test data.

BUREAU VERITAS

ISOKINETIC TEST DATA

CLIENT NAME	SEE Pg 1 of 3			IMPINGER # / CONTENTS	INITIAL VOLUME	FINAL VOLUME	MLS CONDENSED
LOCATION							
SOURCE NAME				1			
PROJECT NUMBER		O2 (BLUE)	CO2 (RED)	2			
TEST DATE (dd-mon-yy)				3			
TEST NUMBER				4			
TEST PERFORMED BY				5			
STACK I.D./WIDTH	Historical c / Measured c	ANNULUS		6			
DELTA H@		☐ Measured		7			
MINUTES PER POINT				FILTER # 1		FILTER #2	
BAROMETRIC PRESSURE	mm Hg	Barom. ID#		MEASURED GLASSWARE RINSE VOLUME:			mls
STATIC PRESSURE	inches H_2O	NOZZLE CALIBRATION		PROBE LINER USED:	GLASS / TEFLON / STEEL		
PRE-TEST O_2	% (dry)	ID#		IS STACK CYCLONIC?			YES / NO
PRE-TEST CO_2	% (dry)			PRE-TEST PITOT LEAK CHECK PERFORMED:			YES / NO
WATER CONTENT	mole%	TRAIN DATA		POST-TEST PITOT LEAK CHECK PERFORMED:			YES / NO
NOZZLE DIAMETER	inches	METALS #		INITIAL LEAK CHECK:	CFM @		in. Hg
PITOT FACTOR		KIT USED:		FINAL LEAK CHECK:	CFM @		in. Hg
INITIAL METER READING	ft^3	Meter Factor:		PITOBE USED:		Balance ID #	
STACK TOP HEIGHT				CEMS STATION ID (IF APPLICABLE)			

See Pg. 1 of 3

VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? (YES) OR NO (PLEASE CIRCLE ONE)

L.C 0.01 cfm @ 19 inch 199.66 - 1:72 LC

PORT DIR.	TRAV. POINT	START TIME	METER TEMP. IN	METER TEMP. OUT	STACK TEMP °C	PITOT READING in. H_2O	ORIFICE SETTING in. H_2O	METER READING ft^3	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	IMP. VAC in. Hg
N	4	740	13	11	817	0.09	1.2	178.71	120	114	2	-4
↓	4	745	13	11	819	0.08	1.1	181.66	120	115	2	-4
	3	750	14	11	820	0.08	1.1	184.62	120	115	2	-4
	3	755	14	11	817	0.07	0.98	187.40	120	115	2	-4
	2	800	14	11	814	0.07	0.98	190.20	120	115	2	-4
	2	805	14	12	819	0.06	0.84	192.79	120	116	2	-4
	1	810	14	12	812	0.06	0.85	195.37	120	116	2	-4
	1	815	14	12	813	0.06	0.84	197.94	120	116	2	-4
E	12	830	15	12	815	0.05	0.70	202.02	120	115	3	-4
↓	12	835	15	12	818	0.05	0.70	204.37	120	114	3	-4
	11	840	15	12	820	0.05	0.70	206.73	120	114	3	-4
	11	845	15	12	821	0.05	0.70	209.50	120	113	3	-4
	10	850	15	12	820	0.07	0.98	212.30	120	113	3	-4
	10	855	15	12	821	0.07	0.98	215.09	120	114	3	-4
	9	900	15	13	822	0.07	0.98	217.66	120	112	3	-4
	9	905	15	13	820	0.06	0.84	220.25	120	114	3	-4

METHOD USED: EPS 1/RM/2	PARAMETER: Dioxins / Furans - organics
Tester Name: Patrick Vien	Reviewer Name: Godson Odumodu
I certify the test data is accurate and complete.	I certify I have reviewed the test data.

ISOKINETIC TEST DATA

CLIENT NAME				IMPINGER # / CONTENTS	INITIAL VOLUME	FINAL VOLUME	MLS CONDENSED
LOCATION	SEE Pg 1 of 3						
SOURCE NAME				1			
PROJECT NUMBER		O2 (BLUE)	CO2 (RED)	2			
TEST DATE (dd-mon-yy)				3			
TEST NUMBER				4			
TEST PERFORMED BY				5			
STACK I.D./WIDTH	Historical c / Measured c	ANNULUS	1 of 3	6			
DELTA H@		☒ Measured		7			
MINUTES PER POINT				FILTER # 1		FILTER #2	
BAROMETRIC PRESSURE	mm Hg	Barom. ID#		MEASURED GLASSWARE RINSE VOLUME:			mls
STATIC PRESSURE	inches H_2O	NOZZLE CALIBRATION		PROBE LINER USED:		GLASS / TEFLON / STEEL	
PRE-TEST O_2	% (dry)	ID#		IS STACK CYCLONIC?			YES / NO
PRE-TEST CO_2	% (dry)			PRE-TEST PITOT LEAK CHECK PERFORMED:			YES / NO
WATER CONTENT	mole%	TRAIN DATA		POST-TEST PITOT LEAK CHECK PERFORMED:			YES / NO
NOZZLE DIAMETER	inches	METALS #		INITIAL LEAK CHECK:		CFM @	in. Hg
PITOT FACTOR		KIT USED:		FINAL LEAK CHECK:		CFM @	in. Hg
INITIAL METER READING	ft^3	Meter Factor:		PITOBE USED:		Balance ID #	
STACK TOP HEIGHT				CEMS STATION ID (IF APPLICABLE)			

VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? YES OR NO (PLEASE CIRCLE ONE)

PORT DIR.	TRAV. POINT	START TIME	METER TEMP. IN	METER TEMP. OUT	STACK TEMP °C	PITOT READING in. H_2O	ORIFICE SETTING in. H_2O	METER READING ft^3	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	IMP. VAC in. Hg
E	8	910	15	13	821	0.06	0.84	223.65	120	115	4	-4
|	8	915	15	13	821	0.07	0.98	225.83	120	115	4	-4
|	7	920	16	13	824	0.07	0.98	228.62	120	115	4	-4
|	7	925	16	13	824	0.07	0.98	231.61	120	114	4	-4
|	6	930	16	14	824	0.08	1.1	234.60	120	113	4	-4
|	6	935	16	14	825	0.08	1.1	237.58	120	113	4	-4-5
|	5	940	16	14	827	0.08	1.1	240.74	120	113	5	-5
|	5	945	16	14	827	0.09	1.2	243.73	120	111	5	-5
|	4	950	16	14	826	0.08	1.1	246.89	120	111	5	-5
|	4	955	16	14	826	0.09	1.2	249.69	120	112	5	-5
|	3	1000	16	14	825	0.07	0.98	252.47	120	112	5	-5
|	3	1005	16	14	825	0.07	0.98	254.85	120	114	5	-5
|	2	1010	17	14	827	0.05	0.70	257.42	120	114	5	-5
|	2	1015	17	14	828	0.06	0.84	259.81	120	115	5	-5
|	1	1020	17	15	828	0.05	0.70	262.17	120	114	5	-5
↓	1	1025	17	15	827	0.05	0.70	264.57	120	114	5	-5

METHOD USED:	EPS 1/RM/2	PARAMETER:	Dioxins / Furans - Organics
Tester Name:	Patrick Vien	Reviewer Name:	Godson Odumodu

I certify the test data is accurate and complete.

I certify I have reviewed the test data.

PROPORTIONAL/NO FLOW COMPLIANCE TEST DATA

CLIENT NAME	Agnico Eagle Mines Limited	**STACK I.D. (inches)**	38.5	H	**Historical (H) or Measured (M)**
		ANNULUS (inches)	7.75	M	
FACILITY	Meliadine Mine	**IS STACK CYCLONIC**	N/A	H	
		PROBE LINER	Glass		
SOURCE NAME (UNIQUE ID)	Incinerator Stack	**PITOT# & FACTOR**	B051 - 0.808		
		KIT# & FACTOR	ABS 002 - 0.993		

Project # (PN)	Stack Top Height (meters)	Barometer ID#	Balance ID#	Analyst(s)	CEMS Station ID (if applicable)
2779	11.13	BP53	BAL-039	GO,PV	n/a

PARAMETER/METHOD	POST-TEST PITOT LEAK CHECK PERFORMED
M6	Yes

NOTES:
n/a

PER TEST/SET DATA (Test # 01 of 03 PN 2779)

Test Date (dd-mmm-yy)	Barometric Pressure (in.Hg)	Ambient Temp (C)
06-Sep-22	29.2	11

LEAK CHECK (Test # 01 of 03 PN 2779)

Before		After	
(cfm)	(in.Hg)	(cfm)	(in.Hg)
0.000	-19	0.000	-19

FYRITE ANALYSIS (Test # 01 of 03 PN 2779)

O2			CO2		
Test 1	Test 2	Test 3	Test 1	Test 2	Test 3
10	10	10	6	6.5	6.5

IMPINGER VOLUMES / WEIGHTS (Test # 01 of 03 PN 2779)		
Impinger # / Contents	Volume / Weight	
	Initial	Final
3% H2O2	100	126
3% H2O2	100	100
EMPTY	0	0
SILICA GEL	516	518
Total Silica Gel - Final Weight	2	
Total Impinger Condensed Vol.	26	
Total Vol./Weight Condensed	28	
Glassware Rinse Volume	50	

DRY GAS METER DATA (Test # 01 of 03 PN 2779)				
Clock Time (24 hr)	Meter		Impinger	
	Volume	Temp	Vac	Temp
1000	99.445	10	-5	3
1030	106.160	11	-5	3
1100	112.960	13	-5	3
Total Meter Volume: 13.515	Meter Volume Unit: ft3 (cubed feet)		Meter Temp Unit: C (degrees Celsius)	

Tester Name	Verifier Name
Godson Odumodu	Patrick Vien
I certify that the above information is accurate and complete. (Test # 01 of 03 PN 2779)	I certify that I have reviewed the test data.
Verified that unit is running at normal operating conditions? Yes	

PROPORTIONAL/NO FLOW COMPLIANCE TEST DATA

CLIENT NAME	Agnico Eagle Mines Limited	**STACK I.D. (inches)**	38.5	H	**Historical (H) or Measured (M)**
		ANNULUS (inches)	7.75	M	
FACILITY	Meliadine Mine	**IS STACK CYCLONIC**	N/A	H	
		PROBE LINER	Glass		
SOURCE NAME (UNIQUE ID)	Incinerator Stack	**PITOT# & FACTOR**	B051 - 0.808		
		KIT# & FACTOR	ABS 002 - 0.993		

Project # (PN)	Stack Top Height (meters)	Barometer ID#	Balance ID#	Analyst(s)	CEMS Station ID (if applicable)
2779	11.13	BP53	BAL-039	GO,PV	n/a

PARAMETER/METHOD	POST-TEST PITOT LEAK CHECK PERFORMED
M6	Yes

NOTES:
n/a

PER TEST/SET DATA (Test # 02 of 03 PN 2779)

Test Date (dd-mmm-yy)	Barometric Pressure (in.Hg)	Ambient Temp (C)
06-Sep-22	29.2	10

LEAK CHECK (Test # 02 of 03 PN 2779)

Before		After	
(cfm)	(in.Hg)	(cfm)	(in.Hg)
0.000	-19	0.000	-19

FYRITE ANALYSIS (Test # 02 of 03 PN 2779)

O2			CO2		
Test 1	Test 2	Test 3	Test 1	Test 2	Test 3
10	10	10	6	6.5	6

IMPINGER VOLUMES / WEIGHTS (Test # 02 of 03 PN 2779)		
Impinger # / Contents	Volume / Weight	
	Initial	Final
3% H2O2	100	124
3% H2O2	100	100
EMPTY	0	0
SILICA GEL	518	519
Total Silica Gel - Final Weight	1	
Total Impinger Condensed Vol.	24	
Total Vol./Weight Condensed	25	
Glassware Rinse Volume	50	

