

Appendix 52

Meadowbank 2021 Source Emission Survey Report



SOURCE EMISSION SURVEY REPORT

Success Through Science®

AGNICO EAGLE MINES LIMITED
MEADOWBANK SITE, BAKER LAKE, NUNAVUT
INCINERATOR STACK
Project # 2193

September 18 - November 28, 2021

SES-2021-20210918 to 20211128-Incinerator Stack

Attention: MARIE-PIER MARCIL

Report Date: March 24, 2022

Prepared by:

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Kim Wilson, Env.Tech

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Reviewed by:

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Manager - 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
NIRB:	Nunavut Impact Review Board
NIST:	National Institute of Standards and Technology
N₂:	Nitrogen
NO:	Nitrogen Oxide
NO₂:	Nitrogen Dioxide
NO_x:	Oxides of Nitrogen
O₂:	Oxygen
PCDDs:	Polychlorinated Dibenzo-para-Dioxins
PCFDs:	Polychlorinated Dibenzofurans
Press:	Pressure
RDL:	Reportable Detection Limit
Ref:	Reference
RM:	Reference Method
SAIT	Southern Alberta Institute of Technology
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 24, 2022

Project #: 2193

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Subject: November 2021 - Agnico Eagle Mines Limited - Source Emission Survey Report

On September 18 to 19 and November 20 to 28, 2021, the Emission Services Group of Bureau Veritas conducted a Source Emission Survey on the Incinerator Stack at the Agnico Eagle Mines Limited, Meadowbank Site, Baker Lake, 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 SURVEY RESULTS

Parameter	Units	Sample Date	Test 1	Sample Date	Test 2	Sample Date	Test 3	Sample Date	Test 4	Sample Date	Test 5	Overall Average	Approval Limits	In Compliance:
Particulate Matter - Front Half	kg/hr	18-Sep-21	0.2499	19-Sep-21	0.3150	20-Nov-21	0.0667	28-Nov-21	0.2364	N/D	N/D	0.2170	N/A	N/A
Metals	ug/m3 dry @ 11% O2	18-Sep-21	9367.20	19-Sep-21	8994.60	20-Nov-21	4676.84	28-Nov-21	13877.05	N/D	N/D	9228.92	N/A	N/A
Class One Metals	ug/m3 dry @ 11% O2	18-Sep-21	7195.60	19-Sep-21	7432.49	20-Nov-21	4535.69	28-Nov-21	12183.95	N/D	N/D	7836.93	N/A	N/A
Class Two Metals	ug/m3 dry @ 11% O2	18-Sep-21	64.41	19-Sep-21	73.84	20-Nov-21	82.63	28-Nov-21	51.44	N/D	N/D	68.08	N/A	N/A
Class Three Metals	ug/m3 dry @ 11% O2	18-Sep-21	5.7295	19-Sep-21	6.2100	20-Nov-21	0.7986	28-Nov-21	14.0515	N/D	N/D	6.6974	N/A	N/A
Mercury	ug/m3 dry @ 11% O2	18-Sep-21	0.2770	19-Sep-21	0.1388	20-Nov-21	0.0000	28-Nov-21	4.8975	N/D	N/D	1.3283	20 ug/m3 @ 11% O2	Yes
Hydrochloric Acid Gas	kg/hr	18-Sep-21	0.242	19-Sep-21	0.257	20-Nov-21	0.045	25-Nov-21	0.041	28-Nov-21	0.098	0.137	N/A	N/A
Chlorine	kg/hr	18-Sep-21	<0.00002	19-Sep-21	<0.00002	20-Nov-21	<0.00004	25-Nov-21	<0.00001	28-Nov-21	0.01433	<0.00288	N/A	N/A
Oxides of Nitrogen	kg/hr	18-Sep-21	19.56	19-Sep-21	20.46	20-Nov-21	0.17	26-Nov-21	0.15	28-Nov-21	0.26	8.12	N/A	N/A
Carbon Monoxide	kg/hr	18-Sep-21	<0.0238	19-Sep-21	<0.0243	20-Nov-21	<0.0280	26-Nov-21	<0.0276	27-Nov-21	<0.0272	<0.0262	N/A	N/A
Sulphur Dioxide	kg/hr	18-Sep-21	0.133	19-Sep-21	0.262	25-Nov-21	0.071	26-Nov-21	0.224	27-Nov-21	0.195	0.177	N/A	N/A
Total PCDDs	ng/m3 dry @ 11% O2	N/D	N/D	25-Nov-21	1.3387	26-Nov-21	2.0534	27-Nov-21	7.7743	N/D	N/D	3.7221	N/A	N/A
Total PCDFs	ng/m3 dry @ 11% O2	N/D	N/D	25-Nov-21	2.3372	26-Nov-21	9.0508	27-Nov-21	15.0402	N/D	N/D	8.8094	N/A	N/A
Dioxins and Furans International Toxicity Equivalents	pg/m3 dry @ 11% O2	N/D	N/D	25-Nov-21	73.78	26-Nov-21	331.54	27-Nov-21	452.70	N/D	N/D	286.01	80 pg/m3 @ 11% O2	No

N/A - not applicable
N/D - valid data not available

Report Preparation By:

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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 September 18 to 19 and November 20 to 28, 2021, the Emission Services Group of Bureau Veritas conducted a Source Emission Survey on the Incinerator Stack at the Agnico Eagle Mines Limited, Meadowbank Site, Baker Lake, 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.

The test results presented in this report are from testing conducted on September 18-19, 2021 and November 20-28, 2021. During the September test program, only 2 of the 3 tests for particulate matter, metals, hydrochloric acid gas, carbon monoxide, oxygen, carbon dioxide, sulphur dioxide and oxides of nitrogen were able to be conducted due to logistical issues. Environment and Climate Change Canada (ECCC) does not regulate air quality emissions at this time, but does provide guidance to the Nunavut Impact Review Board (NIRB) when expert advice is requested. ECCC reviewed the information provided in the November 1, 2021, letter and found it acceptable for Agnico Eagle Mines Limited to run a second and final program to conduct additional tests for particulate matter, metals, hydrochloric acid gas, carbon monoxide, oxygen, carbon dioxide, sulphur dioxide and oxides of nitrogen, as well as triplicate tests for dioxins/furans in November.

The NIRB is responsible for monitoring compliance with Terms and Conditions within each Project's Project Certificate. The following terms and conditions apply to Agnico Eagle Mines Limited Meadowbank Gold Mine Project Certificate 004, Term and Condition 72:

"On-site incinerators shall comply with Canadian Council of Ministers of Environment and Canada-Wide Standards for dioxins and furan emissions, and Canada-wide Standards for mercury emissions, and Cumberland shall conduct annual stack testing to demonstrate that the on-site incinerators are operating in compliance with these standards. The results of stack testing shall be contained in an annual monitoring report submitted to GN, EC and NIRB's Monitoring Officer."

US EPA Method 29 tests #1, #2, #3, #4 and the overall average were all below the allowable mercury limit of 20 ug/m³ @ 11% O₂ with values of 0.2270 ug/m³ dry @ 11% O₂, 0.1388 ug/m³ dry @ 11% O₂, 0.0000 ug/m³ dry @ 11% O₂, 4.8975 ug/m³ dry @ 11% O₂ and 1.3283 ug/m³ dry @ 11% O₂, respectively. The mercury limit of 20 ug/m³ @ 11% O₂ has been referenced from the Government of Nunavut Environmental Guideline for the Burning and Incineration of Solid Waste and the Canadian Council of Ministers of Environment Canada-Wide Standards for mercury emissions.

Dioxins and Furans tests #3, #4 and the overall average have exceeded the international toxicity equivalents limit of 80 pg/m³ @ 11% O₂ with values of 331.54 pg/m³ dry @ 11% O₂, 452.70 pg/m³ dry @ 11% O₂ and 286.01 pg/m³ dry @ 11% O₂, respectively. Tests 2 was acceptable with a value of 73.78 pg/m³ dry @ 11% O₂. The dioxins and furans international toxicity equivalents limit of 80 pg/m³ @ 11% O₂ has been referenced from the Government of Nunavut Environmental Guideline for the Burning and Incineration of Solid Waste and the Canadian Council of Ministers of Environment Canada-Wide Standards for dioxins and furans emissions.

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. With the exception of dioxins and furans tests #3 and #4, all tests were compliant with the approval limits outlined in the Government of Nunavut Environmental Guideline for the Burning and Incineration of Solid Waste and the Canadian Council of Ministers of Environment Canada-Wide Standards for mercury, dioxins and furans emissions.

The Source Emission Survey was conducted by Anand Mathew (Project Lead), Darwin Gabel (Field Technician), and Patrick Vien (Field Technician).

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 Method 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 and by following steps outlined in Method 4 regarding moving the sample probe during testing.

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, Baker Lake, Nunavut.

We trust that this report meets your requirements. If you have any questions regarding this project, please contact us at 403-219-3689, by email at kimberley.wilson@bureauveritas.com or toll-free at 1-800-386-7247.

SUMMARY OF SOURCE SURVEY RESULTS

INCINERATOR STACK - M29

		Test #1	Test #2	Test #3	Test #4	Averages
Date		18-Sep-21	19-Sep-21	20-Nov-21	28-Nov-21	
Start Time		10:30	10:10	14:00	10:30	
End Time		14:11	14:21	15:48	11:30	
Particulate Matter - Front Half Only	- mg/m ³ wet	46.57	56.87	10.86	43.74	39.51
	- mg/m ³ dry	48.19	59.31	10.92	45.17	40.90
	- g/kg wet	0.0396	0.0484	0.0091	0.0372	0.0336
	- g/kg dry	0.0404	0.0497	0.0092	0.0380	0.0343
	- Mass Flow Rate - kg/hr	0.2499	0.3150	0.0667	0.2364	0.2170
Metals Concentration*	- mg/m ³ wet	3.6030	3.4413	1.5084	4.1262	3.1697
	- mg/m ³ dry	3.7280	3.5888	1.5164	4.2612	3.2736
	- mg/m ³ dry @ 11% O ₂	9.3672	8.9946	4.6768	13.8770	9.2289
	- ug/m ³ dry @ 11% O ₂	9367.20	8994.60	4676.84	13877.05	9228.92
	- Mass Flow Rate - g/h	19.3360	19.0628	9.2601	22.3000	17.4897
Class One*	- mg/m ³ wet	2.7677	2.8437	1.4629	3.6228	2.6743
	- mg/m ³ dry	2.8637	2.9655	1.4707	3.7413	2.7603
	- mg/m ³ dry @ 11% O ₂	7.1956	7.4325	4.5357	12.1839	7.8369
	- ug/m ³ dry @ 11% O ₂	7195.60	7432.49	4535.69	12183.95	7836.93
	- Mass Flow Rate - g/h	14.8533	15.7521	8.9806	19.5792	14.7913
Class Two*	- mg/m ³ wet	0.0248	0.0283	0.0267	0.0153	0.0237
	- mg/m ³ dry	0.0256	0.0295	0.0268	0.0158	0.0244
	- mg/m ³ dry @ 11% O ₂	0.0644	0.0738	0.0826	0.0514	0.0681
	- ug/m ³ dry @ 11% O ₂	64.41	73.84	82.63	51.44	68.08
	- Mass Flow Rate - g/h	0.1330	0.1565	0.1636	0.0827	0.1339
Class Three*	- mg/m ³ wet	0.0022	0.0024	0.0003	0.0042	0.0023
	- mg/m ³ dry	0.0023	0.0025	0.0003	0.0043	0.0023
	- mg/m ³ dry @ 11% O ₂	0.0057	0.0062	0.0008	0.0141	0.0067
	- ug/m ³ dry @ 11% O ₂	5.7295	6.2100	0.7986	14.0515	6.6974
	- Mass Flow Rate - g/h	0.0118	0.0132	0.0016	0.0226	0.0123
Mercury Concentration*	- mg/m ³ wet	0.0001	0.0001	0.0000	0.0015	0.0004
	- mg/m ³ dry	0.0001	0.0001	0.0000	0.0015	0.0004
	- mg/m ³ dry @ 11% O ₂	0.0003	0.0001	0.0000	0.0049	0.0013
	- ug/m ³ dry @ 11% O ₂	0.2770	0.1388	0.0000	4.8975	1.3283
	- Mass Flow Rate - g/h	0.0118	0.0132	0.0016	0.0226	0.0123
Approval Limit						20 PASS
Stack Height		- m	11.03	11.03	11.03	11.03
Stack Diameter		- m	0.98	0.98	0.98	0.98
Average Gas Temperature		- DegC	394.63	377.10	349.00	389.80
Average Gas Velocity		- m/s	4.36	4.34	4.81	4.57
Total Effluent Flow Rate		- Rm ³ /s	1.49	1.54	1.71	1.56
Dry Effluent Flow Rate		- Rm ³ /s	1.44	1.48	1.70	1.52
Water Concentration		- mole %	3.35	4.11	0.53	2.79
- Mass Flow Rate		- t/h	0.13	0.17	0.02	0.11
Oxygen Concentration - Tedlar Bag		- mole % wet	16.39	16.25	17.60	16.88
		- mole % dry	16.96	16.95	17.69	17.37
- Mass Flow Rate		- t/h	1.15	1.18	1.41	1.24
Carbon Dioxide Concentration - Tedlar Bag		- mole % wet	3.02	3.04	2.49	2.73
		- mole % dry	3.12	3.17	2.50	2.81
- Mass Flow Rate		- t/h	0.29	0.30	0.27	0.27
Carbon Monoxide Concentration - Tedlar Bag**		- mole % wet	< 0.0004	< 0.0004	< 0.0004	< 0.0004
		- mole % dry	< 0.0004	< 0.0004	< 0.0004	< 0.0004
- Mass Flow Rate		- kg/h	< 0.0238	< 0.0243	< 0.0280	< 0.0250
Isokinetics		- %	100.67%	103.02%	99.69%	101.89%

*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.



SUMMARY OF SOURCE SURVEY RESULTS

INCINERATOR STACK - M26

		Test #1	Test #2	Test #3	Test #4	Test #5	Averages
Date		18-Sep-21	19-Sep-21	20-Nov-21	25-Nov-21	28-Nov-21	
Start Time		10:30	10:10	14:00	11:30	11:00	
End Time		11:30	11:10	15:20	12:50	12:20	
Hydrochloric Acid Gas Concentration	- ppmv wet	30.225	31.134	4.956	4.793	12.179	16.657
	- ppmv dry	31.775	32.285	4.956	4.793	12.179	17.198
	- mg/m ³ wet	45.045	46.399	7.385	7.144	18.151	24.825
	- mg/m ³ dry	47.354	48.114	7.385	7.144	18.151	25.630
	- Mass Flow Rate						
	- kg/hr	0.242	0.257	0.045	0.041	0.098	0.137
Chlorine Concentration*	- ppmv wet	< 0.00098	< 0.00136	< 0.00227	< 0.00066	0.92025	< 0.18510
	- ppmv dry	< 0.00103	< 0.00141	< 0.00227	< 0.00066	0.92025	< 0.18512
	- mg/m ³ wet	< 0.00284	< 0.00395	< 0.00657	< 0.00192	2.66707	< 0.53647
	- mg/m ³ dry	< 0.00298	< 0.00409	< 0.00657	< 0.00192	2.66707	< 0.53653
	- Mass Flow Rate						
	- kg/hr	< 0.00002	< 0.00002	< 0.00004	< 0.00001	0.01433	< 0.00288
Stack Height	- m	11.03	11.03	11.03	11.03	11.03	11.03
Stack Diameter	- m	0.98	0.98	0.98	0.98	0.98	0.98
Average Gas Temperature	- DegC	394.63	377.10	349.00	335.35	438.46	378.91
Average Gas Velocity	- m/s	4.37	4.34	4.80	4.33	4.75	4.52
Total Effluent Flow Rate	- Rm ³ /s	1.50	1.54	1.70	1.58	1.49	1.56
Dry Effluent Flow Rate	- Rm ³ /s	1.42	1.48	1.70	1.58	1.49	1.54
Water Concentration	- mole %	4.88	3.56	0.00	0.00	0.00	1.69
- Mass Flow Rate	- t/h	0.19	0.15	0.00	0.00	0.00	0.07
Oxygen Concentration - Tedlar Bag	- mole % wet	16.13	16.35	17.69	17.84	17.86	17.17
	- mole % dry	16.96	16.95	17.69	17.84	17.86	17.46
- Mass Flow Rate	- t/h	1.14	1.18	1.42	1.33	1.26	1.27
Carbon Dioxide Concentration - Tedlar Bag	- mole % wet	2.97	3.06	2.50	2.44	2.44	2.68
	- mole % dry	3.12	3.17	2.50	2.44	2.44	2.73
- Mass Flow Rate	- t/h	0.29	0.30	0.28	0.25	0.24	0.27
Carbon Monoxide Concentration - Tedlar Bag*	- mole % wet	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
	- mole % dry	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
- Mass Flow Rate	- kg/h	< 0.0235	< 0.0245	< 0.0281	< 0.0261	< 0.0246	< 0.0253

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



SUMMARY OF SOURCE SURVEY RESULTS

INCINERATOR STACK - M7A

		Test #1	Test #2	Test #3	Test #4	Test #5	Averages
Date		18-Sep-21	19-Sep-21	20-Nov-21	26-Nov-21	28-Nov-21	
Start Time		10:30	10:10	14:00	11:30	10:30	
End Time		14:11	14:21	15:48	16:00	13:00	
Oxides of Nitrogen Concentration (as NO ₂)	- ppmv wet	1938.09	1963.93	14.77	14.09	25.30	791.24
	- ppmv dry	2005.46	2048.27	14.85	14.36	26.13	821.81
	- mg/m ³ wet	3644.00	3692.59	27.77	26.49	47.58	1504.87
	- mg/m ³ dry	3770.67	3851.16	27.92	26.99	49.14	1545.17
	- Mass Flow Rate - kg/hr	19.56	20.46	0.17	0.15	0.26	8.12
Stack Height	- m	11.03	11.03	11.03	11.03	11.03	11.03
Stack Diameter	- m	0.98	0.98	0.98	0.98	0.98	0.98
Average Gas Temperature	- DegC	394.63	377.10	349.00	332.50	438.46	378.34
Average Gas Velocity	- m/s	4.36	4.34	4.81	4.33	4.78	4.52
Total Effluent Flow Rate	- Rm ³ /s	1.49	1.54	1.71	1.60	1.50	1.57
Dry Effluent Flow Rate	- Rm ³ /s	1.44	1.48	1.70	1.57	1.45	1.53
Water Concentration	- mole %	3.36	4.12	0.53	1.85	3.18	2.61
- Mass Flow Rate	- t/h	0.13	0.17	0.02	0.08	0.13	0.11
Oxygen Concentration	- mole % wet	16.39	16.25	17.60	17.74	17.29	17.05
	- mole % dry	16.96	16.95	17.69	18.07	17.86	17.51
- Mass Flow Rate	- t/h	1.15	1.18	1.41	1.33	1.22	1.26
Carbon Dioxide Concentration	- mole % wet	3.02	3.04	2.49	2.27	2.36	2.63
	- mole % dry	3.12	3.17	2.50	2.31	2.44	2.71
- Mass Flow Rate	- t/h	0.29	0.30	0.27	0.23	0.23	0.27
Carbon Monoxide Concentration*	- mole % wet	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
	- mole % dry	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
- Mass Flow Rate	- kg/h	< 0.0238	< 0.0243	< 0.0280	< 0.0258	< 0.0240	< 0.0252

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

SUMMARY OF SOURCE SURVEY RESULTS

INCINERATOR STACK - M10

		Test #1	Test #2	Test #3	Test #4	Test #5	Averages
Date		18-Sep-21	19-Sep-21	20-Nov-21	26-Nov-21	27-Nov-21	
Start Time		10:30	10:10	14:00	11:30	10:15	
End Time		14:11	14:21	15:48	16:00	14:45	
Carbon Monoxide Concentration*	- ppmv wet	< 3.8656	< 3.8353	< 3.9787	< 4.0000	< 3.9259	< 3.9211
	- ppmv dry	< 4.0000	< 4.0000	< 4.0000	< 4.0000	< 4.0000	< 4.0000
	- mg/m ³ wet	< 4.4257	< 4.3910	< 4.5551	< 4.4946	< 4.4343	< 4.4601
	- mg/m ³ dry	< 4.5795	< 4.5795	< 4.5795	< 4.5795	< 4.5795	< 4.5795
	- Mass Flow Rate - kg/hr	< 0.0238	< 0.0243	< 0.0280	< 0.0276	< 0.0272	< 0.0262
Stack Height	- m	11.03	11.03	11.03	11.03	11.03	11.03
Stack Diameter	- m	0.98	0.98	0.98	0.98	0.98	0.98
Average Gas Temperature	- DegC	394.63	377.10	349.00	332.50	335.27	357.70
Average Gas Velocity	- m/s	4.36	4.34	4.81	4.33	4.27	4.42
Total Effluent Flow Rate	- Rm ³ /s	1.49	1.54	1.71	1.60	1.57	1.58
Dry Effluent Flow Rate	- Rm ³ /s	1.44	1.48	1.70	1.57	1.52	1.54
Water Concentration	- mole %	3.36	4.12	0.53	1.85	3.17	2.61
- Mass Flow Rate	- t/h	0.13	0.17	0.02	0.08	0.13	0.11
Oxygen Concentration - Tedlar Bag	- mole % wet	16.39	16.25	17.60	17.74	17.39	17.07
	- mole % dry	16.96	16.95	17.69	18.07	17.96	17.53
	- Mass Flow Rate - t/h	1.15	1.18	1.41	1.33	1.28	1.27
Carbon Dioxide Concentration - Tedlar Bag	- mole % wet	3.02	3.04	2.49	2.27	2.15	2.59
	- mole % dry	3.12	3.17	2.50	2.31	2.22	2.66
	- Mass Flow Rate - t/h	0.29	0.30	0.27	0.23	0.22	0.26
Oxygen Concentration - Glass Bomb	- mole % wet	16.14	16.19	17.11	16.86	16.64	16.59
	- mole % dry	16.70	16.88	17.20	17.18	17.18	17.03
	- Mass Flow Rate - t/h	1.13	1.17	1.37	1.27	1.23	1.24
Carbon Dioxide Concentration - Glass Bomb	- mole % wet	3.42	3.23	2.95	2.94	2.90	3.09
	- mole % dry	3.54	3.37	2.97	3.00	3.00	3.18
	- Mass Flow Rate - t/h	0.33	0.32	0.33	0.30	0.29	0.32
Carbon Monoxide Concentration - Glass Bomb*	- mole % wet	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
	- mole % dry	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
	- Mass Flow Rate - kg/h	< 0.0238	< 0.0243	< 0.0280	< 0.0258	< 0.0250	< 0.0254

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

SUMMARY OF SOURCE SURVEY RESULTS

INCINERATOR STACK - M6

		Test #1	Test #2	Test #3	Test #4	Test #5	Averages
Date		18-Sep-21	19-Sep-21	25-Nov-21	26-Nov-21	27-Nov-21	
Start Time		10:30	10:10	11:30	11:30	10:15	
End Time		11:30	11:10	12:30	12:30	11:15	
Sulphur Dioxide Concentration	- ppmv wet	9.433	18.121	4.763	14.828	13.316	12.092
	- ppmv dry	9.743	18.593	4.763	15.439	13.316	12.371
	- mg/m ³ wet	24.701	47.449	12.472	38.827	34.867	31.663
	- mg/m ³ dry	25.513	48.686	12.472	40.428	34.867	32.393
	- Mass Flow Rate - kg/hr	0.133	0.262	0.071	0.224	0.195	0.177
Stack Height	- m	11.03	11.03	11.03	11.03	11.03	11.03
Stack Diameter	- m	0.98	0.98	0.98	0.98	0.98	0.98
Average Gas Temperature	- DegC	394.63	377.10	335.35	332.50	335.27	354.97
Average Gas Velocity	- m/s	4.36	4.33	4.34	4.36	4.25	4.33
Total Effluent Flow Rate	- Rm ³ /s	1.49	1.53	1.58	1.60	1.56	1.55
Dry Effluent Flow Rate	- Rm ³ /s	1.44	1.50	1.58	1.54	1.56	1.52
Water Concentration	- mole %	3.18	2.54	0.00	3.96	0.00	1.94
- Mass Flow Rate	- t/h	0.13	0.10	0.00	0.17	0.00	0.08
Oxygen Concentration - Tedlar Bag	- mole % wet	16.42	16.52	17.84	17.35	17.96	17.22
	- mole % dry	16.96	16.95	17.84	18.07	17.96	17.56
	- Mass Flow Rate - t/h	1.15	1.19	1.33	1.31	1.32	1.26
Carbon Dioxide Concentration - Tedlar Bag	- mole % wet	3.02	3.09	2.44	2.22	2.22	2.60
	- mole % dry	3.12	3.17	2.44	2.31	2.22	2.65
	- Mass Flow Rate - t/h	0.29	0.31	0.25	0.23	0.22	0.26
Carbon Monoxide Concentration - Tedlar Bag*	- mole % wet	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
	- mole % dry	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
	- Mass Flow Rate - kg/h	< 0.0238	< 0.0247	< 0.0261	< 0.0253	< 0.0257	< 0.0251

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

SUMMARY OF SOURCE SURVEY RESULTS

INCINERATOR STACK - EPS 1/RM/2

		Test #2	Test #3	Test #4	Averages
Date		25-Nov-21	26-Nov-21	27-Nov-21	
Start Time		11:30	11:30	10:15	
End Time		15:50	16:00	14:45	
Total PCDDs *	- ng/m3 dry basis*	0.4184	0.5944	2.3362	1.1163
	- ng/m3 dry @ 11% O2*	1.3387	2.0534	7.7743	3.7221
- Mass Flow Rate	- ug/h*	2.3334	3.3514	12.7558	6.1469
Total PCDFs *	- ng/m3 dry basis*	0.7305	2.6197	4.5196	2.6233
	- ng/m3 dry @ 11% O2*	2.3372	9.0508	15.0402	8.8094
- Mass Flow Rate	- ug/h*	4.0736	14.7723	24.6773	14.5077
Dioxins and Furans International Toxicity Equivalents*	- ng/m3 dry basis*	0.0231	0.0960	0.1360	0.0850
	- ng/m3 dry @ 11% O2*	0.0738	0.3315	0.4527	0.2860
	- pg/m ³ dry @ 11% O2*	73.78	331.54	452.70	286.01
Approval Limit	- pg/m3 @ 11% O2				80
					FAIL
- Mass Flow Rate	- ug/h*	0.1286	0.5411	0.7428	0.4708
Stack Height	- m	11.03	11.03	11.03	11.03
Stack Diameter	- m	0.98	0.98	0.98	0.98
Average Gas Temperature	- DegC	335.35	332.50	335.27	334.38
Average Gas Velocity	- m/s	4.35	4.33	4.27	4.32
Total Effluent Flow Rate	- Rm ³ /s	1.59	1.60	1.57	1.58
Dry Effluent Flow Rate	- Rm ³ /s	1.55	1.57	1.52	1.54
Water Concentration	- mole %	2.59	1.86	3.18	2.54
- Mass Flow Rate	- t/h	0.11	0.08	0.13	0.11
Oxygen Concentration - Tedlar Bag	- mole % wet	17.38	17.73	17.39	17.50
	- mole % dry	17.84	18.07	17.96	17.96
- Mass Flow Rate	- t/h	1.30	1.33	1.28	1.31
Carbon Dioxide Concentration - Tedlar Bag	- mole % wet	2.38	2.27	2.15	2.26
	- mole % dry	2.44	2.31	2.22	2.32
- Mass Flow Rate	- t/h	0.24	0.23	0.22	0.23
Carbon Monoxide Concentration - Tedlar Bag**	- mole % wet	< 0.0004	< 0.0004	< 0.0004	< 0.0004
	- mole % dry	< 0.0004	< 0.0004	< 0.0004	< 0.0004
- Mass Flow Rate	- kg/h	< 0.0256	< 0.0258	< 0.0250	< 0.0255
Isokinetics	- %	101.42%	101.49%	101.78%	

*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

<u>Title</u>	<u>Page</u>
1.0 Discussion	14
2.0 Project Personnel	15
3.0 Plant Operating Parameters	15
4.0 Sampling and Analytical Test Methods	15
5.0 Equipment Calibration Methods	18
6.0 Quality Assurance/Quality Control	19
7.0 Conclusion	19
Appendix I	Emission Results
Appendix II	Velocity Traverse Data
Appendix III	Analytical Results
Appendix IV	Field Data Sheets
Appendix V	Calibration Data
Appendix VI	Sampling Diagrams
Appendix VII	SES Calculations
Appendix VIII	Sample Custody

1.0 Discussion

The test results presented in this report are from testing conducted on September 18-19, 2021 and November 20-28, 2021. During the September test program, only 2 of the 3 tests for particulate matter, metals, hydrochloric acid gas, carbon monoxide, oxygen, carbon dioxide, sulphur dioxide and oxides of nitrogen were able to be conducted due to logistical issues. Environment and Climate Change Canada (ECCC) does not regulate air quality emissions at this time, but does provide guidance to the Nunavut Impact Review Board (NIRB) when expert advice is requested. ECCC reviewed the information provided in the November 1, 2021, letter and found it acceptable for Agnico Eagle Mines Limited to run a second and final program to conduct additional tests for particulate matter, metals, hydrochloric acid gas, carbon monoxide, oxygen, carbon dioxide, sulphur dioxide and oxides of nitrogen, as well as triplicate tests for dioxins/furans in November.

The NIRB is responsible for monitoring compliance with Terms and Conditions within each Project's Project Certificate. The following terms and conditions apply to Agnico Eagle Mines Limited Meadowbank Gold Mine Project Certificate 004, Term and Condition 72:

"On-site incinerators shall comply with Canadian Council of Ministers of Environment and Canada-Wide Standards for dioxins and furan emissions, and Canada-wide Standards for mercury emissions, and Cumberland shall conduct annual stack testing to demonstrate that the on-site incinerators are operating in compliance with these standards. The results of stack testing shall be contained in an annual monitoring report submitted to GN, EC and NIRB's Monitoring Officer."

US EPA Method 29 tests #1, #2, #3, #4 and the overall average were all below the allowable mercury limit of 20 ug/m³ @ 11% O₂ with values of 0.2270 ug/m³ dry @ 11% O₂, 0.1388 ug/m³ dry @ 11% O₂, 0.0000 ug/m³ dry @ 11% O₂, 4.8975 ug/m³ dry @ 11% O₂ and 1.3283 ug/m³ dry @ 11% O₂, respectively. The mercury limit of 20 ug/m³ @ 11% O₂ has been referenced from the Government of Nunavut Environmental Guideline for the Burning and Incineration of Solid Waste and the Canadian Council of Ministers of Environment Canada-Wide Standards for mercury emissions.

Dioxins and Furans test #1 has been discarded, due to a connection issue on the sampling train. The Dioxins and Furans test results presented in this report are from tests 2, 3, and 4.

Dioxins and Furans tests #3, #4 and the overall average have exceeded the international toxicity equivalents limit of 80 pg/m³ @ 11% O₂ with values of 331.54 pg/m³ dry @ 11% O₂, 452.70 pg/m³ dry @ 11% O₂ and 286.01 pg/m³ dry @ 11% O₂, respectively. Tests 2 was acceptable with a value of 73.78 pg/m³ dry @ 11% O₂. The dioxins and furans international toxicity equivalents limit of 80 pg/m³ @ 11% O₂ has been referenced from the Government of Nunavut Environmental Guideline for the Burning and Incineration of Solid Waste and the Canadian Council of Ministers of Environment Canada-Wide Standards for dioxins and furans emissions.

Various freezing issues were encountered by Bureau Veritas on several of the November testing dates due to ambient temperatures at the time of sampling. The freezing complications were identified by Bureau Veritas and troubleshooting was conducted either in the morning or during the day before each test was started throughout the November Source Emission Survey test dates. Freezing complications were not encountered during the September testing period. Although the Bureau Veritas sampling team encountered sampling train freezing complications during the November testing period, Bureau Veritas finds the results to be accurate and representative of the sampling conditions during testing.

Stratification was addressed by taking a full flow traverse measurement on each sample port and by following steps outlined in Method 4 regarding moving the sample probe during testing.

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

With the exception of the dioxins and furans tests #1 and the freezing issues encountered by Bureau Veritas during the November testing period, 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 and with the exception of the dioxins and furans tests #3 and #4 all tests are compliant with the approval limits outlined in the Government of Nunavut Environmental Guideline for the Burning and Incineration of Solid Waste and the Canadian Council of Ministers of Environment Canada-Wide Standards for mercury, dioxins and furans emissions.

2.0 Sampling Personnel

Marie-Pier Marcil was the project coordinator for Agnico Eagle Mines Limited, and the Bureau Veritas field sampling team consisted of Anand Mathew (Project Lead), Darwin Gabel (Field Technician), and Patrick Vien (Field Technician).

3.0 Plant Operating Parameters

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.

<i>Class I</i>	<i>Class II</i>	<i>Class III</i>	<i>Additional</i>
Antimony	Arsenic	Cadmium	Barium
Copper	Chromium	Mercury	Beryllium
Lead	Cobalt	Thallium	Phosphorous
Manganese	Nickel		Silver
Zinc	Selenium		

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 #8 - Determination of Sulphuric Acid Mist and 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 Weights 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	B061
ISO Kit	ISO001
ABS Kit	ABS005, ABS010, ABS013
Barometer	50
Balance	26

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

Field Barometer

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

Dry Gas Meters

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

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.

Pitot Tubes

Pitot tubes were calibrated and calibration data is documented as per the protocols outlined in Method #2 of the US EPA Code of Federal Regulations. 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.

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, Meadowbank Site took place on September 18 to 19 and November 20 to 28, 2021. All parameters were sampled as per the approved methods outlined in Section 4.0 Sampling and Analytical Test Methods. All 3 mercury tests and the overall average were acceptable and were below the allowable limit of 20 ug/m³ @ 11% O₂. Dioxins and furans tests #3, #4 and the overall average exceeded the international toxicity equivalents limit of 80 pg/m³ @ 11% O₂. These limits have been referenced from the Government of Nunavut Environmental Guideline for the Burning and Incineration of Solid Waste and the Canadian Council of Ministers of Environment Canada-Wide Standards for mercury, dioxins and furans emissions.

APPENDIX I
EMISSION RESULTS



SOURCE CONDITIONS AND EMISSION RATES

INCINERATOR STACK - M29

		#1	#2	#3	#4	Average
Date		18-Sep-21	19-Sep-21	20-Nov-21	28-Nov-21	
Time		10:30-14:11	10:10-14:21	14:00-15:48	10:30-13:00	
SAMPLING CONDITIONS						
Number of Points		48	48	24	24	
Time per Point	min	4.00	4.00	4.00	5.00	
Total Sampling Time	min	192	192	96	120	
Nozzle Diameter	mm	13.21	13.21	13.21	13.21	
Pitot tube Cal Factor		0.827	0.827	0.827	0.827	
Barometric Pressure	mmHg	774.70	782.32	749.30	759.46	766.45
Static Pressure	mmHg	-0.04	-0.06	-0.04	-0.06	-0.05
Stack Pressure	mmHg	774.66	782.26	749.26	759.40	766.40
Dry Gas Meter Cal Factor		1.017	1.017	1.017	1.017	1.017
Average Meter Temp	°C	18.38	13.76	34.35	33.23	24.93
Average Orifice Press	mm H ₂ O	19.46	21.03	28.78	21.58	22.71
Volume Sampled	m ³ dry @ Ref Cond	3.05	3.20	1.78	1.95	2.49
Average Sampling Rate	m ³ /min	0.0164	0.0174	0.0186	0.0167	0.0173
Average Isokinetic	%	100.67%	103.02%	99.69%	101.89%	101.32%
Stack Diameter	meters	0.98	0.98	0.98	0.98	
Stack area	m ²	0.75	0.75	0.75	0.75	
Stack Height	meters	11.03	11.03	11.03	11.03	
Avg. Stack Temperature	°C	394.63	377.10	349.00	438.46	389.80
MW Dry		29.18	29.19	29.11	29.10	29.14
MW Wet		28.80	28.73	29.05	28.75	28.83
H ₂ O	%	3.35	4.11	0.53	3.17	2.79
O ₂	% dry	16.96	16.95	17.69	17.86	17.37
CO ₂	% dry	3.12	3.17	2.50	2.44	2.81
CO*	% dry	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
N ₂ +H ₂	% dry	79.92	79.88	79.81	79.70	79.83
Velocity	m/s	4.36	4.34	4.81	4.77	4.57
Avg. Velocity Press	mm H ₂ O	0.76	0.78	0.97	0.85	0.84
Volumetric Flow - Stack Cond	m ³ /s	3.28	3.26	3.61	3.59	3.43
Volumetric Flow - Ref Cond	m ³ /s wet	1.49	1.54	1.71	1.50	1.56
Volumetric Flow - Ref Cond	m ³ /s dry	1.44	1.48	1.70	1.45	1.52

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 - M29

		#1	#2	#3	#4	Average
Date		18-Sep-21	19-Sep-21	20-Nov-21	28-Nov-21	
Time		10:30-14:11	10:10-14:21	14:00-15:48	10:30-13:00	
PARTICULATE EMISSION RESULTS						
Analytical Results	Filter (g)	0.1104	0.1401	0.0156	0.0856	0.0879
	Probe Wash (g)	0.0365	0.0494	0.0038	0.0023	0.0230
	Impinger Filtration (g)	n/a	n/a	n/a	n/a	
	Total Front Half (g)	0.1469	0.1895	0.0194	0.0879	0.1109
	Impinger/Back Half (g)	0.0000	0.0000	0.0000	0.0000	0.0000
	TOTAL (g)	0.1469	0.1895	0.0194	0.0879	0.1109
Concentrations and Emission Rates Total Train	mg/m ³ wet	46.57	56.87	10.86	43.74	39.51
	mg/m ³ dry	48.19	59.31	10.92	45.17	40.90
	g/kg Effluent wet	0.0396	0.0484	0.0091	0.0372	0.0336
	g/kg Effluent dry	0.0404	0.0497	0.0092	0.0380	0.0343
	kg/hr	0.2499	0.3150	0.0667	0.2364	0.2170
Concentrations and Emission Rates Front Half and Impinger Filtration Only	mg/m ³ wet	46.57	56.87	10.86	43.74	39.51
	mg/m ³ dry	48.19	59.31	10.92	45.17	40.90
	g/kg Effluent wet	0.0396	0.0484	0.0091	0.0372	0.0336
	g/kg Effluent dry	0.0404	0.0497	0.0092	0.0380	0.0343
	kg/hr	0.2499	0.3150	0.0667	0.2364	0.2170
Particulate Distribution	Probe Wash	24.85%	26.07%	19.59%	2.62%	18.28%
	Filter	75.15%	73.93%	80.41%	97.38%	81.72%
	Impinger Catch	n/a	n/a	n/a	n/a	
	Total Front Half	100.00%	100.00%	100.00%	100.00%	100.00%
	Impinger/Back Half	0.00%	0.00%	0.00%	0.00%	0.00%
	TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%

Reference conditions are 25 °C and 760 mmHg



METHOD 29 - METALS RESULTS - Page 1

INCINERATOR STACK

		Averages						#1							
Date								18-Sep-21							
Time								10:30-14:11							
SAMPLING CONDITIONS															
Volume Sampled	m ³ dry @ Ref Cond	2.49						3.05							
Volumetric Flow	m ³ /s dry @ Ref Cond	1.52						1.44							
	m ³ /s wet @ Ref Cond	1.56						1.49							
Water Concentration	%	2.79						3.35							
Oxygen Concentration	% dry	17.37						16.96							
PARAMETER		Front Half Analytical ug	Back Half Analytical ug	Total Analytical ug	mg/Rm ³ wet basis	mg/Rm ³ dry basis	mg/m3 dry @ 11% O2	g/h	Front Half Corrected ug	Back Half Corrected ug	Total Analytical ug	mg/Rm ³ wet basis	mg/Rm ³ dry basis	mg/m3 dry @ 11% O2	g/h
Antimony		420.75	0.00	420.75	0.1988	0.2026	0.6131	1.1529	280.00	0.00	280.00	0.0888	0.0919	0.2308	0.4764
Arsenic		16.45	0.00	16.45	0.0057	0.0059	0.0160	0.0314	27.15	0.00	27.15	0.0086	0.0089	0.0224	0.0462
Barium		8.71	6.14	14.86	0.0059	0.0061	0.0177	0.0326	12.95	3.49	16.44	0.0052	0.0054	0.0136	0.0280
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
Cadmium		4.79	0.00	4.79	0.0018	0.0018	0.0051	0.0096	5.96	0.00	5.96	0.0019	0.0020	0.0049	0.0101
Chromium		25.39	0.00	25.39	0.0101	0.0104	0.0294	0.0575	38.45	0.00	38.45	0.0122	0.0126	0.0317	0.0654
Cobalt		0.67	0.11	0.78	0.0003	0.0003	0.0008	0.0016	1.08	0.31	1.39	0.0004	0.0005	0.0011	0.0024
Copper		226.38	0.00	226.38	0.0874	0.0900	0.2555	0.4875	283.50	0.00	283.50	0.0899	0.0930	0.2337	0.4824
Lead		132.90	0.32	133.22	0.0496	0.0513	0.1447	0.2720	201.50	0.81	202.31	0.0641	0.0664	0.1668	0.3442
Manganese		13.19	1.07	14.26	0.0053	0.0054	0.0151	0.0293	23.85	0.00	23.85	0.0076	0.0078	0.0197	0.0406
Mercury		0.00	0.86	0.86	0.0004	0.0004	0.0013	0.0022	0.00	0.34	0.34	0.0001	0.0001	0.0003	0.0006
Nickel		19.39	0.66	20.04	0.0076	0.0078	0.0218	0.0434	11.15	0.00	11.15	0.0035	0.0037	0.0092	0.0190
Phosphorus		1341.25	0.00	1341.25	0.4615	0.4784	1.2935	2.5081	2527.00	0.00	2527.00	0.8012	0.8290	2.0829	4.2996
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		5.08	0.00	5.08	0.0020	0.0021	0.0061	0.0115	6.06	0.00	6.06	0.0019	0.0020	0.0050	0.0103
Thallium		0.28	0.00	0.28	0.0001	0.0001	0.0002	0.0005	0.66	0.00	0.66	0.0002	0.0002	0.0005	0.0011
Zinc		6230.00	0.00	6230.00	2.3331	2.4109	6.8085	12.8496	7940.00	0.00	7940.00	2.5174	2.6047	6.5447	13.5097
TOTAL					3.1697	3.2736	9.2289	17.4897				3.6030	3.7280	9.3672	19.3360
Class One					2.6743	2.7603	7.8369	14.7913				2.7677	2.8637	7.1956	14.8533
Class Two					0.0237	0.0244	0.0681	0.1339				0.0248	0.0256	0.0644	0.1330
Class Three					0.0023	0.0023	0.0067	0.0123				0.0022	0.0023	0.0057	0.0118

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, Zinc

Class Two = Arsenic, Chromium, Cobalt, Nickel, Selenium

Class Three = Cadmium, Mercury, Thallium



METHOD 29 - METALS RESULTS - Page 2

INCINERATOR STACK

		#2							#3						
Date		19-Sep-21							20-Nov-21						
Time		10:10-14:21							14:00-15:48						
SAMPLING CONDITIONS															
Volume Sampled	m ³ dry @ Ref Cond	3.20							1.78						
Volumetric Flow	m ³ /s dry @ Ref Cond	1.48							1.70						
	m ³ /s wet @ Ref Cond	1.54							1.71						
Water Concentration	%	4.11							0.53						
Oxygen Concentration	% dry	16.95							17.69						
PARAMETER		Front Half Corrected ug	Back Half Corrected ug	Total Analytical ug	mg/Rm3 wet basis	mg/Rm3 dry basis	mg/m3 dry @ 11% O2	g/h	Front Half Corrected ug	Back Half Corrected ug	Total Analytical ug	mg/Rm3 wet basis	mg/Rm3 dry basis	mg/m3 dry @ 11% O2	g/h
Antimony		195.00	0.00	195.00	0.0585	0.0610	0.1530	0.3242	752.00	0.00	752.00	0.4210	0.4233	1.3055	2.5848
Arsenic		26.20	0.00	26.20	0.0079	0.0082	0.0206	0.0436	3.06	0.00	3.06	0.0017	0.0017	0.0053	0.0105
Barium		13.40	3.69	17.09	0.0051	0.0053	0.0134	0.0284	2.40	3.24	5.64	0.0032	0.0032	0.0098	0.0194
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
Cadmium		7.27	0.00	7.27	0.0022	0.0023	0.0057	0.0121	0.46	0.00	0.46	0.0003	0.0003	0.0008	0.0016
Chromium		23.90	0.00	23.90	0.0072	0.0075	0.0187	0.0397	26.10	0.00	26.10	0.0146	0.0147	0.0453	0.0897
Cobalt		0.68	0.11	0.79	0.0002	0.0002	0.0006	0.0013	0.49	0.00	0.49	0.0003	0.0003	0.0009	0.0017
Copper		293.00	0.00	293.00	0.0879	0.0917	0.2298	0.4871	128.00	0.00	128.00	0.0717	0.0720	0.2222	0.4400
Lead		160.00	0.46	160.46	0.0482	0.0502	0.1259	0.2668	26.10	0.00	26.10	0.0146	0.0147	0.0453	0.0897
Manganese		13.50	3.54	17.04	0.0051	0.0053	0.0134	0.0283	6.60	0.00	6.60	0.0037	0.0037	0.0115	0.0227
Mercury		0.00	0.18	0.18	0.0001	0.0001	0.0001	0.0003	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000
Nickel		42.70	0.55	43.25	0.0130	0.0135	0.0339	0.0719	16.40	1.55	17.95	0.0101	0.0101	0.0312	0.0617
Phosphorus		1867.00	0.00	1867.00	0.5603	0.5843	1.4645	3.1037	24.00	0.00	24.00	0.0134	0.0135	0.0417	0.0825
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		5.34	0.00	5.34	0.0016	0.0017	0.0042	0.0089	3.61	0.00	3.61	0.0020	0.0020	0.0063	0.0124
Thallium		0.47	0.00	0.47	0.0001	0.0001	0.0004	0.0008	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000
Zinc		8810.00	0.00	8810.00	2.6440	2.7572	6.9105	14.6458	1700.00	0.00	1700.00	0.9518	0.9569	2.9512	5.8434
TOTAL					3.4413	3.5888	8.9946	19.0628				1.5084	1.5164	4.6768	9.2601
Class One					2.8437	2.9655	7.4325	15.7521				1.4629	1.4707	4.5357	8.9806
Class Two					0.0283	0.0295	0.0738	0.1565				0.0267	0.0268	0.0826	0.1636
Class Three					0.0024	0.0025	0.0062	0.0132				0.0003	0.0003	0.0008	0.0016

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, Zinc

Class Two = Arsenic, Chromium, Cobalt, Nickel, Selenium

Class Three = Cadmium, Mercury, Thallium



METHOD 29 - METALS RESULTS - Page 3

INCINERATOR STACK		#4						
	Date	28-Nov-21						
	Time	10:30-13:00						
SAMPLING CONDITIONS								
Volume Sampled	m³ dry @ Ref Cond	1.95						
Volumetric Flow	m³/s dry @ Ref Cond	1.45						
	m³/s wet @ Ref Cond	1.50						
Water Concentration	%	3.17						
Oxygen Concentration	% dry	17.86						
PARAMETER		Front Half Corrected ug	Back Half Corrected ug	Total Analytical ug	mg/Rm3 wet basis	mg/Rm3 dry basis	mg/m3 dry @ 11% O2	g/h
Antimony		456.00	0.00	456.00	0.2269	0.2343	0.7631	1.2263
Arsenic		9.38	0.00	9.38	0.0047	0.0048	0.0157	0.0252
Barium		6.10	14.15	20.25	0.0101	0.0104	0.0339	0.0545
Beryllium		0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000
Cadmium		5.47	0.00	5.47	0.0027	0.0028	0.0092	0.0147
Chromium		13.10	0.00	13.10	0.0065	0.0067	0.0219	0.0352
Cobalt		0.44	0.00	0.44	0.0002	0.0002	0.0007	0.0012
Copper		201.00	0.00	201.00	0.1000	0.1033	0.3364	0.5405
Lead		144.00	0.00	144.00	0.0717	0.0740	0.2410	0.3873
Manganese		8.80	0.74	9.54	0.0047	0.0049	0.0160	0.0257
Mercury		0.00	2.93	2.93	0.0015	0.0015	0.0049	0.0079
Nickel		7.30	0.52	7.82	0.0039	0.0040	0.0131	0.0210
Phosphorus		947.00	0.00	947.00	0.4712	0.4866	1.5848	2.5467
Selenium		0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000
Silver		5.33	0.00	5.33	0.0027	0.0027	0.0089	0.0143
Thallium		0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000
Zinc		6470.00	0.00	6470.00	3.2194	3.3248	10.8275	17.3995
TOTAL					4.1262	4.2612	13.8770	22.3000
Class One					3.6228	3.7413	12.1839	19.5792
Class Two					0.0153	0.0158	0.0514	0.0827
Class Three					0.0042	0.0043	0.0141	0.0226

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, Zinc
 Class Two = Arsenic, Chromium, Cobalt, Nickel, Selenium, Tellurium
 Class Three = Cadmium, Mercury, Thallium



SOURCE CONDITIONS AND EMISSION RATES

INCINERATOR STACK - M26

		#1	#2	#3	#4	#5	Average
Date		18-Sep-21	19-Sep-21	20-Nov-21	25-Nov-21	28-Nov-21	
Time		10:30-11:30	10:10-11:10	14:00-15:20	11:30-12:50	11:00-12:20	
SAMPLING CONDITIONS							
Stack Diameter	meters	0.98	0.98	0.98	0.98	0.98	
Stack Area	m ²	0.75	0.75	0.75	0.75	0.75	
Stack Height	meters	11.03	11.03	11.03	11.03	11.03	
Pitot tube Cal Factor		0.827	0.827	0.827	0.827	0.827	
Barometric Pressure	mmHg	774.70	782.32	749.30	754.38	759.46	
Static Pressure	mmHg	-0.04	-0.06	-0.04	-0.06	-0.06	
Stack Pressure	mmHg	774.66	782.26	749.26	754.32	759.40	
Avg. Stack Temperature	oC	394.63	377.10	349.00	335.35	438.46	378.91
MW Dry		29.18	29.19	29.11	29.10	29.10	29.14
MW Wet		28.63	28.79	29.11	29.10	29.10	28.95
H ₂ O	%	4.88	3.56	0.00	0.00	0.00	1.69
O ₂ dry	% dry	16.96	16.95	17.69	17.84	17.86	17.46
CO ₂ dry	% dry	3.12	3.17	2.50	2.44	2.44	2.73
CO*	% dry	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
N ₂ +H ₂	% dry	79.92	79.88	79.81	79.72	79.70	79.81
Velocity - m/s	m/s	4.37	4.34	4.80	4.33	4.75	4.52
Volumetric Flow - Stack Cond	m ³ /s	3.29	3.26	3.61	3.25	3.56	3.39
Volumetric Flow - Ref Cond	m ³ /s wet	1.50	1.54	1.70	1.58	1.49	1.56
Volumetric Flow - Ref Cond	m ³ /s dry	1.42	1.48	1.70	1.58	1.49	1.54

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 - M26

		#1	#2	#3	#4	#5	Average
Date		18-Sep-21	19-Sep-21	20-Nov-21	25-Nov-21	28-Nov-21	
Time		10:30-11:30	10:10-11:10	14:00-15:20	11:30-12:50	11:00-12:20	
Volumetric Flow - Ref Cond	m ³ /s wet	1.50	1.54	1.70	1.58	1.49	1.58
% H ₂ O		4.88	3.56	0.00	0.00	0.00	2.81
HYDROCHLORIC ACID GAS EMISSION RESULTS							
Dry Gas Meter Cal Factor		0.998	0.998	1.007	1.009	1.007	
Water Collected	ml	8	10	0	0	0	
Water in Silica	g	11	0	0	0	0	
Average Meter Temp	°C	13.71	15.71	29.33	29.00	30.20	23.59
Volume Sampled	m ³ dry @ Meter Cond	0.475	0.345	0.686	0.701	0.701	0.582
Volume Sampled	m ³ dry @ Ref Cond	0.503	0.367	0.667	0.686	0.688	0.582
Analytical Results	Total mg	23.819	17.639	4.924	4.904	12.495	12.756
Concentrations and Emission Rates	ppm wet	30.225	31.134	4.956	4.793	12.179	16.657
	ppm dry	31.775	32.285	4.956	4.793	12.179	17.198
	mg/m ³ wet	45.045	46.399	7.385	7.144	18.151	24.825
	mg/m ³ dry	47.354	48.114	7.385	7.144	18.151	25.630
	kg/hr	0.242	0.257	0.045	0.041	0.098	0.137
CHLORINE EMISSION RESULTS							
Dry Gas Meter Cal Factor		0.998	0.998	1.007	1.009	1.007	
Water Collected	ml	8	10	0	0	0	
Water in Silica	g	11	0	0	0	0	
Average Meter Temp	°C	13.71	15.71	29.33	29.00	30.20	23.59
Volume Sampled	m ³ dry @ Meter Cond	0.475	0.345	0.686	0.701	0.701	0.582
Volume Sampled	m ³ dry @ Ref Cond	0.503	0.367	0.667	0.686	0.688	0.582
Analytical Results	Total mg	< 0.00150	< 0.00150	< 0.00438	< 0.00132	1.83600	< 0.36894
Concentrations and Emission Rates	ppm wet	< 0.00098	< 0.00136	< 0.00227	< 0.00066	0.92025	< 0.18510
	ppm dry	< 0.00103	< 0.00141	< 0.00227	< 0.00066	0.92025	< 0.18512
	mg/m ³ wet	< 0.00284	< 0.00395	< 0.00657	< 0.00192	2.66707	< 0.53647
	mg/m ³ dry	< 0.00298	< 0.00409	< 0.00657	< 0.00192	2.66707	< 0.53653
	kg/hr	< 0.00002	< 0.00002	< 0.00004	< 0.00001	0.01433	< 0.00288

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.



SOURCE CONDITIONS AND EMISSION RATES

INCINERATOR STACK - M7A

		#1	#2	#3	#4	#5	Average
Date		18-Sep-21	19-Sep-21	20-Nov-21	26-Nov-21	28-Nov-21	
Time		10:30-14:11	10:10-14:21	14:00-15:48	11:30-16:00	10:30-13:00	
SAMPLING CONDITIONS							
Stack Diameter	meters	0.98	0.98	0.98	0.98	0.98	
Stack Area	m ²	0.75	0.75	0.75	0.75	0.75	
Stack Height	meters	11.03	11.03	11.03	11.03	11.03	
Pitot tube Cal Factor		0.827	0.827	0.827	0.827	0.827	
Barometric Pressure	mmHg	774.70	782.32	749.30	756.92	759.46	
Static Pressure	mmHg	-0.04	-0.06	-0.04	-0.04	-0.06	
Stack Pressure	mmHg	774.66	782.26	749.26	756.88	759.40	
Avg. Stack Temperature	oC	394.63	377.10	349.00	332.50	438.46	378.34
MW Dry		29.18	29.19	29.11	29.09	29.10	29.13
MW Wet		28.80	28.72	29.05	28.89	28.75	28.84
H ₂ O	%	3.36	4.12	0.53	1.85	3.18	2.61
O ₂ dry	% dry	16.96	16.95	17.69	18.07	17.86	17.51
CO ₂ dry	% dry	3.12	3.17	2.50	2.31	2.44	2.71
CO*	% dry	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
N ₂ +H ₂	% dry	79.92	79.88	79.81	79.62	79.70	79.79
Velocity - m/s	m/s	4.36	4.34	4.81	4.33	4.78	4.52
Volumetric Flow - Stack Cond	m ³ /s	3.28	3.26	3.61	3.26	3.59	3.40
Volumetric Flow - Ref Cond	m ³ /s wet	1.49	1.54	1.71	1.60	1.50	1.57
Volumetric Flow - Ref Cond	m ³ /s dry	1.44	1.48	1.70	1.57	1.45	1.53

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 - M7A

		#1	#2	#3	#4	#5	Average
Date		18-Sep-21	19-Sep-21	20-Nov-21	26-Nov-21	28-Nov-21	
Time		10:30-14:11	10:10-14:21	14:00-15:48	11:30-16:00	10:30-13:00	
Volumetric Flow - Ref Cond	m ³ /s wet	1.49	1.54	1.71	1.60	1.50	1.57
% H ₂ O		3.36	4.12	0.53	1.85	3.18	2.61
MOISTURE EMISSION RESULTS							
Dry Gas Meter Cal Factor		1.017	1.017	1.017	1.017	1.017	
Water Collected	ml	63	85	5	51	40	
Water in Silica	g	15	16	2	8	7	
Average Meter Temp	°C	18.38	13.76	34.35	38.46	33.23	27.64
Volume Sampled	m ³ dry @ Meter Cond	2.919	2.981	1.853	4.392	1.997	2.828
Volume Sampled	m ³ dry @ Ref Cond	3.043	3.189	1.772	4.185	1.942	2.826

Reference conditions are 25 °C and 760 mmHg



OXIDES OF NITROGEN EMISSION RESULTS

INCINERATOR STACK - M7A

		#1		#2		#3		#4		#5		Average
		A	B	A	B	A	B	A	B	A	B	
Date		18-Sep-21	18-Sep-21	19-Sep-21	19-Sep-21	20-Nov-21	20-Nov-21	26-Nov-21	26-Nov-21	28-Nov-21	28-Nov-21	
Time		11:30	11:40	12:05	12:10	14:00	14:05	15:00	15:05	12:00	12:05	
Volumetric Flow - Ref Cond	m ³ /s wet	1.49		1.54		1.71		1.60		1.50		1.57
% H ₂ O		3.36		4.12		0.53		1.85		3.18		2.61
Analytical Results - NO _x as NO ₂	Total mg	7.3480	7.3440	7.3830	6.3920	0.0520	0.0500	0.0450	0.0570	0.0970	0.0630	
Volume Sampled	mL	1894	2006	1757	1826	1786	1871	1830	1939	1693	1537	
Oxides of Nitrogen as NO ₂	ppm wet	1994.46	1881.72	2142.42	1785.45	15.40	14.13	12.83	15.34	29.50	21.11	
	ppm dry	2063.78	1947.13	2234.42	1862.11	15.49	14.21	13.08	15.63	30.47	21.80	
	mg/m ³ dry	3880.33	3661.00	4201.16	3501.15	29.12	26.72	24.59	29.40	57.29	40.99	
	Average ppm wet	1938.09		1963.93		14.77		14.09		25.30		791.24
	Average ppm dry	2005.46		2048.27		14.85		14.36		26.13		821.81
	Average mg/m ³ wet	3644.00		3692.59		27.77		26.49		47.58		1504.87
	Average mg/m ³ dry	3770.67		3851.16		27.92		26.99		49.14		1545.17
	kg/hr	19.56		20.46		0.17		0.15		0.26		8.12

Reference conditions are 25 °C and 760 mmHg



SOURCE CONDITIONS AND EMISSION RATES

INCINERATOR STACK - M10

		#1	#2	#3	#4	#5	Average
Date		18-Sep-21	19-Sep-21	20-Nov-21	26-Nov-21	27-Nov-21	
Time		10:30-14:11	10:10-14:21	14:00-15:48	11:30-16:00	10:15-14:45	
SAMPLING CONDITIONS							
Stack Diameter	meters	0.98	0.98	0.98	0.98	0.98	
Stack Area	m ²	0.75	0.75	0.75	0.75	0.75	
Stack Height	meters	11.03	11.03	11.03	11.03	11.03	
Pitot tube Cal Factor		0.827	0.827	0.827	0.827	0.827	
Barometric Pressure	mmHg	774.70	782.32	749.30	756.92	756.92	
Static Pressure	mmHg	-0.04	-0.06	-0.04	-0.04	-0.06	
Stack Pressure	mmHg	774.66	782.26	749.26	756.88	756.86	
Avg. Stack Temperature	oC	394.63	377.10	349.00	332.50	335.27	357.70
MW Dry		29.18	29.19	29.11	29.09	29.07	29.13
MW Wet		28.80	28.72	29.05	28.89	28.72	28.84
SAMPLING CONDITIONS - Tedlar Bag Fixed Gas Results							
H ₂ O	%	3.36	4.12	0.53	1.85	3.17	2.61
O ₂ dry	% dry	16.96	16.95	17.69	18.07	17.96	17.53
CO ₂ dry	% dry	3.12	3.17	2.50	2.31	2.22	2.66
CO*	% dry	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
N ₂ +H ₂	% dry	79.92	79.88	79.81	79.62	79.82	79.81
SAMPLING CONDITIONS - Glass Bomb Fixed Gas Results							
H ₂ O	%	3.36	4.12	0.53	1.85	3.17	2.61
O ₂ dry	% dry	16.70	16.88	17.20	17.18	17.18	17.03
CO ₂ dry	% dry	3.54	3.37	2.97	3.00	3.00	3.18
CO*	% dry	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
N ₂ +H ₂	% dry	79.76	79.75	79.83	79.82	79.82	79.80
Velocity - m/s	m/s	4.36	4.34	4.81	4.33	4.27	4.42
Volumetric Flow - Stack Cond	m ³ /s	3.28	3.26	3.61	3.26	3.21	3.32
Volumetric Flow - Ref Cond	m ³ /s wet	1.49	1.54	1.71	1.60	1.57	1.58
Volumetric Flow - Ref Cond	m ³ /s dry	1.44	1.48	1.70	1.57	1.52	1.54

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 - M10

		#1	#2	#3	#4	#5	Average
Date		18-Sep-21	19-Sep-21	20-Nov-21	26-Nov-21	27-Nov-21	
Time		10:30-14:11	10:10-14:21	14:00-15:48	11:30-16:00	10:15-14:45	
Volumetric Flow - Ref Cond	m ³ /s wet	1.49	1.54	1.71	1.60	1.57	1.58
% H ₂ O		3.36	4.12	0.53	1.85	3.17	2.67
MOISTURE EMISSION RESULTS							
Dry Gas Meter Cal Factor		1.017	1.017	1.017	1.017	1.017	
Water Collected	ml	63	85	5	51	88	
Water in Silica	g	15	16	2	8	11	
Average Meter Temp	°C	18.38	13.76	34.35	38.46	38.24	28.64
Volume Sampled	m ³ dry @ Meter Cond	2.919	2.981	1.853	4.392	4.276	3.284
Volume Sampled	m ³ dry @ Ref Cond	3.043	3.189	1.772	4.185	4.078	3.253

Reference conditions are 25 °C and 760 mmHg



GASEOUS COMPOUND EMISSION RESULTS

INCINERATOR STACK - M10

		#1	#2	#3	#4	#5	Average
Date		18-Sep-21	19-Sep-21	20-Nov-21	26-Nov-21	27-Nov-21	
Time		11:00 - 12:00	11:00 - 12:00	14:10 - 15:10	12:00 - 13:00	11:00 - 12:00	
Volumetric Flow - Ref Cond % H ₂ O	m ³ /s wet	1.49	1.54	1.71	1.60	1.57	1.58
		3.36	4.12	0.53	1.85	3.17	2.61
Carbon Monoxide MDL = 4 ppm dry	ppm wet	< 3.8656	< 3.8353	< 3.9787	< 4.0000	< 3.9259	< 3.9211
	ppm dry	< 4.0000	< 4.0000	< 4.0000	< 4.0000	< 4.0000	< 4.0000
	mg/m ³ wet	< 4.4257	< 4.3910	< 4.5551	< 4.4946	< 4.4343	< 4.4601
	mg/m ³ dry	< 4.5795	< 4.5795	< 4.5795	< 4.5795	< 4.5795	< 4.5795
	kg/hr	< 0.0238	< 0.0243	< 0.0280	< 0.0276	< 0.0272	< 0.0262

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.