DRY GAS METER DATA (Test # 02 of 03 PN 2779)				
Clock Time (24 hr)	Meter		Impinger	
	Volume	Temp	Vac	Temp
1435	113.220	10	-5	4
1505	119.940	11	-5	4
1535	126.680	13	-5	4
Total Meter Volume: 13.460	Meter Volume Unit: ft3 (cubed feet)		Meter Temp Unit: C (degrees Celsius)	

Tester Name	Verifier Name
Godson Odumodu	Patrick Vien
I certify that the above information is accurate and complete. (Test # 02 of 03 PN 2779)	I certify that I have reviewed the test data.
Verified that unit is running at normal operating conditions? Yes	

PROPORTIONAL/NO FLOW COMPLIANCE TEST DATA

CLIENT NAME	Agnico Eagle Mines Limited	**STACK I.D. (inches)**	38.5	H	**Historical (H) or Measured (M)**
		ANNULUS (inches)	7.75	M	
FACILITY	Meliadine Mine	**IS STACK CYCLONIC**	N/A	H	
		PROBE LINER	Glass		
SOURCE NAME (UNIQUE ID)	Incinerator Stack	**PITOT# & FACTOR**	B051 - 0.808		
		KIT# & FACTOR	ABS 002 - 0.993		

Project # (PN)	Stack Top Height (meters)	Barometer ID#	Balance ID#	Analyst(s)	CEMS Station ID (if applicable)
2779	11.13	BP53	BAL-039	GO,PV	n/a

PARAMETER/METHOD	POST-TEST PITOT LEAK CHECK PERFORMED
M6	Yes

NOTES:
n/a

PER TEST/SET DATA (Test # 03 of 03 PN 2779)

Test Date (dd-mmm-yy)	Barometric Pressure (in.Hg)	Ambient Temp (C)
08-Sep-22	28.4	9

LEAK CHECK (Test # 03 of 03 PN 2779)

Before		After	
(cfm)	(in.Hg)	(cfm)	(in.Hg)
0.000	-19	0.000	-19

FYRITE ANALYSIS (Test # 03 of 03 PN 2779)

O2			CO2		
Test 1	Test 2	Test 3	Test 1	Test 2	Test 3
10	10.5	10	6	6	5.5

IMPINGER VOLUMES / WEIGHTS (Test # 03 of 03 PN 2779)		
Impinger # / Contents	Volume / Weight	
	Initial	Final
3% H2O2	100	122
3% H2O2	100	100
EMPTY	0	0
SILICA GEL	519	521
Total Silica Gel - Final Weight	2	
Total Impinger Condensed Vol.	22	
Total Vol./Weight Condensed	24	
Glassware Rinse Volume	50	

DRY GAS METER DATA (Test # 03 of 03 PN 2779)				
Clock Time (24 hr)	Meter		Impinger	
	Volume	Temp	Vac	Temp
0620	126.840	10	-5	4
0650	133.510	11	-5	4
0720	140.190	12	-5	5
Total Meter Volume: 13.350	Meter Volume Unit: ft3 (cubed feet)		Meter Temp Unit: C (degrees Celsius)	

Tester Name	Verifier Name
Godson Odumodu	Patrick Vien
I certify that the above information is accurate and complete. (Test # 03 of 03 PN 2779)	I certify that I have reviewed the test data.
Verified that unit is running at normal operating conditions? Yes	

APPENDIX V
CALIBRATION DATA

PITOT TUBE/PITOBE CALIBRATION DATA SHEET

PITOT DESIGNATION **B051**

Side A as Impact - Normal Alignment

Wind Tunnel Nominal Velocity	ft/s	30.0	50.0	70.0
	m/s	9.1	15.2	21.3

Calibrated: February 23, 2022

Standard Pitot Reading - in. H_2O x 10	0.161	0.493	0.943
Test Pitot Reading - in. H_2O x 10	0.242	0.740	1.413

By: A. Jacobs

Pitot Factor	0.807	0.808	0.809	**0.808**
				Averages
Deviations	0.001	0.000	-0.001	**0.000**

Using the University of Calgary Wind Tunnel

Acceptance Criteria:

A cal only - Average deviation less than 0.01

Thermocouple Calibration

	Run 1			**Run 2**		
	Hot	Mid	Cold	Hot	Mid	Cold
Reference Thermocouple ID	AD4JG-1	AD4JG-2	AD4JG-3	AD4JG-1	AD4JG-2	AD4JG-3
Reference Thermocouple Temperature (°C)	91.0	51.0	4.0	90.0	51.0	4.0
Test Thermocouple Temperature (°C)	90.0	50.0	3.0	90.0	50.0	3.0
Absolute Difference %	0.3%	0.3%	0.4%	0.0%	0.3%	0.4%

Calibrated: May 5, 2022

By: S. Calvert

Reference Meter #: 8620

Acceptance Criteria:

Absolute temperatures to agree within 1.5%

PITOT TUBE/PITOBE CALIBRATION DATA SHEET

PITOT DESIGNATION **B051**

Side A as Impact - Normal Alignment

Wind Tunnel Nominal Velocity	ft/s	30.0	50.0	70.0
	m/s	9.1	15.2	21.3

Calibrated: February 23, 2022

Standard Pitot Reading - in. H_2O x 10	0.161	0.493	0.943
Test Pitot Reading - in. H_2O x 10	0.242	0.740	1.413

By: A. Jacobs

Pitot Factor	0.807	0.808	0.809	**0.808**
				Averages
Deviations	0.001	0.000	-0.001	**0.000**

Using the University of Calgary Wind Tunnel

Acceptance Criteria:

A cal only - Average deviation less than 0.01

Thermocouple Calibration

	Run 1			Run 2		
	Hot	Mid	Cold	Hot	Mid	Cold
Reference Thermocouple ID	AD4JG-1	AD4JG-2	AD4JG-3	AD4JG-1	AD4JG-2	AD4JG-3
Reference Thermocouple Temperature (°C)	90.0	48.0	5.0	91.0	49.0	4.0
Test Thermocouple Temperature (°C)	90.0	48.0	5.0	91.0	49.0	4.0
Absolute Difference %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Calibrated: November 15, 2022

By: M. Clarke

Reference Meter #: 8613

Acceptance Criteria:

Absolute temperatures to agree within 1.5%

TRAIN DESIGNATION	ISO010				
METER FACTOR	Y	1.009		Intercept	1.27
ORIFICE FACTOR	DH@	1.747		Slope	0.137

DRY GAS METER CALIBRATION DATA

Date 12-Jan-22 **By** P.Vien **REF METER ID #** 16055633

BP inHg 26.10

	VOLUME ft.^3	Tm C	DP in. H2O		
REFERENCE METER	7.765	23.0		Run One	
DRY GAS METER	7.700	23.0	0.3	Y=	1.008
REFERENCE METER	7.275	23.0		Run Two	
DRY GAS METER	7.200	23.0	0.9	Y=	1.008
REFERENCE METER	6.190	23.0		Run Three	
DRY GAS METER	6.100	23.0	1.5	Y=	1.010

CALIBRATION CHECKS

Date: 13-Jul-22 By: P.Vien BP inHg: 26.2

REFERENCE METER	5.200	21.0		Ref ID #	18392983
DRY GAS METER	5.125	21.0	1.5	Y=	1.010

ORIFICE CALIBRATION DATA

Date: 12-Jan-22 By: P. Vien

Actual DH	VOLUME ft.^3	Tm C	TIME min.	CFM	K Value	Calculated DH@
0.25	0.31	21.0	2	0.156	0.740	1.690
0.50	0.44	20.0	2	0.220	0.737	1.701
1.00	0.61	20.0	2	0.309	0.733	1.722
2.00	0.85	19.0	2	0.429	0.721	1.780
4.00	1.18	19.0	2	0.594	0.708	1.843

DIGITAL DISPLAY TEMPERATURE CALIBRATION DATA

Date: 12-Jan-22 By: P.Vien

TEMP °C	**1**	**2**	**3**	**4**	**5**
0	-1	-1	-1	-1	-1
100	99	99	99	99	99
200	199	199	199	199	199
300	299	299	300	299	299
400	401	401	400	400	400
500	502	502	501	501	501

TRAIN DESIGNATION	ABS002	**Barometric Pres. =**	26.41
CALIBRATION DATE	July 18, 2022	**By:**	G. Romero Villasenor

DRY GAS METER CALIBRATION DATA

REF METER ID # 18392983 **METER FACTOR** 0.993 **Y**

	VOLUME ft.^3	Tm C	BP (in. Hg)		
REFERENCE METER	5.000	21.5		Run One	
DRY GAS METER	5.005	21.8	26.41	Y=	1.000
REFERENCE METER	6.000	22.0		Run Two	
DRY GAS METER	6.155	25.5	26.41	Y=	0.986
REFERENCE METER	6.300	22.0		Run Three	
DRY GAS METER	6.480	28.0	26.41	Y=	0.992

FIELD BAROMETER CALIBRATION CHECK FORM[1]

To be completed each Monday and handed in with job envelope for the week.

Field Barometer #: 053 Analyst: PV

Date: 29 - Aug - 2022 Print Name: Patrick Vein

Reference Barometer #	True Value (kPa)[3] **If reference barometer unavailable use alternate method.**	Convert to in. Hg **(kPa) x 0.2953 (in. Hg/kPa)**	True Value Corrected for Elevation[2,4] (in. Hg)	Field Barometer Reading (in. Hg)	Difference[5]	Corrective Action
05545	–	–	26.32	26.30	0.02	N/A
–	–	–	–	–	–	–

Field Barometer #: Analyst:

Date: Print Name:

Reference Barometer #	True Value (kPa)[3] **If reference barometer unavailable use alternate method.**	Convert to in. Hg **(kPa) x 0.2953 (in. Hg/kPa)**	True Value Corrected for Elevation[2,4] (in. Hg)	Field Barometer Reading (in. Hg)	Difference[5]	Corrective Action

[1]Calibration performed as per AENV Method 5, section 2.1.9.

[2]Taken from Laboratory barometer

[3]Taken from Environment Canada Weather office (www.weather.gc.ca). Use only if reference barometer is unavailable.

[4]If referring to Environment Canada, correct for elevation. Subtract 0.1in Hg/100 ft elevation. For Edmonton, subtract 2.2 in Hg. For Calgary, 3.6 i

[5]Field barometer reading must be within 0.1 in Hg or reference value.

FIELD BALANCE VERIFICATION FORM

Balance # 39 Analyst: PV

Date: 29 Aug 2021 Name: Patrick Vein

Standard Weight (g)	Weight ID	Field Balance Reading (g)	Corrective Action
100	100	100	
500	500	500	N/A
800	800	800	

Balance # _____ Analyst: _____

Date: _____ Name: _____

Standard Weight (g)	Weight ID	Field Balance Reading (g)	Corrective Action

Notes:

1. Balance is to be checked once at the start of work week by checking 3 standard weights.
2. Standard weights usually used are 100 g, 500 g, and 1000 g. Any weight may be used as long as the verification covers the range of use of the balance.
3. If balance reading differs from the standard weight by more than 2 %, follow the Corrective actions in EMS WI-00117 section 6.1.4.