SOURCE CONDITIONS AND EMISSION RATES

INCINERATOR STACK - M6

		#1	#2	#3	#4	#5	Average
Date		18-Sep-21	19-Sep-21	25-Nov-21	26-Nov-21	27-Nov-21	
Time		10:30-11:30	10:10-11:10	11:30-12:30	11:30-12:30	10:15-11:15	
SAMPLING CONDITIONS							
Stack Diameter	meters	0.98	0.98	0.98	0.98	0.98	
Stack Area	m ²	0.75	0.75	0.75	0.75	0.75	
Stack Height	meters	11.03	11.03	11.03	11.03	11.03	
Pitot tube Cal Factor		0.827	0.827	0.827	0.827	0.827	
Barometric Pressure	mmHg	774.70	782.32	751.84	754.38	756.92	
Static Pressure	mmHg	-0.04	-0.06	-0.06	-0.04	-0.06	
Stack Pressure	mmHg	774.66	782.26	751.78	754.34	756.86	
Avg. Stack Temperature	oC	394.63	377.10	335.35	332.50	335.27	354.97
MW Dry		29.18	29.19	29.10	29.09	29.07	29.13
MW Wet		28.82	28.90	29.10	28.65	29.07	28.91
H ₂ O	%	3.18	2.54	0.00	3.96	0.00	1.94
O ₂ dry	% dry	16.96	16.95	17.84	18.07	17.96	17.56
CO ₂ dry	% dry	3.12	3.17	2.44	2.31	2.22	2.65
CO*	% dry	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
N ₂ +H ₂	% dry	79.92	79.88	79.72	79.62	79.82	79.79
Velocity - m/s	m/s	4.36	4.33	4.34	4.36	4.25	4.33
Volumetric Flow - Stack Cond	m ³ /s	3.27	3.25	3.26	3.27	3.19	3.25
Volumetric Flow - Ref Cond	m ³ /s wet	1.49	1.53	1.58	1.60	1.56	1.55
Volumetric Flow - Ref Cond	m ³ /s dry	1.44	1.50	1.58	1.54	1.56	1.52

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 - M6

		#1	#2	#3	#4	#5	Average
Date		18-Sep-21	19-Sep-21	25-Nov-21	26-Nov-21	27-Nov-21	
Time		10:30-11:30	10:10-11:10	11:30-12:30	11:30-12:30	10:15-11:15	
Volumetric Flow - Ref Cond % H ₂ O	m ³ /s wet	1.49	1.53	1.58	1.60	1.56	1.53
		3.18	2.54	0.00	3.96	0.00	1.91
SULPHUR DIOXIDE EMISSION RESULTS							
Dry Gas Meter Cal Factor		1.009	1.009	1.007	1.007	1.007	
Water Collected	ml	5	5	0	11	0	
Water in Silica	g	6	2	0	1	0	
Average Meter Temp	°C	13.57	15.71	27.50	29.75	24.75	22.26
Volume Sampled	m ³ dry @ Meter Cond	0.429	0.343	0.353	0.404	0.404	0.386
Volume Sampled	m ³ dry @ Ref Cond	0.454	0.364	0.346	0.395	0.403	0.392
Analytical Results	Total mg	11.590	17.735	4.316	15.949	14.043	12.727
Concentrations and Emission Rates	ppm wet	9.433	18.121	4.763	14.828	13.316	12.092
	ppm dry	9.743	18.593	4.763	15.439	13.316	12.371
	mg/m ³ wet	24.701	47.449	12.472	38.827	34.867	31.663
	mg/m ³ dry	25.513	48.686	12.472	40.428	34.867	32.393
	kg/hr	0.133	0.262	0.071	0.224	0.195	0.177

Reference conditions are 25 °C and 760 mmHg



SOURCE CONDITIONS AND EMISSION RATES

INCINERATOR STACK - EPS 1/RM/2

		#2	#3	#4	Average
Date		25-Nov-21	26-Nov-21	27-Nov-21	
Time		11:30-15:50	11:30-16:00	10:15-14:45	
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	13.21	13.21	13.21	
Pitot tube Cal Factor		0.827	0.827	0.827	
Barometric Pressure	mmHg	754.38	756.92	756.92	756.07
Static Pressure	mmHg	-0.06	-0.04	-0.06	-0.05
Stack Pressure	mmHg	754.32	756.88	756.86	756.02
Dry Gas Meter Cal Factor		1.017	1.017	1.017	1.017
Average Meter Temp	°C	37.60	38.46	38.24	38.10
Average Orifice Press	mm H ₂ O	25.15	25.91	24.36	25.14
Volume Sampled	m ³ dry @ Ref Cond	4.13	4.18	4.06	4.12
Average Sampling Rate	m ³ /min	0.0177	0.0177	0.0175	0.0176
Average Isokinetic	%	101.42%	101.49%	101.78%	101.56%
Stack Diameter	meters	0.98	0.98	0.98	
Stack area	m ²	0.75	0.75	0.75	
Stack Height	meters	11.03	11.03	11.03	
Avg. Stack Temperature	°C	335.35	332.50	335.27	334.38
MW Dry		29.10	29.09	29.07	29.09
MW Wet		28.82	28.89	28.72	28.81
H ₂ O	%	2.59	1.86	3.18	2.54
O ₂	% dry	17.84	18.07	17.96	17.96
CO ₂	% dry	2.44	2.31	2.22	2.32
CO*	% dry	< 0.0004	< 0.0004	< 0.0004	< 0.0004
N ₂ +H ₂	% dry	79.72	79.62	79.82	79.72
Velocity	m/s	4.35	4.33	4.27	4.32
Avg. Velocity Press	mm H ₂ O	0.82	0.83	0.79	0.81
Volumetric Flow - Stack Cond	m ³ /s	3.27	3.26	3.21	3.25
Volumetric Flow - Ref Cond	m ³ /s wet	1.59	1.60	1.57	1.58
Volumetric Flow - Ref Cond	m ³ /s dry	1.55	1.57	1.52	1.54

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.



DIBENZODIOXIN/FURAN EMISSION RESULTS - Page 1

INCINERATOR STACK - EPS 1/RM/2

		Averages							#2 25-Nov-21 11:30-15:50						
Date															
Time															
SAMPLING CONDITIONS															
Volume Sampled	m ³ dry @ Ref Cond	4.12							4.13						
Volumetric Flow	m ³ /s dry @ Ref Cond	1.54							1.55						
Oxygen Concentration	% dry	17.96							17.84						
RESULTS		Blank Corr Analytical pg	ng/m ³ dry basis*	ng/m ³ dry @ 11% O2*	I-TEQ ng/m ³ dry*	I-TEQ ng/m ³ dry @ 11% O2*	ug/h*	I-TEQ ug/h*	Blank Corr Analytical pg	ng/m ³ dry basis*	ng/m ³ dry @ 11% O2*	I-TEQ ng/m ³ dry*	I-TEQ ng/m ³ dry @ 11% O2*	ug/h*	I-TEQ ug/h*
2378 - TCDD		18.6000	0.0030	0.0102	0.0030	0.0102	0.0167	0.0167	< 2.6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12378 - PeCDD		59.3667	0.0145	0.0485	0.0145	0.0485	0.0800	0.0800	19.2000	0.0047	0.0149	0.0047	0.0149	0.0259	0.0259
123478 - HxCDD		52.6667	0.0129	0.0430	0.0013	0.0043	0.0710	0.0071	18.1000	0.0044	0.0140	0.0004	0.0014	0.0245	0.0024
123678 - HxCDD		110.0000	0.0269	0.0898	0.0027	0.0090	0.1482	0.0148	38.5000	0.0093	0.0298	0.0009	0.0030	0.0520	0.0052
123789 - HxCDD		61.8667	0.0151	0.0504	0.0015	0.0050	0.0834	0.0083	26.7000	0.0065	0.0207	0.0006	0.0021	0.0361	0.0036
1234678 - HpCDD		438.3333	0.1073	0.3577	0.0011	0.0036	0.5904	0.0059	148.0000	0.0359	0.1147	0.0004	0.0011	0.2000	0.0020
1,2,3,4,6,7,8,9-Octa CDD		392.9333	0.0962	0.3203	0.0000	0.0001	0.5293	0.0002	154.6000	0.0375	0.1198	0.0000	0.0000	0.2089	0.0001
TOTAL TCDD		779.3333	0.1905	0.6358			1.0500		301.0000	0.0729	0.2333			0.4067	
TOTAL PeCDD		1307.0000	0.3196	1.0655			1.7609		545.0000	0.1321	0.4225			0.7364	
TOTAL HxCDD		1492.3333	0.3652	1.2175			2.0103		550.0000	0.1333	0.4264			0.7431	
TOTAL HpCDD		984.3333	0.2411	0.8033			1.3258		331.0000	0.0802	0.2566			0.4472	
2378 - TCDF		921.0000	0.0735	0.2540	0.0074	0.0254	0.4145	0.0415	< 200	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12378 - PeCDF		138.6333	0.0337	0.1136	0.0010	0.0034	0.1869	0.0056	33.9000	0.0082	0.0263	0.0002	0.0008	0.0458	0.0014
23478 - PeCDF		364.3333	0.0887	0.2981	0.0266	0.0894	0.4911	0.1473	109.0000	0.0264	0.0845	0.0079	0.0253	0.1473	0.0442
123478 - HxCDF		485.3333	0.1184	0.3971	0.0118	0.0397	0.6540	0.0654	128.0000	0.0310	0.0992	0.0031	0.0099	0.1729	0.0173
123678 - HxCDF		184.3333	0.0449	0.1508	0.0045	0.0151	0.2484	0.0248	52.0000	0.0126	0.0403	0.0013	0.0040	0.0703	0.0070
234678 - HxCDF		319.3333	0.0779	0.2608	0.0078	0.0261	0.4303	0.0430	116.0000	0.0281	0.0899	0.0028	0.0090	0.1567	0.0157
123789 - HxCDF		8.9333	0.0022	0.0073	0.0002	0.0007	0.0120	0.0012	6.2000	0.0015	0.0048	0.0002	0.0005	0.0084	0.0008
1234678 - HpCDF		581.3333	0.1421	0.4750	0.0014	0.0047	0.7832	0.0078	180.0000	0.0436	0.1395	0.0004	0.0014	0.2432	0.0024
1234789 - HpCDF		80.5667	0.0197	0.0657	0.0002	0.0007	0.1086	0.0011	35.4000	0.0086	0.0274	0.0001	0.0003	0.0478	0.0005
1,2,3,4,6,7,8,9-Octa CDF		101.8000	0.0163	0.0545	0.0000	0.0000	0.0917	0.0000	96.1000	0.0233	0.0745	0.0000	0.0000	0.1298	0.0000
TOTAL TCDF		4430.0000	1.0789	3.6288			5.9704		1060.0000	0.2568	0.8217			1.4322	
TOTAL PeCDF		3390.0000	0.8256	2.7742			4.5690		980.0000	0.2374	0.7597			1.3241	
TOTAL HxCDF		2037.0000	0.4967	1.6655			2.7451		641.0000	0.1553	0.4969			0.8661	
TOTAL HpCDF		908.0000	0.2220	0.7410			1.2232		334.0000	0.0809	0.2589			0.4513	
Total PCDD			1.1163	3.7221			6.1469			0.4184	1.3387			2.3334	
Total PCDF			2.6233	8.8094			14.5077			0.7305	2.3372			4.0736	
Totals			3.7396	12.5315	0.0850	0.2860	20.6546	0.4708		1.1490	3.6759	0.0231	0.0738	6.4069	0.1286

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 + EPS 1/RM/2

		#3							#4						
Date		26-Nov-21							27-Nov-21						
Time		11:30-16:00							10:15-14:45						
SAMPLING CONDITIONS															
Volume Sampled	m³ dry @ Ref Cond	4.18							4.06						
Volumetric Flow	m³/s dry @ Ref Cond	1.57							1.52						
Oxygen Concentration	% dry	18.07							17.96						
RESULTS		Blank Corr Analytical pg	ng/m³ dry basis*	ng/m³ dry @ 11% O2*	I-TEQ ng/m³ dry*	I-TEQ ng/m³ dry @ 11% O2*	ug/h*	I-TEQ ug/h*	Blank Corr Analytical pg	ng/m³ dry basis*	ng/m³ dry @ 11% O2*	I-TEQ ng/m³ dry*	I-TEQ ng/m³ dry @ 11% O2*	ug/h*	I-TEQ ug/h*
2378 - TCDD		16.7000	0.0040	0.0138	0.0040	0.0138	0.0225	0.0225	20.5000	0.0051	0.0168	0.0051	0.0168	0.0276	0.0276
12378 - PeCDD		53.9000	0.0129	0.0446	0.0129	0.0446	0.0728	0.0728	105.0000	0.0259	0.0861	0.0259	0.0861	0.1413	0.1413
123478 - HxCDD		42.1000	0.0101	0.0348	0.0010	0.0035	0.0568	0.0057	97.8000	0.0241	0.0802	0.0024	0.0080	0.1316	0.0132
123678 - HxCDD		64.5000	0.0154	0.0534	0.0015	0.0053	0.0871	0.0087	227.0000	0.0559	0.1862	0.0056	0.0186	0.3054	0.0305
123789 - HxCDD		39.9000	0.0096	0.0330	0.0010	0.0033	0.0539	0.0054	119.0000	0.0293	0.0976	0.0029	0.0098	0.1601	0.0160
1234678 - HpCDD		205.0000	0.0491	0.1696	0.0005	0.0017	0.2768	0.0028	962.0000	0.2371	0.7889	0.0024	0.0079	1.2944	0.0129
1,2,3,4,6,7,8,9-Octa CDD		161.6000	0.0387	0.1337	0.0000	0.0000	0.2182	0.0001	862.6000	0.2126	0.7074	0.0001	0.0002	1.1607	0.0003
TOTAL TCDD		507.0000	0.1214	0.4194			0.6846		1530.0000	0.3770	1.2547			2.0587	
TOTAL PeCDD		766.0000	0.1834	0.6337			1.0343		2610.0000	0.6432	2.1404			3.5119	
TOTAL HxCDD		777.0000	0.1861	0.6428			1.0492		3150.0000	0.7763	2.5832			4.2385	
TOTAL HpCDD		432.0000	0.1034	0.3574			0.5833		2190.0000	0.5397	1.7960			2.9467	
2378 - TCDF		921.0000	0.2205	0.7620	0.0221	0.0762	1.2436	0.1244	< 1400	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12378 - PeCDF		165.0000	0.0395	0.1365	0.0012	0.0041	0.2228	0.0067	217.0000	0.0535	0.1780	0.0016	0.0053	0.2920	0.0088
23478 - PeCDF		407.0000	0.0975	0.3367	0.0292	0.1010	0.5496	0.1649	577.0000	0.1422	0.4732	0.0427	0.1420	0.7764	0.2329
123478 - HxCDF		429.0000	0.1027	0.3549	0.0103	0.0355	0.5793	0.0579	899.0000	0.2215	0.7372	0.0222	0.0737	1.2096	0.1210
123678 - HxCDF		181.0000	0.0433	0.1497	0.0043	0.0150	0.2444	0.0244	320.0000	0.0789	0.2624	0.0079	0.0262	0.4306	0.0431
234678 - HxCDF		278.0000	0.0666	0.2300	0.0067	0.0230	0.3754	0.0375	564.0000	0.1390	0.4625	0.0139	0.0463	0.7589	0.0759
123789 - HxCDF		8.7000	0.0021	0.0072	0.0002	0.0007	0.0117	0.0012	11.9000	0.0029	0.0098	0.0003	0.0010	0.0160	0.0016
1234678 - HpCDF		394.0000	0.0943	0.3260	0.0009	0.0033	0.5320	0.0053	1170.0000	0.2883	0.9595	0.0029	0.0096	1.5743	0.0157
1234789 - HpCDF		60.3000	0.0144	0.0499	0.0001	0.0005	0.0814	0.0008	146.0000	0.0360	0.1197	0.0004	0.0012	0.1964	0.0020
1,2,3,4,6,7,8,9-Octa CDF		107.5000	0.0257	0.0889	0.0000	0.0000	0.1452	0.0000	< 390	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
TOTAL TCDF		4870.0000	1.1662	4.0290			6.5760		7360.0000	1.8138	6.0357			9.9032	
TOTAL PeCDF		3630.0000	0.8693	3.0032			4.9016		5560.0000	1.3702	4.5596			7.4812	
TOTAL HxCDF		1890.0000	0.4526	1.5636			2.5521		3580.0000	0.8822	2.9359			4.8170	
TOTAL HpCDF		550.0000	0.1317	0.4550			0.7427		1840.0000	0.4534	1.5089			2.4758	
Total PCDD			0.5944	2.0534			3.3514			2.3362	7.7743			12.7558	
Total PCDF			2.6197	9.0508			14.7723			4.5196	15.0402			24.6773	
Totals			3.2141	11.1042	0.0960	0.3315	18.1237	0.5411		6.8558	22.8145	0.1360	0.4527	37.4331	0.7428

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 - M29

DATE: 18-Sep-21

TIME: 10:30 to 14:11

Port	Point No.	Stack Temp (°C)	Velocity Head (mm H ₂ O)	Velocity (m/s)	Orifice Press. (mm H ₂ O)	Volume Sampled (m ³)	Meter Temp In (°C)	Meter Temp Out (°C)	Temperature Probe (°C)	Temperature Box (°C)	Vacuum (in. Hg)	% Isokinetic	Velocity (Vertical) (m/s)	θ
West	1	385	0.76	4.33	19.56	0.064	17	17	120	120	-3.00	100.8	4.33	0
West	2	385	0.76	4.33	19.56	0.064	17	17	120	120	-3.00	100.4	4.33	0
West	3	390	0.76	4.35	19.56	0.064	17	18	120	120	-3.00	101.0	4.35	0
West	4	390	0.76	4.35	19.56	0.063	17	18	120	120	-3.00	100.1	4.35	0
West	5	390	0.76	4.35	19.56	0.064	17	18	120	120	-3.00	101.5	4.35	0
West	6	390	0.76	4.35	19.56	0.064	17	18	120	120	-3.00	101.0	4.35	0
West	7	390	0.76	4.35	19.56	0.064	18	18	120	120	-3.00	100.4	4.35	0
West	8	390	0.76	4.35	19.56	0.064	17	18	120	120	-3.00	100.6	4.35	0
West	9	390	0.76	4.35	19.56	0.064	17	18	120	120	-3.00	100.6	4.35	0
West	10	390	0.76	4.35	19.56	0.064	18	18	120	120	-3.00	100.9	4.35	0
West	11	390	0.76	4.35	19.56	0.064	17	18	120	120	-3.00	100.6	4.35	0
West	12	390	0.76	4.35	19.56	0.064	17	18	120	120	-3.00	101.0	4.35	0
West	13	390	0.76	4.35	19.56	0.064	18	18	120	120	-3.00	101.3	4.35	0
West	14	390	0.76	4.35	19.56	0.064	18	18	120	120	-3.00	100.9	4.35	0
West	15	390	0.76	4.35	19.56	0.064	19	18	120	120	-3.00	100.7	4.35	0
West	16	390	0.76	4.35	19.56	0.064	19	18	120	120	-3.00	100.7	4.35	0
West	17	390	0.76	4.35	19.56	0.063	19	18	120	120	-3.00	100.2	4.35	0
West	18	390	0.76	4.35	19.56	0.064	19	18	120	120	-3.00	101.6	4.35	0
West	19	392	0.76	4.35	19.56	0.063	19	18	120	120	-3.00	99.9	4.35	0
West	20	393	0.76	4.36	19.56	0.064	19	18	120	120	-3.00	100.9	4.36	0
West	21	392	0.76	4.35	19.56	0.064	19	18	120	120	-3.00	100.8	4.35	0
West	22	393	0.76	4.36	19.56	0.063	19	19	120	120	-3.00	100.3	4.36	0
West	23	395	0.76	4.36	19.56	0.064	19	19	120	120	-3.00	101.4	4.36	0
West	24	394	0.76	4.36	19.56	0.063	19	19	120	120	-3.00	100.3	4.36	0
South	25	398	0.76	4.37	19.30	0.063	17	17	120	120	-3.00	100.9	4.37	0
South	26	405	0.76	4.40	19.05	0.063	17	17	120	120	-3.00	100.4	4.40	0
South	27	406	0.76	4.40	19.05	0.063	17	17	120	120	-3.00	100.5	4.40	0
South	28	407	0.76	4.40	19.05	0.063	17	17	120	120	-3.00	100.6	4.40	0
South	29	405	0.76	4.40	19.05	0.063	17	17	120	120	-3.00	100.9	4.40	0
South	30	408	0.76	4.40	19.05	0.063	18	17	120	120	-3.00	100.9	4.40	0
South	31	409	0.76	4.41	19.05	0.063	18	17	120	120	-3.00	100.5	4.41	0
South	32	409	0.76	4.41	19.05	0.063	18	18	120	120	-3.00	100.8	4.41	0
South	33	408	0.76	4.40	19.05	0.063	18	18	120	120	-3.00	100.8	4.40	0
South	34	410	0.76	4.41	19.05	0.063	18	18	120	120	-3.00	100.4	4.41	0
South	35	400	0.76	4.38	19.30	0.063	19	18	120	120	-3.00	100.5	4.38	0
South	36	395	0.76	4.36	19.56	0.063	19	18	120	120	-3.00	100.6	4.36	0
South	37	398	0.76	4.37	19.30	0.064	19	18	120	120	-3.00	101.3	4.37	0
South	38	393	0.76	4.36	19.56	0.063	20	20	120	120	-3.00	100.4	4.36	0
South	39	395	0.76	4.36	19.56	0.063	20	20	120	120	-3.00	100.6	4.36	0
South	40	398	0.76	4.37	19.56	0.063	20	20	120	120	-3.00	100.8	4.37	0
South	41	402	0.76	4.39	19.30	0.063	20	20	120	120	-3.00	99.6	4.39	0
South	42	397	0.76	4.37	19.56	0.064	20	20	120	120	-3.00	101.2	4.37	0
South	43	392	0.76	4.35	19.56	0.063	20	20	120	120	-3.00	100.3	4.35	0
South	44	390	0.76	4.35	19.56	0.064	20	20	120	120	-3.00	100.6	4.35	0
South	45	388	0.76	4.34	19.81	0.064	20	20	120	120	-3.00	100.5	4.34	0
South	46	388	0.76	4.34	19.81	0.064	20	20	120	120	-3.00	101.0	4.34	0
South	47	387	0.76	4.34	19.81	0.064	20	20	120	120	-3.00	100.4	4.34	0
South	48	385	0.76	4.33	19.81	0.063	20	20	120	120	-3.00	99.8	4.33	0
AVERAGE		395	0.76	4.36	19.46		18	18				100.7	4.36	



ISOKINETIC FIELD DATA RUN #2

INCINERATOR STACK - M29

DATE: 19-Sep-21

TIME: 10:10 to 14:21

Port	Point No.	Stack Temp (°C)	Velocity Head (mm H ₂ O)	Velocity (m/s)	Orifice Press. (mm H ₂ O)	Volume Sampled (m ³)	Meter Temp In (°C)	Meter Temp Out (°C)	Temperature Probe (°C)	Temperature Box (°C)	Vacuum (in. Hg)	% Isokinetic	Velocity (Vertical) (m/s)	θ
South	1	366	0.76	4.25	20.83	0.066	13	13	120	120	-2.00	102.9	4.25	0
South	2	365	0.76	4.25	20.83	0.067	13	13	120	120	-2.00	103.3	4.25	0
South	3	368	0.76	4.26	20.57	0.066	13	13	120	120	-2.00	103.0	4.26	0
South	4	369	0.76	4.26	20.57	0.066	13	13	120	120	-2.00	103.1	4.26	0
South	5	362	0.76	4.24	20.83	0.067	13	13	120	120	-2.00	103.0	4.24	0
South	6	363	0.76	4.24	20.83	0.066	13	13	120	120	-2.00	102.6	4.24	0
South	7	362	0.76	4.24	20.83	0.067	13	14	120	120	-2.00	103.3	4.24	0
South	8	368	0.76	4.26	20.57	0.066	13	14	120	120	-2.00	102.9	4.26	0
South	9	366	0.76	4.25	20.83	0.066	13	14	120	120	-2.00	103.2	4.25	0
South	10	366	0.76	4.25	20.83	0.066	14	14	120	120	-2.00	103.0	4.25	0
South	11	368	0.76	4.26	20.83	0.066	14	14	120	120	-2.00	102.7	4.26	0
South	12	368	0.76	4.26	20.83	0.066	14	14	120	120	-2.00	103.2	4.26	0
South	13	366	0.76	4.25	20.83	0.066	14	14	120	120	-2.00	103.0	4.25	0
South	14	362	0.76	4.24	20.83	0.068	14	14	120	120	-2.00	105.5	4.24	0
South	15	361	0.76	4.24	20.83	0.065	14	14	120	120	-2.00	100.7	4.24	0
South	16	364	0.76	4.25	20.83	0.066	14	14	120	120	-2.00	102.8	4.25	0
South	17	370	0.76	4.27	20.57	0.066	14	14	120	120	-3.00	103.3	4.27	0
South	18	373	0.76	4.27	20.57	0.066	14	14	120	120	-3.00	102.6	4.27	0
South	19	384	0.76	4.31	20.32	0.065	14	14	120	120	-3.00	103.0	4.31	0
South	20	385	0.76	4.31	20.32	0.065	14	14	120	120	-3.00	103.1	4.31	0
South	21	404	0.76	4.38	19.56	0.064	14	14	120	120	-3.00	103.0	4.38	0
South	22	407	0.76	4.39	19.56	0.064	14	14	120	120	-3.00	102.8	4.39	0
South	23	385	0.76	4.31	20.32	0.065	14	14	120	120	-3.00	103.1	4.31	0
South	24	390	0.76	4.33	20.07	0.065	14	14	120	120	-3.00	103.4	4.33	0
West	25	385	0.76	4.31	20.32	0.065	13	13	120	120	-3.00	102.9	4.31	0
West	26	390	0.76	4.33	20.07	0.065	13	13	120	120	-3.00	103.3	4.33	0
West	27	393	1.02	5.01	26.42	0.075	13	13	120	120	-3.00	102.9	5.01	0
West	28	392	0.76	4.34	19.81	0.065	13	13	120	120	-3.00	103.0	4.34	0
West	29	395	0.76	4.35	19.81	0.065	13	13	120	120	-3.00	102.7	4.35	0
West	30	406	1.02	5.06	25.91	0.075	13	13	120	120	-3.00	103.5	5.06	0
West	31	420	0.51	3.62	12.70	0.052	13	13	120	120	-3.00	102.9	3.62	0
West	32	386	0.76	4.32	20.32	0.065	13	14	120	120	-2.00	102.8	4.32	0
West	33	379	0.76	4.29	20.32	0.065	13	14	120	120	-2.00	102.8	4.29	0
West	34	375	0.76	4.28	20.32	0.066	13	14	120	120	-2.00	103.9	4.28	0
West	35	369	0.76	4.26	20.57	0.066	14	14	120	120	-2.00	102.3	4.26	0
West	36	370	0.76	4.27	20.57	0.066	14	14	120	120	-2.00	102.8	4.27	0
West	37	375	0.76	4.28	20.57	0.066	14	14	120	120	-2.00	103.2	4.28	0
West	38	378	0.76	4.29	20.57	0.066	15	14	120	120	-2.00	102.8	4.29	0
West	39	380	0.76	4.30	20.32	0.065	15	15	120	120	-2.00	102.8	4.30	0
West	40	377	0.76	4.29	20.57	0.066	15	15	120	120	-2.00	103.5	4.29	0
West	41	368	0.76	4.26	20.83	0.066	15	15	120	120	-2.00	102.8	4.26	0
West	42	365	0.76	4.25	20.83	0.066	15	15	120	120	-2.00	103.0	4.25	0
West	43	370	1.02	4.92	27.94	0.076	14	15	122	120	-2.00	103.1	4.92	0
West	44	380	1.02	4.96	27.94	0.076	14	15	122	122	-2.00	103.1	4.96	0
West	45	381	1.02	4.97	27.94	0.076	14	14	122	122	-3.00	102.9	4.97	0
West	46	377	0.76	4.29	20.32	0.066	14	14	122	122	-3.00	102.9	4.29	0
West	47	375	0.76	4.28	20.32	0.066	13	14	120	120	-3.00	103.4	4.28	0
West	48	373	0.76	4.27	20.57	0.066	13	14	120	120	-3.00	102.8	4.27	0
AVERAGE		377	0.78	4.34	21.03		14	14				103.0	4.34	



ISOKINETIC FIELD DATA RUN #3

INCINERATOR STACK - M29

DATE: 20-Nov-21

TIME: 14:00 to 15:48

Port	Point No.	Stack Temp (°C)	Velocity Head (mm H ₂ O)	Velocity (m/s)	Orifice Press. (mm H ₂ O)	Volume Sampled (m ³)	Meter Temp In (°C)	Meter Temp Out (°C)	Temperature Probe (°C)	Temperature Box (°C)	Vacuum (in. Hg)	% Isokinetic	Velocity (Vertical) (m/s)	θ
West	1	344	0.76	4.25	22.61	0.066	28	29	120	120	-1.00	99.5	4.25	0
West	2	348	0.76	4.26	22.35	0.066	30	30	120	120	-1.00	99.8	4.26	0
West	3	352	0.76	4.27	22.35	0.065	31	30	120	120	-1.00	99.5	4.27	0
West	4	355	1.02	4.95	27.94	0.076	32	30	120	120	-1.00	99.9	4.95	0
West	5	348	1.02	4.92	27.94	0.076	34	31	120	120	-1.00	99.6	4.92	0
West	6	358	1.02	4.96	27.94	0.075	34	31	120	120	-1.00	99.7	4.96	0
West	7	353	1.02	4.94	27.94	0.076	35	32	120	120	-1.00	99.7	4.94	0
West	8	352	1.02	4.93	30.48	0.076	35	32	120	120	-1.00	99.6	4.93	0
West	9	352	1.02	4.93	30.48	0.076	36	33	120	120	-1.00	99.7	4.93	0
West	10	358	1.27	5.54	38.10	0.084	36	33	120	120	-1.00	99.8	5.54	0
West	11	339	1.27	5.46	38.10	0.085	36	34	120	120	-1.00	99.7	5.46	0
West	12	344	1.02	4.90	30.48	0.076	37	34	120	120	-1.00	99.8	4.90	0
South	13	355	1.02	4.95	30.48	0.075	36	33	120	120	-2.00	99.5	4.95	0
South	14	358	1.02	4.96	30.48	0.075	36	33	120	120	-2.00	99.8	4.96	0
South	15	359	1.02	4.96	30.48	0.075	37	34	120	120	-2.00	99.9	4.96	0
South	16	347	1.02	4.91	30.48	0.076	38	34	120	120	-2.00	99.5	4.91	0
South	17	348	1.02	4.92	30.48	0.076	37	34	120	120	-2.00	99.7	4.92	0
South	18	344	0.76	4.25	22.86	0.066	38	34	120	120	-2.00	99.6	4.25	0
South	19	348	1.02	4.92	30.48	0.076	38	35	120	120	-2.00	99.8	4.92	0
South	20	349	1.02	4.92	30.48	0.076	38	35	120	120	-2.00	99.9	4.92	0
South	21	345	1.02	4.91	30.48	0.076	38	36	120	120	-2.00	99.7	4.91	0
South	22	340	1.02	4.89	30.48	0.076	38	36	120	120	-2.00	99.7	4.89	0
South	23	338	0.76	4.22	23.37	0.066	38	36	120	120	-2.00	99.6	4.22	0
South	24	342	0.76	4.24	23.37	0.066	38	36	120	120	-2.00	99.5	4.24	0
AVERAGE		349	0.97	4.81	28.78		36	33				99.7	4.81	



ISOKINETIC FIELD DATA RUN #4

INCINERATOR STACK - M29

DATE: 28-Nov-21

TIME: 10:30 to 13:00

Port	Point No.	Stack Temp (°C)	Velocity Head (mm H ₂ O)	Velocity (m/s)	Orifice Press. (mm H ₂ O)	Volume Sampled (m ³)	Meter Temp In (°C)	Meter Temp Out (°C)	Temperature Probe (°C)	Temperature Box (°C)	Vacuum (in. Hg)	% Isokinetic	Velocity (Vertical) (m/s)	θ
South	1	431	1.02	5.23	25.40	0.090	33	32	120	120	-3.00	102.0	5.23	0
South	2	434	1.02	5.24	25.40	0.089	33	32	120	120	-3.00	101.9	5.24	0
South	3	433	1.02	5.24	25.40	0.089	33	32	120	120	-3.00	101.8	5.24	0
South	4	440	1.02	5.26	25.40	0.089	33	33	120	120	-3.00	101.8	5.26	0
South	5	450	1.02	5.30	25.40	0.089	33	34	120	120	-3.00	102.0	5.30	0
South	6	438	0.76	4.55	19.81	0.077	34	34	120	120	-3.00	101.8	4.55	0
South	7	443	0.76	4.57	19.81	0.077	34	34	120	120	-3.00	101.8	4.57	0
South	8	445	1.02	5.28	25.40	0.089	34	34	120	120	-3.00	102.2	5.28	0
South	9	441	0.76	4.56	19.81	0.077	34	34	120	120	-3.00	102.0	4.56	0
South	10	445	0.76	4.57	19.81	0.077	34	34	120	120	-4.00	101.6	4.57	0
South	11	440	0.76	4.56	19.81	0.077	35	34	120	120	-4.00	101.8	4.56	0
South	12	435	0.76	4.54	19.81	0.076	34	34	120	120	-4.00	100.1	4.54	0
West	13	429	1.02	5.22	25.40	0.092	32	32	120	120	-4.00	103.9	5.22	0
West	14	430	1.02	5.22	25.40	0.089	32	32	120	120	-4.00	101.4	5.22	0
West	15	445	0.76	4.57	19.81	0.077	33	32	120	120	-4.00	101.7	4.57	0
West	16	453	0.76	4.60	19.30	0.076	33	32	120	120	-4.00	101.9	4.60	0
West	17	429	0.76	4.52	20.07	0.078	33	32	120	120	-4.00	102.0	4.52	0
West	18	430	1.02	5.22	25.40	0.090	33	32	120	120	-4.00	101.9	5.22	0
West	19	435	1.02	5.24	25.40	0.089	33	33	120	120	-4.00	101.8	5.24	0
West	20	440	0.76	4.56	19.81	0.077	33	33	120	120	-5.00	101.9	4.56	0
West	21	441	0.76	4.56	19.81	0.077	34	33	120	120	-5.00	101.8	4.56	0
West	22	443	0.76	4.57	19.81	0.077	34	33	120	120	-5.00	101.6	4.57	0
West	23	437	0.51	3.71	13.21	0.063	34	34	120	120	-5.00	102.0	3.71	0
West	24	436	0.51	3.71	13.21	0.063	34	34	120	120	-5.00	102.4	3.71	0
AVERAGE		438	0.85	4.77	21.58		33	33				101.9	4.77	

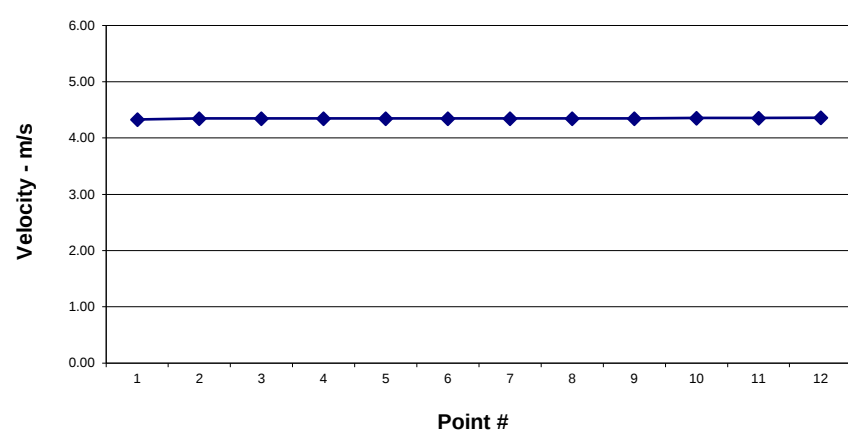


VELOCITY PROFILES

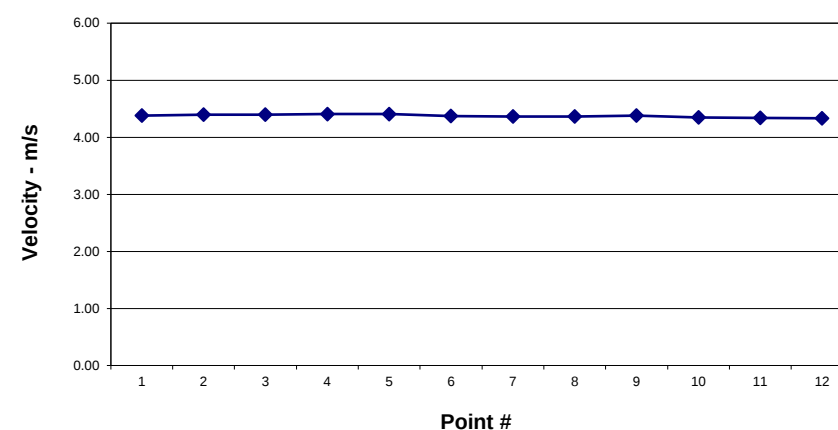
INCINERATOR STACK - M29

September 18 - November 28, 2021

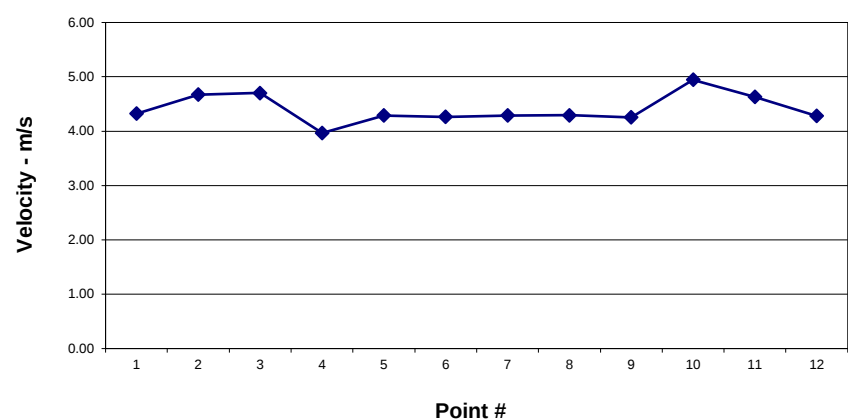
Velocity Profile for Test #1 - West



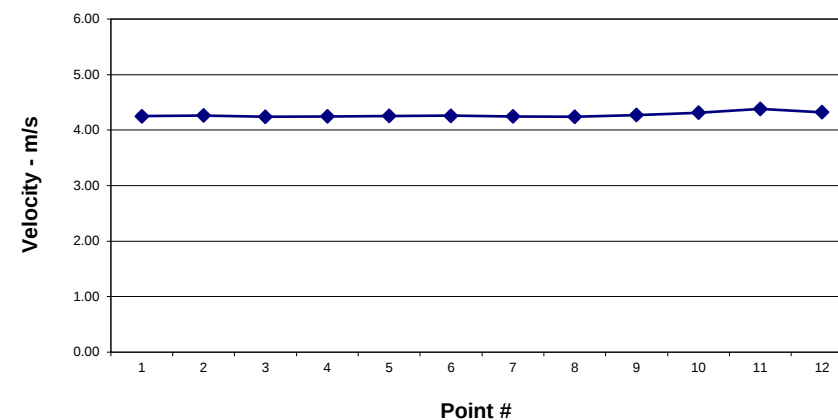
Velocity Profile for Test #1 - South



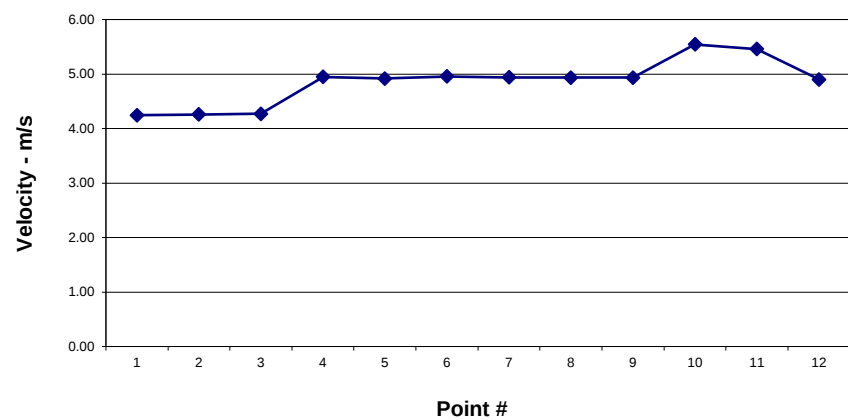
Velocity Profile for Test #2 - West



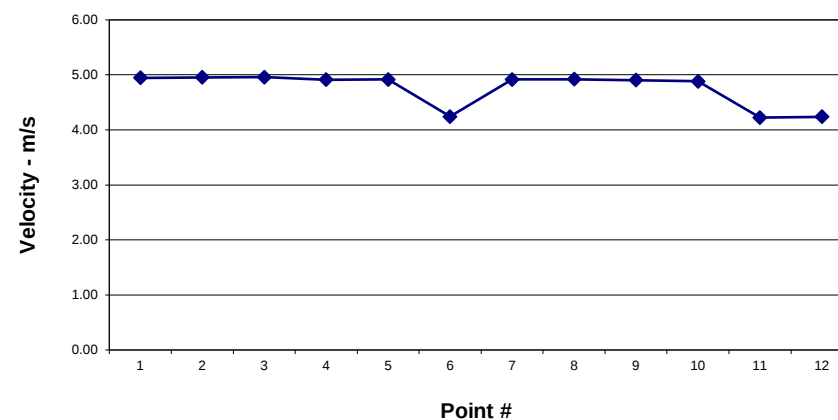
Velocity Profile for Test #2 - South



Velocity Profile for Test #3 - West



Velocity Profile for Test #3 - South

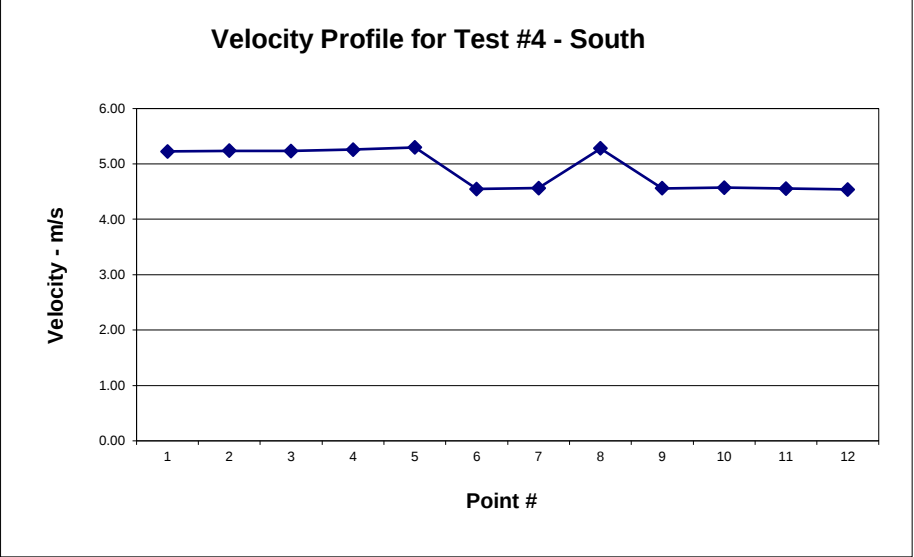
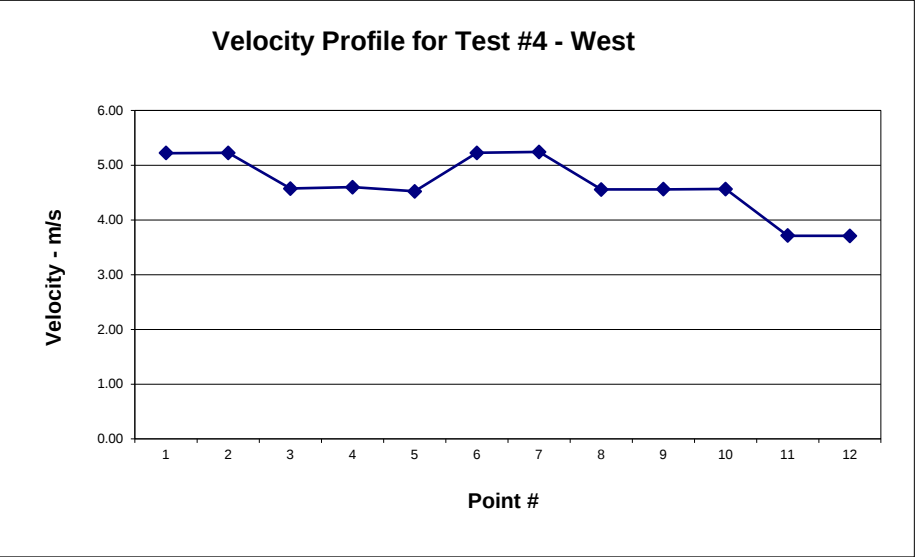




VELOCITY PROFILES

INCINERATOR STACK - M29

September 18 - November 28, 2021





CONSTANT SAMPLING VELOCITY DATA

INCINERATOR STACK - M26

		Test #1		Test #2		Test #3		Test #4		Test #5	
Date:		18-Sep-21		19-Sep-21		20-Nov-21		25-Nov-21		28-Nov-21	
Time:		10:30 - 11:30		10:10 - 11:10		14:00 - 15:20		11:30 - 12:50		11:00 - 12:20	
Port	Point No.	Velocity Head (mm H ₂ O)	Velocity (m/s)	Velocity Head (mm H ₂ O)	Velocity (m/s)	Velocity Head (mm H ₂ O)	Velocity (m/s)	Velocity Head (mm H ₂ O)	Velocity (m/s)	Velocity Head (mm H ₂ O)	Velocity (m/s)
West	1	0.76	4.37	0.76	4.28	0.76	4.26	0.76	4.20	1.02	5.22
West	2	0.76	4.37	0.76	4.28	0.76	4.26	0.76	4.20	1.02	5.22
West	3	0.76	4.37	1.02	4.95	0.76	4.26	0.76	4.20	0.76	4.52
West	4	0.76	4.37	0.76	4.28	1.02	4.92	0.76	4.20	0.76	4.52
West	5	0.76	4.37	0.76	4.28	1.02	4.92	1.02	4.85	0.76	4.52
West	6	0.76	4.37	1.02	4.95	1.02	4.92	1.02	4.85	1.02	5.22
West	7	0.76	4.37	0.51	3.50	1.02	4.92	0.76	4.20	1.02	5.22
West	8	0.76	4.37	0.76	4.28	1.02	4.92	1.02	4.85	0.76	4.52
West	9	0.76	4.37	0.76	4.28	1.02	4.92	0.76	4.20	0.76	4.52
West	10	0.76	4.37	0.76	4.28	1.27	5.50	0.76	4.20	0.76	4.52
West	11	0.76	4.37	0.76	4.28	1.27	5.50	0.76	4.20	0.51	3.69
West	12	0.76	4.37	0.76	4.28	1.02	4.92	0.76	4.20	0.51	3.69
West	13	0.76	4.37	0.76	4.28	N/D	N/D	1.02	4.85	N/D	N/D
West	14	0.76	4.37	0.76	4.28	N/D	N/D	1.02	4.85	N/D	N/D
West	15	0.76	4.37	0.76	4.28	N/D	N/D	0.76	4.20	N/D	N/D
West	16	0.76	4.37	0.76	4.28	N/D	N/D	0.76	4.20	N/D	N/D
West	17	0.76	4.37	0.76	4.28	N/D	N/D	1.02	4.85	N/D	N/D
West	18	0.76	4.37	0.76	4.28	N/D	N/D	0.76	4.20	N/D	N/D
West	19	0.76	4.37	1.02	4.95	N/D	N/D	0.76	4.20	N/D	N/D
West	20	0.76	4.37	1.02	4.95	N/D	N/D	0.76	4.20	N/D	N/D
West	21	0.76	4.37	1.02	4.95	N/D	N/D	0.76	4.20	N/D	N/D
West	22	0.76	4.37	0.76	4.28	N/D	N/D	0.76	4.20	N/D	N/D
West	23	0.76	4.37	0.76	4.28	N/D	N/D	0.76	4.20	N/D	N/D
West	24	0.76	4.37	0.76	4.28	N/D	N/D	1.02	4.85	N/D	N/D
South	25	0.76	4.37	0.76	4.28	1.02	4.92	0.76	4.20	1.02	5.22
South	26	0.76	4.37	0.76	4.28	1.02	4.92	0.51	3.43	1.02	5.22
South	27	0.76	4.37	0.76	4.28	1.02	4.92	0.51	3.43	1.02	5.22
South	28	0.76	4.37	0.76	4.28	1.02	4.92	0.76	4.20	1.02	5.22
South	29	0.76	4.37	0.76	4.28	1.02	4.92	1.02	4.85	1.02	5.22
South	30	0.76	4.37	0.76	4.28	0.76	4.26	1.27	5.42	0.76	4.52
South	31	0.76	4.37	0.76	4.28	1.02	4.92	1.02	4.85	0.76	4.52
South	32	0.76	4.37	0.76	4.28	1.02	4.92	1.02	4.85	1.02	5.22
South	33	0.76	4.37	0.76	4.28	1.02	4.92	1.02	4.85	0.76	4.52
South	34	0.76	4.37	0.76	4.28	1.02	4.92	0.76	4.20	0.76	4.52
South	35	0.76	4.37	0.76	4.28	0.76	4.26	0.76	4.20	0.76	4.52
South	36	0.76	4.37	0.76	4.28	0.76	4.26	0.76	4.20	0.76	4.52
South	37	0.76	4.37	0.76	4.28	N/D	N/D	0.76	4.20	N/D	N/D
South	38	0.76	4.37	0.76	4.28	N/D	N/D	0.76	4.20	N/D	N/D
South	39	0.76	4.37	0.76	4.28	N/D	N/D	1.02	4.85	N/D	N/D
South	40	0.76	4.37	0.76	4.28	N/D	N/D	0.76	4.20	N/D	N/D
South	41	0.76	4.37	0.76	4.28	N/D	N/D	1.02	4.85	N/D	N/D
South	42	0.76	4.37	0.76	4.28	N/D	N/D	0.76	4.20	N/D	N/D
South	43	0.76	4.37	0.76	4.28	N/D	N/D	1.02	4.85	N/D	N/D
South	44	0.76	4.37	0.76	4.28	N/D	N/D	0.76	4.20	N/D	N/D
South	45	0.76	4.37	0.76	4.28	N/D	N/D	0.51	3.43	N/D	N/D
South	46	0.76	4.37	0.76	4.28	N/D	N/D	0.76	4.20	N/D	N/D
South	47	0.76	4.37	0.76	4.28	N/D	N/D	0.51	3.43	N/D	N/D
South	48	0.76	4.37	0.76	4.28	N/D	N/D	0.51	3.43	N/D	N/D
AVERAGE		0.76	4.37	0.78	4.34	0.97	4.80	0.82	4.33	0.85	4.75

N/D: valid data not available

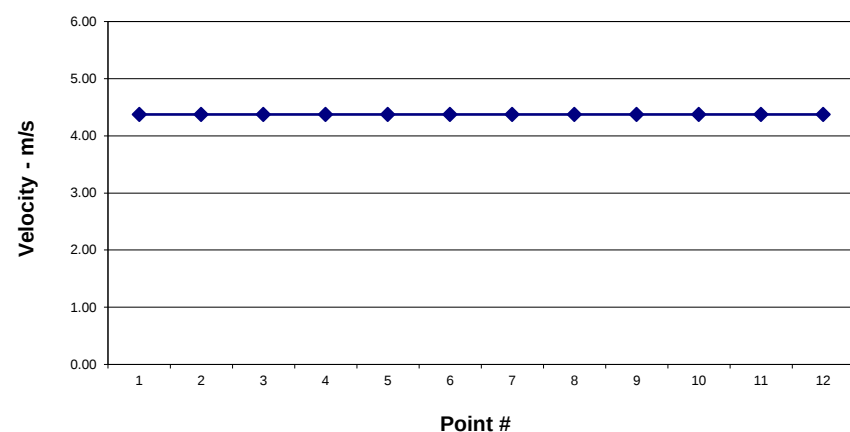


VELOCITY PROFILES

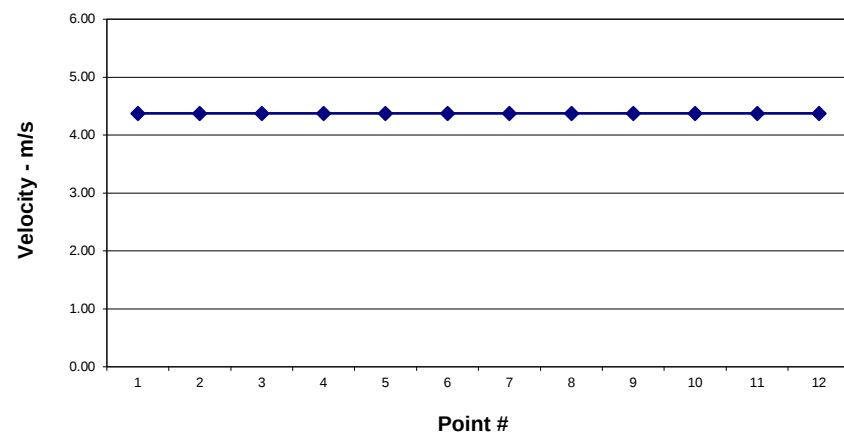
INCINERATOR STACK - M26

September 18 - November 28, 2021

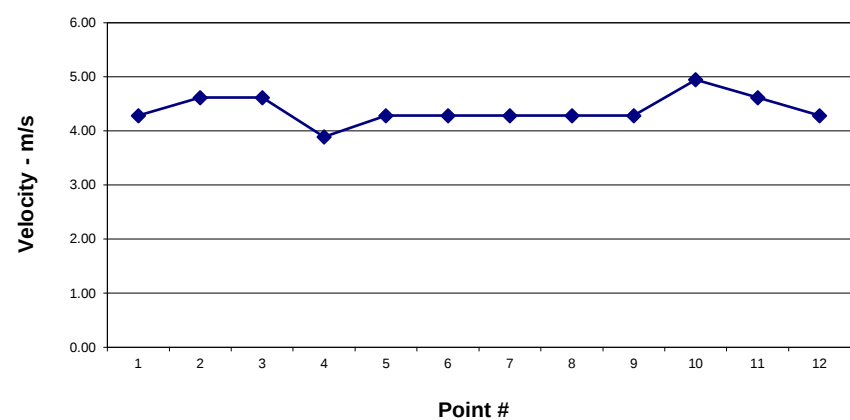
Velocity Profile for Test #1 - West



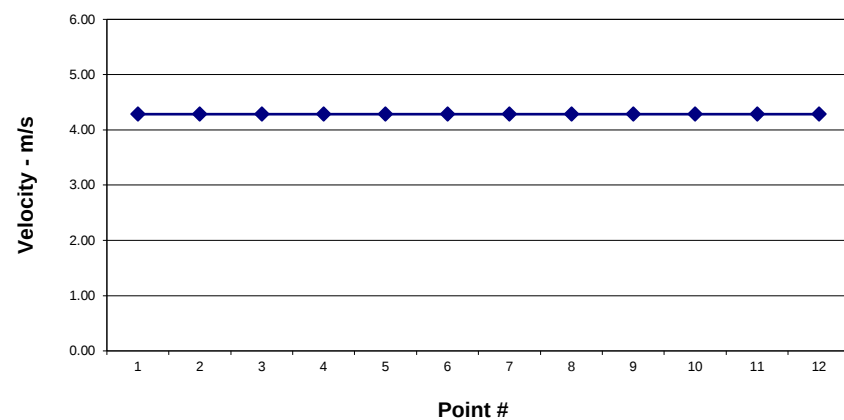
Velocity Profile for Test #1 - South



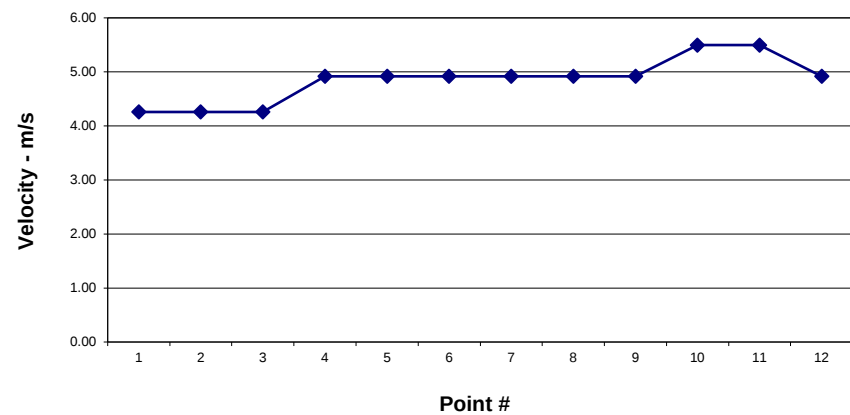
Velocity Profile for Test #2 - West



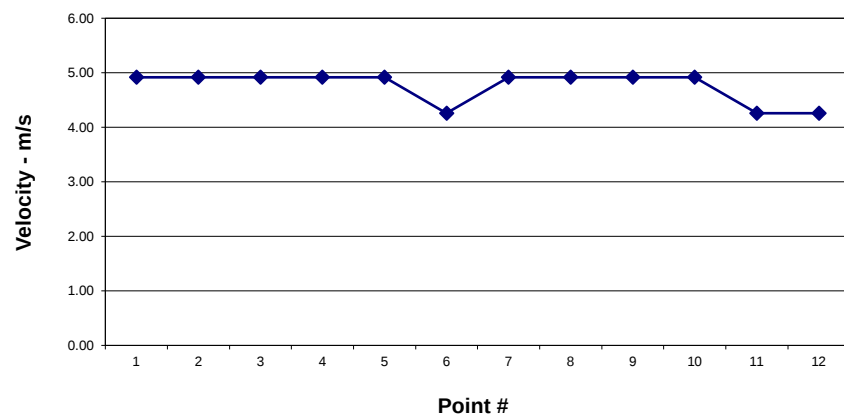
Velocity Profile for Test #2 - South



Velocity Profile for Test #3 - West



Velocity Profile for Test #3 - South



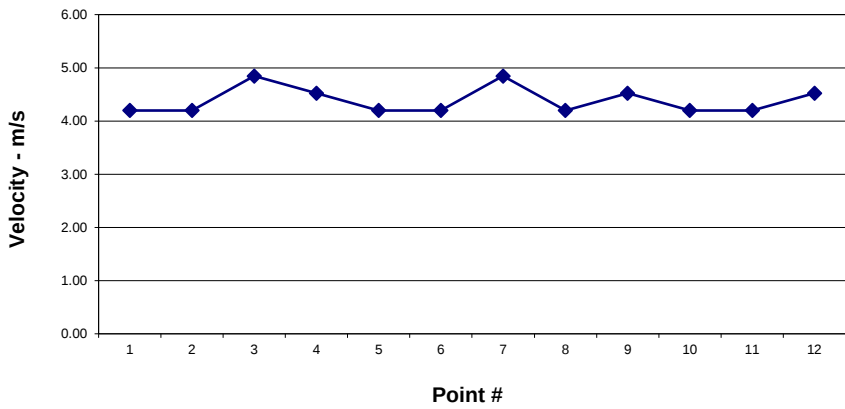


VELOCITY PROFILES

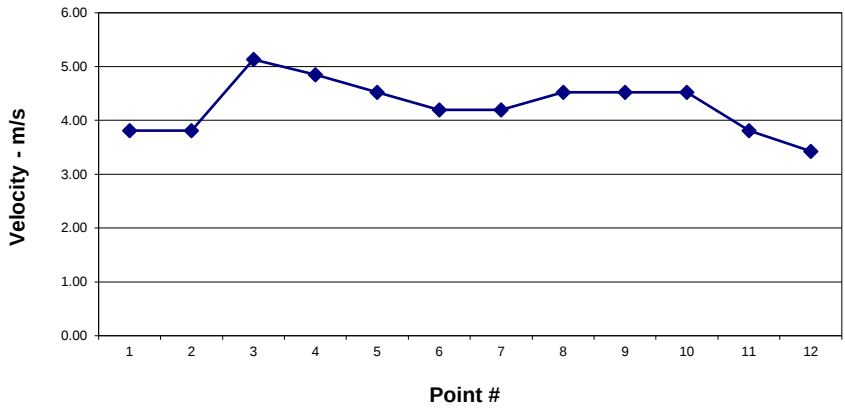
INCINERATOR STACK - M26

September 18 - November 28, 2021

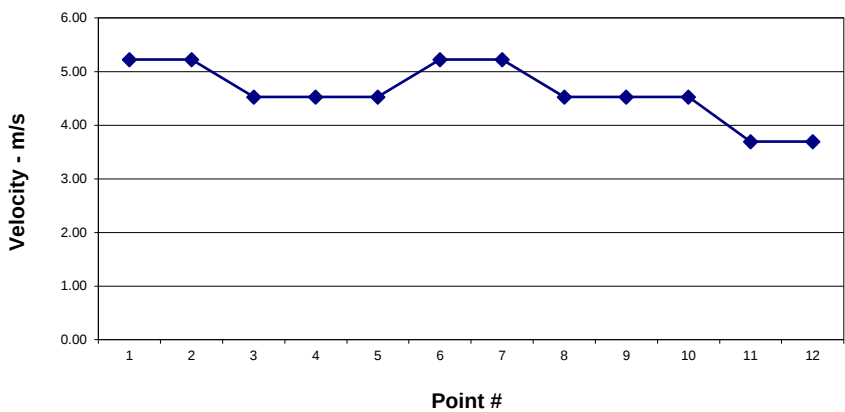
Velocity Profile for Test #4 - West



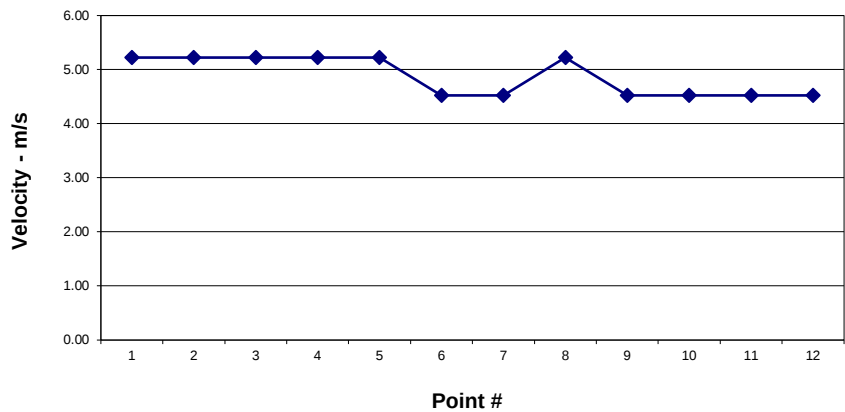
Velocity Profile for Test #4 - South



Velocity Profile for Test #5 - West



Velocity Profile for Test #5 - South





CONSTANT SAMPLING VELOCITY DATA

INCINERATOR STACK - M7A

		Test #1		Test #2		Test #3		Test #4		Test #5	
Date:		18-Sep-21		19-Sep-21		20-Nov-21		26-Nov-21		28-Nov-21	
Time:		10:30 - 14:11		10:10 - 14:21		14:00 - 15:48		11:30 - 16:00		10:30 - 13:00	
Port	Point No.	Velocity Head (mm H ₂ O)	Velocity (m/s)	Velocity Head (mm H ₂ O)	Velocity (m/s)	Velocity Head (mm H ₂ O)	Velocity (m/s)	Velocity Head (mm H ₂ O)	Velocity (m/s)	Velocity Head (mm H ₂ O)	Velocity (m/s)
West	1	0.76	4.36	0.76	4.29	0.76	4.26	0.76	4.20	1.02	5.26
West	2	0.76	4.36	0.76	4.29	0.76	4.26	0.76	4.20	1.02	5.26
West	3	0.76	4.36	1.02	4.95	0.76	4.26	1.02	4.85	0.76	4.55
West	4	0.76	4.36	0.76	4.29	1.02	4.92	0.76	4.20	0.76	4.55
West	5	0.76	4.36	0.76	4.29	1.02	4.92	0.76	4.20	0.76	4.55
West	6	0.76	4.36	1.02	4.95	1.02	4.92	0.76	4.20	1.02	5.26
West	7	0.76	4.36	0.51	3.50	1.02	4.92	1.02	4.85	1.02	5.26
West	8	0.76	4.36	0.76	4.29	1.02	4.92	0.76	4.20	0.76	4.55
West	9	0.76	4.36	0.76	4.29	1.02	4.92	0.76	4.20	0.76	4.55
West	10	0.76	4.36	0.76	4.29	1.27	5.50	0.76	4.20	0.76	4.55
West	11	0.76	4.36	0.76	4.29	1.27	5.50	1.02	4.85	0.51	3.72
West	12	0.76	4.36	0.76	4.29	1.02	4.92	0.76	4.20	0.51	3.72
West	13	0.76	4.36	0.76	4.29	N/D	N/D	1.27	5.42	N/D	N/D
West	14	0.76	4.36	0.76	4.29	N/D	N/D	1.27	5.42	N/D	N/D
West	15	0.76	4.36	0.76	4.29	N/D	N/D	0.76	4.20	N/D	N/D
West	16	0.76	4.36	0.76	4.29	N/D	N/D	0.76	4.20	N/D	N/D
West	17	0.76	4.36	0.76	4.29	N/D	N/D	1.02	4.85	N/D	N/D
West	18	0.76	4.36	0.76	4.29	N/D	N/D	1.02	4.85	N/D	N/D
West	19	0.76	4.36	1.02	4.95	N/D	N/D	0.76	4.20	N/D	N/D
West	20	0.76	4.36	1.02	4.95	N/D	N/D	0.76	4.20	N/D	N/D
West	21	0.76	4.36	1.02	4.95	N/D	N/D	0.76	4.20	N/D	N/D
West	22	0.76	4.36	0.76	4.29	N/D	N/D	0.51	3.43	N/D	N/D
West	23	0.76	4.36	0.76	4.29	N/D	N/D	0.51	3.43	N/D	N/D
West	24	0.76	4.36	0.76	4.29	N/D	N/D	0.51	3.43	N/D	N/D
South	25	0.76	4.36	0.76	4.29	1.02	4.92	0.76	4.20	1.02	5.26
South	26	0.76	4.36	0.76	4.29	1.02	4.92	1.02	4.85	1.02	5.26
South	27	0.76	4.36	0.76	4.29	1.02	4.92	0.76	4.20	1.02	5.26
South	28	0.76	4.36	0.76	4.29	1.02	4.92	0.76	4.20	1.02	5.26
South	29	0.76	4.36	0.76	4.29	1.02	4.92	0.76	4.20	1.02	5.26
South	30	0.76	4.36	0.76	4.29	0.76	4.26	1.02	4.85	0.76	4.55
South	31	0.76	4.36	0.76	4.29	1.02	4.92	0.76	4.20	0.76	4.55
South	32	0.76	4.36	0.76	4.29	1.02	4.92	1.02	4.85	1.02	5.26
South	33	0.76	4.36	0.76	4.29	1.02	4.92	0.76	4.20	0.76	4.55
South	34	0.76	4.36	0.76	4.29	1.02	4.92	0.76	4.20	0.76	4.55
South	35	0.76	4.36	0.76	4.29	0.76	4.26	1.02	4.85	0.76	4.55
South	36	0.76	4.36	0.76	4.29	0.76	4.26	1.02	4.85	0.76	4.55
South	37	0.76	4.36	0.76	4.29	N/D	N/D	1.27	5.42	N/D	N/D
South	38	0.76	4.36	0.76	4.29	N/D	N/D	1.27	5.42	N/D	N/D
South	39	0.76	4.36	0.76	4.29	N/D	N/D	0.76	4.20	N/D	N/D
South	40	0.76	4.36	0.76	4.29	N/D	N/D	0.76	4.20	N/D	N/D
South	41	0.76	4.36	0.76	4.29	N/D	N/D	0.76	4.20	N/D	N/D
South	42	0.76	4.36	0.76	4.29	N/D	N/D	0.76	4.20	N/D	N/D
South	43	0.76	4.36	0.76	4.29	N/D	N/D	1.02	4.85	N/D	N/D
South	44	0.76	4.36	0.76	4.29	N/D	N/D	0.76	4.20	N/D	N/D
South	45	0.76	4.36	0.76	4.29	N/D	N/D	0.51	3.43	N/D	N/D
South	46	0.76	4.36	0.76	4.29	N/D	N/D	0.51	3.43	N/D	N/D
South	47	0.76	4.36	0.76	4.29	N/D	N/D	0.51	3.43	N/D	N/D
South	48	0.76	4.36	0.76	4.29	N/D	N/D	0.51	3.43	N/D	N/D
AVERAGE		0.76	4.36	0.78	4.34	0.97	4.81	0.83	4.33	0.85	4.78

N/D: valid data not available

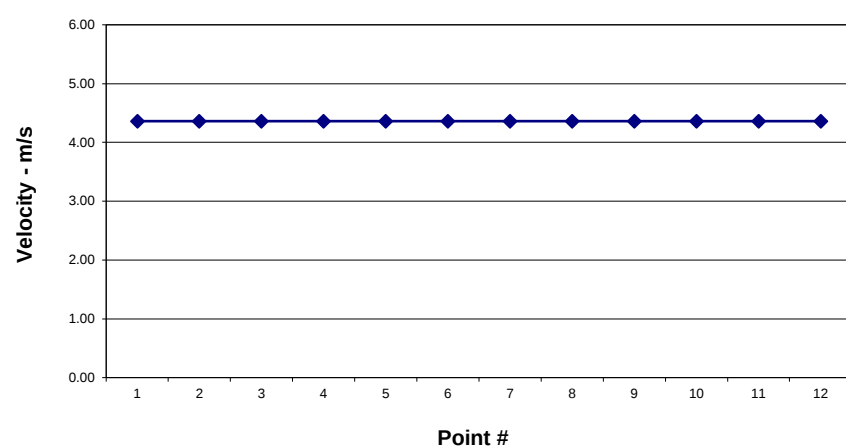


VELOCITY PROFILES

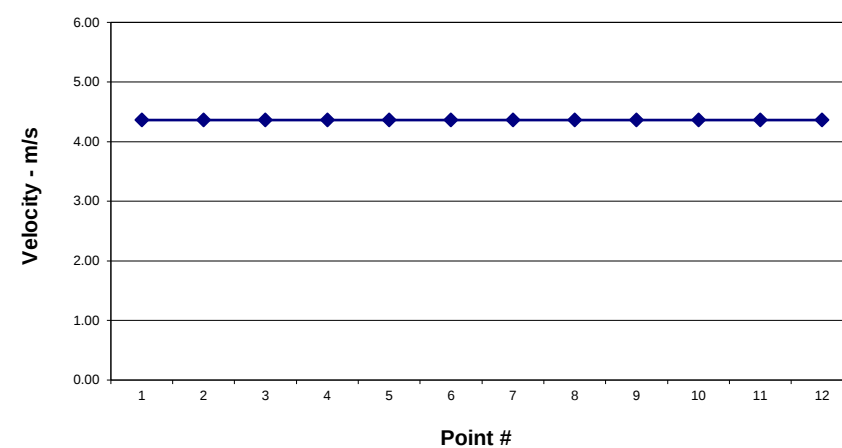
INCINERATOR STACK - M7A

September 18 - November 28, 2021

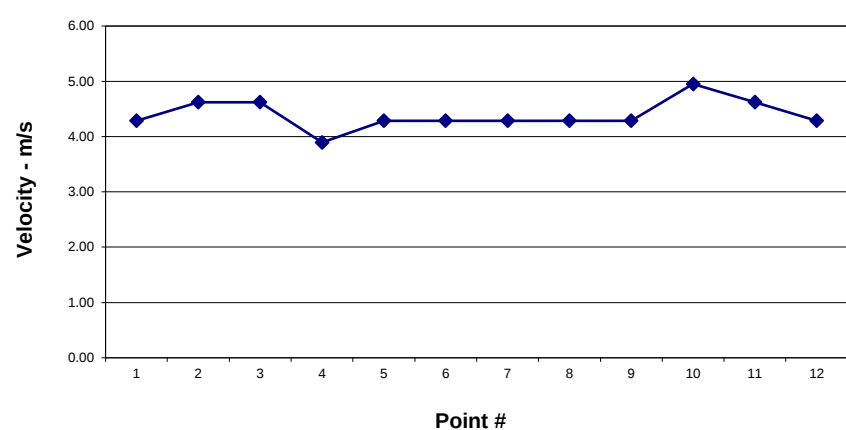
Velocity Profile for Test #1 - West



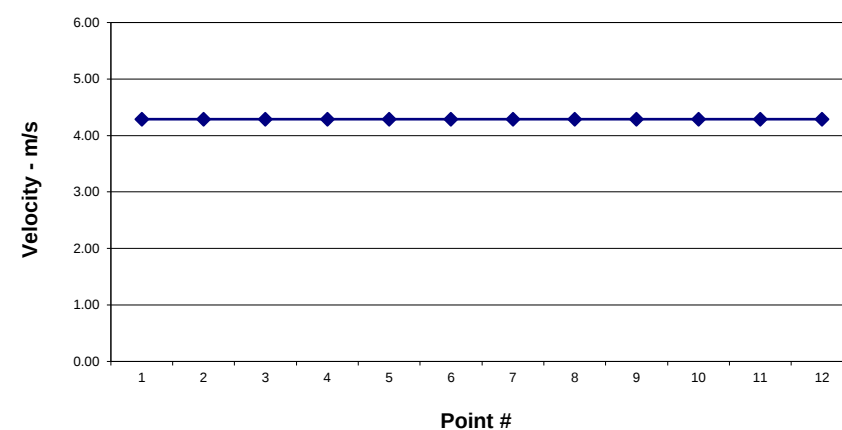
Velocity Profile for Test #1 - South



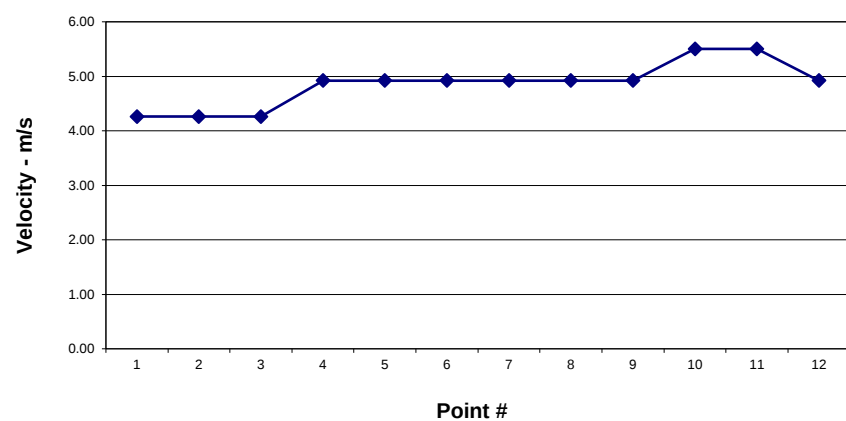
Velocity Profile for Test #2 - West



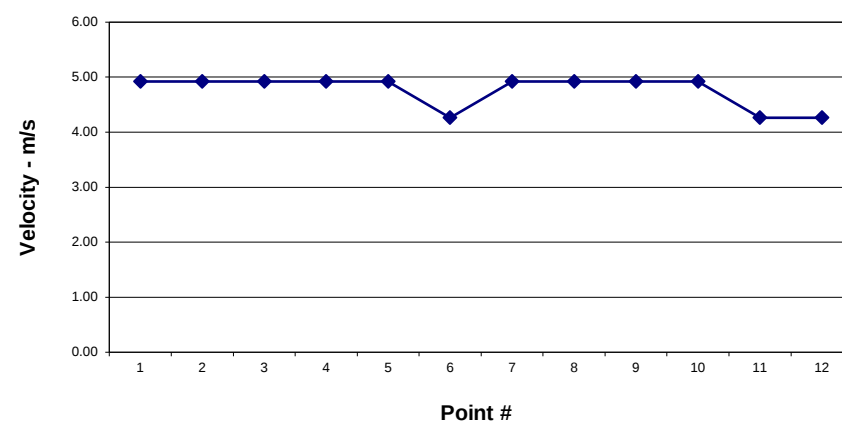
Velocity Profile for Test #2 - South



Velocity Profile for Test #3 - West



Velocity Profile for Test #3 - South



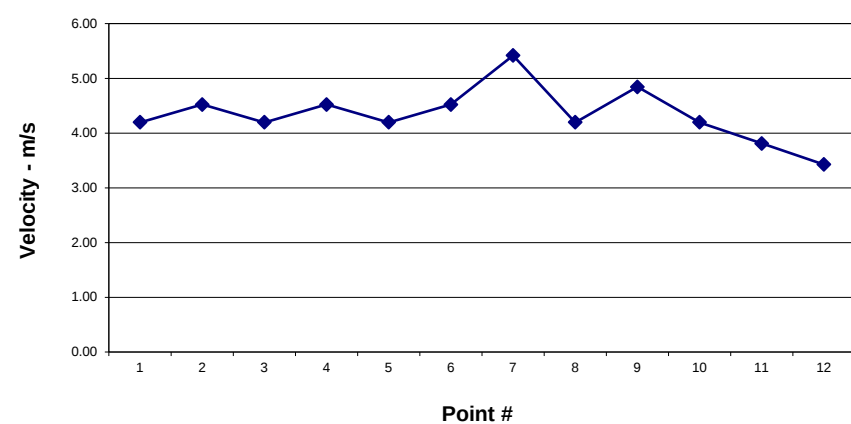


VELOCITY PROFILES

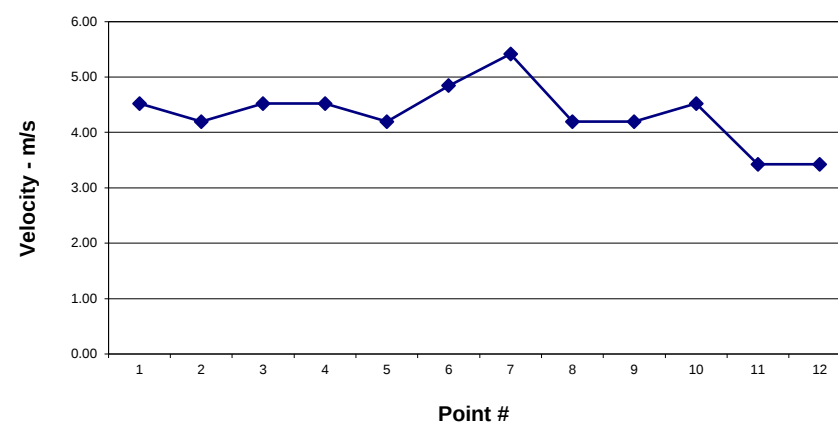
INCINERATOR STACK - M7A

September 18 - November 28, 2021

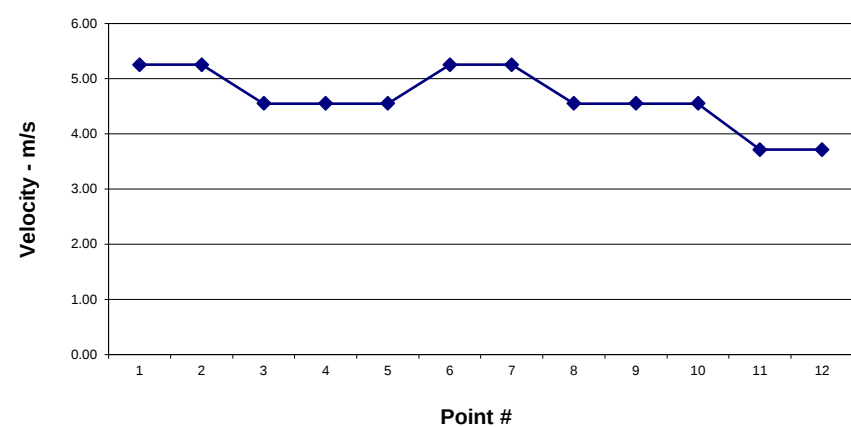
Velocity Profile for Test #4 - West



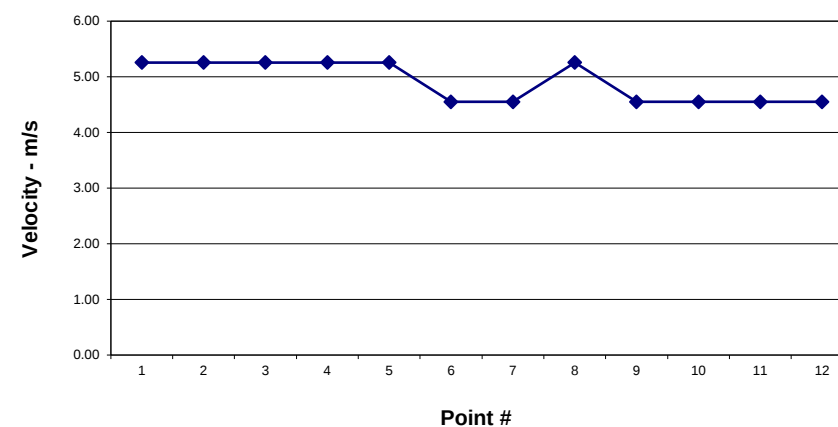
Velocity Profile for Test #4 - South



Velocity Profile for Test #5 - West



Velocity Profile for Test #5 - South





CONSTANT SAMPLING VELOCITY DATA

INCINERATOR STACK - M10

		Test #1		Test #2		Test #3		Test #4		Test #5	
Date:		18-Sep-21		19-Sep-21		20-Nov-21		26-Nov-21		27-Nov-21	
Time:		10:30 - 14:11		10:10 - 14:21		14:00 - 15:48		11:30 - 16:00		10:15 - 14:45	
Port	Point No.	Velocity Head (mm H ₂ O)	Velocity (m/s)	Velocity Head (mm H ₂ O)	Velocity (m/s)	Velocity Head (mm H ₂ O)	Velocity (m/s)	Velocity Head (mm H ₂ O)	Velocity (m/s)	Velocity Head (mm H ₂ O)	Velocity (m/s)
West	1	0.76	4.36	0.76	4.29	0.76	4.26	0.76	4.20	1.02	4.87
West	2	0.76	4.36	0.76	4.29	0.76	4.26	0.76	4.20	0.76	4.22
West	3	0.76	4.36	1.02	4.95	0.76	4.26	1.02	4.85	1.02	4.87
West	4	0.76	4.36	0.76	4.29	1.02	4.92	0.76	4.20	0.76	4.22
West	5	0.76	4.36	0.76	4.29	1.02	4.92	0.76	4.20	0.76	4.22
West	6	0.76	4.36	1.02	4.95	1.02	4.92	0.76	4.20	0.76	4.22
West	7	0.76	4.36	0.51	3.50	1.02	4.92	1.02	4.85	1.02	4.87
West	8	0.76	4.36	0.76	4.29	1.02	4.92	0.76	4.20	0.76	4.22
West	9	0.76	4.36	0.76	4.29	1.02	4.92	0.76	4.20	0.76	4.22
West	10	0.76	4.36	0.76	4.29	1.27	5.50	0.76	4.20	0.76	4.22
West	11	0.76	4.36	0.76	4.29	1.27	5.50	1.02	4.85	0.76	4.22
West	12	0.76	4.36	0.76	4.29	1.02	4.92	0.76	4.20	1.02	4.87
West	13	0.76	4.36	0.76	4.29	N/D	N/D	1.27	5.42	1.02	4.87
West	14	0.76	4.36	0.76	4.29	N/D	N/D	1.27	5.42	1.27	5.44
West	15	0.76	4.36	0.76	4.29	N/D	N/D	0.76	4.20	0.76	4.22
West	16	0.76	4.36	0.76	4.29	N/D	N/D	0.76	4.20	0.76	4.22
West	17	0.76	4.36	0.76	4.29	N/D	N/D	1.02	4.85	0.76	4.22
West	18	0.76	4.36	0.76	4.29	N/D	N/D	1.02	4.85	1.02	4.87
West	19	0.76	4.36	1.02	4.95	N/D	N/D	0.76	4.20	0.76	4.22
West	20	0.76	4.36	1.02	4.95	N/D	N/D	0.76	4.20	0.76	4.22
West	21	0.76	4.36	1.02	4.95	N/D	N/D	0.76	4.20	0.51	3.44
West	22	0.76	4.36	0.76	4.29	N/D	N/D	0.51	3.43	0.51	3.44
West	23	0.76	4.36	0.76	4.29	N/D	N/D	0.51	3.43	0.51	3.44
West	24	0.76	4.36	0.76	4.29	N/D	N/D	0.51	3.43	0.51	3.44
South	25	0.76	4.36	0.76	4.29	1.02	4.92	0.76	4.20	1.02	4.87
South	26	0.76	4.36	0.76	4.29	1.02	4.92	1.02	4.85	1.02	4.87
South	27	0.76	4.36	0.76	4.29	1.02	4.92	0.76	4.20	1.02	4.87
South	28	0.76	4.36	0.76	4.29	1.02	4.92	0.76	4.20	0.76	4.22
South	29	0.76	4.36	0.76	4.29	1.02	4.92	0.76	4.20	0.76	4.22
South	30	0.76	4.36	0.76	4.29	0.76	4.26	1.02	4.85	0.76	4.22
South	31	0.76	4.36	0.76	4.29	1.02	4.92	0.76	4.20	0.76	4.22
South	32	0.76	4.36	0.76	4.29	1.02	4.92	1.02	4.85	1.02	4.87
South	33	0.76	4.36	0.76	4.29	1.02	4.92	0.76	4.20	0.76	4.22
South	34	0.76	4.36	0.76	4.29	1.02	4.92	0.76	4.20	0.76	4.22
South	35	0.76	4.36	0.76	4.29	0.76	4.26	1.02	4.85	0.76	4.22
South	36	0.76	4.36	0.76	4.29	0.76	4.26	1.02	4.85	0.76	4.22
South	37	0.76	4.36	0.76	4.29	N/D	N/D	1.27	5.42	0.76	4.22
South	38	0.76	4.36	0.76	4.29	N/D	N/D	1.27	5.42	0.76	4.22
South	39	0.76	4.36	0.76	4.29	N/D	N/D	0.76	4.20	0.76	4.22
South	40	0.76	4.36	0.76	4.29	N/D	N/D	0.76	4.20	0.76	4.22
South	41	0.76	4.36	0.76	4.29	N/D	N/D	0.76	4.20	1.02	4.87
South	42	0.76	4.36	0.76	4.29	N/D	N/D	0.76	4.20	0.76	4.22
South	43	0.76	4.36	0.76	4.29	N/D	N/D	1.02	4.85	0.76	4.22
South	44	0.76	4.36	0.76	4.29	N/D	N/D	0.76	4.20	0.76	4.22
South	45	0.76	4.36	0.76	4.29	N/D	N/D	0.51	3.43	0.76	4.22
South	46	0.76	4.36	0.76	4.29	N/D	N/D	0.51	3.43	0.76	4.22
South	47	0.76	4.36	0.76	4.29	N/D	N/D	0.51	3.43	0.51	3.44
South	48	0.76	4.36	0.76	4.29	N/D	N/D	0.51	3.43	0.25	2.44
AVERAGE		0.76	4.36	0.78	4.34	0.97	4.81	0.83	4.33	0.79	4.27

N/D: valid data not available

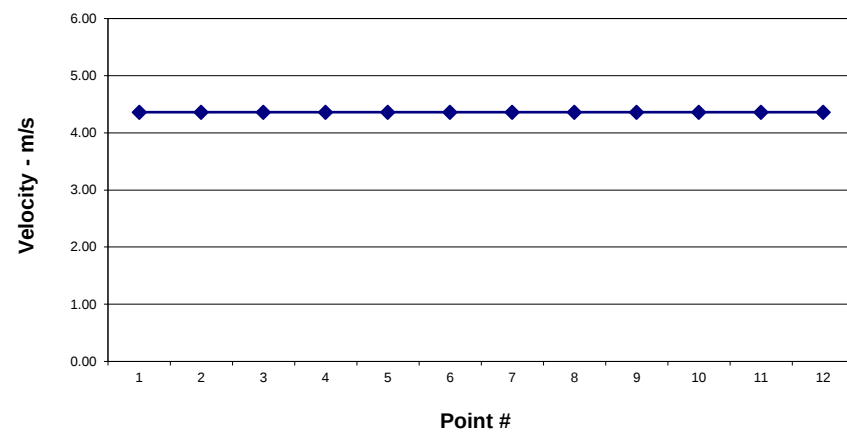


VELOCITY PROFILES

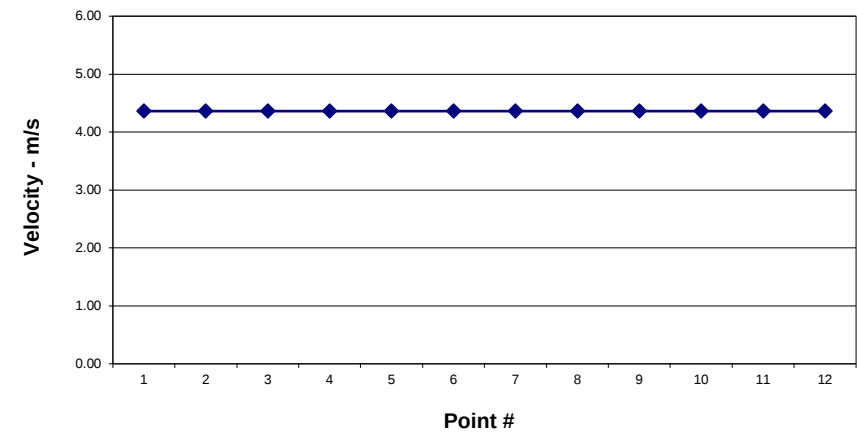
INCINERATOR STACK - M10

September 18 - November 27, 2021

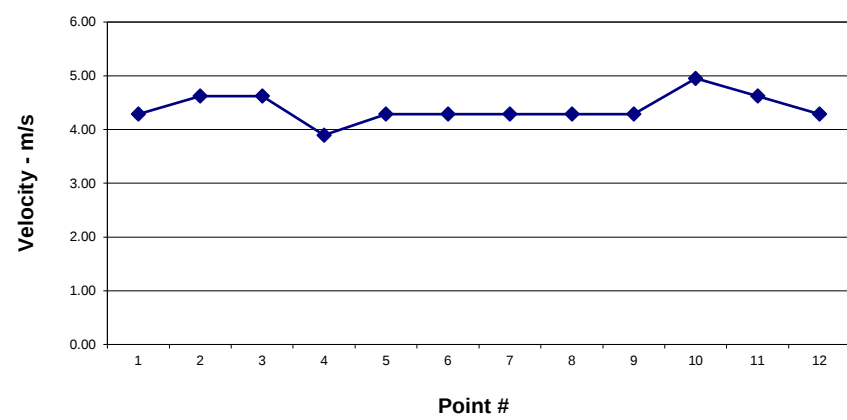
Velocity Profile for Test #1 - West



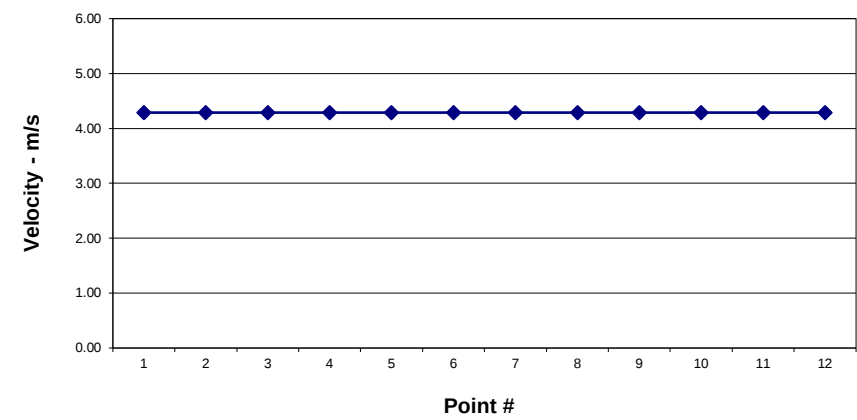
Velocity Profile for Test #1 - South



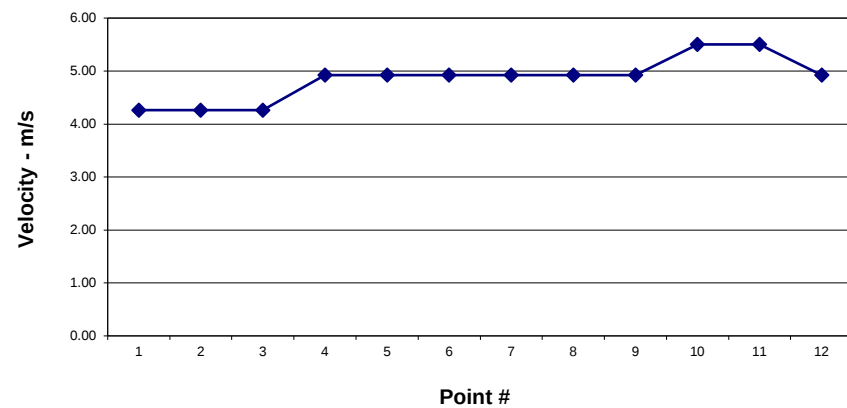
Velocity Profile for Test #2 - West



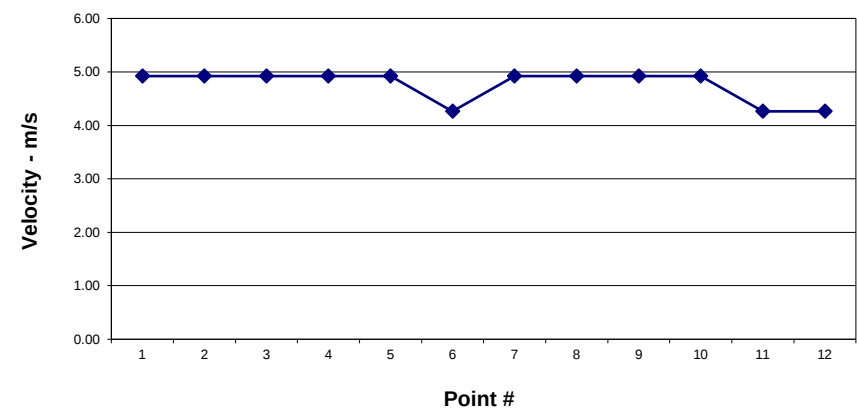
Velocity Profile for Test #2 - South



Velocity Profile for Test #3 - West



Velocity Profile for Test #3 - South



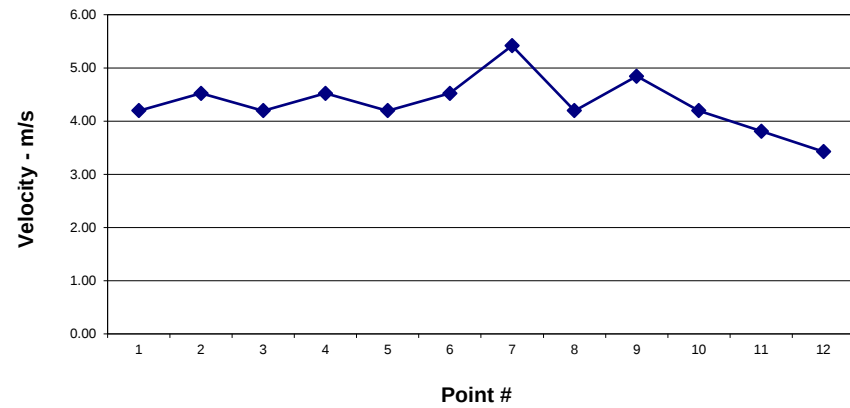


VELOCITY PROFILES

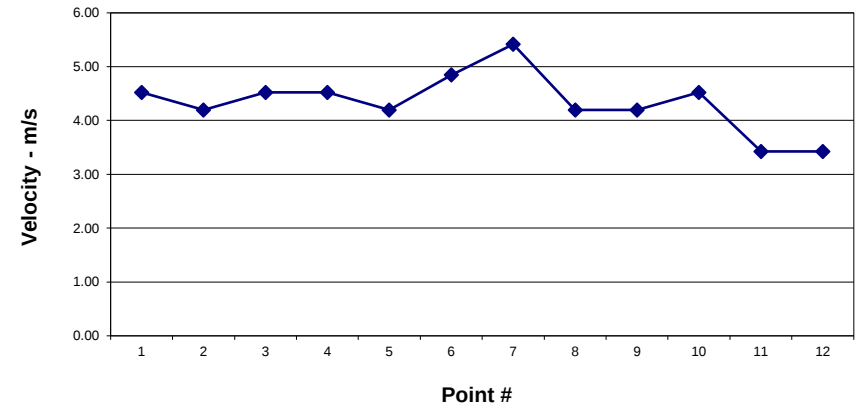
INCINERATOR STACK - M10

September 18 - November 27, 2021

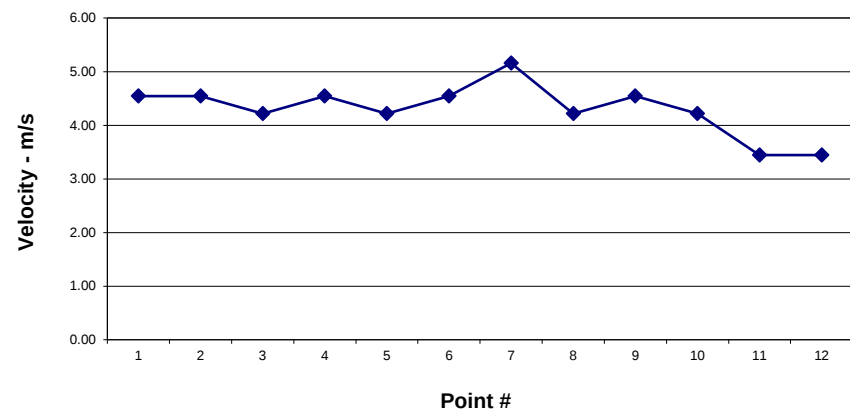
Velocity Profile for Test #4 - West



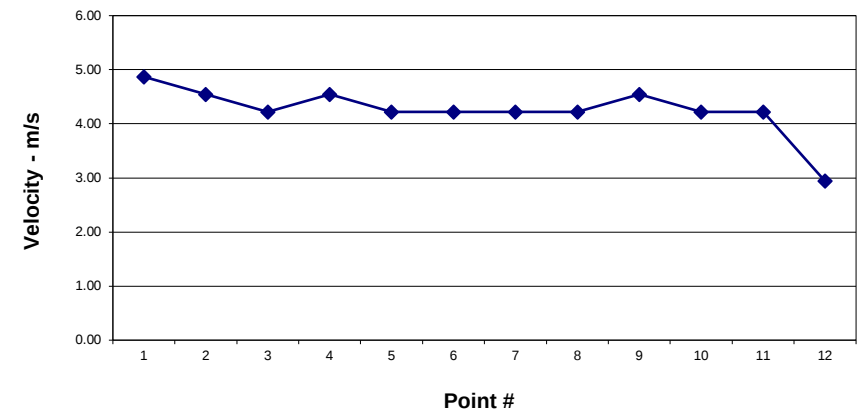
Velocity Profile for Test #4 - South



Velocity Profile for Test #5 - West



Velocity Profile for Test #5 - South





CONSTANT SAMPLING VELOCITY DATA

INCINERATOR STACK - M6

		Test #1		Test #2		Test #3		Test #4		Test #5	
Date:		18-Sep-21		19-Sep-21		25-Nov-21		26-Nov-21		27-Nov-21	
Time:		10:30 - 11:30		10:10 - 11:10		11:30 - 12:30		11:30 - 12:30		10:15 - 11:15	
Port	Point No.	Velocity Head (mm H ₂ O)	Velocity (m/s)	Velocity Head (mm H ₂ O)	Velocity (m/s)	Velocity Head (mm H ₂ O)	Velocity (m/s)	Velocity Head (mm H ₂ O)	Velocity (m/s)	Velocity Head (mm H ₂ O)	Velocity (m/s)
West	1	0.76	4.36	0.76	4.28	0.76	4.20	0.76	4.22	1.02	4.84
West	2	0.76	4.36	0.76	4.28	0.76	4.20	0.76	4.22	0.76	4.19
West	3	0.76	4.36	1.02	4.94	0.76	4.20	1.02	4.87	1.02	4.84
West	4	0.76	4.36	0.76	4.28	0.76	4.20	0.76	4.22	0.76	4.19
West	5	0.76	4.36	0.76	4.28	1.02	4.85	0.76	4.22	0.76	4.19
West	6	0.76	4.36	1.02	4.94	1.02	4.85	0.76	4.22	0.76	4.19
West	7	0.76	4.36	0.51	3.49	0.76	4.20	1.02	4.87	1.02	4.84
West	8	0.76	4.36	0.76	4.28	1.02	4.85	0.76	4.22	0.76	4.19
West	9	0.76	4.36	0.76	4.28	0.76	4.20	0.76	4.22	0.76	4.19
West	10	0.76	4.36	0.76	4.28	0.76	4.20	0.76	4.22	0.76	4.19
West	11	0.76	4.36	0.76	4.28	0.76	4.20	1.02	4.87	0.76	4.19
West	12	0.76	4.36	0.76	4.28	0.76	4.20	0.76	4.22	1.02	4.84
West	13	0.76	4.36	0.76	4.28	1.02	4.85	1.27	5.45	1.02	4.84
West	14	0.76	4.36	0.76	4.28	1.02	4.85	1.27	5.45	1.27	5.41
West	15	0.76	4.36	0.76	4.28	0.76	4.20	0.76	4.22	0.76	4.19
West	16	0.76	4.36	0.76	4.28	0.76	4.20	0.76	4.22	0.76	4.19
West	17	0.76	4.36	0.76	4.28	1.02	4.85	1.02	4.87	0.76	4.19
West	18	0.76	4.36	0.76	4.28	0.76	4.20	1.02	4.87	1.02	4.84
West	19	0.76	4.36	1.02	4.94	0.76	4.20	0.76	4.22	0.76	4.19
West	20	0.76	4.36	1.02	4.94	0.76	4.20	0.76	4.22	0.76	4.19
West	21	0.76	4.36	1.02	4.94	0.76	4.20	0.76	4.22	0.51	3.42
West	22	0.76	4.36	0.76	4.28	0.76	4.20	0.51	3.45	0.51	3.42
West	23	0.76	4.36	0.76	4.28	0.76	4.20	0.51	3.45	0.51	3.42
West	24	0.76	4.36	0.76	4.28	1.02	4.85	0.51	3.45	0.51	3.42
South	25	0.76	4.36	0.76	4.28	0.76	4.20	0.76	4.22	1.02	4.84
South	26	0.76	4.36	0.76	4.28	0.51	3.43	1.02	4.87	1.02	4.84
South	27	0.76	4.36	0.76	4.28	0.51	3.43	0.76	4.22	1.02	4.84
South	28	0.76	4.36	0.76	4.28	0.76	4.20	0.76	4.22	0.76	4.19
South	29	0.76	4.36	0.76	4.28	1.02	4.85	0.76	4.22	0.76	4.19
South	30	0.76	4.36	0.76	4.28	1.27	5.43	1.02	4.87	0.76	4.19
South	31	0.76	4.36	0.76	4.28	1.02	4.85	0.76	4.22	0.76	4.19
South	32	0.76	4.36	0.76	4.28	1.02	4.85	1.02	4.87	1.02	4.84
South	33	0.76	4.36	0.76	4.28	1.02	4.85	0.76	4.22	0.76	4.19
South	34	0.76	4.36	0.76	4.28	0.76	4.20	0.76	4.22	0.76	4.19
South	35	0.76	4.36	0.76	4.28	0.76	4.20	1.02	4.87	0.76	4.19
South	36	0.76	4.36	0.76	4.28	0.76	4.20	1.02	4.87	0.76	4.19
South	37	0.76	4.36	0.76	4.28	0.76	4.20	1.27	5.45	0.76	4.19
South	38	0.76	4.36	0.76	4.28	0.76	4.20	1.27	5.45	0.76	4.19
South	39	0.76	4.36	0.76	4.28	1.02	4.85	0.76	4.22	0.76	4.19
South	40	0.76	4.36	0.76	4.28	0.76	4.20	0.76	4.22	0.76	4.19
South	41	0.76	4.36	0.76	4.28	1.02	4.85	0.76	4.22	1.02	4.84
South	42	0.76	4.36	0.76	4.28	0.76	4.20	0.76	4.22	0.76	4.19
South	43	0.76	4.36	0.76	4.28	1.02	4.85	1.02	4.87	0.76	4.19
South	44	0.76	4.36	0.76	4.28	0.76	4.20	0.76	4.22	0.76	4.19
South	45	0.76	4.36	0.76	4.28	0.51	3.43	0.51	3.45	0.76	4.19
South	46	0.76	4.36	0.76	4.28	0.76	4.20	0.51	3.45	0.76	4.19
South	47	0.76	4.36	0.76	4.28	0.51	3.43	0.51	3.45	0.51	3.42
South	48	0.76	4.36	0.76	4.28	0.51	3.43	0.51	3.45	0.25	2.42
AVERAGE		0.76	4.36	0.78	4.33	0.82	4.34	0.83	4.36	0.79	4.25

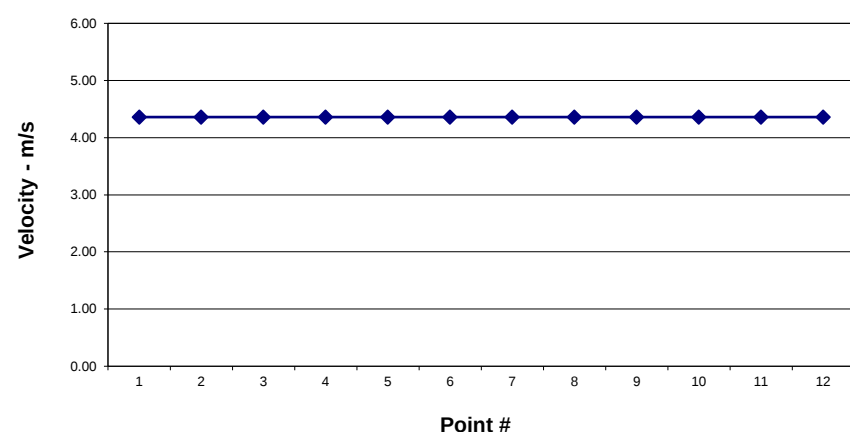


VELOCITY PROFILES

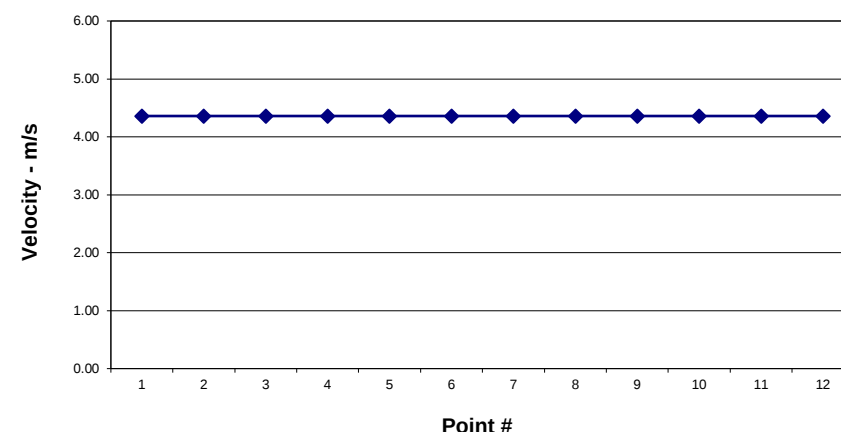
INCINERATOR STACK - M6

September 18 - November 27, 2021

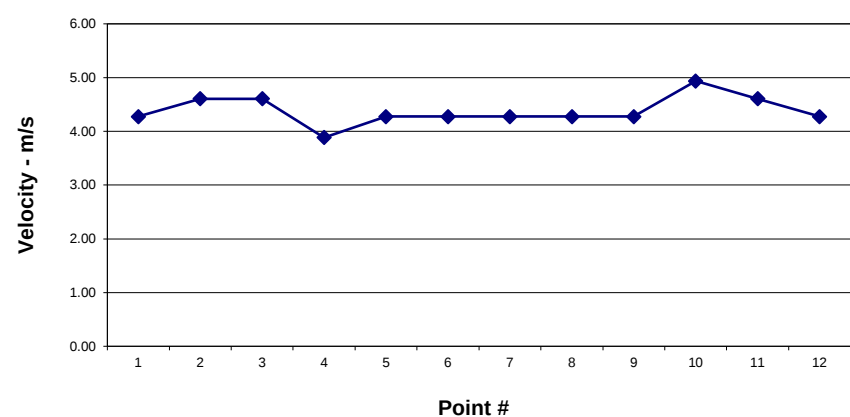
Velocity Profile for Test #1 - West



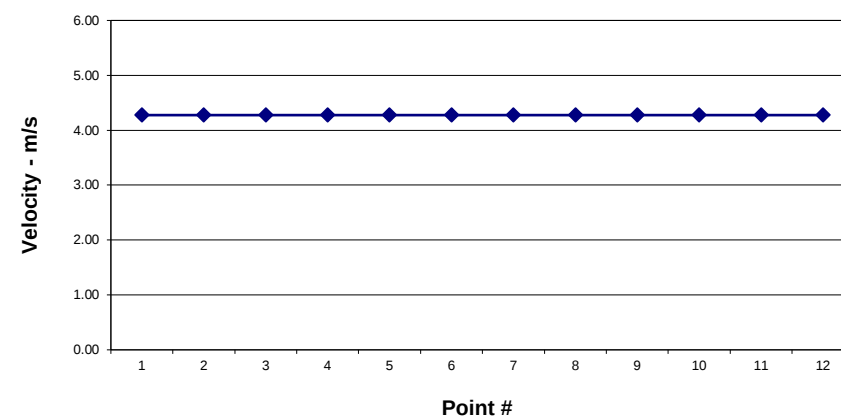
Velocity Profile for Test #1 - South



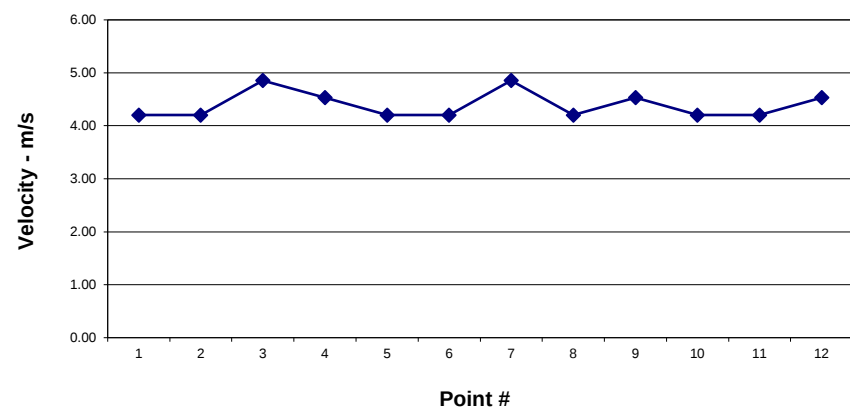
Velocity Profile for Test #2 - West



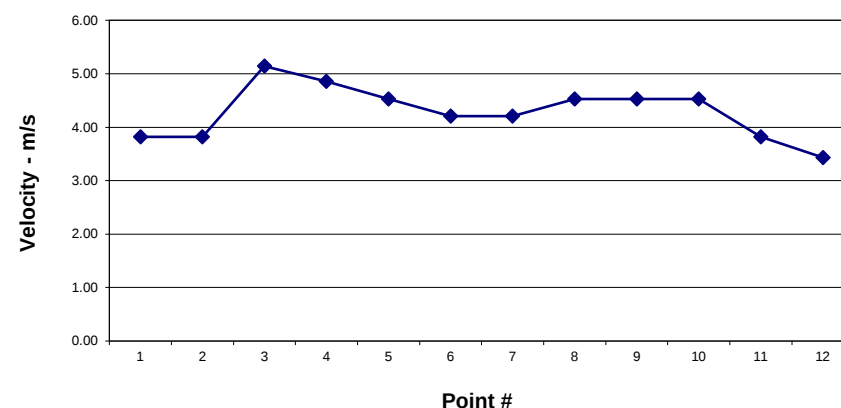
Velocity Profile for Test #2 - South



Velocity Profile for Test #3 - West



Velocity Profile for Test #3 - South



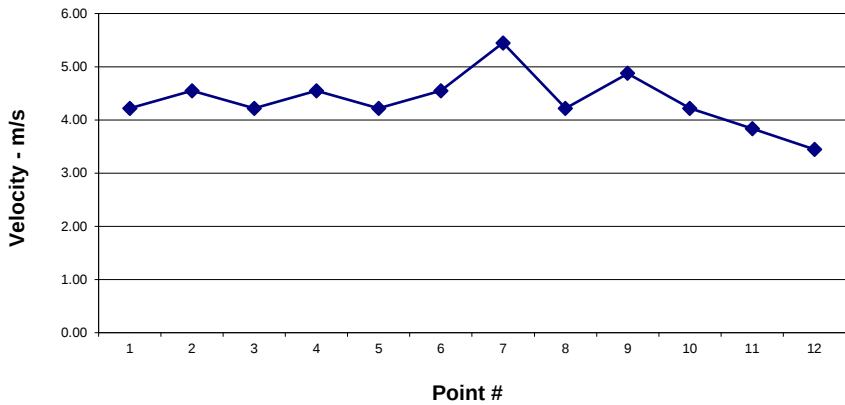


VELOCITY PROFILES

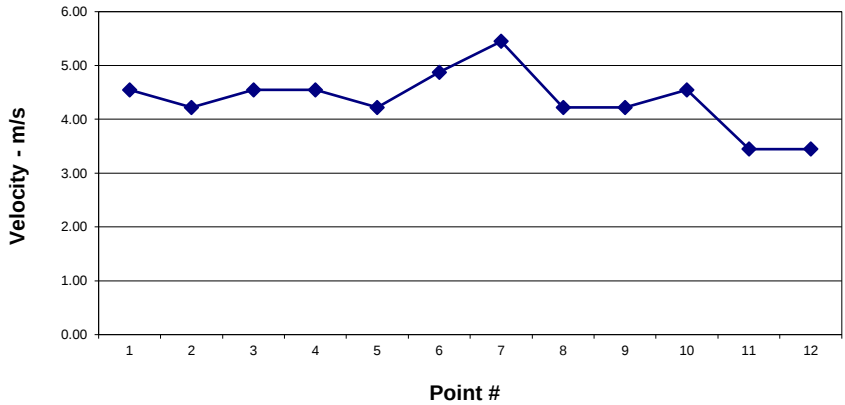
INCINERATOR STACK - M6

September 18 - November 27, 2021

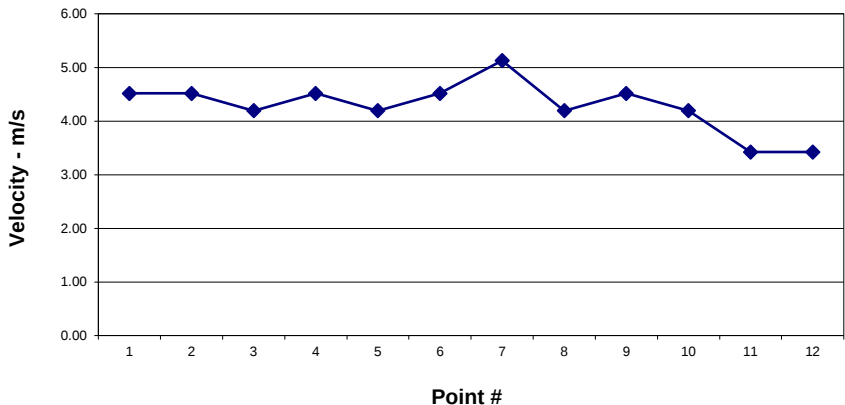
Velocity Profile for Test #4 - West



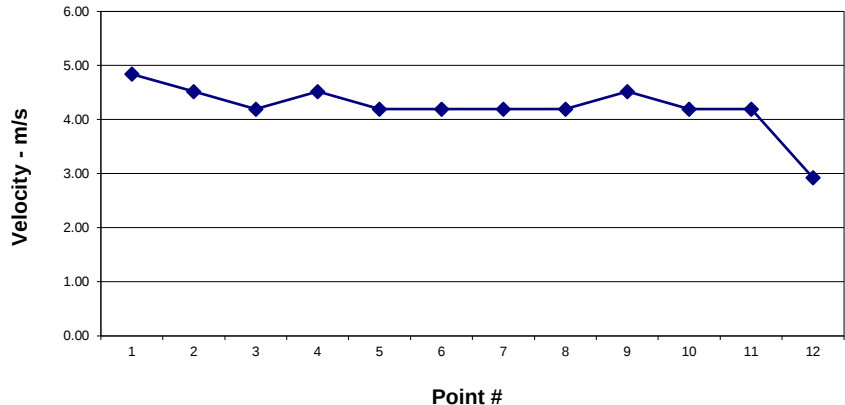
Velocity Profile for Test #4 - South



Velocity Profile for Test #5 - West



Velocity Profile for Test #5 - South





ISOKINETIC FIELD DATA RUN #2

INCINERATOR STACK - EPS 1/RM/2

DATE: 25-Nov-21

TIME: 11:30 to 15:50

Port	Point No.	Stack Temp (°C)	Velocity Head (mm H ₂ O)	Velocity (m/s)	Orifice Press. (mm H ₂ O)	Volume Sampled (m ³)	Meter Temp In (°C)	Meter Temp Out (°C)	Temperature Probe (°C)	Temperature Box (°C)	Vacuum (in. Hg)	% Isokinetic	Velocity (Vertical) (m/s)	θ
West	1	322	0.76	4.17	22.86	0.084	36	36	120	120	-5.00	101.5	4.17	0
West	2	325	0.76	4.18	22.86	0.084	36	36	120	120	-5.00	101.4	4.18	0
West	3	330	0.76	4.20	22.86	0.084	36	36	120	120	-5.00	101.5	4.20	0
West	4	334	0.76	4.21	22.86	0.083	37	36	120	120	-5.00	101.0	4.21	0
West	5	341	1.02	4.89	30.48	0.096	37	36	120	120	-5.00	101.8	4.89	0
West	6	345	1.02	4.91	30.48	0.096	37	36	120	120	-5.00	101.5	4.91	0
West	7	347	0.76	4.26	22.86	0.082	37	37	120	120	-5.00	101.2	4.26	0
West	8	349	1.02	4.92	30.48	0.095	37	37	120	120	-6.00	101.7	4.92	0
West	9	352	0.76	4.28	22.86	0.082	37	37	120	120	-6.00	101.3	4.28	0
West	10	348	0.76	4.26	23.62	0.082	37	37	120	120	-6.00	101.3	4.26	0
West	11	331	0.76	4.20	23.62	0.084	38	37	120	120	-6.00	101.4	4.20	0
West	12	320	0.76	4.16	24.13	0.084	38	37	120	120	-7.00	101.5	4.16	0
West	13	321	1.02	4.81	30.48	0.097	38	37	120	120	-7.00	101.5	4.81	0
West	14	308	1.02	4.76	33.02	0.098	38	38	120	120	-7.00	101.4	4.76	0
West	15	312	0.76	4.14	24.38	0.085	38	38	120	120	-7.00	101.6	4.14	0
West	16	315	0.76	4.15	24.38	0.085	38	38	120	120	-7.00	101.2	4.15	0
West	17	322	1.02	4.82	30.48	0.098	38	38	120	120	-7.00	101.7	4.82	0
West	18	325	0.76	4.18	23.88	0.084	38	38	120	120	-7.00	101.1	4.18	0
West	19	317	0.76	4.15	24.38	0.085	38	38	120	120	-7.00	102.1	4.15	0
West	20	322	0.76	4.17	24.13	0.084	38	38	120	120	-7.00	100.8	4.17	0
West	21	328	0.76	4.19	23.88	0.084	38	38	120	120	-7.00	101.7	4.19	0
West	22	340	0.76	4.23	23.37	0.083	38	38	120	120	-8.00	101.3	4.23	0
West	23	338	0.76	4.23	23.62	0.083	39	38	120	120	-8.00	101.3	4.23	0
West	24	342	1.02	4.90	30.48	0.096	39	38	120	120	-8.00	101.8	4.90	0
South	25	338	0.76	4.23	23.37	0.083	37	37	120	120	-9.00	101.2	4.23	0
South	26	338	0.51	3.45	15.49	0.068	37	37	120	120	-9.00	101.2	3.45	0
South	27	341	0.51	3.46	15.49	0.068	37	37	120	120	-9.00	101.4	3.46	0
South	28	345	0.76	4.25	23.11	0.083	37	37	120	120	-9.00	101.7	4.25	0
South	29	348	1.02	4.92	30.48	0.095	38	37	120	120	-9.00	101.1	4.92	0
South	30	355	1.27	5.53	38.10	0.106	39	37	120	120	-9.00	101.4	5.53	0
South	31	339	1.02	4.89	30.48	0.096	39	38	120	120	-9.00	101.5	4.89	0
South	32	343	1.02	4.90	30.48	0.096	39	38	120	120	-9.00	101.6	4.90	0
South	33	345	1.02	4.91	30.48	0.095	39	39	120	120	-7.00	101.3	4.91	0
South	34	348	0.76	4.26	23.11	0.082	39	39	120	120	-7.00	101.3	4.26	0
South	35	348	0.76	4.26	23.11	0.083	39	39	120	120	-7.00	101.7	4.26	0
South	36	333	0.76	4.21	23.62	0.083	39	39	120	120	-7.00	101.4	4.21	0
South	37	348	0.76	4.26	23.11	0.082	38	38	120	120	-7.00	101.3	4.26	0
South	38	327	0.76	4.19	23.88	0.084	37	38	120	120	-7.00	101.4	4.19	0
South	39	327	1.02	4.84	33.02	0.097	37	38	120	120	-7.00	101.4	4.84	0
South	40	335	0.76	4.22	23.62	0.083	38	38	120	120	-7.00	101.6	4.22	0
South	41	336	1.02	4.87	30.48	0.096	38	38	120	120	-7.00	101.4	4.87	0
South	42	341	0.76	4.24	23.37	0.083	38	38	120	120	-7.00	101.4	4.24	0
South	43	328	1.02	4.84	33.02	0.097	38	38	120	120	-7.00	101.4	4.84	0
South	44	350	0.76	4.27	22.86	0.082	38	38	120	120	-7.00	101.5	4.27	0
South	45	331	0.51	3.43	15.75	0.068	38	38	120	120	-8.00	101.5	3.43	0
South	46	348	0.76	4.26	23.11	0.082	37	37	120	120	-8.00	101.3	4.26	0
South	47	350	0.51	3.49	15.24	0.067	37	37	120	120	-8.00	101.3	3.49	0
South	48	321	0.51	3.40	16.00	0.069	36	37	120	120	-8.00	101.5	3.40	0
AVERAGE		335	0.82	4.35	25.15		38	38				101.4	4.35	