Weight (g)	Acceptable Range (g)
100	98-102
500	490-510
800	774-816
1000	980-1020

4. Calculation example of acceptable range at +/- 2%:

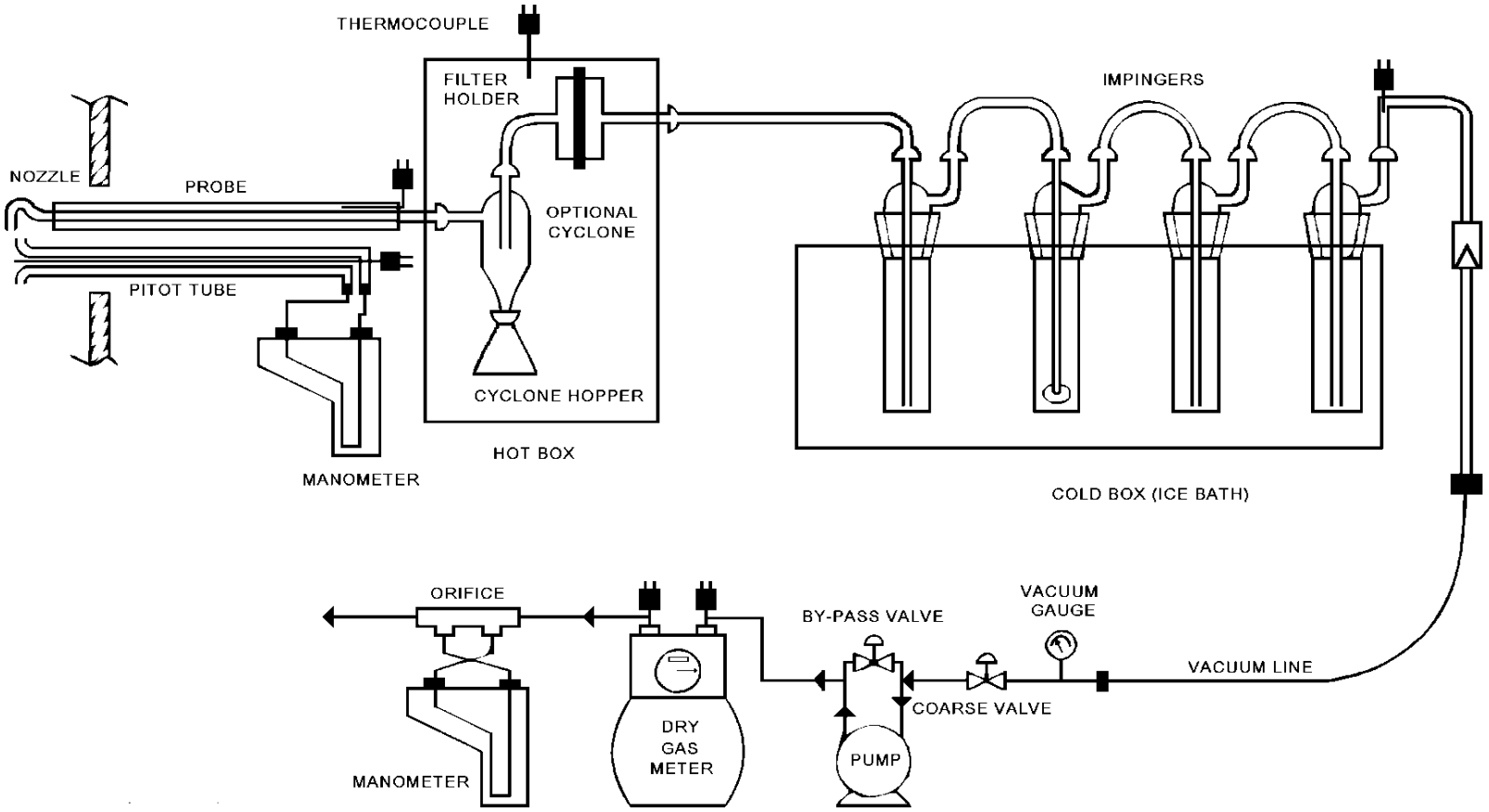
Upper limit = (weight +(weight*0.02))
= 1000+(1000*0.02)
= 1020

Lower limit = (weight- (weight*0.02))
= 1000-(1000*0.02)
= 980

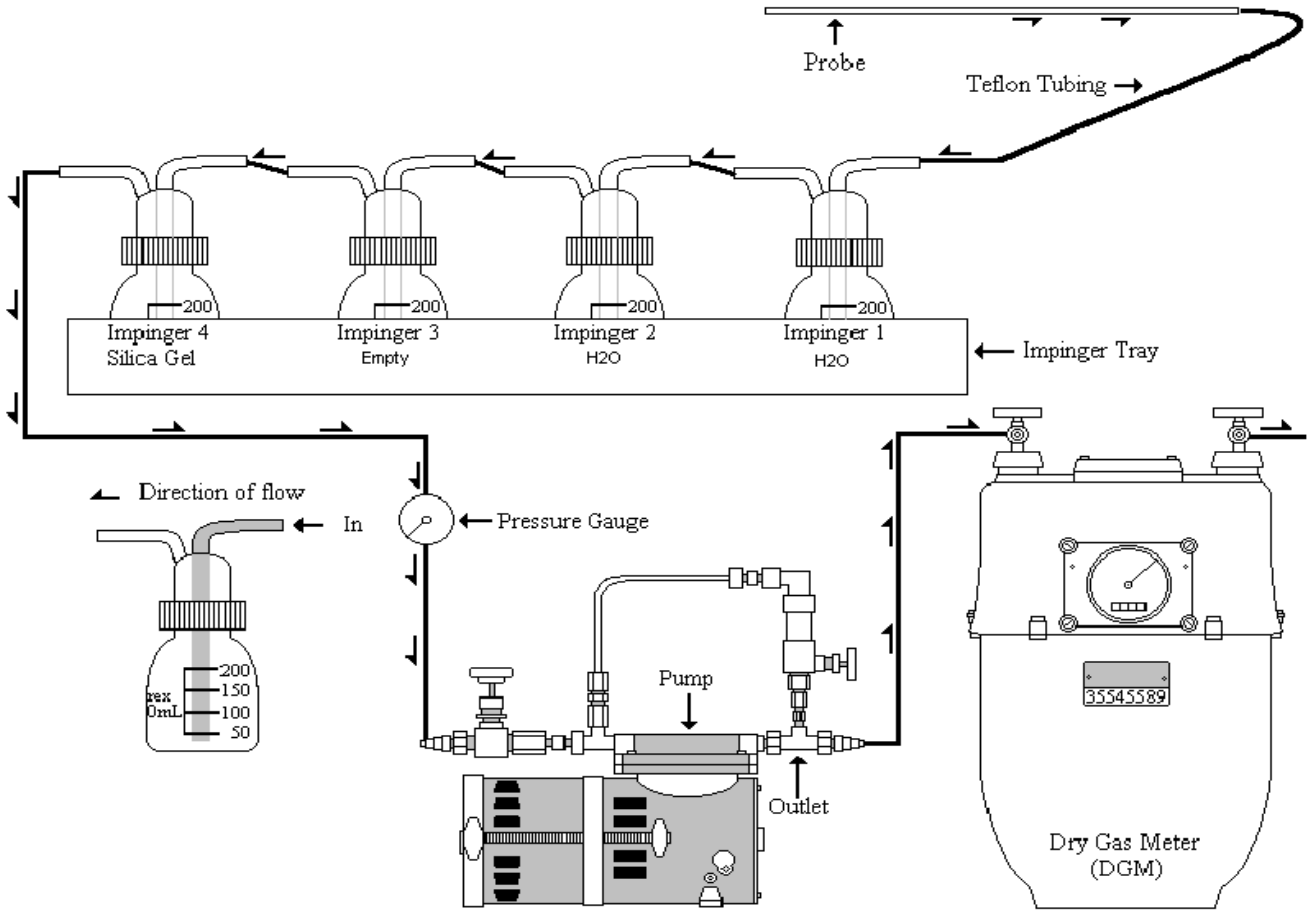
Weight (g)	Acceptable Range (g)
1000	980-1020