ISOKINETIC FIELD DATA RUN #3

INCINERATOR STACK - EPS 1/RM/2

DATE: 26-Nov-21

TIME: 11:30 to 16:00

Port	Point No.	Stack Temp (°C)	Velocity Head (mm H ₂ O)	Velocity (m/s)	Orifice Press. (mm H ₂ O)	Volume Sampled (m ³)	Meter Temp In (°C)	Meter Temp Out (°C)	Temperature Probe (°C)	Temperature Box (°C)	Vacuum (in. Hg)	% Isokinetic	Velocity (Vertical) (m/s)	θ
West	1	345	0.76	4.24	23.37	0.083	37	37	120	120	-6.00	101.3	4.24	0
West	2	345	0.76	4.24	23.37	0.084	37	37	120	120	-6.00	101.9	4.24	0
West	3	345	1.02	4.89	30.48	0.096	37	37	120	120	-6.00	101.5	4.89	0
West	4	343	0.76	4.23	23.62	0.084	38	37	120	120	-6.00	101.6	4.23	0
West	5	344	0.76	4.24	23.62	0.084	38	37	120	120	-6.00	101.7	4.24	0
West	6	333	0.76	4.20	23.88	0.083	38	37	120	120	-6.00	100.5	4.20	0
West	7	318	1.02	4.79	30.48	0.096	38	38	120	120	-6.00	99.5	4.79	0
West	8	351	0.76	4.26	23.37	0.083	38	38	120	120	-7.00	101.4	4.26	0
West	9	329	0.76	4.18	24.38	0.085	38	38	120	120	-7.00	101.6	4.18	0
West	10	341	0.76	4.23	23.88	0.084	39	38	120	120	-7.00	101.5	4.23	0
West	11	352	1.02	4.92	30.48	0.096	39	38	120	120	-7.00	101.5	4.92	0
West	12	347	0.76	4.25	23.62	0.083	39	39	120	120	-8.00	101.4	4.25	0
West	13	343	1.27	5.46	38.10	0.108	39	39	120	120	-8.00	102.0	5.46	0
West	14	340	1.27	5.45	38.10	0.108	39	39	120	120	-8.00	101.5	5.45	0
West	15	343	0.76	4.23	23.88	0.083	40	40	120	120	-8.00	101.5	4.23	0
West	16	339	0.76	4.22	23.88	0.084	39	40	120	120	-8.00	101.6	4.22	0
West	17	321	1.02	4.80	33.02	0.098	39	39	120	120	-8.00	101.4	4.80	0
West	18	318	1.02	4.79	33.02	0.099	39	39	120	120	-8.00	101.7	4.79	0
West	19	322	0.76	4.16	24.38	0.085	39	38	120	120	-8.00	101.8	4.16	0
West	20	327	0.76	4.18	24.38	0.084	39	39	120	120	-8.00	101.1	4.18	0
West	21	335	0.76	4.20	23.88	0.084	39	39	120	120	-8.00	101.5	4.20	0
West	22	338	0.51	3.44	16.00	0.069	40	39	120	120	-8.00	102.3	3.44	0
West	23	339	0.51	3.44	16.00	0.068	40	40	120	120	-8.00	101.0	3.44	0
West	24	345	0.51	3.46	15.75	0.068	39	40	120	120	-8.00	100.9	3.46	0
Leak Check														
South	25	321	0.76	4.16	24.38	0.085	36	37	120	120	-7.00	101.4	4.16	0
South	26	318	1.02	4.79	33.02	0.099	36	36	120	120	-6.00	101.9	4.79	0
South	27	322	0.76	4.16	24.38	0.085	37	37	120	120	-7.00	101.4	4.16	0
South	28	328	0.76	4.18	24.13	0.085	37	37	120	120	-7.00	101.9	4.18	0
South	29	347	0.76	4.25	23.37	0.083	38	37	120	120	-7.00	101.6	4.25	0
South	30	322	1.02	4.80	33.02	0.098	38	37	120	120	-7.00	101.7	4.80	0
South	31	327	0.76	4.18	24.13	0.084	38	37	120	120	-7.00	101.3	4.18	0
South	32	340	1.02	4.87	30.48	0.097	38	37	120	120	-7.00	101.5	4.87	0
South	33	329	0.76	4.18	24.13	0.084	38	39	120	120	-8.00	101.5	4.18	0
South	34	330	0.76	4.19	24.13	0.085	38	38	120	120	-8.00	101.7	4.19	0
South	35	330	1.02	4.84	33.02	0.098	38	38	120	120	-8.00	101.6	4.84	0
South	36	332	1.02	4.84	30.48	0.097	38	38	120	120	-8.00	101.5	4.84	0
South	37	345	1.27	5.47	40.64	0.108	38	39	120	120	-8.00	102.1	5.47	0
South	38	337	1.27	5.44	38.10	0.108	38	39	120	120	-8.00	101.4	5.44	0
South	39	322	0.76	4.16	24.38	0.085	39	39	120	120	-7.00	101.4	4.16	0
South	40	321	0.76	4.16	24.64	0.085	39	40	120	120	-7.00	101.4	4.16	0
South	41	317	0.76	4.14	24.89	0.086	40	40	120	120	-7.00	101.9	4.14	0
South	42	329	0.76	4.18	24.38	0.084	40	40	120	120	-7.00	101.3	4.18	0
South	43	318	1.02	4.79	33.02	0.099	40	41	120	120	-6.00	101.8	4.79	0
South	44	320	0.76	4.15	24.64	0.085	40	41	120	120	-6.00	101.4	4.15	0
South	45	323	0.51	3.40	16.51	0.069	40	41	126	128	-6.00	101.6	3.40	0
South	46	321	0.51	3.39	16.51	0.069	40	40	126	127	-6.00	101.6	3.39	0
South	47	326	0.51	3.41	16.26	0.069	37	38	124	126	-7.00	101.6	3.41	0
South	48	332	0.51	3.42	16.00	0.069	38	38	126	125	-7.00	101.3	3.42	0
AVERAGE		333	0.83	4.33	25.91		38	38				101.5	4.33	



ISOKINETIC FIELD DATA RUN #4

INCINERATOR STACK - EPS 1/RM/2

DATE: 27-Nov-21

TIME: 10:15 to 14:45

Port	Point No.	Stack Temp (°C)	Velocity Head (mm H ₂ O)	Velocity (m/s)	Orifice Press. (mm H ₂ O)	Volume Sampled (m ³)	Meter Temp In (°C)	Meter Temp Out (°C)	Temperature Probe (°C)	Temperature Box (°C)	Vacuum (in. Hg)	% Isokinetic	Velocity (Vertical) (m/s)	θ
South	1	323	1.02	4.82	30.48	0.097	35	35	120	120	-5.00	102.0	4.82	0
South	2	330	1.02	4.85	30.48	0.096	35	35	120	120	-5.00	101.1	4.85	0
South	3	333	1.02	4.86	30.48	0.097	35	35	120	120	-5.00	102.5	4.86	0
South	4	334	0.76	4.21	22.86	0.084	36	35	120	120	-5.00	101.9	4.21	0
South	5	340	0.76	4.23	22.86	0.083	36	35	120	120	-5.00	101.8	4.23	0
South	6	350	0.76	4.27	22.86	0.082	36	36	120	120	-6.00	101.7	4.27	0
South	7	343	0.76	4.24	23.11	0.083	36	36	120	120	-6.00	101.8	4.24	0
South	8	341	1.02	4.89	30.48	0.096	36	36	120	120	-6.00	101.7	4.89	0
South	9	327	0.76	4.19	23.62	0.084	36	36	120	120	-7.00	101.9	4.19	0
South	10	331	0.76	4.20	23.62	0.084	36	36	120	120	-7.00	101.9	4.20	0
South	11	325	0.76	4.18	23.88	0.084	37	36	120	120	-8.00	101.9	4.18	0
South	12	318	0.76	4.16	24.13	0.087	38	38	120	120	-8.00	104.8	4.16	0
South	13	322	0.76	4.17	24.13	0.082	38	38	120	120	-8.00	98.8	4.17	0
South	14	325	0.76	4.18	23.88	0.084	38	38	120	121	-8.00	101.7	4.18	0
South	15	330	0.76	4.20	23.88	0.084	38	38	120	120	-8.00	102.1	4.20	0
South	16	341	0.76	4.24	23.37	0.083	38	38	120	120	-8.00	101.7	4.24	0
South	17	330	1.02	4.85	30.48	0.096	38	38	120	120	-8.00	101.6	4.85	0
South	18	330	0.76	4.20	23.62	0.084	38	38	120	120	-8.00	101.8	4.20	0
South	19	334	0.76	4.21	23.62	0.083	38	38	120	120	-6.00	101.8	4.21	0
South	20	341	0.76	4.24	23.37	0.083	38	38	120	120	-6.00	101.7	4.24	0
South	21	342	0.76	4.24	23.37	0.083	39	38	120	120	-6.00	102.0	4.24	0
South	22	345	0.76	4.25	23.11	0.083	39	38	120	120	-5.00	101.9	4.25	0
South	23	347	0.51	3.48	15.24	0.068	39	38	120	120	-5.00	102.0	3.48	0
South	24	340	0.25	2.44	7.62	0.048	39	38	120	120	-5.00	100.8	2.44	0
Leak Check														
West	25	321	1.02	4.81	30.48	0.097	37	37	120	120	-5.00	101.7	4.81	0
West	26	338	0.76	4.23	23.37	0.084	37	38	120	120	-4.00	102.3	4.23	0
West	27	340	1.02	4.89	30.48	0.096	37	38	120	120	-4.00	101.7	4.89	0
West	28	341	0.76	4.24	23.37	0.083	37	38	120	120	-4.00	101.5	4.24	0
West	29	345	0.76	4.25	23.11	0.083	37	38	120	120	-4.00	102.2	4.25	0
West	30	337	0.76	4.22	23.37	0.083	37	38	120	120	-5.00	101.5	4.22	0
West	31	340	1.02	4.89	30.48	0.096	38	38	120	120	-5.00	102.1	4.89	0
West	32	340	0.76	4.23	23.37	0.083	39	38	120	120	-5.00	101.8	4.23	0
West	33	345	0.76	4.25	23.37	0.082	40	40	120	120	-8.00	101.4	4.25	0
West	34	348	0.76	4.26	23.11	0.083	40	40	120	120	-8.00	102.3	4.26	0
West	35	333	0.76	4.21	23.88	0.083	40	40	120	120	-8.00	101.4	4.21	0
West	36	341	1.02	4.89	30.48	0.096	39	40	120	120	-8.00	101.7	4.89	0
West	37	318	1.02	4.80	33.02	0.098	39	40	120	120	-8.00	102.1	4.80	0
West	38	321	1.27	5.38	40.64	0.109	39	40	120	120	-8.00	101.9	5.38	0
West	39	324	0.76	4.18	24.13	0.084	39	40	120	120	-8.00	101.8	4.18	0
West	40	329	0.76	4.20	23.88	0.084	40	40	120	120	-8.00	101.7	4.20	0
West	41	338	0.76	4.23	23.62	0.083	41	40	120	120	-8.00	101.6	4.23	0
West	42	340	1.02	4.89	30.48	0.096	41	40	120	120	-8.00	102.2	4.89	0
West	43	347	0.76	4.26	23.37	0.082	41	41	120	120	-8.00	101.6	4.26	0
West	44	348	0.76	4.26	23.37	0.083	41	41	120	120	-8.00	102.0	4.26	0
West	45	339	0.51	3.45	15.75	0.068	41	41	120	120	-8.00	101.8	3.45	0
West	46	340	0.51	3.46	15.75	0.068	41	41	120	120	-8.00	101.9	3.46	0
West	47	338	0.51	3.45	15.75	0.067	42	41	120	120	-8.00	100.8	3.45	0
West	48	320	0.51	3.40	16.26	0.069	42	41	120	120	-8.00	102.1	3.40	0
AVERAGE		335	0.79	4.27	24.36		38	38				101.8	4.27	

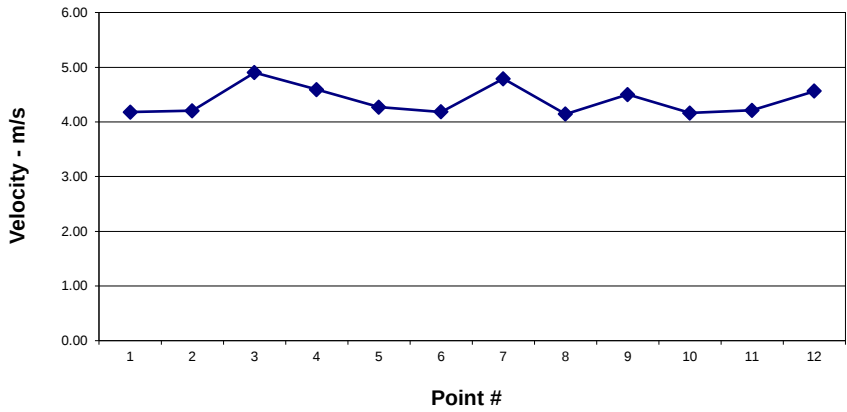


VELOCITY PROFILES

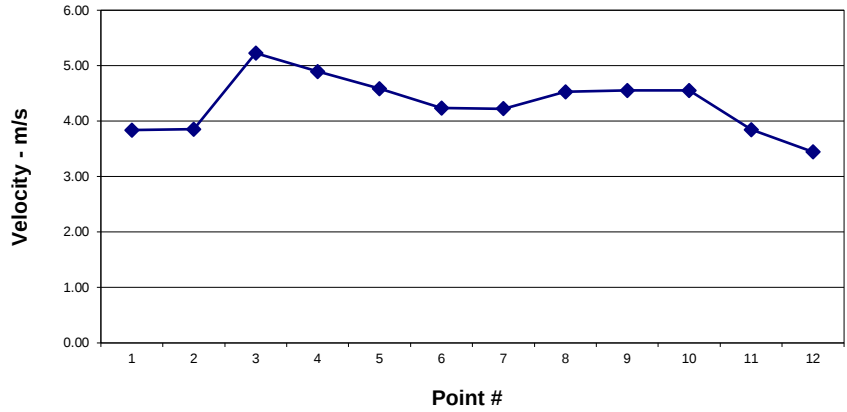
INCINERATOR STACK - EPS 1/RM/2

November 25 - 27, 2021

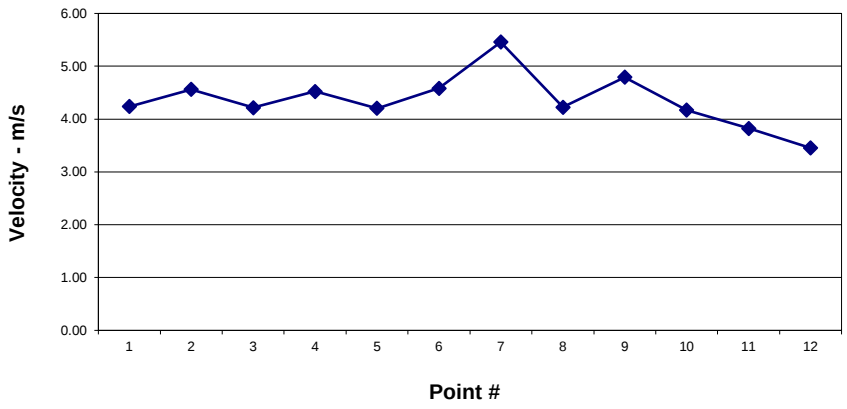
Velocity Profile for Test #2 - West



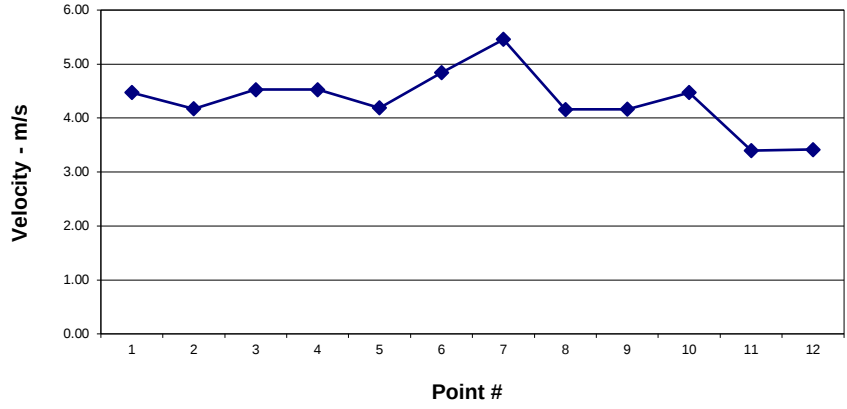
Velocity Profile for Test #2 - South



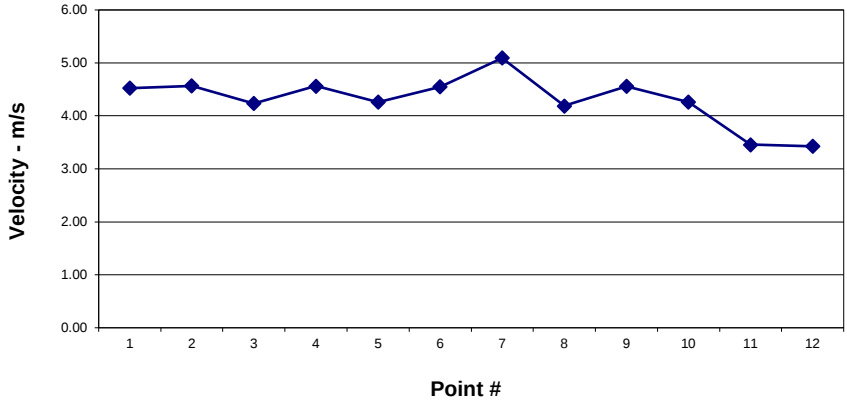
Velocity Profile for Test #3 - West



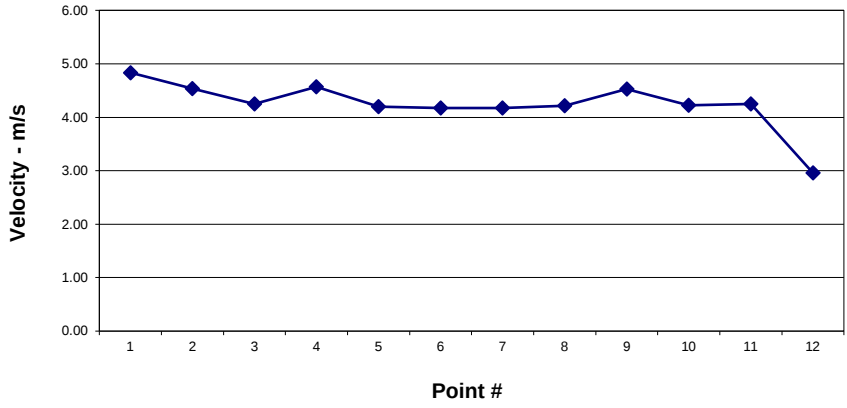
Velocity Profile for Test #3 - South



Velocity Profile for Test #4 - West



Velocity Profile for Test #4 - South





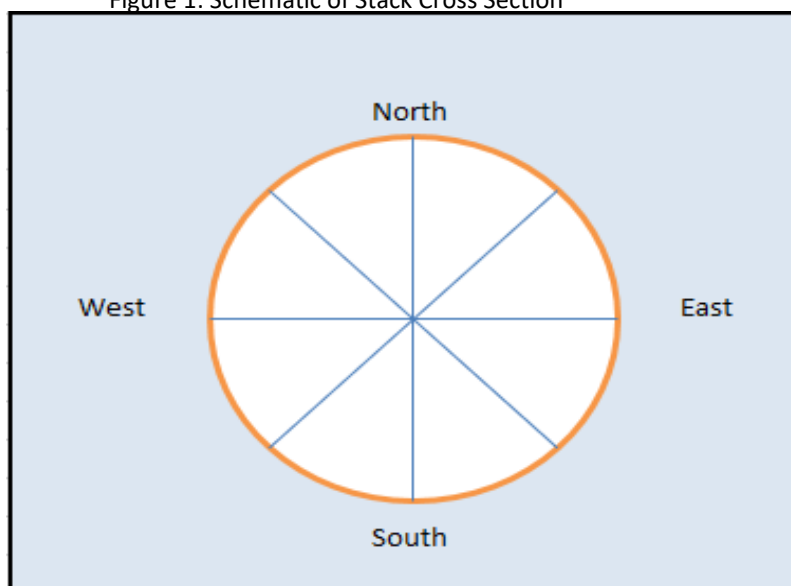
Incinerator Stack

Traverse Point Number on a Diameter	Number of Traverse Points 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

Annulus Length (in.): 10
 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



PARTICULATE PRE-TEST BLANK ANALYSIS

Company: Bureau Veritas Canada - Emission Services Group

Method Reference: AENV Method 5

Date Reported: 2021-03-01

Laboratory Reference: EMS SOP-00115

Analyst: Qun Wong

Approved: Bill Wong

Initial Weighing (1) - Date/Time:	2021-02-26 / 08:10
Initial Weighing (2) - Date/Time:	2021-02-26 / 15:35

Final Weighing (1) - Date/Time:	2021-03-01 / 07:45
Final Weighing (2) - Date/Time:	2021-03-01 / 14:55

Blank Analysis

ACETONE

DEIONIZED WATER

Flask #:	Q13		Q14	
Manufacturer / Lot #	Fisher Optima / 207047		Air Services Lab Deionization System	
Volume Analyzed (mls):	200		200	
Weighing Number :	1	2	1	2
Final Weight (g):	4.9924	4.9923	0.1302	0.1297
Initial Weight (g):	4.9921	4.9925	0.1298	0.1300
Net (mg):	0.0		0.0	
Density (g/ml):	0.78		1.00	
Weight %:	0.0000		0.0000	

Blank Analysis

METHYLENE CHLORIDE

HEXANE

Flask #:	Q15		Q16	
Manufacturer / Lot #	Fisher Optima / 197032		Fisher Optima / 197044	
Volume Analyzed (mls):	200		200	
Weighing Number :	1	2	1	2
Final Weight (g):	6.9026	6.9028	7.3001	7.3005
Initial Weight (g):	6.9028	6.9030	7.3004	7.3001
Net (mg):	0.0		0.0	
Density:	1.32		0.65	
Weight %:	0.0000		0.0000	



EPA M5 - Particulate Matter (PM) - Front Half

Company: Agnico Eagle Mines Limited	Project Number: 2193
Plant Location: Meadowbank Site - Baker Lake, Nunavut	Method Reference: EPA Method 5
Source: Incinerator Stack	Laboratory Reference: EMS SOP-00115
Date Sampled: 2021-09-18/19 & 2021-11-28	Analyst: Qun Wong
Date Reported: 2021-12-30	Approved: Bill Wong
Report Version: 1	

Initial Weighing (1) - Date/Time:	2021-12-20 / 15:40	Final Weighing (1) - Date/Time:	2021-12-22 / 16:15
Initial Weighing (2) - Date/Time:	2021-12-21 / 08:10	Final Weighing (2) - Date/Time:	2021-12-23 / 08:35

Blank Analysis

	ACETONE		DEIONIZED WATER	
Lab Tracking # / Flask #:	18648 / W5			
Volume Analyzed (mls):	200			
Weighing Number :	1	2	1	2
Final Weight (g):	1.1828	1.1829		
Initial Weight (g):	1.1829	1.1827		
Net (mg):	0.05			
Blank Concentration (mg/ml):	0.0003			

Blank Correction

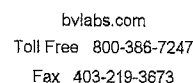
	Probe Wash (Front Half)			Impinger (Back Half)		
Lab Tracking #:	18644	18645	18646			
Test Number:	1	2	3	1	2	3
Total Volume Collected (mls):	150	150	150			
Blank (mg) = Total Volume (ml) x Blank Concentration (mg/ml)	0.0	0.0	0.0			

Filter - Test #:

	1		2		3	
Lab Tracking # / Filter ID:	18575	QM2386	18576	QM2387	18577	QM2390
Weighing Number :	1	2	1	2	1	2
Final Weight (g):	0.5129	0.5126	0.5445	0.5444	0.4200	0.4200
Initial Weight (g):	0.4024		0.4044		0.4044	
Net (mg):	110.4		140.1		15.6	

Probe Wash - Test #:

	1		2		3	
Lab Tracking # / Flask #:	18644	W1	18645	W2	18646	W3
Amount of Liquid Lost during transport (ml) :	0		0		0	
Weighing Number :	1	2	1	2	1	2
Final Weight (g):	4.8244	4.8249	0.2153	0.2156	3.3211	3.3215
Initial Weight (g):	4.7880	4.7884	0.1660	0.1662	3.3175	3.3175
Net (mg):	36.5		49.4		3.8	
Net (mg) + Blank Corrected:	36.5		49.4		3.8	





EPA M5 - Particulate Matter (PM) - Front Half

Company: Agnico Eagle Mines Limited
Plant Location: Meadowbank Site - Baker Lake, Nunavut
Source: Incinerator Stack
Date Sampled: 2021-11-28
Date Reported: 2021-12-30
Report Version: 1

Project Number: 2193
Method Reference: EPA Method 5
Laboratory Reference: EMS SOP-00115
Analyst: Qun Wong
Approved: Bill Wong

Initial Weighing (1) - Date/Time: 2021-12-20 / 15:40
Initial Weighing (2) - Date/Time: 2021-12-21 / 08:10

Final Weighing (1) - Date/Time: 2021-12-22 / 16:15
Final Weighing (2) - Date/Time: 2021-12-23 / 08:35

Blank Analysis

Lab Tracking # / Flask #: 18648 / W5
Volume Analyzed (mls): 200
Weighing Number: 1 2 1 2
Final Weight (g): 1.1828 1.1829
Initial Weight (g): 1.1829 1.1827
Net (mg): 0.05
Blank Concentration (mg/ml): 0.0003

Blank Correction

Lab Tracking #: 18647
Test Number: 4
Total Volume Collected (mls): 150
Blank (mg) = Total Volume (ml) x Blank Concentration (mg/ml)
0.0

Filter - Test #:

Lab Tracking # / Filter ID: 18578 QM2381
Weighing Number: 1 2
Final Weight (g): 0.6290 0.6293
Initial Weight (g): 0.5436
Net (mg): 85.6

Probe Wash - Test #:

Lab Tracking # / Flask #: 18647 W4
Amount of Liquid Lost during transport (ml): 0
Weighing Number: 1 2
Final Weight (g): 6.9670 6.9667
Initial Weight (g): 6.9644 6.9646
Net (mg): 2.3
Net (mg) - Blank Corrected: 2.3



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

Company Name: **Agnico Eagle Mines Limited**
Plant Location: Meadowbank Site - Baker Lake, Nunavut
Source Location: Incinerator Stack
Sampling Date: 2021-09-18/19
Analytical Date: 2021-10-07
Reporting Date: 2021-11-05
Report Version: 1

Project Number: 2193
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)
17588	1	5.864	158	25	23.819
17589	2	4.288	160	25	17.639
17590	Blank	-0.030	100	1	-0.003

Caustic Fraction

Lab Tracking #	Test #	Cl (mg/L)	Total Volume	Dilution	Cl ₂ (mg)
17591	1	-0.030	150		0.000
17592	2	-0.030	150		0.000
17593	Blank	-0.030	100		0.000

Analytical Precision and QAQC

Acidic Fraction			Caustic Fraction		
Lab ID#	Run #	Cl	Lab ID#	Run #	Cl
17588	1	5.872	17591	1	-0.030
	2	5.855		2	-0.030
	Average	5.864		Average	-0.030
	% +/-	0.1		% +/-	0.0
Second Source Calibration Standard			Continuous Calibration Verification		
Lot# P2-MIN686378 / 1308-28-3			Lot# 1308-28-4		
QAQC #	Run #	Cl	QAQC #	Run #	Cl
1	4914	11.881	1	4915	10.016
2	4919	11.874	2	4920	10.003
3	4882	11.897	3	4883	9.560
4	4888	11.861	4	4889	9.566
Average		11.878	Average		9.786
True Value		11.902	True Value		10.000
% Recovery		99.8	% Recovery		97.9

Reviewed by:  Jackson Le

Validated by:  Bill Wong

Note: All chromatograms, calibrations and QAQC data will be kept on file and will be reproduced and sent upon request.
MDL = 0.03 mg/L Cl - 0.003 mg HCl / Cl₂.

" - " means less than MDL

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

Company Name: Agnico Eagle Mines Limited
 Plant Location: Meadowbank Site - Baker Lake, Nunavut
 Source Location: Incinerator Stack
 Sampling Date: 2021-11-20/25/28
 Analytical Date: 2021-12-23
 Reporting Date: 2021-12-30
 Report Version: 1

Project Number: 2193
 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)
18636	3	0.781	246	25	4.940
18637	4	1.367	140	25	4.920
18638	5	3.333	146	25	12.511
18639	Blank	0.151	100	1	0.016

Caustic Fraction

Lab Tracking #	Test #	Cl (mg/L)	Total Volume	Dilution	Cl ₂ (mg)
18640	3	-0.030	246	1	-0.007
18641	4	-0.030	144	1	-0.004
18642	5	12.077	152	1	1.836
18643	Blank	-0.030	100	1	-0.003

Analytical Precision and QAQC

Acidic Fraction			Caustic Fraction		
Lab ID#	Run #	Cl	Lab ID#	Run #	Cl
18636	1	0.782	18640	1	-0.030
	2	0.780		2	-0.030
	Average	0.781		Average	-0.030
	% +/-	0.1		% +/-	0.0
Second Source Calibration Standard			Continuous Calibration Verification		
Lot# P2-MIN686378 / 1308-31-3			Lot# 1308-31-4		
QAQC #	Run #	Cl	QAQC #	Run #	Cl
1	5530	12.036	1	5533	10.037
2	5539	12.133	2	5540	10.017
3	5546	12.114	3	5547	10.027
Average		12.094	Average		10.027
True Value		11.902	True Value		10.000
% Recovery		101.6	% Recovery		100.3

Reviewed by:

Jackson Le

Validated by:

Bill Wong

Note: All chromatograms, calibrations and QAQC data will be kept on file and will be reproduced and sent upon request.

MDL = 0.03 mg/L Cl / 0.003 mg HCl / Cl₂.

" < " means less than MDL



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

Company Name: **Agnico Eagle Mines Limited**
Plant Location: Meadowbank Site - Baker Lake, Nunavut
Source Location: Incinerator Stack
Sampling Date: 2021-09-18/19
Analytical Date: 2021-10-07
Reporting Date: 2021-11-05
Report Version: **1**

Project Number: 2193
Method Reference: US EPA Method 7A
Laboratory Reference: EMS SOP-00110
Analyst: BW

<u>Lab Tracking #</u>	<u>Test #</u>	<u>Bomb #</u>	<u>NO₃</u> <u>(mg/L)</u>	<u>Total</u> <u>Volume</u>	<u>Dilution</u>	<u>NO₂</u> <u>(mg)</u>
17580	1A	93	39.615	50	5	7.348
17581	1B	76	39.592	50	5	7.344
17582	2A	58	39.802	50	5	7.383
17583	2B	53	34.461	50	5	6.392
17584	Blank		0.000	50	5	0.000

Analytical Precision and QAQC

<u>Lab ID#</u>	<u>Run #</u>	<u>NO₃</u>
17580	1	39.620
	2	39.610
	Average	39.615
	% +/-	0.0

Second Source Calibration Standard

Lot# P2-MIN686378 / 1308-28-3

<u>QAQC #</u>	<u>Run #</u>	<u>NO₃</u>
1	4902	13.303
2	4909	13.349
Average		13.326
True Value		13.289
% Recovery		100.3

Continuous Calibration Verification

Lot# 1308-28-4

<u>Run #</u>	<u>NO₃</u>
4903	9.903
4910	9.909
Average	9.906
True Value	10.000
% Recovery	99.1

Reviewed by:

Jackson Le

Validated by:

Bill Wong

Note: All chromatograms, calibrations and QAQC data will be kept on file and will be reproduced and sent upon request.
MDL = 0.03 mg/L NO₃ or 0.001 mg NO₂



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

Company Name: **Agnico Eagle Mines Limited**
Plant Location: Meadowbank Site - Baker Lake, Nunavut
Source Location: Incinerator Stack
Sampling Date: 2021-11-20/26/28
Analytical Date: 2021-12-22
Reporting Date: 2021-12-30
Report Version: 1

Project Number: 2193
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)
18625	3A	102	0.059	50	25	0.054
18626	3B	87	0.056	50	25	0.052
18627	4A	93	0.051	50	25	0.047
18628	4B	76	0.064	50	25	0.059
18629	5A	53	0.107	50	25	0.099
18630	5B	58	0.070	50	25	0.065
18631	Blank		0.013	50	5	0.002

Analytical Precision and QAQC

Lab ID#	Run #	NO ₃
18625	1	0.059
	2	0.058
	Average	0.059
	% +/-	0.9

Second Source Calibration Standard

Lot# P2-MIN686378 / 1308-31-3

QAQC #	Run #	NO ₃
1	5513	13.624
2	5523	13.678
Average		13.651
True Value		13.289
% Recovery		102.7

Continuous Calibration Verification

Lot# 1308-31-4

Run #	NO ₃
5514	9.852
5524	9.863
Average	9.858
True Value	10.000
% Recovery	98.6

Reviewed by:  Jackson Le

Validated by:  Bill Wong

Note: All chromatograms, calibrations and QAQC data will be kept on file and will be reproduced and sent upon request.
MDL = 0.03 mg/L NO₃ or 0.001 mg NO₂



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

Company Name: **Agnico Eagle Mines Limited**

Plant Location: Meadowbank Site - Baker Lake, Nunavut

Source Location: Incinerator Stack

Sampling Date: 2021-09-18/19

Analytical Date: 2021-10-07

Reporting Date: 2021-11-05

Report Version: 1

Project Number: 2193

Method Reference: US EPA Method 6 and AECV Method 4707

Laboratory Reference: EMS SOP-00110

Analyst: BW

<u>Lab Tracking #</u>	<u>Test #</u>	<u>SO₄</u> <u>(mg/L)</u>	<u>Total</u> <u>Volume</u>	<u>Dilution</u>	<u>SO₂</u> <u>(mg)</u>
17585	1	2.732	255	25	11.613
17586	2	4.177	255	25	17.758
17587	Blank	0.172	200	1	0.023

Analytical Precision and QAQC

<u>Lab ID#</u>	<u>Run #</u>	<u>SO₄</u>
17585	1	2.732
	2	<u>2.731</u>
	Average	2.732
	% +/-	0.0

Second Source Calibration Standard

Lot# P2-MIN686378 / 1308-28-3

<u>QAQC #</u>	<u>Run #</u>	<u>SO₄</u>
1	4914	9.018
2	4909	9.058
	Average	9.038
	True Value	9.006
	% Recovery	100.4

Continuous Calibration Verification

Lot# 1308-28-4

<u>Run #</u>	<u>SO₄</u>
4915	10.108
4910	10.115
	10.112
	10.000
	101.1

Reviewed by:

Jackson Le

Validated by:

Bill Wong

Note: All chromatograms, calibrations and QAQC data will be kept on file and will be reproduced and sent upon request.

MDL = 0.010 mg/L SO₄ or 0.001 mg SO₂



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

Company Name: **Agnico Eagle Mines Limited**
Plant Location: Meadowbank Site - Baker Lake, Nunavut
Source Location: Incinerator Stack
Sampling Date: 2021-11-25/26/27
Analytical Date: 2021-12-22
Reporting Date: 2021-12-30
Report Version: 1

Project Number: 2193
Method Reference: US EPA Method 6 and AECV Method 47071
Laboratory Reference: EMS SOP-00110
Analyst: BW

<u>Lab Tracking #</u>	<u>Test #</u>	<u>SO₄</u> <u>(mg/L)</u>	<u>Total</u> <u>Volume</u>	<u>Dilution</u>	<u>SO₂</u> <u>(mg)</u>
18632	3	1.075	242	25	4.337
18633	4	3.684	260	25	15.970
18634	5	3.429	246	25	14.064
18635	Blank	0.161	200	1	0.021

Analytical Precision and QAQC

<u>Lab ID#</u>	<u>Run #</u>	<u>SO₄</u>
18632	1	1.076
	2	1.074
	Average	1.075
	% +/-	0.1

Second Source Calibration Standard

Lot# P2-M1N686378 / 1308-31-3

<u>QAQC #</u>	<u>Run #</u>	<u>SO₄</u>
1	5523	8.918
2	5530	8.996
Average		8.957
True Value		9.006
% Recovery		99.5

Continuous Calibration Verification

Lot# 1308-31-4

<u>Run #</u>	<u>SO₄</u>
5524	9.871
5533	9.986
Average	9.929
True Value	10.000
% Recovery	99.3

Reviewed by:

Jackson Le

Validated by:

Bill Wong

Note: All chromatograms, calibrations and QAQC data will be kept on file and will be reproduced and sent upon request.
MDL = 0.010 mg/L SO₄ or 0.001 mg SO₂



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

Company Name: **Agnico Eagle Mines Limited**

Plant Location: **Meadowbank Site - Baker Lake, Nunavut**

Sampling Date: 2021-09-18/19

Project #: 2193

Analytical Date: 2021-10-04

Method Reference: AENV / EPA Method 3

Reporting Date: 2021-10-07

Laboratory Reference: EMS SOP-00112

Report Version: 1

Analyst: JL

Source Location:	Incinerator Stack	Incinerator Stack
	10 L Tedlar Bag	10 L Tedlar Bag
	Test 1	Test 2
Lab ID#:	17575	17576
Time:	11:00-12:00	11:00-12:00

FIXED GAS ANALYSIS

(Mole % - Dry Basis)

COMPONENT

H ₂	< 0.05	< 0.05
Ar	0.94	0.94
O ₂	16.96	16.95
N ₂	78.98	78.94
CO ₂	3.12	3.17
CO	<0.0004	< 0.0004
C ₁	<0.0004	< 0.0004
Total	100.00	100.00

Reviewed By:

Jackson Le

Validated By:

Bill Wong

MDL - Fixed Gases for CH₄ and CO - 4 ppmv
ZERO means analyzed for but not detected.



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

Company Name: **Agnico Eagle Mines Limited**
Plant Location: **Meadowbank Site - Baker Lake, Nunavut**
Sampling Date: 2021-11-20/26/27 Project #: 2193
Analytical Date: 2021-12-21 Method Reference: AENV / EPA Method 3
Reporting Date: 2021-12-24 Laboratory Reference: EMS SOP-00112
Report Version: 1 Analyst: JL

Source Location:	Incinerator Stack 10L Tedlar Bag	Incinerator Stack 10L Tedlar Bag	Incinerator Stack 10L Tedlar Bag
	Test 3	Test 4	Test 5
Lab ID#:	18653	18654	18655
Time:	14:10-15:10	12:00-13:00	11:00-12:00

FIXED GAS ANALYSIS

(Mole % - Dry Basis)

COMPONENT

H ₂	< 0.05	< 0.05	< 0.05
Ar	0.94	0.94	0.94
O ₂	17.69	18.07	17.96
N ₂	78.87	78.68	78.88
CO ₂	2.50	2.31	2.22
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 CH₄ and CO ~ 4 ppmv
ZERO means analyzed for but not detected.



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

Company Name: **Agnico Eagle Mines Limited**

Plant Location: **Meadowbank Site - Baker Lake, Nunavut**

Sampling Date: 2021-11-25/28

Project #: 2193

Analytical Date: 2021-12-21

Method Reference: AENV / EPA Method 3

Reporting Date: 2021-12-24

Laboratory Reference: EMS SOP-00112

Report Version: 1

Analyst: JL

Source Location:	Incinerator Stack	Incinerator Stack
	1L Tedlar - MM5	1L Tedlar - M29
	Test 2	Test 4
Lab ID#:	18656	18657
Time:	15:00	11:00

FIXED GAS ANALYSIS

(Mole % - Dry Basis)

COMPONENT

H ₂	< 0.05	< 0.05
Ar	0.94	0.94
O ₂	17.84	17.86
N ₂	78.78	78.75
CO ₂	2.44	2.44
CO	<0.0004	< 0.0004
C ₁	<0.0004	< 0.0004
Total	100.00	100.00

Reviewed By:

Jackson Le

Validated By:

Bill Wong

MDL - Fixed Gases for CH₄ and CO - 4 ppmv
ZERO means analyzed for but not detected.



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

Company Name: **Agnico Eagle Mines Limited**

Plant Location: **Meadowbank Site - Baker Lake, Nunavut**

Sampling Date: 2021-09-18/19

Project #: 2193

Analytical Date: 2021-10-04

Method Reference: AENV / EPA Method 3

Reporting Date: 2021-10-07

Laboratory Reference: EMS SOP-00112

Report Version: 1

Analyst: JL

Source Location:	Incinerator Stack	Incinerator Stack
	GC Bomb	GC Bomb
	Test 1	Test 2
Lab ID#:	17577	17578
Time:	11:00-12:00	11:00-12:00

FIXED GAS ANALYSIS

(Mole % - Dry Basis)

COMPONENT

H ₂	< 0.05	< 0.05
Ar	0.94	0.94
O ₂	16.70	16.88
N ₂	78.81	78.81
CO ₂	3.54	3.37
CO	<0.0004	< 0.0004
C ₁	<0.0004	< 0.0004
Total	100.00	100.00

Reviewed By:

Jackson Le

Validated By:

Bill Wong

MDL - Fixed Gases for CH₄ and CO - 4 ppmv
ZERO means analyzed for but not detected.



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

Company Name: **Agnico Eagle Mines Limited**
Plant Location: **Meadowbank Site - Baker Lake, Nunavut**
Sampling Date: 2021-11-20/26/27 Project #: 2193
Analytical Date: 2021-12-13 Method Reference: AENV / EPA Method 3
Reporting Date: 2021-12-13 Laboratory Reference: EMS SOP-00112
Report Version: 1 Analyst: JL

Source Location:	Incinerator Stack	Incinerator Stack	Incinerator Stack
	GC Bomb	GC Bomb	GC Bomb
	Test 3	Test 4	Test 5
Lab ID#:	18650	18651	18652
Time:	14:10-15:10	12:00-13:00	11:00-12:00

FIXED GAS ANALYSIS

(Mole % - Dry Basis)

COMPONENT

H ₂	< 0.05	< 0.05	< 0.05
Ar	0.94	0.94	0.94
O ₂	17.20	17.18	17.18
N ₂	78.89	78.88	78.88
CO ₂	2.97	3.00	3.00
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 CH₄ and CO - 4 ppmv
ZERO means analyzed for but not detected.

Company: Agnico Eagle Mines Limited - Meadowbank Site - Baker Lake, Nunavut
Source: Incinerator Stack
Date: 2021-11-25/26/27
Project #: 2193

TEST 2

TEST 3

	INITIAL	FINAL			INITIAL	FINAL	
	WEIGHT	WEIGHT	LOAD		WEIGHT	WEIGHT	LOAD
MM5 SET#	7			MM5 SET#	8		
H2O IMPINGER 1	484.9	486.0	1.1	H2O IMPINGER 1	494.5	494.5	0.0
H2O IMPINGER 2	522.0	522.0	0.0	H2O IMPINGER 2	518.9	540.0	21.1
GLYCOL IMPINGER	757.0	778.0	21.0	GLYCOL IMPINGER	770.0	791.0	21.0
EMPTY IMPINGER	645.2	696.0	50.8	EMPTY IMPINGER	671.7	672.0	0.3
SILICA GEL IMPINGER	846.4	852.2	5.8	SILICA GEL IMPINGER	900.3	908.0	7.7
CONDENSER	212.3	214.0	1.7	CONDENSER	268.7	271.0	2.3
XAD CARTRIDGE	325.5	326.0	0.5	XAD CARTRIDGE	338.1	344.0	5.9
XAD CARTRIDGE #	2			XAD CARTRIDGE #	3		

80.9

58.3

TEST 4

BLANK

	INITIAL	FINAL			INITIAL	FINAL	
	WEIGHT	WEIGHT	LOAD		WEIGHT	WEIGHT	LOAD
MM5 SET#	9			MM5 SET#	10		
H2O IMPINGER 1	489.6	489.6	0.0	H2O IMPINGER 1	497.8	497.8	0.0
H2O IMPINGER 2	492.4	541.0	48.6	H2O IMPINGER 2	477.9	477.9	0.0
GLYCOL IMPINGER	763.0	786.0	23.0	GLYCOL IMPINGER	785.0	785.0	0.0
EMPTY IMPINGER	590.3	598.0	7.7	EMPTY IMPINGER	653.9	653.9	0.0
SILICA GEL IMPINGER	855.0	866.0	11.0	SILICA GEL IMPINGER	884.0	884.0	0.0
CONDENSER	274.2	276.0	1.8	CONDENSER	276.5	276.5	0.0
XAD CARTRIDGE	333.6	340.0	6.4	XAD CARTRIDGE	336.1	336.1	0.0
XAD CARTRIDGE #	4			XAD CARTRIDGE #	5		

98.5

0.0

**Attention: Bill Wong**

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

Your Project #: 2193
 Site#: INCINERATOR STACK-MEADOWBANK
 Site Location: AGNICO EAGLE MINES LIMITED- BAKER LAKE,
 NUNAVUT
 Your C.O.C. #: 190803-02

Report Date: 2022/02/09
 Report #: R6997566
 Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT**BUREAU VERITAS JOB #: C202160****Received: 2021/12/24, 07:29**

Sample Matrix: Stack Sampling Train
 # Samples Received: 8

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Mercury 3C in HCl Rinse	6	2022/01/18	2022/01/20	BRL SOP-00104	EPA M29/M0060 m
Mercury 2B in HNO ₃ /H ₂ O ₂ Imp.	5	2022/01/17	2022/01/18	BRL SOP-00104	EPA M29/M0060 m
Mercury 3A in HNO ₃ Rinse	5	2022/01/12	2022/01/19	BRL SOP-00104	EPA M29/M0060 m
Mercury 3B in KMnO ₄ /H ₂ SO ₄ Imp.	6	2022/01/11	2022/01/12	BRL SOP-00104	EPA M29/M0060 m
Mercury 1B in Filter + Rinse (M29)	5	2022/01/14	2022/01/19	BRL SOP-00104	EPA 29 m
Metals B.H. in H ₂ O ₂ /HNO ₃ Imp.(6020B m)	6	2022/01/14	2022/01/18	BRL SOP-00103 / BRL SOP-00102	EPA M29/CARB 436 m
Metals F.H. in Filter + Rinses (6020B m)	3	2022/01/14	2022/01/18	BRL SOP-00103/ BRL SOP-00102	EPA M29/CARB 436 m
Metals F.H. in Filter + Rinses (6020B m)	3	2022/01/14	2022/02/03	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 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.

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

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.



Attention: Bill Wong

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

Your Project #: 2193
Site#: INCINERATOR STACK-MEADOWBANK
Site Location: AGNICO EAGLE MINES LIMITED- BAKER LAKE,
NUNAVUT
Your C.O.C. #: 190803-02

Report Date: 2022/02/09
Report #: R6997566
Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C202160

Received: 2021/12/24, 07:29

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

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Marinela Sim, Project Manager

Email: Marinela.Sim@bureauveritas.com

Phone# (905)817-5828

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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 Signature Page.



Bureau Veritas Job #: C202160
Report Date: 2022/02/09

Bureau Veritas
Client Project #: 2193
Site Location: AGNICO EAGLE MINES LIMITED- BAKER LAKE,
NUNAVUT

EPA M29 METALS (FRONT & BACK SEPARATE)

Bureau Veritas ID		ROA813	ROA814	ROA816	ROA817	ROA817			
Sampling Date		2021/11/28	2021/11/28	2021/11/28	2021/09/18	2021/09/18			
COC Number		190803-02	190803-02	190803-02	190803-02	190803-02			
	UNITS	FRONT HALF SPIKE	BACK HALF SPIKE	M29- BLANK	M29- TEST 1	M29- TEST 1 Lab-Dup	RDL	MDL	QC Batch
Front Half Antimony (Sb)	ug	15.6	N/A	<3.0	281	279	3.0	0.080	7782124
Front Half Arsenic (As)	ug	13.0	N/A	<0.80	26.9	27.4	0.80	0.080	7782124
Front Half Barium (Ba)	ug	46.5	N/A	4.2	17.5	16.8	1.2	0.80	7782124
Front Half Beryllium (Be)	ug	16.5	N/A	<0.18	<0.18	<0.18	0.18	0.040	7782124
Front Half Cadmium (Cd)	ug	17.8	N/A	<0.18	6.01	5.90	0.18	0.040	7782124
Front Half Chromium (Cr)	ug	18.6	N/A	<3.0	38.0	38.9	3.0	0.10	7782124
Front Half Cobalt (Co)	ug	19.1	N/A	<0.18	1.09	1.06	0.18	0.020	7782124
Front Half Copper (Cu)	ug	22.3	N/A	<1.8	284	283	1.8	0.20	7782124
Front Half Lead (Pb)	ug	61.7	N/A	<0.60	202	201	0.60	0.040	7782124
Front Half Manganese (Mn)	ug	77.1	N/A	<1.2	23.6	24.1	1.2	0.10	7782124
Front Half Nickel (Ni)	ug	58.3	N/A	1.6	12.5	13.0	1.0	0.20	7782124
Front Half Phosphorus (P)	ug	<90	N/A	361	2650	2670	90	10	7782124
Front Half Selenium (Se)	ug	34.7	N/A	<2.0	<2.0	<2.0	2.0	0.50	7782124
Front Half Silver (Ag)	ug	18.2	N/A	<0.24	5.86	6.25	0.24	0.040	7782124
Front Half Thallium (Tl)	ug	16.8	N/A	<0.24	0.67	0.65	0.24	0.10	7782124
Front Half Zinc (Zn)	ug	38	N/A	<10	7850	8030	10	1.0	7782124
Back Half Antimony (Sb)	ug	N/A	6.96	<0.40	<0.40	<0.40	0.40	0.040	7782111
Back Half Arsenic (As)	ug	N/A	5.50	<0.40	<0.40	<0.40	0.40	0.040	7782111
Back Half Barium (Ba)	ug	N/A	24.2	0.95	4.48	4.40	0.60	0.040	7782111
Back Half Beryllium (Be)	ug	N/A	8.46	<0.090	<0.090	<0.090	0.090	0.050	7782111
Back Half Cadmium (Cd)	ug	N/A	8.93	<0.090	<0.090	<0.090	0.090	0.030	7782111
Back Half Chromium (Cr)	ug	N/A	9.2	<1.5	<1.5	<1.5	1.5	0.070	7782111
Back Half Cobalt (Co)	ug	N/A	9.60	<0.090	0.307	0.321	0.090	0.010	7782111
Back Half Copper (Cu)	ug	N/A	12.2	1.18	<0.75	<0.75	0.75	0.75	7782111
Back Half Lead (Pb)	ug	N/A	31.7	<0.30	0.81	0.81	0.30	0.040	7782111
Back Half Manganese (Mn)	ug	N/A	38.9	<0.60	<0.60	<0.60	0.60	0.060	7782111
Back Half Nickel (Ni)	ug	N/A	29.2	<0.50	<0.50	<0.50	0.50	0.060	7782111
Back Half Phosphorus (P)	ug	N/A	<45	<45	<45	<45	45	7.0	7782111
Back Half Selenium (Se)	ug	N/A	16.9	<1.0	<1.0	<1.0	1.0	0.20	7782111
Back Half Silver (Ag)	ug	N/A	9.39	<0.12	<0.12	<0.12	0.12	0.020	7782111
Back Half Thallium (Tl)	ug	N/A	8.55	<0.12	<0.12	<0.12	0.12	0.050	7782111
Back Half Zinc (Zn)	ug	N/A	19.0	<5.0	<5.0	<5.0	5.0	0.60	7782111
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable									



EPA M29 METALS (FRONT & BACK SEPARATE)

Bureau Veritas ID		ROA818	ROA819	ROA827			
Sampling Date		2021/09/19	2021/11/20	2021/11/28			
COC Number		190803-02	190803-02	190803-02			
	UNITS	M29- TEST 2	M29- TEST 3	M29- TEST 4	RDL	MDL	QC Batch
Front Half Antimony (Sb)	ug	195	752	456	3.0	0.080	7782124
Front Half Arsenic (As)	ug	26.2	3.06	9.38	0.80	0.080	7782124
Front Half Barium (Ba)	ug	17.6	6.6	10.3	1.2	0.80	7782124
Front Half Beryllium (Be)	ug	<0.18	<0.18	<0.18	0.18	0.040	7782124
Front Half Cadmium (Cd)	ug	7.27	0.46	5.47	0.18	0.040	7782124
Front Half Chromium (Cr)	ug	23.9	26.1	13.1	3.0	0.10	7782124
Front Half Cobalt (Co)	ug	0.68	0.49	0.44	0.18	0.020	7782124
Front Half Copper (Cu)	ug	293	128	201	1.8	0.20	7782124
Front Half Lead (Pb)	ug	160	26.1	144	0.60	0.040	7782124
Front Half Manganese (Mn)	ug	13.5	6.6	8.8	1.2	0.10	7782124
Front Half Nickel (Ni)	ug	44.3	18.0	8.9	1.0	0.20	7782124
Front Half Phosphorus (P)	ug	2000	157	1080	90	10	7782124
Front Half Selenium (Se)	ug	<2.0	<2.0	<2.0	2.0	0.50	7782124
Front Half Silver (Ag)	ug	5.34	3.61	5.33	0.24	0.040	7782124
Front Half Thallium (Tl)	ug	0.47	<0.24	<0.24	0.24	0.10	7782124
Front Half Zinc (Zn)	ug	8810	1700	6470	10	1.0	7782124
Back Half Antimony (Sb)	ug	<0.40	<0.40	<0.40	0.40	0.040	7782111
Back Half Arsenic (As)	ug	<0.40	<0.40	<0.40	0.40	0.040	7782111
Back Half Barium (Ba)	ug	4.64	4.19	15.1	0.60	0.040	7782111
Back Half Beryllium (Be)	ug	<0.090	<0.090	<0.090	0.090	0.050	7782111
Back Half Cadmium (Cd)	ug	<0.090	<0.090	<0.090	0.090	0.030	7782111
Back Half Chromium (Cr)	ug	<1.5	<1.5	<1.5	1.5	0.070	7782111
Back Half Cobalt (Co)	ug	0.111	<0.090	<0.090	0.090	0.010	7782111
Back Half Copper (Cu)	ug	<0.75	<0.75	<0.75	0.75	0.75	7782111
Back Half Lead (Pb)	ug	0.46	<0.30	<0.30	0.30	0.040	7782111
Back Half Manganese (Mn)	ug	3.54	<0.60	0.74	0.60	0.060	7782111
Back Half Nickel (Ni)	ug	0.55	1.55	0.52	0.50	0.060	7782111
Back Half Phosphorus (P)	ug	<45	<45	<45	45	7.0	7782111
Back Half Selenium (Se)	ug	<1.0	<1.0	<1.0	1.0	0.20	7782111
Back Half Silver (Ag)	ug	<0.12	<0.12	<0.12	0.12	0.020	7782111
Back Half Thallium (Tl)	ug	<0.12	<0.12	<0.12	0.12	0.050	7782111
Back Half Zinc (Zn)	ug	<5.0	<5.0	<5.0	5.0	0.60	7782111
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							



EPA M29 MERCURY (STACK SAMPLING TRAIN)

Bureau Veritas ID		ROA815			ROA816			ROA817			
Sampling Date		2021/11/28			2021/11/28			2021/09/18			
COC Number		190803-02			190803-02			190803-02			
	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	7782085
2B Mercury (Hg)	ug	N/A	0.15	0.006	<0.15	0.15	0.006	0.26	0.18	0.0072	7781578
3A Mercury (Hg)	ug	N/A	0.005	0.0006	<0.005	0.005	0.0006	<0.0047	0.0047	0.00056	7777094
3B Mercury (Hg)	ug	0.093	0.013	0.0026	<0.02	0.02	0.004	0.076	0.025	0.005	7774695
3C Mercury (Hg)	ug	0.398	0.013	0.0026	<0.013	0.013	0.0026	<0.013	0.013	0.0026	7784930
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable											

Bureau Veritas ID		ROA818			ROA819			ROA827			
Sampling Date		2021/09/19			2021/11/20			2021/11/28			
COC Number		190803-02			190803-02			190803-02			
	UNITS	M29- TEST 2	RDL	MDL	M29- TEST 3	RDL	MDL	M29- TEST 4	RDL	MDL	QC Batch
1B Mercury (Hg)	ug	<0.015	0.015	0.006	<0.015	0.015	0.006	<0.015	0.015	0.006	7782085
2B Mercury (Hg)	ug	<0.34	0.34	0.014	<0.16	0.16	0.0064	<0.17	0.17	0.0068	7781578
3A Mercury (Hg)	ug	<0.0049	0.0049	0.00059	<0.0048	0.0048	0.00058	<0.0048	0.0048	0.00058	7777094
3B Mercury (Hg)	ug	0.177	0.025	0.005	<0.025	0.025	0.005	0.284	0.025	0.005	7774695
3C Mercury (Hg)	ug	<0.013	0.013	0.0026	<0.013	0.013	0.0026	2.69	0.013	0.0026	7784930
RDL = Reportable Detection Limit QC Batch = Quality Control Batch											