APPENDIX VI
SAMPLING DIAGRAMS

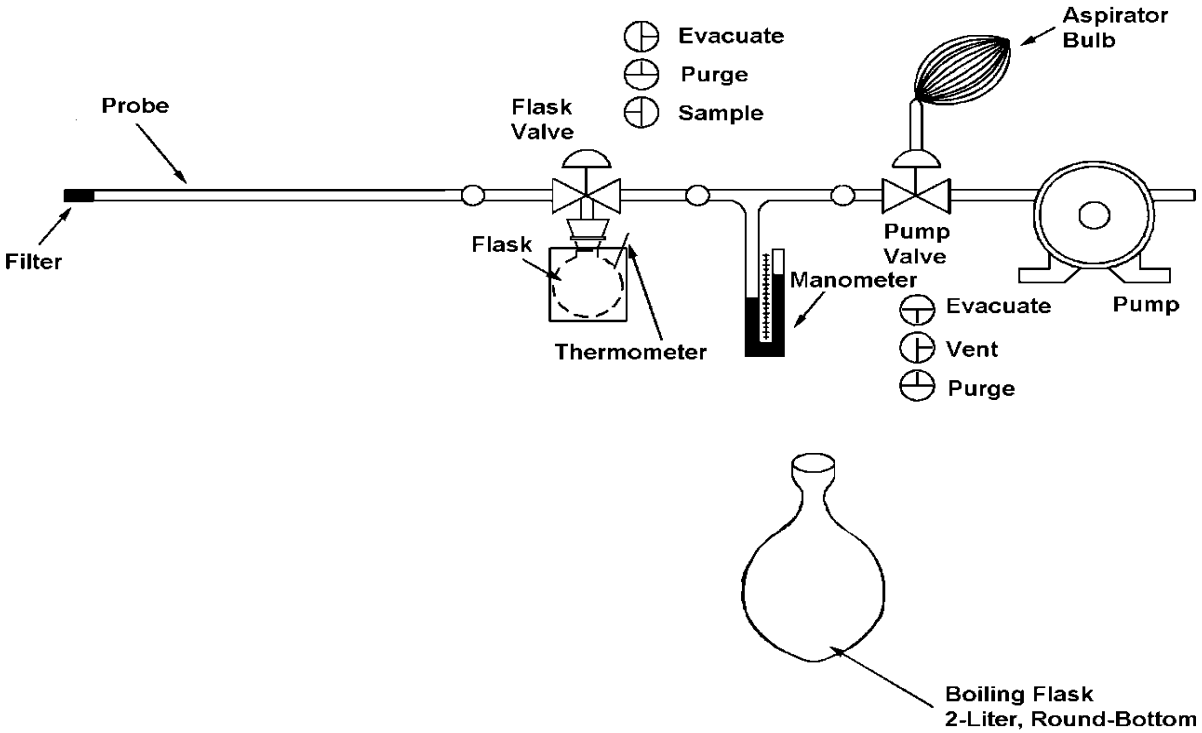
Basic Isokinetic Train



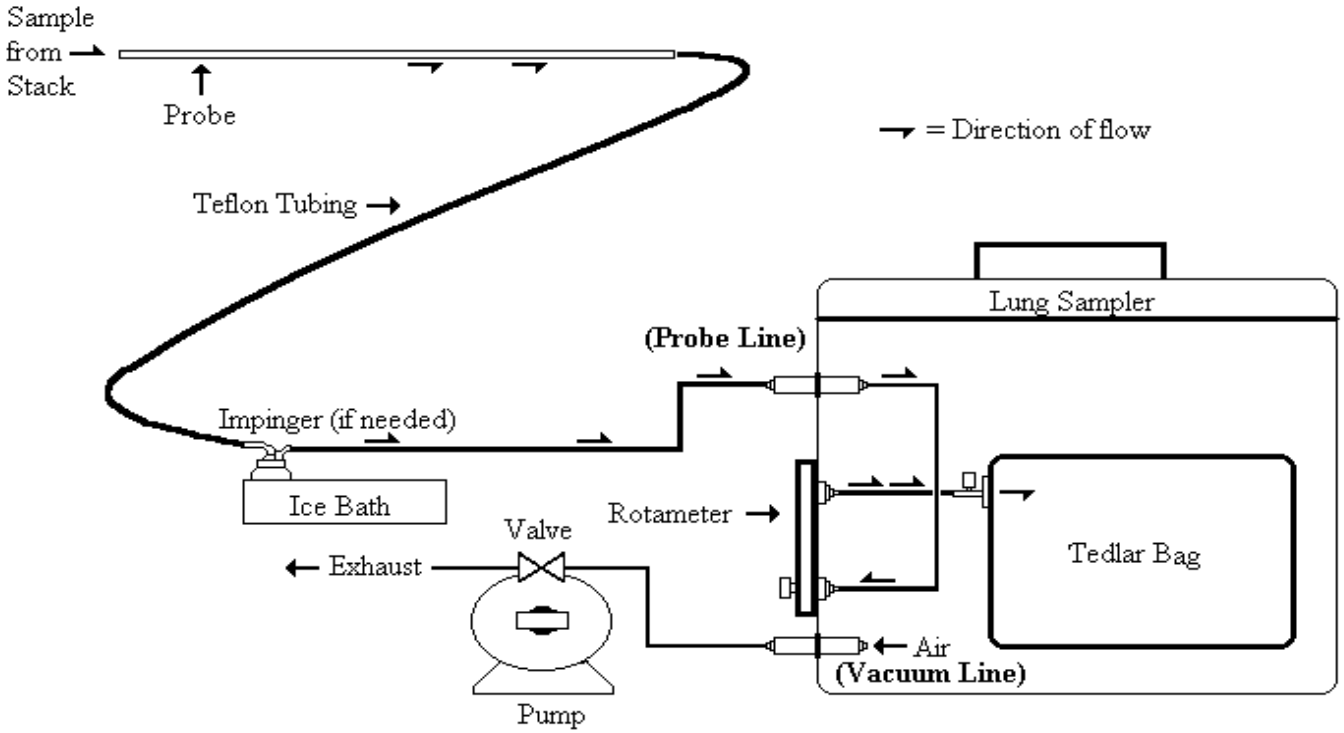
Basic Absorption Train



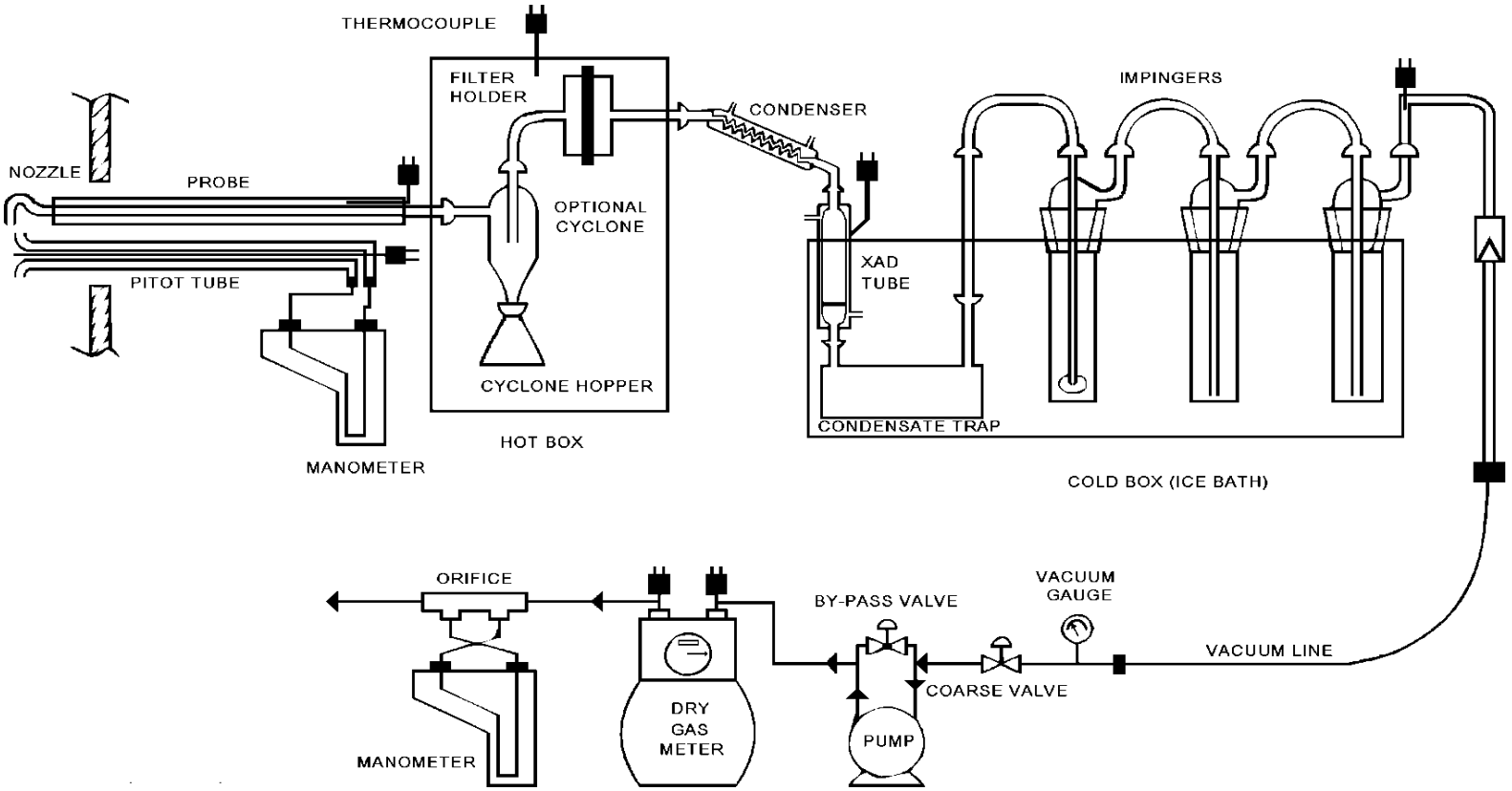
Oxides of Nitrogen – Grab Sampling Train



Integrated Bag Sampling Train



Organics Sampling Train



APPENDIX VII
SES CALCULATIONS

CALCULATIONS

**Calculations are being referenced from the US EPA Code of Federal Regulations.*

$L = ft^3 \, x \, 28.316846592$	$ft^3 = \frac{L}{28.316846592}$	$m^3 = scf \, x \, 0.02831685$
$K = \, °C + 273.15$	${}^{g}/_{m^3} = \frac{g}{ft^3} x \, 35.3146625$	${}^{lb}/_{ft^3} = \frac{g}{ft^3} \, x \, 2.20462 \, x \, 10^{-3}$

$Barometric\ Pressure_{\ mmHg} = Barometric\ Pressure_{\ inHg} \, x \, 25.4$	$Test\ Angle \ = \ 90° - Null\ Angle$
$Stack\ Pressure_{\ mmHg} = Barometric\ Pressure_{mmHg} + Static\ Pressure_{mmHg}$	$Static\ Pressure_{\ mmHg} \ = \frac{Static\ Pressure_{\ inH20}}{13.6} x \, 25.4$
$Stack\ Diameter_{\ m} = Stack\ Diameter_{\ in} \, x \, 0.0254$	$Stack\ Area_{\ m} = \left(\frac{Stack\ Diameter_{\ m}}{2}\right)$ ^2 xπ

$$Absolute\ Stack\ PressuremmHg_{\ (in\ Hg)} = P_{bar} + P_g$$

$P_{bar} = Baromatric\ pressure\ at\ measurement\ site,_{\ mmHg\ (in.\ Hg)}$
$P_g = Stack\ pressure,_{\ mmHg\ (in.\ Hg)}$

$$Molecular\ Weight_{\ dry} = \ (0.44 \, x \, \%CO_{2\,dry}) + (0.32 \, x \, \%O_{2\,dry}) + \left(0.28 \, x \, \%N_{2\,dry} + \%CO_{dry}\right)$$

$$Dry\ Flow\ Rate_{m3/s} = \ (1 - \%H_2O) \text{ x } (Velocity_{\ m/s}) \text{ x } (Stack\ Area_{\ m2}) \text{x} \left(\frac{(Standard\ Temp\ 25_{\circ C} + 273.15) \, x \, Stack\ Pressure_{\ mmHg}}{(Stack\ Temp_{\ \circ C} + 273.15) \, x \, 760}\right)$$

$$Wet\ Flow\ Rate_{\ m^3/s} = \ (Velocity_{\ m/s}) x (Stack\ Area_{\ m2}) x \left(\frac{(Standard\ Temp\ 25_{\circ C} + 273.15) x \, Stack\ Pressure_{\ mmHg}}{(Stack\ Temp_{\circ C} + 273.15) x 760}\right)$$

$$Dry\ Gas\ Volume_{ft3} = Final\ Meter\ Volume_{ft3} - Initial\ Meter\ Volume_{ft3}$$

$$Dry\ Gas\ Volume_{\ m3@\ ref\ cond} = 0.392303 x Dry\ Gas\ Meter\ Cal\ Factor\ x \left(\frac{(Dry\ Gas\ Volume_{\ ft3} x \, 0.0283) \, x \, Barometric\ Pressure_{\ mmHg}}{(Meter\ Temp\ Temp_{\circ C} + 273.15)}\right)$$

$$Stack\ Gas\ Molecular\ Weight_{\ wet} \ = \ M_d(1 - B_{ws}) + 18.0 \, B_{ws}$$

$B_{ws} = Water\ vapour\ in\ the\ gas\ stream, proportion\ by\ volume$
$M_d = Molecular\ weight\ of\ stack\ gas, dry\ basis,_{\ g/g-mole\ (lb/lb-mole)}$

CALCULATIONS

**Calculations are being referenced from the US EPA Code of Federal Regulations.*

$K_1 = \frac{\rho_{H2O}\, T_{std}}{P_{std} M_w}$

$K_2 = \frac{R\, T_{std}}{P_{std}\, M_w}$

$K_3 = \frac{T_{std}}{P_{std}}$

$Metric\ K_1 = 0.00135517\ _{m3/mL}$
$English\ K_1 = 0.04785732\ _{cf3/mL}$
$Metric\ K_2 = 0.00135919\ _{m3/g}$
$English\ K_2 = 0.04799921\ _{cf3/g}$
$Metric\ K_3 = 0.39230263\ _{K/mmHg}$
$English\ K_3 = 17.9375\ _{^\circ R/in.\ Hg}$

$P_{std} = 760\ _{mm\ Hg} = 29.92\ _{in.\ Hg}$
$T_{std} = 298.15\ _{K} = 536.69\ _{^\circ R}$
$M_W = 18.0\ g/g - mol\ _{[lb./lb.\_mol]}$
$1\ lbmass = 453.5924\ _{gmass}$
$\rho_{H2O} = 0.997044\ _{g/mL} = 0.00219811\ _{lb./mL}$
$English\ R = 21.8479358\ _{in.\ Hg\ cf3\ R\_1\ lb.\_mol\_1}$
$Metric\ R = 0.062363683\ _{mmHg\ L\ K\_1\ g\_mol\_1}$

$M_{s,\ wet} = (1 - B_{ws}) M_{s,\ dry} + 18\, B_{ws}$

$B_{ws} = water\ vapour\ in\ the\ gas\ stream, proportion\ by\ volume$
$M_{s,\ wet} = molecular\ weight\ of\ stack\ gas,\ _{wet\ basis}$
$M_{s,\ dry} = molecular\ weight\ of\ stack\ gas, dry\ _{basis}$

$ER^{wet}\ _{kg/1000kg(_{std})} = 0.0244654 \frac{m_n}{\left(V_{m,\ std} - V_{w,std}\right) M_{s,wet}}$

$ER^{dry}\ _{kg/1000kgstd} = 0.0244654\ \frac{m_n}{V_{m(_{std})}\, M_{s,\ dry}}$

$V_s = K_p C_p \left(\sqrt{\Delta P_{avg}}\right) \sqrt{\frac{T_{s(_{avg})}}{P_s M_s}}$

$v_s = average\ stack\ gas\ velocity,\ _{m/s\ (ft/s)}$
$C_p = pitot\ tube\ coefficient$
$K = pitot\ tube\ constant$
$M_s = molecular\ weight\ of\ stack\ gas,\ _{wet\ basis\ ,\ g/g\_mole\ (lb./lb.\_mole)}$
$T_s = Absolute\ stack\ temperature,\ _{K\ (^\circ R)}$
$P_s = Absolute\ stack\ pressure\ ,_{mm\ Hg\ (in.\ Hg)}$
$\Delta P = Velocity\ head\ of\ stack\ gas,\ _{mm\ H2O\ (in.\ H2O)}$

$Q_{sd} = 3600\ (1 - B_{ws})\ V_s A \left[\frac{T_{std}\, P_s}{T_{s(_{avg})}\, P_{std}}\right]$

$Q_{sd} = average\ stack\ gas\ dry\ volumetric\ flow\ rate$

$Q_{sw} = 3600\ V_s A \left[\frac{T_{std}\, P_s}{T_{s(_{avg})} P_{std}}\right]$

$Q_{sw} = average\ stack\ gas\ wet\ volumetric\ flow\ rate$

$standard\ deviation\ _{(A\ OR\ B)} = \frac{\sum_1^3 \left|_{Cp(_s)} - C_{p\ (A\ OR\ B)}\right|}{3} \leq 0.01$

$\%\ deviation = \frac{(Q - Q_{\ avg})}{Q_{avg}}\ x\ 100\ (\ Must\ be \leq |\ 10\%|\ )$

$V_{\ wc(_{std})} = \frac{(V_f - Vi)\, \rho_w\, R\, T_{std}}{P_{std}\, M_w}$

$V_{\ wc(_{std})} = volume\ of\ wate\ vapour\ condensed$

$V_{wsg\ (_{std})} = \frac{(W_f - Wi)\, R\, T_{std}}{P_{std}\, M_w}$

$V_{wsg(_{std})} = volume\ of\ water\ collected\ in\ silica\ gel$

$V_{\ m(_{std})} = V_m Y \frac{P_m\, T_{std}}{P_{std}\, T_m}$

$V_{\ m(_{std})} = Vm\ Y \frac{P_m\, T_{std}}{P_{std}\, T_m}$

$B_{ws} = \frac{V_{\ wc(_{std})} + V_{\ wsg(_{std})}}{V_{\ wc(_{std})} + V_{\ wsg(_{std})} + V_{\ m(_{std})}}$

$V_{\ ws(_{std})} = \frac{(V_f - V_i)\, \rho_w\, R\, T_{std}}{P_{std}\, M_w}$

$B_{ws} = \frac{V_{\ wc(_{std})}}{V_{\ wc(_{std})} + V_{\ m(_{std})}} + B_{wm}$

$V_{\ m(_{std})} = V_m\ Y \frac{T_{std}\ (P_{bar} + \frac{\Delta H}{13.6})}{T_m\, P_{std}}$

CALCULATIONS

**Calculations are being referenced from the US EPA Code of Federal Regulations.*

$V_{w(std)} = Vlc \frac{\rho_w R T_{std}}{M_w P_{std}}$	$B_{ws} = \frac{V_{w(std)}}{V_{m(std)} + V_{w(std)}}$	$C_{sw} = 0.001\, mn/[\, V_{m(std)} + V_{w(std)}\,]$ $C_{sw} = particulate\ concentration,_{wet\ basis}$
$C_a = \frac{m_a}{V_a \rho_a}$ $W_a = C_a V_{aw} \rho_a$	$C_a = acetone\ blank\ concentration$ $W_a = acetone\ wash\ blank$	$C_{sd} = 0.001\, mn/Vm_{(std)}$ $C_{sd} = particulate\ concentration,_{dry\ basis}$
$ER^{dry}{}_{Particulate\,(std)} = [\, Q_{sd} C_{sd}]/1000$ $ER^{dry} = emission\ rate,_{dry\ basis}$		$ER^{wet}{}_{particualte\,(std)} = [\, Q_{sw} C_{sw}]/1000$ $ER^{wet} = emission\ rate,_{wet\ basis}$
$m_c = K\, Cso_2\, V_{ic}$	$m_c = correction\ for\ NH_4{}^+\ and\ H_2O$ $where\ K = 0.0205, when\ correcting\ for\ NH_4{}^+\ and\ H_2O$ $= 0.1840, when\ only\ correcting\ for\ NH_4{}^+$	
$m_i = m_r \frac{V_{ic}}{V_{ic} - V_b} - m_c$	$m_i = Mass\ of\ inorganic\ CPM\ matter,_{mg}$ $m_r = Mass\ of\ dried\ sample\ from\ inorganic\ fraction,_{mg}$ $V_{ic} = Volume\ of\ impinger\ contects\ sample,_{mL}$ $V_b = Volume\ of\ aliquot\ taken\ for\ IC\ analysis,_{mL}$ $m_c = Mass\ of\ the\ NH_4{}^+\ added\ to\ sample\ to\ form\ ammonium\ sulphate,_{mg}$	
$C_{cpm} = \frac{m_o + m_i - m_b}{V_{m,std}}$	$C_{cpm} = concentration\ of\ CPM$ $m_o = Mass\ of\ organic\ CPM,_{mg}$ $m_b = Sum\ of\ the\ mass\ of\ the\ water\ and\ MeCl_2\ blanks,_{mg}$	
$C_{so4} = \frac{48.03\, V_t\, N}{100}$	$C_{so4} = Concentration\ of\ SO_4{}^{-2}\ in\ the\ sample,_{mg/mL}$ $N = Normality\ of\ the\ NH_4OH,_{mg/mL}$ $V_t = Volume\ of\ NH_4OH\ titrant,_{mL}$ $48.03 = mg/meq.$ $100 = Volume\ of\ solution,_{mL}$	
$C_{cpm} = \frac{m_o + mi + m_f - m_b}{V_{m,std}}$	$m_f = Amount\ of\ CPM\ collected\ on\ out-of-stack\ filter,_{mg}$	
$V_{sc} = (V_f - V_a)\frac{T_{std}}{P_{std}}\left[\frac{P_f}{T_f} - \frac{P_i}{T_i}\right]$	$V_{sc} = Sample\ volume\ at\ standard\ conditions_{(dry\ basis),mL}$ $V_f = Volume\ of\ flask\ and\ valve,_{mL}$ $V_a = Volume\ of\ absorbing\ solution,_{mL}$	
$C_{NOx,dry} = K_2\,(m/V_{sc})$ $C_{NOx,wet} = (1 - B_{ws})\, CNOX_{,dry}$	$C_{NOx,dry} = Sample\ Concentration,_{Dry\ Basis}$ $C_{NOx,wet} = Sample\ Concentration,_{wet\ Basis}$ $K_2 = 1000\ (mg/m3)/(\mu g/mL)\ for\ metric\ units$	
$C_{NOx,dry} = (H\, S\, F)(10^{-4})/V_{sc}$	$H = Sample\ peak\ height,_{mm}$ $S = Calibration\ factor, \mu_{g/mm}$ $F = Dilution\ Factor$	

CALCULATIONS

**Calculations are being referenced from the US EPA Code of Federal Regulations.*

$V_{m(std)} = V_m\, X\, Y\, (T_{std}/T_m)\,(P_{bar}/P_{std})$	$V_{m(std)} = Dry\ gas\ volume, standard\ conditions,_{dsm3}$ $V_m = Dry\ gas\ volume\ as\ measred\ by\ the\ dry\ gas\ meter,_{dm3}$ $X = Correction\ factor\ for\ CO2\ collection$ $Y = Dry\ gas\ meter\ calibration\ factor$ $P_{bar} = Barometric\ pressure,_{mm\ Hg}$ $P_{std} = Standard\ absolute\ pressure, 760_{mm\ Hg}$ $T_m = Average\ dry\ gas\ meter\ absolute\ temperature,_K$ $T_{std} = Standard\ absolute\ temperature,_K$
$C_{NOx,dry} = K\,(m/V_{m(std)})$	$C_{NOx,wet} = (1 - B_{ws})CNO_{x,dry}$
$C^{dry}{}_{H2SO4} = K_1\left[N\,(V_t - V_{tb})\left(\frac{V_{soln}}{V_a}\right)\right]/V_{m(std)}$	$ER^{dry}{}_{H2SO4(std)} = (Q_{sd})\,(C^{dry}{}_{H2SO4})$
$C^{wet}{}_{H2SO4} = K_1\left[N\,(V_t - V_{tb})\left(\frac{V_{soln}}{V_a}\right)\right]/[V_{m(std)} + V_{w(std)}]$ $K_1 = 0.04904\ g/\ milliequivalent\ for\ metric\ units$	$C^{dry}{}_{SO2} = K_2\left[N(V_t - V_{tb})\left(\frac{V_{soln}}{V_a}\right)/V_{m(std)}\right]$ $K_2 = 0.03203\ g/meq\ for\ metric\ units$
$ER_{wet\ H2SO4(std)} = (Q_{sw})(C_{wet\ H2SO4})$	$ER_{dry\ SO2(std)} = (Qs_d)\,(C_{dry\ SO2})$
$C^{wet}{}_{SO2} = K_2\left[N(V_t - V_{tb})\left(\frac{V_{soln}}{V_a}\right)\right]/[V_{m(std)} + V_{w(std)}]$	$ER^{wet}{}_{SO2(std)} = (Q_{sw})\,(C_{wet\ SO2})$
$C_{co(stack)} = C_{co(NDIR)}\ (1 - F_{CO2})$	$C_{co(stack)} = Concentration\ of\ CO\ in\ stack,_{ppmv\ dry\ basis}$ $C_{co(NDIR)} = Concentration\ of\ CO\ measured\ by\ NDIR\ analyzer,_{ppmv\ dry\ basis}$ $F_{co2} = Volume\ fraction\ of\ CO_2\ in\ sample$
$Q1 = Q2\sqrt{\frac{P2T1}{P1T2}}$	$Q1 = Flow\ rate\ at\ calibration\ absolute\ temperature\ (T1)\ and\ absolute\ pressure\ (P1)$ $Q2 = Flow\ rate\ at\ new\ absolute\ temperature\ (T2)\ and\ new\ absolute\ and\ pressure\ (P2)$
$C_a = 106\,\frac{\overline{X_a}\,q_a}{q_a + q_d}$	$C_a = Concentration\ of\ component\ "a"\ in\ ppm$ $\overline{X_a} = Mole\ fraction\ of\ component\ "a"\ in\ the\ calibration\ gas\ to\ be\ diluted$ $q_a = Flow\ rate\ of\ the\ calibration\ gas\ containing\ mg\ component\ "a"\ at\ measured\ T\ and\ P$ $q_d = Diluent\ gas\ flow\ at\ measured\ temperature\ and\ pressure$
$C_{std\ sol} = \frac{760}{273}\frac{L_v L_d}{M_f - M_i}\frac{(273 + T_m)}{(P_{bar} + P_m)}1000\ \frac{mg}{g}$	$C_{std\ sol} = Standard\ solvent\ concentration,_{mg/std\ litre}$ $L_v = Liquid\ volume\ injected,_L$ $L_d = Liquid\ density\ at\ room\ temperature,_{g/mL}$ $M_f, Mi = Final\ and\ initial\ meter\ reading,_L$ $P_m = Meter\ pressure\ (gauge),_{mm\ Hg}$