Bureau Veritas ID		ROA827			
Sampling Date		2021/11/28			
COC Number		190803-02			
	UNITS	M29- TEST 4 Lab-Dup	RDL	MDL	QC Batch
1B Mercury (Hg)	ug	<0.015	0.015	0.006	7782085
2B Mercury (Hg)	ug	<0.17	0.17	0.0068	7781578
3A Mercury (Hg)	ug	<0.0048	0.0048	0.00058	7777094
3B Mercury (Hg)	ug	0.289	0.025	0.005	7774695
3C Mercury (Hg)	ug	2.59	0.013	0.0026	7784930
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate					



Bureau Veritas Job #: C202160
Report Date: 2022/02/09

Bureau Veritas
Client Project #: 2193
Site Location: AGNICO EAGLE MINES LIMITED- BAKER LAKE,
NUNAVUT

TEST SUMMARY

Bureau Veritas ID: ROA813
Sample ID: FRONT HALF SPIKE
Matrix: Stack Sampling Train

Collected: 2021/11/28
Shipped:
Received: 2021/12/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Metals F.H. in Filter + Rinses (6020B m)	ICP1/MS	7782124	2022/01/14	2022/02/03	Nan Raykha

Bureau Veritas ID: ROA814
Sample ID: BACK HALF SPIKE
Matrix: Stack Sampling Train

Collected: 2021/11/28
Shipped:
Received: 2021/12/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Metals B.H. in H2O2/HNO3 Imp.(6020B m)	ICP1/MS	7782111	2022/01/14	2022/01/18	Nan Raykha

Bureau Veritas ID: ROA815
Sample ID: MERCURY SPIKE
Matrix: Stack Sampling Train

Collected: 2021/11/28
Shipped:
Received: 2021/12/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Mercury 3C in HCl Rinse	CV/AA	7784930	2022/01/18	2022/01/20	Gagandeep Rai
Mercury 3B in KMnO4/H2SO4 Imp.	CV/AA	7774695	2022/01/11	2022/01/12	Gagandeep Rai

Bureau Veritas ID: ROA816
Sample ID: M29- BLANK
Matrix: Stack Sampling Train

Collected: 2021/11/28
Shipped:
Received: 2021/12/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Mercury 3C in HCl Rinse	CV/AA	7784930	2022/01/18	2022/01/20	Gagandeep Rai
Mercury 2B in HNO3/H2O2 Imp.	CV/AA	7781578	2022/01/17	2022/01/18	Gagandeep Rai
Mercury 3A in HNO3 Rinse	CV/AA	7777094	2022/01/12	2022/01/19	Gagandeep Rai
Mercury 3B in KMnO4/H2SO4 Imp.	CV/AA	7774695	2022/01/11	2022/01/12	Gagandeep Rai
Mercury 1B in Filter + Rinse (M29)	CV/AA	7782085	2022/01/14	2022/01/19	Gagandeep Rai
Metals B.H. in H2O2/HNO3 Imp.(6020B m)	ICP1/MS	7782111	2022/01/14	2022/01/18	Nan Raykha
Metals F.H. in Filter + Rinses (6020B m)	ICP1/MS	7782124	2022/01/14	2022/02/03	Nan Raykha

Bureau Veritas ID: ROA817
Sample ID: M29- TEST 1
Matrix: Stack Sampling Train

Collected: 2021/09/18
Shipped:
Received: 2021/12/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Mercury 3C in HCl Rinse	CV/AA	7784930	2022/01/18	2022/01/20	Gagandeep Rai
Mercury 2B in HNO3/H2O2 Imp.	CV/AA	7781578	2022/01/17	2022/01/18	Gagandeep Rai
Mercury 3A in HNO3 Rinse	CV/AA	7777094	2022/01/12	2022/01/19	Gagandeep Rai
Mercury 3B in KMnO4/H2SO4 Imp.	CV/AA	7774695	2022/01/11	2022/01/12	Gagandeep Rai
Mercury 1B in Filter + Rinse (M29)	CV/AA	7782085	2022/01/14	2022/01/19	Gagandeep Rai
Metals B.H. in H2O2/HNO3 Imp.(6020B m)	ICP1/MS	7782111	2022/01/14	2022/01/18	Nan Raykha
Metals F.H. in Filter + Rinses (6020B m)	ICP1/MS	7782124	2022/01/14	2022/01/18	Nan Raykha



Bureau Veritas Job #: C202160
Report Date: 2022/02/09

Bureau Veritas
Client Project #: 2193
Site Location: AGNICO EAGLE MINES LIMITED- BAKER LAKE,
NUNAVUT

TEST SUMMARY

Bureau Veritas ID: ROA817 Dup
Sample ID: M29- TEST 1
Matrix: Stack Sampling Train

Collected: 2021/09/18
Shipped:
Received: 2021/12/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Metals B.H. in H2O2/HNO3 Imp.(6020B m)	ICP1/MS	7782111	2022/01/14	2022/01/18	Nan Raykha
Metals F.H. in Filter + Rinses (6020B m)	ICP1/MS	7782124	2022/01/14	2022/01/18	Nan Raykha

Bureau Veritas ID: ROA818
Sample ID: M29- TEST 2
Matrix: Stack Sampling Train

Collected: 2021/09/19
Shipped:
Received: 2021/12/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Mercury 3C in HCl Rinse	CV/AA	7784930	2022/01/18	2022/01/20	Gagandeep Rai
Mercury 2B in HNO3/H2O2 Imp.	CV/AA	7781578	2022/01/17	2022/01/18	Gagandeep Rai
Mercury 3A in HNO3 Rinse	CV/AA	7777094	2022/01/12	2022/01/19	Gagandeep Rai
Mercury 3B in KMnO4/H2SO4 Imp.	CV/AA	7774695	2022/01/11	2022/01/12	Gagandeep Rai
Mercury 1B in Filter + Rinse (M29)	CV/AA	7782085	2022/01/14	2022/01/19	Gagandeep Rai
Metals B.H. in H2O2/HNO3 Imp.(6020B m)	ICP1/MS	7782111	2022/01/14	2022/01/18	Nan Raykha
Metals F.H. in Filter + Rinses (6020B m)	ICP1/MS	7782124	2022/01/14	2022/01/18	Nan Raykha

Bureau Veritas ID: ROA819
Sample ID: M29- TEST 3
Matrix: Stack Sampling Train

Collected: 2021/11/20
Shipped:
Received: 2021/12/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Mercury 3C in HCl Rinse	CV/AA	7784930	2022/01/18	2022/01/20	Gagandeep Rai
Mercury 2B in HNO3/H2O2 Imp.	CV/AA	7781578	2022/01/17	2022/01/18	Gagandeep Rai
Mercury 3A in HNO3 Rinse	CV/AA	7777094	2022/01/12	2022/01/19	Gagandeep Rai
Mercury 3B in KMnO4/H2SO4 Imp.	CV/AA	7774695	2022/01/11	2022/01/12	Gagandeep Rai
Mercury 1B in Filter + Rinse (M29)	CV/AA	7782085	2022/01/14	2022/01/19	Gagandeep Rai
Metals B.H. in H2O2/HNO3 Imp.(6020B m)	ICP1/MS	7782111	2022/01/14	2022/01/18	Nan Raykha
Metals F.H. in Filter + Rinses (6020B m)	ICP1/MS	7782124	2022/01/14	2022/02/03	Nan Raykha

Bureau Veritas ID: ROA827
Sample ID: M29- TEST 4
Matrix: Stack Sampling Train

Collected: 2021/11/28
Shipped:
Received: 2021/12/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Mercury 3C in HCl Rinse	CV/AA	7784930	2022/01/18	2022/01/20	Gagandeep Rai
Mercury 2B in HNO3/H2O2 Imp.	CV/AA	7781578	2022/01/17	2022/01/18	Gagandeep Rai
Mercury 3A in HNO3 Rinse	CV/AA	7777094	2022/01/12	2022/01/19	Gagandeep Rai
Mercury 3B in KMnO4/H2SO4 Imp.	CV/AA	7774695	2022/01/11	2022/01/12	Gagandeep Rai
Mercury 1B in Filter + Rinse (M29)	CV/AA	7782085	2022/01/14	2022/01/19	Gagandeep Rai
Metals B.H. in H2O2/HNO3 Imp.(6020B m)	ICP1/MS	7782111	2022/01/14	2022/01/18	Nan Raykha
Metals F.H. in Filter + Rinses (6020B m)	ICP1/MS	7782124	2022/01/14	2022/01/18	Nan Raykha



Bureau Veritas Job #: C202160
Report Date: 2022/02/09

Bureau Veritas
Client Project #: 2193
Site Location: AGNICO EAGLE MINES LIMITED- BAKER LAKE,
NUNAVUT

TEST SUMMARY

Bureau Veritas ID: ROA827 Dup
Sample ID: M29- TEST 4
Matrix: Stack Sampling Train

Collected: 2021/11/28
Shipped:
Received: 2021/12/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Mercury 3C in HCl Rinse	CV/AA	7784930	2022/01/18	2022/01/20	Gagandeep Rai
Mercury 2B in HNO3/H2O2 Imp.	CV/AA	7781578	2022/01/17	2022/01/18	Gagandeep Rai
Mercury 3A in HNO3 Rinse	CV/AA	7777094	2022/01/12	2022/01/19	Gagandeep Rai
Mercury 3B in KMnO4/H2SO4 Imp.	CV/AA	7774695	2022/01/11	2022/01/12	Gagandeep Rai
Mercury 1B in Filter + Rinse (M29)	CV/AA	7782085	2022/01/14	2022/01/19	Gagandeep Rai



Bureau Veritas Job #: C202160
Report Date: 2022/02/09

Bureau Veritas
Client Project #: 2193
Site Location: AGNICO EAGLE MINES LIMITED- BAKER LAKE,
NUNAVUT

GENERAL COMMENTS

EPA M29 METALS (FRONT & BACK SEPARATE)

Metals F.H. in Filter + Rinses (6020B m): Post digestion duplicate and spike were done on sample ROA817.

Metals B.H. in H₂O₂/HNO₃ Imp.(6020B m): Post digestion duplicate and spike were done on sample ROA817.

Results relate only to the items tested.



Bureau Veritas Job #: C202160
Report Date: 2022/02/09

Bureau Veritas
Client Project #: 2193
Site Location: AGNICO EAGLE MINES LIMITED- BAKER LAKE,
NUNAVUT

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
7774695	GR1	Reagent Blank	3B Mercury (Hg)	2022/01/12	<0.013		ug	
7774695	GR1	Matrix Spike(ROA827)	3B Mercury (Hg)	2022/01/12		96	%	75 - 125
7774695	GR1	Matrix Spike DUP(ROA827)	3B Mercury (Hg)	2022/01/12		94	%	75 - 125
7774695	GR1	MS/MSD RPD	3B Mercury (Hg)	2022/01/12	2.1		%	20
7774695	GR1	Spiked Blank	3B Mercury (Hg)	2022/01/12		98	%	90 - 110
7774695	GR1	Spiked Blank DUP	3B Mercury (Hg)	2022/01/12		98	%	90 - 110
7774695	GR1	RPD	3B Mercury (Hg)	2022/01/12	0.61		%	20
7774695	GR1	Method Blank	3B Mercury (Hg)	2022/01/12	<0.013		ug	
7774695	GR1	RPD - Sample/Sample Dup	3B Mercury (Hg)	2022/01/12	1.7		%	20
7777094	GR1	Matrix Spike(ROA827)	3A Mercury (Hg)	2022/01/19		98	%	75 - 125
7777094	GR1	Matrix Spike DUP(ROA827)	3A Mercury (Hg)	2022/01/19		99	%	75 - 125
7777094	GR1	MS/MSD RPD	3A Mercury (Hg)	2022/01/19	1.4		%	20
7777094	GR1	Spiked Blank	3A Mercury (Hg)	2022/01/19		99	%	90 - 110
7777094	GR1	Spiked Blank DUP	3A Mercury (Hg)	2022/01/19		99	%	90 - 110
7777094	GR1	RPD	3A Mercury (Hg)	2022/01/19	0.50		%	20
7777094	GR1	Method Blank	3A Mercury (Hg)	2022/01/19	<0.013		ug	
7777094	GR1	RPD - Sample/Sample Dup	3A Mercury (Hg)	2022/01/19	NC		%	20
7781578	GR1	Matrix Spike(ROA827)	2B Mercury (Hg)	2022/01/18		100	%	75 - 125
7781578	GR1	Matrix Spike DUP(ROA827)	2B Mercury (Hg)	2022/01/18		102	%	75 - 125
7781578	GR1	MS/MSD RPD	2B Mercury (Hg)	2022/01/18	1.9		%	20
7781578	GR1	Spiked Blank	2B Mercury (Hg)	2022/01/18		100	%	90 - 110
7781578	GR1	Spiked Blank DUP	2B Mercury (Hg)	2022/01/18		101	%	90 - 110
7781578	GR1	RPD	2B Mercury (Hg)	2022/01/18	0.69		%	20
7781578	GR1	Method Blank	2B Mercury (Hg)	2022/01/18	<0.013		ug	
7781578	GR1	RPD - Sample/Sample Dup	2B Mercury (Hg)	2022/01/18	NC		%	20
7782085	GR1	Reagent Blank	1B Mercury (Hg)	2022/01/19	<0.015		ug	
7782085	GR1	Matrix Spike(ROA827)	1B Mercury (Hg)	2022/01/19		99	%	75 - 125
7782085	GR1	Matrix Spike DUP(ROA827)	1B Mercury (Hg)	2022/01/19		100	%	75 - 125
7782085	GR1	MS/MSD RPD	1B Mercury (Hg)	2022/01/19	1.3		%	20
7782085	GR1	Spiked Blank	1B Mercury (Hg)	2022/01/19		97	%	90 - 110
7782085	GR1	Spiked Blank DUP	1B Mercury (Hg)	2022/01/19		101	%	90 - 110
7782085	GR1	RPD	1B Mercury (Hg)	2022/01/19	3.9		%	20
7782085	GR1	Method Blank	1B Mercury (Hg)	2022/01/19	<0.013		ug	
7782085	GR1	RPD - Sample/Sample Dup	1B Mercury (Hg)	2022/01/19	NC		%	20
7782111	N_R	Matrix Spike(ROA817)	Back Half Antimony (Sb)	2022/01/18		93	%	75 - 125
			Back Half Arsenic (As)	2022/01/18		93	%	75 - 125
			Back Half Barium (Ba)	2022/01/18		97	%	75 - 125
			Back Half Beryllium (Be)	2022/01/18		94	%	75 - 125
			Back Half Cadmium (Cd)	2022/01/18		93	%	75 - 125
			Back Half Chromium (Cr)	2022/01/18		103	%	75 - 125
			Back Half Cobalt (Co)	2022/01/18		107	%	75 - 125
			Back Half Copper (Cu)	2022/01/18		102	%	75 - 125
			Back Half Lead (Pb)	2022/01/18		103	%	75 - 125
			Back Half Manganese (Mn)	2022/01/18		102	%	75 - 125
			Back Half Nickel (Ni)	2022/01/18		103	%	75 - 125
			Back Half Phosphorus (P)	2022/01/18		91	%	75 - 125
			Back Half Selenium (Se)	2022/01/18		92	%	75 - 125
			Back Half Silver (Ag)	2022/01/18		99	%	75 - 125
			Back Half Thallium (Tl)	2022/01/18		102	%	75 - 125
			Back Half Zinc (Zn)	2022/01/18		93	%	75 - 125
7782111	N_R	Matrix Spike DUP(ROA817)	Back Half Antimony (Sb)	2022/01/18		97	%	75 - 125



Bureau Veritas Job #: C202160
Report Date: 2022/02/09

Bureau Veritas
Client Project #: 2193
Site Location: AGNICO EAGLE MINES LIMITED- BAKER LAKE,
NUNAVUT

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
7782111	N_R	MS/MSD RPD		Back Half Arsenic (As)	2022/01/18		92	%	75 - 125
				Back Half Barium (Ba)	2022/01/18		97	%	75 - 125
				Back Half Beryllium (Be)	2022/01/18		94	%	75 - 125
				Back Half Cadmium (Cd)	2022/01/18		94	%	75 - 125
				Back Half Chromium (Cr)	2022/01/18		102	%	75 - 125
				Back Half Cobalt (Co)	2022/01/18		106	%	75 - 125
				Back Half Copper (Cu)	2022/01/18		101	%	75 - 125
				Back Half Lead (Pb)	2022/01/18		105	%	75 - 125
				Back Half Manganese (Mn)	2022/01/18		102	%	75 - 125
				Back Half Nickel (Ni)	2022/01/18		103	%	75 - 125
				Back Half Phosphorus (P)	2022/01/18		87	%	75 - 125
				Back Half Selenium (Se)	2022/01/18		93	%	75 - 125
				Back Half Silver (Ag)	2022/01/18		101	%	75 - 125
				Back Half Thallium (Tl)	2022/01/18		102	%	75 - 125
				Back Half Zinc (Zn)	2022/01/18		93	%	75 - 125
				Back Half Antimony (Sb)	2022/01/18	4.2		%	20
				Back Half Arsenic (As)	2022/01/18	1.0		%	20
				Back Half Barium (Ba)	2022/01/18	0.35		%	20
				Back Half Beryllium (Be)	2022/01/18	0.79		%	20
				Back Half Cadmium (Cd)	2022/01/18	0.96		%	20
7782111	N_R	Spiked Blank		Back Half Chromium (Cr)	2022/01/18	1.1		%	20
				Back Half Cobalt (Co)	2022/01/18	0.25		%	20
				Back Half Copper (Cu)	2022/01/18	0.72		%	20
				Back Half Lead (Pb)	2022/01/18	1.6		%	20
				Back Half Manganese (Mn)	2022/01/18	0.48		%	20
				Back Half Nickel (Ni)	2022/01/18	0.18		%	20
				Back Half Phosphorus (P)	2022/01/18	4.7		%	20
				Back Half Selenium (Se)	2022/01/18	0.64		%	20
				Back Half Silver (Ag)	2022/01/18	1.6		%	20
				Back Half Thallium (Tl)	2022/01/18	0.21		%	20
				Back Half Zinc (Zn)	2022/01/18	0.64		%	20
				Back Half Antimony (Sb)	2022/01/18		109	%	85 - 115
				Back Half Arsenic (As)	2022/01/18		106	%	85 - 115
				Back Half Barium (Ba)	2022/01/18		106	%	85 - 115
				Back Half Beryllium (Be)	2022/01/18		110	%	85 - 115
				Back Half Cadmium (Cd)	2022/01/18		105	%	85 - 115
				Back Half Chromium (Cr)	2022/01/18		112	%	85 - 115
				Back Half Cobalt (Co)	2022/01/18		114	%	85 - 115
				Back Half Copper (Cu)	2022/01/18		112	%	85 - 115
				Back Half Lead (Pb)	2022/01/18		112	%	85 - 115
7782111	N_R	Spiked Blank DUP		Back Half Manganese (Mn)	2022/01/18		109	%	85 - 115
				Back Half Nickel (Ni)	2022/01/18		112	%	85 - 115
				Back Half Phosphorus (P)	2022/01/18		113	%	85 - 115
				Back Half Selenium (Se)	2022/01/18		105	%	85 - 115
				Back Half Silver (Ag)	2022/01/18		110	%	85 - 115
				Back Half Thallium (Tl)	2022/01/18		114	%	85 - 115
				Back Half Zinc (Zn)	2022/01/18		103	%	85 - 115
				Back Half Antimony (Sb)	2022/01/18		108	%	85 - 115
				Back Half Arsenic (As)	2022/01/18		106	%	85 - 115
				Back Half Barium (Ba)	2022/01/18		107	%	85 - 115
				Back Half Beryllium (Be)	2022/01/18		108	%	85 - 115



Bureau Veritas Job #: C202160
Report Date: 2022/02/09

Bureau Veritas
Client Project #: 2193
Site Location: AGNICO EAGLE MINES LIMITED- BAKER LAKE,
NUNAVUT

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
				Back Half Cadmium (Cd)	2022/01/18		105	%	85 - 115
				Back Half Chromium (Cr)	2022/01/18		109	%	85 - 115
				Back Half Cobalt (Co)	2022/01/18		112	%	85 - 115
				Back Half Copper (Cu)	2022/01/18		111	%	85 - 115
				Back Half Lead (Pb)	2022/01/18		114	%	85 - 115
				Back Half Manganese (Mn)	2022/01/18		108	%	85 - 115
				Back Half Nickel (Ni)	2022/01/18		111	%	85 - 115
				Back Half Phosphorus (P)	2022/01/18		114	%	85 - 115
				Back Half Selenium (Se)	2022/01/18		105	%	85 - 115
				Back Half Silver (Ag)	2022/01/18		106	%	85 - 115
				Back Half Thallium (Tl)	2022/01/18		113	%	85 - 115
				Back Half Zinc (Zn)	2022/01/18		104	%	85 - 115
7782111	N_R	RPD		Back Half Antimony (Sb)	2022/01/18	0.63		%	20
				Back Half Arsenic (As)	2022/01/18	0.26		%	20
				Back Half Barium (Ba)	2022/01/18	0.29		%	20
				Back Half Beryllium (Be)	2022/01/18	1.7		%	20
				Back Half Cadmium (Cd)	2022/01/18	0.26		%	20
				Back Half Chromium (Cr)	2022/01/18	2.0		%	20
				Back Half Cobalt (Co)	2022/01/18	1.6		%	20
				Back Half Copper (Cu)	2022/01/18	0.66		%	20
				Back Half Lead (Pb)	2022/01/18	1.6		%	20
				Back Half Manganese (Mn)	2022/01/18	0.95		%	20
				Back Half Nickel (Ni)	2022/01/18	1.3		%	20
				Back Half Phosphorus (P)	2022/01/18	0.48		%	20
				Back Half Selenium (Se)	2022/01/18	0.11		%	20
				Back Half Silver (Ag)	2022/01/18	4.3		%	20
				Back Half Thallium (Tl)	2022/01/18	0.80		%	20
				Back Half Zinc (Zn)	2022/01/18	0.27		%	20
7782111	N_R	Method Blank		Back Half Antimony (Sb)	2022/01/18	<0.40		ug	
				Back Half Arsenic (As)	2022/01/18	<0.40		ug	
				Back Half Barium (Ba)	2022/01/18	<0.60		ug	
				Back Half Beryllium (Be)	2022/01/18	<0.090		ug	
				Back Half Cadmium (Cd)	2022/01/18	<0.090		ug	
				Back Half Chromium (Cr)	2022/01/18	<1.5		ug	
				Back Half Cobalt (Co)	2022/01/18	<0.090		ug	
				Back Half Copper (Cu)	2022/01/18	<0.75		ug	
				Back Half Lead (Pb)	2022/01/18	<0.30		ug	
				Back Half Manganese (Mn)	2022/01/18	<0.60		ug	
				Back Half Nickel (Ni)	2022/01/18	<0.50		ug	
				Back Half Phosphorus (P)	2022/01/18	<45		ug	
				Back Half Selenium (Se)	2022/01/18	<1.0		ug	
				Back Half Silver (Ag)	2022/01/18	<0.12		ug	
				Back Half Thallium (Tl)	2022/01/18	<0.12		ug	
				Back Half Zinc (Zn)	2022/01/18	<5.0		ug	
7782111	N_R	RPD - Sample/Sample Dup		Back Half Antimony (Sb)	2022/01/18	NC		%	20
				Back Half Arsenic (As)	2022/01/18	NC		%	20
				Back Half Barium (Ba)	2022/01/18	1.8		%	20
				Back Half Beryllium (Be)	2022/01/18	NC		%	20
				Back Half Cadmium (Cd)	2022/01/18	NC		%	20
				Back Half Chromium (Cr)	2022/01/18	NC		%	20
				Back Half Cobalt (Co)	2022/01/18	4.7		%	20



Bureau Veritas Job #: C202160
Report Date: 2022/02/09

Bureau Veritas
Client Project #: 2193
Site Location: AGNICO EAGLE MINES LIMITED- BAKER LAKE,
NUNAVUT

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
7782124	N_R	Matrix Spike(ROA817)	Back Half Copper (Cu)	2022/01/18	NC		%	20
			Back Half Lead (Pb)	2022/01/18	0.39		%	20
			Back Half Manganese (Mn)	2022/01/18	NC		%	20
			Back Half Nickel (Ni)	2022/01/18	NC		%	20
			Back Half Phosphorus (P)	2022/01/18	NC		%	20
			Back Half Selenium (Se)	2022/01/18	NC		%	20
			Back Half Silver (Ag)	2022/01/18	NC		%	20
			Back Half Thallium (Tl)	2022/01/18	NC		%	20
			Back Half Zinc (Zn)	2022/01/18	NC		%	20
			Front Half Antimony (Sb)	2022/01/18		87	%	75 - 125
			Front Half Arsenic (As)	2022/01/18		95	%	75 - 125
			Front Half Barium (Ba)	2022/01/18		92	%	75 - 125
			Front Half Beryllium (Be)	2022/01/18		113	%	75 - 125
			Front Half Cadmium (Cd)	2022/01/18		96	%	75 - 125
			Front Half Chromium (Cr)	2022/01/18		97	%	75 - 125
			Front Half Cobalt (Co)	2022/01/18		98	%	75 - 125
			Front Half Copper (Cu)	2022/01/18		93	%	75 - 125
			Front Half Lead (Pb)	2022/01/18		97	%	75 - 125
			Front Half Manganese (Mn)	2022/01/18		94	%	75 - 125
			Front Half Nickel (Ni)	2022/01/18		97	%	75 - 125
7782124	N_R	Matrix Spike DUP(ROA817)	Front Half Phosphorus (P)	2022/01/18		NC	%	75 - 125
			Front Half Selenium (Se)	2022/01/18		94	%	75 - 125
			Front Half Silver (Ag)	2022/01/18		100	%	75 - 125
			Front Half Thallium (Tl)	2022/01/18		98	%	75 - 125
			Front Half Zinc (Zn)	2022/01/18		89	%	75 - 125
			Front Half Antimony (Sb)	2022/01/18		96	%	75 - 125
			Front Half Arsenic (As)	2022/01/18		98	%	75 - 125
			Front Half Barium (Ba)	2022/01/18		96	%	75 - 125
			Front Half Beryllium (Be)	2022/01/18		98	%	75 - 125
			Front Half Cadmium (Cd)	2022/01/18		97	%	75 - 125
			Front Half Chromium (Cr)	2022/01/18		100	%	75 - 125
			Front Half Cobalt (Co)	2022/01/18		102	%	75 - 125
			Front Half Copper (Cu)	2022/01/18		100	%	75 - 125
			Front Half Lead (Pb)	2022/01/18		99	%	75 - 125
			Front Half Manganese (Mn)	2022/01/18		97	%	75 - 125
			Front Half Nickel (Ni)	2022/01/18		99	%	75 - 125
			Front Half Phosphorus (P)	2022/01/18		82	%	75 - 125
			Front Half Selenium (Se)	2022/01/18		97	%	75 - 125
			Front Half Silver (Ag)	2022/01/18		102	%	75 - 125
			Front Half Thallium (Tl)	2022/01/18		100	%	75 - 125
7782124	N_R	MS/MSD RPD	Front Half Zinc (Zn)	2022/01/18		113	%	75 - 125
			Front Half Antimony (Sb)	2022/01/18	9.7		%	20
			Front Half Arsenic (As)	2022/01/18	2.4		%	20
			Front Half Barium (Ba)	2022/01/18	4.2		%	20
			Front Half Beryllium (Be)	2022/01/18	14		%	20
			Front Half Cadmium (Cd)	2022/01/18	1.9		%	20
			Front Half Chromium (Cr)	2022/01/18	3.3		%	20
			Front Half Cobalt (Co)	2022/01/18	3.1		%	20
			Front Half Copper (Cu)	2022/01/18	6.7		%	20
			Front Half Lead (Pb)	2022/01/18	1.6		%	20
			Front Half Manganese (Mn)	2022/01/18	3.3		%	20



Bureau Veritas Job #: C202160

Report Date: 2022/02/09

Bureau Veritas

Client Project #: 2193

Site Location: AGNICO EAGLE MINES LIMITED- BAKER LAKE,
NUNAVUT**QUALITY ASSURANCE REPORT(CONT'D)**

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
7782124	N_R	Spiked Blank	Front Half Nickel (Ni)	2022/01/18	2.5		%	20
			Front Half Phosphorus (P)	2022/01/18	0		%	20
			Front Half Selenium (Se)	2022/01/18	3.9		%	20
			Front Half Silver (Ag)	2022/01/18	2.5		%	20
			Front Half Thallium (Tl)	2022/01/18	1.8		%	20
			Front Half Zinc (Zn)	2022/01/18	24 (1)		%	20
			Front Half Antimony (Sb)	2022/01/18		101	%	85 - 115
			Front Half Arsenic (As)	2022/01/18		98	%	85 - 115
			Front Half Barium (Ba)	2022/01/18		94	%	85 - 115
			Front Half Beryllium (Be)	2022/01/18		100	%	85 - 115
			Front Half Cadmium (Cd)	2022/01/18		97	%	85 - 115
			Front Half Chromium (Cr)	2022/01/18		99	%	85 - 115
			Front Half Cobalt (Co)	2022/01/18		101	%	85 - 115
			Front Half Copper (Cu)	2022/01/18		97	%	85 - 115
			Front Half Lead (Pb)	2022/01/18		102	%	85 - 115
			Front Half Manganese (Mn)	2022/01/18		97	%	85 - 115
			Front Half Nickel (Ni)	2022/01/18		99	%	85 - 115
			Front Half Phosphorus (P)	2022/01/18		100	%	85 - 115
			Front Half Selenium (Se)	2022/01/18		99	%	85 - 115
7782124	N_R	Spiked Blank DUP	Front Half Silver (Ag)	2022/01/18		101	%	85 - 115
			Front Half Thallium (Tl)	2022/01/18		102	%	85 - 115
			Front Half Zinc (Zn)	2022/01/18		98	%	85 - 115
			Front Half Antimony (Sb)	2022/01/18		104	%	85 - 115
			Front Half Arsenic (As)	2022/01/18		97	%	85 - 115
			Front Half Barium (Ba)	2022/01/18		93	%	85 - 115
			Front Half Beryllium (Be)	2022/01/18		102	%	85 - 115
			Front Half Cadmium (Cd)	2022/01/18		97	%	85 - 115
			Front Half Chromium (Cr)	2022/01/18		96	%	85 - 115
			Front Half Cobalt (Co)	2022/01/18		99	%	85 - 115
			Front Half Copper (Cu)	2022/01/18		101	%	85 - 115
			Front Half Lead (Pb)	2022/01/18		102	%	85 - 115
			Front Half Manganese (Mn)	2022/01/18		94	%	85 - 115
			Front Half Nickel (Ni)	2022/01/18		98	%	85 - 115
			Front Half Phosphorus (P)	2022/01/18		99	%	85 - 115
			Front Half Selenium (Se)	2022/01/18		97	%	85 - 115
			Front Half Silver (Ag)	2022/01/18		101	%	85 - 115
			Front Half Thallium (Tl)	2022/01/18		102	%	85 - 115
			Front Half Zinc (Zn)	2022/01/18		98	%	85 - 115
7782124	N_R	RPD	Front Half Antimony (Sb)	2022/01/18	3.2		%	20
			Front Half Arsenic (As)	2022/01/18	1.7		%	20
			Front Half Barium (Ba)	2022/01/18	0.71		%	20
			Front Half Beryllium (Be)	2022/01/18	2.2		%	20
			Front Half Cadmium (Cd)	2022/01/18	0.093		%	20
			Front Half Chromium (Cr)	2022/01/18	3.1		%	20
			Front Half Cobalt (Co)	2022/01/18	1.6		%	20
			Front Half Copper (Cu)	2022/01/18	3.7		%	20
			Front Half Lead (Pb)	2022/01/18	0.29		%	20
			Front Half Manganese (Mn)	2022/01/18	3.4		%	20
			Front Half Nickel (Ni)	2022/01/18	1.1		%	20
			Front Half Phosphorus (P)	2022/01/18	0.51		%	20
			Front Half Selenium (Se)	2022/01/18	1.5		%	20



Bureau Veritas Job #: C202160
Report Date: 2022/02/09

Bureau Veritas
Client Project #: 2193
Site Location: AGNICO EAGLE MINES LIMITED- BAKER LAKE,
NUNAVUT

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
7782124	N_R	Method Blank	Front Half Silver (Ag)	2022/01/18	0.80		%	20
			Front Half Thallium (Tl)	2022/01/18	0.29		%	20
			Front Half Zinc (Zn)	2022/01/18	0.44		%	20
			Front Half Antimony (Sb)	2022/02/03	<3.0		ug	
			Front Half Arsenic (As)	2022/02/03	<0.80		ug	
			Front Half Barium (Ba)	2022/02/03	<1.2		ug	
			Front Half Beryllium (Be)	2022/02/03	<0.18		ug	
			Front Half Cadmium (Cd)	2022/02/03	<0.18		ug	
			Front Half Chromium (Cr)	2022/02/03	<3.0		ug	
			Front Half Cobalt (Co)	2022/02/03	<0.18		ug	
			Front Half Copper (Cu)	2022/02/03	<1.8		ug	
			Front Half Lead (Pb)	2022/02/03	<0.60		ug	
			Front Half Manganese (Mn)	2022/02/03	<1.2		ug	
			Front Half Nickel (Ni)	2022/02/03	<1.0		ug	
			Front Half Phosphorus (P)	2022/02/03	<90		ug	
			Front Half Selenium (Se)	2022/02/03	<2.0		ug	
			Front Half Silver (Ag)	2022/02/03	<0.24		ug	
			Front Half Thallium (Tl)	2022/02/03	<0.24		ug	
			Front Half Zinc (Zn)	2022/02/03	<10		ug	
7782124	N_R	RPD - Sample/Sample Dup	Front Half Antimony (Sb)	2022/01/18	1.0		%	20
			Front Half Arsenic (As)	2022/01/18	2.1		%	20
			Front Half Barium (Ba)	2022/01/18	4.0		%	20
			Front Half Beryllium (Be)	2022/01/18	NC		%	20
			Front Half Cadmium (Cd)	2022/01/18	1.9		%	20
			Front Half Chromium (Cr)	2022/01/18	2.2		%	20
			Front Half Cobalt (Co)	2022/01/18	3.0		%	20
			Front Half Copper (Cu)	2022/01/18	0.33		%	20
			Front Half Lead (Pb)	2022/01/18	0.34		%	20
			Front Half Manganese (Mn)	2022/01/18	1.8		%	20
			Front Half Nickel (Ni)	2022/01/18	3.6		%	20
			Front Half Phosphorus (P)	2022/01/18	0.58		%	20
			Front Half Selenium (Se)	2022/01/18	NC		%	20
			Front Half Silver (Ag)	2022/01/18	6.5		%	20
			Front Half Thallium (Tl)	2022/01/18	4.1		%	20
			Front Half Zinc (Zn)	2022/01/18	2.4		%	20
7784930	GR1	Reagent Blank	3C Mercury (Hg)	2022/01/20	<0.013		ug	
7784930	GR1	Matrix Spike(ROA827)	3C Mercury (Hg)	2022/01/20		122	%	75 - 125
7784930	GR1	Matrix Spike DUP(ROA827)	3C Mercury (Hg)	2022/01/20		89	%	75 - 125
7784930	GR1	MS/MSD RPD	3C Mercury (Hg)	2022/01/20	31 (1)		%	20
7784930	GR1	Spiked Blank	3C Mercury (Hg)	2022/01/20		106	%	90 - 110
7784930	GR1	Spiked Blank DUP	3C Mercury (Hg)	2022/01/20		105	%	90 - 110
7784930	GR1	RPD	3C Mercury (Hg)	2022/01/20	0.47		%	20
7784930	GR1	Method Blank	3C Mercury (Hg)	2022/01/20	<0.013		ug	



Bureau Veritas Job #: C202160
Report Date: 2022/02/09

Bureau Veritas
Client Project #: 2193
Site Location: AGNICO EAGLE MINES LIMITED- BAKER LAKE,
NUNAVUT

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
	7784930	GR1	RPD - Sample/Sample Dup	3C Mercury (Hg)	2022/01/20	3.5		%	20
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 (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)									
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).									
(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.									



Bureau Veritas Job #: C202160
Report Date: 2022/02/09

Bureau Veritas
Client Project #: 2193
Site Location: AGNICO EAGLE MINES LIMITED- BAKER LAKE,
NUNAVUT

VALIDATION SIGNATURE PAGE

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

John Bowman, Supervisor, Metals Group

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 Signature Page.

EPA Method 29

Agnico Eagle Mines Limited - Baker Lake, Nunavut - Meadowbank Site - Incinerator Stack - 2021-09-18/19 & 2021-11-20/28

Project # - 2193

			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	0.49	0.50		98
Antimony (Sb)	3.0	ug	15.6	16.6	94	0.40	6.96	8.3		84
Arsenic (As)	0.8	"	13.0	16.4	79	0.40	5.50	8.2		67
Barium (Ba)	1.2	"	46.5	47.4	98	0.60	24.2	23.7		102
Beryllium (Be)	0.18	"	16.5	16.6	99	0.090	8.46	8.3		102
Cadmium (Cd)	0.18	"	17.8	18.6	96	0.090	8.93	9.3		96
Chromium (Cr)	3.0	"	18.6	18.6	100	1.5	9.2	9.3		99
Cobalt (Co)	0.18	"	19.2	18.8	102	0.090	9.60	9.4		102
Copper (Cu)	1.8	"	22.3	18.8	119	0.75	12.20	9.4		130
Lead (Pb)	0.60	"	61.7	57.6	107	0.30	31.7	28.8		110
Manganese (Mn)	1.2	"	77.1	79.0	98	0.60	38.9	39.5		98
Nickel (Ni)	1.0	"	58.3	58.2	100	0.50	29.2	29.1		100
Phosphorous (P)	90	"	<90	<90		45	<45	<45		
Selenium (Se)	2.0	"	34.7	37.0	94	1.0	16.9	18.5		91
Silver (Ag)	0.24	"	18.2	18.4	99	0.12	9.39	9.2		102
Thallium (Tl)	0.24	"	16.8	16.4	102	0.12	8.55	8.2		104
Zinc (Zn)	10.0	"	38.0	37.0	103	5.0	19.0	18.5		103

EPA Method 29 - 2021-09-18/19 & 2021-11-20/28

Agnico Eagle Mines Limited - Baker Lake, Nunavut - Meadowbank Site - Incinerator Stack

Project # - 2193

Metals Target List

Component

Mercury (Hg)

Antimony (Sb)

Arsenic (As)

Barium (Ba)

Beryllium (Be)

Boron (B)

Cadmium (Cd)

Chromium (Cr)

Cobalt (Co)

Copper (Cu)

Lead (Pb)

Lithium (Li)

Magnesium (Mg)

Manganese (Mn)

Nickel (Ni)

Phosphorous (P)

Selenium (Se)

Silver (Ag)

Strontium (Sr)

Tellurium (Te)

Thallium (Tl)

Titanium (Ti)

Vanadium (V)

Zinc (Zn)

**Attention: Bill Wong**

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

Your Project #: 2193
 Site#: INCINERATOR STACK - MEADOWBANK
 Site Location: AGNICO EAGLE MINES LTD - BAKER LAKE,
 NUNAVUT
 Your C.O.C. #: 191025-01

Report Date: 2022/03/02
 Report #: R7025389
 Version: 2 - Final

CERTIFICATE OF ANALYSIS**BUREAU VERITAS JOB #: C202255****Received: 2021/12/29, 08:53**

Sample Matrix: Stack Sampling Train
 # Samples Received: 4

Analyses	Date		Date Analyzed	Laboratory Method	Analytical Method
	Quantity	Extracted			
2,3,7,8-TCDF Confirmation (M23)	1	N/A	2022/02/17	BRL SOP-00404	EPA M23/23A m
2,3,7,8-TCDF Confirmation (M23)	1	N/A	2022/02/23	BRL SOP-00404	EPA M23/23A m
2,3,7,8-TCDF Confirmation (M23)	1	N/A	2022/02/28	BRL SOP-00404	EPA M23/23A m
Dioxins/Furans in Air (Method 23)	2	2022/01/14	2022/02/28	BRL SOP-00404	EPA M23/23A m
Dioxins/Furans in Air (Method 23)	1	2022/01/14	2022/02/04	BRL SOP-00404	EPA M23/23A m
Dioxins/Furans in Air (Method 23)	1	2022/01/14	2022/02/05	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.

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

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.



Attention: Bill Wong

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

Your Project #: 2193
Site#: INCINERATOR STACK - MEADOWBANK
Site Location: AGNICO EAGLE MINES LTD - BAKER LAKE,
NUNAVUT
Your C.O.C. #: 191025-01

Report Date: 2022/03/02
Report #: R7025389
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C202255

Received: 2021/12/29, 08:53

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

=====

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 Signature Page.



EPA M23 DIOXINS AND FURANS (STACK SAMPLING TRAIN)

Bureau Veritas ID		ROB185							
Sampling Date		2021/11/27							
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	<2.2	2.2	20	2.0	1.00	2.20	N/A	7813529
1,2,3,7,8-Penta CDD *	pg	<3.3	3.3	20	2.0	1.00	3.30	N/A	7813529
1,2,3,4,7,8-Hexa CDD *	pg	<3.8	3.8	20	2.0	0.100	0.380	N/A	7813529
1,2,3,6,7,8-Hexa CDD *	pg	<3.1	3.1	20	2.0	0.100	0.310	N/A	7813529
1,2,3,7,8,9-Hexa CDD *	pg	<3.1	3.1	20	2.0	0.100	0.310	N/A	7813529
1,2,3,4,6,7,8-Hepta CDD *	pg	<2.1	2.1	20	3.0	0.0100	0.0210	N/A	7813529
1,2,3,4,6,7,8,9-Octa CDD *	pg	5.4	3.4	200	3.0	0.000300	0.00162	N/A	7813529
Total Tetra CDD *	pg	<2.2	2.2	20	N/A	N/A	N/A	0	7813529
Total Penta CDD *	pg	<3.3	3.3	20	N/A	N/A	N/A	0	7813529
Total Hexa CDD *	pg	<3.3	3.3	20	N/A	N/A	N/A	0	7813529
Total Hepta CDD *	pg	<2.1	2.1	20	N/A	N/A	N/A	0	7813529
2,3,7,8-Tetra CDF **	pg	<2.0	2.0	20	2.0	0.100	0.200	N/A	7813529
1,2,3,7,8-Penta CDF **	pg	<2.6	2.6	20	2.0	0.0300	0.0780	N/A	7813529
2,3,4,7,8-Penta CDF **	pg	<2.7	2.7	20	2.0	0.300	0.810	N/A	7813529
1,2,3,4,7,8-Hexa CDF **	pg	<2.4	2.4	20	2.0	0.100	0.240	N/A	7813529
1,2,3,6,7,8-Hexa CDF **	pg	<1.9	1.9	20	2.0	0.100	0.190	N/A	7813529
2,3,4,6,7,8-Hexa CDF **	pg	<2.4	2.4	20	2.0	0.100	0.240	N/A	7813529
1,2,3,7,8,9-Hexa CDF **	pg	<2.6	2.6	20	2.0	0.100	0.260	N/A	7813529
1,2,3,4,6,7,8-Hepta CDF **	pg	<2.0	2.0	20	3.0	0.0100	0.0200	N/A	7813529
1,2,3,4,7,8,9-Hepta CDF **	pg	<2.5	2.5	20	2.0	0.0100	0.0250	N/A	7813529
1,2,3,4,6,7,8,9-Octa CDF **	pg	3.5	2.7	200	5.0	0.000300	0.00105	N/A	7813529
Total Tetra CDF **	pg	<2.0	2.0	20	N/A	N/A	N/A	0	7813529
Total Penta CDF **	pg	<2.7	2.7	20	N/A	N/A	N/A	0	7813529
Total Hexa CDF **	pg	<2.3	2.3	20	N/A	N/A	N/A	0	7813529
Total Hepta CDF **	pg	<2.2	2.2	20	N/A	N/A	N/A	0	7813529
TOTAL TOXIC EQUIVALENCY	pg	N/A	N/A	N/A	N/A	N/A	8.59	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									



Bureau Veritas Job #: C202255
Report Date: 2022/03/02

Bureau Veritas
Client Project #: 2193
Site Location: AGNICO EAGLE MINES LTD - BAKER LAKE,
NUNAVUT

EPA M23 DIOXINS AND FURANS (STACK SAMPLING TRAIN)

Bureau Veritas ID		ROB185							
Sampling Date		2021/11/27							
COC Number		191025-01				TOXIC EQUIVALENCY		# of	
	UNITS	M23- BLANK	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Surrogate Recovery (%)									
C13-1234678 HeptaCDD *	%	119	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-1234678 HeptaCDF **	%	108	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-123478 HexaCDD *	%	119	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-123478 HexaCDF **	%	116	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-1234789 HeptaCDF **	%	105	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-123678 HexaCDD *	%	108	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-123678 HexaCDF **	%	94	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-12378 PentaCDD *	%	112	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-12378 PentaCDF **	%	95	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-123789 HexaCDF **	%	106	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-23478 PentaCDF **	%	130	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-2378 TetraCDD *	%	93	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-2378 TetraCDF **	%	80	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-Octachlorodibenzo-p-Dioxin	%	101	N/A	N/A	N/A	N/A	N/A	N/A	7813529
Cl37-2378 TetraCDD *	%	105	N/A	N/A	N/A	N/A	N/A	N/A	7813529
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									



EPA M23 DIOXINS AND FURANS (STACK SAMPLING TRAIN)

Bureau Veritas ID		ROB186							
Sampling Date		2021/11/25							
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	<2.6	2.6	20	2.0	1.00	2.60	N/A	7813529
1,2,3,7,8-Penta CDD *	pg	19.2	2.0	20	2.0	1.00	19.2	N/A	7813529
1,2,3,4,7,8-Hexa CDD *	pg	18.1	2.4	20	2.0	0.100	1.81	N/A	7813529
1,2,3,6,7,8-Hexa CDD *	pg	38.5	2.0	20	2.0	0.100	3.85	N/A	7813529
1,2,3,7,8,9-Hexa CDD *	pg	26.7	2.0	20	2.0	0.100	2.67	N/A	7813529
1,2,3,4,6,7,8-Hepta CDD *	pg	148	2.1	20	3.0	0.0100	1.48	N/A	7813529
1,2,3,4,6,7,8,9-Octa CDD *	pg	160	2.0	200	3.0	0.000300	0.0480	N/A	7813529
Total Tetra CDD *	pg	301	2.6	20	N/A	N/A	N/A	9	7813529
Total Penta CDD *	pg	545	2.0	20	N/A	N/A	N/A	12	7813529
Total Hexa CDD *	pg	550	2.1	20	N/A	N/A	N/A	8	7813529
Total Hepta CDD *	pg	331	2.1	20	N/A	N/A	N/A	2	7813529
2,3,7,8-Tetra CDF **	pg	<200 (1)	200	20	2.0	0.100	20.0	1.0	7813529
1,2,3,7,8-Penta CDF **	pg	33.9	2.1	20	2.0	0.0300	1.02	N/A	7813529
2,3,4,7,8-Penta CDF **	pg	109	2.2	20	2.0	0.300	32.7	N/A	7813529
1,2,3,4,7,8-Hexa CDF **	pg	128	2.3	20	2.0	0.100	12.8	N/A	7813529
1,2,3,6,7,8-Hexa CDF **	pg	52.0	1.9	20	2.0	0.100	5.20	N/A	7813529
2,3,4,6,7,8-Hexa CDF **	pg	116	2.3	20	2.0	0.100	11.6	N/A	7813529
1,2,3,7,8,9-Hexa CDF **	pg	6.2	2.4	20	2.0	0.100	0.620	N/A	7813529
1,2,3,4,6,7,8-Hepta CDF **	pg	180	2.2	20	3.0	0.0100	1.80	N/A	7813529
1,2,3,4,7,8,9-Hepta CDF **	pg	35.4	2.7	20	2.0	0.0100	0.354	N/A	7813529
1,2,3,4,6,7,8,9-Octa CDF **	pg	99.6	1.9	200	5.0	0.000300	0.0299	N/A	7813529
Total Tetra CDF **	pg	1060	2.6	20	N/A	N/A	N/A	18	7813529
Total Penta CDF **	pg	980	2.2	20	N/A	N/A	N/A	14	7813529
Total Hexa CDF **	pg	641	2.2	20	N/A	N/A	N/A	12	7813529
Total Hepta CDF **	pg	334	2.4	20	N/A	N/A	N/A	4	7813529

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.



EPA M23 DIOXINS AND FURANS (STACK SAMPLING TRAIN)

Bureau Veritas ID		ROB186							
Sampling Date		2021/11/25							
COC Number		191025-01				TOXIC EQUIVALENCY		# of	
	UNITS	M23- TEST 2	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Confirmation 2,3,7,8-Tetra CDF **	pg	29.8	4.3	20	N/A	0.100	2.98	N/A	7859882
TOTAL TOXIC EQUIVALENCY	pg	N/A	N/A	N/A	N/A	N/A	101	N/A	N/A
Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	120	N/A	N/A	N/A	N/A	N/A	N/A	7859882
C13-1234678 HeptaCDD *	%	111	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-1234678 HeptaCDF **	%	102	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-123478 HexaCDD *	%	119	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-123478 HexaCDF **	%	115	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-1234789 HeptaCDF **	%	110	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-123678 HexaCDD *	%	113	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-123678 HexaCDF **	%	90	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-12378 PentaCDD *	%	110	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-12378 PentaCDF **	%	84	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-123789 HexaCDF **	%	106	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-23478 PentaCDF **	%	136 (1)	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-2378 TetraCDD *	%	96	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-2378 TetraCDF **	%	80	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-Octachlorodibenzo-p-Dioxin	%	98	N/A	N/A	N/A	N/A	N/A	N/A	7813529
Cl37-2378 TetraCDD *	%	106	N/A	N/A	N/A	N/A	N/A	N/A	7813529
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 (1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.									



EPA M23 DIOXINS AND FURANS (STACK SAMPLING TRAIN)

Bureau Veritas ID		ROB187							
Sampling Date		2021/11/26							
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	16.7	1.8	20	2.0	1.00	16.7	N/A	7813529
1,2,3,7,8-Penta CDD *	pg	53.9	2.2	20	2.0	1.00	53.9	N/A	7813529
1,2,3,4,7,8-Hexa CDD *	pg	42.1	2.1	20	2.0	0.100	4.21	N/A	7813529
1,2,3,6,7,8-Hexa CDD *	pg	64.5	1.8	20	2.0	0.100	6.45	N/A	7813529
1,2,3,7,8,9-Hexa CDD *	pg	39.9	1.8	20	2.0	0.100	3.99	N/A	7813529
1,2,3,4,6,7,8-Hepta CDD *	pg	205	2.2	20	3.0	0.0100	2.05	N/A	7813529
1,2,3,4,6,7,8,9-Octa CDD *	pg	167	2.7	200	3.0	0.000300	0.0501	N/A	7813529
Total Tetra CDD *	pg	507	1.8	20	N/A	N/A	N/A	14	7813529
Total Penta CDD *	pg	766	2.2	20	N/A	N/A	N/A	12	7813529
Total Hexa CDD *	pg	777	1.9	20	N/A	N/A	N/A	8	7813529
Total Hepta CDD *	pg	432	2.2	20	N/A	N/A	N/A	2	7813529
2,3,7,8-Tetra CDF **	pg	921	1.9	20	2.0	0.100	92.1	N/A	7813529
1,2,3,7,8-Penta CDF **	pg	165	2.7	20	2.0	0.0300	4.95	N/A	7813529
2,3,4,7,8-Penta CDF **	pg	407	2.8	20	2.0	0.300	122	N/A	7813529
1,2,3,4,7,8-Hexa CDF **	pg	429	2.1	20	2.0	0.100	42.9	N/A	7813529
1,2,3,6,7,8-Hexa CDF **	pg	181	1.7	20	2.0	0.100	18.1	N/A	7813529
2,3,4,6,7,8-Hexa CDF **	pg	278	2.0	20	2.0	0.100	27.8	N/A	7813529
1,2,3,7,8,9-Hexa CDF **	pg	8.7	2.1	20	2.0	0.100	0.870	N/A	7813529
1,2,3,4,6,7,8-Hepta CDF **	pg	394	2.0	20	3.0	0.0100	3.94	N/A	7813529
1,2,3,4,7,8,9-Hepta CDF **	pg	60.3	2.4	20	2.0	0.0100	0.603	N/A	7813529
1,2,3,4,6,7,8,9-Octa CDF **	pg	111	2.6	200	5.0	0.000300	0.0333	N/A	7813529
Total Tetra CDF **	pg	4870	1.9	20	N/A	N/A	N/A	18	7813529
Total Penta CDF **	pg	3630	2.7	20	N/A	N/A	N/A	15	7813529
Total Hexa CDF **	pg	1890	2.0	20	N/A	N/A	N/A	12	7813529
Total Hepta CDF **	pg	550	2.2	20	N/A	N/A	N/A	3	7813529
Confirmation 2,3,7,8-Tetra CDF **	pg	172	7.2	20	N/A	0.100	17.2	N/A	7850005
TOTAL TOXIC EQUIVALENCY	pg	N/A	N/A	N/A	N/A	N/A	326	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									



EPA M23 DIOXINS AND FURANS (STACK SAMPLING TRAIN)

Bureau Veritas ID		ROB187							
Sampling Date		2021/11/26							
COC Number		191025-01				TOXIC EQUIVALENCY		# of	
	UNITS	M23- TEST 3	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	86	N/A	N/A	N/A	N/A	N/A	N/A	7850005
C13-1234678 HeptaCDD *	%	92	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-1234678 HeptaCDF **	%	79	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-123478 HexaCDD *	%	110	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-123478 HexaCDF **	%	111	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-1234789 HeptaCDF **	%	100	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-123678 HexaCDD *	%	117	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-123678 HexaCDF **	%	102	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-12378 PentaCDD *	%	98	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-12378 PentaCDF **	%	79	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-123789 HexaCDF **	%	89	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-23478 PentaCDF **	%	123	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-2378 TetraCDD *	%	92	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-2378 TetraCDF **	%	77	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-Octachlorodibenzo-p-Dioxin	%	71	N/A	N/A	N/A	N/A	N/A	N/A	7813529
Cl37-2378 TetraCDD *	%	100	N/A	N/A	N/A	N/A	N/A	N/A	7813529
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									



EPA M23 DIOXINS AND FURANS (STACK SAMPLING TRAIN)

Bureau Veritas ID		ROB188							
Sampling Date		2021/11/27							
COC Number		191025-01				TOXIC EQUIVALENCY		# of	
	UNITS	M23- TEST 4	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDD *	pg	20.5	1.8	20	2.0	1.00	20.5	N/A	7813529
1,2,3,7,8-Penta CDD *	pg	105	2.5	20	2.0	1.00	105	N/A	7813529
1,2,3,4,7,8-Hexa CDD *	pg	97.8	2.4	20	2.0	0.100	9.78	N/A	7813529
1,2,3,6,7,8-Hexa CDD *	pg	227	2.1	20	2.0	0.100	22.7	N/A	7813529
1,2,3,7,8,9-Hexa CDD *	pg	119	2.1	20	2.0	0.100	11.9	N/A	7813529
1,2,3,4,6,7,8-Hepta CDD *	pg	962	1.8	20	3.0	0.0100	9.62	N/A	7813529
1,2,3,4,6,7,8,9-Octa CDD *	pg	868	2.4	200	3.0	0.000300	0.260	N/A	7813529
Total Tetra CDD *	pg	1530	1.8	20	N/A	N/A	N/A	14	7813529
Total Penta CDD *	pg	2610	2.5	20	N/A	N/A	N/A	12	7813529
Total Hexa CDD *	pg	3150	2.2	20	N/A	N/A	N/A	7	7813529
Total Hepta CDD *	pg	2190	1.8	20	N/A	N/A	N/A	2	7813529
2,3,7,8-Tetra CDF **	pg	<1400 (1)	1400	20	2.0	0.100	140	1.0	7813529
1,2,3,7,8-Penta CDF **	pg	217	2.1	20	2.0	0.0300	6.51	N/A	7813529
2,3,4,7,8-Penta CDF **	pg	577	2.2	20	2.0	0.300	173	N/A	7813529
1,2,3,4,7,8-Hexa CDF **	pg	899	2.1	20	2.0	0.100	89.9	N/A	7813529
1,2,3,6,7,8-Hexa CDF **	pg	320	1.8	20	2.0	0.100	32.0	N/A	7813529
2,3,4,6,7,8-Hexa CDF **	pg	564	2.0	20	2.0	0.100	56.4	N/A	7813529
1,2,3,7,8,9-Hexa CDF **	pg	11.9	2.1	20	2.0	0.100	1.19	N/A	7813529
1,2,3,4,6,7,8-Hepta CDF **	pg	1170	1.6	20	3.0	0.0100	11.7	N/A	7813529
1,2,3,4,7,8,9-Hepta CDF **	pg	146	1.9	20	2.0	0.0100	1.46	N/A	7813529
1,2,3,4,6,7,8,9-Octa CDF **	pg	<390 (2)	390	200	5.0	0.000300	0.117	N/A	7813529
Total Tetra CDF **	pg	7360	1.9	20	N/A	N/A	N/A	18	7813529
Total Penta CDF **	pg	5560	2.2	20	N/A	N/A	N/A	15	7813529

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 / DPE - Diphenylether interference present caused dibenzofuran detected to become a "non-detect" with an elevated detection limit.



EPA M23 DIOXINS AND FURANS (STACK SAMPLING TRAIN)

Bureau Veritas ID		ROB188							
Sampling Date		2021/11/27							
COC Number		191025-01				TOXIC EQUIVALENCY		# of	
	UNITS	M23- TEST 4	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Total Hexa CDF **	pg	3580	2.0	20	N/A	N/A	N/A	12	7813529
Total Hepta CDF **	pg	1840	1.7	20	N/A	N/A	N/A	4	7813529
Confirmation 2,3,7,8-Tetra CDF **	pg	200	4.4	20	N/A	0.100	20.0	N/A	7845592
TOTAL TOXIC EQUIVALENCY	pg	N/A	N/A	N/A	N/A	N/A	572	N/A	N/A
Surrogate Recovery (%)									
Confirmation C13-2378 TetraCDF **	%	78	N/A	N/A	N/A	N/A	N/A	N/A	7845592
C13-1234678 HeptaCDD *	%	95	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-1234678 HeptaCDF **	%	84	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-123478 HexaCDD *	%	117	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-123478 HexaCDF **	%	112	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-1234789 HeptaCDF **	%	102	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-123678 HexaCDD *	%	122	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-123678 HexaCDF **	%	105	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-12378 PentaCDD *	%	102	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-12378 PentaCDF **	%	83	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-123789 HexaCDF **	%	89	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-23478 PentaCDF **	%	122	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-2378 TetraCDD *	%	98	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-2378 TetraCDF **	%	83	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-Octachlorodibenzo-p-Dioxin	%	71	N/A	N/A	N/A	N/A	N/A	N/A	7813529
C13-2378 TetraCDD *	%	98	N/A	N/A	N/A	N/A	N/A	N/A	7813529
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									



Bureau Veritas Job #: C202255
Report Date: 2022/03/02

Bureau Veritas
Client Project #: 2193
Site Location: AGNICO EAGLE MINES LTD - BAKER LAKE,
NUNAVUT

TEST SUMMARY

Bureau Veritas ID: ROB185
Sample ID: M23- BLANK
Matrix: Stack Sampling Train

Collected: 2021/11/27
Shipped:
Received: 2021/12/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dioxins/Furans in Air (Method 23)	HRMS/MS	7813529	2022/01/14	2022/02/28	Yan Qin

Bureau Veritas ID: ROB186
Sample ID: M23- TEST 2
Matrix: Stack Sampling Train

Collected: 2021/11/25
Shipped:
Received: 2021/12/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
2,3,7,8-TCDF Confirmation (M23)	HRMS/MS	7859882	N/A	2022/02/28	Branko Vrzic
Dioxins/Furans in Air (Method 23)	HRMS/MS	7813529	2022/01/14	2022/02/28	Yan Qin

Bureau Veritas ID: ROB187
Sample ID: M23- TEST 3
Matrix: Stack Sampling Train

Collected: 2021/11/26
Shipped:
Received: 2021/12/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
2,3,7,8-TCDF Confirmation (M23)	HRMS/MS	7850005	N/A	2022/02/23	Branko Vrzic
Dioxins/Furans in Air (Method 23)	HRMS/MS	7813529	2022/01/14	2022/02/04	Yan Qin

Bureau Veritas ID: ROB188
Sample ID: M23- TEST 4
Matrix: Stack Sampling Train

Collected: 2021/11/27
Shipped:
Received: 2021/12/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
2,3,7,8-TCDF Confirmation (M23)	HRMS/MS	7845592	N/A	2022/02/17	Branko Vrzic
Dioxins/Furans in Air (Method 23)	HRMS/MS	7813529	2022/01/14	2022/02/05	Yan Qin



Bureau Veritas Job #: C202255
Report Date: 2022/03/02

Bureau Veritas
Client Project #: 2193
Site Location: AGNICO EAGLE MINES LTD - BAKER LAKE,
NUNAVUT

GENERAL COMMENTS

Samples extracted past method recommended hold time. Proceeded with client consent.