CALCULATIONS

**Calculations are being referenced from the US EPA Code of Federal Regulations.*

$\Delta P = \frac{0.01\ F\ P_b\ \Theta}{V_t}$	ΔP = Allawable pressure change, $_{cm\ Hg}$ F = Sampling flow rate, $_{cc\ /min}$ P_b = Barometric pressure, $_{cm\ Hg}$ Θ = Leak Check period, $_{min}$ V_t _ Sampling train volume, $_{cc}$
$V_s = 0.3857\ V\ \left[\frac{P_t}{T_t} - \frac{P_{ti}}{T_{ti}}\right]$	V_s = Gas volume sampled, $_{dsm3}$ P_t = Gas sample tank pressure after sampling, but before pressurizing, $_{mm\ Hg\ absolute}$ P_{ti} = Gas sample tank pressure before sampling, $_{mm\ Hg\ absolute}$ T_t = sample tank temperature at completion of sampling, $_K$ T_{ti} _ Sample tank temperature before sampling, $_K$
$C_c = \frac{\left(\frac{P_{tf}}{T_{tf}}\right)\ \frac{1}{r}\sum_{j-1}^{r} C_{tmj}}{\left(\frac{P_t}{T_t} - \frac{P_{ti}}{T_{ti}}\right)}$ $C_c = 0.3857\ \left(\frac{V_v\ P_f}{V_s\ T_f}\right)\ \frac{1}{q}\sum_{k-1}^{q} C_{cmk}$	C_c = Calculated condensible organic $_{(\ condensate\ trap_{)}}$ concentration of the effluent, $_{ppm\ C\ equivalent}$ P_{tf} = Final gas sample tank pressure after pressurizing, $_{mm\ Hg\ absolute}$ T_{tf} = Sample tank temperature after pressurizing, $_K$ V_v = Intermediate collection vessel volume, $_{m3}$ P_f = Final pressure of the intermediate collection vessel, $_{mm\ Hg\ absolute}$ T_f = Final temperature of intermediate collection vessel, $_K$ q = Total number of analyzer injections during analysis
$C = C_t + C_c$	C = TGNMO concentration of the effluent, $_{ppm\ C\ equivalent}$ C_t = Calculated noncondensible organic concentration (sample tank) of the effluent, $_{ppm\ C\ equivalent}$
$\%\ recovery = 1.604\ \frac{M\ V_v\ P_f\ C_{cm}}{L_r\ T_f\ N}$	M = Molecular weight of the liquid injected, $_{g/g\ \_\ mole}$ C_{cm} = Measured concentration (NMO analyzer) for the condensate trap ICV, $_{ppm\ CO2}$ n = Number of data points
$RSD = \frac{100}{X}\sqrt{\frac{\sum(X_i - X)^2}{n-1}}$	$V_{m\ (_{std})} = K_1\ Y\ V_m\ P_{bar}\ /T_m$
$m_{HX} = K\ V_s\ (SX^- - BX^-)$	m_{HX} = Mass of HCl, HBr or HF in sample, μ_g V_s = Volume of filtered and diluted sample, $_{mL}$ SX^- = Analysis of sample, μg halide ion $(Cl-, Br-, F-)/m$ BX^- = Analysis of reagent blank, μg halide ion $(Cl-, Br-, F-)/m$
$m_{x2} = 2V_s\ (S_x - B_x)$	$C = K_m\ HX_{,X2/}\ V_{m_{(std_)}}$
$ERTRS = 1.41 * QS * CTRS * 10 - 6$	$ERTRS$ = Emission Rate of TRS compound, $(_{as\ H2S_{)}\ kg/hr}$ $CTRS$ = Concentraion of TRS compund, $_{ppm}$ QS = total flow rate of stack gas, dry, $_{m3\ /h}$

CALCULATIONS

**Calculations are being referenced from the US EPA Code of Federal Regulations.*

$TRS\ concentration\ =\ (x)H_2S + (x)CH_3SH + (x)DMS + (x)\ DMDS$	$(x)H_2S\ =\ hydrogen\ sulphide\ concentrationconcentration_{(ppm)}$ $(x)CH_3SH\ =\ methly\ mercaptan\ concentration_{(ppm)}$ $(x)DMS\ =\ dimethyl\ sulphide\ concentrationconcentration_{(ppm)}$ $(x)DMDS\ =\ dimethyl\ disulphide\ concentration_{(ppm)}$
$ERTRS = \frac{CTRS\ *QS\ *34\ *3600\ *0.450}{1000{,}000\ *386.7}$	$CTRS = (x)H_2S + (x)\ COS + 2\ (x)CS_2$
$B\ =\ S_m\ -\ C_s$	$B\ =\ Bias\ at\ the\ spike\ level$ $S_m\ =\ Mean\ of\ the\ measured\ values\ of\ the\ isotopically\ spiked\ samples$ $C_s\ =\ Calculated\ value\ of\ the\ isotopically\ labelled\ spike$
$SD = \sqrt{\frac{\sum(S_i - S_m)^2}{(n-1)}}$	$SD = standard\ deviation$ $S_m = mean\ of\ the\ measured\ values\ of\ the\ isotopically\ spiked\ samples$ $S_i = measured\ value\ of\ the\ isotopically\ labelled\ analyte\ in\ the\ ith\ field\ sample$ $n = number\ if\ isotopically\ spiked\ samples$
$RSD = \left(\frac{SD}{S_m}\right) x\ 100$	$RSD = relative\ standard\ deviation$ $SD = standard\ deviation$ $S_m = mean\ of\ the\ measured\ values\ of\ the\ isotopically\ spiked\ samples$
$CF = 1 + \frac{d_m}{V_m}$	$CF = correction\ factor$ $V_m = mean\ of\ the\ validated\ method's\ values$ $d_m = mean\ of\ the\ paired\ sample\ differences$
$d_i = \frac{(V_{1i} + V_{2i})}{2} - \frac{(P_{1i} + P_{2i})}{2}$	$V_{1i} = first\ measurmed\ value\ of\ the\ validated\ method\ in\ ith\ test\ sample$ $P_{1i} = first\ measured\ value\ of\ the\ proposed\ method\ in\ the\ ith\ test\ sample$
$P_b = P_a + \rho' g \Delta P$	$v_a = \sqrt{\frac{2\rho' g \Delta P}{\rho}}$ $\Delta P = pressure\ differential$ $\rho = density\ of\ the\ fluid\ in\ the\ manometer$ $g = 32.174\ ft/s$
$C_{p(_s)} = C_{p_{(std)}} \sqrt{\frac{\Delta P_{std}}{\Delta P_s}}$	$C_{p(_{std})} = gas\ velocity\ using\ a\ standard\ pitot\ tube$ $C_{p(_s)} = velocity\ measured\ with\ an\ S - type\ Pitot\ tube\ if\ the\ value\ of\ Cp_{(_s)} is\ known$
$Q_n = Qm\ \frac{P_m\ T_s}{P_s\ T_m}\left(\frac{(1 - B_{wm})}{(1 - B_{ws})}\right)$	$Q_n = volumetric\ flow\ rate\ at\ the\ nozzle\ tip$ $Q_m = volumetric\ flow\ rate\ at\ the\ meter\ tip$ $P_m = absolute\ pressure\ at\ meter, {}_{mm\ Hg\ (in.\ Hg)}$

CALCULATIONS

**Calculations are being referenced from the US EPA Code of Federal Regulations.*

$$Q_m = K_m \sqrt{\frac{T_m \Delta H}{P_m M_m}}$$

$$D_n = \sqrt{\frac{(0.035 Q_m P_m)(1 - B_{wm})\sqrt{T_s M_s}}{(T_m C_p)(1 - B_{ws})\, P_s \Delta p}}$$

$T_s = absolute\ stack\ temperature,_{K}$
$P_s = absolute\ stack\ pressure,_{mm\ Hg\ (in.\ Hg)}$
$T_m = absolute\ pressure\ at\ meter,_{K}$
$B_{wm} = approximate\ proportion\ by\ volume\ of\ water\ vapour\ in\ the\ gas\ stream\ leaving\ the\ 2nd\ impinger$
$B_{ws} = water\ vapour\ in\ the\ gas\ stream$
$\Delta H = average\ pressure\ differential\ across\ the\ orifice\ meter_{,\ mm\ H2O\ (in,\ H2O)}$
$D_n = nozzle\ diameter$
$C_p = pitot\ tube\ coefficient$
$\Delta p = differential\ pressure$

$$\%\ isokinetic = \frac{stack\ gas\ velocity}{gas\ velocity\ \ in\ the\ nozzle}\ x\ 100$$

$$Velocity\ at\ the\ sampling\ nozzle = \frac{volumetric\ flow\ rate\ of\ the\ gas}{cross\ sectional\ area\ of\ the\ nozzle}$$

$$v_s = K_p\, C_p \sqrt{\frac{T_s \Delta p}{P_s M_s}}$$

$v_s = average\ stack\ gas\ velocity,_{m/_s\ (ft/_s)}$
$K_p = pitot\ tube\ constant = 34.9219411$
$C_p = pitot\ tube\ coefficient$
$M_s = molecular\ weight\ of\ stack\ gas,_{wet\ basis}$

$$V_{sw} = \frac{T_s\, mH_{20}}{P_s\, mH_{20}}$$

$V_{sw} = volume\ of\ water\ converted\ to\ gas\ at\ stack\ conditions$
$m_{H2O} = mass\ of\ water\ collected\ in\ the\ impingers$

$$\%\ isokinetic = 100\ \frac{T_s\left(V_{IC}K + \frac{V_m}{T_m}\left(P_b + \frac{\Delta H}{13.6}\right)\right)}{60\theta A_n V_s P_s}$$

$V_{IC} = liquid\ water\ condened\ in\ impingers$
$P_b = barometric\ pressure,_{mmHg\ (in.\ Hg)}$
$\Delta H = average\ pressure\ differential\ across\ the\ orifice\ meter_{,\ mm\ H2O\ (in,\ H2O)}$
$A_n = \ cross\ sectional\ area\ of\ the\ nozzle$

$$P = \frac{50\left(D\ - 2R\sqrt{\frac{2j-1}{2N}}\right)}{D}$$

$P = \%\ of\ diameter\ from\ inside\ duct\ wall\ to\ radius$
$N = total\ number\ of\ equal\ areas$
$j = specific\ are\ for\ which\ the\ location\ of\ points\ is\ calculated$

$$E_D = 4RH = 2\left(\frac{LW}{L+W}\right)$$

$E_D = equivalent\ diameter$
$R_H = hydraulic\ radius$

APPENDIX VIII
SAMPLE CUSTODY

C256728

6740 Campobello Road, Mississauga, Ontario L5N 2L8

Phone: 905-817-5700 Fax: 905-817-5779 Toll Free: 800-563-6266

Chain of Custody Record / Analytical Request

Invoice To: Require Report: Y: x N:

Company Name:	Bureau Veritas Canada - Emission Services
Contact Name:	Bill Wong
Address:	#1 - 2080 - 39th Avenue NE
	Calgary PC: T2E 6P7
Phone / Fax#:	Ph: 403-219-3663 Fax: 403-219-3673

Copy of Report To:

Same

PC:

Ph: Fax:

PO#:	
Project # :	2779 KW 10-March-23
Quotation #:	
Proj. Name:	Agnico Eagle Mines Limited - ~~Baker Lake~~ Rankin Inlet, Nunavut
Location:	Incinerator Stack - Meliadine Site
Sampler's Initials:	

REGULATORY REQUIREMENTS: (check)

- [ ] Alberta Tier 1 Metals
- [ ] CCME
- [ ] PST
- [ ] Canadian Drinking Water
- [ ] G50
- [ ] Regulatory Limits to appear on Final report
- [ ] Other: ______

SERVICE REQUESTED:

- [ ] RUSH (Please ensure you contact the lab)
- [x] REGULAR Turnaround

REPORT DISTRIBUTION:

- [ ] Mail (automatic)
- [ ] PDF
- [x] Email: bill.wong@bureauveritas.com

ANALYSIS REQUESTED

EPA Method 29 — 2022-09-27

** NOTE: Please keep samples for 60 Days after analysis is completed unless otherwise noted.

Sample Identification	Tracking ID	Test	Sample Date	Bottle Types	EPA Method 29
Container #1 - Filter	21525	Test 1	2022-08-31		x
Container #1 - Filter	21526	Test 2	2022-09-01		x
Container #1 - Filter	21527	Test 3	2022-09-02		x
Container #12 - Filter	21528	Blank	2022-09-02		x
Container #3 - 0.1 N HNO3 - Probe Wash	21529	Test 1	2022-08-31		x
Container #3 - 0.1 N HNO3 - Probe Wash	21530	Test 2	2022-09-01		x
Container #3 - 0.1 N HNO3 - Probe Wash	21531	Test 3	2022-09-02		x
Container #8A - 0.1 N HNO3	21532	Blank	2022-09-02		x
Container #4 - H202/HNO3 - Impinger 1-3	21533	Test 1	2022-08-31		x
Container #4 - H202/HNO3 - Impinger 1-3	21534	Test 2	2022-09-01		x

Relinquished By: Jackson Le

Signature: [signature]

Date/Time: 2022-09-27

Received By: SATTAR BATOOL

Signature: [signature]

Date/Time: 2022/10/03 09:12

COMMENTS: Fronthalf and Backhalf metals separate. See attached Metal Target List.

Revision #2,
March 17, 1999

Chain of Custody #: 220927-02

Form #EAD-037
G:\users\forms\General\Chain of Custody-Analytical Request R2

6740 Campobello Road, Mississauga, Ontario L5N 2L8
Phone: 905-817-5700 Fax: 905-817-5779 Toll Free: 800-563-6266

Chain of Custody Record / Analytical Request

Invoice To: Require Report: Y: x N:

Company Name:	Bureau Veritas Canada - Emission Services
Contact Name:	Bill Wong
Address:	#1 - 2080 - 39th Avenue NE
	Calgary PC: T2E 6P7
Phone / Fax#:	Ph: 403-219-3663 Fax: 403-219-3673

Copy of Report To:
Same

PC:
Ph: Fax:

PO#:	
Project # :	2779 KW 10-March-23
Quotation #:	Rankin Inlet
Proj. Name:	Agnico Eagle Mines Limited - ~~Baker Lake~~, Nunavut
Location:	Incinerator Stack - Meliadine Site
Sampler's Initials:	

REGULATORY REQUIREMENTS: (check)
- [ ] Alberta Tier 1 Metals
- [ ] CCME
- [ ] PST
- [ ] Canadian Drinking Water
- [ ] G50
- [ ] Regulatory Limits to appear on Final report
- [ ] Other:

SERVICE REQUESTED:
- [ ] RUSH (Please ensure you contact the lab)
- [x] REGULAR Turnaround

REPORT DISTRIBUTION:
- [ ] Mail (automatic)
- [ ] PDF
- [x] Email: bill.wong@bureauveritas.com

**** NOTE: Please keep samples for 60 Days after analysis is completed unless otherwise noted.**

ANALYSIS REQUESTED

Sample Identification	Tracking ID	Test	Sample Date	Bottle Types	EPA Method 29
Container #4 - H202/HNO3 - Impinger 1-3	21535	Test 3	2022-09-02		x
Container #9 - H202/HNO3	21536	Blank	2022-09-02		x
Container #5A - 0.1 N HNO3 - Impinger 4	21537	Test 1	2022-08-31		x
Container #5A - 0.1 N HNO3 - Impinger 4	21538	Test 2	2022-09-01		x
Container #5A - 0.1 N HNO3 - Impinger 4	21539	Test 3	2022-09-02		x
Container #8B - H2O	21540	Blank	2022-09-02		x
Container #5B - H2SO4/KMnO4 - Imp. 5/6	21541	Test 1	2022-08-31		x
Container #5B - H2SO4/KMnO4 - Imp. 5/6	21542	Test 2	2022-09-01		x
Container #5B - H2SO4/KMnO4 - Imp. 5/6	21543	Test 3	2022-09-02		x
Container #10 - H2SO4/KMnO4	21544	Blank	2022-09-02		x

2022-09-27

Relinquished By: Jackson Le
Signature:
Date/Time: 2022-09-27

Received By: See page 2.
Signature:
Date/Time:

COMMENTS: Fronthalf and Backhalf metals separate. See attached Metal Target List.

Revision #2,
March 17, 1999

Chain of Custody #: 220927-02 Form #EAD-037
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6740 Campobello Road, Mississauga, Ontario L5N 2L8
Phone: 905-817-5700 Fax: 905-817-5779 Toll Free: 800-563-6266

Chain of Custody Record / Analytical Request

Invoice To: Require Report: Y: x N:

Company Name:	Bureau Veritas Canada - Emission Services
Contact Name:	Bill Wong
Address:	#1 - 2080 - 39th Avenue NE
	Calgary PC: T2E 6P7
Phone / Fax#:	Ph: 403-219-3663 Fax: 403-219-3673

Copy of Report To:
Same

PC:
Ph: Fax:

PO#:	
Project # :	2779 KW 10-March-23
Quotation #:	Rankin Inlet
Proj. Name:	Agnico Eagle Mines Limited - ~~Baker Lake~~, Nunavut
Location:	Incinerator Stack - Meliadine Site
Sampler's Initials:	

REGULATORY REQUIREMENTS: (check)
- [ ] Alberta Tier 1 Metals
- [ ] CCME
- [ ] PST
- [ ] Canadian Drinking Water
- [ ] G50
- [ ] Regulatory Limits to appear on Final report
- [ ] Other: _____

SERVICE REQUESTED:
- [ ] RUSH (Please ensure you contact the lab)
- [x] REGULAR Turnaround

REPORT DISTRIBUTION:
- [ ] Mail (automatic)
- [ ] PDF
- [x] Email: bill.wong@bureauveritas.com

**** NOTE: Please keep samples for 60 Days after analysis is completed unless otherwise noted.**

Sample Identification	Tracking ID	Test	Sample Date	Bottle Types	ANALYSIS REQUESTED: EPA Method 29
Container #5C - HCl/H2O - Impinger 5/6	21545	Test 1	2022-08-31		x
Container #5C - HCl/H2O - Impinger 5/6	21546	Test 2	2022-09-01		x
Container #5C - HCl/H2O - Impinger 5/6	21547	Test 3	2022-09-02		x
Container #11 - 8N HCl/H20	21548	Blank	2022-09-02		x
Fronthalf Spike	21549	Spike	2022-09-27		x
Backhalf Spike	21550	Spike	2022-09-27		x
Mercury Spike	21551	Spike	2022-09-27		x

2022-09-27

Relinquished By: Jackson Le
Signature:
Date/Time: 2022-09-27

Received By: See Page 1
Signature:
Date/Time:

COMMENTS: Fronthalf and Backhalf metals separate. See attached Metal Target List.

Revision #2,
March 17, 1999

Chain of Custody #: 220927-02 Form #EAD-037
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Calgary: 2021-41st Ave. NE, T2E 6P2. Ph: (403) 291-3077, Fax: (403) 291-9468, Toll free: (800) 386-7247
Edmonton: 9331 - 48th Street, T6B 2R4. Ph: (780) 468-3500, Fax: (780) 466-3332, Toll free: (800) 386-7247

CHAIN OF CUSTODY/ANALYTICAL REQUEST FORM

C255276

BUREAU VERITAS

Invoice To: Require Report: Y: x N:

Company Name:	Bureau Veritas Canada - Emission Services
Contact Name:	Bill Wong
Address:	#1 2080 39th Avenue NE
	Calgary PC: T2E 6P8
Phone / Fax#:	Ph: 403-219-3663 Fax: 403-219-3673

Copy of Report To:

Same

PC:

Ph: Fax:

PO#:	
Project # :	2779 KW 10-March-23
Quotation #:	Rankin Inlet
Proj. Name:	Agnico Eagle Mines Limited - ~~Baker Lake~~, Nunavut
Location:	Incinerator Stack - Meliadine Site
Sampler's Initials:	

REGULATORY REQUIREMENTS: (check)

- [ ] Alberta Tier 1 Metals
- [ ] CCME
- [ ] PST
- [ ] Canadian Drinking Water
- [ ] G50
- [ ] Regulatory Limits to appear on Final report
- [ ] Other: _____

SERVICE REQUESTED:

- [ ] RUSH (Please ensure you contact the lab)
- [x] REGULAR Turnaround

REPORT DISTRIBUTION:

- [ ] Mail (automatic)
- [ ] Fax
- [x] Email: bill.wong@bureauveritas.com

**** NOTE: SAMPLES WILL BE DISCARDED 60 DAYS AFTER ANALYSIS IS COMPLETED UNLESS OTHERWISE NOTED.**

**** FOR SAFETY REASONS, PLEASE INDICATE IF SAMPLES ARE SUSPECTED TO BE HAZARDOUS!**

Bureau Veritas JOB#:

ANALYSIS REQUESTED (Indicate Preferred Method)

Sample Identification	Tracking ID	Test	Sample Date	Bottle Types	Dioxins/Furans
XAD Cartridge	21500	Test 1	2022-09-06		x
Glass Fibre Filter	21501	Test 1	2022-09-06		x
Front Half Recovery	21502	Test 1	2022-09-06		x
Back Half - Filter Bell to Condenser	21503	Test 1	2022-09-06		x
Back Half - Glycol / Condensate / Water	21504	Test 1	2022-09-06		x
Back Half - Final Rinse	21505	Test 1	2022-09-06		x
XAD Cartridge	21506	Test 2	2022-09-08		x
Glass Fibre Filter	21507	Test 2	2022-09-08		x
Front Half Recovery	21508	Test 2	2022-09-08		x
Back Half - Filter Bell to Condenser	21509	Test 2	2022-09-08		x

2022-09-27

Relinquished By: Jackson Le

Signature:

Date/Time: 2022-09-27

Received By: HK HARPREET

Signature:

Date/Time: 2022-09-29 10:36 19 | 19 | 19

COMMENTS/SPECIAL BILLING INSTRUCTIONS:

(If not a PO#, please specify ie. VISA, EDI #, etc..)

Solvent fractions will be sent through purolator from Bureau Veritas Shipping/Receiving. FH / BH fractions combined for analysis.

Solvent fraction → 2022-~~09~~-03 10:00 HK HARPREET

Revision #2,
March 17, 1999

Chain of Custody 220927-01 Form #EAD-037
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Calgary: 2021-41st Ave. NE, T2E 6P2. Ph: (403) 291-3077, Fax: (403) 291-9468, Toll free: (800) 386-7247
Edmonton: 9331 - 48th Street, T6B 2R4. Ph: (780) 468-3500, Fax: (780) 466-3332, Toll free: (800) 386-7247

CHAIN OF CUSTODY/ANALYTICAL REQUEST FORM

Invoice To: Require Report: Y: x N:

Company Name:	Bureau Veritas Canada - Emission Services
Contact Name:	Bill Wong
Address:	#1 2080 39th Avenue NE
	Calgary PC: T2E 6P8
Phone / Fax#:	Ph: 403-219-3663 Fax: 403-219-3673

Copy of Report To:

Same

Ph: Fax: PC:

PO#:	
Project # :	2779 KW 10-March-23
Quotation #:	Rankin Inlet
Proj. Name:	Agnico Eagle Mines Limited - ~~Baker Lake~~, Nunavut
Location:	Incinerator Stack - Meliadine Site
Sampler's Initials:	

REGULATORY REQUIREMENTS: (check)

- [ ] Alberta Tier 1 Metals
- [ ] CCME
- [ ] PST
- [ ] Canadian Drinking Water
- [ ] G50
- [ ] Regulatory Limits to appear on Final report
- [ ] Other: _____

SERVICE REQUESTED:

- [ ] RUSH (Please ensure you contact the lab)
- [x] REGULAR Turnaround

REPORT DISTRIBUTION:

- [ ] Mail (automatic)
- [ ] Fax
- [x] Email: bill.wong@bureauveritas.com

**** NOTE: SAMPLES WILL BE DISCARDED 60 DAYS AFTER ANALYSIS IS COMPLETED UNLESS OTHERWISE NOTED.**
**** FOR SAFETY REASONS, PLEASE INDICATE IF SAMPLES ARE SUSPECTED TO BE HAZARDOUS!**

Bureau Veritas JOB#:

ANALYSIS REQUESTED (Indicate Preferred Method)

Sample Identification	Tracking ID	Test	Sampling Date	Bottle Types	Dioxins/Furans
Back Half - Glycol / Condensate / Water	21510	Test 2	2022-09-08		x
Back Half - Final Rinse	21511	Test 2	2022-09-08		x
XAD Cartridge	21512	Test 3	2022-09-08		x
Glass Fibre Filter	21513	Test 3	2022-09-08		x
Front Half Recovery	21514	Test 3	2022-09-08		x
Back Half - Filter Bell to Condenser	21515	Test 3	2022-09-08		x
Back Half - Glycol / Condensate / Water	21516	Test 3	2022-09-08		x
Back Half - Final Rinse	21517	Test 3	2022-09-08		x
XAD Cartridge	21518	Blank	2022-09-08		x
Glass Fibre Filter	21519	Blank	2022-09-08		x

2022-09-27

Relinquished By: Jackson Le
Signature:
Date/Time: 2022-09-27

Received By: HK HARPREET
Signature:
Date/Time: 2022-09-29 10:36 18|18|18

COMMENTS/SPECIAL BILLING INSTRUCTIONS:
(If not a PO#, please specify ie. VISA, EDI #, etc..)