Results relate only to the items tested.



Bureau Veritas Job #: C202255
Report Date: 2022/03/02

Bureau Veritas
Client Project #: 2193
Site Location: AGNICO EAGLE MINES LTD - BAKER LAKE,
NUNAVUT

QUALITY ASSURANCE REPORT

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
7813529	YQI	Spiked Blank		C13-1234678 HeptaCDD	2022/02/28		86	%	25 - 130
				C13-1234678 HeptaCDF	2022/02/28		76	%	25 - 130
				C13-123678 HexaCDD	2022/02/28		91	%	40 - 130
				C13-123678 HexaCDF	2022/02/28		75	%	40 - 130
				C13-12378 PentaCDD	2022/02/28		111	%	40 - 130
				C13-12378 PentaCDF	2022/02/28		93	%	40 - 130
				C13-123789 HexaCDF	2022/02/28		85	%	40 - 130
				C13-2378 TetraCDD	2022/02/28		91	%	40 - 130
				C13-2378 TetraCDF	2022/02/28		77	%	40 - 130
				C13-Octachlorodibenzo-p-Dioxin	2022/02/28		80	%	25 - 130
				2,3,7,8-Tetra CDD	2022/02/28		90	%	80 - 140
				1,2,3,7,8-Penta CDD	2022/02/28		104	%	80 - 140
				1,2,3,4,7,8-Hexa CDD	2022/02/28		106	%	80 - 140
				1,2,3,6,7,8-Hexa CDD	2022/02/28		108	%	80 - 140
				1,2,3,7,8,9-Hexa CDD	2022/02/28		106	%	80 - 140
				1,2,3,4,6,7,8-Hepta CDD	2022/02/28		104	%	80 - 140
				1,2,3,4,6,7,8,9-Octa CDD	2022/02/28		113	%	80 - 140
				2,3,7,8-Tetra CDF	2022/02/28		100	%	80 - 140
				1,2,3,7,8-Penta CDF	2022/02/28		105	%	80 - 140
				2,3,4,7,8-Penta CDF	2022/02/28		112	%	80 - 140
				1,2,3,4,7,8-Hexa CDF	2022/02/28		111	%	80 - 140
				1,2,3,6,7,8-Hexa CDF	2022/02/28		107	%	80 - 140
				2,3,4,6,7,8-Hexa CDF	2022/02/28		127	%	80 - 140
				1,2,3,7,8,9-Hexa CDF	2022/02/28		124	%	80 - 140
				1,2,3,4,6,7,8-Hepta CDF	2022/02/28		112	%	80 - 140
				1,2,3,4,7,8,9-Hepta CDF	2022/02/28		121	%	80 - 140
				1,2,3,4,6,7,8,9-Octa CDF	2022/02/28		107	%	80 - 140
7813529	YQI	Spiked Blank DUP		C13-1234678 HeptaCDD	2022/02/28		95	%	25 - 130
				C13-1234678 HeptaCDF	2022/02/28		80	%	25 - 130
				C13-123678 HexaCDD	2022/02/28		84	%	40 - 130
				C13-123678 HexaCDF	2022/02/28		70	%	40 - 130
				C13-12378 PentaCDD	2022/02/28		92	%	40 - 130
				C13-12378 PentaCDF	2022/02/28		79	%	40 - 130
				C13-123789 HexaCDF	2022/02/28		83	%	40 - 130
				C13-2378 TetraCDD	2022/02/28		81	%	40 - 130
				C13-2378 TetraCDF	2022/02/28		69	%	40 - 130
				C13-Octachlorodibenzo-p-Dioxin	2022/02/28		85	%	25 - 130
				2,3,7,8-Tetra CDD	2022/02/28		92	%	80 - 140
				1,2,3,7,8-Penta CDD	2022/02/28		104	%	80 - 140
				1,2,3,4,7,8-Hexa CDD	2022/02/28		119	%	80 - 140
				1,2,3,6,7,8-Hexa CDD	2022/02/28		102	%	80 - 140
				1,2,3,7,8,9-Hexa CDD	2022/02/28		104	%	80 - 140
				1,2,3,4,6,7,8-Hepta CDD	2022/02/28		105	%	80 - 140
				1,2,3,4,6,7,8,9-Octa CDD	2022/02/28		112	%	80 - 140
				2,3,7,8-Tetra CDF	2022/02/28		104	%	80 - 140
				1,2,3,7,8-Penta CDF	2022/02/28		105	%	80 - 140
				2,3,4,7,8-Penta CDF	2022/02/28		106	%	80 - 140
				1,2,3,4,7,8-Hexa CDF	2022/02/28		114	%	80 - 140
				1,2,3,6,7,8-Hexa CDF	2022/02/28		105	%	80 - 140
				2,3,4,6,7,8-Hexa CDF	2022/02/28		127	%	80 - 140
				1,2,3,7,8,9-Hexa CDF	2022/02/28		134	%	80 - 140



Bureau Veritas Job #: C202255
Report Date: 2022/03/02

Bureau Veritas
Client Project #: 2193
Site Location: AGNICO EAGLE MINES LTD - BAKER LAKE,
NUNAVUT

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
7813529	YQI	RPD		1,2,3,4,6,7,8-Hepta CDF	2022/02/28		113	%	80 - 140
				1,2,3,4,7,8,9-Hepta CDF	2022/02/28		125	%	80 - 140
				1,2,3,4,6,7,8,9-Octa CDF	2022/02/28		101	%	80 - 140
				2,3,7,8-Tetra CDD	2022/02/28	2.2		%	20
				1,2,3,7,8-Penta CDD	2022/02/28	0		%	20
				1,2,3,4,7,8-Hexa CDD	2022/02/28	12		%	20
				1,2,3,6,7,8-Hexa CDD	2022/02/28	5.7		%	20
				1,2,3,7,8,9-Hexa CDD	2022/02/28	1.9		%	20
				1,2,3,4,6,7,8-Hepta CDD	2022/02/28	0.96		%	20
				1,2,3,4,6,7,8,9-Octa CDD	2022/02/28	0		%	20
				2,3,7,8-Tetra CDF	2022/02/28	3.9		%	20
				1,2,3,7,8-Penta CDF	2022/02/28	0		%	20
				2,3,4,7,8-Penta CDF	2022/02/28	5.5		%	20
				1,2,3,4,7,8-Hexa CDF	2022/02/28	2.7		%	20
				1,2,3,6,7,8-Hexa CDF	2022/02/28	1.9		%	20
				2,3,4,6,7,8-Hexa CDF	2022/02/28	0		%	20
				1,2,3,7,8,9-Hexa CDF	2022/02/28	7.8		%	20
				1,2,3,4,6,7,8-Hepta CDF	2022/02/28	0.89		%	20
				1,2,3,4,7,8,9-Hepta CDF	2022/02/28	3.3		%	20
			7813529	YQI	Method Blank		1,2,3,4,6,7,8,9-Octa CDF	2022/02/28	0
	C13-1234678 HeptaCDD	2022/02/04					105	%	25 - 130
	C13-1234678 HeptaCDF	2022/02/04					90	%	25 - 130
	C13-123678 HexaCDD	2022/02/04					117	%	40 - 130
	C13-123678 HexaCDF	2022/02/04					101	%	40 - 130
	C13-12378 PentaCDD	2022/02/04					101	%	40 - 130
	C13-12378 PentaCDF	2022/02/04					82	%	40 - 130
	C13-123789 HexaCDF	2022/02/04					96	%	40 - 130
	C13-2378 TetraCDD	2022/02/04					94	%	40 - 130
	C13-2378 TetraCDF	2022/02/04					79	%	40 - 130
	C13-Octachlorodibenzo-p-Dioxin	2022/02/04					85	%	25 - 130
	2,3,7,8-Tetra CDD	2022/02/04				<1.4, EDL=1.4		pg	
	1,2,3,7,8-Penta CDD	2022/02/04				<1.2, EDL=1.2		pg	
	1,2,3,4,7,8-Hexa CDD	2022/02/04				<1.6, EDL=1.6		pg	
	1,2,3,6,7,8-Hexa CDD	2022/02/04				<2.1, EDL=2.1		pg	
	1,2,3,7,8,9-Hexa CDD	2022/02/04				<1.3, EDL=1.3		pg	
	1,2,3,4,6,7,8-Hepta CDD	2022/02/04				<2.1, EDL=2.1		pg	
	1,2,3,4,6,7,8,9-Octa CDD	2022/02/04				<2.6, EDL=2.6		pg	
	Total Tetra CDD	2022/02/04				<1.4, EDL=1.4		pg	
	Total Penta CDD	2022/02/04				<1.2, EDL=1.2		pg	
	Total Hexa CDD	2022/02/04	<1.4, EDL=1.4		pg				
	Total Hepta CDD	2022/02/04	<2.1, EDL=2.1		pg				



Bureau Veritas Job #: C202255
Report Date: 2022/03/02

Bureau Veritas
Client Project #: 2193
Site Location: AGNICO EAGLE MINES LTD - BAKER LAKE,
NUNAVUT

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			2,3,7,8-Tetra CDF	2022/02/04	<1.6, EDL=1.6		pg	
			1,2,3,7,8-Penta CDF	2022/02/04	<1.2, EDL=1.2		pg	
			2,3,4,7,8-Penta CDF	2022/02/04	<1.2, EDL=1.2		pg	
			1,2,3,4,7,8-Hexa CDF	2022/02/04	<1.3, EDL=1.3		pg	
			1,2,3,6,7,8-Hexa CDF	2022/02/04	<1.1, EDL=1.1		pg	
			2,3,4,6,7,8-Hexa CDF	2022/02/04	<1.7, EDL=1.7		pg	
			1,2,3,7,8,9-Hexa CDF	2022/02/04	<1.5, EDL=1.5		pg	
			1,2,3,4,6,7,8-Hepta CDF	2022/02/04	<0.91, EDL=0.91		pg	
			1,2,3,4,7,8,9-Hepta CDF	2022/02/04	<1.1, EDL=1.1		pg	
			1,2,3,4,6,7,8,9-Octa CDF	2022/02/04	<4.0, EDL=4.0		pg	
			Total Tetra CDF	2022/02/04	<1.6, EDL=1.6		pg	
			Total Penta CDF	2022/02/04	<1.2, EDL=1.2		pg	
			Total Hexa CDF	2022/02/04	<1.7, EDL=1.7		pg	
			Total Hepta CDF	2022/02/04	<1.6, EDL=1.6		pg	
7845592	BY	Method Blank	Confirmation 2,3,7,8-Tetra CDF	2022/02/17	<1.4, EDL=1.4		pg	
7850005	BY	Method Blank	Confirmation C13-2378 TetraCDF Confirmation 2,3,7,8-Tetra CDF	2022/02/17 2022/02/23	 <2.0, EDL=2.0	77	% pg	40 - 135
7859882	BY	Method Blank	Confirmation C13-2378 TetraCDF Confirmation 2,3,7,8-Tetra CDF	2022/02/23 2022/02/28	 <6.7, EDL=6.7	85	% pg	40 - 135
			Confirmation C13-2378 TetraCDF	2022/02/28		99	%	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.								



Bureau Veritas Job #: C202255
Report Date: 2022/03/02

Bureau Veritas
Client Project #: 2193
Site Location: AGNICO EAGLE MINES LTD - BAKER LAKE,
NUNAVUT

VALIDATION SIGNATURE PAGE

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

Cathy Xu, Scientific Specialist, Ultra Trace Analysis, HRMS

Melissa DiGrazia, Operations Manager, HRMS Department

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 Signature Page.



Your Project #: 2193

Site Location: AGNICO EAGLE MINES LTD. MEADOWBANK
SITE-BAKER LAKE NUNAVUT

Attention: Bill Wong

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

Report Date: 2022/02/28

Report #: R7023105

Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C1T5538

Received: 2021/10/12, 14:34

Sample Matrix: Stack Sampling Train
Samples Received: 2

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Dioxins/Furans in Air (Method 23)	1	2021/10/13	2021/10/19	BRL SOP-00404	EPA M23/23A m
Dioxins/Furans in Air (Method 23)	1	2021/11/09	2021/09/11	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.

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

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 #: 2193

Site Location: AGNICO EAGLE MINES LTD. MEADOWBANK
SITE-BAKER LAKE NUNAVUT

Attention: Bill Wong

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

Report Date: 2022/02/28

Report #: R7023105

Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C1T5538

Received: 2021/10/12, 14:34

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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For Service Group specific validation please refer to the Validation Signature Page.

Total Cover Pages : 2

Page 2 of 9

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

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.



DIOXINS AND FURANS BY HRMS (STACK SAMPLING TRAIN)

Bureau Veritas ID		QXF856							
Sampling Date		2021/10/12 14:37				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	<0.86	0.86	10	2.0	1.00	0.860	N/A	7633651
1,2,3,7,8-Penta CDD *	pg	<0.59	0.59	10	2.0	1.00	0.590	N/A	7633651
1,2,3,4,7,8-Hexa CDD *	pg	<0.75	0.75	10	2.0	0.100	0.0750	N/A	7633651
1,2,3,6,7,8-Hexa CDD *	pg	<0.66	0.66	10	2.0	0.100	0.0660	N/A	7633651
1,2,3,7,8,9-Hexa CDD *	pg	<0.63	0.63	10	2.0	0.100	0.0630	N/A	7633651
1,2,3,4,6,7,8-Hepta CDD *	pg	<0.71	0.71	10	3.0	0.0100	0.00710	N/A	7633651
1,2,3,4,6,7,8,9-Octa CDD *	pg	<0.93	0.93	100	3.0	0.000300	0.000279	N/A	7633651
Total Tetra CDD *	pg	<0.86	0.86	10	N/A	N/A	N/A	0	7633651
Total Penta CDD *	pg	<0.59	0.59	10	N/A	N/A	N/A	0	7633651
Total Hexa CDD *	pg	<0.67	0.67	10	N/A	N/A	N/A	0	7633651
Total Hepta CDD *	pg	<0.71	0.71	10	N/A	N/A	N/A	0	7633651
2,3,7,8-Tetra CDF **	pg	<0.55	0.55	10	2.0	0.100	0.0550	N/A	7633651
1,2,3,7,8-Penta CDF **	pg	<0.64	0.64	10	2.0	0.0300	0.0192	N/A	7633651
2,3,4,7,8-Penta CDF **	pg	<0.66	0.66	10	2.0	0.300	0.198	N/A	7633651
1,2,3,4,7,8-Hexa CDF **	pg	<0.62	0.62	10	2.0	0.100	0.0620	N/A	7633651
1,2,3,6,7,8-Hexa CDF **	pg	<0.56	0.56	10	2.0	0.100	0.0560	N/A	7633651
2,3,4,6,7,8-Hexa CDF **	pg	<0.61	0.61	10	2.0	0.100	0.0610	N/A	7633651
1,2,3,7,8,9-Hexa CDF **	pg	<0.62	0.62	10	2.0	0.100	0.0620	N/A	7633651
1,2,3,4,6,7,8-Hepta CDF **	pg	<0.68	0.68	10	3.0	0.0100	0.00680	N/A	7633651
1,2,3,4,7,8,9-Hepta CDF **	pg	<0.77	0.77	10	2.0	0.0100	0.00770	N/A	7633651
1,2,3,4,6,7,8,9-Octa CDF **	pg	<0.69	0.69	100	5.0	0.000300	0.000207	N/A	7633651
Total Tetra CDF **	pg	<0.55	0.55	10	N/A	N/A	N/A	0	7633651
Total Penta CDF **	pg	<0.65	0.65	10	N/A	N/A	N/A	0	7633651
Total Hexa CDF **	pg	<0.60	0.60	10	N/A	N/A	N/A	0	7633651
Total Hepta CDF **	pg	<0.72	0.72	10	N/A	N/A	N/A	0	7633651
TOTAL TOXIC EQUIVALENCY	pg	N/A	N/A	N/A	N/A	N/A	2.19	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



Bureau Veritas Job #: C1T5538
Report Date: 2022/02/28

Bureau Veritas
Client Project #: 2193
Site Location: AGNICO EAGLE MINES LTD. MEADOWBANK SITE
-BAKER LAKE NUNAVUT

DIOXINS AND FURANS BY HRMS (STACK SAMPLING TRAIN)

Bureau Veritas ID		QXF856							
Sampling Date		2021/10/12 14:37				TOXIC EQUIVALENCY		# of	
	UNITS	XAD GLASS PROOF	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Surrogate Recovery (%)									
C13-1234678 HeptaCDD *	%	95	N/A	N/A	N/A	N/A	N/A	N/A	7633651
C13-1234678 HeptaCDF **	%	80	N/A	N/A	N/A	N/A	N/A	N/A	7633651
C13-123678 HexaCDD *	%	97	N/A	N/A	N/A	N/A	N/A	N/A	7633651
C13-123678 HexaCDF **	%	80	N/A	N/A	N/A	N/A	N/A	N/A	7633651
C13-12378 PentaCDD *	%	111	N/A	N/A	N/A	N/A	N/A	N/A	7633651
C13-12378 PentaCDF **	%	89	N/A	N/A	N/A	N/A	N/A	N/A	7633651
C13-123789 HexaCDF **	%	86	N/A	N/A	N/A	N/A	N/A	N/A	7633651
C13-2378 TetraCDD *	%	77	N/A	N/A	N/A	N/A	N/A	N/A	7633651
C13-2378 TetraCDF **	%	66	N/A	N/A	N/A	N/A	N/A	N/A	7633651
C13-Octachlorodibenzo-p-Dioxin	%	108	N/A	N/A	N/A	N/A	N/A	N/A	7633651
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									



DIOXINS AND FURANS BY HRMS (STACK SAMPLING TRAIN)

Bureau Veritas ID		QXF857							
Sampling Date		2021/10/12 14:37				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	<1.4	1.4	10	2.0	1.00	1.40	N/A	7689653
1,2,3,7,8-Penta CDD *	pg	<3.3	3.3	10	2.0	1.00	3.30	N/A	7689653
1,2,3,4,7,8-Hexa CDD *	pg	<2.9	2.9	10	2.0	0.100	0.290	N/A	7689653
1,2,3,6,7,8-Hexa CDD *	pg	<2.9	2.9	10	2.0	0.100	0.290	N/A	7689653
1,2,3,7,8,9-Hexa CDD *	pg	<2.8	2.8	10	2.0	0.100	0.280	N/A	7689653
1,2,3,4,6,7,8-Hepta CDD *	pg	<1.6	1.6	10	3.0	0.0100	0.0160	N/A	7689653
1,2,3,4,6,7,8,9-Octa CDD *	pg	<4.4	4.4	100	3.0	0.000300	0.00132	N/A	7689653
Total Tetra CDD *	pg	<1.4	1.4	10	N/A	N/A	N/A	0	7689653
Total Penta CDD *	pg	<3.3	3.3	10	N/A	N/A	N/A	0	7689653
Total Hexa CDD *	pg	<2.9	2.9	10	N/A	N/A	N/A	0	7689653
Total Hepta CDD *	pg	<1.6	1.6	10	N/A	N/A	N/A	0	7689653
2,3,7,8-Tetra CDF **	pg	<2.1	2.1	10	2.0	0.100	0.210	N/A	7689653
1,2,3,7,8-Penta CDF **	pg	<1.7	1.7	10	2.0	0.0300	0.0510	N/A	7689653
2,3,4,7,8-Penta CDF **	pg	<1.7	1.7	10	2.0	0.300	0.510	N/A	7689653
1,2,3,4,7,8-Hexa CDF **	pg	<2.1	2.1	10	2.0	0.100	0.210	N/A	7689653
1,2,3,6,7,8-Hexa CDF **	pg	<2.1	2.1	10	2.0	0.100	0.210	N/A	7689653
2,3,4,6,7,8-Hexa CDF **	pg	<2.3	2.3	10	2.0	0.100	0.230	N/A	7689653
1,2,3,7,8,9-Hexa CDF **	pg	<2.6	2.6	10	2.0	0.100	0.260	N/A	7689653
1,2,3,4,6,7,8-Hepta CDF **	pg	<1.5	1.5	10	3.0	0.0100	0.0150	N/A	7689653
1,2,3,4,7,8,9-Hepta CDF **	pg	<2.1	2.1	10	2.0	0.0100	0.0210	N/A	7689653
1,2,3,4,6,7,8,9-Octa CDF **	pg	<2.0	2.0	100	5.0	0.000300	0.000600	N/A	7689653
Total Tetra CDF **	pg	<2.1	2.1	10	N/A	N/A	N/A	0	7689653
Total Penta CDF **	pg	<1.7	1.7	10	N/A	N/A	N/A	0	7689653
Total Hexa CDF **	pg	<2.3	2.3	10	N/A	N/A	N/A	0	7689653
Total Hepta CDF **	pg	<1.8	1.8	10	N/A	N/A	N/A	0	7689653
TOTAL TOXIC EQUIVALENCY	pg	N/A	N/A	N/A	N/A	N/A	7.29	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



DIOXINS AND FURANS BY HRMS (STACK SAMPLING TRAIN)

Bureau Veritas ID		QXF857							
Sampling Date		2021/10/12 14:37				TOXIC EQUIVALENCY		# of	
	UNITS	XAD RESIN PROOF	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Surrogate Recovery (%)									
C13-1234678 HeptaCDD *	%	85	N/A	N/A	N/A	N/A	N/A	N/A	7689653
C13-1234678 HeptaCDF **	%	61	N/A	N/A	N/A	N/A	N/A	N/A	7689653
C13-123678 HexaCDD *	%	91	N/A	N/A	N/A	N/A	N/A	N/A	7689653
C13-123678 HexaCDF **	%	77	N/A	N/A	N/A	N/A	N/A	N/A	7689653
C13-12378 PentaCDD *	%	89	N/A	N/A	N/A	N/A	N/A	N/A	7689653
C13-12378 PentaCDF **	%	84	N/A	N/A	N/A	N/A	N/A	N/A	7689653
C13-123789 HexaCDF **	%	99	N/A	N/A	N/A	N/A	N/A	N/A	7689653
C13-2378 TetraCDD *	%	89	N/A	N/A	N/A	N/A	N/A	N/A	7689653
C13-2378 TetraCDF **	%	81	N/A	N/A	N/A	N/A	N/A	N/A	7689653
C13-Octachlorodibenzo-p-Dioxin	%	100	N/A	N/A	N/A	N/A	N/A	N/A	7689653
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									



Bureau Veritas Job #: C1T5538
Report Date: 2022/02/28

Bureau Veritas
Client Project #: 2193
Site Location: AGNICO EAGLE MINES LTD. MEADOWBANK SITE
-BAKER LAKE NUNAVUT

TEST SUMMARY

Bureau Veritas ID: QXF856
Sample ID: XAD GLASS PROOF
Matrix: Stack Sampling Train

Collected: 2021/10/12
Shipped:
Received: 2021/10/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dioxins/Furans in Air (Method 23)	HRMS/MS	7633651	2021/10/13	2021/10/19	Cathy Xu

Bureau Veritas ID: QXF857
Sample ID: XAD RESIN PROOF
Matrix: Stack Sampling Train

Collected: 2021/10/12
Shipped:
Received: 2021/10/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dioxins/Furans in Air (Method 23)	HRMS/MS	7689653	2021/11/09	2021/09/11	Cathy Xu



Bureau Veritas Job #: C1T5538
Report Date: 2022/02/28

Bureau Veritas
Client Project #: 2193
Site Location: AGNICO EAGLE MINES LTD. MEADOWBANK SITE
-BAKER LAKE NUNAVUT

GENERAL COMMENTS

Results relate only to the items tested.



Bureau Veritas Job #: C1T5538
Report Date: 2022/02/28

Bureau Veritas
Client Project #: 2193
Site Location: AGNICO EAGLE MINES LTD. MEADOWBANK SITE
-BAKER LAKE NUNAVUT

VALIDATION SIGNATURE PAGE

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

Cathy Xu, Scientific Specialist, Ultra Trace Analysis, HRMS

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 Signature Page.



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 #: COT1755

Received: 2020/11/02, 08:00

Sample Matrix: Stack Sampling Train
 # Samples Received: 3

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
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.

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

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
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

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.



BV Labs Job #: COT1755
Report Date: 2020/12/07

Bureau Veritas Laboratories
Client Project #: 20201027
Site Location: EMISSION SERVICES GROUP MM5 PROOFING

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



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.



BV Labs Job #: COT1755
Report Date: 2020/12/07

Bureau Veritas Laboratories
Client Project #: 20201027
Site Location: EMISSION SERVICES GROUP MM5 PROOFING

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									



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.



BV Labs Job #: COT1755
Report Date: 2020/12/07

Bureau Veritas Laboratories
Client Project #: 20201027
Site Location: EMISSION SERVICES GROUP MM5 PROOFING

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									



BV Labs Job #: COT1755
Report Date: 2020/12/07

Bureau Veritas Laboratories
Client Project #: 20201027
Site Location: EMISSION SERVICES GROUP MM5 PROOFING

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-Methylantracene	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-Dimethylantracene	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							



BV Labs Job #: COT1755
Report Date: 2020/12/07

Bureau Veritas Laboratories
Client Project #: 20201027
Site Location: EMISSION SERVICES GROUP MM5 PROOFING

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							



BV Labs Job #: COT1755
Report Date: 2020/12/07

Bureau Veritas Laboratories
Client Project #: 20201027
Site Location: EMISSION SERVICES GROUP MM5 PROOFING

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							



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									



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									



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	0.00000020	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									



BV Labs Job #: COT1755
Report Date: 2020/12/07

Bureau Veritas Laboratories
Client Project #: 20201027
Site Location: EMISSION SERVICES GROUP MM5 PROOFING

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



BV Labs Job #: COT1755
Report Date: 2020/12/07

Bureau Veritas Laboratories
Client Project #: 20201027
Site Location: EMISSION SERVICES GROUP MM5 PROOFING

GENERAL COMMENTS

Results relate only to the items tested.



BV Labs Job #: COT1755
Report Date: 2020/12/07

Bureau Veritas Laboratories
Client Project #: 20201027
Site Location: EMISSION SERVICES GROUP MM5 PROOFING

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

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.

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: Anand Mathew

Date Completed: 2021-08-16

Date Required: Sept 15-22, 2021

Relinquished by: Jackson Le

Company / Location: Agnico Eagle Mines Limited - Meadowbank Site - Baker Lake, Nunavut

Received by: Anand Mathew

Comments/Notes

2193 Incinerator Stack

Sampling Method	Chemical Solution / Preparation	Volume/# Required	Special Instructions
US EPA Method 6 - Constant - SO ₂	H ₂ O ₂ 30%	1 L	IL# 18-10-15-287
	-		
	-		
	-		
	-		
	-		
US EPA Method 7A - Flask - NO _x	NO _x solution	1 L	IL# 1307-56-3B
	-		
	-		
	-		
	-		
	-		
US EPA Method 10 - Integrated 1 hr - CO US EPA Method 3 - Integrated 1 hr - O ₂ US EPA Method 3 - Integrated 1 hr - CO ₂	10 L gas bags	4	
	-		
	-		
	-		
	-		
	-		
US EPA Method 26 - Constant - Halides	0.1 N H ₂ SO ₄	1 L	IL# 1307-52-7B
	0.1 N NaOH	1 L	IL# 1307-53-13B
	Glass Sample Probe Liners	3	
	-		
	-		
	-		
US EPA Method 29 - Particulates (FH)	acetone	1 L	Fisher Lot# 207047
	-		
	-		
	-		
	-		
	-		

BUREAU VERITAS AIR SERVICES GROUP

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Company / Location: Agnico Eagle Mines Limited - Meadowbank Site - Baker Lake, Nunavut

Received by: Anand Mathew

Comments/Notes

2193 Incinerator Stack

Sampling Method	Chemical Solution / Preparation	Volume/# Required	Special Instructions
EPA Method 29 - Metals	Metals Trains	5	0.1 N HNO ₃ - IL# 1307-51-4D
	Metals Chemicals	5	10% H ₂ SO ₄ - IL# 1307-51-5C
	Metals Filters	5	8N HCl - IL# 1307-51-2D
	Metals Recovery Kit	1	5% HNO ₃ /10% H ₂ O ₂ - IL# 1307-57-2
	Metals Glassware Tub	1	KMnO ₄ - 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	
	Organics Glassware Tub	1	Use organic trains 1,2,3 - Blank 4
	Glass Pitobe Liners	5	Spare Trains - 5
	Organics Trains	5	Ordered 2021-08-23 for delivery
	-		2021-09-10 JL

APPENDIX IV
FIELD DATA SHEETS

ISOKINETIC TEST DATA

EMS FCD-00404/11

Page 1 of 1

Page 1 of 3

CLIENT NAME	Hunco Eagle			IMPINGER # / CONTENTS	INITIAL VOLUME	FINAL VOLUME	MLS CONDENSED
LOCATION	Meadowbank			2 Empty	496	527	31
SOURCE NAME	Minerator			3 H ₂ O ₂ /HNO ₃	571	592	21
PROJECT NUMBER	2193	O ₂ (BLUE)	CO ₂ (RED)	4 Empty	597	603	56
TEST DATE (dd-mon-yy)	18-9-21	17	2	5 Empty	479	481	2
TEST NUMBER	one	17	2	6 KMnO ₄ /H ₂ SO ₄	587	588	1
TEST PERFORMED BY	AM	17	2	7 KMnO ₄ /H ₂ SO ₄	605	607	2
STACK I.D./WIDTH	38.5"	Historical C Measured C	ANNULUS	10"	662	677	15
DELTA H@	1.490		☒ Measured		662	677	15
MINUTES PER POINT	4x2	30.5 in			FILTER #1	GM 2386	FILTER #2
BAROMETRIC PRESSURE	774.7	mm Hg	Barom. ID#	50	MEASURED GLASSWARE RINSE VOLUME: mls		
STATIC PRESSURE	-0.02	inches H ₂ O	NOZZLE CALIBRATION		PROBE LINER USED: Quartz GLASS ☒ TEFLO ☒ STEEL		
PRE-TEST O ₂	17	% (dry)	ID#	Quartz	IS STACK CYCLONIC? YES / ☒ NO		
PRE-TEST CO ₂	2	% (dry)			PRE-TEST PITOT LEAK CHECK PERFORMED: ☒ YES / NO		
WATER CONTENT	5.1	mole%	TRAIN DATA		POST-TEST PITOT LEAK CHECK PERFORMED: ☒ YES / NO		
NOZZLE DIAMETER	0.520	inches	METALS #	49H1	INITIAL LEAK CHECK: 0.000 CFM @ -22 in. Hg		
PITOT FACTOR	0.827		KIT USED:	1001801	FINAL LEAK CHECK: 0.000 CFM @ -22 in. Hg		
INITIAL METER READING	3.5	ft ³	Meter Factor:	1.017	PITOB USED: 8061 Balance ID # 26		
STACK TOP HEIGHT	36.2'		CEMS STATION ID (IF APPLICABLE) N/A				

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

PORT DIR.	TRAV. POINT	START TIME	METER TEMP.		STACK TEMP °C	PITOT READING in. H ₂ O	ORIFICE SETTING in. H ₂ O	METER READING ft ³	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	IMP. VAC in. Hg
			IN	OUT								
W	12	1030	17	17	385	0.03	0.77	5.62	120	120	2	-3
	12	1034	17	17	385	0.03	0.77	7.73	120	120	2	-3
	12	1038	17	18	390	0.03	0.77	9.85	120	120	2	-3
	11	1042	17	18	390	0.03	0.77	11.95	120	120	2	-3
	10	1046	17	18	390	0.03	0.77	14.08	120	120	2	-3
	10	1050	17	18	390	0.03	0.77	16.20	120	120	2	-3
	14	1054	18	18	390	0.03	0.77	18.31	120	120	2	-3
	14	1058	17	18	390	0.03	0.77	20.42	120	120	2	-3
	18	1102	17	18	390	0.03	0.77	22.53	120	120	2	-3
	18	1106	18	18	390	0.03	0.77	24.15	120	120	2	-3
	17	1110	17	18	390	0.03	0.77	26.76	120	120	2	-3
	17	1114	17	18	390	0.03	0.77	28.88	120	120	2	-3
	6	1118	18	18	390	0.03	0.77	31.01	120	120	2	-3
	6	1122	18	18	390	0.03	0.77	33.13	120	120	2	-3
	5	1126	19	18	390	0.03	0.77	35.25	120	120	2	-3
	5	1130	19	18	390	0.03	0.77	37.37	120	120	2	-3

METHOD USED:

M29

PARAMETER:

M29 Metals

Tester Name:

Reviewer Name:

Max Clarke

I certify the test data is accurate and complete.

I certify I have reviewed the test data.

pg 1 of 3

180-98.65

Water 3.4%

①



ISOKINETIC TEST DATA

EMS FCD-00404/11
Page 1 of 1
Page 2 of 3

CLIENT NAME	Aguico Eagle			IMPINGER # / CONTENTS	INITIAL VOLUME	FINAL VOLUME	MLS CONDENSED
LOCATION	Meadow Bank			1			
SOURCE NAME	Incinerator			2			
PROJECT NUMBER	2193	O2 (BLUE)	CO2 (RED)	3			
TEST DATE (dd-mon-yy)	18 Sep 21			4			
TEST NUMBER	1			5			
TEST PERFORMED BY	AM			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#	GLASS / TEFLON / STEEL			
STATIC PRESSURE		inches H ₂ O	NOZZLE CALIBRATION	PROBE LINER USED:			
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:	PITOT 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.		STACK TEMP °C	PITOT READING in. H ₂ O	ORIFICE SETTING in. H ₂ O	METER READING ft ³	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	IMP. VAC in. Hg
			IN	OUT								
	4	1134	19	18	390	0.03	0.77	39.48	120	120	2	-3
	4	1138	19	18	390	0.03	0.77	41.62	120	120	2	-3
	3	1142	19	18	392	0.03	0.77	43.72	120	120	2	-3
	3	1146	19	18	393	0.03	0.77	45.84	120	120	2	-3
	2	1150	19	18	392	0.03	0.77	47.96	120	120	2	-3
	2	1154	19	19	393	0.03	0.77	50.07	120	120	2	-3
	1	1158	19	19	395	0.03	0.77	52.20	120	120	2	-3
✓	1	1202	19	19	394	0.03	0.77	54.31	120	120	2	-3
-	-	-	-	-	-	-	-	-	-	-	-	-
S	12	1235	17	17	398	0.03	0.76	56.41	120	120	2	-3
	12	1239	17	17	405	0.03	0.75	58.49	120	120	2	-3
	11	1243	17	17	406	0.03	0.75	60.57	120	120	2	-3
	11	1247	17	17	407	0.03	0.75	62.65	120	120	2	-3
	10	1251	17	17	405	0.03	0.75	64.74	120	120	2	-3
	10	1255	18	17	408	0.03	0.75	66.83	120	120	2	-3
✓	9	1259	18	17	409	0.03	0.75	68.91	120	120	2	-3

METHOD USED:	M29	PARAMETER:	Metals
Tester Name:	<i>[Signature]</i>	Reviewer Name:	Max Clarke

I certify the test data is accurate and complete.

I certify I have reviewed the test data.

Page 2 of 3

1



ISOKINETIC TEST DATA

EMS FCD-00404/11

Page 1 of 1

Page 3 of 3

CLIENT NAME	Aguico Eagle			IMPINGER # / CONTENTS	INITIAL VOLUME	FINAL VOLUME	MLS CONDENSED	
LOCATION	Meadow Bank							
SOURCE NAME	Incinerator			1				
PROJECT NUMBER	2193	O2 (BLUE)	CO2 (RED)	2				
TEST DATE (dd-mon-yy)	18 Sep 21			3				
TEST NUMBER	1			4				
TEST PERFORMED BY	AM			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 ₂ O	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:	PITOBEE 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.		STACK TEMP °C	PITOT READING in. H ₂ O	ORIFICE SETTING in. H ₂ O	METER READING ft ³	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	IMP. VAC in. Hg
			IN	OUT								
5	9	0103	18	18	409	003	0.78	71.00	120	120	2	-3
	9	0107	18	18	708	003	0.75	73.09	120	120	2	-3
	8	1311	18	18	710	003	0.75	75.17	120	120	2	-3
	7	1315	19	18	400	003	0.76	77.27	120	120	2	-3
	7	1319	19	18	395	003	0.77	77.38	120	120	2	-3
	6	1323	19	18	398	003	0.76	81.50	120	120	2	-3
	6	1327	20	20	393	003	0.77	83.62	120	120	2	-3
	5	1331	20	20	395	003	0.77	85.74	120	120	2	-3
	5	1335	20	20	398	003	0.77	87.86	120	120	2	-3
	4	1339	20	20	402	003	0.76	89.95	120	120	2	-3
	4	1343	20	20	397	003	0.77	892.08	120	120	2	-3
	3	1347	20	20	392	003	0.77	94.20	120	120	2	-3
	3	1351	20	20	390	003	0.77	96.33	120	120	2	-3
	2	1355	20	20	388	003	0.78	98.46	120	120	2	-3
	2	1359	20	20	388	003	0.78	100.60	120	120	2	-3
	1	1403	20	20	387	003	0.78	102.73	120	120	2	-3
	1	1407	20	20	385	003	0.78	104.85	120	120	2	-3

METHOD USED:

M-29

PARAMETER:

Metals

Tester Name:

Reviewer Name:

Max Clarke

I certify the test data is accurate and complete.

I certify I have reviewed the test data.

(2)



ISOKINETIC TEST DATA

EMS FCD-00404/11

Page 1 of 1

Page 1 of 3

CLIENT NAME	Agnico			IMPINGER # / CONTENTS	INITIAL VOLUME	FINAL VOLUME	MLS CONDENSED					
LOCATION	Midlandbank			1 empty	498g	557	59					
SOURCE NAME	Innucator			2 A ₂ O ₂ /H ₂ O ₃	568g	581g	13					
PROJECT NUMBER	2193	O ₂ (BLUE)	CO ₂ (RED)	3 H ₂ O ₂ /HNO ₃	603g	606g	563					
TEST DATE (dd-mon-yy)	19-9-2021	18	3	4 empty	481g	484g	3					
TEST NUMBER	2	18	3	5 KMnO ₄ /H ₂ SO ₄	584g	587g	5					
TEST PERFORMED BY	HW	18	3	6 KMnO ₄ /H ₂ SO ₄	678g	609g	2					
STACK I.D./WIDTH	38.5'	ANNULUS	10"	7 Silica	674g	690g	16					
DELTA H@	1.490	☒ Measured		FILTER # 1	QW2387	FILTER # 2	-					
MINUTES PER POINT	4min x 2			MEASURED GLASSWARE RINSE VOLUME:		mls						
BAROMETRIC PRESSURE	782.32	mm Hg	Barom. ID# 50	NOZZLE CALIBRATION		GLASS / TEFLON / STEEL						
STATIC PRESSURE	-0.03	inches H ₂ O	ID# Ansetz	IS STACK CYCLONIC?		YES / NO						
PRE-TEST O ₂	18	% (dry)	PRE-TEST PITOT LEAK CHECK PERFORMED:		YES / NO							
PRE-TEST CO ₂	2	% (dry)	POST-TEST PITOT LEAK CHECK PERFORMED:		YES / NO							
WATER CONTENT	3	mole%	METALS # Hg 1		INITIAL LEAK CHECK:		CFM @ -22 in. Hg					
NOZZLE DIAMETER	0.520	inches	KIT USED: 1501		FINAL LEAK CHECK:		CFM @ -22 in. Hg					
PITOT FACTOR	0.827		Meter Factor: 1.017		PITOT USED: 30.61		Balance ID # 26					
INITIAL METER READING	05.38	ft ³	CEMS STATION ID (IF APPLICABLE)									
STACK TOP HEIGHT	36.2'											
VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? ☒ YES OR NO (PLEASE CIRCLE ONE)												
PORT DIR.	TRAV. POINT	START TIME	METER TEMP.		STACK TEMP	PITOT READING	ORIFICE SETTING	METER READING	PROBE TEMP.	OVEN TEMP.	IMP. TEMP.	IMP. VAC
			IN	OUT	°C	in. H ₂ O	in. H ₂ O	ft ³	°C	°C	°C	in. Hg
9	12	1010	13	14	366	0.03	0.82	107.52	120	120	2	-2
	12	1014	13	13	365	0.03	0.82	109.67	120	120	2	-2
	11	1018	13	13	368	0.03	0.81	111.87	120	120	2	-2
	11	1022	13	13	367	0.03	0.81	113.95	120	120	2	-2
	10	1026	13	13	362	0.03	0.82	116.1	120	120	2	-2
	10	1030	13	13	363	0.03	0.82	118.24	120	120	2	-2
	9	1034	13	14	362	0.03	0.82	120.40	120	120	2	-2
	9	1038	13	14	368	0.03	0.81	122.54	120	120	2	-2
	8	1042	13	14	366	0.03	0.82	124.69	120	120	2	-2
	8	1046	14	14	366	0.03	0.82	126.84	120	120	2	-2
	7	1050	14	14	368	0.03	0.82	128.98	120	120	2	-2
	2	1054	14	14	368	0.03	0.82	131.13	120	120	2	-2
	6	1058	14	14	366	0.03	0.82	133.28	120	120	2	-2
	6	1102	14	14	362	0.03	0.82	135.44	120	120	2	-2
	5	1106	14	14	361	0.03	0.82	137.60	120	120	2	-2
	5	1110	14	14	364	0.03	0.82	139.75	120	120	2	-2
METHOD USED: M29				PARAMETER: Metals								
Tester Name: [Signature]				Reviewer Name: Max Clark								

I certify the test data is accurate and complete.

I certify I have reviewed the test data.

H₂O - 4.3% 150 - 101.10

2



ISOKINETIC TEST DATA

EMS FCD-00404/11

Page 1 of 1

Page 2 of 3

CLIENT NAME	Agnico			IMPINGER # / CONTENTS	INITIAL VOLUME	FINAL VOLUME	MLS CONDENSED	
LOCATION	Meadow Bank							
SOURCE NAME	Incinerator			1				
PROJECT NUMBER	2193	O2 (BLUE)	CO2 (RED)	2				
TEST DATE (dd-mon-yy)	19 Sep 21			3				
TEST NUMBER	2			4				
TEST PERFORMED BY	AM			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 ₂ O	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:	PITOT 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.		STACK TEMP °C	PITOT READING in. H ₂ O	ORIFICE SETTING in. H ₂ O	METER READING ft ³	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	IMP. VAC in. Hg
			IN	OUT								
S	4	1114	14	14	370	003	0.81	141.90	120	120	2	-3
	4	1118	14	14	373	003	0.81	144.03	120	120	2	-3
	3	1122	14	14	384	003	0.80	146.15	120	120	2	-3
	3	1126	14	14	385	003	0.80	148.27	120	120	2	-3
	2	1130	14	14	404	003	0.77	150.36	120	120	2	-3
	2	1134	14	14	407	003	0.77	152.44	120	120	2	-3
	1	1135	14	14	385	003	0.80	154.56	120	120	2	-3
	1	1136	14	14	390	003	0.79	156.68	120	120	2	-3
W	12	12345	13	13	385	003	0.80	158.79	120	120	2	-3
	12	1249	13	13	390	003	0.79	160.90	120	120	2	-3
	11	1253	13	13	393	004	1.04	163.32	120	120	2	-3
	11	1257	13	13	392	003	0.78	165.42	120	120	2	-3
	10	1301	13	13	395	003	0.78	167.51	120	120	2	-3
	10	1305	13	13	406	004	1.02	169.72	120	120	2	-3
	9	1309	13	13	420	002	0.5	171.60	120	120	2	-3

METHOD USED:

M29

PARAMETER:

Metals

Tester Name:

Reviewer Name:

Max Clark

I certify the test data is accurate and complete.

I certify I have reviewed the test data.

2



ISOKINETIC TEST DATA

EMS FCD-00404/11

Page 1 of 1

Page 3 of 3

CLIENT NAME	Aguico			IMPINGER # / CONTENTS	INITIAL VOLUME	FINAL VOLUME	MLS CONDENSED	
LOCATION	Meadow Bank							
SOURCE NAME	Incinerator			1				
PROJECT NUMBER	2193	O2 (BLUE)	CO2 (RED)	2				
TEST DATE (dd-mon-yy)	19 Sep 21			3				
TEST NUMBER	2			4				
TEST PERFORMED BY	AM			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 ₂ O	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:	PITOT 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.		STACK TEMP °C	PITOT READING in. H ₂ O	ORIFICE SETTING in. H ₂ O	METER READING ft ³	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	IMP. VAC in. Hg
			IN	OUT								
W	9	1313	13	14	386	0.03	0.80	173.71	120	120	2	-2
	10	1317	13	14	379	0.03	0.8	175.83	120	120	2	-2
	10	1321	13	14	375	0.03	0.8	177.98	120	120	2	-2
	2	1325	14	14	369	0.03	0.81	180.11	120	120	2	-2
	2	1329	14	14	370	0.03	0.81	182.25	120	120	2	-2
	6	1333	14	14	375	0.03	0.81	184.39	120	120	2	-2
	6	1337	15	14	378	0.03	0.81	186.52	120	120	2	-2
	5	1341	15	15	380	0.03	0.80	188.65	120	120	2	-2
	5	1345	15	15	377	0.03	0.81	189.80	120	120	2	-2
	4	1349	15	15	368	0.03	0.82	192.95	120	120	2	-2
	4	1353	15	15	365	0.03	0.82	195.11	120	120	2	-2
	3	1357	14	15	370	0.04	0.81	197.57	122	120	3	-2
	3	1401	14	15	380	0.04	1.1	200.05	122	122	3	-2
	2	1405	14	14	381	0.04	0.1	202.50	122	122	3	-3
	2	1409	14	14	377	0.03	0.80	204.63	122	122	3	-3
	1	1413	13	14	375	0.03	0.80	206.77	120	120	3	-3
METHOD USED:	1417 M29	13	14	373	0.03	0.81	208.90	120	120	3	-3	
PARAMETER: Metals / particulates												
Tester Name: [Signature]						Reviewer Name: Max Clark						

I certify the test data is accurate and complete.

I certify I have reviewed the test data.



ISOKINETIC TEST DATA

EMS FCD-00404/11

Page 1 of 1

17172

CLIENT NAME		Location		IMPINGER # / CONTENTS		INITIAL VOLUME	FINAL VOLUME	MLS CONDENSED			
SOURCE NAME		2193		1 Empty		487g	487	5			
PROJECT NUMBER		O2 (BLUE)	CO2 (RED)	2 H ₂ O / HNO ₃		580	583	3			
TEST DATE (dd-mon-yy)		18	3	3 H ₂ O / HNO ₃		606	606	0			
TEST NUMBER		18	3	4 Empty		506	505	-1			
TEST PERFORMED BY		18	3	5 H ₂ O / HNO ₃		571	570	-1			
STACK I.D./WIDTH		38.5	10"	6 H ₂ O / HNO ₃		597	596	-1			
DELTA H@		1.490	Measured	7 Silica		819	821	2			
MINUTES PER POINT		15 min x 2		FILTER # 1		QM2390	FILTER #2				
BAROMETRIC PRESSURE		29.5 in. Hg	Barom. ID# 50	MEASURED GLASSWARE RINSE VOLUME:				mls			
STATIC PRESSURE		-0.02	NOZZLE CALIBRATION	PROBE LINER USED:		Quartz (GLASS)	TEFLON / STEEL				
PRE-TEST O ₂		18	ID# Empty 052	IS STACK CYCLONIC?			YES / (NO)				
PRE-TEST CO ₂		3		PRE-TEST PITOT LEAK CHECK PERFORMED:			YES / NO				
WATER CONTENT		3	TRAIN DATA	POST-TEST PITOT LEAK CHECK PERFORMED:			YES / NO				
NOZZLE DIAMETER		0.52	METALS #	INITIAL LEAK CHECK:		0.001	CFM @	-23 in. Hg			
PITOT FACTOR		0.827	KIT USED: 1801	FINAL LEAK CHECK:			CFM @	-23 in. Hg			
INITIAL METER READING		10.00	Meter Factor: 1.07	PITOT USED:		8081	Balance ID #	26			
STACK TOP HEIGHT		36.2'		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.	STACK TEMP	PITOT READING	ORIFICE SETTING	METER READING	PROBE TEMP.	OVEN TEMP.	IMP. TEMP.	IMP. VAC
			IN OUT	°C	in. H ₂ O	in. H ₂ O	ft ³	°C	°C	°C	in. Hg
W/A	12	1400	28 29	344	0.03	0.89	12.34	120	120	-18	-1
	11	1404	30 30	348	0.03	0.88	14.69	120	120	-18	-1
	10	1408	31 30	352	0.03	0.88	17.03	120	120	-18	-1
	9	1417	32 30	355	0.04	1.1	19.74	120	120	-18	-1
	8	1416	34 31	348	0.04	1.1	22.47	120	120	-18	-1
	7	1420	34 31	358	0.04	1.1	25.18	120	120	-18	-1
	6	1424	35 32	353	0.04	1.1	27.91	120	120	-18	-1
	5	1428	35 32	352	0.04	1.2	30.44	120	120	-18	-1
	4	1432	36 33	352	0.04	1.2	33.38	120	120	-18	-1
	3	1436	36 33	358	0.05	1.5	36.43	120	120	-18	-1
	2	1440	36 34	339	0.05	1.5	39.53	120	120	-19	-1
✓	1	1444	37 34	344	0.06	1.2	42.3	120	120	-19	-1
METHOD USED: M29 / M5											
PARAMETER: Metals / Particulates											
Tester Name: Ingrid Alsthen											
Reviewer Name: P. V. L.											

I certify the test data is accurate and complete.

I certify I have reviewed the test data.



ISOKINETIC TEST DATA

EMS FCD-00404/11

Page 1 of 1

P5182

CLIENT NAME	Agrium			IMPINGER # / CONTENTS	INITIAL VOLUME	FINAL VOLUME	MLS CONDENSED
LOCATION	Hedonbank			1 Empty	481	504	23
SOURCE NAME	Inventor			2 H ₂ O / HNO ₃	577	590	13
PROJECT NUMBER	2193	O2 (BLUE)	CO2 (RED)	3 H ₂ O / HNO ₃	607	608	1
TEST DATE (dd-mon-yy)	28-11-21	17	3	4 Empty	505	506	1
TEST NUMBER	1001	17	3	5 KMnO ₄ / H ₂ SO ₄	593	607	2
TEST PERFORMED BY	AM PV	17	3	6 KMnO ₄ / H ₂ SO ₄	578	545	—
STACK I.D./WIDTH	88.5"	Historical C Measured	ANNULUS	7 Slice	821	828	7
DELTA H@	1.490		☒ Measured	FILTER # 1	QM2381	FILTER #2	—
MINUTES PER POINT	5min			Barom. ID#	50	MEASURED GLASSWARE RINSE VOLUME:	— mls
BAROMETRIC PRESSURE	29.9" 759.46	mm Hg		NOZZLE CALIBRATION	PROBE LINER USED:	GLASS / TEFLON / STEEL	—
STATIC PRESSURE	-0.03	inches H ₂ O		ID#	Amatz	IS STACK CYCLONIC?	YES / NO
PRE-TEST O ₂	17	% (dry)				PRE-TEST PITOT LEAK CHECK PERFORMED:	YES / NO
PRE-TEST CO ₂	3	% (dry)		TRAIN DATA		POST-TEST PITOT LEAK CHECK PERFORMED:	YES / NO
WATER CONTENT	3	mole%		METALS #	2	INITIAL LEAK CHECK:	6.000 CFM @ -2 in. Hg
NOZZLE DIAMETER	0.52	inches		KIT USED:	150-1	FINAL LEAK CHECK:	0.000 CFM @ -2 in. Hg
PITOT FACTOR	0.8427			Meter Factor:	1.017	PITOBEE USED:	B861
INITIAL METER READING	570.98	ft ³				Balance ID #	21
STACK TOP HEIGHT	36.21					CEMS STATION ID (IF APPLICABLE)	N/A

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

PORT DIR.	TRAV. POINT	START TIME	METER TEMP.		STACK TEMP °C	PITOT READING in. H ₂ O	ORIFICE SETTING in. H ₂ O	METER READING ft ³	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	IMP. VAC in. Hg
			IN	OUT								
5	12	1030	33	32	431	004	1.0	574.17	120	120	-14	-3
	11	1035	33	32	434	004	1.0	577.35	120	120	-14	-3
	10	1040	33	32	433	004	1.0	580.53	120	120	-14	-3
	9	1045	33	33	440	004	1.0	583.70	120	120	-14	-3
	8	1050	33	34	450	004	1.0	586.86	120	120	-14	-3
	7	1055	34	34	438	003	0.78	589.62	120	120	-14	-3
	6	1100	34	34	443	003	0.78	592.37	120	120	-14	-3
	5	1105	34	34	445	004	1.0	595.55	120	120	-15	-3
	4	1110	34	34	441	003	0.78	598.31	120	120	-15	-3
	3	1115	34	34	445	003	0.78	601.05	120	120	-15	-4
	2	1120	35	34	440	003	0.78	603.81	120	120	-11	-4
✓	1	1125	34	34	435	003	0.78	606.58	120	120	-11	-4
W	12	1200	32	32	429	0.04	1.0	609.78	120	120	-11	-4
	11	1205	32	32	430	004	1.0	612.95	120	120	-11	-4
	10	1210	33	32	445	003	0.78	615.68	120	120	-11	-4
✓	9	1215	33	32	450	003	0.76	618.40	120	120	-12	-4

METHOD USED:

M29/M15

PARAMETER:

Metals / Particulates

Tester Name:

Amad Mathan

Reviewer Name:

P. J. K.

I certify the test data is accurate and complete.

I certify I have reviewed the test data.

H₂O - 3.25% 150 - 100.9%



PROPORTIONAL TEST DATA - NO FLOW

EMS FCD-01280/9

Page 1 of 1

CUSTOMER NAME	Aniko Eagle		TEST DATE	18/09/21 dd-mon-yy		STACK I.D.	835		☐ Historical	
LOCATION	Meadow Bank		TEST #	ONF		ANNULUS	10"		☐ Measured	
SOURCE NAME	INCINERATOR		B.P. (in. Hg)	3.5"		PITOT#	8001		☐ Measured	
PARAM/METHOD	halides M26		Barom. ID#	50		KIT#	AB9005		Factor: 0.827	
STACK TOP HEIGHT	36' 2"		PROJECT #	2193		CEMS SATION ID (if applicable)			Factor: 0.998	
AMBIENT T °C	10		NOTES:	—						
VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? ☒ YES OR NO (PLEASE CIRCLE ONE)										
IS STACK CYCLONIC: YES / ☒ NO			Hist ☐ Avg θ =			ANALYSTS: DG/AM		Balance ID# 026		
POST-TEST PITOT LEAK CHECK PERFORMED: ☒ YES / NO			PROBE LINER USED: <u>GLASS</u>			TEFLON / STEEL				
WEIGHTS OR VOLUMES			CLOCK TIME		METER VOL		IMPINGER		METER TEMP	
IMPINGER CONTENTS	INITIAL	FINAL			(ft ³ / L)		VAC TEMP		(°C / °F)	
H ₂ SO ₄	50 ml	108 ml	1030		50.00		120/5		12	
H ₂ SO ₄	50	—	1040		720.20		6/5		12	
Empty	—	—	1050		723.59/5.40		6/5		13	
NaOH	50	100	1100		729.16		6/5		14	
NaOH	50	—	1110		732.40		6/5		15	
SILICA GEL 379	448 g	390 g	1120		735.30		6/5		15	
TOTAL WATER CONDENSED	19 ml		1130		737.00		6/5		15	
GLASSWARE RINSE VOLUME	50/50 ml		TOTAL		16.8					

THERMOMETER			
Instrument ID#	045	Temperature (C/F)	C

LEAK CHECK	
BEFORE	AFTER
0.00 cfm@ 15 in. Hg	0.00 cfm@ 15 in. Hg

FYRITE ANALYSIS					
TEST #		TEST #		TEST #	
Start Time:		Start Time:		Start Time:	
End Time:		End Time:		End Time:	
Oxygen - %	Carbon Dioxide %	Oxygen - %	Carbon Dioxide %	Oxygen - %	Carbon Dioxide %

Tester Name: [Signature]
I certify the test data is accurate and complete.

Verifier Name: [Signature]
I verify the test data is accurate and complete.



PROPORTIONAL TEST DATA - NO FLOW

EMS FCD-01280/9

Page 1 of 1

CLIENT NAME	Agnico Eagle	TEST DATE	1/31/09/21 dd-mon-yy	STACK I.D.	385"	☐ Historical ☒ Measured
LOCATION	Meadow Bank	TEST #	TWO	ANNULUS	10"	☒ Measured
SOURCE NAME	INCINERATOR	B.P. (in. Hg)	30.8"	PITOT#	B061	Factor: 0.827
		Barom. ID#	50	KIT#	ABS005	Factor: 0.998
PARAM/METHOD	halides, M26	PROJECT #	2193	CEMS SATION ID (if applicable)		N/A
STACK TOP HEIGHT	36' 2"	AMBIENT T °C	10	NOTES:		
VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? ☒ YES OR NO (PLEASE CIRCLE ONE)						
IS STACK CYCLONIC: YES / ☒ NO		Hist ☐ Avg θ =		ANALYSTS: DG/AM	Balance ID # 026	
POST-TEST PITOT LEAK CHECK PERFORMED: ☒ YES / NO		PROBE LINER USED: ☒ GLASS / ☐ TEFLON / ☐ STEEL				
WEIGHTS OR VOLUMES			CLOCK TIME	METER VOL	IMPINGER VAC	IMPINGER TEMP
IMPINGER CONTENTS	INITIAL	FINAL		ft ³ / L		°C / F
H ₂ SO ₄	50 ml	110 ml	1010	737.30	6	5
H ₂ SO ₄	50	-	1020	739.00	6	5
Empty	-	-	1030	740.15	7	5
NaOH	50	100	1040	742.31	7	5
NaOH	50	-	1050	744.55	7	5
SILICA GEL	390 g	390 g	1100	747.14	7	5
TOTAL WATER CONDENSED		10 ml	1110	749.51	7	5
GLASSWARE RINSE VOLUME		50/50 ml	TOTAL	12.21		

THERMOMETER			
Instrument ID#	045	Temperature (°C/F)	C

LEAK CHECK	
BEFORE	AFTER
0.00 cfm@ 15 in. Hg	0.00 cfm@ 15 in. Hg

FYRITE ANALYSIS					
TEST #		TEST #		TEST #	
Start Time:		Start Time:		Start Time:	
End Time:		End Time:		End Time:	
Oxygen - %	Carbon Dioxide %	Oxygen - %	Carbon Dioxide %	Oxygen - %	Carbon Dioxide %

Tester Name: D. Gehl

I certify the test data is accurate and complete.

Verifier Name: [Signature]

I verify the test data is accurate and complete.



PROPORTIONAL TEST DATA - NO FLOW

EMS FCD-01280/9

Page 1 of 1

CLIENT NAME	Agnico egale	TEST DATE	20-Nov-21	STACK I.D.	38.5	☒ Historical ☐ Measured
LOCATION	Meadow Bank	TEST #	3	ANNULUS	10 _{pv}	☒ Measured
SOURCE NAME	Incinerator	B.P. (in. Hg)	29.5	PITOT#	B02261	Factor: 1.827
		Barom. ID#	50	KIT#	ABS 013	Factor: 1.007
PARAM/METHOD	1-4-26	PROJECT #	2193	CEMS SATION ID (if applicable)		
STACK TOP HEIGHT	36.2'	AMBIENT T °C	10	NOTES:	N/A	
VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? ☒ YES OR NO (PLEASE CIRCLE ONE)						
IS STACK CYCLONIC: YES / ☒ NO		Hist ☒	Avg θ 4.5	ANALYSTS: PV AM	Balance ID #	26
POST-TEST PITOT LEAK CHECK PERFORMED: ☒ YES / NO		PROBE LINER USED: GLASS / TEFLON / ☒ STEEL				
WEIGHTS OR VOLUMES			CLOCK TIME	METER VOL π 3 / L	IMPINGER VAC	METER TEMP π / F
IMPINGER CONTENTS	INITIAL	FINAL				
H2SO4	100 ml	96 ml	1400	522.24	-10 7	26
H2SO4	100	100	1410	526.25	-10 7	27
Empty	0	—	1420	530.27	-10 7	28
NaOH	100	132	1430	534.28	-10 8	28
NaOH	100	64	1450	538.30	-10 8	30
SILICA GEL	410 g	418 g	1510	546.30	-10 10	33 PV
TOTAL WATER CONDENSED	0 ml	—	1520	548.30	-13 10	37
GLASSWARE RINSE VOLUME	50/50 ml		TOTAL	24.06		

THERMOMETER		
Instrument ID#	Temperature (°C / F)	PV

LEAK CHECK	
BEFORE	AFTER
0.00 cfm @ -18 in. Hg	0.00 cfm @ -18 in. Hg

FYRITE ANALYSIS					
TEST #		TEST #		TEST #	
Start Time:		Start Time:		Start Time: PV	
End Time:		End Time:		End Time:	
Oxygen - %	Carbon Dioxide %	Oxygen - %	Carbon Dioxide %	Oxygen - %	Carbon Dioxide %

Tester Name: P. Vi

I certify the test data is accurate and complete.