Solvent fractions will be sent through purolator from Bureau Veritas Shipping/Receiving. FH / BH fractions combined for analysis.

Solvent fraction → HK HARPREET 2022-10-03 10:00

Calgary: 2021-41st Ave. NE, T2E 6P2. Ph: (403) 291-3077, Fax: (403) 291-9468, Toll free: (800) 386-7247
Edmonton: 9331 - 48th Street, T6B 2R4. Ph: (780) 468-3500, Fax: (780) 466-3332, Toll free: (800) 386-7247

CHAIN OF CUSTODY/ANALYTICAL REQUEST FORM

BUREAU VERITAS

Invoice To: Require Report: Y: x N:

Company Name:	Bureau Veritas Canada - Emission Services
Contact Name:	Bill Wong
Address:	#1 2080 39th Avenue NE
	Calgary PC: T2E 6P8
Phone / Fax#:	Ph: 403-219-3663 Fax: 403-219-3673

Copy of Report To:

Same	
	PC:
Ph:	Fax:

PO#:	
Project # :	2779 KW 10-March-23
Quotation #:	Rankin Inlet
Proj. Name:	Agnico Eagle Mines Limited ~~- Baker Lake~~, Nunavut
Location:	Incinerator Stack - Meliadine Site
Sampler's Initials:	

REGULATORY REQUIREMENTS: (check)

- [ ] Alberta Tier 1 Metals
- [ ] CCME
- [ ] PST
- [ ] Canadian Drinking Water
- [ ] G50
- [ ] Regulatory Limits to appear on Final report
- [ ] Other: _____

SERVICE REQUESTED:

- [ ] RUSH (Please ensure you contact the lab)
- [x] REGULAR Turnaround

REPORT DISTRIBUTION:

- [ ] Mail (automatic)
- [ ] Fax
- [x] Email: bill.wong@bureauveritas.com

**** NOTE: SAMPLES WILL BE DISCARDED 60 DAYS AFTER ANALYSIS IS COMPLETED UNLESS OTHERWISE NOTED.**
**** FOR SAFETY REASONS, PLEASE INDICATE IF SAMPLES ARE SUSPECTED TO BE HAZARDOUS!**

Bureau Veritas JOB#:

ANALYSIS REQUESTED (Indicate Preferred Method)

Sample Identification	Tracking ID	Test	Sample Date	Bottle Types	Dioxins/Furans
Front Half Recovery	21520	Blank	2022-09-08		x
Back Half - Filter Bell to Condenser	21521	Blank	2022-09-08		x
Back Half - Glycol / Condensate / Water	21522	Blank	2022-09-08		x
Back Half - Final Rinse	21523	Blank	2022-09-08		x

2022-09-27

Relinquished By: Jackson Le
Signature:
Date/Time: 2022-09-27

Received By: HK HARPREET
Signature:
Date/Time: 2022-09-29 10:36 18|18|18

COMMENTS/SPECIAL BILLING INSTRUCTIONS:
(If not a PO#, please specify ie. VISA, EDI #, etc..)

Solvent fractions will be sent through purolator from Bureau Veritas Shipping/Receiving. FH / BH fractions combined for analysis.

Solvent → HARPREET HE
fraction 2022-09-03
10:00

Revision #2,
March 17, 1999

Chain of Custody 220927-01 Form #EAD-037
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Chain of Custody / Analytical Request

Calgary: 2021 - 41st Avenue NE, T2E 6T7. Ph: (403) 219-3690, Fax: (403) 219-3673, Toll free: (800) 386-7247

Edmonton: 9372 - 49th Street, T6B 2L7, Ph: (780) 408-5302, Fax: (780) 408-5313, Toll free: (800) 386-7247

Project #:	2779
Client Name:	Agnico Eagle Mines Limited KW 10 March 23
Site Name:	Meliadine Site - ~~Baker Lake~~ Rankin Inlet, Nunavut
Stack Name:	Incinerator Stack
Sampler's Name:	

Project Manager:	Patrick Vien
Phone:	
e-mail:	

Ship Samples To:
Bureau Veritas
#1 2080 39th Avenue NE
Calgary, Ab PC: T2E 6P7
Air Services Lab, Attention: Bill Wong
Ph: 403-219-3663 Fax: 403-219-3673

Report Writer:	Kim Wilson
e-mail:	kimberley.wilson@bureauveritas.com

Relinquished by:	Patrick Vien
Signature:	
Date:	2022/09/26

Chemicals Returned by:	
Turnaround Request (Circle one)	Regular
Ensure you contact the lab prior to submitting the samples	Rush

Received by:	Jackson Le
Signature:	
Date:	2022/09/26

Comments:

Analytical Request (Indicate Preferred Method)

Sample Identification		Test #	Label #	Date Sampled	Sample Vol.	Lab ID #	EPA Method 7A - Flask - Nox	EPA Method 6 - Constant - SO2	EPA Method 29 - Particulate Matter (FH)				
M7A	NOx BOMB	1A	79	2022-08-31	50	21452	x						
M7A	NOx BOMB	1B	70	2022-08-31	50	21453	x						
M7A	NOx BOMB	2A	85	2022-09-01	50	21454	x						
M7A	NOx BOMB	2B	110	2022-09-01	50	21455	x						
M7A	NOx BOMB	3A	101	2022-09-02	50	21456	x						
M7A	NOx BOMB	3B	100	2022-09-02	50	21457	x						
M7A	NOx BOMB	Blank		2022-09-02	50	21458	x						
M8	SO2 SAMPLE	3	54846	2022-09-06	276	21459		x					
M8	SO2 SAMPLE	4	54845	2022-09-06	274	21460		x					
M8	SO2 SAMPLE	5	54848	2022-09-08	272	21461		x					
M8	SO2 SAMPLE	Blank		2022-09-08	100	21462		x					
M29	FRONT HALF	1	T1-FH	2022-08-31		21463			x				
M29	FRONT HALF	2	T2-FH	2022-09-01		21464			x				
M29	FRONT HALF	3	T3-FH	2022-09-02		21465			x				

Chain of Custody / Analytical Request

Calgary: 2021 - 41st Avenue NE, T2E 6T7. Ph: (403) 219-3690, Fax: (403) 219-3673, Toll free: (800) 386-7247

Edmonton: 9372 - 49th Street, T6B 2L7, Ph: (780) 408-5302, Fax: (780) 408-5313, Toll free: (800) 386-7247

Project #:	2779
Client Name:	Agnico Eagle Mines Limited KW 10-March-23
Site Name:	Meliadine Site - ~~Baker Lake, Nu~~Rankin Inlet nunavut
Stack Name:	Incinerator Stack
Sampler's Name:	

Project Manager:	Patrick Vien
Phone:	0
e-mail:	0

Report Writer:	Kim Wilson
e-mail:	kimberley.wilson@bureauveritas.com

Ship Samples To:
Bureau Veritas
#1 2080 39th Avenue NE
Calgary, Ab PC: T2E 6P7
Air Services Lab, Attention: Bill Wong
Ph: 403-219-3663 Fax: 403-219-3673

Relinquished by:	Patrick Vien
Signature:	
Date:	2022/09/26

Received by:	Jackson Le
Signature:	
Date:	2022/09/26

Chemicals Returned by:	
Turnaround Request (Circle one)	Regular
Ensure you contact the lab prior to submitting the samples	Rush

Comments:

Sample Identification		Test #	Label #	Date Sampled	Sample Vol.	Lab ID #	Analytical Request (Indicate Preferred Method)						
							EPA Method 26	EPA Method 10 - Integrated 1 hr - CO	EPA Method 3 - Integrated 1 hr				
M26	H2SO4 0.1N	1	54844	2022-08-31	163	21466	x						
M26	H2SO4 0.1N	2	54865	2022-09-01	169	21467	x						
M26	H2SO4 0.1N	3	54869	2022-09-02	167	21468	x						
M26	H2SO4 0.1N	Blank		2022-09-02	100	21469	x						
M26	NaOH 0.1N	1	54849	2022-08-31	150	21470	x						
M26	NaOH 0.1N	2	54866	2022-09-01	150	21471	x						
M26	NaOH 0.1N	3	54840	2022-09-02	150	21472	x						
M26	NaOH 0.1N	Blank		2022-09-02	100	21473	x						
M10	CARBON MONOXIDE - GC BOMB	1	14:35-15:35	2022-08-31		21474		x	x				
M10	CARBON MONOXIDE - GC BOMB	2	13:20-14:20	2022-09-01		21475		x	x				
M10	CARBON MONOXIDE - GC BOMB	3	14:15-15:15	2022-09-02		21476		x	x				
M10	CARBON MONOXIDE - 10 L Tedlar	1	14:35-15:35	2022-08-31		21477		x	x				
M10	CARBON MONOXIDE - 10 L Tedlar	2	13:20-14:20	2022-09-01		21478		x	x				
M10	CARBON MONOXIDE - 10 L Tedlar	3	14:15-15:15	2022-09-02		21479		x	x				

Chain of Custody / Analytical Request

Calgary: 2021 - 41st Avenue NE, T2E 6T7. Ph: (403) 219-3690, Fax: (403) 219-3673, Toll free: (800) 386-7247

Edmonton: 9372 - 49th Street, T6B 2L7, Ph: (780) 408-5302, Fax: (780) 408-5313, Toll free: (800) 386-7247

Project #:	2779
Client Name:	Agnico Eagle Mines Limited KW 10-March-23
Site Name:	Meliadine Site - ~~Baker Lake~~ Rankin Inlet, Nunavut
Stack Name:	Incinerator Stack
Sampler's Name:	

Project Manager:	Patrick Vien
Phone:	0
e-mail:	0

Report Writer:	Kim Wilson
e-mail:	kimberley.wilson@bureauveritas.com

Ship Samples To:
Bureau Veritas
#1 2080 39th Avenue NE
Calgary, Ab PC: T2E 6P7
Air Services Lab, Attention: Bill Wong
Ph: 403-219-3663 Fax: 403-219-3673

Relinquished by:	Patrick Vien
Signature:	
Date:	2022/09/26

Received by:	Jackson Le
Signature:	
Date:	2022/09/26

Chemicals Returned by:	
Turnaround Request (Circle one)	Regular
Ensure you contact the lab prior to submitting the samples	Rush

Comments:

Analytical Request (Indicate Preferred Method)

Sample Identification		Test #	Label #	Date Sampled	Sample Vol.	Lab ID #	EPA Method 3 - Integrated 1 hr						
M3	Fixed Gas - GC BOMB	1	10:00-11:00	2022-09-06		21480	x						
M3	Fixed Gas - GC BOMB	2	14:35-15:35	2022-09-06		21481	x						
M3	Fixed Gas - GC BOMB	3	6:30-7:30	2022-09-08		21482	x						
M3	Fixed Gas - 10 L Tedlar	1	10:00-11:00	2022-09-06		21483	x						
M3	Fixed Gas - 10 L Tedlar	2	14:35-15:35	2022-09-06		21484	x						
M3	Fixed Gas - 10 L Tedlar	3	6:30-7:30	2022-09-08		21485	x						

#1, 2080 39 Ave NE
Alberta (AB) Calgary T2E 6P7

PROJECT CHAIN OF CUSTODY

SERVICE LOCATION	CONTACT INFORMATION
Agnico Eagle Mines Limited - Meliadine site - Rankin Inlet, Nunavut Agnico Eagle Mines Limited Rankin Inlet, Nunavut	Robin Allard (819) 860-1414 robin.allard@agnicoeagle.com

SOURCE	Incinerator Stack	Project Number: 2779

JOB ENVELOPE CREATED BY:	P. Vin	**Date:** July-27-22
QA CHECK COMPLETED BY:	Mc	**Date:** 17- oct- 2022
REPORT COMPLETED BY:	Nazek AL-Hadi	**Date:** 15-Nov.-2022
REPORT REVIEWED BY:	Kim Wilson	**Date:** 23-February-2023

END OF REPORT