Verifier Name: [Signature]

I verify the test data is accurate and complete.



PROPORTIONAL TEST DATA - NO FLOW

EMS FCD-01280/9

Page 1 of 1

CLIENT NAME	Agrico Eagle	TEST DATE	25 Nov-21 dd-mon-yy	STACK I.D.	38.5	☒ Historical ☐ Measured
LOCATION	Meadow Brook	TEST #	4	ANNULUS	10	☒ Measured
SOURCE NAME	Incinerator	B.P. (in. Hg)	29.7	PITOT#	B061	Factor: .827
		Barom. ID#	50	KIT#	ABS 010	Factor: 1.009
PARAM/METHOD	1-4-26	PROJECT #	2193	CEMS SATION ID	(if applicable)	274
STACK TOP HEIGHT	26.2'	AMBIENT T °C	10'	NOTES:		
VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? ☒ YES OR ☐ NO (PLEASE CIRCLE ONE)						
IS STACK CYCLONIC: YES / ☒ NO		Hist ☐	Avg θ 220	ANALYSTS: PV AM	Balance ID #	26
POST-TEST PITOT LEAK CHECK PERFORMED: ☒ YES / ☐ NO		PROBE LINER USED: GLASS / TEFLON / ☒ STEEL				
WEIGHTS OR VOLUMES			CLOCK TIME	METER VOL	IMPINGER	METER TEMP
IMPINGER CONTENTS	INITIAL	FINAL		ml / L	VAC TEMP	°C / F
0.1N H ₂ SO ₄	50 ml	90 ml	11:30	802.24	-10 12	20
0.1N H ₂ SO ₄	50	-				
Empty	0	0	11:50	810.47	-16 13	28
0.1N NaOH	50	94				
0.1N NaOH	50	-	12:20	819.82	-9 14	34
SILICA GEL	407 g	412 g				
TOTAL WATER CONDENSED	-11	ml	12:50	826.77	-10 15	34
GLASSWARE RINSE VOLUME	50/50	ml	TOTAL			

THERMOMETER		
Instrument ID#	Temperature (°C / F)	PV

LEAK CHECK	
BEFORE	AFTER
0.00 cfm @ -19 in. Hg	0.00 cfm @ -17 in. Hg

FYRITE ANALYSIS					
TEST #		TEST #		TEST #	
Start Time:		Start Time:		Start Time:	
End Time:		End Time:		End Time:	
Oxygen - %	Carbon Dioxide %	Oxygen - %	Carbon Dioxide %	Oxygen - %	Carbon Dioxide %

Tester Name: PV

I certify the test data is accurate and complete.

Verifier Name: [Signature]

I verify the test data is accurate and complete.



PROPORTIONAL TEST DATA - NO FLOW

EMS FCD-01280/9

Page 1 of 1

CLIENT NAME	Agnico Eagle	TEST DATE	28-Nov-21	STACK I.D.	38.5"	☐ Historical ☒ Measured
LOCATION	Meadow Bank	TEST #	5	ANNULUS	10	☒ Measured
SOURCE NAME	Incinerator	B.P. (in. Hg)	29.9	PITOT#	B061	Factor: 0.827
		Barom. ID#	50	KIT#	AP95	Factor: 1.007
PARAM/METHOD	1-4-26	PROJECT #	2193	CEMS SATION ID	(if applicable)	N/A
STACK TOP HEIGHT	36.2'	AMBIENT T °C	10	NOTES:		
VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? ☒ YES OR ☐ NO (PLEASE CIRCLE ONE)						
IS STACK CYCLONIC: YES / ☒ NO			ANALYSTS: PV AM		Balance ID # 26	
POST-TEST PITOT LEAK CHECK PERFORMED: ☒ YES / ☐ NO			PROBE LINER USED: GLASS / TEFLON / ☒ STEEL			
WEIGHTS OR VOLUMES			CLOCK TIME	METER VOL	IMPINGER	METER TEMP
IMPINGER CONTENTS	INITIAL	FINAL		(ft ³) / L	VAC TEMP	°C / F
0.1N H ₂ SO ₄	50 ml	96 ml	11:00	622.86	-10 16	30
0.1N H ₂ SO ₄	50					
Empty	0		11:20	629.15	-10 17	30
0.1N NaOH	50	102	11:40	633.19	-10 20	31
0.1N NaOH	50					
SILICA GEL	431 g	433 g	12:00	640.79	-10 15	30
TOTAL WATER CONDENSED	0	ml	12:20	647.44	-10 17	30
GLASSWARE RINSE VOLUME	50/50	ml	TOTAL	24.58		

THERMOMETER		
Instrument ID#		Temperature (°C / F)
		PV

LEAK CHECK	
BEFORE	AFTER
9.00 cfm @ -20 in. Hg	0.00 cfm @ -21 in. Hg

FYRITE ANALYSIS					
TEST #		TEST #		TEST #	
Start Time:		Start Time:		Start Time:	
End Time:		End Time:		End Time:	
Oxygen - %	Carbon Dioxide %	Oxygen - %	Carbon Dioxide %	Oxygen - %	Carbon Dioxide %

Tester Name: P. V.

I certify the test data is accurate and complete.

Verifier Name: [Signature]

I verify the test data is accurate and complete.



OXIDES OF NITROGEN TEST DATA

EMS FCD-00408/8

Page 1 of 1

18 Sep 30.5 mHg
19 Sep 30.8 mHg

CLIENT NAME	<i>Agnico</i>	FIELD B.P. (inHg)	<i>38.5</i>	STACK I.D.	<i>38.5</i>	Historical Measured ☒
LOCATION	<i>Moodabank</i>	BAROM. ID#	<i>50</i>	ANNULUS	<i>10"</i>	Measured ☐
SOURCE NAME	<i>Incinerator</i>	ANALYSTS:	<i>JD AM</i>	PITOT#	<i>B061</i>	Factor: <i>0.827</i>
PROJECT #	<i>2193</i>	DATE (dd-mon-yy)	<i>18/19/09/21</i>	STACK TOP HEIGHT:	<i>36.2</i>	PROBE LINER: GLASS / <u>TEFLON</u> / STEEL
VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? <u>YES</u> OR NO (PLEASE CIRCLE ONE)						
Confirmed probe and sample line rinsed with distilled water: <u>Yes</u> or No (Please Circle one)						
Confirmed probe passed leak-check prior to inserting into the sample port: <u>Yes</u> or No (Please Circle one)						
NOTES: <i>Flasks 1A > sept 18/21 2A > Sept 19/21 Test 3 was not complete due to plant issues</i>						

FIELD DATA

PARAMETER	UNITS	1A	1B	2A	2B	3A	3B
FLASK ID #	-	<i>93</i>	<i>76</i>	<i>58</i>	<i>53</i>		
TIME	-	<i>11:30</i>	<i>11:40</i>	<i>12:05</i>	<i>12:10</i>		
FIELD FLASK PRESSURE	Inches Hg	<i>-28.0</i>	<i>-28.0</i>	<i>-28.0</i>	<i>-28.0</i>		
FIELD FLASK TEMP.	degrees C	<i>10</i>	<i>10</i>	<i>4</i>	<i>4</i>		
SOLUTION VOLUME	ml	<i>25</i>	<i>25</i>	<i>25</i>	<i>25</i>	<i>25</i>	<i>25</i>

LAB DATA

LAB B.P.	Inches Hg	<i>29.5</i>					
LAB FLASK PRESSURE	Inches Hg	<i>+0.02^{H₂O}</i>	<i>-0.01^{H₂O}</i>	<i>+0.03^{H₂O}</i>	<i>-0.02^{H₂O}</i>		
LAB FLASK TEMP.	degrees C	<i>20C</i>					

Tester Name: *Dalwin Gabel*
I certify the test data is accurate and complete.

Reviewer Name: *[Signature]*
I certify I have reviewed the test data.



OXIDES OF NITROGEN TEST DATA

EMS FCD-00408/ 8

Page 1 of 1

CLIENT NAME	Agnico Eagle	FIELD B.P. (inHg)	29.8	STACK I.D.	38.5	Historical ☒ Measured ☐
LOCATION	Meadow Bank	BAROM. ID#	50	ANNULUS	10	☒ Measured
SOURCE NAME	Incinerator	ANALYSTS:	PVAM	PITOT#	3061	Factor: 1.827
PROJECT #	2193	DATE (dd-mon-yy)	26-Nov-21	STACK TOP HEIGHT:	36.21	PROBE LINER: GLASS / TEFLON / <u>STEEL</u>
VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? <u>YES</u> OR NO (PLEASE CIRCLE ONE)						
Confirmed probe and sample line rinsed with distilled water: <u>Yes</u> or No (Please Circle one)						
Confirmed probe passed leak-check prior to inserting into the sample port: <u>Yes</u> or No (Please Circle one)						
NOTES: 3A-3B Sampled on 20 th Nov 4A-4B Sampled on 26 th Nov. 20 th Nov BP - 29.95 28 th Nov BP - 29.9						

FIELD DATA							
PARAMETER	UNITS	3A ^{1A}	3B ^{1B}	4A ^{2A}	4B ^{2B}	5A ^{3A}	5B ^{3B}
FLASK ID #	-	102	87	93	76	53	58
TIME	-	1400	1405	1500	1505	1200	1205
FIELD FLASK PRESSURE	inches Hg	-27.0	-27.0	-26.8	-26.8	-27.0	-27.0
FIELD FLASK TEMP.	degrees C	30°C	30°C	30°C	30°C	30°C	30°C
SOLUTION VOLUME	ml	25	25	25	25	25	25

LAB DATA							
LAB B.P. 29.9	inches Hg					881	
LAB FLASK PRESSURE	inches Hg	-0.03	-0.03	-0.02	-0.04	+1.4	0
LAB FLASK TEMP.	degrees C	30°C	30°C	30°C	30°C	20°C	

Tester Name: P.V.	Reviewer Name: [Signature]
I certify the test data is accurate and complete.	I certify I have reviewed the test data.

3A and 5B were sampled on the 28th. Did Recover in Calgary Lab.

2021-12-13 [Signature]



PROPORTIONAL TEST DATA - NO FLOW

EMS FCD-01280/9

Page 1 of 1

CLIENT NAME	Agnico Eagle	TEST DATE	18/09/21 dd-mon-yy	STACK I.D.	385"	☒ Historical ☐ Measured
LOCATION	Meadowbank	TEST #	ONE	ANNULUS	10	☒ Measured
SOURCE NAME	INCLINATOR	B.P. (in. Hg)	30.5	PITOT#	3881	Factor: 0.827
		Barom. ID#	50	KIT#	A35010	Factor: 1.009
PARAM/METHOD	SO ₂ M8	PROJECT #	2193	CEMS SATION ID (if applicable)		N/A
STACK TOP HEIGHT	36.2'	AMBIENT T °C	10	NOTES:		

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

IS STACK CYCLONIC: YES / <u>NO</u> Hist ☐ Avg 0 =	ANALYSTS: DG / Am	Balance ID #	026
POST-TEST PITOT LEAK CHECK PERFORMED: <u>YES</u> / NO	PROBE LINER USED: <u>GLASS</u> / TEFLON / STEEL		

WEIGHTS OR VOLUMES			CLOCK TIME	METER VOL <u>ft³</u> / L	IMPINGER		METER TEMP (°C) / F
IMPINGER CONTENTS	INITIAL	FINAL			VAC	TEMP	
H ₂ O ₂ 3%	100 ml	205 ml	1030	50.50	12	5	11
H ₂ O ₂ 3%	100		1040	52.15	12	5	12
Empty	-	-	1050	55.20	12	5	13
-	-	-	1100	58.94	12	5	14
-	-	-	1110	60.90	12	5	15
SILICA GEL	417 g	423 g	1120	62.55	12	5	15
TOTAL WATER CONDENSED		11 ml	1130	65.50	12	5	15
GLASSWARE RINSE VOLUME		50 ml	TOTAL	15.0			

THERMOMETER			
Instrument ID#	645	Temperature (°C / F)	C

LEAK CHECK	
BEFORE	AFTER
1.660 cfm@ 17 in. Hg	1.000 cfm@ 17 in. Hg

FYRITE ANALYSIS					
TEST #		TEST #		TEST #	
Start Time:		Start Time:		Start Time:	
End Time:		End Time:		End Time:	
Oxygen - %	Carbon Dioxide %	Oxygen - %	Carbon Dioxide %	Oxygen - %	Carbon Dioxide %

Tester Name: D. G. M.

I certify the test data is accurate and complete.

Verifier Name: [Signature]

I verify the test data is accurate and complete.



PROPORTIONAL TEST DATA - NO FLOW

EMS FCD-01280/9

Page 1 of 1

CLIENT NAME	Agnico Eagle	TEST DATE	1/8/09/21 dd-mon-yy	STACK I.D.	3854	☐ Historical ☐ Measured
LOCATION	Meadowbank	TEST #	TWO	ANNULUS	10"	☒ Measured
SOURCE NAME	INCINERATOR	B.P. (in. Hg)	30.8	PITOT#	5071	Factor: 0.827
		Barom. ID#	80	KIT#	AB5010	Factor: 1.009
PARAM/METHOD	SO ₂ M8	PROJECT #	2193	CEMS SATION ID (if applicable)		214
STACK TOP HEIGHT	362'	AMBIENT T °C	10	NOTES:		
VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? <u>YES</u> OR NO (PLEASE CIRCLE ONE)						
IS STACK CYCLONIC: YES / <u>NO</u> Hist ☐ Avg θ =		ANALYSTS: <u>DC/Am</u>		Balance ID # <u>026</u>		
POST-TEST PITOT LEAK CHECK PERFORMED: <u>YES</u> / NO		PROBE LINER USED: <u>GLASS</u> / TEFLON / STEEL				
WEIGHTS OR VOLUMES			CLOCK TIME	METER VOL	IMPINGER VAC	METER TEMP
IMPINGER CONTENTS	INITIAL	FINAL		(#) L	TEMP	(°C) / F
H ₂ O ₂ 3%	100 ml	205 ml	1010	65.70	6 5	14
H ₂ O ₂ 3%	100		1020	67.40	6 5	14
Empty	-	-	1030	69.15	6 5	15
-	-	-	1040	71.95	7 5	16
-	-	-	1050	73.84	7 5	17
SILICA GEL	423 g	425 g	1100	75.66	7 5	17
TOTAL WATER CONDENSED		7 ml	1110	77.70	7 5	17
GLASSWARE RINSE VOLUME		50 ml	TOTAL	12.00		

THERMOMETER			
Instrument ID#	045	Temperature (°C / F)	C

LEAK CHECK	
BEFORE	AFTER
1000 cfm@ 17 in. Hg	1000 cfm@ 17 in. Hg

FYRITE ANALYSIS					
TEST #		TEST #		TEST #	
Start Time:		Start Time:		Start Time:	
End Time:		End Time:		End Time:	
Oxygen - %	Carbon Dioxide %	Oxygen - %	Carbon Dioxide %	Oxygen - %	Carbon Dioxide %

Tester Name: DC/Am

I certify the test data is accurate and complete.

Verifier Name: [Signature]

I verify the test data is accurate and complete.



PROPORTIONAL TEST DATA - NO FLOW

EMS FCD-01280/9

Page 1 of 1

CLIENT NAME	Agrico Eagle	TEST DATE	26-Nov-21	STACK I.D.	38.5	☐ Historical ☒ Measured
LOCATION	Meadow Brook	TEST #	343	ANNULUS	10	☒ Measured
SOURCE NAME	Incinerator	B.P. (in. Hg)	29.6	PITOT#	B061	Factor: .827
		Barom. ID#	50	KIT#	ABS 013	Factor: 1.007
PARAM/METHOD	1-4-8	PROJECT #	2143	CEMS SATION ID	(if applicable)	N/A
STACK TOP HEIGHT	36.21	AMBIENT T °C	10	NOTES:		
VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? ☒ YES OR NO (PLEASE CIRCLE ONE)						
IS STACK CYCLONIC: YES / ☒ NO		Hist ☐	Avg θ = 220	ANALYSTS: PV-AM	Balance ID # 26	
POST-TEST PITOT LEAK CHECK PERFORMED: ☒ YES / NO		PROBE LINER USED: GLASS / TEFLON / ☒ STEEL				
WEIGHTS OR VOLUMES			CLOCK TIME	METER VOL	IMPINGER	METER TEMP
IMPINGER CONTENTS	INITIAL	FINAL		ft ³ / L	VAC TEMP	°C / F
3% H ₂ O ₂	100 ml	132 ml	11:30	549.80	-10 9	13
3% H ₂ O ₂	100	60				
Empty	0	0	11:50	552.89	-10 13	28
			12:10	556.07	+0 17	33
SILICA GEL	418 g	420 g				
TOTAL WATER CONDENSED	-6	ml	12:30	562.17	+0 19	36
GLASSWARE RINSE VOLUME	50	ml	TOTAL	12.37		

THERMOMETER		
Instrument ID#		Temperature (°C / F) PV

LEAK CHECK	
BEFORE	AFTER
0.00 cfm @ -20 in. Hg	0.00 cfm @ -19 in. Hg

FYRITE ANALYSIS					
TEST #		TEST #		TEST #	
Start Time:		Start Time:		Start Time: PV	
End Time:		End Time:		End Time:	
Oxygen - %	Carbon Dioxide %	Oxygen - %	Carbon Dioxide %	Oxygen - %	Carbon Dioxide %

Tester Name: P.V.

I certify the test data is accurate and complete.

Verifier Name: [Signature]

I verify the test data is accurate and complete.



PROPORTIONAL TEST DATA - NO FLOW

EMS FCD-01280/9

Page 1 of 1

CLIENT NAME	Agrico Eagle	TEST DATE	25 Nov-21	STACK I.D.	38.5"	☒ Historical ☐ Measured
LOCATION	Meadow Bank	TEST #	484	ANNULUS	10	☒ Measured
SOURCE NAME	Incinerator	B.P. (in. Hg)	29.7	PITOT#	B061	Factor: .827
		Barom. ID#	50	KIT#	ABS 13	Factor: 1.007
PARAM/METHOD	1-4-8	PROJECT #	2193	CEMS SATION ID (if applicable)		N/A
STACK TOP HEIGHT	36.2'	AMBIENT T °C	10	NOTES:		
VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? ☒ YES OR NO (PLEASE CIRCLE ONE)						
IS STACK CYCLONIC: YES / ☒ NO		Hist ☐ Avg θ 20		ANALYSTS: PV-AM		Balance ID # 26
POST-TEST PITOT LEAK CHECK PERFORMED: ☒ YES / NO		PROBE LINER USED: GLASS / TEFLON / ☒ STEEL				
WEIGHTS OR VOLUMES			CLOCK TIME	METER VOL	IMPINGER	METER TEMP
IMPINGER CONTENTS	INITIAL	FINAL		ft ³ / L	VAC TEMP	°C / F
3% H ₂ O ₂	100 ml	106 ml	11:30	562.40	-10 8	22
3% H ₂ O ₂	100	105				
Empty	0	0	11:50	565.99	-10 10	29
				PV		
			12:10	566.28	-10 12	33
SILICA GEL	421 g	422 g		572.21		
TOTAL WATER CONDENSED	12	ml	12:30	576.56	-10 19	35
GLASSWARE RINSE VOLUME	50	ml	TOTAL	14.16		

THERMOMETER	
Instrument ID#	Temperature (°C / F)

LEAK CHECK	
BEFORE	AFTER
0.00 cfm @ -26 in. Hg	0.00 cfm @ -19 in. Hg

FYRITE ANALYSIS					
TEST #		TEST #		TEST #	
Start Time:		Start Time:		Start Time:	
End Time:		End Time:		End Time:	
Oxygen - %	Carbon Dioxide %	Oxygen - %	Carbon Dioxide %	Oxygen - %	Carbon Dioxide %
17	3				

Tester Name: P. Va
I certify the test data is accurate and complete.

Verifier Name: [Signature]
I verify the test data is accurate and complete.



PROPORTIONAL TEST DATA - NO FLOW

EMS FCD-01280/9

Page 1 of 1

CLIENT NAME	Agnico Eagle	TEST DATE	27-Nov-21 dd-mon-yy	STACK I.D.	38.5	☒ Historical ☐ Measured
LOCATION	Meadow Park	TEST #	5	ANNULUS	10	☒ Measured
SOURCE NAME	Incinerator	B.P. (in. Hg)	PV 29.8	PITOT#	B061	Factor: 1.827
		Barom. ID#	50	KIT#	AB9 053	Factor: 1.007
PARAM/METHOD	1-4-8	PROJECT #	2193	CEMS SATION ID (if applicable)		
STACK TOP HEIGHT	36.2'	AMBIENT T °C	10	NOTES:		
VERIFIED THAT UNIT IS RUNNING AT NORMAL OPERATING CONDITIONS? YES OR NO (PLEASE CIRCLE ONE)						
IS STACK CYCLONIC: YES / NO		Hist ☐ Avg $\theta = 20^\circ$		ANALYSTS: PV AM	Balance ID # 20	
POST-TEST PITOT LEAK CHECK PERFORMED: YES / NO		PROBE LINER USED: GLASS / TEFLON / STEEL				
WEIGHTS OR VOLUMES			CLOCK TIME	METER VOL	IMPINGER VAC	METER TEMP
IMPINGER CONTENTS	INITIAL	FINAL		#3 / L	TEMP	°C / F
3% H ₂ O ₂	100 ml	96 ml	10.15	608.05	-10	8
3% H ₂ O ₂	100	100				
Empty	0	0	10.35	612.80	-10	12
			10.55	617.66	-10	15
SILICA GEL	427 g	431 g				
TOTAL WATER CONDENSED	PV 44 0	ml	11.05	622.22	-10	17
GLASSWARE RINSE VOLUME	50	ml	TOTAL	14.17		

THERMOMETER	
Instrument ID#	Temperature (°C / F)

LEAK CHECK	
BEFORE	AFTER
0.00 cfm @ -19 in. Hg	0.00 cfm @ -19 in. Hg

FYRITE ANALYSIS					
TEST #		TEST #		TEST #	
Start Time:		Start Time:		Start Time:	
End Time:		End Time:		End Time:	
Oxygen - %	Carbon Dioxide %	Oxygen - %	Carbon Dioxide %	Oxygen - %	Carbon Dioxide %

Tester Name: PV

I certify the test data is accurate and complete.

Verifier Name: [Signature]

I verify the test data is accurate and complete.



SVOC TEST DATA

EMS FCD-00418/10

Page 1 of 1

M143

CLIENT NAME	Aguero			IMPINGER CONTENTS	INITIAL WEIGHT	FINAL WEIGHT	WEIGHT DIFFERENCE		
LOCATION	Meadowbank								
SOURCE NAME	Incinerator			XAD	325.5	326	0.5		
PROJECT NUMBER	2193	O2 (BLUE)	CO2 (RED)	Condenser	212.3	214	1.7		
TEST DATE (dd-mon-yy)	25-11-21	17	3	Condensate Trap	484.9	486	1.1		
TEST NUMBER	ONE TWO	17	3	Glycol	757	778	21		
TEST PERFORMED BY	AM PV	17	3	Empty	645.2	646	0.8		
STACK I.D./WIDTH	38.5	Historical ☐ Measured ☒	ANNULUS	10.1	Silica	846.4	858.2	11.8	
DELTA H@	1.490	mm Hg inches H ₂ O % (dry) % (dry) mole% inches ft ³	☒ Measured	IS STACK CYCLONIC?		YES	NO		
MINUTES PER POINT	5min x 2		Barom. ID#	30	PRE-TEST PITOT LEAK CHECK PERFORMED:		YES	NO	
BAROMETRIC PRESSURE	29.7 754.38		NOZZLE CALIBRATION		POST-TEST PITOT LEAK CHECK PERFORMED:		YES	NO	
STATIC PRESSURE	-0.03		ID#	Quartz	INITIAL LEAK CHECK VOLUME:		0	0.88 cft	
PRE-TEST O ₂	17				PORT CHANGE LEAK CHECK VOLUME:				
PRE-TEST CO ₂	3		ORGANICS DATA		FINAL LEAK CHECK VOLUME:			1.12 cft	
WATER CONTENT	3%		XAD #	2	INITIAL LEAK CHECK:		0.00	CFM @ -20 in. Hg	
NOZZLE DIAMETER	0.520		Train #	7	PORT CHANGE L.C.:			CFM @ in. Hg	
PITOT FACTOR	0.827		Filter #	7	FINAL LEAK CHECK:		0.00	CFM @ -20 in. Hg	
INITIAL METER READING	110.08		KIT USED:	1801	Balance ID#	26	Kit Factor:	1.017	PITOBEE USED:
STACK TOP HEIGHT	36.2'			CEMS STATION ID (IF APPLICABLE)				N/A	

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

PORT DIR.	TRAV. POINT	START TIME	METER TEMP.		STACK TEMP °C	PITOT READING in. H ₂ O	ORIFICE SETTING in. H ₂ O	METER READING ft ³	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	XAD TEMP. °C	IMP. VAC in. Hg
			IN	OUT									
W	12	1130	36	36	322	0.03	0.9	113.13	120	120	-10	-15	-5
	12	1135	36	36	325	0.03	0.9	116.17	120	120	-10	-15	-5
	11	1140	36	36	330	0.03	0.9	119.20	120	120	-10	-13	-5
	11	1145	37	36	334	0.03	0.9	122.21	120	120	-10	-13	-5
	10	1150	37	36	341	0.04	1.2	125.69	120	120	-10	-15	-5
	10	1155	37	36	345	0.04	1.2	129.15	120	120	-10	-15	-5
	9	1200	37	37	347	0.03	0.9	132.14	120	120	-10	-15	-5
	9	1205	37	37	349	0.04	1.2	135.6	120	120	-10	-15	-6
	8	1210	37	37	352	0.03	0.9	138.58	120	120	-10	-15	-6
	8	1215	37	37	348	0.03	0.93	141.57	120	120	-10	-15	-6
	7	1220	38	37	331	0.03	0.93	144.61	120	120	-10	-15	-6
	7	1225	38	37	320	0.03	0.95	147.68	120	120	-10	-15	-7
	6	1230	38	37	321	0.04	1.2	151.22	120	120	-10	-16	-7
	6	1235	38	38	308	0.04	1.3	154.80	120	120	-10	-16	-7
	5	1240	38	38	312	0.03	0.96	157.90	120	120	-10	-17	-7
	5	1240	38	38	315	0.03	0.96	160.98	120	120	-10	-17	-7

METHOD USED: EPS 1 RM/2

PARAMETER: Dioxins/Furans

Tester Name: M. Miller

I certify the test data is accurate and complete.

I certify I have reviewed the test data.

Shaping a world of trust

Test 1 was discarded due to freezing issues. No sample was pulled through.

130.852 / 1.2%

110.12%



SVOC TEST DATA

EMS FCD-00418/10

Page 1 of 1

15243

CLIENT NAME	Agmco.			IMPINGER CONTENTS	INITIAL WEIGHT	FINAL WEIGHT	WEIGHT DIFFERENCE
LOCATION	meadowbank						
SOURCE NAME	generator			XAD			
PROJECT NUMBER	2193	O2 (BLUE)	CO2 (RED)	Condenser			
TEST DATE (dd-mon-yy)	25-11-21			Condensate Trap			
TEST NUMBER	TWO			Glycol			
TEST PERFORMED BY				Empty			
STACK I.D./WIDTH		Historical ☐ Measured ☐	ANNULUS	Silica			
DELTA H@			☐ Measured	IS STACK CYCLONIC?			YES NO
MINUTES PER POINT			Barom. ID#	PRE-TEST PITOT LEAK CHECK PERFORMED:			YES NO
BAROMETRIC PRESSURE		mm Hg	NOZZLE CALIBRATION	POST-TEST PITOT LEAK CHECK PERFORMED:			YES NO
STATIC PRESSURE		inches H ₂ O	ID#	INITIAL LEAK CHECK VOLUME:			
PRE-TEST O ₂		% (dry)		PORT CHANGE LEAK CHECK VOLUME:			
PRE-TEST CO ₂		% (dry)	ORGANICS DATA	FINAL LEAK CHECK VOLUME:			
WATER CONTENT		mole%	XAD #	INITIAL LEAK CHECK:	CFM @		in. Hg
NOZZLE DIAMETER		inches	Train #	PORT CHANGE L.C.:	CFM @		in. Hg
PITOT FACTOR			Filter #	FINAL LEAK CHECK:	CFM @		in. Hg
INITIAL METER READING		ft ³	KIT USED:	Balance ID#	Kit Factor:	PITOBEE USED:	
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.		STACK TEMP °C	PITOT READING in. H ₂ O	ORIFICE SETTING in. H ₂ O	METER READING ft ³	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	XAD TEMP. °C	IMP. VAC in. Hg
			IN	OUT									
W	4	1245	38	38	322	004	1.2	164.53	120	120	-10	-16	-7
	4	1250	38	38	325	003	0.94	167.58	120	120	-10	-10	-7
	3	1255	38	38	317	003	0.96	170.68	120	120	-11	-10	-7
	3	1300	38	38	322	003	0.95	173.73	120	120	-11	-10	-7
	2	1305	38	38	328	003	0.94	176.79	120	120	-11	-10	-7
	2	1310	38	38	340	003	0.92	179.81	120	120	-11	-10	-8
	1	1315	39	38	338	003	0.93	182.84	120	120	-11	-7	-8
	1	1320	39	38	342	004	1.2	186.34	120	120	-12	-7	-8
S	12	14350	37	37	338	003	0.92	189.35	120	120	-12	-7	-9
	12	1355	37	37	338	002	0.61	191.81	120	120	-12	-7	-9
	11	1400	37	37	341	002	0.61	194.27	120	120	-12	-7	-9
	11	1405	37	37	345	003	0.91	197.28	120	120	-12	-7	-9
	10	1410	38	37	348	004	1.2	200.73	120	120	-12	-7	-9
	10	1415	39	37	355	005	1.5	204.58	120	120	-12	-7	-9
	9	1420	39	38	339	004	1.2	208.08	120	120	-12	-7	-9
	9	1425	39	38	343	004	1.2	211.57	120	120	-12	-7	-9

METHOD USED: EPS 1RM-2

PARAMETER: Diogenes Furans

Tester Name: Andrew Mether

I certify the test data is accurate and complete.

I certify I have reviewed the test data.

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SVOC TEST DATA

EMS FCD-00418/10

Page 1 of 1

15893

CLIENT NAME	Agnio			IMPINGER CONTENTS	INITIAL WEIGHT	FINAL WEIGHT	WEIGHT DIFFERENCE
LOCATION	Meadowbank			XAD			
SOURCE NAME	Inundator						
PROJECT NUMBER	2193	O2 (BLUE)	CO2 (RED)	Condenser			
TEST DATE (dd-mon-yy)	25-11-21			Condensate Trap			
TEST NUMBER	Two			Glycol			
TEST PERFORMED BY				Empty			
STACK I.D./WIDTH		Historical ☐ Measured ☐	ANNULUS	Silica			
DELTA H@			☐ Measured	IS STACK CYCLONIC?			YES NO
MINUTES PER POINT			Barom. ID#	PRE-TEST PITOT LEAK CHECK PERFORMED:			YES NO
BAROMETRIC PRESSURE		mm Hg	NOZZLE CALIBRATION	POST-TEST PITOT LEAK CHECK PERFORMED:			YES NO
STATIC PRESSURE		inches H ₂ O	ID#	INITIAL LEAK CHECK VOLUME:			
PRE-TEST O ₂		% (dry)		PORT CHANGE LEAK CHECK VOLUME:			
PRE-TEST CO ₂		% (dry)	ORGANICS DATA	FINAL LEAK CHECK VOLUME:			
WATER CONTENT		mole%	XAD #	INITIAL LEAK CHECK:	CFM @		in. Hg
NOZZLE DIAMETER		inches	Train #	PORT CHANGE L.C.:	CFM @		in. Hg
PITOT FACTOR			Filter #	FINAL LEAK CHECK:	CFM @		in. Hg
INITIAL METER READING		ft ³	KIT USED:	Balance ID#	Kit Factor:	PITOTBE USED:	
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.		STACK TEMP °C	PITOT READING in. H ₂ O	ORIFICE SETTING in. H ₂ O	METER READING ft ³	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	XAD TEMP. °C	IMP. VAC in. Hg
			IN	OUT									
5	8	1430	39	39	545	004	1.2	21505	120	120	-13	-10	-7
1	8	1435	39	39	348	003	0.91	21806	120	120	-13	-10	-7
1	2	1440	39	39	348	003	0.91	22108	120	120	-13	-12	-7
1	7	1445	39	39	333	003	0.93	22413	120	120	-13	-12	-7
1	6	1450	38	38	348	003	0.91	22713	120	120	-13	-11	-7
1	6	1455	37	38	327	003	0.94	23018	120	120	-13	-11	-7
1	5	1500	37	38	327	004	1.3	23370	120	120	-13	-13	-7
1	5	1505	38	38	335	003	0.93	23674	120	120	-13	-13	-7
1	4	1510	38	38	336	004	1.2	24024	120	120	-14	-13	-7
1	4	1515	38	38	341	003	0.92	24326	120	120	-14	-13	-7
1	3	1520	38	38	328	004	1.3	24678	120	120	-14	-14	-7
1	3	1525	38	38	350	003	0.9	24978	120	120	-14	-14	-7
1	2	1530	38	38	331	002	0.62	25227	120	120	-15	-15	-8
1	2	1535	37	37	348	003	0.91	25526	120	120	-15	-15	-8
1	1	1540	37	37	350	002	0.60	25777	120	120	-15	-15	-8
1	1	1545	36	37	321	002	0.63	26020	120	120	-15	-15	-8

METHOD USED:	EPS 1 RM-2	PARAMETER:	Dioxins Furans
Tester Name:	Arund Mathew		P.V.K.

I certify the test data is accurate and complete.

I certify I have reviewed the test data.

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LC 261-324ft E-Zon 4g 00046m



SVOC TEST DATA

EMS FCD-00418/10

Page 1 of 1

15183

CLIENT NAME	Lgminis			IMPINGER CONTENTS	INITIAL WEIGHT	FINAL WEIGHT	WEIGHT DIFFERENCE	
LOCATION	e Meadowbank							
SOURCE NAME	Innovation			XAD	338.1	344	5.9	
PROJECT NUMBER	2193	O2 (BLUE)	CO2 (RED)	Condenser	20.7	271	2.3	
TEST DATE (dd-mon-yy)	26-11-21	18	3	Condensate Trap	578.9	590	21.1	
TEST NUMBER	Three	18	3	Glycol	270	271	21	
TEST PERFORMED BY	AM PV	18	3	Empty	671.7	672	0.3	
STACK I.D./WIDTH	88.5	Historical ☐ Measured ☒	ANNULUS	15"	Silica	900.3	908	7.7
DELTA H@	1.490	mm Hg inches H ₂ O % (dry) % (dry) mole% inches ft ³	☒ Measured	IS STACK CYCLONIC?	YES	NO		
MINUTES PER POINT	5min x 2		Barom. ID#	50	PRE-TEST PITOT LEAK CHECK PERFORMED:	YES	NO	
BAROMETRIC PRESSURE	29.8"		NOZZLE CALIBRATION		POST-TEST PITOT LEAK CHECK PERFORMED:	YES	NO	
STATIC PRESSURE	-002		ID#	Amalgam	INITIAL LEAK CHECK VOLUME:	1.2 cu ft		
PRE-TEST O ₂	18				PORT CHANGE LEAK CHECK VOLUME:	0.75 cu ft		
PRE-TEST CO ₂	3		ORGANICS DATA		FINAL LEAK CHECK VOLUME:	1.215 cu ft		
WATER CONTENT	2		XAD #	3	INITIAL LEAK CHECK:	0.002 CFM @	-20 in. Hg	
NOZZLE DIAMETER	0.52		Train #	8	PORT CHANGE L.C.:	0.002 CFM @	-20 in. Hg	
PITOT FACTOR	0.827		Filter #	8	FINAL LEAK CHECK:	0.001 CFM @	-20 in. Hg	
INITIAL METER READING	26500		KIT USED:	1	Balance ID#	216	Kit Factor:	1.017
STACK TOP HEIGHT	36.21			PITOBEE USED:	B381			
CEMS STATION ID (IF APPLICABLE)								274

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

PORT DIR.	TRAV. POINT	START TIME	METER TEMP.		STACK TEMP °C	PITOT READING in. H ₂ O	ORIFICE SETTING in. H ₂ O	METER READING ft ³	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	XAD TEMP. °C	IMP. VAC in. Hg
			IN	OUT									
W	12	1130	37	37	345	0.03	0.92	268.01	120	120	-15	-8	-6
	12	1135	37	37	345	0.03	0.92	271.04	120	120	-15	-8	-6
	11	1140	37	37	345	0.04	1.2	274.52	120	120	-15	-8	-6
	11	1145	38	37	343	0.03	0.93	277.55	120	120	-15	-8	-6
	10	1150	38	37	344	0.03	0.93	280.58	120	120	-15	-8	-6
	10	1155	38	37	333	0.03	0.94	283.60	120	120	-15	-8	-6
	9	1200	38	38	338	0.04	1.2	287.10	120	120	-15	-8	-6
	9	1205	38	38	351	0.03	0.92	290.11	120	120	-15	-9	-7
	8	1210	38	38	329	0.03	0.96	293.18	120	120	-18	-10	-7
	8	1215	39	38	341	0.03	0.94	296.22	120	120	-18	-10	-7
	7	1220	39	38	352	0.04	1.2	299.70	120	120	-18	-10	-7
	7	1225	39	39	347	0.03	0.93	302.73	120	120	-18	-10	-8
	6	1230	39	39	343	0.05	1.5	306.67	120	120	-18	-7	-8
	6	1235	39	39	340	0.05	1.5	310.60	120	120	-18	-7	-8
	5	1240	40	40	343	0.03	0.94	313.65	120	120	-18	-7	-8
	5	1245	39	40	339	0.03	0.94	316.71	120	120	-18	-7	-8

METHOD USED:

EPS 1 RM-2

PARAMETER:

Dioxins Furans

Tester Name:

Amanda Mathews

I certify the test data is accurate and complete.

I certify I have reviewed the test data.

Shaping a world of trust

H₂O: 1.9% 99.92% -150



SVOC TEST DATA

EMS FCD-00418/10

Page 1 of 1

13293

CLIENT NAME	Agnico			IMPINGER CONTENTS	INITIAL WEIGHT	FINAL WEIGHT	WEIGHT DIFFERENCE
LOCATION	Meadowbank						
SOURCE NAME	Incinerator			XAD			
PROJECT NUMBER	2193	O2 (BLUE)	CO2 (RED)	Condenser			
TEST DATE (dd-mon-yy)	26-11-21			Condensate Trap			
TEST NUMBER	Three			Glycol			
TEST PERFORMED BY				Empty			
STACK I.D./WIDTH		Historical ☐ Measured ☐	ANNULUS	Silica			
DELTA H@			☐ Measured	IS STACK CYCLONIC?			YES NO
MINUTES PER POINT			Barom. ID#	PRE-TEST PITOT LEAK CHECK PERFORMED:			YES NO
BAROMETRIC PRESSURE		mm Hg	NOZZLE CALIBRATION	POST-TEST PITOT LEAK CHECK PERFORMED:			YES NO
STATIC PRESSURE		inches H ₂ O	ID#	INITIAL LEAK CHECK VOLUME:			
PRE-TEST O ₂		% (dry)		PORT CHANGE LEAK CHECK VOLUME:			
PRE-TEST CO ₂		% (dry)	ORGANICS DATA	FINAL LEAK CHECK VOLUME:			
WATER CONTENT		mole%	XAD #	INITIAL LEAK CHECK:	CFM @		in. Hg
NOZZLE DIAMETER		inches	Train #	PORT CHANGE L.C.:	CFM @		in. Hg
PITOT FACTOR			Filter #	FINAL LEAK CHECK:	CFM @		in. Hg
INITIAL METER READING		ft ³	KIT USED:	Balance ID#	Kit Factor:	PITOBIE USED:	
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.		STACK TEMP °C	PITOT READING in. H ₂ O	ORIFICE SETTING in. H ₂ O	METER READING ft ³	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	XAD TEMP. °C	IMP. VAC in. Hg
			IN	OUT									
W	4	1250	39	39	321	0.04	1.3	320.28	120	120	-18	-7	-8
	4	1255	39	39	318	0.04	1.3	323.87	120	120	-18	-7	-8
	3	1300	39	38	322	0.03	0.96	326.97	120	120	-18	-8	-8
	3	1305	39	39	327	0.03	0.96	330.04	120	120	-18	-6	-8
	2	1310	39	39	335	0.03	0.94	333.10	120	120	-17	-6	-8
	2	1315	40	39	338	0.02	0.63	335.62	120	120	-16	-5	-8
	1	1320	40	40	339	0.02	0.63	338.11	120	120	-16	-5	-8
✓	1	1325	39	40	345	0.02	0.62	340.58	120	120	-15	-5	-8
S	12	1400	36	37	321	0.03	0.96	344.40	120	120	-15	-5	-7
	12	1405	36	36	318	0.04	1.3	347.96	120	120	-15	-5	-6
	11	1410	37	37	322	0.03	0.96	351.03	120	120	-15	-6	-7
	10	1415	37	37	328	0.03	0.95	354.1	120	120	-16	-4	-7
	10	1420	38	37	347	0.03	0.92	357.12	120	120	-17	-4	-7
	10	1425	38	37	322	0.04	1.3	360.68	120	120	-16	-5	-7
	9	1430	38	37	327	0.03	0.95	363.79	120	120	-16	-5	-7
✓	9	1435	38	37	340	0.04	1.2	367.24	120	120	-17	-4	-7

METHOD USED: EPS 1 RM-2
 Tester Name: Amanda Mathan

PARAMETER: Dioxin Furans
 P.V.

I certify the test data is accurate and complete.

I certify I have reviewed the test data.

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SVOC TEST DATA

EMS FCD-00418/10

Page 1 of 1

P393

CLIENT NAME	Aerivo			IMPINGER CONTENTS	INITIAL WEIGHT	FINAL WEIGHT	WEIGHT DIFFERENCE
LOCATION	Needlebank						
SOURCE NAME	Incinerator			XAD			
PROJECT NUMBER	2193	O2 (BLUE)	CO2 (RED)	Condenser			
TEST DATE (dd-mon-yy)	26-17-21			Condensate Trap			
TEST NUMBER	Three			Glycol			
TEST PERFORMED BY				Empty			
STACK I.D./WIDTH		Historical ☐ Measured ☐	ANNULUS	Silica			
DELTA H@			☐ Measured	IS STACK CYCLONIC?			YES NO
MINUTES PER POINT			Barom. ID#	PRE-TEST PITOT LEAK CHECK PERFORMED:			YES NO
BAROMETRIC PRESSURE		mm Hg	NOZZLE CALIBRATION	POST-TEST PITOT LEAK CHECK PERFORMED:			YES NO
STATIC PRESSURE		inches H ₂ O	ID#	INITIAL LEAK CHECK VOLUME:			
PRE-TEST O ₂		% (dry)		PORT CHANGE LEAK CHECK VOLUME:			
PRE-TEST CO ₂		% (dry)	ORGANICS DATA	FINAL LEAK CHECK VOLUME:			
WATER CONTENT		mole%	XAD #	INITIAL LEAK CHECK:	CFM @		in. Hg
NOZZLE DIAMETER		inches	Train #	PORT CHANGE L.C.:	CFM @		in. Hg
PITOT FACTOR			Filter #	FINAL LEAK CHECK:	CFM @		in. Hg
INITIAL METER READING		ft ³	KIT USED:	Balance ID#	Kit Factor:	PITOTBE USED:	
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.		STACK TEMP °C	PITOT READING in. H ₂ O	ORIFICE SETTING in. H ₂ O	METER READING ft ³	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	XAD TEMP. °C	IMP. VAC in. Hg
			IN	OUT									
5	8	1440	38	39	329	003	0.95	370.31	120	120	-15	-6	-8
	8	1445	38	38	330	003	0.95	373.38	120	120	-15	-6	-8
	7	1450	38	38	330	004	1.3	376.92	120	120	-15	-6	-8
	7	1455	38	38	332	004	1.2	380.45	120	120	-15	-6	-8
	6	1500	38	39	345	005	1.6	384.38	120	120	-15	-6	-8
	6	1505	38	39	337	005	1.5	388.31	120	120	-15	-5	-8
	5	1510	39	39	322	003	0.96	391.40	120	120	-15	-7	-7
	5	1515	39	40	321	003	0.97	394.50	120	120	-15	-7	-7
	4	1520	40	40	317	003	0.98	397.63	120	120	-12	-5	-7
	4	1525	40	40	329	003	0.96	390.71	120	120	-12	-5	-7
	3	1530	40	41	318	004	1.3	404.32	120	120	-12	-5	-6
	3	1535	40	41	320	003	0.97	407.43	120	120	-12	-5	-6
	2	1540	40	41	323	002	0.65	409.97	126	128	-13	-6	-6
	2	1545	40	40	321	002	0.65	412.51	126	124	-13	-6	-6
	1	1550	37	38	326	002	0.64	415.02	124	126	-13	-6	-7
✓	1	1555	38	38	332	002	0.63	417.55	126	125	-13	-7	-7

METHOD USED:	EPS 1KM-2	PARAMETER:	Dioxins Furans
Tester Name:	Arund Mathan		

I certify the test data is accurate and complete.

I certify I have reviewed the test data.

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LC 418.73 wft
e-20 wft



SVOC TEST DATA

EMS FCD-00418/10

Page 1 of 1

15107

CLIENT NAME	Agnico			IMPINGER CONTENTS	INITIAL WEIGHT	FINAL WEIGHT	WEIGHT DIFFERENCE
LOCATION	Meadowbank						
SOURCE NAME	Innulator			XAD	333.6	340	6.4
PROJECT NUMBER	2193	O2 (BLUE)	CO2 (RED)	Condenser	294.2	276	18
TEST DATE (dd-mon-yy)	27-11-2021	18	3	Condensate Trap	492.4	541	48.6
TEST NUMBER	Four	18	3	Glycol	763	786	23
TEST PERFORMED BY	AM PV	18	3	Empty	590.3	591	0.7
STACK I.D./WIDTH	88.5"	ANNULUS	10"	Silica	855	866	11
DELTA H@	1.490	Historical ☐ Measured ☒		IS STACK CYCLONIC?		YES	NO
MINUTES PER POINT	5 min x 2	Barom. ID#	50	PRE-TEST PITOT LEAK CHECK PERFORMED:		YES	NO
BAROMETRIC PRESSURE	29.8"	NOZZLE CALIBRATION		POST-TEST PITOT LEAK CHECK PERFORMED:		YES	NO
STATIC PRESSURE	-0.03	ID#	Quartz	INITIAL LEAK CHECK VOLUME:			0.56 cfm
PRE-TEST O ₂	18			PORT CHANGE LEAK CHECK VOLUME:			1.11 cfm
PRE-TEST CO ₂	3	ORGANICS DATA		FINAL LEAK CHECK VOLUME:			0.94 cfm
WATER CONTENT	3	XAD #	4	INITIAL LEAK CHECK:	0.002	CFM @	-20 in. Hg
NOZZLE DIAMETER	0.52	Train #	1	PORT CHANGE L.C.:	0.001	CFM @	-20 in. Hg
PITOT FACTOR	0.827	Filter #	1	FINAL LEAK CHECK:	0.001	CFM @	-20 in. Hg
INITIAL METER READING	420.00	KIT USED:	1	Balance ID#	26	Kit Factor:	1.017
STACK TOP HEIGHT	86.21			PITOT USED:			5081
				CEMS STATION ID (IF APPLICABLE)			214

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

PORT DIR.	TRAV. POINT	START TIME	METER TEMP.		STACK TEMP °C	PITOT READING in. H ₂ O	ORIFICE SETTING in. H ₂ O	METER READING ft ³	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	XAD TEMP. °C	IMP. VAC in. Hg
			IN	OUT									
8	12	1015	35	35	323	004	1.2	423.50	120	120	-14	-5	-5
	12	1020	35	35	330	004	1.2	426.75	120	120	-14	-5	-5
	11	1025	35	35	333	004	1.2	430.44	120	120	-14	-5	-5
	11	1030	36	35	334	003	0.9	433.75	120	120	-14	-5	-5
	10	1035	36	35	340	003	0.9	436.44	120	120	-15	-5	-5
	10	1040	36	36	350	003	0.9	439.71	120	120	-15	-16	-6
	9	1045	36	36	343	003	0.91	442.4	120	120	-15	-16	-6
	9	1050	36	36	341	004	1.2	445.85	120	120	-15	-16	-6
	8	1055	36	36	327	003	0.93	448.88	120	120	-15	-15	-7
	8	1100	36	36	321	003	0.93	451.90	120	120	-15	-15	-7
	7	1105	37	36	325	003	0.94	454.94	120	120	-15	-7	-8
	7	1110	38	38	318	003	0.95	458.10	120	120	-15	-8	-8
	6	1115	38	38	322	003	0.95	461.07	120	120	-15	-7	-8
	6	1120	38	38	325	003	0.94	464.12	120	121	-15	-7	-8
	5	1125	38	38	330	003	0.94	467.17	120	120	-15	-8	-8
✓	5	1130	38	38	341	003	0.92	470.18	120	120	-15	-8	-8

METHOD USED: EPS 1RM-2

PARAMETER: Downs Evans

Tester Name: Andrew Mathew

I certify the test data is accurate and complete.

I certify I have reviewed the test data.

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Water - 3%
Ro - 100%



SVOC TEST DATA

EMS FCD-00418/10

Page 1 of 1

13295

CLIENT NAME		Agwio				IMPINGER CONTENTS		INITIAL WEIGHT	FINAL WEIGHT	WEIGHT DIFFERENCE			
LOCATION		Meadowbank											
SOURCE NAME		Municipal				XAD							
PROJECT NUMBER		2193	O2 (BLUE)	CO2 (RED)	Condenser								
TEST DATE (dd-mon-yy)		27-11-21			Condensate Trap								
TEST NUMBER		Four			Glycol								
TEST PERFORMED BY						Empty							
STACK I.D./WIDTH			Historical ☐ Measured ☐	ANNULUS	Silica								
DELTA H@			☐ Measured		IS STACK CYCLONIC?		YES	NO					
MINUTES PER POINT			Barom. ID#		PRE-TEST PITOT LEAK CHECK PERFORMED:		YES	NO					
BAROMETRIC PRESSURE		mm Hg	NOZZLE CALIBRATION		POST-TEST PITOT LEAK CHECK PERFORMED:		YES	NO					
STATIC PRESSURE		inches H ₂ O	ID#		INITIAL LEAK CHECK VOLUME:								
PRE-TEST O ₂		% (dry)			PORT CHANGE LEAK CHECK VOLUME:								
PRE-TEST CO ₂		% (dry)	ORGANICS DATA		FINAL LEAK CHECK VOLUME:								
WATER CONTENT		mole%	XAD #		INITIAL LEAK CHECK:		CFM @		in. Hg				
NOZZLE DIAMETER		inches	Train #		PORT CHANGE L.C.:		CFM @		in. Hg				
PITOT FACTOR			Filter #		FINAL LEAK CHECK:		CFM @		in. Hg				
INITIAL METER READING		ft ³	KIT USED:		Balance ID#	Kit Factor:	PITOT USED:						
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.		STACK TEMP °C	PITOT READING in. H ₂ O	ORIFICE SETTING in. H ₂ O	METER READING ft ³	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	XAD TEMP. °C	IMP. VAC in. Hg
S	4	1135	38	38	330	004	1.2	473.68	120	120	-15	-5	-8
	4	1140	38	38	330	003	0.93	478.72	120	120	-15	-5	-8
	3	1145	38	38	334	003	0.93	479.73	120	120	-15	-5	-6
	3	1150	38	38	341	0.23	0.92	482.76	120	120	-15	-5	-6
	2	1155	39	38	342	0.23	0.92	485.78	120	120	-15	-5	-6
	2	1200	39	38	345	0.03	0.91	488.79	120	120	-15	-5	-5
	1	1205	39	38	347	002	0.6	491.25	120	120	-15	-6	-5
	1	1210	39	38	340	001	0.3	492.98	120	120	-16	-7	-5
	12	1245	37	37	321	004	1.2	497.61	120	120	-16	-5	-5
	12	1250	37	38	338	003	0.92	500.64	120	120	-16	-5	-4
W	11	1245	37	38	340	004	1.2	504.11	120	120	-16	-5	-4
	11	1300	37	38	341	003	0.92	507.11	120	120	-16	-5	-4
	10	1305	37	38	345	003	0.91	510.12	120	120	-16	-5	-4
	10	1310	37	38	337	003	0.92	513.13	120	120	-16	-5	-5
	9	1315	38	38	340	004	1.2	516.62	120	120	-16	-5	-5
	9	1320	39	38	340	003	0.92	519.64	120	120	-16	-5	-5
METHOD USED: EPS 1 RM-2					PARAMETER: Dioxins/furans								
Tester Name: Arnold Mathew					P. J. [Signature]								

I certify the test data is accurate and complete.

I certify I have reviewed the test data.

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SVOC TEST DATA

EMS FCD-00418/10

Page 1 of 1

15343

CLIENT NAME	Aguirre			IMPINGER CONTENTS	INITIAL WEIGHT	FINAL WEIGHT	WEIGHT DIFFERENCE
LOCATION	Meadowbank						
SOURCE NAME	Luminator			XAD			
PROJECT NUMBER	2193	O2 (BLUE)	CO2 (RED)	Condenser			
TEST DATE (dd-mon-yy)	27-11-21			Condensate Trap			
TEST NUMBER	Four			Glycol			
TEST PERFORMED BY				Empty			
STACK I.D./WIDTH		Historical ☐ Measured ☐	ANNULUS	Silica			
DELTA H@			☐ Measured	IS STACK CYCLONIC?			YES NO
MINUTES PER POINT			Barom. ID#	PRE-TEST PITOT LEAK CHECK PERFORMED:			YES NO
BAROMETRIC PRESSURE		mm Hg	NOZZLE CALIBRATION	POST-TEST PITOT LEAK CHECK PERFORMED:			YES NO
STATIC PRESSURE		inches H ₂ O	ID#	INITIAL LEAK CHECK VOLUME:			
PRE-TEST O ₂		% (dry)		PORT CHANGE LEAK CHECK VOLUME:			
PRE-TEST CO ₂		% (dry)	ORGANICS DATA	FINAL LEAK CHECK VOLUME:			
WATER CONTENT		mole%	XAD #	INITIAL LEAK CHECK:	CFM @		in. Hg
NOZZLE DIAMETER		inches	Train #	PORT CHANGE L.C.:	CFM @		in. Hg
PITOT FACTOR			Filter #	FINAL LEAK CHECK:	CFM @		in. Hg
INITIAL METER READING		ft ³	KIT USED:	Balance ID#	Kit Factor:	PITOBEE USED:	
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.		STACK TEMP °C	PITOT READING in. H ₂ O	ORIFICE SETTING in. H ₂ O	METER READING ft ³	PROBE TEMP. °C	OVEN TEMP. °C	IMP. TEMP. °C	XAD TEMP. °C	IMP. VAC in. Hg
			IN	OUT									
W	8	1325	40	40	345	003	0.92	522.65	120	120	-17	-7	-8
	8	1330	40	40	348	003	0.91	525.68	120	120	-17	-7	-8
	7	1335	40	40	333	003	0.94	528.72	120	120	-17	-7	-8
	7	1340	39	40	341	004	1.2	532.21	120	120	-17	-5	-8
	6	1345	39	40	318	004	1.3	535.78	120	120	-17	-5	-8
	6	1350	39	40	321	005	1.6	539.75	120	120	-17	-5	-8
	5	1355	39	40	324	003	0.95	542.82	120	120	-17	-5	-8
	5	1400	40	40	329	003	0.94	545.88	120	120	-17	-5	-8
	4	1405	41	40	338	003	0.93	548.92	120	120	-17	-5	-8
	4	1410	41	40	340	004	1.2	552.44	120	120	-17	-5	-8
	3	1415	41	41	347	003	0.92	555.46	120	120	-18	-7	-8
	3	1420	41	41	348	003	0.92	558.49	120	120	-18	-7	-8
	2	1425	41	41	339	002	0.62	560.98	120	120	-18	-7	-8
	2	1430	41	41	340	002	0.62	563.47	120	120	-18	-8	-8
	1	1435	42	41	338	002	0.62	565.94	120	120	-18	-8	-8
V	1	1440	42	41	320	002	0.64	568.48	120	120	-18	-8	-8

METHOD USED: EPS 1, RM-2

PARAMETER: Dioxins Furans

Tester Name: Grand Mathew

I certify the test data is accurate and complete.

I certify I have reviewed the test data.

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LCR 4.569.42 mttc-20 24g

APPENDIX V
CALIBRATION DATA



PITOT TUBE/PITOT CALIBRATION DATA SHEET

PITOT DESIGNATION

B061

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: March 1, 2021

Standard Pitot Reading - in. H ₂ O x 10	0.173	0.484	0.931
Test Pitot Reading - in. H ₂ O x 10	0.251	0.690	1.325

By: M. Wilson

Pitot Factor	0.822	0.829	0.830	0.827
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Using the SAIT Wind Tunnel

Averages

Deviations	0.005	-0.002	-0.003	0.003
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Acceptance Criteria

A cal only - Average deviation less than 0.01

Thermocouple Calibration

Reference Thermocouple ID

Reference Thermocouple Temperature (°C)

Test Thermocouple Temperature (°C)

Absolute Difference %

Run 1			Run 2		
Hot	Mid	Cold	Hot	Mid	Cold
AD4JG-1	AD4JG-2	AD4JG-3	AD4JG-1	AD4JG-2	AD4JG-3
86.0	55.0	3.0	86.0	54.0	2.0
87.0	56.0	3.0	86.0	54.0	2.0
-0.3%	-0.3%	0.0%	0.0%	0.0%	0.0%

Calibrated: August 4, 2021

By: D. Gabel

Reference Meter #: REF#3

Acceptance Criteria

Absolute temperatures to agree within 1.5%



PITOT TUBE/PITOT CALIBRATION DATA SHEET

PITOT DESIGNATION

B061

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: March 1, 2021

Standard Pitot Reading - in. H ₂ O x 10	0.173	0.484	0.931
Test Pitot Reading - in. H ₂ O x 10	0.251	0.690	1.325

By: M. Wilson

Pitot Factor	0.822	0.829	0.830	0.827
--------------	-------	-------	-------	-------

Using the SAIT Wind Tunnel

Averages

Deviations	0.005	-0.002	-0.003	0.003
------------	-------	--------	--------	-------

Acceptance Criteria

A cal only - Average deviation less than 0.01

Thermocouple Calibration

Reference Thermocouple ID

Reference Thermocouple Temperature (°C)

Test Thermocouple Temperature (°C)

Absolute Difference %

Run 1			Run 2		
Hot	Mid	Cold	Hot	Mid	Cold
AD4JG-1	AD4JG-2	AD4JG-3	AD4JG-1	AD4JG-2	AD4JG-3
92.0	48.0	1.0	93.0	49.0	1.0
94.0	46.0	2.0	94.0	48.0	1.0
-0.5%	0.6%	-0.4%	-0.3%	0.3%	0.0%

Calibrated: December 28, 2021

By: A. Mathew

Reference Meter #: 8620

Acceptance Criteria

Absolute temperatures to agree within 1.5%



EMS FCD-00022/4

Page 1 of 1

TRAIN DESIGNATION

ISO001

METER FACTOR

Y 1.017

Intercept 1.10

ORIFICE FACTOR

DH@ 1.490

Slope 0.329

DRY GAS METER CALIBRATION DATA

Date 06-May-21

By P. Vien

REF METER ID # 16055633

BP inHg 26.40

	VOLUME ft.^3	Tm C	DP in. H2O	
REFERENCE METER	4.700	22.0		Run One
DRY GAS METER	4.615	22.0	0.3	Y= 1.018
REFERENCE METER	7.600	24.0		Run Two
DRY GAS METER	7.390	22.0	0.9	Y= 1.019
REFERENCE METER	5.070	25.0		Run Three
DRY GAS METER	4.930	22.0	1.5	Y= 1.014

CALIBRATION CHECKS

Date: 30-Jul-21

By: L. Teghtsoonian

BP inHg: 26.3

REFERENCE METER

5.700

22.5

Ref ID # 16055633

DRY GAS METER

5.765

23.5

1.5

Y= 0.988

ORIFICE CALIBRATION DATA

Date: 06-May-21

By: P. Vien

Actual DH	VOLUME ft.^3	Tm C	TIME min.	CFM	K Value	Calculated DH@
0.25	0.35	25.0	2	0.180	0.842	1.305
0.50	0.48	25.0	2	0.243	0.805	1.425
1.00	0.72	25.0	2	0.364	0.855	1.265
2.00	0.84	25.0	2	0.429	0.713	1.821
4.00	1.26	25.0	2	0.638	0.752	1.636

DIGITAL DISPLAY TEMPERATURE CALIBRATION DATA

Date: 06-May-21

By: P. Vien

TEMP °C	1	2	3	4	5
0	2	2	2	1	2
100	102	102	103	102	102
200	201	202	203	202	202
300	300	301	301	300	303
400	401	401	402	401	403
500	501	501	501	501	503



EMS FCD-00022/4

Page 1 of 1

TRAIN DESIGNATION ISO001

METER FACTOR	Y	1.017	Intercept	1.10
ORIFICE FACTOR	DH@	1.490	Slope	0.329
THERMOCOUPLE ID #	0		Temperature	0.0

DRY GAS METER CALIBRATION DATA

Date 06-May-21 By P. Vien REF METER ID # 16055633
BP inHg 26.40

	VOLUME ft.^3	Tm C	DP in. H2O	
REFERENCE METER	4.700	22.0		Run One
DRY GAS METER	4.615	22.0	0.3	Y= 1.018
REFERENCE METER	7.600	24.0		Run Two
DRY GAS METER	7.390	22.0	0.9	Y= 1.019
REFERENCE METER	5.070	25.0		Run Three
DRY GAS METER	4.930	22.0	1.5	Y= 1.014

CALIBRATION CHECKS

Date: 28-Dec-21 By: A. Mathew BP inHg: 25.9
REFERENCE 25.000 23.5 Ref ID # 16055633
~~DRY GAS METER~~ 25.130 23.8 1.5 Y= 0.991

ORIFICE CALIBRATION DATA

Date: 06-May-21 By: P. Vien

Actual DH	VOLUME ft.^3	Tm C	TIME min.	CFM	K Value	Calculated DH@
0.25	0.35	25.0	2	0.180	0.842	1.305
0.50	0.48	25.0	2	0.243	0.805	1.425
1.00	0.72	25.0	2	0.364	0.855	1.265
2.00	0.84	25.0	2	0.429	0.713	1.821
4.00	1.26	25.0	2	0.638	0.752	1.636

DIGITAL DISPLAY TEMPERATURE CALIBRATION DATA

Date: 06-May-21 By: P. Vien

TEMP °C	1	2	3	4	5
0	2	2	2	1	2
100	102	102	103	102	102
200	201	202	203	202	202
300	300	301	301	300	303
400	401	401	402	401	403
500	501	501	501	501	503



**BUREAU
VERITAS**

EMS FCD-00023/3

Page 1 of 1

TRAIN DESIGNATION ABS005 Barometric Pres. = 26.20
CALIBRATION DATE January 12, 2021 By: G. RomeroVillasenor

DRY GAS METER CALIBRATION DATA

REF METER ID # 16055633 METER FACTOR 0.998 Y

	VOLUME ft. ³	Tm C	BP (in. Hg)	
REFERENCE METER	6.000	23.0		Run One
DRY GAS METER	6.110	27.5	26.20	Y= 0.997
REFERENCE METER	6.200	23.0		Run Two
DRY GAS METER	6.280	26.3	26.20	Y= 0.998
REFERENCE METER	7.000	22.5		Run Three
DRY GAS METER	7.190	30.2	26.20	Y= 0.999

CALIBRATION CHECKS

Date: 27-Jul-21 By: L. Teghtsoonian Ref ID # 16055633

REFERENCE METER	7.000	21		
DRY GAS METER	7.025	22	26.30	Y= 1.000



EMS FCD-00023/3

Page 1 of 1

TRAIN DESIGNATION	ABS005	Barometric Pres. =	26.20
CALIBRATION DATE	January 12, 2021	By:	G. RomeroVillasenor

DRY GAS METER CALIBRATION DATAREF METER ID # 16055633METER FACTOR 0.998 Y

	VOLUME ft. ³	Tm C	BP (in. Hg)		
REFERENCE METER	6.000	23.0		Run One	
DRY GAS METER	6.110	27.5	26.20	Y=	0.997
REFERENCE METER	6.200	23.0		Run Two	
DRY GAS METER	6.280	26.3	26.20	Y=	0.998
REFERENCE METER	7.000	22.5		Run Three	
DRY GAS METER	7.190	30.2	26.20	Y=	0.999

CALIBRATION CHECKS

Date: REFERENCE	28-Dec-21	By: A. Mathew	Ref ID #	16055633
METER	25.000	23.5		
DRY GAS METER	25.130	23.8	25.93	Y= 0.996



BUREAU
VERITAS

EMS FCD-00023/3

Page 1 of 1

TRAIN DESIGNATION

ABS010

Barometric Pres. =

26.20

CALIBRATION DATE

January 11, 2021

By:

L. Teghtsoonian

DRY GAS METER CALIBRATION DATA

REF METER ID # 16055633

METER FACTOR 1.009 Y

	VOLUME ft. ³	Tm C	BP (in. Hg)	
REFERENCE METER	5.800	22.5		Run One
DRY GAS METER	5.890	28.3	26.20	Y= 1.004
REFERENCE METER	5.300	22.5		Run Two
DRY GAS METER	5.410	29.5	26.20	Y= 1.003
REFERENCE METER	6.000	23.0		Run Three
DRY GAS METER	5.930	25.3	26.20	Y= 1.019

CALIBRATION CHECKS

Date: 26-Jul-21

By: L. Teghtsoonian

Ref ID # 16055633

REFERENCE METER	5.500	22		
DRY GAS METER	5.450	23	26.30	Y= 1.014



EMS FCD-00023/3

Page 1 of 1

TRAIN DESIGNATION	ABS010	Barometric Pres. =	26.20
CALIBRATION DATE	January 11, 2021	By:	L. Teghtsoonian

DRY GAS METER CALIBRATION DATA

REF METER ID # 16055633

METER FACTOR 1.009 Y

	VOLUME ft. ³	Tm C	BP (in. Hg)	
REFERENCE METER	5.800	22.5		Run One
DRY GAS METER	5.890	28.3	26.20	Y= 1.004
REFERENCE METER	5.300	22.5		Run Two
DRY GAS METER	5.410	29.5	26.20	Y= 1.003
REFERENCE METER	6.000	23.0		Run Three
DRY GAS METER	5.930	25.3	26.20	Y= 1.019

CALIBRATION CHECKS

Date: REFERENCE	28-Dec-21	By: A. Mathew	Ref ID #	16055633
METER	11.500	21.0		
DRY GAS METER	12.300	21.5	25.93	Y= 0.937



**BUREAU
VERITAS**

EMS FCD-00023/3

Page 1 of 1

TRAIN DESIGNATION

ABS013

Barometric Pres. =

26.19

CALIBRATION DATE

October 6, 2021

By:

G. RomeroVillasenor

DRY GAS METER CALIBRATION DATA

REF METER ID # 16055633

METER FACTOR 1.007 **Y**

	VOLUME	Tm	BP		
	ft.³	C	(in. Hg)		
REFERENCE METER	5.600	21.0		Run One	
DRY GAS METER	5.625	24.0	26.19	Y=	1.006
REFERENCE METER	5.100	21.0		Run Two	
DRY GAS METER	5.130	24.6	26.19	Y=	1.006
REFERENCE METER	6.000	21.5		Run Three	
DRY GAS METER	6.020	25.0	26.19	Y=	1.009



FIELD BAROMETER CALIBRATION CHECK FORM¹

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

Field Barometer #:		50		Analyst:			AM	
Date:		Aug 13 - 2021		Print Name:			Armand Mutha	
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		
05								
05545	874	25.8	←	25.8	N/A	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 0.1 in Hg/100 ft elevation. For Edmonton, subtract 2.2 in Hg. For Calgary, 3.6 in Hg.

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



FIELD BALANCE VERIFICATION FORM

Balance # 30Analyst: AMDate: Aug 13-2021Name: David M. Allen

Standard Weight (g)	Field Balance Reading (g)	Corrective Action
100g	100g	~ 1
500g	500g	↓
1000g	1000g	

Balance # 26Analyst: AMDate: Aug 13-2021Name: David M. Allen

Standard Weight (g)	Field Balance Reading (g)	Corrective Action
100g	101g	~ 1
500g	500g	↓
1000g	1002g	

Notes:

- Balance is to be checked once at the start of work week by checking 3 standard weights.
- 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.
- 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%:

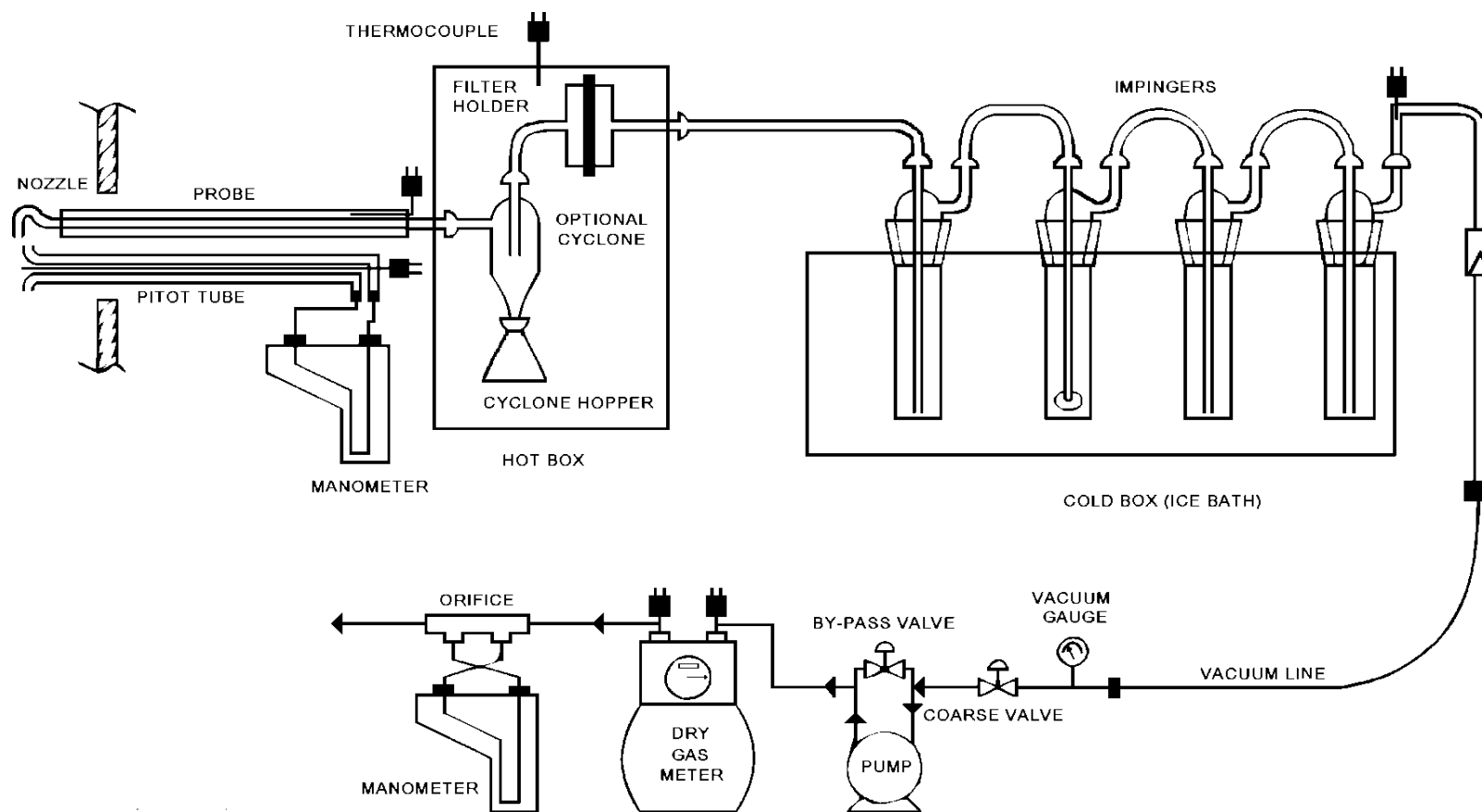
$$\begin{aligned} \text{Upper limit} &= (\text{weight} + (\text{weight} \times 0.02)) \\ &= 1000 + (1000 \times 0.02) \\ &= 1020 \end{aligned}$$

$$\begin{aligned} \text{Lower limit} &= (\text{weight} - (\text{weight} \times 0.02)) \\ &= 1000 - (1000 \times 0.02) \\ &= 980 \end{aligned}$$

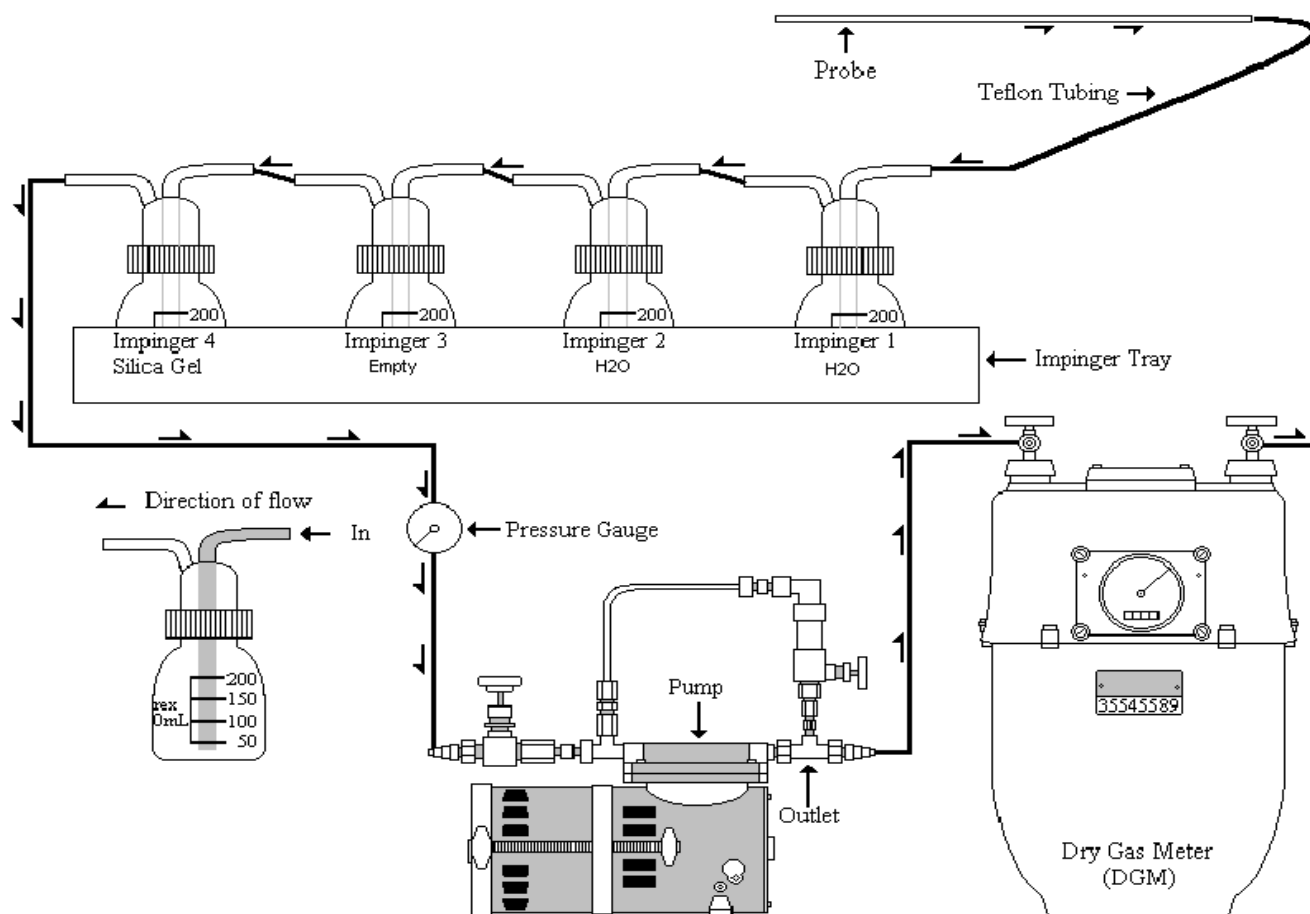
Weight (g)	Acceptable Range (g)
1000	980-1020

APPENDIX VI
SAMPLING DIAGRAMS

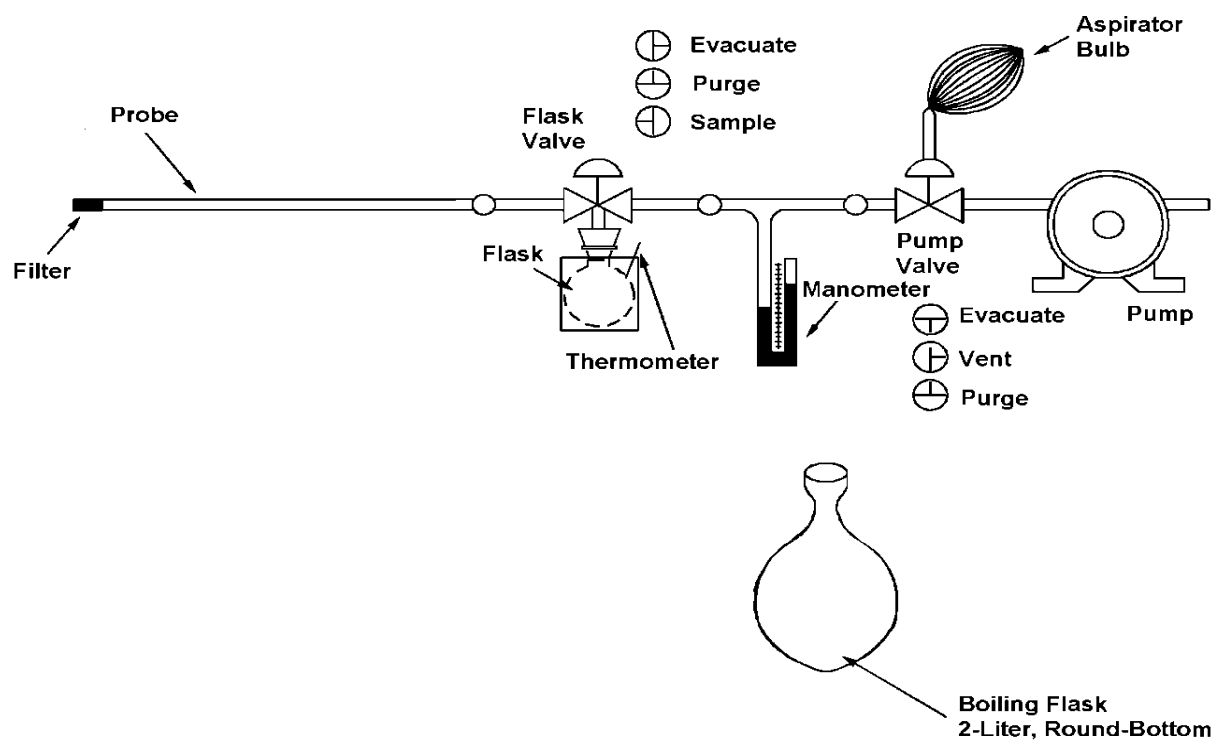
Basic Isokinetic Train



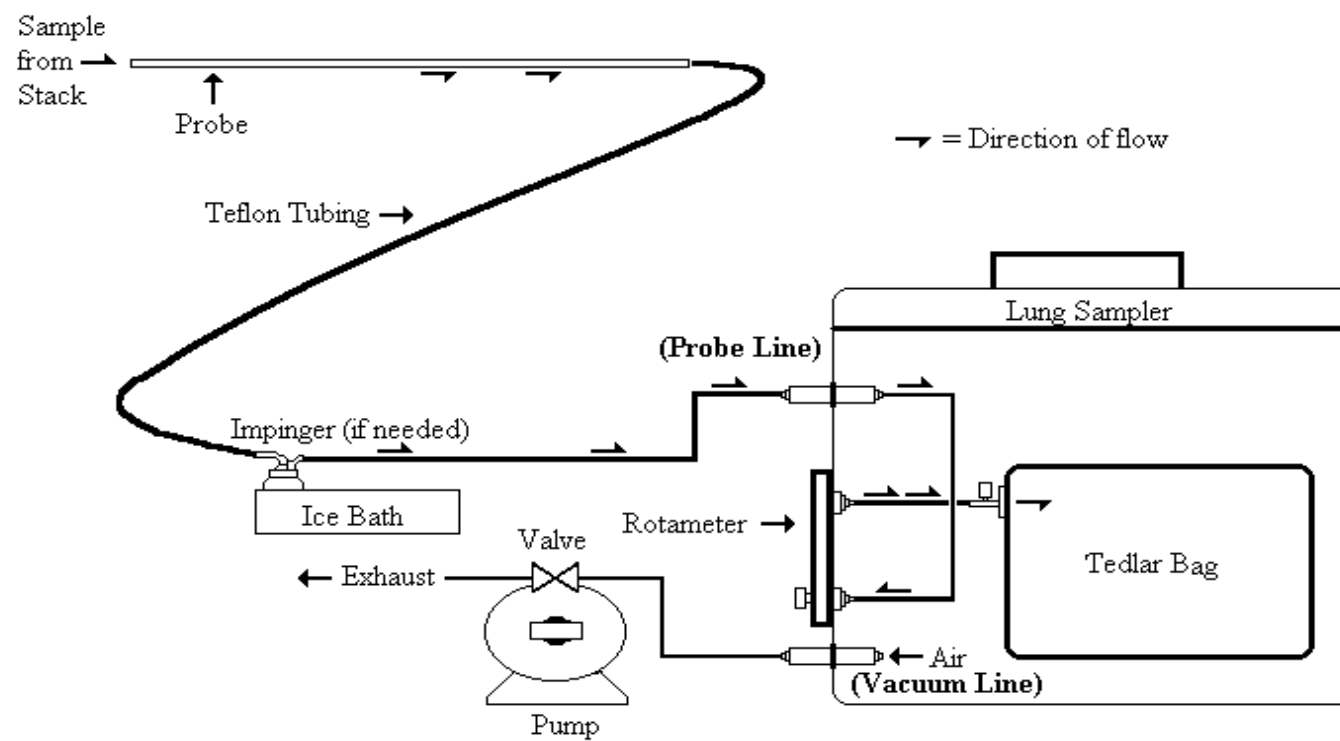
Basic Absorption Train



Oxides of Nitrogen – Grab Sampling Train

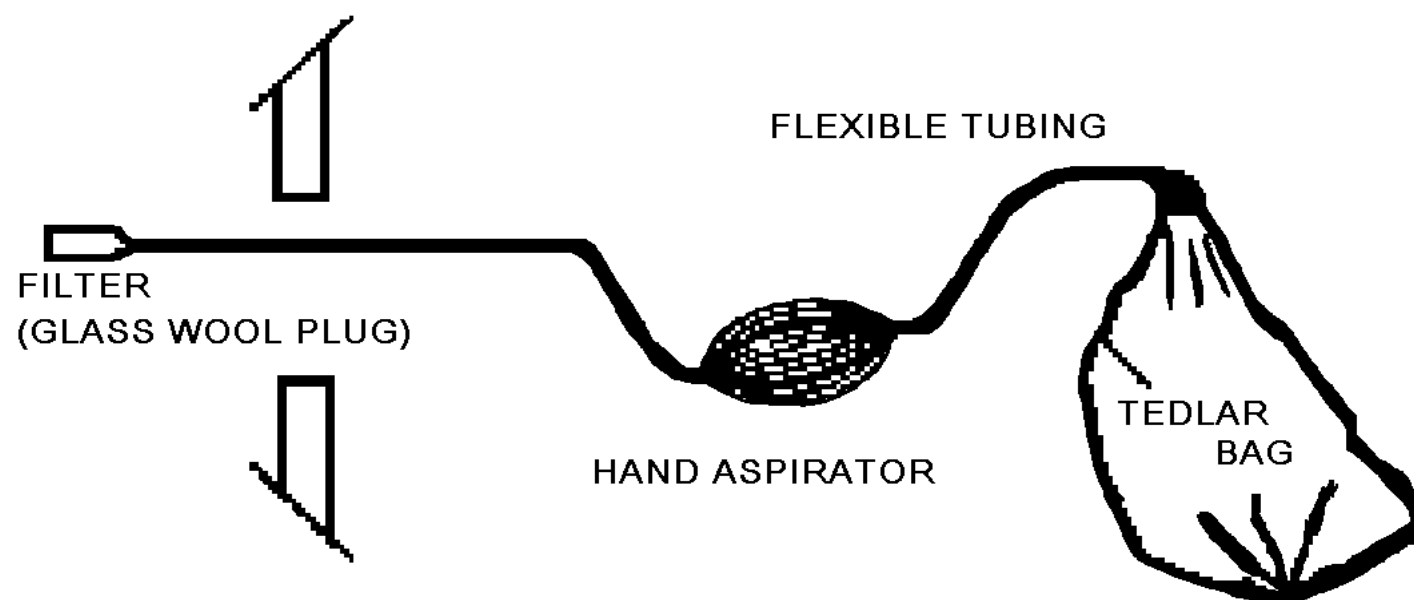


Integrated Bag Sampling Train

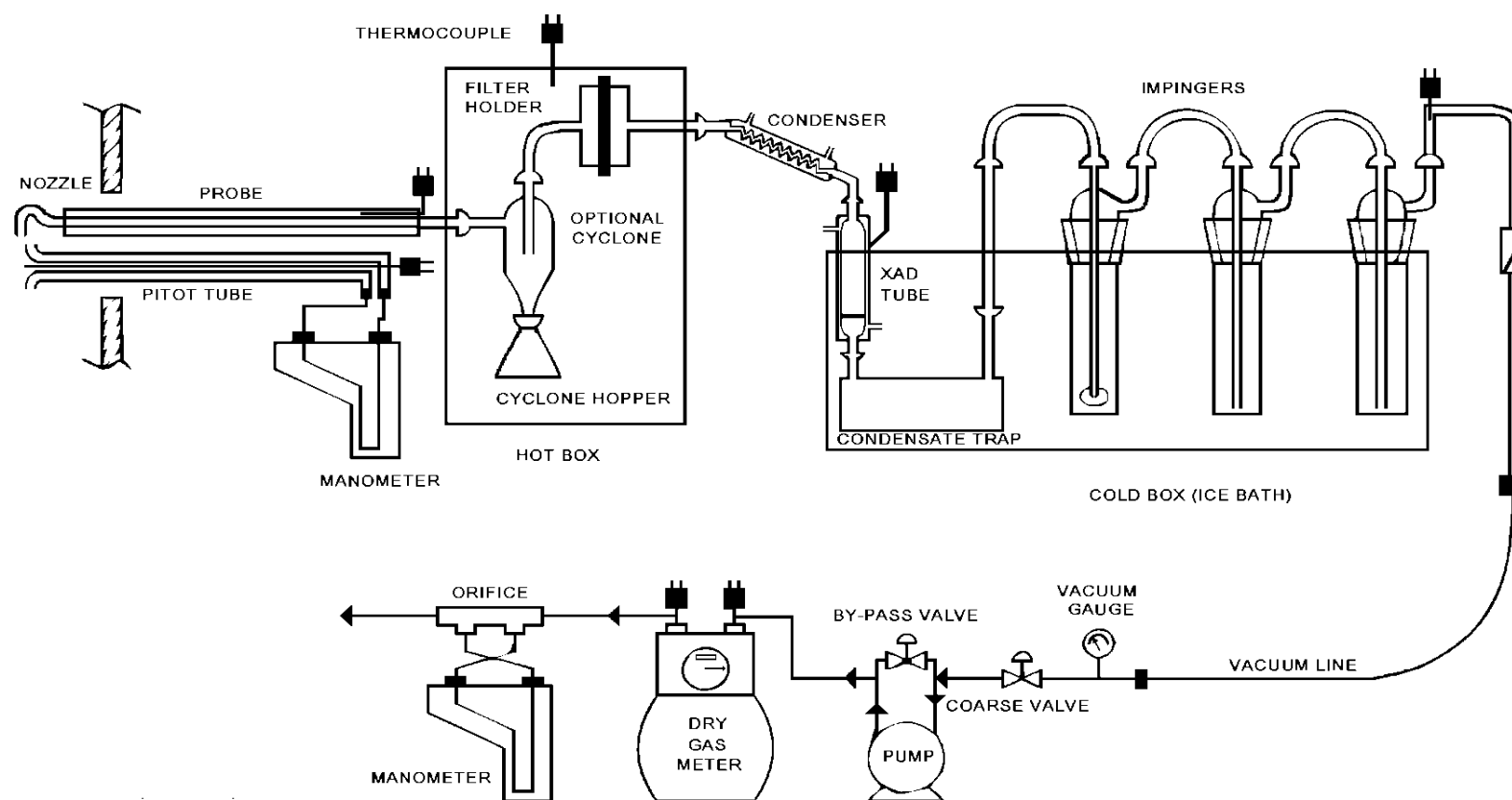




Grab Bag Sampling Train



Organics Sampling Train



APPENDIX VII
SES CALCULATIONS

CALCULATIONS

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

$L = ft^3 \times 28.316846592$	$ft^3 = \frac{L}{28.316846592}$	$m^3 = scf \times 0.02831685$
$K = ^\circ C + 273.15$	$g/m^3 = \frac{g}{ft^3} \times 35.3146625$	$lb/ft^3 = \frac{g}{ft^3} \times 2.20462 \times 10^{-3}$
$Barometric\ Pressure_{mmHg} = Barometric\ Pressure_{inHg} \times 25.4$		$Test\ Angle = 90^\circ - Null\ Angle$
$Stack\ Pressure_{mmHg} = Barometric\ Pressure_{mmHg} + Static\ Pressure_{mmHg}$		$Static\ Pressure_{mmHg} = \frac{Static\ Pressure_{inH2O}}{13.6} \times 25.4$
$Stack\ Diameter_m = Stack\ Diameter_{in} \times 0.0254$		$Stack\ Area_m = \left(\frac{Stack\ Diameter_m}{2} \right)^2 \times \pi$
$Absolute\ Stack\ Pressure_{mmHg\ (in,\ Hg)} = P_{bar} + P_g$ $P_{bar} = Barometric\ pressure\ at\ measurement\ site_{mmHg\ (in,\ Hg)}$ $P_g = Stack\ pressure_{mmHg\ (in,\ Hg)}$		
$Molecular\ Weight_{dry} = (0.44 \times \%CO_{2\ dry}) + (0.32 \times \%O_{2\ dry}) + (0.28 \times \%N_{2\ dry} + \%CO_{dry})$		
$Dry\ Flow\ Rate_{m^3/s} = (1 - \%H_2O) \times (Velocity_{m/s}) \times (Stack\ Area_{m^2}) \times \left(\frac{(Standard\ Temp\ 25^\circ C + 273.15) \times Stack\ Pressure_{mmHg}}{(Stack\ Temp_{^\circ C} + 273.15) \times 760} \right)$		
$Wet\ Flow\ Rate_{m^3/s} = (Velocity_{m/s}) \times (Stack\ Area_{m^2}) \times \left(\frac{(Standard\ Temp\ 25^\circ C + 273.15) \times Stack\ Pressure_{mmHg}}{(Stack\ Temp_{^\circ C} + 273.15) \times 760} \right)$		
$Dry\ Gas\ Volume_{ft^3} = Final\ Meter\ Volume_{ft^3} - Initial\ Meter\ Volume_{ft^3}$		

CALCULATIONS

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

$\text{Dry Gas Volume}_{m3 @ ref cond} = 0.392303 \times \text{Dry Gas Meter Cal Factor} \times \left(\frac{(\text{Dry Gas Volume}_{ft3} \times 0.0283) \times \text{Barometric Pressure}_{mmHg}}{(\text{Meter Temp}_{°C} + 273.15)} \right)$	
$\text{Stack Gas Molecular Weight}_{wet} = M_d(1 - B_{ws}) + 18.0 B_{ws}$	
$B_{ws} = \text{Water vapour in the gas stream, proportion by volume}$ $M_d = \text{Molecular weight of stack gas, dry basis, } g/g - \text{mole } (lb/lb - \text{mole})$	
$K_1 = \frac{\rho_{H2O} T_{std}}{P_{std} M_w}$ $K_2 = \frac{R T_{std}}{P_{std} M_w}$ $K_3 = \frac{T_{std}}{P_{std}}$	$\text{Metric } K_1 = 0.00135517_{m3/mL}$ $\text{English } K_1 = 0.04785732_{cf3/mL}$ $\text{Metric } K_2 = 0.00135919_{m3/g}$ $\text{English } K_2 = 0.04799921_{cf3/g}$ $\text{Metric } K_3 = 0.39230263_{K/mmHg}$ $\text{English } K_3 = 17.9375_{°R/in. Hg}$ $P_{std} = 760_{mmHg} = 29.92_{in. Hg}$ $T_{std} = 298.15_K = 536.69_{°R}$ $M_w = 18.0_{g/g - mol} (lb./lb. - mol)$ $1 lb_{mass} = 453.5924_{gmass}$ $\rho_{H2O} = 0.997044_{g/mL} = 0.00219811_{lb./mL}$ $\text{English } R = 21.8479358_{in. Hg cf3 R - 1 lb. - mol - 1}$ $\text{Metric } R = 0.062363683_{mmHg L K - 1 g - mol - 1}$
$M_{s, wet} = (1 - B_{ws})M_{s, dry} + 18 B_{ws}$	
$B_{ws} = \text{water vapour in the gas stream, proportion by volume}$ $M_{s, wet} = \text{molecular weight of stack gas, wet basis}$ $M_{s, dry} = \text{molecular weight of stack gas, dry basis}$	
$ER^{wet}_{kg/1000kg(std)} = 0.0244654 \frac{m_n}{(V_{m, std} - V_{w, std}) M_{s, wet}}$	$ER^{dry}_{kg/1000kgstd} = 0.0244654 \frac{m_n}{V_{m(std)} M_{s, dry}}$
$V_s = K_p C_p (\sqrt{\Delta P_{avg}}) \sqrt{\frac{T_{s(avg)}}{P_s M_s}}$	$v_s = \text{average stack gas velocity, } m/s (ft/s)$ $C_p = \text{pitot tube coefficient}$ $K = \text{pitot tube constant}$ $M_s = \text{molecular weight of stack gas, wet basis, } g/g - \text{mole } (lb./lb. - \text{mole})$ $T_s = \text{Absolute stack temperature, } K (°R)$ $P_s = \text{Absolute stack pressure, } mmHg (in. Hg)$ $\Delta P = \text{Velocity head of stack gas, } mmH2O (in. H2O)$
$Q_{sd} = 3600 (1 - B_{ws}) V_s A \left[\frac{T_{std} P_s}{T_{s(avg)} P_{std}} \right]$ $Q_{sd} = \text{average stack gas dry volumetric flow rate}$	$Q_{sw} = 3600 V_s A \left[\frac{T_{std} P_s}{T_{s(avg)} P_{std}} \right]$ $Q_{sw} = \text{average stack gas wet volumetric flow rate}$
$\text{standard deviation}_{(A OR B)} = \frac{\sum_1^3 C_p(s) - C_{p(A OR B)} }{3} \leq 0.01$	$\% \text{ deviation} = \frac{(Q - Q_{avg})}{Q_{avg}} \times 100 \text{ (Must be } \leq 10\% \text{)}$

CALCULATIONS

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

$V_{wc(std)} = \frac{(V_f - V_i) \rho_w R T_{std}}{P_{std} M_w}$ $V_{wc(std)} = \text{volume of wate vapour condensed}$		$V_{wsg(std)} = \frac{(W_f - W_i) R T_{std}}{P_{std} Mw}$ $V_{wsg(std)} = \text{volume of water collected in silica gel}$	
$V_{m(std)} = V_m Y \frac{P_m T_{std}}{P_{std} T_m}$	$V_{m(std)} = Vm Y \frac{P_m T_{std}}{P_{std} T_m}$		$B_{ws} = \frac{V_{wc(std)} + V_{wsg(std)}}{V_{wc(std)} + V_{wsg(std)} + V_{m(std)}}$
$V_{ws(std)} = \frac{(V_f - V_i) \rho_w R T_{std}}{P_{std} M_w}$	$B_{ws} = \frac{V_{wc(std)}}{V_{wc(std)} + V_{m(std)}} + B_{wm}$		$V_{m(std)} = V_m Y \frac{T_{std} (P_{bar} + \frac{\Delta H}{13.6})}{T_m P_{std}}$
$V_{w(std)} = V_{lc} \frac{\rho_w R T_{std}}{M_w P_{std}}$	$B_{ws} = \frac{V_{w(std)}}{V_{m(std)} + V_{w(std)}}$		$C_{sw} = 0.001 m_n/[V_{m(std)} + V_{w(std)}]$ $C_{sw} = \text{particulate concentration, wet basis}$
$C_a = \frac{m_a}{V_a \rho_a}$ $W_a = C_a V_{aw} \rho_a$ $C_a = \text{acetone blank concentration}$ $W_a = \text{acetone wash blank}$			$C_{sd} = 0.001 mn/Vm_{(std)}$ $C_{sd} = \text{particulate concentration, dry basis}$
$ER^{dry}_{Particulate (std)} = [Q_{sd} C_{sd}]/1000$ $ER^{dry} = \text{emission rate, dry basis}$		$ER^{wet}_{particualte (std)} = [Q_{sw} C_{sw}]/1000$ $ER^{wet} = \text{emission rate, wet basis}$	
$m_c = K Cso_2 V_{ic}$ $m_c = \text{correction for } NH_4^+ \text{ and } H_2O$ $\text{where } K = 0.0205, \text{when correcting for } NH_4^+ \text{ and } H_2O$ $= 0.1840, \text{when only correcting for } NH_4^+$			
$m_i = m_r \frac{V_{ic}}{V_{ic} - V_b} - m_c$		$m_i = \text{Mass of inorganic CPM matter, mg}$ $m_r = \text{Mass of dried sample from inorganic fraction, mg}$ $V_{ic} = \text{Volume of impinger contects sample, mL}$ $V_b = \text{Volume of aliquot taken for IC analysis, mL}$ $m_c = \text{Mass of the } NH_4^+ \text{ added to sample to form ammonium sulphate, mg}$	
$C_{cpm} = \frac{m_o + m_i - m_b}{V_{m, std}}$		$C_{cpm} = \text{concentration of CPM}$ $m_o = \text{Mass of organic CPM, mg}$ $m_b = \text{Sum of the mass of the water and } M_e Cl_2 \text{ blanks, mg}$	

CALCULATIONS

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

$C_{so4} = \frac{48.03 V_t N}{100}$	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
$C_{cpm} = \frac{m_o + m_i + m_f - m_b}{V_{m, std}}$	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 condntions (dry basis), mL V_f = Volume of flask and valve, mL V_a = Volume of absorbing solution, mL
$C_{NOx, dry} = K_2 (m/V_{sc})$ $C_{NOx, wet} = (1 - B_{ws}) C_{NOx, dry}$	$C_{NOx, dry}$ = Sample Concentration, Dry Basis $C_{NOx, wet}$ = Sample Concentration, wet Basis K_2 = 1000 (mg/m^3) / ($\mu g/mL$) 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
$V_{m(std)} = V_m X Y (T_{std}/T_m) (P_{bar}/P_{std})$	$V_{m(std)}$ = Dry gas volume, standard conditions, dm^3 V_m = Dry gas volume as measred by the dry gas meter, dm^3 X = Correction factor for CO_2 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
$C_{NOx, dry} = K (m / V_{m(std)})$	$C_{NOx, wet} = (1 - B_{ws}) C_{NOx, dry}$
$C^{dry}_{H_2SO_4} = K_1 \left[N (V_t - V_{tb}) \left(\frac{V_{soln}}{V_a} \right) \right] / V_{m(std)}$	$ER^{dry}_{H_2SO_4(std)} = (Q_{sd}) (C^{dry}_{H_2SO_4})$
$C^{wet}_{H_2SO_4} = K_1 \left[N (V_t - V_{tb}) \left(\frac{V_{soln}}{V_a} \right) \right] / [V_{m(std)} + V_{w(std)}]$ $K_1 = 0.04904 g/milliequivalent \text{ for metric units}$	$C^{dry}_{SO_2} = K_2 \left[N (V_t - V_{tb}) \left(\frac{V_{soln}}{V_a} \right) / V_{m(std)} \right]$ $K_2 = 0.03203 g/meq \text{ for metric units}$

CALCULATIONS

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

$ER_{wet\ H_2SO_4(std)} = (Q_{sw}) (C_{wet\ H_2SO_4})$	$ER_{dry\ SO_2(std)} = (Q_{sd}) (C_{dry\ SO_2})$
$C_{wet\ SO_2} = K_2 \left[N(V_t - V_{t_b}) \left(\frac{V_{soln}}{V_a} \right) \right] / [V_{m(std)} + V_{w(std)}]$	$ER_{wet\ SO_2(std)} = (Q_{sw}) (C_{wet\ SO_2})$
$C_{co(stack)} = C_{co(NDIR)} (1 - F_{CO_2})$	$C_{co(stack)} = \text{Concentration of CO in stack, ppmv dry basis}$ $C_{co(NDIR)} = \text{Concentration of CO measured by NDIR analyzer, ppmv dry basis}$ $F_{CO_2} = \text{Volume fraction of CO}_2 \text{ in sample}$
$Q_1 = Q_2 \sqrt{\frac{P_2 T_1}{P_1 T_2}}$	$Q_1 = \text{Flow rate at calibration absolute temperature (T1) and absolute pressure (P1)}$ $Q_2 = \text{Flow rate at new absolute temperature (T2) and new absolute and pressure (P2)}$
$C_a = 106 \frac{\bar{X}_a q_a}{q_a + q_d}$	$C_a = \text{Concentration of component "a" in ppm}$ $\bar{X}_a = \text{Mole fraction of component "a" in the calibration gas to be diluted}$ $q_a = \text{Flow rate of the calibration gas containing mg component "a" at measured T and P}$ $q_d = \text{Diluent gas flow at measured temperature and pressure}$
$C_{std\ sol} = \frac{760}{273} \frac{L_v L_d}{M_f - M_i (P_{bar} + P_m)} 1000 \frac{mg}{g}$	$C_{std\ sol} = \text{Standard solvent concentration, mg/std litre}$ $L_v = \text{Liquid volume injected, L}$ $L_d = \text{Liquid density at room temperature, g/mL}$ $M_f, M_i = \text{Final and initial meter reading, L}$ $P_m = \text{Meter pressure (gauge), mm Hg}$
$\Delta P = \frac{0.01 F P_b \theta}{V_t}$	$\Delta P = \text{Allowable pressure change, cm Hg}$ $F = \text{Sampling flow rate, cc/min}$ $P_b = \text{Barometric pressure, cm Hg}$ $\theta = \text{Leak Check period, min}$ $V_t = \text{Sampling train volume, cc}$
$V_s = 0.3857 V \left[\frac{P_t}{T_t} - \frac{P_{ti}}{T_{ti}} \right]$	$V_s = \text{Gas volume sampled, dsm3}$ $P_t = \text{Gas sample tank pressure after sampling, but before pressurizing, mm Hg absolute}$ $P_{ti} = \text{Gas sample tank pressure before sampling, mm Hg absolute}$ $T_t = \text{sample tank temperature at completion of sampling, K}$ $T_{ti} = \text{Sample tank temperature before sampling, K}$

CALCULATIONS

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

$C_c = \frac{\left(\frac{P_{tf}}{T_{tf}}\right) \frac{1}{r} \sum_{j=1}^r C_{tmj}}{\left(\frac{P_t}{T_t} - \frac{P_{ti}}{T_{ti}}\right)}$ $C_c = 0.3857 \left(\frac{V_v P_f}{V_s T_f}\right) \frac{1}{q} \sum_{k=1}^q C_{cmk}$	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, m ³ 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 noncondensable organic concentration (sample tank) of the effluent, ppm C equivalent
$\% \text{ recovery} = 1.604 \frac{M V_v P_f C_{cm}}{L_r T_f N}$	M = Molecular weight of the liquid injected, g/g - mole C_{cm} = Measured concentration (NMO analyzer) for the condensate trap ICV, ppm CO ₂ 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, µg 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
$m_{x2} = 2 V_s (S_x - B_x)$	$C = K_m H_{X, X2} / V_{m(std)}$
$ERTRS = 1.41 * QS * CTRS * 10^{-6}$	$ERTRS$ = Emission Rate of TRS compound, (as H ₂ S) kg/hr $CTRS$ = Concentraion of TRS compund, ppm QS = total flow rate of stack gas, dry, m ³ /h
$TRS \text{ concentration} = (x)H_2S + (x)CH_3SH + (x)DMS + (x)DMDS$	$(x)H_2S$ = hydrogen sulphide concentration (ppm) $(x)CH_3SH$ = methly mercaptan concentration (ppm) $(x)DMS$ = dimethyl sulphide concentration (ppm) $(x)DMDS$ = dimethyl disulphide concentration (ppm)
$ERTRS = \frac{CTRS * QS * 34 * 3600 * 0.450}{1000,000 * 386.7}$	$CTRS = (x)H_2S + (x)COS + 2(x)CS_2$

CALCULATIONS

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

$B = S_m - CS$	B = Bias at the spike level S_m = Mean of the measured values of the isotopically spiked samples CS = 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 i th field sample n = number of isotopically spiked samples
$RSD = \left(\frac{SD}{S_m}\right) \times 100$	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 measured value of the validated method in i th test sample P_{1i} = first measured value of the proposed method in the i th test sample
$P_b = P_a + \rho' g \Delta P$	$v_a = \sqrt{\frac{2\rho' g \Delta P}{\rho}}$ ΔP = pressure differential ρ = density of the fluid in the manometer $g = 32.174 \text{ ft/s}$
$C_{p(s)} = C_{p(std)} \sqrt{\frac{\Delta P_{std}}{\Delta P_s}}$	$C_{p(std)}$ = gas velocity using a standard pitot tube $C_{p(s)}$ = velocity measured with an S – type Pitot tube if the value of $C_{p(s)}$ is known
$Q_n = Q_m \frac{P_m T_s}{P_s T_m} \left(\frac{(1 - B_{wm})}{(1 - B_{ws})} \right)$ $Q_m = K_m \sqrt{\frac{T_m \Delta H}{P_m M_m}}$ $D_n = \sqrt{\frac{(0.035 Q_m P_m)(1 - B_{wm}) \sqrt{T_{sMs}}}{(T_m C_p)(1 - B_{ws}) P_s \Delta p}}$	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) 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 ΔH = average pressure differential across the orifice meter, $\text{mm H}_2\text{O (in. H}_2\text{O)}$ D_n = nozzle diameter C_p = pitot tube coefficient Δp = differential pressure

CALCULATIONS

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

$\% \text{ isokinetic} = \frac{\text{stack gas velocity}}{\text{gas velocity in the nozzle}} \times 100$	$\text{Velocity at the sampling nozzle} = \frac{\text{volumetric flow rate of the gas}}{\text{cross sectional area of the nozzle}}$
$v_s = K_p C_p \sqrt{\frac{T_s \Delta p}{P_s M_s}}$	$v_s = \text{average stack gas velocity, } m/s \text{ (ft/s)}$ $K_p = \text{pitot tube constant} = 34.9219411^s$ $C_p = \text{pitot tube coefficient}$ $M_s = \text{molecular weight of stack gas, wet basis}$
$V_{sw} = \frac{T_s m_{H2O}}{P_s M_{H2O}}$	$V_{sw} = \text{volume of water converted to gas at stack conditions}$ $m_{H2O} = \text{mass of water collected in the impingers}$
$\% \text{ isokinetic} = 100 \frac{T_s \left(V_{IC} K + \frac{V_m}{T_m} \left(P_b + \frac{\Delta H}{13.6} \right) \right)}{60 \theta A_n v_s P_s}$	$V_{IC} = \text{liquid water condensed in impingers}$ $P_b = \text{barometric pressure, mmHg (in. Hg)}$ $\Delta H = \text{average pressure differential across the orifice meter, mm H2O (in. H2O)}$ $A_n = \text{cross sectional area of the nozzle}$
$P = \frac{50 \left(D - 2R \sqrt{\frac{2j-1}{2N}} \right)}{D}$	$P = \% \text{ of diameter from inside duct wall to radius}$ $N = \text{total number of equal areas}$ $j = \text{specific are for which the location of points is calculated}$
$E_D = 4RH = 2 \left(\frac{LW}{L+W} \right)$	$E_D = \text{equivalent diameter}$ $R_H = \text{hydraulic radius}$

APPENDIX VIII
SAMPLE CUSTODY



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

Page: 2 of 4

Invoice To: Require Report: Y: ☒ 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

PO#:

Project #: 2193

Quotation #:

Proj. Name: Agnico Eagle Mines Limited - Baker Lake, Nunavut

Location: Incinerator Stack - Meadowbank 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)
☒ REGULAR Turnaround

REPORT DISTRIBUTION:

- ☐ Mail (automatic)
☐ PDF
☒ Email: bill.wong@bureauveritas.com

ANALYSIS REQUESTED

EPA Method 29

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

Sample Identification	Tracking ID	Test	Sample Date	Bottle Types															
Container #4 - H2O2/HNO3 - Impinger 1-3	18585	Test 1	2021-09-18		X														
Container #4 - H2O2/HNO3 - Impinger 1-3	18586	Test 2	2021-09-19		X														
Container #4 - H2O2/HNO3 - Impinger 1-3	18587	Test 3	2021-11-20		X														
Container #4 - H2O2/HNO3 - Impinger 1-3	18588	Test 4	2021-11-28		X														
Container #9 - H2O2/HNO3	18589	Blank	2021-11-28		X														
Container #5A - 0.1 N HNO3 - Impinger 4	18590	Test 1	2021-09-18		X														
Container #5A - 0.1 N HNO3 - Impinger 4	18591	Test 2	2021-09-19		X														
Container #5A - 0.1 N HNO3 - Impinger 4	18592	Test 3	2021-11-20		X														
Container #5A - 0.1 N HNO3 - Impinger 4	18593	Test 4	2021-11-28		X														
Container #8B - H2O	18594	Blank	2021-11-28		X														

Relinquished By: Jackson Le

Signature:

Date/Time: 2021-12-21

Received By: Bernard Widjaya

Signature: _____

Date/Time: 2021/12/24 07:29

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

Revision #2,
March 17, 1999Chain of Custody #: 211221-02 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

Page: 3 of 4

Invoice To: Require Report: Y: ☒ 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 #: 2193

Quotation #:

Proj. Name: Agnico Eagle Mines Limited - Baker Lake, Nunavut

Location: Incinerator Stack - Meadowbank 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)
☒ REGULAR Turnaround

REPORT DISTRIBUTION:

- ☐ Mail (automatic)
☐ PDF
☒ Email: bill.wong@bureauveritas.com

ANALYSIS REQUESTED

EPA Method 29
7021-12-21**** NOTE: Please keep samples for 60 Days after analysis is completed unless otherwise noted.**

Sample Identification	Tracking ID	Test	Sample Date	Bottle Types															
Container #5B - H2SO4/KMnO4 - Imp. 5/6	18595	Test 1	2021-09-18		x														
Container #5B - H2SO4/KMnO4 - Imp. 5/6	18596	Test 2	2021-09-19		x														
Container #5B - H2SO4/KMnO4 - Imp. 5/6	18597	Test 3	2021-11-20		x														
Container #5B - H2SO4/KMnO4 - Imp. 5/6	18598	Test 4	2021-11-28		x														
Container #10 - H2SO4/KMnO4	18599	Blank	2021-11-28		x														
Container #5C - HCl/H2O - Impinger. 5/6	18600	Test 1	2021-09-18		x														
Container #5C - HCl/H2O - Impinger. 5/6	18601	Test 2	2021-09-19		x														
Container #5C - HCl/H2O - Impinger. 5/6	18602	Test 3	2021-11-20		x														
Container #5C - HCl/H2O - Impinger. 5/6	18603	Test 4	2021-11-28		x														
Container #11 - 8N HCl/H2O - Impinger. 5/6	18604	Blank	2021-11-28		x														

Relinquished By: Jackson Le

Signature:

Date/Time: 2021-12-21

Received By: Bernard W. D. J. J.

Signature: _____

Date/Time: 2021/12/21 07:29

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

Revision #2,
March 17, 1999Chain of Custody #: 211221-02 Form #EAD-037
G:\users\forms\General\Chain of Custody-Analytical Request R2



0202255

PO#:	
Project # :	2193
Quotation #:	
Proj. Name:	Agnico Eagle Mines Limited - Baker Lake, Nunavut
Location:	Incinerator Stack - Meadowbank Site
Sampler's Initials:	

[illegible]

5.7 / 5.7 / 5

Page 210 of 219



Page: 2 of 3

PO#:	
Project # :	2193
Quotation #:	
Proj. Name:	Agnico Eagle Mines Limited - Baker Lake, Nunavut
Location:	Incinerator Stack - Meadowbank Site
Sampler's Initials:	

Page 211 of 219



Chain of Custody / Analytical Request

Page: 1 of 2

Calgary: 2021 - 41st Avenue NE, T2E 6T7. Ph: (403) 219-3690, Fax: (403) 219-3673, Toll free: (800) 386-7247Edmonton: 9372 - 49th Street, T6B 2L7, Ph: (780) 408-5302, Fax: (780) 408-5313, Toll free: (800) 386-7247

Project #:	2193
Client Name:	Agnico
Site Name:	Meadowbank
Stack Name:	Incinerator Stack
Sampler's Name:	Anand mathew

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

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:	Anand Mathew
Signature:	
Date:	2021/10/05

Report Writer:	0
e-mail:	0

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

Analytical Request (Indicate Preferred Method)

AENV Method 7A - Flask - NOx	AENV Method 8 - Constant - SO2	AENV Method 26 - Constant - Halide							
------------------------------	--------------------------------	------------------------------------	--	--	--	--	--	--	--

Received by:	QUH WONG (Print name)
Signature:	
Date:	2021-10-05

Comments:

Sample Identification	Test #	Label #	Date Sampled	Sample Vol.	Lab ID #	AENV Method 7A - Flask - NOx	AENV Method 8 - Constant - SO2	AENV Method 26 - Constant - Halide						
NOX SOLUTION BLANK					175 84									
3% H2O2 BLANK					87									
0.1N NaOH					93									
0.1 N H2SO4 Blank					90									
M7A NOx BOMB	1A	73	2021/09/18		80	x								
M7A NOx BOMB	1B	76	2021/09/18		81	x								
M7A NOx BOMB	2A	58	2021/09/19		82	x								
M7A NOx BOMB	2B	53	2021/09/19		83	x								
M8 SO2 SAMPLE	1	053897	2021/09/18	255	85		x							
M8 SO2 SAMPLE	2	053005	2021/09/19	258	86		x							
M26 H2SO4	1	053861	2021/09/18	158	88			x						
M26 H2SO4	2	053007	2021/09/19	160	89			x						
M26 NaOH	1	053866	2021/09/18	156	91			x						
M26 NaOH	2	053003	2021/09/19	150	92			x						

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

Page: 2 of 2

Project #:	2193
Client Name:	AEM
Site Name:	Meadowbank
Stack Name:	Incinerator Stack
Sampler's Name:	Andrew Matheson

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

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:	Anand Mathan	(Print name)
Signature:		
Date:	2021/10/04.	

Report Writer:	0
e-mail:	0

Received by:	Angad Mathan (Print name)
Signature:	
Date:	20/10/24

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

[illegible][illegible]



Chain of Custody / Analytical Request

Page: 1 of 3

Calgary: 2021 - 41st Avenue NE, T2E 6T7, Ph: (403) 219-3690, Fax: (403) 219-3673, Toll free: (800) 386-7247Edmonton: 9372 - 49th Street, T6B 2L7, Ph: (780) 408-5302, Fax: (780) 408-5313, Toll free: (800) 386-7247

Project #:	2193
Client Name:	Agnico Eagle Mines Limited
Site Name:	Meadowbank Site - Baker Lake, Nunavut
Stack Name:	Incinerator Stack
Sampler's Name:	

Project Manager:	Anand Mathew
Phone:	0
e-mail:	0

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:	Anand Mathew
Signature:	
Date:	2021/12/21

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

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

Analytical Request (Indicate Preferred Method)

Received by:	Jackson Le
Signature:	
Date:	2021/12/21

Comments:
Autone BLANK T2# 18648

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	3A	102	2021-11-20	50	18625	x						
M7A	NOx BOMB	3B	87	2021-11-20	50	18626	x						
M7A	NOx BOMB	4A	93	2021-11-26	50	18627	x						
M7A	NOx BOMB	4B	76	2021-11-26	50	18628	x						
M7A	NOx BOMB	5A	53	2021-11-28	50	18629	x						
M7A	NOx BOMB	5B	58	2021-11-28	50	18630	x						
M7A	NOx BOMB	Blank		2021-11-28	50	18631	x						
M8	SO2 SAMPLE	3	52343	2021-11-25	242	18632		x					
M8	SO2 SAMPLE	4	52342	2021-11-26	260	18633		x					
M8	SO2 SAMPLE	5	52346	2021-11-27	246	18634		x					
M8	SO2 SAMPLE	Blank		2021-11-27	100	18635		x					
M29	FRONT HALF	1	T1-FH	2021-09-18		18644			x				
M29	FRONT HALF	2	T2-FH	2021-09-19		18645			x				
M29	FRONT HALF	3	T3-FH	2021-11-20		18646			x				
M29	FRONT HALF	4	T4-FH	2021-11-28		18647			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

Page: 2 of 3

Project #:	2193
Client Name:	Agnico Eagle Mines Limited
Site Name:	Meadowbank Site - Baker Lake, Nunavut
Stack Name:	Incinerator Stack
Sampler's Name:	

Project Manager:	Anand Mathew
Phone:	0
e-mail:	0

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:	Anand Mathew
Signature:	
Date:	2021/12/21

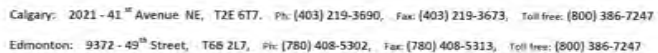
Chemicals Returned by:	
Turnaround Request (Circle one)	Regular
Ensure you contact the lab prior to submitting the sample.	Rush

Analytical Request (Indicate Preferred Method)

Received by:	Jackson Le
Signature:	
Date:	2021/12/21

Comments:

Sample Identification		Test #	Label #	Date Sampled	Sample Vol.	Lab ID #	EPA Method 26	EPA Method 10 - Integrated 1 hr - CO	EPA Method 3				
M26	H2SO4 0.1N	3	52312	2021-11-20	246	18636	x						
M26	H2SO4 0.1N	4	52345	2021-11-25	140	18637	x						
M26	H2SO4 0.1N	5	52349	2021-11-28	146	18638	x						
M26	H2SO4 0.1N	Blank		2021-11-28		18639	x						
M26	NaOH 0.1N	3		2021-11-20	246	18640	x						
M26	NaOH 0.1N	4		2021-11-25	144	18641	x						
M26	NaOH 0.1N	5		2021-11-28	152	18642	x						
M26	NaOH 0.1N	Blank		2021-11-28		18643	x						
M10	CARBON MONOXIDE - GC BOMB	3	14:10-15:10	2021-11-20		18650		x	x				
M10	CARBON MONOXIDE - GC BOMB	4	12:00-13:00	2021-11-26		18651		x	x				
M10	CARBON MONOXIDE - GC BOMB	5	11:00-12:00	2021-11-27		18652		x	x				
M10	CARBON MONOXIDE - 10 L Tedlar	3	14:10-15:10	2021-11-20		18653		x	x				
M10	CARBON MONOXIDE - 10 L Tedlar	4	12:00-13:00	2021-11-26		18654		x	x				
M10	CARBON MONOXIDE - 10 L Tedlar	5	11:00-12:00	2021-11-27		18655		x	x				



Page: 3 of 3

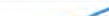
Project #:	2193
Client Name:	Agnico Eagle Mines Limited
Site Name:	Meadowbank Site - Baker Lake, Nunavut
Stack Name:	Incinerator Stack
Sampler's Name:	

Project Manager:	Anand Mathew
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	FC: T2E 6P7
Air Services Lab,	Attention: Bill Wong
PH: 403-219-3663	FAX: 403-219-3673

Relinquished by:	Anand Mathew
Signature:	
Date:	2021/12/21

Received by:	Jackson Le
Signature:	
Date:	2021/12/21

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)[illegible][illegible]

**BUREAU
VERITAS**#1, 2080 39 Ave NE
Alberta (AB) Calgary T2E 6P7**PROJECT CHAIN OF CUSTODY**

SERVICE LOCATION	CONTACT INFORMATION
Agnico Eagle Mines Limited - Meadowbank site - Baker Lake, Nunavut	Marie-Pier Marcil (819) 759-3555 marie-pier.marcil@agnicoeagle.com

SOURCE	Incinerator Stack	Project Number: 2193
--------	-------------------	----------------------

JOB ENVELOPE CREATED BY:		Date: 17 Nov 2021
-----------------------------	--	-------------------

QA CHECK COMPLETED BY:	Kim Wilson	Date: 17-February-2022
---------------------------	------------	------------------------

REPORT COMPLETED BY:	Kim Wilson	Date: 7-March-2022
----------------------	------------	--------------------

REPORT REVIEWED BY:	Nazek AL-Hadi	Date: 7-March-2022
---------------------	---------------	--------------------

END OF REPORT